Risk-based capital and governance in Asia-Pacific: emerging regulations
Executive summary

The global insurance industry is undergoing significant regulatory change, with regulators in the more developed markets endeavoring to synchronize their efforts. Similar occurrences can be observed in the Asia-Pacific region, where a number of countries are reviewing and undergoing changes in their approach to insurance regulation and holistic risk management. Most notably, a number of regulators are either introducing risk-based capital (RBC) or revisiting their existing RBC frameworks. The maturing regulatory approaches in Asia-Pacific will be a significant factor in managing systematic risk and enhancing policyholder protection.

Asia-Pacific is different

While the proposed RBC framework in Asia-Pacific may have similarities with the European Solvency II standard, there is wide disparity in the level of sophistication and application. Many of the changes are being driven by local market nuances, such as characteristics of the insurance products being sold and maturity of the insurers who operate in the various jurisdictions.

For example, Australia has recently implemented its second-generation solvency regime. Singapore and Thailand are consulting with the industry on second-generation RBC frameworks, while others such as China and its Hong Kong SAR are considering moving in that direction. These moves are particularly encouraging in providing a regulatory framework that will allow for a degree of consistency, especially for those insurers who have multiple offices across the region.

In addition to the changes in reserving and solvency calculations, a number of regions are also strengthening their risk management efforts (e.g., China with C-ROSS). This exemplifies how regulators are paying more attention to embedding risk management activities in the business. They look to ensure that senior management has sufficient oversight to allow them to consider and discharge their fiduciary responsibilities. It is important that organizations have an operational infrastructure and that the risk profile is within business risk appetite levels.

What does this mean for insurers?

Advances in regulation in the Asia-Pacific region are far reaching. The implications are expected to positively alter the way businesses will operate to create long-term sustainability in the current and future economic environment. These implications, in our view, will impact product offerings, investment strategy, capital utilization, risk transfer opportunities and infrastructure.

In particular, we foresee several implications:

- Robust regulatory framework will provide comfort to the overall financial soundness of the insurance industry. However, the cost of regulatory compliance is expected to increase significantly.
- Changing regulations will provide more room for innovation and incentives to enhance or change organizational metrics. Better-managed companies will potentially benefit from lower capital requirements, making their products more attractive.
- Companies traditionally focusing on new business value will have to rethink the ongoing profitability of past years and will need to understand options available for in-force value management. This will be particularly crucial given that existing forms of new business may be capital intensive.
- A better understanding of the business risk profile will be needed. This will necessitate implementing sophisticated techniques in modeling/optimizing risk-adjusted returns and outlining a more systematic process for risk appetite.
- Investment will be required to enhance the modeling and reporting systems in order to meet regulatory timelines.
- Convergence of regulations toward RBC will also mean that there is less disparity between local and foreign players. This will make Asia-Pacific insurance markets potentially more attractive for foreign investments. Moreover, customers may eventually benefit from new ideas and solutions from both foreign and domestic insurers. This will create a healthy competitive market place for policyholders.
Challenges and opportunities

Based on experience in more developed insurance markets, changes in regulations produce both challenges and opportunities for insurers. In the short term, it is anticipated that there will be more investment demands on insurance companies. Insurers have the prerogative to make the best use of these investments to define long-term opportunities.

In Europe, for example, some insurers have used Solvency II as a means to further enhance their risk management systems, capital allocation mechanisms and reporting infrastructure, and redefine their key performance Indicators. This, in turn, has convinced shareholders and analysts that investments due to regulatory changes should not be for mere compliance, but rather as a means of enhancing competitive advantage. We believe that insurers in Asia-Pacific should draw upon the experiences and challenges in more developed markets to establish an approach for Asia-Pacific markets that considers regulation, economic nuances and the purchasing behavior of policyholders.

Looking ahead

There will be many changes within the industry over the next few years, and companies will need to consider the operational implications for their businesses. Based on our conversations and experience in the region, we see an increasing number of insurers making adjustments to their future business plans and investment needs. Some of these modifications are tactical in nature, such as enhancing their existing processes, while others have the potential to have a wholesale effect on entity rationalization and strategic initiatives, such as capital optimization.

We are very engaged with the regulators, industry bodies and insurance companies in the emerging discussions and are helping insurers to consider these regulatory changes with a strategic mindset.
China

Introduction

The China Insurance Regulatory Commission (CIRC) has adopted a factor-based solvency system similar to Europe's Solvency I regime. It is composed of internal risk management, solvency reporting, financial analysis and supervision, regulatory intervention, and bankruptcy remediation. This solvency regulation system was built from 2003 to 2007.

Over the past 30 years, the Chinese insurance market has become one of the fastest-growing in the world, and its complexity and risk have increased accordingly. The existing static solvency system no longer properly reflects asset and liability risks facing insurance companies. Therefore, it has limitations in providing good guidance for insurers to improve risk management quality and capabilities.

Globally, there is a trend toward more risk-oriented regulation and governance, such as Europe's Solvency II, the US NAIC's solvency modernization initiative and Singapore's RBC 2.

Developing a new solvency system for mainland China would not only meet local market needs but could also provide pragmatic and invaluable experience for other emerging markets, as well as the international insurance community.
**Current state**

In April 2012, CIRC formally launched a project to establish China’s second-generation solvency regulation system (C-ROSS), with plans for implementation within three to five years.

In 2012, CIRC formally launched a project to establish “China’s second-generation of solvency supervision system” known as China Risk Oriented Solvency System (C-ROSS), with plans for implementation sometime in 2015 or early 2016.

C-ROSS links quantitative capital requirements with three major underlying risks faced by insurance companies: insurance risk, market risk and credit risk.

The capital requirements for these risks are quantified using a prescribed standard method and aggregated together, allowing for diversification, as shown in the figure below. Operational risk is included in Pillar II due to a lack of reliable experience data to quantify it. A solvency stress test is also required under Pillar I to test the financial resource capability of insurance companies under stress scenarios.

For property/casualty insurers, the Pillar I capital requirement consultation paper states that the standard method is a factor-based approach to cover each risk category.

- **Insurance risk** is composed of premium risk, reserve risk and catastrophe risk.
- **Market risk** comprises equity risk, interest rate risk, property risk, foreign asset risk and exchange rate risk.
- **Credit risk** includes credit spread risk and counterparty default risk.

A feature factor is added to the basic risk factor of some categories to reflect the Chinese insurance market as characteristic of emerging markets.

For life insurers, the integrated Pillar I capital requirement is yet to be developed. It is expected that market risk and credit risk will be similar to that of property/casualty insurers, except for interest rate risk, where life insurers need to consider the impact on available capital for both assets and liabilities. The insurance risk should include typical mortality risk, morbidity risk, longevity risk, lapse risk and expense risk.

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**Pillar 1: Quantitative capital requirements**

<table>
<thead>
<tr>
<th>Capital requirement</th>
<th>Quantitative supervisory requirement</th>
<th>Market discipline mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital requirement</td>
<td>Overall risk ranking</td>
<td>Disclosure to public</td>
</tr>
<tr>
<td>Insurance risk</td>
<td>Operational risk</td>
<td>Regulator to refine</td>
</tr>
<tr>
<td>Market risk</td>
<td>Reputational risk</td>
<td>mechanism and refine</td>
</tr>
<tr>
<td>Credit risk</td>
<td>Strategy risk</td>
<td>mechanism and environment</td>
</tr>
<tr>
<td>Prudential supervision</td>
<td>Liquidity risk</td>
<td>to encourage market</td>
</tr>
<tr>
<td>Assets adjustment</td>
<td>SARMRA</td>
<td>constraints on ERM</td>
</tr>
<tr>
<td>Available capital evaluation</td>
<td>On-site inspection and</td>
<td>and value assessment</td>
</tr>
<tr>
<td>Capital tiers</td>
<td>off-site analysis</td>
<td></td>
</tr>
<tr>
<td>Dynamic solvency test</td>
<td>Intervention</td>
<td></td>
</tr>
</tbody>
</table>

**Company’s own solvency management**

<table>
<thead>
<tr>
<th>Solvency adequacy indicator</th>
<th>Actual capital</th>
<th>Minimum required capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core solvency adequacy ration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensive solvency adequacy ration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk overall ranking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pillar II: Qualitative supervisory requirements

CIRC considers two specific supervisory actions for Pillar II:

1. **Integrated risk rating (IRR):** CIRC comprehensively evaluates an insurer’s overall solvency based on both quantitative results in Pillar I and qualitative risk assessments in Pillar II, including operational risk, strategic risk, reputational risk and liquidity risk.

2. **Solvency-aligned risk management requirements and assessment (SARMRA):** Companies’ own solvency management plays an important role in the C-ROSS regime. CIRC will set the minimum standards of risk management for insurers and will periodically evaluate their practices, such as governance structure, internal controls, management structure and processes. It also will assess insurance companies’ risk management capability and risk profile.

CIRC issued Implementation Guidelines for Comprehensive Risk Management in Life Insurance Companies (referred to as ERM Guidelines) in October 2010. According to these guidelines, life insurance companies must establish a risk management committee and disseminate information. Starting in 2014, the risks borne by a company, as stated in its annual comprehensive risk management report, will be measured using the economic capital (EC) approach. The requirements in the ERM Guidelines are consistent with those under SARMRA. In addition, the assessment under SARMRA will influence the comprehensive solvency ratio directly. Since ERM Guidelines are applicable only to life insurers, they are likely to be better prepared for implementation than property/casualty insurers.

SARMRA also requires midsize and large life insurance companies to set up an EC model based on their own risk profile and risk appetite. This requirement is optional for smaller life insurance companies. Due to the implementation of ERM Guidelines, all midsize and large life insurance companies in China have already set up the EC model, where risk calibration is based on their own experience or industry benchmark. However, how to integrate the EC model in the risk management system and other operation areas is still a big challenge for life insurers at this stage. With more accumulated experience and this conceptual framework, it is expected that the EC model will be the basis for adopting a partial or full internal model under C-ROSS in the future.

Pillar III: Market discipline mechanism

Pillar III of C-ROSS enforces oversight of insurance companies by the media, rating agencies, financial analysts and the general public by an integrated disclosure requirement. It also utilizes markets’ self-regulation power to improve insurers’ overall risk management capability and market discipline.

Benefits and challenges of implementing C-ROSS

CIRC hopes insurance companies in China are able to improve not only their overall ERM, but also their capital efficiency by effectively implementing the new solvency regime. C-ROSS implementation will present benefits and challenges in various areas.

Solvency ratio

In CIRC’s plan (compared to the existing solvency regime), C-ROSS will be designed for the industry to release unnecessary capital. Since C-ROSS is more risk-oriented, large companies that are more risk-diversified will benefit the most. The benefits for small to midsize companies will depend on their business structure and risk management level.
In contrast, the calculation of solvency capital will become more complex, as comprehensive risks are considered (e.g., catastrophe risk capital, which is not reflected in the existing solvency regime, will adopt a VaR approach). It is crucial for companies to become familiar with complex solvency capital calculation in the short term.

Business structure and development
Insurance companies will prefer business lines that have relatively low capital requirements under C-ROSS (e.g., the capital requirement risk factor for automobile insurance is lower than it is under the existing solvency regime).

To deal with C-ROSS, insurers need to balance capital requirements and profitability to manage their business portfolio. To solve this challenge, they may:
- Prefer a low correlation portfolio as risk is offset, which leads to a low capital requirement
- Transfer risk to a policyholder or reinsurer in product design

Investment management
Under C-ROSS, the capital requirement for invested assets will link directly to the risk. Asset liability management (ALM) will become more important in the future, as ALM can minimize the negative impact on net assets or available capital.

Capital management
Internal solvency and capital management is the basis for the external regulatory solvency requirement. The implementation of C-ROSS will give more room for active capital management to optimize capital structure and improve capital return. C-ROSS will also establish various capital tiers. As long as the financing tool can meet the capital attribution, it can be included in available capital.

Although C-ROSS provides more space to companies to optimize their solvency ratio, factors that influence solvency and capital have become more complex and diversified. Shareholders and management must take these into consideration in their strategy decision making. More professionals with related skills will be required to assist with quantitative and qualitative analysis.

Looking forward
CIRC recently announced the timeline for C-ROSS implementation:
- The formal consultation paper with three-pillar requirements for property/casualty insurers; trial implementation is expected in 2015.
- The formal consultation paper with three-pillar requirements for life insurers; trial implementation is expected in 2015.

The transition period and measures are still unclear at this stage. The Chinese insurance industry is actively looking to learn more from developed markets and to share their experiences with the rest of the world.
Australia

Introduction
Australia has two primary supervisory authorities, the Australian Prudential Regulation Authority (APRA) and the Australian Securities and Investments Commission (ASIC). Both bodies have authority over the entire retail financial sector, comprising deposit-taking institutions, life and non-life insurance companies, friendly societies, and superannuation schemes. APRA is responsible for the licensing and prudential regulation of financial institutions, while ASIC deals with consumer protection issues. The most significant recent enhancement to the regulatory regime is the capital adequacy framework and draft conglomerate supervision. This is supplemented by a corporate governance regime. While APRA aims for standardization across its regulated sectors, this paper specifically discusses the insurance industry requirements.

Current state
In 1995, the first solvency and capital adequacy standards were introduced for life insurers by the Life Insurance Actuarial Standards Board (LIASB). The Life Act was amended in 2007, transferring to APRA the responsibility for setting and administering prudential standards relating to solvency and capital adequacy. APRA introduced an RBC framework for general insurers in 2002. Turmoil in the global financial sector and subsequent regulatory, shareholder and rating agency pressures have raised the bar for risk management. APRA reviewed its capital standards and, in January 2013, implemented the Life and General Insurance Capital (LAGIC) reform to update prudential and reporting standards for both general and life insurance companies. The result is a three-pillar supervisory approach that is consistent with Basel III and Solvency II.
**Pillar 1: Quantitative requirements**

Insurers are required at all times to hold a minimum amount of RBC calculated by an RBC approach, plus any additional supervisory adjustment required by APRA. Moreover, they must satisfy minimum requirements for the composition of their capital bases and ensure that the eligible capital base exceeds the prudential capital requirement (PCR), as shown in Figure 2. Insurers are also expected to engage in a continuous, company-wide “internal capital adequacy assessment process” (ICAAP), which seeks to match the insurer’s capital adequacy with its documented risk appetite.

**Prudential capital requirement for life and general insurers**

The PCR may be calculated by using an internal model approved by APRA, APRA’s standard method or a combination of both methods, plus any additional supervisory adjustment determined by APRA.

Under the standard method, the prescribed capital amount is determined as the sum of the:

- Insurance risk charge (based on a factor applying to the insurance liabilities; the factor varies by type of business and between past and future liabilities)
- Insurance concentration risk charge\(^1\)
- Asset risk charge\(^2\)
- Asset concentration risk charge
- Operational risk charge\(^3\)
- Less an “aggregation benefit”\(^4\)

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1. For general insurance, the insurance concentration risk charge has been redefined to be the greater of the vertical requirement for exposures to natural perils (NP VR), the horizontal requirement for exposures to natural perils (NP HR) and the vertical requirements for exposures to non-natural peril accumulations (other accumulations).

2. The asset risk charge is calculated in a more risk-sensitive manner by subjecting the balance sheet to a series of stress tests according to parameters specified by APRA.

3. Operational risk charge has two components: a “base component” related to the scale of the insurer’s operations, and thus exposure to operational risk, and a component based on risk attributes specific to the insurer.

4. The aggregation benefit makes an explicit allowance for diversification between asset risk and the sum of insurance risk and insurance concentration risk in the calculation of the PCA.
An internal model should produce a minimum default risk of 0.5% over a one-year period, equivalent to a BBB security rating:

- The insurer must have an ICAAP that demonstrates an advanced approach to risk management and capital management that includes an appropriate economic capital model (ECM).
- Governance arrangements for the development and use of the ECM must be appropriate.
- The ECM must be used by the insurer for its own purposes or those of the group and be embedded in management, operations and decision-making processes.
- The ECM must be technically sufficient to produce a reliable estimate of the insurer’s required capital.

Eligible capital comprises tier 1 and tier 2

In order to improve transparency, each insurer is required to disclose its PCA and capital adequacy multiple in its published annual accounts.

Tier 1 capital must constitute at least 60% of the capital base. This includes paid-up ordinary shares, general reserves, retained earnings, the current year’s earnings net of dividends, and tax and technical provisions in excess of those required by APRA’s liability valuation standard.

Tier 2 capital comprises preference shares, convertible notes, subordinated debt and other hybrid or limited life capital instruments.

Pillar II: Governance and risk management requirements

Pillar II reflects the governance and risk management practices of an insurer. As supervisory agencies desire a strong and independent risk management function covering risks across the entire organization, APRA is enhancing its current risk management prudential requirements and governance principles. The following changes relating to risk management and governance became effective 1 January 2015.

Sound governance framework

The governance principle outlines what APRA considers the minimum requirements to achieve good governance and maintain public confidence in regulated entities, including:

- There are specifics with respect to board size and composition.
- The board chairperson must be an independent director.
- A board audit committee must be established.
- Regulated institutions must have a dedicated internal audit function.
- Certain provisions must deal with independence requirements for auditors.
- The board must have a remuneration committee and policy that aligns with risk management.
- Policies are required for renewal and assessment of board performance.

APRA’s risk management governance enhancements require:

- Institutions to designate a chief risk officer (CRO) who is involved in, and provides effective challenge to, activities and decisions that may materially affect the organization’s risk profile. The CRO must be independent, with no dual responsibilities that may conflict with the risk management role (i.e., the CRO cannot be the chief executive officer, chief financial officer, actuary or head of internal audit).
- A board risk committee that provides objective non-executive oversight of the implementation and ongoing operation of the risk management framework. This committee must operate under a different charter than the board audit committee, although APRA’s composition requirements will not prohibit the same people from sitting on both committees.
Harmonizing cross-industry risk management requirements

The risk management principle aims to ensure that an insurer has systems for identifying, assessing, mitigating and monitoring risks that may affect its ability to meet its obligations to policyholders. These systems – together with the structures, processes, policies and supporting roles – are referred to as an insurer’s risk management framework.

APRA’s proposed changes to this framework include:

- Extending the general insurance and life insurance minimum risk management requirements to authorized deposit-taking institutions (ADIs), meaning that an APRA-regulated institution must create and maintain a:
  - Risk appetite statement
  - Risk management strategy
  - Rolling business plan with a three-year time horizon that is reviewed at least annually and is consistent and integrated with the risk management strategy and risk appetite statement
  - Designated risk management function
  - Processes for reviewing the appropriateness, effectiveness and adequacy of the risk management framework
  - Refined definition of material risks to ensure applicability and consistency for ADIs and insurers
- Extending current insurer requirements for an annual and three-year comprehensive risk management framework review to ADIs
- Aligning annual risk management declaration requirements, which currently differ between industries

Crucial for these changes is an increased focus on establishing a company’s risk appetite and enhancing the board and management’s role in the process. APRA requires the board to be responsible for risk oversight and risk appetite that is consistent with the organization’s strategic objectives, business plans and capital management. APRA’s supervisory checklist\(^5\) states that capital levels and targets must be monitored and reported against the risk appetite and that risks necessary to produce required returns on capital should be within the risk appetite.

Stress and scenario testing

Forward-looking scenario analysis and stress-testing programs must be used to set the risk appetite, in combination with robust modeling and informed expert judgment. APRA plans to conduct industry stress testing across the sector in 2015.

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\(^5\) Addressed by Ian Laughlin, a member of the Australian Prudential Regulation Authority, at Biennial Convention 2011: Beyond the Mandate, held 10-13 April 2011 in Sydney, Australia.
Scenarios typically cover the full range of material risks to which the organization is exposed. The approaches used include:

- Scenario analysis
  - Historical scenarios (such as experience from the global financial crisis and early 1990s Australian recession)
  - Statistically generated scenarios
  - Hypothetical scenarios developed by the insurer
  - Sensitivity testing
  - Stress testing based on statistical factors or historical experience
  - Reverse stress testing to identify a stress scenario that would cause failure of the regulated company
  - Longer-term scenarios (such as the impact of a prolonged low interest rate or an environment of low investment earnings) and short-term scenarios (such as market shocks and insurance events)
  - Combination of scenarios (e.g., a series of less severe but more frequent events)

ICAAP requirements similar to ORSA

Insurers are expected to engage in a continuous, company-wide internal capital adequacy assessment process (ICAAP), which seeks to match the insurer’s capital adequacy with its documented risk appetite.

Pillar II introduces the requirement for insurers to have an ICAAP similar to the proposed Own Risk and Solvency Assessment (ORSA) under Solvency II. Crucially, the ICAAP will be owned by the board, requiring them to assess the insurer’s individual risk profile and capital needed to support the risks undertaken.

At a minimum, the ICAAP must include:

- Adequate policies, procedures, systems, controls and personnel to identify, measure, monitor and manage the risk arising from the regulated organization’s activities on a continuous basis, and the capital held against such risks
- A strategy for ensuring that adequate capital is maintained over time
- Actions and procedures for monitoring compliance with regulatory capital requirements and capital targets
- Stress testing and scenario analysis relating to potential risk exposures and available capital resources
- Processes for reporting on the ICAAP and its outcomes to the board and senior management
- Policies to address the capital impact of the material risks not covered by explicit regulatory capital requirements
- An ICAAP summary statement summarizing the capital assessment and management
The regulated company must provide a report on the implementation of its ICAAP annually to APRA, including:

- Details on current and three-year projected capital levels
- Actual outcomes of applying the ICAAP over the period, relative to the planned outcomes in the previous ICAAP report
- Description of material changes to the ICAAP and details of any review since the prior report
- Outcomes of stress testing and scenario analysis
- Breakdown of capital usage over the time horizon
- Assessment of anticipated changes in risk profile or capital management processes
- Relevant references to supporting documentation and analysis

Pillar III: Reporting requirements

Statutory returns must be submitted to APRA on a quarterly basis within 20 business days of the end of the reporting period for individual insurers and within 30 business days for insurance groups. Audited statutory accounts must be submitted on an annual basis within three months of an insurer’s financial year-end. Any significant disclosure updates are expected to impact non-listed companies more than those that are listed.

Looking forward

APRA’s recent activities across financial services sectors, together with continued enhancements to prudential supervision, have unsurprisingly led to a higher cost of compliance in Australia. This is one of the topics in the current government inquiry into Australia’s financial system. The aim is to best assess and meet the country’s evolving needs and support economic growth.

Given global supervisory developments and some of the bank-led changes, topics such as recovery and resolution planning will be a natural extension of some of the stress- and scenario-testing exercises. International capital standards (targeted for 2019) will impact only a small number of larger insurers in the Australian market.
Hong Kong

Introduction
The insurance industry in the Hong Kong SAR has witnessed considerable growth in the past decade. As of 14 October 2014, there were 155 authorized insurers in Hong Kong, including 44 long-term insurers, 92 general business or non-life insurance companies and 19 composite insurers (i.e., life and non-life insurers).

In Hong Kong, the Office of the Commissioner of Insurance (OCI) is the Insurance Authority (IA) under the Insurance Companies Ordinance (ICO) and oversees the financial conditions and operations of authorized insurers. The OCI is part of the Financial Services and the Treasury Bureau of the Hong Kong Government.

Current state
Since the 1980s, Hong Kong has followed a rule-based capital adequacy regime for insurers, which sets a predefined formula to determine the solvency margin requirement. The formula is based on a Solvency I framework. The factors are stipulated by the regulator and do not reflect the underlying risks of the insurance business.
Solvency margin

According to the ICO CAP41, an insurer must maintain an excess of assets over liabilities of not less than a required solvency margin. The objective is to provide a reasonable safeguard against the risk that the insurer’s assets may be inadequate to meet its liabilities arising from unpredictable events, such as adverse fluctuations in its operating results or the value of its assets and liabilities. As required by the ICO, the statutory minimum solvency ratio is 100% of the required solvency margin; however, the OCI has a soft requirement of 150%. Separate provisions for the required solvency margin apply to long-term business insurers, general business insurers and captive insurers:

- **Long-term business insurers** – The solvency margin is determined by the greater of 1) and 2) below:
  - HKD2m
  - An amount specified under the Insurance Companies (Margin of Solvency) Regulation 1995 (which, in general, is 4% of the mathematical reserves and 0.3% of the capital at risk)

- **General business insurers** – The solvency margin is determined by the greater of 1) and 2) below and is subject to a minimum of HKD10m, or HKD20m for certain statutory classes:
  - One-fifth of the relevant premium income up to HKD200m, plus one-tenth of the amount by which the relevant premium income exceeds HKD200m
  - One-fifth of the relevant claims outstanding up to HKD200m, plus one-tenth of the amount by which the relevant claims outstanding exceeds HKD200m

- **Captive insurer** – The solvency margin is determined by the greater of 1), 2) and 3) below:
  - 5% of the net premium income
  - 5% of the net claims outstanding
  - HKD2m

Premiums in this context are defined as the greater of 50% of gross written premiums or 100% of gross written premiums less ceded reinsurance. Outstanding claims are defined as the greater of 50% of gross claims outstanding or 100% of gross claims outstanding, less reinsurance recoverables plus the unexpired risk reserve.

Dynamic solvency test

In 2005, a requirement was introduced for a “Dynamic Solvency Testing” report to be prepared by the appointed actuary on an annual basis and submitted to the board of directors of the company and the IA. The report sets out the projected financial condition of the company under seven prescribed scenarios and other factors chosen by the appointed actuary.
Looking ahead

There is a growing trend toward a common regulatory framework for financial institutions. This follows in the aftermath of global financial turmoil and substantial market developments since legislation was first drawn up. Aiming to align with international standards and practices, the OCI began discussions and consultation with the industry on the introduction of an RBC framework in 2013.

The OCI is reviewing the solvency and capital regime with a view to developing an appropriate RBC framework for Hong Kong, taking into account experiences in other jurisdictions and latest international regulatory requirements. The OCI has recently indicated that the new RBC framework is expected to be implemented in 2016.

Considerations

The expected RBC framework would consider the need to maintain a level playing field for all insurers in the market.

According to the OCI, the expected RBC framework would consider the following key aspects:

- Latest Insurance Core Principles, Standards, Guidance and Assessment Methodology (ICP) issued by the International Association of Insurance Supervisors (IAIS)
- Experience of overseas jurisdictions, although this will not replicate Solvency II
- Hong Kong’s unique market situation (e.g., diverse profile of large and smaller players with different lines of business)
- Incentives to introduce enhanced risk management
- Ease of use and ability to compute new capital requirements for such a diverse market
- The need to maintain a level playing field for all insurers in the market
- Avoidance of regulatory arbitrage

Proposed timeline

The establishment of the new RBC framework is expected to follow the timetable below:

<table>
<thead>
<tr>
<th>2013-14</th>
<th>2014-15</th>
<th>2015-16</th>
<th>2016-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consult with the industry on proposed framework</td>
<td>Prepare draft of detailed rules and perform deep-dive quantitative impact analysis</td>
<td>Develop legislative amendment</td>
<td>Start phased-in implementation with parallel and long run-in</td>
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</table>
Impact of upcoming establishment of IIA

Hong Kong is currently looking into establishing an Independent Insurance Authority (IIA) to replace the current OCI. The IIA is expected to be financially and operationally independent of the Government. The initiative of establishing the IIA has passed the consultation stage. The next step is to introduce an Insurance Companies (Amendment) Bill into the Legislative Council with a view toward establishing the IIA in 2015. Therefore, the adoption of a new RBC system for Hong Kong is unlikely to take place before then.

Concerns from the industry

The insurance industry has a number of concerns about the proposed RBC framework:

- Operational challenges stemming from the time line and possible approach to the new RBC framework
- Priority of the implementation of the new RBC framework after the establishment of IIA in 2015
- Level of details in the primary regulations that might restrict flexibility in the launch of new products
- Potential impact on the Hong Kong insurance market

The RBC framework could lead to rapid market consolidation, cessation of business among small and midsize insurers, and the exit or withdrawal of international players due to the additional capital needed to meet the new RBC requirements. There are many uncertainties and the potential for major changes in the Hong Kong insurance industry.
India

Introduction
The Indian life insurance industry has witnessed a phenomenal change in the last 14 years since it was opened to private players. It experienced strong growth (a CAGR of 30%) for almost a decade, until a wave of regulatory changes capped charges for unit-linked products. This compelled insurers to shift focus from unit-linked investments to traditional protection products, significantly slowing industry growth. With reduced shareholder margins on unit-linked plans, sales of traditional products have increased and now constitute at least half of new life insurance business, whereas unit-linked plans are facing negative growth.

General insurers have seen growth of 16% CAGR over the past decade. This is attributed to the evolving regulatory environment, new private companies entering the market, changing demographics, greater disposable income and business development in the corporate sector. In fact, growth was significantly higher in the financial year 2012–13 — up 24%, primarily as a result of policies sold and rate adjustments.

Against the backdrop of a relatively underpenetrated market, there is a significant potential for sustainable long-term growth. Currently, there are 24 life insurance and 28 general insurance companies in the market. A few mergers and acquisitions are in the pipeline.

The industry today is in a state of flux. Surrounded by political uncertainty, slower economic growth, regulatory changes and increased competition, insurance companies are looking to increase profitability, manage expenses and improve persistency.
“While the industry is still in a nascent stage, putting in place a risk-based solvency margin would usher in stronger risk management practices by insurers and help maintain a standardized model and appropriate risk-based pricing.”

Rohan Sachdev, EY India Partner and National Leader – Insurance

Current state

At present, India follows a factor-based solvency model for insurers. There is a set formula to arrive at the solvency, with the factors determined by the regulator. The method for establishing capital requirements is easy, with no consideration of the underlying risk. The minimum paid capital requirement for an insurance company is INR1 billion.

Under the current regime, all insurers are required to report their solvency figures on a quarterly basis to the Insurance Regulatory and Development Authority (IRDA) of India. The IRDA mandates that both life and general insurance companies maintain a minimum solvency ratio of 150%, which is derived as the ratio of available solvency margin to required solvency margin. Available solvency margin is the excess of the value of assets over the value of life insurance liabilities and other liabilities of the policyholder’s and the shareholder’s funds. Required solvency margin is based on mathematical reserves and sum at risk and the assets of the policyholder’s fund.

For life insurance companies, the required solvency margin has been set as the maximum of:

- INR0.5 billion (INR1 billion in case of reinsurers)
- An amount of capital dependent on the K1 and K2 factors, where K1 is applied on the insurer’s mathematical reserves and K2 is applied on sum at risk
- A percentage (established by the regulations) of the value of the assets determined in accordance with the provision of insurance directive

For general insurance companies, the capital required has been set as the maximum of:

- INR0.5 billion (INR1 billion in case of reinsurers)
- A sum equivalent to 20% of net premium income
- A sum equivalent to 30% of net incurred claims

In the initial years of operation, the capital requirement for insurance companies will be dominated primarily by the minimum floor specified by regulation (i.e., INR0.5 billion). In subsequent years, as the insurer’s operations progress, mathematical reserves and sum at risk will increase, and the capital requirement will become more dependent on the nature and size of the business.

Shifting to an economic capital framework

The challenge with the current solvency framework is that it does not recognize portfolio size, type of business, quality of management or underlying risk, and it provides little incentive for companies to practice better risk management.

Considering these deficiencies, the current factor-based solvency system, supported by computer models, may see a move toward Solvency II and an RBC regime in the future. The regulator has introduced an economic capital framework, but the regulatory capital requirement will not be diluted from what is in the current factor-based model. The new model would require an insurance company to establish a risk management framework and shift to risk-based pricing.

In 2010, the IRDA issued guidelines on corporate governance, including the creation of a mandatory risk management committee (RMC). The RMC will establish a risk management strategy across various lines of business, and the operating head must have direct access to the board. However, IRDA delegated the details of how risk management functions were to be organized to the companies, given the size, nature and complexity of their businesses. In the absence of a prescriptive model, an insurer’s risk management approach is influenced primarily by the framework adopted by the foreign joint venture partners.
Typically, economic capital is calculated by determining the amount of capital that the insurer needs for its balance sheet to realistically remain solvent over a given time period (e.g., the economic capital may be determined as the minimum amount of capital required to make 99.5% certain that the insurer remains solvent over the next 12 months). Each insurer must set parameters and quantify risks based on their own assessments of insurance risk, market risk, operational risk and credit risk.

Asset liability management and anti-fraud policies

Within the risk management model, the asset liability management (ALM) framework will cover areas of significance in terms of their potential impact on economic value. The economic value of asset or liability cash flows is derived in such a way as to be consistent with current market prices where they are available, or by using market-consistent principles, methodologies or parameters. An insurer is required to develop and implement controls and reporting procedures for ALM policies that are appropriate for its business and the risks to which it is exposed. All insurers should provide ALM details on a quarterly basis. This includes results of stress testing on asset values as prescribed by IRDA and the bifurcation of asset and liabilities for each bucket of duration (Macaulay duration).

In order to provide regulatory supervision and guidance on the adequacy of measures taken by insurers to address and manage risks emanating from fraud, the IRDA recently laid down guidelines requiring insurance companies to have a fraud monitoring framework in place. The guideline mandates that insurance companies have an anti-fraud policy duly approved by their respective boards.

Standards for IPOs

The Institute of Actuaries of India has issued Actuarial Practice Standard 10 (APS 10) to determine the Indian embedded value (IEV) of life insurance companies incorporated in India that are considering initial public offerings (IPOs). Within that context, IRDA regulations require companies to disclose their embedded value in order to demonstrate their compliance with applicable eligibility criteria. The embedded value report must be prepared by an independent actuarial expert and peer-reviewed by another independent actuary.

This standard uses several concepts from the CFO Forum's European Embedded Value (EEV) Principles and Guidance and Basis for Conclusions and the European Insurance CFO Forum Market Consistent Embedded Value Principles (the MCEV Principles) and related documents. Currently, no insurance companies are listed; however, a few are internally gearing up to meet the underlying requirements.

Looking forward

Due to the challenges in duplicating a Solvency II approach, India is expected to follow the broader parameters of countries such as the US, the UK and Canada.

IRDA is planning for insurance companies to shift from the current factor-based solvency model to an RBC framework. Due to the challenges in duplicating a Solvency II approach, India is expected to follow the broader parameters of countries such as the US, the UK and Canada. The IRDA expects this risk-reporting regime to commence in three to four years.

IRDA is also focusing on various enterprise risk management components, including data controls and governance (risk management committee, risk management strategy and a CRO with clearly defined functions). A committee was established in December 2011 to recommend a roadmap toward a risk-based solvency assessment.
Indonesia

Introduction

Indonesia is one of Southeast Asia’s largest economies and presents a huge untapped market for the insurance industry. An expanding middle class and the young demographics of the population is creating a vast platform for savings and investment products, and as life insurance continues to show exponential growth, the microinsurance market is gaining traction with low-income consumers.

Against this backdrop, the Indonesian insurance industry is being shaped by changing regulations and stricter capital requirements that are aimed at introducing greater transparency and stability. In this transformed regulatory landscape, there are more new entrants to the market and greater opportunities for mergers, acquisitions and joint partnerships.
Current state

2013 was the first year for insurers in Indonesia to follow the new risk-based capital (RBC) regime, which was approved by the Minister of Finance in April 2012. Three regulations are relevant to measurement of insurance contract liabilities and RBC. These apply to both life and non-life insurers:

- Guidelines for the creation of technical reserves for insurance companies and reinsurance companies, PER-09/BL/2012
- Guidelines for calculating risk-based minimum capital for insurance companies and reinsurance companies, PER-08/BL/2012
- Financial healthiness of insurance companies and reinsurance companies, 53/PMK 010/2012

Under the new RBC regime, the balance sheet is constructed in the following manner:

- Assets: market/realistic value
- Technical reserves: best estimate liabilities plus margin for adverse deviation (MAD)
- Risk-based capital (MMBR): total funds required to anticipate loss risk that may arise from deviations in asset and liability management
- Solvability level: difference between the amount of admitted assets minus the liabilities

The methodology for technical reserves (for long-term business) has changed from the NPV to GPV method with three key components:

1. Expected cash flows:
   - Premium earnings covering basic risks and additional risks, adhering hereditary, non-binding participating benefits and other incomes
   - Main insurance benefit
   - Adhering hereditary benefit
   - Non-binding participation feature benefits
   - Marketing/policy publishing and maintenance cost
   - Tax, except income tax

2. Time value of money: the valuation discount rate is defined as the maximum of the average yield level of government-issued stocks over the last three years.
   - A maximum of 50 bps could be added on top of the yield level above to be used as discount rates.
   - Policies written in foreign currencies should be discounted by US dollar yield.

3. MAD should cover risks with a confidence level of at least 75% at the company level. No specific methodology on MAD determinations is set in the regulation.

For RBC, PER-08 has specified the following schedules (or risk modules):

- **Asset default risk**: Capital to cover the risks of a decline in asset values due to market risk factors or credit risk; asset values multiplied by risk factors
- **Cash-flow mismatch risk**: Capital to cover the risks of mismatching of assets and liability cash flow projection; 4% of difference between liability and asset book value, floor at zero
- **Foreign currency mismatch risk**: Capital to cover the risks of exchange rate mismatch risk between assets and liabilities
- **Claims worse than expected risk**: Capital to cover the risks of actual experience differing from expected experience; differences between 95%CI shocks and 75%CI shocks
- **Premium insufficient risk**: Capital to cover the risks of premiums lower than those in the pricing and reserving calculation; differences between reserves discounted by risk-free rates and accounting reserves, floor at zero
- **Reinsurance risk**: Capital to cover the risks of reinsurance default risk; risk factors’ time and reinsurance exposures
- **Operational risk**: Capital to cover the risks of defaults due to process, systems, human resources; 1% of BUA deducting BPL
- **Investment fund default risk**: Capital to cover the risks of investment fund management from investment-linked products; 0.1% of investment fund
Total risk-based minimum capital is the sum of capital in the list above from asset default risk through reinsurance risk.

Some RBC challenges
The new regime has created a discrepancy in the discount rate used between statutory and accounting rules and a mismatch in asset and liability valuation.
The new RBC regime has created some challenges and uncertainties for the industry:

▶ Valuation discount rate: First, the new regime has created a discrepancy in the discount rate used between statutory and accounting rules. The (new) statutory rules now have a cap of three-year average market yields plus an (up to) 50 bps spread, while the accounting rules still use the current market yields. Secondly, the use of the cap in the new rules has created a mismatch in asset and liability valuation, which could cause a major fluctuation in the resulting solvability level for certain insurers.

▶ MAD: The new GPV valuation methodology has specified that the MADs need to be set at 75% confidence level for each key assumption without giving much guidance on how the confidence level may be derived. This poses challenges for local insurers to conduct solid experience studies and determine the confidence level.

Looking forward
The local regulator has several items in the pipeline. One of the most significant is to set up a risk management framework. Although the existing corporate governance regulation states it is the job of the company's board to assess certain risks, at present there is no established enterprise risk management framework required. The regulator is holding preliminary conversations with the insurance industry on this topic.

In addition, there is the issue of separating conventional and sharia business. Sharia-compliant microinsurance products (primarily in life and health insurance) have been gaining popularity in the Indonesian market in recent years. The regulator has suggested asking companies to separate the operation and capital of their conventional and sharia business. There is no defined time line or guideline as yet. And it seems that the regulator will ask for the separation only when the sharia business of a company has become significant.
Malaysia

Introduction

Malaysia has a well-developed, stable economy that continues to attract insurers. The GDP is growing at nearly 6%, and unemployment and inflation are relatively low. Demographics and strong economic growth have helped to develop a strong market for takaful insurance and bancassurance. In recent years, the country has undertaken wide-ranging reforms aimed at improving regulatory efficiency and opening the door to greater competition in financial services.

The Malaysian insurance industry, like others in the Asia-Pacific region, is struggling with depressed investment returns, higher volatility in capital markets and increased pressure on the cost of capital. Against this business landscape, the industry appears to welcome regulatory changes. However, there are also concerns that some of these changes are diverting attention from key issues, such as improving portfolio returns and new business.
Current state of play in Malaysia
The Malaysian life and general insurance industry has been regulated under an RBC framework for statutory requirements since 1 January 2009. Since then, the following new requirements have been introduced for risk and capital management:

For life and general insurers, the regulator, Bank Negara Malaysia (BNM), has taken further steps to strengthen the risk and capital framework by introducing the ICAAP in late 2012. This process is similar to what is common in the banking sector. Key ICAAP elements are:

- An individual target capital level (ITCL) that reflects a company’s own risk profile and risk management practices – this is determined by conducting appropriate stress and scenario tests (in this guideline, the term “stress testing” will generally denote the whole process of stress and scenario testing)
- A capital management plan that takes into account the insurer’s strategic business direction and the changing business environment
- Processes that monitor and ensure the maintenance at all times of an appropriate level of capital that is commensurate with the company’s risk profile

For family and general takaful insurers, the RBC framework is effective from 1 January 2014, with the first reporting date of 31 December 2014. This is a significant change for the takaful industry, as the existing solvency regime was formula-based.

In addition, the Parliament of Malaysia enacted the Financial Services Act 2013 (FSA) and the Islamic Financial Services Act 2013 (IFSA) in March 2013. The objective was to introduce a more risk-focused and integrated approach to the regulation and supervision of financial institutions to safeguard financial stability.

Risk and capital management implications
Some of these regulatory changes are having a far-reaching impact on the business and corporate strategies of Malaysian insurers. While the industry is still coming to grips with these changes, a number of insurance companies have started considering the risk and capital management implications and potential solutions to address them.

Key implications of these changes that are high on insurers’ agendas include:

- Strengthening the capital management framework to demonstrate regulatory compliance with ICAAP regulations and to optimize a company’s capital position and needs at the same time. From our observations in the industry, this is a key area for the regulator; several insurers have been asked to conduct further work to address any BNM concerns.
- Putting in place the infrastructure for RBC reporting for takaful insurers beginning 31 December 2014. This includes understanding the strategic impact on product offerings, as well as future capital requirements.
- Understanding the implications of FSA 2013 for the corporate structure for composite insurers or insurers writing conventional and takaful business under one legal entity.
Implementation challenges

Insurers are investing significant time and effort in complying with and implementing these regulatory changes. Most perceive these changes not only as a compliance activity, but also as a means to rationalize their business strategy and current capital allocation philosophy.

Key challenges faced by the industry in the ICAAP implementation include:

- Developing a consistent set of risk appetite statements that are well-aligned to the organizational business strategy, and cascading these statements into operational risk limits
- Deciding on a target level of capital that is consistent with the risk profile of the business
- Developing a capital management plan that is forward-looking, comprehensive and well-documented to include the contingency management action framework
- Increasing the involvement from the board in areas related to capital management

The main focus for the takaful industry appears to be on compliance with the reporting requirements. However, it is expected that this will gradually shift toward rationalization of the product and business strategy due to a change in the capital framework under RBC.

For the FSA and IFSA, the market has not seen any significant initiative yet, but it is expected that as the implementation deadline draws closer (five years from the effective date), some corporate restructuring activity is likely to occur.

Looking forward

Consistent with a global trend, Malaysian insurance regulations are converging with the IAIS’s insurance core principles, and further regulatory changes may occur in the insurance regulations. The regulator is increasingly focused on risk and capital management, with a particular objective of embedding these principles in the business functions and processes. More guidelines are expected in areas such as enterprise risk management implementation, recovery planning and corporate governance.

As insurers keep an eye on the compliance angle, they must also consider how these regulatory changes and requirements can best be implemented in defining and optimizing their future business strategy.
Introduction

The Monetary Authority of Singapore is finalizing the risk calibration and features of the RBC framework, with implementation expected from 1 January 2017.

The RBC framework for insurers was first introduced in Singapore in 2004. It adopts a risk-focused approach to assessing capital adequacy and seeks to reflect most of the relevant risks that insurers face. The minimum capital prescribed under the framework serves as a buffer to absorb losses. The framework also facilitates an early intervention by the Monetary Authority of Singapore (MAS), if necessary.

While the RBC framework has served the Singapore insurance industry well, MAS has embarked on a review of the framework (coined as “RBC 2 review”) in light of evolving market practices and global regulatory developments. The first industry consultation was conducted in June 2012 in which the MAS proposed a number of changes and an RBC 2 roadmap for implementation.

Current state

In March 2014, MAS issued a consultation paper on the RBC framework, updating an earlier version from June 2012. This second paper included the detailed technical specifications required for insurers to conduct quantitative impact study (QIS) 1; this will gather information and help evaluate the full impact of the RBC 2 proposals.
The new proposals include:

1. Solvency intervention levels
   - Adopt the prescribed capital requirement (PCR) and minimum capital requirement (MCR) at both the company level and insurance fund level; the PCR is calibrated to a VaR of 99.5% and MCR to a VaR of 90% over a one-year period
   - Submit to MAS a plan to restore capital position within three months if the insurer’s capital falls below PCR

2. Valuation of assets and liabilities
   - No proposed change to the approach for deriving provision for adverse deviation (PAD)
   - Gradually phase out the use of a long-term risk-free discount rate (LTRFDR) for policy liabilities of 30 years or more over the next 5 years (to apply to general insurance policy liabilities if an insurer decides to apply discounting)
   - Introduce a matching adjustment (MA) to the risk-free discount rate for valuing life insurance policy liabilities

3. Components of required capital
   - Introduce new insurance catastrophe and operational risk requirements, and reorganize some risk modules
   - Recalibrate the life insurance risk requirements using VaR of 99.5% over a one-year period and impose the usage of a prescribed correlation matrix
   - Allow for diversification benefits (a) within C1 requirement for life insurers, (b) within C2 requirement, (c) for the interest rate mismatch risk requirement between insurance funds, and (d) between C1 and C2 requirements
   - Remove debt investment and duration mismatch risk requirements and replace them with interest rate mismatch risk requirement and credit spread risk requirement
   - Combine the counterparty risk requirements for different asset classes into a single module

4. Components of available capital
   - Classify current tier 1 capital into common equity tier 1 (CET1) capital and additional tier 1 (AT1) capital
   - Recognize up to 90% of the preapproved capital instruments that are not meeting the new criteria, reducing by 10% every year
   - Impose minimum floors on CET1 and tier 1 capital of no lower than 65% and 80% of total risk requirements of insurance funds respectively, excluding participating funds
   - Incorporate a principal loss absorption feature for AT1 capital instruments
   - Allow part of the negative reserves to be recognized as a form of positive regulatory adjustment in the calculation of available capital for solvency purposes
   - Not recognize the reinsurance arrangement between head office and branch and between an insurer and its downstream entities for QIS 1
   - Include claim liabilities in the reinsurer’s share of liabilities to calculate reinsurance adjustments
   - Remove licensing status of reinsurance counterparty from reinsurance adjustment formula
   - Reclassify the allowance for provisions for non-guaranteed benefits as a form of regulatory adjustment to the available capital, rather than one of the components, along with tier 1 and tier 2 capital

5. Treatment of OIF business for reinsurers
   MAS proposed to continue to exempt the OIF business of foreign-incorporated reinsurance branches from solvency requirements and also to continue to subject the OIF business of foreign-owned, locally incorporated reinsurers to the current simplified solvency requirement.

For QIS 1, insurers are expected to conduct the exercise based on data with a valuation date of 31 December 2013. Results for scenarios 1 and 2 were due by 30 May 2014, while results for scenario 3 were due by 30 June 2014.
- **Scenario 1:** Assume all RBC 2 proposals are incorporated with the exception of MA.
- **Scenario 2:** Same as scenario 1, except that insurers should assume that there is no LTRFDR and that a 30-year SGS yield is used for durations 30 years and beyond.
- **Scenario 3:** Assume all RBC 2 proposals are incorporated, including the MA for life business if the criteria set out in the MA proposal can be satisfied.

A direct general insurer or general reinsurer that chooses not to discount its liabilities because the impact is immaterial would only need to do scenario 1. Direct life insurers and life reinsurers would, at a minimum, need to do both scenarios 1 and 2. If they write participating and non-participating businesses, scenario 3 would be applicable as well.

The MAS expects to conduct another round of QIS in 2014, to finalize the details on the risk calibration and features of RBC 2 framework by year-end. Full implementation of RBC 2 is likely to take effect in January 2017.

**ERM and ORSA development**

All insurers in Singapore, regardless of their tier, are required to conduct ORSA starting in 2014.

The MAS introduced MAS Notice 126 Enterprise Risk Management for insurers in April 2013. This notice, which took effect in January 2014, introduces both mandatory and non-mandatory requirements for all licensed insurers operating in Singapore, except for captives and marine mutual insurers. The notice is intended to be used in conjunction with the MAS Risk Management Guidelines that were in place before 2014.

Some of the mandatory requirements include the need to establish an ERM framework, putting in place risk identification and measurement processes, instituting and maintaining a risk management policy and risk tolerance statement, establishing a feedback loop, and performing an ORSA annually. These requirements, aimed at raising the risk management bar within the Singapore insurance industry, have generated immense interest and momentum among industry players.

MAS Notice 126 also highlights the adoption of economic capital, which is the amount of capital that an insurer needs to satisfy its risk tolerance and new business plans. This goes beyond the existing regulatory capital requirements that insurers need to set aside. The MAS has clarified its stance during the consultation prior to the issuance of Notice 126 that the establishment of economic capital models is entirely at the discretion of insurers, provided that they are aware of all relevant and material risks that they face. The MAS will neither evaluate insurers’ economic capital models in the meantime nor accept economic capital in lieu of regulatory capital requirements.

Tier 1 insurers are required to submit an ORSA report to the MAS by 31 December 2014, while non-tier-1 insurers have until 31 December 2015 to do so. That said, all insurers in Singapore, regardless of their tier, are required to conduct ORSA starting in 2014. Given that the ERM and ORSA requirements are fairly new to the Singapore insurance industry, industry players may anticipate further refinements or guidance from the MAS in the next few years.

**Stress testing the financial condition of direct insurers**

The MAS issued a circular in January 2014 setting out the stress-testing requirements for both direct life and non-life insurers for the year ended 31 December 2013.

In view of the overlap between the annual regulatory stress-testing exercise and the new ORSA process that insurers are required to undertake in 2014, the MAS has streamlined the annual stress-testing requirements to moderate the demand on insurers’ resources to the end of 1Q14. For instance, the stress-to-failure scenario is no longer mandatory. The contents of the stress-test report have also been simplified to focus only on the quantitative impact of the prescribed scenarios. Discussions about key risks and vulnerabilities and an actuary’s recommendations to mitigate those risks and vulnerabilities have been removed and are intended to be covered as part of ORSA.
Introduction

The regulatory authority for the Korean financial services industry, the Financial Supervisory Service (FSS), introduced RBC in April 2009. In replacing the Solvency I requirement, the RBC scheme aims to strengthen the soundness and stability of the overall insurance industry.

In the rapidly changing insurance market, FSS has to review the RBC regime continuously to ensure that it serves the intended purpose. This effort included some changes in 2012, such as subdividing capital classes and categorizing risk factors in accordance to the types of risks transferred to insurance companies. Moreover, FSS enhanced the RBC calculation methodology by adding reverse margin risk as part of interest rate risk in 2013 and by raising the confidence level of risk factors for insurance risk early in 2014.

In light of the recent enhancements, some insurance companies’ solvency margin ratio has fallen below the FSS’s recommended ratio of 150%. As a result, these insurers have had to raise capital through alternative options such as issuing subordinated bonds.
Current state

The Financial Supervisory Service has established a quantitative requirement (RBC), as well as a qualitative requirement, risk assessment and application system (RAAS).

Over the past few years, the FSS has encouraged insurance providers in Korea to adopt risk-based management in their governance. To achieve this, FSS has established the quantitative requirement (RBC), as well as the qualitative requirement, RAAS. RBC requires insurance companies to calculate the amount of minimum solvency margin with a systematic and standardized method. RAAS requires the insurance companies to define their level of risk in seven different aspects within their corporate governance program.

Quantitative capital requirement

RBC acts as a quantitative regulatory standard. By introducing an RBC approach, the FSS expects the Korean regulatory status to be in line with international standards. Furthermore, through risk-focused management that includes more diversified types of risk under RBC, the solvency requirement may become more realistic and effective in preparing for potential severe loss in the future.

Under the current RBC regulation, FSS has developed a standard method of measuring total risk capital for five different types of risk: insurance risk, interest rate risk, credit risk, market risk and operational risk. The capital for each individual risk is added together, taking into consideration the correlation with other risk types, in line with the “Insurance Core Principles” of the International Association of Insurance Supervisors (IAIS).

The standard amount of solvency margin is the sum of operational risk and square root of the summation of 1) square of insurance risk, 2) square of the summation of interest risk and credit risk, and 3) square of market risk, as shown below.

\[
\text{Required capital} = \sqrt{\text{Insurance risk}^2 + (\text{Interest risk} + \text{Credit risk})^2 + \text{Market risk}^2 + \text{Operation risk}}
\]

The equation implies that the interest rate risk and credit risk are perfectly correlated, while insurance, market, interest and credit risks are non-related. This correlation will be revised regularly based on both local and international studies for targeted improvements.

The capital for each risk is defined as the value at risk at 95% confidence level, except for insurance risk, which was updated to 99% in 2013. Risk capital is calculated as risk exposure balance multiplied by its risk factor. Exposure balance is based on the financial report of insurance entities and depends on the risk to be measured; exposure may represent the value of assets, risk insured or interest-sensitive amount. In this case, risk factor represents a portion of each exposure, which gives the risk capital when multiplied to exposure balance. Risk factors are provided by the FSS, based on its study of historical data, statistical models and external indicators provided by the international organization.
Qualitative supervisory requirement

While the RBC requirement quantifies the minimum capital that the organization should acquire, the qualitative RAAS assesses the quality of the insurance company’s risk management capacity. Prior to the RAAS, the traditional evaluation of the company’s solvency was based primarily on financial reports and historical data. This resulted in a lack of analysis of corporate governance and the potential for future losses. Through RAAS, both the insurer and regulatory body are able to identify any systematic weakness in the company and implement strategies for improvement.

Insurance companies are evaluated based on three aspects:

- Risk exposure or the potential risk the company may face
- Risk control, which assesses the risk management level and the internal control processes to define the level of effectiveness and efficiency
- Risk tolerance level, which measures how the company is able to absorb the extreme loss with its capital

To explain in more detail, the risk exposure is measured for 22 sub-categories for life insurers and 24 for non-life insurers. Each category will then be measured in three methods using base indicator, systematic measure and external indicators.

- Base indicator is defined in a comparatively simplified method based on the current management reports, while systematic measure is calculated through statistical models based on the company’s historical data. The external indicators will provide the possible future loss occurrence.
- Risk control includes 122 items on a checklist that relate to the company’s risk management system and 147 items that apply to internal control policies.
- Risk tolerance considers four factors related to the company’s solvency level and five factors related to the company’s profitability.

Each of these three measures analyzes seven different risk types: insurance risk, interest risk, market risk, credit risk, liquidity risk, nonfinancial risk and solvency risk. Using these methods, each risk type within the company will be graded at five risk levels for its exposure, controls and tolerance. In this manner, the company and supervisory regulator are able to analyze the insurer’s risk level for each risk type and its overall ability to manage risk. Furthermore, relevant risk management strategy may be developed and implemented to improve governance.
Looking forward

Future enhancements to the RBC approach and adoption of internal models are expected. Recent steps by the FSS are indicative of the progress being made. In March 2014, they held a seminar on “Insurance companies’ roadmap towards advanced supervision regime regarding financial soundness” and announced the RBC regime enhancement plan.

Changes in quantitative capital requirements

According to the seminar, the confidence level of risk factor for interest risk and credit risk would be increased from 95% to 99% within the next few years. FSS also mentioned that the calculation method of operational risk would be discussed further, and hedging for guarantee risk of variable insurance would be alleviated in coming years. Lastly, in order to lessen the insurance companies’ burden, FSS announced its recommended solvency ratio would be decreased to 120%-130% beginning late next year.

Plans for qualitative capital requirements

Plans call for IFRS 4 Phase II to be introduced in 2018. It is expected that the liability for insurance companies will increase and that their surplus will decrease due to the market-consistent valuation approach. This will harm the financial soundness of insurance companies. In order to cope with this situation, the FSS introduced an ORSA regime early this year. Insurance companies have until the end of 2016 to implement the new system.

Future enhancements to the RBC approach and adoption of internal models are expected.
Thailand

Introduction

The Office of Insurance Commission (OIC) implemented a risk-based capital (RBC) framework and gross premium valuation (GPV) regime in Thailand in September 2011.

The OIC rolled out two phases of parallel tests before the actual implementation of the RBC framework to gauge the impact on insurers and to gather industry response. The solvency requirement was also increased from 125% at the initial implementation to 140%. This became effective 1 January 2013 to give insurers more time to respond to the changes.

In 2011, the Thai regulator granted temporary RBC exemptions and relaxed some of the restrictions. This was an effort to help local general insurers overcome financial difficulty caused by flood losses that occurred that year, as the floods coincided with implementation of the RBC framework.

The OIC rolled out two phases of parallel tests before the actual implementation of the RBC framework to gauge the impact on insurers and to gather industry response.

Current state

Under RBC, reserves are calculated using a deterministic model based on GPV methodology. Provisions for adverse deviations (PADs) are required in the computation of liabilities. PADs for both life and non-life insurance are prescribed and set at a level to reflect a 75% confidence interval.
Capital required is determined using prescribed stresses for various risk categories, comprising insurance risk, market risk, credit risk and concentration risk. Market risk takes into account equity, interest rate, property, currency, commodity and collective investment trusts. Diversification effects within these subclasses, of market risk and across risks, are allowed by using correlation matrices.

In calculating available capital, assets are valued on a market value basis with the classification of assets split into two different tiers to ensure the quality of assets backing the liabilities. Certain types of assets are inadmissible under the RBC framework, including goodwill, intangible assets, deferred tax assets and investments into subsidiaries.

Calculating risk capital
The minimum capital adequacy ratio is currently set at 140%, meaning that the minimum solvency requirement can be expressed as:

- 140% x (Liability insurance risk charge + Market risk charge + Credit risk charge + Concentration risk charge)

Insurers should have sufficient admissible assets above that which is required to back liabilities to cover the solvency requirement.

- Liability insurance risk charge (LIRC) is calculated as the difference of the value of liabilities at the 95% confidence interval, compared to that calculated at 75% confidence interval. LIRC reflects insurance risk where severity or frequency is worse than expected by the insurer.

- Market risk charge consists of interest rate risk charge, which calculates the asset liability mismatch. The risk charge is determined by carrying out prescribed stress tests on the level of discount rates to assess the level of mismatch. Other risks such as equity, interest rate, property, currency, commodity and collective investment trusts are multiplied by a set of prescribed risk factors to obtain their respective risk charges.

- Credit risk charge includes debt obligations by counterparty, debt obligations secured by property, reinsurance and other assets. Risk charges are calculated by applying a set of prescribed risk factors to credit risk exposure.

- Concentration risk charge is composed of counterpart debt exposure, equity securities, unsecured loans, property exposure, foreign exchange and reinsurance. Overall risk charge is also derived by multiplying these exposures by a set of prescribed risk factors.
Other considerations

The current RBC framework is sufficiently robust but still heavily dependent on prescribed factors and correlation matrices in the calculation of risk capital. Stress testing is not necessary under the framework but recommended as a best practice.

In calculating liabilities, options and guarantees need not be specifically reported if they do not have a potential cost to the insurer or the insurer has discretion over the option or guarantee benefits. Insurers are not required to make an addition to the calculated fair value and 95th percentile GPV in respect of options and guarantees.

There is currently no formal qualitative measure of risk in Thailand, although there is an increased focus in this area. The regulator and insurance industry are starting to place greater importance on this with the introduction of stress testing and the development of RBC 2.

The current RBC framework is sufficiently robust, but still heavily dependent on prescribed factors and correlation matrices in the calculation of risk capital.

Introducing RBC 2

The OIC continues to study developments in the international arena, particularly the standards and insurance core principles of the International Association of Insurance Supervisors and the European Union Solvency II regime. There is the belief that an RBC framework in itself is not sufficient and that developments and enhancements in enterprise risk management are key to the future development of the insurance industry.

The expectation is that further developments in insurance risk management regulation will be implemented in years to come. In particular, the OIC recently launched Phase 2 of the risk-based capital framework for insurers in Thailand (RBC 2). Insurers are expected to conduct the market testing based on data with the valuation date of 31 December 2013, and results due at the latest by 30 May 2014. The newly proposed RBC 2 would impact liabilities, capital available and capital required.

Impact on liabilities

RBC 2 introduces contract recognition and boundaries, where cash flows within the boundary of an insurance contract based on the principles consistent with International Financial Reporting Standards are included for the valuation of liabilities and risk charges. For short-term reserves, UPR would be used as the driver for the premium reserve and risk charge rather than the URR. For long-term liabilities, a prescribed set of discount rates would be used. PADs would have to be applied at a separate product group level instead of at the company level.
Impact on capital available

Two changes have been proposed in RBC 2 in relation to available capital. Changes relate to the recognition of investments in associates and subsidiaries and the allowance of negative reserves to be recognized as tier 2 capital.

Impact on capital required

The OIC has formalized plans to implement stress testing in 2014. The scenario is based on the projection of future financial position for the next three years, where all cash flow will be determined based on the company’s three-year business plan. There will be three other prescribed scenarios and one additional self-selected scenario to perform the stress test. Reverse stress testing is also required. A stress-test report would have to be submitted annually, within six months after year-end.

Under RBC 2, commodity risk, operational risk and exchange rate risk is considered in the overall risk charge calculation. The RBC 2 market testing will allow for diversification between assets, insurance and operational risk using a correlation matrix approach. Risk mitigation effects of derivatives will now be included.

The use of derivatives to reduce risk exposures of current assets is now allowed under RBC 2, but significant efforts will be required to quantify the impacts of this. Notably, RBC 2 does not provide any mechanism to quantify the basis risks or cross-hedging risks brought about by the use of derivatives.

Interest rate charge calculation is proposed to be performed at 75% sufficiency level, and non-guaranteed liabilities are to be included in the assessment. Derivatives are also allowed to help reduce risk exposures in the calculation of interest rate risk charge.

Looking forward

Overall, features of RBC 2 are designed to address the shortcomings of the previous RBC framework. Market testing would allow regulators to gather industry responses and assess financial impact on the insurers. Insurers would have to reconsider their business plans and capital management plans in order to optimize profit and capital.

Going forward, more emphasis is likely to be placed on qualitative risk measures, with the kick-start of stress testing and consideration of additional risks in RBC 2.
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