Examples of additional complexity due to the requirement to "weight" multiple services

1. Executive Summary

Insurers recognise the need for amendments to be made to IFRS 17 in relation to the contractual service margin attributable to investment-return service and understands the rationale behind the proposed amendments to determining coverage units for insurance contracts without direct participation features.

There are concerns that the amendments, as proposed in the Exposure Draft, create very material additional complexity due to the requirement to address and weight multiple services. This presents a risk of undue disruption to implementation work already underway and a risk of the loss of reliable information for users.

It is timely to share practical insights into the difficulties in applying these requirements as currently drafted with particular reference to real life products commonly found in the markets in Asia, and present for consideration some suggested solutions to support the Board in its work to proceed with the direction of the proposal for identifying coverage units for insurance contracts without direct participation features.

It has been agreed that IFRS 17 establishes the "principle (to reflect the services provided in a period under a group of insurance contracts) and not detailed requirements, [since] it would not be possible to develop detailed requirements that would apply appropriately to the wide variety of insurance products existing globally" and, in particular, that "different probabilities of an insured event occurring in different periods do not affect the benefit provided in those periods of the entity standing ready to meet valid claims for that insured event." [1]

Before the Exposure Draft of proposed amendments to IFRS 17 was issued, the methods suggested in the TRG May 2018 meeting summary worked reasonably well. Specifically it is possible to make use of the methods set out in that summary that achieve an appropriate allocation of the contractual service margin over time by using reasonable proxies that reflect the insurance services provided in the period. To check the reasonableness of assumed proxies, many insurers undertook a detailed exercise to analyse the different levels of cover across the coverage period for key products, identifying the maximum contractual cover in each period, as distinct from the likelihood of claims across the coverage period.

Introducing a requirement to "determine the relative weighting of the benefits provided by insurance coverage and investment-return service[2]" has created significant new difficulties.

The key issues identified are:

1) Estimating a "maximum cover" when there are different types of insurance service combined in a single insurance contract;
2) Determining an appropriate quantum to measure investment-return services; and
3) Determining an appropriate means to combine the quantity of benefits determined under 1) and 2), when these measures are not of comparable scale.

The revised requirement for relative weighting of the benefits provided by insurance coverage and investment-return service adds significantly to the operational complexity of IFRS 17 and requires the exercise of arbitrary judgements that have the potential to undermine understandability, decrease comparability and compromise the faithful presentation of company performance.

One potential solution is the idea of a practical expedient where relative weighting of insurance and investment services cannot be undertaken reliably. This is expanded further below using two common

[1] TRG Meeting 2 May 2018 Summary
[2] Exposure Draft Amendments to IFRS 17 Paragraph 117 c (v). (While we recognise that this is a disclosure requirement we read it as explicitly requiring that the basis of determination involves the relative weighting of different benefits).

products in Asia as examples, together with other potential solutions to address this issue. The use of the passage of time formed part of the draft standard as recently as the 2016 field testing and fatal flaws review, and so is a familiar concept, although was removed prior to publication of the final standard. It is suggested the Board considers reinstating it for use in circumstances where to do so would provide a better balance of conceptual appropriateness and reliable determination.

These concepts are developed further below.

As the Board works to finalise the text of its proposed amendments to address the quantity of benefits provided by both insurance and investment-return service, we would be pleased to discuss this paper, its illustrations and proposed solutions further with HKIISG, IASB Board members and staff to help deliver that outcome.

2. Introduction

To illustrate these points in **Sections 3 and 4** two typical products, which may be more commonplace in Asia than the rest of the world, have been selected:

- Firstly, a product that combines a broad range of insurance coverages.
- Secondly, a product that provides a broad range of insurance coverages and investment services through a combination of embedded benefits and optional riders.

This analysis has not set out to capture contracts that are unduly complex, but to use common products which illustrate the typical challenges that preparers will face and, in due course, will be faced by users trying to understand financial statements of insurers.

In **Section 5** the root causes of the complexity of applying the standard as it is currently proposed to be amended are analyzed.

In **Section 6** distinctive features of the insurance products typical in Asian markets are drawn out to demonstrate the particular complexities of the proposed changes in the Exposure Draft for Asian markets.

Section 7 explores potential solutions that could be swiftly and securely recommended to the Board without the risk of unforeseen consequences, and which could be implemented without altering the fundamental principles of IFRS 17, the loss of useful information to users of financial statements and unduly delaying or disrupting ongoing implementation efforts.

3. Worked example 1 – medical expenses reimbursement product with multiple insurance services

This example serves to illustrate the difficulties in reliably estimating maximum cover for certain types of insurance contracts that provide multiple insurance services.

Product details

Product summary is set out below. The full benefit schedule is included in Appendix 1.

Field	Details
Product	Medical Expenses Reimbursement Plan
Market	Hong Kong
Description	Comprehensive medical expenses reimbursement
Core Benefits	• Confinement[3] benefits including room and board and physician's visit, etc. • Inpatient and outpatient surgery (including visit to day surgery centre) • Extended medical benefits for emergency needs and rehabilitation purpose, etc. • Other benefits including cash subsidy benefit etc. • Worldwide emergency assistance services.
Optional Benefits	• Supplemental Major Medical Benefits (SMM) – providing cover beyond the maximum benefit of confinement, surgical and other medical benefits
Plan options	Three levels of (room based) benefit: • Ward plan • Semi-Private plan • Standard Private plan
Medical network variations	Additional privileges / benefits are available if using the insurer's medical provider network: • Higher maximum benefit limits for core benefits • Higher reimbursement percentage under the SMM benefit • Exclusive benefits including specialist's fees and outpatient consultations before and after surgery, etc. • Add-on cashless arrangement service for outpatient surgery (including visit to day surgery centre)
Cover	Worldwide
IFRS 17 Measurement model assumed	General Measurement Model (GMM) (product has guaranteed lifetime renewal and will typically remain in force for many years).

Complexities in application

There are three areas that create complexity with this product:

- This contract is measured under the GMM. The practical reliefs of the Premium Allocation Approach are not available, as a result.

- The benefits vary depending on the three levels of plan option selected and whether or not the insurer's medical network is used – this effectively increases the number of variables six-fold.

- The limits for different benefits are not defined in terms of annual maximums but in different ways – see table below.

[3] In-patient hospital stay

Example Benefits	Type of limit
Hospital Daily Room and Board Benefit	Per day, max 90 days
Specialists fees	Per confinement
Surgical benefits	Per covered surgical procedure
Outpatient treatment	Per injury
Home nursing benefit	Per visit
Long-term treatment	Per illness / per injury
Death benefits	Dollar amount on death
Worldwide emergency assistance	Per trip

Calculating the maximum contractual benefit for the aggregate of all the separate elements of cover while excluding the different probabilities of an insured event occurring in different periods requires significant judgement to determine an annual equivalent quantity of benefits provided.

For example:

- How many trips per annum should be assumed for the worldwide emergency cover?
- How many confinements per annum should be assumed?
- How many illnesses / injuries per annum should be assumed?
- How many and what type of surgeries per annum should be assumed?
- Should it always be assumed that the network option (i.e. higher benefits) would apply?

An illustration of the judgement and complexity involved in determining maximum contractual benefit is set out in Appendix 1. This illustration shows a result which does not faithfully represent the substance of the insurance services being provided because:

- Some insurance services lead to a disproportionately high quantity of benefits when incorporated based on an assumption as to the maximum number of insured events during the year (e.g. judgements as above on how many trips, confinements, illnesses per annum should be assumed);

- The relative balance of core versus non-core insurance services provided in the contract is distorted, resulting in a disproportionately low quantity of benefits for core services where these are incorporated based on clearly identifiable contractual maximums ('catastrophe' coverage vs routine outpatient coverages); and

- The overall quantity of benefits for the contract as a whole is disproportionately high compared to other products with clearly identifiable annual limits, meaning that its inclusion in a group of contracts with other products will unduly dominate the coverage units for the group of contracts as a whole.

Conclusion

Having undertaken detailed analysis of this product and the quantity of benefits that it provides, many would consider the pattern of service for this product to be constant over time because a policyholder who has chosen the same class of cover (e.g. type of ward) would receive the same maximum cover and same quantity of benefits over time. As a result, policy count would give a CSM amortization pattern reflecting the quantity of benefits provided over the coverage period. Provided the product is placed into its own group of contracts a practical and operational solution is available. In practice this will often require disaggregating extensively beyond the minimum three groups of contracts (e.g. where similar medical products have different benefit schedules or where different policies of the same product type have different sizes of benefits because of different options that the policyholder can select, e.g. ward versus private room). Effectively, this approach amortizes the CSM on the basis of the passage of time adjusted to reflect different case sizes.

This demonstrates that while different elements of cover could not easily be compared with each other, this was not a practical impediment to the determination of coverage units prior to the proposed amendments to IFRS 17 to require the relative weighting of the benefits provided.

4. Worked example 2 – investment linked product with multiple insurance services and investment services

This example has been included to illustrate the complexities which arise from the newly introduced requirement to weight insurance services and investment-return service.

Product details

Product summary is set out below. Although this is described as an investment linked product, the projected cash outflows are heavily protection-related and typically the savings component reduces over time to fund the protection.

Field	Details
Product Name	Investment linked policy with death and disability protection
Market	Malaysia
Description	Investment linked policy with death and disability protection embedded in the product and a range of attachable rider options (see below) offering other types of cover. Typically, policyholders attach multiple riders, although the number and the type varies by policyholder. Riders can be attached at the outset or during the life of the policy.
Base benefits	• Death benefit • Total and permanent disability benefit The maximum benefits under these covers increase over the lifetime of the policy due to an anniversary benefit feature which increases the sum assured incrementally in the early years of the policy.
Attachable riders	A wide range of elective unit deducting riders across Medical, Critical Illness, Accident and Disability: • Critical Care • Early Critical Care • Total Accident Shield (Riot and Civil Commotion) • Accident Shield (Riot and Civil Commotion) • Hospital Income • Waiver of Premium • Health • Female Medical • Next Generation Protection • Disability Cash • Multi Critical Care The maximum benefit of these covers is typically constant or decreases over the lifetime of the policy.
Plan options	Flexibility to change coverage amounts
Payment term	Up to age of 70 / 80 / 90

Premium payment	Regular premium
Payment flexibility	Top up premiums / partial withdrawal / premium holiday options
IFRS 17 Measurement model	Either VFA or GMM (with investment-return services) depending on facts and circumstances (depending on the extent of insurance service relative to investment service). That such products do not meet the criteria for VFA in all circumstances adds to the complexity of accounting for this product type.
Rider treatment	Combined with base policy as the riders are unit deducting (hence interdependency of cash flows)

Complexities in application

There are a number of causes of complexity with this product. In addition to the issues relating to medical expense reimbursement benefit determination covered in the example in Section 3, additional complexity arises because:

- There are a large number of different rider options available and the ability of the policyholders to pick and choose riders at inception and then switch their elections during the life of the policy. This means there are a vast number of combinations of base cover and riders even before the effect of different policy sizes is considered;
- The product combines fundamentally different insurance covers (e.g. Critical Illness versus Medical Expense Reimbursement versus Accident) each with different benefits and experience; and
- The product combines multiple insurance covers and investment-return service, requiring the determination of an appropriate quantity of benefits for the investment-return service and for the services provided under the contract as a whole.

As a result, it is extremely difficult to determine coverage units combining insurance and investment-return service while following the guiding principles outlined in the May 2018 TRG meeting summary, i.e. determining the quantity of benefits based on the contractual maximums and without incorporating the likelihood of claims.

One approach to assessing the nature of the investment-return service for investment linked products is to consider it to be one of providing access to investment options which would not otherwise be available to the customer, which equates to a constant level of service. Following this approach the service is not the investment returns themselves but the access to the investment options which generate the returns. The insurer facilitates the policyholder accessing a range of investment fund options provided by 3rd party fund houses. The expected investment returns to the policyholder are different from the investment-return service being provided, in the same way that the expected claims are different from the insurance coverage being provided.

Following this approach, the provision of access may be considered to be equal across policies of different sizes or, in other words, a policyholder with higher sum assured or cumulative paid in premiums does not obtain a greater level of access than other policyholders. Under many such policies, many policyholders have the flexibility to be able to make policies paid up, to make partial withdrawals, or to pay top up premiums, all of which impacts the account balance, but do not impact the provision of access. As such, policy count could be a reasonable measure for the quantity of benefits for the investment-return service measured on a standalone basis.

Unlike the first product example, the pattern of insurance service for this product may not always be a constant level, depending on the riders attached and the extent to which the policyholder chooses to vary the amount of insurance coverage during the life of the policy. As a result, the level of insurance cover needs to be assessed on a first principles basis addressing many of the inherently judgmental issues identified in Section 3.

Having identified a means to approximate the pattern of insurance service this then poses a further challenge to combine the amounts determined for the insurance service with those determined for the investment-return service, scaling one relative to the other in order to make them comparable for the purposes of combination. Determining the relative weighting of the two services involves making a subjective allocation between the two services for which there is no clear objectively determinable basis.

Illustration of different approaches

The following fact pattern has been assumed:

- Insurance contract of 20 year duration
- No top up / premium withdrawal
- Investment return assumed is 5%
- Assume all policyholders elect to attach the following riders at inception and do not switch:
    - Early Critical Care
    - Health
    - Waiver of premium
- Decrements in policy count due to expected mortality / morbidity incidence only have been modelled

The first graph below shows:

- The quantity of benefits of insurance services on a standalone basis, and

- The quantity of benefits for the combined insurance and investment-return service where the constant pattern of investment-return service (reliably quantified on a standalone basis using policy count) has been scaled to be of a comparable order of magnitude to maximum benefits. Four different approaches have been selected on the grounds they use readily available data without subjective adjustments. This is not an exhaustive list of approaches being considered by preparers.

    i. Annual premiums,

    ii. Total premiums

    iii. Average allocated premiums

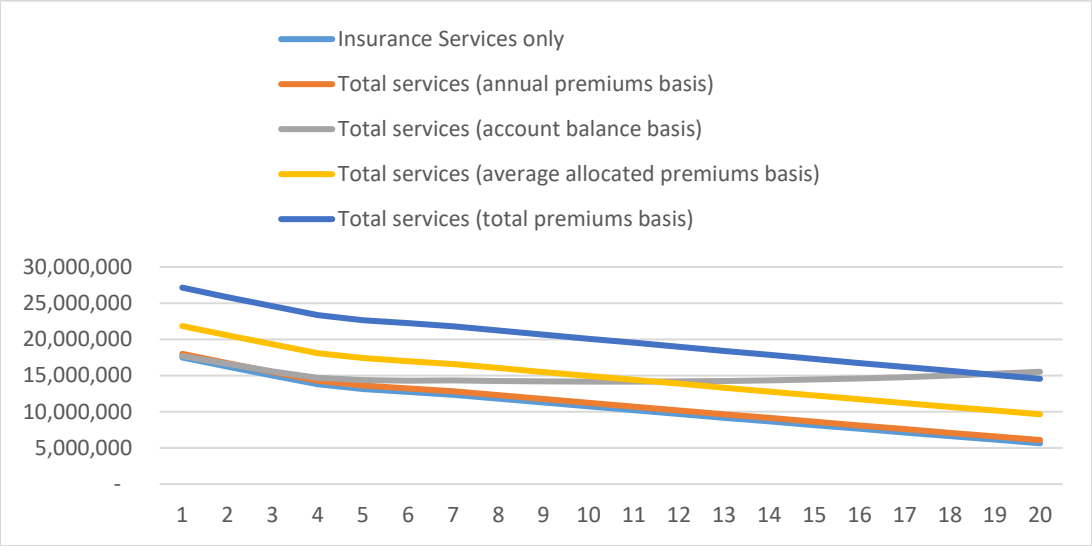
    iv. Account balance (less relevant as it reflects the investment returns rather than the investment-return service and so does not reflect a constant pattern of service but included for comparison purposes)

The second graph shows:

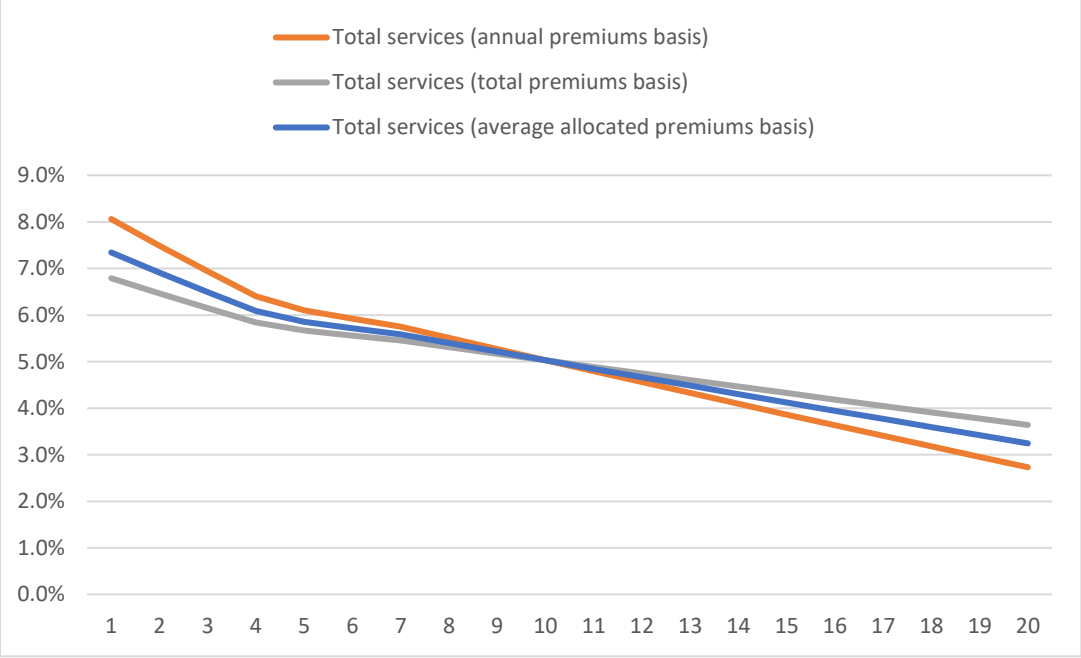
- The different CSM amortisation patterns (as a % of total CSM) that approaches (i) – (iii) give.

A more detailed quantitative illustration is provided in Appendix 2.

Graph 1: Illustration of different quantity of benefits for combined insurance services and investment-return service ("total services") from using different approaches to scale investment services



Graph 2: Illustration of different CSM amortisation rates (% of total CSM) from using different approaches to scale investment-return service



The key points this shows are:

- The quantity of benefits of the insurance service decreases over the duration of the contract. This reflects a combination of several factors:

- The quantity of base benefits increases over policy duration due to the anniversary benefit – this serves to increase the quantity of benefits on a per policy basis.
- The quantity of premium waiver benefits decreases over the policy duration – this serves to decrease the quantity of benefits on a per policy basis and is the dominant factor in this example
- The quantity of other rider benefits is constant and therefore has the effect of flattening the overall pattern
- Decreasing policy count due to mortality and morbidity – this decreases the quantity of benefits over the duration of the group of contracts

With a different combination of elective riders the pattern would be different.

- Scaling the measure of investment-return service using account balance does not reflect the pattern of a constant provision of investment-return service. As such this gives an overall quantity of benefits for the product which does not reflect its underlying services.

- Scaling the measure of investment-return services using annual premiums, total premiums and average allocated premiums all reflect the fact that the pattern of investment-return service provision is constant – this is shown by the difference between these lines and the line plotted for insurance services remaining at a constant level over the duration of the group of contracts. While the data that reflects these measures can be sourced reliably, choosing one which is the most appropriate reflection of the quantity of benefits for the investment-return services is wholly subjective.

- The three different approaches taken to scale investment-related services produce a significantly different quantity of benefits for the combined insurance and investment-return services and therefore give materially different CSM amortisation rates. This demonstrates the risk of divergence in practice.

Conclusion

Given the proposed amendment to the Standard, there is not a readily operationally viable solution available within the standard as currently proposed to be amended that reliably reflects the totality of services provided by the contract and avoids subjectivity in the relative weighting of the different services provided given the complexity of the products that are typically offered.

There are potentially two solutions:

- Incorporate some form of practical expedient / practical relief for situations where applying the existing guidance on coverage units is unduly complex or the relative weighting of different services cannot be measured reliably.

- Modifying the requirement for the relative weighting of the different services, noting that IFRS 17.117 (c) (v) is a disclosure rather than a measurement requirement, and aligning this more closely with the relevant measurement provisions at IFRS 17.44 and B119.

Revising the guiding principles currently captured in the May 2018 TRG meeting summary is not a viable solution, as these are workable and to amend them at this stage would be highly disruptive to ongoing implementation efforts.

The pros and cons of these solutions are commented in **Section 7** below.

5. Root causes of complexity

The May 2018 TRG paper set out a number of methods which might achieve the objective of determining the quantity of benefits if they are reasonable proxies for the services provided under the group of insurance contracts in each period.

These methods included:

- Quantity of benefits for insurance services based on maximum contractual benefits[4]

- Quantity of benefits based on the amount the entity expects the policyholder to be able to validly claim in each period if an insured event occurs to determine the quantity of benefits provided (e.g. where maximum contractual benefits are not easily identifiable). This is distinct from the amount the entity expects to pay to the policyholder (expected claims), which incorporates an assessment of the likelihood of an insured event occurring[5].

These methods are appropriate for the great majority of circumstances provided there is no aggregate cap on benefits. With no guidance issued on what the IASB envisages by "relative weighting" for contracts containing multiple services, it follows that determining the quantity of benefits for the overall contract could be achieved by summing the different maximum contractual benefits in the contract.

As noted above, many consider the appropriate pattern of service for investment-return service to be constant over the coverage period where the service provided is one of access. On a standalone basis, policy count is a reliable and operationally viable means of quantifying this service. When quantifying the quantity of benefits for the overall contract however, it is necessary to ensure that the measures used to quantify the benefits of the insurance services and the investment services are of comparable scale - in other words - adjusting standalone measures so that apples can be aggregated with apples rather than combining apples and pears.

While the IASB's guidance to date is clear that the comparable measure of insurance service should be maximum contractual benefit, it is debatable what the appropriate way(s) of quantifying investment-return service should be. Premiums are a reliable measure, but their relevance is questionable as it would bring a measure of size of policy into the equation and, as set out above, we consider the measure of service should be unaffected by policy size.

All of this adds to complexity and subjectivity which risks undermining understandability, comparability and faithful presentation. This is particularly the case where the identification of insurance and investment-return services within a bundled multi-service contract requires consideration of services at a level of granularity below that at which insurers manage their business, and therefore do not maintain robust management information.

Given these concerns it is proposed that the IASB looks to develop guidance which better balances:

- **Reliability** (that is, the calculations can be made reliably through use of objective data and the use of subjective inputs is limited as much as is possible), and
- **Conceptual appropriateness** (that is, consistency with the overarching objective of reflecting the services provided in the period).

Increasing the objectivity of the criteria to be considered would also limit divergence in practice between preparers and enhance the "auditability" of the solution as compared with the current proposal.

[4] May 2018 TRG summary paper paragraph 35 (h) (ii)
[5] May 2018 TRG summary paper paragraph 35 (h) (iii)

There are suggested ways in which this could be achieved in **Section 7**.

6. The Asian context and the scale of the issue

While all markets are expected to face these issues to some degree, the pervasiveness of complex bundled products in Asia means this issue is far more acute in this vast region than in the rest of the world.

These products are a function of Asian policyholder demands. The lack of an adequate social safety net coupled with rapidly emerging affluence, means that there is significant policyholder appetite for protection cover and a willingness to pay for added optional benefits. However, cultural attitudes against purchasing standalone protection-only products are such that there is a very strong policyholder preference for products which bundle protection and savings. By comparison, in our experience, insurance products in Europe and North America tend to be simpler and contain fewer bundled services.

The conceptual complexity which major insurers in Asia face is outlined above. The scale of the issue is also highly significant.

As the majority of products in Asian markets contain some bundling of services and, in nearly all instances, policyholders attach elective riders to products with a savings component, the complexity covered in Sections 3 to 5 above will apply to a significant proportion of these groups.

7. Proposed solutions

As seen above for insurance products with multiple coverages it is feasible to apply the concepts set out in the May 2018 TRG meeting summary to produce an outcome which faithfully represents the quantity of benefits provided and can be made operational.

The scale of complexity compounds rapidly once preparers have to consider both complex insurance coverages with investment-return service in the manner proposed by the amendments to IFRS 17. Where insurance contracts bundle together these services in a way where the amount of each service being provided is not distinct, the requirement to recognise CSM in profit or loss based on an assessment and relative weighting of the provision of individual services represents a significant conceptual and operational challenge.

Where groups of insurance contracts provide multiple services, which may include both insurance and investment-return services, one proposal was that the Standard be amended[6] to allow the use of practical expedients[7], such as passage of time, to determine coverage units in circumstances where the weighting of services cannot be undertaken reliably.

The use of the passage of time for CSM amortisation formed part of the draft standard as recently as in the 2016 field testing and fatal flaws review, and so is a familiar concept, although was removed prior to publication of the final standard. The Board should consider reinstating it for use in circumstances where it would provide a better balance of conceptual appropriateness and reliable determination. As noted in

[6] Similar recommendations were noted in the comment letters of a number of insurers, accounting bodies and actuarial bodies in Asia, including AIA, the Actuarial Society of Hong Kong, the Malaysian Accounting Standards Board, the Federation of Accounting Professions of Thailand, and the Institute of Actuaries of Korea.

[7] The availability of a practical expedient in IFRS where items cannot be reliably measured is relatively common and includes IAS 38.97, IAS 40.27 and 53, IAS 41.30. The most direct analogy is IAS38.97 “The depreciable amount of an intangible asset with a finite useful life shall be allocated on a systematic basis over its useful life … The amortisation method used shall reflect the pattern in which the asset’s future economic benefits are expected to be consumed by the entity. If that pattern cannot be determined reliably, the straight-line method shall be used.”

Section 3, it is possible to adjust for differences in the duration and size of insurance contracts through the level of aggregation when applying an approach based on the passage of time in order to derive groups of contracts with comparable characteristics.

Potential solutions are analysed in the table below, together with an evaluation of the extent to which these meet the Board's criteria for proposed amendments to IFRS 17.

		Criteria for proposed amendments to IFRS 17		
	Proposal	**Does not change the fundamental principles of IFRS 17 resulting in a significant loss of useful information for users relative to that which would otherwise result from applying IFRS 17**	**Avoids undue disruption to implementation already underway**	**Does not further delay effective date of IFRS 17**
1.	Practical expedient as set out in proposed B119 B2	Continues to recognise the profit from a group of insurance contracts over the period the entity provides coverage and as the entity is released from risk. If a group of contracts is or becomes loss-making the entity recognises the loss immediately. Paragraph 109 disclosures continue to provide users with useful information about the pattern of service provision	Yes – this is a practical expedient and so is only available where compliance cannot otherwise be achieved objectively. More sophisticated approaches can be used where these can be reliably measured.	Yes – no impact on effective date
2.	Revise the text of IFRS 17.117 (disclosure) as amended to more closely aligned with IFRS 17.44 (measurement) and B119 (application guidance). See proposals below[8].	Continues to recognise the profit from a group of insurance contracts over the period the entity provides coverage and as the entity is released from risk. If a group of contracts is or becomes loss-making the entity recognises the loss immediately. Paragraph 109 disclosures continue to provide users with useful information about the pattern of service provision	Yes – more closely aligns the standard after amendment with IFRS 17 as currently drafted	Yes – no impact on effective date

As the Board works to finalise the text of its proposed amendments to address the quantity of benefits provided by both insurance and investment services we would be pleased to discuss this paper, its illustrations and proposed solutions further with HKIISG, IASB Board members and staff to help deliver that outcome.

[8] The relevant measurement paragraphs, IFRS 17.44 and B119 are unchanged after the proposed amendments except for the definition of insurance contract services, reference to coverage period rather than duration and to the quantity of service rather than coverage. IFRS 17.117 as a disclosure should not of itself change the basis of measurement. To make this clearer we proposed amending IFRS 17.117 to read "An entity shall disclose the significant judgements and changes in judgements made in applying IFRS 17. Specifically an entity shall disclose the inputs, assumptions and estimation techniques used, including: … (v) to determine ~~the relative weighting of~~ the benefits provided for insurance coverage and investment-return service (for insurance contracts without direct participation features) … see paragraphs B119-B119B.

Appendix 1 – Example of multiple insurance services

Medical expenses reimbursement plan – Benefit Schedule Hospital and Surgical			Network Benefit Limit (US$)			Non-Network Benefit (US$)		
	Type of Limit		**Ward**	**Semi Private**	**Private**	**Ward**	**Semi Private**	**Private**
I. Confinement Benefits								
1	Hospital Daily Room & Board Benefit	per day, max. 90 days	106	212	475	96	192	432
2	Physician's Visit	per day, max. 90 days	106	212	475	96	192	432
3	Specialist's Fee	max. per confinement	300	625	1,250	N/A		
4	Miscellaneous Hospital Expenses Benefit	max. per confinement	1,250	2,500	3,750	935	1,540	2,200
5	Intensive Care Benefit	per day, max. 15 days	560	925	1450	468	770	1,210
6	Hospital Companion Bed Benefit	per day, max. 90 days	40	80	95	N/A		
II. Surgical Benefits								
7	Surgeon's Fees	max. per confinement/ covered surgical procedure	5,940	8,975	13,200	4,950	7,480	11,000
8	Anaesthetist's Fees		35% of Surgeon Fee			35% of Surgeon Fee		
9	Operating Theatre Fees		35% of Surgeon Fee			35% of Surgeon Fee		
III. Other Benefits								
10	Emergency Outpatient Treatment Benefit (Accident only)	max. per Covered Injury	990	1,650	2,375	825	1,375	1,980
11	Daily Post-Surgery Home Nursing Benefit	per visit, max. 15 visits within 31 days after discharged	53	106	238	N/A	88	198
12	Chiropractor/ Physiotherapist Consultation	per day, max. 10 days within 90 days after discharged	32	47	66	N/A	39	55
13	Pre-/Post- Surgery Out-patient Consultation	per visit, Pre: 1 visit within 14 days before surgery Post: 1 visit within 31 days after surgery	106	212	475	N/A		
IV. Mental or Nervous Disorder Benefits								
14	Mental or Nervous Disorder Benefit	max. per confinement, max. 30 days	2,500	3,125	3,750	2,000	2,500	3,000
V. Long Term Treatment Benefit								
15	Long Term Treatment	per illness / injury	7,500	15,000	22,500	6,250	12,500	18,750
VI. Other Benefits								
16	Top Up Subsidy Benefit	per day, max. 90 days per confinement	37.5	75	150	37.5	75	150
17	Compassionate Death Benefit^		1,100	2,200	4,400	1,100	2,200	4,400
18	Accidental Death Benefit^		1,100	2,200	4,400	1,100	2,200	4,400
19	Blood Donation Benefit^	An extra death benefit payable if the Insured donated blood at least 3 times in the past 2 years prior to death	550	1,100	2,200	550	1,100	2,200
20	Medical Accident and Incident Extension Benefit	Payable if death occurs within 30 days as directly resulted from medical negligence	11,000	22,000	44,000	11,000	22,000	44,000
21	Worldwide Emergency Assistance Services	Payable up to aged 75	62,500 (per trip)			62,500 (per trip)		

Medical expenses reimbursement plan – Example of the need for judgement when quantifying maximum contractual benefits

For certain benefits, judgement is required to estimate the maximum frequency of benefits. The table below and on the following page has been determined assuming:

- One surgery per day, for those benefits limited by number of surgeries
- One illness per day for those benefits limited by number of illness
- One visit per day for those benefits limited by number of medical visits
- One trip per day for those benefits limited by number of trips

Taking this approach would result in annual maximum contractual benefits of over US$30m per policy of which 74% relates to a worldwide emergency assistance services which is a relatively incidental benefit. Were this product to be included in a group of contracts with other products, the overall coverage units for the group of contracts would be disproportionally impacted by this product.

Hospital and Surgical			**Ward - Network Benefit Limit (US$)**				
Type of Limit			**Limits per unit**	**Little judgement required**	**Judgement required**	**Total Estimation**	**Total Coverage**
I. Confinement Benefits							
1	Hospital Daily Room & Board Benefit	per day, max. 90 days	106	**38,690**	N/A	**N/A**	**38,690**
2	Physician's Visit	per day, max. 90 days	106	**38,690**	N/A	**N/A**	**38,690**
3	Specialist's Fee	max. per confinement	300	**N/A**	365	**109,500**	**109,500**
4	Miscellaneous Hospital Expenses Benefit	max. per confinement	1,250	**N/A**	365	**456,250**	**456,250**
5	Intensive Care Benefit	per day, max. 15 days	560	**204,400**	N/A	**N/A**	**204,400**
6	Hospital Companion Bed Benefit	per day, max. 90 days	40	**14,600**	N/A	**N/A**	**14,600**
II. Surgical Benefits							
7	Surgeon's Fees	max. per confinement / covered surgical procedure	5,940	**N/A**	365	**2,168,100**	**2,168,100**
8	Anaesthetist's Fees	35% of Surgeon Fee	35% of SF	**N/A**	35%	**758,835**	**758,835**
9	Operating Theatre Fees		35% of SF	**N/A**	35%	**758,835**	**758,835**
III. Other Benefits							
10	Emergency Outpatient Treatment Benefit (Accident only)	max. per Covered Injury	990	**N/A**	365	**361,350**	**361,350**
11	Daily Post-Surgery Home Nursing Benefit	per visit, max. 15 visits within 31 days after discharged	53	**19,345**	N/A	**N/A**	**19,345**
12	Chiropractor/ Physiotherapist Consultation	per day, max. 10 days within 90 days after discharged	32	**11,680**	N/A	**N/A**	**11,680**
13	Pre-/Post- Surgery Out-patient Consultation	per visit, Pre: 1 visit within 14 days before surgery Post: 1 visit within 31 days after surgery	106	**77,380**	N/A	**N/A**	**77,380**

IV. Mental or Nervous Disorder Benefits								
14	Mental or Nervous Disorder Benefit	max. per confinement, max. 30 days	2,500	**75,000**	N/A	**75,000**	**75,000**	
V. Long Term Treatment Benefit								
15	Long Term Treatment	per illness / injury	7,500	**N/A**	365	**2,737,500**	**2,737,500**	
VI. Other Benefits								
16	Top Up Subsidy Benefit	per day, max. 90 days per confinement	37.5	**13,687**	N/A	**N/A**	**13,687**	
17	Compassionate Death Benefit^		1,100	**1,100**	N/A	**N/A**	**1,100**	
18	Accidental Death Benefit^		1,100	**1,100**	N/A	**N/A**	**1,100**	
19	Blood Donation Benefit^	An extra death benefit payable if the Insured donated blood at least 3 times in the past 2 years prior to death	550	**550**	N/A	**N/A**	**550**	
20	Medical Accident and Incident Extension Benefit	Payable if death occurs within 30 days as directly resulted from medical negligence	11,000	**11,000**	N/A	**N/A**	**11,000**	
21	Worldwide Emergency Assistance Services	Payable up to aged 75 (per trip)	62,500	**N/A**	365	**22,812,500**	**22,812,500**	**74%**
Total				**507,222**		**30,162,870**	**30,670,092**	

Appendix 2 – Example of the need for judgement in combining measures of insurance services and investment services

Quantity of benefits and CSM amortisation rates for Years 1 - 10

Quantity of benefits - standalone basis	Basis	1	2	3	4	5	6	7	8	9	10
Base benefits											
Death benefit	Max cover	3,000,000	3,020,607	3,070,533	3,149,472	3,257,100	3,393,075	3,527,640	3,514,320	3,500,640	3,486,600
Attached riders											
Early Critical care benefit	Max cover	2,500,000	1,744,575	993,700	247,600	-	-	-	-	-	-
Health	Max cover	2,500,000	2,492,250	2,484,250	2,476,000	2,467,500	2,458,750	2,449,750	2,440,500	2,431,000	2,421,250
Premium waiver	Max cover	9,500,000	8,972,100	8,446,450	7,923,200	7,402,500	6,884,500	6,369,350	5,857,200	5,348,200	4,842,500
Insurance Services only	Max cover	17,500,000	16,229,532	14,994,933	13,796,272	13,127,100	12,736,325	12,346,740	11,812,020	11,279,840	10,750,350
Investment Service	Policy count	100	100	99	99	99	98	98	98	97	97
Quantity of benefits - total services in contract											
Possible data points to scale policy count to be of comparable scale to quantity of benefits used for insurance service:											
Annual premiums	Amount	500,000	498,450	496,850	495,200	493,500	491,750	489,950	488,100	486,200	484,250
Account balance	Amount	194,750	388,504	590,883	900,749	1,227,656	1,568,162	1,996,556	2,440,239	2,903,569	3,411,490
Average total premiums basis	Amount	9,648,500	9,618,590	9,587,714	9,555,874	9,523,070	9,489,300	9,454,565	9,418,866	9,382,201	9,344,572
Average allocated premiums basis	Amount	4,340,539	4,327,083	4,313,193	4,298,870	4,284,112	4,268,920	4,253,294	4,237,234	4,220,740	4,203,812
Total quantity of benefits for overall contract based on different approaches:											
Total services (annual premiums basis)	Quantity	18,000,000	16,727,982	15,491,783	14,291,472	13,620,600	13,228,075	12,836,690	12,300,120	11,766,040	11,234,600
Total services (account balance basis)	Quantity	17,694,750	16,618,036	15,585,816	14,697,021	14,354,756	14,304,487	14,343,296	14,252,259	14,183,409	14,161,840
Total services (total premiums basis)	Quantity	27,148,500	25,848,122	24,582,647	23,352,146	22,650,170	22,225,625	21,801,305	21,230,886	20,662,041	20,094,922
Total services (average allocated premiums basis)	Quantity	21,840,539	20,556,615	19,308,126	18,095,142	17,411,212	17,005,245	16,600,034	16,049,254	15,500,580	14,954,162
CSM amortisation (as a % of initial CSM) based on different approaches:											
Total services (annual premiums basis)		8.1%	7.5%	6.9%	6.4%	6.1%	5.9%	5.7%	5.5%	5.3%	5.0%
Total services (total premiums basis)		6.8%	6.5%	6.1%	5.8%	5.7%	5.6%	5.5%	5.3%	5.2%	5.0%
Total services (average allocated premiums basis)		7.3%	6.9%	6.5%	6.1%	5.9%	5.7%	5.6%	5.4%	5.2%	5.0%

Appendix 2 – Example of the need for judgement in combining measures of insurance services and investment services (cont.)

Quantity of benefits and CSM amortisation rates for Years 11 - 20

Quantity of benefits - standalone basis	Basis	11	12	13	14	15	16	17	18	19	20
Base benefits											
Death benefit	Max cover	3,472,200	3,457,440	3,442,320	3,426,840	3,411,000	3,394,800	3,378,240	3,361,320	3,344,040	3,326,400
Attached riders											
Early Critical care benefit	Max cover	-	-	-	-	-	-	-	-	-	-
Health	Max cover	2,411,250	2,401,000	2,390,500	2,379,750	2,368,750	2,357,500	2,346,000	2,334,250	2,322,250	2,310,000
Premium waiver	Max cover	4,340,250	3,841,600	3,346,700	2,855,700	2,368,750	1,886,000	1,407,600	933,700	464,450	-
Insurance Services only	Max cover	10,223,700	9,700,040	9,179,520	8,662,290	8,148,500	7,638,300	7,131,840	6,629,270	6,130,740	5,636,400
Investment Service	Policy count	96	96	96	95	95	94	94	93	93	92
Quantity of benefits - total services in contract											
Possible data points to scale policy count to be of comparable scale to quantity of benefits used for insurance service:											
Annual premiums	Amount	482,250	480,200	478,100	475,950	473,750	471,500	469,200	466,850	464,450	462,000
Account balance	Amount	3,940,635	4,493,199	5,070,206	5,672,789	6,302,135	6,959,485	7,646,142	8,363,469	9,112,896	9,895,920
Average total premiums basis	Amount	9,305,978	9,266,419	9,225,896	9,184,407	9,141,954	9,098,536	9,054,152	9,008,804	8,962,492	8,915,214
Average allocated premiums basis	Amount	4,186,450	4,168,653	4,150,423	4,131,759	4,112,660	4,093,128	4,073,162	4,052,761	4,031,926	4,010,658
Total quantity of benefits for overall contract based on different approaches:											
Total services (annual premiums basis)	Quantity	10,705,950	10,180,240	9,657,620	9,138,240	8,622,250	8,109,800	7,601,040	7,096,120	6,595,190	6,098,400
Total services (account balance basis)	Quantity	14,164,335	14,193,239	14,249,726	14,335,079	14,450,635	14,597,785	14,777,982	14,992,739	15,243,636	15,532,320
Total services (total premiums basis)	Quantity	19,529,678	18,966,459	18,405,416	17,846,697	17,290,454	16,736,836	16,185,992	15,638,074	15,093,232	14,551,614
Total services (average allocated premiums basis)	Quantity	14,410,150	13,868,693	13,329,943	12,794,049	12,261,160	11,731,428	11,205,002	10,682,031	10,162,666	9,647,058
CSM amortisation (as a % of initial CSM) based on different approaches:											
Total services (annual premiums basis)		4.8%	4.6%	4.3%	4.1%	3.9%	3.6%	3.4%	3.2%	3.0%	2.7%
Total services (total premiums basis)		4.9%	4.7%	4.6%	4.5%	4.3%	4.2%	4.0%	3.9%	3.8%	3.6%
Total services (average allocated premiums basis)		4.8%	4.7%	4.5%	4.3%	4.1%	3.9%	3.8%	3.6%	3.4%	3.2%