The Actuarial Society of Hong Kong

MEASUREMENT MODELS

Session 5

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Agenda

- The reasons for a new measurement model
- Scope of IFRS 17
- The General Accounting Model
- Onerous contracts
- The Premium Allocation Approach
- The Variable Fee Approach
- The Modified General Accounting Model

The reasons for a new measurement model (1/2)

IFRS 4 – little transparent or useful information	IFRS 17 – more transparent or more useful information
Some entities use out-of-date assumptions to measure insurance contracts These do not: § Provide useful information about expected future cash flows. § Fully reflect the value of options and guarantees in the financial statements.	**An entity will measure insurance contracts at current value** It will use updated assumptions for: § Cash flows § Discount rates § Financial and non-financial risks Current assumptions reflect: § Options and guarantees § The way an entity expects to settle its insurance liabilities. Asset-liability mismatch will be visible.
Some entities do not consider the time value of money of the liabilities for incurred claims § Therefore, the reported expense for claims may not reflect the economic expense for insurance contracts for which the settlement of a claim may take some years.	**An entity will report estimated future payments to settle incurred claims on a discounted basis** It will reflect : § Time value of money § The reported claims expense will reflect the economic expense.
Some companies use the 'expected return on asset held' as discount rate to measure insurance contracts This distorts the value of the insurance contract liabilities because**:** § Liabilities may not be directly linked to assets. § Liabilities may have a different duration.	**An entity will use discount rates that reflect the characteristics of insurance cash flow to measure insurance contracts** § Financial statements reflect risks from insurance obligations that are not economically matched by assets of equivalent risk and duration.

Source: IFRS Foundation. IFRS 17 Insurance Contracts. Effects Analysis. May 2017, page 6

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The reasons for a new measurement model (2/2)

IFRS 4 – a lack of comparability	IFRS 17 – a consistent framework
Comparability among companies across jurisdictions	
The accounting treatment of insurance contracts varies between entities operating in different jurisdictions • Use of current discount rates vs use of historical discount rates in measuring insurance contracts. • Capitalisation & amortisation of costs vs direct expense attribution. • Revenue equal to all premium received vs exclusion of deposit component.	**Entities will apply a consistent accounting framework for all insurance contracts** • Most accounting differences will be removed. • Investors and shareholders can better identify economic and risk similarities between companies issuing contracts. • Investors and shareholders can better identify differences between companies issuing insurance contracts.
Comparability among insurance contracts	
Some multinational companies consolidate their subsidiaries using non-uniform accounting policies for • Insurance contracts issued in different jurisdictions. • This results in a lack of comparability between insurance contracts issued by the same group.	**A multinational company will measure insurance contracts consistently within the group** • This increases the comparability of its results by product and geographical area. • Financial statements of subsidiaries are comparable across the entire company.
Comparability among industries	
Some companies present cash or deposit received as revenue • This accounting treatment differs from the accounting applied by other industries, particularly in the banking industry and in the investment-management industry.	**Revenue will reflect the insurance coverage provided, excluding deposit component** • This change increases the comparability and understanding of profit or loss of companies issuing insurance contracts. • It also enables cross-industry comparability.

Source: IFRS Foundation. IFRS 17 Insurance Contracts. Effects Analysis. May 2017, page 7

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Scope of IFRS 17

An entity shall apply IFRS 17 to:

a) insurance contracts, including reinsurance contracts, it issues;

b) reinsurance contracts it holds; and

c) investment contracts with discretionary participation features it issues, provided the entity also issues insurance contracts.

Source: IFRS 17 Paragraph 3 (denoted as P 3)

Key features of the General Accounting Model

Under the General Accounting Model ("GM"), the entity:

[…]

d) recognises and measures groups of insurance contracts at:

   i. a risk-adjusted present value of the future cash flows (the fulfilment cash flows) that incorporates all of the available information about the fulfilment cash flows in a way that is consistent with observable market information; plus (if this value is a liability) or minus (if this value is an asset)

   ii. an amount representing the unearned profit in the group of contracts (the contractual service margin).

e) recognises the profit from a group of insurance contracts over the period the entity provides insurance coverage, and as the entity is released from risk. If a group of contracts is or becomes loss-making, an entity recognises the loss immediately.

Source: P IN6

Under IFRS 17, the General Accounting Model (or more commonly known as the General Model) is the default measurement model.

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The GM at inception

On initial recognition, an entity shall measure a group of insurance contracts at the total of:

a) the fulfilment cash flows, which comprise:

   i. estimates of future cash flows (paragraphs 33–35);

   ii. an adjustment to reflect the time value of money and the financial risks related to the future cash flows, to the extent that the financial risks are not included in the estimates of the future cash flows (paragraph 36); and

   iii. a risk adjustment for non-financial risk (paragraph 37).

b) the contractual service margin, measured applying paragraphs 38–39.

Source: P 32

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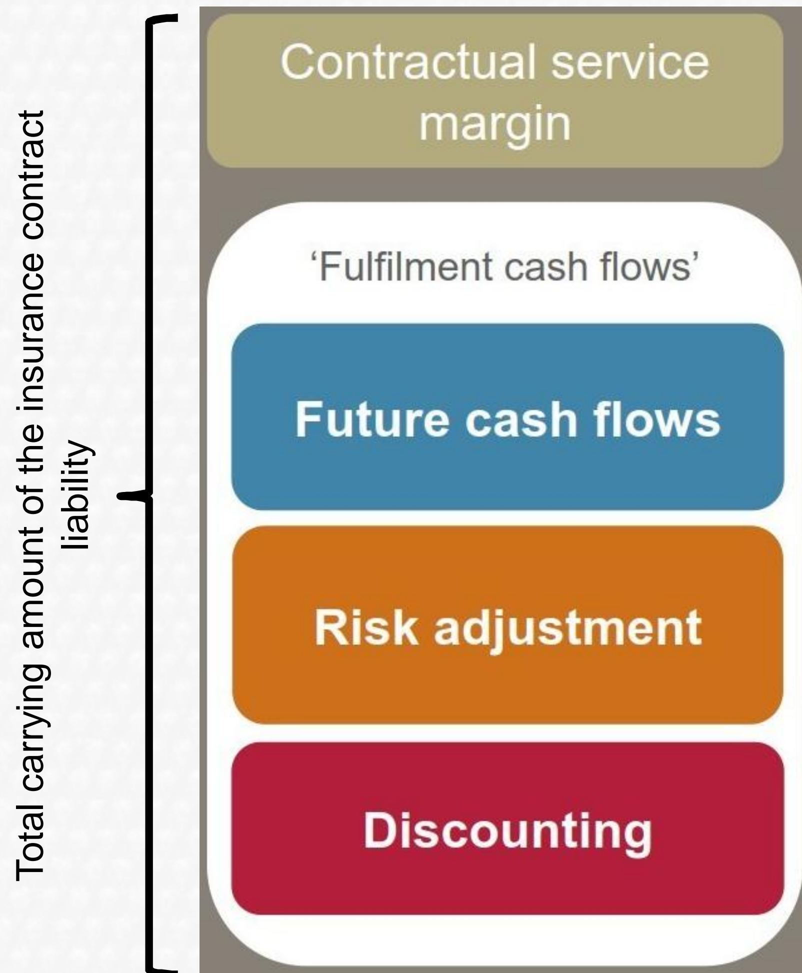
The GM at inception
Visualization



Building blocks:

- ***Future cash flows*** - an unbiased, current, explicit and probability-weighted estimate of future net cash flows that will arise as the entity fulfils the insurance obligations. (source: P 33)

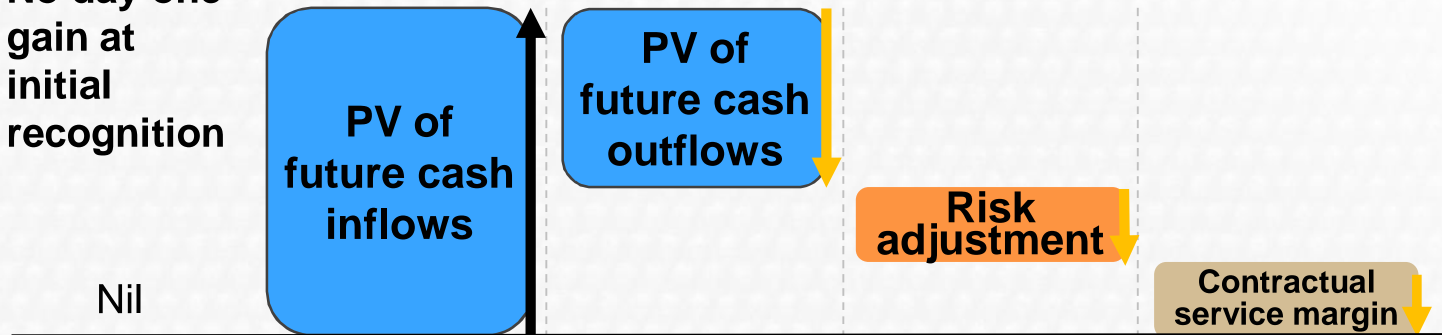
- ***Discounting*** - An adjustment that converts future cash flows into current amount to reflect the time value of money. The discount rate reflects the characteristics of the insurance contract liabilities and is consistent with observable current market prices. (source: P 36)

- ***Risk Adjustment*** - The compensation that an entity requires for bearing the uncertainty about the amount and timing of the cash flows. (source: P 37)

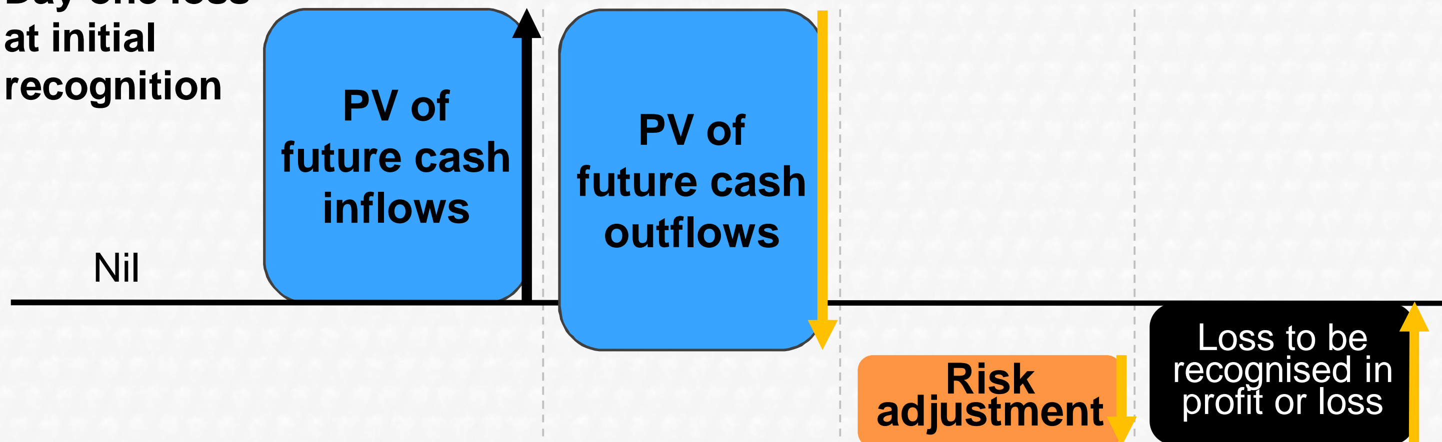
- ***Contractual Service Margin ("CSM")*** - a component of the measurement of the insurance contract representing the unearned profit that the entity recognises as it provides services. (*source: P 38 & P 43*)

The GM at inception
Visualization

Example 1: No day one gain at initial recognition



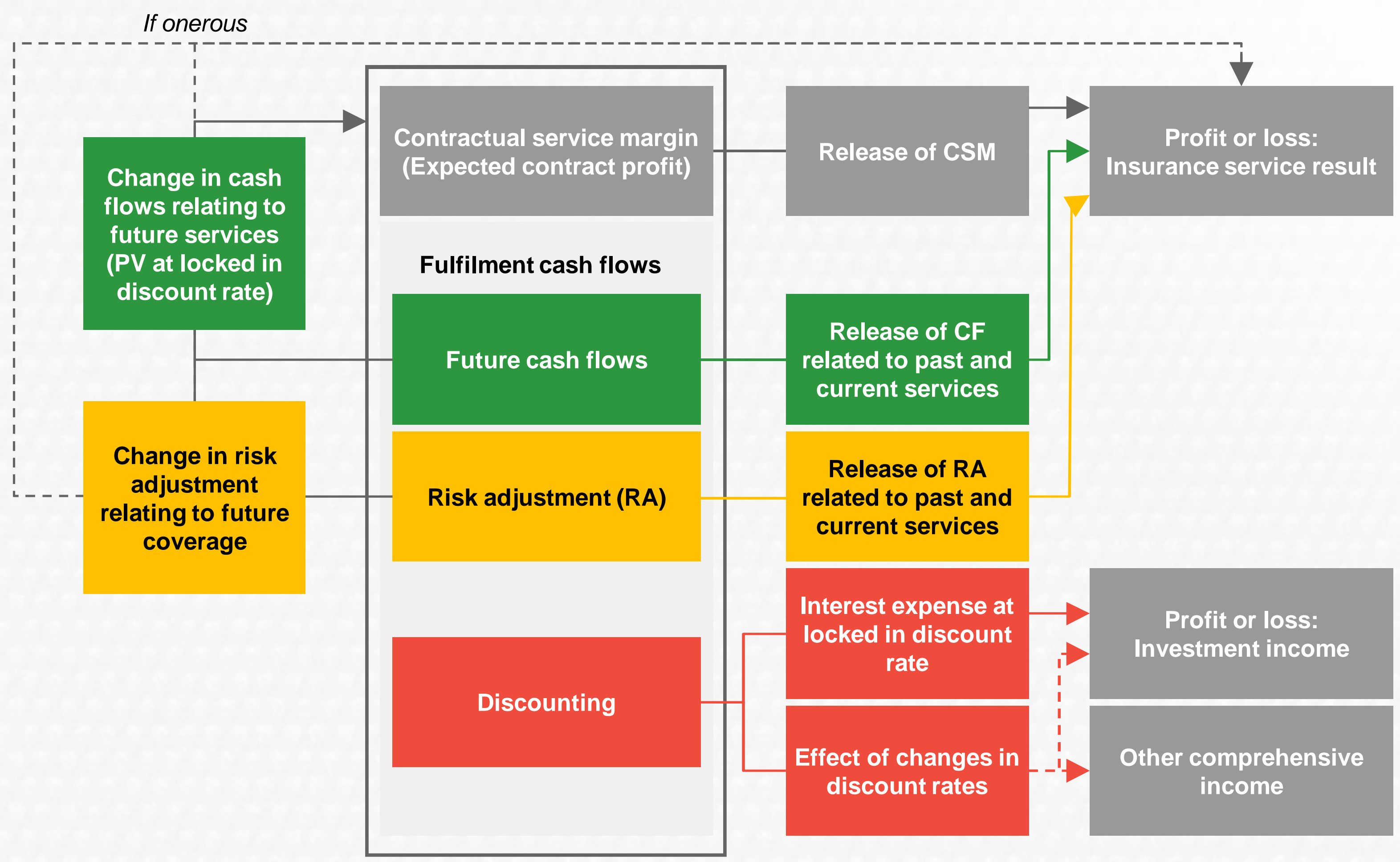
Example 2: Day one loss at initial recognition



Observations:

- Example 1: The CSM eliminates any day one gain.
- Example 2: The CSM must not be negative (unless it is a reinsurance contract held). If the contract is onerous, the entire loss is immediately recognised in the profit or loss.

The GM at subsequent measurement
Visualization



Source: P 40(a), P 41 and P 46

The GM at subsequent measurement

For *insurance contracts without direct participation features*, the carrying amount of the contractual service margin of a group of contracts at the end of the reporting period equals the carrying amount at the start of the reporting period adjusted for:

(a) the effect of any new contracts added to the group (see paragraph 28);

(b) interest accreted on the carrying amount of the contractual service margin during the reporting period, measured at the discount rates specified in paragraph B72(b);

(c) the changes in fulfilment cash flows relating to future service as specified in paragraphs B96–B100, except to the extent that:

  (i) such increases in the fulfilment cash flows exceed the carrying amount of the contractual service margin, giving rise to a loss (see paragraph 48(a)); or

  (ii) such decreases in the fulfilment cash flows are allocated to the loss component of the liability for remaining coverage applying paragraph 50(b).

(d) the effect of any currency exchange differences on the contractual service margin; and

(e) the amount recognised as insurance revenue because of the transfer of services in the period, determined by the allocation of the contractual service margin remaining at the end of the reporting period (before any allocation) over the current and remaining coverage period applying paragraph B119.

Source: P 44

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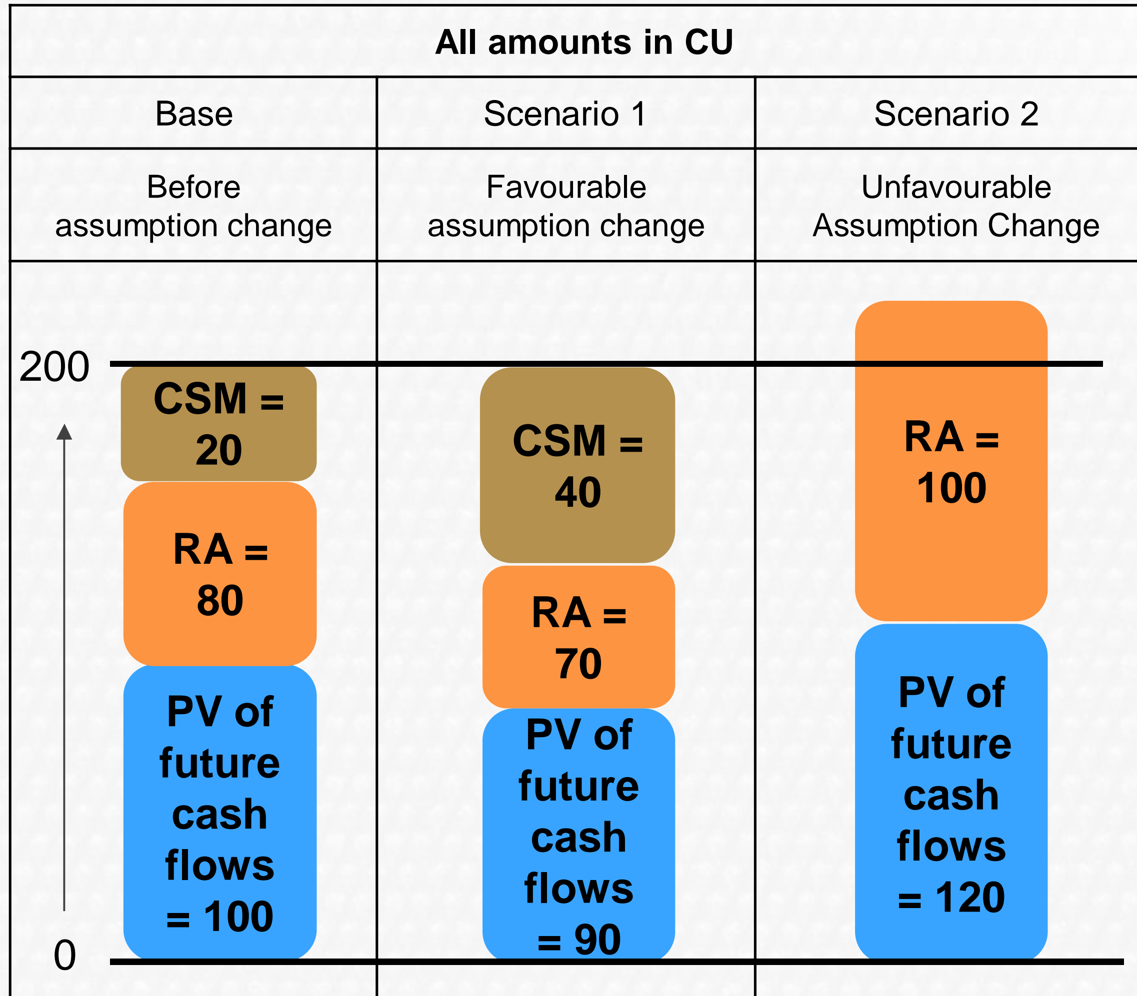
The GM at subsequent measurement
Visualization



Observations:

- Scenario 1: There is no change in the total carrying amount of the insurance contract liability.
- Scenario 2: The CSM is exhausted due to the unfavourable assumption changes relating to future services . Thus, an immediate loss of CU (20) is booked in the profit or loss at the end of the reporting period. An onerous contract that is recognised needs to be tracked.

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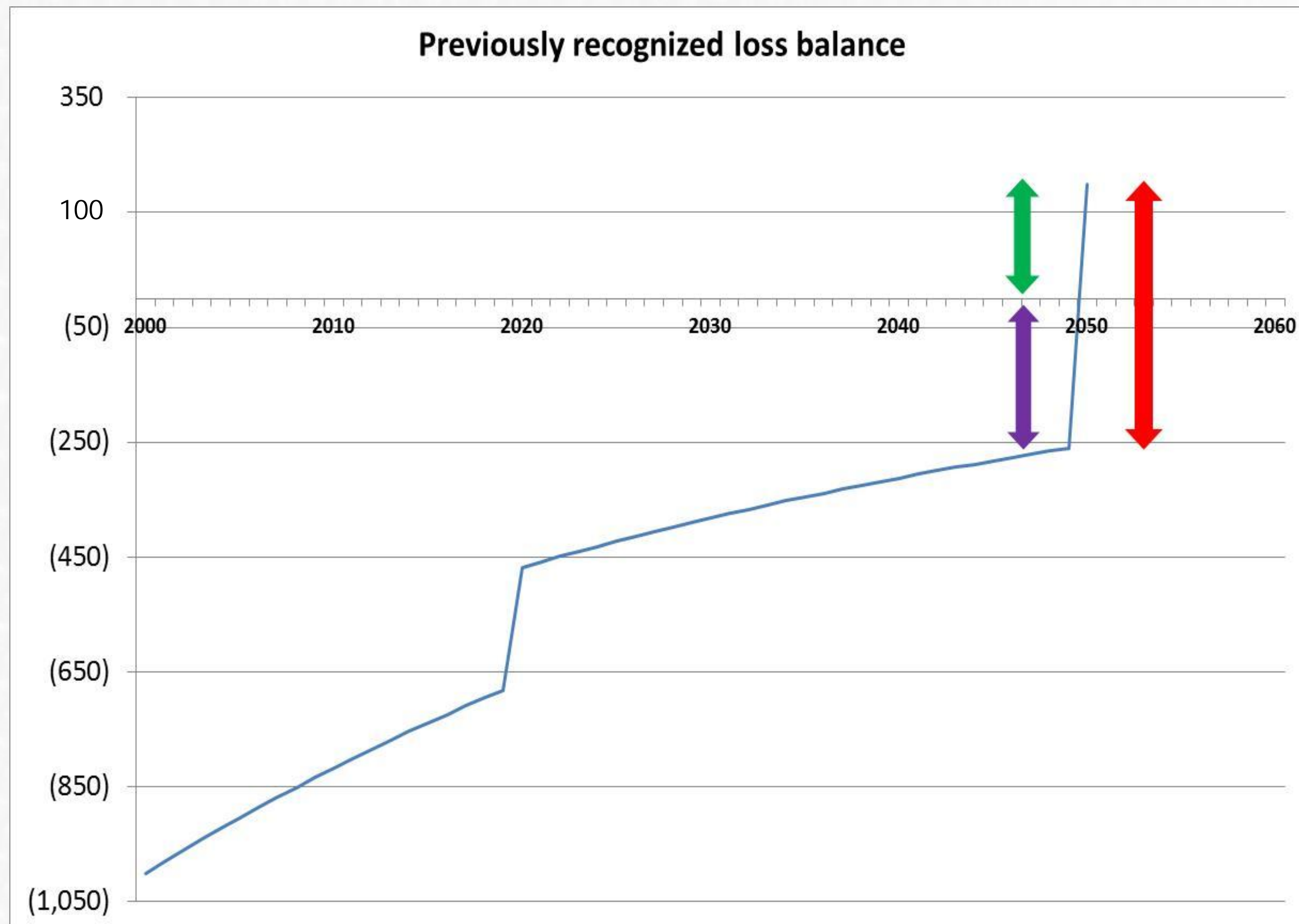
Onerous contracts
Visualization



Observations:

- The CSM is re-established when all previously recognised losses are reversed
- Green arrow: The previously recognised loss is fully reversed and consequently a CSM of CU 150m is re-established due to the favourable change in estimate of future services

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Key features of the Premium Allocation Approach ("PAA")

An entity may apply a simplified measurement approach (the premium allocation approach) to some insurance contracts. The simplified measurement approach allows an entity to measure the amount relating to remaining service by allocating the premium over the coverage period.

Source: P IN8

Although the outcome of the simplified approach is similar to the outcome of the general accounting model, the simplified approach does not require a company to:

(a) measure the unearned profit of the contracts (contractual service margin) explicitly; or

(b) update the liability for remaining coverage for changes in discount rates and other financial variables.

Thus, when a company applies the simplified approach it is expected to incur fewer costs, without creating significant issues of comparability between insurance contracts.

Source: IFRS Foundation. IFRS 17 Insurance Contracts. Effects Analysis. May 2017, page 69

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Application criteria for the PAA

An entity may simplify the measurement of a group of insurance contracts using the premium allocation approach set out in paragraphs 55–59 if, and only if, at the inception of the group:

a) the entity reasonably expects that such simplification would produce a measurement of the liability for remaining coverage for the group that would not differ materially from the one that would be produced applying the requirements in paragraphs 32–52; or

b) the coverage period of each contract in the group (including coverage arising from all premiums within the contract boundary determined at that date applying paragraph 34) is one year or less.

Source: P 53

The PAA at initial recognition

Using the premium allocation approach, an entity shall measure the liability for remaining coverage as follows:

a) on initial recognition, the carrying amount of the liability is:

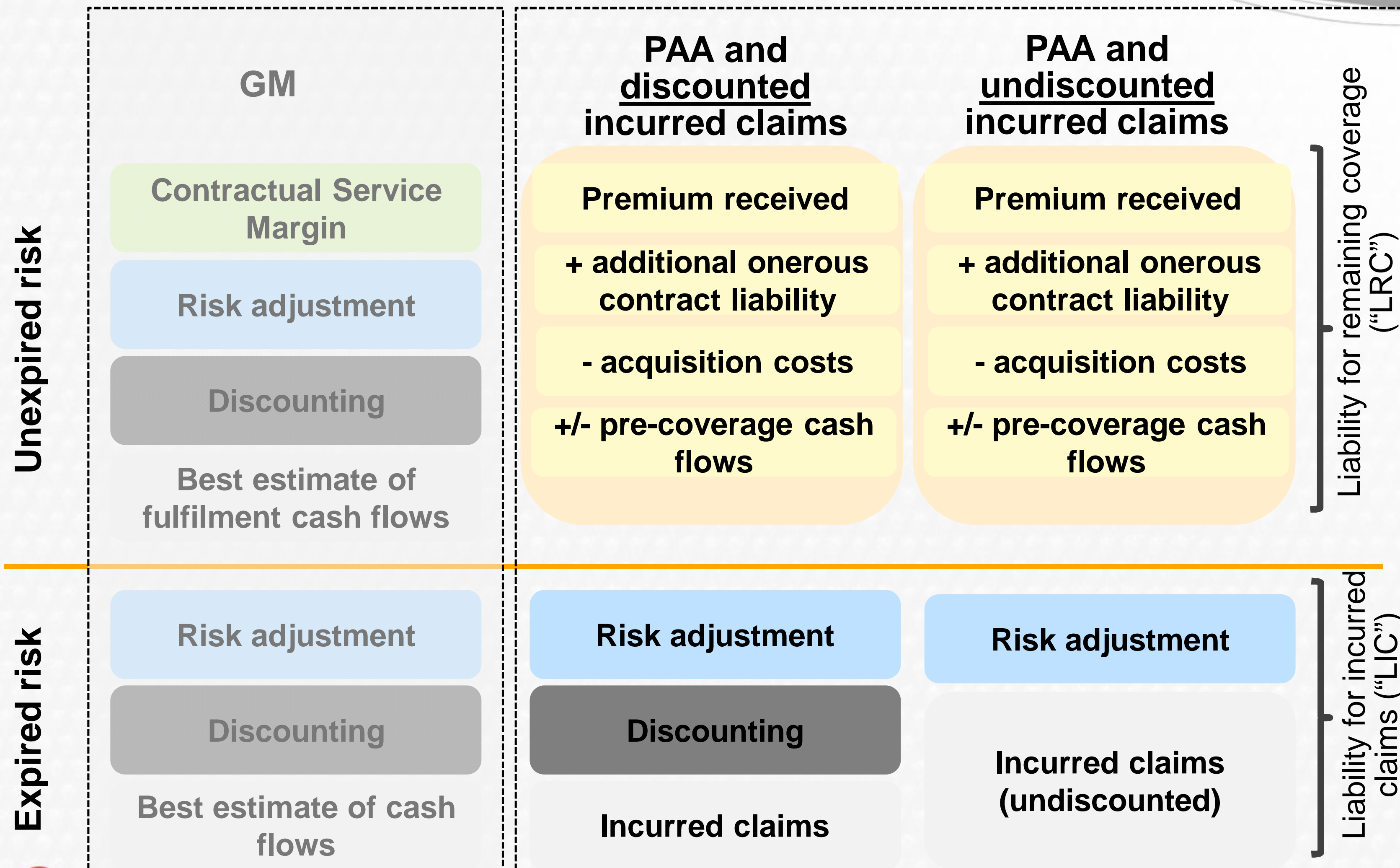
   i. the premiums, if any, received at initial recognition;

   ii. minus any insurance acquisition cash flows at that date, unless the entity chooses to recognise the payments as an expense applying paragraph 59(a); and

   iii. plus or minus any amount arising from the derecognition at that date of the asset or liability recognised for insurance acquisition cash flows applying paragraph 27.

Source: P 55(a)

The PAA at initial recognition
Visualization



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The PAA at subsequent measurement

Using the premium allocation approach, an entity shall measure the liability for remaining coverage as follows:

b) at the end of each subsequent reporting period, the carrying amount of the liability is the carrying amount at the start of the reporting period:

  i. plus the premiums received in the period;
  ii. minus insurance acquisition cash flows; unless the entity chooses to recognise the payments as an expense applying paragraph 59(a);
  iii. plus any amounts relating to the amortisation of insurance acquisition cash flows recognised as an expense in the reporting period; unless the entity chooses to recognise insurance acquisition cash flows as an expense applying paragraph 59(a);
  iv. plus any adjustment to a financing component, applying paragraph 56;
  v. minus the amount recognised as insurance revenue for coverage provided in that period (see paragraph B126); and
  vi. minus any investment component paid or transferred to the liability for incurred claims.

Source: P 55(b)

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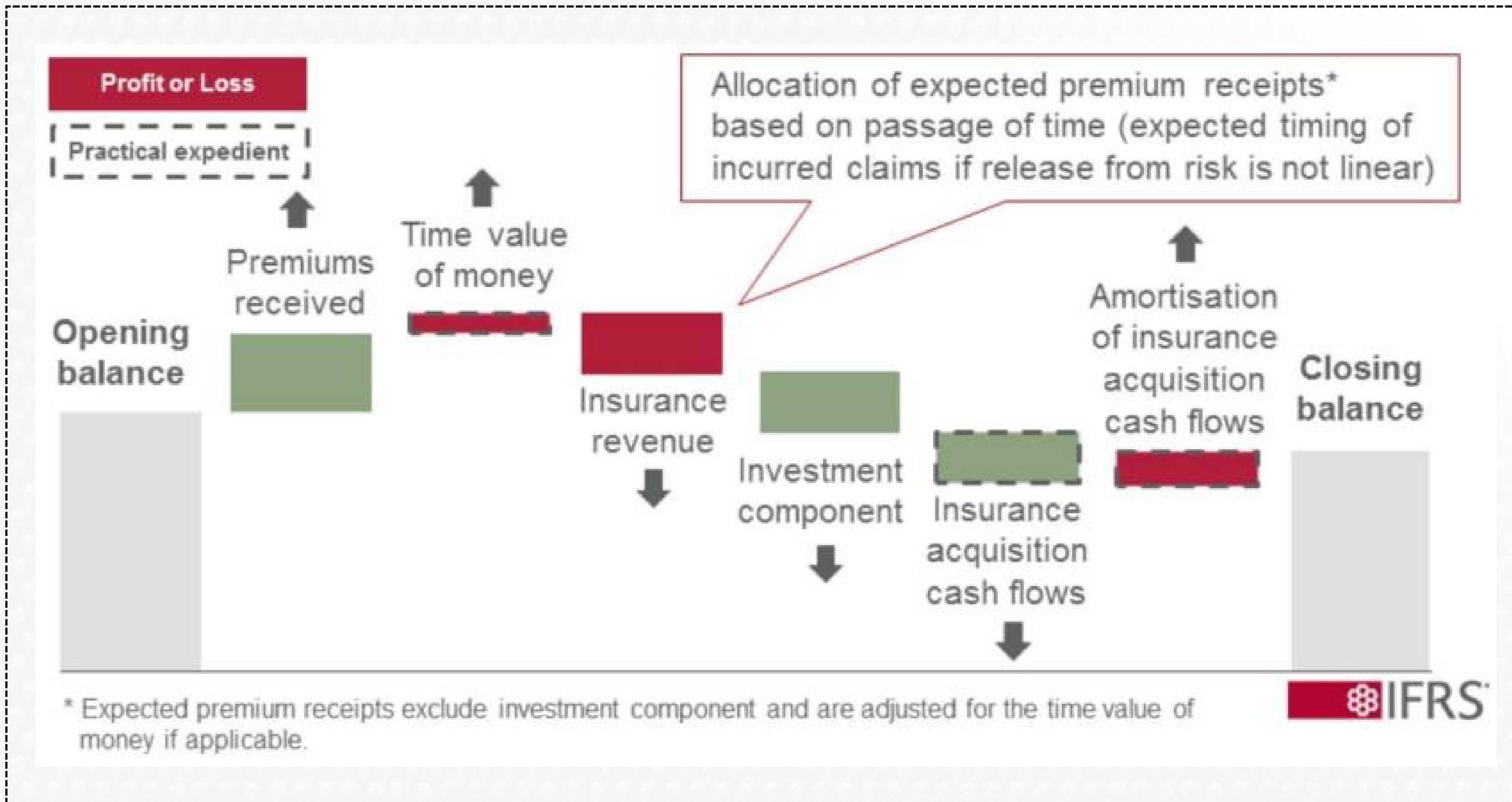
The PAA at subsequent measurement (simplified) Visualization



Source: IFRS Foundation. IFRS 17 Insurance Contracts. Webinar on PAA. 3 August 2017, slide 14

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GM vs the PAA at inception

Specifications of the insurance contract and assumptions

Contract specifications:

- Type of contract: Home insurance
- Duration: 12 months
- Premium payment: Single, immediately at t = 0
- Premium amount: CU 1,000
- Underwriting date: 1 July 2017

Assumptions:

- Policies sold: 1
- Directly attributable acquisition costs (DAAC): CU 24
- PV of expected cash outflows : CU 700
- Risk adjustment at inception: 3% of PV expected cash outflows
- Discount rate: 0% for simplicity
- Effective claims to be paid in August 2018
- No payment on surrender of contract (i.e. no investment component)

Applying the models at inception

Comparison of the approaches at inception

All amounts in CU	GM	PAA		
		LRC	*LIC*	Total PAA liability
Expected cash outflows 700	700		*0*	
Risk adjustment *3% of expected cash outflows*	21		*0*	
Contractual service margin *255*	255			
DAAC	in CSM	*-24*		
Unearned Premium		*1,000*		
Carrying Amount	**976**	***976***	***0***	**976**

GM vs the PAA at subsequent measurement

Specifications of the insurance contract and assumptions

Actual experience after 6 months:

- Actual claims incurred after 6 months: CU 260 (expected to be paid in August 2018)
- Expected claims between month 6 and 12: CU 350
- For illustrative purpose, the calculations for GM does not distinguish between incurred vs future claims.

P&L after 6 months:

- Under GM:

Components of the insurance revenue	
Release in CSM	127.5
Expected claims	350.0
Directly attributable expenses	12.0
Release in RA (21.0 – 18.3)	2.7
Total	**492.2**

Components of the insurance service expense	
Actual claims	260
Directly attributable expenses	12.0
Total	272.0

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Applying the models after 6 months

Comparison of the approaches after SIX months				
All amounts in CU	**GM**	**PAA**		
		LRC	***LIC***	**Total PAA liability**
Expected cash outflows 260 + 350 (700 / 2)	610.0		*260.0*	
Risk adjustment *3% of expected cash outflows*	18.3		*7.8*	
Contractual service margin *(255 / 2)*	127.5			
DAAC *(24 / 2)*	in CSM	*-12*		
Unearned Premium		*500*		
Carrying Amount	**755.8**	***488***	***267.8***	**755.8**

- Under GM, the insurance service result = insurance revenue (492.2) – insurance service expense (272.0) = 220.2
- Under PAA, the insurance service result = 488 (change in LRC) – 267.8 (change in LIC) = 220.2

Key features of the Variable Fee Approach ("VFA")

Insurance contracts with direct participation features may be regarded as creating an obligation to pay policyholders an amount that is equal to the fair value of the underlying items, less a variable fee for service. Consequently, these contracts provide investment-related services which are integrated with insurance coverage.

Source: IFRS Foundation. IFRS 17 Insurance Contracts. Effects Analysis. May 2017, page 17

01 The VFA is introduced for the measurement of contracts with direct participation features to better reflect the linkage between the fulfilment cash flows and the fair value of the underlying items.

02 An entity shall assess the VFA eligibility at inception and shall not reassess subsequently.

03 "Substantial" will be subject to judgment. Products with the same economic value may have different accounting results using different measurement models.

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Application criteria for the VFA

Insurance contracts with direct participation features are insurance contracts that are substantially investment-related service contracts under which an entity promises an investment return based on underlying items. Hence, they are defined as insurance contracts for which:

a) the contractual terms* specify that the policyholder participates in a share of a clearly identified pool of underlying items (see paragraphs B105–B106);

b) the entity expects to pay to the policyholder an amount equal to a substantial share of the fair value returns on the underlying items (see paragraph B107); and

c) the entity expects a substantial proportion of any change in the amounts to be paid to the policyholder to vary with the change in fair value of the underlying items (see paragraph B107).

Source: P B101

** Contractual terms include all terms in a contract, explicit or implicit, but an entity shall disregard terms that have no commercial substance.*

Source: P 2

Definition of the variable fee

A variable fee (see paragraphs B110–B118) that the entity will deduct from (a) [the fair value of the underlying items] in exchange for the future service provided by the insurance contract, comprising:

i. the entity's share of the fair value of the underlying items; less

ii. fulfilment cash flows that do not vary based on the returns on underlying items.

Source: P B104(b)

The Variable Fee Approach in relation to the GM:

a) For the VFA, the CSM is updated to reflect changes in the amount of the variable fee, including those related to changes in discount rates and other financial variables.

b) For the GM, the CSM is updated to reflect changes in cash flows related to future coverage and accreted using locked-in interest rates.

Source: IFRS Foundation. IFRS 17 Insurance Contracts. Effects Analysis. May 2017, page 18 & 87

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The VFA at inception

On initial recognition, an entity shall measure a group of insurance contracts at the total of:

a) the fulfilment cash flows, which comprise:

   i. estimates of future cash flows (paragraphs 33–35);

   ii. an adjustment to reflect the time value of money and the financial risks related to the future cash flows, to the extent that the financial risks are not included in the estimates of the future cash flows (paragraph 36); and

   iii. a risk adjustment for non-financial risk (paragraph 37).

b) the contractual service margin, measured applying paragraphs 38–39.

Source: P 32

The general accounting model and the variable fee approach measure the fulfilment cash flows in the same way. At initial recognition, there is no difference between the contractual service margin determined applying the general accounting model and that determined applying the variable fee approach.

Source: IFRS Foundation. IFRS 17 Insurance Contracts. Effects Analysis. May 2017, page 17

The VFA at subsequent measurement

For insurance contracts with direct participation features (see paragraphs B101–B118), the carrying amount of the contractual service margin of a group of contracts at the end of the reporting period equals the carrying amount at the start of the reporting period adjusted for the amounts specified in subparagraphs (a)–(e) below.

[However, only the adjustments that are different from insurance contracts without direct participation features are listed here]

The adjustments are:

b) the entity's share of the change in the fair value of the underlying items (see paragraph B104(b)(i)), except to the extent that:

   i. paragraph B115 (on risk mitigation) applies;

   ii. the entity's share of a decrease in the fair value of the underlying items exceeds the carrying amount of the contractual service margin, giving rise to a loss (see paragraph 48); or

   iii. the entity's share of an increase in the fair value of the underlying items reverses the amount in (ii).

c) the changes in fulfilment cash flows relating to future service, as specified in paragraphs B101–B118, except to the extent that:

   i. paragraph B115 (on risk mitigation) applies;

   ii. such increases in the fulfilment cash flows exceed the carrying amount of the contractual service margin, giving rise to a loss (see paragraph 48); or

   iii. such decreases in the fulfilment cash flows are allocated to the loss component of the liability for remaining coverage applying paragraph 50(b).

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Source: P 45

The modified General Accounting Model at inception
Indirect participating contracts

The terms of some insurance contracts without direct participation features give an entity discretion over the cash flows to be paid to policyholders.

- A change in the discretionary cash flows is regarded as relating to future service, and accordingly adjusts the contractual service margin.
- To determine how to identify a change in discretionary cash flows, an entity shall specify at inception of the contract the basis on which it expects to determine its commitment under the contract;
  - for example, based on a fixed interest rate, or on returns that vary based on specified asset returns.

Source: P B98

Paragraph 71(c) further clarifies that for investment contracts with discretionary participation features, the CSM is to be recognised over the duration of the group of contracts in a systematic way that reflects the transfer of investment services under the contract.

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The modified GM
If discretion and commitment is not definable

If an entity cannot specify at inception of the contract what it regards as its commitment under the contract and what it regards as discretionary,

- it shall regard its commitment to be the return implicit in the estimate of the fulfilment cash flows at inception of the contract, updated to reflect current assumptions that relate to financial risk.

Source: P B100

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The modified GM at inception

On initial recognition, an entity shall measure a group of insurance contracts at the total of:

a) the fulfilment cash flows, which comprise:

   i. estimates of future cash flows (paragraphs 33–35);

   ii. an adjustment to reflect the time value of money and the financial risks related to the future cash flows, to the extent that the financial risks are not included in the estimates of the future cash flows (paragraph 36); and

   iii. a risk adjustment for non-financial risk (paragraph 37).

b) the contractual service margin, measured applying paragraphs 38–39.

Source: P 32

The general accounting model and the modified general accounting model measure the fulfilment cash flows in the same way. At initial recognition, there is no difference between the contractual service margin determined applying the general accounting model and that determined applying the modified general accounting model.

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The modified GM at subsequent measurement

For insurance contracts without direct participation features, paragraph 44(c) requires an adjustment to the contractual service margin of a group of insurance contracts for changes in fulfilment cash flows that relate to future service. These changes comprise:

a) experience adjustments arising from premiums received in the period that relate to future service, and related cash flows such as insurance acquisition cash flows and premium-based taxes, measured at the discount rates specified in paragraph B72(c);

b) changes in estimates of the present value of the future cash flows in the liability for remaining coverage, except those described in paragraph B97(a), measured at the discount rates specified in paragraph B72(c);

c) differences between any investment component expected to become payable in the period and the actual investment component that becomes payable in the period, measured at the discount rates specified in paragraph B72(c); and

d) changes in the risk adjustment for non-financial risk that relate to future service.

Source: P B96