

# Lapse risk takes centre stage in capital management strategies

Since the introduction of Solvency II, EU life insurers have had to hold much more capital against the risk of customers lapsing their policies. Luca Tres explains how innovative hedging structures can help firms maximise capital efficiency

**H**edging mortality and longevity risk have been major preoccupations for life insurers, but the inception of Solvency II has moved the spotlight onto lapse risk too.

In the run up to the new capital regime, the European Insurance and Occupational Pensions Authority published studies indicating that lapse capital requirements would count for more than half of the undiversified net life underwriting risk. The market had initially estimated the amount of capital required by lapse stressing to be at least €80bn (\$95bn), but this could be materially higher now.

Managing lapse risk – defined as the rate of policyholders cashing-in or not renewing contracts being higher or lower than expected – has therefore become a priority for the majority of insurers.

## MASS LAPSE HEDGING: LOW HANGING FRUIT

Most of the focus so far has been on mass lapse risk. Solvency II asks insurers to apply a one-size-fits-all 40% stress that seems unrealistic for most insurance blocks. As such, it lends itself very well to capital management hedging transactions, since the break-even cost of capital (hedging cost vs. capital benefit) can be very appealing.

This holds particularly true if the hedge is structured as an out-of-the money hedge: the hedging cost decreases substantially versus a comparable capital benefit, as a result of the linearity of the Solvency II stresses.

More specifically, the most common structure that has been implemented so far has targeted a circa 20% attachment point and a 40% detachment point (i.e. approximately half of the mass lapse stress).

“Tailor-made solutions with slightly more complex structures can deliver a superior capital benefit”

While the detachment point is simply driven by the lack of capital benefit in hedging further than 40% (i.e. the Solvency II stress), the 20% attachment seems to strike a good balance between optimising the capital management angle of the transaction, while still having a strong real risk transfer element.

Various insurers, including ASR and Storebrand, have publicly announced transactions of this nature. However, more insurers have privately entered into similar hedging agreements. Due to the standard

formula’s one-year stress, these agreements typically have the same duration (or a two-non-call-one format, allowing an extra twelve months to ensure full Solvency II efficiency).

The execution simplicity is appealing but comes at a cost: the hedge’s short-dated nature reduces the potential risk margin benefit.

Tailor-made solutions with slightly more complex structures can deliver a superior capital benefit. For example, an insurer could enter into a multi-year hedging contract with an annual reset, achieving a higher risk margin benefit. (The latter being equal to 6% of the present value of “unhedgeable” risks’ contribution to the projected SCR, a multi-year hedging structure increases the risk margin relief, which amortises over time.)

This structure would still ensure the maximum Solvency II efficiency through the automatic resetting of attachment-detachments points, according to the underlying performance of the block of business.

The same flexibility is naturally achieved by a one-year hedging structure, but why leave a higher risk margin benefit and pricing certainty on the table when this can easily be achieved with a smart tailor-made structure?

### LAPSE UP AND LAPSE DOWN STRESSES

Hedge offerings have also started to emerge to deal with lapse down (fewer lapses than expected) and lapse up (more lapses than expected).

Unlike in the case of mass lapse, the required stress applies to the whole lapse curve (i.e. a 50% increase/reduction). As such, a multi-year hedge is required, which extends until the natural maturity of the reference block of business.

Although the longer-dated nature should not be a challenge for most reinsurance and ILS players, for the longer blocks it still might be more effective to shorten the hedge maturity through a commutation mechanism: a mark-to-model mechanism that pays out if attachment point is reached at maturity, compensating the insurer for the whole duration of the block.

The same concept has successfully been adopted already in the longevity space and approved by regulators. The shorter maturity should reduce the hedging cost, making the transaction even more attractive and compensating for the higher complexity.

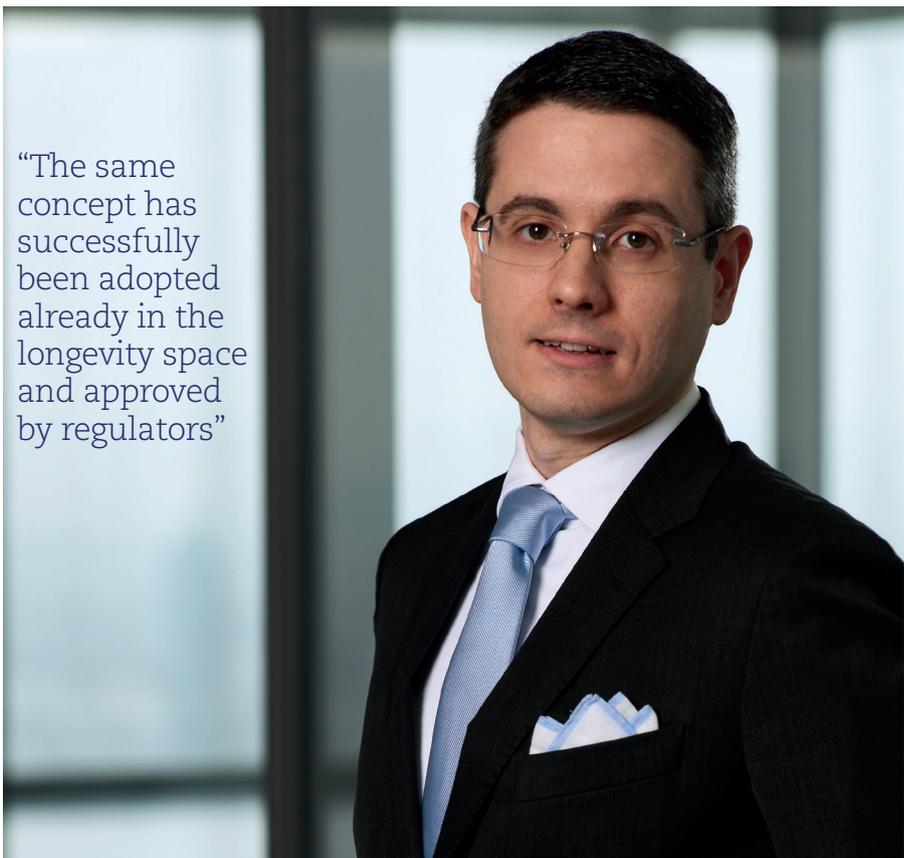
The adaptability of this structure can be very valuable in many cases. The most obvious ones are legacy life blocks with high guarantees. While some insurers have considered the use of swaptions in the past, most now see lapse-down hedging solutions as offering much more attractive costs.

### FLEXIBLE STRUCTURES NEEDED

With the traditional hedging offering focusing mostly on mass lapse, the insurance industry clearly needs to innovate and improve the hedge efficiency.

The solvency capital requirement for lapse is composed of three submodules: mass lapse, lapse down, and lapse up. Over time the relative size of the three can change. It is quite possible the initially biting stress becomes secondary during the life of the hedge, resulting in reduced efficiency.

Innovative players can push the envelope offering flexible derisking solutions that mimic the changing Solvency II stresses insurers face during the life of the hedge, at the same time maximising the risk margin benefit. This an important step towards answering the insurance industry's needs.



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### LAPSE HEDGING AS PART OF WIDER STRUCTURES

Since under Solvency I no specific capital requirement was set against pure lapse risk (with some country-specific exceptions), hedging technology has mainly sprung from the inception of Solvency II. Nevertheless, lapse risk has always been a factor - and is still a key factor - in other capital and risk management structures.

For instance, in contract boundaries monetisation solutions. Value-in-force is now recognised as regulatory capital from a Solvency II standpoint, improving insurers' positions compared to Solvency I.

But Solvency II imposes a hard limit, with the recognition applying only up to the contract boundary, e.g. one year for yearly renewable policies. This clearly opens the market to a set of capital management solutions that aim to monetise the value after the boundaries; solutions where the main risks are typically lapse and, to a lower extent, mortality.

The same analysis holds true in the

case of deferred acquisition costs (DAC) financing solutions (also called commission financing), asset management charges monetisation, lapse hedging linked to liquidity risk, anti-selection lapse situations, etc – areas where innovative life ILS funds have a long-standing track record.

### THE FUTURE

The future is clear: insurers will have to focus their attention on capital-efficient lapse derisking. Both the quantum and the superior break-even-cost-of-capital provided make this an obvious area to prioritise.

Current traditional offerings only partially cover the insurance industry's complex needs, so tailor-made, flexible and innovative solutions need to be developed. It is an ideal opportunity for life ILS players, which are already active in this area, to play an even more important role. ■

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