

Basic Issue 6 What Assumptions and Conventions should be used in Measuring Insurance Liabilities?

181. Basic Issue 6 addresses the following general recognition and measurement issues that are common to several types of insurance contract:
- (a) should the unit of account be individual contracts or groups of similar contracts;
 - (b) should assumptions be developed using an explicit or an implicit approach;
 - (c) should assumptions reflect current information at the date of the financial statements, or should they reflect long-term expectations;
 - (d) should measurement reflect the market's expectations or the insurer's expectations;
 - (e) should assumptions reflect all future events that will affect the amount and timing of cash flows, or should some future events be excluded;
 - (f) should the measurement of assets and liabilities arising from insurance contracts reflect the risks and uncertainties inherent in the estimates of future cash flows; and
 - (g) when and how should an insurer account for changes in assumptions about future cash flows and actual experience that differs from assumptions.

Background

182. Measuring insurance liabilities necessarily involves estimates of future cash inflows and outflows and those estimates necessarily require assumptions about the future. The estimation process begins with a general approach to making assumptions. Will they be based on an explicit approach that considers each significant element individually? Alternatively, will they be based on an implicit approach that combines elements? The process then moves to the basis for assumptions and the information to be used. Finally, the measurement system must consider how (or whether) current experience and changes in assumptions will affect the estimate. Table 3 below summarises the elements that together make up an approach to the assumptions necessary to measure the liabilities of an insurance enterprise.

| MEASUREMENT ISSUES | ALTERNATIVES |
|--|---|
| Approach to assumptions | Explicit approach Implicit approach |
| Basis for assumptions | Current information Long-term trends |
| Assumption about the amount and timing of cash flows | Market's expectations Insurer's expectations |
| Future events included in estimates | All future events that would affect the amount and timing of cash flows Only some future events No future events |
| Provisions for risk and uncertainty | To the extent reflected in the price of a current settlement To the extent consistent with a prudent measurement None |
| Current experience | Reflected in the current period Amortised on some basis |
| Changes in assumptions | Recognised as changes occur Amortised on some basis Not recognised (referred to as a lock-in convention) |

Table 3 - Measurement Assumptions and Conventions

183. Existing measurement conventions incorporate parts of this matrix in a variety of ways. For example, the measurement of a life insurance liability might be established using current information and use a lock-in convention for changes in assumptions. Alternatively, the measurement might reflect current experience as incurred and amortise changes in assumptions over the remaining term of policies in force. After describing an approach to making assumptions, actuaries and accountants may find that a number of estimation techniques are consistent with that approach. A detailed discussion of the implementation of those techniques is beyond the scope of this Issues Paper.

Sub-issue 6A Should the Unit of Account be Individual Contracts or Groups of Similar Contracts?

184. Insurers obtain assets and incur liabilities from individual insurance policyholders, however, insurers usually refer to groups of similar insurance policies (**blocks** or **books** of policies) when discussing recognition and measurement questions. A book usually includes a group of similar policies written during a specific period, often one year. The reference to a book of insurance policies is consistent with the pricing and management of insurance policies and the diversification of risk.
185. Some believe that the value of a group of liabilities (for example, a book of insurance contracts) is necessarily equal to the sum of the values of the individual liabilities. Others believe that the value of the group may differ from the sum of the individual values, especially when it is possible to make assumptions about the group that cannot be attributed to individual members.
186. The unit of account may affect recognition decisions and measurements. For example:
- (a) when claims are expected to exceed an amount representing unearned premium less deferred acquisition costs, general insurers often recognise a premium deficiency (by writing off deferred acquisition costs and then, if needed, recognising a provision for unexpired risks). On a contract-by-contract basis, the premium deficiency is likely to be greater than on a portfolio basis, because the portfolio basis results in the offsetting of deficiencies on individual contracts against surpluses on other contracts - under some measurement approaches, surpluses would not be recognised on a contract-by-contract basis; and
 - (b) some would argue that a larger risk adjustment will be needed for a small portfolio than for a larger portfolio because, from the perspective of the insurer, there is less opportunity for random fluctuations to cancel each other out in a smaller portfolio (see Sub-issue 6F for further discussion). Thus, if insurance liabilities are measured on a basis that reflects risk, the measurement of those liabilities may differ depending on whether a portfolio is divided into smaller or larger units for accounting purposes.
187. Paragraph 24 of IAS 37 gives the following guidance.
- Where there are a number of similar obligations (e.g. product warranties or similar contracts) the probability that an outflow will be required in settlement is determined by considering the class of obligations as a whole. Although the likelihood of outflow for any one item may be small, it may well be probable that some outflow of resources will be needed to settle the class of obligations as a whole. If that is the case, a provision is recognised (if the other recognition criteria are met).*
188. A related question is whether the aim is to account for an open book (both existing and future contracts) or for a closed book (only the contracts that exist at the reporting date). Those who favour an open book model argue that it is consistent with the fact

that insurance is a long-term activity. Some who support this view argue that many contracts that have the form of one-year contracts are, in substance, similar to multi-year contracts because many such contracts are renewed more or less automatically and that a failure to renew such a contract is, in substance similar to a lapse of a multi-year contract. A variant of the open-book approach would be to account for the book that comprises the existing contracts including estimated renewals.

189. Those who favour a closed book model argue that accounting for future contracts would be inconsistent with the Framework's definitions of assets and liabilities, which require the existence, as a result of past events, of a resource or present obligation.

Tentative Steering Committee View

190. *In the Steering Committee's view, the established practice of accounting for groups of similar contracts is consistent with the diversification of risk inherent in an insurance activity. However, the Steering Committee observes that contracts that are not similar (for example, property damage and professional liability contracts) should not be combined into a single accounting unit. The Steering Committee believes that the unit of account should be a group of contracts that have substantially the same contractual terms and were priced on the basis of substantially the same assumptions.*
191. *The Steering Committee favours a closed book approach, as an open book approach would be inconsistent with the Framework. The closed book comprises existing contracts, including only those renewals where existing contracts commit the insurer to a specified pricing structure for the renewals. The closed book excludes both new contracts and other renewals of existing contracts.*
192. *The Steering Committee believes that future cash flows that may arise from possible renewals of an insurance contract do not arise directly from the contract. Under IAS 38, Intangible Assets, it is highly unlikely that they would be considered to give rise to a recognisable asset for the insurer that issues the contracts.*
193. *If insurance contracts are acquired in a business combination, one question that arises is whether the future cash flows should be represented as a separate asset or included in goodwill. The Steering Committee has not discussed this question. A similar issue arises when an insurer acquires a block of insurance contracts in a separate acquisition (not a business combination). Basic Issue 15 deals with such acquisitions.*

Sub-issue 6B Should there be an Implicit or an Explicit Approach to Assumptions?

194. In an implicit approach, assumptions are selected in combination with the aim of developing a meaningful measurement overall. However, individual assumptions may not be meaningful when considered in isolation. In an explicit approach, each significant assumption is meaningful in its own right. For example, some suggest that claim liabilities should be measured based on the amount that the insurer would pay if those claims were settled today. They characterise this approach as "implicit discounting" and maintain that it produces approximately the same measurement as:

(1) estimating the total cost of settling the claims in the future, including the effect of inflation; and (2) discounting the resulting estimate at an appropriate interest rate.

195. Some criticise explicit approaches to assumptions for: (1) failing to reflect interactions between individual assumptions; and (2) failing to incorporate the extent to which individual assumptions may vary under differing circumstances. In their view, explicit approaches are often **deterministic** (that is, they reflect a single point estimate of the outcome), while actual conditions tend to be **stochastic** (that is, they reflect a range of possible outcomes).
196. Others observe that those criticisms may apply to some implementations of an explicit approach, but that they are not necessarily true of all measurements that attempt to use explicit assumptions. If appropriate, additional assumptions about the joint effect of individual elements or about risk and uncertainty should be reflected separately rather than incorporated implicitly in other assumptions. An explicit approach does not preclude the use of stochastic modelling and other estimation techniques that attempt to capture the variability in amounts under differing circumstances. Modern actuarial and finance theory emphasises the need to consider both the expected amount and timing of cash flows and their variability.
197. From time to time, accountants and actuaries question whether the costs and complexities of an explicit approach to making assumptions are justified. Some observe that the estimates involved in measuring insurance obligations are especially difficult and subjective, and that an implicit approach to some assumptions might be acceptable.
198. Others disagree, arguing that the example of “implicit discounting” shows the pitfalls of an implicit approach. In their view, there is no reason to expect that two assumptions (like inflation and time value) will offset one another without first measuring the effect of each. Even then, the expectation might not apply to every measurement situation. Those who favour an explicit approach acknowledge that individual assumptions may vary in relation to one another, or that the joint effect of two assumptions may differ from the effect of each assumption measured alone. However, they suggest that such situations should be addressed separately, rather than in an implicit approach.

Tentative Steering Committee View

199. *The Steering Committee considers an explicit approach to be superior to an implicit approach. An explicit approach is consistent with recently-issued IASC standards on provisions (IAS 37) and pensions (IAS 19), provides greater transparency, and produces estimates that are more understandable. An explicit approach does not preclude, and in fact requires, consideration of interactions between different assumptions. An explicit approach does not preclude the use of stochastic modelling and similar techniques.*

Sub-issue 6C**Should Assumptions Reflect Current Information at the Date of the Financial Statements or Long-term Expectations?***Long-Term View*

200. Some maintain that assumptions should reflect the insurer's long-term expectations. Insurance, especially life insurance, is a long-term undertaking in which a well-managed insurance enterprise expects occasional fluctuations and plans accordingly. In their view, measurements based on current information may produce financial statements with greater volatility than the insurer expects over an extended period. They consider that the long-term trend is the best predictor of future performance and that financial statement users are better served by financial information that reflects the long-term trend.
201. Those who favour a long-term view often advocate measurement techniques that smooth the effects of events or circumstances over several periods. For example, a proponent of the long-term view might favour:
- (a) deferral of realised and unrealised gains and losses on an insurer's assets;
 - (b) assumptions that incorporate long-term trends, when appropriate, rather than estimates based on current conditions;
 - (c) a prospective approach to changes in assumptions; and
 - (d) deferral of differences between actual experience and assumptions.
202. A long-term view does not suggest that accounting should ignore current information, or that past assumptions should be retained in the face of information to the contrary. Those who hold a long-term view maintain instead that period-to-period fluctuations should be recognised in a systematic manner over time.

Current-Information View

203. Others maintain that assumptions should always reflect current information. In their view, measurements that ignore current information lack the neutrality called for in the Framework. They believe that smoothing devices should (if considered appropriate) be separate elements of the measurement scheme - like the corridor approach in IAS 19, Employee Benefits (see further discussion of the corridor approach in paragraphs 269-271).
204. Those who favour assumptions based on current information are especially troubled by the use of long-term assumptions in measuring general insurance liabilities. Financial statement users understand the cyclical nature of the insurance industry. They can evaluate how an insurance enterprise performs by examining results over several years, but only if those results are based on current information and assumptions.

Tentative Steering Committee View

205. *The Steering Committee favours an approach to measurement that focuses on current information and assumptions. If deferral mechanisms like the corridor approach in IAS 19, Employee Benefits, are considered appropriate, financial statements will be more understandable and transparent if any deferrals are computed and presented separately from underlying measurements.*

Sub-issue 6D Should Measurement Reflect the Market's Expectations or the Insurer's Expectations?

206. Having settled on an approach to assumptions (explicit or implicit) and a basis for developing those assumptions (current or long-term), the next question is whether assumptions about the amount and timing of cash flows should reflect the market's expectations of the cash flows that would result from the insurer's actual portfolio or the insurer's expectations. A measurement based on the insurer's expectations will produce an entity-specific measurement of a liability, which may differ from the liability's fair value. A measurement based on the market's expectations will produce a fair value measurement, if cash flow estimates are discounted at the market interest rate.
207. Some suggest that measurements based on market expectations always provide more relevant information. In their view, management may have different expectations than the market, but management's expectations are largely irrelevant unless the market shares those expectations.
208. Others maintain that market expectations are usually not directly observable and that management has superior information about the entity's liabilities. They reason that insurance liabilities are usually settled by payments to (or on behalf of) policyholders rather than by a transaction with another party, such as another insurer. For that reason, financial statement users are likely to be more interested in management's expectations than in assumed market expectations.
209. In choosing between entity-specific expectations and the market's expectations, it is important to understand the impact of three factors:
- (a) the characteristics of the portfolio – the insurer and the market are assumed to have identical knowledge about the characteristics of the portfolio. For example, if the insurer has very lax underwriting criteria, the portfolio is likely to be substandard and both the entity-specific measurement and fair value will reflect this;
 - (b) the cash flows from a portfolio with those characteristics – the insurer may be more pessimistic or more optimistic than the market as a whole; and
 - (c) the insurer's ability (or lack of ability) in limiting net cash outflows, perhaps through superior claims management skills or through actions that limit lapse rates.

Factors (b) and (c) lead to differences between entity-specific expectations and market expectations, whereas factor (a) does not.

Tentative Steering Committee View

210. *In the Steering Committee's view, a measurement based on market expectations is appropriate under the asset-and-liability measurement view.*
211. *The Steering Committee recognises that market expectations may not always be observable directly. In such cases, an insurer would need to make its own estimates – but the important point is that the estimates should be an attempt to consider the factors that are considered by the market, not factors that are specific to the insurer itself and that would not be considered by the market.*

Sub-issue 6E Should Assumptions Reflect All Future Events that will affect the Amount and Timing of Cash Flows?

212. An insurer's assumptions about future events might include assumptions about the following:
- (a) the number of claims asserted and the periods in which they will be asserted, including claims incurred but not yet reported to the insurer;
 - (b) the effects of inflation, including societal and economic factors, on amounts ultimately paid;
 - (c) claim processing and adjustment expenses;
 - (d) changes in legislation and technology;
 - (e) recoveries from salvage and subrogation (see Sub-issue 7G);
 - (f) recoveries from reinsurers (discussed in Basic Issue 10);
 - (g) policyholder mortality (in the case of life insurance);
 - (h) policyholder lapse (in the case of life insurance); and
 - (i) policyholder health and disability.
213. Perhaps the most common misconception about accounting and financial reporting is the notion that they deal only with the past. Accountants often speak of “past transactions and events” and “historical cost,” but future events are at the heart of recognition and measurement. The Framework defines assets and liabilities in terms of “future economic benefits” and “expected...outflow.” Assumptions about future events are especially important in measuring an insurer's liabilities. The question for this IASC project is not *whether* an insurer should consider future events but *which* future events are properly included in measuring an insurer's liabilities.

214. While this issue deals with measurement, questions about future events inevitably involve both measurement and recognition. Including an assumption about a particular future event has the same financial reporting effect as recognising the financial consequences of that event as an asset or liability. As a result, the three views that follow place special emphasis on defining the insurer's liability and whether the consequences of future events (1) flow from that liability or (2) create new liabilities or extinguish old liabilities.

All-Future-Events View

215. Some maintain that, with regard to contracts in force, assumptions should include all future events that may affect the amount and timing of future cash flows. They maintain that the insurance contract commits the insurer to pay all valid claims. Any future event that may increase or decrease that obligation should be reflected in the measurement, if it can be reasonably estimated. The effect of some future events may be impossible to estimate. However, no future event should be excluded for any other reason.

Limited-Future-Events View

216. Others maintain that some future events should not be reflected in measuring an insurer's liabilities. Those who hold this view often focus on changes in legislation (in general insurance) and policyholder lapse (in life insurance).

Limited-Future-Events View - Legislation

217. Some argue that a change in the law governing payments by an insurer is fundamentally different from other future events. Changes in technology, for example, may alter the amount that an insurer must pay. The insurer's basic obligation to restore property or repair damage, however, remains the same. In contrast, a change in legislation alters the underlying obligation. For example, a new law might require health insurers to pay for a minimum time in hospital. That law would subject the insurer to a different obligation than existed before and should not be anticipated before it occurs.
218. Assumptions about the effect of future legislation are discussed in paragraphs 22 and 50 of IAS 37, Provisions, Contingent Liabilities and Contingent Assets. Paragraph 22 states: "Where details of a proposed new law have yet to be finalised, an obligation arises only when the legislation is virtually certain to be enacted as drafted. (...)" Paragraph 50 states: "The effect of possible new legislation is taken into consideration in measuring an existing obligation when sufficient objective evidence exists that the legislation is virtually certain to be enacted. (...) In many cases sufficient objective evidence will not exist until the new legislation is enacted."

Limited-Future-Events View - Policyholder Lapse

219. Some argue that a life insurance contract or annuity commits the insurer to make payments on (or until) the death of the policyholder. The insurer cannot escape that

obligation as long as the policyholder maintains the contract and the measurement should not reflect future events (**lapses**) that are outside the insurer's control.

Current-Settlement View

220. Still others might focus on current settlement in the measurement of general insurance liabilities. They might reason that the minimum amount of that obligation is the amount that the insurer would pay if all claims were settled on the date of the financial statements. Future events that would alter the amount paid should not, therefore, be recognised until they occur. Under a current-settlement view, general insurance obligations would represent the amount needed to settle all incurred claims on the date of the measurement. Life insurance obligations based on the policyholder-deposit model described in Illustration A31 of the accompanying booklet would be consistent with this view.
221. Some might suggest that a current-settlement measurement is a practical solution to an otherwise intractable problem. Policyholders may not submit claims for several years after the date of the financial statements, but the insurer must estimate its liability now. Estimating the ultimate cost of those claims requires that the insurer do the impossible - predict the future. By focusing on current settlement, the impact of claim development will be recognised as it occurs in future periods.

Tentative Steering Committee View

222. *The Steering Committee favours an all-future-events approach to measurement assumptions, to the extent practicable, consistent with the requirements of IAS 37. While estimates are often difficult and subjective, financial statement users are best served by liability measurements that reflect the entire estimated cost of claims rather than measurements that exclude some costs.*
223. *The Steering Committee emphasises that the all-future-events approach does not justify premature accounting for events that, at the measurement date, are not reasonably foreseeable consequences of exposures under existing insurance contracts. For example, there may be a 20% probability at the balance sheet date that a major storm will strike during the remaining six months of an insurance contract. After the balance sheet date and before the financial statements are authorised for issue, a storm may actually strike. The measurement of the liability under that contract should not reflect the storm that, with hindsight, is known to have occurred. Instead, the measurement will reflect the 20% probability that was apparent at the balance sheet date (with an appropriate adjustment for risk and uncertainty, as discussed below).*
224. The treatment described in the preceding paragraph is consistent with IAS 10, Events After the Balance Sheet Date, which would treat the storm as a non-adjusting event after the balance sheet date. If a non-adjusting event after the balance sheet date is of such importance that non-disclosure would affect the ability of the users of the financial statements to make proper evaluations and decisions, IAS 10 requires an enterprise to disclose the nature of the event and an estimate of its financial effect (or a statement that such an estimate cannot be made).

225. Paragraph 37 of the Framework describes **prudence** as follows:

Prudence is the inclusion of a degree of caution in the exercise of the judgements needed in making the estimates required under conditions of uncertainty, such that assets or income are not overstated and liabilities or expenses are not understated. However, the exercise of prudence does not allow, for example, the creation of hidden reserves or excessive provisions, the deliberate understatement of assets or income, or the deliberate overstatement of liabilities or expenses, because the financial statements would not be neutral and, therefore, not have the quality of reliability.

226. Regulatory authorities sometimes require the use of assumptions that are designed to incorporate a measure of conservatism beyond that contemplated in the Framework. For example, a regulator might require a life insurer to use mortality assumptions that are more conservative than those expected by the insurer. The accompanying booklet (Illustrations A23 to A25 of Appendix A) includes an example of a hypothetical regulatory regime and how it affects the pattern of reported income over time.
227. There is a degree of prudence or conservatism inherent in most accounting estimates, but prudence does not require or permit intentional overstatement of liabilities. This issue raises the question of whether estimates should include an explicit adjustment for the risks and uncertainties inherent in an insurance activity. This Issues Paper describes such adjustments as **provisions for risk and uncertainty**. If such provisions are made in the financial statements, they might be reported as separate provisions or as a component of the overall liability. In some jurisdictions, such adjustments are referred to as **provisions for adverse deviation** or **risk loads**. Those terms suggest that the adjustments contemplate the possibility of outcomes worse than expected. In pricing theory, they reflect the common practice of setting premium levels so that policies will produce some profit even if claims are higher than expected. However, it should also be noted that actual claims may be less than expected.
228. Figure 1 shows the range of estimated claims incurred but not reported from a hypothetical book of insurance policies. The insurer does not know the ultimate outcome, but the dotted line represents the relative probabilities of different possible outcomes.⁷ The insurer's estimate of **most likely amount** is about 3,750. The insurer's estimate of **expected value**⁸ (or **mean**) is about 5,000. Because the

⁷ This illustration deals with the amount of claims and excludes possible variations in timing. However, a similar (but more complicated) case could reflect variations in both amount and timing.

⁸ The term "expected value" refers to the estimated probability-weighted average of all possible outcomes (rather than the single most-likely result). Some accounting literature uses the term "best estimate" as a synonym for expected value. (An example is IAS 37, Provisions, Contingent Liabilities and Contingent Assets.) However, this usage may be confusing because some might understand "best estimate" as referring to the most reliable estimate that an enterprise can make of parameters other than the expected value – for example, the mode or standard deviation. It might also be understood as referring to a risk-adjusted mean. To avoid confusion, this Issues Paper uses the term "expected value" to designate the probability-weighted average of all possible outcomes, without considering any adjustment that a risk-averse investor would make for risk and uncertainty.

distribution in Figure 1 is not symmetrical, a liability of 5,000 would equal or exceed the actual liability in about 63 percent of the possible outcomes. In contrast, a liability of about 7,600 would equal or exceed the actual liability in about 90 percent of possible outcomes.

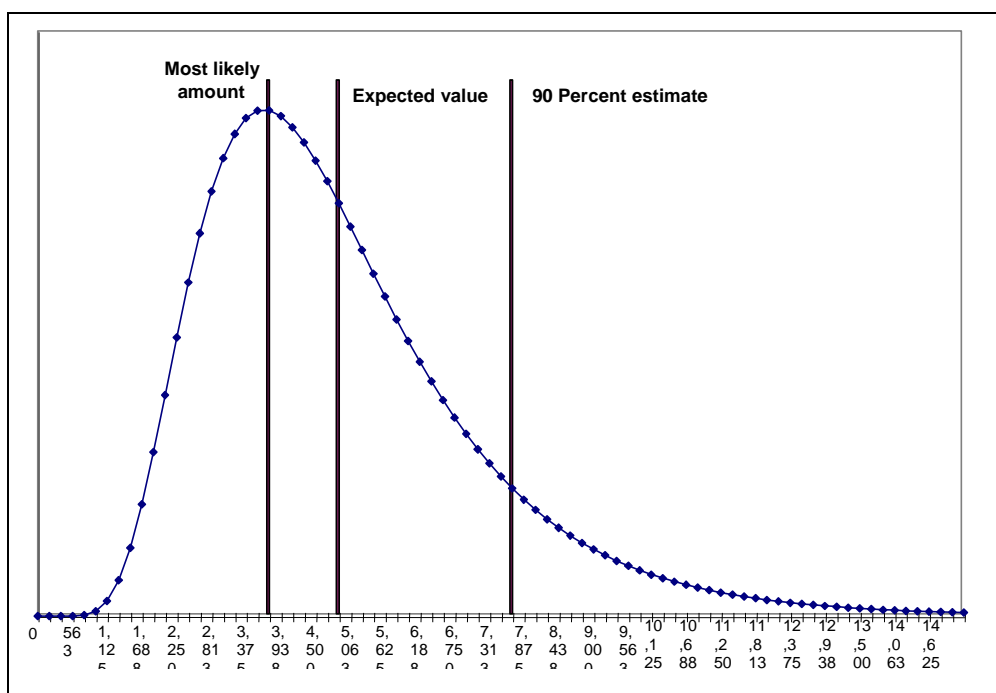


Figure 1 - Range of Estimates, IBNR

229. Figure 1 provides the raw material for a discussion of provisions for risk and uncertainty. Presumably, the liability measurement that does not reflect risk and uncertainty would be the expected value of 5,000. The illustration provides a visual image of the degree of variability around the expected value. The question, then, is whether the liability should be measured at some amount in excess of 5,000 and why.
230. Figure 1 also illustrates the difference between the most-likely estimate and the expected value. Insurance pricing and most actuarial measurements focus on the expected value rather than the most-likely amount (about 3,750 in this illustration). Given this distribution, few insurers would price premiums at 3,750 and few reinsurers would agree to reinsure the claims for that amount. Instead, the insurer or reinsurer would begin the pricing computation at 5,000.

Views in Favour of Including Provisions for Risk and Uncertainty

231. Some maintain that provisions for risk and uncertainty are a natural extension of the concept of prudence. In their view, incorporating the provision in a measurement acknowledges the subjectivity and lack of precision inherent in any estimate. They point to the following description as an example of their view:

For several reasons, it is not possible to determine expected experience with complete confidence. The member should, therefore, define a margin for adverse deviation in each assumption to add a provision to the liabilities. This provision should be appropriate for income statement purposes and appropriate to the company

circumstances. In this regard, the member should conform to the paper Provision for Adverse Deviations as well as any pertinent valuation technique paper.

For each assumption, the margin is for the misestimation of its mean and for the possible deterioration of this mean. Statistical fluctuation, catastrophic or similar major unexpected events should not be covered by the margin. A provision is made today for the future risk assumed. Each period receives an adequate compensation in the income statement, for the risk assumed, from the release of the share of the provision corresponding to that period.⁹

232. Some observe that provisions for risk and uncertainty are an extension of the pricing process. A well-managed insurer sets premiums that include an adjustment for adverse deviation; few would underwrite the contracts in Figure 1 for 5,000. Including such adjustments in measuring claim liabilities, therefore, is consistent with pricing practices.
233. Some suggest that provisions for risk and uncertainty are consistent with estimates of fair value. An insurer interested in acquiring the book of contracts shown in Figure 1 would probably require more than 5,000 to assume the liability. Similarly, a reinsurer would probably demand more than 5,000 to reinsure the claim liability.
234. Finally, some maintain that provisions for risk and uncertainty help to demonstrate the solvency of an insurer. They observe that estimates of an insurer's liabilities, especially for claims incurred but not reported, usually form a range from the smallest amount to the largest amount that might be paid. From their perspective, the liability should reflect an amount that would equal or exceed the actual claim payments in most situations.
235. Some argue that the risk adjustment for a small portfolio should be the same as for a large portfolio. They believe that investors in an insurer are able to diversify risks by investing in a number of insurers and other enterprises, and so eliminate the additional risk inherent in a small portfolio. Therefore, they consider that this diversifiable risk is irrelevant for investors.
236. Others argue that a larger risk adjustment will be needed for a small portfolio than for a larger portfolio because, from the perspective of the insurer, there is less opportunity for random fluctuations to cancel each other out in a smaller portfolio. Similarly, they consider that one of the main user groups of an insurer's financial statements is its policyholders (or intermediaries acting for policyholders). They believe that many policyholders are unable to diversify risks of this kind.
237. Some suggest a further factor that may lead to a larger risk adjustment for a small portfolio. Statistical information about a small portfolio may be more limited and so there may be more risk that the insurer has not properly evaluated the risks.

⁹ Canadian Institute of Actuaries, Amendments to the Recommendations and Explanatory Notes for Life Insurance Company Financial Reporting, Recommendation 3.09 – Provision for Adverse Deviations. Ontario, Canada. January 10, 1990.

238. The previous paragraph illustrates a point of more general application. Uncertainty may arise not only because of random outcomes, but may also arise because knowledge is limited. For example, a major mortality risk on the same scale as AIDS may already exist (or may occur before the end of the contract period) but not yet have been identified.
239. It should be noted that a provision for risk and uncertainty does not eliminate the possibility that the amount of claims actually paid may exceed the amount previously assumed in measuring the liability. For example, some argue that, in market transactions between insurers, liabilities are sometimes priced at expected value plus a risk adjustment equal to approximately one and a half standard deviations. In such cases, the actual amount paid is likely to exceed the amount assumed in the pricing basis approximately one time in seven.

Views Opposed to Provisions for Risk and Uncertainty

240. Others argue that provisions for risk and uncertainty should be prohibited. If an insurer has reflected all possibilities in the measurement (the expected value), actual results may be worse than the expected, but they may also be better. In their view, provisions for risk and uncertainty focus on only one side of the distribution and including those provisions introduces the kind of systematic bias that IASC's Framework warns against.
241. Those who oppose provisions for risk and uncertainty argue that the appropriate amount of a provision cannot be objectively determined. In their view, there is no way to determine how much adjustment is "enough." One insurer might adjust liabilities by 10 percent, another with similar liabilities might use 20 percent, and still another might use 5 percent. Financial statement users understand the uncertainty inherent in all insurance measurements and can better assess that uncertainty by reviewing financial statements based on neutral, unbiased, measurements over a number of cycles.
242. Some who oppose provisions for risk and uncertainty might accept their use if the underlying measurement objective is fair value. They acknowledge that fair value would include the amount that market participants demand for accepting uncertainty. However, they observe that determining the amount of this adjustment is difficult at best and that market models use the entire distribution of outcomes rather than the one-sided view inherent in most provisions for risk and uncertainty.

Tentative Steering Committee View

243. *In the Steering Committee's view, the measurement of insurance liabilities should reflect the risk that would be reflected in the price of an arm's length transaction between knowledgeable, willing parties.*
244. *The Steering Committee notes that determining the necessary adjustment for risk will inevitably be subjective. To improve comparability, the Steering Committee intends to develop guidance on this topic.*

245. *In the Steering Committee's view, there will be a need for some disclosure about the extent of risk adjustments. One possibility might be to require disclosure (either in the notes or on the face of the balance sheet and income statement) of the difference between the actual (risk-adjusted) amounts recognised and the expected values of the related cash flows.*
246. *In addressing risk adjustments for small portfolios, it is worth considering the needs of both investors and policyholders. In the Steering Committee's view, the additional diversifiable risk inherent in a small portfolio is irrelevant for investors who are able to diversify their investments. Although many policyholders may be unable to diversify risks of this kind, the most transparent way to protect their interests is through appropriate solvency or risk-based capital requirements, rather than through adjustments to reported liabilities. Therefore, the risk adjustment for a small portfolio should be the same as for a large portfolio (except for any indirect effect arising where the small size of a portfolio makes statistical evidence less credible).*

Sub-issue 6G When and How Should an Insurer Account for Changes in Assumptions about Future Cash Flows and Actual Experience that Differs from Assumptions

247. It would be unusual for an insurer's actual premiums, claims, and expenses to precisely match the assumptions used to measure assets and liabilities on initial recognition. Similarly, it would be unusual for an insurer's initial assumptions to remain unchanged over the life of a book of insurance policies, especially long-duration policies like life insurance. This section and the section that follows address the usual situation - changes in assumptions and actual experience that differs from assumptions.¹⁰
248. If the economic factors that cause an insurer to change measurement assumptions occurred in isolation, the accounting issues surrounding the change would be easier to address. However, the same economic factors may affect both an insurer's liabilities and the value of its investments. For example, a change in market interest rates may cause life insurance policyholders to terminate contracts at higher rates than previously estimated. The same change in interest rates would produce a change in the fair value of the insurer's invested assets and would change expectations about future earnings.

249. Approaches to changes in estimate vary considerably in accounting, and respondents may find that they favour one approach in some situations and a different approach in others. ***Respondents who favour different approaches depending on the circumstances can assist the Steering Committee by explaining the rationale for their preferences.***

250. Paragraphs 24-28 of IAS 8, Net Profit or Loss for the Period, Fundamental Errors and Changes in Accounting Policies, address changes in accounting estimates as follows:

¹⁰ IAS 19, Employee Benefits, refers to changes in estimate and variations in actual experience collectively as **actuarial gains and losses**.

24. *As a result of the uncertainties inherent in business activities, many financial statement items cannot be measured with precision but can only be estimated. The estimation process involves judgments based on the latest information available. Estimates may be required, for example, of bad debts, inventory obsolescence or the useful lives or expected pattern of consumption of economic benefits of depreciable assets. The use of reasonable estimates is an essential part of the preparation of financial statements and does not undermine their reliability.*
25. *An estimate may have to be revised if changes occur regarding the circumstances on which the estimate was based or as a result of new information, more experience or subsequent developments. By its nature, the revision of the estimate does not bring the adjustment within the definitions of an extraordinary item or a fundamental error.*
26. *Sometimes it is difficult to distinguish between a change in accounting policy and a change in an accounting estimate. In such cases, the change is treated as a change in an accounting estimate, with appropriate disclosure.*
27. ***The effect of a change in an accounting estimate should be included in the determination of net profit or loss in:***
 - (a) ***the period of the change, if the change affects the period only; or***
 - (b) ***the period of the change and future periods, if the change affects both.***
28. *A change in an accounting estimate may affect the current period only or both the current period and future periods. For example, a change in the estimate of the amount of bad debts affects only the current period and therefore is recognised immediately. However, a change in the estimated useful life or the expected pattern of consumption of economic benefits of a depreciable asset affects the depreciation expense in the current period and in each period during the remaining useful life of the asset. In both cases, the effect of the change relating to the current period is recognised as income or expense in the current period. The effect, if any, on future periods is recognised in future periods.*

251. IAS 8 provides general guidance on changes in accounting estimates. However, IASC and national standard setters have mandated different approaches from time to time. For example, IAS 19, Employee Benefits, permits (but does not require) a corridor approach that results in deferral of some gains and losses. (The use of recognition corridors is discussed in greater detail at the end of Sub-issue 6G.) IAS 37, Provisions, Contingent Liabilities and Contingent Assets, uses a fresh-start approach. Approaches to a change in estimates and assumptions include:

- (a) remeasuring the item using current information and assumptions, sometimes referred to as a **fresh-start** approach;

- (b) changing the allocation pattern so that the effect of a change in estimate is allocated over the remaining life of the item, sometimes referred to as a **prospective approach**;
- (c) changing the carrying amount of the item to recognise the effect of a change in estimate in the current period, sometimes referred to as a **catch-up** approach;
- (d) changing the carrying amount of the item to recognise the effect of a change in estimate as if the new information had been known on inception, sometimes referred to as a **retrospective** approach; and
- (e) recognising no change in either the item or the allocation pattern so that the effect of a change in estimate is recognised only as events occur, sometimes referred to as a **lock-in** approach.

252. Table 4 below compares the elements of each approach to a change in estimate:

| Method | Opening balance (a) | Cash flows (b) | Interest rate (c) | Description of result | Income statement effect |
|---------------|--------------------------------|--|--|---|--|
| Fresh-start | N/A | Current estimate of remaining cash flows | Current interest rate | New balance computed from (b) and (c) | The current period shows the entire effect of the change |
| Prospective | Existing balance | Current estimate of remaining cash flows | New interest rate based on (a) and (b) | Effect of change reflected in future years through recomputed interest rate | The effect of the change is reported over the current and future periods |
| Catch-up | N/A | Current estimate of remaining cash flows | Original effective interest rate | New balance computed from (b) and (c) | The current period shows the entire effect of the change |
| Retrospective | Original amount at inception | Actual cash flows to date, plus current estimate of remaining cash flows | New interest rate based on (a) and (b) | New balance computed from inception based on (b) and (c) | The current period shows the entire effect of the change |
| Lock-in | Existing balance | Original estimate of remaining cash flows | Original effective interest rate | Original balance, adjusted for current period experience | The current period shows the effect of variations in current period experience |

Table 4 - Approaches to Change in Estimated Cash Flows and Change in Discount Rate

253. Table 5 below shows a simple example of a liability measured without the use of present value. On inception, the insurer expects to make 4 annual payments of 350 and records an obligation of 1,400. At the end of year 2, the insurer revises its estimated cash flows for years 3 and 4. Table 5 portrays the original assumed cash flows and the fresh start, prospective, and lock-in approaches to the change in estimate. (For an undiscounted measurement, the catch-up and retrospective approaches produce the same result as a fresh-start approach.)

| | Original <u>Estimate</u> | Revised <u>Estimate</u> | | |
|--|-----------------------------|--------------------------------|--------------------------------|----------------------------|
| | (1,400) | (1,550) | | |
| Year 1 | 350 | 350 | | |
| Year 2 | 350 | 350 | | |
| Year 3 | 350 | 400 | | |
| Year 4 | 350 | 450 | | |
| Change in Estimate—Amounts Reported in the Balance Sheet | | | | |
| | Original <u>Estimate</u> | Fresh-start <u>Approach</u> | Prospective <u>Approach</u> | Lock-in <u>Approach</u> |
| Inception | (1,400) | (1,400) | (1,400) | (1,400) |
| Year 1 | (1,050) | (1,050) | (1,050) | (1,050) |
| Year 2 | (700) | (850) | (700) | (700) |
| Year 3 | (350) | (450) | (371) | (350) |
| Year 4 | - | - | - | - |
| Change in Estimate—Amounts Reported in the Income Statement | | | | |
| | Original <u>Estimate</u> | Fresh-start <u>Approach</u> | Prospective <u>Approach</u> | Lock-in <u>Approach</u> |
| End of | | | | |
| Year 1 | 1,400 | 1,400 | 1,400 | 1,400 |
| Year 2 | - | 150 | - | - |
| Year 3 | - | - | 71 | 50 |
| Year 4 | - | - | 79 | 100 |
| Total | <u>1,400</u> | <u>1,550</u> | <u>1,550</u> | <u>1,550</u> |

Table 5 - Accounting for Change in Estimate, Undiscounted Measurement

254. The use of present value techniques complicates the accounting for changes in estimate by introducing the possibility of changes in both cash flows and interest rates. Table 6 shows the same simple example of a liability as in Table 5, but with the liability measured at present value. On inception, the insurer expects to make 4 annual payments of 350. Using a current interest rate of 15 percent, the insurer records an obligation of 1,000. At the end of year 2, the insurer revises its estimated cash flows for years 3 and 4. At the same time, the current interest rate that the insurer would use to record new obligations of this type has declined to 12 percent.

| | | | | | | |
|--|----------------------|-------------------------|-------------------------|----------------------|---------------------------|---------------------|
| | Original Estimate | Revised Estimate | | | | |
| | (1,000) | (1,000) | | | | |
| Year 1 | 350 | 350 | | | | |
| Year 2 | 350 | 350 | | | | |
| Year 3 | 350 | 400 | | | | |
| Year 4 | 350 | 450 | | | | |
| Current interest rate | 15.0% | 12.0% | | | | |
| Change in Estimate--Amount Reported in the Balance Sheet | | | | | | |
| | Original Estimate | Fresh-start Approach | Prospective Approach | Catch-up Approach | Retrospective Approach | Lock-in Approach |
| Inception | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) |
| Year 1 | (800) | (800) | (800) | (800) | (800) | (800) |
| Year 2 | (570) | (716) | (570) | (688) | (653) | (570) |
| Year 3 | (305) | (402) | (344) | (391) | (378) | (305) |
| Year 4 | - | - | - | - | - | - |
| Change in Estimate--Amount Reported in the Income Statement | | | | | | |
| | Original Estimate | Fresh-start Approach | Prospective Approach | Catch-up Approach | Retrospective Approach | Lock-in Approach |
| End of | | | | | | |
| Year 1 | 1,150 | 1,150 | 1,150 | 1,150 | 1,150 | 1,150 |
| Year 2 | 120 | 266 | 120 | 238 | 203 | 120 |
| Year 3 | 85 | 86 | 174 | 103 | 125 | 135 |
| Year 4 | 45 | 48 | 106 | 59 | 72 | 145 |
| Total | <u>1,400</u> | <u>1,550</u> | <u>1,550</u> | <u>1,550</u> | <u>1,550</u> | <u>1,550</u> |
| Interest rate following change in estimate | 15.0% | 12.0% | 30.7% | 15.0% | 19.2% | NA |

Table 6 - Accounting for Changes in Estimate, Discounted Measurement

Views in Favour of a Fresh-Start Approach

255. Under a fresh-start approach, the balance of the liability represents the current value of the insurer's obligation. The accounting for general insurance claim liabilities in many jurisdictions follows a fresh-start approach, although often without the use of present value illustrated here.
256. Those who favour this approach argue that it is straightforward and easy to understand. The alternatives, in their view, result in balance sheet amounts that depart from economic reality. They maintain that the resulting measurements bear little relationship to either current market conditions or those that existed on initial recognition. For example, the prospective approach reports a liability with an effective interest rate of almost 31 percent. From a fresh-start perspective, that measurement is representative only of its computation.
257. As explained in paragraphs 269-271, some who favour a fresh-start approach suggest smoothing the effects of changes in estimate over time, especially for books of life insurance policies. They maintain that a smoothing approach, when coupled with appropriate disclosure, provides financial statement users with information about both the current measurement and the amount deferred. However, others argue that smoothing approaches are complex and applying them to the thousands of books of policies managed by a modern insurance enterprise could be very costly.

Views in Favour of a Prospective Approach

258. Under a prospective approach, the balance of the liability represents the remaining unamortised amount. Some jurisdictions apply a prospective approach to some elements of life insurance liabilities.
259. Those who favour this approach argue that it is simple and avoids the volatility in reported income produced by other approaches. They find it consistent with the approach described in paragraph 28 of IAS 8 and well-accepted practice in other areas of accounting. However, the prospective approach can produce a negative interest rate in a present value measurement, if the sum of remaining cash flows is less than the current carrying amount. As a result, the prospective approach is often coupled with a loss-recognition or similar test to limit the application of a prospective approach and the possibility of producing "unreasonable" accounting results.

Views in Favour of a Catch-up Approach

260. Under a catch-up approach, the balance of the liability represents the present value of the remaining cash flows, discounted at the historical interest rate.
261. The catch-up approach is simpler than either the prospective or retrospective approaches. However, it produces more volatility in reported income than other approaches. Critics point to this as a disadvantage and question the relevance of the original effective interest rate. Proponents argue that the original interest rate reflects

a historical price and that the catch-up approach simply reports the remaining cash flows at the original price.

Views in Favour of a Retrospective Approach

262. Under a retrospective approach, the balance of the liability represents the amount that would have been reported, had the new cash-flow information been available at inception.
263. Computing the retrospective approach is not difficult. However, the approach requires a detailed history of all realised and estimated future cash flows and can pose significant problems in data retention. Proponents acknowledge this problem but argue that the retrospective approach is the only technique that produces a balance describable as the present value of remaining cash flows, based on all available information about realised and remaining future cash flows. The retrospective approach can produce a negative interest rate, although the situation is less common than for the prospective rate.

Views in Favour of a Lock-in Approach

264. Under a lock-in approach, the balance of the liability represents the original planned amount, adjusted for variations in actual experience. Some jurisdictions apply a lock-in approach in accounting for life insurance liabilities.
265. Proponents of a lock-in approach argue that an insurer's performance should be measured relative to a fixed target. Once set, the scheduled pattern of recognition does not change. Managers, actuaries, and accountants are held accountable to their original estimates - not what they now wish they had estimated. Some disagree and argue that this approach describes good budgeting, or good cost accounting, but not good financial reporting. They question the usefulness of an approach that ignores significant changes in estimated future cash flows.

Deferral Beyond the Settlement Period

266. The five alternatives discussed above all recognise the effect of a change in estimate during the liability's settlement period. That is, no amount remains to be recognised in income after the last cash outflow. Some might suggest that changes in estimate should be deferred and amortised over some longer period. They would likely point to the insurer's practice of diversifying risks over time, and the expectation that unusual experience related to one year or book of policies will be offset by other years or books. This view has much in common with some of the views in favour of recognising provisions for catastrophes or equalisation (refer to sub-issue 7H).

Actual Experience

267. Actual experience that varies from assumed amounts may signal the need to revise assumptions, but that is not true in all situations. An insurer may experience greater than expected claims during the first months of a book of policies, but that experience may not indicate that claims over the remaining term will be different than originally

expected. However, actual experience poses an immediate problem for a recognition and measurement system, since actual experience usually represents (or will soon represent) receipt or disbursement of cash.

268. The previously cited discussion in IAS 8 would seem to require that actual experience be reported in the current period, while changes in estimates of future activity may be reflected prospectively in some cases. However, the distinction between actual experience and changes in estimate is not always clear and the effect on reported income can be material. This is especially true when assumptions change during the accounting period rather than at the end of the period.

Recognition Corridors

269. IAS 19, Employee Benefits, adopts a recognition corridor for actuarial gains and losses. (A similar recognition corridor is found in FASB Statement No. 87, Employers' Accounting for Pensions, and FASB Statement No. 106, Employers' Accounting for Postretirement Benefits Other Than Pensions.) The opening sentences of paragraph 95 of IAS 19 describe the objective of a recognition corridor:

In the long term, actuarial gains and losses may offset one another. Therefore, estimates of post-employment benefit obligations are best viewed as a range (or 'corridor') around the best estimate.¹¹ An enterprise is permitted, but not required, to recognise actuarial gains and losses that fall within that range. This Standard requires an enterprise to recognise, as a minimum, a specified portion of the actuarial gains and losses that fall outside a 'corridor' of plus or minus 10%.

270. IAS 19 bases its corridor on the greater of 10% of the present value of the defined benefit obligation or 10% of the fair value of plan assets. Paragraphs 38-48 of the basis for conclusions to IAS 19 describe the Board's deliberations surrounding the development of a recognition corridor. Some have remarked on the similarity between the recognition and measurement problems found in pension accounting and those found in insurance accounting, especially accounting for life insurance activities. They suggest that a recognition corridor may be useful in addressing the changes in estimate discussed in this section, and their views are similar to those outlined in IAS 19.
271. The Steering Committee is not aware of any use of recognition corridors other than in accounting for employee benefit plans. While some may find a corridor approach appealing, it poses several practical problems. For example;
- (a) would a corridor be computed and monitored for each book of insurance contracts? (The corridor in IAS 19 is computed for each defined benefit plan.) If so, what are the record-keeping implications;
 - (b) what elements of the insurance measurement would the corridor include;
 - (c) how wide would the corridor be; and

¹¹ IAS 19 uses the term "best estimate" here as an informal synonym for the term "expected value".

- (d) how would the insurer recognise gains and losses that fall outside the corridor?

Tentative Steering Committee View

272. *The Steering Committee favours a fresh-start approach to changes in accounting estimates and current recognition of the effect of differences between actual experience and earlier assumptions. In the Steering Committee's view, a consistent approach to changes in estimates is preferable to a collection of rules that use different approaches for different types of changes. Sub-issue 19D discusses how an enterprise should present and disclose the effects of changes in estimates and differences between actual experience and earlier assumptions. The Steering Committee does not favour a corridor approach to recognising changes in estimate.*
273. The Steering Committee has applied its views on general recognition and measurement questions in Basic Issue 6 in developing its views on specific general insurance and life insurance issues in Basic Issues 7 to 11.