



## Insurance Core Principles

### ICP 16 Enterprise Risk Management for Solvency Purposes

**The supervisor establishes enterprise risk management requirements for solvency purposes that require insurers to address all relevant and material risks.**

#### *Introductory Guidance*

- 16.0.1 This ICP does not directly apply to non-insurance entities (regulated or unregulated) within an insurance group, but it does apply to insurance legal entities and insurance groups with regard to the risks posed to them by non-insurance entities.

#### *Enterprise Risk Management*

- 16.0.2 Several different terms are commonly used to describe the process of identifying, assessing, measuring, monitoring, controlling and mitigating risks. This ICP uses the generic term enterprise risk management (ERM) in describing these activities in respect of the insurance enterprise as a whole.
- 16.0.3 This ICP recognises the importance of an enterprise risk management framework from a supervisory perspective in underpinning robust insurance legal entity and group-wide solvency assessment.
- 16.0.4 The *raison d'être* of insurance is the assumption, pooling and spreading of risk so as to mitigate the risk of adverse financial consequences to individuals and businesses that are policyholders. For this reason, a thorough understanding of risk types, their characteristics and interdependencies, the sources of the risks and their potential impact on the business is essential for insurers. Insurers should exhibit an understanding of their enterprise risk issues and show a willingness and ability to address those issues. Supervisors should, therefore, seek to require that the insurer has a competent understanding of risk and implements sound risk management practices. The ultimate aim of insurance is to create and protect value for policyholders while using capital resources efficiently. A purpose of both risk and capital management is to protect policyholders and capital providers from adverse events. It is therefore natural for insurers to combine the management of risk and capital.
- 16.0.5 ERM involves the self-assessment of all reasonably foreseeable and relevant material risks that an insurer faces and their interrelationships. One outcome of ERM, which is particularly relevant for this ICP, is that decisions regarding risk management and capital allocation can be co-ordinated for maximum financial efficiency and, from a supervisory viewpoint, the adequate protection of policyholders. A fundamental aspect of ERM is a primary focus on the actions that an insurer takes to manage its risks on an ongoing basis and specific aspects of those risks, so as to ensure that they are the risks it intends to retain both individually and in aggregate and that the insurer stays within its risk tolerance. ERM also involves the rigorous enforcement of risk standards, policies and limits.

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- 16.0.6 ERM is an acknowledged practice and has become an established discipline and separately identified function assuming a much greater role in many insurers' everyday business practices. Originally, risk management only facilitated the identification of risks and was not fully developed to provide satisfactory methods for measuring and managing risks, or for determining related capital requirements to cover those risks. ERM processes being developed today by insurers increasingly use internal models and sophisticated risk metrics to translate risk identification into management actions and capital needs. Internal models are recognised as powerful tools that may be used, where it is appropriate to the nature, scale and complexity to do so, to enhance company risk management and to better embed risk culture in the company. They can be used to provide a common measurement basis across all risks (e.g. same methodology, time horizon, risk measure, level of confidence, etc.) and enhance strategic decision-making, for example capital allocation and pricing. Such an approach typically adopts a total balance sheet approach whereby the impact of the totality of material risks is fully recognised on an economic basis. A total balance sheet approach reflects the interdependence between assets, liabilities, capital requirements and capital resources, and identifies a capital allocation, where needed, to protect the insurer and its policyholders and to optimise returns to the insurer on its capital.
- 16.0.7 ERM provides a link between the ongoing operational management of risk and longer-term business goals and strategies. Appropriate risk management policies should be set by each insurer according to the nature, scale [6] and complexity of its business and the risks it bears. This ICP focuses on the link between risk management and the management of Capital adequacy and solvency. Insurers should integrate their ERM framework in their overall corporate governance framework as described in ICP 8 Risk management and Internal controls.  
*[6] The scale of the business is a relevant factor. Some insurers may be less well diversified and more susceptible to risks arising from external sources. They may also need to structure their risk management functions differently from other insurers and commission external consultants to achieve satisfactory standards and robust processes; they may need to use reinsurance to a greater extent.*
- 16.0.8 The objective of ERM is not to eliminate risk. Rather, it is to manage risks within a framework that includes self-imposed limits. In setting limits for risk, the insurer should consider its solvency position and its risk tolerance. Limits should be set after careful consideration of corporate objectives and circumstances and, where appropriate, should take into account the projected outcomes of scenarios run using a range of plausible future business assumptions which reflect sufficiently adverse scenarios. Within these limits, risks can be reduced if this is cost effective, or increased, if justified by the expectation of enhanced returns and the availability of additional capital, without endangering the capacity of the insurer to meet its commitments to policyholders.



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- 16.0.9 The IAIS recognises the different levels of sophistication of supervisors and insurance markets around the world and acknowledges that this ICP may not be fully achievable by some insurers and in some markets in the near future. Nevertheless, the IAIS believes that good risk management practices and procedures need to be in place for solvency requirements to be effective. ERM that follows this ICP is expected to enhance confidence in assessing an insurer's financial strength. The IAIS envisages that solvency requirements will, over time, be developed towards conformity with the ICPs. The IAIS nevertheless wishes to emphasise that this ICP does not prescribe a specific aspect of solvency requirements which is to be applied compulsorily by IAIS members.

### ***Enterprise Risk Management Framework - Risk Identification and Measurement***

- 16.1 The supervisor requires the insurer's enterprise risk management framework to provide for the identification and quantification of risk under a sufficiently wide range of outcomes using techniques which are appropriate to the nature, scale and complexity of the risks the insurer bears and adequate for risk and capital management and for solvency purposes.**

#### *Risk Identification*

- 16.1.1 The ERM framework should identify and address all reasonably foreseeable and relevant material risks to which an insurer is, or is likely to become, exposed. Such risks should include, at a minimum, underwriting risk<sup>[7]</sup>, market risk, credit risk, operational risk and liquidity risk and may also include, for example, legal risk and risk to the reputation of the insurer.  
<sup>[7]</sup> The term "underwriting risk" is used in a broad sense and includes claims, expense and reserving risks and the risks associated with guarantees and options embedded in policies.
- 16.1.2 After identification of risks, an insurer should highlight significant risks together with possible key leading indicators (e.g. a relevant stock market indicator). This information should be included in regular management information which is relevant and focussed.

#### *Causes of Risk and the Relationship Between Risks*

- 16.1.3 An insurer should consider the causes of different risks and their impacts and assess the relationship between risk exposures. By doing so, an insurer can better identify both strengths and weaknesses in governance, business and control functions and should use and improve risk management policies, techniques and practices and change its organisational structure to make these improvements where necessary. The insurer should also assess external risk factors which, if they were to crystallise, could pose a significant threat to its business. The insurer should recognise the limitations of the methods it uses to manage risks, the potential impact these limitations may have and adapt its risk management appropriately.
- 16.1.4 In assessing the relationship between risk exposures, consideration should be given to correlations between the tails of risk profiles. For example, risks that show no strong dependence under normal economic conditions, such as catastrophe risks and market risks, could be more correlated in a stress situation.

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- 16.1.5 As an illustration, insurers should be particularly aware that certain major trigger events, such as catastrophes, downgrades from rating agencies or other events that have an adverse impact on the insurer's reputation, can result, for example, in a high level of claims, collateral calls or policyholder terminations, especially from institutional counterparties or institutional policyholders and hence lead to serious liquidity issues. The ERM framework should adequately address the insurer's options for responding to such trigger events.

### *Measuring, Analysing and Modelling the Level of Risk*

- 16.1.6 The level of risk is a combination of the impact that the risk will have on the insurer and the probability of that risk materialising. The level of risk borne by the insurer should be assessed regularly using appropriate forward-looking quantitative techniques such as risk modelling, [8] stress testing, including reverse stress testing, and scenario analysis. An appropriate range of adverse circumstances and events should be considered, including those that pose a significant threat to the financial condition of the insurer, and management actions should be identified together with the appropriate timing of those actions. Risk measurement techniques should also be used in developing long-term business and contingency plans, where it is appropriate to the nature, scale and complexity to do so.

[8] "Modelling" in this context does not necessarily mean complex stochastic modelling. It can also include less sophisticated methods.

- 16.1.7 Different approaches may be appropriate depending on the nature, scale and complexity of a risk and the availability of reliable data on the behaviour of that risk. For example, a low frequency but high impact risk where there is limited data, such as catastrophe risk, may require a different approach from a high frequency, low impact risk for which there is substantial amounts of experience data available. Stochastic risk modelling may be appropriate to measure some non-life catastrophe risks for example, whereas relative simple calculations may be appropriate in other circumstances.

### *Additional Guidance for Insurance Groups and Insurance Legal Entities That Are Members of Groups*

- 16.1.8 The measurement of risks should be based on a consistent economic assessment of the total balance sheet as appropriate to ensure that appropriate risk management actions are taken. In principle, ERM should take into consideration the distribution of future cash flows to measure the level of risks. Care should be taken not to base ERM decisions purely on accounting or regulatory measures that involve non-economic considerations and conventions although the constraints on cash flows that they represent should be taken into account.
- 16.1.9 The quantitative assessment of risks the insurer faces provides it with a disciplined method of monitoring risk exposure. Assessments undertaken at different times should be produced on a broadly consistent basis overall, so that any variations in results can be readily explained. Such analysis also aids an insurer in prioritising its risk management.



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- 16.1.10 Where models are used, it must be remembered that, regardless of how sophisticated they are, they cannot exactly replicate the real world. As such, the use of models itself generates risk (modelling and parameter risk) which, if not explicitly quantified, at least needs to be acknowledged and understood as the insurer implements its ERM framework, including by the insurer's Board and Senior Management.
- 16.1.11 Models may be external or internal. External models may be used to assess external insurance or market risks while internal models may be developed by an insurer to assess specific material risks or to assess its risks overall where this cannot be done appropriately by external models.
- 16.1.12 Internal models can play an important role in facilitating the risk management process and supervisors should encourage insurers to make use of such models for parts or all of their business where it is appropriate to the nature, scale and complexity to do so. Further guidance on the use of internal models for the insurers own risk and solvency assessment is contained in Guidance 16.14.11 - 16.14.19.
- 16.1.13 Where a risk is not readily quantifiable, for instance some operational risks or where there is an impact on the insurer's reputation, an insurer should make a qualitative assessment that is appropriate to that risk and sufficiently detailed to be useful for risk management. An insurer should analyse the controls needed to manage such risks to ensure that its risk assessments are reliable and consider events that may result in high operational costs or operational failure. Such analysis is expected to inform an insurer's judgments in assessing the size of the risks and enhancing overall risk management.
- 16.1.14 Stress testing measures the financial impact of stressing one or relatively few factors affecting the insurer. Scenario analysis considers the impact of a combination of circumstances which may reflect extreme historical scenarios which are analysed in the light of current conditions. Scenario analysis may be conducted deterministically using a range of specified scenarios or stochastically, using models to simulate many possible scenarios, to derive statistical distributions of the results.
- 16.1.15 Stress testing and scenario analysis should be carried out by the insurer to validate and understand the limitations of its models. They may also be used to complement the use of models for risks that are difficult to model, or where the use of a model may not be appropriate from a cost-benefit perspective. This may arise, for example, where a range of calculations is urgently required focusing on specific aspects or going beyond the current parameters of the model to investigate the effect of proposed management actions.
- 16.1.16 Scenario analysis may be particularly useful as an aid to communication in relation to risk management between the Board and Senior Management and other parts of the organisation thereby facilitating the integration of the insurer's ERM framework with its business operations and culture.



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- 16.1.17 Reverse stress testing, which identifies scenarios that are most likely to cause an insurer to fail, may also be used to enhance risk management. While some risk of failure is always present, such an approach may help to ensure adequate focus on the management actions that are appropriate to avoid undue risk of business failure. The focus of such reverse stress testing is on appropriate risk management actions rather than the assessment of financial adequacy and so may be largely qualitative in nature although broad assessment of associated financial impacts may help in deciding the appropriate action to take.

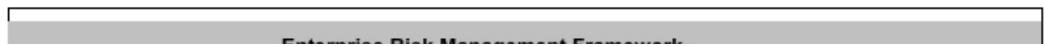
### *Additional Guidance for Insurance Groups and Insurance Legal Entities That Are Members of Groups*

- 16.1.18 “Group risk” arises for insurance legal entities that are members of groups. Group risk also arises for an insurance group in respect of the widest group of which it is part. Group risk includes the risk that an insurance legal entity may be adversely affected by an occurrence (financial or non-financial) in another group entity. For instance, losses in one group member may create pressure to divert the financial resources of other members of the group to that entity or otherwise lead to a depletion of those financial resources. Group risk also includes the risk that the financial stability of a group or insurance legal entities within the group may be adversely affected by an event in a legal entity, a group-wide occurrence or an event external to the group. For example, the positive aspects of being a member of a group might be lessened due to restructuring.
- 16.1.19 Group risk may arise, for example, through contagion, leveraging, double or multiple gearing, concentrations, large exposures and complexity. Participations, loans, guarantees, risk transfers, liquidity, outsourcing arrangements and off-balance sheet exposures may all give rise to group risk. Many of these risks may be borne by stand-alone insurance legal entities and are not specific to membership of a group. However, the inter-relationships among group members including aspects of control, influence and interdependence alter the impact of risks on group members and should therefore be taken into account in managing the risks of an insurance legal entity that is a member of an insurance group and in managing the risks of that insurance group as a whole. To be effective, the management of insurance group risk needs to take into account risks arising from all parts of an insurance group including non-insurance entities (regulated or unregulated) and partly-owned entities.
- 16.1.20 The risks identified and the techniques that are appropriate and adequate for measuring them, including stress testing, scenario analysis, risk modelling and reverse stress testing, may differ at insurance group and insurance legal entity level. Where an insurance legal entity’s ERM framework is an integral part of the insurance group’s ERM framework, the techniques used to measure risks at insurance legal entity level should include those that are appropriate and adequate at the insurance legal entity level in order to meet the insurance legal entity’s ERM requirements.

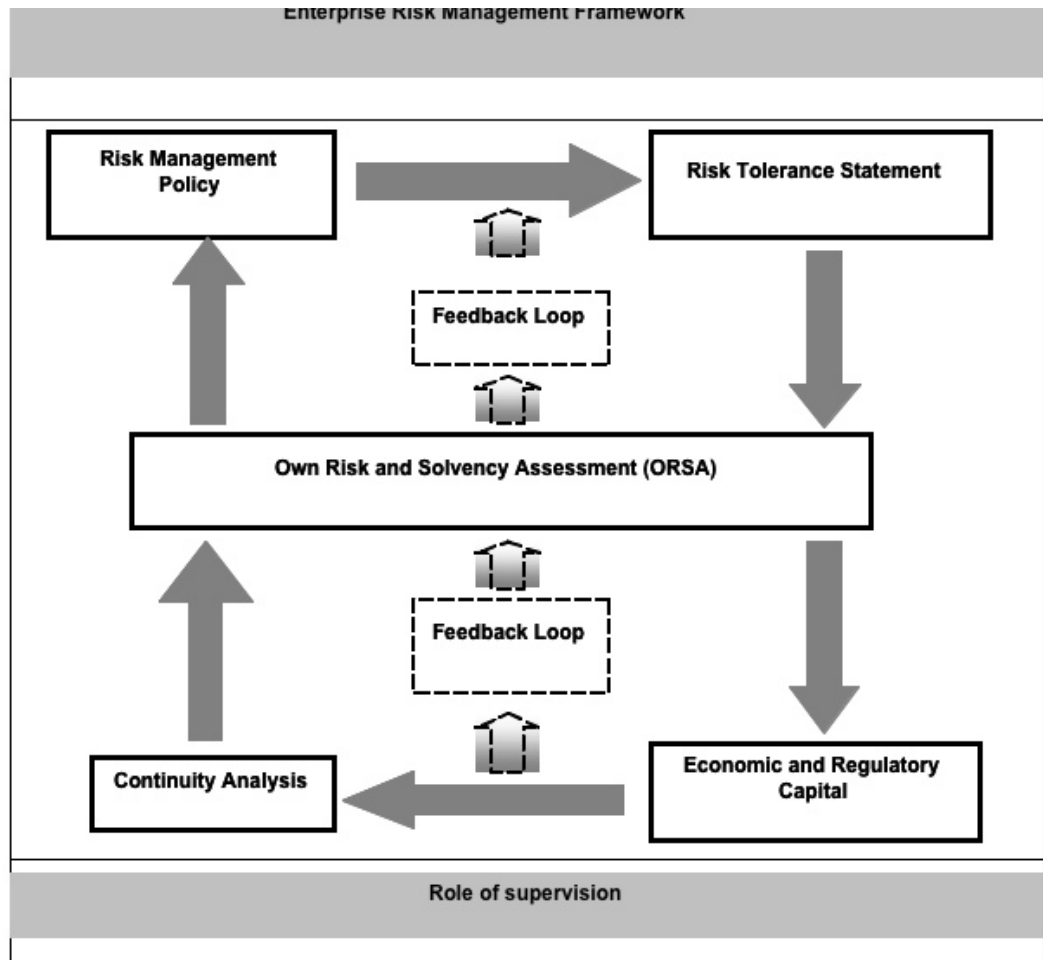
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- 16.1.21 The ERM of an insurance group should address the direct and indirect interrelationships between its members. The more clearly-defined and understood such relationships are, the more accurately they can be allowed for in the group-wide solvency assessment. For example, legally enforceable capital and risk transfer instruments (CTRI) established between insurance group members may help to establish the integrity of the insurance group and the effectiveness of its ERM framework for group-wide solvency assessment purposes.
- 16.1.22 Assumptions that are implicit in the solvency assessment of an insurance legal entity may not apply at an insurance group level because of the legal separation of insurance group members. For example, there may be few constraints on the fungibility of capital and the transferability of assets within an individual insurance legal entity. An assumption of full fungibility may be appropriate for such an insurer. <sup>[9]</sup> However, such constraints may feature much more prominently for an insurance group and may, for example, restrict the degree to which benefits of diversification of risks across the group can be shared among group members. Such constraints should be taken into account in both the insurance group's and the insurance legal entity's ERM frameworks. <sup>[9]</sup> This assumption may not always be appropriate for an insurance legal entity e.g. if it has branches in different jurisdictions where restrictions on fungibility of capital apply or where there is ring-fencing of with-profit funds.
- 16.1.23 The following diagram Figure 16.1 illustrates the IAIS standard ERM framework showing the key features of the framework as described in the following sections of this ICP.

*Figure 16.1 The IAIS standard ERM framework*



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### **Enterprise Risk Management Framework - Documentation**

- 16.2** The supervisor requires the insurer's measurement of risk to be supported by accurate documentation providing appropriately detailed descriptions and explanations of the risks covered, the measurement approaches used and the key assumptions made.

### **Enterprise Risk Management Framework - Risk Management Policy**

- 16.3** The supervisor requires the insurer to have a risk management policy which outlines how all relevant and material categories of risk are managed, both in the insurer's business strategy and its day-to-day operations.
- 16.3.1** As part of the required ERM framework, an insurer should describe its policy for managing the risks to which it is exposed, including the processes and methods for monitoring risk. A risk management policy would be expected to include a description of the insurer's policies towards risk retention, risk management strategies including reinsurance and the use of derivatives, diversification/ specialisation and asset-liability management (ALM).





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- 16.3.2 An insurer's risk management policy should clearly address the relationship between pricing, product development and investment management in order that product design and pricing and the accompanying investment strategy are appropriately aligned. In particular, investment and product benchmarks may need to be established to require that the insurer's financial objectives continue to be met.

### *Additional Guidance for Insurance Groups and Insurance Legal Entities That Are Members of Groups*

- 16.3.3 An insurance group should have a risk management policy which outlines the way in which it manages all the risks that are relevant and material at insurance group level, both in its business strategy and its day-to-day operations. This includes group risk that arises from the insurance group being part of a wider group.
- 16.3.4 The categories of risks covered by the insurance legal entity's risk management policy should include the category comprising all of the additional group risks it faces as a result of its membership of a group. Such risks may arise from the widest group of which the insurance legal entity is a member and not only from its insurance group.
- 16.3.5 Where an insurance legal entity's risk management policy is an integral part of an insurance group's risk management policy, it is the responsibility of the Board and Senior Management of the insurance legal entity to make sure that the insurance legal entity's risk management policy covers all the risks that are relevant and material at insurance legal entity level and that this policy is clearly defined and understood.

## **16.4 The supervisor requires the insurer to have a risk management policy which describes the relationship between the insurer's tolerance limits, regulatory capital requirements, economic capital and the processes and methods for monitoring risk.**

- 16.4.1 An insurer's risk management policy should describe how its risk management links with its management of capital (regulatory capital requirement and economic capital).
- 16.4.2 As an integral part of its risk management policy, an insurer should also describe how its risk management links with corporate objectives, strategy and current circumstances. A reasonably long time horizon, consistent with the nature of the insurer's risks and the business planning horizon, should be considered by the risk management policy so that it maintains relevance to the insurer's business going forward. This can be done by using methods, such as scenario models, that produce a range of outcomes based on plausible future business assumptions which reflect sufficiently adverse scenarios. The insurer should monitor risks so that the Board and Senior Management are fully aware of the insurer's risk profile and how it is evolving. Where models are used for business forecasting insurers should perform back-testing, to the extent practicable, to validate the accuracy of the model over time.

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16.4.3 As part of its risk mitigation strategy, an insurer may transfer some of the risk on its own balance sheet to an off-balance sheet structure, such as a special purpose entity (SPE). SPEs are generally set up for a specific purpose to meet specific payments to investors, who have accepted the risk profile of their payments based on the cash flows underlying the SPE. The risk remaining with the insurer as a result of the off-balance sheet structure should be managed effectively. For an SPE these may arise as follows:

- Even though the SPE's cash flows are not part of the insurer's balance sheet, the insurer may still face pressure to support the payments out of the SPE during periods of stress, due to reputational damage to the insurer if the payments to the investors are not made.
- Default by an SPE may cause the insurer reputational damage and affect its ability to raise finance in the future, possibly leading to liquidity issues. In addition, default by an SPE may have implications on the insurer's credit rating, which may further affect the insurer's ability to raise finance in the future.
- The investment policy of the SPE, including that for assets transferred from the insurer, may differ from the investment policy of the insurer because of differences in capital and risk tolerance. However, the investment strategy adopted by the SPE may have an impact on the insurer's ability to make payments to the policyholders, especially if the SPE is in a stressed position.

**16.5 The supervisor requires the insurer to have a risk management policy which includes an explicit asset-liability management (ALM) policy which clearly specifies the nature, role and extent of ALM activities and their relationship with product development, pricing functions and investment management.**

16.5.1 ALM is the practice of managing a business so that decisions and actions taken with respect to assets and liabilities are coordinated. To co-ordinate the management of risks associated with assets and liabilities, the insurer's risk management policy should include an explicit ALM policy which is appropriate to the nature, scale and complexity of those risks to set out how the investment and liability strategies adopted by the insurer allow for the interaction between assets and liabilities, how the liability cash flows will be met by the cash inflows and how the economic valuation of assets and liabilities will change under an appropriate range of different scenarios. ALM does not imply that assets should be matched as closely as possible to liabilities but that mismatches are effectively managed. Not all ALM needs to use complex techniques. For example, simple, low risk or short term business may call for less complex ALM techniques.

16.5.2 The ALM policy should recognise the interdependence between all of the insurer's assets and liabilities and take into account the correlation of risk between different asset classes as well as the correlations between different products and business lines, recognising that correlations may not be linear. The ALM framework should also take into account any off-balance sheet exposures that the insurer may have and the contingency that risks transferred may revert to the insurer.

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- 16.5.3 Different strategies may be appropriate for different categories of assets and liabilities. One possible approach to ALM is to identify separate homogeneous segments of liabilities and obtain investments for each segment which would be appropriate if each liability segment was a stand-alone business. Another possible approach is to manage the insurer's assets and liabilities together as a whole. The latter approach may provide greater opportunities for profit and management of risk than the former. If ALM is practised for each business segment separately, this is likely to mean that the benefits of scale, hedging, diversification and reinsurance that can be gained from managing the different segments of assets and liabilities together are ignored or receive less attention.
- 16.5.4 However, for some types of insurance business it may not be appropriate to manage risks by combining liability segments. It may be necessary for the insurer to devise separate and self-contained ALM policies for particular portfolios of assets that are "ring-fenced" or otherwise not freely available to cover obligations in other parts of the company.
- 16.5.5 Assets and liabilities may be ring-fenced to protect policyholders. For example, non-life insurance business is normally ring-fenced from life insurance business and a separate fund of assets may be used to determine the benefits under participating business. Some assets may be required by regulation or the insurer's risk management policy to be closely matched with corresponding liabilities, for example equity-linked or indexed-linked benefits may be closely matched with corresponding assets, and annuities cash outflows may be closely matched with cash inflows from fixed income instruments.
- 16.5.6 Some liabilities may have particularly long durations, such as certain types of liability insurance and whole-life policies and annuities. In these cases, assets with sufficiently long duration may not be available to match the liabilities, introducing a significant reinvestment risk, such that the present value of future net liability cash flows is particularly sensitive to changes in interest rates. Many financial markets throughout the world do not have long fixed-income assets to back long duration liabilities. There may also be gaps in the asset durations available. This may be an issue even in the most well developed markets for some types of liabilities. Risks arising from mismatches between assets and liabilities require particular attention. The insurer should give explicit attention within its ALM policy to risks arising from liabilities with substantially longer durations or other mismatches with assets available from the corresponding financial markets to ensure that they are effectively managed by holding adequate capital or having appropriate risk mitigation in place.

### **16.6 The supervisor requires the insurer to have a risk management policy which is reflected in an explicit investment policy which:**

- **specifies the nature, role and extent of the insurer's investment activities and how the insurer complies with the regulatory investment requirements established by the supervisor; and**
- **establishes explicit risk management procedures within its investment policy with regard to more complex and less transparent classes of asset and investment in markets or instruments that are subject to less**



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### **governance or regulation.**

- 16.6.1 The insurer's risk management policy should be reflected in an explicit investment policy. Such a policy may, for example, set out the insurer's strategy for optimising investment returns and specify asset allocation strategies and authorities for investment activities and how these are related to the ALM policy. It may also specify how regulatory investment requirements (see ICP 15 Investment) and other parameters are met.
- 16.6.2 The insurer's investment policy should outline its policy towards inherently risky financial instruments such as derivatives of various types, hybrid instruments that embed derivatives, private equity, alternative investment funds such as hedge funds, insurance linked instruments and commitments transacted through special purpose entities. Consideration of the associated counterparty credit risk should be included in the investment policy. It should also set out the policy for the safe-keeping of assets including custodial arrangements and the conditions under which investments may be pledged or lent.
- 16.6.3 Similarly, explicit consideration should be given by the insurer to assets for which the risk is generally sufficiently assessable to be permitted by the supervisor but, compared to other investments, are more complex, less transparent, less well regulated in terms of the market regulation that applies to them or less well governed in terms of the processes required to manage them. Such assets may present operational risks in adverse conditions which are difficult to assess reliably. In terms of market regulation, investments in an unregulated market or a market that is subject to less governance such as a professional securities market and investments that are not traded on a public exchange need to be given special consideration.
- 16.6.4 For investment risks in particular, it is important for the insurer to understand the source, type and amount of risk that it is accepting across all lines of business. For example, where there is a complex chain of transactions it should understand who has the ultimate legal risk or basis risk. Similar questions arise where the investment is via external funds, especially when such funds are not transparent.
- 16.6.5 For insurers in many jurisdictions concentration risk arising from the limited availability of suitable domestic investment vehicles is an issue. By contrast, international insurers' investment strategies may be complex because of a need to manage and match assets and liabilities in a number of currencies and different markets. In addition, the need for liquidity resulting from potential large-scale payments may further complicate an insurer's investment strategy.

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- 16.6.6 The insurer should have the competencies necessary to manage the instruments it is investing in. For complex investment activities (including underwriting guarantees for such complex securities) robust models of risks that consider all relevant variables may be needed. It is the insurer's responsibility to ensure that the internal expertise and competence necessary are in place at all levels of the organisation to manage these risks effectively including the expertise to apply and vet any models used and to assess them against market convention. Also, an insurer needs explicit procedures to evaluate hidden and non-standard risks associated with complex structured products, especially new forms of concentration risk that may not be obvious.
- 16.6.7 For complex investment strategies, aspects to consider include liquidity and responsiveness to sudden market movements. Stress testing, as well as contingency planning for stressed situations, is essential. Trial operation of procedures for sufficiently long periods may also be appropriate in advance of 'live' operation.
- 16.6.8 For derivatives, for example, there is a wide variation of products. There are also hybrid instruments that embed derivatives such as bonds whose maturity values are tied to an equity index. The insurer's risk management policy should be clear about the purpose of using derivatives and address whether it is appropriate for it to rule out or restrict the use of some types of derivatives where, for example:

- the potential exposure cannot be reliably measured;
- closing out of a derivative is difficult considering the illiquidity of the market;
- the derivative is not readily marketable as may be the case with over-the-counter instruments;
- independent (i.e. external) verification of pricing is not available;
- collateral arrangements do not fully cover the exposure to the counterparty;
- the counterparty is not suitably creditworthy; and
- the exposure to any one counterparty exceeds a specified amount

These factors are particularly important for "over-the-counter" derivatives which are not effected or issued on or under the rules of a regulated market. The effectiveness of clearing facilities available may be a relevant consideration in assessing the counterparty risk associated with some types of widely traded "over-the-counter" derivatives, such as credit default swaps.

**16.7 The supervisor requires the insurer to have a risk management policy which includes explicit policies in relation to underwriting risk.**

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- 16.7.1 The risk management policy should also include explicit policies in relation to underwriting risk i.e. the specific insurance risk arising from the underwriting of insurance contracts. Such policies may relate to the underwriting process, pricing, claims settlement both in terms of timing and amount and expense control aspects of managing the risks arising from the insurance contracts the insurer writes. Such policies may include, for example, the terms on which contracts are written and any exclusions, the procedures and conditions that need to be satisfied for risks to be accepted, additional premiums for substandard risks and procedures and conditions that need to be satisfied for claims to be paid.
- 16.7.2 ALM may be needed to address parts of underwriting risk. The uncertainty of timing and size of future claim payments, especially for long-tail non-life business, may require coordination with the management of assets under the ALM policy.
- 16.7.3 The insurer should ensure that the underwriting policy pays particular attention to risk retention and risk transfer through reinsurance and other forms of risk transfer as appropriate to the insurer's risk profile and capital. The policy should take account of the effectiveness of risk transfer in adverse circumstances.
- 16.7.4 Expense control is an important part of managing risk especially in conditions of high general rates of inflation. Inflation of claim amounts also tends to be high in such conditions for some types of risk. Insurers should therefore have systems in place to control their expenses, including claims handling and administration expenses. These expenses should be monitored by management on an on-going basis.
- 16.7.5 Reinsurance arrangements should be adequate and the claims by the insurer on its reinsurers should be recoverable. This includes ensuring that:
- the insurer's reinsurance programme provides coverage appropriate to its level of capital, the profile of the risks it underwrites, its business strategy and risk tolerance;
  - the protection provided by the reinsurer is secure. This might be addressed by the insurer by ensuring that the financial strength of the reinsurer is adequate, obtaining collateral (including trusts, letters of credit or funds withheld [10]), limiting exposure to particular reinsurers or holding adequate capital to cover exposure to the risk of reinsurer default. Insurers should perform their own assessment of the financial strength of reinsurers and be careful not to place undue emphasis on external ratings; and
  - the effectiveness of the transfer of risk should be assessed for particular risk transfer arrangements to ensure that risk will not revert to the insurer in adverse circumstances. The insurer should review its arrangements if there is a possibility that it will provide support to the reinsurer in such circumstances.

[10] Funds withheld: the capital which achieves both the objectives of reducing the probability of insolvency by absorbing losses on a going-concern basis, or in run-off, and of reducing the loss to policyholders in the event of insolvency or winding-up.

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### ***Enterprise Risk Management Framework - Risk Tolerance Statement***

#### **16.8 The supervisor requires the insurer to:**

- establish and maintain a risk tolerance statement which sets out its overall quantitative and qualitative risk tolerance levels and defines risk tolerance limits which take into account all relevant and material categories of risk and the relationships between them;
- make use of its risk tolerance levels in its business strategy; and
- embed its defined risk tolerance limits in its day-to-day operations via its risk management policies and procedures.

16.8.1 In parallel with developing its risk management policy, establishing appropriate tools for analysing, assessing, monitoring and measuring risks and identifying its risk exposures, an insurer should establish and maintain a risk tolerance statement. An insurer's overall risk tolerance statement should set out the level of risk to which it is willing and able to be exposed, taking into account its financial strength and the nature, scale and complexity of its business and risks, the liquidity and transferability of its business and the physical resources it needs to adequately manage its risks.

16.8.2 The risk tolerance statement should define the insurer's 'tolerance limits' which give clear guidance to operational management on the level of risk to which the insurer is prepared to be exposed and the limits of risk to which they are able to expose the insurer as part of their work. An insurer should consider how these tolerance limits are to be suitably embedded in its ongoing operational processes. This can be achieved, for instance, by expressing tolerance limits in a way that can be measured and monitored as part of ongoing operations. Stress testing can also provide an insurer with a tool to help ascertain whether its tolerance limits remain suitable for its business.

#### ***Additional Guidance for Insurance Groups and Insurance Legal Entities That Are Members of Groups***

16.8.3 An insurance group should establish and maintain a risk tolerance statement based on its strategy which sets out its overall quantitative and qualitative tolerance levels and defines tolerance limits which take into account all categories of risk which are relevant and material to the insurance group and the relationships between them. The insurance group's risk tolerance levels should be actively applied within its ERM framework and risk management policy.

An insurance legal entity's risk tolerance statement should define tolerance limits taking into account the category of risks comprising all of the group risks it faces as a result of membership of a group to the extent that they are relevant and material to the insurance legal entity.

## Insurance Core Principles

- 16.8.4 Insurance group tolerance limits should give the Board and Senior Management of a member insurance legal entity clear guidance on the level of risk which the insurance group is prepared to take and the limits to which the insurance legal entity is able to expose the insurance group during the course of its business. It is the responsibility of the Board and Senior Management of the insurance legal entity to make sure that their group environment is clearly defined and understood.

### ***Enterprise Risk Management Framework - Risk Responsiveness and Feedback Loop***

**16.9 The supervisor requires the insurer's ERM framework to be responsive to changes in its risk profile.**

- 16.9.1 The ERM framework and risk management policy of the insurer should be responsive to change as a result of both internal and external events. The framework should include mechanisms to incorporate new risks and new information on a regular basis. For example, new risks identified from within the business may include new acquisitions, investment positions, or business lines. New information may become available from external sources, as a result of evolution of the environment affecting the nature and size of underlying risks. Supervisory and legislative requirements, rating agency concerns (if applicable), political changes, major catastrophes or market turbulence may all make changes necessary. The framework and policy should also be responsive to the changing interests and reasonable expectations of policyholders and other stakeholders.

**16.10 The supervisor requires the insurer's ERM framework to incorporate a feedback loop, based on appropriate and good quality information, management processes and objective assessment, which enables it to take the necessary action in a timely manner in response to changes in its risk profile.**

- 16.10.1 Within the ERM framework there should also be a "feedback loop". This should ensure that decisions made by the Board and Senior Management are implemented and their effects monitored and reported in a timely and sufficiently frequent manner via good management information. The feedback loop is the process of assessing the effect, within the ERM framework, of changes in risk leading to changes in risk management policy, tolerance limits and risk mitigating actions. Without this continual updating process, complemented by explicit one-off changes in response to major events, the ERM framework would not remain relevant in assisting the insurer in meeting its strategic and risk objectives.

### ***Additional Guidance for Insurance Groups and Insurance Legal Entities That Are Members of Groups***

- 16.10.2 An insurance group's ERM framework should incorporate a feedback loop, based on appropriate and good quality information, management processes and objective assessment, which enables it to take the necessary action in a timely manner in response to changes in its risk profile.



## Insurance Core Principles

- 16.10.3 Group risk should be included in the feedback loop of the insurance legal entity's ERM framework in respect of the widest group of which it is a member. This means the insurance legal entity should obtain appropriate and good quality information about changes in the group which affect its risk profile. It also means the management of the insurance legal entity should provide information to an insurance group of which it is a member as part of the feedback loop of the insurance group's ERM framework.

### ***Own Risk and Solvency Assessment (ORSA)***

- 16.11 The supervisor requires the insurer to perform its own risk and solvency assessment (ORSA) regularly to assess the adequacy of its risk management and current, and likely future, solvency position.**

- 16.11.1 Every insurer should undertake its own risk and solvency assessment (ORSA) and document the rationale, calculations and action plans arising from this assessment. The ability of an insurer to reflect risks in a robust manner in its own assessment of risk and solvency is supported by an effective overall ERM framework and by embedding its risk management policy in its operations. It is recognised that the nature of the assessment undertaken by a particular insurer should be appropriate to the nature, scale and complexity of its risks.

- 16.12 The supervisor requires the insurer's Board and Senior Management to be responsible for the ORSA.**

- 16.12.1 The prime purpose of the ORSA is to assess whether its risk management and solvency position is currently adequate and is likely to remain so in the future. Responsibility for the ORSA rests at the top level of the insurer's organisation, the insurer's Board and Senior Management. Where it is appropriate to the nature, scale and complexity to do so, the effectiveness of the ORSA should be assured through internal or external independent overall review by a suitably experienced individual, such as a Chief Risk Officer, who reports directly to or is a member of the Board.

- 16.13 The supervisor requires the insurer's ORSA to encompass all reasonably foreseeable and relevant material risks including, as a minimum, underwriting, credit, market, operational and liquidity risks and additional risks arising due to membership of a group. The assessment is required to identify the relationship between risk management and the level and quality of financial resources needed and available.**

- 16.13.1 In its ORSA, an insurer should consider all material risks that may have an impact on its ability to meet its obligations to policyholders, including in that assessment a consideration of the impact of future changes in economic conditions or other external factors. An insurer should undertake an ORSA on a regular basis so that it continues to provide relevant information for its management and decision making processes. The insurer should regularly reassess the causes of risk and the extent to which particular risks are material. Significant changes in the risk profile of the insurer should prompt it to undertake a new ORSA. Risk assessment should be done in conjunction with consideration of the effectiveness of applicable controls to mitigate the risks.



## Insurance Core Principles

### *Additional Guidance for Insurance Groups and Insurance Legal Entities That Are Members of Groups*

- 16.13.2 Adequate risk management should be in place within an insurance group and should be assessed on an insurance group-wide basis to enhance the assessment of insurance legal entities that are members of the group.
- 16.13.3 An insurance group should perform its ORSA to assess the adequacy of the group's risk management and current, and likely future, solvency position. The nature of the assessment should be appropriate to the nature, scale and complexity of the risks at insurance group level. The risks should include all reasonably foreseeable and relevant material risks arising from every member of the insurance group and from the widest group of which the insurance group is part. The insurance group's ORSA should make sure that there are no material risks of the group that are not captured, that the fungibility of capital and the transferability of assets within the group is taken into account and that capital is not double counted. It is likely to be appropriate to the nature, scale and complexity of their risks for particular care to be given to these aspects for large complex groups.
- 16.13.4 Similarly, the insurance legal entity's ORSA should include all additional risks arising due to membership of the widest group of which it is a part to the extent that they impact the insurance legal entity as appropriate to the nature, scale and complexity of those risks.
- 16.13.5 In both the insurance legal entity's ORSA and the insurance group's ORSA, it may be appropriate to consider scenarios in which a group splits or changes its structure in other ways. Assessment of current Capital adequacy and continuity analysis should include consideration of relevant possible changes in group structure and integrity in adverse circumstances and the implications this could have for group risks, the existence of the group and the support or demands from the group to or on its members.
- 16.13.6 Given the level of complexity at insurance group level compared with that at a legal entity level, additional analysis and information is likely to be needed in order to comprehensively address the range of insurance group level risks. It may, for example, be appropriate to apply a contagion test e.g. by using stress testing to assess the impact of difficulties in each legal entity which is a member of the insurance group on the other insurance group entities.

### ***Own Risk and Solvency Assessment (ORSA) - Economic and Regulatory Capital***

#### **16.14 The supervisor requires the insurer to:**

- **determine, as part of its ORSA, the overall financial resources it needs to manage its business given its own risk tolerance and business plans, and to demonstrate that supervisory requirements are met;**
- **base its risk management actions on consideration of its economic capital, regulatory capital requirements and financial resources, including its ORSA; and**
- **assess the quality and adequacy of its capital resources to meet regulatory capital requirements and any additional capital needs.**



## Insurance Core Principles

- 16.14.1 In the context of its overall ERM framework, an insurer should perform its ORSA and have risk and capital management processes in place to monitor the level of its financial resources relative to its economic capital and the regulatory capital requirements set by the supervisor.
- 16.14.2 In the context of its own assessment, an insurer should clearly distinguish between current capital needs and its projected future financial position, having regard for its longer-term business strategy and, in particular, new business plans.
- 16.14.3 While holding capital is not necessarily the most effective way of managing risk, it is important that an insurer has regard for how risk management and capital management relate to and interact with each other. Therefore, an insurer should determine the overall financial resources it needs, taking into account its risk tolerance and business plans, based on an assessment of its risks, the relationship between them and the risk mitigation in place. Determining economic capital helps an insurer to assess how best to optimise its capital base, whether to retain or transfer risk and how to allow for risks in its pricing. It also helps to give the supervisor confidence that risks are being well managed.
- 16.14.4 Although the amounts of economic capital and regulatory capital requirements and the methods used to determine them may differ, an insurer should be aware of, and be able to analyse and explain, these differences. Such analysis helps to embed supervisory requirements into an insurer's ORSA and risk and capital management, so as to ensure that obligations to policyholders continue to be met as they fall due.
- 16.14.5 As part of the ORSA, the insurer should perform its own assessment of the quality and adequacy of capital resources both in the context of determining its economic capital and in demonstrating that regulatory capital requirements are met having regard to the quality criteria established by the supervisor and other factors which the insurer considers relevant. The scope of this assessment should be appropriate to the nature, scale and complexity of the insurer's risks. The insurer should also assess the appropriateness of its capital resources in supporting its business strategy and enabling it to continue its operations, with due regard for its longer term business strategy and in particular new business plans.

### *Re-capitalisation*

- 16.14.6 If an insurer suffers losses that are absorbed by its available capital resources, it may need to raise new capital to meet ongoing regulatory capital requirements and to maintain its business strategies. It cannot be assumed that capital will be readily available at the time it is needed. Therefore, an insurer's own assessment of the quality of capital should also consider the issue of re-capitalisation, especially the ability of capital to absorb losses on a going-concern basis and the extent to which the capital instruments or structures that the insurer uses may facilitate or hinder future re-capitalisation. For example, if an insurer enters into a funding arrangement where future profits are cashed immediately, the reduced future earnings potential of the insurer may make it more difficult to raise capital resources in the future.



## Insurance Core Principles

- 16.14.7 For an insurer to be able to recapitalise in times of financial stress, it is critical to maintain market confidence at all times, through its solvency and capital management, investor relationships, robust governance structure/practices and fair market conduct practices. For example, where an insurer issues preferred stock without voting rights, this may affect the robustness of the governance structure and practice of that insurer. The voting rights attached to common stock can provide an important source of market discipline over an insurer's management. Other insurers may issue capital instruments with lower coupons and fees, sacrificing the economic value of the existing shareholders and bondholders.
- 16.14.8 When market conditions are good, many insurers should be readily able to issue sufficient volumes of high quality capital instruments at reasonable levels of cost. However, when market conditions are stressed, it is likely that only well capitalised insurers, in terms of both the quality and quantity of capital resources held, will be able to issue high quality capital instruments. Other insurers may only be able to issue limited amounts of lower quality capital and at higher cost. Therefore, supervisors should make sure that insurers have regard for such variations in market conditions and manage the quality and quantity of their capital resources in a forward looking manner. In this regard, it is expected that high quality capital instruments, such as common shares, should form the substantial part of capital resources in normal market conditions as that would enable insurers to issue capital instruments even in stressed situations. Such capital management approaches also help to address the procyclicality issues that may arise, particularly in risk-based solvency requirements.

### *Additional Guidance for Insurance Groups and Insurance Legal Entities That Are Members of Groups*

- 16.14.9 An insurance group should determine, as part of its ORSA, the overall financial resources it needs to manage its business given its own risk tolerance and business plans and demonstrate that its supervisory requirements are met. The insurance group's risk management actions should be based on consideration of its economic capital, regulatory capital requirements and financial resources. Economic capital should thus be determined by the insurance group as well as a member insurance legal entity and appropriate risk tolerances and management actions should be identified for both the insurance group and the insurance legal entity.
- 16.14.10 Key group-wide factors to be addressed in the insurer's assessment of group-wide capital resources include multiple gearing, intra-group creation of capital and reciprocal financing, leverage of the quality of capital and fungibility of capital and free transferability of assets across group entities.

### *Own Risk and Solvency Assessment (ORSA) – Using Internal Models*

- 16.14.11 An insurer may consider that the assessment of current financial resources and the calculation of regulatory capital requirements would be better achieved through the use of internal models.

## Insurance Core Principles

- 16.14.12 Where an internal model is used for the ORSA, it is likely to be an important strategic and operational decision-making tool and to be most useful if it enables the insurer to integrate its risk and capital management processes; that is, assisting with both the assessment of the risks faced within its business and the determination of the economic capital needed, where appropriate, to meet those risks.
- 16.14.13 An ERM framework should address all reasonably foreseeable and relevant material risks the insurer faces in accordance with a properly constructed risk management policy. To be most effective, therefore, an internal model used for the ORSA needs to address all those identified risks and assess their impact on the insurer's business given the possible situations that could occur. The risks to be considered should include underwriting risk, credit risk, market risk, operational risk and liquidity risk (including any significant risk concentrations). The categories of risks considered should be clearly defined. The methods by which this analysis could be conducted range from simple stress testing of events to more complex stochastic modelling as appropriate to the nature, scale and complexity of the risks concerned.
- 16.14.14 When used for the ORSA, the insurer's internal model is likely to be calibrated on the basis of defined modelling criteria which the insurer believes will determine the level of capital appropriate and sufficient to meet its business plan and strategic objectives. These modelling criteria are likely to include the basis for valuation of the assets and liabilities, and the confidence level, risk measure and time horizon which the insurer considers appropriate to its risk tolerance and business plans. An insurer is likely to consider various factors in order to determine the modelling criteria used to determine its economic capital; for example choosing a level to achieve a certain investment rating, or to meet other business objectives.
- 16.14.15 In constructing its internal model for the ORSA, an insurer is likely to adopt risk modelling techniques and approaches appropriate to the nature, scale and complexity of the risks incorporated within its risk strategy and business objectives. An insurer may consider various inputs to the modelling process, such as economic scenarios, asset portfolios and liabilities from in-force or past business [11]. It is likely that the modelling criteria and the various inputs to the modelling would be established in the context of the insurer continuing to operate on a going concern basis (unless the insurer is in financial difficulty).
- [11] It may also consider regulatory constraints on the application and transfer of assets, e.g. in jurisdictions where insurers are required to segregate the assets backing the liabilities of different classes of insurance into separate funds and where the transfer of assets between funds is restricted by regulations.
- 16.14.16 An internal model used in the ORSA to determine the economic capital enables the insurer to allocate sufficient financial resources to ensure it can continue to meet its policyholder liabilities as they fall due, at a confidence level appropriate to its business objectives. To fully assess policyholder liabilities in this way, all liabilities that need to be met to avoid putting policyholder interests at risk need to be considered, including any liabilities for which a default in payment could trigger the winding up of the insurer.

## Insurance Core Principles

- 16.14.17 An internal model used by an insurer in the context of its ORSA for determining its own economic capital needs should not need supervisory approval for that purpose. However, an insurer would be expected to review its own internal model and validate it so as to satisfy itself of the appropriateness of the model for use as part of its risk and capital management processes.<sup>[12]</sup> It would be expected to calibrate the model according to its own modelling criteria. As well as internal review, the insurer may wish to consider an external review of its internal model by appropriate specialists e.g. if the internal review does not have an appropriate level of independence or the insurer's management wishes to have greater assurance about the validity of the model than can be provided by an internal review.

[12] Where appropriate, taking into account the insurer's nature, scale and complexity, validation would be expected to be carried out by a different department or persons than those who created the internal model, in order to facilitate independence.

### *Additional Guidance for Insurance Groups and Insurance Legal Entities that are Members of Groups on Using an Internal Model for the ORSA*

- 16.14.18 An insurance group may consider that the assessment of financial resources and the calculation of regulatory capital requirements would be better achieved through the use of internal models to enable the range of risks and their scale and complexity to be effectively assessed.
- 16.14.19 All insurance legal entities and insurance groups of which they are members should be undertaking their ORSA. To carry out its ORSA, an insurance group should apply a methodology that is best suited to the nature, scale and complexity of the risk profile of its business. Although this does not necessarily imply the use of internal models for this purpose, the nature of the risks may be more diverse and the scale and complexity of the business and risks of an insurance group may be greater than that of its member legal entities. It may therefore be appropriate for internal models to be used for the group's ORSA even where the use of an internal model is not an approach appropriate to the nature, scale and complexity of its members.

### ***Own Risk and Solvency Assessment (ORSA) - Continuity Analysis***

#### **16.15 The supervisor requires:**

- **the insurer, as part of its ORSA, to analyse its ability to continue in business, and the risk management and financial resources required to do so over a longer time horizon than typically used to determine regulatory capital requirements;**
- **the insurer's continuity analysis to address a combination of quantitative and qualitative elements in the medium and longer-term business strategy of the insurer and include projections of its future financial position and analysis of its ability to meet future regulatory capital requirements.**



## Insurance Core Principles

- 16.15.1 An insurer should be able to demonstrate an ability to manage its risk over the longer term under a range of plausible adverse scenarios. An insurer's capital management plans and capital projections are therefore key to its overall risk management strategy. These should allow the insurer to determine how it could respond to unexpected changes in markets and economic conditions, innovations in the industry and other factors such as demographic, legal and regulatory, medical and social developments.
- 16.15.2 Where it is appropriate to the nature, scale and complexity to do so, supervisors should require an insurer to undertake periodic, forward-looking continuity analysis and modelling of its future financial position including its ability to continue to meet its regulatory capital requirements in future under various conditions. Insurers should ensure that the capital and cash flow projections (before and after stress) and the management actions included in their forecasts, are approved at a sufficiently senior level.
- 16.15.3 In carrying out its continuity analysis, the insurer should also apply reverse stress testing to identify scenarios that would be the likely cause of business failure (e.g. where business would become unviable or the market would lose confidence in it) and the actions necessary to manage this risk. (See also Guidance 16.1.17).
- 16.15.4 As a result of continuity analysis, supervisors should encourage insurers to maintain contingency plans and procedures for use in a going and gone concern situation. Such plans should identify relevant countervailing measures and off-setting actions they could realistically take to restore/improve the insurer's Capital adequacy or cash flow position after some future stress event and assess whether actions should be taken by the insurer in advance as precautionary measures.
- 16.15.5 A clear distinction should be made between the assessment of the current financial position and the projections, stress testing and scenario analyses used to assess an insurer's financial condition for the purposes of strategic risk management including maintaining solvency. [13] Continuity analysis helps to ensure sound, effective and complete risk management processes, strategies and systems. It helps to assess and maintain on an ongoing basis the amounts, types and distribution of financial resources needed to cover the nature and level of the risks to which an insurer is or might be exposed and to enable the insurer to identify and manage all reasonably foreseeable and relevant material risks. In doing so, the insurer assesses the impact of possible changes in business or risk strategy on the level of economic capital needed as well as the level of regulatory capital requirements.

[13] The scenarios used for such assessments may be determined by the insurer or the supervisor.

## Insurance Core Principles

16.15.6 Such continuity analysis should have a time horizon needed for effective business planning, for example 3 to 5 years, which is longer than typically used to determine regulatory capital requirements<sup>[14]</sup>. It should also place greater emphasis than may be considered in regulatory requirements on new business plans and product design and pricing, including embedded guarantees and options, and the assumptions appropriate given the way in which products are sold. The insurer's current premium levels and strategy for future premium levels are a key element in its continuity analysis. In order for continuity analysis to remain most meaningful, an insurer should also consider changes in external factors such as possible future events including changes in the political or economic situation.

[14] The comparison with the time horizon for determining regulatory capital requirements is with the defined time horizon over which the level of safety is specified or "shock period".

16.15.7 Through the use of continuity analysis an insurer is better able to link its current financial position with future business plan projections and ensure its ability to maintain its financial position in the future. In this way the insurer further embeds its ERM into its ongoing and future operations.

16.15.8 An internal model may also be used for the continuity analysis allowing the insurer to assess the capital consequences of strategic business decisions in respect of its risk profile. For example, the insurer may decide to reduce its exposure to certain risks by writing different types of business, in order to reduce the capital that is needed to be held against such risks, potentially freeing up resources for use elsewhere. This process of capital management enables the insurer to change its capital exposure as part of its long-term strategic decision making.

16.15.9 As a result of such strategic changes, the risk profile of an insurer may alter, so that different risks need to be assessed and quantified within its internal model. In this way, an internal model may sit within a cycle of strategic risk and capital management and provides the link between these two processes.

### *Additional Guidance for Insurance Groups and Insurance Legal Entities That Are Members of Groups*

16.15.10 An insurance group should also analyse its ability to continue in business and the risk management and financial resources it requires to do so. The insurance group's analysis should consider its ability to continue to exist as an insurance group, potential changes in group structure and the ability of its members to continue in business.

An insurance legal entity's continuity analysis should analyse the ongoing support from the group including the availability of financial support in adverse circumstances as well as the risks that may flow from the group to the insurance legal entity. Both the insurance legal entity and an insurance group of which it is a member should thus take into account the business risks they face including the potential impact of changes in the economic, political and regulatory environment.



## Insurance Core Principles

- 16.15.11 In their continuity analysis, insurance groups should pay particular attention to intra-group cash flows, i.e. whether the insurance group will have available cash flows (e.g. from surpluses released from long-term funds, dividends from other subsidiaries, etc) and whether they will be transferable among group member entities to cover any payments of interest or capital on loans, to finance new business and to meet any other anticipated liabilities as they fall due. Insurance groups should outline what management actions they would take to manage the potential cash flow implications of a stress scenario (e.g. reducing new business, cutting dividends, etc).
- 16.15.12 The insurance group's continuity analysis should also consider the distribution of capital in the insurance group after stress and the possibility that subsidiaries within the insurance group may require recapitalisation (either due to breaches of local regulatory requirements, a shortfall in economic capital, or for other business reasons). The assessment should consider whether sufficient sources of surplus and transferable capital would exist elsewhere in the insurance group and identify what management actions might need to be taken (e.g. intra-group movements of resources, other intra-group transactions or group restructuring).
- 16.15.13 The insurance group should also apply reverse stress testing to identify scenarios that are likely to cause business failure within the insurance group and the actions necessary to manage this risk. (See Guidance 16.1.17.)

### ***Role of Supervision in Risk Management***

**16.16 The supervisor undertakes reviews of an insurer's risk management processes and its financial condition, including the ORSA. Where necessary, the supervisor requires strengthening of the insurer's risk management, solvency assessment and capital management processes.**

- 16.16.1 The output of an insurer's ORSA should serve as an important tool in the supervisory review process by helping the supervisor to understand the risk exposure and solvency position of the insurer.
- 16.16.2 The insurer's ERM framework and risk management processes (including internal controls) are critical to solvency assessment. Supervisors should therefore assess the adequacy and soundness of the insurer's framework and processes by receiving the appropriate information, including the ORSA regularly. However, company operations are primarily the responsibility of the Board and Senior Management, and they need to be able to exercise their own discretion or business judgment to carry out these responsibilities.
- 16.16.3 Supervisors should review an insurer's internal controls and monitor its Capital adequacy, requiring strengthening where necessary. Where internal models are used to calculate the regulatory capital requirements, particularly close interaction between the supervisor and insurer is important. In these circumstances, the supervisor may consider the insurer's internal model, its inputs and outputs and the validation processes, as a source of insight into the risk exposure and solvency position of the insurer. (See also ICP 8 Risk management and Internal controls.)



## Insurance Core Principles

- 16.16.4 Supervisors should suitably monitor the techniques employed by the insurer for risk management and Capital adequacy assessment and intervene where weaknesses are identified. Supervisors should not take a “one-size-fits-all” approach to insurers’ risk management but base their expectations on the nature, scale and complexity of its business and risks. In order to do this, supervisors need to have sufficient and appropriate resources and capabilities. Supervisors may, for instance, have a risk assessment model or programme with which they can assess their insurers’ overall condition (e.g. risk management, Capital adequacy and solvency position) and ascertain the likelihood of insurers breaching their regulatory requirements. Supervisors may also prescribe minimum aspects that an ERM framework should address.
- 16.16.5 Supervisors should require appropriate information on risk management and risk and solvency assessments from each insurer they regulate. This not only provides supervisors with a long-term assessment of Capital adequacy to aid in their assessment of insurers, but encourages insurers to use risk management effectively. This could also be achieved by, for instance, a supervisor requiring or encouraging insurers to provide a solvency and financial condition report. Such a report could include a description of the relevant material categories of risk that the insurer faces, its overall financial resource needs including its economic capital and regulatory capital requirements, as well as the capital available to meet these requirements, and projections of how such factors will develop in future. Where, after appropriate request from the supervisor, an insurer fails to report adequate information about its risk and capital management practices, processes and procedures from which the supervisor can monitor the insurer, the supervisor should intervene or apply penalties appropriately. In addition, an insurer should have a duty to report a breach in regulatory requirements to the supervisor as soon as it occurs.
- 16.16.6 Supervisors should require the results of the most material risk modelling, stress testing and scenario analysis and the key assumptions underlying them to be reported to them, as appropriate to the nature, scale and complexity of the risks, and have access to all other results if requested. Where a supervisor considers that the calculations conducted by an insurer should be supplemented with additional calculations, it should be able to require the insurer to carry out those additional calculations. Where the supervisor considers that the insurer’s response to the results of its risk modelling, stress testing and scenario testing are insufficient it should be able to direct the insurer to develop a more appropriate response. Supervisors should also consider available reverse stress tests performed by insurers where they wish to satisfy themselves that appropriate action is being taken to manage the risk of business failure. (See also Guidance 16.1.17.)

## Insurance Core Principles

- 16.16.7 While insurers should carry out stress testing and scenario analysis and risk modelling that are most appropriate for their businesses, supervisors may also develop prescribed or standard tests and require insurers to perform them when circumstances are appropriate. One purpose of such testing may be to improve consistency of testing among a group of similar insurers. Another purpose may be to assess the financial stability of the insurance sector to economic or market stresses or other stresses that apply to a number of insurers simultaneously, such as pandemics, or major catastrophes. Such tests may be directed at selected insurers or all insurers. The criteria for scenarios used for standard tests should be developed as appropriate to the risk environment of insurers in each jurisdiction.
- 16.16.8 Forward-looking stress testing, scenario analysis and risk modelling of future capital positions and cash flows whether provided by the insurer's own continuity analysis or in response to supervisory requirements is a valuable tool for supervisors in assessing the financial condition of insurers. Such testing informs the discussion between supervisors and insurers on appropriate planning, comparing risk assessments against stress test outcomes, risk management and management actions and enables supervisors to consider the dynamic position of insurers and form a high-level assessment of whether the insurer is adequately capitalised to withstand a range of standardised and bespoke stresses.
- 16.16.9 Supervisors may use insurers' continuity analyses to increase the attention insurers pay to the robustness of their future financial position, the information on which they base decisions and their contingency planning. Such information enables supervisors to assess whether insurers should improve their ERM by taking additional countervailing measures and off-setting actions, either immediately, as a precautionary measure, or including them in future plans so as to reduce any projected financial inadequacies, improve cash flows and increase their ability to restore their Capital adequacy after stress events.
- 16.16.10 While an insurer may itself decide to hold additional capital or reduce its risks as a direct result of its continuity analysis as well as taking other management actions, the analysis should not of itself be used as a basis for increasing current regulatory capital requirements/solvency control levels.
- 16.16.11 Publicly disclosing information on risk management should work towards the IAIS's objective of improving the transparency and comparability of existing solvency requirements. The IAIS supports the need for balance regarding the level of information to disclose about an insurer's risk management whilst producing sufficient information for external and internal stakeholders which is useful and meaningful. Therefore, the IAIS recognises that the requirements for public disclosure of information on risk management, including possible disclosure of elements of a solvency and financial condition report, should be carefully considered by supervisors taking into account the proprietary nature of the information, whether it is commercially sensitive and the potential for its publication to have adverse effects on insurers.

## Insurance Core Principles

- 16.16.12 Where an insurer's risk management practices and processes are not considered adequate by the supervisor, the supervisor should use its supervisory powers to take appropriate action. This could be in the form of further supervisory reporting or additional qualitative and quantitative requirements arising from the supervisor's assessment. However, additional quantitative requirements should only be applied in appropriate circumstances and subject to a transparent framework. If routinely applied, such measures may undermine a consistent application of standardised approaches to regulatory capital requirements.
- 16.16.13 Conversely, an insurer that manages its risks and capital well should be recognised and the level of supervision adapted to be commensurate with a risk-based supervisory approach. This does not necessarily mean a low level of supervision, but a level of supervision appropriate to the level of risk to which the insurer is exposed and its ability to manage the risks. An insurer's effective management of risk and capital does not necessarily mean the use of complex internal models, but a degree of risk management appropriate to the nature, scale and complexity of the insurer's risks. Importantly, risk sensitive regulatory financial requirements should provide the incentive for optimal alignment of the insurer's risk and capital management and regulatory requirements.

### *Additional Guidance for Insurance Groups and Insurance Legal Entities That Are Members of Groups*

- 16.16.14 The group-wide supervisor should undertake reviews of the risk management processes and financial condition of the insurance group. Where necessary, the group-wide supervisor should use its powers to require strengthening of the insurance group's risk management, solvency assessment and capital management processes, as appropriate to the nature, scale and complexity of risks at group level. . The group-wide supervisor should inform the insurance legal entity supervisors of any action required.
- 16.16.15 The supervisory review of an insurance legal entity's risk management processes and its financial condition should include group risks. In particular, the supervisors involved should understand and assess the sources of risk, including emerging new risks to the insurance group and to insurance legal entities from any non-regulated entities within the group. Risk mitigation measures should be considered as possible response in treatment of non-regulated entities where a proper assessment is not possible or non-regulated entities threaten policyholder protection significantly. For example, the relevant supervisor could, where legally possible, forbid distribution of dividends to holding companies, issuance of new guarantees, or new participations in non-regulated entities. Such measures may also involve ring-fencing, such as portfolio transfers to another legal insurance entity in the group.
- 16.16.16 Questions the group-wide supervisor should consider when assessing the soundness, appropriateness and strengths and weaknesses of the insurance group ERM framework include, but are not be confined to:
- How well is the group's ERM framework tailored to the group?
  - Are decisions influenced appropriately by the group's ERM

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framework outputs?

- How responsive is the group's ERM framework to changes in individual businesses and to the group structure?
- How does the framework bring into account intra-group transactions, risk mitigation and constraints on fungibility of capital/transferability of assets/liquidity?
- What is the allocation of responsibilities for ERM in the group and what oversight is given of any outsourcing?
- What are the internal control systems and audit trails?
- What modelling and stress testing (including reverse stress testing) is done and how is modelling risk managed?

- 16.16.17 The group-wide supervisory review and assessment of the insurance group's ERM framework should consider the framework's soundness and appropriateness and identify its strengths, weaknesses and suitability as a basis for group-wide solvency assessment. The arrangements for managing conflicts of interest across an insurance group should be a particular focus in the supervisory review and assessment of an insurance group's ERM framework.
- 16.16.18 The soundness of the insurance group ERM framework may be a factor in the supervisory assessment of the risks to which the insurance group and its member insurance legal entities members are subject. This may in turn affect the level of capital that the insurance group is required to hold for regulatory purposes and any regulatory restrictions that are applied e.g. in terms of the recognition of diversification across the insurance group, the allowances made for operational risk and the allocation of capital within the insurance group.
- 16.16.19 Although it is not a requirement in general for an insurance legal entity or an insurance group to use internal models to carry out its ORSA, it may be considered appropriate by the supervisor in particular cases that the ORSA should use internal models in order to achieve a sound ERM framework. The effectiveness of an insurance group's ORSA may be affected by the degree of integration of its internal capital models, the extent to which it takes into account constraints on fungibility of capital and its ability to model changes in its structure, the transfer of risks around the insurance group and insurance group risk mitigation. These factors should be taken into account by the group-wide supervisor in its review of the insurance group's ORSA.
- 16.16.20 In considering the insurance group's financial position, the group-wide supervisor should review the insurance group's ORSA, including its continuity analysis. In addition, supervisors may wish to specify criteria or analyses that should form part of the supervisory risk assessments so as to achieve effective supervision and consistency across insurance groups. This may, for example, include prescribed stress tests that apply to insurance groups that are regarded as particularly important in terms of meeting supervisory objectives.



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