Canadian Institute of Actuaries / Institut canadien des actuaires

Revised Draft Educational Note

Assessing Eligibility for the Premium Allocation Approach Under IFRS 17 for Property & Casualty and Life & Health Insurance Contracts

Committee on Property and Casualty Insurance Financial Reporting
and
Committee on Life Insurance Financial Reporting

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The actuary should be familiar with relevant educational notes. They do not constitute standards of practice and are, therefore, not binding. They are, however, intended to illustrate the application of the Standards of Practice, so there should be no conflict between them. The actuary should note however that a practice that the educational notes describe for a situation is not necessarily the only accepted practice for that situation and is not necessarily accepted actuarial practice for a different situation. Responsibility for the manner of application of standards of practice in specific circumstances remains that of the members. As standards of practice evolve, an educational note may not reference the most current version of the Standards of Practice; and as such, the actuary should cross-reference with current Standards. To assist the actuary, the CIA website contains an up-to-date reference document of impending changes to update educational notes.

MEMORANDUM

To: Members in the Property and Casualty and Life and Health Insurance Practice Areas

From: Steven W. Easson, Chair
Actuarial Guidance Council

Sarah Chevalier, Chair
Committee on Property and Casualty Insurance Financial Reporting

Marie-Andrée Boucher, Chair
Committee on Life Insurance Financial Reporting

Date: December 7, 2020

Subject: **Revised Draft Educational Note – Assessing Eligibility for the Premium Allocation Approach Under IFRS 17 for Property & Casualty and Life & Health Insurance Contracts**

The Committee on Property and Casualty Insurance Financial Reporting (PCFRC) and the Committee on Life Insurance Financial Reporting (CLIFR) have prepared this draft educational note to provide guidance on assessing the eligibility of insurance contract groups for the application of the simplified premium allocation approach (PAA) within the scope of the International Financial Reporting Standard 17 – *Insurance Contracts* (IFRS 17).

This draft educational note is relevant to the IFRS 17 valuation of all insurance contract groups, including Property & Casualty (P&C) and Life & Health (L&H), which are potentially eligible for the PAA.

The draft educational note is structured into eight sections, plus three appendices. Section 1 introduces the option of measuring the liability for remaining coverage (LRC) using the PAA rather than the general measurement approach (GMA). Section 2 provides an overview of the three key criteria for eligibility of the PAA, which are discussed in detail in the next three sections:

- Section 3: Determining whether the contracts in a group each have a coverage period of 12 months or less.
- Section 4: Performing the assessment of "would not differ materially" for the LRC determined using the GMA and the PAA.
- Section 5: Understanding the meaning of "significant variability in the fulfilment cash flows."

The remaining sections address additional considerations relating to onerous contracts, reinsurance, and subsequent assessments of similar contracts in new groups. The appendices provide illustrative examples supporting the concepts discussed in Sections 4 and 5.

A preliminary version of the draft educational note was shared with the following committees in the second quarter of 2020:

- Committee on Risk Management and Capital Requirements (CRMCR);
- Committee on the Appointed/Valuation Actuary (AA);
- International Insurance Accounting Committee (IIAC);
- Worker's Compensation Committee.

A preliminary version of the draft educational note was also shared with the staff of the Accounting Standards Board (AcSB) to broaden consultations with the accounting community. Given that this draft educational note provides actuarial guidance rather than accounting guidance, the AcSB staff review was limited to citations of and any inconsistencies with IFRS 17. CIA educational notes do not go through the AcSB's due process and therefore, are not endorsed by the AcSB.

The draft educational note was also was presented several times at the AGC in the months preceding this request for approval.

The PCFRC and CLIFR feel that they have addressed the material comments received by the various committees.

This draft educational note is written primarily from the perspective of Canadian actuaries and is not intended to duplicate any other guidance. Additional information that provides further detail can be found in the International Actuarial Association guidance and other Canadian Institute of Actuaries (CIA) documents. The draft educational note *Compliance with IFRS 17 Applicable Guidance* provides guidance to actuaries when assessing compliance with IFRS 17. It is applicable to all draft educational notes pertaining to IFRS 17 and members are encouraged to review it prior to reading any draft educational note related to IFRS 17.

The creation of this cover letter and draft educational note has followed the AGC's protocol for the adoption of educational notes. In accordance with the CIA's *Policy on Due Process for the Approval of Guidance Material Other than Standards of Practice and Research Documents*, this draft educational note has been prepared jointly by the PCFRC and CLIFR and has received final approval for distribution by the AGC on July 14, 2020.

The actuary should be familiar with relevant educational notes. They do not constitute standards of practice and are, therefore, not binding. They are, however, intended to illustrate the application of the Standards of Practice, so there should be no conflict between them. The actuary should note however that a practice that the educational notes describe for a situation is not necessarily the only accepted practice for that situation and is not necessarily accepted actuarial practice for a different situation. Responsibility for the manner of application of standards of practice in specific circumstances remains that of the members. As standards of practice evolve, an educational note may not reference the most current version of the

Standards of Practice; and as such, the actuary should cross-reference with current Standards. To assist the actuary, the CIA website contains an up-to-date reference document of impending changes to update educational notes.

If you have any questions or comments regarding this draft educational note, please contact Sarah Chevalier at sarahchevalier@axxima.ca or Marie-Andrée Boucher at mboucher@eckler.ca.

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1. Introduction[1]

IFRS 17 establishes principles for the recognition, measurement, presentation, and disclosure of insurance contracts. The purpose of this draft educational note is to provide actuaries with practical application guidance on assessing whether a group of insurance contracts meets the required eligibility criteria for use of the premium allocation approach (PAA) to measure the liability for remaining coverage (LRC) under IFRS 17 *Insurance Contracts* (IFRS 17). This draft educational note is relevant to the valuation of all insurance contract groups, including property & casualty (P&C) and life & health (L&H) groups potentially eligible for measurement under the PAA.

References to specific paragraphs of IFRS 17 are denoted by IFRS 17.XX, where XX represents the relevant paragraph number, except that direct quotes from the IFRS 17 standard are as shown in the standard (i.e., paragraph XX).

Under IFRS 17, the general measurement approach (GMA) is the default approach applicable to LRC, as described in IFRS 17.32:

> 32 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.

The PAA is a simpler and less costly approach to apply than the GMA, as there is no need to estimate fulfilment cash flows under the PAA, nor is it necessary to identify and amortize a contractual service margin (CSM). Instead, the LRC is measured as described in paragraph 55:

> 55 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 recognize the payments as an expense applying paragraph 59(a); and
>
> (iii) plus or minus any amount arising from the derecognition at that date of:

[1] Acknowledgement: In developing this draft educational note, the Committees referred to limited sections of a position paper developed by the Insurance Bureau of Canada (IBC), in consultation with their member companies, audit firms and regulatory authorities. We wish to thank the IBC for making this work available to us.

1. any asset for insurance acquisition cash flows applying paragraph 28C; and
2. any other asset or liability previously recognized for cash flows related to the group of contracts as specified in paragraph B66A.

The valuation of the Liability for Incurred Claims (LIC) for groups eligible for the PAA is also subject to a minor simplification in respect of discounting, as indicated in IFRS 17.59(b). The LIC simplification is not addressed in this draft educational note, as it is out of scope for assessing PAA eligibility.

2. Decision Points

In determining PAA eligibility for insurance and reinsurance contracts, refer to IFRS 17.53–54 (emphasis added):

53 **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

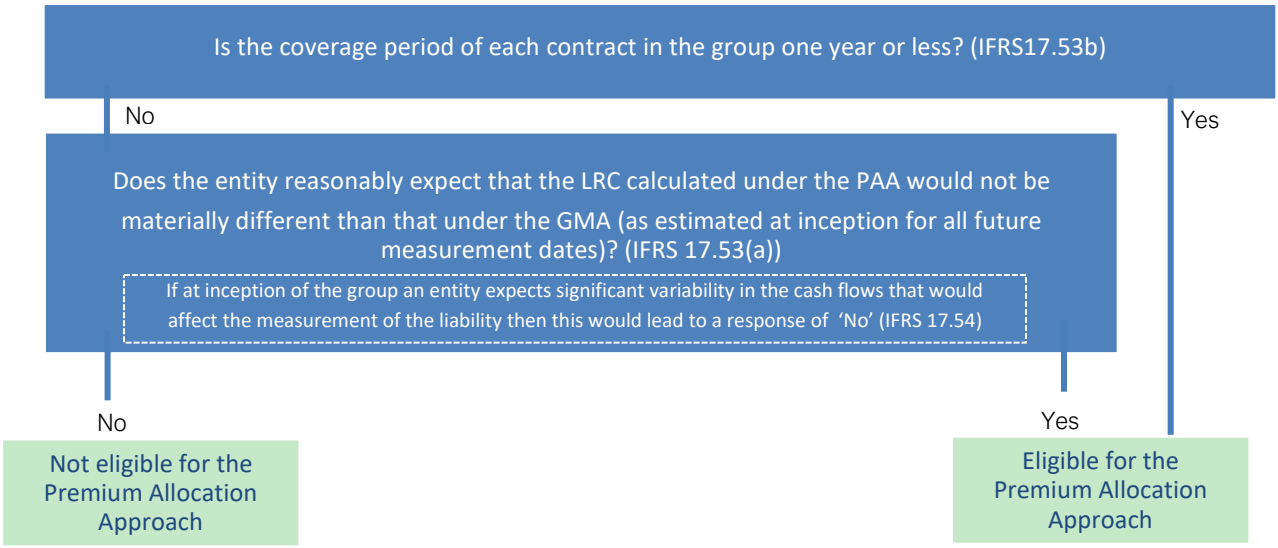
(b) the coverage period of each contract in the group (including insurance contract services arising from all premiums within the contract boundary determined at that date applying paragraph 34) is one year or less.

54 The criterion in paragraph 53(a) is not met if at the inception of the group an entity **expects significant variability in the fulfilment cash flows** that would affect the measurement of the liability for remaining coverage during the period before a claim is incurred. Variability in the fulfilment cash flows increases with, for example:

(a) the extent of future cash flows relating to any derivatives embedded in the contracts; and

(b) the length of the coverage period of the group of contracts.

The following decision tree illustrates the various decision points in determining PAA eligibility. Eligibility is assessed as at the inception date of the group of contracts.



Section 6 addresses PAA eligibility for groups of onerous contracts.

For non-onerous groups, the actuary considers the first decision point related to the coverage period of the contracts. If the coverage period for all contracts in the group is one year or less, the group is automatically eligible for the PAA based on IFRS 17.53(b).

For groups that include contracts that have a coverage period exceeding 12 months, the PAA eligibility assessment is performed at inception of the group of contracts; it is contingent upon the expectation that the PAA estimate of the LRC would not differ materially from the GMA calculation of the LRC at all reporting dates within the coverage period of the group as per IFRS 17.53(a). This expectation would be based on an assessment of both (1) the expected future values of the GMA LRC, and (2) reasonably likely fluctuations in future values of the GMA LRC that consider expected variability in fulfilment cash flows (FCF) as per IFRS 17.54.

An expectation of significant variability in the FCF would not by itself make a group ineligible for the PAA, but would disqualify the group from PAA eligibility if such variability is expected to create a material difference between the PAA and GMA estimates of the LRC.

With respect to the analysis of whether the entity expects significant variability in the FCF, the need for systematic quantitative testing of significant variability increases with the length of the coverage period of the group of contracts.

Key issues for the actuary in determining eligibility for using the PAA are:

- determining whether the contracts in a group each has a coverage period of 12 months or less (Section 3);
- performing the assessment of "would not differ materially" (Section 4); and
- understanding the meaning of "expects significant variability in the fulfilment cash flows" (Section 5).

From a practical perspective, it may be efficient to analyze PAA eligibility for groups with coverage exceeding 12 months using the last two steps noted above, which are detailed in Sections 4 and 5. If the GMA and PAA estimates of the LRC differ based upon expected future estimates of the FCF, the group would not be eligible for the PAA, and there would be no need to assess the impact of variability in the FCF.

3. Coverage Period Considerations

Contracts with a coverage period of one year or less are automatically eligible for the PAA, according to IFRS 17.53(b). The coverage period is assessed based on the criteria outlined in IFRS 17.34 (as shown below), based on the facts and circumstances of the contracts in the group:

> 34 Cash flows are within the boundary of an insurance contract if they arise from substantive rights and obligations that exist during the reporting period in which the entity can compel the policyholder to pay the premiums or in which the entity has a substantive obligation to provide the policyholder with insurance contract services (see paragraphs B61–B71). A substantive obligation to provide insurance contract services ends when:
>
> (a) the entity has the practical ability to reassess the risks of the particular policyholder and, as a result, can set a price or level of benefits that fully reflects those risks; or
>
> (b) both of the following criteria are satisfied:
>
> (i) the entity has the practical ability to reassess the risks of the portfolio of insurance contracts that contains the contract and, as a result, can set a price or level of benefits that fully reflects the risk of that portfolio; and
>
> (ii) the pricing of the premiums up to the date when the risks are reassessed does not take into account the risks that relate to periods after the reassessment date.

Often the contract boundary is obvious based on the facts and circumstances of the contracts. Many P&C and Group L&H contracts are renewable annually, and therefore these types of contracts might be a natural choice for application of the PAA. Creditor insurance, travel insurance, and other individual L&H contracts with short contract boundaries may also be potential candidates for the PAA approach. As noted in IFRS 17.34, if the entity can reprice the risks of all contracts in the group within one year, without restrictions, the contract boundary is generally one year or less, which would make the contract automatically eligible for the PAA under IFRS 17.53(b) because the contract boundary would denote the end of the coverage period for the LRC.

However, the following is a partial list of additional factors that could influence the contract boundary and the length of the coverage period:

- If there are restrictions on the entity's ability to reprice that extend beyond a year (e.g., rate guarantees of longer than a year, or caps on the amount of rate action that the entity

can take), then the coverage period would likely extend beyond one year. In these circumstances, the onus would be on the entity to demonstrate that a PAA estimate of the LRC is not significantly different than a GMA estimate of the LRC. See Sections 4 and 5 below.

- Some contracts may allow both parties to unilaterally terminate the contract within 12 months, yet still have some of the repricing restrictions described in the previous bullet. In this situation, the coverage period could be less than one year if the termination provision has commercial substance (see IFRS 17.2) – this means the entity has the practical ability to terminate the contract after considering all the substantive rights and obligations of the contract.
- Some contracts, such as Group L&H contracts, typically have multiple coverages with different contract boundaries. The contract boundary under IFRS 17.34 would be determined by the coverage with the longest boundary, unless the contracts have a termination provision that shortens the contract boundary to less than 12 months as per the previous bullet. This may affect the automatic eligibility criteria for the group of contracts (coverage period 12 months or less) and/or the assessments of "would not differ materially" or "significant variability" discussed in Sections 4 and 5 respectively.
- The coverage period would include all insurance coverage, plus any investment-return or investment-related services, per the amended definition of insurance contract services in IFRS 17 Appendix A. Such investment services would generally not be part of most contracts with short coverage periods, but could exist in contracts that include, for example, amounts on deposit or experience rating refund obligations.
- Some short-term contracts may provide consequential insurance coverage (i.e., coverage consequent to a claim being incurred) that might extend the coverage period. For example, P&C automobile coverage and Group L&H Long Term Disability (LTD) contracts both provide disability coverage for claims incurred within a short contract boundary. The resulting disability payments can extend many months or years beyond the period in which a claim can be incurred. If these disability payments are considered settlement of a claim (i.e., LIC) or insurance coverage under a separate annuity contract[2], the coverage period would not be extended. However, if the disability payments indicate continuation of insurance coverage (i.e., LRC under the original contract), the coverage period would be extended until all claims have been exhausted.

[2] It can be argued that LRC treatment for Group LTD creates consequential insurance coverage under the original contract, which would extend the coverage period. However, it can also be argued that disabled life annuity coverage is implicitly provided under a separate contract between the entity and the disabled individual, because the parties to the obligations are different (entity and group sponsor for the initial contract, versus entity and the disabled individual for the second contract) and because the entity's obligations under the second contract persist beyond the termination of the first contract. The debate is outside the scope of this paper.

4. Assessing "would not differ materially"

4.1 Background

The PAA is a relatively simple method of determining the LRC, devised to approximate the results of the GMA. The intended applicability of the PAA is for insurance contracts with short coverage periods, as discussed in the previous section. If a group of contracts does not meet the 12-month coverage period criterion, the entity may still be eligible to use the PAA for the group if the entity can demonstrate, at the inception of the group, that the PAA would produce an estimate of the LRC that "would not differ materially" from the measurement of the LRC under the GMA. This criterion would apply for the LRC at the inception of the group and the expected LRC at each future accounting period within the coverage period.

IFRS 17.54 states that the assessment of PAA eligibility would include an assessment of whether the entity "expects significant variability" in the fulfilment cash flows that would affect the measurement of the LRC. Variability of fulfilment cash flows in this context is discussed in Section 5, but it is important to note that the entity may assess variability as an integral part of the assessment of "would not differ materially."

4.2 Determination of Thresholds

Materiality is an entity-specific aspect of relevance that is based on the nature and/or magnitude of the items to which the information relates in the context of an individual entity's financial report (see International Accounting Standards (IAS) 1 and IAS 8 for details). In the context of assessing PAA eligibility, appropriate (materiality) thresholds may differ for groups based on their relative size. The actuary would consult with the entity's management regarding the thresholds used for assessing PAA eligibility.

The actuary would use judgment in determining whether measurement differences between the two approaches differ materially:

- Quantitative assessment: The actuary would use judgment to determine an appropriate internal policy that includes thresholds (such as a percentage and dollar threshold) for performing this assessment. For example, the actuary may first compare the LRC under the two measurement approaches for each reporting period and assess the dollar amounts of the differences in measurement relating to these groups of contracts. Based on this assessment, the actuary may conclude that the PAA estimate does not differ materially from the GMA estimate, including consideration of variability of cash flows discussed in Section 5 of this draft educational note. Alternatively, if there are differences above this threshold, then the actuary may conclude that the GMA would be used.
- Qualitative assessment: In some cases, the actuary may be able to make a qualitative assessment for certain groups of contracts if the outcome of the "differ materially" assessment is obvious or in situations in which a qualitative assessment is considered sufficient:
    - Groups of contracts in which the total measurement is substantially lower than the tolerable dollar threshold amount.

- Groups of contracts that are very similar to groups for which a more formal assessment has been done.
- Groups of contracts renewing with characteristics consistent with those when an initial assessment was performed.

In cases such as these, there may be no need for a quantitative assessment.

Both quantitative and qualitative assessments are performed at a group of contracts level. Reasonable and supportable information is required to initially determine portfolios and profitability groups, which are then used in the PAA eligibility assessment. How contracts are grouped, including contracts with different coverage periods, may also influence the results of the PAA eligibility assessment.

Judgment is required to determine an appropriate internal policy on assessment of PAA eligibility, including establishment of thresholds. When such judgment is significant, it would be disclosed in accordance with IAS 1 paragraph 122, which requires disclosure of judgments that management has made in applying accounting policies that have the most significant effect on the amounts recognized in the financial statements. In addition, IFRS 17.97(a) requires disclosure of which criteria in IFRS 17.53 the entity has met for contracts to be eligible for the PAA.

The illustrative case study in Appendix A presents a possible interpretation of applying materiality considerations.

4.3 Assessment of Differences in the LRC

The guidance in IFRS 17.53(a) states that the comparison between the two measurement approaches considers only the "measurement of the [LRC] for the group." Therefore, eligibility for the PAA is based on a comparison at inception of the expected balance at each future reporting date within the coverage period of the LRC for a group of contracts under the PAA versus the corresponding expected balance of the LRC under the GMA. Although the test is conducted only at inception, the assessment is whether the PAA would produce a reasonable approximation to the GMA over the duration of the coverage period (i.e., at each future reporting date within the coverage period).

As the requirements of IFRS 17.32-52 apply, the FCF in the GMA are based on probability-weighted estimates of future cash flows, adjusted to reflect the effect of discounting and risk adjustment for non-financial risk (risk adjustment).

The actuary would test the PAA eligibility for the group in its entirety (as opposed to a single contract issued on the inception date of the group) and would consider all the contracts that are expected to be included in the group. Since the PAA eligibility test is performed at inception, the contracts to be issued and included in the group are not known at the time the test is performed. Nonetheless, the projected FCF would consider the expected timing of issuance of the contracts. The actuary may consider historical patterns of issued premium volume, if available. A common assumption is that contracts are written uniformly throughout the year with no significant seasonality in the issuance of policies. If such an assumption is appropriate, the projected FCF would consider that 25% of contracts are written each quarter

in a group which spans contracts issued over a one-year period. The timing of claim and expense assumptions would be consistent with the timing of premiums issued.

Under the PAA, the estimate of the LRC at any point in time is a relatively simple calculation: the PAA LRC would generally be the premium received less expenses and amortizations for services rendered[3]. Per IFRS 17.B126, amortization of the LRC would be based on the passage of time, or based on the timing of incurred insurance service expenses if significantly different than passage of time.

Under the GMA, the estimate of the LRC would involve calculation of the FCF and the CSM. Despite the greater complexity in the GMA calculation, the basic premise of the LRC (to make provision for unexpired coverage) is the same under both approaches, and thus the LRC under both approaches would tend to be similar, especially for short coverage periods.

A simple illustration of the comparison of LRC under the PAA and GMA is provided in Appendix B (ignoring variability in the FCF, which is addressed in Section 5 and Appendix C). For illustrative purposes, each of the groups shown is assumed to be comprised of a single insurance contract. Two sets of examples are shown. In the first set of examples (B1), quarterly premiums are received and the associated claims are incurred and paid uniformly in the same quarter throughout the coverage period. In these examples, the GMA and PAA estimates of the LRC are identical regardless of the discount rate.

In the second set of examples (B2), the claims are incurred and paid quarterly, as above, but premiums are received annually. When the time value of money is assumed to be zero, the resulting GMA and PAA estimates of the LRC remain identical. However, a non-zero time value of money creates a difference in the LRC estimate versus the PAA estimate (which does not consider the time value of money). Such a difference is unlikely to be significant if the timing between premiums and associated claims is relatively short.

The simple examples ignore the risk adjustment, which is unlikely to introduce significant differences between the PAA and GMA estimates of the LRC, as the release of the risk adjustment would generally follow a pattern reasonably similar to amortization of the PAA LRC.

If the FCF has a significant non-linear pattern, that pattern would be reflected in both the GMA LRC (via the FCF) and the PAA LRC (via the B126 requirement noted above). However, the amortization of CSM may not follow the same non-linear pattern, thereby giving rise to differences between the PAA and GMA estimates of the LRC.

Notwithstanding the conclusion illustrated in Appendices B and C that the PAA and GMA estimates are likely to be reasonably similar for short coverage periods (prior to considering variability in the FCF), the assessment of "would not differ materially" would always be subject to the entity's own materiality thresholds. Differences between the PAA and GMA estimates generally increase with the length of the coverage period, and with variability in the FCF which is addressed in the next section.

[3] Unless a financing adjustment is made. Under the PAA, per IFRS 17.56, there is no obligation to adjust for the time value of money unless the claims associated with the premium are more than a year apart.

5. Significant Variability in the Fulfilment Cash Flows

Groups of contracts for which the coverage period of each contract is one year or less are eligible for the PAA based on IFRS 17.53(b) and accordingly no assessment of variability of the FCF is required.

For groups with longer coverage periods, the PAA estimate of the LRC may be materially similar to the GMA LRC calculated using probability-weighted cash flows in the FCF, but this alone is not sufficient to meet the requirement in IFRS 17.53(a). Specifically, IFRS 17.54 requires an entity to consider significant variability in the FCF at the level of groups of contracts. As noted in Section 4.1, the entity may assess variability and its expected effect on the measurement of the FCF as an integral part of the assessment of "would not differ materially" described in Section 4.

There is no explanation of "significant variability in fulfilment cash flows" in IFRS 17 itself, IFRS 17 *Basis for Conclusions* or IFRS 17 *Effects Analysis*. Variability is significant if it is reasonably expected to result in significant differences in the measurement of the LRC between the PAA and GMA at any point during the coverage period.

The FCF include a probability-weighted estimate of future cash flows and the effect of discounting, as well as risk adjustment. Any assumptions about these three components may influence the variability of the FCF and therefore the variability of the GMA estimates, but not necessarily that of the PAA estimates.

Judgment based on the facts and circumstances of the group would determine whether qualitative or quantitative testing would be required. Systematic quantitative testing of variability is not required unless such variability is expected to be significant in the context of estimating the FCF over the coverage period. IFRS 17.54 refers to examples of elements which are expected to contribute to variability in the FCF:

- IFRS 17.54(a) refers to embedded derivatives, and
- IFRS 17.54(b) refers to the length of coverage period.

Embedded derivatives are not typically found in Canadian P&C products or in Group L&H products and are not discussed in this draft educational note.

Differences in estimates between the two measurement methods typically increase with increases in the length of the coverage period. A number of factors may cause differences between the LRC under the PAA and/or the GMA over the coverage period, and might include the following considerations:

- Variability in the probability-weighted future cash flows during the unexpired risk period, illustrated in Appendix C, Example C1, which could increase with the length of the coverage period, including (but not limited to):
    - Experience over the expired portion of the coverage period may drive changes in assumptions related to the remaining coverage (e.g., a major court decision that affects the application of minor injury guidelines related to auto insurance); and

  - Changes in the environment (e.g., legal, social, economic) or interpretation of policy language (resulting from a jury decision or court interpretation) that may drive more or fewer claims over the remaining coverage period.

- Exposure to material variability in discount rates or yield curves over the remaining coverage period. See Appendix C, Examples C2 and C3.
- Any resulting effect of the above changes in assumptions on the risk adjustment, if warranted.

To satisfy the IFRS 17.54 criteria, judgment and/or testing would be required to determine whether variability resulting from the above considerations could result in variances (between the PAA and GMA estimates of the LRC) that exceed the entity's materiality thresholds. Only variability that is expected to occur at subsequent measurement dates in the remainder of the coverage period would be considered.

The premise of the IFRS 17.54 requirement is that variability in the cash flows may affect the GMA LRC, but would not affect the PAA LRC, therefore potentially leading to a material difference between the two estimates. It is important to note, however, that potential changes in the FCF may be mitigated to a great extent by offsetting changes in the CSM, negating much of the difference in the GMA LRC relative to the PAA LRC. This is illustrated in Appendix C, Example C1.

Conversely, changes in discount rates affecting the FCF would *not* adjust the CSM (per IFRS 17.B97(a)); this is illustrated in Appendix C, Examples C2 and C3. Changes in discount rates could create a potentially significant difference between the GMA and PAA estimates of the LRC for coverages that have a long claim settlement period (such as disability benefits under Group LTD or P&C auto contracts) as illustrated in Example C3, where estimates of FCF are sensitive to the effect of discounting.

The degree of judgment in determining how much testing, if any, would be required to assess the requirement in IFRS 17.54 would depend on facts and circumstances specific to the group of contracts being measured and the entity issuing the group of contracts. Considerations could include:

- *Length of the coverage period*: The shorter the coverage period, the less likely that significant changes in assumptions would occur in a period which could trigger a difference between the GMA LRC and the PAA LRC. For example, in Example C1, the actuary might qualitatively conclude that significant assumption changes are unlikely in the midst of a two-year contract based on stability of past experience, and any moderate assumption changes are unlikely to create a significant difference between the GMA LRC and the PAA LRC. However, for contracts with much longer coverage periods, or long claim settlement periods, the actuary may not be able to come to a similar conclusion without additional quantitative stress testing of the impacts of potential assumption changes.
- *The entity's materiality threshold(s)*: If simple stress tests, such as those in Appendix C, are considered plausible and the resulting difference in the LRCs exceed or come close

to the entity's materiality threshold, the actuary may need to do more quantitative testing to determine whether the group passes the requirement in IFRS 17.54.

For typical Canadian products, a qualitative assessment may be sufficient in the following circumstances. However, as noted in Section 4.2, judgment is required to determine an appropriate internal policy on assessment of PAA eligibility, including establishment of thresholds.

- For products with coverage periods marginally exceeding the one-year threshold (e.g., two-year automobile policies, or Group L&H contracts with rate guarantees marginally longer than one year), the PAA estimates of the LRC are expected to be very similar to the GMA estimates. For these types of products, it is unlikely, but not impossible, that variability in the cash flows would affect the group's eligibility for the PAA. See Appendix C, Example C1 for a numerical illustration, and Example C3 for potential caveats related to contracts with long claim settlement periods.
- Some types of variability (such as a change in expected premium volume) are expected to have a proportional effect on both the PAA and GMA estimates, and therefore need not be examined in detail. One example of this type of variability could be multi-year contracts where premiums reflect seasonal claims patterns.

Conversely, longer-term multi-year Canadian products (e.g., commercial construction policies, extended warranty products, title insurance and Group L&H contracts with multi-year rate guarantees or rate caps) may experience significant variability in the FCF due to the length of the coverage period. The LRC measured using the GMA can be affected by a larger range of eventual changes in assumptions used to estimate the FCF, whereas the LRC measured using the PAA may not be affected to the same extent as noted above. Quantitative assessment may be required for these products.

6. Onerous Contracts

If a group of onerous contracts is determined to be eligible for the PAA based on IFRS 17.53–54, the LRC based on the PAA is increased to reflect a loss component, as described in IFRS 17.57. Accordingly, the PAA estimate for an onerous group is, by definition, equal to the GMA estimate at inception.

Furthermore, if at any time during the coverage period, facts and circumstances indicate that a group of insurance contracts is onerous, the PAA LRC would be increased to reflect a loss component as described in IFRS 17.57–58.

Therefore, the eligibility test in IFRS 17.53(a) would always be passed for onerous contracts, as there could never be a material difference between the PAA and GMA estimates of the LRC.

7. Reinsurance

There is no difference between primary insurance and reinsurance contracts issued with regards to the PAA eligibility. For reinsurance contracts issued, the eligibility criteria of IFRS 17.53 apply. IFRS 17.69 and IFRS 17.70 pertain to reinsurance contracts held:

69 An entity may use the premium allocation approach set out in paragraphs 55–56 and 59 (adapted to reflect the features of reinsurance contracts held that differ from insurance contracts issued, for example the generation of expenses or reduction in expenses rather than revenue) to simplify the measurement of a group of reinsurance contracts held, if at the inception of the group:

(a) the entity reasonably expects the resulting measurement would not differ materially from the result of applying the requirements in paragraphs 63–68; or

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

70 An entity cannot meet the condition in paragraph 69(a) if, at the inception of the group, an entity expects significant variability in the fulfilment cash flows that would affect the measurement of the asset for remaining coverage during the period before a claim is incurred. Variability in the fulfilment cash flows increases with, for example:

(a) the extent of future cash flows relating to any derivatives embedded in the contracts; and

(b) the length of the coverage period of the group of reinsurance contracts held.

For reinsurance contracts held, the LRC includes the FCF related to the underlying contracts expected to be issued in the future to the extent that the ceding entity has substantive rights to receive services from the reinsurer related to the future underlying contracts.

If the coverage period exceeds one year, then the criteria of IFRS 17.69(a) and IFRS 17.70 for a group of reinsurance contracts held are used to assess PAA eligibility. The PAA eligibility for reinsurance contracts held is assessed separately from the PAA eligibility for the related underlying insurance contracts covered by reinsurance. The considerations described in Sections 2 to 5 for insurance contracts apply equally for reinsurance contracts.

Reinsurance contracts held that are written on a one-year risk-attaching basis could have a contract boundary of up to two years, assuming all underlying insurance contracts have a coverage period of one year and are written throughout the year. Therefore, such reinsurance contracts held do not meet the requirement of coverage period of one year or less for automatic eligibility for the PAA. Consequently, a group of reinsurance contracts held may not be automatically eligible for the PAA (and therefore subject to the GMA) while the underlying contracts are automatically eligible for the PAA.

8. Subsequent Assessments of Similar Contracts in New Groups

In theory, entities are expected to perform the PAA eligibility assessment for each new group of contracts at inception of the group. In practice, a quantitative test may not be required for each

subsequent group of contracts if the entity has already performed quantitative calculations for similar groups of contracts with substantially the same characteristics and measurement factors (e.g., discount rates and the amount and timing of claims). In such cases, the actuary may use judgment to make a qualitative assessment that the measurement factors have not changed since the previous quantitative assessment and that the prior judgment is still appropriate. Key assumptions, calculations and judgments underlying the assessment would be documented.

A new assessment for subsequent groups may be required if market conditions change significantly from the original assessment. For example, changes in interest rates, inflation, auto reforms, prescription drug reforms or the introduction of expensive new prescription drugs, or new types of claims could result in different conclusions in the assessment.

If the eligibility criteria are met for a group of contracts, the PAA is used for the duration of the contracts within the group. However, subsequent modifications to the terms of those contracts may result in the group no longer being eligible for the PAA. In this case, the original contracts are de-recognized and recognized as new contracts in accordance with IFRS 17.72.

9. Appendix A – Case Study (Illustrative)

This case study presents a possible interpretation of applying materiality considerations. It is for illustrative purposes only. In practice, an entity would define its own materiality level or threshold.

Background

- An entity has annual insurance revenue of $100 million.
- Contracts issued by the entity are either 12-month contracts, or 24-month contracts.
- The entity's contracts are assigned to four portfolios (A, B, C, and D).
- For contracts issued in year 1, those in Portfolio A are divided into two groups, one of which (A-2) consists of contracts that are onerous at initial recognition.
- There are no onerous contracts in Portfolios B, C or D.
- For each of the resulting five groups, an estimate of the LRC has been derived based on each of the PAA and GMA.

Table 1

Portfolio & Group	Annual Revenue	Contract Coverage Period (mths)	PAA Estimate	GMA Estimate	Difference = PAA Less GMA
A-1	50,000	12	20,000		
A-2	14,000	12	5,600	6,300	-700
B	1,000	12 and 24	400		
C	15,000	24	6,000	5,625	+375
D	20,000	24	8,000	7,000	+1,000

(Amounts in $000's)

The differences shown above (PAA estimates less GMA estimates) are based on estimates as at the inception at each group.

- Corresponding differences at the end of years 1, 2 and 3 were determined to be less than the differences at inception, and therefore are not considered further in this illustrative example of PAA eligibility assessment.
- As discussed in the portfolio-by-portfolio commentary that follows, consideration was also given to the effect on the LRC of potential variability the entity would reasonably expect, as per IFRS 17.54.

Thresholds

The entity selected three thresholds for assessing PAA eligibility of each group:

- Threshold #1 – Coverage period of each contract in the group **≤12 months** as per IFRS 17.53(b).

- Threshold #2 – Annual insurance revenue for the group is **≤$1 million** (or 1% of the entity's aggregate annual premium), in which case the group is considered to be eligible for the PAA.
- Threshold # 3 – The dollar difference (absolute value) between the GMA and PAA estimates of the LRC for the group is ≤ the group's share of an aggregate threshold of **$5 million**. For illustrative purposes, the group's share (allocation) of the aggregate amount is calculated on the basis of annual revenue times the estimated expected loss ratio, as shown in Table 2:

Table 2

Portfolio & Group	Annual Revenue [1]	Expected Loss Ratio [2]	Basis for Allocation [3]=[1]x[2]	Threshold #3 Allocated To Groups
A – 1	50,000	50%	25,000	2,425
A – 2	14,000	70%	9,800	951
B	1,000	50%	500	48
C	15,000	55%	8,250	800
D	20,000	40%	8,000	776
Total	100,000		51,550	**5,000**

(Amounts in $000's)

Dollar differences between the GMA and PAA estimates of the LRC are used as the basis for applying Threshold #3. Dollar differences are calculated at inception and at each future reporting period in the coverage period, taking into consideration the expected pattern of insurance contracts issued which are expected to be included in the group.

Judgment is used in determining portfolios and groups of insurance contracts, and these may not be established by the actuary. Nonetheless, the actuary determines thresholds that apply at the group level and are consistent with the premium volume in the various groups in order to avoid systematically relying on Threshold #2 to meet eligibility requirements. Judgment would need to be applied to determine the appropriate level of Threshold #2 based on the granularity at which the groups are formed. For example, in the extreme case where groups would be determined at the contract level, applying Threshold #2 may not be appropriate, but Threshold #3 might be; hence Threshold #3 can act as a check and balance on Threshold #2.

Assessment of Eligibility

Applying the level of aggregation requirements of IFRS 17, five groups of contracts have been identified, pertaining to four portfolios, as described below. The results of the eligibility testing are summarized in Table 3.

- Portfolio A: Two groups with only 12-month policies and with a combined annual insurance revenue of $64 million.
    - Group 1: Not onerous
        - No policies longer than 12 months and so **eligible for the PAA.**
        - A GMA estimate is not required.

- Group 2: Onerous
  - No policies longer than 12 months and so **eligible for the PAA.**
  - A GMA estimate is required in order to determine the loss component required for an onerous group.

- Each of the remaining groups has a mix of 12-month and 24-month contracts. None of these groups have been identified as onerous.
  - Portfolio B: One group with annual insurance revenue of $1 million
    - The insurance revenue is within the **≤** $1 million threshold and so the PAA estimate is assumed to be a reasonable approximation of the GMA (i.e., any difference is considered insignificant).
    - This group is **eligible** for the PAA.
  - Portfolio C: One group with annual insurance revenue of $15 million
    - The insurance revenue is above the **≤** $1 million threshold and so the eligibility is based on the assessment of the GMA vs PAA.
    - The difference between the GMA and PAA measurement of the LRC is determined to be <u>less than</u> the group's share of the aggregate threshold of $5 million (i.e., $375,000 from Table 1 vs $800,000 from Table 2), thus meeting the criterion to "not differ materially". Furthermore, the actuary performed a qualitative assessment of significant variability in future FCF and concluded that no significant differences in projected claims, expense, discount rate and risk adjustment assumptions is expected to give rise to material differences between the GMA and PAA estimates over the coverage period.
    - This group is **eligible** for the PAA.
  - Portfolio D: One group with annual insurance revenue of $20 million
    - The insurance revenue is above the **≤** $1 million premium threshold and so the eligibility is based on the assessment of the GMA vs PAA.
    - The difference between the GMA and PAA measurement of the LRC is determined to be <u>greater than</u> the group's share of the aggregate threshold of $5 million ($1,000,000 from Table 1 vs $776,000 from Table 2), thus failing to meet the criterion to "not differ materially". Based on this result, the actuary did not perform further testing related to significant variability.
    - This group is **not eligible** for the PAA.

Table 3

Portfolio & Group	Eligibility Per Threshold #1	#2	#3	Selected LRC Based on PAA	Based on GMA	Selected LRC Excl. Loss Component	Loss Component
A-1	Yes			20,000		20,000	0
A-2	Yes			5,600		5,600	700
B	No	Yes		400		400	0
C	No	No	Yes	6,000		6,000	0
D	No	No	No		7,000	7,000	0
Total						**39,000**	**700**

(Amounts in $000's)

10. Appendix B – Measurement Differences due to Time Value of Money

Illustration 1

Consider a group consisting of a single insurance contract with a two-year coverage period. Premiums of $100 are payable at the beginning of each quarter. The expected loss ratio is 80%, with all claims associated with the quarterly premium assumed to be incurred in the middle of the quarter, and fully paid in that quarter. There is equal coverage in each quarter. To simplify the example, the risk adjustment is zero, and there are no expenses.

The PAA LRC would be calculated as follows:

Table B1 - PAA Calculations

	premiums rec'd	revenue recognized	LRC
Time 0	$0	$0	**$0**
End Q1/01	$100	$100	**$0**
End Q2/01	$100	$100	**$0**
End Q3/01	$100	$100	**$0**
End Q4/01	$100	$100	**$0**
End Q1/02	$100	$100	**$0**
End Q2/02	$100	$100	**$0**
End Q3/02	$100	$100	**$0**
End Q4/02	$100	$100	**$0**

The following examples show how the above PAA LRC calculations would compare to GMA LRC calculations, with and without discounting in the GMA LRC.

- Example B1a illustrates the progression of the GMA LRC over the two-year coverage period, assuming the GMA discount rate is zero for simplicity, and further assuming that actual experience corresponds to expectations. The GMA LRC[4] is equivalent to the PAA LRC at initial assessment and each subsequent measurement point.

Table B1a - GMA Calculations - zero discount rate

	Expected Cashflows										GMA	PAA	Dollar
	Q1/01	Q2/01	Q3/01	Q4/01	Q1/02	Q2/02	Q3/02	Q4/02	FCF	CSM	LRC	LRC	Difference
Time 0	($100)	($100)	($100)	($100)	($100)	($100)	($100)	($100)	($160.00)	$160.00	**$0.00**	**$0.00**	**$0.00**
	$80	$80	$80	$80	$80	$80	$80	$80					
End Q1/01		($100)	($100)	($100)	($100)	($100)	($100)	($100)	($140.00)	$140.00	**$0.00**	**$0.00**	**$0.00**
		$80	$80	$80	$80	$80	$80	$80					
End Q2/01			($100)	($100)	($100)	($100)	($100)	($100)	($120.00)	$120.00	**$0.00**	**$0.00**	**$0.00**
			$80	$80	$80	$80	$80	$80					
End Q3/01				($100)	($100)	($100)	($100)	($100)	($100.00)	$100.00	**$0.00**	**$0.00**	**$0.00**
				$80	$80	$80	$80	$80					
End Q4/01					($100)	($100)	($100)	($100)	($80.00)	$80.00	**$0.00**	**$0.00**	**$0.00**
					$80	$80	$80	$80					
End Q1/02						($100)	($100)	($100)	($60.00)	$60.00	**$0.00**	**$0.00**	**$0.00**
						$80	$80	$80					
End Q2/02							($100)	($100)	($40.00)	$40.00	**$0.00**	**$0.00**	**$0.00**
							$80	$80					
End Q3/02								($100)	($20.00)	$20.00	**$0.00**	**$0.00**	**$0.00**
								$80					
End Q4/02									$0.00	$0.00	**$0.00**	**$0.00**	**$0.00**

[4] The coverage units and CSM amortization factors used in these examples are shown at the end of Appendix C in Table C-4.

- Example B1b is exactly the same as example B1a, except the annual discount rate used in the GMA calculation of the LRC is 5%. Note that the GMA LRC remains equivalent to the PAA LRC at initial assessment and each subsequent measurement point in this example because the claims associated with the premium are incurred in the same reporting period.

Table B1b - GMA Calculations - 5% discount rate

	Expected Cashflows												
	Q1/01	Q2/01	Q3/01	Q4/01	Q1/02	Q2/02	Q3/02	Q4/02	FCF	CSM	GMA LRC	PAA LRC	Dollar Difference
Time 0	($100)	($100)	($100)	($100)	($100)	($100)	($100)	($100)	($157.10)	$157.10	**$0.00**	**$0.00**	**$0.00**
	$80	$80	$80	$80	$80	$80	$80	$80					
End Q1/01		($100)	($100)	($100)	($100)	($100)	($100)	($100)	($138.29)	$138.29	**$0.00**	**$0.00**	**$0.00**
		$80	$80	$80	$80	$80	$80	$80					
End Q2/01			($100)	($100)	($100)	($100)	($100)	($100)	($119.25)	$119.25	**$0.00**	**$0.00**	**$0.00**
			$80	$80	$80	$80	$80	$80					
End Q3/01				($100)	($100)	($100)	($100)	($100)	($99.98)	$99.98	**$0.00**	**$0.00**	**$0.00**
				$80	$80	$80	$80	$80					
End Q4/01					($100)	($100)	($100)	($100)	($80.47)	$80.47	**$0.00**	**$0.00**	**$0.00**
					$80	$80	$80	$80					
End Q1/02						($100)	($100)	($100)	($60.72)	$60.72	**$0.00**	**$0.00**	**$0.00**
						$80	$80	$80					
End Q2/02							($100)	($100)	($40.72)	$40.72	**$0.00**	**$0.00**	**$0.00**
							$80	$80					
End Q3/02								($100)	($20.49)	$20.49	**$0.00**	**$0.00**	**$0.00**
								$80					
End Q4/02									$0.00	$0.00	**$0.00**	**$0.00**	**$0.00**

Illustration 2: Annual Premiums

Consider the same insurance contract as in illustration 1, except premiums of $400 are payable at the beginning of each year rather than $100 payable quarterly.

The PAA LRC in this example would be calculated as follows:

Table B2 - PAA Calculations

	premiums rec'd	revenue recognized	LRC
Time 0	$0	$0	**$0**
End Q1/01	$400	$100	**$300**
End Q2/01	$0	$100	**$200**
End Q3/01	$0	$100	**$100**
End Q4/01	$0	$100	**$0**
End Q1/02	$400	$100	**$300**
End Q2/02	$0	$100	**$200**
End Q3/02	$0	$100	**$100**
End Q4/02	$0	$100	**$0**

Example B2a illustrates the progression of the GMA LRC over the two-year coverage period, assuming the GMA discount rate is zero for simplicity, and assuming that actual experience corresponds to expectations. The GMA LRC is equivalent to the PAA LRC at initial assessment and each subsequent measurement point.

Table B2a - GMA Calculations - zero discount rate													
	Expected Cashflows										GMA	PAA	Dollar
	Q1/01	Q2/01	Q3/01	Q4/01	Q1/02	Q2/02	Q3/02	Q4/02	FCF	CSM	LRC	LRC	Difference
Time 0	($400)	$0	$0	$0	($400)	$0	$0	$0	($160.00)	$160.00	**$0.00**	**$0.00**	**$0.00**
	$80	$80	$80	$80	$80	$80	$80	$80					
End Q1/01		$0	$0	$0	($400)	$0	$0	$0	$160.00	$140.00	**$300.00**	**$300.00**	**$0.00**
		$80	$80	$80	$80	$80	$80	$80					
End Q2/01			$0	$0	($400)	$0	$0	$0	$80.00	$120.00	**$200.00**	**$200.00**	**$0.00**
			$80	$80	$80	$80	$80	$80					
End Q3/01				$0	($400)	$0	$0	$0	$0.00	$100.00	**$100.00**	**$100.00**	**$0.00**
				$80	$80	$80	$80	$80					
End Q4/01					($400)	$0	$0	$0	($80.00)	$80.00	**$0.00**	**$0.00**	**$0.00**
					$80	$80	$80	$80					
End Q1/02						$0	$0	$0	$240.00	$60.00	**$300.00**	**$300.00**	**$0.00**
						$80	$80	$80					
End Q2/02							$0	$0	$160.00	$40.00	**$200.00**	**$200.00**	**$0.00**
							$80	$80					
End Q3/02								$0	$80.00	$20.00	**$100.00**	**$100.00**	**$0.00**
								$80					
End Q4/02									$0.00	$0.00	**$0.00**	**$0.00**	**$0.00**

Example B2b is exactly the same as example B2a, except the annual discount rate used in the GMA calculation of the LRC is 5%. Note that introduction of discounting in the GMA creates a difference in the estimate of the LRC relative to the PAA when premiums and associated claims are recognized in different reporting periods, as illustrated in the following table:

Table B2b - GMA Calculations - 5% discount rate													
	Expected Cashflows										GMA	PAA	Dollar
	Q1/01	Q2/01	Q3/01	Q4/01	Q1/02	Q2/02	Q3/02	Q4/02	FCF	CSM	LRC	LRC	Difference
Time 0	($400)	$0	$0	$0	($400)	$0	$0	$0	($171.19)	$171.19	**$0.00**	**$0.00**	**$0.00**
	$80	$80	$80	$80	$80	$80	$80	$80					
End Q1/01		$0	$0	$0	($400)	$0	$0	$0	$151.13	$150.69	**$301.82**	**$300.00**	**$1.82**
		$80	$80	$80	$80	$80	$80	$80					
End Q2/01			$0	$0	($400)	$0	$0	$0	$72.49	$129.95	**$202.44**	**$200.00**	**$2.44**
			$80	$80	$80	$80	$80	$80					
End Q3/01				$0	($400)	$0	$0	$0	($7.11)	$108.94	**$101.84**	**$100.00**	**$1.84**
				$80	$80	$80	$80	$80					
End Q4/01					($400)	$0	$0	$0	($87.68)	$87.68	**$0.00**	**$0.00**	**$0.00**
					$80	$80	$80	$80					
End Q1/02						$0	$0	$0	$235.66	$66.16	**$301.82**	**$300.00**	**$1.82**
						$80	$80	$80					
End Q2/02							$0	$0	$158.06	$44.38	**$202.44**	**$200.00**	**$2.44**
							$80	$80					
End Q3/02								$0	$79.51	$22.32	**$101.84**	**$100.00**	**$1.84**
								$80					
End Q4/02									$0.00	$0.00	**$0.00**	**$0.00**	**$0.00**

To satisfy the IFRS17.53(a) criteria, the entity would need to assess whether the expected differences between the GMA and PAA estimates of the LRC at future reporting dates are immaterial, based on the entity's materiality thresholds.

11. Appendix C – Variability in Fulfilment Cash Flows

Consider the same insurance contract as in Appendix B, Illustration 1: an insurance contract with a two-year coverage period. Premiums of $100 are payable at the beginning of each quarter. The expected loss ratio is 80%, with all claims associated with the quarterly premium assumed to be incurred in the middle of the quarter, and fully paid in that quarter. There is equal coverage in each quarter. To simplify the example, the risk adjustment is zero, and there are no expenses.

The PAA LRC would be calculated as in Table B1, with a zero LRC at the end of each quarter.

Example C1 extends example B1b to illustrate the impact of potential variability in the cash flows. All assumptions remain the same as example B1b, except the expected loss ratio increases from 80% to 90% at the beginning of year 2. The PAA LRC would not change, whereas the GMA LRC would, creating a differential between the two estimates. The change in FCF is partially offset by a change in CSM.

Table C1 - GMA Calculations - 5% discount rate - shock to expected loss ratio in Q1/02

	Expected Cashflows										GMA	PAA	Dollar
	Q1/01	Q2/01	Q3/01	Q4/01	Q1/02	Q2/02	Q3/02	Q4/02	FCF	CSM	LRC	LRC	Difference
Time 0	($100)	($100)	($100)	($100)	($100)	($100)	($100)	($100)	($157.10)	$157.10	**$0.00**	**$0.00**	**$0.00**
	$80	$80	$80	$80	$80	$80	$80	$80					
End Q1/01		($100)	($100)	($100)	($100)	($100)	($100)	($100)	($138.29)	$138.29	**$0.00**	**$0.00**	**$0.00**
		$80	$80	$80	$80	$80	$80	$80					
End Q2/01			($100)	($100)	($100)	($100)	($100)	($100)	($119.25)	$119.25	**$0.00**	**$0.00**	**$0.00**
			$80	$80	$80	$80	$80	$80					
End Q3/01				($100)	($100)	($100)	($100)	($100)	($99.98)	$99.98	**$0.00**	**$0.00**	**$0.00**
				$80	$80	$80	$80	$80					
End Q4/01					($100)	($100)	($100)	($100)	($80.47)	$80.47	**$0.00**	**$0.00**	**$0.00**
					$80	$80	$80	$80					
End Q1/02						($100)	($100)	($100)	($31.26)	$38.76	**$7.50**	**$0.00**	**$7.50**
						$90	$90	$90					
End Q2/02							($100)	($100)	($20.97)	$26.00	**$5.03**	**$0.00**	**$5.03**
							$90	$90					
End Q3/02								($100)	($10.55)	$13.08	**$2.53**	**$0.00**	**$2.53**
								$90					
End Q4/02									$0.00	$0.00	**$0.00**	**$0.00**	**$0.00**

In Example C1, the CSM at the end of Q1/02 would be calculated as follows:

CSM impact in Q1/02 would be calculated as follows:

CSM beginning of Q1/02	$80.47	
Interest accretion	$0.99	
adjustment for change in FCF	($29.46)	offset to increase in FCF (PV of $30)
Amortization of CSM	($13.24)	based on remaining CSM *
CSM end of Q1/02	$38.76	

* calculation is ($80.47 + $0.99 - $29.46) * 25.46% amortization factor (see Table C-4)

Example C2 also extends Example B1b, this time to illustrate the impact of potential variability in the discount rate for contracts with a short settlement period. All assumptions remain the same as example B1b, except the discount rate drops from 5% to 4% in Q1/02. The PAA LRC would not change, but the GMA LRC would change, creating a difference between the two estimates. That difference is likely to be greater for contracts with longer claims settlement patterns than the one illustrated.

Table C2 - GMA Calculations - 5% discount rate drops to 4% in Q1/02 - short claims settlement period

	Expected Cashflows										GMA	PAA	Dollar
	Q1/01	Q2/01	Q3/01	Q4/01	Q1/02	Q2/02	Q3/02	Q4/02	FCF	CSM	LRC	LRC	Difference
Time 0	($100)	($100)	($100)	($100)	($100)	($100)	($100)	($100)	($157.10)	$157.10	**$0.00**	**$0.00**	**$0.00**
	$80	$80	$80	$80	$80	$80	$80	$80					
End Q1/01		($100)	($100)	($100)	($100)	($100)	($100)	($100)	($138.29)	$138.29	**$0.00**	**$0.00**	**$0.00**
		$80	$80	$80	$80	$80	$80	$80					
End Q2/01			($100)	($100)	($100)	($100)	($100)	($100)	($119.25)	$119.25	**$0.00**	**$0.00**	**$0.00**
			$80	$80	$80	$80	$80	$80					
End Q3/01				($100)	($100)	($100)	($100)	($100)	($99.98)	$99.98	**$0.00**	**$0.00**	**$0.00**
				$80	$80	$80	$80	$80					
End Q4/01					($100)	($100)	($100)	($100)	($80.47)	$80.47	**$0.00**	**$0.00**	**$0.00**
					$80	$80	$80	$80					
End Q1/02						($100)	($100)	($100)	($60.58)	$60.72	**$0.14**	**$0.00**	**$0.14**
						$80	$80	$80					
End Q2/02							($100)	($100)	($40.58)	$40.72	**$0.14**	**$0.00**	**$0.14**
							$80	$80					
End Q3/02								($100)	($20.39)	$20.49	**$0.10**	**$0.00**	**$0.10**
								$80					
End Q4/02									$0.00	$0.00	**$0.00**	**$0.00**	**$0.00**

Example C3 also extends example B1b, this time to illustrate the impact of potential variability in the discount rate for contracts with a long settlement period. All assumptions remain the same as Example C2, except the drop in the discount rate from 5% to 4% causes the FCF to increase from $80 to $84 (as the present value of a long series of payments to settle claims is sensitive to the discount rate). The PAA LRC would not change, whereas the GMA LRC would, creating a difference between the two estimates, again with the difference greater for contracts with longer claims settlement patterns than the one illustrated. Unlike Example C1, the change in FCF is not offset by a change in CSM, per IFRS 17.B97(a).

Table C3 - GMA Calculations - 5% discount rate drops to 4% in Q1/02 - long claims settlement period

	Expected Cashflows										GMA	PAA	Dollar
	Q1/01	Q2/01	Q3/01	Q4/01	Q1/02	Q2/02	Q3/02	Q4/02	FCF	CSM	LRC	LRC	Difference
Time 0	($100)	($100)	($100)	($100)	($100)	($100)	($100)	($100)	($157.10)	$157.10	**$0.00**	**$0.00**	**$0.00**
	$80	$80	$80	$80	$80	$80	$80	$80					
End Q1/01		($100)	($100)	($100)	($100)	($100)	($100)	($100)	($138.29)	$138.29	**$0.00**	**$0.00**	**$0.00**
		$80	$80	$80	$80	$80	$80	$80					
End Q2/01			($100)	($100)	($100)	($100)	($100)	($100)	($119.25)	$119.25	**$0.00**	**$0.00**	**$0.00**
			$80	$80	$80	$80	$80	$80					
End Q3/01				($100)	($100)	($100)	($100)	($100)	($99.98)	$99.98	**$0.00**	**$0.00**	**$0.00**
				$80	$80	$80	$80	$80					
End Q4/01					($100)	($100)	($100)	($100)	($80.47)	$80.47	**$0.00**	**$0.00**	**$0.00**
					$80	$80	$80	$80					
End Q1/02						($100)	($100)	($100)	($48.75)	$60.72	**$11.96**	**$0.00**	**$11.96**
						$84	$84	$84					
End Q2/02							($100)	($100)	($32.66)	$40.72	**$8.06**	**$0.00**	**$8.06**
							$84	$84					
End Q3/02								($100)	($16.41)	$20.49	**$4.08**	**$0.00**	**$4.08**
								$84					
End Q4/02									$0.00	$0.00	**$0.00**	**$0.00**	**$0.00**

The CSM amortization factors used in the examples in Appendices B and C are shown in Table C-4:

Table C-4

	Coverage Unit Calculations with 0% discount rate			
	undiscounted coverage	discounted coverage	remaining coverage	amortization factor
End Q1/01	1,000.00	1,000.00	8,000.00	12.50%
End Q2/01	1,000.00	1,000.00	7,000.00	14.29%
End Q3/01	1,000.00	1,000.00	6,000.00	16.67%
End Q4/01	1,000.00	1,000.00	5,000.00	20.00%
End Q1/02	1,000.00	1,000.00	4,000.00	25.00%
End Q2/02	1,000.00	1,000.00	3,000.00	33.33%
End Q3/02	1,000.00	1,000.00	2,000.00	50.00%
End Q4/02	1,000.00	1,000.00	1,000.00	100.00%

	Coverage Unit Calculations with 5% discount rate			
	undiscounted coverage	discounted coverage	remaining coverage	amortization factor
End Q1/01	1,000.00	1,000.00	7,668.65	13.04%
End Q2/01	1,000.00	987.88	6,750.49	14.81%
End Q3/01	1,000.00	975.90	5,821.06	17.18%
End Q4/01	1,000.00	964.07	4,880.23	20.49%
End Q1/02	1,000.00	952.38	3,927.85	25.46%
End Q2/02	1,000.00	940.83	2,963.78	33.74%
End Q3/02	1,000.00	929.43	1,987.88	50.30%
End Q4/02	1,000.00	918.16	1,000.00	100.00%