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The ORSA Building Blocks (Part II) A Concrete Foundation

SAS ORSA Working Party

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1. The ORSA Expectations

What is Enterprise Risk Management?

- ERM deals with risks ***("downside" -- 危)*** and opportunities ***("upside" -- 机)*** affecting value creation or value preservation

- Value is maximized when management sets strategy and objectives to strike an optimal balance between growth and return goals and related risks ***(i.e., maximizing risk-adjusted returns)***, and efficiently and effectively deploys resources in pursuit of the entity's objectives

ERM = Return Maximization + Risk Management

(value creation) (value preservation)

ORSA Expectations – Companies' Roles

Extract from IAIS

1. *Forward looking* identification and quantification of risks, corresponding to capital requirements and capital resources
2. Perform ORSA -> assess adequacy of risk management and *current*, and *likely future*, solvency position
3. *Board* and *senior management* responsibilities
4. Encompass all reasonably foreseeable & relevant *material risks*
5. Identify relationship between risk management and the level and quality of *financial resources* needed and availability

2. The ORSA Applications

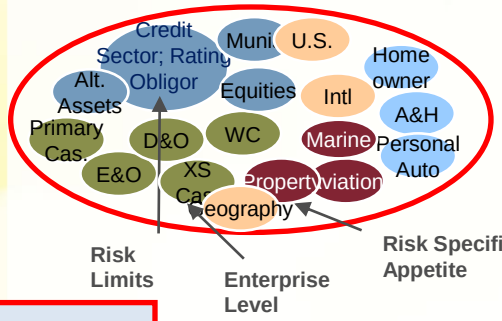
The ORSA Control Cycle

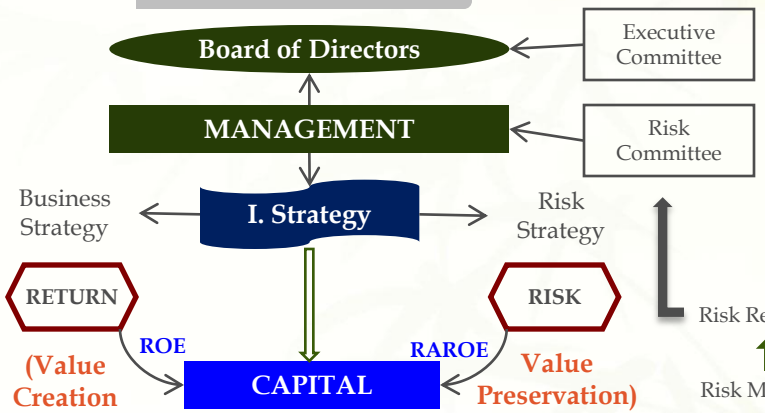
REGULATORS

1 Risk Governance

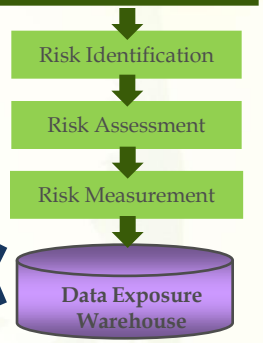
Risk Taking | Risk Framework | Risk Management

4 Risk Appetite





5 Risk Process



CUSTOMERS

SHAREHOLDERS

I. Strategy | AN INTEGRATED ORSA FRAMEWORK | II. Process

3 Business Planning

2 Risk Objective

- Maximized Profitability
- Desired Growth
- Optimised Risk Profile

6 Strategic Risk Management

- Capital planning & allocation
- Reinsurance optimisation
- Strategic asset allocation
- Risk based compensation
- Portfolio optimization
- Emerging risk management

7 Desired Risk Profile

- Insurance risk
- Market / asset risk
- Credit risk
- Operational risk
- Liquidity risk
- Solvency / capital
- Group risk

Risk Culture
- Leadership & Communication
- Value Development
- Professional Development

Risk Management Operations
- Risk policies, procedures, processes
- Risk Analytics / Systems / Tools
- Risk management resources

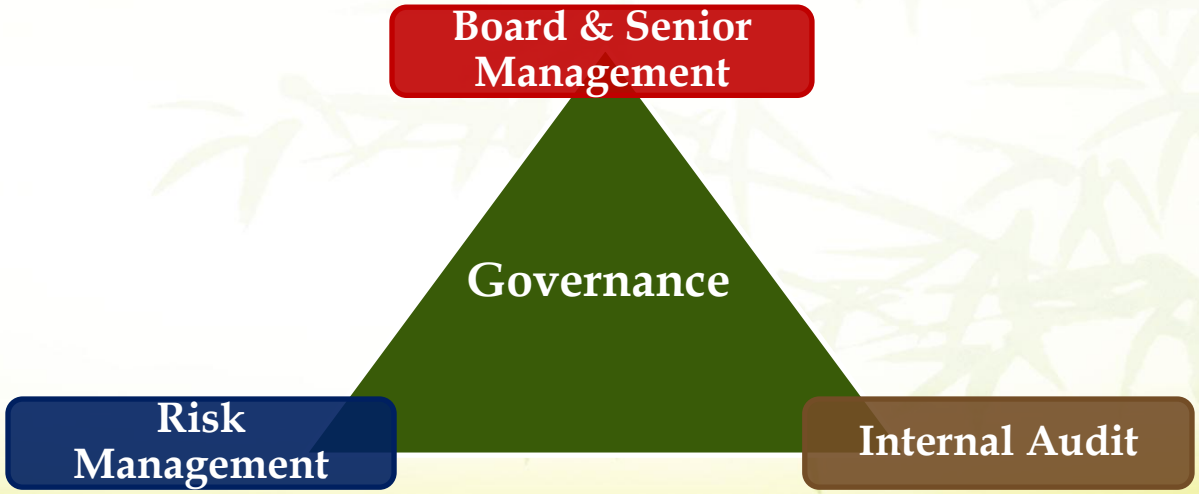
RATING AGENCIES

Building Block 1: Risk Governance

Risk Governance
Overview

Risk Governance is the framework through which the board and senior management establishes an insurer's **strategy**; articulates and monitors adherence to **risk tolerance** and **risk limits**; and identifies, measures and manages risks.

Risk Governance Building Blocks



Risk Governance
Applications

Board & Senior Management

- How to assess the effectiveness of the Board?
- Does the Board have the skillset to make key decisions?
- Does the Board have right and timely information to make decisions?

Risk Management

- Do all companies require to set this up?
- How about small companies? Can CRO double hat?
- What are the roles of RMF? Does it conflict other functions?

Internal Audit

- How to assess RMF if only started a year ago?
- How to assess effectiveness of risk culture or RAS?

Building Block 2: Risk Culture

Risk Culture
"Offensive", "Compliance" or "Partnership"?

Risk Culture drives the behaviours towards risk in the day-to-day **business decisions** and activities throughout the company, and is the foundation for effective risk governance.

1. *Offence and Oppose model*
   - **Business units and ERM have different objectives – business units focus on maximizing income and ERM focuses on minimizing losses**

   (Results: potentially destructive)

2. *Policy and Policing model*
   - **BUs operate within rules, set & policed by ERM, audit & compliance function**

   (Results: compliance mindset)

3. *Cooperation and Collaboration model*

   Best Model
   - **BU and ERM staff work in a client-consultant type relationship to manage risk**
   - **ERM and BU staff share some measures of risk-return performance**

   (Results: long-term partnership)

We may have all come on different ships, but we are in the same boat now…

Positive Risk Culture development

Applications

Communication: To get buy-in from the Board & Senior Management to promote the right risk culture

Training: To conduct regular risk awareness training for staff at all levels

Examples of Positive Risk Culture Development

Accountability: To incorporate risk metrics in incentive compensation and performance framework

Monitoring: To encourage open sharing on risks at all levels and across different levels within organisation

To conduct annual Risk Climate Survey for all staff to track development of risk culture in the organisation

Building Block 3:
Risk Appetite & Profile

Risk Appetite Framework
Overview

A **risk appetite statement** is a clear articulation of the **risk profile** the company is willing to accept in the pursuit of its strategic goals. It builds the foundation to meet strategic objectives, to carry out day-to-day business management and to develop & execute appropriate courses of action during times of stress and crises.

The Framework provides:

- A structure for cascading overall risk appetite articulated at the enterprise level down to various risk categories, to individual businesses and ultimately to limits and authorities for various risk-taking activities and individuals
- A consistent set of criteria that should be considered when setting risk appetite across risk categories and businesses
- Guidance on the use of risk metrics in setting risk appetite to ensure clear understanding and management of underlying model risks

Risk Appetite captures what you should have.
Risk Profile captures what you actually have.

Risk Appetite Concepts

Possible definitions

Risk Capacity	▪ The **volume of risk** that an organization can take as measured by some consistent measure, such as Economic Capital.
Risk Appetite	▪ A **framework** that establishes the risks that the insurer wishes to acquire, avoid, retain and/or remove. *(S&P definition)*
Risk Preference	▪ The ***qualitative*** risk appetite statements that guide the insurer in the selection of risks. *(S&P definition)*
Risk Tolerance	▪ The ***quantitative*** risk appetite statements that guide the insurer in the selection of risks. *(S&P definition)*
Risk Target	▪ The **optimal level of risk** that an organization wants to take in pursuit of a specific business goal, considering the risk-return trade-off and company's capacity to manage those risks
Risk Limits	▪ The ***quantitative*** **boundary** that serves to constrain specific risk taking activities at the operational level within the business
Risk Profile	▪ Overview of the **current and future risk exposures** to the full scope of risks that will affect the entities. It forms the basis of setting, measuring and monitoring risk appetite statement

Developing Risk Appetite
Applications: A possible approach

Risk Appetite can be developed using "bottom-up", "top-down", or a combination approach.

Risk Profile
Overview

- ***Risk Profile*** is an overview of the current and future risk exposures to the **full scope of risks** that will affect the entities. The risk profile forms the basis of setting, measuring and monitoring **risk appetite statement** at the local, regional and group level

- There is also a growing expectation from external stakeholders such as regulators and rating agencies requiring risk profile reports as "**best practice**" documents

Scope Across:
- All business segments
- All locations
- Risks to future income, not just current losses
- Risks from external events, even if out of our control
- Risks due to third parties, such as competitors, suppliers / vendors, regulators, etc.

Risk Profile Report vs MI Dashboard

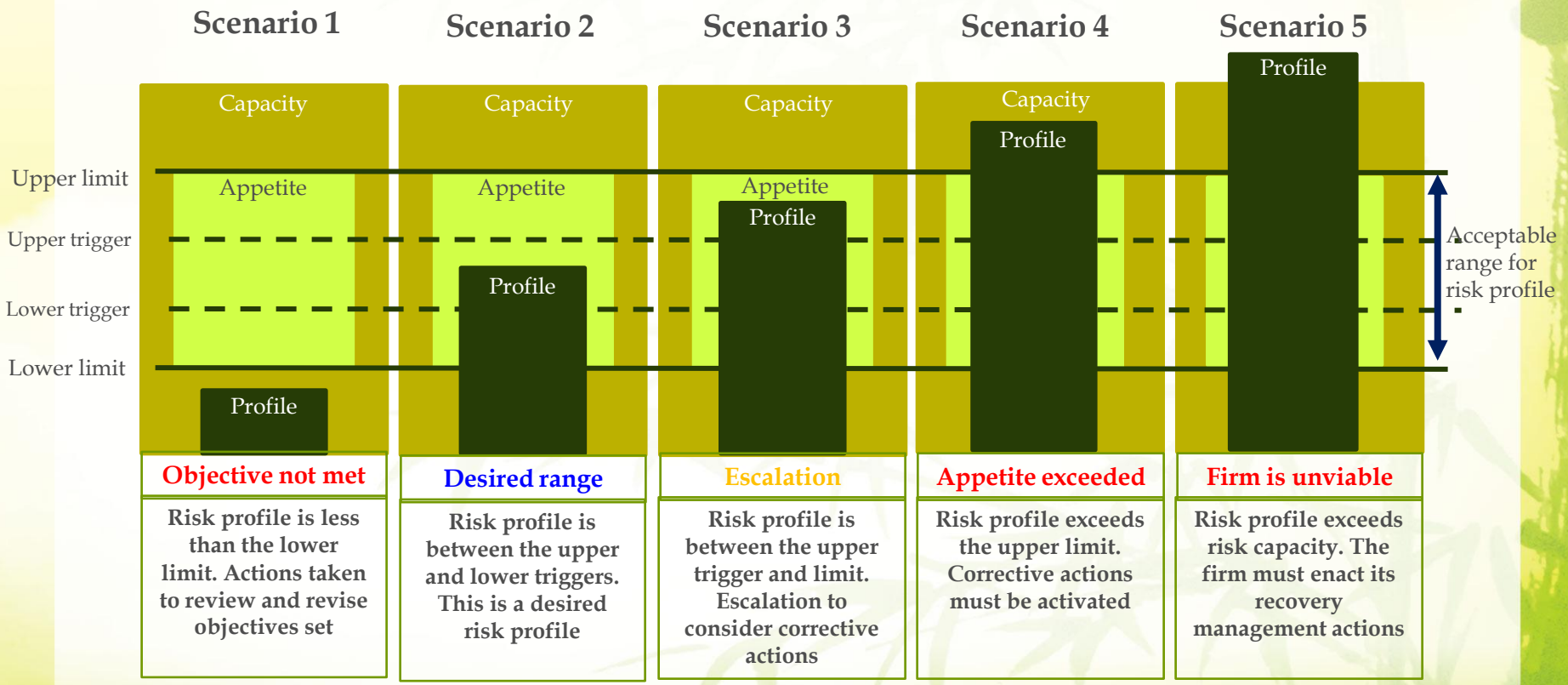
Risk Profile Report		MI Dashboard
➢ Cover full scope of risks		➢ Covers segments of risk scope
➢ Detailed		➢ Brief, highlighting key risks
➢ Historic (e.g., as end last year)		➢ Current (e.g., as end last qtr)
➢ Static & Strategic		➢ Continuous & Tactical
❖ Overview	vs	❖ Trending
❖ Benchmarking		❖ Movements, anomalies
➢ Varying reporting format		➢ Standard reporting format
➢ Regulatory Reporting		➢ Management Monitoring
➢ Basis for setting Risk Appetite Statement		➢ Basis for monitoring Risk Appetite Statement

Risk Profile Report and MI Dashboard serve different purposes and could be used together to add value to management for decision making.

Risk Profile linking with Risk Appetite

Applications

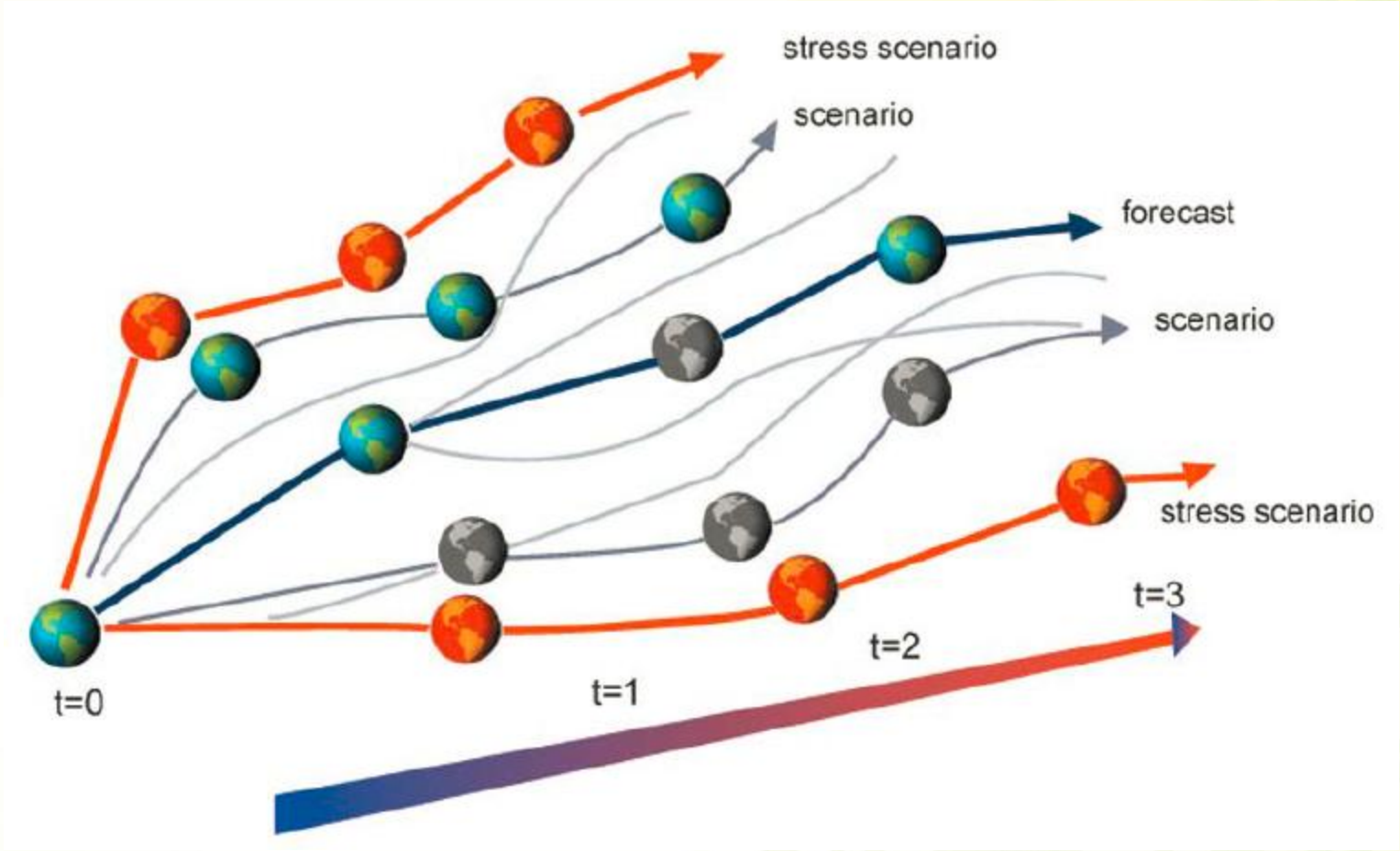
Risk Profile Report **can be used with** ***MI Dashboard*** **to provide timely information to ensure the risk profile is within an acceptable range of its risk appetite.**



Building Block 4:
Stress & Scenario Testing

Stress & scenario testing

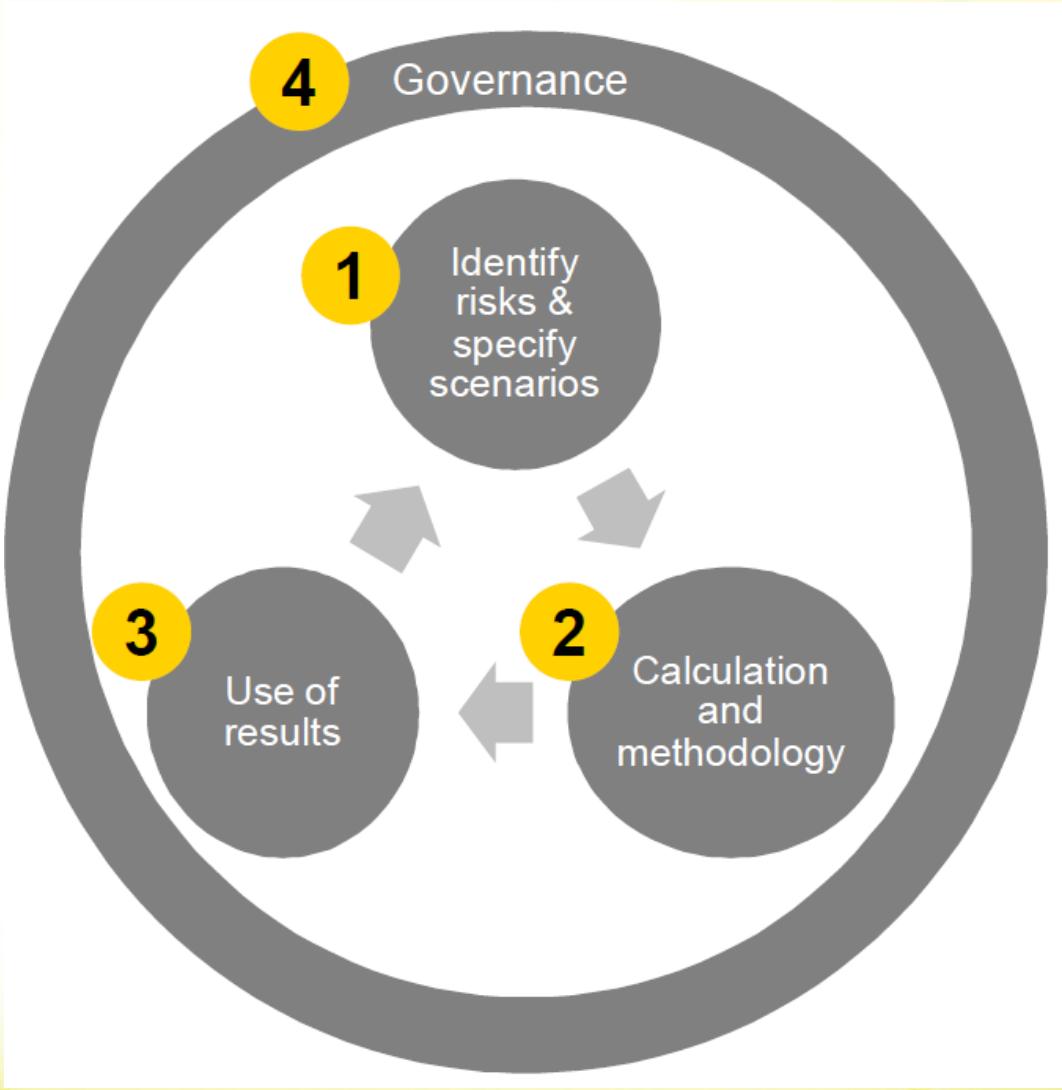
Basic concept



Source: IAA

Stress & scenario testing

Framework



Building Block 5: Economic Capital

Economic Capital
Objective

EC means the capital needed by the insurer to satisfy its risk tolerance and support its business plans and which is determined from an economic assessment of the insurer's risks, the relationship of these risks and the risk mitigation in place

- How an insurer asses the adequacy of its capital relative to its risk profile and risk appetite?
- How much current and future capital is necessary?
- How the insurer intends to mitigate material risks?
- How an insurer supports its strategy for maintaining capital requirements ?

Economic Capital
Complexity of approach

Economic Capital

Some common dimensions

1. Method (Deterministic/Stochastic/Combination)
2. Time horizon
3. Risk tolerance/confidence level
4. Risk dependencies
5. Key risks
6. Management actions/risk mitigation
7. Comparison to regulatory capital

Building Block 6: Capital Management

ERM & Capital Management
Overview

In an integrated framework, two functions will collaborate in a joint effort to enhance the risk/return balance in line with its strategic goals & risk appetite.

Activities Led/Supported by Enterprise Risk Management

- Maintaining risk management framework and risk appetite statement
- Implementing and cascading risk appetite to regions / countries, and business units / profit centers
- Monitoring and reporting exposures, limits, risk concentration and diversification, and emerging risks
- Development of internal capital models
- Development of risk/capital adjusted performance metrics
- Development of stress testing scenarios

Activities Led/Supported by Capital Management

- Determining, monitoring, projecting, and reporting capital adequacy
- Risk/Capital-adjusted business performance method, assessment and reporting
- Capital allocation to regions / countries, business units / profit centers
- Use of internal capital models
- Scenario analysis and stress testing on business plan
- Capital and profitability aspect of M&A and restructuring
- Rating strategy and rating agency communications

[1] *Towers Watson, "Coming Together: Capital and Risk Management", 2010*

Components of Capital Management

Capital Strategy

- How much capital do we have?
- How much capital do we need?
- What is the right capital adequacy target?
- Capital structure
- Dividend policies

  Operating entity ➡ Holding company ➡ Shareholders

Capital Planning

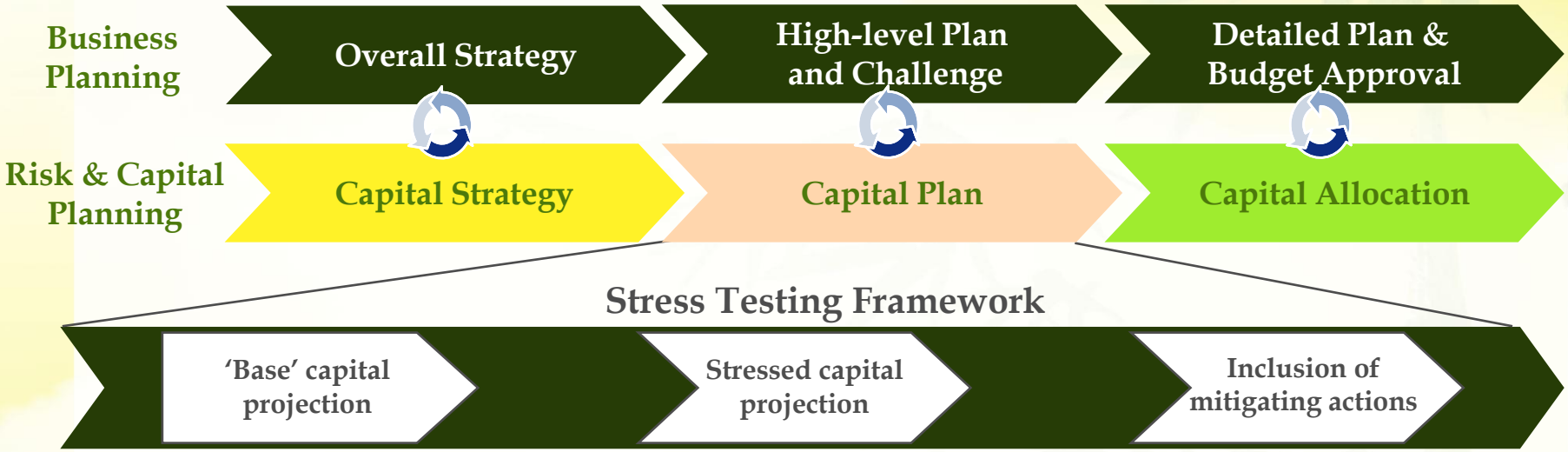
- Where is capital being deployed /utilized: legal entities, regions /countries, business units?
- What kind of return on capital or equity (ROE) is achieved for the capital deployed?
- What is the cost of capital and ROE target (hurdle rate)?

Capital Allocation

- How do we improve ROE?
- How do we reflect cost of capital in underwriting and investment activities?
- How and where should we allocate capital so that the value of the firm is enhanced?
- How do we grow value through intelligent capital usage / allocation?

Integrating Stress Testing…

Applications: Link Risk with Business & Capital Planning



- Multi-year projection of risk-based capital – the base case capital plan
- Evolution of business plans linked to forecast capital, earnings and costs
- Assumes a particular state of the economy over planning period

- What would the impact of a severe downturn be on capital, earnings and costs?
- Multiple stresses will be required
- Stress test must be appropriately severe (not limited by historical scenarios)
- Stress testing should include bottom up testing of RBC models

- What management actions could be taken to reduce the impact of a severe downturn?
- What would be the expected impact of these actions?
- What contingency plans have been put in place? Will these be available in all scenarios?

Integrating Economic Capital Modelling…

Applications: What do we want out of ECM?

- ECM should be part of the **capital management process** to provide a way to assess the **need for capital** to cover the risk assumed
- They should provide a unified way of **communicating about risks** within the entity and with outside stakeholders (e.g., solvency requirements, rating agencies, investors)
- They should set the framework for taking **strategic decisions**, balancing risk and return
- They should allow the optimization of both the asset and liability portfolios by modelling the **diversification benefits**
- They should make it possible to measure the **economic performance** of the various lines of business

3. Concluding Remarks

Example from…
The Great Britain Cycling Team

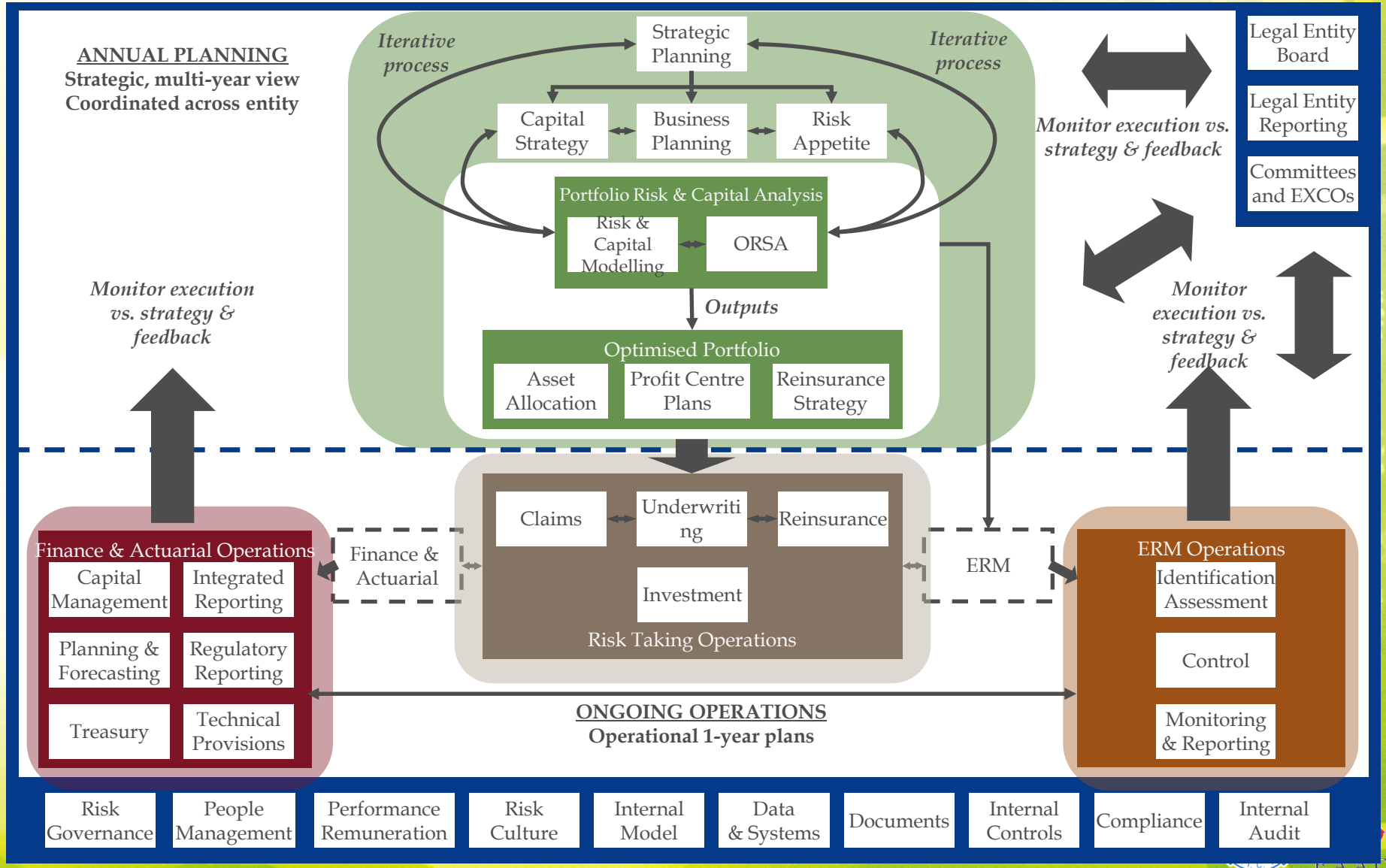
Great Britain Cycling Team…
The Secret of their success

"The whole principle came from the idea that if you broke down everything you could think of that goes into riding a bike, and then improved it by 1%, you will get a significant increase when you put them all together…"

"It's all of it, the science, the training, the coaches, but most of all we point the mirror at ourselves and ask *'how can we get better?'*"

A picture of an Integrated ERM Framework

Applications: *"How can we get better?"*



How does ORSA add value to business?

Business Objectives

Increased chances of achieving objectives

Risk Management

Reduced the likelihood and severity of nasty surprises

Business Strategy

Better decision making, planning and prioritisation

Capital Management

More efficient use of capital and resources that reflect the risks faced by the business

Effective ORSA Process

Corporate Governance

Providing a framework that enables future activity to be undertaken in a controlled and consistent way

Talent Management

Developing and supporting people and the organisation's knowledge base

Business Performance

Optimising operational efficiency

Reputation / Branding

Protection of the company's brand and image


Q&A
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Appendix

Examples of Risk Appetite
Level 1 – Enterprise Risk Tolerance and Metrics

Enterprise Risk Tolerance metrics should stay relatively stable year on year. Major changes occur only if there are fundamental changes to strategic objective, financial profile, business model, and/or external market place.

Possible Enterprise Risk Tolerance and Metrics	
Key Measure	**Enterprise Risk Tolerance**
1 **Credit Rating**	e.g., To achieve and maintain a strong AA financial strength rating on a global basis
2 **Earnings volatility**	e.g., The probability of zero or negative adjusted earnings in one year is no more than **5%** *(1-in-20 year event)*
3 **Capital at risk**	e.g., The probability of 15% loss of adjusted equity in one year is no more than **1%** *(1-in-100 year event)*

Examples of Risk Appetite

Level 2 – Risk Specific Tolerance and Metrics

Risk Tolerance for specific risk could change from time to time and should be reviewed annually. Consider risk/return tradeoff, market conditions, underwriting cycle, and competitive landscape.

Possible Risk Specific Tolerance and Metrics

Key Types	Descriptions/Examples	Risk Specific Appetite
1 Insurance risk – CAT exposures	Global limit at aggregate level expressed in VaR or PML	e.g., 1-in-250 year net pre-tax PML
2 Liquidity risk	Sufficient liquidity for gross losses for insurance operating entities with material CAT exposures	e.g., Liquid assets to cover gross pre-tax loss of 1-in-250 PML & other stressed scenario
3 Market risk	Global limit at aggregate level and over all financial market risks expressed in VaR or PML	e.g., 1-in-250 year pre-tax VaR is no more than x% of prior YE equity
4 Credit risk	Global limit at aggregate level and over all types of credit exposures expressed in VaR or PML	e.g., 1-in-250 year pre-tax VaR due to obligor default is no more than y% of prior YE equity
5 Operational risk	The organization strives to achieve operational efficiency, limit losses due to operational failures / errors	e.g., Strict avoidance of business practices that may lead to direct / indirect loss amount to z% of prior YE equity

Risk Profile Report

Possible areas to cover in each risk category

Insurance Risk	Market / Asset Risk	Credit Risk	Operational Risk	Liquidity / Solvency
• Premium (gross/net) distribution • U/W results • Investment ratios/returns • ROE/Risk Adjusted Profit • Limits/Sum Insured banding • Exposure/ Concentration risk • CAT/Aggregate exposure, by lines by perils • Stress test scenarios on CAT events	• Distribution of investment asset classes by type, amounts, industry, currencies • Asset liability matching by duration banding • Stress scenario on assets/ investment environment • Transactions outside investment guidelines	• Distribution of assets by amounts, duration, credit ratings • Stress scenario on reinsurance/ counterparty default • Top 10 reinsurers by amounts, ratings • Ageing receivables • Stress scenarios on credit losses • Comments on bad/doubtful debts	• Maturity model & assessment • Risk register & heat maps • Loss event register • Top operational risk matrix • Scenario analysis & stress testing on operational risk • Key Risk Indicators	• Monthly cashflow positions • Latest liquidity ratios/trend • Regulatory submission on liquidity requirements • Scenarios on liquidity stress • Solvency Margin, actual against thresholds • Solvency ratio • Trending of capital ratios