

## Abstract

The Solvency II framework allows financial analysts to compare different insurance companies using various indicators. For a life insurance company, an Assets and Liabilities Management (ALM) model is required to simulate the projection of the company's activity and to then fulfill the quantitative requirements of Solvency II. Some hypothesis which drive the ALM model can be freely chosen by the insurance company and hence, change the final results. Moreover, the consideration of some of the transitional measures set up by the European Insurance and Occupational Pensions Authority (EIOPA) and the interpretation of the regulation may have a significant impact on the economic indicators and ultimately on the results delivered to the financial analysts.

The aim of this paper is to measure both the impact of using transitional measures on the metrics required by Solvency II and the impact of the possible choices an insurer could make within an ALM model.

Particular attention will be paid to three "Management actions" subsets : the management actions related to the model hypothesis, the asset management and the management actions related to the use of transitional measures.

The results of the study showed that the use of severe dynamic surrender rates strangely generates a higher Solvency ratio. However, the profits sharing provision management, allowing to reduce taxes, and some rules of unrealized gains/losses management, did not seem to have an impact on the adjustment for loss absorbency of technical provisions and hence on the solvency. Nevertheless, these two management actions led to reduce the time value of financial options and guarantees.

Furthermore, the level of the upper limit of the profits sharing provisions has a significant impact on the solvency ratio. The same conclusion can be drawn when the rules of unrealized gains/losses management were activated in case of a large gap between the target rate and the rate credited to policyholders. Finally, the transitional measures set up by the EIOPA seemed to be very significant regarding the insurer's solvency.

The outcomes highlighted throughout this study will allow the insurers to be aware of the impact that some modeling choices can have on Solvency II metrics.

**Keywords :** Life insurance, Solvency II, Net assets value, Best Estimate, Savings, Solvency ratio, Surrenders, Profits sharing, Profits sharing provision, unrealized gains/losses, Transitional measures.