

Position

Cologne, 7 March 2012

Valuation of long-term guarantees – Some views of Deutsche Aktuarvereinigung e.V. (DAV)

The general approach to evaluate long-term guarantees under Solvency II is to discount the respective cash flows using an appropriate discount factor. Thus, the valuation of liabilities mimics the valuation of assets. Moreover, the valuation has to comply with the paradigm of market-consistency. This implies that if an asset or a liability has an observable market value this value should be used in the solvency calculations. However, this is only true for data taken from market segments that are deep, liquid and transparent and hence could be regarded as reliable. If there are no reliable market data one has to resort to models. Market-consistency then means that the modelling assumptions should not contradict existing reliable market data.

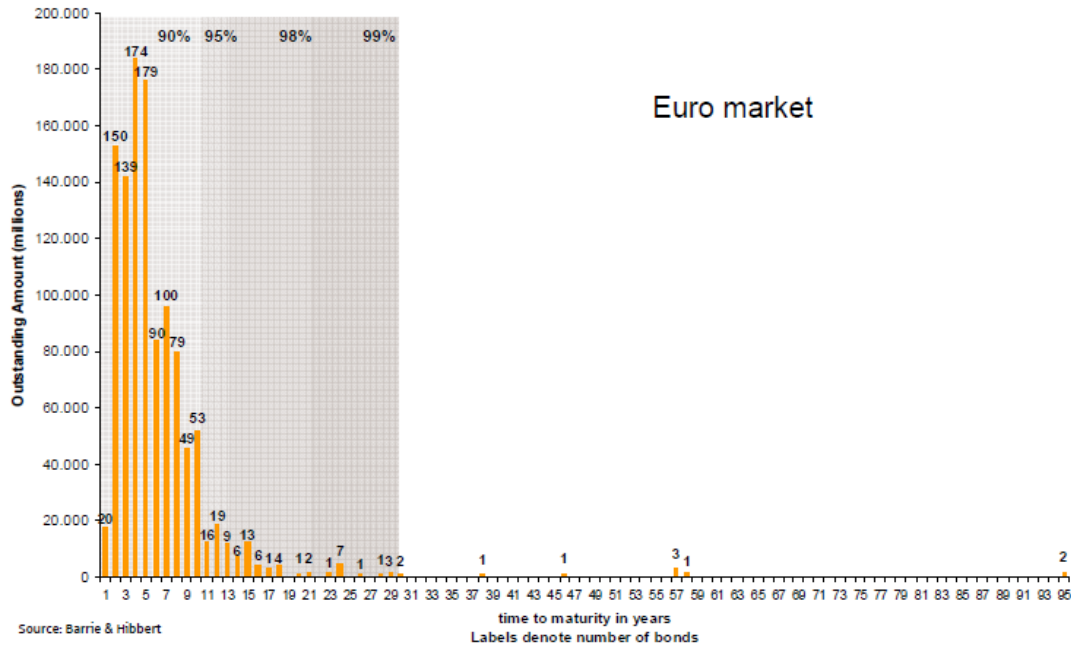
As for the valuation of long-term guarantees arising from life insurance contracts, the most important factor is the yield curve used for discounting liability cash flows. In order to obtain economically meaningful technical provisions and to avoid spurious volatility that would be detrimental to effective regulation and risk management several points have to be taken into account. DAV therefore postulates:

- **Yield Curve Extrapolation:**
For the Euro extrapolation should start at year 20. The ultimate forward rate should be reached after 30 years, i.e. within 10 years after the start of extrapolation.
- **Counter-Cyclical Premium:**
Only a formula-based approach for the first two components of the CCP (government and corporate bonds respectively their observed spreads) which has to be used in every European country will grant an adequate implementation of the CCP. Observable and operable criteria have to be established in order to avoid pro-cyclical behaviour.
- **Matching Premium:**
The general applicability of the MP has to be extended to all kinds of insurance products. The extent of its application should be consistent with the degree of real matching. In particular, the explicit ring-fencing of products must not become a prerequisite.

Explanation:

Yield Curve Extrapolation

Looking at data from Euro bond markets (see figure) it is obvious that the volume of outstanding bonds rapidly declines after a time to maturity of 10 years and is almost nil after 20 years. Therefore, data for longer maturities cannot be regarded as reliable.



These observations have led to the following market-consistent valuation approach: To discount cash flows that occur within a time horizon of 20 years, market data should be used. For longer maturities, discount rates are derived by extrapolation of the yield curve. In the absence of reliable market data the target value for this extrapolation has to be derived by economic reasoning. Currently, the value proposed for this "ultimate forward rate" (UFR) is given by the sum of the expected inflation rate and the expected long-term growth rate for the Euro zone. Since there is virtually no market after 30 years the extrapolation should reach the target value at that point. Finally, in order to avoid spurious volatility the UFR has to be stable as long as long-term expectations do not change significantly.

The same approach should be used for other currencies. There, the model parameters have to be chosen such that they are adequate for the respective situation of the bond market.

Counter-Cyclical Premium (CCP)

During past capital market turbulences EIOPA identified significant risk in cyclical behaviour of investors. Especially where long-term business models in life insurance are in place, pro-cyclical investment behaviour may lead to additional risk exposure for clients in extreme events due to significant losses of risk absorbing capacity of the undertaking.

Under extreme market stress, asset prices can deviate significantly from underlying economic fundamentals. Instead, they mirror the fear and panic of investors.

A regulatory solution needs to reflect real economics and should not foster market panic. Consequently, short-term volatility between asset and liability values needs to be managed by supervisory action.

Thus, the concept of a CCP was introduced¹ to overrule certain exaggerated market conditions observed in fixed income markets throughout the 2008 crisis and following years where prices were distorted and calculations without a CCP enhancement would have led to pro-cyclical behaviour and yet another boost of market distortion. As a result, undertakings would be driven to allocate additional solvency capital due to non economic reasons.

In distorted markets, CCP serves as an adjustment of interest rates aimed at offsetting these distortions. So far, however, current guidance given by EIOPA on the CCP concept highly contradicts its purpose. This is mainly due to the lack of predictability, which is crucial for most key parameters set within the model. EIOPA has outlined three components, two of which could be linked directly to market segments – government and corporate bonds or their observed spreads as stated by EIOPA. The third is left to supervisor's discretion.

The Actuarial function is exposed to this regime while performing solvency calculations and highly depends on regulatory reliability, especially for steering existing long-term business in life and health insurance.

In order to achieve the goal of the CCP concept, the first two components of the CCP should be derived by a formula-based approach applicable for any country without country-specific modifications needed. Given such a formula, solvency models can obtain a lower boundary of the CCP applying market data to the formula and thus gain a certain stability in solvency calculations when economically needed, namely if market conditions indicate exaggerated conditions. In absence of any predictability of the CCP, i.e. in the case of pure supervisory discretion, solvency models cannot make use of a CCP. As a consequence this leads to pro-cyclical behaviour prior to supervisory action, since undertakings will take early action in order to avoid formal insolvency. Even if a CCP is declared later on, insurers will already have reacted in a pro-cyclical manner. In this case the CCP would fail its purpose. As outlined, a sudden switch away from or towards a CCP would strongly work against the counter-cyclical action supervisors want to achieve with this very important feature of the modelling approach. For this reason, observable and operable criteria need to be established for the CCP concept. Finally, the third component provides sufficient leeway for interventions that are deemed necessary by the supervisor.

¹ cf. Draft Omnibus II Directive, Article 2, amended Paragraph 15 inserting an article 77a in the Solvency II Directive; 3rd presidency compromise 7 June 2011

Matching Premium (MP)

In practice, long-term guarantees are usually backed by a diversified portfolio of long-term assets. Because of their relative illiquidity these assets yield a return that is higher than the risk-free rate derived from quotes for interest rate swaps. The concept of a MP aims at eliminating the valuation mismatch between assets and liabilities that would arise if liability cash flows were discounted using the ordinary risk-free rate.

The MP is applicable in situations where the observable spread of fixed income assets includes a liquidity premium, compensating the investor for the risk of not being able to receive a value which corresponds to the future cash flows of the asset (adjusted for losses due to default risk) when selling them before maturity. If such assets are of sufficient credit quality and are held to maturity, the future payments (adjusted for losses due to default risk) are not at risk for the insurance undertaking and should be considered in the valuation of both the assets and the corresponding liabilities. Consequently it is correct to apply the MP until maturity.

For the valuation of assets, this spread is considered by the market-consistent valuation in accordance to Article 75 of Directive 2009/138/EC. This leads to (implicit) discount rates above the risk-free rate.

For the valuation of liabilities, the draft Level 2 text strongly restricts the application of the matching premium approach to specific products and circumstances currently only existing in few member states (basically annuities in payment within ring-fenced fund structures). As a consequence, the MP is either fully applicable or not applicable. These restrictions are arbitrary and too restrictive, since they do not allow the (partial) application of a MP in situations where only a part of the assets and liabilities satisfy the matching requirements, i.e. in economically similar situations. It is important to note that partial matching is quite common for various lines of business in a number of member states and represents a typical ALM strategy.

The restrictions regarding the application of the MP have therefore to be revised such that a proportional application of the MP is possible. In particular, this includes the restrictions regarding ring-fencing, policyholder options (e.g. surrender) and future premiums. The verification of the matching requirements needs to consider the assumptions used for valuation of the liabilities, including assumptions on policy holder options.

Consequently, to be consistent with the general economic valuation framework of Solvency II the MP should be applicable to the extent that the insurance undertaking currently holds these assets and is able to do so in the future, considering the scenario in which assets and liabilities are valued.

Other Issues

The common theme of avoiding artificial distortions in the valuation of long-term assets and liabilities also extends to the calibration of implied volatilities and of credit spread risk. Again, it is important to understand that long-term insurance liabilities should not be treated like exchange-traded financial instruments, because they are not actively traded and are backed by a stable asset portfolio. Thus, it does not contradict the paradigm of market-consistency to use stable long-term implied volatilities and apply only the default part of spread risk to assets that are held to maturity.

To summarize, the DAV holds the view that it is important to use a mark-to-market approach where deep, liquid and transparent markets exist and to follow a stable mark-to-model approach where this is not the case. This approach, while still being market-consistent, helps to avoid spurious volatility in solvency figures, reduces pro-cyclical management behaviour and hence will increase the stability of the financial system as a whole.

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