

ERM-2: Introduction to Economic Capital Modeling

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Applications of Economic Capital

This list is not exhaustive

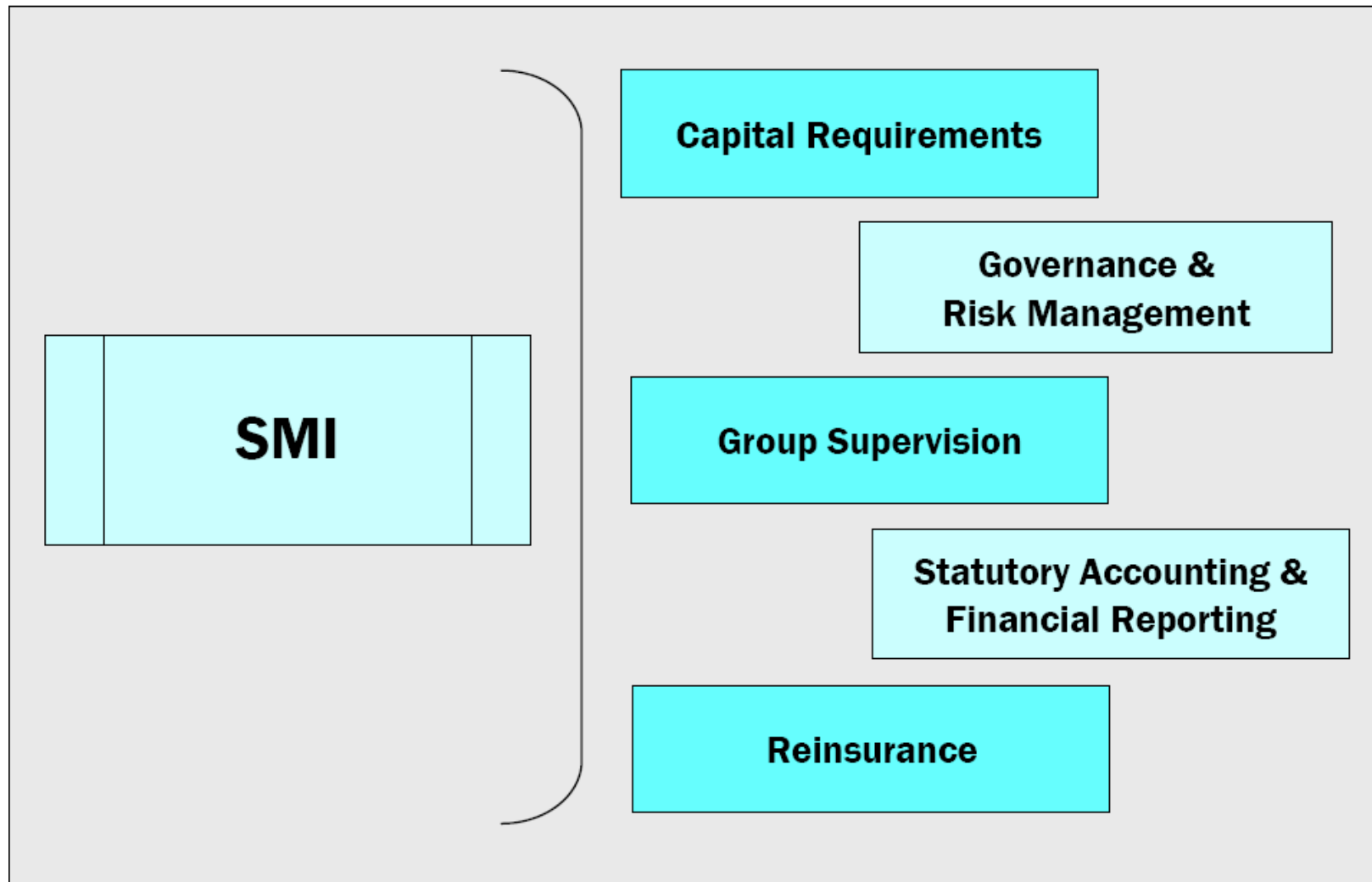
- Reinsurance Optimization
- ALM
- Provides a view of the whole and tells a story
- Rating Agency Management
- Reserving
- Management Decision Making
- Risk Identification and Risk Appetite
- Capital Allocation – Notional and Actual
- New Regulatory Requirements: Solvency II, ORSA

New Regulatory Requirements: NAIC SMI

Solvency Modernization Initiative

- critical self-examination to update US insurance solvency regulation framework; includes review of international developments regarding insurance supervision, banking supervision, and international accounting standards and their potential use in U.S. insurance regulation.
- The SMI focuses on key issues such as **capital requirements**, governance and risk management, group supervision, statutory accounting & financial reporting, and reinsurance.

New Regulatory Requirements: NAIC SMI



Own Risk and Solvency Assessment (ORSA)

- Annual self assessment of adequacy of risk management and current, and likely future, solvency position
- Exemptions
 - Insurers: D&A Premium < \$500M
 - Groups : D&A Premium < \$1B
- Still very much a work in progress. Target implementation late 2012
- Draft Guidance Manual released Aug 5 2011

ORSA

Section 1: Risk Management Policy

Section 2: Risk Quantification and Stress Tests

Section 3: Group EC and Prospective Solvency Assessment

ORSA

Section 1: Risk Management Policy

Section 2: Risk Quantification and Stress Tests

Section 3: Group EC and Prospective Solvency Assessment

ORSA Section 3

- Goal: Determination of capital needed for Insurance Co and/or Holding Co to achieve business objectives given nature, scale, complexity of risks
- Required
 - Group EC assessment for prior year end
 - Prospective Solvency Assessment

ORSA Section 3: Group EC

- Required Narrative Describing
 - Definition of Solvency
 - Time Horizon
 - Identification of Risks Modeled (and Materiality)
 - How are Risks Quantified? Stress tests, stochastic modeling, capital allocation methodology
 - Measurement Metric(s) – V@R, TV@R, Prob(Ruin), EPD ...
 - Target Level of Capital
 - Modeling of Diversification Benefits

ORSA Section 3: Group EC

Assessment of Group Wide Capital Adequacy

- Eliminate intra-group transactions / simultaneous use of capital
- Leverage due to holding company debt
- Identify diversification credits and restrictions on capital fungibility
- Contagion, concentration, and complexity risks

ORSA Section 3

Prospective Solvency Assessment

In effect a feedback loop

Given current

- Risk profile
- Risk management policy
- Quality and quantity of capital

Project future financial position

- ability to meet regulatory capital requirements, reflecting changes to current risk profile caused by executing 3 to 5 year business plan under normal and stressed environments
- Consider risks associated with group membership
- Contingency plans to resolve capital adequacy issues

Capital Allocation

- Actual allocation between entities within group, pooling arrangements, etc.
- Notional allocation
 - To LOBs / Business Segments
 - Marginal Pricing
 - Risk Adjusted ROEs
 - Investment vs Insurance
 - New Ventures
- Debt vs. Equity

Key Risk Identification

- Measure effects on
 - Surplus
 - Earnings
 - Regulatory and rating agency capital requirements
- Rank Key Risks
- Evaluate risk / return opportunities

Risk Appetite

- Maximum risk organization chooses to take during a defined time period in pursuit of its objectives
- Which tradeoffs will be made, which combinations are acceptable?
- Which risks do you want?
- Which risks do you shun?
- Which can you live with if you must?

Management Decisions

- Evaluation & Optimization of Risk Mitigation Strategies (e.g. Reinsurance)
- Entry/Exit and Growth Decisions
- Evaluation of business segments, acquisitions and divestitures
- Analysis of New Ventures
- Goal Setting
 - Explicit recognition of achievability (e.g. 17% nominal ROE)
- Annual and Long Term Planning

Reserving

- Inflation and interest rate impacts
- Reserve Adequacy on Economic Basis
- Long term tax implications
- Diversification Benefits
- Quantification of Reserve Risk
- Provision for Adverse Development / Risk Margin

Thank You for Your Attention

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