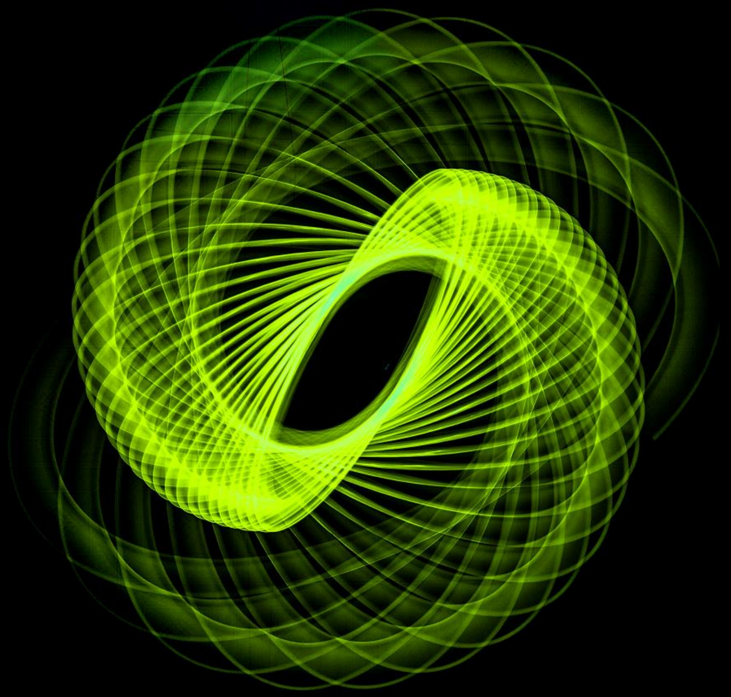
Deloitte.



Hong Kong Insurance Risk-Based Capital Webinar

Discussion on Risk-Based Capital key implementation challenges

5 July 2022

MAKING AN IMPACT THAT MATTERS since 1845

Agenda

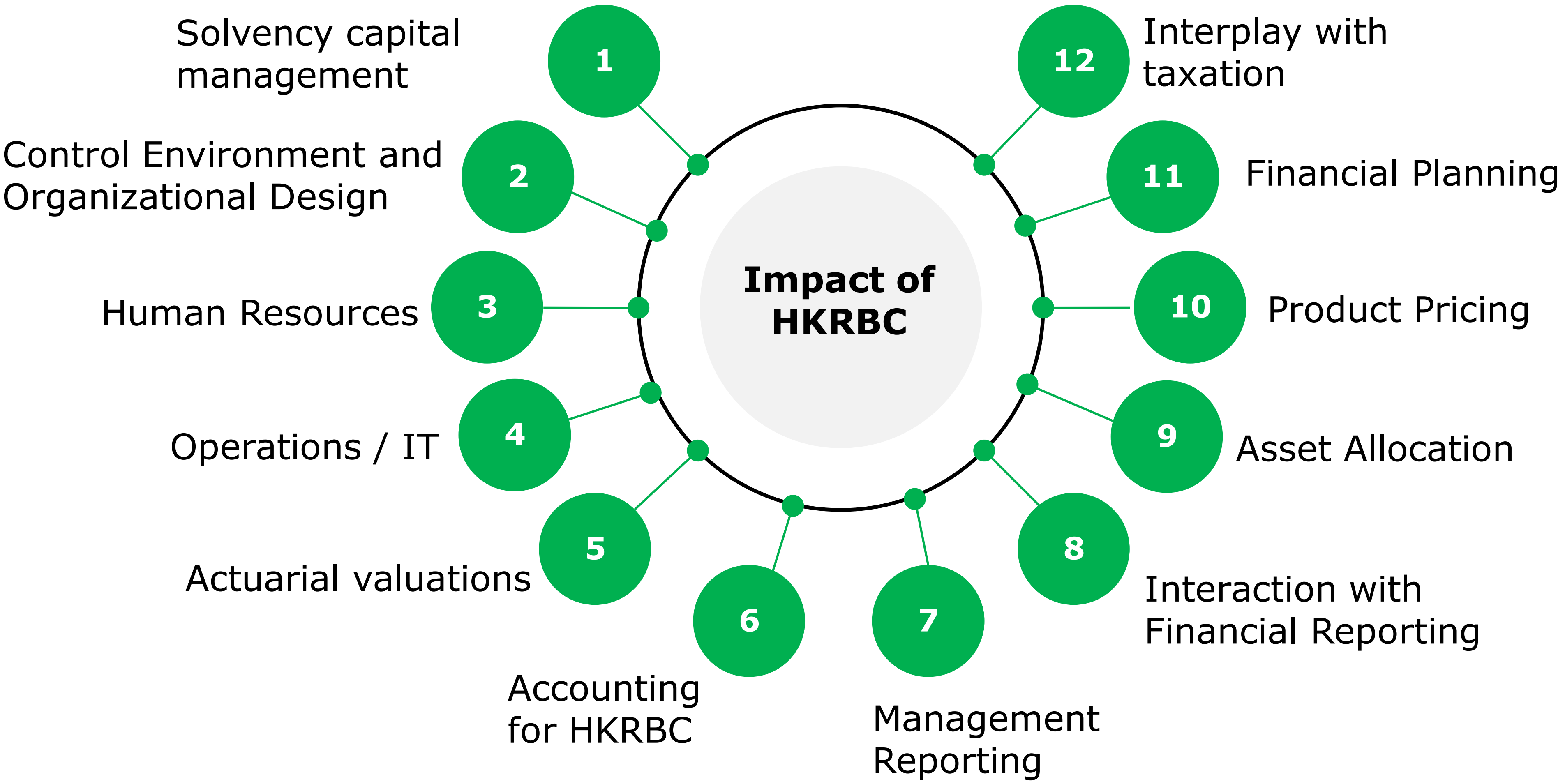
	Introduction (5 min)
1	**HKRBC as a cross-functional project (25 min)**
	Q&A
2	**Key assumptions / methodology for HKRBC – Contract boundary (20 min)**
	Q&A
3	**HKRBC Gap Assessment – Deloitte Readiness Assessment Tool (25 min)**
	Q&A
4	**RBC Regulatory Overview (15 min)**
	Final Q&A and closing

1. HKRBC as a cross-functional project

Impact of HKRBC

How will HKRBC impact insurers in Hong Kong?

HKRBC will bring pervasive change to the operating model of insurers. Insurers need to manage the change with regulators, policyholders and internal stakeholders.



Impact of HKRBC

How will HKRBC impact insurers in Hong Kong?

HKRBC will have a pervasive impact on the operating model to various internal stakeholders.

1. Solvency Capital Management

- Hong Kong is in the process of developing a new RBC regime, at the forefront of a region wide push to upgrade/ implement RBC regulations
- HKIA specifies PCR which follows a modular approach and calculations applying risk-factor based approach or stress-test based approach
- There is no option but for all HK insurers to comply with the new HKRBC regulatory requirements

2. Control Environment / Organisational Design

- HKRBC requirements need to be designed, implemented, tested, brought into production and maintained / operated
- The interaction between finance, risk and actuarial will increase (cross-skills opportunities)

3. Human Resources

- Several department would need an upgraded set of capabilities to cope with the greater economic sensitivity of an insurer’s surplus
- Higher demand for skilled resources to implement HKRBC
- KPIs used for remuneration may need to be recalibrated

4. Operations / IT

- Resources required for participation in the IT solution design, test and rollout
- Process changes required after the introduction of automation and data processing tools
- Supporting model needs to be developed for the newly introduced system and tools
- Implementation needed to be well planned to minimize the impact to BAU

Impact of HKRBC

How will HKRBC impact insurers in Hong Kong?

HKRBC will have a pervasive impact on the operating model to various internal stakeholders.

5. Actuarial Valuations

- Current net premium valuation method with implicit margin for long term business will no longer be applicable as HKRBC requires a more robust approach accounting of CE, MOCE and TVOM, reflecting all guaranteed and non-guaranteed future cash flows
- Existing models need to be adapted to the new regulations - new data flows, calculations, projections to be implemented

6. Accounting for HKRBC

- Accounting methodologies, accounting treatments on recognition and measurement, presentation and disclosures, etc. will need to be separately accounted for under HKRBC
- Most of the CoA and Financial Statement positions may be impacted
- Improved reporting productivity and efficiency of finance closing process will be necessary

7. Management Reporting

- Insurers will need to put in place a robust system of risk governance, develop and enhance risk management techniques in monitoring and managing risk exposure according to Pillar 2 GL 21
- ORSA report is required for risk profiles, capital requirements and solvency assessments, and must be independently reviewed
- Internal KPIs will need to be adapted to new external measurements
- Fast close for internal MI will be under even greater pressure to deliver the new figures efficiently

8. Interaction with Financial Reporting

- HKRBC and Financial Reporting (HKFRS) need to be integrated to avoid finance BAU costs to soar out of control
- Although not required a strong reconciliation across reporting from risk and finance will pay off

Impact of HKRBC

How will HKRBC impact insurers in Hong Kong?

HKRBC will have a pervasive impact on the operating model to various internal stakeholders.

9. Asset Allocation

- ALM will be under a brighter spotlight than before
- Asset allocation will need to be revisited given higher risk charges on riskier assets
- There will be more emphasis on risk-based metrics for asset returns. More dynamic hedging programs may become increasingly relevant, targeting an upside while managing a certain level of volatility
- More active management of dependencies and economic mismatches

10. Product Pricing

- Capital assessment and stress testing give rise to changes in product valuation that will impact actuarial pricing methods

11. Financial Planning

- ORSA requires forward-looking capital resources with a time horizon consistent with business planning, and remain viable under both normal and stressed conditions
- Planning / forecast processes have to be adjusted to new metrics arising from HKRBC
- Regulatory capital/target capital must be assessed given the risk appetite, capital plans, risk management actions
- It might be useful to perform simulations on the impact of HKRBC on KPIs at an early stage

12. Interplay with taxation

- Accounting values for DTA/DTL should be adjusted to reflect valuation differences between the HKFRS and HKRBC
- The 5% net premium taxation approach for life insurers will no longer be applicable from 2024, at the earliest

The HKRBC Journey

What insurance companies can do now – irrespective of early adoption

Start early to plan for the HKRBC regime would create implementation cost savings opportunities

Ongoing Regulator Engagement (Now)

Project Planning and Stakeholder Management (Now) (I17)

- Project plan and timeline
- Key design principles

Current State Analysis (Now) (I17)

- Interdependencies and critical path
- Pain points and limitations with financial reporting processes
- Simplification and enhancement opportunities

Target State Design (Now) (I17)

- Working day timetable to meet HKIA's returns submission timeline
- Unified and standardised dataset with granular metrics for HKRBC

Operational implementation (I17)

- Implementation roadmap
- System enhancements with technological advancement
- Data management for increased volume
- Internal control framework re-design

HKRBC Transition and Operationalisation (I17)

- Reconciliations across multiple measurement bases
- Automation and operationalisation

Integrated risk-based business management and reporting

Key Takeaways

1. Insurance companies can start HKRBC preparation now even if they do not / cannot early adopt
2. HKRBC operational implementation can integrate with on-going IFRS 17 preparation

Legend:

- Now: Activities that companies can start irrespective of early adoption
- I17: Activities that can integrate with IFRS 17 implementation

Finance Components

HKRBC is not a finance-light project

HKRBC is not only about actuarial aspects of quantitative calculations, but also involves many areas that are finance-focused

Reporting templates → Reporting operating manual → Processes and controls → Reconciliations → Regulatory returns and disclosures → Audit trail

1

Process and controls

- Design future target state for HKRBC operating model, system architecture and process
- Integration and alignment with HKFRS and internal management processes

2

Assets look-through

- HKRBC requires the reporting of look-through of asset data while HKFRS is not necessary
- Implement an approach to efficiently consolidate and automate asset data flows to meet Pillar 3 requirements

3

Reconciliation between HKFRS 17 and HKRBC

- Similarities and differences between HKFRS 17 and HKRBC
- The reconciliation between the two sets of numbers is a joint-exercise between Finance and Actuarial

4

HKIA reporting requirements

- Presentation and disclosures under Pillar 3 of HKRBC would be finance-focused
- Finance resources would be essential to execute the reporting exercise to comply with IA requirements

Common pain points

Actuarial models generated common pain points during HKRBC implementation and valuable lessons can bring substantial benefits

Actuarial models common pain points

Setup and Post-run Process

- Manual setup jobs in Modeling and Insurance Risk Management solution.
- Run results extraction and aggregation are all manually executed.

Monitoring and Preparation

- Manual monitoring job running status and trigger subsequence jobs.
- Late detection of job completion increase the ultimate run time.

MA Calculation Iteration Check

- Manual checking and reporting of Matching Adjustment (“MA”) convergence after each iteration run.
- Manual preparation for every subsequent iteration run till convergence.

Inefficient Use of Non Office Hour

- As the process run is monitored manually, subsequent jobs cannot be triggered after office hour
- Unnecessary wait time introduced.

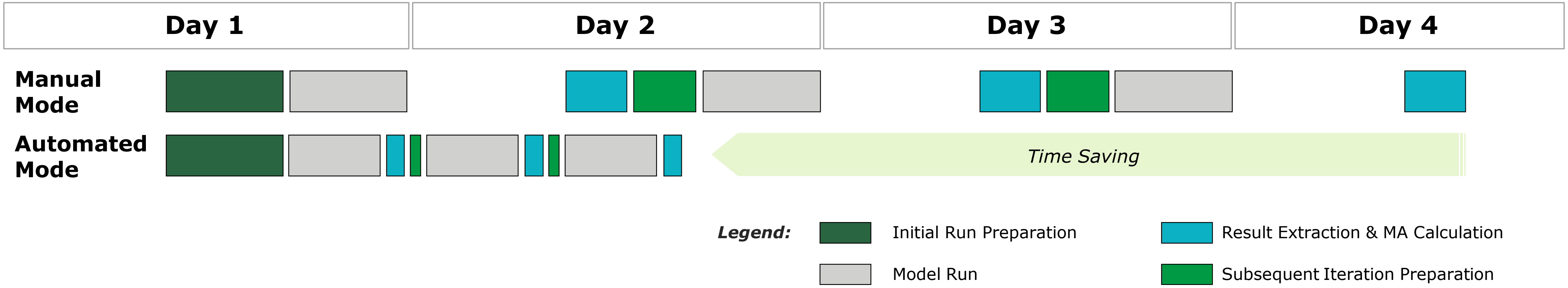
Automation of HKRBC processes

Deloitte has seen automation of HKRBC in three major areas that collectively address several of the common pain points we have noted in our work to date

Run Automation	Results Post-Processing	End-to-end automation monitoring
Results Extraction Automation	Matching Adjustment Calculation & Reporting	Detailed progress run monitoring

The automated mode sees a significant reduction in reporting timeline; the additional reduction in manual effort means the entire production team can be deployed to engage in more value-adding activities, enhancing production efficiency and team morale.

Production Timeline



Automation of HKRBC processes (cont.)

Common Project Challenges

SOLUTION DESIGN

- Automation scope prioritization
- Data standardization & system integration
- Computation constraints (e.g. bandwidth, processing power)

APPROVAL AND COMPLIANCE

- IT solution compliance with the corporate standard
- Connectivity among systems and data sources

PROJECT TIMELINE & RESOURCES PLANNING

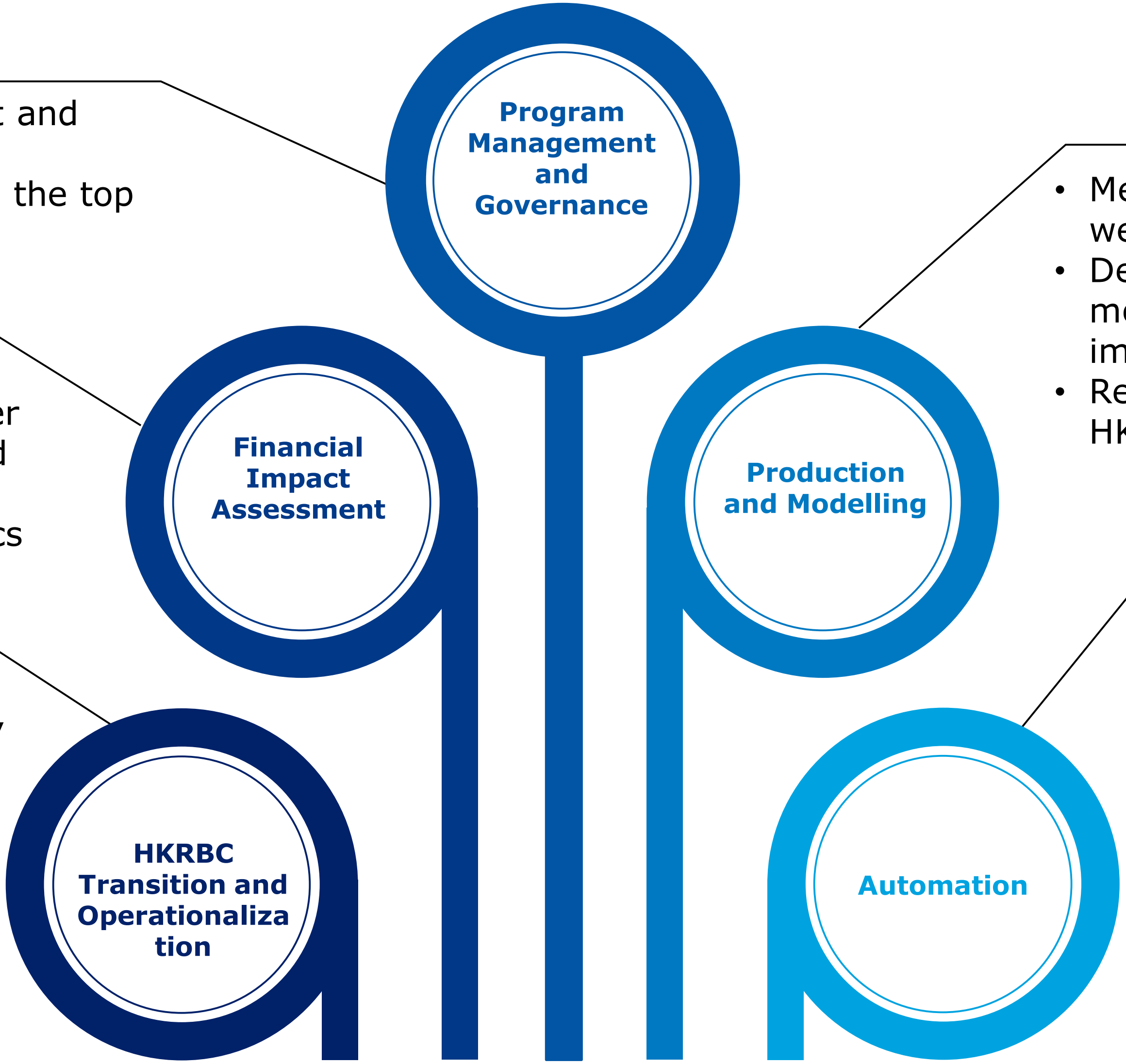
- Alignment on the project timeline, scope and dependencies
- Resources allocation on design, testing rollout and maintenance

OPERATION AND MAINTENANCE

- Process Change management
- Support model for new technology
- Environment stability (e.g. server scheduled maintenance)

HKRBC – An Opportunity to Integrate Risk and Finance

Our experience from HKRBC projects suggests a number of areas where best practice has already emerged and it can help the next insurance company implement with low risks



Program Management and Governance

- Set a clear program management and governance from the outset
- HKIA engagement managed from the top
- Early engagement with auditors

Financial Impact Assessment

- Consider the impact on financials from HKRBC adoption at an earlier stage (e.g. HKFRS and embedded value, if applicable)
- Sensitivity analyses across metrics

HKRBC Transition and Operationalization

- Implement with a future target state for HKRBC operating model, system architecture and process to guide implementation decisions
- Integration and alignment with HKFRS and other reporting processes

Production and Modelling

- Methodology for HKRBC valuation well documented
- Design of tools for BAU solvency monitoring in parallel with implementation
- Reconciliation between HKRBC and HKFRS/HKIO

Automation

- Actively pursue an automation implementation strategy
- Initiate automation work from the biggest components of the WDT in terms of time consumed (actuarial models are often run on a sub-optimal, low automation process)

HKRBC – An Opportunity to Integrate Risk and Finance (cont.)

Both HKRBC and HKFRS 17 require changes in data, system and process from the existing solvency and HKFRS valuation and reporting processes

Synergies

Actuarial	Calculation and modelling	• Leverage assumptions used from HKFRS 17 • Make use of stochastic calculation from HKFRS 17
Finance Actuarial	Data Lake and ETL	• Assess which HKFRS 17 ETL can be leveraged for HKRBC
Finance	Process and controls	• Leverage process flows from HKFRS 17 TOM • Identification of automation opportunities • Assess WDT for both HKFRS and HKRBC
Finance Actuarial	Reporting and disclosures	• Consider common data source of HKFRS and HKRBC reporting
Finance	Taxation	• IAS 12 applies to both HKRBC and HKFRS • A DTA/DTL will need to be computed

2. Key assumptions / methodology for HKRBC – Contract boundary

Contract boundary overview

Liability Valuation Overview

Technical Provisions		IO Cap. 41	HKFRS17	HKRBC
Current Estimate	Valuation Basis	Net Premium Valuation (NPV)	Gross Premium Valuation (GPV)	GPV
	Cash Flow	Prudent	Best Estimate (BE)	BE
	Discounting	Valuation Interest Rate	Mkt-ref / risk-adj rates	Mkt-ref / risk-adj rates
	Contract Boundary	No	Yes	Yes
	Policy-level cash surrender floor & reserves zeroisation	Yes	No	No
	Time Value of Options & Guarantee (TVOG)	Implicit	Yes	Yes
Margin over Current Estimates (MOCE)		No	Yes	Yes

Contract boundary definition

*Definition of **Contract Boundary** refers to* **HKFRS17 *Insurance Contract***

	HKRBC	HKFRS17	IO Cap. 41
Recognition / Derecognition of Liability	Earliest of: 1. Date first premium becomes due 2. Beginning of coverage period 3. Date participant becomes party to contract	Earliest of: 1. Date first payment from policyholder in group becomes due 2. Beginning of coverage period 3. For group of onerous contracts, when group becomes onerous	No explicit rules around contract boundaries.
Contract Boundary	In line with IFRS17, **EXCEPT** contracts unbundled before application of contract boundary.	• Cashflows within boundary if arising from substantive rights and obligations which entity can compel policyholder to pay premiums; OR • Which entity has substantive obligation to provide policyholder with services.	

Contract boundary examples (1/2)

The contract boundary directly affects the contract tenor thus the projection of liability cashflow before discounting to arrive at the GPV reserves.

Contract Boundary - Example Illustration

1

- Yearly renewable group life contract
- The insurer has right to re-price at renewal
- Premiums estimated based on period to next renewal

Contract Tenor
1 year

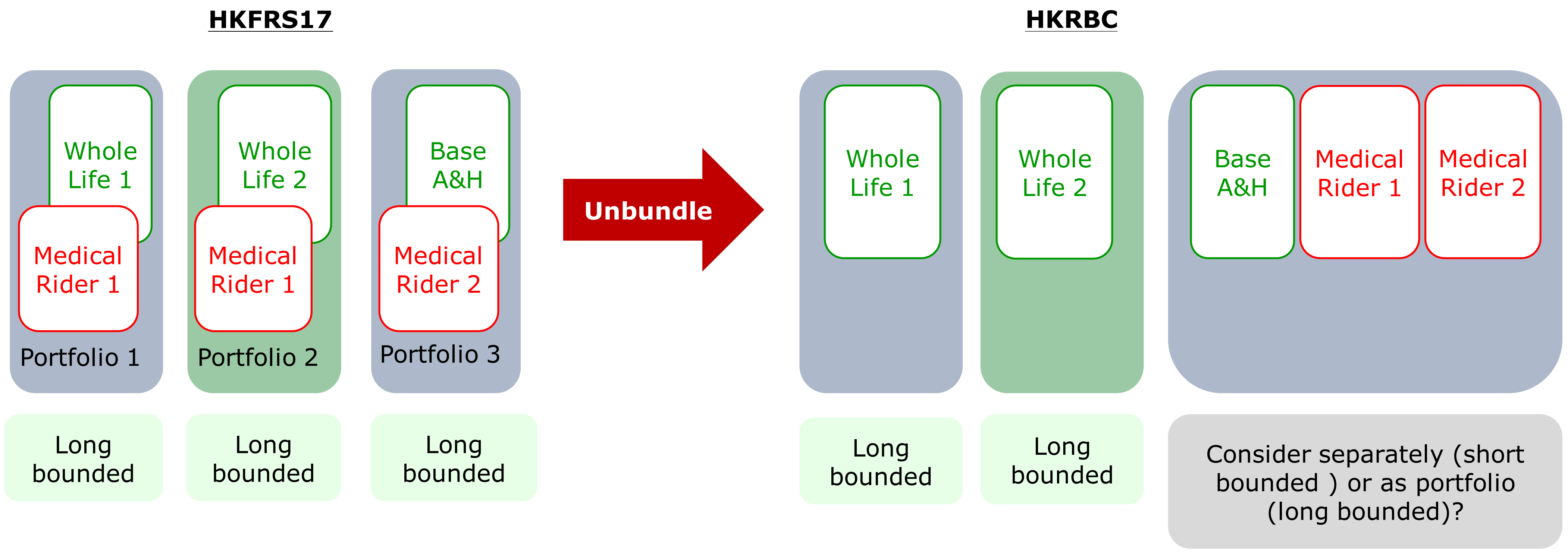
2

- Policyholder aged 50
- Guaranteed renewable 5 year term assurance until age 75
- Premiums reviewable at renewal
- Insurer can increase premium to a cap of 50%

Contract Tenor
25 years

Contract boundary examples (2/2)

Unbundled components should be grouped based on their risk characteristics, not the characteristics of the base contracts.



Contract boundary analysis and outcome

Approach to Contract boundary analysis

1. Review product features of products and HKFRS 17 accounting policies
2. Review pricing practice and assess whether it meets the HKFRS 17 criteria
3. Document findings into technical papers and pricing documents including gaining agreement from auditor

What are we assessing?

HKFRS 17.34(b) requires consideration of whether an entity;

- can set a price or level of benefits that fully reflects the risk of portfolio (paragraph 34(b)(i)); and
- **pricing of premiums** for coverage up to date when risks are reassessed **does not take into account risks relating to periods after the reassessment date** (paragraph 34(b)(ii)).

Assessment covers when 34(b)(ii) is not true for medical products i.e. **whether pricing of premiums up to the reassessment date takes account of future risks.**

Review of product features

Illustrative examples - pricing takes account risks for periods after next reassessment date

- Contract is priced such that premiums charged in earlier periods when policyholder is younger subsidises premiums charged in later periods when policyholder is older.
- Premiums are set in anticipation of future renewals beyond next reassessment date
- Premium paying period is not full duration of contract
- Premium discount and no claims bonus ("NCB") apply and specified upfront

Medical product – sample features

Basic features

1. Medical reimbursement product with maximum annual benefit limit
2. Whole of life and annual renewal is guaranteed. Policy terminates on lapse / when policyholder dies.
3. Initial underwriting and health checks on entry (but not at renewal)
4. Insurer has right to reassess risks and fully reprice on a 'product level' only.

Additional features

5. NCB and premium discount based on duration-in-force.

Product features imply product

- meets the criteria in paragraph 34(b)(i) at the next renewal date; and
- ***can only be bounded at next renewal date if it meets the criteria in paragraph 34(b)(ii) at that date***

Technical analysis

Scenario	Technical analysis	Conclusion
NCB	• Key product features considered e.g. nature, materiality and size of NCB, NCB premium pattern in pricing • Technical interpretation and arguments: ➢ NCB are claims contingent amounts and hence relate to insurance risk. ➢ Premium on reassessment date takes into account future NCB • Repricing mechanism considers future deterioration of experience in NCB utilization rate (and hence future insurance risk)	**Not bounded at next renewal date**
Premium discount	• Product feature – as reward for keeping policies in force, premium discounts apply based on duration-in-force. • Technical interpretation ➢ Premium discount flexes premium pattern downwards at later durations whilst keeping cost of risk unchanged hence same outcome as NCB scenario. ➢ Extent of downward shift in premium pattern based on assessment of insurance risk (considering expected in-force policies at older ages, morbidity, lapse and mortality risk).	**Not bounded at next renewal date**
Cross subsidisation	• Analysis to compare annual morbidity cost and annual premium from younger to older ages (see next page). Analysis showed that expected premium payable: ➢ Materially exceeds expected cost of risk in younger age groups; and ➢ Materially falls short of expected cost of risk in older age groups.	**Not bounded at next renewal date**

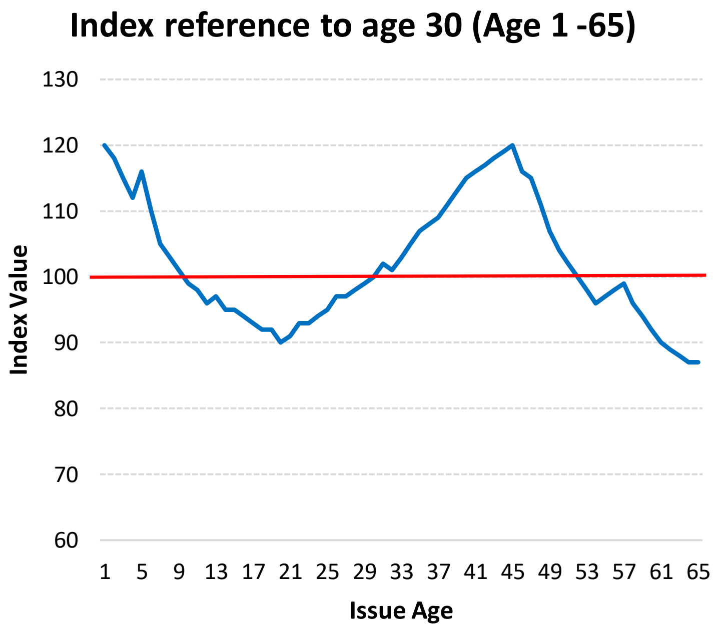
Cross subsidisation across policyholder age groups

Analysis of pricing and outcome

Annual morbidity cost and annual premium compared across all ages as below:

- Ratio = annual morbidity cost for each age group in portfolio / annual premium.
- Age group of 30 year old policyholders set as the reference point (median) to analyse presence of a cross-subsidy through calculation of a simple index for portfolio.
- Illustrated distribution of index ratio across all age groups by reference to selected reference age group of 30 years old.
- The index ratio being higher than 100 implies policyholder at particular age group can pay less premium to receive more expected value compared with policyholder at age 30.

Outcome: pricing results in some policyholders in younger age group paying more premium than expected level of claims thereby funding / subsidizing older age group where premium is priced at a lower level than expected claims for those age groups.



Product pricing and review evidence

Aim

Demonstrate that past, present and future philosophy on product pricing for medical product is conducive of contract boundary conclusion i.e. **contracts in the medical portfolio under HKRBC basis are not bounded at next repricing date.**

Evidence supporting technical analysis

1. Policies	Risk Management Policy / Pricing Policy guiding pricing team to consider what future risk is and how reflected in pricing and repricing
2. Pricing governance	Ensures management obligated to revisit philosophy implemented appropriately and maintains practice in future
3. Pricing document	Documents analysis i.e. repricing considers the risk and reflects it in premium

Summary

Outcomes for company

Independent analysis of product features and criteria

Robust technical analysis and interpretation of product pricing to arrive at contract boundary conclusion

Updated technical papers and pricing documents

Gaining agreement from auditor

3. HKRBC Gap Assessment – Deloitte Readiness Assessment Tool

Overview

Objectives & Outcomes & Who is the tool for?

Objectives

- Helps **perform a readiness assessment of a company's current state against being business-ready for the HKRBC solvency regime**.
- Gaps identified and maturity level provide indications on the **effort required to implement HKRBC**.
- Covers **Pillars 1 to 3 of HKRBC.**

Expected Outcomes

The output of the tool is a gap analysis report with:

- Options for closing gaps
- Roadmap for HKRBC implementation

Who is the tool for?

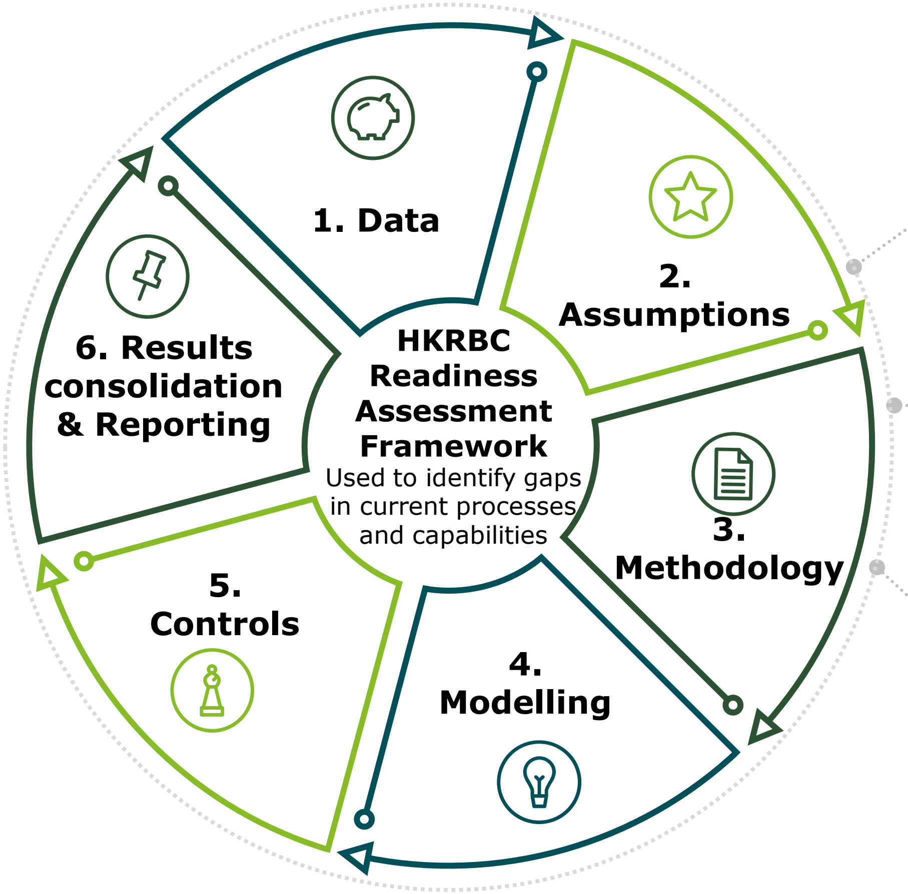
- Insurance companies
- Reinsurance companies

Approach - Independent Gap Analysis

Approach Overview

1. Understand the current state	• Desktop review of current reporting process, relevant documentation and models to ensure the current state is understood.
2. Workshop/meetings	• Augment our understanding on **Data**, **Assumptions**, **Methodology**, **Modelling**, **Controls**, **Results Consolidation & Reporting.**
3. Identify and assess the gaps	• Identify and assess gaps using Deloitte's **HKRBC Readiness Assessment Framework**. • Consider internal gap assessment completed by company.
4. Draft report, collect feedback and finalize report	• Draft report with findings and recommendations. • Meeting to present gap assessment report and collect feedback. • Final report allowing for feedback.

Identifying Gaps (1/2)



1. Compliance

Assess level of compliance with HKRBC regulatory requirements.

2. Production Capability and Speed

The ability to produce HKRBC solvency results and analyses in a timely manner to enable business decision-making.

3. Governance & Controls

A robust governance and controls framework for the production of accurate and reliable solvency results for regulatory reporting.

Identifying Gaps (2/2)

1. Data

- Asset data
- Policy data
- Other data

2. Assumptions

- Insurance contract measurement
- Other assumptions

3. Methodology

- Insurance contract measurement
- Stochastic valuation
- Matching Adjustment ("MA")

4. Modelling

- Asset models
- Liability models
- Capital models

5. Controls

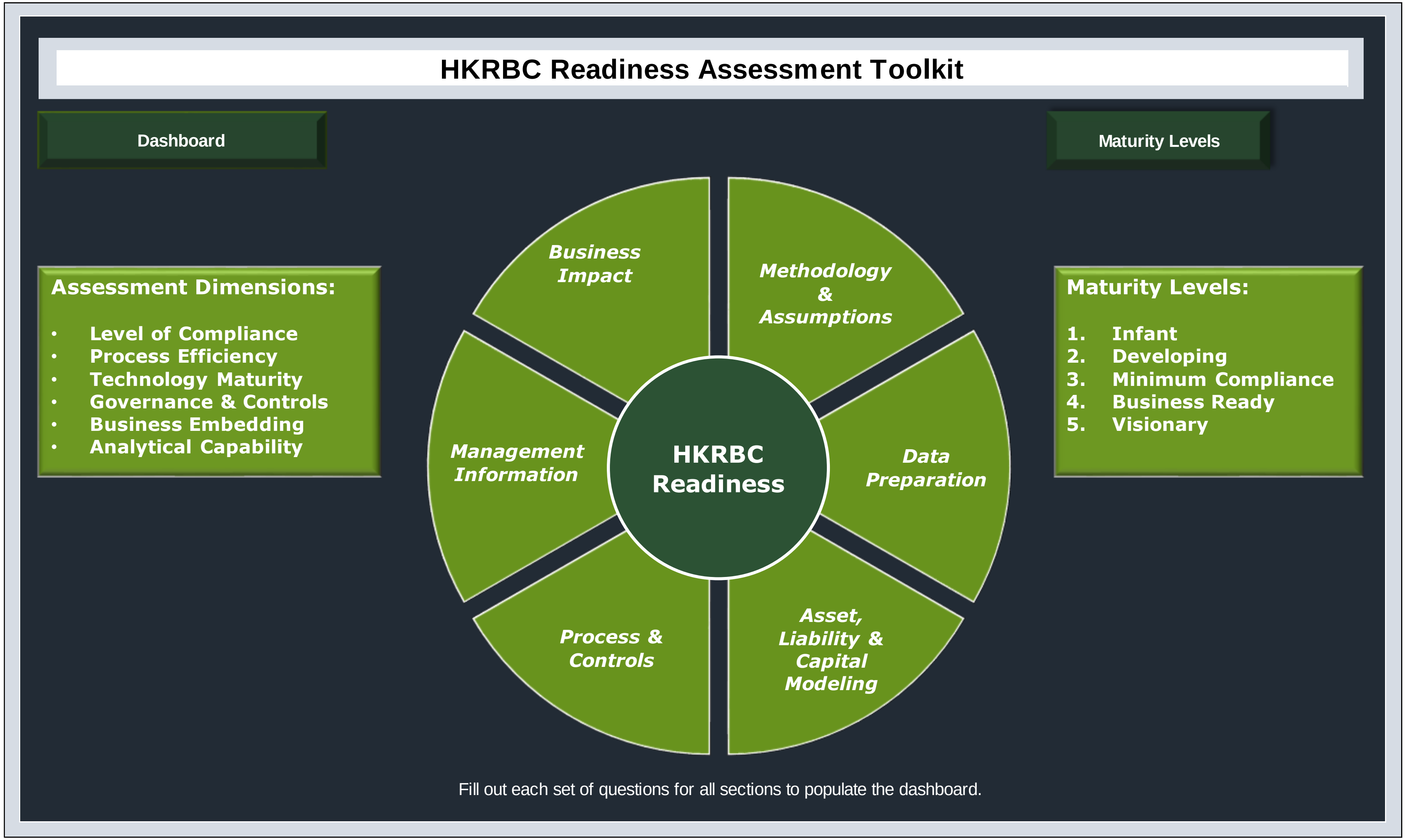
- Data governance
- Methodology & Assumptions Governance
- Model governance

6. Consolidation & Reporting

- Consolidation & aggregation
- Checking & Analysis
- Disclosure notes and templates (Pillar 3)

Tool Walkthrough

Overview


HKRBC Readiness Assessment Toolkit
Dashboard
Maturity Levels
Assessment Dimensions:
• Level of Compliance
• Process Efficiency
• Technology Maturity
• Governance & Controls
• Business Embedding
• Analytical Capability
Business Impact
Methodology & Assumptions
Management Information
HKRBC Readiness
Data Preparation
Process & Controls
Asset, Liability & Capital Modeling
Maturity Levels:
1. Infant
2. Developing
3. Minimum Compliance
4. Business Ready
5. Visionary
Fill out each set of questions for all sections to populate the dashboard.

Roadmap and Strategy

Roadmap & Strategy (1/3)

High-level roadmap to address the identified gaps

Gaps Identified

Considerations in producing the high-level roadmap

Steps and key activities for client to prepare for HKRBC:

- Data, Assumptions, methodology, model and controls development;
- Associated indicative timelines for key activities;
- Engagement with auditors, planning for Board engagement etc.

Roadmap & Strategy (2/3)

High-level roadmap and insights to address gaps

Areas	Key Pain Points	Deloitte Insights
Asset Data Model Points MA Calculation Actuarial Model Runs Consolidation & Reporting	**Manual and time consuming processes** ▪ Asset data from various sources, inconsistent formats ▪ Asset data transformation, mapping, validation and review ▪ Model Point File ("MPF") clustering and grouping process ▪ Iterative MA process ▪ Process to set up and kick-off Prophet runs ▪ Prophet results validation and consolidation	**Data** • Integrated Asset data platform • Data is centralized, structured and validated automatically • Data management and governance tool **Automation and Software** • Migrate Prophet Data Conversion System to Python for MPF • Accelerate MA calculation through methodology simplifications • Automate MA process • Optimize utilization of cores on cloud • PowerShell to streamline and automate with scheduling tools • Power BI and Azure for report generation and visualization • Regulatory templates automatically populated

Roadmap & Strategy (3/3)

Deloitte solutions implemented

Example 1: Matching Adjustment Automation

Design and implementation of MA process automation for a local subsidiary of a large multinational insurer.

Key benefits delivered:

1. **Automated processes**
   - Consolidate data input from multiple sources, perform checks and enrichment and to populate Pillar 3 templates
   - Prophet results extraction
   - Reducing manual, repetitive and low-value adding processes
2. **Acceleration of production timeline**
3. **Enhancement of process governance and control**

Example 2: Credit modelling model enhancement

Prophet Asset Liability Strategy ("ALS") model enhancement for a local subsidiary of a pan-Asian multinational insurer.

Key benefits delivered:

1. **Credit modeling capabilities** within Prophet ALS
2. Enhancement model **captures credit spreads, credit transition and default under risk-neutral basis**

4. RBC Regulatory Overview

RBC Implementation Timeline

APAC summary as of 30 June 2022

		2020	2021	2022	2023	2024	2025	2026
AU	APRA has initiated the LAGIC framework since 2009 with strong parallels to Solvency II and intends to release its final Reporting and Prudential standards by end of 2022.		APRA Industry Implementation Survey; Draft APRA Prudential Standard Industry wide QIS	Effective transition for Reporter; Final APRA Prudential Standard	**1 Jan 2023** AASB 17 Effective Date; **1 Jul 2023** Effective Date of APRA Prudential Standard			
NZ	The Final Solvency Standard is intended to replace the Interim Solvency Standard once a concurrent review of NZ's Insurance Prudential Supervision Act 2010 (IPSA) is complete.	Review of ISS & Prudential Standard	Draft Interim Solvency Standard	Revised & approved interim standard	**1 Jan 2023** NZ IFRS 17 and Solvency Standard Effective Date		**2025** NZ Final Solvency Standard Effective Date	
CN	China implemented a new solvency regime, C-ROSS, in 2016. An amended regime, C-ROSS II, is now effective since 1-Jan-2022 with a first reporting date of 31-Mar-2022.	First draft of C-ROSS II released	Consultation	**1 Jan 2022** C-ROSS II Effective Date	**1 Jan 2023** CAS 25 Effective Date (Listed companies only)			
HK	The current solvency regime is governed by the HKIO issued in 1999 (revised in 2004). HK is now implementing a new RBC regime to align with international regulatory requirements.	Pillar 1 process Pillar 2 effective	ORSA report first submission		**1 Jan 2023** HKFRS 17 Effective Date	**1 Jan 2024** HKRBC expected effective date		
JP	In 2010, the JFSA conducted the first field test for all insurers to calculate economic value-based insurance liabilities. In June 2020, a JFSA study group released a report recommending the new regime to be implemented in April 2025.	JPESR QIS 6 Final Report from the Advisory Council	JPESR QIS 7	Tentative decision on basic contents of ESR standards	**1 Jan 2023** IFRS 17 Effective Date for volunteer entities	Finalisation of JPESR standards	**1 Apr 2025 (TBC)** JPESR Effective date	**1 Mar 2026 (TBC)** First ESR calculation
KR	The current South Korean RBC has been in effect since 1999 and it was mainly based on EU Solvency I. Since then, Korean regulators have developed K-ICS, a completely new risk capital regulation aligning with IFRS 17 to some degree by referencing to both EU Solvency II and ICS.	K-ICS 3.0 QIS 3	K-ICS 4.0 K-ICS FINAL QIS 4	QIS 5 QIS 6 QIS 7	**1 Jan 2023** K-IFRS 1117 and K-ICS Effective Date			

RBC Implementation Timeline

APAC summary as of 30 June 2022

		2020	2021	2022	2023	2024	2025	2026
TW	The current RBC System has been implemented in Taiwan since 2003 and the regulator is now drafting a new RBC regime (T-ICS) to be effective on 1-Jan-2026, aligning with IFRS 17.		**Phase 1** On-site field testing		**Phase 2** Parallel run phase		**Phase 3** Preparatory phase	**1 Jan 2026** IFRS 17 and T-ICS Effective Date
MY	BNM has introduced a new RBC framework in December 2018, updating subsequently with new liabilities valuation guidelines. The RBC2 issued on 30-Jun-2021 in a 'discussion paper' document shall come into effect on 1-Jan-2023.	**Phase 2** Review of CAR	BNM issue Discussion paper on RBC 2 Framework		**1 Jan 2023** MFRS 17 Effective Date RBC2 Effective Date			
SG	The RBC framework for insurance companies was first introduced in Singapore in 2004. In light of the evolving market developments, Singapore has developed a new RBC framework (RBC2) effective on 1-Jan-2020.	**1 Jan 2020** RBC 2 Effective Date **31 Mar 2020** Effective Date for MAS Notice 133		**1 Jan 2022** MAS Notice 133 Exceptions Effective Date	**1 Jan 2023** IFRS 17 Effective Date			
TH	Thailand first RBC started in 2009. The new RBC2 has been effective since 2020. Thailand plans to draft a new RBC regime aligning with TFRS17 after TFRS 17 becomes effective.	**1 Jan 2020** RBC2 Effective Date	RBC 2 Revised calculation criteria			**1 Jan 2024** TFRS 17 Effective Date	**(TBC)** New RBC Effective date	
BN	RBCS shall follow IAIS Insurance Capital Standard (ICS) and standards from the Islamic Financial Services Board (IFSB). 1st parallel run ended on 31-Dec-2019 and 2nd parallel run on 31-Dec-2020. The new RBCS framework is expected to be finalised once the regulator has considered the field testing outcome.	1st Parallel Run	2nd Parallel Run		**1 Jan 2023** IFRS 17 Effective Date			

RBC Regulatory Overview
APAC summary as of 30 June 2022

Jurisdictions	Local IFRS 17 aligned with IASB Effective date	Local IFRS 17 Effective date	New RBC Regime aligned with local IFRS 17 effective date	New RBC Regime Effective date
Hong Kong	Yes	1 Jan 2023	No	1 Jan 2024
Australia	Yes	1 Jan 2023	No	1 Jul 2023
Bhutan	No	Beyond 2023	No	Beyond 2023
Brunei	Yes	1 Jan 2023	No	Beyond 2023
Bangladesh	No	Beyond 2023	No	Beyond 2023
Cambodia	Yes	1 Jan 2023	No	Beyond 2023
China	Yes – For companies listed in both China and overseas No – For other companies	1 Jan 2023 – For companies listed in both China and overseas 1 Jan 2026 – For the other companies	No	1 Jan 2022
India	No	1 April 2024-25 / 2025-26	No	Beyond 2023
Indonesia	No	1 Jan 2025	No	Beyond 2023
Japan	Yes	1 Jan 2023	No	1 Apr 2025
Laos	No	1 Jan 2026	No	Beyond 2023
Malaysia	Yes	1 Jan 2023	Yes	1 Jan 2023
Myanmar	No	1 Oct 2023	No	Beyond 2023
New Zealand	Yes	1 Jan 2023	No	1 Jan 2025
Nepal	No	16 Jul 2023	No	Beyond 2023

RBC Regulatory Overview

APAC summary as of 30 June 2022

Jurisdictions	Local IFRS 17 aligned with IASB Effective date	Local IFRS 17 Effective date	New RBC Regime aligned with local IFRS 17 effective date	New RBC Regime Effective date
PNG	Yes	1 Jan 2023	No	Beyond 2023
Philippines	No	1 Jan 2025	No	Beyond 2023
Singapore	Yes	1 Jan 2023	No	1 Jan 2020
South Korea	Yes	1 Jan 2023	Yes	1 Jan 2023
Sri Lanka	No	1 Jan 2025	No	Beyond 2023
Taiwan	No	1 Jan 2026	Yes	1 Jan 2026
Thailand	No	1 Jan 2024	No	Beyond 2023
Vietnam	No – However, insurers with holding companies overseas applying IFRS aligned with the IASB can apply IFRS 17 at the same time of the group (1 Jan 2023)	1 Jan 2025 or 1 Jan 2026	No	Beyond 2023

RBC Regulatory Overview
Latest news

China
China Risk Oriented Solvency System (C-ROSS)

The C-ROSS framework – issued in 2012 and implemented in January 2016 – is similar to many new solvency regimes with three pillars focusing on **quantitative, qualitative and disclosure requirements**.

The China Banking and Insurance Regulatory Commission (CBIRC) commenced its amendment plan on C-ROSS in September 2017. The final standard was issued in December 2021 with the first reporting date of **31 March 2022**. The amended standard is known as **C-ROSS Phase II**. (i)

Compared with the original C-ROSS Phase I, **C-ROSS Phase II** adds new rules on look-through measurement with regards to market risk and credit risk's, capital planning and Lloyd's (China).

Main purposes of C-ROSS II:

1. Guide the insurance industry in returning to its initial purpose of protection and focusing on its main business.

2. More stringent capital recognition standards to prevent and mitigate risks in the insurance industry.

3. Promote the insurance industry to serve the real economy more efficiently and effectively.

References
(i) https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/financial-services/deloitte-cn-fsi-weather-the-storm-volume-1-en-220128.pdf
(ii) https://www2.deloitte.com/cn/en/pages/financial-services/articles/china-risk-oriented-solvency-system-c-ross-phase-ii.html

RBC Regulatory Overview
Latest news

Hong Kong
Hong Kong Risk-Based Capital (HKRBC)

In **May 2022**, Legislative Council Panel on Financial Affairs issued Legislative Proposals to Implement a Risk-based Capital Regime for the Insurance Industry of Hong Kong. (i)

The International Association of Insurance Supervisors ("IAIS"), which is regarded as the global standard-setter by several national insurance regulators, issued in 2011 the Insurance Core Principles in relation to capital adequacy, which prescribe principles for a risk-based approach for capital adequacy framework.

Considering Hong Kong's position as an international financial centre and that of the Insurance Authority ("IA") as a member of the IAIS, Hong Kong needs to implement a new RBC regime to align with international regulatory requirements.

The implementation progress of the RBC regime three pillars is as follows

Pillar	Description	Progress
Pillar 1	Quantitative assessment	Between 2017 and 2020, the IA conducted three rounds of QIS. After QIS 3, the IA has reached a consensus with the industry on the technical details and is planning to conduct a final consultation of the proposed rules in 2023.
Pillar 2	Corporate governance and risk assessment	After consulting the industry, the IA has issued the Guideline on Enterprise Risk Management (GL21). The relevant requirements took effect on 1 January 2020.
Pillar 3	Disclosure	Currently, the IA is consulting the industry on the proposed requirements in relation to the submission of information to the IA by insurers.

References:
(i) https://www.legco.gov.hk/yr2022/english/panels/fa/papers/fa20220503cb1-217-5-e.pdf

RBC Regulatory Overview
Latest news

Hong Kong (continued)
Hong Kong Risk-Based Capital (HKRBC)

Legislative work in two phases

1. Introduce a Bill to provide the legal basis for implementing Pillar 1 and Pillar 3 requirements under the RBC regime. The Legislative Council Panel on Financial Affairs is now drafting the legislative amendments with the aim of introducing the Bill into the LegCo in **Q4 2022**.

2. Subject to the approval of the Bill by the LegCo, the IA will formulate the implementation details and related subsidiary legislation in consultation with the industry. The current target is to implement the RBC regime in **2024**.

Legislative proposals

- Valuation and capital requirements
- Funds requirements
- Requirement of maintaining assets in Hong Kong
- Actuarial matters
- Submission of information to the IA and disclosure of information to the public
- Regulatory and intervention powers
- Approval of and objection to controllers
- Transitional arrangements
- Taxation arrangements

References:
(i) https://www.legco.gov.hk/yr2022/english/panels/fa/papers/fa20220503cb1-217-5-e.pdf

RBC Regulatory Overview
Latest news

Hong Kong (continued)
Hong Kong Risk-Based Capital (HKRBC)

During 2021 and 2022, the IA issued the draft Pillar 3 templates to insurers. The finalised version for report submission is expected to be released in 2023.

In **June 2022**, IA conducted a Pillar 3 Townhall meeting to summarise the key market concerns on the draft documents published till then, which arise from data granularity, reporting frequency and timeline of returns submission. IA suggested that the new Pillar 3 draft documents will address the industry concerns by streamlining some data requirement, taking reference from other jurisdictions on reporting frequency and timeline and allowing transitional arrangement. HKIA also provided responses to the comments received from the industry on its Pillar 3 consultation, transitional returns submission arrangement and signatory requirement.

RBC Regulatory Overview
Latest news

Japan

Japan Economic Value-based Solvency Ratio (JPESR)

Japan has been working on modernizing its solvency regime for the supervision of insurers for more than a decade. In May 2019, the Japan Financial Services Agency (FSA) created a study group to discuss future directions towards the development of a new "Economic Value-based" Solvency Regime (JPESR). (i)

In June 2020, the study group published a report entitled **"The Study Group Report on the Economic Value-based Solvency Regime"**, recommending implementation of the new regime in **2025**. This report has presented the following 3 high-level guiding principles:

- The new solvency regime will be constituted of three pillars.
- The standard formula will be broadly consistent with that in the ICS.
- The new regime could be implemented in **April 2025** (to be confirmed).

References:
(i) https://www2.deloitte.com/jp/en/pages/financial-services/articles/ins/japans-new-insurance-solvency-regime.html

RBC Regulatory Overview
Latest news

Malaysia
Risk-Based Capital 2 (RBC 2)

On **30 June 2021**, Bank Negara Malaysia (BNM) issued a discussion paper (DP) on the Risk-Based Capital (RBC) framework. (i) This DP outlines proposals to enhance the design of the RBC framework for all Insurers and Takaful Operators (ITOs). To facilitate this process, all ITOs were invited to provide feedback on the DP by **30 September 2021**. (ii) The status is still in 'discussion paper' as BNM has yet to finalise the requirements. BNM expects to finalise the new RBC framework with parallel run ending in 2023.

Industry players will comply with the existing RBC issued on 17 December 2018 (iii) as stated in the Financial Reporting policy document issued on 29 April 2022, when this policy comes into effect on **1 January 2023**. (iv)

References:

(i) https://www.bnm.gov.my/-/dp-risk-based-capital-framework-instkf
(ii) https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/financial-services/deloitte-cn-fsi-weather-the-storm-volume-1-en-220128.pdf
(iii) Bank Negara Malaysia Financial Reporting Policy issued on 29 April 2022
(iv) Bank Negara Malaysia Risk-Based Capital Framework for Insurers issued on 17 December 2018

RBC Regulatory Overview
Latest news

New Zealand
Interim and Final Solvency Standards

In **October 2021**, key response to feedback from RBNZ on the Draft **Interim Solvency Standard (ISS)** was the announcement to defer the effective date of **1 January 2022** to **1 January 2023**, in line with the IFRS 17 standard.

RBNZ published its feedback to responses received on the Draft ISS for insurers on **9 March 2022** (i), taking into account upcoming changes to the accounting rules (IFRS 17), incorporating feedback into the current solvency standards and it is expected that the **Final Solvency Standard (FSS)** will be in force from **2025**.

RBNZ has published a **Review Version** of the insurance ISS on **31 May 2022** that contains a number of amendments over the July 2021 version inviting interested parties to comment on any technical or workability issues not previously identified (ii). Insurers that would like to participate can do so by **Friday, 15 July 2022**.

The FSS is intended to replace the ISS once a concurrent review of NZ's Insurance Prudential Supervision Act 2010 (IPSA), also underway, is complete. The intention is that insurers will have to rely on the **ISS** once it is effective in its form at that time and prior to being replaced by the **FSS**.

References:
(i) https://www.rbnz.govt.nz/have-your-say/review-of-the-insurance-solvency-standards
(ii) https://www.rbnz.govt.nz/news/2022/03/interim-insurance-solvency-standard-refined-by-feedback
(iii) https://www.rbnz.govt.nz/regulation-and-supervision/insurers/consultations-and-policy-development-for-insurers/active-policy-development/review-of-the-insurance-solvency-standards

RBC Regulatory Overview
Latest news

South Korea
Announcement of final version of K-ICS and presentation of transitional measures (December 2021)

At the end of 2021, the Financial Services Commission of Korea presented a final version of K-ICS, including various transitional measures and delays in timely corrective measures for the stable settlement of K-ICS.

Transitional measures were proposed in various aspects, such as available capital, required capital, reporting and disclosure as measures to help insurance companies smoothly adapt to the new system by alleviating rapid fluctuations in the solvency ratio under the new regime.

Three rounds of Quantitative Impact Study are still in progress, QIS 5·6·7 (2022).

RBC Regulatory Overview
Latest news

South Korea (continued)
Overview of the final draft of K-ICS

A. Solvency system

A solvency system that measures the risks inherent in an insurance company (required capital) and allows the insurance company to hold corresponding capital (available capital)

K-ICS ratio = available capital / required capital

B. Available capital

Available capital, which corresponds to the numerator of the K-ICS ratio, is based on net assets (assets minus liabilities) evaluated at present values of both assets and liabilities, and some items are adjusted from net assets in the financial statements to satisfy the principle of loss absorption.

C. Required capital

Required capital corresponds to the denominator of the K-ICS ratio, and a new risk such as longevity risk and catastrophe risk is added compared to RBC. In addition, a shock scenario method was introduced when measuring risk so that capital soundness can be precisely measured, and the level of confidence in the risk estimate was raised to 99.5% (current in RBC: 99.0%).

D. Added to the final draft (compared to K-ICS 4.0)

To expand the role of insurance companies as institutional investors and to encourage entry into the social service industry, the risk assessment criteria for long-term stocks and compulsory real estate have been relaxed.

Save the date

Please join us….

Next RBC Webinar

Second half of the year

Exact date to be announced later

Appendix

RBC Regulatory Overview
Latest news

Nepal
Risk Based Capital and Solvency Directive

On **28 January 2022**, the Insurance Board issued a **"Risk Based Capital and Solvency Directive, 2022 (2078)".** The implementation of this Directive shall be carried out over the transitional period starting from **17 July 2023** (1 Sharwan 2080 in Nepali calendar).

The Insurance Board will put in place transitional measures for four-years-time to allow insurers to make the necessary changes to their internal systems and for the smooth transition to the Risk Based Capital Approach set out in this Directive and its developing rules.

Implementation of this Directive will be in stages from 1 Sharwan 2080 and full implementation shall be applied as of Ashad-End 2084 (equivalent to the year **2027**).

- The insurers shall calculate its Risk-Based Capital and its Available Capital resources as of Ashad-End 2081 (equivalent to the year **2024**).
- Insurers applying this transitional provision shall approve by the board a financial plan identifying the capital resources to use in order to cover the Risk-Based Capital or achieve its target solvency ratio.
- Insurance Board shall require at any moment amendments to the financial plan when it is not realistic

References:
https://images.merolagani.com/Uploads/Repository/637794889864159878.pdf

RBC Regulatory Overview

Latest news

Sri Lanka

Risk-Based Capital 1 (RBC 1)

Sri Lanka is currently following RBC 1 introduced in 2015 after the enactment of the draft version of RBC framework presented in 2012. Discussions are ongoing with between regulator and the insurance industry for making adjustments to the existing RBC regime due to the adoption of SLFRS 17 that the Institute of Chartered Accountants of Sri Lanka has proposed to defer until **2025**.

The World Bank has also agreed to support Sri Lanka Financial Sector Modernization Project (FSMP) over a period of 5 years (from 2017 to 2022), with the 3 financial sector regulators as the implementation partners: (1) the Central Bank of Sri Lanka (CBSL); (2) the Securities and the Exchange Commission of Sri Lanka (SEC); and (3) the Insurance Regulatory Commission of Sri Lanka (IRCSL).

References:

https://projects.worldbank.org/en/projects-operations/project-detail/P159303

Glossary

ALM	Asset Liability Management
APRA	Australian Prudential Regulation Authority
AIR	Actuarial Investigation Report
BAU	Business As Usual
CAR	Capital Adequacy Ratio
CAS	China Accounting Standard
CBIRC	China Banking and Insurance Regulatory Commission
CE	Current Estimate
COA	Chart of Accounts
C-ROSS	China Risk Oriented Solvency System
DTA	Deferred Tax Asset
DTL	Deferred Tax Liability
ESR	Economic Value-Based Solvency Ratio
ETL	Extract, Transform and Load
GL	Guideline
HKFRS	Hong Kong Financial Reporting Standards
HKIO	Hong Kong Insurance Ordinance
HKIA	Hong Kong Insurance Authority
HKRBC	Hong Kong Risk-Based Capital
IFRS	International Financial Reporting Standards
ISS	Insurance Solvency Standard
ICS	Insurance Capital Standard
JPESR	Japan Economic Value-based Solvency Ratio
LAGIC	Life and General Insurance Capital review project in Australia
MA	Matching Adjustment
MAS	Monetary Authority of Singapore
MOCE	Margin Over Current Estimates
ORSA	Own-Risk and Solvency Assessment
PCR	Prescribed Capital Requirement
TOM	Target Operating Model
TVOM	Time Value of Money
QIS	Quantitative Impact Study
WDT	Working Day Timetable

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