WHAT PRICING ACTUARIES CAN DO IN THE LONDON MARKET

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Few in insurance would disagree that current pricing levels in the London Market are unsustainable. Management information used in pricing is producing seemingly contradictory information and is frequently discarded as inappropriate for reserving. Business plans and their aspirational targets are persistently not being met. Using optimistic assumptions for solvency valuations or in reserving is highly risky.

The root cause of this risk is a faulty underwriting management cycle. Actuaries, and pricing actuaries in particular, have a large role to play in getting this cycle operating effectively.

A tailored actuarial control cycle

The management cycle in question is a tailored application of the actuarial control cycle first encountered in actuaries' professional studies. It is the iterative execution of the following steps year after year, where the actuary:

1. Corrects for biases by updating rating tools to reflect emerging frequency and loss trends
2. Uses models to enable an evidence-based financial planning loss-ratio pick, which tracks exposures and business mix changes
3. Ensures rates in the rating tool are aligned with the business plan
4. Monitors the rate strength achieved in practice against the business plan and feeds this into reserving and back to underwriters
5. Monitors actual profitability versus prior expectations emerging from steps 1 and 3 by considering the achieved rates (taking due consideration of the inherent volatility of the business)
6. Identifies systematic biases affecting the rates for sub-segments of the policy book – and then goes back to step 1

Performing these steps represents an evolution of the roles previously performed by the pricing actuary (with some of these steps sometimes performed by the reserving actuary). The evolution is from an administrator of ad hoc databases, excel spreadsheets with rating tables or disparate gadgets in R or .NET; to an active contributor to the monitoring and steering of underwriting decisions with an eye on ultimate profitability. Rating tools will evolve from being a quoting engine to being a key tool in an enterprise-wide process that contributes analytically to improved financial performance.

Importance of teamwork

Teamwork is required to deliver the cycle efficiently. Sound databases need to be created and adequately maintained to capture policy information in sufficient detail. It is still possible to do some analysis without such databases, but the value of the analysis will be enhanced if databases are maintained and controlled adequately. Similarly, IT specialists can increase the productivity of actuarial teams if spreadsheets are replaced with more robust and scalable software. This isn't necessarily because of a need to handle vast amounts of big data, but dealing with spreadsheets, with their weak controls, is not ideal.

Automating certain manual processes, which often include the calculation of risk-adjusted rate change, or the clustering of similar risks to generate pools, also requires the involvement of new technical experts: IT and data scientists. In this context, actuaries can be the leaders who keep an eye on the big picture. The core actuarial expertise lies in the knowledge of insurance and finance, and the ability to communicate numerically and non-numerically. Coding or designing IT architecture can be delegated. Actuaries embracing this new role should consider whether they need to develop the necessary leadership skills to delegate technical tasks effectively.

Underwriters are vital to the control process and should be fully engaged. They need to view the control cycle as an opportunity and not a threat to them. In practice, however, underwriters may sometimes feel threatened because they view the rating tool as a quoting engine and the actuary as a technical assistant. It is therefore vital to underline the value that the underwriter adds in business development and as an expert who can capture nuance that rating models cannot.

Tools and pools

Implementing the control cycle may also require a suite of models and tools to support the various analyses. For instance, there are varying degrees of visibility on exact policy details from delegated underwriting contracts; open market contracts are obviously more transparent but possibly more bespoke, and models should seek to reflect these differences.

Success also depends on specifying, in each line of business, the pools of risks that are similar and would be expected to have similar rates. Rate monitoring should be performed at individual pool level. In personal lines pricing with generalised linear models, the pools are determined by the individual covariate defined by the rating factors used. Pools in commercial insurance don't need to be so formulaically determined; any partition of the portfolio will do as long as it makes some sense from a risk perspective. Clustering algorithms – a data science method – could be useful in determining the pools based on similar policy and claims characteristics.

Underwriters can continue to be free to tailor quotes to specific risks as part of a negotiation. This does not take away from the fact that a calculation of a technical premium that enables portfolio rate monitoring needs to be done within the concept of a pool, that it needs to be done consistently and rigorously; and that it needs to be monitored and updated regularly.

The aim of the monitoring mechanism is to get a satisfactory grasp of claim trends within a pool of risks. As information builds up, the granularity of the analysis can be refined as the pools become more distinct. Currently there is scope to improve the level of granularity: most rate monitoring is reporting at a reserving class level, which is too broad a category to be useful in pricing or underwriting strategy considerations.

Stepping up

In short, the time is right for actuaries to step up and take a leading role in underwriting management. They need to embrace new technologies and all that improved computing power makes possible. And they can do all of this without replacing the valuable insights underwriters bring to the fold.

As a final thought, perhaps the term 'pricing actuary' is now obsolete – and a limiting factor rather than an enabler of the value that actuaries can add. In the London market, instead of pricing actuaries we should start talking about 'portfolio management actuaries' in order to convey the full potential of the role.

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