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Hong Kong Risk-Based Capital Implementation Guide

October 2023

MAKING AN IMPACT THAT MATTERS since 1845

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Preface

Introduced by the Hong Kong Insurance Authority (IA), the Hong Kong Risk-Based Capital (HKRBC or RBC) regime aims at strengthening Hong Kong policyholders' protection by ensuring the regulatory capital requirements of insurers reflect their actual risk exposures and incentivizing improved risk management. Recognising the regional insurance hub role that Hong Kong plays, HKRBC is also the first regulation to ever apply to insurance groups headquartered or having operations in Hong Kong.

On 6th July 2023, the Legislative Council of The Hong Kong Special Administrative Region (HKSAR) passed the Insurance (Amendment) Bill 2023 which provides the legislative framework for the implementation of the HKRBC regime. HKRBC is targeted to be effective in the second half of 2024.

With the effective date approaching soon, all insurance companies in Hong Kong need to be ready for implementation. This requires reassessing the capital held in the business against the new requirements, introducing governance and controls in insurer's own risk and solvency assessment and ensuring actuarial and financial reporting processes are compliant with the new regulations. Doing all this may not be easy to achieve without help from insurance regulatory experts.

In this guide, we provide an update on the developments of HKRBC, Deloitte's insights on the major HKRBC implementation challenges and solutions. Our guide zooms in on how insurers can materialize the business benefits of HKRBC beyond regulatory compliance through operationalization strategies.

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Industry Update

Latest Implementation progress and status

HKRBC Timeline

1. On **6th July 2023,** the Legislative Council of HKSAR passed the Insurance (Amendment) Bill 2023 to implement RBC, which provides the legislative framework for the implementation of the RBC regime for the Hong Kong insurance industry.
2. The Insurance Authority has commenced the preparatory work to draft detailed requirements of the RBC regime which will be folowed by public consultation on subsidiary legislation. HKRBC is targeted to be effective in the second half of 2024.

Sep 2015
Consultation conclusions of RBC framework

Dec 2017 – Nov 2019
3 rounds of QIS submissions

To gain a better understanding of the likely impact on the industry, three rounds of quantitative impact study (QIS) exercises and various industry wide data collection have taken place

Jan 2020
Effective date of GL21, Pillar 2 ERM and ORSA

Dec 2020
Issuance of RBC2020 technical specifications

Dec 2021
Issuance of RBC technical specifications for early adoption

This technical specifications incorporates updates since RBC2020 for the purpose of early adoption of the HKRBC solvency regime. They should not be interpreted as final policy decisions or final rules

Q2 2022
Pillar 3 guidance published

YE 2022
First Annual submission for early adopters

1 Jan 2024
Last effective date for early adoption expected

Early adopters
Prudential, FWD, AIA, HSBC, Sun Life

Q4 2023 to Q1 2024
Expected revised technical specifications for Pillar 1 and 3 / subsidiary legislation

Q2 2024 or later
Expected effective date depends on time spent on legislative process

Industry Update – Hurdles to the HKRBC effective date

HKIA is pressing on with HKRBC implementation with further consultations before it becomes effective in 2024

RBC timeline

Oct-Dec 2023

- Revised set of templates (including Pillar 3 templates) to be published for industry comments
- IA to release a full list of index of returns to be submitted upon HKRBC
- Public consultation on first batch of rules: Cap. 41R, S
- Amendments to existing regulations: Cap.41A-C, Cap.41J

Jan 2024

Finalised Pillar 3 templates to be distributed to industry

Q1 2024

- Public consultation on second bath of rules: Cap.41Q,T,V
- Consultation conclusions on first bath of rules
- Trial run for monthly return submission (May)

Q2 2024

- Legislative process on subsidiary legislation
- Updates on Guidelines with consultation

Jul 2024

- Target effective date of HKRBC
- First monthly return submission
- Oct 2024 to be the second target effective date if Jul target is not met

Par fund management timeline

Apr 2021 – Mar 2023

- Industry meetings, surveys and Actuarial Society of Hong Kong (ASHK) meetings between 2021 and 2023
- Discussed and concluded on areas such as fund segregation requirements, Long Term Adjustment (LTA) application criteria, etc.

Sep 2023

Third industry meeting and open consultation on the following areas:

- Par fund setup and surplus transfer
- Allocation of expenses and charges to par fund
- Physical segregation
- Independent review

Oct-Dec 2023

Further details to be published on Par fund governance

- Par Business Committee – independent from management
- Enhancement in Par business corporate policy

Late 2023 / early 2024

Further details to be published on Par fund disclosure

- A survey to be circulated on benefit illustrations with focus on investment return assumptions
- Enhancement on disclosure to current and prospective policyholders

Post-HKRBC implementation

Mandatory one off external independent review to be submitted to the IA within 6 months after HKRBC goes live

Industry Update – Recent townhall meetings

Key takeaways from the HKIA on RBC updates and participating fund management meeting in August and September 2023

Aug 2023 RBC Townhall

Update in relation to subsidiary legislation

- Insurance (Valuation and Capital) update on absolute minimum Prescribed Capital Requirement (PCR), treatment on PCR if not based on standard approach, Deferred Tax Asset (DTA) / Deferred Tax Liability (DTL) treatment
- Cap 41A Prescribed Qualification for Actuary update, Fellow Members of ASHK (FASHK) will be a prescribed credential requirement for both Life insurers and General Insurers (GI), and Casualty Actuarial Society (CAS) fellowship recognised as GI certifying actuary
- Updates on fees and wordings under Cap 41B, 41C and 41J

Fund maintenance

Standalone custodian account at head office's custodian for Hong Kong branches of overseas headquartered insurers

Regulatory returns and filing portal

Covered arrangement of the HKRBC mid-year effect on FMA forms, matters relating to interfund and proposals on streamlining some of the returns. New IA portal and template introduced to enhance return submission experience

Sep 2023 Participating fund management industry meeting

Principles for future shareholder transfer

- Par surplus shall be released to shareholders in a gradual and systematic manner over the lifetime of the contracts
- Opening balance of segregated Par funds shall not be less than amount of assets currently identified
- Insurers need to justify any changes to the basis for determining the amount of assets attributable to Par business since 1 Jan 2019
- Appointed Actuary (AA) shall need to certify and report to the Board and IA at least annually on fund sufficiency

Physical segregation of funds

- Separate custodian / bank account and books and records
- Interfund balance should be settled within 3 months
- Signatory sign-off (e.g. AA, Par Business Committee) on assets transferred out of the Par fund

Enhance governance and disclosure

- Independent review required with minimum scope proposed in townhall
- Par Business Committee to be set up
- Enhanced disclosure on benefit illustrations and policy characteristics to enhance transparency and comparability

HKRBC Implementation Challenges and Solutions

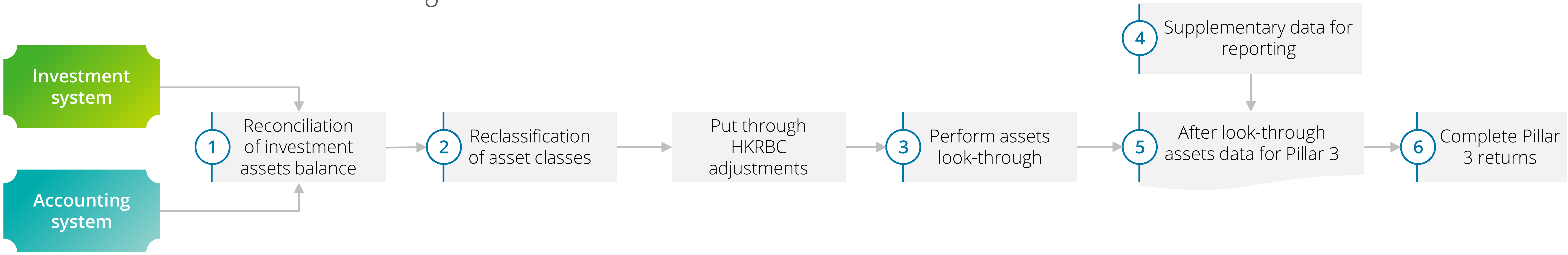
Common HKRBC Implementation Challenges: Key Areas

Based on our experience and industry knowledge, most insurers face several common inter-related challenges when seeking to transform their RBC reporting. These challenges are broadly classified into the following areas: Asset Data, Methodology and Modelling, Pillar 3.

Areas	Common Challenges				
Asset Data	Lack of granularity of Collective Investment Scheme (CIS)	Timing difference from valuation data taken during the valuation date	Insufficient market data	Asset class classification	Lack of a data warehouse
Methodology and Modelling	Matching Adjustment	Contract Boundary	Economic Scenario Generation (ESG) Calibration	Time Value of Options and Guarantees (TVOG)	Par Fund Management
Pillar 3	Excessive granularity of data	Large number of tabs within the Pillar 3 return	Manual processes and insufficient resources	Qualitative comments requested by IA	Lack of visualized information to senior management

Asset Data

We have identified 6 areas of challenge around asset data



[1] INVESTMENT ASSETS RECONCILIATION

- Manual effort on reconciliation of investment assets between investment and accounting systems, e.g. timing difference

[2] ASSET CLASSIFICATION

- Classification of corporate bond and sovereign bond (internal record / fund manager record) not following HKRBC classification requirements

[3] LOOK-THROUGH METHODOLOGY

- Due to time constraints, there are challenges around obtaining actual look-through allocation data

[4] SUPPLEMENTARY DATA FOR REPORTING

- Lack of granularity of Financial Asset data and other asset data for Pillar 3 disclosure

[5] ASSETS DATA PREPARATION

- Multiple data sources (e.g. systems, online, emails) in different formats (Excel, pdf) are used in asset data preparation
- Manual data extraction and non-standardized assets file preparation processes
- Lack of a data warehouse to store HKRBC required market data for periodic comparison and for senior management review

[6] PILLAR 3 RETURNS PREPARATION

- Completion of Pillar 3 returns involves collaboration between various teams e.g. Actuarial, Finance, Investment and there is lack of a common workspace to share information
- Minimal automation through heavy reliance of Excel, unable to support instant and late adjustment update

HKRBC Implementation Challenges - **Methodology under HKRBC**

Complex and lengthy iterations of Matching Adjustment (MA)

IA prescribes the calculation of MA which involves complex and lengthy iterations of asset and liability data. Not all companies have the practical ability to perform the full calculation and hence MA simplifications are allowed and used by insurers. Even though the simplification guidelines are clear and reduce the operational complexity, insurers need to prepare supporting evidence to justify the choice of any simplification approaches. Examples of MA simplifications used in industry is shown in the table below.

MA Simplifications used in industry	Insurer A	Insurer B	Insurer C	Insurer D
Proxy application ratio of 15%	No	No	No	No
Additive proxy of 25% for an increase in accumulated cash flow shortfall % under lapse up and mass lapse scenarios	No	No	No	No
Prescribed haircuts to base (Asset Duration / Liability Duration) for the calculation of stressed duration factor	No	No	No	No
Predictability factor calculation one month lag	Yes	Only used for Proxy MA	No	No
Duration factor calculation, insurers may use the data within one month	No		No	No
Interpolation of TVOG for duration factor	Yes		Yes	Yes
Use a final MA which is rounded down to the nearest 10bps.	No		No	No

HKRBC Implementation Challenges - **Methodology under HKRBC**

Assessment of Contract Boundary

Under HKRBC, insurers are required to assess the contract boundary of all insurance contracts. The contract boundary directly affects the contract tenor, the projection horizon of liability cashflows and thus the final Gross Premium Valuation (GPV) reserve. HKRBC specifies the definition of contract boundary should be consistent with the HKFRS 17 standard but on an unbundled basis. Insurers need to determine the contract boundaries of their existing contracts and ensure consistencies with those assumed in the HKFRS 17 reporting. One challenge is around legacy contracts particularly if their contracts terms were not clearly documented in the past. We suggest the following approach to contract boundary analysis:

1 › Review product features of products and HKFRS 17 accounting policies

- Review basic and additional product features to assess whether a short / long contract would apply. For example, for medical products, whether 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.

2 › Review pricing practice and assess whether it meets the HKFRS 17 criteria

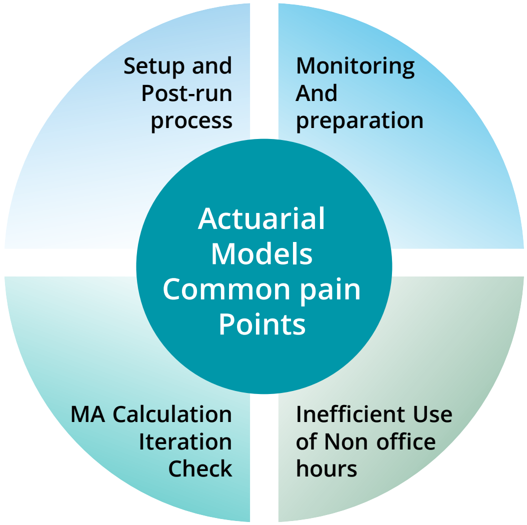
- Conduct technical analysis under different scenarios to conclude on contract boundary.

3 › Document findings into technical papers and pricing documents including gaining agreement from auditor

- Evidence supporting technical analysis should be documented in Pricing Policy to guide pricing team on considerations for future risks and how those risks should be reflected in pricing / repricing decisions.
- Enhance pricing governance to ensure enhancements are implemented appropriately and management maintains practice in future.
- Gain agreement from auditor

HKRBC Implementation Challenges - **Modelling Common Bottlenecks: Lengthy Model Runs**

Common challenges



Economic Scenario Generator (ESG) Calibration and TVOG

- Under each scenario, **re-calibration on risk-neutral ESG** is necessary to fulfill HKRBC Technical Specifications' requirements on interest rate, credit, equity, correlation, etc., as well as the need to pass martingale tests.
- Stochastic models for Time Value of Options and Guarantees (TVOG) calculations would consume a lot of computing power as they aim to **capture dynamic dividend rules and management actions** under each scenario.

Iteration for Matching Adjustment

- HKRBC allows Matching Adjustment (MA) to be added to the risk-free rates for valuation. The MA calculation is **data and operationally intensive**.
- The iterative nature of the MA calculation **increases the already lengthy stochastic run time, compounded** by the number of runs needed for **shocked scenarios and stress testing.**

1 Automated solution for the iterative MA calculation

1. Streamlined configuration, run monitoring and results extraction
2. Automated model results aggregation, MA generation and control checks
3. Checking of MA convergence, triggering of new run jobs when necessary

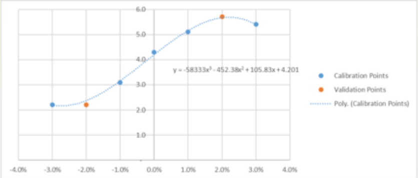
2 Simplification

Develop methodology for **MA / TVOG estimation**, and outline the approach and key considerations, e.g.:

- Identify key drivers on MA / TVOG
- Focus on shocks which have material impact to MA / TVOG
- Perform back-testing and feed back to the design loop for enhancement
- Regularly revisit the estimation approach to ensure compliance to tech spec

Different approaches to simplification can be adopted:

- **Curve-fitting on liability against interest rate shift**: To minimize the effort of stochastic model runs and perform calibration in a more efficient manner



- **Factor approach**: Calibrated for limited runs only and applied the factor on key drivers for other runs

HKRBC Implementation Challenges - **Pillar 3 – Common Challenges**

What we observed

- Data required in Pillar 3 disclosures are largely sourced from actuarial models, from finance and other HKRBC processes.
- However, excessive granularity of data is required to support the disclosure report generation.
- As such, the existing processes may not be well suited for fulfilling the Pillar 3 disclosure.

- The Pillar 3 template contains 111 tabs, 41 of which are GI related. For a life insurer, this means ~70 tabs to complete.
- Consistency between tabs is hard to maintain without a well-designed holistic solution.
- Furthermore, it is important to ensure results in disclosures are aligned with other reports submitted to IA.

- Significant labor resources are required to complete the disclosures without automated process.
- The results and other information included in the Pillar 3 template can be excessive for senior management to consume, review and sign-off.

- Upon the 1st submission, many snapshots of information are required to be submitted, including product list details, reinsurance arrangement, etc.
- Qualitative comments in addition to the quantitative results will be requested by IA.

Our Solutions and View Points

Holistic design

- Gather Pillar 3 disclosure requirement at an early stage.
- Identity any gaps from upstream processes and clearly assess the required data and level of granularity.
- Enhance the existing process or consider a new holistic solution design.

Automated process for Pillar 3 with proper control

- Automated solution to populate the Pillar 3 return to minimize manual interventions and errors.
- Collect data from fewer consolidated sources to reduce effort for reconciliation.
- Incorporate control and reconciliation reports to facilitate senior management's review and sign-off.

Engaging all key stakeholders at early stage

- Engage relevant stakeholders to obtain qualitative inputs for disclosure purpose and set the working day timetable considering different functions' constraint.
- It is essential for key stakeholders to understand how to interpret the results, with facilitation of analysis and control reports generated from the redesigned or new process.

HKRBC Implementation Challenges - Exploring the Option of Technology for Pillar 3

Technology solutions are available which can provide material long-term benefits to actuarial and finance teams on Pillar 3. Identifying fit-for-purpose technologies will not only enable automation of the process but also empowers insurers to achieve further analytic capabilities. We set out below common challenges we see in the industry on asset data and Pillar 3 reporting.

Challenges

Data

Multiple source data held across systems resulting in time delays, quality issues, risks and inefficiencies

PAS | Fund managers | Market data | Inv't accounting | Others...

Process

Manual data extraction and consolidation process heavily relying on large spreadsheets

Output

Financial reports prepared through spreadsheet update with significant efforts required on reconciliations

What Technology could achieve

Analytic Process Automation tool for data connection and formatting

- A processing tool which establishes connections with source systems.
- A standardized workflow can be created and executed on-demand with just "push of a button" to automatically generate mapping table, asset split, journal entries by line of business, etc. from multiple source systems, perform data enrichment and filtering for subsequent process use.

Analytic Process Automation tool for data enrichment

- A processing tool to link a series of tasks and automatically trigger subsequent tasks to start based on predefined criteria.
- The end-to-end process can be automated which can gather various sources and generate various working papers for various users.

Reporting tool for long-term solution

- A "last mile" reporting tool which establishes connections with source systems, link up a series of tasks and automatically trigger subsequent tasks to start based on predefined criteria.
- The end-to-end reporting process is automated.

Low level of manual operation | Medium level of manual operation | Extensive manual operation

HKRBC Operationalisation

Introduction

With the significant business impact brought by the HKRBC regime, solvency reporting can no longer be treated as a compliance exercise. A well-prepared insurer would set out an implementation plan to be business-ready to fully embed RBC and its related metrics in all business processes, stay on top of its solvency position and outlook, understand and be able to react to risks in an agile manner to support timely business decision-making.

In this Chapter, we zoom in on 3 focus areas in the operationalization of HKRBC:

1. Timely solvency monitoring - Staying on top of RBC position to react to risks in an agile manner.
2. Target Operating Model (TOM) – Redesign operating model around capital reporting, risk management and risk governance framework to optimize how actuaries, finance and risk teams work together as a team and maximize process efficiency.
3. Capital optimization – Implement strategies / techniques to maximize return on capital, create long-term value and reduce overall risk exposure and balance sheet volatility.

Insurers should focus on setting appropriate objectives for the operationalization of RBC, have ongoing engagement with business stakeholders and enhance its risk culture. This will ensure business benefits can be materialized beyond regulatory compliance.

Timely Solvency Monitoring

Upon HKRBC becoming effective, there is a greater need for more frequent monitoring of HKRBC solvency position outside quarter-end reporting to respond to market or other events, or to address ad hoc reporting requests from the IA.

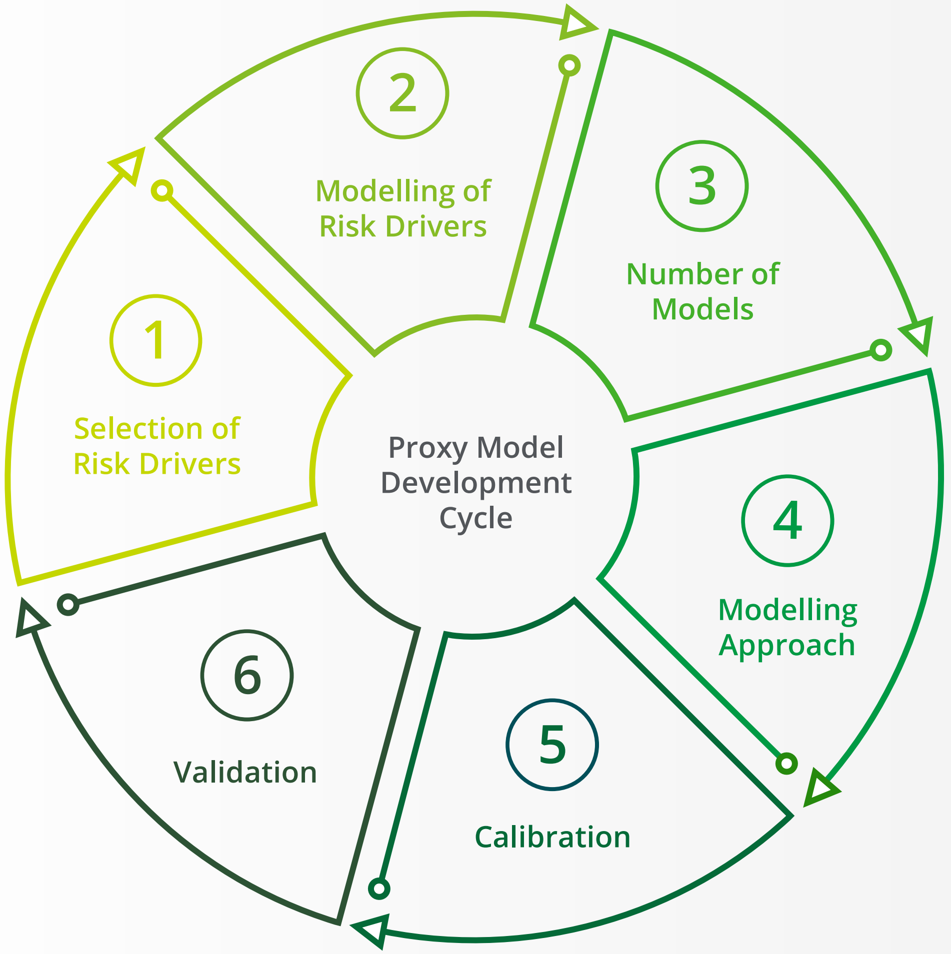
A robust, agile and timely process for solvency monitoring is therefore critical.

A practical solution to enable timely solvency monitoring is through a proxy model. The proxy model is built to approximate the results produced by a more complex or "heavy" model. As a proxy model is less complicated, it can perform calculations faster and more efficiently compared to the heavy model, reducing overall model runtime and workload of the RBC team. However, the model needs to be designed with appropriate methodology, calibrated and validated before being implemented. Proxy models can be used to support many core business activities including but not limited to asset-liability management, business planning, ORSA projections and stress testing, and many more.

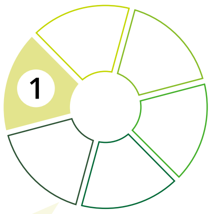
The proxy model development cycle consists of 6 key stages:

1. Selection of Risk Drivers
2. Modelling of Risk Drivers
3. Number of Models
4. Modelling Approach
5. Calibration
6. Validation

Various key design decisions need to be addressed at each stage of the proxy model development cycle, to balance the speed and accuracy to meet the business objectives.



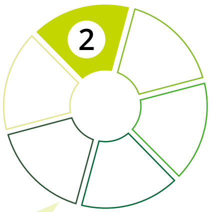
Deloitte has ample experience in developing proxy models. Below are our insights on key considerations to consider in each stage of the Proxy Model Development Cycle.



Selection of Risk Drivers

Deloitte Insight:

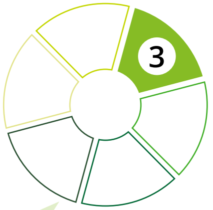
- Some risk drivers, such as Matching Adjustment and interest rate volatility, are not risk modules in HKRBC. However, if these risk drivers significantly impact the Best Estimate Liability (BEL) and Time Value of Options and Guarantees (TVOG), it is recommended to be included.
- Averaging some closely related risk drivers will reduce the number and complexity of the model. One example is to take the average of the credit rating of bond as single risk driver rather than modelling different buckets of bond by credit rating.



Modelling of Risk Drivers

Deloitte Insight:

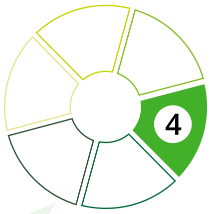
- Simplify this step by not modelling the risk drivers into a statistical model.
- Instead, select an appropriate market data source to capture the movement of the market and estimate the shock on the asset portfolio held by the company.



Number of Models

Deloitte Insight:

- More granular model will usually provide a more accurate estimation because the model can better reflect the movement of the asset / liability position against the risk drivers.
- If the proxy model will be used for sensitivity result for specific reporting (such as VNB), the granularity will need to match the key product groups that will be presented in reporting.
- For some lines of business such as Par product, liabilities can be broken down into asset share, present value of guarantee charges and present value of shareholder transfer because of the different behavior to risk drivers.



Modelling Approach

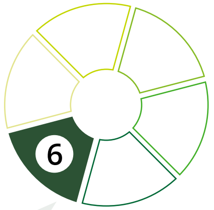
Deloitte Insight:

- Appropriate approach should be selected with considerations on accuracy, complexity and materiality as it of the products, operational readiness and the calibration range.
- In general, short-term products with mostly guaranteed cash flows will be more suitable for reporting simple approaches like a factor approach.

Calibration

Deloitte Insight:

- While more calibration points will usually result in more accurate estimation, it is recommended to focus on the calibration range which matters most. For example, more calibration points are necessary in the tail end instead of evenly spread out across the calibration range.



Validation

Deloitte Insight:

- A robust validation approach will uncover whether there are necessary model enhancements and addition of risk drivers due to risk profiles from the acquired or divested assets and policy liabilities.
- The validation scenario should include at least one scenario with mild changes and one extreme scenario. This will demonstrate that the model works in business-as-usual situations and under stress scenarios.

Target Operating Model (TOM)

Under HKRBC, increased production volume impacts the working day timetable and management's ability to analyze / interrogate results. In addition, embedding HKRBC requirements into business-as-usual processes can impact resource requirements and the existing operating model.

It is necessary for insurers to re-visit their operating models around capital reporting, risk management and risk governance framework to re-define what actuaries, finance and risk teams should do, how they work together as a team, the resources and skillsets required, different options of operations, and set out an implementation roadmap.

Potential Solutions

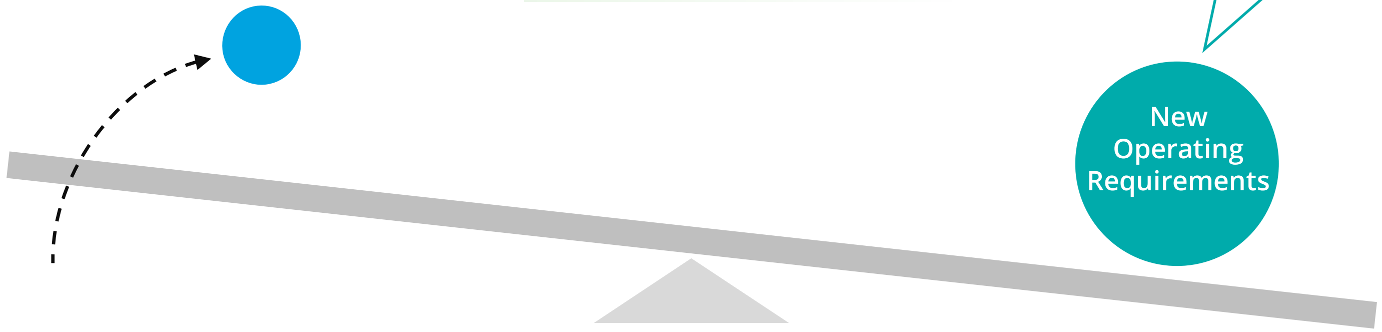
- Leveraging **lessons learnt and experience** from other capital regimes (e.g. Solvency II) provide relevant reference points.
- Re-visit TOM around capital reporting, risk management and risk governance framework: what actuaries, finance and risk teams should do and how they **work together as a team.**
- **Plan ahead** for new skill sets and resources required before supply becomes limited.

Impact

- **Top-down initiative** to embed the HKRBC regime into all business processes, together with bottom-up design of business as usual (BAU) activities.
- A **new or redefined TOM** setting out the required skill sets, number of resources, and different options of operations.
- **Change management**

New Operating Requirements

- **Embedding of HKRBC solvency results into business processes** such as product pricing, investment decisions, risk management etc.
- **Redesign** of management information metrics to **integrate** HKRBC solvency results with other financial metrics for holistic and consistent management information.
- **Cross-departmental collaboration** for solvency reporting – e.g. Actuarial, Finance, Risk, supported by IT and business functions.



Lessons learnt from regimes that have gone live:

1. **Transform MI** produced through use of an analytical and visualization tool (e.g. Microsoft Power BI) which interacts with data from different sources including the cloud and can create customized dashboards. This gives senior management the ability to quickly analyze the balance sheet particularly during stress conditions to assist with real-time decision making.
2. **Greater use of risk-based indicators** with an appreciation / understanding of the differences between regulatory capital (HKRBC), accounting metrics and other applicable capital requirements (e.g. group level capital).
3. **Investment strategy, ALM and capital management practices** used in other risk-based regimes should be explored to optimize the balance sheet under HKRBC.

Redefining TOM: Deloitte's Approach

When defining an efficient and modernized business TOM, **Scope, People** and **Process & Technology** should always be considered and designed in conjunction.

Scope within the Taxonomy

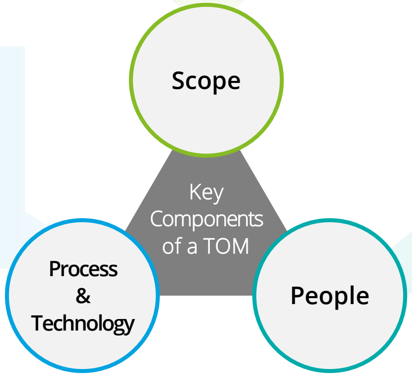
In line with the vision set out for the team, the scope covers activities which would be ideally performed by the team under an optimal operating model.

"What you do"
What do you hope to achieve within the function

Seamless and Efficient Process

Day-to-day operational activities, integrated with advanced technology, performed by an adequate number of resources efficiently.

"How you do it"
How you operate against defined processes and technologies



Talent Management

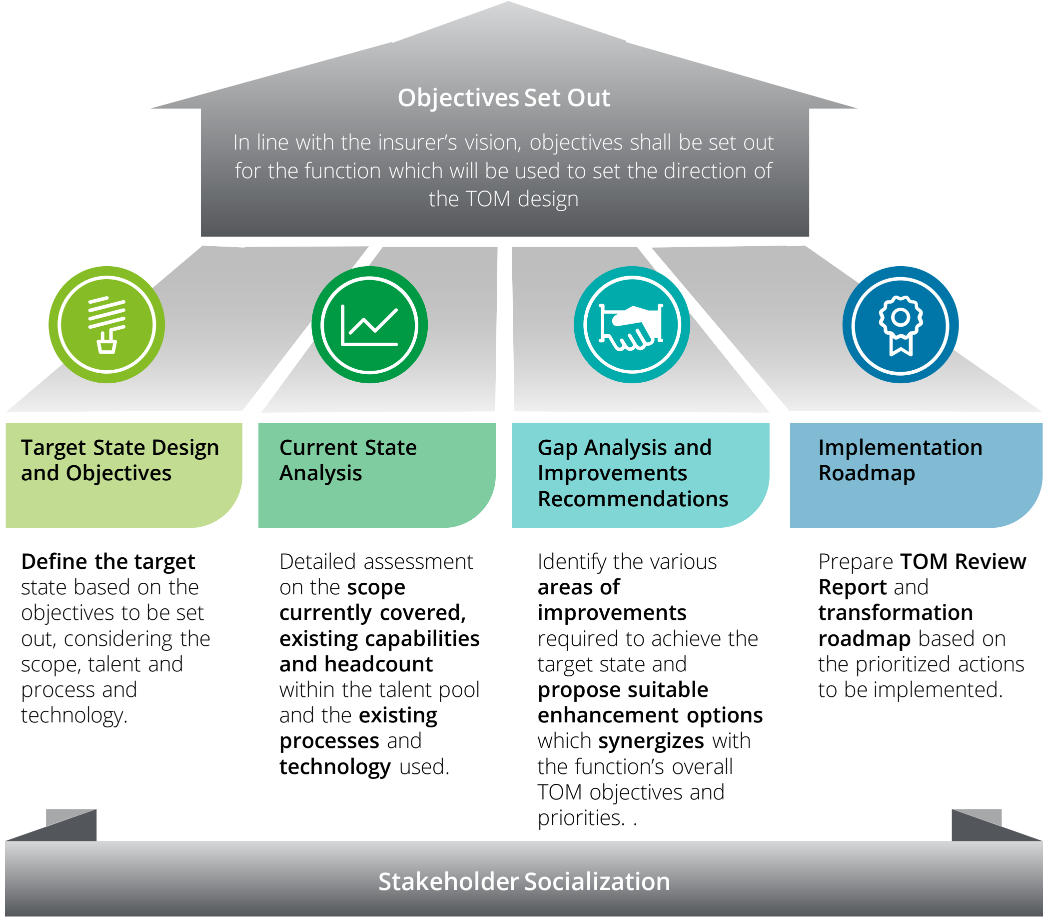
Empowering talents with relevant skillsets to perform roles assigned, continuously driven by meaningful scope and contributing to the organization, hence achieving operational excellences with the right talent size .

"Who does what"
How you structure your people effectively

Key dimensions

Scope	People	Process & Technology
Target Achievements	Role and Responsibilities	Process Efficiency
Governance	Capabilities & Skills	Technology Fit & Ownership
Activities (Taxonomy)	Location	Working Day Timetable
Key Stakeholders	Organization Structure	

In designing and implementing the TOM for a function/s, it is important to have an in-depth understanding of the insurer's vision and objectives, assessing the current state before developing the target state. The TOM design should consider Scope, People and Process & Technology within the function.



Capital Optimization

It is increasingly more important for insurers to have an effective capital management framework within which decisions can be taken to optimize the balance sheet and create long-term value. Capital optimization is the implementation of strategies / techniques to enable a company to maximize its capital efficiency. Managing the business within an optimal target capital range can help the company achieve its strategic objectives.

Companies typically optimize capital to achieve one or more of the following key objectives:

- Maximize return on capital
- Create long-term value
- Reduce balance sheet volatility
- De-risk and reduce capital requirements e.g. lapse risk, interest rate risk
- Improve ALM position
- Improve liquidity

In this chapter, we focus on 3 key areas of capital optimization:

- Capital Management Metrics - Select optimal strategies that can strike a balance between key management metrics such as risk and return.
- Capital Management Framework – Formalize a capital management framework to ensure proper governance and ongoing management around capital decisions.
- Capital Optimization Strategies - Select strategies to maximize capital resources / minimize capital requirements (PCR) to achieve the optimal capital range.

Capital Optimization Strategies

There are a wide range of capital optimization strategies which can be considered, depending on the company's objective, risk appetite and constraints.

When selecting the optimal capital optimization strategy to implement, the company should ensure the following key considerations are met:

- Align overall capital management objectives with the company's strategy considering Risk Appetite Framework and limits.
- Follow a structured approach to identify, evaluate and prioritize capital optimization options.
- Split capital optimization strategies into options that either:
  - Increase capital
  - Protect capital
  - Release capital
- Undertake and document a cost-benefit analysis for each option looking at impact on a range of key metrics, costs of action, timeline and ease of implementation.
- A slightly sub-optimal optimization option may need to be chosen if execution, operational and regulatory hurdles of a more optimal option are too onerous.

Capital Optimization Metrics

1 Types of metrics

There are a variety of metrics to quantify the effectiveness of capital optimization strategies. Metrics are often categorized into 4 groups with some examples listed below.

Solvency	Profitability	Volatility	Liquidity
• Solvency ratio (RBC or Economic Capital) • Return on capital	• Embedded value (EV) • Return on Earnings (ROE) • IFRS profit	• Profit volatility • Return volatility	• Liquidity coverage ratio • Quick ratio

2 Considerations

It is important to strike a balance between risk, return and capital requirements when selecting metrics. Below are some key considerations when deciding on the metrics to be used in quantifying the effectiveness of capital optimization strategies:

- A range of metrics should be examined for each capital optimization option
- Define minimum expectation / outcome for each metric
- Complexity of metric calculation
- Ability to project the metric over business planning period under base and stressed scenarios
- Ease of explanation / communication to stakeholders

Capital Management Framework

Having a formalized Capital Management Framework ensures there is appropriate governance and ongoing management around capital decisions. A holistic capital management framework is supported by:

- Objectives that are aligned with strategy, solvency, and risk appetite
- Strong governance structure with clearly defined roles and responsibilities
- Capital management policies and procedures to provide guidance on risk appetite, assessment of capital adequacy, capital management actions, rules for allocation of capital, reporting and disclosure requirements
- Timely risk monitoring

Capital Management Framework

Objectives

Governance

Strategy & Risk Appetite
- Business Strategy
- Risk Appetite Statement
- Material risk identification
- Risk policies and standards

Capital Adequacy
- Determine Target Capital Level
- Regulatory capital requirements
- Capital projection
- Scenario and stress testing

Capital Management Actions
- Metrics to consider
- Risk mitigation and hedging

Capital Allocation
- Capital management metrics

Reporting and disclosure
- Capital management plan

Monitor
- Risk measurement, monitoring and management

Under HKRBC, a wide range of capital optimization strategies can be considered as shown below.

Capital Optimization Strategies under HKRBC

SAA Optimization

- Diversification within current asset mix
- New asset class entry

MA Optimization

- Maximise eligible assets
- Duration factor optimisation

Reinsurance Strategies

- Mass lapse reinsurance
- Ceding blocks of IF business with high guarantees or with high new business strain to reinsurer
- Reserve financing arrangement
- Coinsurance / Modified Coinsurance (ModCo) / Coinsurance with Funds Withheld
- Other bespoke reinsurance solutions

Internal Risk Transfer

(for insurers part of a group)

Exchange Rate Risk Management

- Currency hedging – FX futures, forwards and swaps

Interest Rate Risk Management

- Modifying duration
- Duration matching
- Duration hedging
- Convexity hedging for managing interest rate risk for Traditional Par products

Equity Hedging

- Tactical hedging – hedges consider future views on market and makes use of equity futures and options
- Tail risk hedging – hedges designed to perform in stress scenarios to improve return on capital and reduce PCR e.g. using deep out-of-money put options, actively managed option portfolio

Credit Hedging

- Tactical hedging – single name Credit Default Swaps (CDS) / index CDS
- Tail risk hedging – tranche protection, credit option strategies

Hedging is commonly used in risk-based regimes to improve asset and liability matching, reduce balance sheet volatility and protect against extreme market events. Under HKRBC, insurers are likely to consider a greater use of derivatives for efficient portfolio management or hedging purposes. Before considering whether to hedge or not, it is paramount to have a derivatives framework to ensure there is proper governance and ongoing management around hedging decisions.

Tax

Tax

The implementation of HKRBC will have significant implications for the taxation of insurers in Hong Kong depending on their type of business and the applicable tax rules according to Inland Revenue Ordinance (IRO) (Cap. 112).

Tax treatment of insurance classes

The primary changes to the taxation of insurance relate to the transitional adjustments that may arise as a result of the adoption of RBC. These could be significant and may be spread over a 5-year period. The other major change relates to the change in basis in respect of non-life long-term insurance business which was previously taxed as general insurance and will now be taxed under the adjusted surplus basis.

Class (Cap.41)	Description (Cap.41)	Tax Grouping according to existing IRO (Cap.112)	Tax Grouping according to updated IRO (Cap.112)
A	Life and annuity	Life insurance business	Life insurance business
B	Marriage and birth	Life insurance business	Life insurance business
C	Linked long term	Life insurance business	Life insurance business
D	Permanent health	Non-Life insurance business	**Non-life long-term insurance business**
E	Tontines	Life insurance business	Life insurance business
F	Capital redemption	Non-Life insurance business	**Non-life long-term insurance business**
G	Retirement scheme management category I	Retirement Scheme Business *	Retirement Scheme Business *
H	Retirement scheme management category II	Retirement Scheme Business *	Retirement Scheme Business *
I	Retirement scheme management category III	Non-Life insurance business	**Non-life long-term insurance business**

Per the IRD's practice, Class G and Class H are assessable under section 14 of the IRO which are not considered as insurance business because these two classes do not have any principal object the provision of insurance.

There are no updates for the definition of Life insurance business and tax treatment for Class G and H, while there is a new tax group for Class D, F, I as "Non-life long-term insurance business" which gives rise to a significant change of assessable tax calculation. The following sections discuss the challenges of assessable profits calculation by each tax group.

Tax – Adjustments upon adoption of RBC

Life insurance business

Life insurers have the option of being taxed under the default 5% net premium basis or to elect for the adjusted surplus basis. Majority of life insurers are taxed under the 5% net premium basis.

There has been no change to the rules in respect of the 5% premium basis and we do not anticipate any implications to taxpayers operating under this basis as a result of the introduction of RBC.

Transitional adjustment

However, we do anticipate certain implications for insurers following the adjusted surplus basis of taxation. The most significant implication relates to what is effectively a transitional adjustment for the purposes of the adjusted surplus basis (rather than accounting) upon adoption of RBC. Following the adoption of RBC, there should be a change in the surplus of the life insurance fund, which is likely to significantly increase the assessable profits of the life insurer computed under the adjusted surplus basis.

The recently introduced rules in the IRO provide for the spreading of this adjustment over a 5-year period, upon election by the life insurer. This requires the adjustment to be calculated based on a measurement of the net asset value of the insurance fund (i.e. the value of the fund less the estimated liability against the fund) immediately prior to the introduction of the RBC rules and immediately after. The delta is divided by 5 and added to the assessable profits of the life insurance company for each of the subsequent 5 years. There are various rules for apportioning the adjustment depending on the specific facts of the life insurer.

This should have the effect of limiting the immediate financial impact of any increase in assessable profits to life insurers. While the ability to spread the impact of this adjustment may be helpful to insurers, before doing so they should give consideration to their position, and that of their group if applicable, under the OECD's Global Minimum Tax project.

The IRO will not permit any transitional adjustments for IFRS 17, on the basis these are not relevant in the computation of the assessable profits of a life insurer.

Non-life long term business

Change of assessment basis

The IRO has included a significant tax change for non-life long term business, which includes Class D (permanent health), F (capital redemption) and I (retirement scheme). These classes will no longer be assessed under the general insurance provisions in section 23A and will instead transition to be taxed under the adjusted surplus basis.

The challenge for insurers writing these contracts is that they may never have applied the adjusted surplus basis before, so may need to collect new information and implement new processes in order to comply. While a significant change for insurers, these particular classes represent a relatively small fraction of insurance contracts issued.

Transitional adjustment

The change in tax basis will create a transitional adjustment similar to that experienced by life insurance companies with a similar calculation methodology. This will allow any additional assessable profits arising upon transition to be spread over a 5-year period. Similar to life insurers, consideration should be given to the insurer’s position, and that of their group if applicable, under the OECD’s Global Minimum Tax project.

The IRO will not permit any transitional adjustments for IFRS 17, on the basis these are not relevant in the computation of the assessable profits of a non-life long term business insurer.

General insurance (i.e. non-life) business

Transitional adjustment

Transitional adjustments are also anticipated in respect of general insurance. The adjustment will be calculated by deducting the premium liabilities attributable to the general insurance business in Hong Kong calculated upon the adoption of RBC from the reserve for unexpired risk immediately before that date. Insurers will then have the same election as is available to life and non-life long term business, to spread the transitional adjustment across a 5-year period. Similar to life and non-life long term insurers, consideration should be given to the potential impact of the OECD's Global Minimum Tax project.

As a general observation, despite the existence of section 23A which provides a specific method for computing assessable profits for general insurers, many general insurers adopt ordinary profits tax principles, used by ordinary corporates. This has led some general insurers to query whether they should be entitled to claim an adjustment in respect of the transitional adjustment from IFRS 4 to IFRS 17. However, the Government has clarified that should not be the case, with only the transitional adjustment upon adoption of RBC to be available. To the extent general insurers seek to claim the IFRS 17 transitional adjustment instead or as well as the RBC adjustment, it is likely to be challenged.

Class G and Class H

The adoption of RBC should not affect the assessable profits of these classes as they are assessed under ordinary profits tax principles rather than under the specific insurance provisions of the IRO.

Insurers becoming subject to IFRS 9, rather than IAS 39 for the first time may experience some differences in accounting for certain financial instruments. There are specific tax rules that were designed for IFRS 9, although in principle they apply to all accounting standards that provide for a fair value methodology. Under these tax rules companies will be taxed in accordance with the accounts, rather than upon realization of profit. The majority of insurers and companies to whom this is relevant already follow this practice, such that there is no expected to be a significant change in the basis of taxation. However, transitional adjustments may arise upon the adoption of IFRS 9 depending on the insurers profile.

Importance of the OECD's Global Minimum Tax project

The impact of the adoption of RBC will create potentially costly transitional adjustments for insurers. It will also create new operational requirements that must be followed in order to file tax returns.

However, generally speaking, the largest challenge faced by the insurance sector in Hong Kong comes in the for of the Global Minimum Tax, often referred to as Pillar 2 or GloBE. Inbound insurers may find themselves subject to these rules as early as 1 January 2024, whereas all insurers in Hong Kong are expected to be subject to these rules from 1 January 2025.

The Global Minimum Tax rules will require insurance groups operating in Hong Kong to pay a minimum effective tax rate of at least 15%. This is in contrast to the effective tax rates currently enjoyed by insurers which more frequently range from 2% to 9%, with only some insurers reaching 15%. This means that most insurers will have a significant amount of additional tax to pay in coming years.

It also means that the implications of tax spreading arrangements for RBC transitional adjustments should be carefully considered. This includes whether any additional tax paid under such spreading arrangements will be counted for the purposes of determining whether the minimum 15% has been met and also whether it is more beneficial to recognize this amount as one off payment or to take advantage of the 5-year spreading offered under the IRO.

Significant additional challenges will be faced by insurers as they grapple with the implementation of complex and operationally challenging compliance systems and the potential to pay vastly increased amounts of tax, unless they can successfully implement mitigation strategies.

Par fund management

Introduction

IA is finalizing proposed changes on participating fund management before the commencement of HKRBC in 2024 and life insurers will need to be prepared for the new par fund guidelines

Background

IA Proposal on Par Fund Management

Insurance regulatory regimes in developed markets oversee the profit sharing between shareholder and policyholder of participating business, which helps to align shareholders' profit objectives to policyholders' interests and ensure fairness to both parties. To achieve a similar objective and considering the diverse industry practices currently observed in HK on participating fund management, IA has proposed a principle-based requirements approach to insurance companies in Hong Kong. The participating fund guideline is expected to be finalized in late 2023 / early 2024.

The proposals will take effect from the commencement date of the Insurance (Amendment) Ordinance 2023, which is the effective date of the HKRBC regime, aimed to be 1 July 2024 as mentioned in the HKRBC Townhall IA held on 25 August 2023. The proposals cover:

- Par fund set up, surplus transfer as well as expense / charge attribution to Par fund,
- Physical segregation details, and
- Enhanced governance including mandatory independent review for the initial implementation of fund requirements on Par funds.

The proposals impact all Hong Kong authorized insurers holding Par Funds in their portfolio, regardless of size. The physical segregation proposed requirement, however, will be exempted for insurers with less than HKD 1billion of Par liabilities.

Principles-based approach

IA has proposed a principles-based approach to cater for the diverse industry practices currently observed in Hong Kong on Par fund management. As such, there is also a need for enhanced governance and disclosures to drive firms' behavior and the proposals include:

- Mandatory independent review for the initial implementation of fund with the report submitted to the IA within 6 months after commencement date of the Insurance (Amendment) Ordinance 2023;
- Setting up a Par Business Committee, and
- Enhancing Par Business corporate policy in areas for surplus distributions and expenses and charges attributions, with a goal to align interests between participating policyholders and shareholders.

There will be further elaboration on the governance topic, details around public disclosure, and details around Par Business Committee which IA plan to share later in 2023.

Impact Assessment - Technical & Operational Considerations

The following summarizes some of the key technical and operational considerations in light of the impact from the proposed changes on participating fund management

HKRBC and Economic Capital

Key considerations will be given on how different sharing mechanism will impact the key capital metrics with the aim of the following objectives:

- Achieving **optimal capital efficiency** benefit whilst keeping in mind the **cost of implementing and managing the capital strategy**;
- Ensure **robustness** of the mechanism to manage the **volatility** of the metrics under different scenarios.

IFRS 17

The following aspects will need to be investigated under various options:

- **VFA eligibility** for Par / Universal Life (UL) contracts following any proposed changes;
- The impact on Contractual Service Margin (CSM) unlocking and amortization and in turn on Profit & Loss (**P&L**);
- The **stability of the IFRS earnings** under various options, considering the asset measurement under **IFRS 9** and **OCI options** under IFRS 17.

Asset Liability Management (ALM)

Under ALM, it is imperative to explore the following:

- A better alignment to invested assets on **ALM / financial risk management** policy given that a change in the Par fund management policy may enable a wider range of investments and risk management toolkits to consider;
- The impact on **SAA and its framework** will need to be refined;
- Consistency with **Risk Appetite Statement** will need to be assessed;
- Any subsequent impact on **investment operation and strategy**, e.g. new data requirement, Tactical Asset Allocation etc.

Other key metrics impact and Reinsurance

- **Analyse** how any changes to Par Fund management will impact other key metrics such as **Embedded Value** and **Value of New Business, Free Surplus Generation**.
- **Reinsurance** – review and analyze Par Fund Management's impact on current reinsurance arrangement.

GL16 & Policyholders' Reasonable Expectations (PRE)

Key factors to consider to protect policyholders' interest include:

- Ensuring **equity between shareholders and policyholders** under the various par fund management options;
- Ensuring **fairness between different generations of policyholders** within the Par / Universal Life business;
- Whether the change in the par fund management still **meet PRE**;
- A mechanism in place to ensure the **smooth transition** from existing to the new methodology, if any;
- **Sustainability of the non-guaranteed benefit** under the new mechanism.

Governance & Process

- Review whether any updates needed on the **Dividend Principles and Practices** for **Participating Products Policy** to comply with any regulatory guidance.
- **Data, systems and processes** – assessment should be made on any dependencies and implications to data, systems and production / reporting processes.

Par Fund Management challenges

IA expectation	Industry readiness	Deloitte Point of View
Fund Structure		
• Principle based requirements to cater for different styles of participating fund management. • Sustainability, fairness between policyholders (PH) and shareholders (SH) and meeting policyholders' reasonable expectation (PRE) • To enhance the protection of policyholders' interests , physically segregated funds shall be maintained for participating business.	• Based on IA's industry survey in 2021: – 67% of (re)insurers have identifiable assets backing par liabilities. 18 (re)insurers reported to have UL products. 72% of them have identifiable assets backing UL liabilities. – 20 (re)insurers have Funds on Deposit (FoD). c55% separate assets backing FoD from the base policies, while for 30%, assets backing FoD stay in the same fund as base policies. – c40% of (re)insurers already have separate custodian account at Par / UL fund level, 8% of (re)insurers have custodian account for certain externally managed funds or at a higher level. 4% have trust for Par fund.	• In-force policies: analyze and recommend Fund Structure set up considering: – Regulatory compliance – Cap. 41 Insurance Ordinance Section 22 – Product series – SAA / Investment Strategies – Company maintenance capability • Future New Business: recommend future sustainable fund structure • Physical segregation of funds • Set up separate custodian accounts or trust; and re-vamp inter account fund flows and corresponding accounting / financial treatment
• Certain restrictions / limits on shareholders' entitlement to profits distributed from participating business, • This helps align shareholders' profit objectives to policyholders' interests and prevent excessive distribution of profits to shareholders.	• Most small to medium sized companies in general do not have a shareholder profit distribution framework in place to ensure fair treatment to customers and to avoid high upfront profit being distributed to shareholders. Some larger companies have defined sharing ratios which differ by product.	• Design distribution mechanism, including dividend rules or shareholder entitlement limits • Test for future sustainability of shareholder mechanism
• IA also expect the need for enhanced governance and disclosures to drive firms' behavior to ensure better policyholder outcome.	• Most small to medium sized companies will need to set up a Par Business Committee and ensure it can form an independent view from members of management who are involved in par business management. Independent members will need to have the knowledge, skills and experience to discharge their duties.	• Set up / enhance governance structure, including preparing policies and procedures, define roles and responsibilities of different management teams, Par Business Committee set up and define Terms of Reference • Director and management training
Initial Fund Set Up		
• IA intend to disallow upfront or disproportionate surplus transfers to shareholders at the expense of policyholders' interests, • Upon the effective date of the proposed requirements, the opening balance of the segregated participating fund shall not be less than the amount of assets that is currently identified as attributable to that participating business.	• Small to medium size companies in general not ready	• Define / enhance methodology to determine initial Par Fund Balance Sheet
• Initial independent review required	• Current 6-month timeline for independent review will be challenge for many companies.	• Plan for independent review and certification

Par Fund Management challenges continued

IA expectation	Industry readiness	Deloitte Point of View
On-going Fund Requirements & Profit Distribution		
• Profits arising from the participating business shall be released to shareholders no faster than in a gradual and systematic manner over the lifetime of the contracts, as and when services are provided , and shareholder surplus that is yet to be "earned" should stay within the participating fund. • Insurers shall consider the alignment of interests between participating policyholders and shareholders from both fairness and PRE perspectives.	• Small to medium size companies in general not ready.	• Enhance / design distribution mechanism • Validate for future sustainability under different economic and non-economic scenarios • Perform impact studies to analyze any new distribution rules impact on RBC position, KPIs and / or financial metrics • Consider future product design principles / considerations • Perform business analysis taking into account current progress on HKRBC and knock-on impacts on other key metrics
• Sufficient assets should be maintained in each of the participating business funds under the statutory level and be allocated to cover: (a) Asset Share or (b) PV of expected future cash flows allowing for the latest illustrative dividend scale and future shareholder transfers according to the defined profit.	• Small to medium size companies in general not ready.	• Validate future sustainability under different economic and non-economic scenarios • Update methodology (asset share or PV of expected future cashflows allowing for latest illustrative dividend scale and future shareholder transfers according to the defined profit) while considering market practice. • Perform actuarial modelling for asset share or PV expected cash flow including shareholder transfer.
• The attribution / allocation is considered fair, equitable and reasonable if it is not to the detriment of interests of that particular or group of policyholders and the costs are necessary for the ongoing fund management. • A non-exhaustive list of non-attributable expense provided.	• Wide variation in market around attribution / allocation of expenses depending on products sold. For companies with asset share approach, expenses generally charged to asset share.	• Set methodology for expense allocation • Consider system enhancement and fine tune to cater for the updated expense apportionment and reconciliation • Perform implementation on relevant system upgrade to cater for new expense apportionment
• The Appointed Actuary (AA) shall submit a report to the Board recommending the profit distribution to shareholders annually or more frequently.	• Enhancement to GL16 which requires AA's role to be strengthened around profit distribution recommendation.	• Consider changes required for the current dividend review to comply with the new regulation • Leverage market practice to design AA report format and content

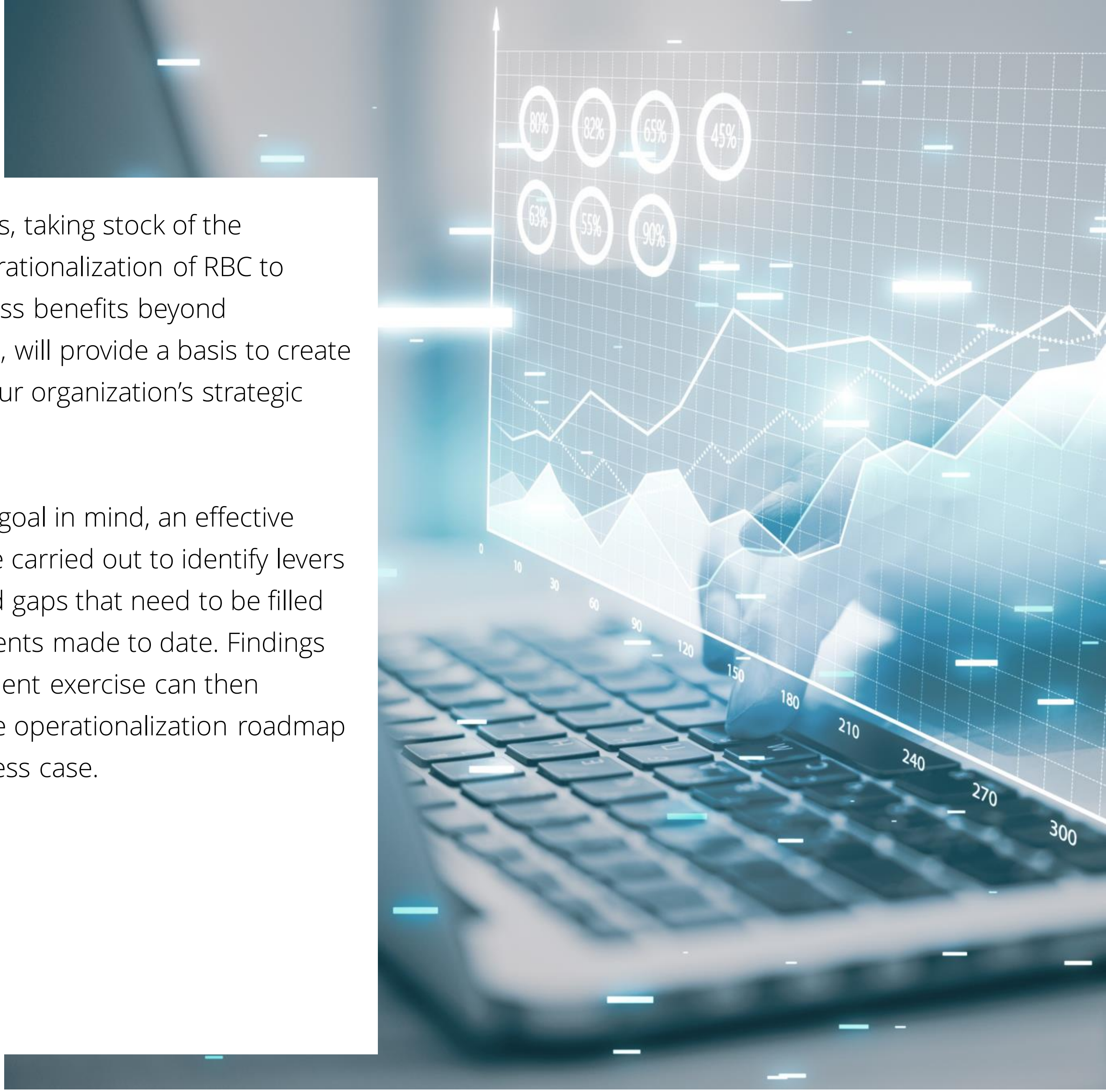
Conclusion

Operationalisation of a new solvency regime is often taken as a regulatory compliance exercise and the scale of implementation work for achieving business readiness is often underestimated. Despite the challenges and costs of operationalization, a business-ready insurer sets itself apart from its competitors by always staying on top of its solvency position and outlook and being able to react to the key underlying drivers for timely business decision-making.

With the significant investments insurers have made in their reporting systems and data during IFRS 17 implementation and with RBC implementation to date, seeking synergies and leveraging lessons learnt will achieve the greatest business benefits.

With the effective date of RBC approaching soon and as insurers continue with their RBC implementation efforts, taking stock of the objectives for the operationalization of RBC to materialize the business benefits beyond regulatory compliance, will provide a basis to create a roadmap that fits your organization's strategic objectives.

With this longer-term goal in mind, an effective assessment should be carried out to identify levers that can be pulled and gaps that need to be filled in light of the investments made to date. Findings from such an assessment exercise can then provide inputs into the operationalization roadmap and supporting business case.



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Deloitte's RBC team combines specialists from actuarial, finance, risk, operations, technology, tax and audit. These skill sets, combined with deep industry knowledge, allow us to provide a breadth of services to life, property and casualty, reinsurers and insurance broker clients. Get in touch with our experts below for HKRBC advice.

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