



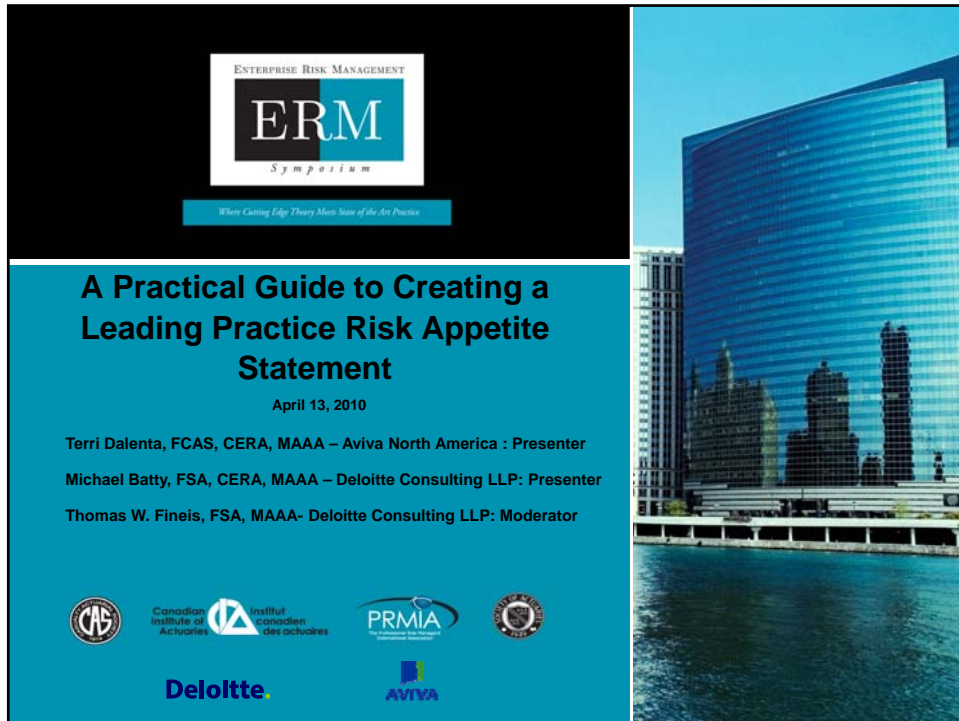
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**ERM Symposium
April 2010**

**1A: A Practical Guide to Creating a Leading
Practice Risk Appetite Statement**

**Mike Batty
Terri Dalenta**

**Moderator
Tom Fineis**









ENTERPRISE RISK MANAGEMENT
ERM
Symposium
Where Cutting Edge Theory Meets Some of the Art Practice

A Practical Guide to Creating a Leading Practice Risk Appetite Statement

April 13, 2010

Terri Dalenta, FCAS, CERA, MAAA – Aviva North America : Presenter
Michael Batty, FSA, CERA, MAAA – Deloitte Consulting LLP: Presenter
Thomas W. Fineis, FSA, MAAA- Deloitte Consulting LLP: Moderator

 Canadian Institute of Actuaries  Institut canadien des actuaires  

Introduction 

With the growing prominence of risk management, risk appetite has emerged as a popular concept. While elegant in theory, implementation is challenging.

The motivation of today's session is to discuss:

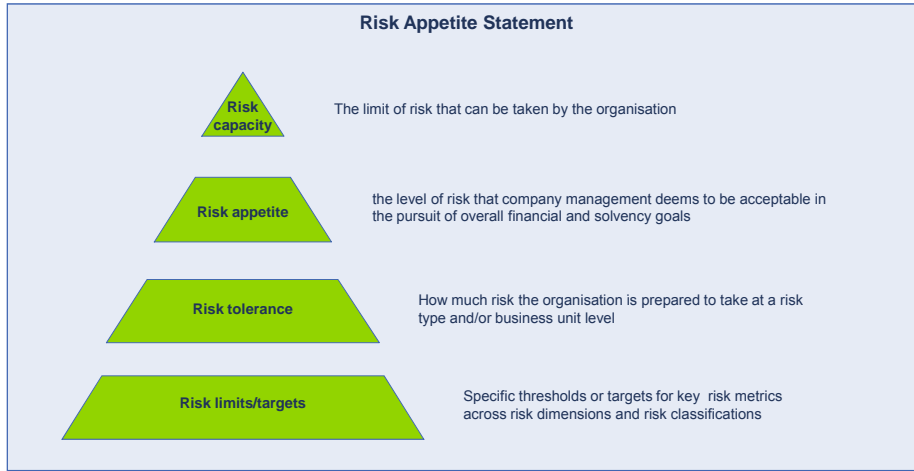
- The importance of a rigorous approach to defining and documenting risk appetite
- What a thorough risk appetite statement should describe
- The process of drafting and modifying a risk appetite statement
- Practical examples, issues, and challenges of working with risk appetite
- Where to start

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Risk Capacity, Appetite, Tolerance, and Limits: Definitions

Definitions of risk concepts have not been standardized in the industry; however, Deloitte has established some working definitions that are helpful for setting context for a discussion of the role they play within a risk appetite statement.



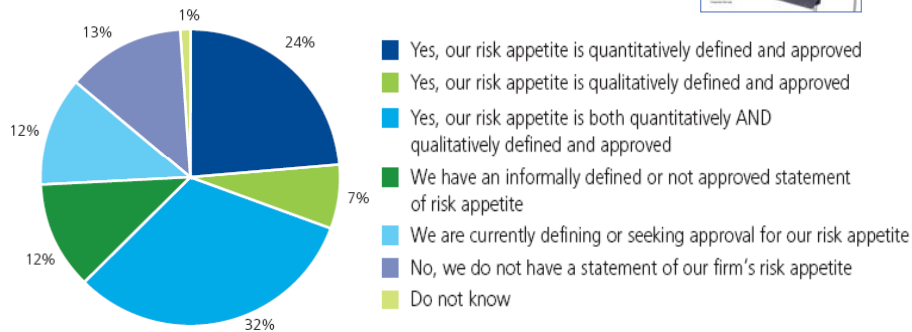
Current State Survey Results

Simply having a statement of risk appetite is not enough by itself. Institutions have faced challenges in translating the risk appetite statement into risk management decisions consistent with enterprise objectives

Deloitte 6th Global Risk Management Survey of financial services firms:

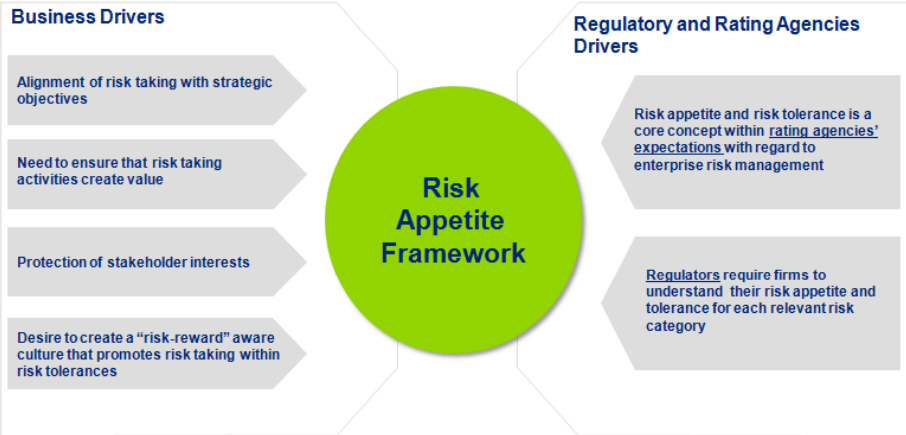


Do you have a defined and approved enterprise-level statement of the firm's risk appetite?



Why Create a Formal Risk Appetite Statement

Formally documenting risk appetite is a considerable, but worthwhile undertaking. As risk management grows in importance, organizations need to assure risk behavior throughout the organization reflects the interest of all stakeholders. A formal risk appetite statement can set the tone for the organization.



What Should a Risk Appetite Statement Say?

- Define risk appetite and related concepts, and describe their importance
- Discuss both company-wide risk appetite and risk tolerances, including how they relate to one another



- Describe each risk limit/target and how it will be measured
 - Poor: Risk will be maintained at or below acceptable levels
 - Improving: Economic capital and credit ratings will help assess risk
 - Good: Economic capital limit of \$X and a credit rating of "AA"
- Document the process by which the risk appetite statement can be changed

Creating a Risk Appetite Statement

Deloitte has developed a leading practice process for articulating risk appetite, capturing views from rating agency commentary and relevant regulatory guidance in other countries:

- Identify stakeholders and their expectations
 - Rating agencies, regulators, policyholders, and creditors
 - Board of Directors, senior management and employees
- Define the company-wide risk appetite
 - Align the risk appetite with the firm's strategic business plans
 - Express through a set of quantitative and qualitative metrics
- Define the risk tolerances
 - Identify the individual risk factors important to the organization
 - Allocate a certain amount of aggregate risk to each
 - Document guidelines so they can be managed independently day-to-day
- Reconcile the firm's risk appetite and current risk profile
 - Compare risk tolerance and profile for each individual risk factor
 - Translate the individual risk profiles into an aggregate risk profile and compare to the company-wide risk appetite
- Formalize and ratify a risk appetite statement
 - Approval by Board of Directors
 - Revise only to reflect real changes in the firm's strategy or business environment

Quantitative Articulation of Risk Appetite

Risk appetite can be expressed quantitatively in a variety of ways. Here are some examples:

Solvency	A firm does not want to lose more than a defined amount of its capital so that it can remain a going concern after an extreme loss event or combination of extreme loss events
Capital Coverage	A firm requires that its capital is sufficient to cover a multiple of the amount of capital needed to absorb a loss of a certain magnitude, - e.g., a 1 in 250 year event
Ratings	A firm does not want to lose more than a defined amount of capital in order to avoid a rating slip below a desired rating floor
Earnings	A firm does not want to lose more than a defined percent or multiple of annual GAAP earnings
Firm Value	A firm wants to assume the amount and kinds of risks that maximizes enterprise value (the risk adjusted present value of future cash flows)

Key Issues in Selecting Quantitative Metrics

Quantitative metrics in the risk appetite statement should meet some basic principles:

- Be explicit and measurable
- Be relevant to how an individual risk is (or should be) managed on an everyday basis
- Be applicable consistently across a wide range of risk types
- Convey enough information to provide a business mandate to the managers and takers of each risk
- Form the basis by which the firm's risk profile is compared to its appetite; thus, they must be measurable on a repeatable basis

The principles followed should give consideration to the Solvency II "Use Test" if applicable.

Qualitative Factors in Determining Risk Appetite

In many cases, certain aspects of risk either prevent accurate measurement or make measurement extremely elusive and difficult. In these cases, "risk preferences" may be used to articulate risk appetite.

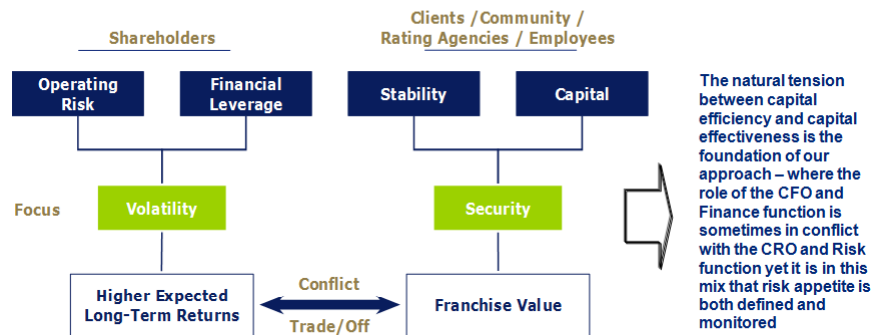
Data Availability	If the degree to which accurate tail values can be calculated is poor because historical events or other data is not available to generate reliable model results, risk preferences may drive risk appetite
Systemic Changes in Risk	Most risks exhibit consistent patterns of volatility over time. However, there are risks where the underlying fundamental drivers of volatility have changed, making it difficult for risk models to predict. For these risks, risk preferences guide risk appetite
Model Risk	Complexity of modeling the long-term affects of economic and market conditions, complex contracts, etc., can challenge the best of sophisticated high powered computer models. Risk preferences can be used to manage perceived model risk
Legal and Reputational Risk	Legal restrictions, public policy and reputational risks associated with transacting business are instances where risk preferences are used to determine risk appetite

Examples of Qualitative Risk Preferences

- Avoid a slip below a desired rating floor
- Define certain risks that an insurer does not want to accept, such as not investing in subprime CDOs or selling Variable Annuities

Aligning Risk Appetite with Strategy

Capital efficiency vs. Capital Adequacy



Risk Appetite can be thought of as a process that aims to balance the conflicting needs of stakeholders

Two Stylized Examples of Risk Appetite: Risk Receptive

Company	Risks R Us
Line of Business	Life settlement
Ownership Structure	Private equity
Focus	Volatility

Risk Appetite Statement	The probability of negative GAAP earnings for the next year is no more than 20%
Risk Appetite Metric	Stochastic risk-based projection model shows losses in no more than 1 out of 5 scenarios
Mortality Risk Tolerance	Projected losses due to adverse mortality (longevity) experience in no more than 1 in 8 years
Mortality Risk Limit	Underwriting limit of \$5 million. No single medical condition may inflict more than 10% of the insured population
Interest Rate Risk Tolerance	Projected losses due to interest rate movements in no more than 1 in 8 years
Interest Rate Risk Limit	Duration mismatch between assets and liabilities of no more than 3

Two Stylized Examples of Risk Appetite: Risk Averse

Company	Play it Safe Co
Line of Business	Home Insurance
Ownership Structure	Mutual
Focus	Security

Risk Appetite Statement	Annual risk of ruin no more than 0.2%, need additional capital in no more than 1 in 50 years
Risk Appetite Metric	Stochastic risk-based projection model shows negative equity in no more than 1 in 500 scenarios, and capital below required level in no more than 1 in 50 scenarios
Natural Disaster Risk Tolerance	Sufficient capital to sustain losses from the worst 0.1% of simulated natural disaster scenarios
Natural Disaster Risk Limit	Retention limit of \$2 million per home, no more than 5% of retained business written in any given natural disaster zone
Counterparty Credit Risk Tolerance	Reinsurance counterparty default reduces capital below 200% of regulatory limit in no more than 1% of scenarios
Counterparty Credit Risk Limit	Reinsurers must be rated AAA, no more than 10% of business with any single reinsurer

Common Hurdles

Challenges of embedding risk appetite

Financial institutions have been grappling with the challenges in implementing risk appetite frameworks but are seeking to derive significant benefit for the organisation

- Terminology
- The culture of the firm
- Relevance to the front line
- Limit setting protocol
- Limit breach management
- Communication internally and externally
- Choosing among stakeholder measures
 - Earnings - GAAP, IFRS, Net Income, Operating Earnings?
 - Capital - Regulatory, rating agency, economic?
 - Liquidity?
 - What about Solvency II / Solvency Modernization?

Aligning Individual and Enterprise Risk Tolerances: Selection of Metrics

The issue of aligning individual risk tolerances and enterprise risk tolerance through aggregation of risk is a complex one, with unique challenges for each firm, depending upon the particular risks, risk appetite metrics and current state of models.

Challenges

- Different metrics are used to measure and manage each individual risk
 - Expense metrics, operational risk
 - Capital metrics, investment risk
- It is difficult to identify a single enterprise metric to accommodate all individual risks (particularly operational and strategic)

Commentary

- Ideally, each risk is measured by custom metrics for that risk and a standardized metric applied universally to all risks
- In practice, existing diverse risk metrics used by various areas to manage risk must be conformed to a single metric
- VaR, economic capital, and earnings volatility may be best suited to accommodate the widest variety of risks
- Value-based metrics are particularly useful because they are expressed in the natural language of decision making

Aligning Individual and Enterprise Risk Tolerances: Risk Correlations

The issue of aligning individual risk tolerances and enterprise risk tolerance through aggregation of risk is a complex one, with unique challenges for each firm, depending upon the particular risks, risk appetite metrics and current state of models.

Challenges

- Correlations between different types of risks are frequently unclear
- There is no directly observable data for many risk events from which to derive correlations
- Correlations may change in “tail” scenarios

Commentary

- Stress testing can be used to establish thinking about correlations, although the results of this approach are heavily dependent upon the assumptions used
- In the stress testing approach, correlations are estimated by modeling individual risk events, then modeling the same events in pairs, and back into the resulting correlations
- There is an upper limit on the number of risk events that can be modeled with this approach so it is best to model the most diverse risk events, then use the resulting data to estimate correlations between more similar events

Aligning Individual and Enterprise Risk Tolerances: Projection Models

The issue of aligning individual risk tolerances and enterprise risk tolerance through aggregation of risk is a complex one, with unique challenges for each firm, depending upon the particular risks, risk appetite metrics and current state of models.

Challenges

- Existing models may not support the desired metric for risk aggregation across the enterprise
- It may be difficult to integrate operational and strategic risks into models

Commentary

- If value-based metrics are desired, Economic Capital models can be enhanced to assess the impact of risks on value
- Operational and strategic risks can be incorporated in Economic Capital models by determining the impacts of these risks through a process called Failure Modes and Effects Analysis (FMEA)

Risk Appetite Management Dashboard Example

Management dashboards must be supported by appetite settings that are clearly linked to strategy



Risk Appetite Template example

Stage 1: Involves a review of the current strategic plan and confirming, modifying and setting new objectives. Once objectives are identified, measures for the objectives need to be set

Stage 2: Requires a risk assessment then to be undertaken to identify key risks related to the objective and the targets and to determine tolerances around the objectives

The risk tolerance table provides a visual indicator of the level of sensitivity around each of the metrics and objectives to provide more of a qualitative sense of enterprise wide priority. The template is split by risk category (e.g. Strategic, Reinsurance, Operational)

The objective identified in the stage 1 of the strategic planning process		Key objective measure – the targets set for the objective		Strategic Value – the value to the organisation of achievement of the strategy				
Strategic Objective 1 - Shareholder return on Equity (ROE) – continue to provide consistently high ROE								
Key Objective Measure	Return on equity after tax (before ABC investment revaluation movement) of yy% (xx% 2009).	Strategic Value	Zero	Low	Medium	High		
Risks related to this target	<ul style="list-style-type: none"> Increase in concentration risk and increasing cat events. Increase in the impact of Catastrophic claims costs on overall claims costs The ongoing impact of the GFC on investment income 	Risk Impact	0	1	2	3	4	5
Risk Appetite Statement	Return on equity after tax a range of between 18 and 30% this range equates to a variance of \$XM	Risk Appetite						

Risk Appetite statement – the range, upper and lower limits of performance expected
 Risk Appetite – Tolerance for variance from objective measure

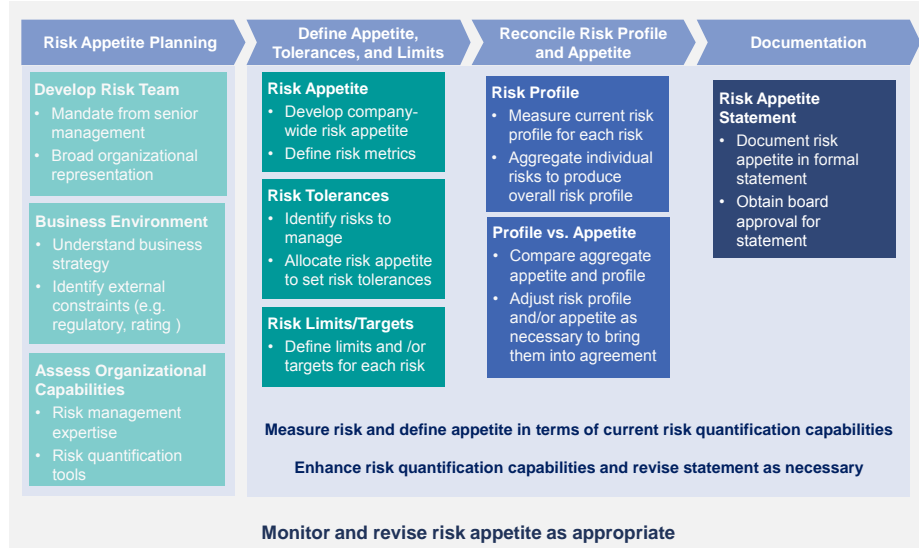
Risk Impact – the potential impact on the organisation of the objective



How To Get Started



Where to Begin the Risk Appetite Process



Questions

www.deloitte.com/us/about for a detailed description of the legal structure of D



Where Cutting Edge Theory Meets Some of the Best Practice



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