

Enterprise Risk Management

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Initial Thoughts

- Enterprise Risk Management at the ESLCA ?
 - New fad or a step into a new frontier
- ERM due to its name is thought to be defensive
 - Manage risks to protect downside
- ERM is strategic weapon (even within reserving)
 - Process of understanding the drivers of risk and the impact to underwriting decisions can make you a strategic partner in your organization.
 - Think portfolio theory and risk levels
 - Avoid too much focus on individual cells at the ERM level
- Technology is our friend
 - Analytical insights can takes us to the next level

Agenda

- Background
 - Vision and timing
- ERM Process
 - Objectives
 - Silos and Integrated Approach
 - Advanced Steps
 - Correlation analyses
- Execution
 - Making it part of corporate culture
- Example on Reserves
 - Reserving actuary and claims professional
- Other strategic thoughts

➤ Vision (what is ERM)

- Holistic approach to risk management

Prior approach was to manage risks independently – silo approach

- Missed opportunities on correlations and diversification

- Integrated approach connects the silos

Understand all risks facing the organization

Enable company to be more strategic

➤ Timing (why now)

- In various steps of evolution for quite some time (banking industry)

Mentioned in actuarial literature 20 years ago

- DFA, SRA, SRM, HRM, ERM

- Good business practice

- Rating Agencies and Regulators post Katrina

Process

ERM Objectives

- Optimally manage the company's capital
 - Required return on capital
- Eliminate risks that threaten solvency/viability
 - Target maximum aggregate level of risk given range of opportunities
- Manage volatility – Expected Value Curve
 - Understand, manage, mitigate
- Shape business by taking risk we can quantify
 - Risk mix, diversification, hedging
- Create behaviors that reinforce ERM culture
 - internally and externally

Process

Silos and Integrated Approach

➤ ERM – Initial Phase

- Silo approach – focus on broad categories
 - Identification
 - Measurement
 - Management
- Communication by individual risk owners

➤ ERM – Second Phase

- Bringing it all together – Integrated Approach
 - Holistic approach / Connecting the silos
 - Dashboards can be helpful
- Understanding the overall risks in the portfolio
 - Stress test different scenarios

Process Advanced Steps

➤ ERM Process – Third phase

- Correlation Analyses

 - Need to reflect interactions with other stakeholders

 - Enron effect

- Examples

 - casualty policies, professional exposures, assets

 - Catastrophe events on property coverages, investments in cat bonds, mortgage backed securities

 - Sub-prime lenders, E&O policies, financial institutions

 - Homebuilders policies, surety coverages, interest rates

 - Pricing errors and impacts on loss reserves

➤ Adding value by understanding other parts of business

- Understanding and communicating

Execution

Risk Categories - Identification

- Separate Risks into General Categories
 - Primary
 - Asset and Investment
 - Underwriting and Pricing
 - Catastrophe (property and casualty)
 - Reserving (case outstanding and IBNR)
 - Operational – broadly defined
 - IT, data, outwards reinsurance, legal, disaster, strategic
 - Consequential (downward spiral)
 - Based on primary risk or event
 - Liquidity
 - Reputation (client/investor)
 - Rating agency / Regulatory
 - Others

Execution

Measurement of Risk Categories

- Select risk owners / gatekeepers of the broad risk categories
- Identify the various types of events/risks associated with each of the primary categories
 - Change in asset value, movement in interest rates, large property/casualty event (hurricane, earthquake, Enron), adverse claims trends, etc
- Measure financial and operational impact to organization
 - Balance sheet, liquidity, capital requirements
 - Contingency planning
- Define tolerances for such events/risks
 - Percent of capital, cash-flow, change in rating agency capital
- Establish controls to monitor risk exposure within established tolerance levels and to enhance risk profile
- Manage business around such thresholds
 - Optimally at the point of sale

Execution

Risk Tolerances and Controls

- Overall Risk Tolerances derived at organizational level
 - Percent of equity limits
 - Rating agency trigger – capital adequacy levels
 - Liquidity
- Additional tolerances should be established for all primary risk categories
 - Levels of investments, peak exposure zones, casualty premium, etc
- Controls
 - Assets/Investments – investment process & guidelines/ monitoring
 - Underwriting –rating models & data, authority limits / referral process, actuarial involvement, external underwriting & claims reviews
 - Catastrophe – Occurrence & Aggregate Limits, vendor models
 - Reserves – large loss reporting/ round table, external reviews
 - Operational – risk assessment process, internal audits, Sarbanes-Oxley process, disaster recovery planning & testing, succession planning

Example - Reserving

➤ Why Reserves within ERM ?

- Management's best estimate, disclosure requirements, statement of opinion, Sarbanes Oxley, heightened auditing processes, and greater board visibility potentially mitigate concerns over reserve adequacy
- natural catastrophe events, pricing risk perhaps more volatile
- Stochastic reserving, modeling techniques, and discussion on ranges
- hard market typically coincides with reserve redundancies

➤ Reserves remain the largest risk on a company's balance sheet

- Large percentage of recorded liabilities
- Subject to much historical volatility (fairly or unfairly)
- Need to focus on drivers of variability

Example - Continued

➤ Volatility for many reasons

- Inability to identify changing trends

Propensity to sue, Judicial reforms, medical inflation, attitudes of jurors

- Reinsurance issues

Inadequate amount, misunderstanding of coverage, potential for dispute

- Misestimating where we were in the pricing cycle

Primary rate change, tort costs, focus on production vs. underwriting

- Shocks to the System

Legislative reforms, asbestos and pollution, aggregation of exposures

➤ Focus on lessons learned

- Appreciate the possibility for history to repeat itself
- Beyond traditional methods and analyses

➤ Traditional process

- More than adequacy, profitability
- Feedback mechanism on underwriting process and claims adjusting
- Strong opportunity to communicate results to management and focus on drivers of results and potential favorable / adverse events

➤ Drivers of Reserves - Identification

- Adverse claims trends
- Leading indicators
 - Claim frequency, large loss notices, industry information, ceded issues
- Hyper correlation of exposures
- Large policy limits in targeted sectors
- Poor underwriting strategy / Inadequate handle on pricing

➤ Drivers of Reserves -Measurement

- Modeling the variability

 - Outside vendor models, in-house tools, what if analyses

 - Build in correlations

 - Understand likelihood of these results

 - Communicate to management
 - Build a plan around these events
 - Capital raising, reinsurance transaction

 - Dive into the underlying causes

 - Causality versus correlation

- Management of these drivers

 - Proactive to mitigate future risks

➤ Consider the Audiences

- Management

 - Executive team, Reserve committee, Risk committee

- Board of Directors (Audit or Underwriting Committee)

 - Sarbanes Oxley, put reserve risk in context with other risks

- External (The Street, Rating Agencies, Regulators)

 - Caution on how the message is perceived

➤ Consider the Message

- Move away from the point estimate

 - Embrace the range, communicate the volatility

 - Don't be Pollyanna

- Communication of drivers allows management to make better decisions

 - Consider risks in the reserves when making investment decisions

➤ Three approaches

- Contingency planning

What we will do if/when this happens

- Need to model both

- Sensitivity analysis

Focus on cause and effect – the drivers

- Scenario analysis

More than simulation

- Present different paths under different assumptions

Look at the external factors as well as internal

- Litigation environment, medical inflation, demand surge, point in cycle

➤ Portfolio Theory

- Reserves is one part of the entire group of risks in portfolio

Concluding Thought (to summarize)

- Know the underlying exposures and drivers;
- Create dashboard showing variability
- Test the results (scenario analysis)
- Communicate scenarios
 - Drivers and likelihoods,
 - Avoid Pollyanna
- Think about entire portfolio
- Welcome to the new frontier