First Regional Europa Re Insurance Conference

Developing Catastrophe and Weather Risk Markets in Southeast Europe: From Concept to Reality

The current stage of insurance regulations (in Catastrophe insurance) in emerging economies-

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INSURANCE SECTOR –HIGHLY REGULATED

- *The insurance sector in emerging markets remains a very heavily regulated sector. The primary public policy concern underlying this regulation relates to concerns over the willingness and ability of consumers to observe and monitor the financial health of their insurer, especially when insurance is made compulsory. In the past, this leads to a variety of policy interventions designed to restrict competition. Deregulation has involved a lifting of these restrictions on competition, a refocusing of regulation on prudential controls and consumer protection issues, and a focusing of regulation on consumer product lines.*

Risk Based Regulation and Supervision

- Risk Based Supervision is an approach to supervision in which the action of regulator is determined by both the risk profile of relevant institution and the extent to which such institution can manage associated risk with minimal impact on policyholders and market interest.
- The risk based supervision is predicated on the relationship between risk and capital, basically the higher the risk profile of the insurer, the higher the capital it must hold

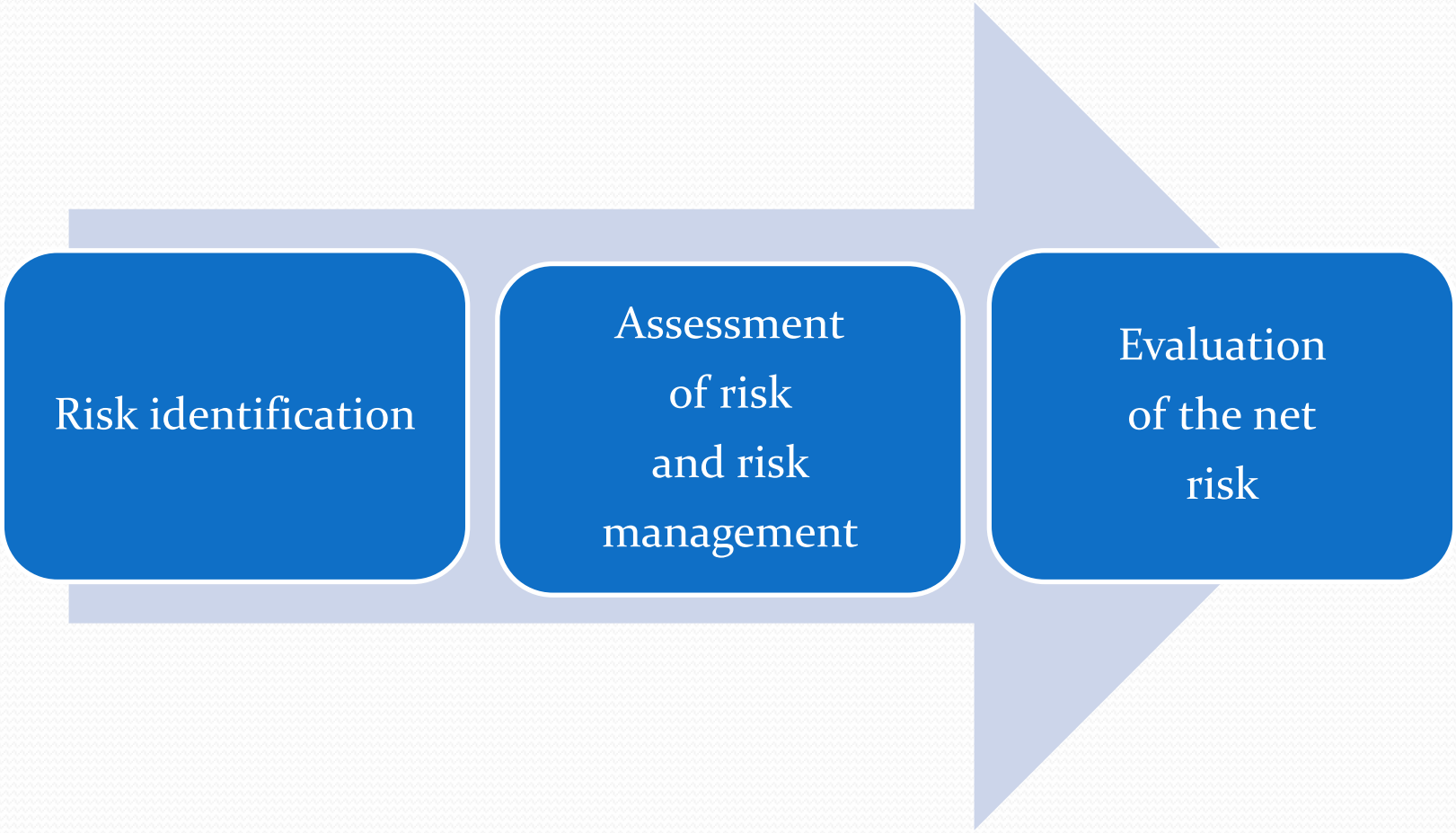
Why risk based supervision

- Solvency I is weak predictor
- **Solvency II**
  - Tool for companies for **managing risk and capital**
  - **Early warning system for supervisors and for companies**
  - **Internal Models:** only solution to determine required capital and risk for complex companies and groups
- **Ideally, insurers and regulators should develop solvency framework together**

MOVING TOWARDS RISK BASED REGULATION

- With an increased risk focus in insurance supervision, the regulator will direct its attention to essential areas of supervision and make effective use of limited resources, while concurrently aiming for wider supervisory coverage by introducing more automated routines.
- The goal is to create an effective and well-balanced supervision of the insurance sector that will ensure the solvency perspective as well as other issues of importance for insurance supervision.
- How to improve the prioritising tools of supervision and work is in progress using a different angle compared with our present classification system. The new prioritising tool will become a complement to supervisory planning, aimed at better capturing trends and risk on markets and in companies.

Risk Based Supervision



Risk Based Supervision-Moving towards Solvency II

- **SII directive: Aim of introducing risk-based supervision**
- The purpose of the Solvency II project is to review all the prudential rules in the insurance field with a view to devising **a solvency system which is more sensitive to the risks incurred by insurance companies and thus enables supervisors to** protect policyholders' interests as effectively as possible and in accordance with common principles.

Catastrophic Ins under Solvency II

- Non-life (cat) risks are low-frequency, high-severity events that are often not captured adequately by the premium and reserve risk charge. Solvency II regulation tries to mitigate this effect through the introduction of a cat risk sub-module, which is combined with the premium and reserve risks sub-module to comprise the non-life underwriting risk module.
- For non-life companies, cat risk contributes substantially to the overall Solvency Capital Requirement (SCR), as discussed under Solvency II..

How is the Capital Charge for Cat Risk Assessed?

- **How is the Capital Charge for Cat Risk Assessed?**
- Under QIS work, the cat risk charge could be derived using one of three approaches:
- The factor-based approach (known as Method 1), under which a standard formula based on premium income by line of business is used. This approach must be used when scenarios are not available.
- The first scenario-based approach (known as Method 2) uses regional scenarios provided by regulators that vary significantly by country.
- QIS4 was Method 3 under which companies have the choice to use personalized scenarios according to the classes of business written and geographical concentration based on their own assessments of non-life Cat risk that is relevant to their risk exposure.

- *Method 1: Standard Approach*
- If no regional scenarios are provided, a simple factor-based approach is applied. Factors are provided for all non-life lines of business.[1]
- *Method 2: Scenarios*
- If regional scenarios are provided by the local supervisor (the supervisor of the relevant territory - not necessarily the insurer's own supervisor), they replace the standard formula of Method 1. Regional scenarios include natural catastrophes and man-made catastrophes. If participants have material exposure in more than one region, they are requested to consider the scenarios for each such region (i.e., they are requested to run more independent regional scenarios). For QIS4, no trans-regional scenarios have been developed. A trans-regional scenario is one in which a single catastrophic event simultaneously impacts more than one region.
- *Method 3: Personalized Scenarios*
- Under Method 3, companies may use personalized catastrophe scenarios according to the classes of business written and geographic concentration. In Method 3 only, companies have the option to calibrate their cat risk on an occurrence basis or an annual basis.

Rules based/Risk based

Compliance audit

Compliance reviews and examinations

Rules based supervisory model

Move towards;

- risk based supervision
- focused reviews
- cross sector reviews
- reliance on the work others
  - board of directors
  - other regulator

What is risk based supervision

A structured process aimed at identifying the most critical risks that each company faces , and through a focused review by the supervisor, to assess the company's management of those risks and the company's financial vulnerability to potential adverse experiences.

Europa Re: project implementation milestones

- ✓ Risk-based regulatory environment for catastrophe risk.
  - ✓ Launches regulatory assistance programs (covered by donors) to develop risk-based regulatory tools (internal risk models, risk maps, regulations, etc.).
  - ✓ Commences work on web-based underwriting platform to support sales of standard adequately priced catastrophe and weather risk products in member states.

Typical Supervisory Challenges in Emerging Economies 1

- Unreliable data or absence of data from insurers, needed by the supervisor for proper analysis and monitoring of the industry;
- Financial data that is not timely, either when it is received by the supervisor or by the time the supervisor is in a position to take action on it;
- Outmoded legislative requirements that do not reflect the attributes either of a modern supervisory system nor recognize the needs of a healthy, vibrant insurance industry;
- The legal system itself may contribute to a lack of determination by the supervisor if the enforcement of legal contracts within the country tends to be a frustrating and difficult process;

Typical Supervisory Challenges in Emerging Economies 2

- Supervisory personnel require training and upgrading of skills;
- Supervisory personnel are not adequately compensated, even by the standards of their own countries, so it is difficult to attract and retain high calibre personnel;
- Professional standards of financial reporting, auditing and actuarial reporting are not consistent and cannot be relied upon by the supervisor;
- Boards of directors frequently lack independence from shareholders and management and so are often not in a position to provide direction and leadership; and
- Supervisory personnel require greater access to computer systems in order to analyse and monitor financial information efficiently and effectively

The Impact of Technology

- The ability to screen large volumes of financial information, to analyse trends in ratios and to otherwise monitor large amounts of financial data, can only occur in an effective and efficient way with the use of modern electronic technology.
- A modern insurance supervisory office will typically receive electronically a well designed package of financial data annually from the insurers, with supplemental data on a quarterly basis. In many countries there is specific software available to companies, which takes the place of the "statutory form"

The impact of Technology-2

- Typically the data received from the insurers will be stored electronically in a data base, so that application software can carry out pre-programmed routines such as the calculation of additional ratios and indicators
- Also typically, there will be the ability to carry out ad hoc analysis and screening of information in the data base. This is an important plus, because it is always difficult to say in advance exactly what types of situations might arise which will trigger a need for customized analysis. For example, if a major, publicly traded corporation becomes insolvent, it would be useful to be able to quickly find out which institutions have investments in that entity and whether any investments are sufficiently large to imperil the financial position of an insurer. Or if the supervisor believes there may be reason to be concerned about the financial experience being generated by a particular type of insurance product, specific tests could be developed to test this hypothesis against the companies' financial data.

TCIP's Objectives

- Cover at reasonable prices for people with average income
- Less government expenditure for catastrophies
- Ground for long term fund accumulation
- Sharing the financial burden of earthquake with reinsurance markets
- Improvement of risk culture and insurance consciousness in public

TCIP-MANAGEMENT

Individual-Risk management behaviour

managementInsurer/ ReinsurerRisk transferRisk assessmentRisk management supportClaims management

partnershipAuthoritiesRegulation and Supervision Legal frameworkRisk management supportDisaster

TCIP-The role of authorities

- Legal framework:
  - Laws and regulations
  - Tax-free reserves for natural hazards
  - Buildingcodes, land use planning rules
  - Climate change: mitigation and adaption
- Risk management support
  - Loss mitigation works
  - Early warning systems
  - Experience sharing on a global level
- Disaster Management

Tariff structure

- Three parameters
  - Earthquake risk zone
  - Construction type
    - **Steel, reinforced concrete**
    - **Amassed stone and brick**
    - **Others**
  - m2 of household

TCIP-Tariff Structure (Risk based)

	SF		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
Steel, reinforced concrete	X		**2,20**	1,55	0,83	0,55	0,44
Amassed stone and brick	Y		**3,85**	2,75	1,43	0,60	0,50
Others	Z		**3,85**	2,75	1,43	0,60	0,50

IT STRUCTURE

- Real time online connection
- Disastar Recover Center in another location
- Policy sales throughout Turkey by insurance companies and their agents
- System also enables
  - Accounting
  - Claims handling
  - Reporting
- Provides Statistical data