2019 Casualty Loss Reserve Seminar

IFRS 17 – Is your Company on Its Way?

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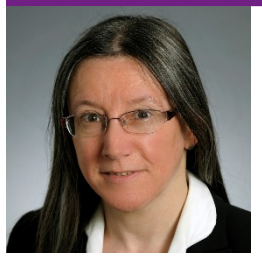
Presenter

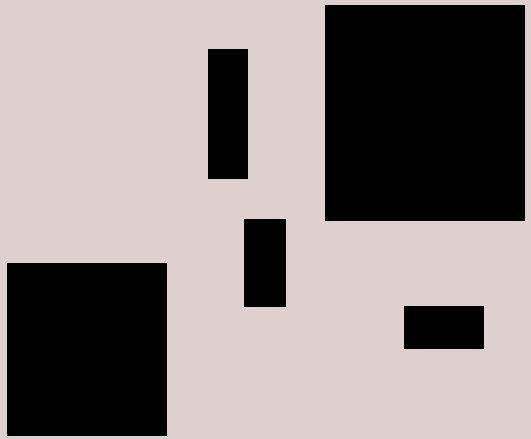
Moderator / Presenters	Background
 **Nathalie Begin** **FCAS, FCIA** **Director** **Willis Towers Watson** Toronto, ON 416.960.7429 nathalie.begin@willistowerswatson.com	■ Nathalie is a director with the Willis Towers Watson's Insurance Consulting & Technology practice. She specializes in Corporate Actuarial services, including reserving, Dynamic Capital Adequacy Testing and financial reporting. Nathalie is leading various initiatives regarding IFRS 17 developments and how they may affect our clients. She also has significant experience in pricing, including involvement in predictive modeling initiatives. ■ She is a Fellow of the Canadian Institute of Actuaries ("FCIA") and a Fellow of the Casualty Actuarial Society ("FCAS"). She has served on the CAS Examination Committee, Syllabus Committee and the CIA Continuing Education Committee where she was the Chair of the P&C Subcommittee. She currently sits on the Practice Education Course – Property & Casualty Working Group of the CIA and is a member of the Actuarial Standards Board. She has published a number of articles and is a regular speaker at actuarial and financial conferences.

Agenda

- IFRS 17 Overview of the discount rate - the theory
- Constructing the discount rate – Practically speaking
  - Bottom-up, top-down, and examples
  - Practical considerations
- Application considerations – How is the discount rate used in calculating the IFRS 17 liability?
- Key takeaways – Discount Rate
- Risk Adjustment

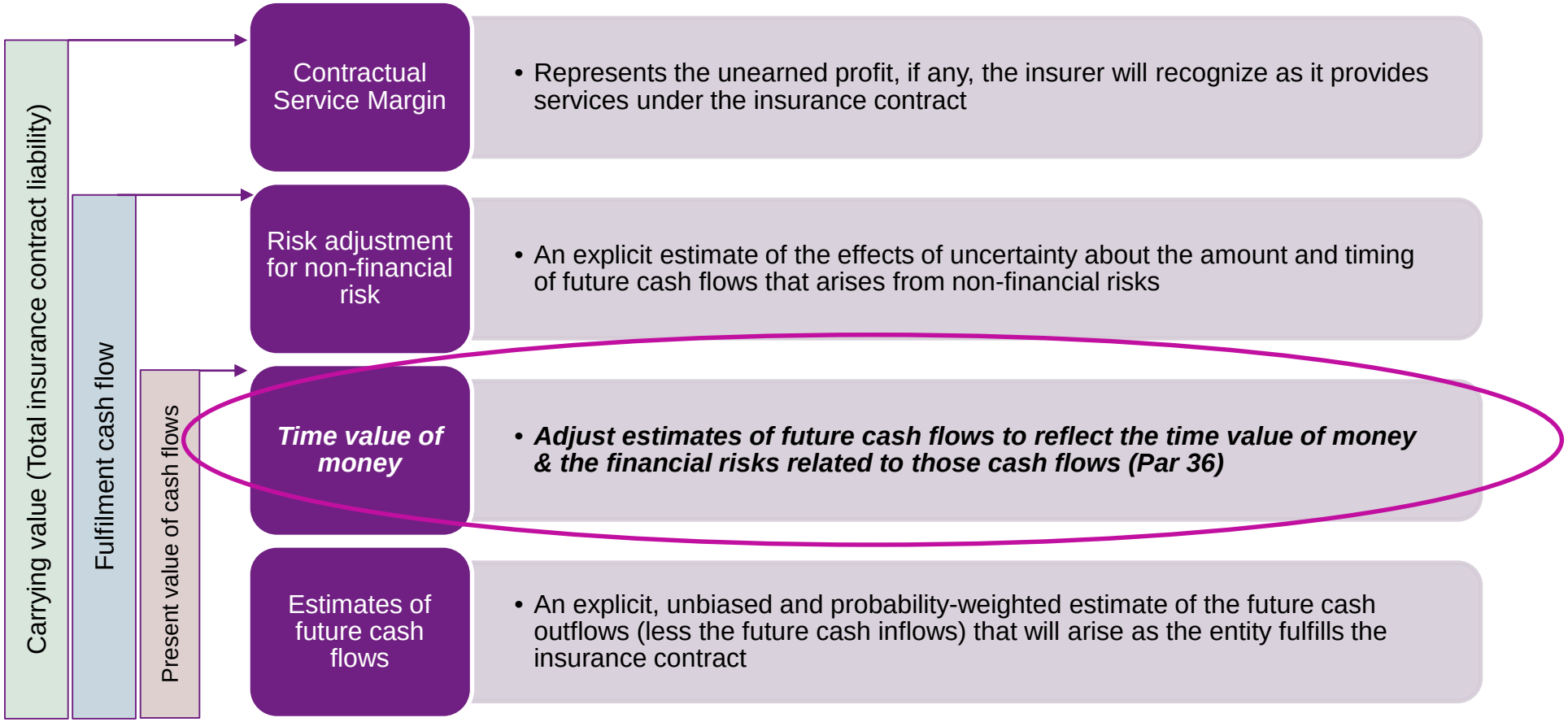
IFRS17 Standard – Overview of the discount rate

The theory



IFRS 17 Discount rates – Time value of money & financial risks

Insurance Contract Liability Measurement



IFRS 17 Standard – Discount rates

Guidance

Paragraph 36

Estimates of future cash flows shall be adjusted to reflect the time value of money and the financial risks related to those cash flows, to the extent that financial risks are not included in the cash flow estimates.

IFRS 17 Standard references:

- *Paragraph 36*
- *Appendix B - Application Guidance B72 – B85*
- *Basis for Conclusions BC185 – BC205*
- *Illustrative Examples*

B74 - Characteristics of Insurance Contract Cash Flows

Shall be consistent with other estimates used to measure insurance contracts to avoid double counting or omissions. Cash flows that do not vary based on the returns on any underlying items shall be discounted at rates that do not reflect any such variability, and vice versa.

B78 - Market Consistent

Be consistent with observable current market prices (if any) for financial instruments with consistent cash flow characteristics, in terms of, for example, timing, currency and liquidity.
Shall not contradict any available and relevant market data or observable market variables.

B79 – Liquidity Characteristics

Adjusted to reflect the liquidity characteristics of the insurance contracts. That (liquidity) adjustment shall reflect the difference between the liquidity characteristics of the insurance contracts and the liquidity characteristics of the assets used to determine the yield curve .

IFRS 17 Standard – Time Value of Money for Premium Allocation Approach

Guidance

Paragraph 59 (b)

…shall measure the liability for incurred claims for the group of insurance contracts at the fulfilment cash flows relating to incurred claims, applying paragraphs 33–37 and B36–B92. However, the entity is not required to adjust future cash flows for the time value of money and the effect of financial risk if those cash flows are expected to be paid or received in one year or less from the date the claims are incurred.

Paragraph 57 (b)

If at any time during the coverage period, facts and circumstances indicate that a group of insurance contracts is onerous, […] if, in applying paragraph 59(b), the entity does not adjust the liability for incurred claims for the time value of money and the effect of financial risk, it shall not include in the fulfilment cash flows any such adjustment.

Paragraph 56

[…] The entity is not required to adjust the carrying amount of the liability for remaining coverage to reflect the time value of money and the effect of financial risk if, at initial recognition, the entity expects that the time between providing each part of the coverage and the related premium due date is no more than a year..

IFRS 17 Standard references:

- *Paragraph 59, 56-57*
- *Appendix B - Application Guidance B72 – B85*
- *Basis for Conclusions BC185 – BC205*
- *Illustrative Examples*

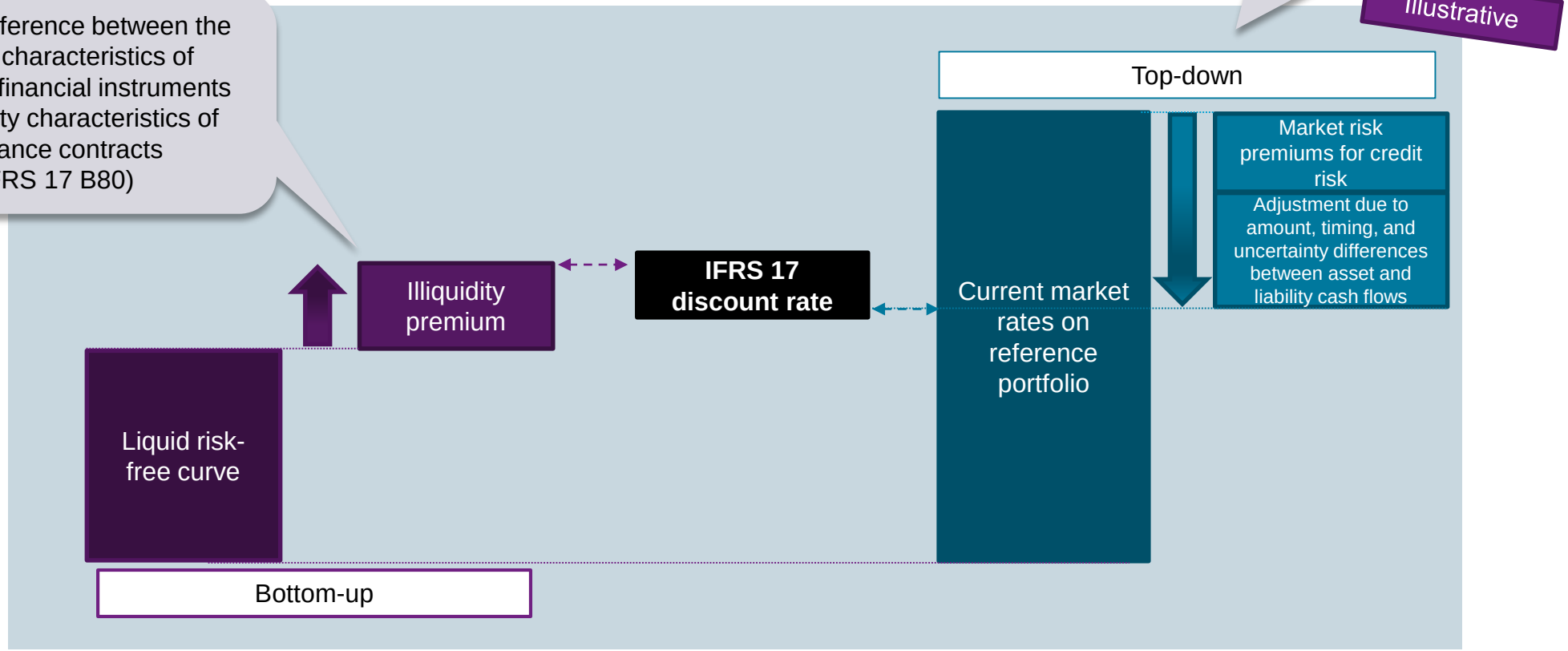
Estimating the discount rate

Bottom-up and Top-down approaches

Adjust current market rates of a reference portfolio of assets (IFRS 17 B81)

Illustrative

Reflects difference between the liquidity characteristics of underlying financial instruments and liquidity characteristics of insurance contracts (IFRS 17 B80)

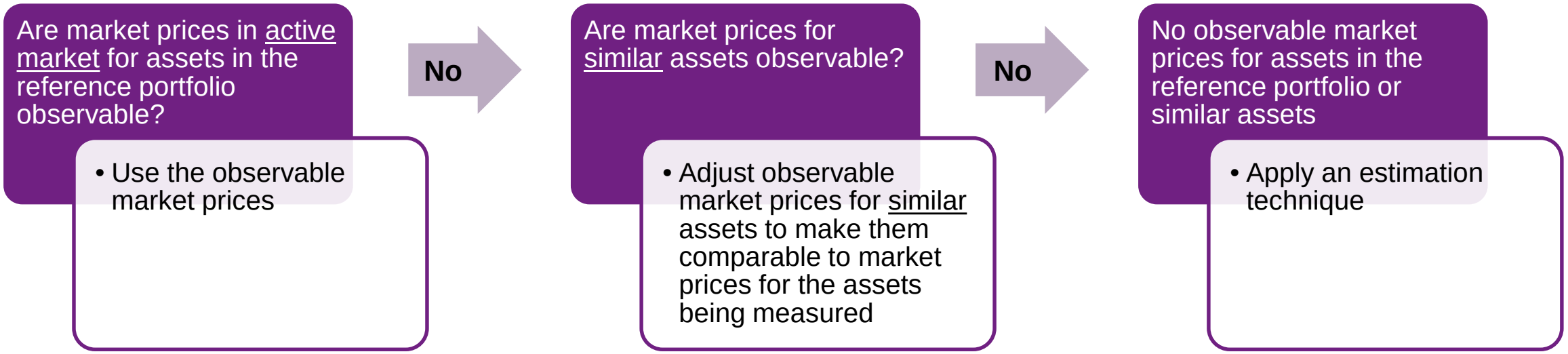


An entity is not required to reconcile the discount rate between the two approaches

Top-down approach

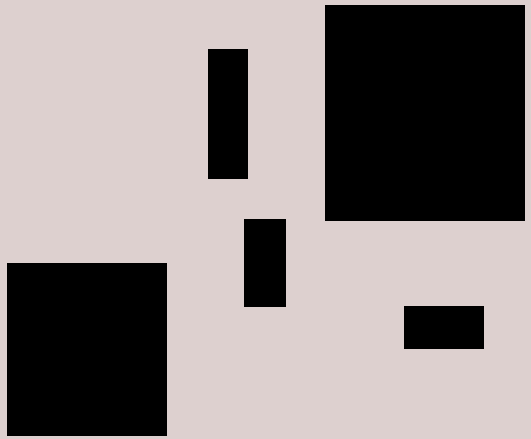
Current market rates of a reference portfolio – market prices

Estimating the yield curve under a top-down approach



Constructing the discount rate

Practically speaking



Constructing the discount rate

Practical Considerations

- Bottom-up or Top-down
- A company may reference existing frameworks as a starting point, for example
  - Insurance Capital Standard (ICS), Solvency II, Bermuda Standard Approach
  - Make appropriate adjustments for IFRS 17
- Under the PAA approach, some simplifications possible
- Examples for the observable period
  - Risk-free curve
    - Market yields are available up to 30 years for U.S. Treasuries, 50 years for USD swaps
    - Market yields are available up to 30 years for Canadian government bond and CAD swaps
  - Asset spreads (over risk-free) of a reference portfolio of assets
    - Market spreads
    - Level or curve
    - Fixed income assets versus non-fixed income assets
- Non-observable period

Adjustments to current market rates

Practical Considerations

- Adjustment for market risk premiums for credit risk
  - The objective would be to eliminate from the total bond yield the effect of credit risk and other factors that are not relevant to the insurance contracts (B85)
  - The adjustments may range by product, portfolio, etc.
  - The market risk premium calibration may include expected and unexpected credit loss allowance, while the unexpected credit loss component may not be explicit
- Adjustment for differences in amount, timing, and uncertainty between asset and liability cash flows
  - One approach is to use application ratios or predictability ratios (a measure of the mismatch between assets and liability cashflows.) to adjust for the level of asset and liability mismatch
  - Discount rate = Risk-free rate +
    (Market spread of a reference portfolio of assets – market risk premiums for credit risk) x **Application Ratio%**
  - A bucketing approach may be used to determine the application ratio by "bucket"

Recall: Adjust observed market rates to reflect the degree of dissimilarity between the instrument being measured and the instrument for which transaction prices are observable

Top-down approach

Examples of reference portfolio

IFRS 17 does not specify nor restrict the reference portfolio of assets

Investment Policy

- Can be easily explained and followed
- Mismatch in duration and cashflow

Current investment portfolio

- Readily available
- Mismatch in duration and cashflow

Replicating portfolio

- Can use the fair value of the assets to measure the relevant fulfilment cash flows
- *Exactly* match duration and cashflow
- Difficult and costly to design

Other portfolio

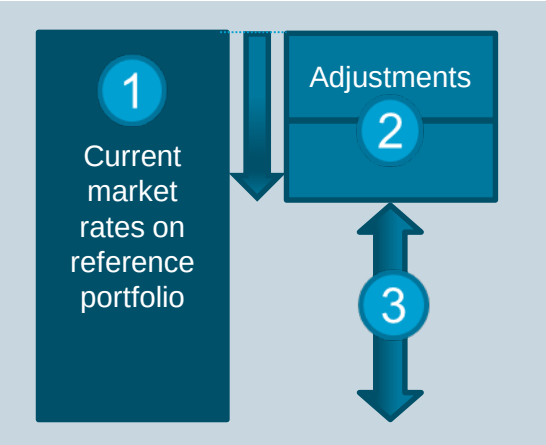
- Designed to match cash flow and duration
- Uncertainty doesn't match
- Possibly less adjustment on credit risk
- May need to adjust for uncertainty
- Judgement required, less intuitively applicable

IFRS 17 Standard references:

- *Appendix B - Application Guidance B46 – B48*
- *Basis for Conclusions BC204 – BC205*
- *Illustrative Examples*

Using top-down approach – example for observable period

Reference Portfolio of Assets: 50% U.S. Corporate A bonds + 50% U.S. Corporate BBB bonds



Adjust further for differences in timing, and uncertainty between asset and liability cash flows?

Excludes market risk premiums for credit risk

Illustrative

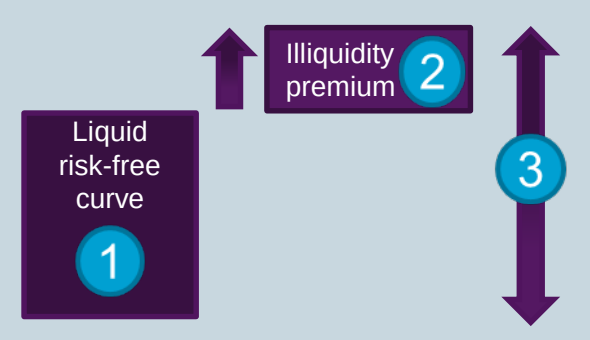
Term	Reference portfolio (1) Corp A	Corp BBB	Weighted average	Adjustments (asset credit risk) (2) Corp A	Corp BBB	Weighted average	(3) IFRS 17 discount rates	*Implied Illiquidity Premium*
1	3.02	3.38	3.20	0.09	0.19	0.14	3.06	*0.47*
2	3.18	3.59	3.38	0.09	0.19	0.14	3.24	*0.71*
3	3.27	3.73	3.50	0.09	0.19	0.14	3.36	*0.87*
5	3.44	3.99	3.72	0.09	0.19	0.14	3.58	*1.04*
7	3.65	4.28	3.97	0.12	0.22	0.17	3.80	*1.19*
10	3.89	4.58	4.23	0.14	0.24	0.19	4.04	*1.32*
20	4.44	5.16	4.80	0.18	0.32	0.25	4.55	*1.65*
30	4.38	5.09	4.73	0.22	0.40	0.31	4.42	*1.38*

Observable period 30 yrs (market prices from active market)

All rates/yields are effective rates/par yields
Implied illiquidity premium is IFRS 17 discount rates less risk-free yield curve

Using bottom-up approach – example for observable period

Using corporate bond spreads that underlie the market rates



Adjusted the U.S risk-free yield curve for differences between the liquidity characteristics of underlying rates observed in the market and those of the insurance contracts

Illustrative

Term	1 Risk-free yield curve	Corporate bond spreads		Credit risk adjustment		Net spread	Illiquidity premiums 2			IFRS 17 discount rates 3		
		Corp A	Corp BBB	Corp A	Corp BBB		AR=1	AR=0	AR=0.5	AR=1	AR=0	AR=0.5
1	2.59	0.43	0.79	0.09	0.19	0.47	*0.47*	-	*0.24*	3.06	2.59	2.83
2	2.53	0.65	1.06	0.09	0.19	0.71	*0.71*	-	*0.36*	3.24	2.53	2.89
3	2.49	0.78	1.25	0.09	0.19	0.87	*0.87*	-	*0.44*	3.36	2.49	2.92
5	2.53	0.91	1.46	0.09	0.19	1.04	*1.04*	-	*0.52*	3.58	2.53	3.06
7	2.61	1.03	1.67	0.12	0.22	1.19	*1.19*	-	*0.59*	3.80	2.61	3.21
10	2.72	1.17	1.86	0.14	0.24	1.32	*1.32*	-	*0.66*	4.04	2.72	3.38
20	2.90	1.54	2.26	0.18	0.32	1.65	*1.65*	-	*0.83*	4.55	2.90	3.72
30	3.04	1.33	2.04	0.22	0.40	1.38	*1.38*	-	*0.69*	4.42	3.04	3.73

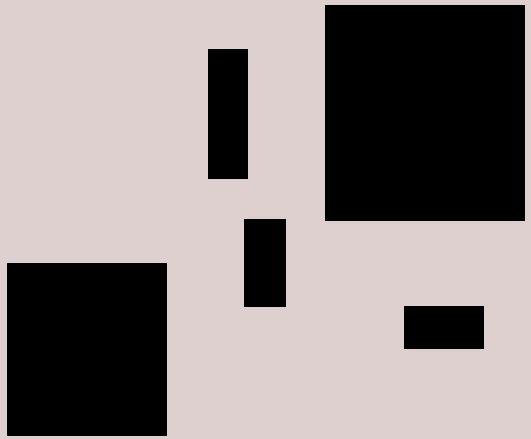
Risk-free yield curve = U.S. Treasuries
AR = Application Ratios

Other considerations

- Own credit risk
  - BC197… requires an entity to disregard its own credit risk when measuring the fulfilment cash flows
- Replicating portfolio
  - BC204. The Board noted that a link between cash flows and underlying items could be captured by using replicating portfolio techniques, or portfolio techniques that have similar outcomes … If such a portfolio exists and is measurable, the appropriate discount rate(s) for the replicating portfolio would also be the appropriate discount rate(s) for the liability.
  - BC205. … Hence, IFRS 17 permits, but does not require, the use of a replicating portfolio technique and allows other approaches, such as risk-neutral modelling.

Application Considerations

How is the discount rate used in calculating the IFRS 17 liability?



Application of Discount Rates

B72 – An entity shall use the following discount rates in applying IFRS 17

Including Liability for Incurred Claims if discounted

Current Discount Rates

- To measure the fulfilment cash flows[1]

Locked-in Discount Rates *(determined at date of initial recognition)[1]*

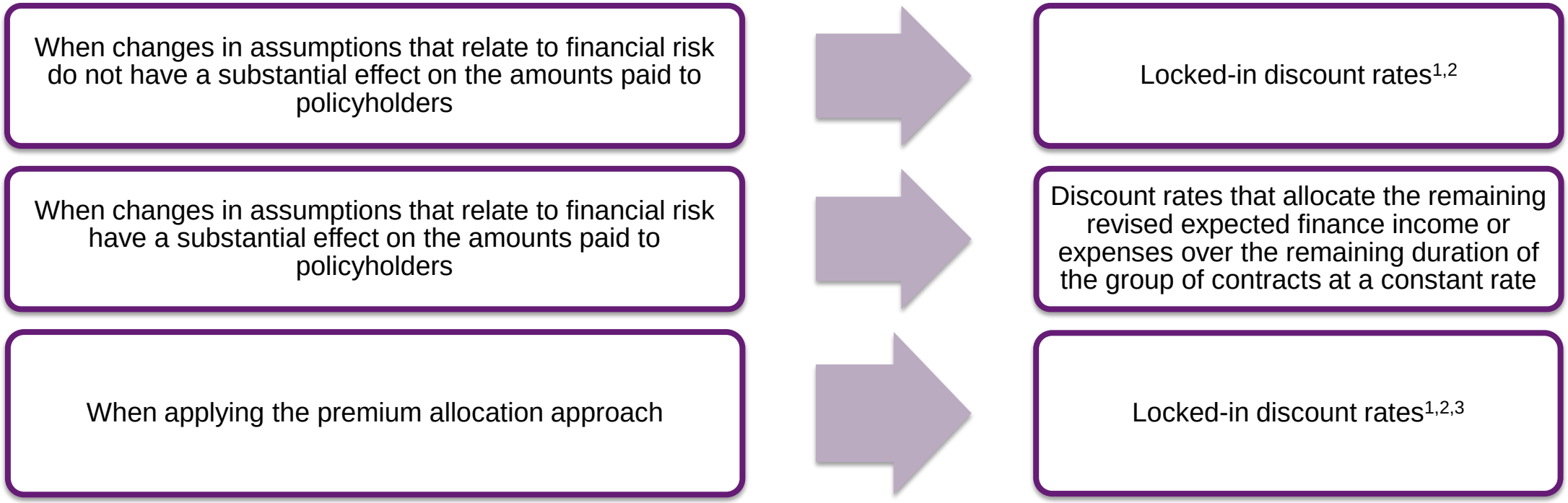
- To determine the interest to accrete on the contractual service margin for insurance contracts without direct participation features[2]
- To measure the changes to the contractual service margin for insurance contracts without direct participation features
- For groups of contracts applying the premium allocation approach that have a significant financing component, to adjust the carrying amount of the liability for remaining coverage

1 - discount rates applying paragraph 36
2 - to nominal cash flows that do not vary based on the returns on any underlying items

Application of Discount Rates

B72 – An entity shall use the following discount rates in applying IFRS 17 (continued)

To determine the amount of insurance finance income or expenses included in profit or loss, **if an entity chooses to disaggregate insurance finance income or expenses between profit or loss and other comprehensive income** (i.e., OCI option)



1 - discount rates applying paragraph 36
2 - applying paragraph 36 to nominal cash flows that do not vary based on the returns on any underlying items
3 - determined at the date of the incurred claim

Application of Discount Rates

Practical considerations

- Level of granularity: entity, portfolio, other
  - Some products may use top-down, while others use bottom-up
  - There may be multiple liquidity “buckets”
  - There may be multiple reference portfolios
- New business (initial recognition)
  - Over what time period (e.g., annual vs. quarterly vs. monthly)
  - B73...to determine the discount rates at the date of initial recognition of a group of contracts…an entity may use weighted-average discount rates over the period that contracts in the group are issued…which cannot exceed one year.
- Cash flows that vary based on returns of underlying items
  - B57… discounted using rates that reflect that variability, or to be adjusted for the effect of that variability and discounted at a rate that reflects the adjustment made
  - B77… does not require an entity to divide estimated cash flows into those that vary based on the returns on underlying items and those that do not. If an entity does not divide the estimated cash flows in this way, the entity shall apply discount rates appropriate for the estimated cash flows as a whole
- Transition
  - Full retrospective approach – historical discount rates for each valuation date and issue cohort
  - Modified retrospective approach – use observable yield curve that, for at least 3 years immediately before transition, approximates the yield curve estimated by applying par 36, if available. Otherwise determine an average spread (over preceding three years) and apply to the observable yield curve.
  - Fair value approach – estimate a discount rate at a transition date applying IFRS 17 and 13

Practical Considerations

Modeling - The discount rate repository will get larger over time as new business cohorts accumulate

Discount rate repository

- Product granularity
- Valuation date
  - Last valuation date
  - Current valuation date
  - Issue cohort (e.g., quarterly) – including the locked-in discount rates for in-force business as of the last valuation date and new business during the current reporting period
- Currency
- Projected time (term structure)
- Number of scenarios (more than one if using stochastic scenarios)

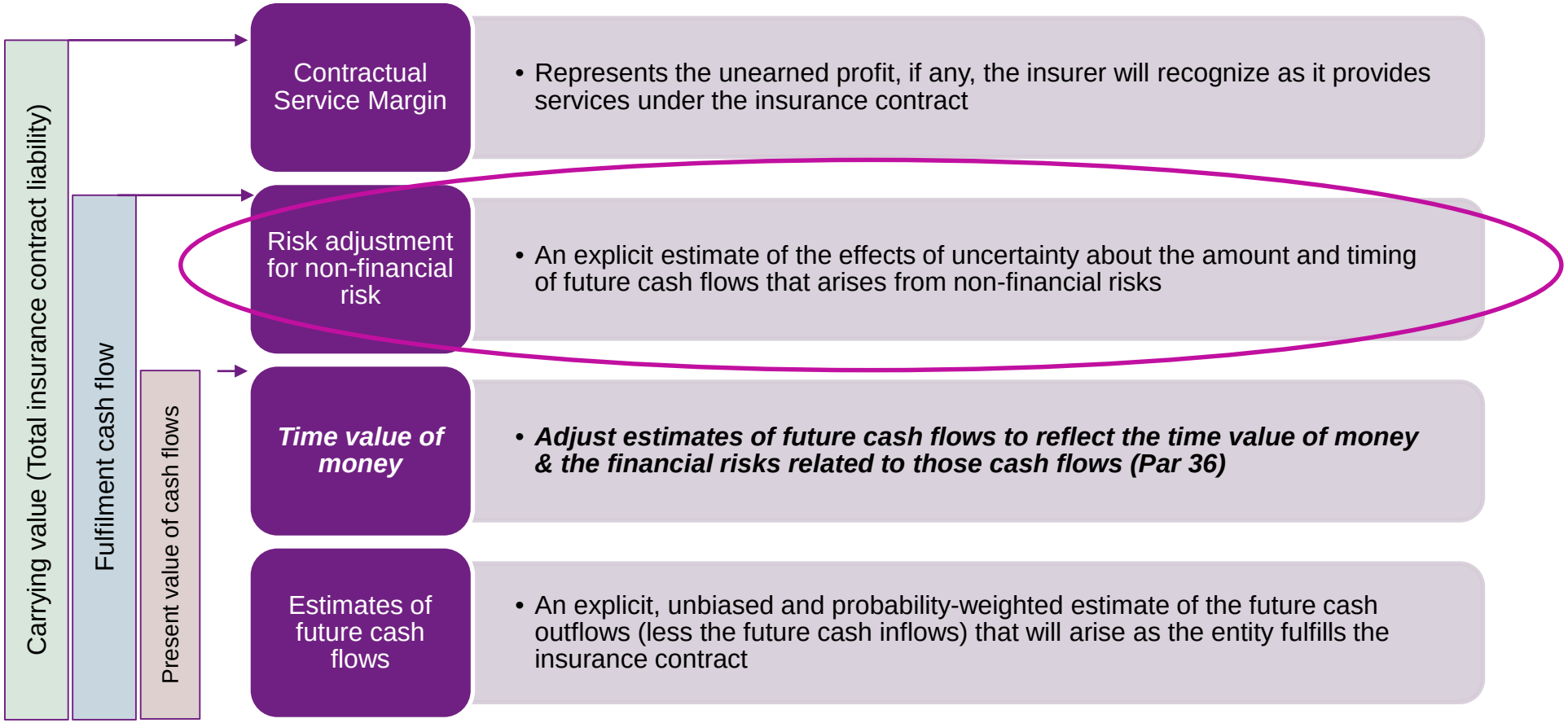
Key takeaways – Discount Rate

Final thoughts for implementing the IFRS 17 discount rate

- Understand IFRS 17 Standard, and the relationship with respect to your business considerations
- Leverage existing frameworks, such as cash flow models, current estimate assumptions, other market-consistent valuation methods and references, and make necessary adjustments appropriate to IFRS 17
- Make IFRS 17 discount rate policy decisions (e.g. product granularity, new business cohort granularity, reference portfolio)
  - Perform discount rate sensitivity analysis to understand the potential impacts of choosing different options
  - Balance may be needed between practicality and accuracy
- Document the implementation process (e.g., policy document, technical document, procedure document)

IFRS 17 Standard – Risk Adjustment for Non-Financial Risk

Insurance Contract Liability Measurement



IFRS 17 Standard – Risk Adjustment for Non-Financial Risk

Guidance

Definition – Appendix A

The compensation an entity requires for bearing the uncertainty about the amount and timing of the cash flows that arises from non-financial risk as the entity fulfils insurance contracts.

Paragraph 37

An entity shall adjust the estimate of the present value of the future cash flows to reflect the compensation that the entity requires for bearing the uncertainty about the amount and timing of the cash flows that arises from non-financial risk.

Paragraph B88

Because the risk adjustment for non-financial risk reflects the compensation the entity would require for bearing the non-financial risk arising from the uncertain amount and timing of the cash flows, the risk adjustment for non-financial risk also reflects:
(a) the degree of diversification benefit the entity includes when determining the compensation it requires for bearing that risk; and
(b) both favourable and unfavourable outcomes, in a way that reflects the entity's degree of risk aversion.

IFRS 17 Standard references:

- *Paragraph 37*
- *Appendix B - Application Guidance B86 – B92*

IFRS 17 Standard – Risk Adjustment for Non-Financial Risk

Considerations

- Challenges exist with determining the risk adjustment:
  - Methodology (e.g. cost of capital or margin approach)
  - Determination of diversification benefit
  - Establishment and calibration of confidence level
- Understanding of methodology choices:
  - Canada is familiar with the margin approach:
    - Under Canadian standards, a margin is applied to all assumptions based on the level of uncertainty in the assumption
    - Canadian standards of practice prescribe “recommended ranges” for margins
    - While not precisely the “cost for bearing uncertainty in non-financial risks”, the Canadian margins are a natural starting point for analysis
    - Reserve variability analysis using bootstrapping
  - The cost of capital approach is well understood in Europe under SII as well as in many other jurisdictions such as U.S., Canada, Asia, and Bermuda, as it is used for other purposes besides IFRS.