

Case Studies: Lessons learnt from RBC regimes for General Insurers

Established vs Emerging Market Perspectives

Claxton & Ravi

CASE STUDIES: RISK BASED CAPITAL

Introduction (5 mins)

- Context: Rationale & Basis for RBC
- ICPs (Enterprise Risk Management & Capital Adequacy)

Case Study 1: Australia (APRA LAGIC) (20 mins)

- Market & Regulatory Overview
- Local Subsidiary (Global Insurer)

Case Study 2: Saudi Arbia (Risk Based Capital) (20 mins)

- Market & Regulatory Overview
- Insurer ABC

Concluding Remarks: Local Market Adoption (5 mins)

Question & Answer (Q&A) (10 mins)



INTRODUCTION

Context & Basis for Risk Based Capital (RBC)

CONTEXT & BASIS

Failures and near misses in insurance

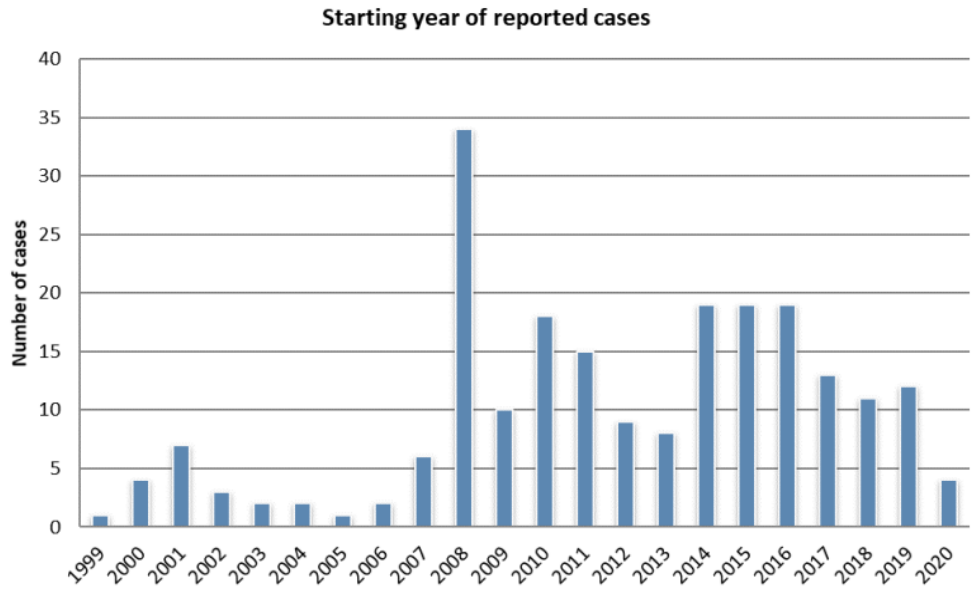
Overview of recovery and resolution actions and cross-border issues

Entity	Country	Year
HIH	Australia	2001
AIG	US	2008
Fortis / Ageas	Belgium / Holland	2010
Western Pacific	NZ	2011

Source: https://www.eiopa.europa.eu/publications/failures-and-near-misses-insurance_en

Figure 1: Distribution per starting year of the cases of failure and near miss

All cases in the sample, 1999 - 2020

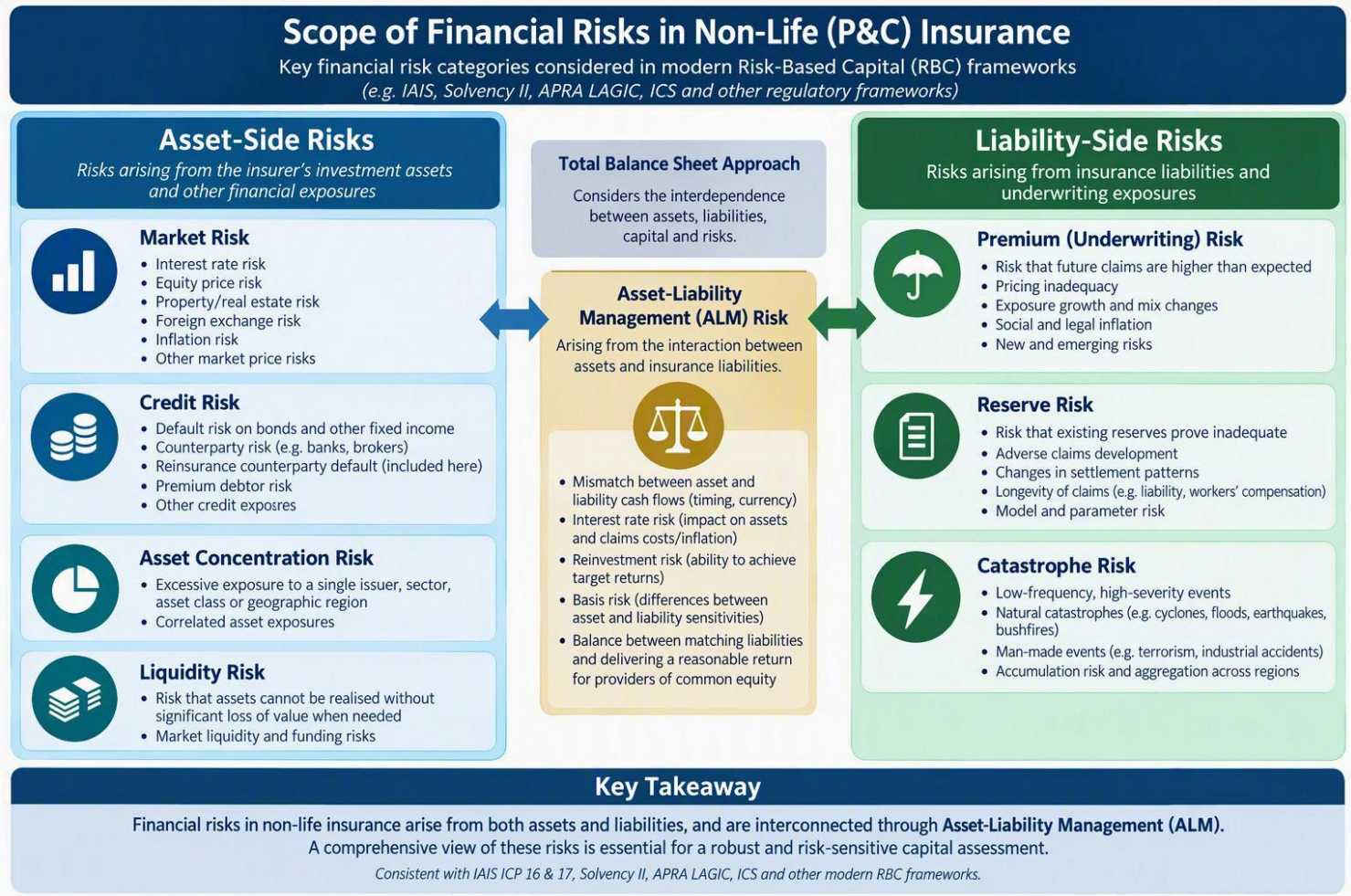


Note:
In an effort to balance the information request at the time of the first submission in 2015, 5 cases per jurisdiction were requested. Those cases should be as recent as possible (i.e. events to be reported should be in a descending chronological order). This explains the shape of the distribution regarding the first years.

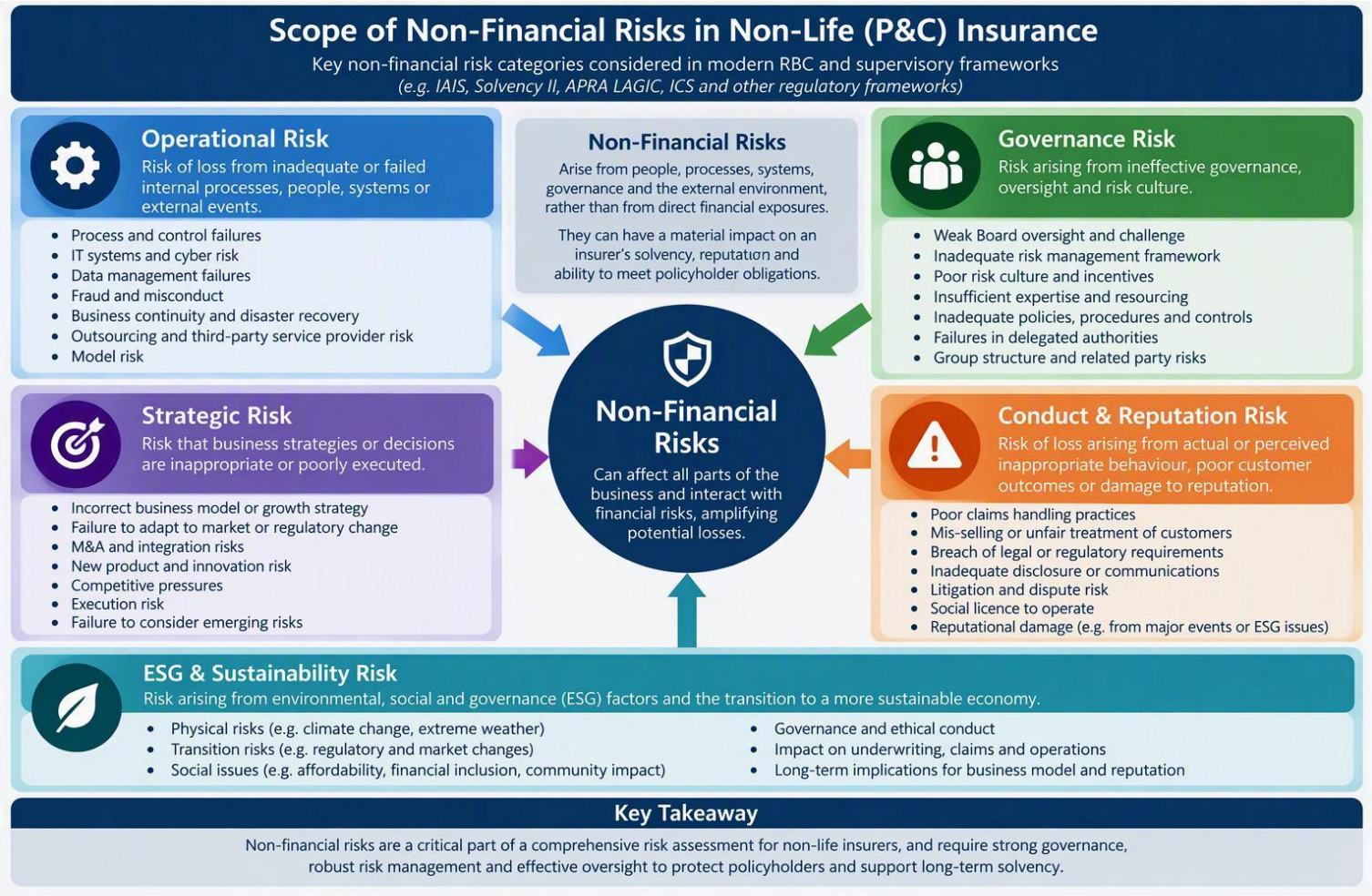
INTRODUCTION

IAIS Insurance Core Principles (ICPs)

IAIS ICP: FINANCIAL RISKS



IAIS ICP: NON-FINANCIAL RISKS



IAIS ICP: IMF FSAP (2025) INDIA

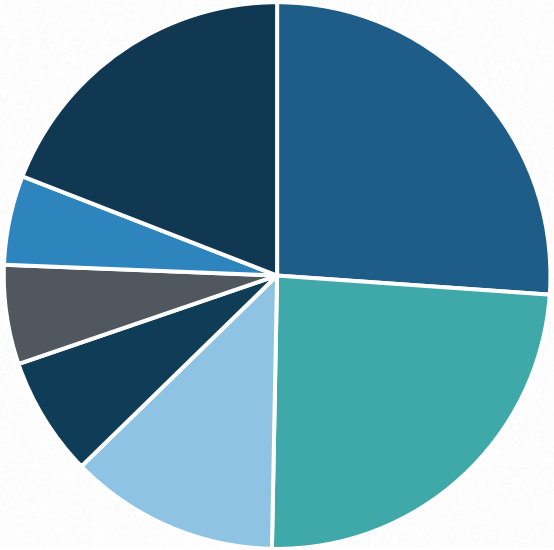
Table 3. India: Summary of Compliance with the IAIS Insurance Core principles—ROSC	
Insurance Core Principle	**Overall Comments**
ICP 9: Supervisory Review and Reporting	The existing supervisory framework is compliance based rather than risk based. Compliance based systems requires more uniform intensity of supervision across insurers and are largely focused on past practices rather than future challenges and the risk profile. IRDAI has recognized the limitations of the current framework and is developing a new risk-based approach. It is expected that this may be in place by the end of 2025.
ICP 16: Enterprise Risk Management for Solvency Purposes	As the current regulatory capital regime is not a coherent total balance sheet approach, the Enterprise Risk Management requirements need enhancement to ensure the framework is dynamic and complete (e.g., Orsa requirements). IRDAI plans on addressing many of these weaknesses through its transition to a new risk-based capital framework.
ICP 17: Capital Adequacy	The current capital regime contains some risk-based elements but is not a coherent total balance sheet approach, nor is it appropriately calibrated. The implementation of the planned risk-based capital regime will be important.

Source: https://www.imf.org/-/media/files/publications/cr/2025/english/1indea2025002-print-pdf.pdf

CASE STUDY 1: AUSTRALIA (APRA LAGIC)

Market & Regulatory Overview

MARKET OVERVIEW (GWP: 72.6, ASSETS: 142 $AUD BN)



Snapshot

88 General insurers

32 Life insurers & friendly societies

28 Private health insurers

Industry-wide capital ratios remain strong in 2026

1.81x **1.90x** **2.45x**

Prescribed capital amount coverage ratio = capital base divided by prescribed capital amount.

Figures as at 31 March 2026. Numbers may not total due to rounding.

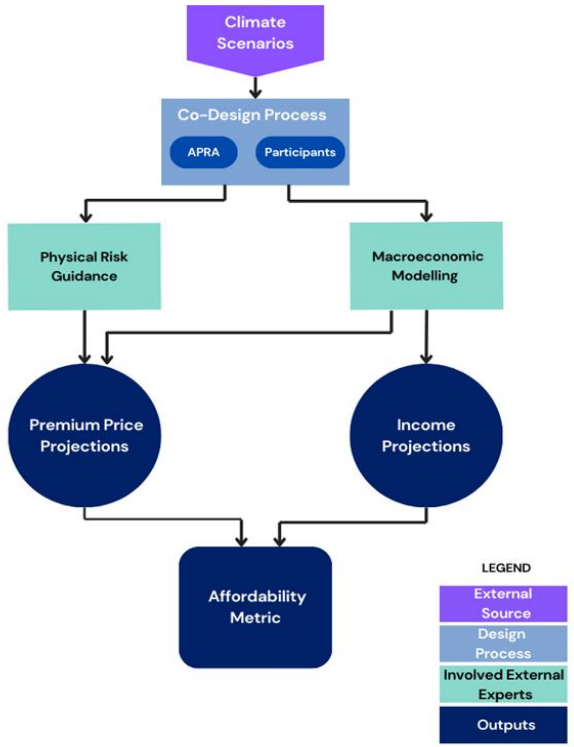
Source: https://www.apra.gov.au/news-and-publications/quarterly-general-insurance-performance-statistics

Industry profits

- **$5.2b** profit after taxes from continuing operations *(2024: $6.2b)*
- **$2.3b** insurance profits (before investment income, after taxes) *(2024: $3.1b)*
- **$2.9b** investment income earned (after taxes) *(2024: $3.0b)*
- **89%** industry combined ratio *(2024: 87%)*

Source: https://kpmg.com/au/en/insights/industry/general-insurance-insights.html

Figure 1: Insurance CVA process map



Source: https://www.apra.gov.au/insurance-climate-vulnerability-assessment

APRA CAPITAL REFORMS / CATALYST FOR CHANGE

1. **Post-HIH Reconstruction (2001-2002)**
2. Framework Consolidation (2005)
3. Group Supervision & GFC Enhancements (2008-2010)
4. **LAGIC Risk-Based Capital Framework (2013)**
5. Modern Supervisory & Capital Refinement Era (2013-Present)



Source: https://www.asic.gov.au/regulatory-resources/find-a-document/reports/rep-838-road-testing-transparency-in-car-insurance-premiums

Overview

- APRA commenced regulating Institutions in 1998
- June 2000: $AUD 940 Million, March 2011 ($AUD 5.4 billion)
- Causes of failure
  - Under-pricing (market growth)
  - Accumulation underwriting losses
  - Latent loss (operational/process failures)
  - Under-reserving of outstanding claims
  - Thin capitalization
  - Cash flow constrain
- Impact: professional & community groups, small business owners, home-owners & injured individuals left stranded with unpaid claims
- Senior managers, auditors, and regulators of HIH failed to detect warning signs, or remedy or report the underlying problems

CASE STUDY 1: AUSTRALIA (APRA LAGIC)

Local Subsidiary (Global Insurer)

CASE STUDY: CONTEXT

AUSTRALIAN PRUDENTIAL REGULATION AUTHORITY

1 Martin Place (Level 12), Sydney, NSW, 2000
GPO Box 9836, Sydney, NSW, 2001
T 02 9210 3000 | W www.apra.gov.au

APRA

18 September 2019

TO: GENERAL INSURERS AND LIFE INSURERS

INSURANCE RECOVERY PLANNING THEMATIC REVIEW – KEY OBSERVATIONS

Figure 1: the crisis continuum

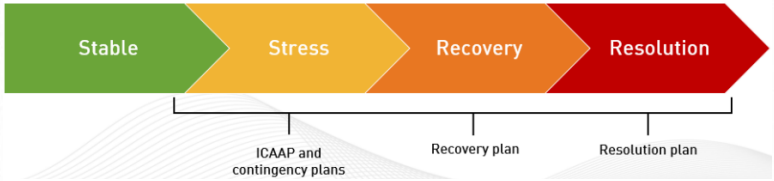
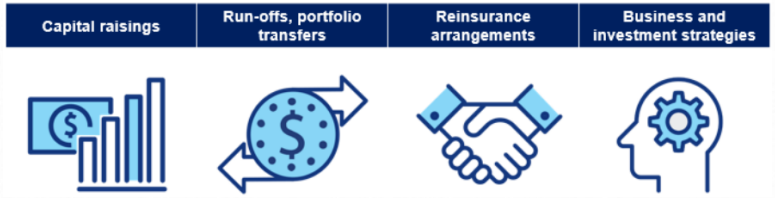


Figure 2: comprehensive trigger framework



Figure 3: comprehensive menu of recovery options



Source: https://www.apra.gov.au/general-insurance

AUSTRALIA

Banking, Insurance, Life Insurance, Health Insurance and Superannuation (prudential standard) determination No. 1 of 2023

Prudential Standard CPS 190 Recovery and Exit Planning

Banking Act 1959
Insurance Act 1973
Life Insurance Act 1995
Private Health Insurance (Prudential Supervision) Act 2015
Superannuation Industry (Supervision) Act 1993

I, Clare Gibney, a delegate of APRA:

(a) under subsection 11AF(1) of the *Banking Act 1959* DETERMINE the prudential standard, which applies to all ADIs, excluding ADIs referred to in paragraph 2 and 3 of the prudential standard, and authorised banking NOHCs;

(b) under subsection 32(1) of the *Insurance Act 1973* DETERMINE the prudential standard, which applies to all general insurers and authorised insurance NOHCs, and subsidiaries of general insurers or authorised insurance NOHCs where those subsidiaries are parent entities of Level 2 insurance groups;

(c) under subsection 230A(1) of the *Life Insurance Act 1995* DETERMINE the prudential standard, which applies to all life companies, including friendly societies, and registered life NOHCs;

(d) under subsection 92(1) of the *Private Health Insurance (Prudential Supervision) Act 2015* DETERMINE the prudential standard, which applies to all private health insurers; and

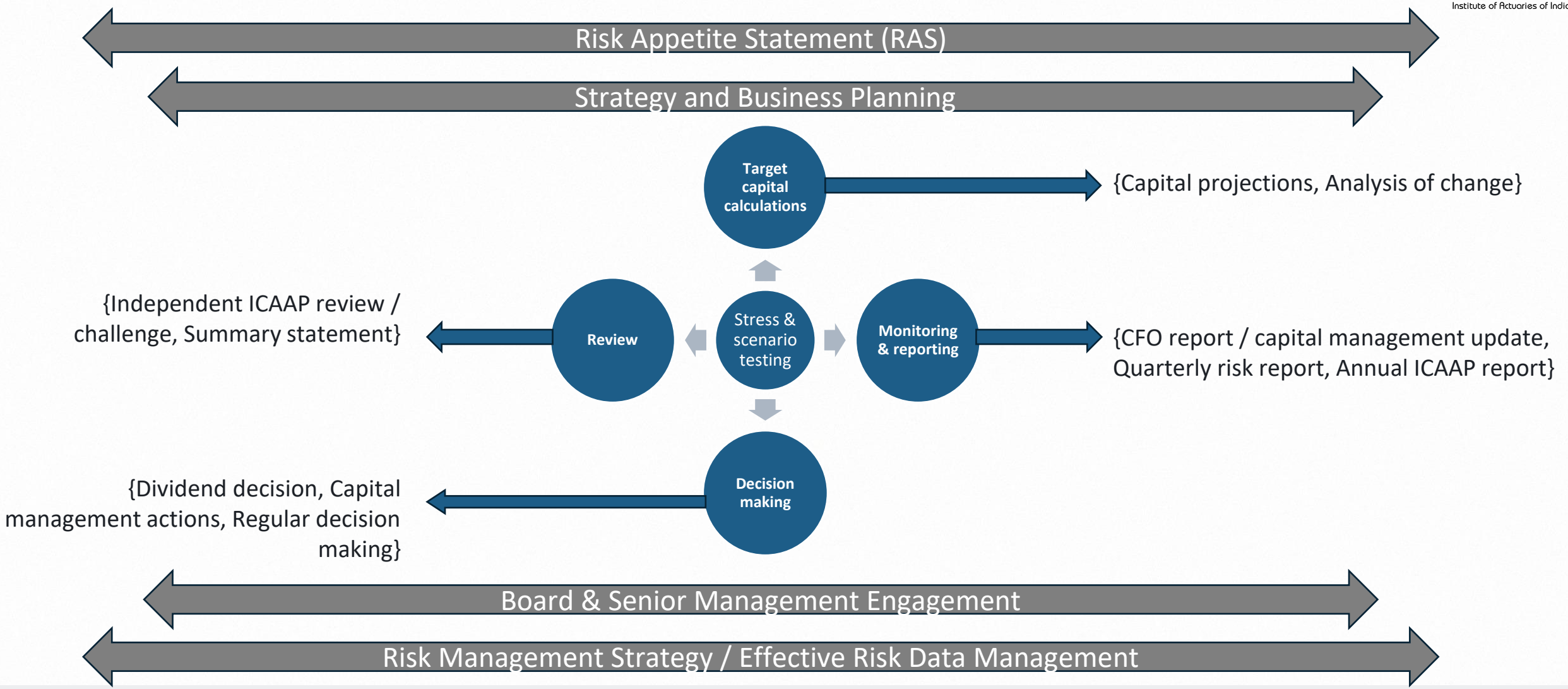
(e) under subsection 34C(1) of the *Superannuation Industry (Supervision) Act 1993* DETERMINE the prudential standard, which applies to all RSE licensees.

This instrument commences on 1 January 2024.

Dated: 10 October 2023

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CASE STUDY: ICAAP OVERVIEW (BUILDING BLOCKS)



CASE STUDY: RAS (INSURANCE RISK)

Reserve Risk	Premium Risk	CAT Risk (Concentration)	Insurance Liability Risk
• Risk that reserves (INBR / INBER) for business written and *earned* do not cover future payments for *incurred* claims over a 1-year period	• Risk that *unearned* premiums are inadequate to cover claims arising, due to *increased frequency and severity* of claims over a 1-year period	• Resulting from a single large event or a series of smaller events, within a 1-year period relating to exposure to accumulations from losses arising from a common dependent source. In particular, natural CAT risk relates to the emergence of claims owing to a natural CAT affecting multiple risk, potentially distributed over a wide geographical area.	• Risk resulting from operational execution of the underwriting process

CASE STUDY: RAS (INSURANCE RISK) (CONT.)

Appetite Scale	Statement	Metric	Green	Amber	Red
Moderate	(**Reserve Risk**) The board expects management to estimate reserves as accurately as possible but acknowledges that reserves are calculated on a best estimate basis and reserves are necessarily the outcome of uncertainty in claims and an actuarial process which is subject to professional judgement	**Prior year development** (legal entity view) prior year development on reserves. This represents the change in estimated cost of claims for incidents occurring on or before the previous balance date	Favourable development or < $15m unfavourable development	Between [$15m and $35m)	>$35m
Moderate	(**Premium Risk)** The board expects management to achieve the underwriting objectives set out in the latest business plan.	Combined Ratio (**COR**): year to date COR relative to plan. Attritional Loss Ratio (**ALR**): year to date ALR to plan	COR less than equal 100% plan	(100%, 110%] of plan	>110% of plan
Moderate	(**NAT CAT Risk**) The board expects management to limit the GI's exposure to catastrophic losses. Exposure to CAT losses is managed through the purchases of adequate CAT reinsurance.	**Net of reinsurance loss from natural hazard CAT** (legal entity view): Year to date net of reinsurance loss from natural hazard catastrophes (at the 1 in 200 year return period}	Net of reinsurance loss from NAT CAT < 10m above plan	[10m, 20m] above plan	>20m above plan

CASE STUDY: RAS (ALM RISK)

Appetite Scale	Statement	Metric	Green	Amber	Red
Low	The board expects management to maintain: - ALM risks within the limits specific Market Risk policy (A/L risk) - Asset class and interest rate exposures within an approved range around the Strategic Asset Allocation (SAA) limits set out in the Capital Management Committee investment guidelines - Derivative instruments used only for hedging purposes, in line with risk policy (derivatives risk policy manual) - Zero exposure to investments in foreign currency, other than those required to cover foreign currency liabilities	**Duration mismatch**: modified duration of the assets of the GI relative to the target (short/long-tail)	Modified duration of the assets of GI are within +/- 1 year of target duration	Modified duration of the assets of GI are from 1 to 1.2 years of target duration	Modified duration of the assets of GI are greater than 1.2 years of target duration
Low	The board expects management to keep investment concentration at an acceptable level, by complying with the investment guidelines, SAA and Group policies which set limits on sectors, issuers and types of investments for balance sheet assets	**Investment Concentration**: within reporting unit [lower, upper] SAA for each asset class	Within limits	Outside of limits with supporting justification – plan to manage back to limit	Outside without supporting explanation or plan

CASE STUDY: INTEGRATED RISK MANAGEMENT

		Forecast (Quarterly)			
Component	0	1	2	3	4
Insurance Risk Charge	38.3%	38.7%	40.4%	40.2%	40.1%
Insurance Concentration Risk Charge	4.0%	3.7%	3.8%	3.8%	3.9%
Asset Risk Charge	48.7%	50.1%	48.0%	47.9%	46.6%
Asset Concentration Risk Charge	0.0%	0.0%	0.0%	0.0%	0.0%
Operational Risk Charge	9.1%	7.5%	7.8%	8.1%	9.3%
Less: Aggregation Benefit	20.4%	20.6%	20.6%	20.7%	20.4%
Prudential Capital Requirement (PCR)	100.0%	105.8%	104.4%	103.1%	101.9%
Capital Base	100.0%	104.6%	107.0%	99.3%	101.8%
Capital Coverage Ratio	155.6%	153.8%	159.3%	149.9%	155.3%

RAS (CAPITAL RISK)

		Metric	Green	Amber	Red
Low appetite	The board expects management to maintain, at all times, actual Capital Coverage (CC) in the 'Green Zone' as defined within the entities ICAAP	The ratio of current capital base to Prudential Capital Requirement (PCR)	Capital Coverage ratio > 145%	Capital Coverage ratio [125%, 145%)	Capital Coverage ratio < 125%
	The board has low appetite for its S&P credit rating to fall below A- and expects management to take appropriate actions to maintain rating appetite	S&P Long-Term Rating	At least A-	At least A- (with a negative outlook)	Any downgrade resulting in an external rating of below A-
		Recovery Plan: status of all early warning indicators over the quarter	None of the early warning indicators have been been breached	One or more of the early warning indicators thresholds was (or continues to be) breached within the quarter by the MC has determined Recovery Option does not have to be implemented	One or more of the early warning indicators thresholds was (or continues to be) and the MC has determined Recovery Option must be implemented

CASE STUDY 2: SAUDI ARBIA (INSURANCE AUTHORITY)

Market & Regulatory Overview

MARKET & REGULATORY OVERVIEW

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Market Dynamics

- Medical (57%), Motor and other P&C (33%), Life (10%)
- Highly Concentrated market with majority of the market premium written by Top 3 insurance companies
- Industry consolidation underway; larger, more complex entities being formed
- Declining return on equity is a challenge

Regulatory Overview

- IFRS17 implemented effective 1st January 2023
- Significantly higher capital requirements, current industry average stands at 156%
- Risk based solvency implemented – effective 1st January 2027
- Standard model prescribed by regulator with standard factors applied to all

OVERVIEW OF KSA RBC FRAMEWORK

From the existing Solvency framework which was based largely on the Solvency I framework of Europe, the shift to RBC marks a giant leap

How the RBC framework works!

1. Measure Risks

Standard formula, or a full or partial internal model with prior IA approval

2. Aggregate

Combine module charges, diversification benefit recognized within risk types (correlation tables, copulas)

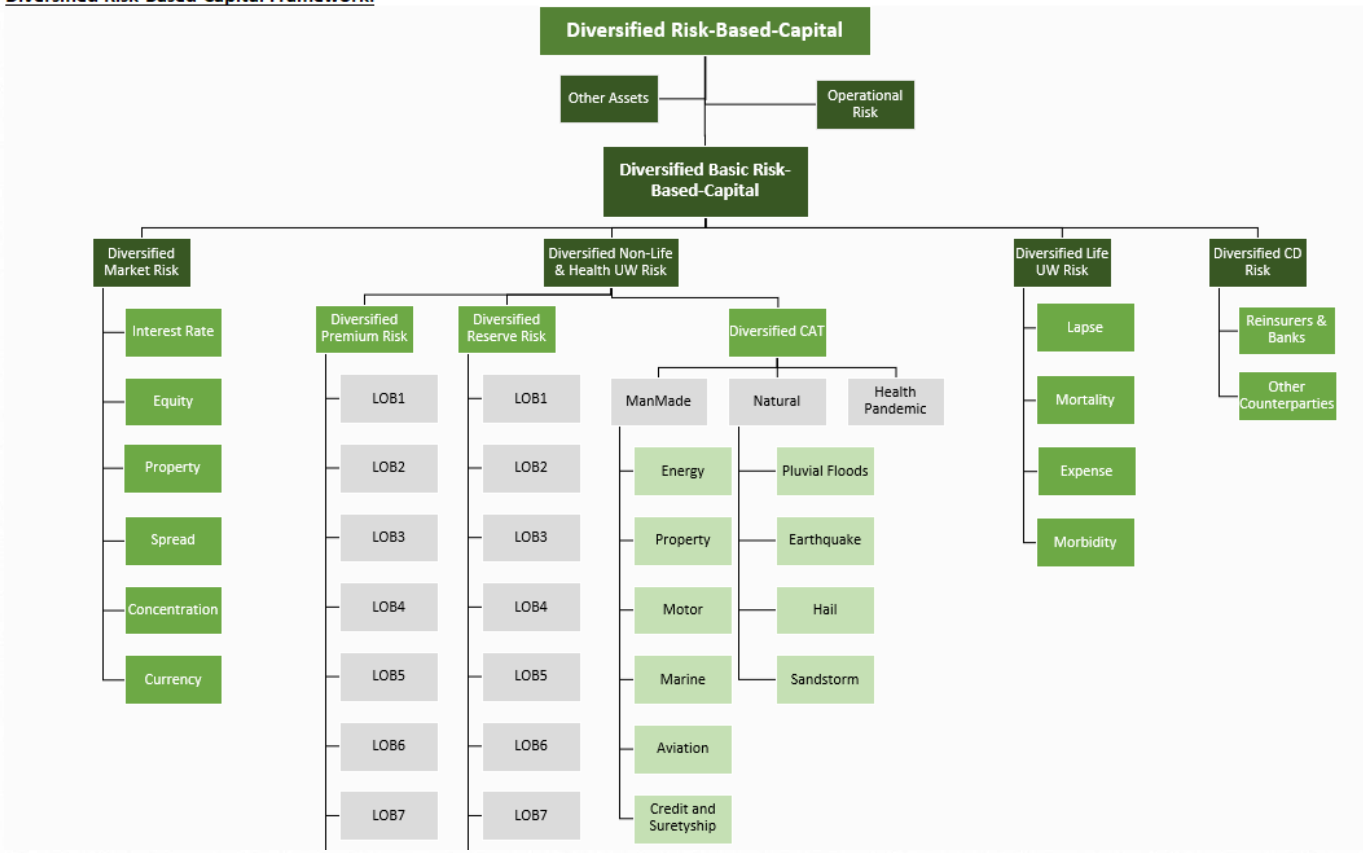
3. Compare capital

Required capital against available capital including subordinated debt

4. Report and Act

Solvency position to regulator, with actuaries and Board linking it to strategy

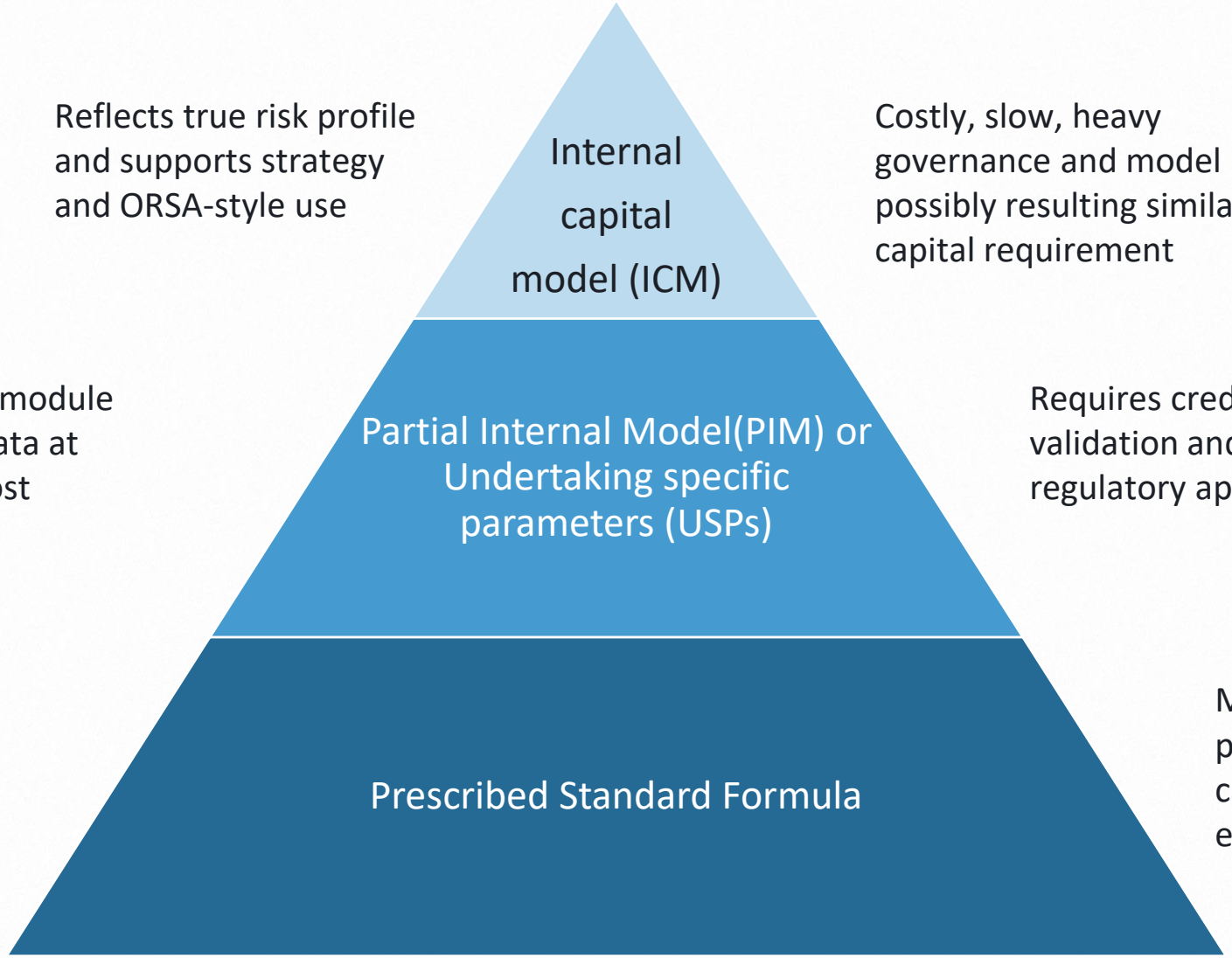
Diversified Risk-Based-Capital Framework:



COMPLIANCE OR MORE?

Reflects true risk profile and supports strategy and ORSA-style use

Costly, slow, heavy governance and model risk; possibly resulting similar capital requirement



Fits one key module using own data at moderate cost

Requires credible data, validation and regulatory approval

Simple, comparable, quick, no approval needed

May misfit the risk profile, overstating capital and higher expected ROE

IMPLEMENTATION CHALLENGES

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Data and Systems

Granular exposure data, accuracy & validation, governance around quarterly production timelines

Skills and Models

Standard Formula engines, validation and actuarial capacity, skilled resources for internal modelling

Dual reporting

Parallel run before transitioning fully to RBC, ensuring data checks & reconciliation from existing solvency to RBC solvency

Capital Planning

Smaller insurers may need new capital or subordinated debt

Volatility

Risk-sensitive ratios move with market assumptions and reserving

Culture

Boards using RBC, aligning strategy more than bare compliance

ABC IN KSA (RBC RATIOS ARE NOT OUT YET!)

Insurer ABC in Saudi after transitioning to RBC gets a truer picture of solvency capital required and align their strategic decisions to improve ROE



CONCLUDING REMARKS

What RBC means for Indian market?

Not just a compliance

Understanding the risks and uncertainties, insurance companies to make **informed decisions** to maximize returns and minimize risk. Avoid, Mitigate, Transfer or Accept

Calibration

Requires multiple impact studies before go-live planning. **Perform QIS for data gaps analysis**, implement feedback loops and adjust calibration and guidance before next round

Transition

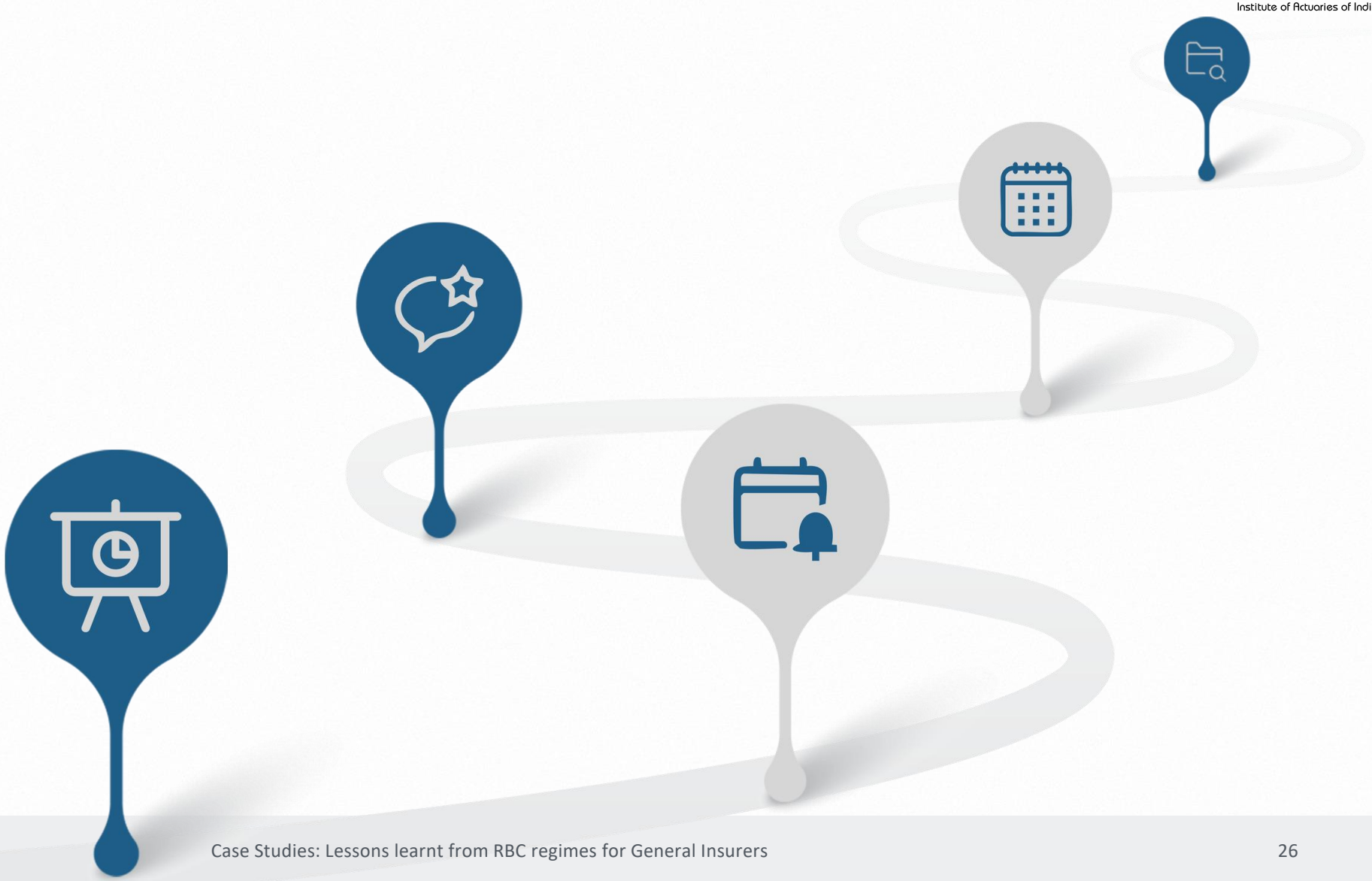
Parallel run to test the calibration against company data & risk profiles, identify any gaps, build the process and **train supervisors and Boards**

Adoption

Board sets risk appetite in RBC terms, and the appointed **actuary advises on strategy**. Reflect in pricing and underwriting, investments, reinsurance, planning and governance

Q&A

Questions?



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Thank You

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