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REGULATION: A WORLD VIEW

(RE)INSURANCE REGULATORY
REPORT
SEPTEMBER 2015



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INTRODUCTION



(RE)INSURERS ARE FACING NEW COSTS
AND PRESSURES IN THEIR EFFORTS TO
MANAGE THE REGULATORY LANDSCAPE.



Financial market regulation has been under review for a number of years but the global financial crisis in 2008 made it a key priority in many countries. While the previous insurance regulatory framework did remarkably well in the protection of insurance consumers and companies during the financial crisis, the insurance industry has not been immune from these factors. Today, new and upcoming regulations are having a profound impact on companies' balance sheets and risk management practices. Although primarily aimed at larger, global (re)insurers, the changes will impact medium and small (re)insurers as well.


(Re)insurers are being challenged as the regulatory environment becomes more complex, with regulation increasing considerably at multiple levels in numerous jurisdictions throughout the world.

(Re)insurers are facing new costs and pressures in their efforts to manage the regulatory landscape. The most profound changes are occurring on the international front, where new solvency frameworks are evolving at the global level. Regulatory solvency and disclosure requirements still generally fall short of "A"-level risk-adjusted capital standards and rating agency criteria, arguably giving rated carriers some potential advantages over their non-rated peers. However, capital and disclosure requirements are major emerging factors for (re)insurers around the world.

In this report, we provide an assessment of the development of solvency and other regulatory initiatives, including changes to capital requirements that are impacting (re)insurers. Today most (re)insurers are asking how can they cope with myriad developments in regulatory, legislative and ratings requirements to maximize opportunities and maintain profitable growth.



I. DEVELOPMENTS IN EUROPE



APART FROM STILL OPEN SOLVENCY II THIRD-COUNTRY EQUIVALENCE ISSUES, EUROPEAN INSURANCE COMPANIES STRUGGLE WITH DIFFERENT INTERPRETATIONS OF THE EIOPA GUIDELINES AND RULES.



After a long period of discussion and many delays, the new European insurance regulatory regime, Solvency II, will commence in January 2016. The rules will be compulsory for all insurance and reinsurance companies and groups in the European Economic Area (EEA). The three pillar approach of Solvency II for (i) quantitative capital requirements, (ii) qualitative risk management standards and (iii) reporting specifications, was derived from the international banking sector regulation (Basel II and Basel III). The Solvency II rules were developed over a period of more than 15 years, and there are many reasons for the long delay. Two notable reasons are differing business models from country to country and pressure on long-term guarantee products. With the goal of creating a common regulatory system in Europe there was much political will to find compromises that allowed different insurance business models in the individual countries to fit into Solvency II, without necessitating many product changes. And the ongoing low interest rate environment continues to create enormous pressure on long-term guarantee products in the private pension system of some European countries.

QUANTITATIVE CAPITAL REQUIREMENTS – PILLAR 1 OF SOLVENCY II

The basis for the solvency capital requirement calculation is the economic balance sheet, with market values on the asset side and best estimate reserves on the liability side. (Re)insurers are required to have adequate capital levels in place to finance a 1-in-200 year event, or in other words the Value-at-Risk (VaR) at the 99.5 percent quantile level.

For non-life businesses we have only seen a few companies that encounter capital constraints when applying the new Solvency II capital requirement principles. Many of these companies are captives and monoline insurers that lack diversification opportunities. Generally, the Solvency II capital requirements have not been a major challenge for the non-life insurance industry. However, there are some exceptions, with specific companies or sectors of the industry more acutely affected. This is true especially in many Continental European countries where the local Generally Accepted Accounting Principles (GAAP) include a prudent reserving principle, resulting in a considerable amount of hidden reserves between local GAAP balance sheet loss reserve values and discounted best estimate reserves. These hidden reserves are part of the available capital under Solvency II, the “Own Funds,” and can be used to cover the risks of a company. In countries with local GAAP principles already near the best estimate, this has led to the use of reinsurance and sub-debt issuances to address emerging capital shortfalls.

For life insurance businesses, the Solvency II capital requirements can be much more challenging. The ongoing low interest rate environment is especially challenging for long-term guarantee products of the private pension system in many countries, depending on the type of guarantee in the products. According to an announcement from the European Systemic Risk Board (ESRB) in late July 2015, Germany, Sweden, Netherlands and Austria will all face severe problems in their life businesses in the near future due to high minimum guarantee rates above 3 percent in saving products.

To calculate the Pillar 1 solvency position, (re)insurers in Europe may use a standard formula approach, provided by the European Insurance and Occupational Pension Authority (EIOPA), or they may develop a full internal model or partial internal model, which will need to be certified by the national regulator. So far, only a few (re)insurers and groups have applied for internal model certification – many of those are large international insurance groups. Most companies will rely on the standard formula approach.



While many companies have developed internal modeling approaches to improve their control and management capabilities, they are currently not willing to enter the certification process with national regulators. One of the major hurdles in this certification process is the extensive documentation requirements for the model description, the validation process and the use test. In some cases the insurance companies have to interpret unclear rules and the internal model results are also vulnerable to last-minute decisions on calibrations. This uncertainty, together with the occasionally limited capital savings opportunities achieved by using an internal model compared to the standard formula, have steered many (re)insurance companies and groups away from entering the certification process. This, of course, may change after Solvency II begins next year when the uncertainty around calibrations and the certification requirements will likely disappear.

QUALITATIVE RISK MANAGEMENT REQUIREMENTS – PILLAR 2 OF SOLVENCY II

The Own Risk and Solvency Assessment (ORSA) requirements are the key element of the Pillar 2 qualitative risk management requirements. The purpose of an “own risk assessment” by each company is to prove the appropriateness of the standard formula or internal model results if the company has applied for a certified internal model. While the Pillar 1 solvency capital requirement is calculated on a one-year basis to show that a company has enough capital to avoid insolvency through the end of the year in a 1-in-200 year event, the focus in Pillar 2 ORSA is the forward-looking assessment of solvency capital adequacy. Companies need to provide a projection of the risk and capital position for the entire planning period (at least three years), which has to be consistent with the business case balance sheet and profit and loss projection. The aim of ORSA is to demonstrate that there is an adequate level of capital available to support the business plan for a longer period. Based on this planning projection of the risk and capital position, (re)insurers need to define meaningful stress tests and scenarios to show they would be adequately capitalized in adverse scenarios as well. If a company would face solvency issues in certain stress scenarios, it needs to show it has countermeasures in place in order to reach the strategic targets of the corporate and risk strategy again.

A segment of Pillar 2 includes the establishment of a proper risk governance system. This requires the definition of clear responsibilities for four key functions – risk management, actuarial, compliance and internal audit. Some countries, such as the Netherlands, began ORSA reporting requirements a few years ago and its (re)insurers are well developed in providing meaningful ORSA processes and reports. (Re)insurers in many other European countries are challenged in fulfilling the Pillar 2 requirements, both on the quantitative ORSA aspects of projecting solvency and capital position and in establishing the governance system accordingly.

REPORTING REQUIREMENTS – PILLAR 3 OF SOLVENCY II

The Pillar 3 reporting requirements are quite comprehensive. European (re)insurers need to provide a Regular Supervisory Report (RSR) to the regulator as well as a Solvency and Financial Condition Report (SFCR) to be published for clients, financial analysts, rating agencies and other stakeholders. Each of these two reports consists of a narrative risk report where companies have to describe their risk strategy, risk governance system and risk management processes in place, and extensive quantitative reporting requirements in the form of the Quantitative Reporting Templates (QRTs).

European (re)insurers have already invested heavily in data management systems but additional investments are still necessary for most companies in Europe. These systems are needed for compliance with the Pillar 3 reporting requirements to ensure complete, reliable and consistent data for internal risk and capital management purposes as well as for internal and external reporting. For the last two or three years, the preparation for Pillar 3 reporting requirements, especially the installation of an accurate data management system based on market consistent valuation principles for the QRTs, has absorbed considerable time and money and has typically become one of the largest projects for (re)insurers.



CHANGES IN REINSURANCE DECISIONS

Recently, we have seen a change in the way reinsurance is viewed in some companies and groups: The chief financial officer increasingly recognizes reinsurance as an instrument to achieve risk and capital management, rather than using capital measures like equity and sub-debt issuances.

Reinsurance is now also used more often to optimize the diversification benefit, either between different lines of business or between insurance and market risks. For this, some insurance groups have implemented an Internal Reinsurance Vehicle (IRV) to manage the diversification benefit in a more efficient way, and to increase the transferability and fungibility of capital within an insurance group.

Some retrospective reinsurance solutions – loss portfolio transfer (LPT) and adverse development covers (ADC) – have been used for capital management purposes. In the past, LPTs and ADCs have been mainly used for run-off solutions to dispose of loss payment obligations from past accident years in order to, for example, support merger and acquisition activities. Now, retrospective reinsurance solutions are used to free up capital, either to increase the solvency ratio up to a competitive level of risk tolerance described in the risk strategy or to invest the capital in areas with higher return opportunities.

CHALLENGES FOR EUROPEAN COMPANIES

Apart from still open Solvency II third-country equivalence issues, which will be discussed in detail in Section IV of this report, European insurance companies struggle with different interpretations of the EIOPA guidelines and rules. For example, while sovereign debt is considered risk-free in the Standard Formula, EIOPA recommended in April 2015 that internal model firms need to consider the spread risk of sovereign debt. However, local supervisors have not interpreted this guidance in the same way – the United Kingdom’s Prudential Regulatory Authority, France’s Autorité de contrôle prudentiel et de résolution and Germany’s Federal Financial Supervisory Authority are asking their internal model firms to fully risk-weight sovereign bonds at the group level. Other supervisors are proposing a “light” approach of risk-weighting of sovereign debt, while Italy and Spain maintain the position that sovereign bonds should remain risk-free under Pillar 1.

Another challenge for insurance companies and groups arises from singular regulatory developments in certain countries, for example, early warning indicators in the United Kingdom and the execution of specific stress tests in many countries.

Are these the first steps away from a unique supervisory system in Europe? Is there any danger of diverging regulation in the future? Or will this really lead to a level playing field – one of the main goals of Solvency II?






II. DEVELOPMENTS IN THE UNITED STATES



ORSA IS EXPECTED TO FURTHER PROMPT COMPANY MANAGERMENTS TO BETTER RECOGNIZE AND ANALYZE THE RISKS OF THEIR ENTERPRISES.



The regulatory system in the United States has best been described as a national system of state-based regulation consisting of state insurance departments from all 50 states, the District of Columbia and five territories.¹ Although there have been questions raised about the system and challenges to it over the years, its regulation remained primarily within the purview of the state regulators through the protection afforded under the McCarran-Ferguson Act of 1945, which expressly provided that “Acts of Congress” that do not expressly purport to regulate the “business of insurance” will not preempt state laws or regulations that regulate the “business of insurance.”

However, developments in the past several years since the financial crisis have resulted in significant involvement by the Federal Government in the insurance sector. More specifically, The Dodd–Frank Wall Street Reform and Consumer Protection Act (Pub.L. 111–203, H.R. 4173 (commonly referred to as “Dodd-Frank”)) created, among other things, the Federal Insurance Office (FIO) within the Treasury Department, which has the authority to monitor all aspects of the insurance sector, represent the United States on prudential aspects of international insurance matters (including at the IAIS) and advise the Secretary on important national and international insurance matters.²

Dodd-Frank also gave the Federal Reserve Board (FRB) consolidated oversight over any non-bank entity designated by the Financial Stability Oversight Council (FSOC) as systemically important, and of any insurance holding company that operates a federally chartered thrift. It has been reported that the insurance entities that the FRB has under supervision hold approximately “one-third of the U.S. insurance industry assets.”³ In November of 2013, the FRB joined the FIO and their state supervisory colleagues from the National Association of Insurance Commissioners (NAIC) as members of the IAIS, and in June of the following year hired former Connecticut Insurance Commissioner, Tom Sullivan, to be a senior advisor on insurance matters to the Board. In addition, the FRB has recently indicated that it is also considering a proposal for a new nationwide ICS, so it is quite obvious that the involvement of the FRB in the insurance sector is increasing in a significant way.

In 2008, through the NAIC, state insurance regulators in the United States embarked on the Solvency Modernization Initiative (SMI) to perform a critical self-evaluation to improve the insurance solvency regulatory framework in the United States, which included a review of international developments in insurance supervision, banking supervision and international accounting standards to determine their potential use in U.S. insurance supervision. The SMI focused on the following key components of the solvency framework: capital requirements, governance and risk management, group supervision, statutory accounting and financial reporting and reinsurance.⁴ Some of the major initiatives of the SMI (as noted by the NAIC) have included:

- The Insurance Holding Company System Regulatory Act (Model #440) and Model Regulation (with Reporting Forms and Instructions – Model #450)
- The Credit for Reinsurance Model Law (Model #785) and the Credit for Reinsurance Model Regulation (Model #786)
- The Standard Valuation Law (Model #820) and the Standard Non-forfeiture law for Life Insurance (Model #808), completion of the industry impact study for life insurance principles-based reserving and adoption of the Valuation Manual
- The Corporate Governance Annual Disclosure Model Act and supporting Model Regulation
- The Risk Management and Own Risk and Solvency Assessment Model Act (#505) and the Own Risk and Solvency Assessment (ORSA) Guidance Manual
- Increasing scheduling of, and participation in, supervisory colleges (and creation of supervisory tracking documentation to monitor the activity of supervisory colleges).⁵

1. NAIC White Paper: *The U.S. National State-Based System of Insurance Financial Regulation and the Solvency Modernization Initiative*, August 14, 2013.

2. U.S. Department of the Treasury: *About, Federal Insurance Office*.

3. Board of Governors of the Federal Reserve System: *Testimony by Mark E. Van Der Weide, before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate*, April 28, 2015.

4. NAIC White Paper: *The U.S. National State-Based System of Insurance Financial Regulation and the Solvency Modernization Initiative*, August 14, 2013.

5. NAIC: *SMI Roadmap*, December 21, 2012.



GROUP SUPERVISION

The NAIC has stipulated that “the solvency framework of the U.S. system of state-based Insurance regulation has included a review of the holding company system for decades, with an emphasis placed on each insurance legal entity. In light of the 2008 financial crisis and the globalization of insurance business models, as discussed in this report, U.S. insurance regulators have begun to modify their group supervisory framework and have been increasingly involved in developing an international group supervisory framework.”⁶

“To enhance the systems for group supervision, the NAIC adopted the revised Insurance Holding Company System Regulatory Act (Model #440) and the Insurance Holding Company System Model Regulation with Reporting Forms and Instructions (Model #450) in 2010. The revisions included the following: expanded ability to evaluate any entity within an insurance holding company system; enhancements to the regulator’s rights to access books and records and compelling production of information; establishment of expectation of funding with regard to regulator participation in supervisory colleges; and enhancements in corporate governance, such as Board of Directors and Senior Management responsibilities. Additionally, regulators adopted an expansion to the Insurance Holding Company System Annual Registration Statement (Form B) to broaden requirements to include financial statements of all affiliates.”⁷

ORSA

The Risk Management and Own Solvency and Risk Assessment requires that an ORSA Summary Report be filed in 2015 (or 2016 depending on state adoption of the Model Act) by individual U.S. (re)insurers writing more than USD500 million of annual direct written and assumed premium (and/or insurance groups writing more than USD1 billion of annual direct written and assumed premium). ORSA is expected to cause company managements to demonstrate that they have a strong enterprise risk management (ERM) framework in place, and that they are actually using it to better identify and analyze the material risks to which the company is exposed and in making decisions regarding capital and solvency. It requires an in-depth assessment of an insurer’s business, its organizational structure, its risk management strategy and management’s (and others’) role in the process; the establishment, monitoring and enforcement of risk appetite, tolerances and limits; the assessment of its risk exposures in both normal and stressed environments; and the determination of the level of financial resources needed to manage its current business over the longer business cycle.

Section IV of this report includes discussion of these and other issues to demonstrate how a properly structured ORSA can provide tremendous benefits to (re)insurers. Within an organization, the ORSA facilitates the establishment and maintenance of an effective ERM framework that minimizes the effects of risk on a company’s capital and earnings. The assessment is also effective in communications with shareholders, regulators and rating agencies. This report will also compare some of the requirements in the United States with others territories – including Solvency II in the European Union. One key point is that through ORSA, U.S. regulators will be able to enlarge their existing assessment of group capital via analysis of a company’s own assessment of group capital needs.





III. DEVELOPMENTS IN ASIA PACIFIC

IN APAC, THE APPROACH TO INSURANCE REGULATION HAS VARIED ON A COUNTRY-BY-COUNTRY BASIS AS EACH REGIME ADAPTS SOLVENCY PRINCIPLES TO THEIR OWN NEEDS AND POLITICAL REALITIES.

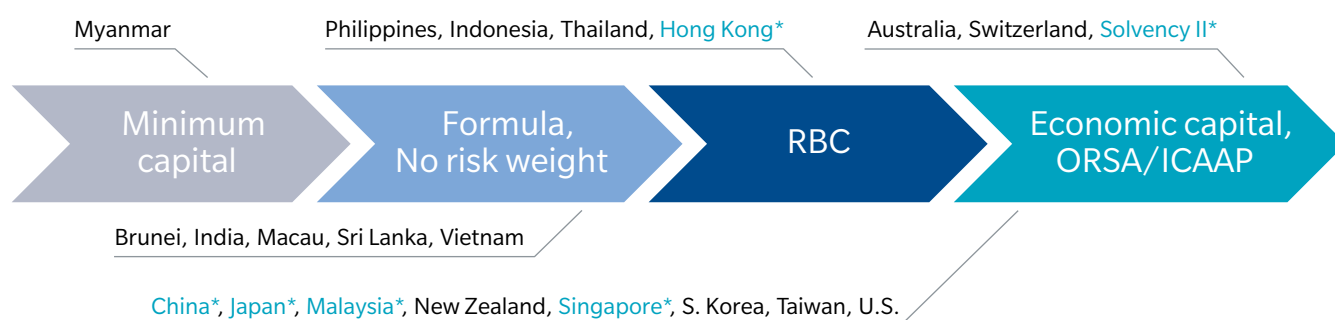
OVERVIEW

Asia Pacific (APAC) is a diverse mix of countries encompassing nearly one-third of the earth's landmass and more than one half of its population. Given the broad spectrum of economic and regulatory sophistication across the region, the approach to insurance regulation has varied on a country-by-country basis as each regime adapts solvency principles to their own needs and political realities.

Directionally, most country regulators are taking steps to build more robust regulatory and solvency frameworks (see figure 1 below):

- South Korea, Taiwan and Malaysia are in their second round of risk-based capital (RBC) schemes — Japan is in its third round.
- Australia and Malaysia have implemented Internal Capital Adequacy Assessment Process (ICAAP) requirements and Singapore is implementing an ORSA framework.
- Australia, Indonesia, Japan, the Philippines, Taiwan and New Zealand have specific catastrophe risk-related solvency requirements.
- Japan is seeking third-country equivalence status for Solvency II for reinsurance business. China, Hong Kong and Singapore have also expressed interest. (Please see Section IV of this report for greater detail.)
- Hong Kong is incorporating the International Association of Insurance Supervisors' (IAIS') Insurance Core Principles (ICP) into its first RBC framework anticipated in 2018.
- China's Insurance Regulatory Commission (CIRC) is instituting sweeping changes through its three tiered China Risk Oriented Solvency System (C-ROSS) framework that will dramatically impact how (re)insurers conduct business. C-ROSS and its anticipated changes are explored more deeply in the following pages.

F-1 | REGULATION SOPHISTICATION SCALE



* Indicates anticipated location on scale after implementation of pending regulations

Source: Guy Carpenter

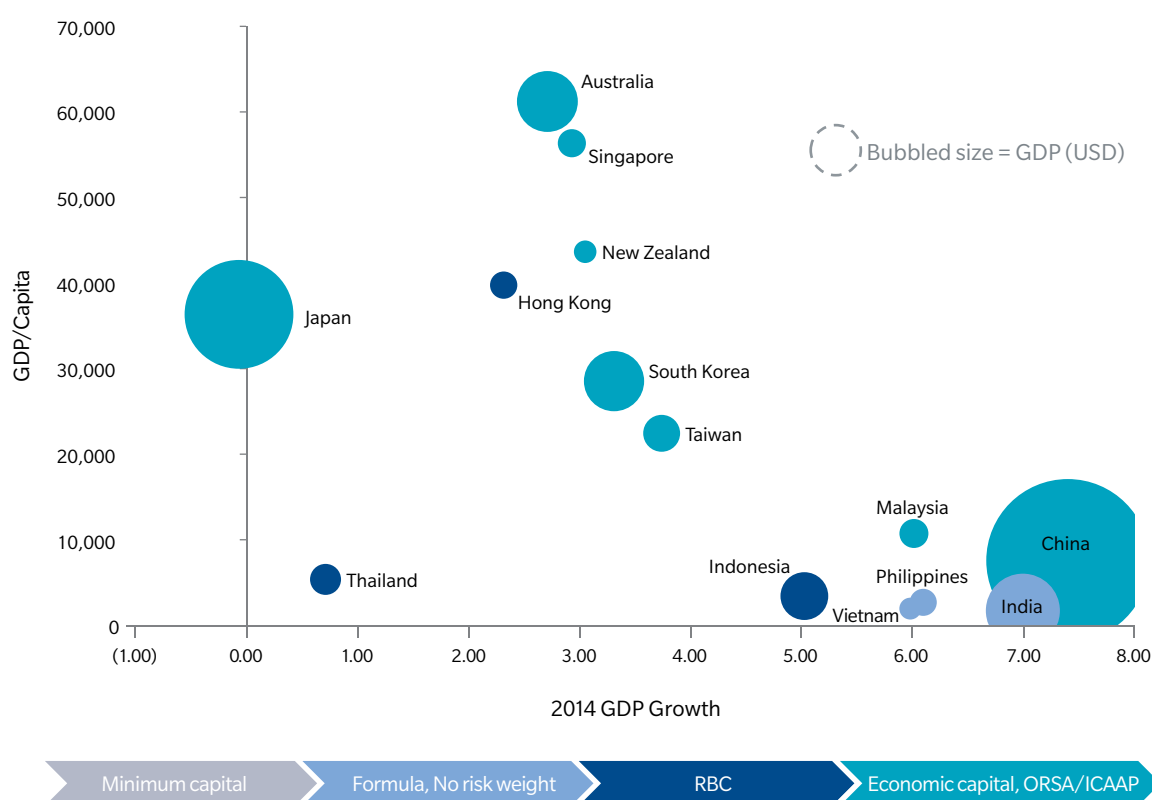
While these evolving quantitative and qualitative reporting requirements are burdensome for local (re)insurance companies (particularly during the first few iterations), they help regulators more effectively monitor solvency, which can lead to more resilient markets and improved underwriting discipline.

Other countries, such as the Philippines and Indonesia, have instituted rules that may, conversely, impede the development of a healthy, profitable insurance market. The Indonesian regulator's recent steps to reduce capital outflows, with a focus on reinsurance premiums ceded to international reinsurers, remain highly debated and will be explored in greater detail later in this report. The Philippines, in addition to an RBC framework, has instituted a

minimum paid-up capital requirement (starting in 2006 and revised in 2013) that increases every two years and will result in a PHP2 billion (approximately USD44 million) minimum threshold in 2020. This will put minimum capital levels in the Philippines well above those of more developed markets, including Australia, Japan and Singapore. The policy applies uniformly across the industry regardless of premium volume, line of business or geographic scope and therefore its impact is more strongly felt by smaller carriers that will most likely be forced out of the market or into the arms of larger players. The Philippines Insurer and Reinsurer Association (PIRA) has been outspoken against the minimum capital requirement and stated a preference for a standalone RBC metric.

Generally, the more advanced economies across the APAC region have robust insurance regulatory frameworks.

F-2 | ASIAN ECONOMIES AND INSURANCE REGULATION IN PERSPECTIVE



Source: Economist Intelligence Unit, Guy Carpenter Analysis

With the exception of Hong Kong, each country with a gross domestic product (GDP) per capita over USD10,000 has, or is, moving towards an economic capital and/or ORSA/ICAAP requirement. In less developed countries, the focus continues to be on educating consumers on the value of insurance and increasing insurance penetration.

The following chart summarizes regulations, including upcoming changes, which have or are expected to have significant impacts on the insurance market in each territory.

T-1 | ASIA PACIFIC REGULATORY SUMMARY

Country	Recent/Upcoming Regulation(s)	GC Comments
Australia	<ul style="list-style-type: none"> Life and General Insurance Capital reform (LAGIC) in 2013 <ul style="list-style-type: none"> 3 pillar solvency method (similar to Solvency II) Quantitative, qualitative and disclosure Internal Capital adequacy assessment process (ICAAP) 	<p>Australia has achieved provisional Solvency II equivalency status and provides an example for the rest of APAC. Bank Negara Malaysia, for example, has adopted Australia's ICAAP framework in full.</p> <p>With two full years under LAGIC and over 10 years under general insurance RBC now in the books, insurers and insurance buyers are feeling the rising cost of compliance.</p>
China	<ul style="list-style-type: none"> China Risk Oriented Solvency System (C-ROSS) 	See following pages
Hong Kong	<ul style="list-style-type: none"> RBC expected implementation in 2018 <ul style="list-style-type: none"> Includes latest insurance core principles (ICP) from IAIS 	<p>The Office of the Commissioner of Insurance will take its time in developing and implementing RBC to allow local insurers to prepare. The relatively small Hong Kong market is fragmented, with approximately 40 local insurers and over 100 foreign insurers offering life and general coverage.</p> <p>The first RBC quantitative impact study (QIS) will likely be conducted in 2016, preceding potential revision, further public consultation, additional studies, legislation and an extended implementation period.</p>
India	<ul style="list-style-type: none"> Anticipate an eventual shift to RBC framework (from straight factor based) Allowance for foreign investment in insurers increased from 26% to 49% 	<p>The Insurance Regulatory and Development Authority is incrementally moving towards an economic capital framework and is increasing its focus on corporate governance, but is generally short on guidance. For example, insurers are now required to maintain a risk management committee, but the regulator has not provided a prescriptive model for risk management. Foreign joint venture partners thus currently play a far more important role in determining risk management and solvency guidelines than the regulator.</p>
Indonesia	<ul style="list-style-type: none"> Recent OJK regulations restricting cessions to overseas reinsurers and increasing company retentions 	See following pages
Japan	<ul style="list-style-type: none"> The Solvency Margin Ratio, a risk-based capital framework was introduced in 1996 and has undergone several revisions. Includes explicit catastrophe risk charge. Japan's FSA has been building towards IFRS and an economic capital framework Solvency II equivalence for reinsurance under review by European Commission 	<p>With a highly concentrated market, Japan's FSA enjoys a high ratio of staff to the number of regulated companies. This allows the FSA to conduct frequent and extensive audits that have been more and more focused on risk management and governance.</p> <p>Most of the large non-life and composite insurance groups are several years into the development of internal capital models.</p>
Malaysia	<ul style="list-style-type: none"> Detariffication of motor and fire lines RBC scheme for takaful companies Implemented ICAAP requirement in 2012 	<p>Malaysia jumped ahead of much of the rest of Southeast Asia in terms of solvency regulation by adopting many of the guidelines developed by the Australian Prudential Regulation Authority. With very little guidance provided by Bank Negara Malaysia, however, insurers struggle to derive value from the ICAAP exercise. It is for now an expensive box-ticking exercise for many insurers.</p>
Philippines	<ul style="list-style-type: none"> Continued step up in minimum capital requirements – PHP 2 billion (approximately USD 44 million) in 2020 	<p>The step up of minimum capital requirements will make it progressively more difficult for companies with smaller premium bases to maintain return targets. This could potentially lead to an increase in M&A activity and an increase in the gap between exposures and affordable insurance coverage in the Philippines.</p>
Singapore	<ul style="list-style-type: none"> RBC II – anticipated 1/1/17 Starting 2014, companies are conducting ORSA Outsourcing constraints 	<p>RBC II will introduce additional compliance costs and capital requirements (e.g., catastrophe risk charge). The Monetary Authority of Singapore (MAS) will require companies to complete an ORSA inclusive of an economic capital metric. However, the MAS has stated it “will not be evaluating the economic capital models of insurers, nor will MAS accept economic capital in lieu of regulatory capital requirements.”</p>
South Korea	<ul style="list-style-type: none"> RBC metrics recently recalibrated to a 99% confidence level (from 95%) South Korea's Financial Services Commission (FSC) has developed a Risk Assessment and Application System (RAAS) and indicates a move towards ORSA Implementation of IFRS 4 Phase II is anticipated between 2018 – 2020 Acceptance of internal models being explored 	<p>Given the FSC will no longer recommend a target solvency ratio (except above statutory min of 100%), companies will be encouraged to choose their own RBC targets as part of their ORSA.</p> <p>The upcoming IFRS changes will negatively impact (re)insurer balance sheets through market-based valuation of liabilities. Accordingly, companies may choose to include a buffer when selecting their solvency targets.</p> <p>In recent years companies needed to raise additional capital and relied on reinsurance to remain compliant – this trend may continue as new regulations take hold. Large, well-capitalized companies will be better positioned to succeed in the Korean market.</p>
Thailand	<ul style="list-style-type: none"> Forthcoming RBC II (2015 for life companies and anticipated 2016-17 for non-life) No current qualitative measure of risk - stress tests and risk assessments will be added to RBC II Deregulation of tariff rates for fire and motor expected by 2017 	<p>For a period of 3 years after the event, loss reserves from the Thai floods were not applicable to non-life companies' capital adequacy ratios. In recent years, property rates and terms have softened due to a resurgence of available capacity.</p> <p>The forthcoming tariff liberalization may further reduce rates in an already competitive marketplace.</p> <p>Many companies in Thailand currently use outside actuaries in order to conduct RBC modeling. A push to bring more sophistication “in house” as the RBC II framework nears implementation is anticipated.</p>

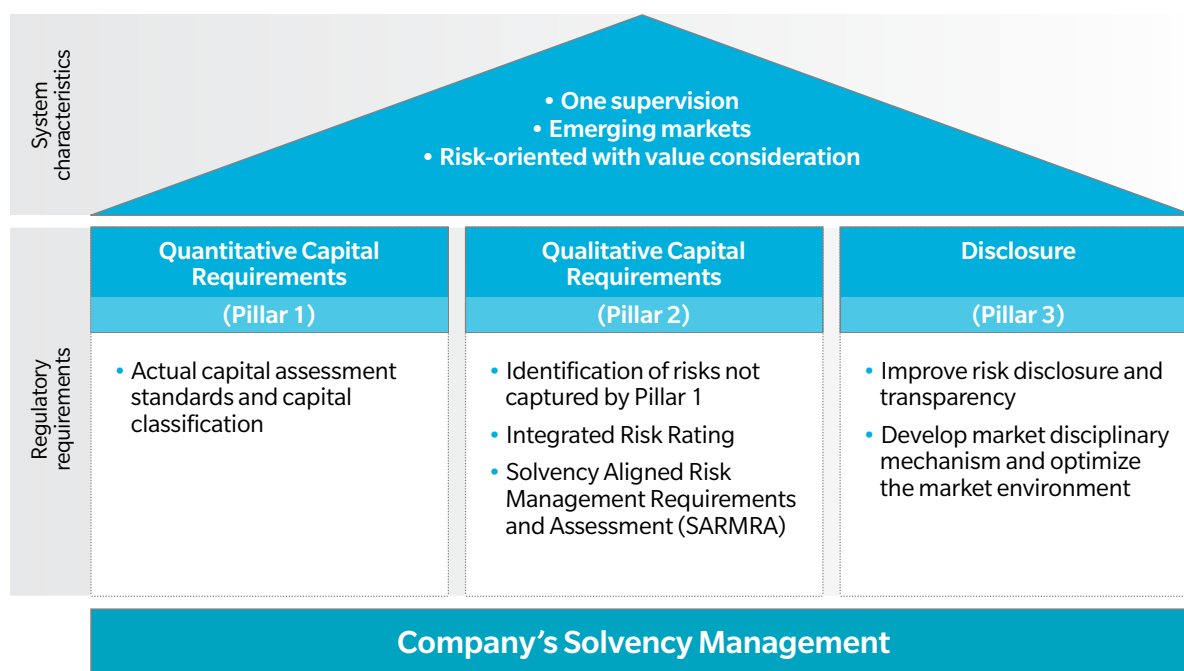
CHINA (C-ROSS)

The CIRC is instituting sweeping changes through its three-tiered C-ROSS framework that will dramatically impact how (re)insurers conduct business. It will strengthen capital requirements, risk management and transparency disclosures – bringing China in line with, and in some cases overtaking, global standards. The C-ROSS framework is similar to Solvency II: three tiers focusing on quantitative, qualitative and disclosure requirements.

The C-ROSS framework was developed rapidly and implementation timing is aggressive. Before C-ROSS, capital requirements were based only on premium levels and recent loss experience. The CIRC researched various solvency standards and in May 2013 published a paper explaining the conceptual framework for C-ROSS.

Industry testing started in 2014 with the aim to evaluate the reasonableness and practicability of the C-ROSS formula. The most updated version of C-ROSS was published on February 13, 2015, and the transition period of the solvency system with respect to meeting the capital requirements commenced. In the transition period, (re)insurers will run Solvency I and C-ROSS in parallel and report the results under the two solvency systems to the CIRC. Full implementation of C-ROSS is anticipated in January of 2016. Less than three years from concept to full implementation: celerity of which EIOPA officials can only dream, but time will tell if C-ROSS is ready for the market, and vice versa.

F-3 | C-ROSS FRAMEWORK



Source: CIRC



Pillar 1 will include various risk factors applied to premium, reserve and catastrophe risk based on lines of business. A table comparing the premium and reserve risk factors for C-ROSS and Solvency II can be found in Appendix Exhibit 1.

Credit risk charges are also included in the analysis, which will significantly impact reinsurance cessions and how international reinsurers conduct business in China. For example, cedents who use offshore reinsurers are penalized with credit risk factors ranging from 8.7 percent to 86.7 percent depending on reinsurer approval in domiciled countries and collateral positions. By contrast, cessions to onshore reinsurers are 0.5 percent to 4.7 percent when reinsurers meet a greater than 100 percent solvency ratio threshold. Collateral is recognized to offset some of the risk charge applied to cessions to foreign reinsurers. Retrocession business to offshore reinsurers is less punitive, with risk factors on recoverables from reinsurers rated AAA to BBB- ranging from 0.5 percent to 11.5 percent, respectively.

The large risk charge discrepancy is anticipated to increase cessions to onshore reinsurers at a cost to foreign carriers. Recent discussions have indicated various approaches by international reinsurers, including establishing a domestic capitalized branch, writing through the local Lloyd's operation or writing retrocession to access China-based exposures. It is anticipated that the CIRC will recognize funds withheld and letters of credit as collateral for reinsurance purposes.

The CIRC has also announced a system for tracking and approving reinsurance companies writing business in China. The Reinsurance Registration System (RRS) is anticipated to launch in January 2016 to coincide with C-ROSS. Domestic and international reinsurers and brokers will be required to register in the RRS.

Cedents must select companies that are approved on the RRS or potentially face penalties from the CIRC. Brokers and reinsurers that are not compliant from a truthfulness or timeliness standpoint will be barred from the RRS for a number of years.

RRS applicants must be recommended by a China-based affiliate, cedent or broker as well as meet various solvency and rating requirements. The registration is valid for three years, after which the reinsurer must renew its application.

C-ROSS anticipated areas of impact:

- Larger, multiline insurers may experience better outcomes based on receiving a diversification benefit.
- Small, monoline or thinly capitalized companies may need to raise capital or consider strategic alternatives.
- All companies will likely feel pressure to upgrade ERM capabilities.
- Increased consolidation is likely.
- Potential created for new, low-cost providers due to lower capital charges on certain lines.
- C-ROSS creates a protected market for domestic reinsurers, including Lloyd's and global reinsurance groups that have domestic operations. This may contribute to increased volatility in reinsurance and retrocession pricing.



INDONESIA

The average balance of payments in Indonesian reinsurance transactions over the past five years has been in a deficit of IDR5.65 trillion (USD455 million) per year. This has been a point of frustration for the Indonesian government. As such, the Indonesia Financial Services Authority (OJK) has instructed insurers to retain more risk and to reinsure more business with domestic reinsurers, including the recently-formed state reinsurer, Indonesia Re, to “improve and optimize capacity in the country.” The OJK has also encouraged all domestic reinsurers to obtain an international rating in order to improve competitiveness with foreign reinsurers. However, it is anticipated that high cessions to other unrated, domestic companies will increase credit risk charges and pressure capital adequacy ratios.

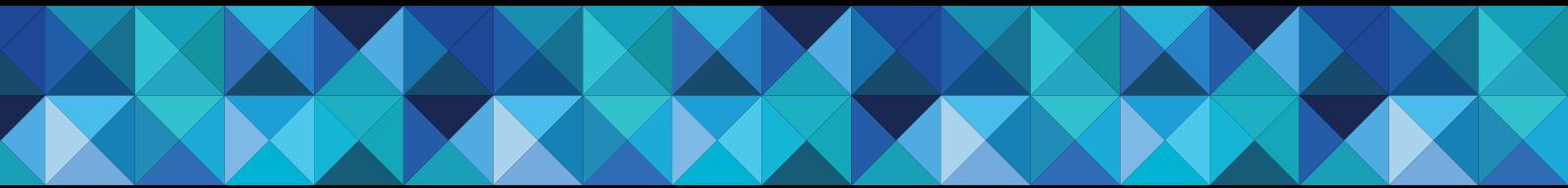
For treaty business, a minimum cession to domestic reinsurers is mandatory (25 percent of cessions or approximately USD15 million, whichever is higher). Further, the lead market should be a domestic reinsurer and at least two domestic reinsurers should participate on each treaty. One hundred percent cession to international reinsurers is only allowed if all domestic reinsurers and six domestic insurance companies all decline to participate. Some classes of business, including motor, personal accident, surety, credit and cargo must be 100 percent reinsured with local reinsurers.

These issues could potentially emerge in light of these new policies:

- Particularly in light of the current capitalization of domestic reinsurers, the local (re)insurance industry may become increasingly fragile as the level of retained catastrophe risk exposure builds. Indonesia is highly exposed to natural catastrophes, including earthquake and flood losses.
- Domestic reinsurers may not be able to provide lead terms due to lack of technical capabilities.
- Local reinsurers may have challenges in achieving an international rating due to weak capitalization.
- A reduction in knowledge transfer as international reinsurers’ participation in the local market is reduced.

Reinsurance rates have fallen dramatically in the first reinsurance renewals under these rules. While this is positive in the short term for reinsurance buyers, the result contradicts one of the regulator’s stated objectives to encourage market consolidation. Smaller reinsurers that may otherwise struggle to meet RBC requirements may now draw upon devalued reinsurance as capital to temporarily remain in compliance. An eventual market correction, particularly in a shock loss scenario, could be disastrous for policyholders of smaller insurers.






IV. MANAGING THE DEMANDS OF GLOBAL AND DOMESTIC REGULATION

NOW, AND ESPECIALLY WITH THE INTRODUCTION OF THE ICS, IT IS INCREASINGLY IMPORTANT FOR (RE)INSURERS TO AVOID UNNECESSARY, REDUNDANT AND DUPLICATIVE ACTIVITY IN THE ATTAINMENT OF REGULATORY SATISFACTION BY STRIVING FOR A UNIFORM FRAMEWORK.





There is very little doubt that (re)insurers face and will continue to face growing regulation and scrutiny both domestically and internationally. Therefore, (re)insurers should seek the most effective and efficient way to meet the growing demands of increased global regulation. What follows below is a brief discussion of the overlap of some of these new global regulatory requirements and thoughts on how (re)insurers might go about approaching them.

COMPARISON OF REGULATORY CAPITAL REQUIREMENTS

In planning and formalizing a global (re)insurer's approach to satisfying the regulatory requirements of each of its regional supervisors, (re)insurers would be wise to understand where the jurisdictional requirements and standards are both similar and dissimilar. Understanding these similarities and differences will go a long way in creating an enterprise solution to regulatory compliance while avoiding burdensome tasks and redundant efforts.



T-2 | SOLVENCY II PILLAR 2 REQUIREMENTS AND NAIC ORSA REQUIREMENTS

SOLVENCY II	NAIC
Solvency needs likely to include: 1. Calculation of SII balance sheet 2. Stress tests, sensitivity analysis, reverse stress testing	1. Quantitative or qualitative assessment of material risks required 2. May include stress tests, stochastic test, reverse stress tests 3. Analysis using both normal and stress conditions 4. Must consider impact of stresses on available and required capital
TIME HORIZON	
Solvency II	NAIC
1. Quantitative assessment must be forward looking (minimum 3 years) requires projection of balance sheet and capital requirements	1. Must be able to execute a multi-year business plan 2. Should be appropriate period based on risk profile and size 3. Consider projected balance sheet and income statement
GROUP ASSESSMENT OF CAPITAL	
Solvency II	NAIC
1. Yes and requires consideration of group-specific risks 2. ORSA required for legal entity (insurer) and group	1. Yes 2. ORSA not required for each entity but should be consistent with the way the business is managed
PROPORTIONALITY	
Solvency II	NAIC
1. ORSA should be appropriate to nature, scale and complexity of risks 2. Stipulated in more detail in Level 3 Guidance	1. ORSA should be appropriate to nature, scale and complexity of risks
COMPLIANCE WITH CAPITAL REQUIREMENTS	
Solvency II	NAIC
1. Required to demonstrate compliance at least annually	1. Nothing specifically required
ROLE OF BOARD	
Solvency II	NAIC
1. Board is owner of risk management 2. ORSA needs sign-off by management board	1. ORSA should be appropriate to nature, scale and complexity of risks
ERM	
Solvency II	NAIC
1. Companies need to demonstrate effective risk management practices 2. In addition companies using an internal model need to satisfy Use Test <ul style="list-style-type: none"> Pricing Capital management Planning Reinsurance Performance management 	1. ORSA should: <ul style="list-style-type: none"> Foster effective ERM Provide group level perspective on risk and capital
FREQUENCY	
Solvency II	NAIC
1. At least annually 2. Following changes in risk profile	1. Annually if not more
EXEMPTIONS	
Solvency II	NAIC
1. Only few exemptions for companies with premium income below EUR 5M or reserves below EUR 25M	1. Based on premium threshold
REQUIRED DOCUMENTATION	
Solvency II	NAIC
1. Internal report 2. ERM framework 3. Supervisory report 4. Record of each process	1. Internal document of process and results 2. High-level Summary report to lead state commissioner if part of group and upon request by regulator



GAINING OPTIMUM VALUE FROM ORSA

ORSA was first introduced as a regulatory requirement as a result of Solvency II. (Re)insurers would be wise to take note of the many similarities between Solvency II and the NAIC's ORSA and, where possible, avoid reinventing the wheel when trying to implement them. Now, and especially with the introduction of the ICS, it is increasingly important for (re)insurers to avoid unnecessary, redundant and duplicative activity in the attainment of regulatory satisfaction by striving for a uniform framework to establish risk management and controls, corporate governance, transparency and disclosures across borders. In so doing, (re)insurers will gain optimum value from their ORSA.

The primary objective of both the NAIC's and Solvency II's ORSA is for (re)insurers to be able to demonstrate to regulators that the legal entities or statutory companies and the group or holding companies have enough regulatory and economic capital to cover all of their risk and run their businesses. Interestingly enough, the ICS is all about creating a consistent capital measure across globally active (re)insurers and is supposed to provide a solution for group-wide supervisors to better manage capital allocation around an international business. In the wake of all of this regulation, (re)insurers would be wise to try and kill two regulatory birds with one stone. We expect the concepts of ORSA to play a significant role in (re)insurance supervision around the globe in at least the following areas:

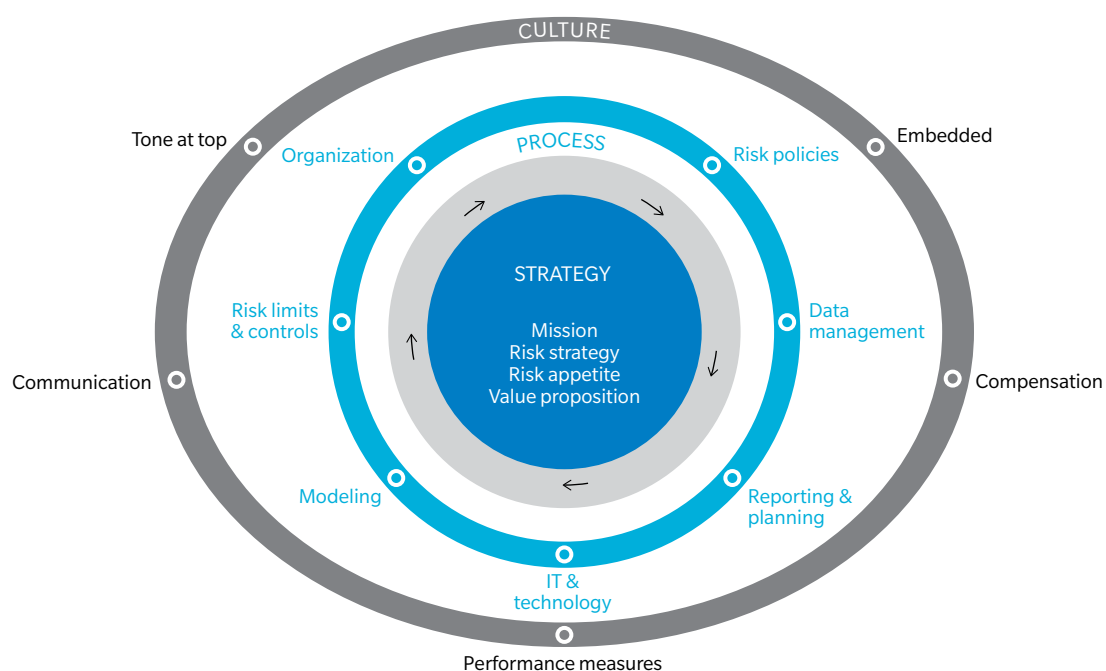
1. Group capital assessments will be performed and examiners, analysts and regulators will use ORSA to assess groups' own assessment and management of capital.
2. ORSA can also provide information to the supervisors in determining supervisory actions, including sanctions and even capital add-ons that supervisors can impose on (re)insurers.
3. ORSA should be used as a tool to help supervisors understand the (re)insurer's risks and how risk and capital is managed.
4. A successful and effective Solvency II ORSA process should lend itself to a smoother transition into ICS, but (re)insurers in the United States will need to understand that ICS, as it is defined today, would be a considerable change for them. Although U.S. (re)insurers would also be wise to leverage the ORSA components in addressing the ICS calculation.

A possible consideration for U.S. (re)insurers is to examine the requirements for a complete ORSA Summary Report – specifically Section 3: Group Risk and Solvency. While ICS would mean a considerable change from the way U.S. (re)insurers plan on completing Section 3, there is no reason to think that ICS could not be used someday when completing this section of the ORSA Summary Report.

ORSA FRAMEWORK

(Re)insurers that are required to implement ORSA, or a similar framework such as ICAAP, may benefit by adopting a strong ORSA/ERM framework. One such framework that could work on a global basis is illustrated in figure 4.

F-4 | ORSA/ERM FRAMEWORK –THE FOUR LAYERS



An effective ERM is important because it will...

- Enable a deeper understanding of and broader adherence to the risk appetite
- Drive a positive risk culture
- Link risk, capital management and business strategy with each other
- Enable understanding of key risk drivers
- Comprehensively assess the current risk profile and aid in forward looking risk management
- Help in the planning process, especially around capital management
- Provide insight on the robustness and efficacy of risk management processes, tools and controls
- Satisfy regulatory and ratings agencies requirements and facilitate constructive dialogue

Source: Oliver Wyman Group

There are four layers to the ORSA/ERM process. Layer 1, is the “Strategy” and it is here where (re)insurers articulate their mission, value proposition, risk appetite and their risk tolerances. Layer 2, is the “Risk Management Process.” Layer 2 may very well be the foundation for ORSA/ERM as it is here where (re)insurers maintain their risk management processes and it is here where risks are identified, assessed (quantified), mitigated, monitored and reported on to the stakeholders. Layer 2 is also where the internal model, including the calculation kernel, under Solvency II resides and where risks and capital management are to be synchronized with the (re)insurer’s planning process. Layer 3, “Infrastructure,” includes corporate governance, data, systems, methodologies and models, policies and reporting. Layer 4, “Culture,” is where the Board and senior management set the risk management tone through compensation, training, communication and performance standards.



ADDRESSING ORSA/ERM AND ICS GLOBALLY

In accordance with the objectives of the NAIC and EIOPA, ORSA is “people and risk-centric,” primarily employing a principles-based approach, as opposed to a rules-based approach. This means that decisions on matters related to risks are largely based on the judgment of individuals relying on underlying facts, as opposed to decisions being made mostly by following intricate sets of rules. This is similar to the principles-based approach taken by International Financial Reporting Standards (IFRS). Although the calculation of the Solvency Capital Requirements (SCR) under Solvency II is rules based, like ICS, Solvency II can be a “one size fits all” rules-based approach to capital, especially if the standard formula is used. (Re)insurers will need to find a way to incorporate ICS into their ORSA processes and the vehicle to accomplish this may be through the internal model.

The calculation of the ICS will most likely be very complicated but it is too soon to determine if the calculation of the capital measure under ICS will be too dissimilar from the calculation kernel under Solvency II or even the economic capital requirements under the NAIC’s ORSA. With any luck, the calculation of the capital requirements will be similar to that which groups are already doing and using either because it is similar to the main regulatory calculation or is similar to the (re)insurer’s own internal model and the calculation of the capital requirements in the calculation kernel. Time will tell just how complicated the ICS will be and whether it will be similar to the standard formula in Solvency II.

INTERNAL MODEL

What is an internal model? The EIOPA does not give a formal definition of what an internal model is. However, in *Article 112*, General Provisions for the Approval of Full and Partial Models in the Solvency II Directive, it merely states that “Member States shall ensure that insurance or reinsurance undertakings may calculate the Solvency Capital Requirements using a full or partial internal model as approved by the supervisory authorities.”

Much like EIOPA, the NAIC stated that quantitative risk measurement should incorporate a “range of outcomes” and that a (re)insurer should use “risk measurement techniques that are fit for purpose and that are proportional to the (re)insurer’s risk profile and size.” However, unlike European regulators that are required to approve a (re)insurer’s internal model, the NAIC is not currently requiring pre-approval of the (re)insurer’s internal model prior to its use.

What will be interesting to see is how the different proposed ICS options may affect (re)insurers. Hopefully whichever option is selected, it will be a calculation that is not too dissimilar from the one done today or the one that will be done under Solvency II and NAIC ORSA.

THIRD-COUNTRY EQUIVALENCE

Current capital requirements in the United States are set at a legal-entity level. Yet there are currently no global requirements for companies that operate in more than one country, and calculation formulas for capital requirements typically vary in each jurisdiction. Solvency II is the closest to mandating a group standard. Solvency II uses the concept of “equivalence” to deal with differing capital regimes between the EU and the rest of the world including the United States, instead of forcing Solvency II standards on a third country.

In June 2015, the European Commission confirmed “provisional” equivalence for a period of 10 years for six countries – Australia, Bermuda, Brazil, Canada, Mexico and the United States. Only Switzerland was granted “full and permanent” equivalence status. To calculate the group solvency position, European insurance groups are permitted to use the local capital requirement rules of the corresponding country for subsidiaries within these seven countries. But there is still a lot of uncertainty around the extent to which the different RBC ratios should be used.



For subsidiaries in other countries, European insurance groups are still in the dark as to which capital requirement rules should apply. The same is true for possible group supervisory requirements for European subsidiaries of overseas groups and the requirements for reinsurance contracts bought from reinsurers outside Europe. A second round of equivalence decisions by the European Commission is expected in the autumn of 2015. It is believed that other countries, such as China, Hong Kong and Singapore are also interested in “provisional” equivalence status.

The Japanese Financial Services Agency is seeking to achieve equivalence only for domestic reinsurance companies writing business in Europe. This will allow Japan-domiciled reinsurers to assume business in Europe without collateral requirements for unearned premium or reinsurance recoverables. In a 2015 report by EIOPA, Japan was listed as equivalent or largely equivalent in five out of six considered categories, so it is believed that Japan will be granted “full and permanent” equivalence for reinsurance business.

U.S. insurance regulators have historically required non-U.S. reinsurers to hold 100 percent collateral within the United States for the risks they assume from U.S. insurers. As reinsurers are ultimately providing insurance to other insurance companies that are directly protecting U.S. policyholders, requiring collateral in the United States is intended to ensure claims-paying capital is available and reachable by U.S. firms and regulators should it be needed, particularly in the wake of a natural disaster. Foreign reinsurers’ regulators and politicians have objected to this requirement in part because this capital is not available for investment in other opportunities.

State regulators understand and recognize that the potential for variation across states makes planning for collateral liability more uncertain and thus potentially more expensive. State regulators have been working together through the NAIC to reduce collateral requirements in a consistent manner commensurate with the financial strength of the reinsurer and the quality of the regulatory regime that oversees it.

Recently, the NAIC passed amendments that reduce the financial strain on foreign reinsurers. Foreign insurers may post less than 100 percent collateral for U.S. claims, provided the reinsurer is evaluated. The NAIC established a number of new processes and procedures for evaluating and overseeing foreign reinsurers in addition to making amendments to the “Credit for Reinsurance Models.”





V. RATING AGENCY DEVELOPMENTS



INCREASINGLY, A WELL-DEFINED RISK MANAGEMENT FRAMEWORK WITH BOARD OF DIRECTORS OVERSIGHT IS THE BASELINE STANDARD EXPECTED FROM COMPANIES SEEKING A RATING.



There is a great deal of overlap between the goals of government regulators and credit rating agencies. The difference, however, is in the output, with regulators providing a license to trade, or not, and the rating agencies offering a graduated scale of relative strength. Regulatory solvency approval can be viewed as a “qualifier” or minimum standard required to be considered by a customer. A credit rating, on the other hand, can act as a “winner” or differentiating factor that results in a successful sale.

Given their impact on customer buying decisions, international rating agencies are able to quickly influence boardroom discussion around topics such as emerging risks, ERM best practices and catastrophe analytics. Currently, the capital and management sophistication levels needed to obtain a strong credit rating are escalating. As (re)insurance buyers continue to value the claims-paying ability of their trading partners, rating agency standards will continue to push insurer ERM and capital adequacy innovation further.

UNITED STATES

A.M. Best has hosted several Webinars in 2015 to share their proposed changes and preliminary observations related to their efforts to upgrade the Best’s Capital Adequacy Ratio (BCAR) capital model to include stochastic-based analysis. The rating agency is in the process of completing internal testing and expects to issue a draft criteria report in the summer of 2015, with a goal to implement the new model in the second quarter of 2016 using year-end 2015 data. It is important to note that A.M. Best has not finalized its stochastic BCAR model and many open questions and alternative treatments are being considered during this testing/calibration phase.

A.M. Best plans to establish consistent VaR metrics across risk components (investments, interest rate, credit, loss reserves, underwriting) tied to a company’s rating level and implied security standard. While difficult to predict the final outcome of these changes directionally, it is anticipated that risk factors will increase.

The methodology of the P&C BCAR calculation is expected to remain the same, with the exception of “Potential Catastrophe Losses,” which will be moved to the numerator from the denominator. The expected impact of this change would be to reduce BCAR scores for catastrophe-exposed companies.

We have ranked the P&C risk components based on what we believe will be the relative impact to companies of potential changes to capital factors and required capital:



In addition to the quantitative changes in the BCAR model, A.M. Best continues to place an emphasis on ERM. Increasingly, a well-defined risk management framework with board of directors oversight is the baseline standard expected from companies seeking a rating.



EUROPE

In anticipation of the January 2016 rollout, the European insurance industry is focused squarely on Solvency II. Rating agencies have recently refrained from instituting any new criteria and appear to be watching these developments with a keen eye.

For example, it is expected that A.M. Best will deploy the stochastic BCAR analysis one year after its U.S. release (target Europe 2017). Standard & Poors (S&P) has not announced any new criteria since the 2013 revision of global criteria, which left the capital model untouched but improved the transparency and consistency of much of the rest of the ratings assessment. In July of 2015, Fitch recalibrated its notching criteria for the insurance sector, which led to multiple reinsurer upgrades.

ASIA PACIFIC

In Asia Pacific, as elsewhere in the world, A.M. Best continues to place an increased level of emphasis on ERM program development.

Catastrophe risk, particularly for non-vendor modeled perils, remains an important component of companies' risk management review and the capital adequacy analysis as many Asian countries face multiple catastrophe perils including flood, typhoon, earthquake, volcano and terrorism.

In less developed economies, counterparty credit risk can also impact capital adequacy ratios. For example, recent reinsurance cession requirements in Indonesia have created a difficult situation. The regulatory body encourages companies to obtain ratings from global rating agencies while requiring insurers to cede a larger amount to domestic reinsurers that do not have a rating. These cedents then face higher credit risk charges which result in pressure on ratings.

Companies seeking an S&P Financial Strength rating in less developed economies often find their rating limited by the sovereign rating of the country of domicile, regardless of stand-alone financial strength. This limitation as a function of rating criteria has contributed to S&P's shrinking market share in the region.

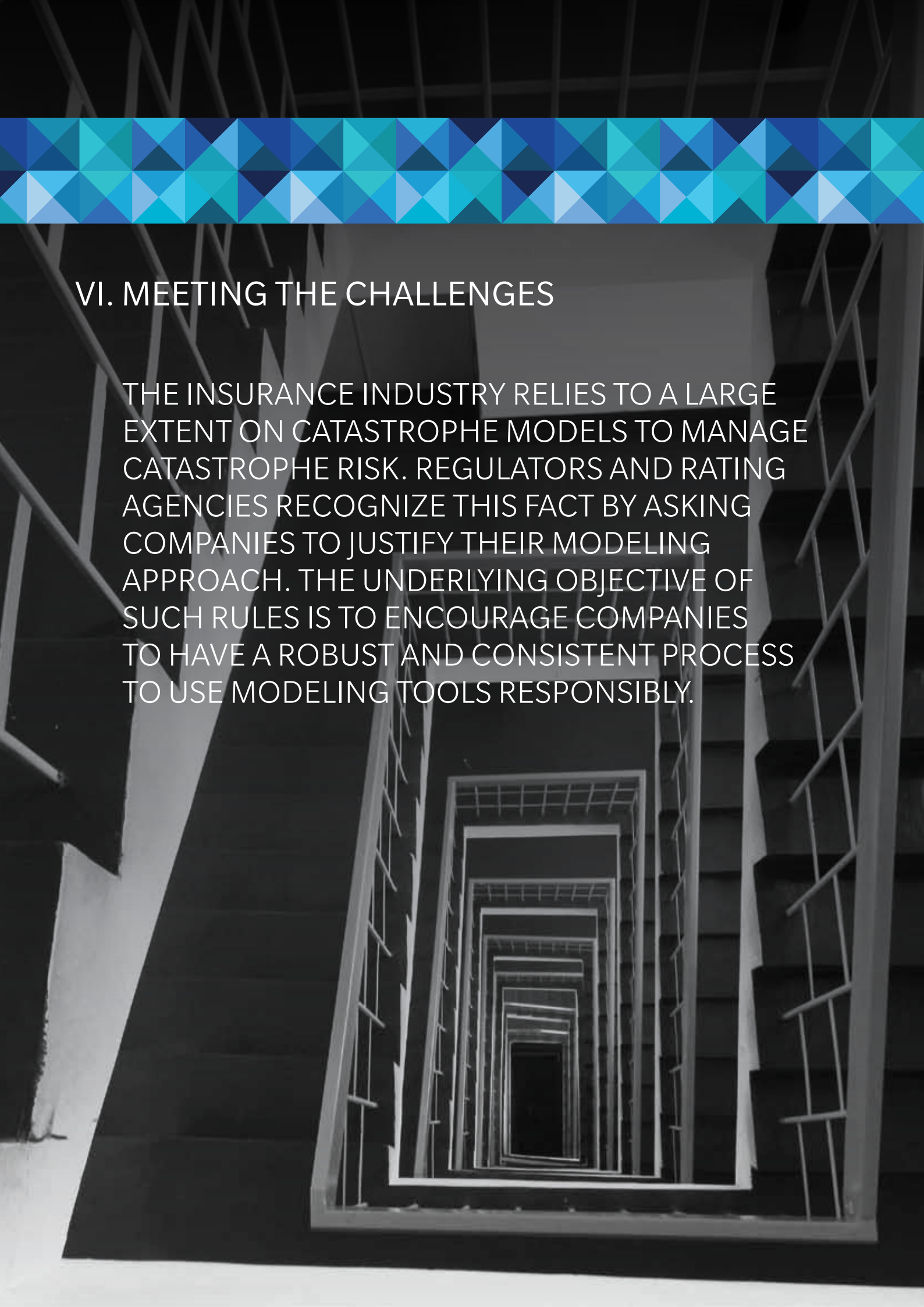
Fitch and Moody's have similar sovereign rating "ceilings" built into their criteria, but each have invested heavily in the region to grow ratings coverage. Moody's appear to have recently captured a leading market share in insurance financial strength ratings in China.






VI. MEETING THE CHALLENGES

THE INSURANCE INDUSTRY RELIES TO A LARGE EXTENT ON CATASTROPHE MODELS TO MANAGE CATASTROPHE RISK. REGULATORS AND RATING AGENCIES RECOGNIZE THIS FACT BY ASKING COMPANIES TO JUSTIFY THEIR MODELING APPROACH. THE UNDERLYING OBJECTIVE OF SUCH RULES IS TO ENCOURAGE COMPANIES TO HAVE A ROBUST AND CONSISTENT PROCESS TO USE MODELING TOOLS RESPONSIBLY.





In realizing the goal of profitable growth, (re)insurers require a trusted partner to help them manage a rapidly evolving regulatory and rating agency environment.

REGULATORY ADVISORY

The regulatory issues facing insurers and reinsurers today often require highly specialized expertise that may not be readily accessible to clients – from taking credit for reinsurance on financial statements to complying with regulatory requirements in contract wordings to shepherding new products through the approval process. Guy Carpenter Strategic AdvisorySM has a team of professionals whose deep expertise and knowledge can help companies navigate the regulatory realm.

In order to respond to client regulatory needs, Guy Carpenter Strategic Advisory provides a broad range of consulting services in a number of areas, including licensing, market conduct examination, contracts, trusts and letters of credit, Solvency II, ORSA and ERM advisory, research and client advocacy.

RATING AGENCY ADVISORY

Ratings are a key indicator for many insurers and (re)insurance buyers. Amid evolving rating agency concerns and the complexity of ERM requirements, Guy Carpenter Strategic Advisory provides clarity. We help clients take a proactive approach to enhance risk-adjusted capitalization, build up ERM, improve communications with rating agencies and optimize rating outcomes.

The Guy Carpenter Rating Agency Advisory team helps clients understand the factors that influence ratings, identify the information and opportunities that can positively (and negatively) impact assessments and strategically communicate with rating agencies. We have a long and proven track record of providing technically credible and practical ratings advice and solutions.

Our extensive rating agency experience and insight, coupled with Guy Carpenter's expertise in risk management, reinsurance and capital markets, uniquely position us to provide clients with best-in-class advice and solutions to achieve ratings goals. Additionally, we are able to embed this knowledge into the reinsurance broking and GC Securities* mergers and acquisitions and insurance-linked securities offerings, ensuring that strategic decisions are reviewed for their impact on existing ratings.

The Rating Advisory team delivers a wide range of comprehensive advisory services, including indicative rating assessment, financial modeling and analysis, presentation support and ERM advisory.

CATASTROPHE MODELING

The insurance industry relies to a large extent on catastrophe models to manage catastrophe risk. Regulators and rating agencies recognize this fact by asking companies to justify their modeling approach. The underlying objective of such rules is to encourage companies to have a robust and consistent process to use modeling tools responsibly. This often entails:

- Understanding the models and their uncertainty
- Validating the tools they adopt and invalidating the ones they choose not to adopt
- Justifying any adjustments and variations made to commercially available models.

A company that is confident in these areas will have an easier time responding to new regulatory submission responsibilities.



Model Suitability Analysis (MSA)[®]: Catastrophe Model Confidence

To assist clients in the pursuit of developing a view of risk in which they have confidence, Guy Carpenter introduced the Model Suitability Analysis (MSA) initiative in 2012. The MSA framework consists of eight components arranged across three pillars: evaluation, integration and communication:

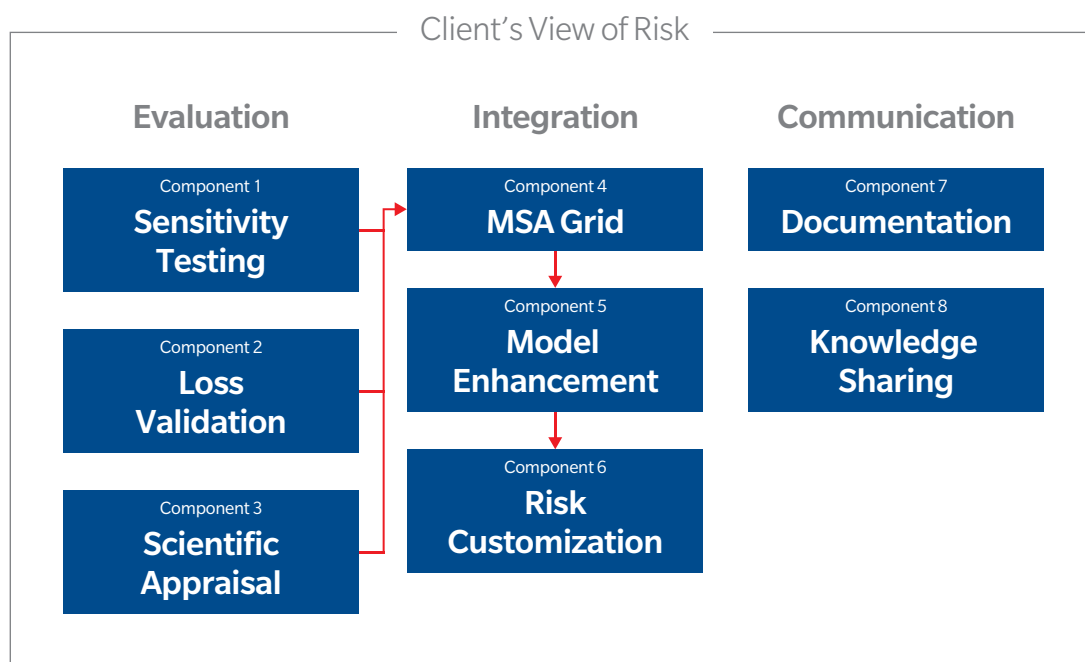
MSA Evaluation is driven by rigorously defined tests that cover the three critical areas in which models are investigated:

- Sensitivity Testing – To establish how the model responds to changes in portfolio data
- Loss Validation – To determine whether the model is proficient at reproducing historical claims
- Scientific Appraisal – To benchmark model assumptions against scientific datasets.

MSA Integration is about incorporating Guy Carpenter’s MSA knowledge into our clients’ operations. Tests are tailored to our clients’ risk exposures. Clients may choose to validate their view of risk or to recalibrate their models to a view they believe is more suitable for their company.

MSA Communication consists of establishing a standard recording system for all assumptions and analyses made within the company with regard to model evaluation and adjustments. Through a series of protocols and standard exhibits, MSA helps our clients communicate their understanding of risk with internal as well as with external stakeholders. Clients use MSA documentation for regulatory submissions and for establishing a common view within their corporate family.

F-5 | MSA BASIC FRAMEWORK



Source: Guy Carpenter



VII. CONCLUSION

The costs associated with compliance and disclosure will continue to rise as insurance regulators and rating agencies increase their scrutiny of the industry. (Re)insurers that operate on a global scale, for example, may wrestle with the complexity of multiple capital requirements and the return targets of investors. Smaller companies, often with fewer resources, may be forced to allocate a higher percentage of senior management's time to compliance. It will become increasingly more important for (re)insurers to avoid unnecessary and redundant activity when seeking regulatory approval.

In addition to the increased administrative cost of compliance, higher risk-based capital requirements often reduce the strategic flexibility of insurance company operations and ultimately lower returns.

While these evolving quantitative and qualitative reporting requirements are burdensome, they help regulators more effectively track and manage risk and reduce harm to policyholders. There is also, of course, the potential for overregulation leading to risk aversion, reduced competition in the form of higher premiums and fewer product options.

A delicate balance must be struck between the interest of government regulators, (re)insurers and policyholders. When successful, appropriate regulations can improve underwriting discipline, protect consumers and build more resilient markets.



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APPENDIX

Exhibit 1- Comparison of Premium and Reserve Risk Factors

Premium risk factors under C-ROSS and Solvency II:

C-ROSS line	Risk factor (RF)	Solvency II line	RF = Std. Dev x 3
Motor	8.43~9.3%	Motor vehicle liability	30%
		Motor, other classes	24%
Property/CEAR	29.1~40.2%	Fire	24%
Marine	24.6~28.0%	Marine, aviation, transport (MAT)	45%
Liability	9.0~14.5%	Third-party liability	42%
Agriculture	18.9~33.8%		
PA	3.5~8.5%	Income protection	25.5%
Health	8.4~20.8%		
Credit	37.3~46.3%	Credit and surety	36%

Source: Guy Carpenter

Reserve risk factors under C-ROSS and Solvency II:

C-ROSS line	Risk factor (RF)	Solvency II line	RF = Std. Dev x 3
Motor	10.03~11.45%	Motor vehicle liability	27%
		Motor, other classes	24%
Property/CEAR	57.3~64.1%	Fire	30%
Marine	51.3~63.2%	Marine, aviation, transport (MAT)	33%
Liability	35.0~42.2%	Third-party liability	33%
Agriculture	27.8~39.8%		
PA	13.0~19.3%	Income protection	42%
Health	16.8~24.7%		
Credit	40.2~50.5%	Credit and surety	57%

Source: Guy Carpenter



ABOUT GUY CARPENTER

Guy Carpenter & Company, LLC is a global leader in providing risk and reinsurance intermediary services. With over 50 offices worldwide, Guy Carpenter creates and executes reinsurance solutions and delivers capital market solutions* for clients across the globe. The firm's full breadth of services includes line-of-business expertise in agriculture; aviation; casualty clash; construction and engineering; cyber solutions; excess and umbrella; excess and surplus lines; healthcare & life; marine and energy; mutual insurance companies; political risk and trade credit; professional liability; property; public sector; retrocessional reinsurance; surety; terrorism and workers compensation. GC Fac® is Guy Carpenter's dedicated global facultative reinsurance unit that provides placement strategies, timely market access and centralized management of facultative reinsurance solutions. In addition, GC Analytics*** utilizes industry-leading quantitative skills and modelling tools that optimize the reinsurance decision-making process and help make the firm's clients more successful. For more information, visit www.guycarp.com and follow Guy Carpenter on Twitter @GuyCarpenter.

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