

2020 ASIA-PACIFIC VIRTUAL SYMPOSIUM

ROB CURTIS

Regulatory Outlook of Economic Capital and Risk Management

28 September 2020





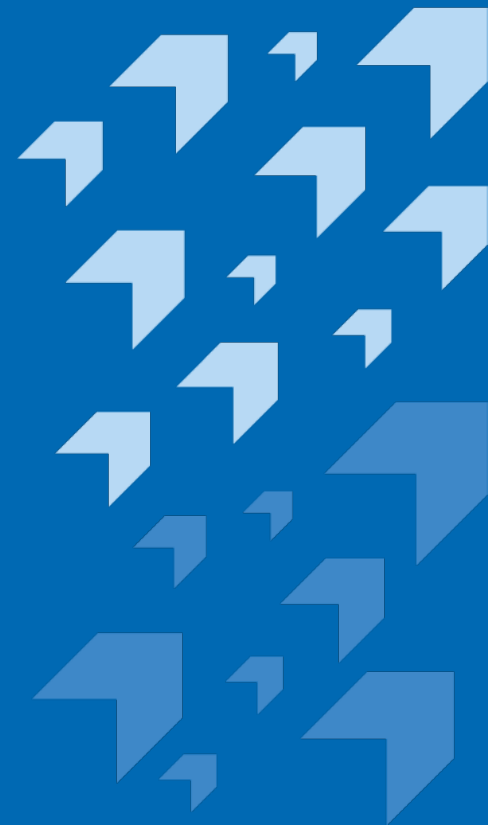
2020 SOA Asia-Pacific Annual Symposium

Regulatory Outlook of Economic Capital and Risk Management

Rob Curtis

Head, Technical Expert

28 September 2020



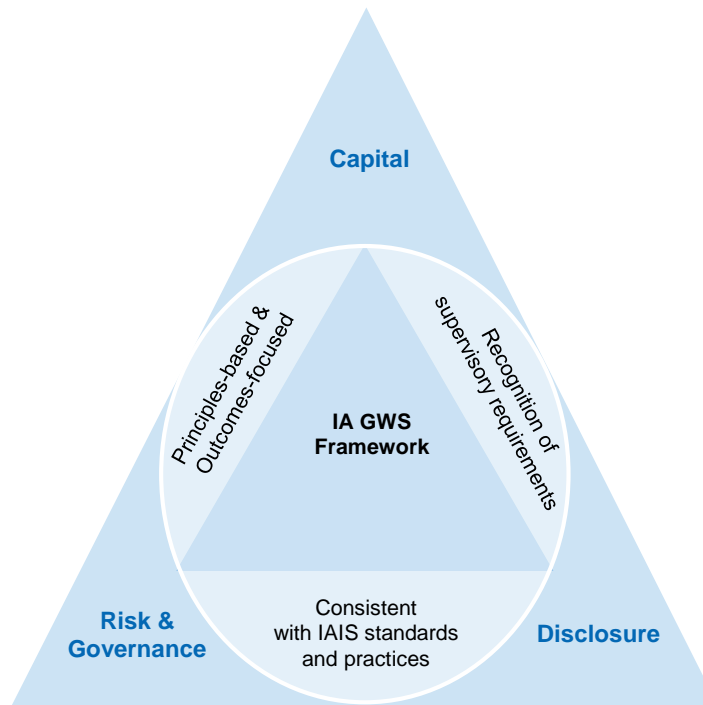
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between ORSA, GIECA and RRP 5
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1. Group-wide Supervision (GWS) Framework Overview

Risk and Governance requirements comprising:

- A group-wide internal economic capital assessment (GIECA);
- A group-wide own risk and solvency assessment (ORSA);
- Stress and scenario testing;
- Recovery analysis; and
- Supervisory review mechanisms – ensuring the GWS College functions effectively and efficiently.



Capital requirements comprising two components:

- Group Minimum Capital Requirement (GMCR).
- Group Prescribed Capital Requirement (GPCR).

Disclosure requirements comprising:

- Public reporting of the Group MCR.
- Private reporting to the IA of the GIECA, ORSA and ICS.

Ensure the GWS Framework is consistent with the following:

- ✓ IAIS insurance core principles (ICPs), common framework for IAIGs (ComFrame) and insurance capital standard (ICS)
- ✓ International GWS peer regulators
- ✓ Applicable HK Corporate Governance requirements, as far as practically possible

2. Overview of the GWS Pillars

GWS Framework

Pillar 1: Capital requirements

- Group Capital Rules
- Guideline on Group Capital Rules

- Local Capital Summation Methodology (LCSM):
 - Group Minimum Capital Requirement (GMCR)
 - Group Prescribed Capital Requirement (GPCR)

↓
Establish requirements regarding the **minimum amount of capital** that the group must maintain

Pillar 2: Risk management and governance requirements

- Guideline on GIECA
- Guideline on Risk and Governance

- ✓ Group Internal Economic Capital Assessment (GIECA)
- ✓ Group Own Risk and Solvency Assessment (ORSA)
- ✓ Recovery & Resolution Plans (RRP) analysis

↓
Understanding of the group's **true economic capital needs** and any related macro-prudential risks

From basis of statutory capital requirements



Complementary to form overall group capital adequacy analysis

Pillar 3: Disclosure requirements

- Submission of Accounts / Reporting Requirements

- Risk and governance disclosures in relation to the insurance group consistent with general financial reporting requirements and public reporting of GMCR
- Private reporting on GIECA, ORSA and IAIS ICS to the IA

3. Regulatory Perspective: Inter-relationship of Economic Capital between ORSA, GIECA and RRP

Enterprise Risk Management (ERM) Framework

- Establish a system which incorporates an ERM framework for solvency purposes to identify, measure, report and manage group-wide risks

↓ *For risk measurement*

↓ *Expectation to perform*

↓ *For contingency*

Group Internal Economic Capital Assessment (GIECA):

- Determine the overall financial resources it needs to manage the group's business as part of ORSA
- Base the risk management actions on consideration of the GIECA, ORSA, etc.



Group Own Risk and Solvency Assessment (ORSA):

- Where the group would be required to assess its group-wide risk management capability and its own view of its present and likely future solvency positions
- Risk measurement tools and analysis such as:
 - Stress and scenario testing (SST) which includes reverse stress testing (RST)
 - Continuity and business failure analysis



Recovery and Resolution Plan (RRP):

- Analyze the group's ability to continue in business as part of ORSA
- Develop contingency or recovery plans for use in going concern situations to restore financial strength and viability

4. GIECA – Assessment of Economic Capital Needs

Group Internal Economic Capital Assessment (GIECA)

Purpose	<ul style="list-style-type: none">▪ To enable a group to assess its available and required economic capital.▪ To provide HKIA with a view of economic capital requirements under a consistent methodology across the Group and at each level.
Use	<ul style="list-style-type: none">▪ Analyse the overall risk position of the group and quantify the risks to which the Group is exposed.▪ Determine the required economic capital to meet its risk exposures.▪ Demonstrate sufficient economic capital held by the Group to withstand an adverse 1-in-200 event over a 1 year time horizon (99.5% value-at-risk or equivalent).
Relevant requirements in the GWS Framework	<ul style="list-style-type: none">▪ Groups are allowed to develop their own methodologies without approval required from HKIA.▪ Group Board will be required to approve GIECA.▪ Independent validation to be conducted regularly to demonstrate the following:<ul style="list-style-type: none">➢ Calibrated to 1-in-200 (Calibration test).➢ Methodology and assumptions appropriate (Statistical quality test).➢ GIECA used in business decision-making (Use test).

5. RRP – Complementing Our Group-wide Capital Adequacy Analysis



Recovery Plan

- The plan will require each group to:
 - Identify in advance options to restore the financial position and viability of the group;
 - Review and update the plan on a regular basis, or when there are material changes; and
 - Take actions for recovery if the group comes under severe stress:
 - Scenarios that addresses capital shortfalls and liquidity pressure.
 - Possible recovery actions including but not limited to: recapitalisations, capital conservations, etc.

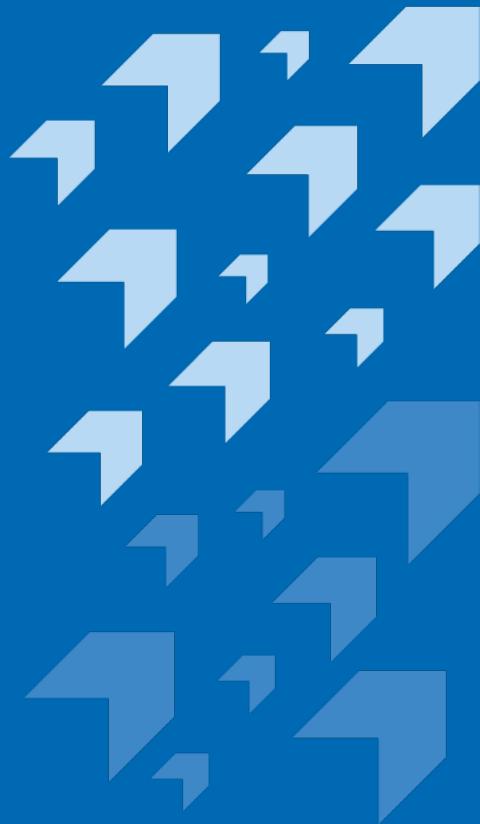
Resolution Plan

- The plan should include a substantive resolution strategy and operational plan for its implementation and to identify, in particular:
 - prospective evaluation of their specific operations and risks in possible resolution scenarios and procedures for using during resolution;
 - financial and economic functions that need to be continued;
 - suitable resolution options;
 - data requirements for the group's business operations and financial economic functions;
 - potential barriers to effective resolution and mitigating actions; and
 - actions to protect policy holders.

Any questions?



Thank You



2020 ASIA-PACIFIC VIRTUAL SYMPOSIUM

THANITA ANUSONADISAI, FSA, CERA

Keynote: S2- Regulatory Outlook, Thailand Case Study

28th September, 2020



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Antitrust Compliance Guidelines

Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants.

The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

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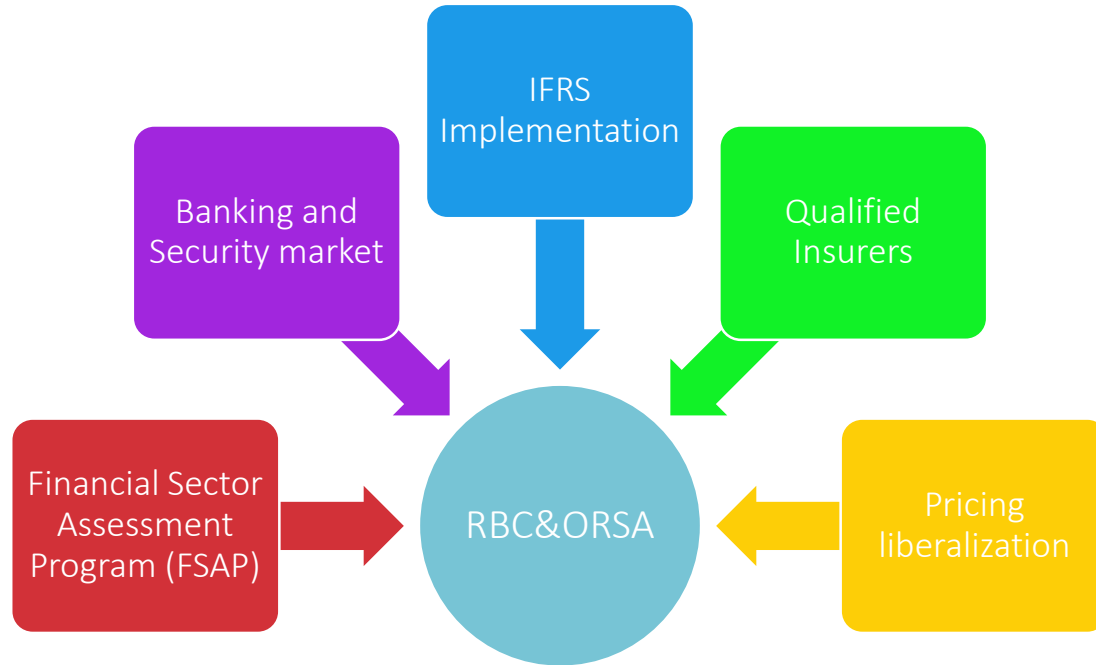
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OIC's Capital and Solvency Standard Development: Key Drivers



Why the international standard is so important



Global financial stability

Policyholder protection

Efficient, fair, safe and stable insurance markets

Well-regulated insurance markets

Improved supervision

Standard-setting Activities of the IAIS



Purpose of Insurance Regulation

1

maintain insurer solvency;

2

protect consumers;

3

make insurance available to people

4

fair premium rates. (directly vs indirectly)

8

26 Insurance Core Principles (ICPs)

Observed (9 ICPs)

- ICP 3 Information Exchange and Confidentiality Requirements
- ICP 7 Corporate Governance
- ICP 8 Risk Management and Internal Controls
- ICP 13 Reinsurance and Other Forms of Risk Transfer
- ICP 15 Investment
- ICP 22 Anti-Money Laundering and Combating the Financing of Terrorism
- ICP 23 Group-wide Supervisor
- ICP 24 Macropudential Surveillance and Insurance Supervision
- ICP 25 Supervisory Cooperation and Coordination

Partly Observed (4 ICPs)

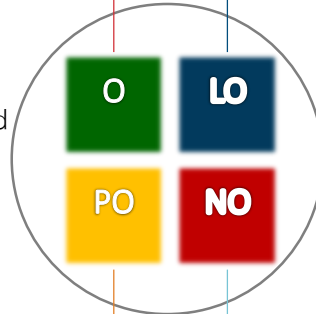
- ICP 4 Licensing
- ICP 5 Suitability of Persons
- ICP 6 Changes in Control and Portfolio Transfers
- ICP 26 Cross-border Cooperation and Coordination on Crisis Management

Largely Observed (13 ICPs)

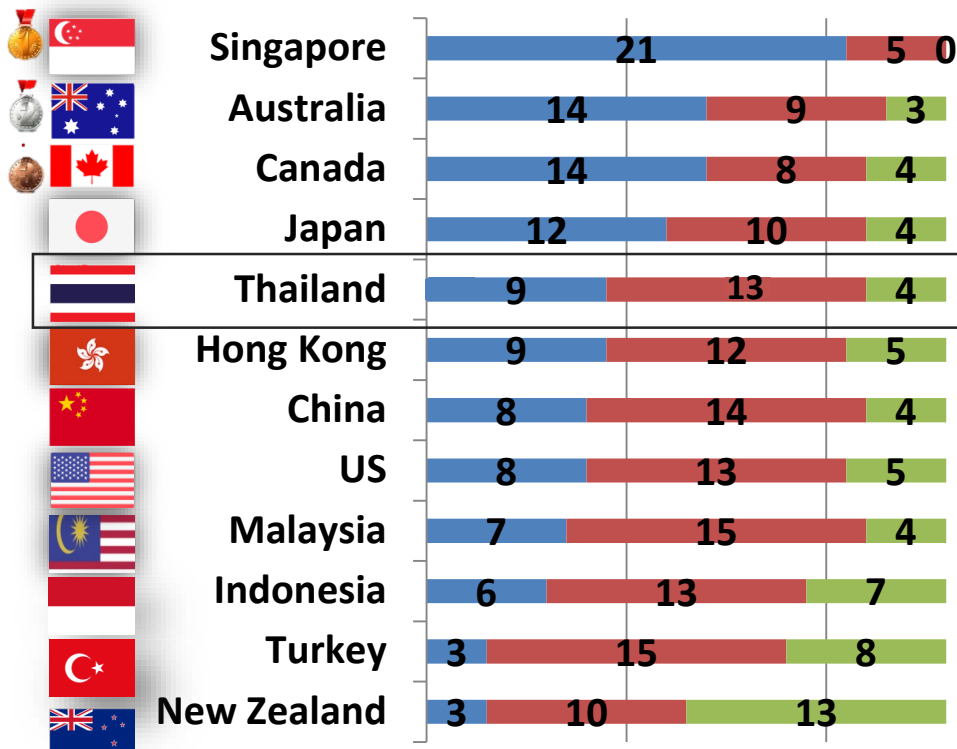
- ICP 1 Objectives, Powers and Responsibilities of the Supervisor
- ICP 2 Supervisor
- ICP 9 Supervisory Review and Reporting
- ICP 10 Preventive and Corrective Measures
- ICP 11 Enforcement
- ICP 12 Winding-up and Exit from the Market
- ICP 14 Valuation
- ICP 16 Enterprise Risk Management for Solvency Purposes ★
- ICP 17 Capital Adequacy ★
- ICP 18 Intermediaries
- ICP 19 Conduct of Business
- ICP 20 Public Disclosure
- ICP 21 Countering Fraud in Insurance

Not Observed

-None-



FSAP results of insurance sector from various countries



■ Observed (O)
■ Largely observed (LO)
■ Partly observed (PO)

Recently, Thailand FSAP result has evaluated as “Excellent”, relatively

close to

-  USA
-  HK
-  China

Risk Based Capital (RBC) in Thailand



Supervisory Development on RBC in Thailand



2008-2010

- Project of Risk base capital (RBC) was kicked off.
- Working groups as collaboration between regulator and industry were formed to consider the appropriate RBC framework for Thailand
- Draft RBC framework was well accepted by the industry and the transitional arrangement for the requirement on the regulatory solvency ratio were agreed upon by the industry

Prior to 2008

- One size fit all regimes
- For life insure, capital required = 2% NPV reserve
- For non-life insurer, capital required = 10% GWP for last 12 months



2011 – 2019

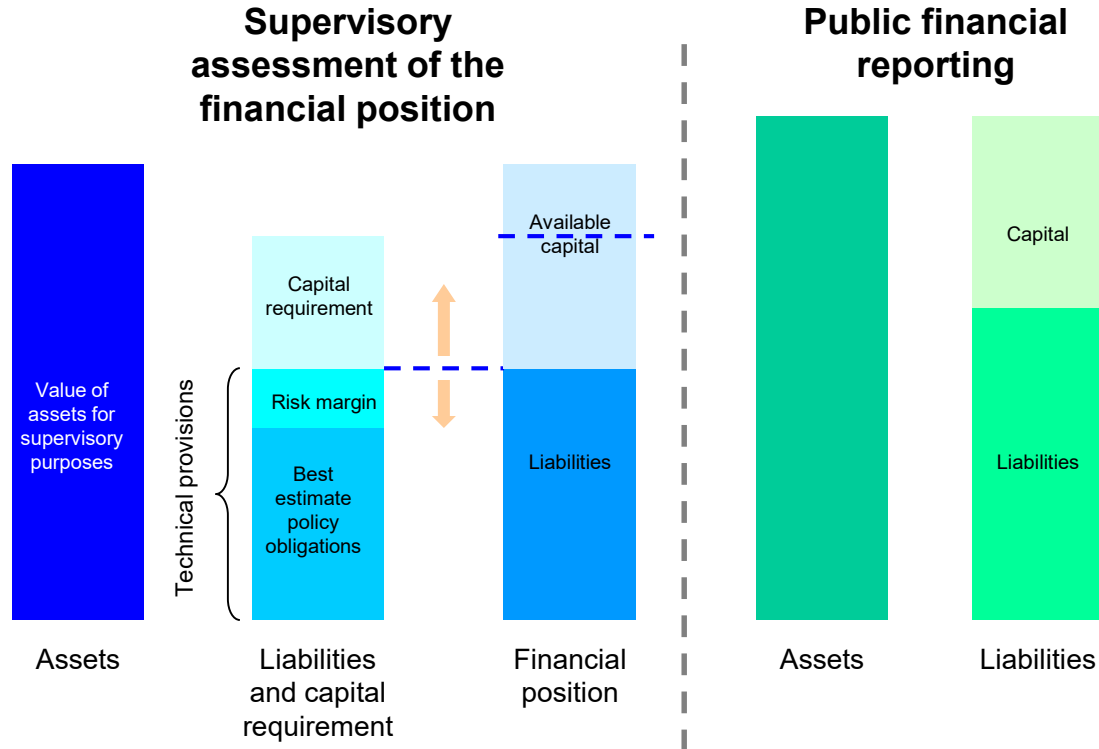
- 2011 RBC notification became effective, risk capital requires insurance risk; credit risk; market risk; and concentration risk.
- RBC Framework: total balance sheet approach
- Risk charge calibrated @95%ile sufficiency level for 1 year time horizon.
- PCR = 140%
- MCR = 100%
- Surrender risk was added on the capital requirement for life insurer.



2020 (RBC2 implemented)

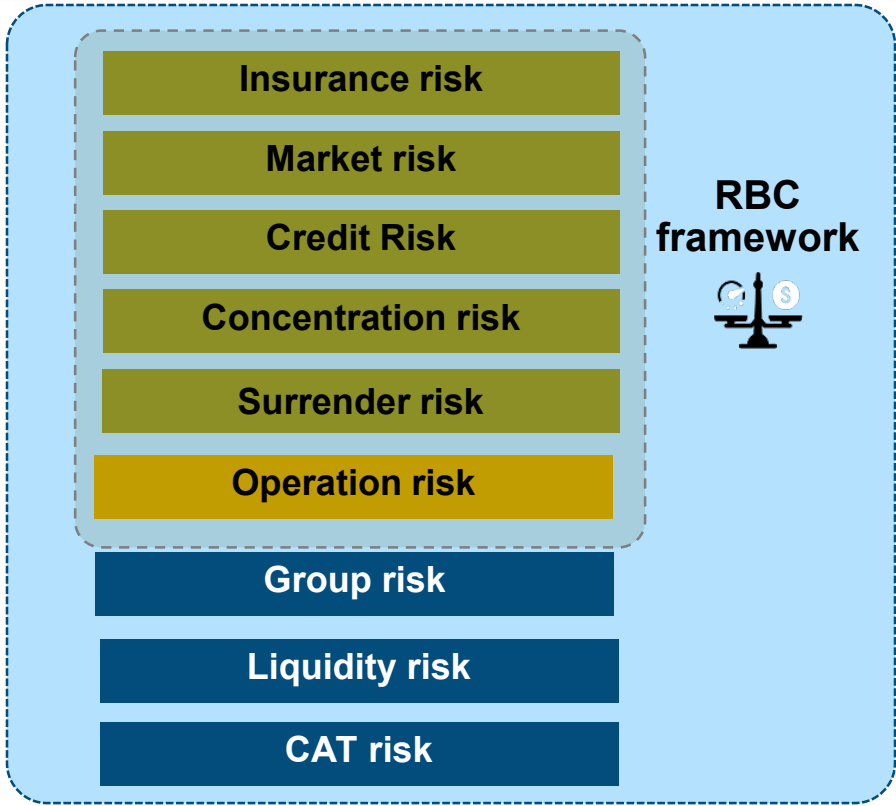
- Require additional capital charge for operational risk
 - = 1% x GWP of the past 12 months
- Allow diversification between asset risk and liability risk
- **Step up approach implementation**
 - 2020-2021: PCR = 120%**
 - 2022 onward: PCR = 140%**

Total balance sheet approach to recognize interdependencies





Risk capital required for solvency purpose



ERM / ORSA



ERM & ORSA in Thailand



Supervisory Development on ERM for solvency


2008

- implementation of the minimum requirements for risk management of Life and Non-life Insurer



2013-2014

- Introduced industry exercise on stress testing in order to enhance ERM and capital management plan.
- Various scenarios were tested including macroeconomic, financial crisis, pandemic, catastrophe and self-select scenario as well as reverse stress test



2017 - 2018

- **Early 2017**, issued the notification on the minimum requirements for risk management (version 2017)
- **Mid 2017**, drafted ERM/ORSA framework with regards to ICP16
 - Consultation paper, in order to prepare industry and gain feedback
 - Criteria and template for assessment the quality of ERM/ORSA were available
- **2018**, Notification on ERM/ORSA was approved by OIC commission



Risk governance framework

Three Lines of Defence



Development of ERM/ORSA Regulation



ORSA Market test (Dec. 2017 – Mar 2018)

- ✓ ORSA consultation paper
- ✓ ORSA report template
- ✓ Manual of ORSA report template

ORSA Market Survey (Mar 2018)

- ✓ Overall, industry agree with the implementation of ORSA framework as it helps them enrich the risk culture within the organization

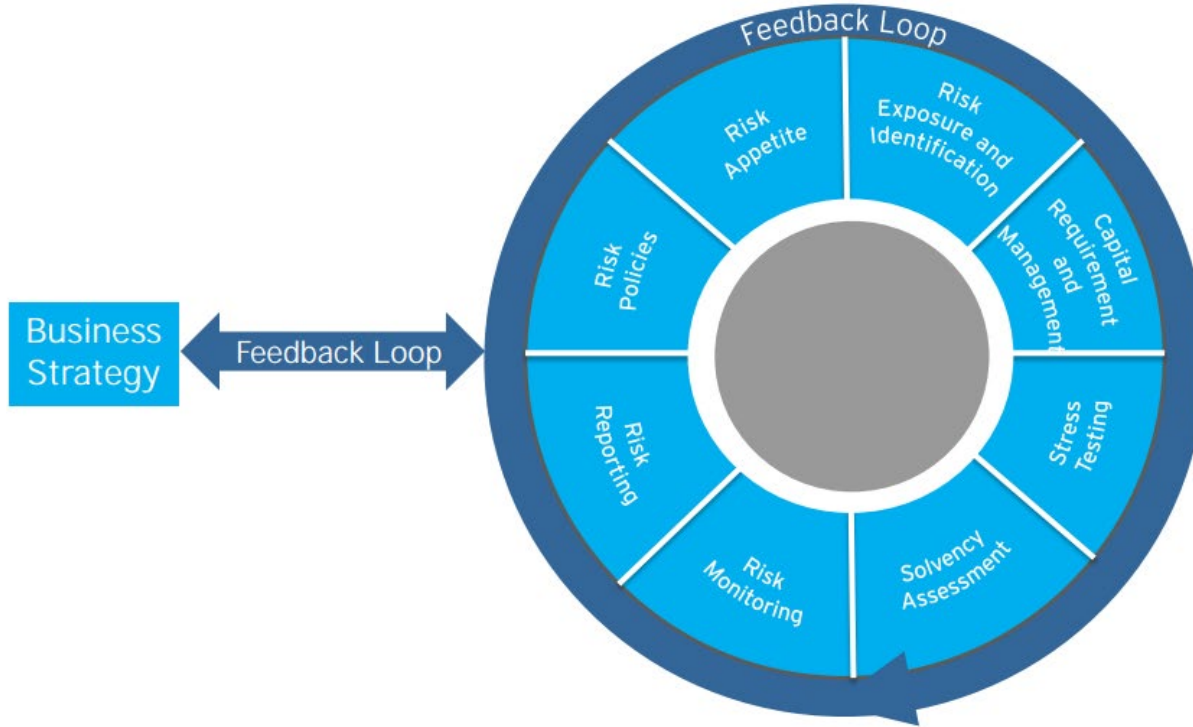
Preparation for insurance company and OIC's off-site and on-site team (Nov. 2017 – July 2018)

- ✓ Seminar on ORSA framework for industry
- ✓ Discussion forum on ORSA implementation and practice for industry
- ✓ Overall feedback, good practice and area for improvement, on ORSA report for industry
- ✓ Several training on the methodology of monitoring and analyzing of ORSA report for OIC's off-site and on-site staff



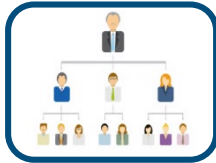
ERM/ORSA Framework

Board and Senior Management



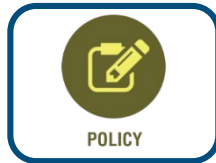
Supervision

Summary of Notification on ERM/ORSA



Risk governance structure

- ✓ Board of Director
- ✓ Senior management
- ✓ Risk management committee
- ✓ Risk management department including role of CRO
- ✓ Compliance function
- ✓ Internal Audit function
- ✓ Actuarial function



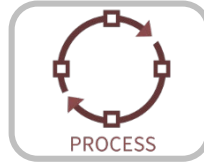
Risk management framework

- ✓ Overarching risk management policy
- ✓ Risk Appetite framework
- ✓ Key Risk Indicator
- ✓ Linkage between strategy, risk and capital (Feedback loop)
- ✓ Written policy are required for 9 main activities



Scope of Risks policy

- ✓ Strategic risk
- ✓ Insurance risk
- ✓ Market risk
- ✓ Credit risk
- ✓ Liquidity risk
- ✓ Operational risk
- ✓ Reputation risk
- ✓ Information technology risk
- ✓ Catastrophe risk
- ✓ Emerging risk
- ✓ Group risk (if available)



Risk management process

- ✓ Identify
- ✓ Assess and prioritize
- ✓ Response
- ✓ Control and Monitoring
- ✓ Risk reporting, including risk register



IT system supporting risk management

- Data system to support risk management policy
- ✓ Security of data storage
- ✓ Level of classification
- ✓ IT risk management



Risk culture

- ✓ Embed Risk Culture to day-to-day operation
- ✓ Effective communicate of risk policy in the organization
- ✓ Integrated Risk management to business decision making



Own risk solvency assessment (ORSA)

- ✓ Economic capital (if any)
- ✓ Capital management
- ✓ Capital contingency plan
- ✓ Internal Capital Adequacy Ratio



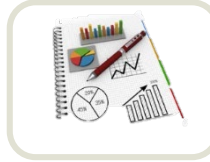
Continuity Analysis and Stress test

- Requirement on
- ✓ Scenario analysis
- ✓ Stress test
- ✓ Management Action Plan and Business continuity plan



Risk Monitoring and Evaluation

- ✓ Monitoring process performed by Internal Audit
- ✓ Internal audit report requirement
- ✓ Review risk management framework and written policy at least once a year



Reporting requirement

- Submission of ERM/ORSA report:
- ✓ ERM/ORSA framework and process
- ✓ Risk management policy
- ✓ Linkage between risk, strategy and capital
- ✓ Risk appetite framework
- ✓ Risk exposure and identification
- ✓ Stress testing, Scenario & Continuity analysis
- ✓ Solvency assessment and assessment on the accuracy of ERM/ORSA framework

Thailand Insurance Development Plan Vol#4 (2020-2025) & Impact from COVID19



COVID-19 | Potential impact on Thailand insurance industry 2020

Global

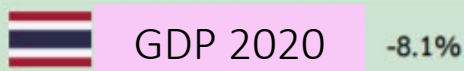


Source : IMF
ที่มา : กองทุนการเงินระหว่างประเทศ (IMF)



Source : IMF
ที่มา : The Federal Reserve System (FRB)

Thailand

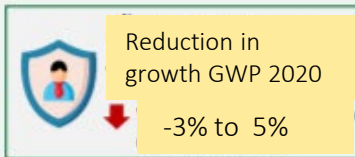


Source Bank of Thailand
ที่มา : ธนาคารแห่งประเทศไทย

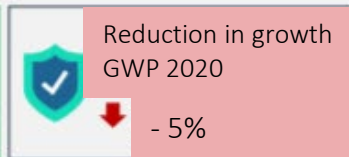


Source Bank of Thailand
ที่มา : ธนาคารแห่งประเทศไทย

Impact on Thailand's Insurance Sector



ที่มา : ธนาคารแห่งประเทศไทย



ที่มา : ธนาคารแห่งประเทศไทย

Opportunities for development of insurance product

- Selling more protection type rather than saving
- Increase in the health insurance demand
- Increase the awareness of buying insurance

Changes in operating processes

- WFH, more flexible hour
- Digitalize the distribution channel
- Contact customers via digital channel

ที่มา : Deloitte, ศูนย์วิจัยกสิวิทย์, IDC

Insurance Development Plan Volume 4



Great chances of improvements

- All works to be operated in electronic form → improve customer experience
- To build digital platform among stakeholders
- Digitalizing claim management
- Upskill agents/brokers via digital tools
- Reg Tech/Sup Tech

Key: flexible and fast response to the quick changes of new ecosystem by utilizing the technology and information

Framework of Insurance Development Plan Volume4 (2021-2025)

Strategic Pillar 1



Insurance company has stability and ability to stay competitive in the new ecosystem

Strategic Pillar 3



Insurance system to play the major role to facilitating the sustainability of Thai economy and society

Strategic Pillar 2



To build up the risk culture among Thais and the private sector

Strategic Pillar 4



To develop infrastructures to support the insurance operation



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For further queries

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WAI YI LEE, MONETARY AUTHORITY OF SINGAPORE

Session Number, Regulatory Outlook

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The valuation and capital framework for insurers in Singapore was enhanced (RBC 2) with effect from 31 March 2020 to achieve the following

Enhance policyholder protection



- More comprehensive coverage of risks
- Explicit target calibration at 99.5% VaR over 1 year

Improve our risk-based supervision



Greater insights and better analytics on risk profile of insurers

Align with international standards



- Adhere to international standards and best practices
- Align available capital with banking standards

Incentivise long-term investments & products



Allow insurers to continue offering long-term products and invest in long-term investments

Clearer solvency intervention level



Provide clarity on MAS' expectations re solvency levels and supervisory actions

Unlock conservatism



- Allow for diversification benefits
- Partially recognise negative reserves

Sufficient lead time was provided for implementing RBC 2



Conducted extensive consultations...

- First consultation in June 2012
- Second consultation in March 2014
- Third consultation in July 2016
- As well as closed door consultations and invitation for comments on draft technical specifications and Matching Adjustment approval process and requirements



Three rounds of impact studies and one parallel run ...

- QIS 1 issued in March 2014 (based on YE 2013)
- QI2 2 issued in July 2016 (based on YE 2015)
- Impact study issued in Sep 2018 (based on YE 2017)
- First parallel run issued in May 2019 (based on YE 2018)
- Second parallel run issued in Mar 2020 (based on YE 2019)



Continuous engagements and dialogues...

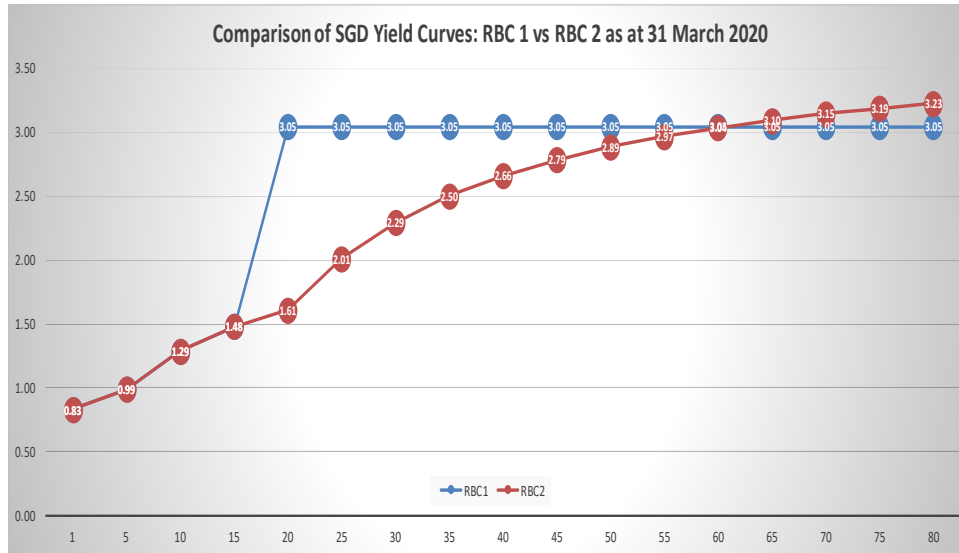
- Regular dialogues with LIA, GIA, SRA, SAS and ISCA
- Conducted company visits on a number of significant direct life & composite insurers in late 2018 to understand insurers' RBC 2 implementation plans

In the lead up to RBC 2 implementation, significant dislocation in the market occurred due to COVID-19 pandemic

- At the lowest point on 23 Mar 2020, equity prices had fallen just over 30% for both the Straits Times Index (STI) and MSCI World Index since end 2019.
- Yield curve has moved down significantly since around Feb 2020, and sank to historic low levels on 9 Mar 2020 (went even lower in late May and late Jul).
- This has put some pressure on life insurers' solvency positions, especially given the relatively significant allocation to equities for participating life insurance business, and the discounting of liabilities with lower risk-free yields.

Discount yield curves are derived differently under RBC and RBC 2

Comparison of SGD Yield Curves: RBC 1 vs RBC 2 as at 31 March 2020



	RBC 1	RBC 2
Segment 1 (based on market information)	15 years	20 years
Segment 2 (extrapolation to stable rate)	Linear extrapolation of 5 years (year 15 – 20)	Smith Wilson extrapolation of 40 years (year 20 – 60)
Segment 3 (long term stable rate)	Long Term Risk Free Discount Rate (LTRFDR*) of 3.1% from year 20+	Ultimate Forward Rate (UFR) of 3.8% from year 60+
Additional info	Curve built from spot rates	Curve built from forward rates

*LTRFDR under RBC1 is the sum of:

- 90% of [average historical daily yields of 15SGS since inception + average historical daily difference in yields of 20SGS and 15SGS since inception of 20SGS]
- 10% of average historical daily yields of 20SGS over past 6 months

Market remains volatile but fortunately measures were in place to mitigate the impact on solvency

- Transitional measure was introduced under RBC 2 to account for the differences in which the risk-free discount rate used to value Singapore dollar denominated liabilities is derived under both RBC 2 and RBC framework.
- Transitional measure was originally intended to be phased out by end 2020 but subsequently extended to end 2021 in May 2020 in view that lingering economic and health uncertainties may weigh on financial markets for some time.
- The matching adjustment (MA) and illiquidity premium features within RBC 2, particularly MA, helped insurers in mitigating the impact of widening spreads.
- Insurers remain resilient.

Expectations on insurers amidst the COVID-19 pandemic

- Insurers should monitor their solvency positions closely and adopt a prudent and forward looking view in capital management.
- They should maintain strong capital buffers and pre-emptively consider the need to raise fresh capital to bolster capital position where necessary.
- They should be prudent when making discretionary payments, including the distribution of dividends or profits to their shareholders or head office.
- Insurers on transitional measure are to have in place a board-approved capital management plan on how they intend to carry out the asset portfolio rebalancing and bolster their solvency position by the end of 2021 when the transitional measure will be phased out. MAS will engage insurers closely and regularly on this plan.

Other work moving forward

- MAS continues to refine the RBC 2 framework
 - Ensuring it remains risk-sensitive, yet does not end up being pro-cyclical amidst market stresses
 - Addressing the capital treatment of infrastructure investments and structured products
- MAS has issued an interest rate stress test exercise to selected direct life and composite insurers in Aug 2020 to understand the impact of negative and low for long interest environment on insurers
 - Nominal interest rates globally are at historically low levels with some jurisdictions having experienced negative rates for government debt across multiple tenors

Other work moving forward

- MAS to update MAS Notice 126 on Enterprise Risk Management (ERM) for insurers
 - To incorporate relevant requirements and guidance from IAIS' updated Insurance Core Principles (ICPs) following the adoption of the holistic framework for assessment of systemic risk for insurers in Nov 2019
 - Expect more guidance in the management of liquidity risk, including liquidity management plan and liquidity stress testing



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