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Strategic Portfolio and Capital Management

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After the 2008 financial crisis, most regulators are in favor of incorporating effective enterprise risk management (ERM) schemes[1] and determining minimum capital requirements based on the risk profile of financial institutions. Some of the adopted solvency regimes for the insurance industry include Solvency-II in Europe, C-ROSS in China, and advanced versions of risk based capital in United States and certain Asia-Pacific countries. This global trend is consistent with the Insurance Core Principles (ICP) published by the International Association of Insurance Supervisors (IAIS) which call for transparent disclosure of a risk-oriented balance sheet, adoption of an ERM scheme, and economic valuation such as market consistent valuation.

Instead of discussing the technical aspects of the capital requirements, this article focuses on their implications on business strategies because the solvency requirements affect product design and in-force management in addition to risk management strategy.

In order to optimize the liability portfolio and identify proper business strategies, insurers may choose to perform the following:

- Identify and rank lines of business in accordance with their capital efficiencies under both the current and proposed solvency regulations
- Use reinsurance to shape the current liability portfolio
- Study the feasibilities of financial reinsurance or other asset solutions to improve the capital position
- Evaluate the advantages of natural hedging among existing blocks of business
- Re-price or re-design products under the proposed solvency requirements with assumed parameters

IN-FORCE MANAGEMENT

Similar to the concept of efficient frontier, where an investor either (a) maximizes investment return under a given risk profile of an asset portfolio or (b) minimizes the risk profile of an asset portfolio with a required investment return, an insurance company can maximize the embedded value (EV) of its in-force business while maintaining the company's solvency capital requirement (SCR) at a certain level. Alternatively, a company can minimize the SCR while maintaining the desired EV.

Strategic portfolio management can be achieved in several steps. First, a company examines its liability portfolio and prioritizes each block of business in accordance with their capital efficiencies. For instance, a company may calculate an index (such as the ratio between the embedded value and the allocated capital) to measure each block's capital effectiveness. Based on the capital efficiency indices, a company may then prioritize the lines of business in terms of their risk and value.

Required capital is normally determined at the company level as opposed to the line of business level. If a company's internal process for allocating the required capital to each line is subjective, the capital efficiency indices may be heavily influenced by the subjectivity of the allocation method. We can perform a sensitivity analysis by removing a line of business from the

SCR calculation and measure the change in SCR for the overall company. The ratio between the change in embedded value and the change in SCR may then be used as a capital efficiency index for the removed line of business. This method may also be used as an alternative or a validation of the current capital allocation method.

For the blocks of business whose EV is not material and the capital efficiency is below a threshold level, the company may consider ceding these blocks using assumption reinsurance, 100 percent coinsurance, financial reinsurance, or asset solutions[2] to improve the capital efficiency of the company. The proceeds may be used to (a) improve the company's solvency position, (b) finance business strategies such as exploring emerging markets or new product lines, (c) absorb surplus strain due to a higher than expected volume of new business or (d) acquire external blocks of business from other companies to supplement the existing core lines. For lines of business which are sensitive to economies of scale and require a minimum critical mass such as variable annuities, this type of capital efficiency analysis is vital for making appropriate management decisions.

Reinsurance and asset solutions require patience, discipline, and extensive analysis. A company would need a task force to work closely with local and global reinsurers or investment banks to design the treaty structure and monitor the counterparty risk.

Due to prior abuses, special purpose vehicles (SPV) received a bad reputation even though it is a legitimate business tool when implemented properly. Recently, some regulators opened the door for wider use of SPVs or joint-ventures as long as they are properly disclosed and the risk transfer between the contractual parties is valid.

Business decisions do not only involve financial aspects. Operational aspects such as capacity of the distribution channels, underwriting, internal controls, and other operational functions should also be considered. The goal is to utilize the company's limited resources to maximize the performance of the company and increase the shareholder value.

One key question is whether or not companies have structured their asset and liability portfolios to optimize their solvency and value position with reference to the covariance matrix.

STRESS TEST AND UTILITY FUNCTION

Currently, only major financial institutions are subjected to stress tests.[3] In some jurisdictions, these tests are likely to be expanded to all financial institutions going forward and may result in higher competition (e.g., risk premium) for available capital. Accordingly, the capital efficiency index mentioned earlier may not be just a simple ratio between the embedded value and the required capital. For companies that have difficulties in raising capital, their capital efficient frontiers may look like a geometric curve instead.

For companies which have excess capital beyond the desired solvency level, there is an opportunity to exploit the idling capital and enhance the financial performance via reinsurance. Branching out as a reinsurer and leveraging on other companies' distribution channels and customer bases for cross selling could be key forward-looking business strategies in the future.

INTERDEPENDENCE OF RISKS AND NATURAL HEDGING AMONG BLOCKS OF BUSINESS

Under the Solvency-II regime, SCR is determined using either the standard formula or internal model. One key question is whether or not companies have structured their asset and liability portfolios to optimize their solvency and value position with reference to the covariance matrix. This exercise would require extensive analysis under numerous "what-if" scenarios where different mixtures of asset and liabilities are tested for their implications on SCR and the resulting EV. Through simulation analysis, companies may find an optimal combination of in force lines of business and asset mixtures so that the value of company is enhanced under the current capital requirement.

NEW BUSINESS PRICING STRATEGY

While companies have limited avenues to adjust the current liability portfolio, the design of new products and the influx of new business mix are partly within a company's control. For new products, the capital efficiency index should be a key profitability measure. Results of the sensitivity analysis enable senior management to optimize the product features in terms of their capital requirements and target the optimal composition of the new business mix.

Within the spirit of treating the customer fairly, new products should be designed to provide senior management with more flexibility to manage the business going forward. The appropriateness and effectiveness of management actions[4] are important inputs for determining future capital requirement.

As the proposed new solvency regulation maybe applicable to all policies regardless of their issue dates, the solvency requirement for policies of existing products may be substantially changed under the proposed solvency regime.

Many existing products were priced under the former solvency requirement where the required capital is based on statutory reserves and sum at risk. As the proposed new solvency regulation maybe applicable to all policies regardless of their issue dates, the solvency requirement for policies of existing products may be substantially changed under the proposed solvency regime. The adverse consequences include reduced embedded value due to higher cost of capital and the need to raise capital to maintain a reputable risk-based capital (RBC) ratio and/or credit ratings. Thus, it is prudent for companies to either shelve these existing products or reprice them under the new solvency requirement with assumed parameters.

CONCLUSION

There are many other innovative ways to manage the upcoming regulatory challenges on solvency regime. The first step may involve examining the company's current status in managing its capital effectiveness. Thereafter, senior management may then develop a proactive process to optimize the capital usage, generate capital, and increase shareholder value.

Disclaimer: The views reflected in this article are the views of the author and do not necessarily reflect the views of the global EY organization or its member firms. ■

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ENDNOTES

1 E.g., Own Risk and Solvency Assessment (ORSA).
2 E.g., Securitization or spin-off.
3 Regulatory reporting due to the 2010 Dodd-Frank Act, Comprehensive Capital Analysis and Review (CCAR) documentation, and European Insurance and Occupational Pension Authorities Stress Test.
4 E.g., crediting strategy for universal life and dividend strategy for participating whole life.