

Satellite scenario testing: Protracted period of low interest rates – Technical Specification and general description

Introduction

Insurance companies can be particularly exposed to the risk of a long-lasting period of low interest rates, as has been experienced -for instance- in Japan since the 1990s. This document lays out the specifications for the low interest rate environment satellite scenario.

Such a scenario is not only driven by the instantaneous shock of a downward movement of the yield curve, but also by a pronounced flattening and a persistence of such a situation. This could lead to material reinvestment problems and influence the ability of participating groups and undertakings to finance, for example, performance guarantees given for specific pools of insurance contracts. This, in turn, could negatively impact the capital position of insurers who are exposed to these risks.

Consultation with the European insurance industry

The initial launch of this satellite exercise was planned in conjunction with the main European stress test. However, following preliminary feedback from the industry, the EIOPA Board of Supervisor decided to postpone this exercise in order for EIOPA to design a framework which would address the specificities of European insurers in the context of future Solvency II requirements, in particular for guaranteed rate products.

During further discussions with the industry cash-flow testing and instantaneous interest rate shocks were considered as possible alternative satellites. From these discussions it was concluded that:

- A cash-flow testing model would be more appropriate where the valuation of assets is based on book values and the discount rate for liabilities is set a fixed level as the effect of protracted period of low interest rates will only gradually affect the capital position of insurers.
- Where assets and liabilities are valued mark-to market –as will be the case under Solvency II- an instantaneous interest shock would already reveal potential vulnerabilities – in particular any asset/liability mismatching due to the requirement to revalue all interest rate sensitive liabilities.

Consequently, it was agreed with the industry that a number of different scenario yield curves should be employed in order to best detect the non-linear mechanics of the stress and provide a basis for a deeper understanding of any such development. It was also agreed that EIOPA would draft technical specifications with defined interest rate scenarios and additional information requirements.

Scope of the exercise

As pointed out above, the aim of this exercise is to test the resilience of insurers to a prolonged low interest environment. As such, the main focus will be on insurers which are exposed to interest sensitive products, in particular products with minimum guarantees or embedded policyholder options. In principle, the insurance undertakings and groups who participated in the stress test exercise should also take part in this scenario testing exercise. However, national supervisors will have some discretion in eliminating those undertakings from the sample where exposure to interest rate risk would not be material (e.g. pure non-life insurers or unit-linked insurers).

National supervisors should provide EIOPA with an updated list of participating undertakings and groups prior to the launch of the exercise.

Low interest rate scenarios

The exercise comprises the following two scenarios:

- 1) A downward movement in the level of interest rates in accordance with an unconditional forward rate of 4.2%, and a pronounced u-shaped flattening of the curve in the shorter part of the maturity spectrum.
- 2) A downward movement in the yield curve to a level and shape similar to the lowest level Euro curve observed in recent years (August 2010).

Yield curves are derived for the same set of currencies that was covered in the core stress test exercise.

Participants are requested to apply the set of supplied yield curves as instantaneous shocks to their whole (relevant) balance sheet, and report the outcome. Activities that would not be materially affected by the described changes in the yield curve may be excluded from the calculation. All other effects of the described scenarios on the rest of the stress modules laid out in the main body of this stress testing exercise are to be ignored.

Basis of valuation, reference date and output

The basis of valuation is the same as for the previous stress test exercise, i.e. Solvency II/QIS 5-Technical Specifications.

The reference date is 31.12.2010. The scenarios should be applied by participants to all their businesses which would be materially affected by these scenarios. This will mainly comprise life business, but also some non-life lines of business will need to be covered. In summary, all businesses that are affected by a low-yield environment should be included in the calculation.

The output of the scenario testing should be as follows:

- Change in overall net asset value as a result of the defined scenarios
- Changes in the fair value of bonds
- Changes in life technical provisions split between cash-flow projections and the value of options and guarantees
- Where appropriate changes in non-life technical provisions.

As part of the low interest rates satellite scenario, EIOPA also requests 'status quo' data on projected cash flows and derivatives per the reference date. This data serves to improve the understanding of the impact of the scenarios by allowing a more granular insight into the underlying factors. Cash flow projections for technical provisions provide information on the residual maturity of obligations to policyholders and on the sensitivity of insurers to changes in different segments of the yield curve. Similarly, cash flow projections for the fixed income and swap portfolio provide information on their interest rate sensitivity in different interest rate environments and insight into the degree to which insurers use swaps to increase the duration of their asset portfolio. Finally, the information collected on derivatives such as swaptions, caps and floors serves to assess the extent to which these hedging instruments are used by insurers and provide insight into non-linear valuation effects that may occur in the stress scenarios. This includes for instance the existence of certain yield curve levels below which these options would mitigate interest rate sensitivity to a large degree. The data on cash flows and derivatives would be provided on a best effort basis by the participating undertakings, and is voluntary unless otherwise explicitly specified by the relevant National Supervisory Authority.

Communication of results

EIOPA intends to use the results of this data collection as a supplement to the already collected individual participants' and market-wide stress testing exercise results. These are input to supervisory intelligence, and ESFS discussions, respectively. For this latter purpose, EIOPA intends to publicly reflect upon the main areas of strength and vulnerability of the sector in scenarios such as tested in this exercise, including conclusions that would emerge from the supplied cash flow projections. Like in the main stress test exercise, no company-individual information or country aggregate will be revealed.

This sector-wide analysis and background information will form part of EIOPA's Autumn Financial Stability Report.

Timeline

The following time line is envisaged for the completion of the stress test exercise.

- 16/08: Launch of satellite exercise;
- 16/10: Deadline for industry to National Supervisory Authorities (NSAs);
- 25/10: NSAs to submit to EIOPA;
- 21/11: **preliminary date** for the communication of aggregated results.