



A leap forward for reserving

New technology has made it possible to do genuine claim-by-claim reserving for insurers, explains Jean-Baptiste Chalnot, consultant at ADDACTIS Worldwide® and ADDACTIS IBNRS® product manager.

Why is there an opportunity to improve the approach to reserving?

Most of the reserving methods currently used by non-life actuaries are based on run-off triangles resulting from the aggregation of individual claims data by origin and development periods. This triangle representation has been used for decades and, while it is easy to deal with and to perform calculations on, it also has a lot of limitations.

Today, we have high performance computing available that we are not fully taking advantage of, and there is a lot of data regarding the claims that cannot be easily used in the traditional reserving methods because of this initial aggregation.

How can the data be used more wisely?

We can use the data to perform projections on a claim-by-claim basis in order to compute the reserves at the lowest level of granularity, and then combine those figures to calculate the total reserves at the desired level of granularity, for example at a policy/contract level or even display the results by underwriting zone.

We have been working with university researchers on a new claim-by-claim methodology and it was presented at the recent ASTIN colloquium in Sydney. We will include it in our reserving package ADDACTIS IBNRS® later this year. We think this innovative method could solve a lot of issues reserving actuaries are currently facing and that it will be more and more used in the future.

What are the main advantages of the claim-by-claim reserving methods?

When using aggregated data you face a lot of issues: is the granularity correct? Do claims within a single cell really follow Chain Ladder assumptions? How to apply non-proportional reinsurance? These are some of the issues that can be solved by claim-by-claim reserving methods.

Moreover, the main problem we see in reserving when we try to apply complex models is over-parameterisation. Because the basis of the estimates comes from aggregated data, the more complex reserving models have too many parameters and too few observations.

When we have thousands or millions of individual claims information, we have lots more data to feed our model and so can avoid over-fitting and create more appropriate parameters.

How are you supporting the industry's move to Solvency II?

Solvency II will change the way insurers approach the reserving process. It increases the need for automation and flexibility, and will push insurers to 'industrialise' their reserving process. Also, much more reporting is needed under Solvency II and many firms find that time-consuming. So we have put a lot of effort into providing solutions to make the reserving process more automated, robust and auditable.

Automation is one of the many things that drives clients to use our solutions. ADDACTIS IBNRS® can be used in combination with ADDACTIS Workflow® to provide a complete integrated solution from the data extraction to the reporting. All ADDACTIS Worldwide® software is fully integrated with Excel and allows the user to create automated reports or link to existing templates.

We want to allow actuaries to focus on the reserving analysis. We have made our software user-friendly and added features to assist the user in every step of the reserving analysis. We have made it simple to build a powerful process from scratch, in just a few clicks, but still without sacrificing innovations and performance.

Can you help insurers that want to use USPs?

We are adding a module to support the use of undertaking-specific parameters (USPs) in the standard formula of Solvency II. USPs allow insurers to personalise the capital charges on their insurance risks, but they must apply to their supervisor to have the USP approved. The module will allow users to do the premium and reserve risk calibrations very easily and in a fully auditable process, to feed the USP model.

What will be your next area of development?

We put a lot of effort into designing the Individual Reserving module as well as integrating it into the software. It has led to many additional features - like the possibility to import data directly from a flat file or the possibility to deal with large claims directly inside the software - that improves the whole user experience. The first results and feedback have been extremely encouraging and we are still thinking about new features and options to improve the method. We are also working on implementing the double Chain ladder method for next year's version. ■

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