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Group-Wide Risk and Capital Management of Internationally Active Insurance Groups—Current Practices and Challenges

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Group-Wide Risk and Capital Management of Internationally Active Insurance Groups—Current Practices and Challenges

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The report is based on the work of the Geneva Association's ComFrame working group that was co-chaired by Dr Panos Charissiadis (MunichRe) and Kathrin Hoppe, The Geneva Association. The ComFrame working group included the following members: Philippe Brahin, SwissRe; Marco Broekman, AEGON; Tim Hall, Aviva; Al Iuppa, Zurich Insurance; Elisabeth Hecker, Allianz; Mariana Jimenez Huerta, Prudential UK; Diana Keegan, MetLife; Fabrice Lorillon, AXA; Marian Malecki, PZU; Jan Monkiewicz, The Geneva Association; Toshihiro Okamura, Tokio Marine; Bryan Pickel, Prudential US; Grégory Soudan, SCOR; York von Falkenhayn, HannoverRe and Hans-Peter Würmli, The Geneva Association.

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Introduction

With the 2012 ComFrame draft, the International Association of Insurance Supervisors (IAIS) on 1 July 2012 presented a comprehensive version of the envisaged framework for the supervision of internationally active insurance groups (IAIGs). In the subsequent discussion and consultation, it became apparent that, although the industry was supporting the overall objectives of this endeavour, concerns have been raised in particular with regard to Module 2 of the 2012 ComFrame draft, dealing mainly with enterprise risk management and the assessment of the groups' financial condition.

The importance of these issues encouraged The Geneva Association to prepare a contribution to the ComFrame discussion by analysing existing IAIG risk and capital management practices across the globe. Based on a questionnaire explicitly developed by a working group for this purpose, The Geneva Association conducted an empirical survey in this area with contributions from 19 insurance groups. The main purpose of the present report will be achieved if the survey findings assist the International Association of Insurance Supervisors (IAIS) to better understand current practices and gain a better appreciation of the variety of approaches and methods used, reflecting the different set-up of IAIGs and their aspiration to have appropriate risk and capital management tools in place.

Key findings

- Various enterprise risk management (ERM) and capital management practices are applied around the globe by IAIGs, revealing both similarities in principles applied and diversity reflecting individual company characteristics. Insurance groups consider this to be beneficial to the market, as uniform approaches to risk management introduce the risk of herd behaviour and outcomes.
- Internal models, when used (for both regulatory and economic purposes), are considered to be an integral component of business steering processes. They enable a consistent view across business units, ensure that the long-term nature of insurance business is properly accounted for and support strategic decision-making. This partly explains why IAIGs rely on the outcome of their internal models. No single, externally developed framework is regarded as appropriate for all business steering purposes. This is both a matter of capital calculation and of valuation.
- IAIGs have processes in place (or are taking measures) to ensure an effective link between their risk management and their capital management. Internal models, when used, have been developed and reviewed over time to make sure that all risks are appropriately captured.
- The large majority of IAIGs perform group capital calculations as part of their own value-based management with a special focus on risk steering—even in those jurisdictions where group solvency calculations are not mandatory.
- (Cost of) capital allocation to specific activities/entities is broadly applied, contributing to efficient capital deployment.
- The vast majority of the IAIGs make use of intra-group transactions, one of the most frequently used being reinsurance.
- Ring-fencing of assets or specific business activities is generally not thought to be beneficial, as it limits capital fungibility.
- CROs and their teams are especially focused on current regional, national and international legislative proposals on capital requirements.
- With regard to ComFrame in general, there is a fear that an additional layer of supervision would lead to more reporting, a greater workload and, consequently, more costs and potentially higher capital requirements.

Methodology

The following report represents an analysis of the selected aspects of the current practices of group risk and capital management of IAIGs as defined by the IAIS in the 2012 ComFrame draft.[1] The Geneva Association's ComFrame working group developed a questionnaire (see Annex 1) addressed to Chief Risk Officers and their teams. The questionnaire covers several areas of group risk and capital management, which are at the centre of Module 2 of the 2012 ComFrame draft.

The Geneva Association's ComFrame working group surveyed 19 insurance groups from November 2012 to March 2013.[2] Thirteen of the 19 insurance groups' CROs and their teams were interviewed in person or by phone. In addition, they either submitted written answers or approved the interview report. Five insurance groups submitted their answers in writing. The interviewed CROs were given the opportunity to focus on specific areas of the questionnaire during their interviews.

1 *http://www.iaisweb.org/view/element_href.cfm?src=1/15764.pdf*, p. 22, Module 1 Element 1.

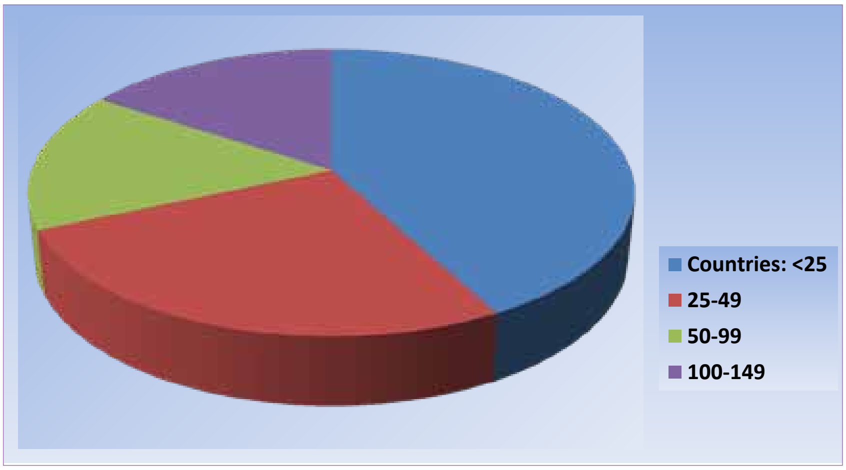
2 Allianz, AIG, Aviva, AXA, AEGON, Hannover Re, ManuLife, MetLife, Munich Re, Mitsui Sumitomo Insurance, PICC, Prudential UK, Prudential US, Sanlam, SCOR, Swiss Re, Tokio Marine, Uniqa, Zurich Insurance.

Characteristics of the groups interviewed[3]

The Geneva Association study is based on a survey of 19 groups meeting completely (15) or most parameters (4) of the IAIS definition of an IAIG.[4] These groups agreed to share their views on 10 selected aspects of their present practice of group capital management.

The groups interviewed originate from four continents and 11 countries: three from the U.S., two from Japan, one from Canada, one from South Africa, one from the People's Republic of China and 11 from Europe: three from Germany, two from each of France, Switzerland and the U.K. and one each from The Netherlands and Austria. The groups are global and operate on a worldwide basis, except one that focuses solely on the European market. Ten insurers operate on five to six continents, and six on three to four continents. Thirteen groups are present in less than 50 countries; while the remaining six are evenly distributed between two brackets: 50–99 and 100–199 countries (Figure 1).

Figure 1: Internationalisation of activities—19 sample groups



All groups perform a broad range of insurance activities. Eight focus on pure insurance—life and non-life—and four on global scale reinsurance. The remaining 11 groups are financial conglomerates.

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3 Based on 2011 data.

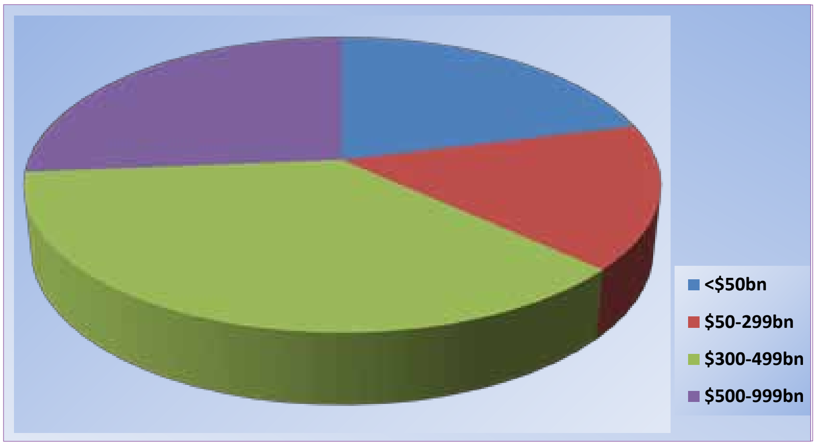
4 The IAIS Technical Committee proposed the following criteria by which insurance groups or financial conglomerates, as defined in ICP 23, will be qualified as IAIGs:

a. gross premiums must be written in not less than three jurisdictions/countries;
b. gross premiums written outside the home country may not be less than10 per cent of the group's total GWP;
c. the minimum size of group's total assets must be above US$50bn <u>or</u> alternatively;
d. the minimum gross written premiums amount to at least US$10bn.

The criteria will be applied in a flexible way according to each individual case with constrained supervisory discretion. Every involved supervisor can launch the process.

The assets of the groups interviewed total nearly US$7tn and vary for individual companies from US$37bn to nearly US$1,000bn. Only four have not reached the level of $50bn, a threshold qualifying to be recognised as an IAIG (Figure 2).

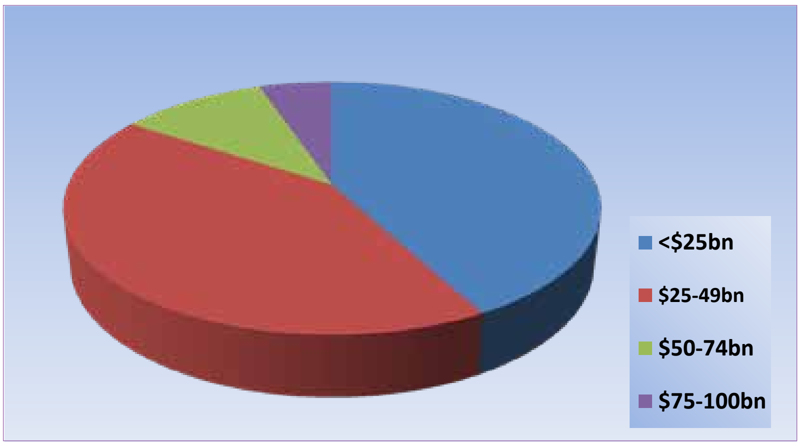
Figure 2: Assets size—19 sample groups



Extensive assets of the groups are reflected in their high positions in the world ranking lists of the largest global insurers.[5] Eleven of them are listed among the top 25 world insurers ranked by assets and six of them also among the 25 top world insurers ranked by net written premiums. All European insurance groups participating in the survey are noted among the top 40 European insurers ranked by assets.

All the interviewed groups are listed on a stock exchange with a total market capitalisation in March 2013 of nearly US$600bn. The capitalisation for three groups exceeds US$50bn each. Eight groups are in the US$25–49bn bracket and the remaining eight below US$25bn (Figure 3).

Figure 3: Market capitalisation—19 sample groups

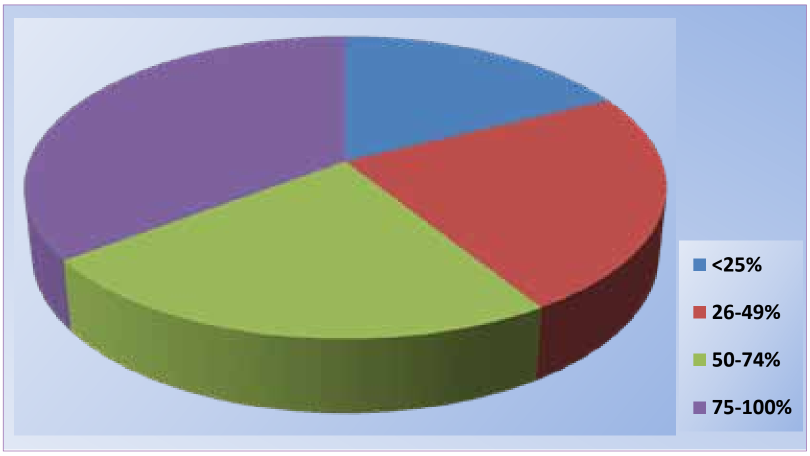


Gross written premiums (GWP) place most of the groups among the top world or top European insurers. The GWP of 13 groups is between US$10bn and US$50bn; one exceeds the US$50bn level and two US$100 bn. The premiums for three of the groups are below the US$10bn threshold indicated in the IAIS definition of IAIG. Because the three companies are the same

5 Ranking lists available at: http://www.relbanks.com/top-insurance-companies/world and http://www.ambest.com/bestweek/marketreports/BW_WorldsLargest.pdf

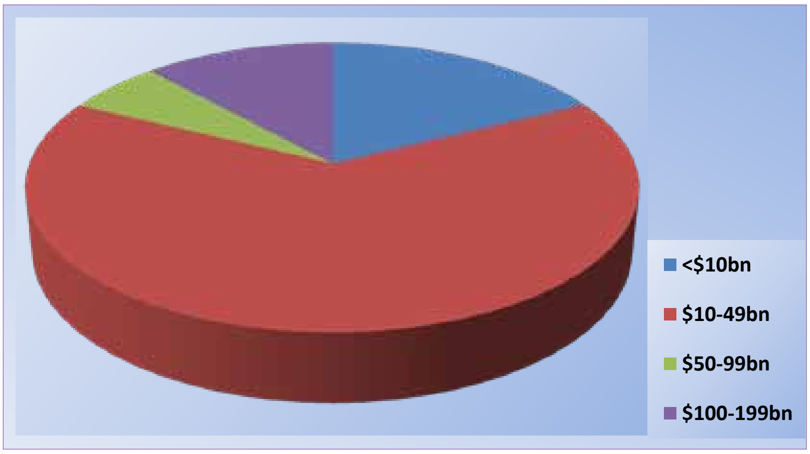
that did not correspond to the minimum asset size criterion, they do not, today, qualify as IAIGs (Figure 4).

Figure 4: Gross written premiums—19 sample groups



Gross premiums written outside the home country are for the vast majority of the groups very high. For 10 groups, it is within the range of from 50 per cent to nearly 100 per cent, and in eight cases between 10 per cent and 50 per cent. For two groups, the share of premiums written abroad is by a small fraction of a percentage point above the 10 per cent necessary to qualify them as IAIGs. In one group premiums written abroad are below this minimum level. The same group operates only in two countries (Figure 5).

Figure 5: Gross premiums share written abroad—19 sample groups



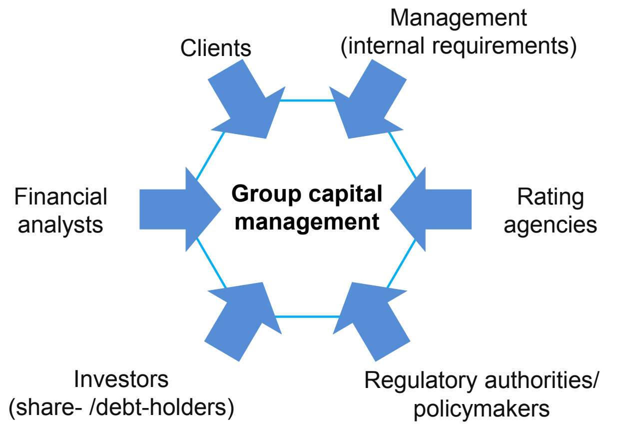
Eleven groups in the sample are financial conglomerates providing insurance and global asset management for their clients directly and via specialised financial subsidiaries. Some are also active in the management of pension programmes and three in banking activities. Total assets under management, own and external, of the financial conglomerates, except one, range from nearly US$500bn to US$2,000bn.

Principles and strategic orientation of group-wide capital management

Effective (group-wide) capital management is essential for an insurance group to maintain the financial strength necessary to overcome severe stress situations while securing commitments made to policyholders and customers. Furthermore, prudent deployment of capital has the objective of meeting heterogeneous expectations of various interested parties:

- clients: appropriate capitalisation to ensure client confidence;
- financial analysts: evaluation of the group's financial strength;
- management (internal requirements): appropriate capital allocation to business segments/entities to support strategy/growth; efficient capital structure to minimise cost of capital;
- regulatory capital requirements: in all markets where the IAIG is operating, but also in preparation for forthcoming regimes, e.g. Solvency II;
- shareholders' return expectations: by optimising capital allocation and deployment.
- credit rating agencies: importance of high rating levels for credibility, security for policyholders/clients, low refinancing costs.

Figure 6: Factors influencing group capital management



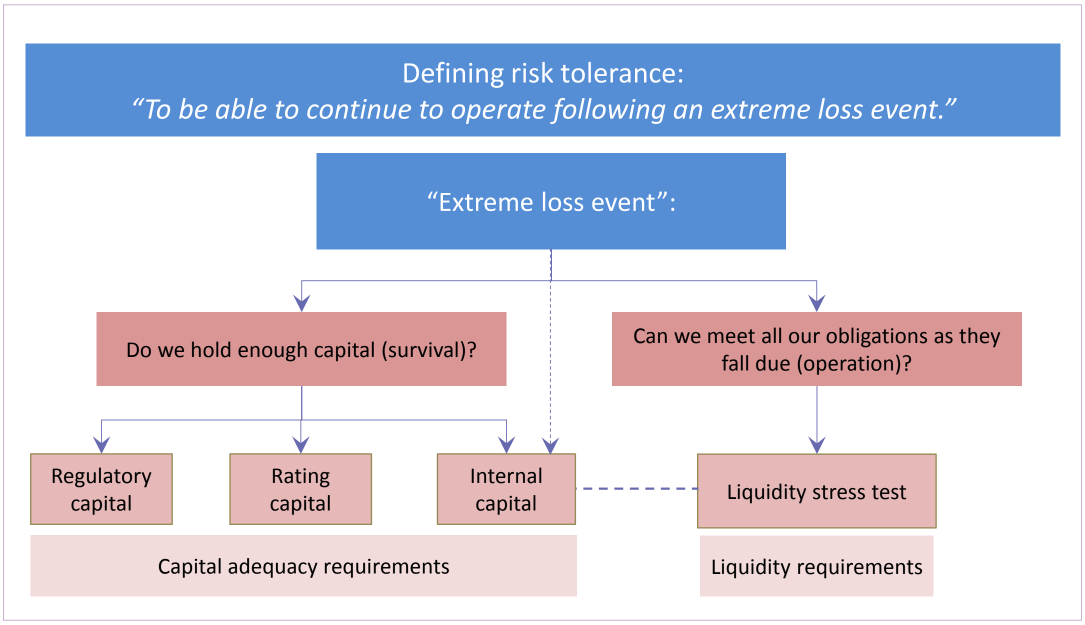
Group capital management is influenced by a variety of heterogeneous interests

Meeting the above-mentioned expectations is a balancing act, as these expectations are, by nature, not fully compatible (e.g. high shareholders' return expectations versus stringent regulatory capital requirements versus clients' expectations of reasonably priced products). One company aptly described the basic principles and strategic orientation of their group-wide capital management:

> The group's capital management strategy is to maximise long-term shareholder value by optimising capital allocation while managing the balance sheet at "AA" level and in accordance with regulatory, solvency and rating agency requirements. In particular, the group endeavours to manage its capital such that the group and all of its regulated entities are adequately capitalised in compliance with the relevant regulatory capital adequacy requirements." Further, the company strives to simplify the group's legal entity structure in order to reduce complexity and increase fungibility of capital.

Liquidity management and capital fungibility considerations are taken into account in the overall financial planning and capital allocation processes as outlined in Figure 7 below.

Figure 7: Defining risk tolerance



Several groups out of 19 explicitly stated that they follow a centralised capital management approach; motivated by the fact that efficient capital deployment is an essential part of the insurance business model:

- Capital held in legal and business entities is optimised to comply with local requirements and retain maximum flexibility.
- The group strategy is to maintain sufficient regulatory capital at each business unit to support sales in that country. Capital in excess of this is held centrally at the group level.
- The distribution of capital and liquidity within the group is based on the principle "Strong parent, lean subsidiary“. From a group perspective, the repatriation of excess capital to the parent company supports improved capital fungibility. This allows for a higher realisation of group diversification effects and a capital structure that leverages efficiency potentials.
- We centralise our capital management as far as possible and generally separate the generation of capital from the utilisation of capital.
- Since we consider capital management as a counterpart of diversification, it needs to be handled at group level to foster diversification.
- Capital and liquidity centrally should be pooled as much as possible.

There are, however, groups performing capital management on a decentralised basis, motivated by the concern that regulators tend to primarily protect their local markets (especially in times of financial distress), limiting the possibilities of capital transferability: “We are fully aware of [the] non-fungibility of capital in a stressed situation. We, therefore, manage capital at legal entity level. We are rather looking at optimising than maximising the deployment of capital.”

These concerns underscore the importance of cooperation between the regulators during stressful periods as an essential factor that could alleviate pressures on individual companies and the overall system during challenging periods.

The enterprise risk management (ERM) of each insurance group interacts with the capital management process. Large insurance groups have sophisticated ERM and risk modelling systems already in place, some of them in anticipation of the future Solvency II regime. IAIGs follow an integrated risk and capital management approach: capital metrics are used for the quantification of risk exposures, and capital management principles are aligned to the objectives of the risk management framework. In some cases, insurance groups have precise capital management guidelines describing not only the overarching principles, but also detailing possible actions in a stressed situation.

As IAIGs operate in several jurisdictions within many different regulatory regimes, their legal entities are subject to diverse capital adequacy requirements. Consequently, regulatory reporting on key capital figures is performed according to the various local frameworks.

Relevant information on the risk and capital position of an insurance group is provided on a regular basis (i.e. annually, quarterly or even monthly) to the board of management/directors, shareholders and analysts. Most of the groups interviewed indicated that they regularly discuss their capital management strategy with financial analysts in addition to written information provided in the risk review of the respective annual reports. Two groups mentioned their preference for not disclosing their group capital management strategy, but rather respond upon request to specific questions asked by financial analysts or during their annual assembly.

Group capital assessment

The "group" definition serving as the basis for the group capital assessment normally includes all affiliated companies reflected in the consolidated financial statements (whether they be insurance entities or non-insurance entities, regulated or non-regulated). However, there are a variety of approaches when considering group figures for capital assessment calculations (including/excluding minority interests, asset management entities, etc.).

For the assessment of group solvency requirements, groups obtain guidance from local supervisors (for example, in the form of guidelines, technical documents and templates).

Large IAIGs, however, have developed their own internal group capital frameworks to optimise capital management within the business and also with regard to regulatory requirements and rating agencies. Capital management goes beyond simple compliance with external standards and requires a complex balancing act having regard to the various frameworks, each with different sensitivities and metrics.

The large majority of insurance groups interviewed (18 out of 19) perform group capital calculations as part of their value-based management with special focus on risk steering, even in those jurisdictions where group solvency calculations are not mandatory. With respect to the timing of first introducing group solvency assessment, we can distinguish three categories of IAIGs:

- early starters (seven groups; 1996–2001), motivated mainly by internal drivers such as the introduction of value-based management, a stronger focus on risk steering and the need for optimal capital deployment;
- regulation driven (four European groups; 2002 and subsequent years), in order to cope with European/national regulations;
- late starters (four groups; 2007–now), motivated by internal drivers, but also in view of Solvency II or other new solvency regulation.

Furthermore, two IAIGs indicated that they do not yet perform group solvency assessment although one is currently implementing processes to assess economic capital at group level.

Insurance groups make use of economic frameworks and internal models to assess group solvency capital in order to ensure that all risks are accounted for properly and to avoid competitive disadvantages. In general, insurance groups are not only driven by external considerations when determining their group solvency position, but are also motivated to have a holistic view of their risk position, embedded in the implementation of their group-wide risk management policy.

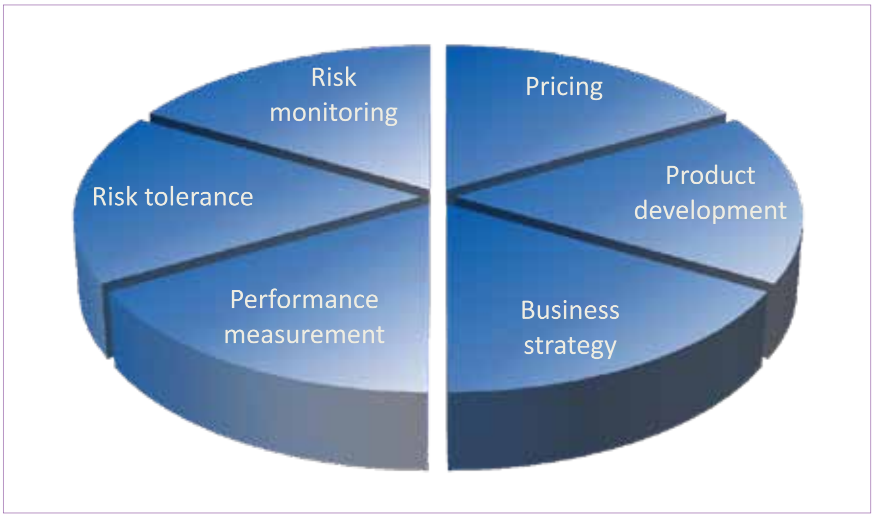
Use of internal models and economic frameworks

Sixteen (out of 19) insurance groups make use of internal economic capital models (or at least partial internal models) for the determination of risk capital in line with existing risk-based solvency regimes (e.g. SST) or future solvency regimes (e.g. Solvency II). One insurance group reported that their national regulatory insurance framework does not allow them to use internal models for group solvency margin assessment.

Global players closely follow developments in the regulatory arena, aiming at timely preparation for future transitions. For example, some insurance groups initiated the implementation of their risk management procedures by the end of the 1990s, early 2000s and others following the 2007/2008 financial crisis.

IAIGs have been developing economic frameworks for internal capital management and risk-steering purposes and/or in anticipation of economic value-based solvency regimes which may allow for internal models for part of the solvency calculations. Insurance groups that developed their own models for assessing risk and value at an early stage benefitted from the experience gained, resulting in further model improvements over time. Internally developed models have the advantage of being directly tailored to business-steering processes. If the scope of such models encompasses capital requirement and valuation, they enable a consistent view across business units, ensure that the long-term nature of insurance business is properly accounted for and support strategic decision-making. This partly explains why IAIGs strongly rely on the outcome of their internally developed models for running their business.

Figure 8: Fully internal, based on market-consistent measures of risk and value, are able to support risk management of a (complex) business to make the best decisions, taking into account various metrics, while avoiding turning it into a strict compliance exercise.



Furthermore, to appropriately reflect economic reality, economic frameworks need to go beyond simple capital requirement calibrations and also include valuation measures (which are not bound by regulatory restrictions). Diversification effects across different risk categories (underwriting, financial, operational) and geographies are fully shown. Diversification turns out to be essential for determining economic group capital.

We quote one response:

> The main driver in doing so: to establish a common view across all of our business units in order to optimise business decisions on a group basis. Our full internal model is based on market consistent principles of risk and value measurement.
>
> Furthermore, it is important that the long-term nature of insurance business is properly accounted for to ensure the information can be used to support strategic decision-making.

When calculating group diversified internal capital, capital fungibility/transferability is, in general, taken into account (this holds especially for European insurers in anticipation of the Solvency II regime). In some cases, capital fungibility is reflected in the liquidity models. Liquidity management is seen being complementary to capital management for maintaining a strong liquidity position at both the group and local levels.

Capital allocation

Efficient deployment of financial resources, optimising shareholder's economic return and enabling business opportunities is the outcome of a thorough capital allocation process. Insurance groups use for this purpose sets of capital performance metrics across business units to ensure meaningful comparison and consistency.

Fifteen (out of 19) insurance groups stated that, when dealing with capital allocation issues, the focus is set on the internal economic capital; however, allocating/maintaining capital at the applicable entity level reflects inevitably regulatory requirements and credit rating agency expectations. One company explained that it is not the capital itself that is allocated to specific business lines/activities, but rather the cost of the internal economic capital to support the respective activity.

We quote two thorough descriptions of the capital allocation process that offer good insights in this area:

> i) The group approach to capital allocation takes into account a range of factors, especially risk-adjusted returns on capital, the impact of alternative capital measurement bases (accounting, regulatory, economic and rating agency assessments), tax efficiency and wider strategic objectives. We optimise capital allocation across the group by using a consistent set of capital performance metrics across all business units to ensure meaningful comparison. Capital utilisation, return on capital and new business value creation are measured at a product level. The use of these capital performance metrics is embedded into our decision-making processes for product design and product pricing.
>
> Our capital performance metrics are based on economic capital, which provides a view of our capital requirements across the group, allowing for realistic diversification benefits. Economic capital also provides valuable insights into our risk profile and is used both for risk measurement and capital management.
>
> ii) The group's strategy is to maintain excess capital at [the] group level and then deploy the capital to the products and geographies with the most attractive profitability characteristics.
>
> We have a traffic light system for regulatory, internal economic and rating driven capital. There are different thresholds for the contemplated categories which depend, for regulatory purposes, on the limit framework. When assessing the internal economic capital we differentiate in addition between EU and non-EU countries as well as different lines of business depending on their volatility. As soon as a certain threshold has been reached, certain pre-defined measures are triggered. Our aim is to have as much flexibility at group level as possible. We look primarily at those entities, which are explicitly rated. Besides, we look at those entities, which are not rated, but constitute large subsidiaries.
>
> Excess capital is part of our capital strategy and we discuss it especially at the beginning of the year in the context of our dividend planning. The objective is to bring up as much excess capital as possible to pay out the dividends. The regulatory capital is our clear benchmark, and possible capital

buffers are depending (sic) on volatility. In addition, we assess excess capital according to our self-imposed capital standards. It is ultimately a management decision.

A decisive factor is the projected profitability. Performance is measured according to operating entities (not legal entities). We have introduced a new capital steering mechanism which assesses the economic capital by looking at the available resources and the risk capital amount. In addition, it always depends on the local regulator—we have to enter into a dialogue with the local regulator.

Intra-group transactions

For purposes of discussion we considered the following definition for intra-group transactions:

…any transaction by which an insurance or reinsurance undertaking relies either directly or indirectly on other undertakings within the same group or on any natural or legal person linked to the undertakings within that group by close links, for the fulfilment of an obligation, whether or not contractual, and whether or not for payment.

The vast majority of the IAIGs interviewed make use of intra-group transactions in the above sense, reinsurance being one of the most frequent. Overall, a variety of examples were cited:

- affiliate reinsurance: especially protection from major Cat events, but also proportional schemes and as a means to manage external reinsurance centrally;
- investments and cost allocations according to service agreements;
- intercompany transfers of capital (i.e. dividends and capital contributions, cash pooling);
- intra-group loans (short tail)/subordinated loan;
- derivatives (e.g. total return swaps);
- letters of credit or "soft letters of comfort";
- parental guarantees.

Intra-group transactions are in general reflected in the economic frameworks, at least when they are substantial (materiality thresholds) and, in most cases, they are part of the regular risk management process. Intra-group transactions are also considered in the Swiss solvency regime (SST) and in Solvency I/II (only when calculating the aggregate group capital requirement from the solvency requirement of each solo undertaking within the group), effects from intra-group transactions are eliminated in order to avoid a double charge to the participating and related undertaking). One group explained that it had developed internal administration rules for connected transactions to ensure timely identification of significant connected transactions.

In most jurisdictions, regulators require regular reporting on (at least material) intra-group transactions. Some national supervisory authorities limit intra-group transactions or require capital charges for certain intra-group transactions. Under the Canadian solvency regime, the impacts of intra-group transactions, including affiliate reinsurance, are fully eliminated as the group is regulated on a consolidated basis.

In terms of transferability of free funds to other jurisdictions, there are sometimes local regulatory constraints (e.g. some U.S. states restrict dividends available to the parent to the lesser of current year earnings and 10 per cent of surplus. Additional amounts require special approval of the regulator). In other cases there might be no restriction, but some additional requirements (e.g. "Bedeckungsrechnung" in Germany). In the context of capital transferability, groups consider the tax implications as well.

We may quote one comment on the issue of transferability:

In the event of a crisis, the group's ability to transfer excess funds to other locations will depend on several factors, including the nature of the crisis. It is conceivable that regulatory sensitivity to capital transfers may be enhanced during a crisis, with the existing rules rigorously enforced and additional measures introduced to ensure adequate protection to the "local" policyholders. It would be important therefore to have agreed-upon rules of conduct that would bind regulators in times of crisis.

Ring-fencing

Based upon the survey responses, it is apparent that there is no unique definition or common understanding of ring-fencing. With the aim to protect insurance groups from contagion (i.e. risk exposure or operations within a part of the group negatively affecting other parts or the entire insurance group), but also in order to properly allocate financial results to specific business lines one might consider separating financially ("ring-fencing") certain activities. This can be done in many different ways including: (1) on an administrative basis, where the separation of assets and liabilities mainly refers to separated accounting records in conjunction with rules regarding the risk and capital management (for example: participating funds in certain jurisdictions) and (2) on a legal basis, providing for a full legal and financial separation of assets and liabilities held by an entity of the insurance group (for example: certain activities are run within a legal entity of an insurance group), (3) on an analytical basis, where blocks of similar business with similar risks are separately identified, monitored, and subject to scenario testing. Where applicable, specific contingency plans are identified for individual blocks and these mitigate spill-over effects.

The IAIGs interviewed unanimously confirmed that the use of ring-fencing has a major disadvantage: it sets clear boundaries to the capital fungibility within an insurance group. This is the main reason why ring-fencing is not used by the IAIGs interviewed unless required by their regulator, and most prefer only to make very restricted use of it:

- "A strategy of capital "ring-fencing" would trap capital locally and thus reduce the flexibility for the group. It is also not necessary in view of more modern supervisory approaches such as the SST."
- "Ring-fencing in its strictest sense is not in our best interest (capital management / flexibility) for the traditional business. The limited liability of the group should already protect the group from any spill-over effects."
- "We try to avoid ring-fencing, because it limits the usage of diversification effects."
- "We are against ring-fencing."

Insurance groups, especially those following a centralised capital approach, prefer to have the flexibility to deploy capital where needed, for growth purposes but also in case of sudden local capital or liquidity needs (e.g. after a natural catastrophe or other large insurance event). Furthermore, modern risk-based regimes (like OSFI, SST or the forthcoming Solvency II) require the modelling of the relevant intra-group transactions to detect potential contagion effects at an early stage and prevent domino effects.

One company pointed out such spill-over effects on a group may occur in a stress situation as a consequence of certain demands from the local regulator and hence, exacerbate pressures (e.g. parental commitments to provide capital to a local regulated entity above and beyond the regulatory requirements).

Contingency capital plans

After 2008, 11 out of the 19 insurance groups interviewed implemented, to different degrees, contingency capital plans in the event of external shocks (i.e. capital market shocks, large-scale catastrophic event). In the U.S., groups reported to be legally bound by their supervisor to have such plans.

Insurance groups that do not have concrete contingency capital plans in place nevertheless deal with this issue:

- "No, we have not a concrete contingency plan, but we have discussed stress scenarios and have an internal plan for certain trigger events (low solvency ratio)."
- "We are in the process of developing contingency capital plans. Regulation guidance indicates that we will be required to assess capital adequacy under varying stressful scenarios and produce a capital plan."
- "We conduct regular scenario tests in order to decide on the extra capital demand in an unfavourable environment."

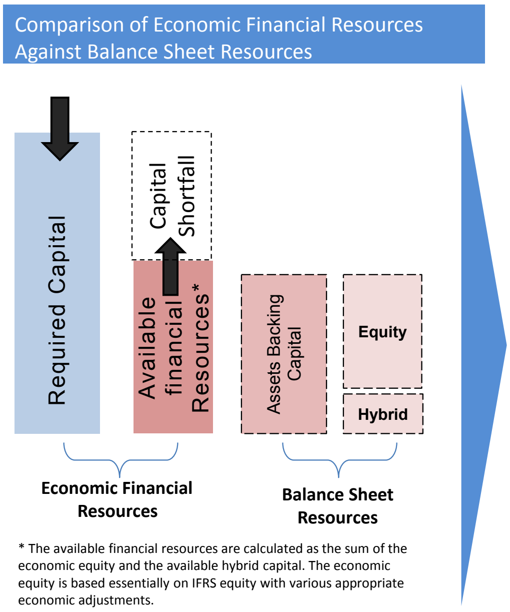
In general, crisis management responsibilities are taken over by senior management. The crisis management team at group level usually involves the CFO, the CRO (or similar functions) and senior company representatives (from affected business units, the risk management department, Treasury, the legal department etc.). This team is supposed to first make proposals to the board of management and after formal approval to execute the contingency plan.

The contingency plan is activated when capital requirements can no longer be met. Some groups in addition use early-warning methodologies, indicating a gradual worsening of the capital situation. As Figure 9 below shows, there are several measures an insurance group can take to address a capital shortfall.

In some cases a contingency plan contains a predefined catalogue of possible capital management measures, e.g.

- capital (raising/reallocation): through intra-group measures (e.g. capital injection from parent to subsidiary), suspension of dividend payments/share buy-backs, emergency loan agreements in place with external banks, contingent capital, raising of equity or hybrid capital, etc.;
- de-risking of assets: sale of assets, equity participations etc.;
- de-risking of liabilities: business contraction, sale of business blocks or transfer of risk through reinsurance, including alternative risk transfer (ART) and securitisation, etc.

Figure 9: Possible measures for insurance groups in case of a capital shortfall



Possible measures

Restructuring available capital
- Increase core equity
- Increase minorities
- Increase subordinated debt
- Increase contingent capital

De-risking of assets
- Sale of participations
- Reduction of equity ratio
- Hedging

De-risking of liabilities
- Reinsurance (including ART and securitisation)
- Reduction of business volume / reducing liabilities
- Reduction or exit of capital intense businesses

Possible measures (↑↓) are aiming to increase the effective available financial resources (equity and/or hybrid) and/or decrease the capital requirement by de-risking assets /liabilities.

Perception of common standards for group capital

The majority of the CROs interviewed (14 out of 19) considered a consistent global accounting standard and capital standard desirable in the long run to allow for more transparency in the insurance market. Furthermore, they strongly believe that such global standards would enhance the understanding between supervisors and improve the work of supervisory colleges. Depending on design and application, a common global standard could have positive effects for levelling playing fields, unless it is added as an extra layer on top of local regimes deviating from the global standard or in case the global standard is too generic and would e.g. misrepresent risks of an idiosyncratic nature.

The great majority of the CROs interviewed (17 out of 19) did not think that common standards for group capital could be developed in the short term. Any rushed actions that were significantly influenced by political considerations, would lead to unwanted and unintended consequences.

To their mind it is of utmost importance that any global group capital standard reflects the risk adequately. In addition, any global standard should ideally build on the existing capital regulations and not create an additional capital regime. The group supervisor would otherwise be confronted with results from two different capital regimes, which might be ambiguous and allow for misinterpretations. Their experience in preparing for Solvency II has shown how work- and cost-intensive the preparation was. Respondents fear that an additional layer of supervision would lead to more reporting, more workload and consequently, more costs and potentially higher capital requirements.

Impact of current and future regulatory developments on capital management

The following regulatory developments were mentioned by groups interviewed as potentially having a major impact on their capital management practices:

- **NAIC Solvency Modernization Initiative (SMI)**
  In the aftermath of the financial crisis, U.S. insurance regulators reassessed the current system of solvency supervision of insurance companies. The SMI aims to adopt a more "principles-based" approach to insurance regulation and addresses important areas such as capital modelling, enterprise risk management, governance and risk management ("own risk and solvency assessment"), with a focus on group supervision and reinsurance practices.
- **Policy measures and consequences for non-bank institutions identified as systemically important**
  The IAIS developed in 2012 a framework of policy measures to be applied to insurers designated as global systemically important insurers (G-SIIs). The main objectives of this endeavour are to reduce expected systemic impacts emanating from a disorderly failure of a G-SII and incentivise G-SIIs to become less systemically important (give disincentives for not becoming G-SII).
- **Swiss Solvency Test (SST)**
  The SST is a risk-based capital standard for insurance groups developed by FINMA's predecessor the Swiss Federal Office of Private Insurance. It has been in force since 1 January 2006 but fully implemented as from 1 January 2011 after a phasing-in period of five years. The main principles of SST and Solvency II are identical (total balance sheet approach, economic valuation, risk-based capital requirements); differences can be found in their implementation (different calibrations, formulae-based versus stochastic approach, etc.).
- **Development plan of China's Solvency II regime**
  In 2012 the China Insurance Regulatory Commission (CIRC) released a plan with the goal of establishing in three to five years a solvency regulatory system. The three-pillar framework includes requirements on insurance companies' capital adequacy, risk management and information disclosure. Building a risk-based system is a guiding principle of the new regulation, which will also meet national and international standards, according to the CIRC's plan.
- **Dodd-Frank Act**
  The Dodd-Frank Wall Street Reform and Consumer Protection Act was signed into federal law on 21 July 2010, bringing significant changes to financial regulation in the United States. The stated aim of the legislation is to promote the financial stability of the United States by improving accountability and transparency in the financial system, to end "too

big to fail", to protect the American taxpayer by ending bailouts and to protect consumers from abusive financial services practices and other purposes.

- **OTC derivatives regulation**
  According to the G20 commitments, all standardised, over-the-counter (OTC) derivatives have to be cleared through central counterparties and be reported to trade repositories. The respective legislation was enacted in the U.S. and the EU (the Dodd-Frank Act[6] of 2010 and the EU OTC[7] Regulation of 2012).

- **Basel III**[8]
  The Basel Committee on Banking Supervision developed reform measures to strengthen the resilience of the banking sector. The reform targets both micro-prudential (aiming to raise resilience of individual banking institutions) as well as macro-prudential regulation (reducing impacts of systemic risks). A consistent implementation of the framework throughout the various jurisdictions is a major challenge for the Basel Committee.

- **Solvency II**
  All insurance groups surveyed named Solvency II as the main regulatory development with cross-border influence. Solvency II is the future solvency regime for insurance and reinsurance undertakings in the European Union. Initiated in 2000 by the European Commission, Solvency II is aiming to strengthen policyholder protection, modernise supervision and deepen insurance market integration across the European Union. Although the Solvency II Directive was adopted by the Council of the European Union and the European Parliament in 2009, some technical specifications of the new risk-based regime are still pending:
  - Groups in non-European jurisdictions follow these developments either because of their European operations or as reference for new legislative developments. However, they neither expect nor want Solvency II (as it stands) to become a global capital standard, arguing that certain aspects and measurements of Solvency II do not reflect the risk nature and/or characteristics of local markets.
  - Due to the "market-consistent" valuation of both assets and liabilities, the Solvency II regime is expected to lead to higher volatility of available capital (own funds), and therefore solvency ratios, compared to Solvency I, especially with regard to long-term asset accumulation and saving products in the life insurance segment. Therefore, product designs, investment strategies and hedging programmes may be gradually adopted throughout the industry to mitigate volatility.
  - Excessive data reporting under Solvency II is an issue. However, companies acknowledge that the reporting requirements enhance the internal transparency and efficiency of certain processes.

As far as ComFrame is concerned, the general perception of the effort to explore more international regulatory convergence is positive. The ultimate consequences remain however uncertain. We quote some specific remarks:

> We do not see ComFrame as problematic as long as it focuses on the work of the supervisory college and ERM and the use of an economic framework. It needs to be seen how it evolves in practice.
>
> We anticipate (and praise) global convergence towards economic and risk-based regulation of insurance and reinsurance.
>
> Setting out principles is one thing, actually implementing them is another. The latter requires a lot of effort and needs to be backed by specific, tangible guidance. For solvency requirements, regulators

6 *http://www.gpo.gov/fdsys/pkg/BILLS-111hr4173enr/pdf/BILLS-111hr4173enr.pdf*
7 *http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:201:0001:0059:EN:PDF*
8 Raised by representatives of conglomerates.

need to first agree on what makes and how to make principles “work” in practice. It is especially important that global standards are flexible enough to reflect the various markets’ risk nature.

Having experienced the Solvency II discussion, we know how difficult it is to come to an agreement on European—let alone on [a] global—level. Our fear is that the common denominator is then the highest supervisory standard.

New systemic risk could be potentially introduced by encouraging similar behaviours throughout the global insurance industry and the difficulty in/potential unfairness of introducing a unifying regime which will inevitably penalise some insurers’ back books of existing business which have been written under substantially different regulatory regimes (that have promoted significantly different views of what good risk management looks like).

Any potential new capital regime envisioned under ComFrame would have a very material impact on IAIGs, unless our concerns regarding level local playing fields are appropriately addressed.

Concluding remarks

Ongoing globalisation will compel insurance groups to further expand their international footprint and their cross-border activities. From the supervisory perspective, this would necessitate frameworks and infrastructures that enable and support this positive development while maintaining policyholder protection.

ComFrame could be seen as a positive milestone for enhancing cooperation and coordination around the supervision of international—or global—insurance groups. Already existing sound practices and regulatory standards within the insurance industry could serve as a springboard for the further development of global regulatory structures and standards (e.g. valuation; consistent global accounting standards) that will strengthen coordination and supervision at the global level.

While there is a perception among groups that IAIS ComFrame is a challenging exercise, there is also the view that global regulatory change generally arises from an underlying common interest between industry and regulators/policy-makers in developing a more effective regulatory framework. However, developments up to now have been too uneven and fragmented. Transnational regulation should be strengthened and streamlined through a mutually reinforcing, synergistic process.

The proposed approach of the IAIS to address valuation and define capital resources based on a ComFrame-adjusted balance sheet (CABS) is a concern for many IAIS observers. ComFrame should not try to develop a new valuation standard based on IFRS or US GAAP for solvency purpose (IFRS is still being discussed and is not suited for solvency purposes).

Those interviewed cautioned against rushed actions, given the likelihood of unwanted and unintended consequences. As many CROs and CFOs have explained to the IAIS, ComFrame should aim to recognize the internal (economic) valuation approaches developed by groups to measure risk exposure and assess group capital adequacy; the IAIS should aim to build off this to develop and agree on a set of harmonised principles for assessing group capital. In this regard the IAIS should leverage the experience of national regimes which are already advanced in group supervision and group capital assessment, and facilitate mutual recognition of regimes.

Annex
Survey questionnaire

1. Describe your internal governance/guidelines for capital management at group level:
   - Basic principles and strategic orientation of your group-wide capital management.
   - Which relevant key figures do you report on and at what intervals (internal, financial or regulatory reporting)?
   - Do you publicly explain your group-wide capital strategy, e.g. at analysts' meetings, in annual report?
   - What is the link between your group-wide and solo-entity capital management?
   - Within your enterprise risk management system, how do you establish the link between risk management and capital management (governance, risk models results impacting capital management)?

2. Do you assess solvency capital (also known as risk or economic capital) at group level? If so:
   - Since when have you determined group solvency capital and what was the reason for introducing it?
   - Is a group view mandatory in your jurisdiction?
   - Does your local supervisor give (any/some) guidance?
   - Do you give priority to internal definitions of economic capital or do regulatory rules and accounting standards guide you more?
   - Which metrics (valuation standards and capital definition) do you use to assess group capital (e.g. IFRS, US GAAP, local GAAP, Solvency II standards, internal models etc.)?
   - How do you define "the group" for your capital assessment?

3. Do you produce consolidated financial statements at group level? If, yes:
   - On which accounting basis or do you prepare several financial statements on different accounting bases (e.g. different internal and external ones)?
   - Is that mandatory in your jurisdiction or driven by other purposes?
   - Which accounting standards do you use/have to use to comply with local reporting requirements?
   - What are the constraints to arrive at consolidated figures (e.g. methodology)? Are constraints of capital transferability among them?

4. Do you make use of internal models for your group solvency capital assessment (not only for regulatory purposes, but also for internal steering)?

- If not, do you plan to develop internal models in the near future?
- If so, since when?
- What is the main driver in doing so?
- Can you describe the method used for assessing your group solvency capital (e.g. full consolidation, deduction and aggregation, group-wide integrated internal models on a common internal valuation standard)?
- How do you reflect diversification effects in your internal model? Do regulatory constraints on required local capital reduce the diversification benefits? Do you see any room for further regulatory improvements in this respect?
- If you use "deduction and aggregation" methodology: how can you reflect (geographic) diversification effects in your model (provided there are no restrictions with regards to the transferability of capital)?"

5. Do you allocate capital to specific business lines/activities?

- If so, which kind of capital: regulatory, internal economic, rating-driven capital?
- How do you deal with excess capital (capital beyond required regulatory level for the specific business)? Is this part of your capital strategy?
- If not, why not?

6. Do you make use of intra-group transactions for your group capital management? If, so:

- Are there specific intra-group transactions you focus on? Which?
- Are these transactions reflected in your internal model?
- Do you apply thresholds to transactions to decide whether to include them in the internal model or in your regulatory reporting?
- Are internal transactions part of your regular risk management processes?
- Do supervisors require regular reporting with regard to these internal transactions?
- Are you free in transferring your funds in excess of the regulatory required level to chosen places? If restrictions exist, which jurisdictions limit the free transferability and to what extent? Do you envisage constraints in times of crisis?

7. Have you ever employed or planned to employ "ring-fencing" in your capital management strategy (e.g. to protect the group from spill-over effects)? If, so

- For which types of activities?
- Do you face any difficulties with local authorities when implementing such measures?
- Are there jurisdictions that require you to establish firewalls between subgroups of your group or conglomerate?

8. Do you have a contingency capital plan for the event of external shocks (i.e. capital market shocks, large-scale catastrophic event)?

- If so, since when?
- Are you legally bound by your supervisor to have one?
- Is there a crisis management team with defined responsibilities?

- Which are the units/services involved?
- Is there a predefined catalogue of possible actions?

9. Would you welcome internationally common standards for group capital?
   - Which benefits would you expect?
   - Which downsides would you anticipate? (e.g. risks specific to various jurisdictions not reflected appropriately? Bureaucratic monster hindering competition?)
   - Would it contribute to a level playing field?

10. Which major current regulatory developments will have an impact on your current capital management practices? Which additional future regulatory developments do you anticipate? Which regulatory actions are most needed for the promotion of solvency management at group level?

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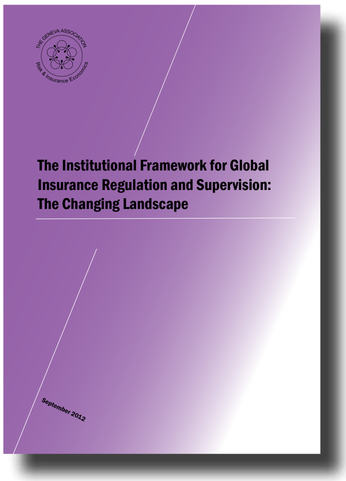
Institutional Framework for Global Insurance Regulation and Supervision

Jan Monkiewicz and Patrick M. Liedtke, December 2012

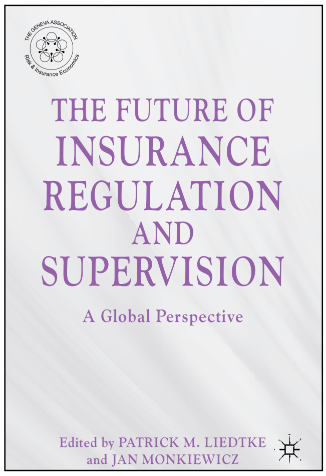


The aim of this report is to map out and review the changes that are taking place or are likely to take place in the global institutional framework for financial regulation and supervision and to discuss their likely consequences. It makes three main observations: Firstly, the major observation of the report is that the global institutional framework for insurance regulation will in the future remain even more dependent on network bodies rather than treaty organisations. The recent financial crisis substantially expanded the perimeter of institutional set up by upgrading the role of the G-20 in the context of the financial systems. The second major observation of the report is that insurance industry is going to remain in the shadow of the banking industry and will be faced with the problem of the recognition of its specificities. In this new paradigm, banking will receive even more attention and powers due to the expanding role of the central banks in the macroprudential supervision—a key tool to mitigate the systemic risk. The third major observation is about the growing role of the International Association of Insurance Supervisors (IAIS) in the years to come, which, in the aftermath of the financial crisis, reinforced its position as prime source of global insurance expertise and reliable partner of other relevant bodies, in particular the Financial Stability Board (FSB) and the International Monetary Fund (IMF).

The Future of Insurance Regulation and Supervision

Edited by Patrick M. Liedtke and Jan Monkiewicz, published by Palgrave Macmillan, 2011

The recent financial crisis has provoked a broad spectrum of regulatory observations and possible responses. Although historically wide-ranging reshaping has been a common phenomenon following the severe failure of an existing financial infrastructure, there is an important difference this time—the global reach of today's markets and enterprises. Moreover, never before following a banking crisis have so many reforms not only affected the banking sector but also other parts of the financial services sector, such as insurance, the social systems and, of course, our real economy. The experts who have contributed to this book take a thorough look at the fundamentals of future insurance regulation and supervision, analyse problematic aspects and discuss the global perspectives for the insurance industry. The book contains 24 chapters, written by international experts, ranging from regulatory bodies (including NAIC and the FSA), to insurance companies and associations of insurers (including Swiss Re, The Geneva Association and ABIR) to high-level academic centres (including St John's University and London School of Economics).



The book is structured in seven parts:

1. The Global Framework: This first section looks at insurance activity as a regulatory object, the economic rationale for insurance regulation, the global financial architecture and the insurance sector, and insurance and financial stability.

2. The Supervisory Dimension: In this section, one can read about the quality of regulation and supervision; solvency as a focal point of prudential regulation; and the architecture of insurance supervision before and after the financial crisis.
3. The Market Dimension: This part investigates the role of market discipline in the insurance industry, how to address the emergence of adverse network dynamics in insurance group supervision, the trend of tighter regulation in credit default swaps, and the current state and future challenges in the regulation of global reinsurance markets.
4. Stakeholder Protection: Topics presented in this section are: challenges and approaches in consumer protection in the insurance industry; insurance guarantee funds in relation to solvency regulation; government intervention in insurance; the cross-border aspects and policy implications in insurance companies' systemicness.
5. The Developed Markets Perspective: This part looked at regulatory developments and challenges in the U.S., the European Union and Japan.
6. The Emerging Markets Perspective: This section focuses on regulatory frameworks, developments and challenges in China, in Latin America and in Russia.
7. International Issues: This part looks at the international context in regulation, focusing on mutual recognition, equivalence and international standards, the regulatory future of international insurance centres and international trade agreements and their impact on regulation and supervision in insurance.

Other publications of The Geneva Association

Special Reports on Financial Stability

- *Variable Annuities—An analysis of financial stability*, March 2013.
- *Cross Industry Analysis—28 G-SIBs vs 28 Insurers—Comparison of Systemic Risk Indicators*, December 2012, updated in February 2013.
- *Surrenders in the Life Insurance Industry and their Impact on Liquidity,* August 2012.
- *Insurance and Resolution in Light of the Systemic Risk Debate*, February 2012.
- *Considerations for Identifying Systemically Important Financial Institutions in Insurance—A contribution to the FSB and IAIS's discussions*, The Geneva Association, April 2011.
- *Systemic Risk in Insurance—An analysis of insurance and financial stability,* The Geneva Association, Geneva, March 2010.
- *Key Financial Stability Issues in Insurance—An account of The Geneva Association's ongoing dialogue on systemic risk with regulators and policy-makers*, The Geneva Association, Geneva, July 2010.

The Geneva Reports—Risk and Insurance Research

- *No. 6: Addressing the Challenge of Global Ageing—Funding Issues and Insurance Solutions,* edited by Patrick M. Liedtke and Kai-Uwe Schanz, June 2012
- *No. 5: Extreme events and insurance: 2011 annus horribilis,* edited by Christophe Courbage and Walter R. Stahel, March 2012
- No. 4: *September 11—Ten Years On; Lasting impact on the world of risk and insurance*, edited by Patrick M. Liedtke and Kai-Uwe Schanz, September 2011.
- No. 3: *Anatomy of the credit crisis—An insurance reader from The Geneva Association*, edited by Patrick M. Liedtke, January 2010.
- No. 2: *The insurance industry and climate change—Contribution to the global debate*, by The Geneva Association, July 2009.
- No.1: *Regulation and intervention in the insurance industry—fundamental issues*, by E. Baltensperger, P. Buomberger, A.A. Iuppa, B. Keller and A. Wicki, February 2008.

Newsletters (available as e-newsletters)

- ***PROGRES Newsletter*** means to contribute to the exchange of information on studies and initiatives aimed at better understanding the challenges arising in the fields of insurance regulation, supervision as well as other legal aspects.
- ***Risk Management Newsletter*—**In 1975, The Geneva Association made the first survey of risk management practices within the European manufacturing industry. Since then, risk management has been one of the main lines of its research programme. The newsletter, which has been published since June 1984, summarises The Geneva Association initiatives in the field: it is open to contributions from any institution or company wishing to exchange information.
- ***Insurance Economics Newsletter*—** This newsletter for risk and insurance economists which was first published in November 1974 as an Information Bulletin of the European Group of Risk and Insurance Economists (EGRIE) serves as an information and liaison bulletin to promote contacts between economists at universities and in insurance and financial services companies with an interest in risk and insurance economics.
- ***Life and Pensions Newsletter* —**The newsletter of the Research Programme on Social Security, Insurance, Savings and Employment was initiated in 1985, and provides information on research and publications in this area. It also covers themes linked to the life insurance sector.
- ***Health and Ageing Newsletter*—** Linked to the research programme on health issues and productive ageing, this newsletter seeks to bring together facts and figures linked to issues in health, and to try to find solutions for the future financing of health and the role that insurance solutions can play in them. It has been published since March 2000.
- ***World Fire Statistics Bulletin*—** Published annually, this bulletin presents statistics on national fire costs from over 20 leading countries in an effort to persuade governments to adopt strategies aimed at reducing the cost of fire. It has been published since March 1984.

Journals

(published by Palgrave Macmillan for The Geneva Association)

- ***The Geneva Papers on Risk and Insurance—Issues and Practice***
  This prestigious peer-reviewed journal, published quarterly, leads its field, publishing papers which both improve the scientific knowledge of the insurance industry and stimulate constructive dialogue between the industry and its economic and social partners.
- ***The Geneva Risk and Insurance Review***
  This peer-reviewed international journal is published in annual volumes of two issues. Its purpose is to support and encourage research in the economics of risk, uncertainty, insurance and related institutions by providing a forum for the scholarly exchange of findings and opinions.

As IAIS' project to develop their "Common Framework for the Supervision of Internationally Active Insurance Groups" (ComFrame) takes shape, The Geneva Association has interviewed IAIG CROs and senior risk management staff about their group-wide risk and capital management practices and challenges. The report is a contribution to the ongoing discussions on the IAIS common framework.

The survey showed that internal models are considered to be an integral component of the business steering processes. The large majority of internationally active insurance groups perform group capital calculations as part of their own value-based management. Furthermore, they have processes in place, or are taking measures, to ensure an effective link between their risk and capital management.

The report explains the different regulatory changes IAIGs are confronted with and which have an impact on group-wide risk and capital management.

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