



**BANK NEGARA MALAYSIA**  
CENTRAL BANK OF MALAYSIA

# **Risk-Based Capital Framework for Insurers and Takaful Operators (Framework Design)**

## **Discussion Paper**

Applicable to:

1. Licensed insurers, including professional reinsurers
2. Licensed takaful operators, including professional retakaful operators

This discussion paper explores proposed enhancements to the design of the capital adequacy framework for licensed insurers and licensed takaful operators, as part of the Bank's multi-phased review of the overall solvency framework. These enhancements aim to ensure that the framework remains effective under changing market conditions, and facilitates consistent and comparable capital adequacy measurement across the insurance and takaful industry, where appropriate. In developing the proposals, the Bank has also taken into consideration the developments in global capital standards.

The Bank invites written feedback on this discussion paper, including suggestions for particular areas to be clarified or enhanced and any alternative proposals that the Bank should consider. To facilitate a constructive consultation process, the feedback should be supported with clear justifications, especially on the practical aspects, and accompanying evidence or illustrations, where appropriate.

In addition to providing general feedback, it is highly recommended that respondents also provide feedback to the specific questions set out in this discussion paper.

Responses must be submitted electronically as per the attached template to [pfpcconsult@bnm.gov.my](mailto:pfpcconsult@bnm.gov.my) by 30 September 2021.

In the course of preparing your feedback, you may direct any queries to the following officers –

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## PART A OVERVIEW

### 1. Introduction

- 1.1 The Risk-Based Capital Framework for Insurers (RBC) and the Risk-Based Capital Framework for Takaful Operators (RBCT), collectively referred to as “the framework” in this Discussion Paper (DP), were implemented in 2009 and 2014 respectively. The framework is primarily aimed at ensuring that licensed insurers and licensed takaful operators (ITOs) maintain a capital adequacy level that reflects their underlying risk profiles, while catering for the specificities of the business models.
- 1.2 Since the implementation of the framework, the market conditions in which ITOs operate and the landscape of the insurance and takaful industry have evolved (e.g. through product innovation, and the introduction of new takaful models and Shariah contracts). There have also been global regulatory developments such as the Risk-based Global Insurance Capital Standards (ICS)<sup>1</sup> by the International Association of Insurance Supervisors (IAIS) which serve as useful guidance in identifying areas for enhancement in the existing capital adequacy framework for ITOs. These developments have anchored the Bank’s review of the capital adequacy framework for ITOs to:
- (a) Ensure that the framework remains risk sensitive and responsive to changes in the market conditions, as well as insurance and takaful landscape;
  - (b) Improve consistency of capital adequacy measurement across the insurance and takaful industry, where appropriate; and
  - (c) Achieve greater alignment with key elements of the global capital standards such as ICS, where appropriate.
- 1.3 The review of the framework is multi-phased, with the key milestones and broad timelines summarised below:

*Table 1*

Date	Milestone
<b>Phase 1: Review of valuation requirements for insurance/takaful liabilities</b>	
24 December 2019	Issuance of Exposure Draft on Valuation of Insurance and Takaful Liabilities (Valuation ED), together with a quantitative test
<b>Phase 2: Review of capital adequacy requirements</b>	
17 November 2020	Issuance of Discussion Paper on Risk-Based Capital Framework for Insurers and Takaful Operators – Capital Instruments (Capital Instruments DP)
30 June 2021	Issuance of Discussion Paper on Risk-Based Capital Framework for Insurers and Takaful Operators – Framework Design
2H 2021	Quantitative impact study on the proposed new framework design

<sup>1</sup> Level 1 and 2 Documents: ICS Version 2.0 for the monitoring period, <https://www.iaisweb.org/page/supervisory-material/insurance-capital-standard>

<b>Phase 3: Further refinements</b>	
2022	Issuance of Exposure Draft on Risk-Based Capital Framework for Insurers and Takaful Operators (including refined requirements for valuation of insurance and takaful liabilities), as well as further quantitative impact studies, where relevant
2023	Parallel run based on the new framework
2024	Potential implementation of the new framework, subject to the results of the parallel run (at the earliest)

- 1.4 Building on the proposals introduced in the Valuation ED and the Capital Instruments DP, this DP will explore potential enhancements to the key design elements of the framework in order to achieve the objectives specified in paragraph 1.2. Other requirements of the existing framework which are not discussed in this DP remain relevant. As such, this DP should be read together with the existing RBC and RBCT policy documents.
- 1.5 Specifically, this DP seeks to initiate discussions and solicit feedback from ITOs on the following:
- (a) The recognition of the loss absorbing capacity of management actions under the Total Capital Available (TCA);
  - (b) The appropriate target risk level for calibration of capital charges;
  - (c) The comprehensiveness of the risk components under the Total Capital Required (TCR) and the appropriateness of the approach for measuring these risks; and
  - (d) The feasibility of introducing a single formula for calculating the Capital Adequacy Ratio (CAR) for ITOs, which reflects the uniqueness of insurance and takaful business models while promoting greater comparability of capital adequacy across the two industries.
- 1.6 In moving towards a more consistent capital adequacy measurement for the insurance and takaful industry, the Bank has explored enhancements that take into account the similarities in the underlying risks of ITOs, while considering the differences<sup>2</sup> between the underlying business models of insurance and takaful. These include differences in the fiduciary duties of insurers and takaful operators to policyholders and takaful participants respectively, as well as the fungibility of capital<sup>3</sup>. In line with this, the enhancements set out in this DP are being considered in relation to both insurers and takaful operators, unless otherwise specified. Where there are additional considerations for each business model, these are specifically highlighted.

<sup>2</sup> These differences are further elaborated in Appendix 1.

<sup>3</sup> Fungibility of capital refers to the availability of capital to absorb losses in other funds.

## 2. Interpretation

2.1 The terms and expressions used in this DP shall have the same meanings assigned to them in the Financial Services Act 2013 (FSA) and the Islamic Financial Services Act 2013 (IFSA), as the case may be, unless otherwise defined in this DP.

2.2 For the purposes of this DP –

**“account-based products”** refer to life insurance/family takaful products with unitised or non-unitised accounts, including investment-linked (IL), universal life and takaful products with Participants’ Individual Fund (PIF);

**“factor-based approach”** refers to the determination of the capital charge for a particular risk by applying a factor to an exposure measure;

**“insurance/takaful liabilities”** refer to the liabilities of insurance/takaful contracts. For takaful, this includes the liabilities relating to the shareholders’ fund (i.e. expense liabilities), unless otherwise specified;

**“ITO”** refers collectively to –

- (a) a licensed insurer, including a professional reinsurer, as defined under the FSA; and
- (b) a licensed takaful operator, including a professional retakaful operator, as defined under the IFSA;

**“long-term insurance/takaful contracts”** refer to insurance/takaful contracts with boundary of more than one year;

**“non-account-based products”** refer to life insurance/family takaful products other than account-based products;

**“Participants’ Individual Fund”** or **“PIF”** refers to a takaful fund established to allocate a portion of a takaful participant’s contributions for the purpose of investment or savings;

**“Participants’ Risk Fund”** or **“PRF”** refers to a takaful fund established to pool a portion of a takaful participant’s contributions for the purpose of meeting takaful claims associated with events or risks specified in the takaful certificate;

**“short-term insurance/takaful contracts”** refer to insurance/takaful contracts with boundary of one year or less;

**“stress-based approach”** refers to the determination of the capital charge for a particular risk based on the impact on assets and/or liabilities due to a shock.

## PART B DESIGN OF THE CAPITAL ADEQUACY FRAMEWORK

### 3. Total Capital Available (TCA)

- 3.1 The main focus of the Capital Instruments DP was to explore the principles and eligibility criteria for recognition of capital instruments as capital available under the framework. This DP expands the discussion on capital available to cover additional areas which were not discussed in the Capital Instruments DP. In particular, the Bank is exploring the treatment of the following capital elements, taking into account the proposals on valuation of insurance/takaful liabilities set out in the Valuation ED and their implications to the TCA:
- (a) The extent to which the loss absorbing capacity of management actions which have been accounted for in the valuation of insurance/takaful liabilities, should be explicitly recognised as capital available, and the approach for recognition. This includes a review of management actions that are already recognised under the existing framework such as bonus revisions, and consideration for those that are not recognised under the existing framework such as decisions on distribution of surplus for takaful contracts and repricing of in-force medical and health insurance/takaful contracts with reviewable premiums/takaful contributions; and
  - (b) The extent to which negative insurance/takaful liabilities<sup>4</sup> should be recognised as capital available.

#### Question 1

##### *Recognition of management actions*

Please provide your views on the following:

- (a) For participating life business, whether potential bonus revisions should continue to be recognised as capital available, and if yes, whether the current approach for recognition remains appropriate. If you would like to suggest any alternatives, please provide details and rationale;
- (b) Whether the loss absorbing capacity of the following new areas should be recognised as capital available, and if yes, to what extent (e.g. in full or partially) and how should it be recognised:
  - (i) For takaful operators, future surplus distributions; and
  - (ii) The ability to reprice in-force medical and health insurance/takaful contracts; and
- (c) Any other management actions that could be recognised, with reasons.

<sup>4</sup> Paragraph 13.5 of Valuation ED.

**Question 2**

*Deductions*

The Bank is of the view that the deductions<sup>5</sup> from capital available covered under the existing framework remain relevant.

Please provide your views on whether these deductions should be expanded (e.g. to include a deduction for future tax payable on the surplus relating to current in-force business). If yes, please provide supporting details and rationale.

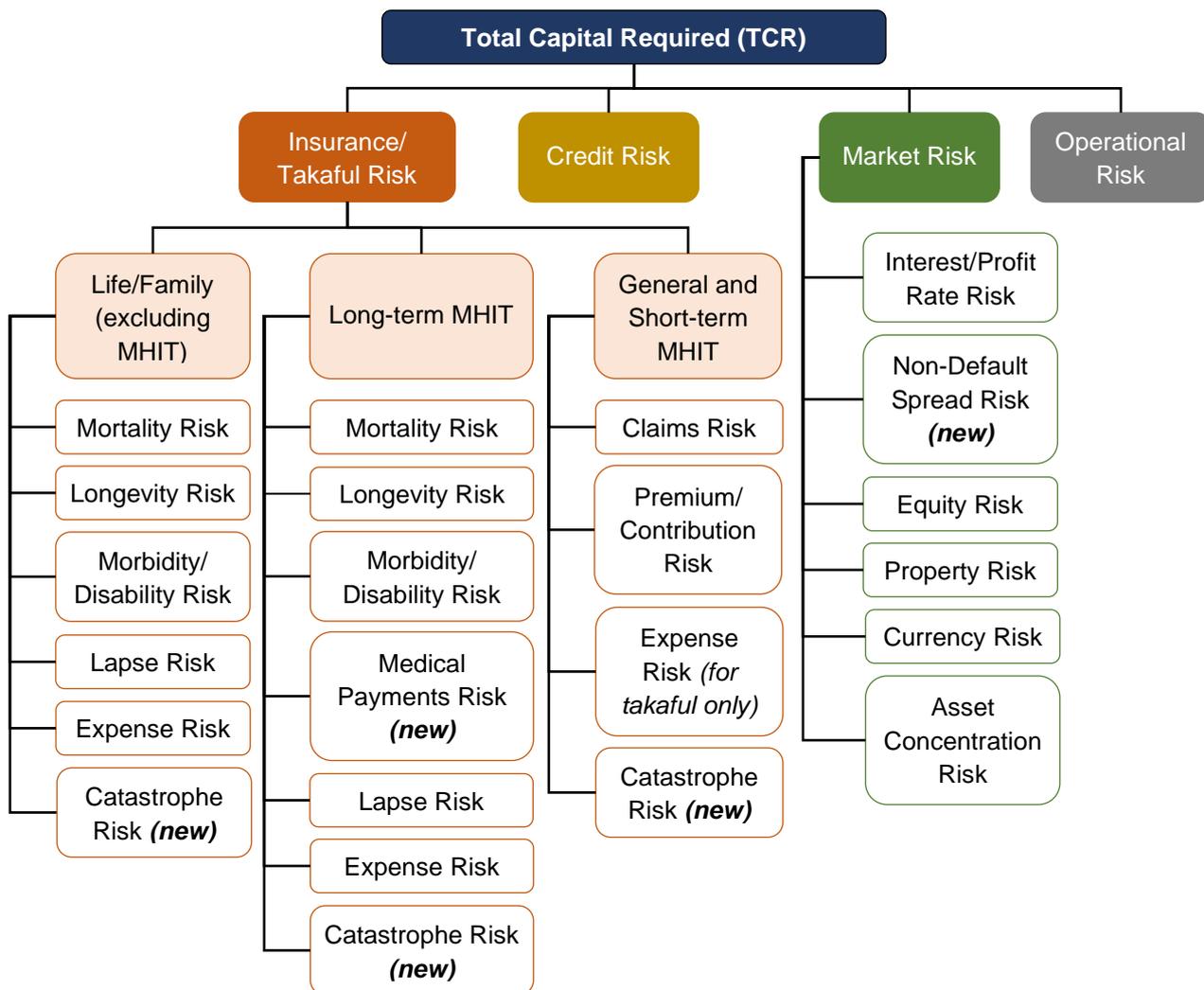
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<sup>5</sup> Paragraph 8.1 of RBC and paragraph 9.9 of RBCT.

## 4. Total Capital Required (TCR)

### (a) Overall structure

4.1 The TCR will continue to capture the key risks faced by ITOs, namely insurance, takaful (including expenses), credit, market and operational risks. The Bank is exploring potential enhancements to the risk components in order to ensure that they are comprehensive and sufficiently risk sensitive. The enhancements generally relate to the calibration of capital charges, the scope of the risks, and the measurement approach. The overall structure of the TCR that the Bank is considering is as follows:



Where:

- Long-term MHIT refers to medical and health insurance/takaful contracts with boundary of more than one year;
- Short-term MHIT refers to medical and health insurance/takaful contracts with boundary of one year or less; and
- For takaful, expense and operational risks are borne by the shareholders' fund.

**(b) Target risk level for calibration**

- 4.2 The Bank is considering to calibrate the capital charges such that they correspond broadly to a Value-at-Risk (VaR) of 99.5% confidence level over a one-year period.

**Question 3**

*Risk measure*

In determining a suitable risk measure for the capital adequacy framework, two options were considered: VaR and Tail-Value-at-Risk (T-VaR). Recognising the practical constraints of the T-VaR (such as availability of data) despite it being theoretically better able to capture extreme events, the Bank is considering to adopt the VaR as the risk measure for the capital adequacy framework at this juncture.

Please provide your views on the appropriateness of the VaR as a risk measure. Where you would like to suggest any alternatives, please provide supporting rationale and highlight the practical implications of the alternatives.

**Question 4**

*Confidence level and time horizon*

Please provide your views on the broad target confidence level of 99.5% and one-year time horizon. Where you would like to suggest any alternatives, please provide supporting rationale and highlight the practical implications of the alternatives.

**(c) Components of TCR**

**(i) Insurance and takaful risk**

4.3 The Bank is considering to re-categorise some of the risks covered under the insurance and takaful risk component in the existing framework, introduce new risk categories, clarify the differences in risk categories and enhance the measurement approach. The following table sets out the proposed components of insurance and takaful risk:

*Table 2*

Risk	Products without medical and health coverage		Medical and health products <sup>6</sup>	
	Life insurance and family takaful	General insurance and general takaful	Long-term <sup>7</sup>	Short-term <sup>8</sup>
Mortality	/		/	
Longevity	/		/	
Morbidity/disability	/		/	
Medical payments (new)			/	
Lapse	/		/	
Expense	/	<sup>9</sup>	/	<sup>9</sup>
Claims		/		/
Premium/ contribution		/		/
Catastrophe (new)	/	/	/	/

4.4 The risks set out in Table 2 are defined as follows:

*Table 3*

Risk	Definition/scope
Mortality	Risk of loss due to unexpected increase in mortality rates.
Longevity	Risk of loss due to unexpected decrease in mortality rates.
Morbidity/ disability	Risk of loss due to unexpected increase in morbidity or disability rates. This includes events that are caused by accident and sickness, including dread disease. However, this does not include events involving reimbursement of medical costs, which are covered under medical payments risk.

<sup>6</sup> Both standalone policies/takaful certificates and riders.

<sup>7</sup> Refers to medical and health insurance/takaful (MHIT) contracts with boundary of more than one year, including guaranteed yearly renewable MHIT contracts.

<sup>8</sup> Refers to MHIT contracts with boundary of one year or less.

<sup>9</sup> For takaful only.

Medical payments	Risk of loss due to unexpected increase in the level of medical payments and medical payments inflation rate for medical and health insurance/takaful products that provide reimbursement of medical costs. This excludes fixed benefit payouts for incidence of dread disease, and hospital income, which are captured under morbidity/disability risk.
Lapse	Risk of loss due to unexpected changes in the exercise rates of policy/takaful certificate options, including but not limited to forfeitures, surrenders, renewals, terminations and premium/takaful contribution holidays. This includes consideration of mass lapse event.
Expense	Risk of loss due to unexpected increase in the level of expenses and expense inflation rate. For takaful, this risk is borne by the shareholders' fund.
Claims	Risk of loss due to unexpected changes in the expected future payments for claim events that have already occurred, whether or not they have been reported.
Premium/contribution	Risk of loss due to unexpected changes in the timing, frequency and severity of future claim events.
Catastrophe – Life/family	Risk of loss due to low frequency and high severity mortality claim events that have yet to occur arising from a pandemic.
Catastrophe – General	Risk of loss due to low frequency and high severity claim events that have yet to occur. This includes: (a) natural catastrophes such as flood and tsunami; and (b) other catastrophes such as pandemic, explosion, airplane crash and terrorism.

4.5 For the claims and premium/contribution risks for general insurance and general takaful, the Bank is of the view that, for fire and medical and health businesses, long-term contracts should be segregated from short-term contracts, as the longer-term insurance/takaful contracts expose ITOs to greater levels of uncertainty. The following table sets out how the Bank intends to segregate these risks according to the classes of business:

*Table 4*

<b>Class of business</b>	<b>Definition/scope<sup>10</sup></b>
Aviation	All business underwritten in the Aviation Department including Aviation Hull and Liabilities, Satellites, Airport Operator's Liabilities, Aircraft Refuelling Liabilities, and Pilot's Loss of Licence insurance/takaful.

<sup>10</sup> Generally in line with the definitions specified in the Guidance Notes on Insurance Companies Statistical System (ICSS) and Takaful Operators Statistical System (TOSS).

Bonds	All types of bonds which ITOs are permitted to underwrite, including contract bonds, advance payment guarantees, immigration bonds, customs bonds, administration bonds and other types of bonds.
Cargo	All business underwritten in the Cargo Department including Marine Cargo, Air Cargo, Land Transit, Marine Cargo Loss of Profits, Cargo Throughput Policies, Port Operator’s Liability, Freight Forwarder’s Liability etc.
Contractors’ All Risks & Engineering	All business underwritten in the Engineering Department including Contractor’s All Risks, Erection All Risks, Advance Loss of Profits, Machinery Breakdown, Boiler Explosion, Related Loss of Profits, Computer All Risks and Storage Vessels, but excluding contract bonds.
Long-Term Fire <b>(new)</b>	Fire insurance/takaful cover with contract boundary of more than one year, where fire refers to all business underwritten in the Fire Department including Industrial All Risks, Fire and Allied Perils Material Damage and Loss of Profits, Houseowners/Householders insurance/takaful coverage.
Short-Term Fire <b>(new)</b>	Fire insurance/takaful cover with contract boundary of one year or less.
Liabilities	All insurance/takaful coverage of liabilities such as Public Liability or General Third Party Liability, Products Liability, Professional Indemnity, Errors and Omissions Cover, Directors’ and Officers’ Liability and other forms of liability.
Marine Hull & Liability	All business underwritten in the Marine Hull & Liability Department including Marine Hull Loss of Profits, Loss of Hire, Builder’s Risk and Marine Liability.
Long-Term Medical & Health <b>(new)</b>	Medical and health insurance/takaful cover with contract boundary of more than one year, including guaranteed yearly renewable medical and health insurance/takaful cover, where medical and health refers to a policy/takaful certificate that provides specified benefits against risks of person becoming totally or partially incapacitated as a result of sickness or infirmity (this includes medical and health insurance/takaful coverage packaged with personal accident policies/takaful certificates where the medical and health portion constitutes the major proportion of the insurance/takaful cover).
Short-Term Medical & Health <b>(new)</b>	Medical and health insurance/takaful cover with contract boundary of one year or less.
Motor “Act”	The following motor insurance/takaful cover and claims made in respect of such insurance/takaful cover: (a) Liabilities to third parties corresponding to the requirements under the Road Transport Act 1987;

	(b) Legal liability to passengers (liabilities to passengers in the vehicle); and (c) Legal liability of passengers (liabilities of passengers for negligent acts), where motor refers to a policy/takaful certificate providing insurance/takaful cover on a motor vehicle, including liabilities arising and other specified benefits against risks from the use of the motor vehicle.
Motor “Others”	Any motor insurance/takaful cover other than Motor “Act” and claims made in respect of such insurance/takaful cover.
Offshore Oil & Gas Related	Insurance/takaful coverage of oil and gas exploration, development (including construction) and production risks, offshore or onshore, for account of owners or operators of such risks, or offshore oil and gas contractors.
Personal Accident (PA)	Coverage of individual PA, group PA and travel PA. This includes travel insurance/takaful packages with a significant PA element.
Workmen’s Compensation & Employer’s Liability	All insurance/takaful coverage indemnifying employers in respect of their liabilities to workmen either under Workmen’s Compensation Act or under common law.
Others	All other types of miscellaneous insurance/takaful coverage not falling within any of the above classifications.

**Question 5**

*Overall scope of the insurance and takaful risk component*

Please provide your views on whether Table 3 sufficiently captures the exposure to insurance and takaful risk. If there are any other sub-risks that you think should be included, please provide details with supporting rationale and suggestions on how they could be measured.

- 4.6 In terms of measurement, the Bank is exploring enhancements to the approach used for insurance and takaful risk in order to accommodate the new risks and to better measure the existing risks. The following is an overview of the measurement approaches that the Bank is considering, where a stress-based approach is used for life insurance and family takaful risk, and a factor-based approach is used for general insurance and general takaful risk (except for catastrophe risk):

Table 5

<b>Risk</b>	<b>Stress-based</b>	<b>Factor-based</b>
Mortality	/	
Longevity	/	
Morbidity/disability	/	
Medical payments <b>(new)</b>	/	
Lapse (including mass lapse)	<b>/(revised)</b>	
Expense – Life/family and long-term MHIT	/	
Expense – General takaful and short-term medical and health takaful		<b>/(revised)</b>
Claims		/
Premium/contribution		/
Catastrophe – Life/family <b>(new)</b>	/	
Catastrophe – General <b>(new)</b>	/	

**Question 6**

*Measurement approach*

Please provide your views on the appropriateness of the measurement approaches set out in Table 5, in particular those that remain unchanged. Where you have any alternative suggestions, please provide details and rationale.

**Question 7**

*Medical payments risk*

Under the existing framework, medical payments risk is not explicitly measured for life insurance and family takaful business, but implicitly captured under the claims and premium/contribution risks for general insurance and general takaful business. In view that long-term MHIT contracts (written by both life insurers/family takaful operators and general insurers/general takaful operators) are more exposed to unexpected changes in the level of medical payments and medical payments inflation rate than short-term MHIT contracts, the Bank is considering to introduce a separate medical payments risk charge for long-term MHIT contracts.

Please provide your views on:

- (a) Whether the inclusion of an explicit capital charge for medical payments risk for long-term MHIT contracts is appropriate;
- (b) Whether the definition of medical payments risk appropriately captures the characteristics of the risk. If you have any alternative suggestions, please provide details and rationale;

- (c) Whether you consider medical payments inflation rate in setting your valuation assumptions. If yes, please explain how it is considered in the projection of medical payments for the valuation of insurance/takaful liabilities;
- (d) Whether you foresee any challenges in applying the proposed stress-based approach for medical payments risk. Please also share any alternative suggestions that you may have, with rationale; and
- (e) Whether you plan to use the discounted cash flow method to determine the liabilities of short-term MHIT contracts. If yes, please provide details of the relevant MHIT products.

### **Question 8**

#### *Lapse risk for life insurance and family takaful*

Under the existing framework, mass lapse risk is addressed by the surrender value capital charge (SVCC)<sup>11</sup>, which acts as a floor for the TCR. Moving forward, in line with the definition set out in Table 3, the Bank is considering to include the mass lapse risk charge as an additional charge under lapse risk (i.e. lapse risk will cover two separate charges for normal lapse and mass lapse). With this, the SVCC will no longer act as a floor for the TCR. The Bank is of the view that the new approach will capture lapse risk more holistically and allow for greater stability in the TCR.

Please provide your views on:

- (a) The appropriateness of the proposed approach of removing SVCC as a floor for the TCR and including it under lapse risk. Where you have any alternative suggestions, please provide details and rationale; and
- (b) The appropriate approach for determining the separate capital charge for mass lapse risk (e.g. would the current approach of comparing the aggregate surrender value of the business in force and the insurance/takaful liabilities continue to be appropriate?). Please accompany your suggestions with sufficient details and rationale, and indicate whether or not your company currently adopts the suggested approach for internal monitoring purposes.

### **Question 9**

#### *Lapse risk for general insurance and general takaful*

Under the existing framework, lapse risk is not specifically considered for general insurance and general takaful business.

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<sup>11</sup> Paragraph 16 of RBC and paragraph 17 of RBCT.

- (a) Please provide your views on whether lapse risk is material for general insurance and general takaful business, with rationale and details of the product features which contribute to the lapse risk; and
- (b) If yes to (a), please provide suggestions on how the lapse risk could be measured. Where your company currently measures lapse risk for internal monitoring purposes, please share the approach used.

### **Question 10**

#### *Expense risk for general takaful*

Under the existing framework, expense risk for general takaful business<sup>12</sup> is measured using a stress-based approach, similar to family takaful business. However, the Bank is considering to revise the measurement approach for expense risk for general takaful business to a factor-based approach, in order to streamline with the overall approach used for general insurance business given the similarities in the underlying risks that general insurers and general takaful operators are ultimately exposed to.

Please provide your views on whether a factor-based approach would adequately capture the expense risk for general takaful business. If you are of the view that the current stress-based approach should be retained, or if there are any alternatives that the Bank should consider, please provide details and rationale.

### **Question 11**

#### *Premium/contribution risk*

Under the existing framework, premium/contribution liabilities is used as a proxy for the exposure to the risk of under-estimation of reserves relating to the unexpired portion of coverage<sup>13</sup>. Taking into consideration the proposals under the Valuation ED, this would mean that the risk factors would be applied to the unexpired risk reserves (URR). While this approach captures the risk arising from in-force policies/takaful certificates, it does not fully capture the risk that an ITO is potentially exposed to over the coming one-year time horizon, in particular, the risk associated with expected renewals and new business relating to very short-term cover (e.g. daily e-hailing insurance/takaful cover, PA cover for sports events).

Given this, the Bank is exploring the use of the following new proxies for premium/contribution risk exposure in place of the URR, in order to capture the risk

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<sup>12</sup> Paragraph 15.1 of RBCT.

<sup>13</sup> Paragraph 13 of RBC and paragraph 13 of RBCT.

arising from business already written, as well as business expected to be written, over a one-year time horizon:

	Insurance	Takaful	
		PRF(s)	Shareholders' fund (expense risk)
(i)	Net earned premium for the year preceding the reporting date	Net earned <i>tabarru'</i> charges for the year preceding the reporting date	Net earned <i>wakalah</i> fees for the year preceding the reporting date
<b>or</b>			
(ii)	Expected net earned premium over the next year based on the company's business plan	Expected net earned <i>tabarru'</i> charges over the next year based on the company's business plan	Expected net earned <i>wakalah</i> fees over the next year based on the company's business plan
<b>or</b>			
(iii)	The higher of (i) and (ii)		

Please provide your views on whether any of the proxies mentioned above would provide a suitable basis for measuring the risk arising from future claim events over a one-year time horizon. Where you have any alternative suggestions, please provide details and rationale.

### Question 12

#### *Catastrophe risk for life insurance and family takaful*

- (a) Please provide your views on whether there are any other catastrophe scenarios, apart from a pandemic, that are relevant to life insurers and family takaful operators. This may include the potential impact of climate change. If yes, please elaborate on the approach that could be used to measure the risks arising from these catastrophe scenarios and whether there is sufficient data to calibrate the risk charges for these catastrophe scenarios, with reasons.
- (b) For the pandemic scenario, please provide your views on whether an increase in medical payments and morbidity/disability claims should be included, in addition to the increase in mortality rates.

**Question 13**

*Catastrophe risk for general insurance and general takaful (flood risk)*

- (a) Does your company currently measure flood risk? If yes, please describe how.
- (b) Please provide your views on how flood risk could be captured under the catastrophe risk component (e.g. would applying stress factors to exposures in the top three geographical locations covered under the company's portfolio be appropriate?). Please accompany your suggestions with sufficient details and rationale.

**Question 14**

*Catastrophe risk for general insurance and general takaful (other than flood risk)*

- (a) Please provide your views on whether there are any other catastrophe scenarios, apart from the examples in Table 3, that are relevant to general insurers and general takaful operators. With regard to natural catastrophes, please also consider the potential impact of climate change.
- (b) Please provide your views on the approach that could be used to measure the risks arising from the catastrophe scenarios set out in Table 3, and any other catastrophe scenarios you have suggested under (a) (e.g. stress/scenario or factor-based), with reasons.
- (c) Please provide your views on the availability and credibility of data to calibrate the risk charges for the catastrophe scenarios set out in Table 3, as well as any other catastrophe scenarios you have suggested under (a).

**(ii) Credit risk**

- 4.7 The Bank is exploring enhancements to the definition of credit risk, the scope and categorisation of exposures covered, the measurement approach and the recognition of credit risk mitigation (CRM) tools.
- 4.8 Credit risk is defined as the risk of loss resulting from asset defaults, related losses of income and the inability or unwillingness of a counterparty to fully meet its contractual financial obligations. This therefore includes migration risk and spread risk due to defaults<sup>14</sup>.

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<sup>14</sup> Please note that non-default spread risk, which results in losses from unexpected changes in the level of volatility of spreads over the risk-free interest rate term structure will be explored under the market risk component.

**Question 15**

*Definition of credit risk*

Please provide your views on whether the definition sufficiently describes the credit risk that your company is exposed to. Where you have any suggestions for additional aspects to be included in the definition, please provide details and rationale.

- 4.9 The Bank is of the view that the current factor-based approach is adequate to measure credit risk, considering the ITOs' current credit risk profiles.

**Question 16**

*Measurement approach*

- (a) Please explain the extent to which your company adopts a stress-based approach in the internal measurement of credit risk.
- (b) Please provide your views on whether the factor-based approach continues to be appropriate in measuring credit risk under the framework.

- 4.10 The investment strategies of ITOs may have evolved since the framework was first introduced, in tandem with the wider range of available investment products in the market. Therefore, the Bank is exploring potential expansions and/or re-categorisation of exposures to ensure that the credit risk charges remain comprehensive and risk sensitive. In particular, the Bank is considering the following:
- (a) Expansion to include new instruments and exposures, which may not be captured under the existing framework; and
  - (b) Further segregation of long-term debt securities according to maturity.
- 4.11 Similar to the scope of exposures, the use of CRM may have evolved over time along with the investment strategies. Therefore, the Bank is exploring potential improvements to the treatment of CRM in reducing the credit risk charges, including capturing new forms of CRM.

**Question 17**

*Classes of financial instruments*

- (a) Does your company have any exposure to the following instruments? If yes, please provide details of the instruments in the response template.
  - (i) Securitised assets
  - (ii) Unrated bonds/sukuk
  - (iii) Subordinated debt instruments
- (b) Notwithstanding the answer to (a), please elaborate on your company's risk appetite for investing in these instruments in the future.

- (c) Please provide your views on whether there are other instruments that warrant separate treatment under the credit risk component. If yes, please provide reasons and indicate whether your company currently has exposure to these instruments in the response template.

### Question 18

#### *Sovereign exposures*

Does your company have any exposures to sovereigns other than Malaysia? If yes, please provide the exposure amounts in the response template and elaborate on the reasons for investing in them, including whether or not your company plans to continue to do so. Otherwise, please share your company's risk appetite and/or plans for investing in foreign sovereigns in the future.

### Question 19

#### *Differentiation according to maturity*

Under the existing framework, debt facilities are differentiated into short-term (i.e. original maturity of 1 year or less) and long-term exposures<sup>15</sup>. The Bank is exploring further segregation of long-term exposures based on the debt facilities' maturity, in addition to the current approach that relies on rating category. This is to reflect the higher credit risk in the longer-maturity debt facilities, and vice versa. In addition, the Bank is considering the possible methods of measuring maturity, including the use of effective maturity, defined as:

$$\text{Effective Maturity} = \frac{\sum_t t * CF_t}{\sum_t CF_t}$$

where  $CF_t$  denotes the cash flows (principal, interest/profit payments and fees) contractually payable by the borrower in period  $t$ .

Please provide your views on:

- (a) Whether there is merit to differentiate further the risk charges by maturity and whether this should be done separately for different counterparties (e.g. banks, other corporates); and
- (b) The appropriateness of using effective maturity to measure the debt facilities' maturity for this purpose. If you would like to suggest any alternatives, please provide details and rationale, including any comparison to the methodology used in your company's internal credit risk monitoring approach.

<sup>15</sup> Appendix X of RBC and Appendix VI of RBCT.

**Question 20**

*Off-balance sheet exposures*

While the existing framework specifies the treatment for off-balance sheet exposures arising from over-the-counter (OTC) derivatives<sup>16</sup>, there are no specific requirements on off-balance sheet exposures arising from non-OTC derivatives, such as commitment, direct credit substitutes and self-liquidating trade letters of credit.

- (a) Does your company have off-balance sheet exposures arising from non-OTC derivatives (e.g. direct credit substitutes and self-liquidating trade letters of credit)? If yes, please provide the following information in the response template:
  - (i) Details on the exposure amounts; and
  - (ii) Examples of the credit instruments; and
- (b) Notwithstanding the answer to (a), please elaborate on your company's risk appetite for having such exposures in the future.

**Question 21**

*Reinsurance and retakaful arrangements*

Under the existing framework, ITOs are allowed to benefit from capital relief associated with portions of risk that have been ceded out to a reinsurer/retakaful operator. However, the risk that the reinsurer/retakaful operator is unable to provide the capital relief if it becomes necessary, is not explicitly captured.

A possible way of accounting for this risk is by considering the difference between the impact of insurance/takaful risk and catastrophe risk stresses on liabilities gross and net of reinsurance/retakaful. The difference can then be allocated according to the relevant categories of reinsurers/retakaful operators, and the risk charges applied accordingly.

- (a) Please describe how your company assesses and manages the risk that the reinsurer/retakaful operator is unable to provide the necessary capital relief in the event that unexpected losses occur.
- (b) Please provide your views on whether potential credit exposure of this form should be included in the credit risk component, and whether the approach that is being explored above would appropriately capture the risk. If you have any suggestions for alternatives, please provide details and rationale.

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<sup>16</sup> Paragraph 7, Appendix II of RBC and paragraph 6, Appendix II of RBCT.

**Question 22**

*Credit risk mitigation*

- (a) Please provide details on the collaterals and guarantees that your company currently holds in the response template.
- (b) Please provide your feedback on any challenges that your company currently faces in recognising capital relief from the use of CRM.
- (c) Please share whether your company uses or plans to use any CRM tools which are not currently recognised under the framework, describing these tools in detail. Where you have any suggestions on how these CRM tools can be recognised under the framework, please elaborate with rationale.

**Question 23**

*Measurement of credit risk for IL funds and PIFs*

Under the existing framework, assets held in IL unit funds of ITOs and PIFs of takaful operators are not subject to credit risk charges. This is because the investment risk is borne by policyholders or takaful participants. However, ITOs may also be impacted by credit losses in IL funds and PIFs by virtue of how these losses would impact insurance/takaful liabilities (e.g. an increase in insurance/takaful liabilities in the IL operating fund due to a decrease in income from the IL unit fund). This impact is not captured under the existing framework.

A potential way forward could be to apply the relevant risk factors to the exposures in the IL unit funds and PIFs, and then measure the impact to the cash inflows for the other funds. The difference in insurance/takaful liabilities arising from the changes in cash inflows would represent the potential losses to ITOs arising from credit losses in the IL unit funds and PIFs.

In relation to this:

- (a) Please share how your company currently assesses and manages the impact of potential credit risk losses in IL funds and PIFs on insurance/takaful liabilities.
- (b) Please provide your views on the potential approach explored above. Where you have any alternative suggestions, please provide details and rationale for how it would better achieve the outcome of fully capturing the risk.

**(iii) Market risk**

4.12 Given the increasing exposure of ITOs to the financial markets as well as strengthening of international standards on market risk requirements, the Bank is exploring potential inclusions into the scope of the market risk component, re-categorisation of some of the exposures, and enhancements to the measurement approach. The following table sets out the proposed components of market risk, and their measurement approaches which are intended to ensure sufficient risk sensitivity without introducing undue complexity. Generally, where a factor-based approach has been proposed, it is expected that the outcome would not be significantly different from a stress-based approach.

*Table 6*

<b>Risk</b>	<b>Definition/scope</b>	<b>Stress-based</b>	<b>Factor-based</b>
Interest/ profit rate risk	Risk of loss due to unexpected changes in the level or volatility of interest/profit rates.	/	
Non-default spread risk <b>(new)</b>	Risk of loss due to unexpected changes in the level or volatility of spreads over the risk-free interest/profit rate term structure, excluding the default component.	/	
Equity risk	Risk of loss due to unexpected changes in the level or volatility of market prices of equities.		/
Property/real estate risk	Risk of loss due to unexpected changes in the level or volatility of market prices of property/real estate or from the amount and timing of cash flows from investments in real estate.		/
Currency risk	Risk of loss due to unexpected changes in the level or volatility of currency exchange rates.		/
Asset concentration risk	Risk of loss due to the lack of diversification in the asset portfolio.		/

**Question 24**

*Overall scope of the market risk component*

Please provide your views on whether Table 6 sufficiently captures the exposure to market risk. If there are any other sub-risks that you think should be included, please provide details with supporting rationale and suggestions on how they could be measured.

**Question 25**

*Interest/profit rate risk*

Under the existing framework, a simplified approach is adopted when computing interest/profit rate risk charges for undiscounted liabilities in the general insurance and general takaful fund, and shareholders' fund<sup>17</sup>. Given the proposal set out in the Valuation ED for discounting to be applied in valuing all types of contracts, a stress-based approach to determining interest/profit rate risk would be relevant to all types of businesses and funds moving forward.

Please provide your views on:

- (a) Whether the stress-based approach for all types of businesses and funds moving forward would capture the risk more effectively and consistently. If you are of the view that there are alternative measurement approaches that could achieve the outcomes of more effective risk capture and consistency, please provide details with supporting rationale;
- (b) Whether you foresee any operational challenges in applying the stress-based approach for computation of interest/profit rate risk charges, for exposures where the factor-based approach is currently used;
- (c) Whether the current approach of applying stress factors based on residual terms of maturity remains appropriate moving forward. If you have any alternative suggestions, please provide details and rationale, including whether your company currently adopts the suggested approach for internal monitoring purposes; and
- (d) Whether the use of guaranteed liabilities as a basis for measurement of interest/profit rate risk continues to be appropriate. If you have any suggestions for alternative bases, please elaborate with reasons.

**Question 26**

*Non-default spread risk (NDSR)*

The Bank is considering to include NDSR as a new component of market risk charges, to capture the impact of unexpected changes in credit spreads on the value of assets and liabilities. The Bank is of the view that unexpected changes in non-default spreads pose a risk to an ITO's solvency position given the typically high proportion of corporate bonds/sukuk held. It is observed that the inclusion of NDSR within capital adequacy frameworks has also become more common globally.

In relation to this:

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<sup>17</sup> Part II, paragraph 4, Appendix II of RBC and Part II, paragraph 3, Appendix II of RBCT. Note that for takaful operators, the simplified approach is not applicable for the shareholders' fund of family takaful operators.

- (a) Please provide your views on the appropriateness of including NDSR as a sub-risk under the market risk component, and whether the definition of NDSR in Table 6 appropriately captures the risks arising from changes in non-default credit spreads.
- (b) Please describe the conditions/scenarios that would cause NDSR to materialise and the extent to which NDSR would affect your company's capital resource position.
- (c) Please provide your views on an appropriate approach to measure NDSR (e.g. an upward shock to spreads for assets only or bi-directional stress factors applied to assets and liabilities), with reasons.
- (d) Does your company currently measure and monitor the risks arising from credit spreads within its internal risk management process? If yes, please share the approach your company takes to assess and mitigate the risk of movement in non-default credit spreads.

**Question 27**

*Equity risk*

The Bank is considering to streamline the categorisation of investments in equity indices and investments in individual equity instruments<sup>18</sup> since the risks arising from these two equity instrument classes do not differ materially. With this, exposures to equity indices would be subsumed in the corresponding buckets for individual equity instruments.

Please provide your views on:

- (a) Whether the equity risk arising from exposures to indices are similar to that arising from individual exposures, thus warranting the risk charges to be the same; and
- (b) Whether there are any other modifications to the categories that the Bank should consider. This would include risk factors that you deem significant and should be accorded differentiated risk charges (e.g. equities in developed markets vs. emerging markets). If yes, please provide details and rationale.

**Question 28**

*Property risk*

Under the existing framework, exposures to immovable properties are differentiated between self-occupied properties, and other property and property-related investments<sup>19</sup>. The Bank is considering to streamline the categorisation, such that

<sup>18</sup> Table 1, Appendix II of RBC and Table 1, Appendix II of RBCT.

<sup>19</sup> Table 2, Appendix II of RBC and Table 2, Appendix II of RBCT.

only a single risk charge is applicable to all types of immovable properties. The Bank views that the risks do not differ significantly based on the use of the property (i.e. the risk of changes in the market value would be similar regardless of whether the property is for own use or for investment purposes).

Please provide your views on:

- (a) Whether the risk arising from self-occupied properties are similar to that arising from other property and property-related investments, thus warranting the risk charges to be the same; and
- (b) If you are of the view that the current categories should be retained, or if there are any alternatives that the Bank should consider, please provide details and rationale.

### **Question 29**

#### *Currency risk*

The Bank is of the view that the current approach for capturing currency risk remains appropriate<sup>20</sup>. More complex approaches are possible, including the differentiation of risk charges according to currency, and the use of correlation matrices to account for diversification effects between currencies. However, one of the Bank's main considerations is the balance between ensuring sufficient risk sensitivity and introducing undue complexity, particularly given that exposure to foreign currency is generally not significant at this point in time.

In relation to this:

- (a) Does your company have foreign currency exposure? If yes, please provide details in the response template.
- (b) Please provide your views on whether the current approach remains effective in capturing currency risk, with reasons. If you would like to suggest any alternatives (including the introduction of differentiation in risk charges and correlation matrices mentioned above), please provide details and rationale. In providing your response, please consider the practical aspects of implementation, including availability of data and complexity of calculations.

### **Question 30**

#### *Asset concentration risk*

Under the existing framework, a simplified approach is used, in which exposures in excess of specified limits are subject to 100% asset concentration risk charge,

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<sup>20</sup> Paragraph 5, Appendix II of RBC and paragraph 4, Appendix II of RBCT.

calculated according to individual asset classes and counterparties<sup>21</sup>. The limits are intended to minimise the impact of idiosyncratic risks due to an ITO's exposure to an individual asset class or counterparty. Moving forward, the Bank is considering potential enhancements to improve the sensitivity of measurement, such as the use of risk factors which are differentiated by the degree of concentration.

In relation to this:

- (a) Does your company currently adopt any alternative approaches, other than that defined in the existing framework, to assess the exposure to asset concentration risk? If yes, please describe the approach.
- (b) Please provide your views on whether the factor-based approach described above would better capture the risk, as compared to the current approach. If you have any alternative suggestions (including retaining the current approach), please elaborate with reasons.

### **Question 31**

#### *Measurement of market risk for IL funds and PIFs*

Under the existing framework, assets held in IL unit funds of ITOs and PIFs of takaful operators are not subject to market risk charges. This is because the investment risk is borne by policyholders or takaful participants. However, ITOs may also be impacted by market-related changes to IL funds and PIFs by virtue of how these changes would impact insurance/takaful liabilities (e.g. an increase in insurance/takaful liabilities in the IL operating fund due to a decrease in income from the IL unit fund). This impact is not captured under the existing framework.

A potential way forward could be to apply the relevant risk factors or stresses to the exposures in the IL unit funds and PIFs, and then measure the impact to the cash inflows for the other funds. The difference in insurance/takaful liabilities arising from the changes in cash inflows would represent the potential losses to ITOs arising from market-related losses in the IL unit funds and PIFs.

In relation to this:

- (a) Please share how your company currently assesses and manages the impact of potential market risk losses in IL funds and PIFs on insurance/takaful liabilities.
- (b) Please provide your views on the potential approach explored above. Where you have any alternative suggestions, please provide details and rationale for how it would better achieve the outcome of fully capturing the risk.

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<sup>21</sup> Paragraph 10.1, Appendix II of RBC and paragraph 9.1, Appendix II of RBCT.

**Question 32**

*Treatment of options*

The existing framework captures delta risk<sup>22</sup>, but not gamma and vega risks, although ITOs are required to consider these additional risk dimensions when setting their Individual Target Capital Level (ITCL). Examples of possible enhancements to the approach include:

- Introducing explicit risk charges for vega<sup>23</sup> and gamma<sup>24</sup> risks; or
- Where a stress-based approach is used for the sub-risk (e.g. interest/profit rate risk), incorporating measures of volatility shocks into the stress scenarios.

However, the Bank is of the view that the approach under the existing framework remains appropriate, particularly given that exposure to options is generally not significant.

In relation to this:

- (a) Does your company have exposure to options? If yes, please provide details in the response template.
- (b) If yes to (a), please describe how your company currently measures vega and gamma risks for the purposes of ITCL and internal risk management. Please also elaborate on any other risks that your company measures, and how this is done.
- (c) Please provide your views on the continued appropriateness of the current approach in capturing risk arising from options. If you have any alternative suggestions (including views that the alternative approaches mentioned above would be more appropriate), please provide details and rationale. In providing your response, please consider the practical aspects of implementation, including availability of data and complexity of calculations.

***(iv) Look-through approach for credit and market risk***

- 4.13 Under the existing framework, a look-through approach (LTA) may be adopted to determine the appropriate market risk charges for investment in structured products<sup>25</sup>. The Bank is exploring the use of the LTA in determining the credit and market risk capital requirements for collective investment schemes (CIS) and any other indirect exposures, including structured products.

<sup>22</sup> Paragraph 6, Appendix II of RBC and paragraph 5, Appendix II of RBCT.

<sup>23</sup> The sensitivity of the value of an option with respect to a change in volatility.

<sup>24</sup> The rate of change of delta, where delta is defined as the sensitivity of the option price relative to the instruments underlying the option.

<sup>25</sup> Paragraph 9.6, Appendix II of RBC and paragraph 8.6, Appendix II of RBCT.

**Question 33**

*Look-through approach for credit risk*

- (a) Does your company have any indirect exposures (other than CIS), which may give rise to credit risk? If yes, please provide details.
- (b) Please provide details on how your company currently measures credit risk arising from CIS and other indirect exposures, for internal monitoring purposes, including whether or not LTA is used.
- (c) Please indicate the level of granularity and frequency of information that your company receives in relation to the underlying exposure of funds that your company is invested in and whether such information is verified by a third party.
- (d) Please provide your views on whether the use of LTA in applying credit risk charges to CIS and other indirect exposures would result in better risk capture, with reasons.
- (e) Please provide your views on whether you foresee any practical challenges with adopting the LTA in applying credit risk charges, and any suggestions for alternatives or simplifications.

**Question 34**

*Look-through approach for market risk*

- (a) Does your company have any indirect exposures (other than CIS), which may give rise to market risk? If yes, please provide details.
- (b) Please provide details on how your company currently measures market risk arising from CIS and other indirect exposures, for internal monitoring purposes, including whether or not LTA is used.
- (c) Please indicate the level of granularity and frequency of information that your company receives in relation to the underlying exposure of funds that your company is invested in and whether such information is verified by a third party.
- (d) Please provide your views on whether the use of LTA in applying market risk charges to CIS and other indirect exposures would result in better risk capture, with reasons.
- (e) Please provide your views on whether you foresee any practical challenges with adopting the LTA in applying market risk charges, and any suggestions for alternatives or simplifications.

**(v) Operational risk**

- 4.14 Operational risk is defined as the risk of loss arising from inadequate or failed internal processes, people and systems, or from external events, and includes legal risk. For takaful business, operational risk also includes the risk of loss arising from Shariah non-compliance<sup>26</sup> and failure by a takaful operator in executing its fiduciary duties<sup>27</sup>.
- 4.15 For takaful operators, the capital required for operational risk shall continue to be borne by the shareholders' fund<sup>28</sup>. This is because takaful operators have the fiduciary duty to manage takaful funds on behalf of and in the best interests of the takaful participants. Therefore, takaful operators are accountable for decisions made in managing the takaful funds, and thus have to account for any exposure to operational risk.

**Question 35**

*Definition of operational risk*

Please provide your views on whether the definition of operational risk sufficiently captures operational losses. If there are additional operational loss events which you think should be included, please provide details and rationale.

- 4.16 The Bank intends to retain the use of a factor-based approach for measuring operational risk. However, the Bank is exploring alternative proxies for operational risk exposure, including premiums/takaful contributions or insurance/takaful liabilities (to reflect the size of the business), as well as an additional risk charge relating to excessive growth, in order to better capture operational risk.

**Question 36**

*Exposure measure – size of the business*

Under the existing framework, operational risk exposure is proxied by total assets. While this is a simple and straightforward measure that captures the size of the business, there are issues with using assets as a proxy given that they are typically less reflective of the main operating activities of the insurance/takaful business (e.g. underwriting), and are also exposed to factors that are not intended to be captured under operational risk such as market movements (which are already captured under market risk) as well as capital management actions (e.g. decisions to retain profits).

<sup>26</sup> Shariah non-compliance risk is defined as the risk of legal or regulatory sanctions, financial loss or non-financial implications including reputational damage, which a takaful operator may suffer arising from failure to comply with the rulings of the Shariah Advisory Council (SAC), standards on Shariah matters issued by the Bank pursuant to section 29(1) of the IFSA, or decisions or advice of the Shariah committee.

<sup>27</sup> Failure in executing fiduciary duties refers to the failure of a takaful operator to carry out the duties (*amanah*) that it is authorised to perform towards the takaful participants.

<sup>28</sup> Paragraph 8.1 of RBCT.

As such, the Bank is considering to replace the current total assets proxy with the following proxies for operational risk, which would better reflect the operating activities of the insurance/takaful business:

- (i) Premiums/takaful contributions;
- (ii) Insurance/takaful liabilities; or
- (iii) A combination of both.

Please provide your views on:

- (a) Whether the proxies mentioned above would adequately represent the exposure to operational risk, and which would be most appropriate. Where you would like to suggest any other alternatives, please provide justifications;
- (b) Any suggestions for the computation of the proxies mentioned above (e.g. net or gross of reinsurance/retakaful) that would better represent the operational risk exposure;
- (c) Whether you foresee any challenges in computing the operational risk charges using any of the proxies mentioned above; and
- (d) Whether there are any circumstances or types of business which may be disproportionately affected by the use of the proxies mentioned above in measuring operational risk.

### **Question 37**

#### *Exposure measure – growth of the business*

The proposed inclusion of an additional risk charge on premium/takaful contribution growth is intended to capture the increased operational risk associated with excessive business growth, for example, arising from acquisitions or entries into new lines of business. The exposure could be proxied by the growth in premiums/takaful contributions over the previous year beyond a pre-determined threshold (i.e. beyond “normal” growth).

The ICS recommends a growth threshold of 20%. For example, if the gross written premium of the most recent year grows by more than 20% as compared to the preceding year, an additional risk charge will be applied on the amount of gross written premium in excess of the growth threshold. With that said, the IAIS has also acknowledged that the insurance market growth of developing markets may be significantly higher than that of developed markets.

Please share your views on:

- (a) Whether excessive business growth contributes to increased operational risk, and thus is appropriate to be included as an additional component under operational risk, with reasons; and

(b) Whether the growth threshold of 20% is punitive to your company, with reasons. If you have any alternative suggestions for the growth threshold, please supplement them with justifications.

- 4.17 The Bank is also considering to differentiate the operational risk factors according to certain categories in order to reflect the differences in operational complexity for different types of businesses.

**Question 38**

*Categories for differentiation of operational risk*

- (a) Please provide your views on the appropriateness of differentiating the operational risk factors based on the following categories, with reasons:
- (i) Life insurance/family takaful business vs. general insurance/general takaful business;
  - (ii) Account-based products vs. non-account-based products;
  - (iii) Unitised account-based products vs. non-unitised account-based products;
  - (iv) Long-term insurance/takaful contracts vs. short-term insurance/takaful contracts;
  - (v) Regular premium policies/takaful contribution certificates vs. single premium policies/takaful contribution certificates; and
  - (vi) By distribution channel (e.g. agency, bancassurance/bancatakaful, direct and other distribution channels).
- If you have any other suggestions, please provide details and rationale.
- (b) For takaful operators, please provide your views on whether the operational risk factors should also be differentiated by the different types of funds, i.e. PRF, PIF and shareholders' fund, with reasons. If yes, please suggest suitable proxies for operational risk exposure for each of these funds.

**Question 39**

*Impact of catastrophes*

Catastrophes, such as pandemic and natural disasters, while not frequent, can result in significant operational losses to an ITO in addition to the losses under insurance/takaful risk.

Please provide your views on whether the risk of operational losses arising from catastrophes should be included as a separate component from the operational risk charge described above. If yes, please provide your views on:

- (a) The approach that could be used to measure the risk of operational losses arising from catastrophes (e.g. stress/scenario or factor-based), with reasons; and
- (b) The availability and credibility of data to calibrate the risk charges for operational losses arising from catastrophes.

#### **Question 40**

##### *Shariah non-compliance risk*

Under the existing framework, Shariah non-compliance (SNC) risk is implicitly captured under the single operational risk charge. This takes into consideration that the underlying causes for SNC occurrences are likely to be associated with operational lapses (i.e. also caused by processes, people and systems). To elevate the commitment of takaful operators (and their conventional parent, if any) in ensuring effective management of SNC risk, the Bank is exploring the introduction of a separate risk charge for SNC within the operational risk component.

Please provide your views on:

- (a) The appropriateness of introducing a separate risk charge for SNC;
- (b) A possible proxy for SNC risk exposure, with reasons;
- (c) The availability and credibility of data to calibrate the SNC risk charge; and
- (d) Any other operational challenges that you foresee in having a separate risk charge for SNC.

#### **(d) Diversification**

- 4.18 One of the key considerations in determining how to aggregate the risk charges for different risk categories within a risk component, as well as across risk components, is diversification. While the existing framework does not explicitly account for the impact of diversification in determining the TCR, the Bank is exploring the significance of the effects of diversification, for potential inclusion, if appropriate.

#### **Question 41**

Please provide your views on whether there are substantial diversification effects:

- (a) Within each of the risk components themselves (e.g. within market risk); and
  - (b) Between each of the risk components (e.g. between insurance/takaful and market risks, or between market and credit risks),
- with reasons. If yes, please include suggestions on how the diversification benefits could be calculated and reflected. Where your company has internally accounted for this (e.g. for group reporting), please share the methodology used.

## 5. Formula for the Capital Adequacy Ratio (CAR)

- 5.1 Similar to the current approach, the capital adequacy of an ITO will continue to be represented by a Capital Adequacy Ratio (CAR). The CAR will reflect the Total Capital Available (TCA) to meet the Total Capital Required (TCR) for the ITO as a whole. It will therefore capture the collective strength of the entity, after taking into account the level of support that individual funds can provide to each other (i.e. fungibility of capital).
- 5.2 The Bank is exploring possible enhancements to the CAR formula, to improve consistency across the insurance and takaful industry, as well as to better reflect the relationships between funds, in terms of fungibility of capital. In doing so, the Bank is considering the use of the following formula to replace the existing formulae for both insurance and takaful businesses:

$$CAR = \frac{TCA_{entity}}{TCR_{entity}} = \frac{(TCR_{f_1} + Available\ excess_{f_1}) + \dots + (TCR_{f_n} + Available\ excess_{f_n})}{TCR_{f_1} + \dots + TCR_{f_n}}$$

where,

$TCR_{fi}$  = The capital required for fund  $i$

*Available excess<sub>fi</sub>* = The amount of capital available in excess of what is needed to meet the TCR for fund  $i$ , that would not be subject to any restrictions on fungibility. For avoidance of doubt, the available excess would be negative in instances where the capital available in the fund is less than the TCR of the fund.

- 5.3 To demonstrate how the formula captures the characteristics of different types of funds, the following scenarios are considered:

*Table 7*

Scenario	Treatment of available excess
(A) There is sufficient capital available in the fund to meet the fund-level TCR, and there are no restrictions on fungibility.	The full amount of excess above the TCR will be accounted for in the numerator of the formula.
(B) There is sufficient capital available in the fund to meet the fund-level TCR, but there are restrictions on fungibility.	The amount of excess included in the numerator of the formula will be in line with the restriction, and may, in some cases be zero.
(C) There is insufficient capital available in the fund to meet the fund-level TCR.	The shortfall will be reflected as negative “available excess” (i.e. a deduction from the numerator of the formula). This represents the amount of capital support that the fund needs from other funds.

**Example**

Consider an entity with the following funds:

- Fund 1 has sufficient capital available to meet its TCR and no restrictions on fungibility, as per Scenario (A) above;
- Fund 2 has sufficient capital available to meet its TCR, but has restrictions on fungibility, as per Scenario (B) above; and
- Fund 3 has insufficient capital available to meet its TCR, as per Scenario (C) above.

Using the proposed formula, the CAR of the entity will be calculated as follows:

	<b>Fund 1</b>	<b>Fund 2</b>	<b>Fund 3</b>	<b>Entity</b>
TCA	200	200	50	400*
TCR	100	100	100	300
Available excess	100	50	-50	
<b>CAR</b>				<b>133%</b>

\*  $TCA_{entity}$  is the sum of TCR and available excess across all three funds.

- 5.4 The enhancements to the design of the framework explored in this DP will be taken into account in the Bank’s future review of related requirements such as the internal capital adequacy assessment process and supervisory intervention levels.

**Question 42**

For insurers only

Please provide your views on the appropriateness of the proposed CAR formula, taking into account the intended outcomes in paragraph 5.2. Where you have any alternative suggestions, please provide details and rationale.

**Question 43**

For life insurers only

- (a) The existing framework takes into account the non-fungibility of capital in participating life funds, in line with the nature of the business. The Bank intends to continue to reflect this lack of fungibility, and is of the view that the proposed new formula would be able to do so, with greater stability in the CAR outcomes such that movements in CAR reflect changes in the underlying risk profile of the life insurer rather than changes in the basis resulting from including or excluding the participating life funds. Please provide your views on whether the proposed new formula would adequately reflect the restrictions on fungibility relating to participating life funds. If you would like to suggest any alternatives, please provide details and rationale.

(b) Please provide your views on whether there are any circumstances which may reduce or restrict the fungibility of capital from the funds of a life insurer, other than participating life funds, with reasons (e.g. legal constraints).

**Question 44**

For general insurers only

Please provide your views on whether there are any circumstances which may reduce or restrict the fungibility of capital from the funds of a general insurer, with reasons (e.g. legal constraints).

**Question 45**

For takaful operators only

The proposed new CAR formula is similar to the current formula for takaful operators, in that it considers the circumstances of each fund in the calculation of TCR, and the amount of capital available in the fund that can contribute to the overall strength of the takaful operator.

Please provide your views on whether the proposed formula would be able to adequately capture the nature of fungibility of capital between funds. If you would like to suggest any alternatives, please provide details and rationale.

**Question 46**

For takaful operators only

Currently, the amount of capital available in excess of the fund-level TCR that can be recognised for takaful funds for the purpose of computing CAR is limited to 130% of the fund-level TCR. However, the Bank is reviewing the appropriateness of this limit<sup>29</sup>.

In addition to considering the appropriateness of the limit within the current regulatory environment, the Bank is also exploring potential changes that can be introduced to further support the principles of *ta'awun* (mutual assistance), in particular, the recognition of excess surplus in a takaful fund as capital available to absorb losses in other takaful funds, if the arrangement is clearly articulated in the takaful certificate<sup>30</sup>.

Notwithstanding the above, the Bank would like to clarify that:

<sup>29</sup> Please refer to Appendix 2 for an illustration of the CAR computation.

<sup>30</sup> Please refer to Appendix 2 for more details on the potential criteria.

- (a) To reflect the ownership and obligations of the various funds in the takaful operations, considerations on fungibility of capital are only with regard to a takaful fund meeting the risks and obligations of other takaful funds; and
- (b) Recognition of available excess in takaful funds in calculating the CAR is not equivalent to an actual transfer of capital.

Please provide your views on:

- (a) Whether full recognition of excess capital above the TCR for each fund would be in line with Shariah requirements, without any changes to your current product design or management practices, with reasons. If you are of the view that full recognition is not appropriate, please suggest the appropriate extent of recognition, with reasons; and
- (b) Whether explicit contractual stipulation and agreement of the assistance that takaful funds can provide to each other would be in line with Shariah requirements, and would allow for full fungibility of excess capital between takaful funds.

Please include the opinion of your takaful operator's Shariah Committee in your views.

## 6. Other considerations

### Question 47

#### *Takaful contracts with PIF Savings*

PIF Savings refers to a takaful fund established for the purpose of savings, where the principal amount is protected. The *qard* contract is adopted for the PIF Savings fund, where the takaful participant acts as the lender of money and the takaful operator as the borrower. In return, the takaful operator has the obligation to fully repay the principal upon a pre-agreed event<sup>31</sup>. This is unlike PIF Investment where the principal amount is not protected.

The Bank intends for the characteristics of PIF Savings contracts, which are relatively new to the market, to be sufficiently catered for under the capital adequacy framework. For the avoidance of doubt, the impact of credit and market losses on the amount in the PIF Savings fund would be captured under the shareholders' fund in the manner set out under the credit and market risk sections above (i.e. by considering the impact of these losses to the liabilities relating to the obligation to fully repay the principal amount). This would be similar to the treatment for account-based insurance products which provide guarantees on account value.

<sup>31</sup> Please refer to Appendix 2 for an illustration of PIF Savings contracts.

In relation to this:

- (a) Does your company have products with PIF Savings, or does your company plan to introduce such products? If yes, please provide details on the features of the products and the mechanism for PIF Savings, including how *qard* is currently managed (i.e. under the shareholders' fund or in a separate fund), as well as the investment strategy for the relevant funds.
- (b) Where your company currently has these contracts, please elaborate on how you have applied the existing RBCT requirements.
- (c) Please provide your views on whether the enhancements that are being explored in this DP would sufficiently capture the risks arising from these contracts, with reasons. If there are additional risks that should be captured, please elaborate.

#### **Question 48**

##### *Other takaful-specific considerations*

Please provide your feedback on whether the capital adequacy framework, with the enhancements that are being considered, would sufficiently address risks arising from the specificities of the different types of takaful models and Shariah contracts. This includes current models or contracts, and any new types of models or contracts that your company may be exploring. If there are any that are not sufficiently catered for, please provide details of the models or contracts and suggestions on how the gaps can be addressed.

#### **Question 49**

##### *General comments*

Please provide any other comments you may have on the enhancements that are being explored, including their implications on reinsurance/retakaful strategies, innovation and digitalisation in the insurance and takaful industry, as well as considerations for the impact of climate change<sup>32</sup>.

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<sup>32</sup> For example, as described in the Climate Change and Principle-Based Taxonomy document issued on 30 April 2021, <https://www.bnm.gov.my/documents/20124/938039/Climate+Change+and+Principle-based+Taxonomy.pdf>

## APPENDICES

### Appendix 1 Differences between insurance and takaful business models

Insurance	Takaful
<b>Area 1: Underlying concept</b>	
<p>Insurance business is based on the concept of risk transfer. Risk is transferred from policyholders to the insurer, in return for premiums.</p>	<p>Takaful business is based on the concept of risk sharing or mutual assistance (<i>ta'awun</i>). A pool of participants contribute to a common fund (i.e. takaful fund), providing for mutual benefits which are payable on the occurrence of pre-agreed events. A particular takaful fund is therefore collectively owned by the pool of participants who have contributed towards it.</p> <p>Based on the concept of <i>tabarru'</i>, these contributions are considered as donations to provide financial aid to other participants who suffer from specific losses or difficulties.</p>
<b>Area 2: Role of the entity</b>	
<p>The insurer has the obligation to make guaranteed payouts to the policyholders on the occurrence of pre-agreed events.</p> <p>Accordingly, expenses relating to the business, including acquisition and management expenses, are borne by the relevant insurance funds.</p> <p>Profits arising from the insurance funds ultimately belong to the shareholders, with the exception of participating life business where the profits are shared between the insurer and the policyholders.</p>	<p>The takaful operator has the fiduciary duty to manage the takaful funds, which are collectively owned by the participants, on behalf of and in the best interests of the participants<sup>33</sup>. This must be carried out in accordance with Shariah principles.</p> <p>Accordingly, acquisition and management expenses incurred in managing the takaful funds are borne by the shareholders' fund rather than the takaful funds.</p> <p>Surplus arising from the takaful funds may be shared between the takaful operator and the participants based on a pre-agreed ratio.</p> <p>In addition, the takaful operator has the following obligations:</p> <ul style="list-style-type: none"> <li>• In the event of a deficit in the takaful funds (i.e. excess of liabilities over assets), the</li> </ul>

<sup>33</sup> In line with section 92(1) of IFSA and the Policy Document on Takaful Operational Framework (TOF).

	<p>takaful operator is required to provide <i>qard</i> to immediately rectify the deficit<sup>34</sup>; and</p> <ul style="list-style-type: none"> <li>• In the event of a deficit or loss in a takaful fund due to mismanagement or negligence, the takaful operator must immediately rectify the deficit or loss through an outright transfer of assets from the shareholders' fund to the takaful fund<sup>35</sup>.</li> </ul>
<p><b>Area 3: Fund segregation and availability of capital to absorb losses in other funds (i.e. fungibility of capital)</b></p>	
<p>For life insurers, participating life business must be managed in a separate fund<sup>36</sup> in light of the sharing of profits between the policyholders and the insurer.</p> <p>Capital available is generally fungible entity-wide, with the exception of participating life business. The non-fungibility of capital in the participating life fund reflects the rights that participating life policyholders have over the profits arising from the fund.</p>	<p>In line with the underlying concept of takaful and the role of the takaful operator above, fund segregation is required between the takaful funds and the shareholders' fund<sup>37</sup>, reflecting the different ownership of the funds.</p> <p>The capital available in the shareholders' fund is fungible across the takaful funds due to the fiduciary duty of the takaful operator. In contrast, currently, the capital available in each takaful fund is expected to be used to cover only the risks that the particular takaful fund is exposed to.</p> <p>The capital required for the shareholders' fund and the takaful funds are differentiated according to the types of risks borne by the shareholders and the takaful participants respectively.</p>

<sup>34</sup> In line with section 95 of IFSA and TOF.

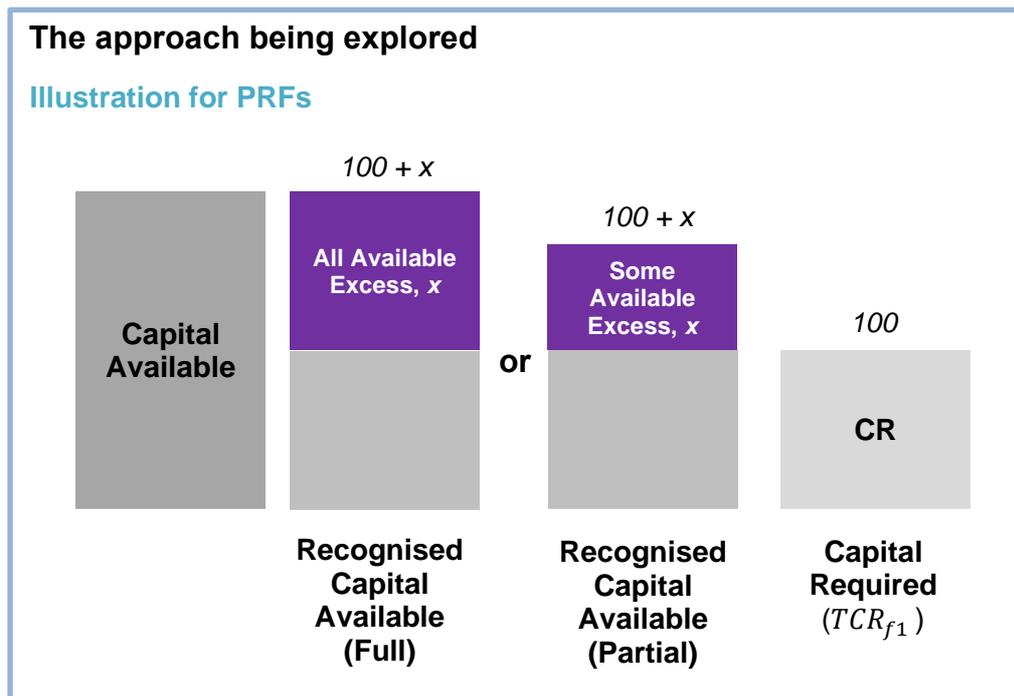
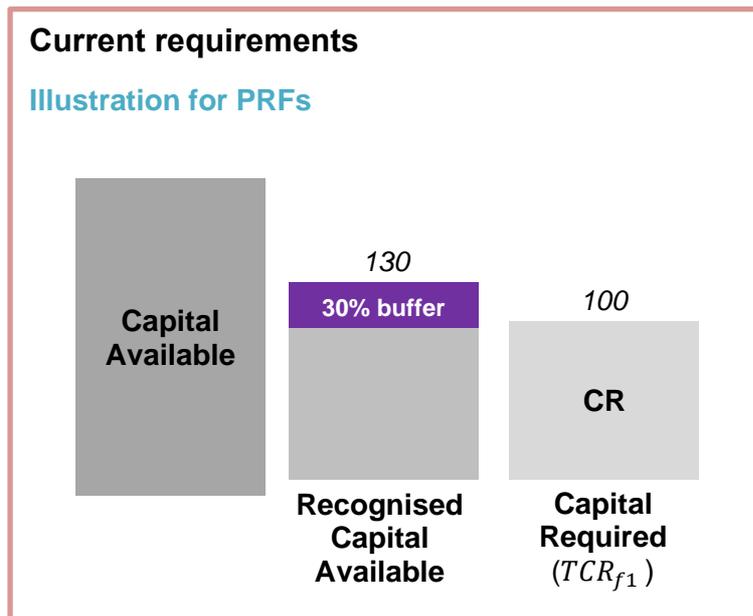
<sup>35</sup> In line with TOF.

<sup>36</sup> In line with section 81(2) of FSA and the Policy Document on Management of Insurance Funds.

<sup>37</sup> In line with section 91 of IFSA and TOF.

**Appendix 2 Additional details on takaful-specific issues**

**1. Comparison between the current RBCT formula and the proposed new formula**



## 2. Expansion of the application of *ta'awun*

Under the principles of *ta'awun* (mutual assistance), the Bank is currently exploring the use of distributable surplus in a takaful fund which has sufficient capital available to meet its TCR, to be used to provide assistance in absorbing losses of another takaful fund<sup>38</sup> which has insufficient capital available to meet its TCR, as long as:

- (a) The arrangement is clearly stipulated in the takaful certificate and agreed by the takaful participants<sup>39</sup>;
- (b) As part of the terms and conditions of the takaful certificate, the takaful participants have access to accurate and clear information, including on the implications of the arrangement, to ensure well-informed decisions;
- (c) Any decisions on capital transfers to provide assistance to other takaful funds are approved by the Board, endorsed by the Shariah Committee and supported by a recommendation from the Appointed Actuary. The decision must have given due regard to the following:
  - (i) Best interest of the takaful participants;
  - (ii) Fair treatment of the takaful participants; and
  - (iii) Reasonable expectations of the takaful participants; and
- (d) In the event that a transfer of capital to another takaful fund to provide assistance becomes necessary, the takaful participants in the takaful fund providing the assistance are notified of the transfer.

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<sup>38</sup> Provided that the takaful operator maintains more than one takaful fund.

<sup>39</sup> For example, if the contract allows the takaful operator to unilaterally amend the terms and conditions after the inception of the takaful certificate, the takaful operator may issue an endorsement to the takaful participants on the arrangement. On the other hand, if the contract does not allow the takaful operator to unilaterally amend the terms and conditions after the inception of the takaful certificate, the takaful operator will need to explore other means for obtaining consent from the takaful participants on the arrangement.

### 3. Illustration of PIF Savings arrangements

