

Financial accounting module 21: IFRS 17 Measurement principles

(The attached PDF file has better formatting.)

Financial accounting module 21: IFRS 17 Measurement principles	1
IFRS 17 Measurement approaches	1
General measurement model	2
Future cash flows: market consistent, current, unbiased, explicit	3
Future service, current service, and past service.	4
Changes in claim estimates.	5
Changes in market interest rates.	5
Insurance contract liability	6
Investment components	7

The final exam problems test the general measurement model; you are not responsible for the variable fee approach, investment components, or the end-notes in this posting (which cite the text of IFRS 17). This posting is introductory; it has only brief illustrations. The final exam problems for IFRS 17 are based on the postings which show full illustrations.

IFRS 17 MEASUREMENT APPROACHES

IFRS 17 has three ways to measure insurance contracts:

- ! the general requirements in IFRS 17 (building block approach or general measurement approach)¹
- ! the premium allocation approach (a simplified method for certain short duration contracts)
- ! the variable fee approach (for contracts with direct participation features)

This section summarizes important features of the general measurement model and gives simple illustrations.

The premium allocation approach is a simplified model and requires few changes from current practices. It may be used (at the option of the insurer) if the coverage period of each contract in the group is one year or less.² Many general insurance contracts, general reinsurance contracts, and group insurance contracts are likely to be measured by the premium allocation approach.

The variable fee approach is used for equity-linked policies, unit-linked policies, segregated fund policies, universal life policies, variable life policies, variable annuities, and similar contracts. The policyholder receives the fair value of the underlying assets, minus the insurer's variable fee for the sum of administrative expenses, financial guarantees (such as guaranteed minimum death benefits and maturity benefits), risk adjustments for non-financial risk, and acquisition expenses.

The variable fee approach differs from the general measurement model in that

- ! For the general measurement model:
 - " The fulfilment cash flows are the present value of future cash flows at risk-free discount rates (if the cash flows do not depend on the expected returns from underlying assets) or at the expected returns on the underlying assets.
 - " The contractual service margin accretes interest each year at the risk-free discount rate determined at initial recognition.
 - " The insurance finance income or expense is the change in the value of the fulfilment cash flows and of the contractual service margin from the time value of money and changes in discount rates.
- ! For the variable fee approach:
 - " The fulfilment cash flows are the underlying assets minus the insurer's variable fee.

- " Changes in the insurer's share of the underlying assets take the place of accretion of interest on the contractual service margin.
- " The insurance finance income or expense is the change in the fair value of the underlying assets.

Most other elements of the variable fee approach are like those of the general measurement model.

GENERAL MEASUREMENT MODEL

This section reviews the principles of the general measurement model; numerical illustrations are provided in other postings. The general requirements in IFRS 17 (the general measurement model or the building block approach) builds the insurance contract liability from four parts:³

- ! a probability distribution of future cash flows
- ! discount rates for the time value of money and financial risk
- ! a risk adjustment for non-financial risk
- ! a contractual service margin reflecting the unearned profit in the insurance contracts

The first three items above form the fulfilment cash flows.⁴

The *fulfilment cash flows* are a risk adjusted present value of the future cash flows:

- ! the mean of the probability distribution of future cash flows
- ! brought to present value (adjusted for the time value of money)
- ! plus a risk adjustment for non-financial risk.

The fulfilment cash flows do not include the contractual service margin, which reflects the unearned profit in the insurance contract, not the cash flows for claims and expenses.⁵

The *insurance contract liability* equals the fulfilment cash flows plus the contractual service margin. IFRS 17 refers to the insurance contract liability as the *carrying amount of the liability* or the *carrying amount of the insurance contracts*, consisting of two parts: the *liability for remaining coverage* and the *liability for incurred claims*.⁶

IFRS 17 paragraph 32 says (sentences re-ordered for clarity):

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

- (a) the fulfilment cash flows ...*
- (b) the contractual service margin.*

... the fulfilment cash flows ... comprise:

- (i) estimates of future cash flows ...*
- (ii) an adjustment to reflect the time value of money and financial risks related to the future cash flows ...*
- (iii) a risk adjustment for non-financial risk ...*

The liability for remaining coverage is the liability for claims that have not yet occurred; the liability for incurred claims is the liability for claims that have already occurred.⁷

The "adjustment to reflect the time value of money and financial risks" is the discount rate to convert nominal values to present values.

- ! The discount rate reflects the time value of money and financial risks.
- ! Changes in the discount rate reflect changes in financial assumptions.

The effect of the discount rate is insurance finance income or expense that is recognized in profit or loss each year. The effect of change in the discount rate is insurance finance income or expense that is recognized in profit or loss or in other comprehensive income, depending on the accounting policy choices of the insurer.

IFRS 17 requires insurance expenses to be divided between⁸

- ! *insurance finance income or expense*: the change in the present value of future cash flows (part of the fulfilment cash flows) for the time value of money and changes in the discount rate, and the accretion of interest on the contractual service margin (the unearned profit in the insurance contracts).
- ! *insurance service expense*: the occurrence of claims and other expenses, such as acquisition expenses and claim adjusting expenses.

Illustration: On January 1, 20X1, the present value of future cash flows is 100, the contractual service margin is 15, and the discount rate is 6% and does not change in 20X1. A claim of 40 occurs on December 31, 20X1, and the amortized acquisition expenses in 20X1 are 10.

- ! The insurance finance expense can be computed as the accretion of interest (since the discount rate does not change), or $6\% \times (100 + 15) = 6.90$.
- ! The insurance service expenses are $40 + 10 = 50$.

The amortized acquisition expenses are not the same as the acquisition cash flows.⁹ If the coverage period for this illustration is one year and

- ! If the acquisition cash flows are paid at the end of the year (December 31, 20X1), the insurance service expenses are $40 + 10 = 50$.
- ! If the acquisition cash flows are paid at the beginning of the year (January 1, 20X1) and amortized to the end of the year, the insurance service expenses are $40 + 10 \times 1.06 = 50.60$.

Future cash flows: market consistent, current, unbiased, explicit

The fulfilment cash flows include the present value of future cash flows. The estimates of future cash flows should be current, unbiased, and explicit. Non-market variables should reflect the perspective of the insurer; market variables should be consistent with market values.¹⁰

Market consistent: Market variables, such as discount rates and the expected returns on specified pools of assets, must be *consistent with current market data*.¹¹ The yield curve for insurance cash flows, the liquidity adjustments for these cash flows, and the effects of maturity on the yields should be supported by observed market prices.¹² Mortality rates, accident frequencies, accident severities, and other underwriting estimates are not observed in active markets and are based on the insurer's perspective, not on market values.

IFRS 17 allows several methods to compute discount rates, such as bottom-up or top-down methods. The risk-free interest rates for a bottom-up method may be derived from government bonds, credit default swaps, or other market values. The reference portfolio for a top-down method may be the insurer's own investment portfolio, expected bond yields, or other market indices. But given the chosen method, the insurer's estimate must be consistent with market data.¹³

Insurer's perspective: Estimates of non-market variables, such as mortality rates, morbidity rates, lapse rates, accident frequency, accident severity, mortality improvement, and trend rates, should reflect the insurer's perspective, not that of market participants. Interest rates and inflation rates are correlated, so claim inflation rates should be consistent with market interest rates, even if they are not themselves market variables.¹⁴ Insurers project future cash flows from both internal experience and national data compilations (mortality tables).¹⁵ The internal experience is generally more detailed, with claim frequency refined by attributes of the policyholder, such as medical history, education, credit rating, and parents' ages at death. National data

compilations are often more credible, particularly for small insurers or small risk classifications. But insurers using industry data (mortality tables or rating bureau statistics) often adjust them for their own underwriting characteristics, accident trends, and mortality improvement.¹⁶

IFRS 13, *Fair Value Measurement*, uses the perspective of market participants, not the perspective of the reporting entity. Fair value is the market value, not the value to the reporting entity. The IFRS 17 measurement approach is not a fair value model. IFRS 17, *Basis for Conclusions*, paragraph BC17, explains that

The Board developed this approach rather than a fair value model. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date... Such an approach places too much emphasis on hypothetical transactions that rarely happen. Therefore, IFRS 17 requires an entity to measure insurance contracts in a way that reflects the fact that entities generally fulfil insurance contracts directly over time by providing services to policyholders, rather than by transferring the contracts to a third party.

IFRS 17 does not apply the term fair value to insurance contracts or insurance claims, since these contracts and claims are not traded and the unearned profit on insurance contracts is not recognized until it is earned. The fair value of future claims is unknown, as no market for the claims exists. Rather, IFRS 17 combines a fair value-type model for the fulfilment cash flows based on the insurer's best estimates (for claims and the risk adjustment for non-financial risk) and market consistent figures for market variables (like discount rates). The contractual service margin defers income until insurance services are provided, so investors see the insurer's estimate of unearned profit at initial recognition on the statement of financial position but the statement of profit or loss shows only the earned profit.

Current: Assumptions for mortality, morbidity, lapses, accident frequency, average severity, loss cost trends, and similar items are updated at each valuation date using current data. Changes in assumptions, such as estimates of future cash flows or of current interest rates, affect the fulfilment cash flows.¹⁷ Current assumptions include estimates of future changes, such as mortality improvement for life insurance contracts and future loss cost trends for general insurance contracts.¹⁸

Future service, current service, and past service

Changes in the fulfilment cash flows may relate to future service, current service, or past service:

- ! Changes in the fulfilment cash flows relating to claims that have not yet occurred (future services) are offset by opposite changes in the contractual service margin and do not directly affect profit or loss (unless the contracts are onerous). The fulfilment cash flows relating to future service plus the contractual service margin is the liability for remaining coverage.¹⁹
- ! Changes in the fulfilment cash flows relating to claims that occur in the current year (current services) or that occurred in past years (past services) are recognized immediately in profit or loss; they are not offset by changes in the contractual service margin. The fulfilment cash flows relating to past service and current service is the liability for incurred claims.²⁰

The discount rate is the current (market) rate, the rate determined at initial recognition, or the rate determined when the claim occurs:

- ! The discount rate for *future cash flows* is the current market rate; it is **not** locked in at initial recognition.²¹ The current discount rate applies to all claims for the general measurement model and to incurred claims for the premium allocation approach.
- ! The discount rate for accretion of interest on the contractual service margin is the rate determined at initial recognition of the insurance contracts, not the current discount rate.²² The discount rate for the present value of changes in future cash flows affecting the contractual service margin is also the discount rate determined at initial recognition, not the current discount rate used for the fulfilment cash flows, so the change in the contractual service margin may not exactly offset the change in the fulfilment cash flows.²³

- ! The discount rate for *future claims (liability for remaining coverage) for the premium allocation approach* is the rate determined at initial recognition.²⁴

Changes in claim estimates

Illustration: On December 31, 20X1, an insurance contract that is not onerous has

- ! one claim that occurred in 20X1 for an expected payment of 100
- ! one claim expected to occur in 20X2 for a payment of 100
- ! one claim expected to occur in 20X3 for a payment of 100

On December 31, 20X2, the 20X2 claim occurs and is paid for 80. The insurer revises the expected payment of the 20X1 claim to 80 and of the 20X3 claim to 80. For simplicity, the discount rate is 0% *per annum*.

- ! The change for the 20X1 claim relates to past service (the liability for incurred claims) and is reported as profit of $100 - 80 = 20$ in the statement of profit or loss.
- ! The change for the 20X2 claim relates to current service (an experience adjustment) and is reported as profit of $100 - 80 = 20$ in the statement of profit or loss.
- ! The change for the 20X3 claim relates to future service (the liability for remaining coverage) and is reported as a reduction of $100 - 80 = 20$ in the fulfilment cash flows and as an increase of $100 - 80 = 20$ in the contractual service margin, with no direct effect on the statement of profit or loss. However, the increase in the contractual service margin causes a higher allocation of the contractual service margin to 20X2 (as well as to subsequent years). If the coverage period has four years remaining after December 31, 20X2, with equal coverage units in each year, the 20X2 profit or loss increases by $20 / (4 + 1) = 4$.

The effects of a change in each claim from 100 to 120 are similar. For past service and current service, the insurer reports a loss of 20 in the statement of profit or loss. For future service, if the insurance contracts do not become onerous, the fulfilment cash flows increase 20, the contractual service margin decreases 20, and the allocation of the contractual service margin to profit or loss for 20X2 decreases $20 / (4 + 1) = 5$. If the insurance contracts become onerous, the fulfilment cash flows increase 20, the contractual service margin decreases to zero, and the remaining increase in the fulfilment cash flows is reported as a loss in profit or loss.

Changes in market interest rates

Changes in market interest rates cause insurance finance income or expense for insurance contracts in-force and for unpaid claims. The insurer has a accounting policy choice whether to recognize all insurance finance income or expense in profit or loss or to dis-aggregate the insurance finance income or expense between profit or loss and other comprehensive income. The discount rate to determine the expense recognized in profit or loss if the insurer chooses to dis-aggregate insurance finance income or expense between profit or loss and other comprehensive income is

- ! the rate determined at initial recognition for insurance contracts using the general measurement model and for which investment yields do **not** materially affect the payments to policyholders²⁵
- ! the rate determined when the claim occurs for *incurred claims under the premium allocation approach*.²⁶

For insurance contracts using the general measurement model and for which the returns on specified pools of assets substantially affect the payments to policyholders, an insurer that dis-aggregates insurance finance income or expense between profit or loss and other comprehensive income uses the constant rate method or the projected crediting rate approach to determine the expense recognized in profit or loss.²⁷

Illustration: Insurance contracts issued on January 1, 20X1, have expected claims of 100 on December 31, 20X3. The discount rate is 6% at initial recognition and 5% at December 31, 20X1. The present value of future cash flows is $100 / 1.06^3 = 83.96$ on January 1, 20X1, and $100 / 1.05^2 = 90.70$ on December 31, 20X1, so the insurance finance expense for 20X1 is $100 \times (1.05^{-2} - 1.06^{-3}) = 6.74 = 90.70 - 83.96$. If the insurer chooses

to dis-aggregate the insurance finance expense between profit or loss and other comprehensive income, the 20X1 profit or loss for this expense is $-6\% \times 83.96 = -5.04$ (or $100 \times (1.06^{-3} - 1.06^{-2}) = -5.04$) and the other comprehensive income for 20X1 is $-6.72 - 5.04 = -1.68$.

Unbiased: The estimate of future cash flows is the mean of the probability distribution; conservative estimates and ranges of estimates are not used. IFRS 17 has no provisions for adverse deviation; all estimates are the means of the probability distributions.²⁸ Unbiased estimates are neither conservative nor optimistic.²⁹

Illustration: Suppose the future cash flows are uncertain, with present values of

- ! the most likely value = 100
- ! the median = 110
- ! the probability weighted mean = 125

The insurer is risk averse and values the uncertain future cash flows like a fixed cash flow with a present value of 135. The estimated future cash flow is 125, and the risk adjustment for non-financial risk is $135 - 125 = 10$.

Explicit: Insurers should explicitly estimate the probability distribution of future cash flows, the term structure of interest rates appropriate for the insurance contract cash flows, and the risk adjustment for non-financial risk. They may not use conservative claim estimates or a lower discount rate in lieu of the risk adjustment for non-financial risk, as is done in some other accounting systems.³⁰

Insurance contract liability

At initial recognition, the insurer sets up for each group of insurance contracts:

- ! liabilities (reserves) for the future claim payments (future cash outflows)
- ! the risk adjustment for non-financial risk
- ! the contractual service margin

The reserves for future claim payments + the risk adjustment for non-financial risk + the contractual service margin = the insurance contract liability. The insurance contract liability combines policy reserves, claim reserves, premium reserves, the risk adjustment for non-financial risk, and the contractual service margin.³¹ The technical reserves (as used in Solvency II) are the present value of the future claim payments, to which a (fair value) cost of capital risk margin is added.³²

The insurance contract liability decreases each year for insurance services provided, release of risk margins, and allocation of the contractual service margin to profit or loss. If the insurance contracts are onerous, the liability for remaining coverage is divided between the liability for remaining coverage excluding the loss component and the loss component of the liability for remaining coverage.

Insurers collect premiums before paying claims. After the premium is received, they have net liabilities for expected claims, expenses, and benefits. Long-term life insurance contracts with initial premiums below the acquisition cash flows may have a net asset the first year. IFRS 17 paragraph 40 divides the insurance contract liability into:³³

- ! The *liability for remaining coverage* is the part of the insurance contract liability for claims that have not yet occurred (coverage that has not yet been provided), comprising
 - " Future cash outflows for claims (and other expenses) that have not yet occurred
 - " A risk adjustment for non-financial risk related to these claims
 - " The contractual service margin
- ! The *liability for incurred claims* is the part of the insurance contract liability for claims that have occurred (coverage has been provided) even if they have not yet been paid, comprising
 - " Future cash outflows for claims (and other expenses) that have already occurred

- " A risk adjustment for non-financial risk related to these claims

The liability for incurred claims has no contractual service margin. Insurance services are provided during the coverage period, not the claim settlement period. The profit embedded in the insurance contract is earned over the coverage period, so the unearned profit is zero at the end of the coverage period.

Investment components

Some payments to policyholders do not depend on the occurrence of an insured event, such as a death or an accident. An "investment component" is an amount that the insurer must pay a policyholder even if an insured event does not occur, such as maturity benefits on an endowment or withdrawals from permanent life insurance account balances.³⁴

Distinct investment components are separated from the insurance contracts and are reported in accordance with IFRS 9 (financial investments), not IFRS 17.³⁵ An investment component is "distinct" if it is not highly inter-related with the insurance component. The two components are highly inter-related if the insurer measures one component only by considering the other or if the benefits from one component depend on the presence of the other component.³⁶

Illustration: An insurer provides both permanent life insurance and investment management services. If the insurance services and the investment management services are not related, even though they are in the same contract, they are accounted for separately.

Most investment components provided to policyholders are highly inter-related with the insurance contracts. Maturity values depend on the policyholder account balances after deduction for the cost of insurance in the insurer's annual fee. These investment components are not separated from the insurance contracts and are accounted for under IFRS 17, but they are not insurance revenue or insurance service expenses.

The present value of the investment component is part of the insurance contract liability until the claim occurs or the investment component is paid,³⁷ and the change in the present value of the investment component for the time value of money is included in the insurance finance expense. The investment component is determined when the claim occurs as the amount that would have been paid even if the insured event did not occur. Present values of investment components are not estimated at initial recognition or when premium is received.³⁸

End-notes:

¹ The term "general requirements in IFRS 17" is used in IFRS 17 *Basis for Conclusions* paragraphs BC30, BC86, BC118, BC259, BC291, BC301, and BC323. The term "building blocks" was used in the IFRS 4 Exposure Draft issued in 2013. It is not used in IFRS 17 itself, but it is used by accountants and actuaries for the general requirements in IFRS 17.

² See IFRS 17 paragraph 53(b). IFRS 17 paragraph 53(a) also allows the premium allocation approach if it produces a liability for remaining coverage that does not differ materially from that produced by the general measurement model.

³ The term *building block* is reflected in IFRS 17 *Basis for Conclusions* paragraph BC289, which refers to four components that must be explicitly identified to "*build the measurement* of the insurance contract, ie the estimate of future cash flows, the time value of money and the effects of risk...

(a) an estimate of the future cash flows...

(b) the effect of the time value of money and of financial risks...

- (c) the effect of non-financial risk...
- (d) a contractual service margin....”

⁴ See IFRS 17 paragraph 32: “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 ...
- (ii) an adjustment to reflect the time value of money and financial risks related to the future cash flows ...
- (iii) a risk adjustment for non-financial risk ...

(b) the contractual service margin ...”

⁵ See IFRS 17 paragraph IN6(d), which says that the IFRS 17 approach

“... measures groups of insurance contracts at:

- (i) a risk-adjusted present value of the future cash flows (the fulfilment cash flows) ...
- (ii) an amount representing the unearned profit in the group of contracts (the contractual service margin).”

⁶ See IFRS 17 paragraph 40: “The carrying amount of a group of insurance contracts ... shall be the sum of:

(a) the liability for remaining coverage comprising:

- (i) the fulfilment cash flows related to future service ...
- (ii) the contractual service margin ... and

(b) the liability for incurred claims, comprising the fulfilment cash flows related to past service ...”

⁷ The liability for remaining coverage is called policy reserves or unearned premium reserves in other accounting systems; the liability for incurred claims is called claim reserves or loss reserves in other accounting systems.

⁸ See IFRS 17 paragraph IN5(b), which says that the IFRS 17 approach “presents insurance service results ... separately from insurance finance income or expenses.”

⁹ The amortization and allocation procedures for insurance acquisition cash flows are explained in the posting on acquisition cash flows.

¹⁰ See IFRS 17 paragraph 33: “... The estimates of future cash flows shall:

- (a) incorporate, in an unbiased way, all reasonable and supportable information ... an entity shall estimate the expected value (ie the probability-weighted mean) of the full range of possible outcomes.
- (b) reflect the perspective of the entity, provided that the estimates of any relevant market variables are consistent with observable market prices
- (c) be current – the estimates shall reflect conditions existing at the measurement date, including assumptions at that date about the future
- (d) be explicit —the entity shall estimate the adjustment for non-financial risk separately from the other estimates ... The entity also shall estimate the cash flows separately from the adjustment for the time value of money and financial risk...”

¹¹ See IFRS 17 paragraph B42(a): “market variables [are] variables that can be observed in, or derived directly from, markets (for example, prices of publicly traded securities and interest rates).”

¹² See IFRS 17 paragraph B44: “Estimates of market variables shall be consistent with observable market prices at the measurement date. An entity shall maximise the use of observable inputs and shall not substitute its own estimates for observable market data ...” and IFRS 17 paragraph B51: “Estimated probabilities for non-market variables shall not contradict observable market variables. For example, estimated probabilities for future inflation rate scenarios shall be as consistent as possible with probabilities implied by market interest rates.”

¹³ See IFRS 17 *Basis for Conclusions* paragraph BC154: “... (a) an entity is required to use observable current market variables, such as interest rates, as direct inputs without adjustment when possible; and (b) when variables cannot be observed in, or derived directly from, market prices, the estimates should not contradict current market variables. For example, estimated probabilities for inflation scenarios should not contradict probabilities implied by market interest rates.” See also IFRS 17 *Basis for Conclusions* paragraph BC192: “IFRS 17 requires entities to discount cash flows using current, market-consistent discount rates that reflect the time value of money, the characteristics of the cash flows and the liquidity characteristics of the insurance contracts.”

¹⁴ See IFRS 17 *Basis for Conclusions* paragraph BC154(b): “... when variables cannot be observed in, or derived directly from, market prices, the estimates should not contradict current market variables. For example, estimated probabilities for inflation scenarios should not contradict probabilities implied by market interest rates..”

¹⁵ See IFRS 17 paragraph B50: “... an entity that issues life insurance contracts shall not rely solely on national mortality statistics, but shall consider all other ... internal and external sources of information ... when developing unbiased estimates of probabilities for mortality ... an entity shall give more weight to the more persuasive information ... internal mortality statistics may be more persuasive than national mortality data if national data is derived from a large population that is not representative of the insured population. ... if the internal statistics are derived from a small population with characteristics that are believed to be close to those of the national population, and the national statistics are current, an entity shall place more weight on the national statistics.”

¹⁶ Some other insurance accounting systems prescribe mortality tables or morbidity rates and do not permit insurer-specific adjustments.

¹⁷ See IFRS 17 paragraph 33(c): “The estimates of future cash flows shall ... be current – the estimates shall reflect conditions existing at the measurement date, including assumptions at that date about the future ...” IFRS 17 paragraph B54 explains that the insurer “shall review the estimates that it made at the end of the previous reporting period and update them.” In contrast, U.S. GAAP requires certain assumptions for long duration contracts to be *locked-in* at initial recognition and changed only if the contract becomes onerous.

¹⁸ See IFRS 17 paragraph B58: “Estimates of non-market variables shall include information about the current level of insured events and information about trends. For example, mortality rates have consistently declined over long periods in many countries,” and IFRS 17 paragraph B59: “if cash flows ... are sensitive to inflation, the determination of the fulfilment cash flows shall reflect current estimates of possible future inflation rates.” Current assumptions do not include expectations about future legislation affecting insurance contract cash flows until the legislation is substantially enacted; see IFRS 17 paragraph B60: “an entity shall not take into account current expectations of future changes in legislation that would change or discharge the present obligation or create new obligations under the existing insurance contract until the change in legislation is substantively enacted.”

¹⁹ See IFRS 17 paragraph 40(a).

²⁰ See IFRS 17 paragraph 40(b).

²¹ See IFRS 17 paragraph B72(a).

²² See IFRS 17 paragraph B72(b), which says that the discount rate to determine the interest to accrete on the contractual service margin ... [is the] discount rate determined at the date of initial recognition. IFRS 17 *Basis for Conclusions* paragraph BC273 explains: "Because the contractual service margin is measured at initial recognition of the group of insurance contracts ... the interest rate used to accrete interest on the contractual service margin for insurance contracts without direct participation features should be locked in at initial recognition and not adjusted subsequently. ... Locking in the rate is consistent with the determination of the contractual service margin on initial recognition and making no adjustments for changes in assumptions relating to financial risk." See also IFRS 17 *Basis for Conclusions* paragraph BC274: "... accreting interest on the contractual service margin for an accounting period at a current rate differs from measuring cash flows at a current rate. The contractual service margin does not represent future cash flows; it represents the unearned profit in the contract, measured at the point of initial recognition and adjusted only for specified amounts. ... the contractual service margin is not adjusted (remeasured) for changes in interest rates ... Accreting interest for a period at a current rate without also remeasuring the contractual service margin at the start of the period would create an internally inconsistent measurement of the contractual service margin."

²³ See IFRS 17 paragraph B72(c), which applies to changes in the contractual service margin for insurance contracts without direct participation features. For insurance contracts whose payments to policyholders depend on the expected return from a specified pool of assets, the discount rate for the accretion of interest on the contractual service margin is the expected return on that specified pool of assets determined at initial recognition; see IFRS 17 *Illustrative Examples* #6.

²⁴ See IFRS 17 paragraph 72(d): "for groups of contracts applying the premium allocation approach that have a significant financing component, to adjust the carrying amount of the liability for remaining coverage ... [the] discount rate ... [is the rate] determined on initial recognition...."

²⁵ See IFRS 17 paragraph B72(e)(i): "for groups of insurance contracts for which changes in assumptions that relate to financial risk do not have a substantial effect on the amounts paid to policyholders ... discount rates determined at the date of initial recognition."

²⁶ See IFRS 17 paragraph B72(e)(iii): "if an entity chooses to disaggregate insurance finance income or expenses between profit or loss and other comprehensive income ... to determine the amount of the insurance finance income or expenses included in profit or loss ... for groups of contracts applying the premium allocation approach ... discount rates determined at the date of the incurred claim ..." The discount rate for total insurance finance expenses on the liability for incurred claims is the current risk-free rate. IFRS 17 paragraph B72(d), which sets the discount rate for the premium allocation approach as the rate determined at initial recognition, refers to the liability for remaining coverage only. The chapter on the premium allocation approach explains when to use each of these rates: the current rate, the rate determined at initial recognition, and the rate when the claim occurs.

²⁷ See IFRS 17 paragraph B72(e)(ii): "for groups of insurance contracts for which changes in assumptions that relate to financial risk have a substantial effect on the amounts paid to policyholders ... discount rates that allocate the remaining revised expected finance income or expenses over the remaining duration of the group of contracts at a constant rate." IFRS 17 *Illustrative Examples* #15A shows the constant rate approach; IFRS 17 *Illustrative Examples* #15B shows the projected crediting rate approach. The phrase "projected crediting rate" appears in the IFRS 17 *Basis for Conclusions* paragraph BC47 and the IFRS 17 *Illustrative Examples* #15B, not in the text of IFRS 17.

²⁸ IFRS 17 paragraph 33(b) explains unbiased as an "estimate the expected value (ie the probability-weighted mean) of the full range of possible outcomes." In contrast, the provisions for adverse deviation in regulatory accounting systems use conservative estimates. See Chandler (2017); Canadian Institute of Actuaries (2009); Actuarial Standards Board (2011).

²⁹ See IFRS 17 *Basis for Conclusions* paragraph BC149: "... because IFRS 17 sets the measurement requirement as the probability-weighted mean of the present value of the possible cash flows, when an entity determines that amount, estimates of the probabilities associated with each cash flow scenario should be unbiased. In other words, the estimates should not be biased by the intention of attaining a predetermined result or inducing particular behaviour. A lack of bias is important because biased financial reporting information cannot faithfully represent economic phenomena. A lack of bias requires that estimates of cash flows and the associated probabilities should be neither conservative nor optimistic."

³⁰ See IFRS 17 paragraph 33(d): "be explicit – the entity shall estimate the adjustment for non-financial risk separately from the other estimates ... The entity also shall estimate the cash flows separately from the adjustment for the time value of money and financial risk" IFRS 17 paragraph B90 adds: "The risk adjustment for non-financial risk shall be included in the measurement in an explicit way. The risk adjustment for non-financial risk is conceptually separate from the estimates of future cash flows and the discount rates that adjust those cash flows. The entity shall not double-count the risk adjustment for non-financial risk by, for example, also including the risk adjustment for non-financial risk implicitly when determining the estimates of future cash flows or the discount rates. The discount rates that are disclosed ... shall not include any implicit adjustments for non-financial risk." For a replicating portfolios of assets, whose cash flows match the cash flows of the insurance contracts, the fair value of the replicating portfolio may be used as the fulfilment cash flows for the insurance contracts, instead of explicit estimates of the cash flows and the discount rate; see IFRS 17 paragraph B46: "If a replicating portfolio of assets exists for some of the cash flows that arise from a group of insurance contracts, the entity can use the fair value of those assets to measure the relevant fulfilment cash flows instead of explicitly estimating the cash flows and discount rate." For insurance contracts with direct participation features that are measured by the variable fee approach, the fulfilment cash flows are the fair value of the underlying assets minus the variable fee, not the discounted values of future cash flows.

³¹ IFRS 17 uses the term *insurance contract liability*, not *claim reserves* or *policy reserves*.

³² Solvency II requires a cost of capital risk margin and prescribes how to compute it. The IFRS 17 risk adjustment for non-financial risk may also use a cost of capital method, though the method is not prescribed.

³³ IFRS 17 paragraph 40 uses the phrase "carrying amount of a group of insurance contracts," divided between the "carrying amount of the liability for remaining coverage" and the "carrying amount of the liability for incurred claims." The IFRS 17 *Basis for Conclusions*, the IFRS 17 *Effects Analysis*, and the IFRS 17 *Illustrative Examples* use the phrase "insurance contract liability." The IFRS 17 reconciliation exhibits have a three part division into (i) the liability for remaining coverage excluding the loss component; (ii) the loss component of the liability for remaining coverage, and (iii) the liability for incurred claims; see IFRS 17 paragraph 100 and IFRS 17 *Basis for Conclusions* paragraph BC350.

³⁴ IFRS 17 Appendix A, "Defined terms," says that an investment component is the "amounts that an insurance contract requires the entity to repay to a policyholder even if an insured event does not occur." IFRS 17 paragraph §IN4, notes that "... insurance contracts ... may include a significant investment component ..."

³⁵ See IFRS 17 paragraph IN6(b): "... an entity ... separates specified embedded derivatives, distinct investment components and distinct performance obligations from the insurance contracts" and IFRS 17 paragraph 11(b): "An entity shall ... separate from a host insurance contract an investment component if, and only if, that investment component is distinct ..."

³⁶ See IFRS 17 paragraph B32: "An investment component and an insurance component are highly interrelated if, and only if:

(a) the entity is unable to measure one component without considering the other. Thus, if the value of one component varies according to the value of the other, an entity shall apply IFRS 17 to account for the combined investment and insurance component; or

(b) the policyholder is unable to benefit from one component unless the other is also present. Thus, if the lapse or maturity of one component in a contract causes the lapse or maturity of the other, the entity shall apply IFRS 17 to account for the combined investment component and insurance component.”

³⁷ See IFRS 17 paragraph IN7(a)(ii): “... the liability often includes an investment component ...”

³⁸ Estimating the investment component vs the insurance component of future claims is time-consuming, and IFRS 17 does not burden insurers with this task. See IFRS 17 *Basis for Conclusions* paragraph 34: “the Board decided to identify the investment components only at the time revenue and incurred claims are recognised, and to exclude the amounts so identified,” and the discussion of investment components in IFRS 17 *Basis for Conclusions* paragraph 10.