

May 21, 2010

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RE: Country Solvency Comparisons
Materials for Developing U.S. ORSA

The purpose of this memo is twofold: (1) to provide a high-level summary of the key characteristics of solvency regulation in several countries: Canada, Bermuda, Australia, and the United Kingdom, as well as Solvency II¹; and (2) to provide some suggestions for material that might be considered for inclusion in a U.S. ORSA document.

1. Country Comparisons of Key Solvency-related Characteristics

A numbered, bullet point approach is used below to present the Key Solvency-related Characteristics of the United Kingdom, Bermuda, Australia, and Canada. Key Solvency-related Characteristics for Solvency II are reviewed also.

Some similarities tend to occur across the systems evaluated, extending beyond the use or potential use of internal models. More specifically, all of the systems reviewed either use or allow the option of using a risk-based-capital approach for determining minimum capital or target capital. An emphasis on insurer corporate governance and risk management is stressed in all solvency regulation reviewed, with Australia producing specific risk management and corporate governance standards that insurers must comply with. Most regulatory systems make a distinction between the quality of different types of capital by classifying the different sources of capital (e.g., ordinary shares, perpetual cumulative preferred stock) into different tiers. Calibration of models and stress tests also tend to be incorporated into solvency requirements. Solvency systems differ as to whether operational risk is treated quantitatively (e.g., in Bermuda and Australia it is treated quantitatively).

¹ A webinar for the Swiss system has been produced previously.

United Kingdom – Key Regulatory Solvency-related Characteristics

1. The UK has the *Individual Capital Adequacy Standard (ICAS)*. This standard is made up of two components:
 - a. Insurer management must carry out a *self* assessment of how much capital the firm needs given its business model and risk appetite. This amount is known as the Internal Capital Assessment (ICA). For each major source of risk identified, appropriate stress tests and scenario analyses must be performed. Through the ICA the firm should be able to demonstrate a level of solvency which can be compared to a 99.5% probability of remaining solvent over one year.
 - b. A supervisory tool, *Individual Capital Guidance (ICG)*, in which firms are given guidance on their ICA by the FSA, is used. In evaluating an insurer's ICA, the FSA is interested in the answer to three main questions:
 - Is there senior management engagement, including the Board?
 - How are the ICA principles and models being used for ongoing management purposes?
 - How are the ICA results used to influence risk management goals and prioritize activity?

The ICAs are reviewed for capital adequacy. In the course of doing this, the firm's overall operations are reviewed, including risk management and corporate governance processes. Guidance from the FSA may entail increased capital for the firm.
2. Minimum Capital Standards exist.
 - a. Two tests are implemented for life insurers that have "with profits" (participating business). The first is a test based on Solvency I, and the other is a test based on realistic values for assets and liabilities (FSA test). The second test applies only to the largest "with profits" firms.
 - b. Nonlife firms must hold the greater of the Minimum Capital Requirement (based on Solvency I) or the Enhanced Capital Requirement (ECR). The ECR uses a factor-based approach, similar to risk based capital. It is not meant to be a true risk-based capital standard – but it is intended to be better than the EU's Solvency I requirement.
3. The Annual Return has detailed information on premiums and claims for each line of business. It includes audited financial statements, a management or directors' report, and responsibility statements made by the people responsible within the insurer.
4. The FSA assesses insurer risk by the impact and probability of failure. (It does this through the ARROW framework.)
5. Depending on a firm's ARROW rating, it may receive an on-site visit. An on-site visit may also be part of the ICAS process.
6. Two tiers of capital are used for insurers, with Tier 1 capital including ordinary shares, member contributions, and audited reserves. Lower tiers of capital (such as long-term or perpetual subordinated debt) are subject to limits or require a waiver to be included in capital resources.

Solvency II – Key Regulatory Solvency-related Characteristics

1. Solvency II is designed to replace Solvency I, with one of its goals being to more fully apply modern risk management, actuarial, accounting and governance standards.
2. An Own Risk Self Assessment (ORSA) report is required.
3. Solvency II consists of three pillars.
 - Pillar I is concerned with minimum capital requirements (MCR), solvency capital requirements (SCR), reserves and funds eligible to count as capital.
 - Pillar II's scope is supervisory review (including review of an insurer's Own Risk and Solvency Assessment (ORSA)).
 - Pillar III deals with public transparency and market discipline through public reporting standards.
4. The Solvency Capital Requirement (SCR) is based on the economic capital needed at a certain ruin probability (0.5%) over a one year time horizon.
5. Insurers may compute SCR using a standard model, an internal model or a combination of the standard and internal model.
 - a. The standard model is a risk-factor based model that takes into account nonlife, life, and health underwriting risk; market risk, credit risk, and operational (including legal) risk.
 - b. Use of an internal model requires supervisory approval. In order to obtain supervisory approval, the insurer must meet certain requirements such as documented, well functioning risk management and governance systems, statistical quality standards, calibration standards, validation standards, documentation standards, and a "use" test for the model.
7. Scenario testing is required whether the firm uses a standard or internal model.
8. A capital-add on may be required if the insurer's governance system is perceived as inadequate or if the assumptions of the standard model do not fit the firm well.
9. Market consistent values of liabilities and assets are used in all reports.
10. The insurer's capital is divided into three tiers according to the extent to which it can be counted on when the firm is in financial distress.
11. The annual Solvency and Financial Condition Report (SFCR) (to be made public) requires the insurer to provide financial information and to give complete information about governance. It should indicate the main drivers and trends that may affect the firm (either positively or negatively) over the firm's planning horizon. For different, significant risks faced by the firm, the firm must indicate the risk exposure, concentration, mitigation and sensitivity of the firm to the exposure.
12. Public disclosure of internal models is not required nor is the ORSA report.

Canada – Key Regulatory Solvency-related Characteristics

1. Insurance is regulated at the provincial and federal level. However, most insurers are federally registered, and as such are regulated for solvency purposes by OSFI.
2. OSFI considers corporate governance, risk management, financial analysis, internal audits, board oversight, and compliance with applicable laws and regulations as key components of ensuring insurer solvency.
3. Capital available to be used to meet solvency requirements is divided into Tier 1 and Tier 2 capital. Tier 1 (core capital) and Tier 2 (supplementary) capital are meant to be similar to the capital tiers under Solvency II.
4. Capital requirements are expressed as a ratio of actual capital to required capital.
5. The life capital test uses four types of approaches to find the Minimum Continuing Capital and Surplus Requirements (MCCSR).
 - a. a factor approach based on assets or liabilities is used for credit, market (interest rate) and pricing risks
 - b. a formula approach is used for mortality insurance risks
 - c. a scenario approach is used for insurance lapse risks
 - d. a mixed approach (company model or factors based on industry model) is used for Segregated Fund guarantees.
6. The property & casualty capital test, the Minimum Capital Test (MCT), is a risk-based test that focuses on the credit and liability risk of property casualty insurers.
7. The minimum capital standard is set at 120% of the MCCSR (life) or MCT (property & casualty).
8. In the future it is anticipated that internal models will gradually be allowed. However, full-blown internal models will not come into use all at once. Instead, internal models may be added for one type of risk at a time. For example, to start, an internal model for market risks only is anticipated to be available for qualified insurers in the near future.
9. OSFI relies heavily on the actuarial and accounting profession in its regulatory framework.
10. Federally registered insurers are required to file quarterly and annual financial statements, and the accounting system is Canadian GAAP.
11. ISFR will be used starting in 2011.
12. Insurers are required to report on their corporate governance, risk management, internal audits and board oversight.
13. Federally registered insurers are examined at least once every 3 to 5 years.
14. As off-site analysis, each federally registered institution is rated by OSFI according to its net risk. Net risk is obtained by offsetting the aggregate quality of risk management against the aggregate level of inherent risk of the insurer.

Bermuda – Key Regulatory Solvency-related Characteristics

1. Insurers in Bermuda are categorized into several classes. The objective of the class system is to retain light regulation for firms such as single captives, which insure only the risks of the parent corporation, while increasing the regulatory stringency for firms that write business more broadly (e.g., reinsurers).
2. The risk-based capital requirement is called the Bermuda Solvency Capital Requirement (BSCR). It incorporates eight Capital Risk Charges, calibrated at 99% Tail VaR. The eight Capital Risk Charges are for fixed investments risk, equity investments risk, interest rate risk, premium risk, credit risk, reserve risk, catastrophe risk and operational risk.
3. Insurers with minimum capital and surplus of \$100M and underwriting direct excess liability and/or property catastrophe reinsurance may use an internal model, but they must meet certain requirements. For example, the insurer must demonstrate that a comprehensive and effective approach to risk management is used and that a prudent approach to capital management is used (e.g., in terms of minimum calibration levels).
4. Insurers must submit a statutory financial return.
5. Stress testing is conducted.
6. Insurers must submit a Capital and Solvency Return which includes a description of the risk management program, risk exposures, and stress tests/scenario analysis.
7. A formalized on-site inspection program exists and applies to all insurer classes. Inspections are conducted at least once every three years.
8. Off-site analysis is conducted which involves assessment of the insurer's inherent risk. Factors such as quality of corporate governance, quality of risk management, and capital support are offset against the inherent risk to come up with a composite insurer rating.
9. Capital add-ons are applied as deemed necessary.
10. Benchmarking/ peer group comparisons are conducted to identify outliers.

Australia – Key Regulatory Solvency-related Characteristics

1. One of three approaches can be used to determine minimum levels of capital:
 - a. Internal model based (IMB) method – use of an IMB requires regulatory approval. As of 10/2009 no companies have been approved although several applications to use the IMB method are expected. Insurer must have an appropriate Economic Capital Model to use IMB. The insurer's Minimum Capital Requirement (MCR) must be an amount of capital sufficient for the probability of default to be 0.05 or less.
 - b. Prescribed Method – a factor-based approach is used to determine capital charges for Insurance risk, Investment risk, and Concentration risk.
 - c. Combination of IMB and Prescribed Methods.

An insurer must hold capital at least equal to the minimum.
2. As part of its solvency guide, APRA has issued standards relating to corporate governance and risk management.
 - a. governance standard. The governance prudential standard sets out the minimum foundation for good governance of insurers and includes, for example, specific requirements with respect to Board size and composition.
 - b. risk management standard. This aims to ensure that the insurer has systems for identifying, assessing, mitigating, and monitoring risks. Among other things, the standard requires that the insurer have a documented Risk Management Strategy.
3. An insurer must have an Appointed Auditor and an Appointed Actuary.
4. Annual and quarterly statutory returns reported on the basis of modified IFRS must be filed.
5. APRA has created a risk rating model called Probability and Impact Rating System or PAIRS. This model evaluates insurers on the basis of their likely failure rate and on the impact should they fail.
6. An insurer is mapped into one of four supervisory stances based on the PAIRS rating: normal, oversight, mandated improvement, restructure.
7. Capital is divided into two tiers. Tier 1 capital includes, for example, ordinary paid up shares, retained earnings, and current year's earnings. Tier 2 capital includes items such as term subordinated debt and perpetual cumulative preferred shares.

2. Suggestions for items to be included in an U.S. ORSA document

While we have yet to hear about the components of ORSA under Solvency II, the Swiss have already implemented requirements that conceivably could constitute at least part of an ORSA Report. The following publications provide potentially interesting and useful suggestions for material to include in an ORSA: (1) White Paper of the Swiss Solvency Test (http://www.finma.ch/archiv/bpv/download/i/WhitePaperSST_en.pdf). (2.) Swiss Quality Assessment Corporate Governance Tool (attached file: SQA_CG_Tool_EN.pdf); and (3) Swiss Quality Assessment Risk Management/ Internal Control System Tool (RM/ICS Tool) (attached file: SQA_RM_IKS_Tool_EN.pdf).

As part of the Swiss Solvency Test (SST), insurers are required to submit An SST Report to the regulator. The SST Report consists partly of explanations relating to the SST such as explanations of the valuation methodologies and assumptions underlying the market consistent valuation of assets and liabilities. However, it asks for other types of information which might be useful for an ORSA:

- a. Description of company specific scenarios conducted by insurer
- b. Description of risk mitigation, including reinsurance programs, securitization, pooling, and other risk mitigation
- c. Description of the main risks of the insurer and an assessment as to whether these risks are adequately reflected in the SST
- d. Description of concentration of risk
- e. Description of operational risks
- f. Assessment of other relevant risks (e.g., strategic, political, etc.) as well as possible future relevant risks to which the insurer might be exposed.

The other two reports mentioned above are part of Swiss Quality Assessment (SQA). The Swiss Quality Assessment consists of two annual questionnaires – a corporate governance questionnaire and a risk management/internal control system questionnaire. The corporate governance questionnaire must be completed by the parent company of an insurance group AND by each insurance company in the group under Swiss regulatory supervision. The risk management and internal controls system questionnaire must be completed only at the group level in the usual case.

These reports are designed to answer the following questions:

- a. Does the insurer have documented procedures on corporate governance, risk management, and internal controls?
- b. Are the documented procedures in each of these areas followed?
- c. Does the insurer consider its procedures and practices appropriate to achieve the relevant objectives?