CFO Forum

European Embedded Value Principles

April 2016

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Introduction

Principle 1: Embedded Value (EV) is a measure of the consolidated value of shareholders' interests in the *covered business*.

G1.1 *The EV Methodology ("EVM")* described here is applied to the calculation and reporting of the EV of the *covered business*.

G1.2 The *EVM* is to be applied to *supplementary reporting* in the accounts of proprietary companies that transact the types of business described in Principle 2.

G1.3 Adjustments must be made to ensure all *covered business* has been included appropriately. An example of such an adjustment might be in respect of a reinsurance or loan arrangement within the group to avoid distorting the EV.

G1.4 Except where they are not considered material, compliance with *Principles* (shown in **bold**) is compulsory and any non-compliance with underlying *Guidance* should be explicitly disclosed.

G1.5 There are similarities between the methodology and assumptions used to determine the *Solvency II* balance sheet and the *EVM*. Alignment of methodology and assumptions between *Solvency II* and *EV* may be beneficial for companies reporting under both approaches. Consequently, where *Solvency II* is adopted for solvency reporting, certain components of the *EVM* may be aligned to *Solvency II* methodology as described in Principles 3, 5, 6, 8, 9, 10 and 11. Alignment of *EVM* to *Solvency II* methodology and assumptions in other areas is permitted provided the nature of such alignment is disclosed.

Coverage

Principle 2: The business covered by the *EVM* should be clearly identified and disclosed.

G2.1 The business covered by the *EVM* should include any contracts that are regarded by local insurance supervisors as long term or life insurance business.

G2.2 The *EVM* may cover other long-term life insurance, short-term life insurance such as group risk business and long-term accident and health business insurance business. Where short-term healthcare is regarded as part of or ancillary to a company's long term life insurance business, then it may be regarded as long-term business.

G2.3 The *EVM* may be applied to other business such as asset management operations.

G2.4 The *EVM* applies to the contract, rather than the entity selling the contract. For example the *EVM* should be applied to *covered business* provided by non-insurance groups and operations such as banking groups and pension funds.

EV Definitions

Principle 3: EV is the *present value* of shareholders' interests in the earnings distributable from assets allocated to the *covered business* after sufficient allowance for the aggregate risks in the *covered business*. The EV consists of the following components:

- *free surplus* allocated to the *covered business*
- *required capital*, less the cost of holding *required capital*
- *present value* of future shareholder cash flows from in-force *covered business* (PVIF).

The value of future new business is excluded from the EV.

G3.1 EV is defined as the sum of the values of components defined in Principles 4, 5 and 6 and as illustrated in Appendix B. However, a different presentation of the components of embedded value is permitted.

G3.2 The value of future new business should be excluded from the EV. Principle 8 defines new business and, by implication, in-force business.

G3.3 The EV should reflect the aggregate risks in the *covered business*. For example, interactions should be considered between explicit allowances for *financial options and guarantees*, the prudence of the liability valuation, the level and cost of *required capital* and the risk discount rate. Their combined impact should, inter alia, be sufficient to allow for both *financial options and guarantees* and the cost of holding *required capital* to support any mismatching of assets and liabilities.

G3.4 Where the *EVM* is aligned to *Solvency II* methodology and assumptions (as set out in G1.5) and a balance sheet presentation is adopted for *EV*, the PVIF may be implicitly included within other components of the *EV*.

REINSURANCE AND DEBT

G3.5 Projected reserves and cash flows should be net of outward risk reinsurance.

G3.6 Financing types of reinsurance and debt, including subordinated and contingent debt, can create a leveraging effect which should be reflected in the allowance for risks to shareholder cash flows. Such debt should normally be deducted from the EV at a value consistent with that which markets would place on debt with similar characteristics.

FREE SURPLUS

Principle 4: The *free surplus* is the market value of any capital and surplus allocated to, but not required to support, the in-force *covered business* at the valuation date.

G4.1 *Free surplus* is determined as any excess of the market value of all assets attributed to the *covered business* but not backing liabilities for the *covered business* over the *required capital* to support the *covered business*.

G4.2 *Free surplus* not formally allocated to *covered business* should not be included in the EV.

REQUIRED CAPITAL

Principle 5: *Required capital* should include any amount of assets attributed to the *covered business* over and above that required to back liabilities for *covered business* whose distribution to shareholders is restricted. The EV should allow for the cost of holding the *required capital*. Where *Solvency II* is adopted for solvency reporting, and the *Solvency II* risk margin contains sufficient allowance for the cost of holding the *required capital,* no further allowance for cost of *required capital* is required.

G5.1 The level of *required capital* in respect of covered business should be at least the level of solvency capital at which the supervisor is empowered to take action for that business. It would also include any amount *"encumbered"* by local supervisory or legal restrictions that prevents its distribution or removal from supporting the *covered business*.

G5.2 The *required capital* may include amounts required to meet internal objectives, such as those based on an internal risk assessment or required to obtain a targeted credit rating.

G5.3 The cost of holding *required capital* is the difference between the amount of *required capital* and the *present value* of future releases, allowing for future investment return, of that capital.

G5.4 Where local supervisory or legal restrictions require the holding of an amount of capital in respect of specific *financial options and guarantees* within a legal entity which differs from that considered economically necessary, the difference in cost of *required capital* could be reflected in the allowance in the EV for those *financial options and guarantees*.

G5.5 Where *Solvency II* is adopted for solvency reporting (as set out in G1.5), the *Required Capital* may be aligned to the *Solvency II* Solvency Capital Requirement.

Future shareholder cash flows from the in-force *covered business*.

Principle 6: The value of future cash flows from in-force *covered business* is the *present value* of future shareholder cash flows projected to emerge from the assets backing liabilities of the in-force *covered business* ("PVIF"). This value is reduced by the value of *financial options and guarantees* as defined in Principle 7.

G6.1 Liabilities of the in-force *covered business* would normally be dictated by local regulatory requirements. The *required capital* should be consistent with the definition of liabilities used.

G6.2 The value of in-force *covered business* includes the value of *renewals* of in-force business. Where *Solvency II* is adopted for solvency reporting (as set out in G1.5), the level of renewals may be aligned to the *Solvency II* contract boundary requirements.

G6.3 The PVIF before deduction of the allowance for the *time value* of *financial options and guarantees* should reflect the *intrinsic value* of *financial options and guarantees* on in-force *covered business*. The *time value* of *financial options and guarantees* is discussed under Principle 7.

FINANCIAL OPTIONS AND GUARANTEES

Principle 7: Allowance must be made in the EV for the potential impact on future shareholder cash flows of all *financial options and guarantees* within the in-force *covered business*. This allowance must include the *time value of financial options and guarantees* based on *stochastic techniques* consistent with the methodology and assumptions used in the underlying embedded value.

G7.1 The valuation of *financial options and guarantees* should take as a starting assumption the actual asset mix at the valuation date.

G7.2 Where management discretion exists, has been formally approved and would be applied in ways that impact the value of *financial options and guarantees*, the impact of such management discretion may be anticipated in the allowance for *financial options and guarantees* but should allow for market reaction to such action.

G7.3 The value for *financial options and guarantees* should be deducted from the PVIF.

G7.4 The techniques used to calculate the allowance for the *time value* of *financial options and guarantees* should incorporate an allowance for stochastic variation in future economic conditions that is consistent with the projection assumptions applied under Principles 9 and 10.

New Business and Renewals

Principle 8: New business is defined as that arising from the sale of new contracts during the reporting period. The value of new business includes the value of expected *renewals* on those new contracts and expected future contractual alterations to those new contracts. The EV should only reflect in-force business, which excludes future new business.

G8.1 New Business is defined as *covered business* arising from the sale of new contracts during the reporting period, including cash flows arising from the projected *renewal* of those new contracts.

G8.2 The projected cash flows (PVIF) valued under Principle 6 should anticipate *renewal* of in-force business, including any *reasonably predictable* variations in the level of *renewal* premiums but excluding any value relating to future new business. New business should include recurring single premiums and changes to existing contracts where these are not variations in the PVIF. To distinguish between new business and in-force business, the following are examples of indications that premium represents new business:

- A new contract has been signed.
- Underwriting has been performed.
- A new policy or new policyholder details have been entered on administration systems.
- Incremental remuneration has become due to the distributor/salesperson.
- The pricing basis for the premium allows for the full cost of their marketing and distribution.

G8.3 The presence of *renewal* premiums in pricing assumptions is an example of evidence that *renewals* would be included in the value of new business. *Renewals* should include expected levels of:

- Contractual *renewal* of premiums in accordance with the policy conditions at the valuation date, including any contractual variation in premiums.
- Non-contractual variations in premiums where these are *reasonably predictable*; for example, premiums expected to increase in line with salary or price inflation.
- Recurrent single premiums where the level of premium is pre-defined and *reasonably predictable.*

Where *Solvency II* is adopted for solvency reporting (as set out in G1.5), the level of renewals may be aligned to the *Solvency II* contract boundary requirements.

G8.4 Other methods of distinguishing between new and in-force business are allowable, but should be clearly defined in disclosure.

G8.5 Any variation in premium on *renewal* of in-force business from that anticipated, including deviations in non-contractual increases, deviations in recurrent single premiums and re-pricing of premiums for in-force business, should be treated as an *experience variance* on in-force business and not as new business.

G8.6 The projection assumptions used to value new business should be consistent with those used to value in force business.

G8.7 The contribution from new business can be valued at either opening or closing assumptions and variance due to experience, excluding investment experience, on new business during the year should be treated accordingly as *experience variances* or new business contribution.

Assessment of Appropriate Projection Assumptions

Principle 9: The assessment of appropriate assumptions for future experience should have regard to past, current and expected future experience and to any other relevant data. Changes in future experience should be allowed for in the value of in-force when sufficient evidence exists and the changes are reasonably certain. The assumptions should be *actively reviewed*.

G9.1 The projection assumptions should be determined using *best estimate assumptions* of each component of future cash flow for each policy group. Relevant data can be internal to the company or external, for example from experience analyses or inputs to pricing bases.

G9.2 *Best estimate assumptions* should be internally consistent and consistent with other forms of reporting such as (where relevant) those used for results on statutory, pricing or GAAP bases. They should, where appropriate, be based on the *covered business* being part of a going concern.

G9.3 The assumptions should be *actively reviewed*, and updated as appropriate, at least annually.

G9.4 Treatment of changes in future experience will be a matter of judgment. Favorable changes such as productivity gains should not normally be included beyond what has been achieved by the end of the reporting period, unless *Solvency II* is adopted for solvency reporting (as set out in G1.5) and such favourable changes are permitted under *Solvency II*. However, in certain circumstances such as start-up operations, it may be appropriate to assume that unit costs will reach their expected long-term levels within a defined period. The extent to which such changes in unit costs have been anticipated should be separately disclosed. In addition, any exceptional development costs excluded from the unit cost base should be separately disclosed.

G9.5 Projection assumptions should be considered separately for each *product group*.

DEMOGRAPHIC ASSUMPTIONS

G9.6 Appropriate allowance should be made in the value of in-force business for demographic assumptions such as mortality, morbidity, *renewals* and future levels of withdrawals of in-force business. Such allowance should be based on past evidence and expected future experience consistent with the assessment of other projection assumptions.

EXPENSES

G9.7 Future expenses such as *renewal* and other maintenance expenses should reflect the expected ongoing expense levels required to manage the in-force business, including investment in systems required to support that business and allowing for future inflation.

G9.8 Overheads should be allocated between new and in-force business in an appropriate way consistent with past allocation, current business plans and future expectations.

G9.9 *Holding companies'* operating expenses should be allocated in an appropriate way.

G9.10 All expected expense overruns affecting *covered business*, including *holding company* operating expenses, overhead costs and development costs such as those incurred in start-up operations, must be allowed for.

G9.11 Where costs of managing the *covered business* are incurred within *service companies*, profits or losses to the *service companies* are to be valued on a *"look through" basis*, so as to give a *best estimate* of the impact on future shareholder cash flows of the expenses to the group of running the *covered business*. Actual and expected profit or loss to an internal group company on services provided to the *covered business* should be included in allowances for expenses in the *EVM*. Where an external *service company* is used, the actual and future expected fees or charges should be allowed for in calculating the EV. Where *Solvency II* is adopted for solvency reporting (as set out in G1.5) the approach to allowing for the costs of managing the covered business may be aligned to *Solvency II* methodology.

TAXATION AND LEGISLATION

G9.12 Allowance in the projection must be made for all taxes and regulations in the relevant jurisdiction affecting the *covered business*. These should follow the local treatment and be based on *best estimate assumptions*, applying current legislation and practice together with known future changes.

G9.13 Where Solvency II is adopted for solvency reporting (as set out in G1.5) the approach to allowing for tax may be aligned to Solvency II methodology.

Economic assumptions

Principle 10: Economic assumptions must be internally consistent and should be consistent with observable, reliable market data. No smoothing of market or account balance values, unrealised gains or investment return is permitted.

G10.1 Economic assumptions should be updated for each reported calculation of EV.

INVESTMENT RETURNS

G10.2 Assumed investment returns should reflect the expected future returns on the assets held and allocated to the *covered business* at the valuation date. The assumed returns should allow for any credit risk on investments.

G10.3 Assumptions for the reinvestment of future positive cash flows should be based on the expected future investment strategy, consistent with other projection assumptions. Assumptions can allow for future switching between investment classes where this is expected to occur and is in line with an investment strategy with formal board approval. Any such switching assumption must be disclosed and its effect must be reflected in other projection assumptions such as capital requirements.

G10.4 The approach used in selecting fixed interest assumptions for current assets and new money should consider the current investment portfolio and gross redemption yields.

G10.5 In markets where longer-term fixed interest markets are underdeveloped, investment return assumptions should be based, where appropriate, on an assessment of longer-term economic conditions, or other markets.

INFLATION

G10.6 Projection assumptions should be consistent with current observed inflation levels and those implied by investment markets, for example via consideration of yields on inflation-linked securities.

RISK DISCOUNT RATES

G10.7 Discount rates used to determine the *present value* of future cash flows should be set equal to *risk free rates* plus a risk margin. The risk margin should reflect any risk associated with the emergence of distributable earnings that is not allowed for elsewhere in the valuation.

G10.8 Valuation of financing types of reinsurance and debt, including subordinated and contingent debt, should ensure that the combined impact of their servicing costs and discount rates assumption does not distort the valuation of the underlying business.

G10.9 Risk discount rates may vary between *product groups* and territories.

G10.10 The basic risk-free interest rate term structure, credit risk adjustment, Matching Adjustment and Volatility Adjustment as calibrated and applied in *Solvency II* is a possible application of Principle 10 and associated *Guidance*.

SMOOTHING

G10.11 Asset values on which to base EV calculations must be consistent with values observable in investment markets and not be smoothed. Unrealised gains should be allowed for in the projections used to determine the projected shareholder cash flows. For the avoidance of doubt, this does not preclude the projection of book values according to local regulations in determining distributable earnings.

G10.12 Investment returns must be those actually earned on a market basis over the period and must not be smoothed.

PARTICIPATING BUSINESS

Principle 11: For *participating business* the method must make assumptions about future bonus rates and the determination of profit allocation between policyholders and shareholders. These assumptions should be made on a basis consistent with the projection assumptions, established company practice and local market practice.

G11.1 Where regulatory/contractual restrictions or bonus participation rules are clear they should be applied to projections of *participating business*.

G11.2 Projected bonus rates should be consistent with the assumed future investment returns used.

G11.3 Where the company has an established bonus philosophy, this should be applied to projections of *participating business*.

G11.4 Where management has discretion over allocation of bonuses, including the realization of unrealized gains, projection assumptions should have regard to the past application of discretion, past external communication, the influence of market practice regarding that discretion and any payout smoothing strategy in place.

G11.5 It is possible that some of the assets *(residual assets)* allocated to the *participating business* would remain at the end of the projection (after all bonuses have been allocated) as unallocated surplus. This surplus should not be negative. Acceptable valuation treatments are to assume that such unallocated surplus would be distributed over time via final bonus to in-force business, or as bonuses to both inforce and future new business, and to value any shareholders participation in its distribution at discounted value. Where *Solvency II* is adopted for solvency reporting (as set out in G1.5), surplus funds as defined in *Solvency II* may be treated as a component of *free surplus* and *required capital* rather than PVIF.

Disclosure

Principle 12: The scope of disclosures should be commensurate with the *EV* results presented. The level of disclosures should be sufficient to enable users to understand the methodology and assumptions, key judgements and sensitivities of the *EV* results being presented to key assumptions. As a minimum the following should be disclosed:

- **Assumptions, methodology and key judgements underlying the *EV* results shown;**
- **Sensitivities of results shown to changes in key assumptions[1];**
- **An explanation of results compared to the prior period; and**
- **Any areas of non-compliance with the *EV Principles and Guidance.***

G12.1 Compliance with the *EVM Principles* is compulsory and should be explicitly disclosed. When the *EVM* is referred to and Principles have been complied with but underlying *Guidance* has not been complied with in its entirety, the areas of non-compliance and reasons for non-compliance should be disclosed.

G12.1 Examples of possible disclosures are shown in Appendix A.

[1] For example, this might include the value of new business on alternative assumptions, such as with regard to contract renewals.

Glossary

Active Review (of assumptions)
A review involving assessment of the existence and application of new evidence as to the appropriateness of an assumption. The finding and conclusions of such a review should be documented.

Best Estimate assumption
An assumption that represents the expected outcome from the range of possible outcomes for future experience of that assumption.

Covered business
The contracts to which the EVM has, in line with the *Principles*, been applied.

Encumbered
Amounts of capital whose distribution to shareholders or removal from supporting the *covered business* is restricted. Such restrictions should include requirements to maintain sufficient capital to avoid intervention in management of the business by regulator..

EVM – Embedded Value Methodology
The methodology for calculating and reporting Embedded Value, as set out by the European Embedded Value *Principles*.

Return on EV
- the change in EV over a period,
- plus the value of distributions from the assets backing the *covered business* (including disposals of *covered business*),
- minus the value of capital contributions to the *covered business* (including acquisitions of *covered business*).

Experience Variance
The impact on EV of a variation during the reporting period in the experience in performance of the *covered business* when compared to projection assumptions used for that area of experience.

Financial options and guarantees
Features of the *covered business* conferring potentially valuable guarantees underlying, or options to change, the level or nature of policyholder benefits and exercisable at the discretion of the policyholder, whose potential value is impacted by the behaviour of financial variables.

Free Surplus
The amount of any capital and surplus allocated to, but not required to support, the in-force business covered by the EVM as defined in *Principle* 4.

GAAP equity
Under the accounting standard applied for reporting the group's primary financial statements (GAAP), the amount reported as consolidated equity or net assets for the group.

Guidance
Guidance providing preferred interpretation of the *EVM Principles*, as set out under each *principle*. Compliance with guidance is preferred but not compulsory in order to comply with the *EVM*, but the nature of, and reason for, any non-compliance with *guidance* must be disclosed if claiming compliance with the *EVM*.

Holding Company
A legal entity with a function of being a consolidating entity for primary financial reporting of *covered business*.

Look-through basis
A basis via which the impact of an action on the whole group, rather than on a particular part of the group, is measured.

Participating Business
Covered business in which policyholders have the right to participate (receive additional benefits) in the performance of a specified pool of assets or contracts, fund or company within the group.

Present Value
The value of a future cash flow at the valuation date, discounted at the risk discount rate applied to that cash flow.

Principle
Compliance with the *EVM* requires compliance with each of the 12 *Principles*.

Product Group
A *product group* is a set of contracts with similar risk characteristics.

Reasonably predictable
Variations in future non-contractual premiums relating to an existing contract or recurrent single premiums creating contracts are *reasonably predictable* when assumptions regarding their amount and timing can be made that are consistent with other projection assumptions and based on reliable evidence. Where such predictions are made, any future variation in premium levels relating to such contracts should be treated as variance in experience of inforce business rather than as new business.

Renewal
A contract is renewed when a policyholder takes whatever action is required, typically payment of a premium, in order to maintain their benefits under the contract. Where *Solvency II* is adopted for solvency reporting, renewals beyond the *Solvency II* contract boundary may be excluded.

Required Capital
The amount of assets, over and above the value placed on liabilities in respect of *covered business*, whose distribution to shareholders is restricted defined in *Principle* 5.

Residual assets
That part of the free assets allocated to the *participating business* which would remain at the end of the projection (after all future bonuses have been allocated).

Risk Free rates
Prospective yields on securities of suitable term considered to be free of default or credit risk, for example based on swaps.

Service Companies
Service companies are companies providing services to the *covered business*, or operations within the *covered business* providing services outside the *covered business*. *Service companies* and their clients can be internal or external to the group.

Solvency II

For the purpose of these *EV Principles*, *Solvency II* is defined to include equivalent market consistent solvency regimes, for example, the Swiss Solvency Test.

Statutory Basis

The valuation basis and approach used for reporting financial statements to local regulators.

Stochastic Techniques

Techniques that incorporate the potential future variability in assumptions affecting their outcome.

Supplementary reporting

Reporting within financial statements that is a) not covered by audit opinion, or b) produced using a methodology other than that on which the primary financial statements are based

Time Value and Intrinsic Value

An option feature has two elements of value, the *time value* and *intrinsic value*. *Intrinsic value* is that of the most valuable benefit under the option under conditions at the valuation date. *Time value* is the additional value ascribable to the potential for benefits under the option to increase in value prior to expiry.

Appendix A– Examples of possible disclosures

ASSUMPTIONS

A1.1 The principal economic assumptions, the investment assumptions on all major asset classes including any assumption of future change in investment mix, inflation rates and the discount rates used at the start and end of the accounting period.

A1.2 How economic and other business assumptions (e.g. mortality, persistency, expenses and future asset allocation) are determined.

METHODOLOGY

A1.3 A clear, brief description of the *covered business*.

A1.4 The methods used to calculate the operating return on EV, including the shareholder cash flows underlying the PVIF, and whether the operating return is calculated using opening or closing assumptions.

A1.5 Treatment of consolidation adjustments, including inter-company arrangements such as reinsurance or loans associated with *covered business* and allocation of *holding company* and overhead expenses to *covered business*.

A1.6 For companies writing *participating business*, the approach used to determine future bonuses and the treatment of any *residual assets.*

A1.7 The basis on which allowance has been made for the amount of, and cost of holding, both *required capital* and any additional amount regarded as encumbered in respect of both new business and in-force business separately.

A1.8 The reasons for any changes in the risk margins in the risk discount rate.

A1.9 The method used to determine the value of new business including:

- Definitions of new business;
- Any changes in the definition of new business and the impact of such changes on the value of new business;
- Whether new business contribution has been calculated on opening or closing assumptions, at point of sale or year-end.

A1.10 The published new business premium volume and whether it is consistent with the definition of new business.

A1.11 Where new business margins are disclosed, these are calculated as the ratio of the value of new business to the present value of new business premiums. Alternative calculations of new business margins may be disclosed as further information.

A1.12 The basis on which any memorandum disclosure of prior year comparatives on current assumptions has been made. For such disclosure, the new business contribution, expected return and opening EV are restated on consistent economic assumptions.

A1.13 Treatment of any development costs included in the result.

A1.14 The extent to which future productivity gains are anticipated.

A1.15 The approach used to allow for tax.

A1.16 The nature of, and techniques used to value, *financial options and guarantees*. The amount of, and reason for, any alteration to the allowance for *financial options and guarantees* made under G5.4.

A1.17 The basis of translation used for foreign exchange.

ANALYSIS OF RETURN ON EV; RECONCILIATION OF OPENING AND CLOSING VALUES

A1.18 The opening and closing EVs, together with a breakdown of the change in EV over the period. Presentation of the breakdown is at the discretion of the company, however the following items would be typical:

- Capital raised
- Capital distributed
- New business contribution
- Return on in-force business
- Expected return
- Experience variances
- Operating assumption changes
- Development costs
- Expected return on Free surplus
- Operating return before [after] tax and [before] exceptional items
- Investment return variances
- Effect of currency movements
- Effect of economic assumption changes
- Exceptional items
- Return on EV before [after] tax*
- Attributed tax*
- Return on EV after [before] tax*

**Some companies may choose to present this on an after-tax basis rather than attributing tax at the end.*

A1.19 Identification and explanation of any variance between the actual experience and that anticipated in the projection assumptions (variance analysis).

A1.20 Quantification and disclosure of the effect of any change to the method or approach for reassessing expected experience (model changes).

A1.21 Disclosure and explanation of any impact resulting from changes in experience assumptions or risk margins (assumption changes).

A1.22 The amount of any positive or negative return in respect of services provided to the *covered business* by another part of the Group that is not reflected in the reported EV or value of new business.

A1.23 Foreign exchange gains and losses and any other recognised gains and losses not reported as part of the return.

A1.24 Amount and cost of *required capital* at the start of year and end of year and the amount and cost of holding the minimum solvency margin.

EV *FREE SURPLUS*

A1.25 An analysis of the movement in any EV *Free Surplus* over the reporting period.

A1.26 The amount of any *Free Surplus* at the beginning and end of the reporting period. Reconciliation of *free surplus* or, in the absence of any *free surplus*, of *required capital* to consolidated group *GAAP equity*.

SENSITIVITIES TO CHANGES IN ASSUMPTIONS

A2.1 Sensitivities:

- For total embedded value results (including the value of financial options and guarantees).
- For new business values, except where a particular sensitivity is not meaningful to the assessment of new business values.

A2.2 Sensitivities provide very useful information, but they are very demanding of company resources to produce. Accordingly, attention should be focussed on those whose information value justifies the cost of production.

A2.3 In some jurisdictions the reserving basis that underlies shareholder distributable cash flows is dynamic, and in theory some or all sensitivities could change not only future experience but also reserving levels. Because modelling dynamic reserves is extremely complex and the effect on value is second-order, it is recommended that in performing sensitivities companies keep reserving bases constant and only vary future experience assumptions, unless it is misleading to do so. In any case, the choice of methodology is clearly disclosed.

The following are examples of sensitivities that could be disclosed.

INTEREST RATES AND ASSETS

A2.4 100 basis point increase in the risk discount rate

In this sensitivity the risk margin as reflected in the discount rate is changed in isolation from all other assumptions.

This sensitivity is less beneficial for companies that use a methodology in which discount rates are an output rather than an input (for example, if a complex set of deflators is used to produce values, but these can be translated into an implied discount rate). However, it remains a useful way of comparing the results of different companies, so it is encouraged in these circumstances as well. Companies who choose to omit this sensitivity are encouraged to disclose appropriate sensitivities to the margins for risk in non-market assumptions and frictional costs included within their EV calculations.

A2.5 100 basis point pa reduction in the interest rate environment

This sensitivity is designed to indicate the impact of a sudden parallel shift in the risk-free yield curve, which increases the current market value of fixed-interest assets but reduces future reinvestment rates. It is not performed in isolation from other assumptions. Rather, there are associated impacts on most other economic assumptions.

Where possible, when calculating this sensitivity, companies should allow for all consequent movements including future asset returns to change consistently through maintenance of constant risk margins above the risk-free rate. However, the level of capital assigned to the business should not be changed in this sensitivity.

A2.6 10% decrease in equity/property capital values at the valuation date, without a corresponding fall/rise in dividend rental/yield

This sensitivity is designed to indicate the impact of a sudden change in the market-values of assets. The situation being reflected is the equivalent of a fall of 10% of the absolute amount of the future dividends or rental yields.

An insurer may choose to disclose equity and property movements separately if the results were significantly different for these asset classes.

Preparers should consider whether to assume that the portfolio is re-balanced after a significant market movement to achieve the same asset mix as currently persists. Companies should disclose whether such an action is assumed.

A2.7 100 basis point pa increase in the yield on equity/property assets (as a change in the equity or property risk premium with no consequential changes to discount rates)

For companies adopting a bottom-up approach to discount rates calibrated to the market, this sensitivity is less beneficial, as in such an approach it is artificial to change future yield assumptions without adjusting discount rates. However, if companies wish to create such a sensitivity they can do so provided the method is clearly explained.

An insurer may choose to disclose equity and property movements separately if the results were significantly different for the different asset classes.

EXPENSES AND PERSISTENCY

A2.8 10% decrease in maintenance expenses (i.e. the ongoing cost of administering contracts)

This sensitivity is applied to the projected level of expenses.

A2.9 10% proportionate decrease in lapse rates (multiplicative, i.e. a base lapse rate of 5% pa becomes 0.9 x 5% = 4.5%pa)

This sensitivity should reflect a single, downwards movement in lapse rates.

INSURANCE RISK

A2.10 5% proportionate decrease in base mortality and morbidity rates (disclosed separately for life assurance and annuity business)

It is useful information for companies to disclose separately the effect of mortality on life assurance and annuity business, as the future experience for these different insured populations might vary significantly. A 5% reduction has been chosen as the standard sensitivity because this is considered to be a more realistic scenario than a 10% reduction.

However, there are likely to be some contracts whose classification in one category or the other is somewhat arbitrary (due to the availability of different types of benefit within a single contract). The basis for classification should be disclosed where the effect on the sensitivity results is material.

The disclosure should also include a description of whether any future management actions (such as changes to pricing or valuation bases) are modelled in reaction to the changing mortality/morbidity rates.

The sensitivity to different trends in increasing longevity may be disclosed providing the basis for the sensitivity calculation is disclosed.

SEGMENTATION

A3.1 For companies with more than one business or geographical area of operation, the business classifications disclosed should be consistent with those used for primary statements.

For each segment:

- New business contribution
- Operating return (note that some companies will determine everything after tax.)
- Development costs
- EV *Free Surplus* and/or *Required Capital*
- Main economic assumptions

STATEMENTS BY DIRECTORS

A3.2 The supplementary information typically includes a statement from the directors that the *EVM* accounts have been prepared in accordance with the European *EV Principles*. Where reference is made to the European EV Principles in financial statements, but the *guidance* has not been complied with in its entirety, the areas of non-compliance and reasons for non-compliance are typically disclosed.

A3.3 A statement is typically included, where the methodology, assumptions and results have been subject to external review, stating the basis of the external review and by whom it has been performed.

REQUIRED CAPITAL

A3.4 The basis on which Required Capital has been established including how local minimum statutory capital and group economic capital requirements have been assessed.

A3.5 Existing EV guidance requires that capital levels satisfy at least the minimum statutory solvency requirements of national regulators in respect of covered business. Economic capital considerations in excess of these amounts should be considered.

A3.6 If economic capital is the base for the published EV calculations, a sensitivity showing the EV results assuming only the statutory minimum capital. The change in capital levels should not be accompanied by potentially consequent changes in other risk measures such as the risk margin.

A3.7 The assumed capital levels should be consistent with pricing assumptions.

ANALYSIS OF RETURN ON EV

A3.8 Analysis of return on EV separately between Adjusted Net Worth (defined as Free Surplus plus Required Capital) and Present Value of In-force (PVIF), to better explain the movement in capital flows.

DERIVATION OF RISK MARGINS

A3.9 The methodology used to derive risk margins for those companies developing risk margins, either top down (based on WACC) or bottom up (based on product line market volatilities).

A3.10 The derivation of frictional costs and risk margins for non-market assumptions for those companies adopting a market consistent approach.

THE PATTERN OF REINVESTMENT YIELDS

A3.11 The methodology used to derive future assumed re-investment rates.

PREPARATION OF "GROUP EV" ACCOUNTS AND DISCLOSURES RELATING TO *COVERED BUSINESS*

A3.12 Some companies have provided EV results and disclosures for the identified covered business. Others have provided EV results on a full "Group EV" basis with non-covered business being included on a variety of bases. The CFO Forum does not propose a comprehensive treatment of non-covered business at this time, but some guidelines related to certain key issues are presented below. We use the term "Group EV" to refer to any disclosure of total company value that includes covered business on an EV basis, regardless of the treatments used for non-covered business.

A3.13 Marking debt to market

The impact of marking the debt to market if that is not the treatment in the EV results, noting that for "Group EV" results, debt should be marked to current market value without any adjustment to eliminate or smooth own credit ratings or should be valued using a basis consistent with the primary accounts.

Quantitative disclosure of the manner in which debt is allocated between covered and non-covered business and then valued (for EV results relating only to covered business, as opposed to an entire Group).

A3.14 Pension scheme deficits

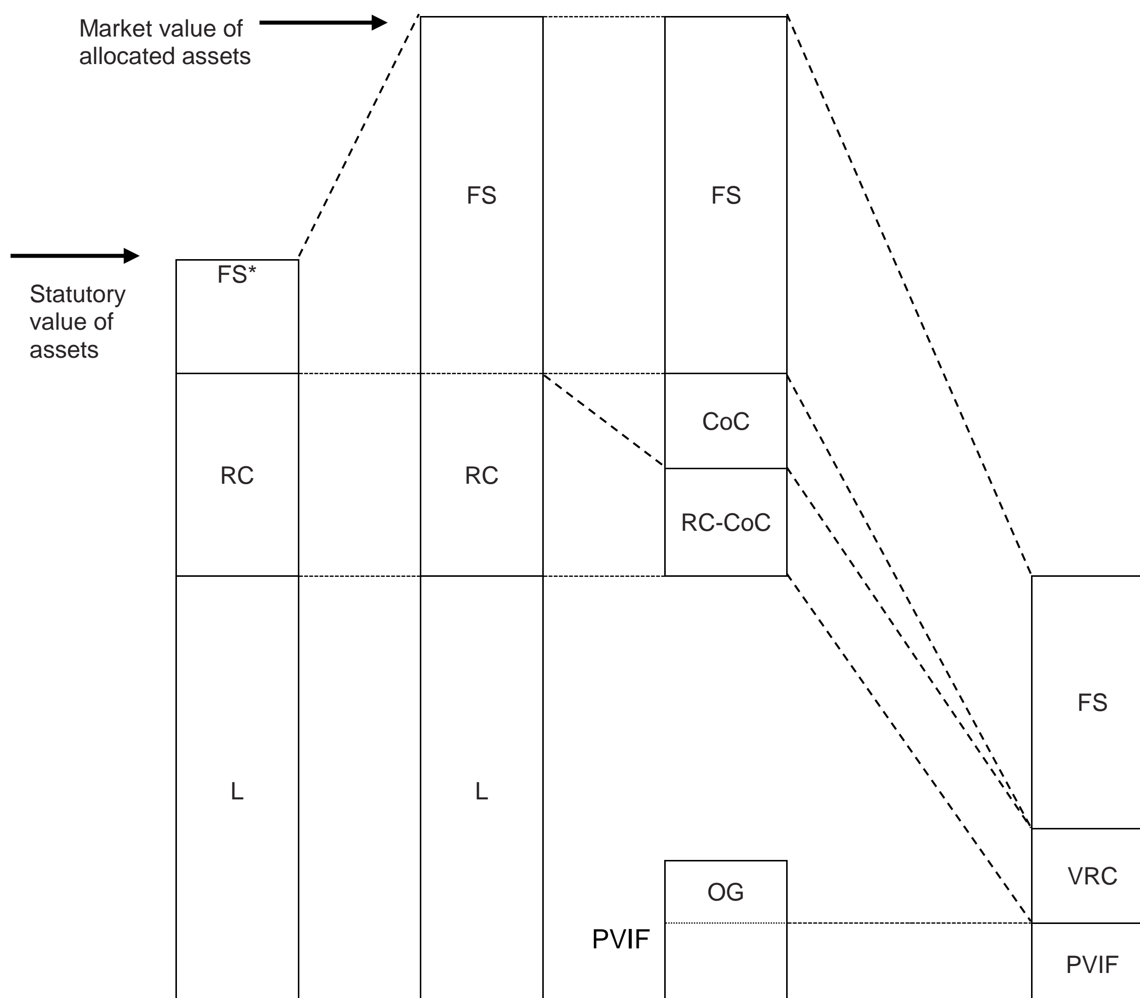
The manner adopted for reflecting accumulated surpluses or deficits on defined benefit pension schemes in the Group EV value, either through the Adjusted Net Worth or through the Present Value of In-force by adjusting future unit costs.

The impact of any difference between the approaches used for pension valuation in the "Group EV" calculations and in the primary accounts, noting that in determining the surpluses or deficits to recognize, the actuarial and economic assumptions used should be consistent with the primary accounts, rather than restated to be consistent with the EV basis.

For EV results relating only to covered business, quantitative disclosure of the manner in which pension surpluses or deficits are allocated between covered and non-covered business and then valued.

Appendix B – Presentation of EV under *EVM*

Under the *EVM*, EV can be derived from a breakdown of assets allocated to the *covered business* as illustrated below



FS = *Free surplus* (on market value of assets; FS* is on statutory value)
RC = *Required capital*
L = Liabilities in respect of in-force business
CoC = Cost of holding RC
VRC = Value of RC = RC-CoC
PVIF = *Present value* of in force, the value of distributable surplus emerging from assets backing L
OG = Explicit value placed on options and guarantees

Note that alternative presentations are acceptable. For example:

- Commonly L would include the statutory minimum solvency margin (SM) and the value of SM would be included in PVIF
- Alternatively, SM might be combined with RC and the value of SM with VRC
- VRC could be presented as RC – CoC
- OG might be deducted from PVIF, or presented as a separate component