

*QIS1 specification*

## Technical provisions

### Information requested

1. For the purposes of QIS1, requirements apply at the level of the solo entity. Where practical, groups participating in the exercise should sum the estimates for individual entities without assuming any diversification effects between entities.
2. For each segment, technical provisions should be shown on the following bases:
  - current basis;
  - best estimate;
  - 75<sup>th</sup> percentile; and
  - 90<sup>th</sup> percentile.

Technical provisions should be shown both net of reinsurance and gross of reinsurance on each of these bases.

#### Non-life:

3. The best estimate, 75<sup>th</sup> percentile and 90<sup>th</sup> percentile should be shown on both a discounted and an undiscounted basis.
4. The standard deviation of the probability distribution of the liability cash flow should be given separately.

#### Life:

5. The total difference between the best estimate and the (present value of the) guaranteed surrender or transfer values of each contract should be given separately. Details are given below (paras 20-22).

### All business:

6. Participants should aim to cover their entire portfolio. Coverage may be partial if a business line or sub-portfolio is considered immaterial, or where insufficient data exist to attempt an estimate. The value of excluded technical provisions (on the current basis) should be given separately.

### **Segmentation**

7. As far as practicable, for non-life insurance values should be indicated in each of the lines of business defined in the present accounting Directive.<sup>1</sup> If values are not provided on this basis, participants should describe the method they used to determine an appropriate segmentation. They should explain why this segmentation is more appropriate to their business.
8. For life business, valuation of liabilities may require a classification of underwriting risks into homogenous risk groups according to the broad nature of the risks assumed under the contract. Examples include:
  - homogenous mortality risk (e.g. life cover risk, annuitant mortality);
  - morbidity risks (e.g. disability income, critical illness);
  - lapse risks (e.g. regular premium contracts);
  - profit-sharing/non profit-sharing business;
  - guaranteed/non-guaranteed business.

Segmentation may also be driven by local factors, such as the tax treatment of business.

9. Optional information:
  - *Where possible, values for the 75<sup>th</sup> and 90<sup>th</sup> percentile should also be calculated at the level of the entity as a whole (separately for life and non-life). This will allow participants to estimate the effects of diversification effects between segments.*
  - *Quantification of diversification effects should be based on sound actuarial techniques. Participants should describe the approach followed.*

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<sup>1</sup> Article 63 of the Council Directive on the annual accounts and consolidated accounts of insurance undertakings, 91/674/EEC.

## Methods and assumptions

### Current basis

10. Technical provisions under the current basis need to be provided for comparative purposes. The current basis is the statutory balance sheet amount of provisions, according to local requirements.

#### Non-life only:

11. For purposes of comparison, participants should indicate whether statutory provisions have been valued using statistical methods or on a case-by-case basis.
12. Participants should provide an estimate of the confidence level that is reflected in the statutory provisions.

### Best estimate

13. The expected present value of future cash flows should be used. The estimate should be based on policy-by-policy data.
14. The expected cashflows should be based on actuarial assumptions that are deemed to be realistic for the book of business in question i.e. each element sampled from a distribution believed to be reasonable and realistic having regard to all the available information. Assumptions should be made based on a participant's experience for the probability distributions for each risk factor, but taking into consideration market or industry data where own experience is limited or not sufficiently credible.
15. To the extent practical, expected cashflows should reflect expected demographic, legal, medical, technological, social or economic developments. For example, a foreseeable trend in life expectancy should be taken into account.

#### Life only:

16. Relevant risk factors should include at least the following:
  - Mortality rates
  - Morbidity rates
  - Lapse rates
  - Option take-up rates
  - Expense assumptions
17. Mortality, longevity and morbidity assumptions should be assessed separately for different risk groups. Where a participant assumes correlation of risks between different risk groups, the assumptions made

and the rationale should be disclosed. Assumptions on the volatility of mortality, longevity and morbidity experience should also be disclosed.

18. The participant may use credible and relevant discontinuance experience to the extent practical. Where a discretionary surrender value is paid on discontinuance, the estimates should allow for the payment the insurer would reasonably make in the scenario under consideration.
19. It is important to consider policyholder options to change the terms of the contract. Cashflow projections should take account of the proportion of policyholders that are expected to take up options. This may depend on financial conditions at the time the option crystallises, which will affect the value of the option. Non-financial conditions should also be considered – for example, deterioration in health could be expected to impact take-up rates of guaranteed insurability options.
20. Technical provisions should also be estimated as if the policyholder were sure to surrender the contract when this is unfavourable to the insurer. 'Surrender' also refers to the transfer of the contract and the transfer values which may be specified in non-surrenderable policies, when these policies give policyholders the option to transfer the contract from one insurer to another.
21. For each contract, the participant is also requested to compare the best estimate with the highest present value of the surrender values of the contract (or the present value of the nearest surrender value if more practicable) and total up the differences when the second term of the comparison is higher.
22. To the extent possible, the participant is requested to give an approximation of the contribution of the surrender risk in the 75<sup>th</sup>/90<sup>th</sup> percentile risk margins calculated following paragraph 2, and to briefly describe the approach followed.

#### *Management actions*

23. Future management actions should be reflected in the projected cash flows. The assumptions used should reflect the actions that management would reasonably expect to carry out in the circumstances of each scenario, such as changes in asset allocation, changes in bonus rates or product charges, or the way in which a market value adjustment is applied. Allowance should be made for the time taken to implement actions. In considering the reasonableness of the projected management actions, participants should consider their obligations to policyholders, whether through policy wordings, marketing literature or other statements that give rise to policyholder expectations of how management will run the business.

#### *Future bonuses and profit-sharing*

24. Technical provisions should include amounts in respect of guaranteed, statutory and discretionary benefits. Assumptions for these should follow the general principles for management actions set out above. In considering future bonuses it is likely that insurers will take into

consideration recent bonus rates, especially where the undertaking's policy is to smooth changes in bonus rates. Where undertakings differentiate their bonuses between policy type or risk group, this should be reflected in the assumptions on future bonus rates. Where material to the results, participants should take into consideration the expected apportionment between annual and final bonuses.

25. An aspect influencing the participant's realistic assessment of future bonus rates will be the extent of reserves already held by the undertaking for future bonuses, and the way in which the undertaking plans to distribute such reserves. Another aspect is the participant's expectations about future rates of investment return, as informed by market indicators. The margins available from future premiums payable under in-force contracts will also come into consideration, as well as risk margins included within the technical provisions and the competitive position that an insurer plans to take.
26. The approach to bonus and profit-sharing assumptions should also take into consideration any constraints arising from legal restrictions or profit-sharing clauses in policy conditions. Undertakings should assume that, in applying such clauses, the approach to calculating profits for profit-sharing purposes will not change from that which currently applies.

#### *Unit and index-linked business*

27. The same cashflow projection approach should be used as for other products. All cashflows arising from the product should be considered, including expenses, death benefits and charges receivable by the undertaking. Where insurers have the right to increase charges the assumed increase in charging should be consistent with the management action that would be carried out.
28. Participants should assume unit-linked funds perform on a market-consistent basis.

#### Non-life only:

29. The technical provisions to be tested comprise
  - the provision for claims outstanding;
  - premium provisions (unearned premium provision, provision for unexpired risks).
30. The valuation of the provision for claims outstanding and the premium provisions should generally be carried out separately. However, if such a separate treatment is not practical (for example, this might be the case for business written on an underwriting year basis), and a split between CBNI (Covered but not incurred) and IBNS (Incurred but not settled) claims would be artificial, participants may conduct a combined approach and value premium provisions and the provision for claims outstanding together.

31. Participants should generally determine a single value for the premium provision comprising both the provision for unearned premiums and any provision for unexpired risks. In case this is impracticable, a separate treatment is also acceptable.

### *Methodology*

32. Participants should preferably use at least two statistical methods. These should be compatible with current actuarial 'best practice' and should take into account all factors that might have a material impact on the expected future claims experience. Typically, this will require the usage of historic claims data on both an occurrence and a development year basis (run-off triangles).
33. Participants should provide information on the following:
- the types and sources of data used in the analysis;
  - how the effects of inflation on claims costs have been taken into account;
  - the expected impact of large claims on future claims costs, and whether large claims were analysed separately; and
  - where non-statistical methodology was used, a description of how those estimates were derived.
34. Cashflow estimates should take account of amounts arising from salvage and subrogation rights (i.e. estimates should be net of recoveries).
35. Optional information
- *Where recoveries are expected to be significant, participants may also disclose estimates gross of salvage and subrogation.*

### All business:

#### *Expenses*

36. The realistic valuation of assets and liabilities means that all potential future cashflows which would be incurred in meeting liabilities to policyholders need to be identified and valued. The present value of contract loadings and the present value of expected expenses should be recognised explicitly in the cash flow projection. Any shortfall would need to be recognised as an additional liability.
37. Expenses that will have to be incurred in future to service an insurance contract are cash flows for which a provision should be calculated. Participants should select assumptions with respect to future expenses arising from commitments made on, or prior to, the valuation date. All future administrative costs including investment management, commissions, claims expenses and overheads should be considered. Expense assumptions should include an allowance for future cost

escalation. This should have regard to the types of cost involved. The allowance for inflation should be consistent with the economic assumptions made. For disability income, and other similar types of business claims expenses may be a significant risk factor.

38. Expenses related to future deposits or premiums should usually be taken into consideration.
39. Participants should consider allowance for expenses in relation to their own analysis of expenses, future plans and relevant market data. But this should not include economies of scale where these have not yet been realised.

#### *Inflation*

40. Appropriate assumptions for future inflation should be built into the cashflow projections. Care should be taken to identify the type of inflation to which particular cash flows are exposed. For some cashflows, the link may be to consumer prices, but others are linked to salary inflation, which tends to exceed consumer price inflation.

#### *Taxation*

41. To the extent that taxation payments need to be made in order to meet policyholder liabilities tax should be allowed for on the basis that currently applies, except where changes have been agreed to be introduced in which case the adjustments to the tax regime should be reflected in the calculations.

#### *Discounting*

42. Participants will be supplied with data on the term structure of interest rates that applies at the balance sheet date for different EEA-currencies. These duration-dependent, risk-neutral discount rates will be derived from the spot-rate term structure for each different currency, adjusted for credit risk.
43. Cashflows should be discounted at the risk-neutral discount rate applicable for that duration. Where the given rate structure provides no data for a duration, the interest rate should be interpolated or extrapolated in a suitable fashion. The resulting discount rates should be disclosed.
44. Non-life: Technical provisions should also be calculated at a discount rate of 0% (see para. 3 above)

#### *Reinsurance*

45. In certain reassurances, the timing of recoveries and the time of direct payments might markedly diverge. But in calculating technical provisions net of reinsurance, participants should assume that its reinsurer will not default.
46. Optional information:

- *Where possible, participants may consider the effect of adjusting the income from reinsurance for the probability and severity of the reinsurer's default.*
- *Financial strength ratings might be considered as a possible reference. Participants should disclose the method followed in calculating their net technical provisions.*
- *Participants may describe any problems encountered allocating reinsurance contracts that cover more than one business line and how these problems were addressed.*

#### *Own creditworthiness*

47. No reduction in liabilities should be made on account of the creditworthiness of the undertaking.

#### **75th/90th percentile**

48. The required risk margin on the expected value is the difference between the expected value and the value needed to achieve a given, overall, entity-wide level of confidence for all risk factors combined, including uncertainty over the assumed distributions.
49. Participants may calculate the risk margin by stochastically simulating the variation in cashflows (based on random variation in the risk factors) to determine an appropriate distribution. Participants should describe the method followed and difficulties encountered.
50. With the following exception, the approach to calculating technical provisions to the 75<sup>th</sup>/90<sup>th</sup> percentile should generally reflect the same considerations that apply when calculating the best estimate.
51. Financial guarantees and options should be considered on a market-consistent basis. Technical provisions for financial guarantees or options should be derived using the risk-neutral discount rates applying at the balance sheet date. An allowance for the time value of the guarantee or option should also be considered, which brings in a range of potential future levels of interest rate. This could be achieved by using the market costs of hedging the guarantee or option, together with an allowance for the credit risk in the hedging assets.