29th India Fellowship Seminar

Is Risk Based Capital way forward? Adaptability to Indian Context & Comparison of various market consistent measures

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- Is Risk Based Capital (RBC) way forward?
- Adaptability of RBC to Indian context
- Comparison of various market consistent measures

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Is it the way forward

- ✓ Current solvency regime
- ✓ Risk based Capital (RBC)
- ✓ Main drivers for transition to RBC
- ✓ Journey so far for transition to RBC

Current Solvency Regime

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- Introduced by IRDAI from year 2000
- Required capital derived using the factor based method
  - Factors
    - First factor applied on Mathematical Reserve
    - Second on Sum at Risk
  - Factors vary by the insurance product type
  - Allowance for reinsurance credit

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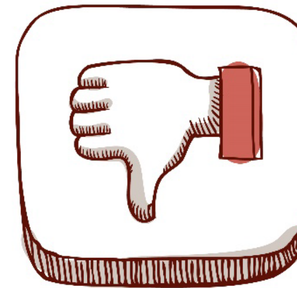
Current Solvency Regime

- Advantages:
  - Simple to administer, calculate, validate and communicate
  - Standard approach across the industry
  - Strong, conservative, based on prudent estimate of liability



- Limitations:
  - Less indicative of whether capital is adequate for risks inherent in the business
  - Companies applying more prudence in valuing liabilities forced to hold more capital
  - Little incentive for better risk management
  - Qualitative consideration like good corporate governance ignored

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Risk Based Capital

It is a method of measuring the minimum amount of capital appropriate for an Insurance Company to support its overall business operations in consideration of its size and risk profile

Advantage of RBC over current regime:

- ❑ Incentivizes better risk management
- ❑ Provides information on financial strength of the insurer
- ❑ Can facilitate early and effective intervention by Authority, if necessary
- ❑ Can provide enhanced protection to policyholders

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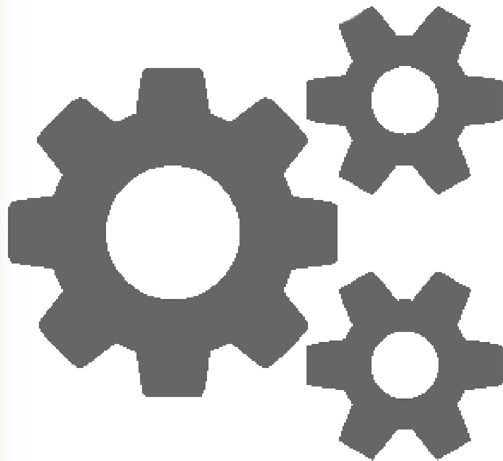
Main Drivers for Transition to RBC



- Globally most countries with significant insurance industry are moving to RBC regime
  - International Association of Insurance Supervisor (IAIS) advocates such change to a global standard
- International Financial Reporting Standard (IFRS) are driving insurance industry to a set market consistent valuation (MCV)
- Government of India also intends to move to IFRS as adopted by Ind-AS for insurance industry
  - RBC regime fits into a MCV regime as envisaged by IFRS and Ind-AS

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Journey so far for Transition to RBC

- IRDAI Circular for Economic Capital, June 2009
- Road map for transition as suggested by reviewing committee in April 2014
- Corporate Governance guidelines, 2016 issued by IRDAI
- Report of IRDAI committee on RBC approach and MCVL of Indian Insurance business, July 2017
- Steering committee for implementation of RBC regime, September 2017

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Adaptability of RBC to Indian context

- Method of valuation – Liability & Assets
- Method for Risk Capital Assessments
- Committee recommendation on implementation
- Corporate Governance and ERM
- Changes in legislation/Regulation
- Resources – Financial/Technical
- Other considerations

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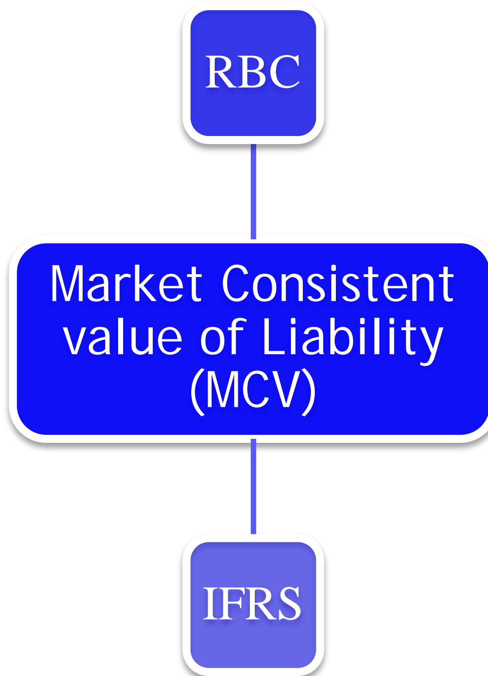
Method of Valuation of Liability



- ✓ Liability market not sufficiently deep
  - Difficult for assets to replicate the liability profile
  - Liability to be valued as

  {Best estimate Liability + separate risk margin}
- ✓ Risk margin to capture the cost of capital required to be held on account of non-hedgeable risk
- ✓ Risk margin calculation: Cost of Capital or Percentile method
  - PAB Committee recommended for Cost of Capital approach

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Method of Valuation of Assets

- ✓ Principle of supervisory reserve – asset and liability to be valued on consistent basis
- ✓ Assets to be valued on mark to market basis
- ✓ Decision – Whether need to have inadmissible assets
- ✓ Decision – Investment exposure norms under RBC regime

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Method for Risk Capital Assessment

- ✓ Perception of risk is subjective.
- ✓ Difficult to calibrate all the risks a company is exposed to with significant credibility
- ✓ Typical risks to be included are:
  - Insurance risk
  - Market risk
  - Credit risk including counterparty default risk
  - Operational risk

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Method for Risk Capital Assessment

- ✓ Method for assessing the risk capital for a risk are:
  - VaR, Tail VaR (CTE), Formula based etc.
- ✓ Committee on RBC approach recommended VaR
  - Seeks to calibrate capital requirement to a probability of ruin of 0.5% over one year outlook
- ✓ Standard model/Internal model: Standard model recommended by RBC committee
  - Industry not matured enough to have an internal model
  - Standard model need to be developed for assessing the risk capital
  - Disadvantage: Standard model may not capture risks specific to company adequately

Method for Risk Capital Assessment

- ✓ Correlation matrix need to be developed for aggregating and diversifying the risks
- ✓ Difficulty in assessing risk capital for operational risk:
  - Difficult to calibrate extreme stress due to paucity of data
  - Capital component on account of operational risk can be quantified using formula approach

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Committee Recommendations on Implementation

- ✓ Quantitative impact studies (QIS): companies to participate at least 3 QIS exercises
  - Better insight into company's own risk profile
  - Valuation model expected to be strengthened from understanding gained
- ✓ Twin basis approach for implementation years
  - Companies need to assess capital on current as well as on new regime
  - Needs to be done till the RBC regime gains confidence
  - Allows the company & regulator to understand implication of new regime

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Committee Recommendations on Implementation

- ✓ Intervention ladder: Regulator to develop a basis of prescribed actions to be taken if solvency falls below certain limit
  - Action may be triggered by combination of quantitative & qualitative assessments
- ✓ Project Steering Committee (PSC) to review & undertake the decision on each milestone for smooth implementation of new regime

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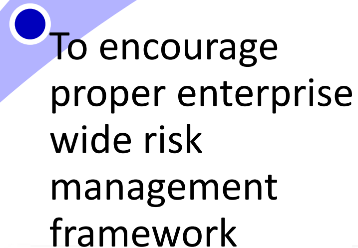
Corporate Governance & ERM

Revised corporate guidelines include additional aspects of risk management such as ALM



- To encourage proper enterprise wide risk management framework
- Efficient ERM results into lower capital requirement for the company and lead to enhanced policyholder protection
- Company culture & decision making needs to be more accountable & should be reflected into risk capital determination

It needs to be further strengthened

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Changes in Legislation & Regulation

LEGISLATION

Insurance Act, 1938 needs to be amended accordingly

- Section 64V & 64V(A)

REGULATION

Needs amendment:

- ALSM Regulation, 2016
- ARA Regulation 2016 for annual regulatory reporting
- Investment Regulation 2016
- Preparation of Financial Statements & Auditors Report Regulation 2002
- Guidelines for Public Disclosure by the insurers

Resources – Financial / Technical

- ✓ Regulator as well as company needs additional technical expertise for smooth implementation
- ✓ Regulator needs additional hand to monitor & review QIS results of the company
- ✓ Committee recommends for engagement of external consultant for implementing the regime
- ✓ Company needs additional resources and expertise for performing QIS & regulatory reporting on twin basis.
- ✓ Likely to incur significant cost in transition to new regime

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Other considerations

- ✓ Capital requirement should reflect risk mitigants like derivative, reinsurance & interrelationship and diversification between the assets
- ✓ Guidelines to consider business structure of the company e.g. PSU vs Private Insurance Company
- ✓ Lack of reliable & credible data
- ✓ Impact of capital requirement on product pricing
- ✓ Volatility of the market and size of the company
- ✓ Treatment of one off surplus/deficit on the date of transition of new regime
- ✓ Treatment of tax on one off surplus arisen on the date of transition

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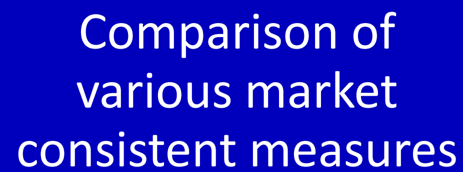
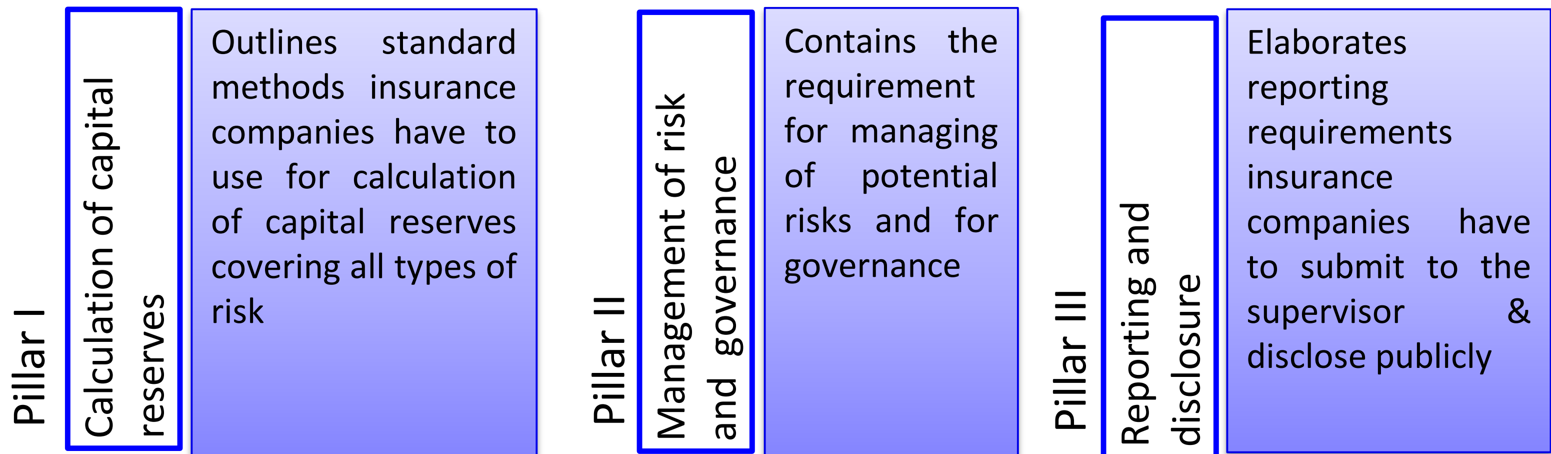


- EU Solvency II
- Singapore RBC regime
- Hong Kong RBC framework
- China C-Ross Regime

EU Solvency II

Solvency II framework for insurance and reinsurance companies became applicable on 1st January 2016, it is one common regime to be applied by all 28 EU member states

The solvency II supervisory regime consists of three pillars



EU Solvency II

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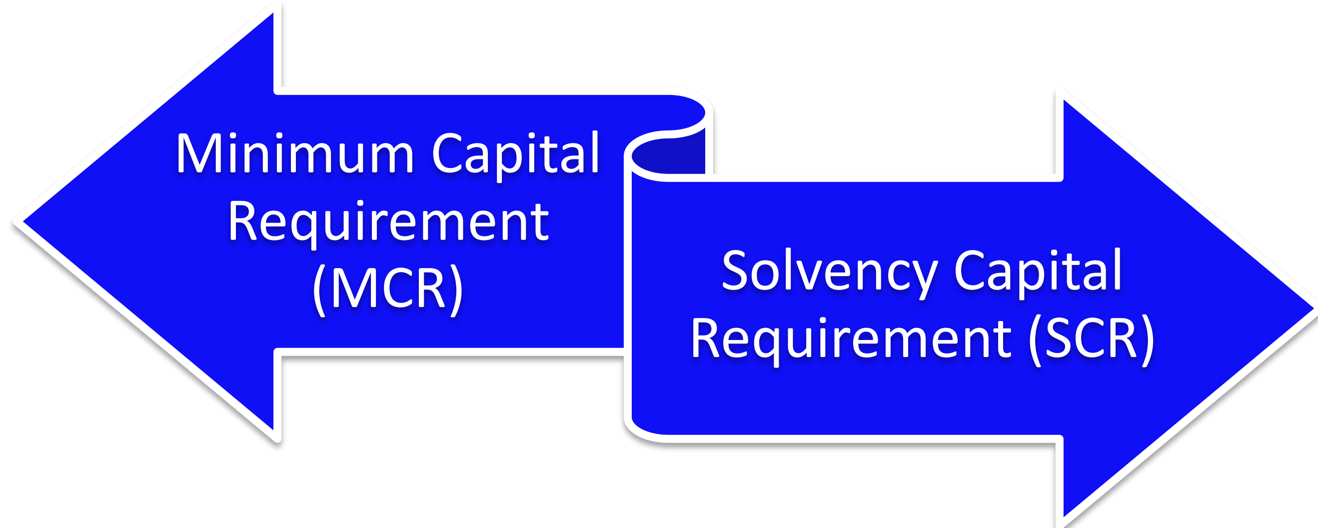
Asset and Liabilities are valued at market consistent bases

Capital requirements considered in two steps:



SCR is risk based capital company needs to hold to limit probability of ruin to 0.5% over one year period

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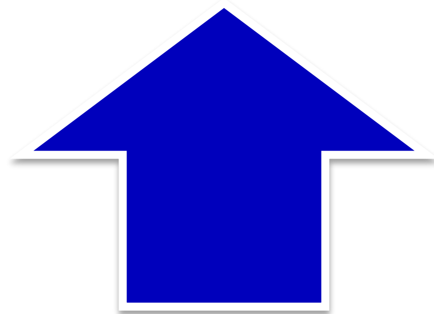
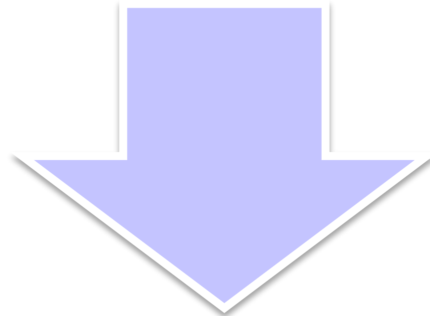
EU Solvency II

Two approaches for SCR calculation



Standard Capital model prescribed by EIOPA



Internal model, developed internally by the company, subject to regulator's approval

Singapore RBC Regime

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Current RBC framework requires insurers to hold capital against their risk exposure

Risk exposure is classified into:

C1 : related to insurance risk

C2: based on insurer's exposure to asset related risk e.g market risk & credit risk

C3 : relates to asset concentration risk

No diversification benefit considered for the capital calculation

Note: Reference – "RBC2 review -Third Consultation" by MAS

Singapore RBC Regime

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RBC framework relies on Fund Solvency Ratio and Capital Adequacy Ratio

- These indicators do not take account of confidence interval and time horizon

Monetary Authority of Singapore (MAS) has reviewed current framework and proposed the following under proposed "RBC2" regime:

- Incorporate risk exposures related to spread risk, operational risk & catastrophe risk
- Introduction of two explicit solvency intervention levels; Prescribed Capital Requirement (PCR) and Minimum Capital Requirement (MCR)
- Calibration of risk measurements to VaR measure of 99.5% confidence level over one year period at the company level for PCR calculation
- Allowing diversification benefit in aggregating risk requirements and recognizing negative reserves for solvency purposes
- Enhance insurer's risk management practices by introducing Enterprise risk management framework (ERM)

Note: Reference – "RBC2 review -Third Consultation" by MAS

Hong Kong RBC Framework

- Current regime based on Solvency I framework
  - Solvency requirement calculated with reference to Sum Insured and Policy Reserves
  - The risk factors pertinent to insurers not considered
- Insurance Authority of Hong Kong commissioned a consultancy study in 2012-13 for developing RBC framework
  - To establish clear and consistent valuation standard, including
    - ✓ Best Estimate Liability
    - ✓ Risk Margin
    - ✓ Risk sensitive Capital requirement
  - RBC framework to be supported by enhance corporate governance and Enterprise Risk Management

Note: Reference - Consultation paper on RBC framework published by Insurance Authority of Hong Kong

Hong Kong RBC Framework

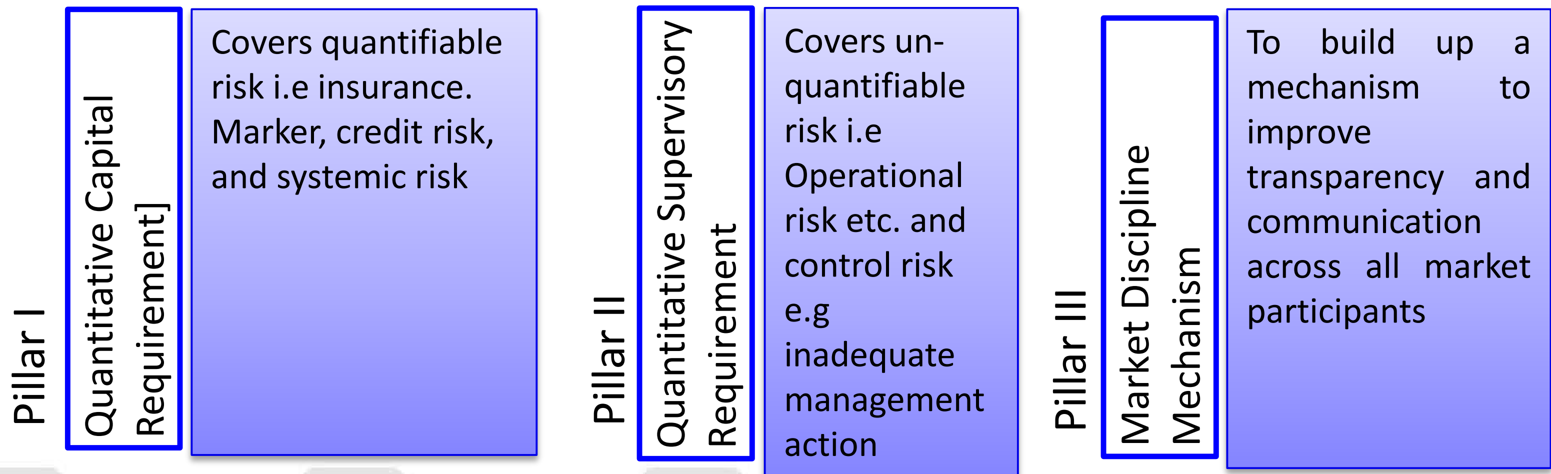
Key proposals include the following:

- Prescribed VaR approach at a 99.5% confidence interval over one year period
- Standardized approach is envisaged; internal model may be permitted with regulatory approval
- Stress test approach to be adopted for underwriting risk of long term insurers and for market risk of all insurers; risk factor based approach for all other risks
- Allowance for diversification of risk
- Tiered capital – Capital resources to be categorized into different classes of quality
- Corporate governance and Enterprise Risk Management framework should be enhanced
- Periodic public disclosure of capital resources and capital requirement

Note: Reference - Consultation paper on RBC framework published by Insurance Authority of Hong Kong

China C-ROSS Regime

In January 2016, the China Insurance Regulatory Commission (CIRC) launched the China Risk Oriented Solvency System (C-ROSS)



China C-ROSS Regime

- Key variation from EU Solvency II
  - Under C-ROSS, asset valuation follows China GAAP Accounting value basis, unlike mark to market under solvency II
  - Under C-ROSS, TVOG is calculated as factor based approach with factors specified by CIRC
    - ✓ Introduces basis risk for the company
  - Under C-ROSS, Operational risk is categorised as unquantifiable risk
    - ✓ No capital required under Pillar I
    - ✓ Covered under Pillar II, as part of requirements for effective risk management framework
  - Internal model not allowed under C-ROSS regime

Note: Reference - Milliman Research Report on China's C-Ross Capital Regime

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thank you

danke 謝謝 ngiyabonga teşekkür ederim gracias merci obrigado dziękuję sukriya kop khun krap go raibh maith agat mochchakkeram arigatô grazie dakujem terima kasih bedankt спасибо hvala mauruuru tapadh leat dank je takk sagolun mersi barka welalin tack paldies grazzi mahalo misaotra matondo blagodaram vinaka faafetai lava kiitos dankie dhanyavad nanni nandri bayarlalaa gracie koszonom enkosi sobodi dekuji mesi didi madloba kam sah hamnida najis tuke rahmat 감사합니다 xiexie ευχαριστώ tanemirt rahmet diolch dhanyavadagalu shukriya merce мерси trugarez chnorakaloutioun gratias ago gracies sulpay taiku djiere dieuf tau mamnun хвала asante manana obrigada murakoze tenki рахмат Баярлалаа ありがとう