Worldwide Reforms of Solvency Regulation

- LAGIC in 2013 introduces Solvency II type elements in stages by 2015.
- Solvency II type solvency regime by 2016.
- Towards risk based solvency.
- C-ROSS
- Towards economic-based solvency.
- RBC II
- LAGIC in 2013
- Introduces Solvency II type elements in stages by 2015.
- RBC-SMI
- Solvency II
IAIS: Global regulatory architecture

Regulation Tiers

Legal Entity | Group | IAIG | G-SII

1st Tier: ICPs
Apply to legal entities

ICPs that apply to legal entities and groups

2nd Tier: Com Frame

ComFrame that applies to IAIG

3rd Tier: G-SII

G-SII package (BCR, HLA etc)
Global regulatory model may not perfectly suit the emerging market

**Hypotheses from Mature Market**

- Complete Market Hypothesis
- Perfect Market Hypothesis
- Efficient Market Hypothesis

**Proposed Global Model**

- Complete Market consistent valuation
- Quantitative models to manage risks
- Self-assessment based system
- Scenario method Internal model

Mature and stable mechanism and regime, with slow market growth

Strong risk management awareness and ability within the insurance institutions

Sufficient professional human resources within the insurance industry and the regulatory bodies
Timetable of C-ROSS
China Risk Oriented Solvency System

Step 1: Overall Planing
- Where to go
- How to go
- How long

Step 2: Review and Research
- C-SI self-evaluation
- C-SI vs. RBC vs. SII
- Research of Emerging Market Solvency Regimes

Step 3: Conceptual Framework

Step 4: Technical standards
- 9 standards for Pillar I
- 3 standards for Pillar II
- 3 standards for Pillar III
- 1 standard for insurance group
- 1 standard for reporting

Step 5: Implementation
- Transitional Arrangements

- Mar 2012
- Oct 2012
- May 2013
- Dec 2014
- 2015
Goals and Principles of C-ROSS

Overall Goals

- Scientifically measure risks
- Promote effective risk and capital management
- Mechanism to enhance enterprise risk management
- Provide useful experience to other emerging markets

Core Principles

- Risk oriented
- Characteristics of China's market
- Internationally comparable
Risk Stratification

- **Unsupervisable Risks**
  - Inherent Risk
    - Quantifiable Risk
      - Insurance Risk
      - Credit Risk
      - Market Risk
    - Unquantifiable Risk
      - Operation Risk
      - Reputation Risk
  - Control Risk
  - Systemic Risk

- **Supervisable Risks**

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- Pillar I
- Pillar II
- Pillar III
Three-Pillar: Risks and Regulatory Structure

### Quantifiable Risks
- Insurance Risk
- Credit Risk
- Market Risk

### Regulatory Tools
- Quantitative capital requirement
- Actual capital assessment
- Capital stratification
- Stress test
- Regulatory measure

### Qualitative Supervisory Requirement

### Unquantifiable Risks
- Operation Risk
- Strategy Risk
- Reputation Risk
- Liquidity Risk

### Regulatory Tools
- Integrated risk rating (IRR)
- Solvency aligned risk management requirements and assessment (SARMRA)
- Liquidity risks
- Analysis and examination
- Regulatory Measure

### Market Discipline Mechanism

### Unsupervisable Risks

### Regulatory Tools
- Company information disclosure
- Regulator information disclosure
- Credit Rating

### Market Evaluation
- … …
- … …
Three-Pillar: Capital to balance Risks and Value

- Pillar I
  - Quantifiable Risks
  - Supervisable Risks
  - Overall Risks

- Pillar II
  - Solvency Ratio
  - Stress Test
  - Regulatory Measure

- Pillar III
  - Liquidity risk management
  - IRR
  - SARMRA
  - Credit Rating
  - Analysis and Examination
  - Company information disclosure
  - Regulator information disclosure

ESM (Enterprise Solvency Management)
Global regulatory development should pay more attention on more and more important emerging markets.

Advanced Markets Growth
- Life: -0.2%
- Non-life: 1.1%

Emerging Markets Growth
- Life: 6.4%
- Non-life: 8.3%

*Data is the premium growth rate, based on year end 2013.
Thank You!
Annex:

2013 Overview of China Insurance Market

Life Insurance
- The past ten years have been the golden era for the rapid growth of the life insurance market in China.
  - Main drivers were:
    - Continuous high growth in GDP
    - Aging population
    - Urbanization
    - Change in the social benefits.
  - Insurance premium mainly came from participating business and bancassurance channel

Non-Life Insurance
- Motor insurance has dominated the Chinese non-life market. Commercial property insurance, agriculture insurance and liability insurance are the next three most significant product lines.
- Motor insurance class of business will continue to dominate given the enormous growth in the motor industry and high demand from consumers for car ownership.
- Natural catastrophe events in China in recent years have raised awareness of the need for property insurance and catastrophe insurance.
Annex:

Chinese insurance risks have become more versatile and complex

- **Products**
  - Traditional
  - Participating (cash dividend / reversionary bonus)
  - Universal life
  - Unit linked
  - Variable annuity

- **Invested Assets**
  - Cash
  - Government bond
  - Term deposit
  - Corporate bond
  - Mutual fund
  - Stock
  - Real estate
  - Private equity
  - Oversea investments

- **Market Participants**
  - Life insurers
  - P&C insurers
  - Reinsurers
  - Insurance asset managers
  - Health insurers
  - Pension companies
  - Insurance groups
  - Conglomerates
  - Mutual insurers
Annex: C-ROSS Pillar I – Valuation

Actual Capital Valuation

- GAAP based Assets and Liabilities Valuation Approach
- Insurance Liabilities = PVCF + Risk Margin

Moving Average Risk Free Forward Rate

Transition Rate

Ultimate Rate
Annex: C-ROSS Pillar I – Capital Requirement

Net Risk = Inherent Risk × Control Risk × Systemic Risk

- Quantifiable inherent risks MC (Pillar I)
- Control risks MC (Pillar II)
- Additional MC (Pro-cyclical Risk, GSII, DSII...)

Overall Minimum Capital Requirement (MC)
Annex: C-ROSS Pillar I - MC Calculations

➢ Composite factor based method:

MC = EX × RF

where: EX is the risk exposure;

RF is the risk factor; RF = RF₀× (1+K)

RF₀ is the base risk factor, K is the characteristic factor

\[ K = \sum_{i=1}^{n} k_i = k_1 + k_2 + k_3 + \ldots + k_n \]

Kᵢ is the characteristic factor based on specific risk or entity, n is the number of characteristic factors

➢ Scenario based method:

Used to calculate one year VaR;

Applied on catastrophe risk for non-life, interest rate risk and insurance risk for life insurers
Annex:
*C-ROSS Pillar II - Integrated Risk Rating (IRR)*

**Pillar I Quantitative Risks**
- Insurance Risk
- Market Risk
- Credit Risk
- Pro-Cyclical Risk
- Systemically Important Risk

**Pillar II Qualitative Risks**
- Operation Risk
- Strategy Risk
- Reputation Risk
- Liquidity Risk

*Integrated Risk Rating*

A B C D

Regulator assesses the overall risk of the insurance company quarterly
The result of evaluation will feed into the MC control risk:

\[ MC_{\text{control risk}} = Q \times MC_{\text{quantifiable inherent risks}} \]

\[ Q = -0.005 \times S + 0.4 \]

S is the scores achieved by the insurance company under SARMRA

Annex:
C-ROSS Pillar II - SARMRA

Risk Management Requirement and Regulatory Assessment

Regulator publishes requirements on risk management

Regulator evaluates the risk management abilities of the insurers

Risk Management Requirement

Risk Management Evaluation
Annex: C-ROSS Pillar III – Market Discipline