FINANCIAL REGULATOR
Rialtóir Airgeadais

Investment Guarantees - Guidance on Reserving and Risk Governance

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Introduction

In August 2009 the Financial Regulator issued a discussion document on reserving for Variable Annuities ("VA") and invited submissions. Following detailed consideration of the submissions received, this document is being issued for formal consultation. Any party who wishes to make a submission should do so by 30th June to variableannuities@centralbank.ie. Submissions that include quantitative assessments of the impact of changes will be particularly welcome. We intend to make all submissions available on our website. We will not publish any material that we deem potentially libellous or defamatory.

Nearly all submissions drew attention to the difficulty in defining Variable Annuities and we have therefore expanded the scope to cover all Investment Guarantees except for certain well defined classes. We anticipate that this will not in practice extend the scope very far and are happy to discuss the precise nature of the scope regarding individual product categories with companies, should they wish to do so.

It is clear from submissions and from discussions held with interested parties that there were two widely held views that

1. Whatever is done should move companies towards Solvency II compliance rather than away from it.
2. The boundary between technical reserves and solvency capital is not uniform across industry. Obviously for regulatory purposes it is the sum of these that is most important.

Therefore in this Consultative Document we have decided to emphasise not only the level of reserves and capital but also the risk governance around it. A key part of the new requirements will be the Financial Risk Assessment ("FRA"). We anticipate that the FRA would in due course merge into the Solvency 2 ORSA.

Such is the nature and complexity of the investment guarantees embedded in VA contracts, the Financial Regulator envisages that companies transacting such business must commit very significant human capital, information technology and financial resources towards its effective risk management. The capital and risk governance requirements set out in this Guidance reflect this.

The intensity of our supervisory interventions will be calibrated according to our assessment of the adequacy of a regulated firm's risk management arrangements. Should we not be satisfied that a firm is managing VA risks appropriately, we will require compensating actions to be taken, which could include formal limits on the creation of VA contracts, or increasing the reserves required to be held.

The Guidance follows the format of a few requirements in the form of fundamental concepts with detailed explanation as a series of notes.

Guidance on Reserving and Risk Governance Rules

Applicability

All insurance and reinsurance undertakings authorised to transact life insurance and reinsurance business in Ireland will be required to consider and report on an annual basis whether they are transacting Material Investment Guarantee business other than of a Defined Excluded Class as defined in Notes 2 and 3. This declaration should be submitted to the Financial Regulator along with the regulatory returns and must be approved by the Board.

All companies are required to notify the Financial Regulator by the 30th September 2010 of the applicability of this Guidance to their business. Companies which are transacting such business must meet the General Requirements listed below.

1. General Requirement

All applicable companies are required to

- Submit a Financial Risk Analysis ("FRA") annually with Regulatory Returns
- Adhere to Minimum Capital and Reserves ("CAR") standards
- To follow the Risk Volume Capital ("RVC") process
- To subject its FRA & RVC to Independent Oversight.

2. Timescale

This is to apply in respect of all Company Financial year-ends on or after 31st December 2010 and to quarterly returns thereafter.

Notes

Note 1 - Materiality

For purposes of this Guidance, Investment Guarantee Business is material if it meets any of the following:

a) Technical reserves in respect of Investment Guarantee business exceed 5% of total or €25m (whichever is the lower)
b) Premiums receivable in respect of Investment Guarantee business exceed 5% of total (as measured by PVNBP) or €10m (whichever is the lower) in any particular year
c) Adverse outcomes e.g. at 1 in 200 year level, on the business could lead to the company making losses that would bring the cover of RMSM below 150% (or the Strategic Solvency Target in the case of reinsurance undertakings).

Note 2 - Investment Guarantee Business

This is defined as any form of life (re)insurance business where the company potentially bears any investment risk i.e. any business other than pure unit linked business.

Note 3 - Defined Classes of Business

The following classes of business are regarded as being well defined and covered by existing actuarial practice

a) Pure Protection policies
b) Conventional With Profit
c) Unitised With Profit
d) Conventional Annuities
e) Policies with payout fixed in monetary amount and term (e.g. GGB's)
f) Guaranteed Equity Bonds
g) CPPI policies i.e. plain vanilla CPPI

Note 4 - Independent Oversight

Companies must have independent oversight through one of two mechanisms:

A. An Independent Non-Executive Director with sufficient experience of complex financial products to be able to understand and assess the risks and governance of investment guarantee business.

B. A report from a firm of independent consultants on the FRA and RVC which shall be reviewed and approved by the Board. Such Consultants must have no other involvement in the managing or design of the products or any hedging process.

It is expected that method (A) will become necessary under Solvency II.

Note 5 - Minimum Capital & Reserves Standards.

It is essential that the sum of the solvency reserves and the technical provisions should be sufficient. The allocation between the two is of lesser importance. It is frequent practice to hedge Investment Guarantees with derivatives. These may either be assets or liabilities according to circumstances. In this note the term Capital and Reserves ("CAR") is used to represent the total.

Companies must have a minimum CAR of the greater of that calculated under Basis 1 (Solvency 1 type approach), Basis 2 (Solvency 2 standard calibration type approach) and Basis 3 (Solvency 2 Internal Model Type Approach). These additional tests must be carried out on a quarterly basis and should be submitted to the Financial Regulator alongside the quarterly returns.

Except where otherwise specified the actuarial basis for the CAR may be based on best estimate assumptions. However where there is doubt or approximation then that should be prudent.

Note 6 - Basis 1 CAR

Basis 1 CAR shall be calculated by a policy lifetime stochastic model which shall be of sufficient prudence (see Note 10). The CAR shall then be the higher of a) and b) to ensure all guarantees are met, where a) & b) are defined as follows:-

a) Amount required at a VAR of 99.5% where lapses/surrenders may be assumed but these should be stressed from current rates and must be dynamic in nature (see Note 20).
b) Amount required at a VAR of 95% where no lapse/surrenders may be assumed unless to do so increases the CAR

Stochastic analysis shall be modelled in a sufficient number of runs (see Note 11). Future Trading Offset (in respect of dynamic hedging) is permitted in the calculation subject to limitations set out under Note 13.

Note 7 - Basis 2 CAR

Basis 2 CAR shall be calculated under the standard calibration of the SCR under QIS 5 of Solvency 2. As the calibrations for the standard formula SCR are updated companies should likewise update their calibrations.

This SCR is in addition to the market consistent valuation (inclusive of risk margin) of liabilities plus the market value of the options and guarantees granted by the company, again as prescribed under QIS 5 and successors.

Note 8 - Basis 3 CAR

Basis 3 CAR shall be calculated by stochastic projection over 1 year using market consistent parameters. It should allow for assets in force as at time of valuation. The CAR should be the market consistent valuation of liabilities (inclusive of risk margin) plus the market value of the options and guarantees granted by the company plus the 99.5% VAR of the change of that value over one year’s projection.

Future Trading Offset (in respect of dynamic hedging) is permitted in the calculation above subject to limitations set out under Note 13.

Lapses/Surrenders may be assumed but these should be stressed from current rates and must be dynamic in nature (see Note 20.

Note 9 - Expectation of Future Requirements

With the advent of Solvency 2 we expect the following:

a) The FRA would be subsumed into the ORSA
b) Basis 1 CAR would become part of the ORSA, but would be generalised to be a lifetime projection requirement. Companies would no longer to have a no lapse/surrender lifetime projection as a CAR minimum but would be expected to be aware of what the cost was on that basis and to consider implications of that number.
c) Basis 2 CAR would no longer be a minimum for companies that have an internal model approved. However they would be expected to periodically disclose the difference between the Basis 2 and the Basis 3, identify the cause of differences and justify the holding of the lower of the two.

Note 10 - Model of Sufficient Prudence

In making stochastic projections an ESG is required. It is important that this reflects market instability in a sufficiently strong manner. However it is accepted that there can be interaction between complexity of runs and run times. Therefore to carry out a sufficient number of runs may require some simplicity of models. Therefore it is acceptable to supplement stochastic analysis with well investigated supplementary calculations. This can be performed using more sophisticated models or other more appropriate techniques.

ESG's must allow for volatility that is at least as great as that implied by market prices of options as at the valuation date or recent experience at the valuation date, as may be appropriate. Volatility of volatility must be allowed for, at a rate consistent with option prices or recent experience as may be appropriate, if the company's hedge assets are shorter than its liabilities. Consideration must be given to minimum levels of volatility within ESG's. Low levels of volatility will need to be justified with robust

economic analysis. Furthermore, there should normally be consistency in the choice and use of parameters within ESG models.

Risk premia, where used must be prudent.

Generally speaking, where ESG models are used, the Board must ensure that the company has a sound understanding of the features, strengths and weaknesses of the ESG model and that effective challenge has been provided to the methodology and parameterisation adopted. This should extend to understanding the key assumptions which are driving the results and the justification for those assumptions. In doing so, companies must have regard to the Internal Model tests as prescribed under Solvency II.

Note 11 - Sufficient Number of Runs

For purposes of accuracy in making calculations from stochastic methods it is important that a sufficient number of runs are undertaken. The number to be done should therefore be justified by demonstrating that results from several sessions each of the same number of iterations results in similar results.

The number done should not normally be less than 5000. It is envisaged that more runs would be required for projection purposes as distinct from valuation purposes. Martingale tests should be carried out to establish that sufficient runs are being undertaken. Overall, companies need to satisfy themselves that the number of runs undertaken is fit for purpose.

Note 12 - Modelling Accuracy

Stochastic models should have sufficient model points to be a sufficiently accurate representation of the portfolio in force. If the modelling is not on a per policy basis then as part of the Financial Risk Analysis detailed examination and justification of the modelling accuracy must be made.

Note 13 - Future Trading Offset ("FTO")

The FTO is defined as the reduction in the CAR under Basis 1 or 3 due to the recognition of dynamic hedging i.e. projection of hedging using financial instruments other than those existing at the valuation date. This is represented formulaically as follows:

FTO = α (A-B), where

α refers to a percentage reflecting the credit which may be assumed for the hedging strategy.

A refers to the Basis 1 or 3 CAR calculated without recognition of dynamic hedging.

B equals to the Basis 1 or 3 CAR, calculated assuming recognition of dynamic hedging i.e. projection of financial instruments other than those existing at the valuation date.

It is envisaged that the value of α would only be allowed to be applied to a pre-determined percentage. Boards would be ultimately responsible for assessing that the level of FTO was appropriate as part of the FRA. The Appointed Actuary/Signing Actuary would also need to certify that the chosen FTO is appropriate. As with all aspects of the FRA this will be subject to Independent Oversight.

In determining the FTO, the following issues are amongst those that need to be considered:

- The value of α and hence the FTO must not exceed the level has been justified by actual experience and must have regard to the results of the Profit and Loss Attribution exercise.
- The value of α and hence the FTO should reflect the extent to which the dynamic hedging is adequately captured by the model

- Simplistic reflection of the hedge cash-flows in the model should normally result in a low value for α

The FTO must be determined on a prudent basis in light of the inherent uncertainties involved with dynamic hedging.

Note 14 - Financial Risk Analysis

All companies must prepare annually a Financial Risk Analysis ("FRA"). This is an exercise which objectively analyses the company's potential exposure to all potential financial risks.

The FRA should be prepared by the company or by advisers. It must be subject to the Independent Oversight process and the Analysis together must be presented either to the Board or to the Risk Committee (but only if the Risk Committee is a Board sub-committee whose minutes are received by the Board and at least one Independent Non-Executive Director is a member of the Risk Committee).

The FRA should include at least the following subjects

- Basis Risk
- Modelling Accuracy
- Prudence of model and assumptions
- Operational risk
- Longevity risk (or other demographic risk if appropriate)
- Lapse/surrender risk (to include dynamic lapse behaviour analysis)
- A review of Hedging performance incorporating a Profit and Loss Attribution
- Counterparty risk
- Liquidity risk
- Turbulence risk
- Model risk
- Delay risk
- Volatility & Volatility of Volatility
- Portfolio Greeks to be hedged
- Time granularity
- Completion of the Option Table (see Note 16 below)

If any of these pose significant risk that is not covered in the CAR, then the CAR must be increased to an appropriate level.

Note 15 - Profit & Loss Attribution

Companies will be expected to carry out a profit and loss attribution at least monthly as part of the process of reviewing hedge effectiveness and also as part of the process of identifying additional risks that are not currently considered. The analysis should be sufficiently granular to demonstrate the efficiency or otherwise of the hedging strategy.

Note 16 – Option Table

As part of the FRA, companies will be requested to complete an Option Table for market consistent valuation ESG's. Where an ESG is used for projection purposes, companies will be asked to record key percentiles for sample portfolios at the one year horizon. Option Tables will be published from time to time by the Financial Regulator.

Note 17 - Existing Reserving and Actuarial Practice

The requirements under this paper do not replace existing requirements of Insurance Legislation and actuarial practice.

For clarity the resilience stress as is announced from time to time by the Financial Regulator still applies (on a Company wide basis). In applying the resilience stress tests, the test must be applied instantaneously. No reduction is permitted in respect of financial instruments not in existence at the valuation date.

Solvency Margin requirements also still apply as do the requirements for valuation of liabilities and assets (inter alia).

Note 18 - RVC Process.

Boards must ensure that they have sufficient capital. This means that the sum of the product of the Risk on each class of business by the Volume of that business must not exceed Capital held. The terms Risk, Volume &

Capital must be defined by the Board who must be prepared to justify the definitions adopted and the resulting capital projections.

For business in force this clearly must be satisfied by the normal reserving process. However Boards should also carry out periodic examinations of how the RVC position would appear under projections of future sales and allowing for changes in financial conditions. The calculations prepared for the Board should be subject to independent oversight.

Note 19 - Reinsurance

All this guidance applies equally to reinsurance and insurance save for the requirement that Basis 1 CAR shall not allow for lapses or surrenders. For reinsurance prudent levels of lapse or surrender may be assumed.

Note 20 - Dynamic Lapsation

Where dynamic lapsation is a feature, this may be replaced by the assumption of very low lapse rates provided this does not reduce reserves. Such rates should be no more than 2% p.a.

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