MSAP 6

Malaysian Standard of Actuarial Practice 6

Enterprise Risk Management Programs

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Introduction

This Standard of Actuarial Practice (MSAP) provides guidance to actuaries who provide actuarial services involving enterprise risk management (ERM) **programs that address insurer or takaful operators risks**. Regulation of financial services businesses has evolved rapidly in the years following the Global Financial Crisis in 2008. While the most radical changes have been applied to banks, insurers have also been subject to enhanced scrutiny. An important component of this higher level of regulation is the assessment of ERM programs.

ERM programs include processes undertaken by insurers and takaful operators to identify, assess, measure, control, mitigate, monitor and communicate on risks in respect of the enterprise. These programs have come to be seen by insurance supervisors globally as a critical activity of insurers.

ERM programs are defined as

- Programs involving risk management and internal controls as part of an insurer's or takaful operator's overall corporate governance framework. This includes functions for risk management, compliance, actuarial matters and internal audit.
- Enterprise risk Management framework for solvency purpose to identify, measure, report and manage the insurer's or takaful operator's risks in an ongoing and integrated manner.

Hence, the ERM programs would include Asset and Liability Management (ALM) policy, investment policy and underwriting risk policy, the development and maintenance of a risk tolerance framework, and the Internal Capital Adequacy Assessment Policies (ICAAP).

Other ERM programs that would be included under this MSAP can be referenced with the scope of regulations consistent with ICP 8 and ICP 16 provided by the International Association of Insurers' Supervisors ("IAIS").

Background:

The IAIS has recognized the importance of ERM programs in two of the Insurance Core Principles (ICPs): ICP 8 Risk Management and Internal Controls and ICP 16 Enterprise Risk Management for Solvency Purposes. These ICPs are intended to encourage insurance supervisors around the world to incorporate the concepts expressed therein into the regulation of insurers. According to ICP 8 and ICP 16, an insurer's management is responsible for establishing and operating frameworks to manage the risks to which the insurer is exposed, recognising that the intrinsic nature of insurance is to share or to manage risk.

Depending on the level of sophistication, insurers' approaches to risk management may range from simple consideration of the adequacy of current financial resources to integrated holistic consideration and management of a wide range of risks. ICP 8 and ICP 16 encourage a supervisory-led minimum standard for these activities. Insurers, their stakeholders and supervisors all therefore have a strong interest in the reliable operation and transparent governance by insurers of an effective risk management system. The risk management system envisaged by ICP 8 and ICP 16 includes the identification and measurement of risks, a risk management policy including an explicit Asset and Liability Management (ALM) policy, investment policy and underwriting risk policy, the development and maintenance of a risk tolerance framework, and the Own Risk and Solvency Assessment (ORSA).

Many actuaries perform actuarial services in connection with ERM programs, including acting as an employee of an insurer or takaful operator, as an independent professional, as part of an external audit team or as a supervisor of insurers and takaful operators. In some jurisdictions, actuaries are called upon to give a professional opinion regarding the ERM program to the supervisor.

This MSAP addresses ERM programs that often involve stress testing, scenario testing and other modeling techniques. MSAP 5 (Enterprise Risk Models for Insurers and Takaful Operators) provides helpful guidance on these subjects and actuaries reading this MSAP may find MSAP 5 to be a valuable resource.

This MSAP is intended to:

- Facilitate convergence in standards of actuarial practice within and across jurisdictions in connection with ERM programs that are within the scope of this MSAP; and
- Increase public confidence in actuarial services for ERM purposes.

Section 1. General

1.1. Purpose – This MSAP provides guidance to actuaries when performing actuarial services involving ERM programs. It is expected to help increase public confidence in the ERM work provided by actuaries by giving intended users confidence that:

- Actuarial services are carried out professionally and with due care;
- The results are relevant to their needs, are presented clearly and understandably, and are complete; and
- The assumptions and methodology used are disclosed appropriately.

1.2. Scope – This MSAP applies to actuaries when performing actuarial services with responsibility for, or significant involvement in, the development, implementation, maintenance or review of some or all of the components of ERM programs, including ICAAP. This MSAP applies to an actuary only to the extent of the actuary's responsibility and involvement.

ERM programs are defined as

- Programs involving risk management and internal controls as part of an insurer's or takaful operator's overall corporate governance framework. This includes functions for risk management, compliance, actuarial matters and internal audit.
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Hence, the ERM programs would include Asset and Liability Management (ALM) policy, investment policy and underwriting risk policy, the development and maintenance of a risk tolerance framework, and the Internal Capital Adequacy Assessment Policies (ICAAP).

Other ERM programs that would be included under this MSAP can be referenced with the scope of regulations consistent with ICP 8 and ICP 16 provided by the International Association of Insurers' Supervisors ("IAIS").

1.3. Relationship to MSAP 1 – Compliance with MSAP 1 is a prerequisite to compliance with this MSAP. References in MSAP 1 to "this MSAP" should be interpreted as applying equally to this MSAP 6, where appropriate.

1.4. Defined Terms – This MSAP uses various terms whose specific meanings are defined in the Glossary. These terms are highlighted in the text with a dashed underscore and in blue, which is a hyperlink to the definition (e.g., actuary).

1.5. Cross-References – When this MSAP refers to the content of another document, the reference relates to the referenced document as it is effective on the adoption date as shown on the cover page of this MSAP. The referenced document may be amended, restated, revoked, or replaced after the adoption date. In such a case, the actuary should consider the extent the modification is applicable and appropriate to the guidance in this MSAP.

1.6. Effective Date – This MSAP is effective for {actuarial services performed/actuarial services commenced} on or after 25 February 2021.

Section 2. Appropriate Practices

2.1. Understanding of Insurer's Risk Management System and ERM Framework – The actuary should have, or obtain, sufficient understanding of the risk management system and ERM framework of the insurer and takaful operator and should consider whether the risk management elements required by regulations are in place, including risk management policies, risk tolerance statements, an ICAAP, and the insurer's or takaful operator's assessment of its regulatory capital requirements.

2.2. Proportionality – In applying MSAP 1 paragraph 1.5.2., the actuary should also consider proportionality in respect of the nature, scale and complexity of the underlying risks.

2.3. Identification, Assessment and Management of Insurer Risks for an ERM Program

2.3.1. An actuary who is responsible for, or significantly involved in, identifying insurer or takaful operator risks should consider factors including, but not limited to, the following:

a. The strategic objectives of the enterprise;

b. The processes for collecting information and whether the staff have adequate qualifications, training and experience to understand and identify the risks;

c. Whether the risk identification process is sufficient to identify current and emerging risks that are reasonably foreseeable, relevant, and material including risks that directly or indirectly impact the financial condition and other objectives of the insurer and takaful operator (e.g. reputational risk);

d. The time frame over which the risks may emerge and may impact the insurer or takaful operator;

e. The risks that may arise from reasonably foreseeable changes in the business of the insurer or takaful operator (operations, markets, products) and from business conduct;

f. Whether underlying risks within financial structures that have limited transparency have been sufficiently identified (e.g. off-balance sheet exposures, complex asset or reinsurance structures);

g. Whether the reasonably foreseeable causes of insurer or takaful operator risks and their consequences have been sufficiently identified;

h. Risks arising or increasing as a consequence of risk management activities (e.g. credit risk arising from the transfer of risk);

i. The impact that an insurer's or takaful operator's culture, governance structure and remuneration systems may have on the ability and willingness of the management and staff to identify and manage risks, and whether culture, governance structure or remuneration generates, magnifies or mitigates risks; and

j. Input regarding the identification of risks from management, other knowledgeable persons within the insurer, other subject matter experts and supervisors.

2.3.2. An actuary who is responsible for, or significantly involved in, assessing the probability and impact of the insurer's or takaful operator's risks should consider factors including, but not limited to, the following:

a. The qualitative assessment of risks in addition to, or instead of, assessing them quantitatively;

b. Risk correlations, risk aggregations and tail risks (e.g. catastrophe and pandemic risks, and complex outsourcing risks);

c. The appropriateness of the risk modelling, stress testing, reverse stress testing and scenario testing techniques that are applied;

d. The extent to which the risk models that measure the probability and impact of risks provide results that are consistent with information expressed by market prices for the risks concerned or related risks;

e. The consistency among the various valuation methodologies underlying the ERM program;

f. The operation and effectiveness of the processes and mechanisms used to address risk control and risk mitigation;

g. The appropriateness of the assumptions regarding future actions taken by management and by external parties, taking into account prior experiences in the industry with similar actions;

h. Input regarding probability and impact from management, other knowledgeable persons within the insurer or takaful operator, other subject matter experts and supervisors; and

i. Consistency of risk assessments over time.

2.3.3. An actuary who is responsible for, or significantly involved in, implementing or maintaining risk management controls, mitigation, monitoring or communication and reporting of the insurer's or takaful operator's risks should consider factors including, but not limited to, the following:

a. The insurer's or takaful operator's risk management policies and risk appetite and tolerance statements;

b. The relationship between the insurer's or takaful operator's financial strength and risk profile, and the insurer's or takaful operator's risk management system;

c. Any significant inconsistency in the evaluation of the insurer's or takaful operator's risk tolerances and risk limits;

d. The extent to which the results of the risk models used to measure the economic costs and benefits of risk mitigation are consistent with information expressed by market prices for the risks concerned or related risks;

e. The operation and effectiveness of the processes and mechanisms used to address risk control and risk mitigation;

f. The appropriateness of the assumptions regarding future actions taken by management and by external parties, taking into account prior experiences in the industry with similar actions;

g. The culture within the insurer or takaful operator to commit to, and implement, risk mitigation actions when needed;

h. The impact of reasonably foreseeable future adverse circumstances on the availability and effectiveness of future risk mitigation practices;

i. The existence and effectiveness of feedback loops in the risk management process; and

j. How the nature and relative importance of risks may change over time.

2.4. Enterprise Level Risk Management

2.4.1. An actuary who is responsible for, or significantly involved in, performing an aggregate risk assessment of the insurer or takaful operator should, in addition to assessing the elements as addressed in section 2.3. above, consider factors including, but not limited to, the following:

a. The financial strength, risk profile, business management, governance structure and risk environment of the insurer or takaful operator;

b. Whether the risk management processes are suitably aligned with the insurer's or takaful operator's objectives and strategy, regarding aggregate risk taking and regarding each major risk category, as reflected by the risk appetite, risk tolerance and risk limits;

c. The interdependence of risks relating to the insurer's or takaful operator's assets and liabilities, noting that correlation of risks between different asset classes, products and business lines may not be linear, and may change under stressed conditions;

d. Off-balance sheet exposures that may revert to the insurer or takaful operator in times of difficulty; and

e. Diversification benefits that result from aggregation of risks.

2.4.2. An actuary who is responsible for, or significantly involved in, developing, implementing, maintaining or reviewing the insurer's or takaful operator's ERM framework should, in addition to assessing the elements as addressed in section 2.4.1. above, consider factors including, but not limited to, the following:

a. The engagement of the Board in assessing, setting, monitoring and reviewing the insurer's or takaful operator's risk appetite and risk profile, and whether the interests of policyholders, or participants, and other relevant stakeholders are considered appropriately within those processes;

b. The adequacy of the risk management resources and capabilities within the insurer or takaful operator for the current and expected risk profile and risk management strategies;

c. The quality, extent and effectiveness of independence, challenge and monitoring reflected in the framework;

d. The extent and results of recent reviews and audits of control effectiveness, and management's response to the findings;

e. The management of potential conflicts of interest;

f. The extent to which risk management and risk assessments are used in the decision-making practices of the insurer or takaful operator;

g. The effectiveness of risk communication channels within the insurer or takaful operator, including risk escalation processes, and with its supervisors;

h. The effectiveness and timeliness of the reporting of, and response to, incidences and breaches related to the operation of the ERM framework within the insurer or takaful operator;

i. The operational quality and effectiveness of key ERM framework related policies, processes and mechanisms, including, but not limited to, outsourcing management, business continuity management (including pandemic response management), whistle blowing policies, fraud and privacy risk management, model risk management and business conduct risk management;

j. The extent to which the ERM framework is adaptive to changes to the insurer or takaful operator and to its environment;

k. The extent that the ERM framework complies with regulatory requirements and guidelines applicable to it;

l. The adequacy of the insurer's or takaful operator's -Internal Capital Adequacy Assessment Process (ICAAP); and

m. Contingency plans to restore the insurer's or takaful operator's financial strength and viability in severe adverse circumstances.

2.4.3. In applying sections 2.4.1. and 2.4.2., if the insurer or takaful operator is part of a group, the actuary should consider factors including, but not limited to, the following:

a. The risks and benefits of belonging to a group structure, recognizing potential limits on fungibility of capital and on transfer of assets between separate legal entities;

b. Reasonably foreseeable changes in the group structure which could impact the capital and solvency of the insurer or takaful operator and its ability to continue in business;

c. Risk modelling, stress testing, reverse stress testing and scenario testing should include changes in the group structure and in the support that the insurer or takaful operator receives from other members of the group;

d. Assumptions that may be suitable for a self-standing insurer or takaful operator may not be suitable when the insurer or takaful operator is part of a larger group;

e. Imposition of risk management controls and tolerance limits by group management;

f. Differences in legal and regulatory requirements between jurisdictions; and

g. Contagion effect of adverse circumstances in other members of the group which could impact the capital and solvency of the insurer or takaful operator.

2.5. Internal Capital Adequacy Assessment Process (ICAAP)

2.5.1. The actuary responsible for, or significantly involved in, developing, implementing, maintaining or reviewing an ICAAP for an insurer or takaful operator, should consider, in addition to the items in sections 2.3. and 2.4. above, factors including, but not limited to, the following:

a. The time horizon considered by the ICAAP;

b. Whether the qualitative and quantitative risk assessments and the financial projections used in the ICAAP are appropriate for their intended purpose;

c. Any changes to the insurer's or takaful operator's risk profile and risk appetite since the previous ICAAP;

d. The various accounting bases of the insurer or takaful operator;

e. Reasonably foreseeable changes in the external environment;

f. Allowance for new business, and for the run-off of existing and new business;

g. Access to new capital in times of financial stress;

h. Differences between the insurer's or takaful operator's regulatory capital requirements and the insurer's or takaful operator's own assessment of its capital needs;

i. The quality and adequacy of the insurer's or takaful operator's capital resources in relation to quality and adequacy criteria established by the supervisor;

j. The degree of severity reflected in the risk modelling, stress testing, reverse stress testing and scenario testing; and

k. The circumstances that may trigger an ICAAP to be performed at a time other than during the regular review schedule.

Section 3. Communication

3.1. Disclosures – In addition to complying with MSAP 1 Section 3. Communication the actuary should disclose, as applicable to the actuarial services provided:

3.1.1. Where risk management elements required by regulations are not in place (2.1.);

3.1.2. Where risk exposures cannot be, or are not, reliably or meaningfully identified or quantified (2.3.1., 2.3.2., 2.4.1., 2.4.2.);

3.1.3. Where the selected assumptions or risk scenarios adopted give rise to ranges of outcomes or frequencies that are materially less severe or frequent than indicated by historic risk experience, known and expected future changes or reasonably foreseeable potential extreme adverse events (2.3.2., 2.4.1.); and

3.1.4. Any significant inconsistency that exists between the insurer's or takaful operator's financial strength and risk profile, and the insurer's or takaful operator's risk management system (2.3.3.).