

Appendix A

Illustrative Examples

- A1. Insurance professionals and accountants who serve insurance enterprises will find many of the accounting conventions referred to in this Issues Paper familiar. However, the Steering Committee has found that national differences can lead to confusion over the meaning of seemingly common industry practice. Moreover, accountants and financial statement users who are not familiar with the insurance industry often find its accounting confusing. The Steering Committee has prepared this Appendix to aid insurance specialists and others in understanding the accounting conventions described in this Issues Paper and to foster a broader understanding of accounting and financial reporting in this industry.

Characteristics of Insurance Transactions

- A2. All insurance transactions share common elements that must be addressed in a recognition and measurement system. The purchaser of insurance (the policyholder) makes a payment (the premium) to the insurer for the insurance contract, with the payment usually made at the inception of the contract (in general insurance) or periodically throughout the contract term (for life insurance). The insurer, in turn, promises to pay policyholders if specified events occur during a period of time defined in the contract. The policyholder usually has the right to cancel a contract at any time, but may or may not receive any refund of premiums paid. The insurer usually cannot cancel a contract during its term. While the contract is in force, the insurer typically provides additional services that include investment management, claim servicing, litigation support, and loss-control counselling.
- A3. Uncertainty and diversification are the essence of an insurance activity. The timing, occurrence, or amount of reimbursement for future events covered by a particular contract is unknown at the inception of the contract. The insurer attempts to diversify its risk by selling to a large number of policyholders. The insurer expects that amounts collected from all policyholders and investment returns between premium collection and claim payment will be adequate to pay claims and leave a profit for the insurer. An insurance enterprise may also attempt to diversify risk over time, with the expectation that amounts collected over several periods will be adequate to pay claims and, again, leave a profit for the insurer.
- A4. Every insurance contract, then, has selling, financial, servicing, and risk elements. The insurer receives an advance payment - the selling element - that can be invested until needed to pay claims - the financial element. The insurer also accepts the obligation to make payments based on uncertain future events and to provide other services - the risk and servicing elements. The relative importance of those elements varies between different insurance contracts, but they are always present.
- A5. Insurers obtain assets and incur liabilities from individual insurance policyholders, however, insurers usually refer to groups of similar insurance contracts (**blocks** or **books** of contracts) when discussing recognition and measurement questions. A book usually includes a group of similar contracts written during a specific period, often

one year. The reference to a book of insurance contracts is consistent with the pricing and management of insurance contracts and role of diversification of risk. The discussion in this paper follows the industry practice of referring to books of contracts, however, most of the recognition and measurement conventions could be applied to a single contract.

- A6. Existing recognition and measurement systems in most jurisdictions group insurance contracts in two groups - general insurance contracts and life insurance contracts. However, some insurance contracts, including health insurance, have characteristics that could identify them as either general insurance or life insurance. For example, some life insurance contracts are of short-duration (nonrenewable term life insurance) and are similar to general insurance contracts. Some life insurance contracts provide the insurer with limited opportunities to change contract pricing, although the insurer typically cannot terminate the contract. Some general insurance contracts cover several periods and may include a provision for refunds to policyholders based on claim experience.
- A7. The several differences between general and life insurance contracts create different accounting problems. The contracts provide different coverage, over different periods, and with different premium structures. Moreover, the accounting models and conventions for these two categories of insurance have developed separately, reflecting the historical prohibition (in many jurisdictions) against sales of general and life insurance contracts by the same enterprise. This Appendix begins with a discussion of general insurance accounting conventions (paragraphs A8-A39) and then moves to a discussion of life insurance conventions (paragraphs A40-A110). The Appendix then reviews and illustrates the fair value concepts and techniques described in Basic Issue 11 (paragraphs A111-A137). Later sections of this Appendix illustrate reinsurance issues (paragraphs A138-A141) and the elimination of internal transactions (paragraphs A142-A147). Finally, the Appendix provides illustrative formats for an insurer's financial statements (paragraphs A148-A152).

General Insurance

The General Insurance Cycle

- A8. General insurance contracts cover risks like property damage and personal, professional or product liability. These contracts typically provide for insurance coverage over a period of short duration, usually one year, although some provide coverage over several periods. Payments for insured events vary based on the severity of the event, although most contracts limit the maximum amount that can be paid for a claim. At the end of the coverage period, the insurer has the right to change the price of a replacement contract to the policyholder or to decline to accept replacement contracts. Because of the relatively short periods involved, recognition and measurement systems for general insurance tend to focus on the selling and risk elements of the contract, with little or no attention to the financial and servicing elements.
- A9. Figure A1 shows the events, cash flows, and risks in the general insurance cycle. The cycle begins with the issuance of a contract and receipt of a premium. During the

term of the contract, insured events occur, policyholders begin to assert claims, and the insurer begins to pay claims. The insurer's exposure to occurrence of covered events stops at the end of the contract term. However, policyholders may continue to discover and assert claims that arose during the coverage period and the insurer's obligation to pay those claims continues past the end of the term until the last claim has been resolved.

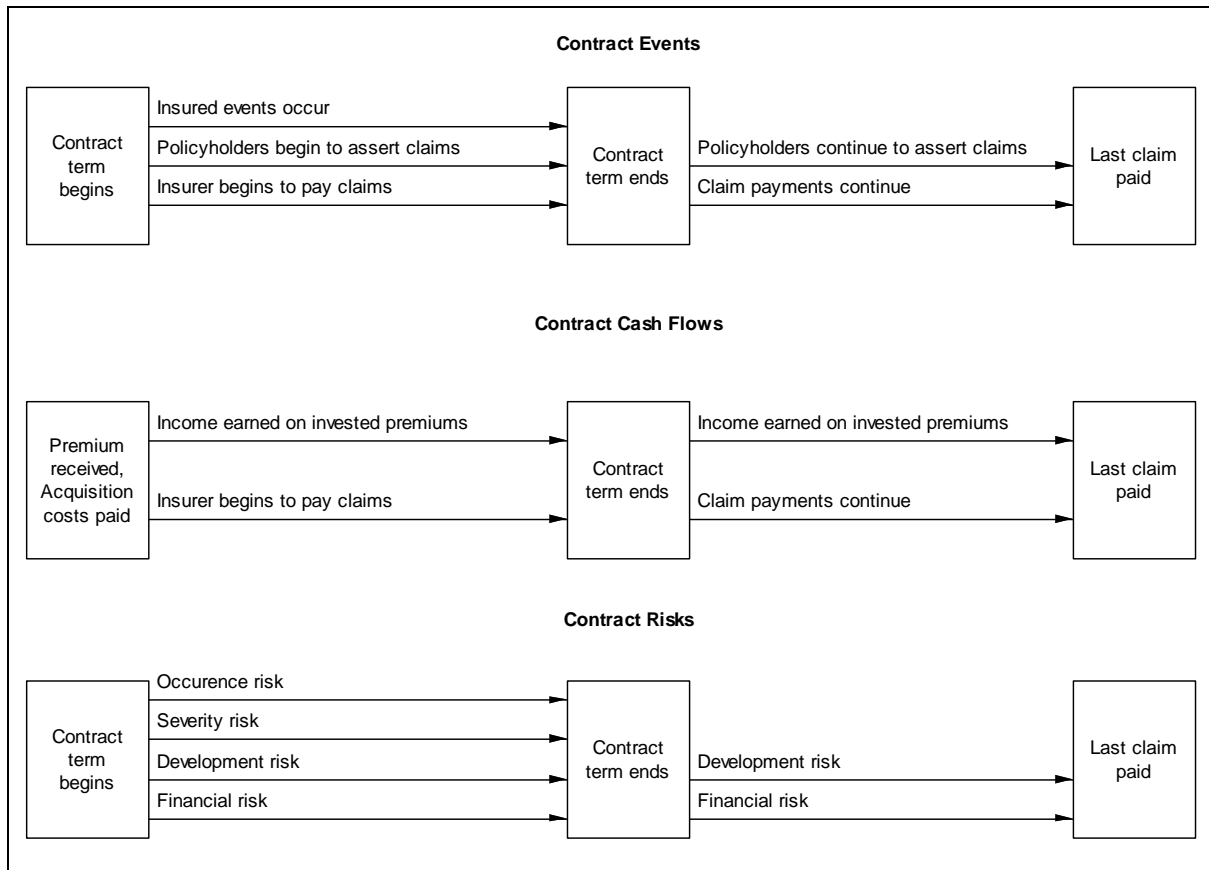


Figure A1 - General Insurance Cycle, Occurrence-Based Contracts

A10. **Risk** is used here to describe the possibility that actual experience will vary from assumptions made by the insurer in setting the amount of premium. The insurer expects that some policyholders will make claims under their contracts and prices contracts accordingly. The risk is that those expectations will prove to have been faulty.

- (a) **Occurrence Risk** refers to the possibility that the number of insured events will differ from those expected.
- (b) **Severity Risk** refers to the possibility that the cost of events will differ from expected cost.
- (c) **Financial Risk** refers to the possible variation in amounts earned from investing premiums during the period from receipt to payment of claims. It includes the possibility of duration mismatch and liquidity risk.
- (d) **Development Risk** is a residual category. It refers generally to changes in the amount of an insurer's obligation after the end of a contract period. Such

changes may result from the late identification of insured events that occurred during the contract period, the possibility that claims will settle more quickly or in amounts greater than expected, that courts may interpret the insurer's liability differently than expected, and other factors that may change the insurer's initial estimate of costs to settle incurred claims.

Claims-Made Insurance Contracts

A11. The preceding paragraphs describe an **occurrence-based** insurance contract. In that contract, the insurer is obligated to pay claims on insured events, even though the policyholder may not discover the loss and assert a claim for several years after the end of the contract period. The **insured event** is property damage, tort liability, or other covered condition that occurs during the contract period or, in some cases, a short **discovery period** after the contract is terminated. **Claims-made** contracts, in contrast, obligate the insurer for claims asserted during the contract period, even though the underlying loss may have occurred in some other period. For such contracts, the insured event is submission of a claim during the contract period. If the policyholder of a claims-made contract fails to discover a loss and submit a claim, the insurer has no obligation. As a result, development risk is less significant in claims-made contracts.

A12. Figure A2 shows the events, cash flows, and risks in the general insurance cycle for claims-made contracts.

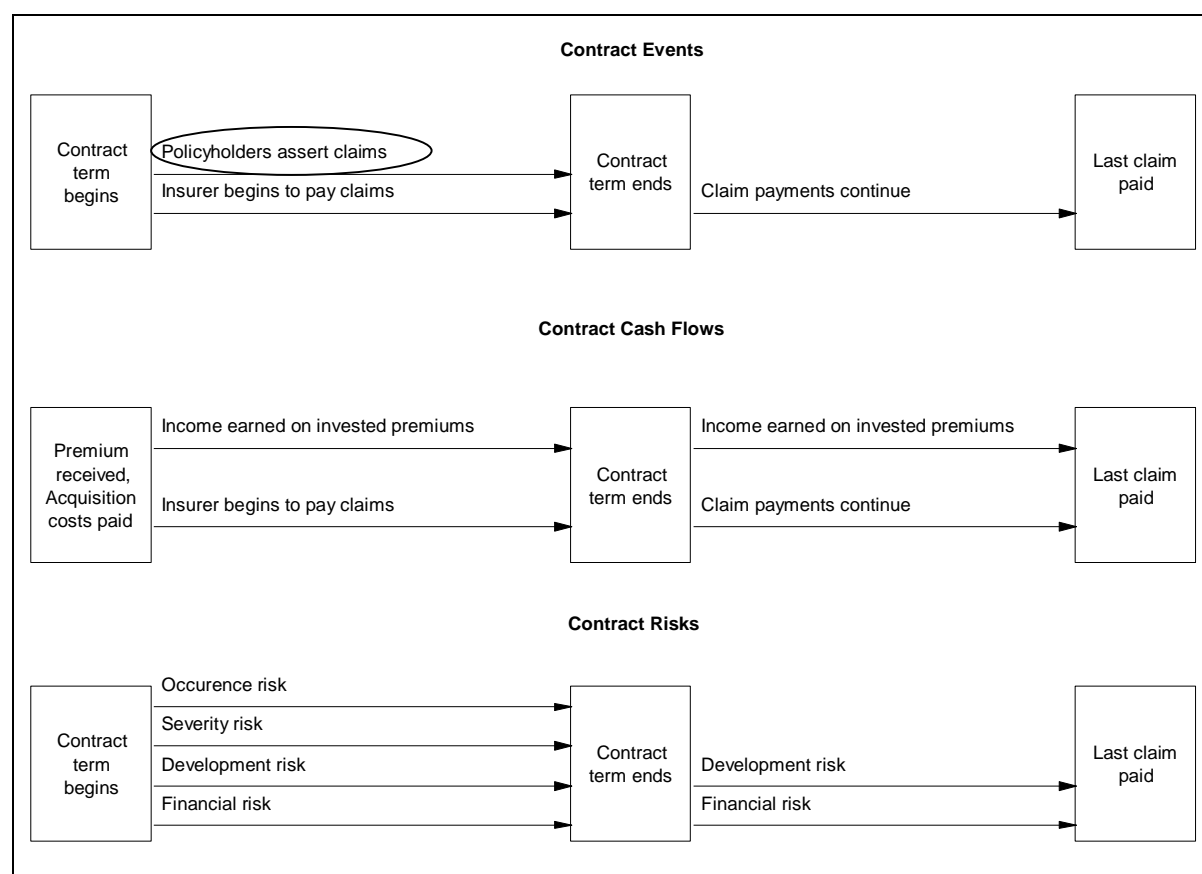


Figure 2 - General Insurance Cycle, Claims-Made Contracts

Retrospectively Rated Contracts

A13. Some general insurance contracts, often referred to as **retrospectively-rated contracts**, allow the insurer to charge additional premiums based on the policyholder's claim experience. If the policyholder's claims exceed a predetermined amount, the insurer assesses an additional premium based on the excess. In some cases, a retrospectively-rated contract may provide for premium refunds if claims are less than the predetermined amount. The presence of a retrospective rating limits the insurer's exposure to occurrence and severity risk, and in some cases, may raise questions about whether the contract is an insurance contract or a non-insurance financial instrument.

A14. Figure A3 shows the events, cash flows, and risks in the general insurance cycle for retrospectively rated contracts.

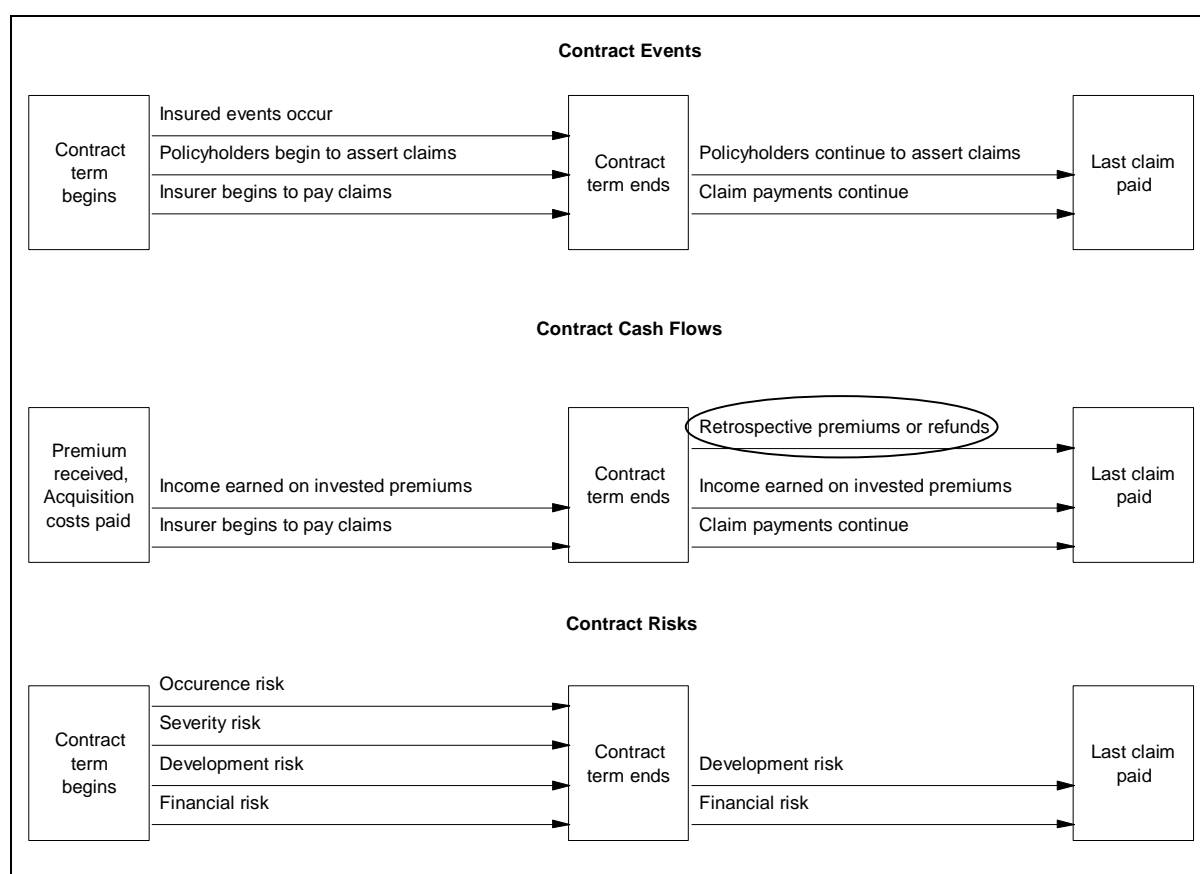


Figure A3 - General Insurance Cycle, Retrospectively Rated Contracts

Accounting for General Insurance

- A15. Any accounting system for insurance activities must report transactions and balances that remain incomplete at the date of the financial statements. There would be little need for special consideration of insurance if all premiums were collected on the first day of the year and all claims were paid by the last day. However, the term of most contracts crosses the end of an accounting period. The time from the end of contract's term to the payment of the last claim may span several years, and until the last claim is paid, the insurer's total cost is unknown.
- A16. To deal with the problem described in the preceding paragraph, different jurisdictions have developed recognition models that vary considerably in the way they recognise and describe the assets, liabilities, revenue, and expenses that arise from insurance activities. The illustrations that follow show how general insurance models reflect the receipt of an insurance premium, changes during the contract's term, and payment of claims and benefits.
- A17. Illustrations A1-A15 employ a set of standardised assumptions to portray different approaches to accounting for general insurance contracts. These standard assumptions are then modified as necessary to portray the accounting approach and how responses to various issues affect amounts reported in financial statements. The standard assumptions include:

Throughout the illustrations the insurer earns investment returns at a semi-annual rate of 2.5 percent, compounded semi-annually. For simplicity, the illustration assumes that premiums and acquisition costs are received on the first day. Claims are paid and investment income is earned on the last day of each 6-month period. Also for simplicity, the term *claims* refers to claims and claim adjustment and settlement costs.

At 30 June, 1999 the insurance enterprise receives premiums of 12,000 and pays acquisition costs of 1,000 on a book of 1-year general insurance contracts.

	<u>dr.</u>	<u>cr.</u>
At 30 June, 1999		
Cash and investments	11,000	
Acquisition costs	1,000	
Premiums		12,000
<i>to record premiums received and acquisition costs paid</i>		

- At 31 December, 1999** (year end) the policyholders have reported claims totalling 4,000. The insurer estimates that another 1,000 of claims are incurred but not reported (IBNR).

	<u>dr.</u>	<u>cr.</u>
At 31 December, 1999		
Claims expense	5,000	
Claims payable		4,000
Claims incurred but not reported		1,000
<i>to record claims reported by policyholders and estimated IBNR</i>		
Cash and investments	275	
Investment income		275
<i>to record investment return</i>		

At 30 June, 2000 the policyholders have reported additional claims totalling 4,750. The insurer estimates that 1,250 of claims are incurred but not reported, an increase of 250 from 31 December, 1999.

	<u>dr.</u>	<u>cr.</u>
At 30 June, 2000		
Claims expense	5,000	
Claims payable		4,750
Claims incurred but not reported		250
<i>to record claims reported by policyholders and estimated IBNR</i>		
Cash and investments	282	
Investment income		282
<i>to record investment return</i>		

At 31 December, 2000 (year end) the policyholders have reported additional claims of 1,000. The insurer estimates that 250 of claims remain incurred but not reported.

	<u>dr.</u>	<u>cr.</u>
At 31 December, 2000		
Claims expense	-	-
Claims payable		1,000
Claims incurred but not reported	1,000	
<i>to record claims reported by policyholders and estimated IBNR</i>		
 Cash and investments	289	
Investment income		289
<i>to record investment return</i>		

At 31 December, 2001 the insurer pays claims of 10,500 (including 500 of claims not previously asserted by policyholders). The insurer concludes that no unreported or unpaid claims remain.

	<u>dr.</u>	<u>cr.</u>
At 31 December, 2001		
Claims expense	500	
Claims payable		750
Claims incurred but not reported	250	
<i>to record claims reported by policyholders and estimated IBNR</i>		
 Claims payable	10,500	
Cash and investments		10,500
<i>to record claims paid</i>		
 Cash and investments	600	
Investment income		600
<i>to record investment return</i>		

A18. The entries outlined in paragraph A17 provide a starting point, but questions remain. For example, should premiums be recognised in revenue on receipt, or should they be amortised over some period? What if the insurer cannot estimate claims payable and IBNR? These and similar questions have led accountants to develop three basic models to account for general insurance activities:

- (a) periodic models (paragraphs A19-A21);
- (b) open-year models (paragraphs A22-A23); and
- (c) zero-balance models (paragraphs A24-A25).

Periodic Models

A19. **Periodic models**, which are also referred to as **deferred-premium models** or the **annual basis**, are used widely by general insurance enterprises to account for short-duration insurance contracts. Premiums are recorded as a liability and amortised to revenue over the contract's term. Claims are recorded as liabilities when the insured event occurs and charged to expense. Illustration A1 shows the activity in cash and investments, balance sheets, and income statements for an insurer that uses the periodic model to account for the contracts described in paragraph A17.

	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000	Year ended 31 December 2001
Cash and investments					
Beginning balance	-	-	11,275	11,275	11,846
Premiums received	12,000	12,000	-	-	-
Acquisition costs paid	(1,000)	(1,000)	-	-	-
Claims paid	-	-	-	-	(10,500)
Investment earnings	-	275	282	571	600
Ending balance	11,000	11,275	11,557	11,846	1,946
Balance sheets					
Cash and investments	11,000	11,275	11,557	11,846	1,946
Unearned premiums	(12,000)	(6,000)	-	-	-
Claims payable	-	(4,000)	(8,750)	(9,750)	-
Claims incurred but not reported	-	(1,000)	(1,250)	(250)	-
(Equity)/Deficit	1,000	(275)	(1,557)	(1,846)	(1,946)
Income statements					
Premium revenue	-	(6,000)	(6,000)	(6,000)	-
Investment income	-	(275)	(282)	(571)	(600)
Acquisition costs	1,000	1,000	-	-	-
Claim expense	-	5,000	5,000	5,000	500
Net (income)/loss	1,000	(275)	(1,282)	(1,571)	(100)

Illustration A1 - Periodic Model, Occurrence-Based Contracts

A20. Illustration A1 will provide the basis for analysing general insurance issues. For each issue, we will return to this base case and then alter one or more assumptions. However, it is impossible to show even a base case without touching on issues raised elsewhere in this document. Illustration A1 reflects the following assumptions:

- (a) no income is reported on the inception of the contract (refer to Sub-issue 7C);
- (b) acquisition costs are charged to expense as incurred, rather than deferred and amortised (refer to Sub-issue 7D);
- (c) claims are recognised as they are incurred, rather than in some other pattern over the contract term (refer to Sub-issues 7B-7C);

- (d) unearned premiums and claim liabilities are measured without using present value techniques (discounting, Sub-issue 7I);
- (e) unearned premiums, claim liabilities, and capitalised acquisition costs (if any) are measured on a traditional basis, rather than at fair value (refer to Basic Issues 3 and 11);
- (f) claim liabilities are measured without an additional provision for risk (refer to Sub-issue 6F); and
- (g) the insurer does not establish equalisation or catastrophe provisions (refer to Sub-issue 7H)

A21. Illustration A2 shows the periodic model applied to the same book of insurance contracts, but with the additional assumption that the contracts are claims-made rather than occurrence-based contracts. The insurer is not responsible for claims that have not been reported by 30 June, 2000 - the end of the contract term.

	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000	Year ended 31 December 2001
Cash and investments					
Beginning balance	-	-	11,275	11,275	11,846
Premiums received	12,000	12,000	-	-	-
Acquisition costs paid	(1,000)	(1,000)	-	-	-
Claims paid	-	-	-	-	(8,750)
Investment earnings	-	275	282	571	600
Ending balance	<u>11,000</u>	<u>11,275</u>	<u>11,557</u>	<u>11,846</u>	<u>3,696</u>
Balance sheets					
Cash and investments	11,000	11,275	11,557	11,846	3,696
Unearned premiums	(12,000)	(6,000)	-	-	-
Claims payable	-	(4,000)	(8,750)	(8,750)	-
(Equity)/Deficit	<u>1,000</u>	<u>(1,275)</u>	<u>(2,807)</u>	<u>(3,096)</u>	<u>(3,696)</u>
Income statements					
Premium revenue	-	(6,000)	(6,000)	(6,000)	-
Investment income	-	(275)	(282)	(571)	(600)
Acquisition costs	1,000	1,000	-	-	-
Claim expense	-	4,000	4,750	4,750	-
Net (income)/loss	<u>1,000</u>	<u>(1,275)</u>	<u>(1,532)</u>	<u>(1,821)</u>	<u>(600)</u>
Net (income)/loss, Illustration 1 (Occurrence-based)	<u>1,000</u>	<u>(275)</u>	<u>(1,282)</u>	<u>(1,571)</u>	<u>(100)</u>
Reconciliation to occurrence-based					
Ending equity, occurrence-based		(1,946)			
Claims IBNR at 30 June, 2000		(1,250)			
Claim development at 31 December, 2001		<u>(500)</u>			
Ending equity, claims-made		<u>(3,696)</u>			

Illustration A2 – Periodic Model, Claims-Made Contracts

Open-Year Models

- A22. **Open-year models**, which are also referred to as **fund models**, recognise amounts based on the period in which contracts are issued, rather than over the period for which the insurer assumes risk. In some situations, premium revenue and claims expense are reported at a predetermined time (for example, three years) after the end of the underwriting year. In other situations, amounts are recognised as soon as premiums, claims, and expenses can be reliably measured. Amounts are reported in the balance sheet as a liability until information is available, at which time the amounts of revenue and expense and related profit is reported in the income statement. If evidence suggests that claims and expenses will exceed premiums (and the fund is deficient), the loss is recognised immediately.
- A23. Illustration A3 shows the open-year model applied to the book of insurance contracts described in paragraph A17, but with the additional assumption that the insurer cannot develop a reliable estimate of premiums, claims, and expenses until 31 December, 2001. On that date, the insurer “closes” the open year balance to the income statement. Open-year models and zero-balance models (described below) are discussed in Sub-issue 7A.

	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000	Year ended 31 December 2001
Cash and investments					
Beginning balance	-	-	11,275	11,275	11,846
Premiums received	12,000	12,000	-	-	-
Acquisition costs paid	(1,000)	(1,000)	-	-	-
Claims paid	-	-	-	-	(10,500)
Investment earnings	-	275	282	571	600
Ending balance	11,000	11,275	11,557	11,846	1,946
Balance sheets					
Cash and investments	11,000	11,275	11,557	11,846	1,946
Open-year balance	(11,000)	(11,000)	(11,000)	(11,000)	-
Claims payable	-	-	-	-	-
Claims incurred but not reported	-	-	-	-	-
(Equity)/Deficit	-	(275)	(557)	(846)	(1,946)
Income statements					
Premium revenue	-	-	-	-	(12,000)
Investment income	-	(275)	(282)	(571)	(600)
Acquisition costs	-	-	-	-	1,000
Claim expense	-	-	-	-	10,500
Net (income)/loss	-	(275)	(282)	(571)	(1,100)
Net (income)/loss, Illustration 1 (Periodic model)	1,000	(275)	(1,282)	(1,571)	(100)

Illustration A3 - Open-Year Model

Zero-Balance Models

- A24. **Zero-balance models**, which are sometimes referred to as **cost-recovery models** are similar to open-year models in that profit is not recognised until the insurer can estimate premiums, claims, and expenses. To avoid reporting profits, the insurer records claim expenses in an amount that reduces underwriting profit to zero. (If evidence suggests that claims and expenses will exceed premiums, the loss is recognised immediately. The claim expenses are then adjusted in a future period.
- A25. Illustration A4 portrays a zero-balance model applied to the book of insurance contracts described in paragraph A17, but with the additional assumption that the insurer cannot develop a reliable estimate of premiums, claims, and expenses until 31 December, 2001. Until that date, the insurer maintains a balance in claim liabilities (shown here as claims incurred but not reported) that results in no underwriting profit. At 31 December, 2001, the insurer adjusts the balance of claim liabilities to the estimated amount and, in effect, recognises the underwriting profit at that time.

	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000	Year ended 31 December 2001
Cash and investments					
Beginning balance	-	-	11,275	11,275	11,846
Premiums received	12,000	12,000	-	-	-
Acquisition costs paid	(1,000)	(1,000)	-	-	-
Claims paid	-	-	-	-	(10,500)
Investment earnings	-	275	282	571	600
Ending balance	11,000	11,275	11,557	11,846	1,946
Balance sheets					
Cash and investments	11,000	11,275	11,557	11,846	1,946
Unearned premiums	-	-	-	-	-
Claims payable	-	(4,000)	(8,750)	(9,750)	-
Claims incurred but not reported	(11,000)	(7,000)	(2,250)	(1,250)	-
(Equity)/Deficit	-	(275)	(557)	(846)	(1,946)
Income statements					
Premium revenue	(12,000)	(12,000)	-	-	-
Investment income	-	(275)	(282)	(571)	(600)
Acquisition costs	1,000	1,000	-	-	-
Claim expense	11,000	11,000	-	-	(500)
Net (income)/loss	-	(275)	(282)	(571)	(1,100)
Net (income)/loss, Illustration 3 (Open-year model)	-	(275)	(282)	(571)	(1,100)
Net (income)/loss, Illustration 1 (Periodic model)	1,000	(275)	(1,282)	(1,571)	(100)

Illustration A4 - Zero-Balance Model

General Insurance Models, Summary

A26. The illustrations in this section capture the essential characteristics of each model, but implementation varies from one situation or jurisdiction to another. For example, some insurers may use an open-year or zero-balance model as a temporary measure, switching to a periodic model as soon as the necessary information is available. Others may adopt an open-year or zero-balance model for particular lines of insurance and use a fixed one-year or two-year deferral period. Whatever the particular implementation or the local name given to the practice, the three basic approaches to accounting for general insurance can be summarised as follows:

- (a) **periodic models** (models that use the **annual basis**) reflect the assets, liabilities, revenues, and expenses of an insurance contract over the period of that contract, similar to the reporting of other commercial activities;
- (b) **open-year models** reflect the revenues and expenses of an insurance contract in some future period. In the interim, amounts are carried in the balance sheet. At the future date, revenues and expenses of the open year are adjusted in the income statement; and
- (c) **zero-balance models** reflect the revenues and expenses of an insurance contract in the current period, with claim expenses (and therefore liabilities) adjusted to produce a net underwriting profit of zero. At the future date, claim liabilities are adjusted to allow recognition of the underwriting profit.

Basic Issue 7A asks whether alternatives to the annual basis should be prohibited, permitted or required.

Issues in Accounting for General Insurance

Unearned Premiums

- A27. In most jurisdictions, general insurers recognise premiums as revenue over the term of an insurance contract, as portrayed in Illustration A1. Sub-issue 7C investigates the underlying rationale for that practice and asks, among other things, whether a general insurer should recognise profit on the sale of a contract.
- A28. Illustration A5 returns to the book of insurance contracts described in Illustration A1. In this case, the insurer determines at inception that its estimated claims will total 10,000 and records that amount as its liability for unearned premiums (or provision for unexpired risk, using the terminology of Sub-issue 7C). As a result, most of the profit from this book of contracts is recognised on sale, rather than over the term of the contracts.

	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000	Year ended 31 December 2001
Cash and investments					
Beginning balance	-	-	11,275	11,275	11,846
Premiums received	12,000	12,000	-	-	-
Acquisition costs paid	(1,000)	(1,000)	-	-	-
Claims paid	-	-	-	-	(10,500)
Investment earnings	-	275	282	571	600
Ending balance	11,000	11,275	11,557	11,846	1,946
Balance sheets					
Cash and investments	11,000	11,275	11,557	11,846	1,946
Unearned premiums	(10,000)	(5,000)	-	-	-
Claims payable	-	(4,000)	(8,750)	(9,750)	-
Claims incurred but not reported	-	(1,000)	(1,250)	(250)	-
(Equity)/Deficit	(1,000)	(1,275)	(1,557)	(1,846)	(1,946)
Income statements					
Premium revenue	(2,000)	(7,000)	(5,000)	(5,000)	-
Investment income	-	(275)	(282)	(571)	(600)
Acquisition costs	1,000	1,000	-	-	-
Claim expense	-	5,000	5,000	5,000	500
Net (income)/loss	(1,000)	(1,275)	(282)	(571)	(100)
Net (income)/loss, Illustration 1	1,000	(275)	(1,282)	(1,571)	(100)

Illustration A5 - Unearned Premiums, Profit Recognised on Sale

Deferred Acquisition Costs

A29. Sub-issues 7D-7E ask whether an insurer should record the costs of acquiring insurance contracts as an asset and, if so, what costs qualify for capitalisation. Illustration A6 portrays the book of insurance contracts from Illustration A1, but with capitalisation and amortisation of acquisition costs. The acquisition costs are recorded as an asset and amortised over the one-year term of the contracts.

	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000	Year ended 31 December 2001
Cash and investments					
Beginning balance	-	-	11,275	11,275	11,846
Premiums received	12,000	12,000	-	-	-
Acquisition costs paid	(1,000)	(1,000)	-	-	-
Claims paid	-	-	-	-	(10,500)
Investment earnings	-	275	282	571	600
Ending balance	11,000	11,275	11,557	11,846	1,946
Balance sheets					
Cash and investments	11,000	11,275	11,557	11,846	1,946
Deferred acquisition costs	1,000	500	-	-	-
Unearned premiums	(12,000)	(6,000)	-	-	-
Claims payable	-	(4,000)	(8,750)	(9,750)	-
Claims incurred but not reported	-	(1,000)	(1,250)	(250)	-
(Equity)/Deficit	-	(775)	(1,557)	(1,846)	(1,946)
Income statements					
Premium revenue	-	(6,000)	(6,000)	(6,000)	-
Investment income	-	(275)	(282)	(571)	(600)
Acquisition costs	-	500	500	500	-
Claim expense	-	5,000	5,000	5,000	500
Net (income)/loss	-	(775)	(782)	(1,071)	(100)
Net (income)/loss, Illustration 1 (costs charged to expense)	1,000	(275)	(1,282)	(1,571)	(100)

Illustration A6 - Acquisition Costs Reported as an Asset

A30. Sub-issue 6D also discusses the possibility of reporting acquisition costs as a reduction of unearned premiums, as portrayed below in Illustration A7.

	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000	Year ended 31 December 2001
Cash and investments					
Beginning balance	-	-	11,275	11,275	11,846
Premiums received	12,000	12,000	-	-	-
Acquisition costs paid	(1,000)	(1,000)	-	-	-
Claims paid	-	-	-	-	(10,500)
Investment earnings	-	275	282	571	600
Ending balance	<u>11,000</u>	<u>11,275</u>	<u>11,557</u>	<u>11,846</u>	<u>1,946</u>
Balance sheets					
Cash and investments	11,000	11,275	11,557	11,846	1,946
Unearned premiums	<u>(11,000)</u>	<u>(5,500)</u>	-	-	-
Claims payable	-	(4,000)	(8,750)	(9,750)	-
Claims incurred but not reported	-	(1,000)	(1,250)	(250)	-
(Equity)/Deficit	<u>-</u>	<u>(775)</u>	<u>(1,557)</u>	<u>(1,846)</u>	<u>(1,946)</u>
Income statements					
Premium revenue	-	(6,000)	(6,000)	(6,000)	-
Investment income	-	(275)	(282)	(571)	(600)
Acquisition costs	-	500	500	500	-
Claim expense	-	5,000	5,000	5,000	500
Net (income)/loss	<u>-</u>	<u>(775)</u>	<u>(782)</u>	<u>(1,071)</u>	<u>(100)</u>
Net (income)/loss, Illustration 6	<u>-</u>	<u>(775)</u>	<u>(782)</u>	<u>(1,071)</u>	<u>(100)</u>
Net (income)/loss, Illustration 1 (costs charged to expense)	<u>1,000</u>	<u>(275)</u>	<u>(1,282)</u>	<u>(1,571)</u>	<u>(100)</u>

Illustration A7 - Acquisition Costs Offset Against Unearned Premium

Provision for Unexpired Risks (Premium Deficiency)

A31. Sub-issue 7C discusses the accounting questions that arise when management concludes that expected claims and expenses over the remaining term of a contract will exceed the balance of unearned premium. In Illustration A8, claims through 31 December, 1999 have exceeded original estimates by 1,500. Management concludes that claims will continue at the increased rate over the remaining contract term and based on that conclusion, records a premium deficiency by first charging off unamortised acquisition costs and then recording a provision for unexpired risk (or provision for premium deficiency, using the terminology in Sub-issue 7C). Note that the 500 of claim development in 2001 is unknown to management at 31 December, 1999 and does not enter into the computations.

Computation of premium deficiency at 31 December, 1999	Revised Estimate	Original Estimate			
Balances before adjustment of:					
Unearned premiums	(6,000)	(6,000)			
Deferred acquisition costs	<u>500</u>	<u>500</u>			
	(5,500)	(5,500)			
Estimated claims for the period 1 January to 30 June, 2000	<u>6,500</u>	<u>5,000</u>			
Premium deficiency	<u>1,000</u>	<u>-</u>			
Recognized by:					
Charge off acquisition costs	500				
Provision for unexpired risk	500				
	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000	Year ended 31 December 2001
Cash and investments					
Beginning balance	-	-	11,275	11,275	11,846
Premiums received	12,000	12,000	-	-	-
Acquisition costs paid	(1,000)	(1,000)	-	-	-
Claims paid	-	-	-	-	(13,500)
Investment earnings	<u>-</u>	<u>275</u>	<u>282</u>	<u>571</u>	<u>600</u>
Ending balance	<u>11,000</u>	<u>11,275</u>	<u>11,557</u>	<u>11,846</u>	<u>(1,054)</u>
Balance sheets					
Cash and investments	11,000	11,275	11,557	11,846	(1,054)
Deferred acquisition costs	1,000	-	-	-	-
Unearned premiums	(12,000)	(6,000)	-	-	-
Provision for unexpired risk	-	(500)	-	-	-
Claims payable	-	(5,500)	(11,750)	(12,750)	-
Claims incurred but not reported	<u>-</u>	<u>(1,000)</u>	<u>(1,250)</u>	<u>(250)</u>	<u>-</u>
(Equity)/Deficit	<u>-</u>	<u>1,725</u>	<u>1,443</u>	<u>1,154</u>	<u>1,054</u>
Income statements					
Premium revenue	-	(6,000)	(6,000)	(6,000)	-
Investment income	-	(275)	(282)	(571)	(600)
Acquisition costs	-	1,000	-	-	-
Claim expense	<u>-</u>	<u>7,000</u>	<u>6,000</u>	<u>6,000</u>	<u>500</u>
Net (income)/loss	<u>-</u>	<u>1,725</u>	<u>(282)</u>	<u>(571)</u>	<u>(100)</u>
Net (income)/loss, Illustration 6 (original estimates)	<u>-</u>	<u>(775)</u>	<u>(782)</u>	<u>(1,071)</u>	<u>(100)</u>

Illustration A8 - Premium Deficiency

A32. Sub-issue 7C also discusses the possibility of including anticipated future investment income in determining the amount of a premium deficiency. The computation and reported amounts are shown in Illustration A9.

Computation of premium deficiency at 31 December, 1999					
Balances before adjustment of:					
Unearned premiums		(6,000)			
Deferred acquisition costs		<u>500</u>			
		(5,500)			
Estimated claims for the period					
1 January to 30 June, 2000		<u>6,500</u>			
Estimated investment income through claim period		<u>(571)</u>			
Premium deficiency/(excess)		<u>429</u>			
Recognized by:					
Charge off acquisition costs		429			
Provision for unexpired risk		-			
	30 June	Year ended	30 June	Year ended	Year ended
	1999	31 December	2000	31 December	31 December
		1999		2000	2001
	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>
Cash and investments					
Beginning balance	-	-	11,275	11,275	11,846
Premiums received	12,000	12,000	-	-	-
Acquisition costs paid	(1,000)	(1,000)	-	-	-
Claims paid	-	-	-	-	(13,500)
Investment earnings	<u>-</u>	<u>275</u>	<u>282</u>	<u>571</u>	<u>600</u>
Ending balance	<u>11,000</u>	<u>11,275</u>	<u>11,557</u>	<u>11,846</u>	<u>(1,054)</u>
Balance sheets					
Cash and investments	11,000	11,275	11,557	11,846	(1,054)
Deferred acquisition costs	<u>1,000</u>	<u>71</u>	<u>-</u>	<u>-</u>	<u>-</u>
Unearned premiums	(12,000)	(6,000)	-	-	-
Provision for unexpired risk	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Claims payable	-	(5,500)	(11,750)	(12,750)	-
Claims incurred but not reported	<u>-</u>	<u>(1,000)</u>	<u>(1,250)</u>	<u>(250)</u>	<u>-</u>
(Equity)/Deficit	<u>-</u>	<u>1,154</u>	<u>1,443</u>	<u>1,154</u>	<u>1,054</u>
Income statements					
Premium revenue	-	(6,000)	(6,000)	(6,000)	-
Investment income	-	(275)	(282)	(571)	(600)
Acquisition costs	-	929	71	71	-
Claim expense	<u>-</u>	<u>6,500</u>	<u>6,500</u>	<u>6,500</u>	<u>500</u>
Net (income)/loss	<u>-</u>	<u>1,154</u>	<u>289</u>	<u>(0)</u>	<u>(100)</u>
Net (income)/loss, Illustration 8	<u>-</u>	<u>1,725</u>	<u>(282)</u>	<u>(571)</u>	<u>(100)</u>

Illustration A9 - Premium Deficiency, Reflecting Future Investment Income in Premium Deficiency

Present Value

- A33. Sub-issue 7I discusses the use of present value techniques (discounting) in measuring assets and liabilities that arise from general insurance contracts. In Illustration A10, claims payable and claims incurred but not reported are measured based on the present value of the amounts paid on 31 December, 2001, discounted at the same five percent rate assumed for assets. (The asset rate is used here for convenience. The selection of an appropriate discount rate is discussed in sub-issue 7J.)

	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000	Year ended 31 December 2001
Cash and investments					
Beginning balance	-	-	11,275	11,275	11,846
Premiums received	12,000	12,000	-	-	-
Acquisition costs paid	(1,000)	(1,000)	-	-	-
Claims paid	-	-	-	-	(10,500)
Investment earnings	-	275	282	571	600
Ending balance	11,000	11,275	11,557	11,846	1,946
Balance sheets					
Cash and investments	11,000	11,275	11,557	11,846	1,946
Deferred acquisition costs	1,000	500	-	-	-
Unearned premiums	(12,000)	(6,000)	-	-	-
Claims payable	-	(3,624)	(8,125)	(9,280)	-
Claims incurred but not reported	-	(906)	(1,161)	(238)	-
(Equity)/Deficit	-	(1,245)	(2,271)	(2,328)	(1,946)
Income statements					
Premium revenue	-	(6,000)	(6,000)	(6,000)	-
Investment income	-	(275)	(282)	(571)	(600)
Acquisition costs	-	500	500	500	-
Claim expense, claims element	-	4,530	4,643	4,643	500
Claim expense, interest element	-	-	113	345	482
Net (income)/loss	-	(1,245)	(1,026)	(1,083)	382
Net (income)/loss, Illustration 6 (without use of present value)	-	(775)	(782)	(1,071)	(100)

Illustration A10 - Present Value in Measuring Claim Liabilities

A34. Some have suggested that present value techniques should also be applied to unearned premiums and capitalised acquisition costs, as shown in Illustration A11.

	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000	Year ended 31 December 2001
Cash and investments					
Beginning balance	-	-	11,275	11,275	11,846
Premiums received	12,000	12,000	-	-	-
Acquisition costs paid	(1,000)	(1,000)	-	-	-
Claims paid	-	-	-	-	(10,500)
Investment earnings	-	275	282	571	600
Ending balance	<u>11,000</u>	<u>11,275</u>	<u>11,557</u>	<u>11,846</u>	<u>1,946</u>
Balance sheets					
Cash and investments	11,000	11,275	11,557	11,846	1,946
Deferred acquisition costs	1,000	506	-	-	-
Unearned premiums	(12,000)	(6,074)	-	-	-
Claims payable	-	(3,624)	(8,125)	(9,280)	-
Claims incurred but not reported	-	(906)	(1,161)	(238)	-
(Equity)/Deficit	<u>-</u>	<u>(1,177)</u>	<u>(2,271)</u>	<u>(2,328)</u>	<u>(1,946)</u>
Income statements					
Premium revenue	-	(5,926)	(6,074)	(6,074)	-
Investment income	-	(275)	(282)	(571)	(600)
Acquisition costs	-	494	506	506	-
Claim expense, claims element	-	4,530	4,643	4,643	500
Claim expense, interest element	-	-	113	345	482
Net (income)/loss	<u>-</u>	<u>(1,177)</u>	<u>(1,094)</u>	<u>(1,151)</u>	<u>382</u>
Net (income)/loss, Illustration 10 (present value on claims only)	<u>-</u>	<u>(1,245)</u>	<u>(1,026)</u>	<u>(1,083)</u>	<u>382</u>
Net (income)/loss, Illustration 6 (no present value measurements)	<u>-</u>	<u>(775)</u>	<u>(782)</u>	<u>(1,071)</u>	<u>(100)</u>

Illustration A11 - Present Value Applied to All Balances

Retrospectively Rated Contracts

A35. Sub-issue 7G discusses the accounting for contracts that include retrospective premium adjustments. Illustration A12 builds on Illustration A2, which portrayed the accounting for a book of claims-made contracts. The contracts in Illustration A12 provide claims-made coverage with three features not introduced in previous illustrations:

- (a) on 31 December, 2001, policyholders with claims that are less than 1,000 receive a refund equal to the shortfall, with a maximum refund of 1,000;
- (b) policyholders who cancel their contracts during the term receive a maximum refund of 1,000; and
- (c) on 31 December, 2001, policyholders with claims that exceed 1,000 must pay an additional premium equal to one-half of the excess.

A36. Other background information is as follows:

- (a) the insurer earns investment returns at a semi-annual rate of 2.5 percent, compounded semi-annually. For simplicity, the illustration assumes that premiums and acquisition costs are received on the first day. Investment income is earned on the last day of each 6-month period. Also for simplicity, unearned premiums, claim liabilities, and deferred acquisition costs are measured on an undiscounted basis;
- (b) at 30 June 1999 the insurer receives premiums of 12,000 (that is, 12 million) and pays acquisition costs of 1,000 on a book of 1-year general insurance contracts. In pricing the contract, the insurer expects to pay claims (including claim handling costs) totalling 9,500, pay premium refunds totalling 1,500 and receive additional premiums totalling 500;
- (c) at 31 December 1999 (year end) the policyholders have reported claims totalling 4,000. The insurer estimates that another 1,000 of claims are incurred but not reported (IBNR) and that total claims, total premium refunds and total additional premiums over the life of the contract are in line with the original estimates;
- (d) at 30 June 2000 the policyholders have reported additional claims totalling 4,750. The contracts are claims-made rather than occurrence-based contracts. The insurer is not responsible for claims that have not been reported by 30 June, 2000 - the end of the contract term. Thus, total claims are 8,750 (750 less than assumed in pricing the contract). Based on actual claims, the insurer determines that premium refunds amount to 2,200 (700 more than originally assumed) and retrospective premiums amount to 950 (450 more than originally assumed); and
- (e) all claims, premium refunds and retrospective premiums are due for payment on 31 December 2000.

- A37. Illustration A12 portrays the application of a deferral and matching approach to this book of contracts. At inception, the insurer recognises the estimated refunds due (1,500) as a liability and amortises the balance of premiums received (12,000 – 1,500 = 10,500) to revenue. Estimated claims payable (9,500) and estimated retrospective premiums (500) are similarly amortised over the contract term. Claims reported and IBNR are effectively included in the amount reported as claims payable. The insurer also recognises the estimated retrospective premiums receivable as either a deduction from the overall liability or as a separate asset. Acquisition costs (1,000) are deferred and recognised as an expense over the life of the contract. The insurer recognises no income or expense at inception. In this illustration, no changes in estimates occur until the end of the contract, so there is no need to decide when the effect of such changes should be recognised (see Sub-issue 6G) and there is no need to recognise a premium deficiency (see Sub-issue 7C).

	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000
Cash and investments				
Beginning balance	-	-	11,275	11,275
Premiums received	12,000	12,000	-	-
Retrospective premiums received	-	-	-	950
Policy refunds paid	-	-	-	(2,200)
Acquisition costs paid	(1,000)	(1,000)	-	-
Claims paid	-	-	-	(8,750)
Investment earnings	-	275	282	571
Ending balance	<u>11,000</u>	<u>11,275</u>	<u>11,557</u>	<u>1,846</u>
Balance sheets				
Cash and investments	11,000	11,275	11,557	1,846
Deferred acquisition costs	1,000	500	-	-
Retrospective premiums receivable	-	250	950	-
Unearned premiums	(10,500)	(5,250)	-	-
Premium refunds due	(1,500)	(1,500)	(2,200)	-
Claims payable, including IBNR	-	(4,750)	(8,750)	-
(Equity)/Deficit	<u>-</u>	<u>(525)</u>	<u>(1,557)</u>	<u>(1,846)</u>
Income statements				
Premium revenue	-	(5,250)	(5,250)	(5,250)
Premium refunds - change in estimate	-	-	700	700
Retrospective premiums	-	(250)	(700)	(700)
Claim expense	-	4,750	4,000	4,000
	-	(750)	(1,250)	(1,250)
Acquisition costs	-	500	500	500
Investment income	-	(275)	(282)	(571)
Net (income)/loss	<u>-</u>	<u>(525)</u>	<u>(1,032)</u>	<u>(1,321)</u>

Illustration A12 - Retrospectively Rated, Deferral and Matching Approach

A38. Illustration A13 shows an asset-and-liability approach to accounting for the same book of retrospectively rated contracts. At inception, the insurer recognises as a liability the estimated final amount due to policyholders (9,500) and the estimated refunds due (1,500). The insurer also recognises the estimated retrospective premiums receivable (500) as either a deduction from the overall liability or as a separate asset. The insurer recognises the entire premium received (12,000) as income, the estimated claim expense (9,500), premium refunds (1,500) and acquisition costs (1,000) as an expense and the estimated retrospective premiums (500) as either income or a deduction from estimated claim expense. Thus, the insurer recognises a net gain of 500 at inception. In subsequent periods, the only income and expense recognised are the effects of changes in estimates of claims, of premium refunds and of retrospective premiums, as well as investment income (and the unwinding of the discount if the liabilities are discounted)

	30 June 1999	Year ended 31 December 1999	30 June 2000	Year ended 31 December 2000
Cash and investments				
Beginning balance	-	-	11,275	11,275
Premiums received	12,000	12,000	-	-
Retrospective premiums received	-	-	-	950
Policy refunds paid	-	-	-	(2,200)
Acquisition costs paid	(1,000)	(1,000)	-	-
Claims paid	-	-	-	(8,750)
Investment earnings	-	275	282	571
Ending balance	<u>11,000</u>	<u>11,275</u>	<u>11,557</u>	<u>1,846</u>
Balance sheets				
Cash and investments	11,000	11,275	11,557	1,846
Retrospective premiums receivable	500	500	950	-
Premium refunds due	(1,500)	(1,500)	(2,200)	-
Claims reported and IBNR	-	(5,000)	(8,750)	-
Future claims during contract term	(9,500)	(4,500)	-	-
(Equity)/Deficit	<u>500</u>	<u>775</u>	<u>1,557</u>	<u>1,846</u>
Income statements				
Premium revenue	(12,000)	(12,000)	-	-
Retrospective premiums	(500)	(500)	(450)	(450)
Premium refunds	1,500	1,500	700	700
Claim expense	<u>9,500</u>	<u>9,500</u>	<u>(750)</u>	<u>(750)</u>
	(1,500)	(1,500)	(500)	(500)
Acquisition costs	1,000	1,000	-	-
Investment income	-	(275)	(282)	(571)
Net (income)/loss	<u>(500)</u>	<u>(775)</u>	<u>(782)</u>	<u>(1,071)</u>
Net (income)/loss -Deferral and matching approach (Illustration A13)	<u>-</u>	<u>(525)</u>	<u>(1,032)</u>	<u>(1,321)</u>

Illustration A13 - Retrospectively Rated, Asset/Liability Approach

Catastrophe and Equalisation Provisions

- A39. Sub-issue 7H discusses the practice, followed in some jurisdictions, of recognising catastrophe or equalisation provisions. Illustration A14 builds on Illustration A6 which showed the basic illustration with capitalisation of acquisition costs. In this illustration, the insurer continues to issue similar contracts and have similar experience each year. Consistent with regulations in its jurisdiction, the insurer adds 500 to an equalisation provision each year and includes that amount in claim expenses. In 2004, a catastrophic storm causes additional claims of 4,000. Consistent with local regulation, the insurer charges the additional claims against the balance of the equalisation provision (3,000 before the claims) and the remainder to claims expense. Illustration A15 portrays the same situation, but without the use of an equalisation provision.

	Six months ended 31 December 1999	Year 31 December 2000	Year 31 December 2001	Year 31 December 2002	Year 31 December 2003	Year 31 December 2004
Cash and investments						
Beginning balance	-	11,275	22,846	24,503	26,243	28,072
Premiums received	12,000	12,000	12,000	12,000	12,000	12,000
Acquisition costs paid	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)
Claims paid	-	-	(10,500)	(10,500)	(10,500)	(10,500)
Investment earnings	275	571	1,157	1,240	1,329	1,421
Ending balance	11,275	22,846	24,503	26,243	28,072	29,993
Balance sheets						
Cash and investments	11,275	22,846	24,503	26,243	28,072	29,993
Deferred acquisition costs	500	500	500	500	500	500
Unearned premiums	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)
Claims payable	(4,000)	(13,750)	(13,750)	(13,750)	(13,750)	(17,750)
Claims incurred but not reported	(1,000)	(1,250)	(1,250)	(1,250)	(1,250)	(1,250)
Equalisation provision	(500)	(1,000)	(1,500)	(2,000)	(2,500)	-
(Equity)/Deficit	(275)	(1,346)	(2,503)	(3,743)	(5,072)	(5,493)
Income statements						
Premium revenue	(6,000)	(12,000)	(12,000)	(12,000)	(12,000)	(12,000)
Investment income	(275)	(571)	(1,157)	(1,240)	(1,329)	(1,421)
Acquisition costs	500	1,000	1,000	1,000	1,000	1,000
Claim expense	5,000	10,000	10,500	10,500	10,500	14,500
Change in equalisation provision	500	500	500	500	500	(2,500)
Net (income)/loss	(275)	(1,071)	(1,157)	(1,240)	(1,329)	(421)

Illustration A12 - Six Years, with Equalisation Provision

	Six months ended 31 December 1999	Year 31 December 2000	Year 31 December 2001	Year 31 December 2002	Year 31 December 2003	Year 31 December 2004
Cash and investments						
Beginning balance	-	11,275	22,846	24,503	26,243	28,072
Premiums received	12,000	12,000	12,000	12,000	12,000	12,000
Acquisition costs paid	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)
Claims paid	-	-	(10,500)	(10,500)	(10,500)	(10,500)
Investment earnings	275	571	1,157	1,240	1,329	1,421
Ending balance	<u>11,275</u>	<u>22,846</u>	<u>24,503</u>	<u>26,243</u>	<u>28,072</u>	<u>29,993</u>
Balance sheets						
Cash and investments	11,275	22,846	24,503	26,243	28,072	29,993
Deferred acquisition costs	500	500	500	500	500	500
Unearned premiums	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)
Claims payable	(4,000)	(13,750)	(13,750)	(13,750)	(13,750)	(17,750)
Claims incurred but not reported	(1,000)	(1,250)	(1,250)	(1,250)	(1,250)	(1,250)
Equalisation provision	-	-	-	-	-	-
(Equity)/Deficit	<u>(775)</u>	<u>(2,346)</u>	<u>(4,003)</u>	<u>(5,743)</u>	<u>(7,572)</u>	<u>(5,493)</u>
Income statements						
Premium revenue	(6,000)	(12,000)	(12,000)	(12,000)	(12,000)	(12,000)
Investment income	(275)	(571)	(1,157)	(1,240)	(1,329)	(1,421)
Acquisition costs	500	1,000	1,000	1,000	1,000	1,000
Claim expense	<u>5,000</u>	<u>10,000</u>	<u>10,500</u>	<u>10,500</u>	<u>10,500</u>	<u>14,500</u>
Net (income)/loss	<u>(775)</u>	<u>(1,571)</u>	<u>(1,657)</u>	<u>(1,740)</u>	<u>(1,829)</u>	<u>2,079</u>
Net (income)/loss, Illustration 15 (with equalisation provision)	<u>(275)</u>	<u>(1,071)</u>	<u>(1,157)</u>	<u>(1,240)</u>	<u>(1,329)</u>	<u>(421)</u>

Illustration A13 - Six Years, without Equalisation Provision