Managing reserve risk

Analysing, understanding and managing reserves correctly is essential to the smooth running of any re/insurer, which is why Guy Carpenter & Company has invested so heavily in developing tools and models to manage this risk, explains Michelle Harnick, managing director, Guy Carpenter & Company.

Given that the leading cause of financial impairment of insurance companies is inadequate reserves and our view that a reserve ‘cycle’ not only exists but may soon enter a period of adverse development, Guy Carpenter has spent considerable resources researching and building models to better understand and manage reserve risk.

The under-reserving problem

Under casualty policies, the insurer agrees to compensate policyholders when they are legally required to compensate other parties that have suffered injury or property damage.

Normally there is a significant lag between the date of an accident and final payment of the claim. Upon notice of a claim an insurance company sets up reserves—funds set aside to pay the claims. However, reserving is hardly a science, as many unknown factors can come into play and affect reserves, both positively and negatively.

For example, consider the case of asbestos reserving. The latent nature of asbestos exposures combined with novel coverage interpretations and adverse legislative rulings resulted in dramatic reserve increases for the industry in the late 1990s and early 2000s. The end result was significant declines in surplus, negative impacts on calendar year earnings and negative rating actions. These reserve shocks impacted rating agencies’ views of required capital for reserves.

Rating agencies, regulators, auditors and analysts will all be paying greater attention to reserve risk in the coming years. It is generally acknowledged that the recent positive earnings enjoyed by the industry have been supported by the continued release of reserves on older accident years, leading to a decline in the industry reserve strength and therefore a smaller margin of safety. While industry reserves appear adequate, small changes in trend assumptions can put significant negative pressure on companies’ reserves, surplus and calendar year earnings.

Of significant concern to the rating agencies is a change in economic conditions, for example inflation, that detrimentally impacts both sides of the balance sheet. Since calendar year loss trend incorporates a component of inflation, which may be correlated with interest rates, a period of dramatically increasing interest rates may coincide with increasing loss trend.

In such a case there will be a concomitant shock to both sides of the balance sheet—increasing interest rates will reduce the value of the bond portfolio by an amount that depends on its duration, while inflation induces adverse development on reserves requiring a reserve correction. The result is a ‘double whammy’.

In fact, many companies believe the biggest challenge they face at the enterprise level is managing the tension between the risk of inflation and the threat of deflation. This source of uncertainty may lead a firm to sacrifice yield by investing in assets with a much shorter duration than its liabilities.

A new model

To assist our clients in managing reserve risk we have developed MetaRisk® Reserve™, a software tool that models the interplay of future calendar year trend and reserves. Insights gained from this tool enable companies to more effectively allocate capital and set strategy.

Additionally, Guy Carpenter, in collaboration with our sister company, Oliver Wyman, produces an annual Industry Risk Benchmarks research report, which provides risk benchmarks by line-of-business, mean loss ratios, loss ratio volatility, reserve volatility, inter-line correlations and cycles.

The research is based on a proprietary study of an extensive database of industry information incorporating the reported financial results of hundreds of insurance companies over a 30-year timespan. Insurers will find the benchmarks useful in parameterising the risk assumptions used in economic capital models.

MetaRisk Reserve coupled with the Industry Risk Benchmarks research reports has the following capabilities:

- Provides a more realistic view of both the mean reserves and the volatility around those reserves;
- Measures historical calendar year trends;
- Forecasts future trend risk;
- Analyses the historical underwriting cycle;
- Gauges sensitivity of reserve position to future cycle;
- Helps understand the volatility of ultimate loss ratios by line-of-business and by firm type;
- Provides industry benchmarks on the volatility of changes to reserve estimates by analysing how the ultimate loss changes from its estimation of 12 months of development from the accident year to 120 months of development and
- Estimates correlation matrices between lines of business for both ultimate loss ratios and reserve development over 12 months and 120 months.

Having a clearer picture of reserve risk will influence future underwriting, risk management and reinsurance-buying decisions. The ability to model future trend risk in a realistic manner is essential in forecasting profitability, understanding the accumulation or aggregation of underwriting risk and to the process of setting capital.

Through the use of these tools and Guy Carpenter’s research, a company will be better able to calibrate its economic capital models. As always our value proposition goes beyond selling and executing reinsurance transactions. We make a great effort to help our clients make the best informed decisions.
Guy Carpenter has extensive experience helping companies understand and manage reserve risk. We have been involved in placing a number of sizable retroactive covers, both loss portfolio transfers and adverse development covers with limits ranging between $50 million and $1.35 billion.

In recent years we have consulted on more than 80 such covers. Clients value our collaborative approach to delivering results that meet their risk and capital objectives and continue to trust us to execute on these transactions.

A hedge solution
In addition Guy Carpenter has developed a new product, CasReDexSM, to manage reserve risk. The CasReDex product is a synthetic adverse development cover that can be purchased either in a traditional reinsurance form or as an insurance-linked securities (ILS) product. It has been designed to hedge systemic reserve risk that cannot easily be ‘diversified away’—the risk that remains after pooling by line-of-business or geographic diversification.

We anticipate that as the market for CasReDex matures, most of the capacity will ultimately be provided via the ILS version of the product in the capital markets space, since traditional retroactive reinsurance markets will be constrained in their ability to meet demand due to correlation with their existing business (aggregation).

The CasReDex product has been designed to be an efficient, competitive product that complements the traditional tools such as adverse development covers and loss portfolio transfers.

The CasReDex product does have some basis risk since it is designed to cover just the systemic contribution to company adverse development. If a company desires a zero basis risk solution that also addresses company specific underwriting, Guy Carpenter would recommend a more traditional reserve development solution such as a loss portfolio transfer or adverse development cover. These covers provide calendar year earning protection, surplus stability and capital relief.

Traditional reserve covers and CasReDex, or some combination of the two, may help companies enhance book value and return on equity by reducing volatility.

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