2008 CAS Ratemaking Seminar

The Large Corporate Buyer and Value Creation Through ERM

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Outline

What is ERM?

Aon 2007 ERM Survey Highlights

S&P ERM Proposal

Applying ERM to Insurable Risks

Case Studies – Product Risk

Introduction

What is ERM?

- Enterprise Risk Management is the company-wide, strategic process of assessing and responding to the collective risks that impact an organization's ability to maximize stakeholder value

What is the goal of ERM?

- The goal of ERM is to help companies better understand the risks facing their organizations so that they can reduce exposure and loss and improve overall corporate stewardship, reputation, and shareholder value

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Enterprise Risk Management Survey

The Report

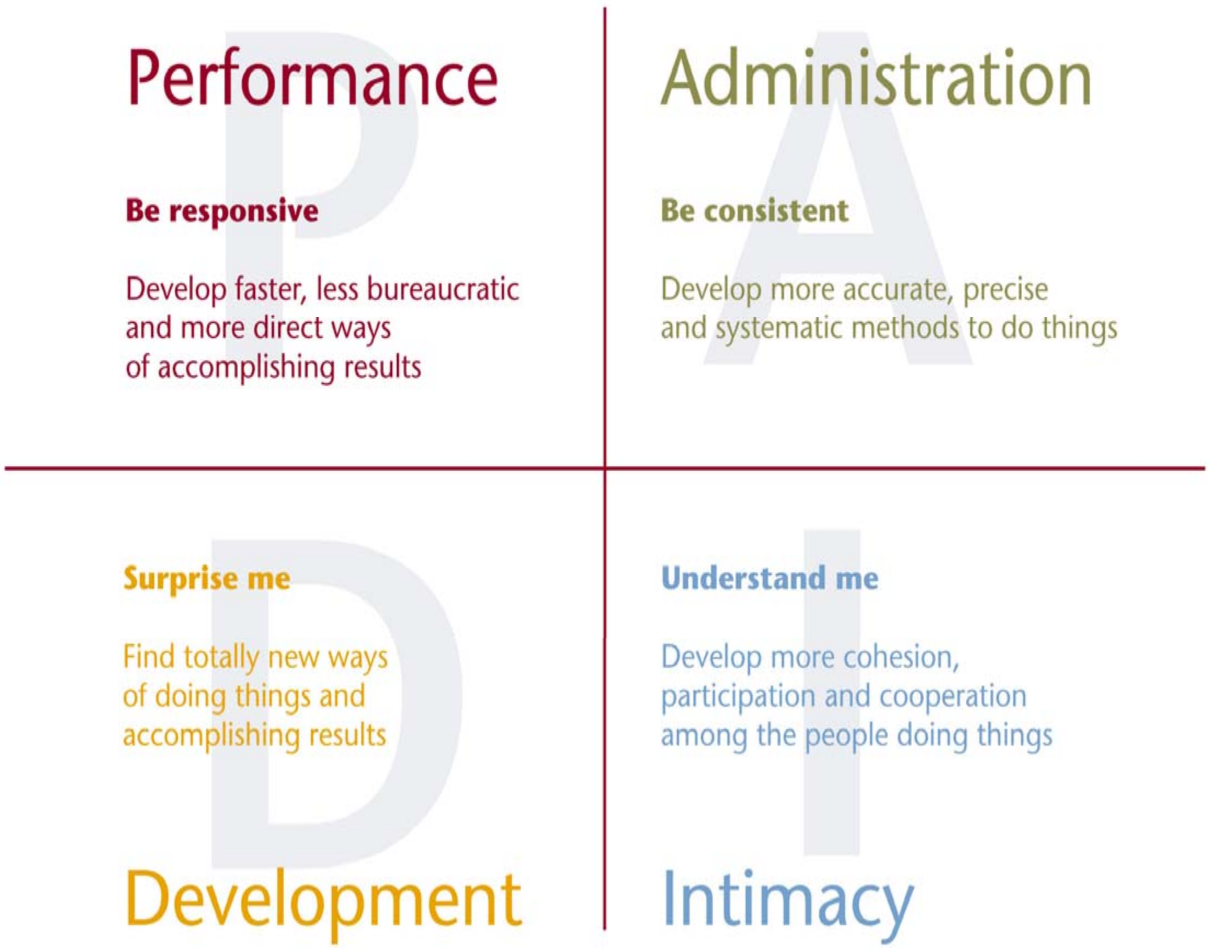
Objective

➥To support global enterprises in understanding how they compare to peers with regard to ERM maturity and evolution Aon has produced a comprehensive study that illustrates the key issues a corporation should address when managing risks on a global scale

Methodology

➥ Interviews and an online survey were conducted in July 2007, 103 risk managers, chief risk officers, and other senior executives in the Americas and Europe, the Middle East, and Africa (EMEA) responded

Aon's Cultural Model



- Performance-driven organizations focus on results.
- Administrative-driven organizations focus on systematic delivery.
- Development-driven organizations focus on innovation.
- Intimacy-driven organizations focus on creating loyalty

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Aon’s Maturity Model

Aligning with ERM best practices: How does my company align with best practices in enterprise risk management?

Systematically Build and Improve Risk Management Capabilities

Undeveloped	Formalized	Established	Embedded	Optimized
Capabilities characteristic of individuals vs. the organization	Process established and repeating – reliance on people is reduced	Policies, processes and practices defined and formalized across the organization	Risks measured, managed and aggregated on an enterprise-wide basis	Organization focused on RM as a source of competitive advantage and continuous improvement

Risk — Opportunity

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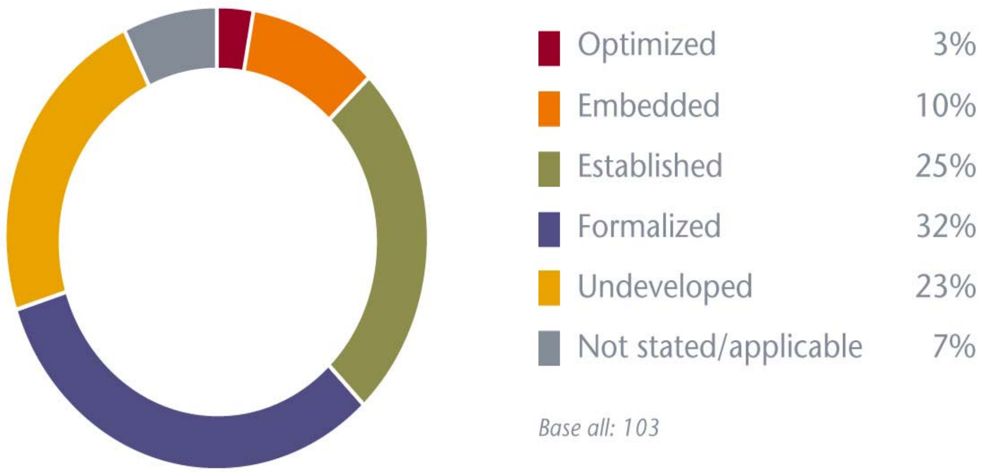
Stage of ERM Development

- In many organizations, the strategy and framework for ERM are still at a relatively early stage of development – only one in eight consider it to be integrated within the organization

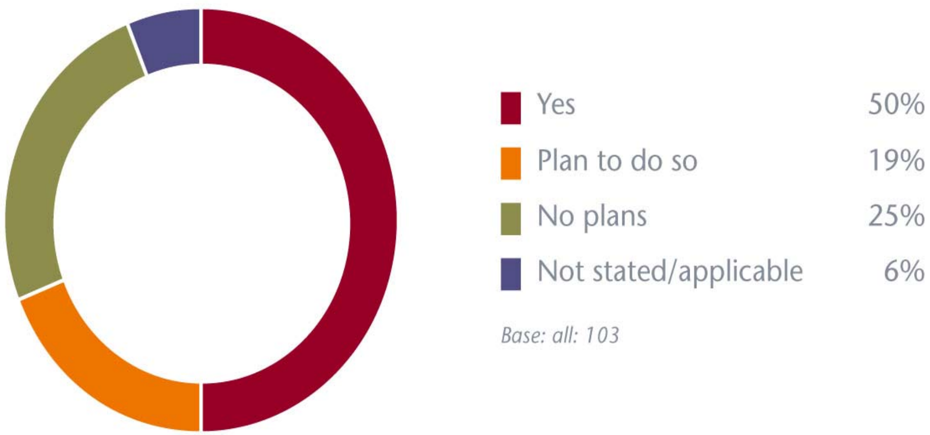


- Companies with a dedicated ERM function are further advanced in the development of an ERM strategy and framework

Dedicated ERM Function

- Half of those taking part in the survey say that their organization has a dedicated function focused on ERM; one in five say that they are planning to establish such a function

- In spite of slightly greater familiarity with ERM in North America, organizations there are less likely than those in EMEA to have a dedicated ERM function:
  - 45% in North America
  - 58% in EMEA



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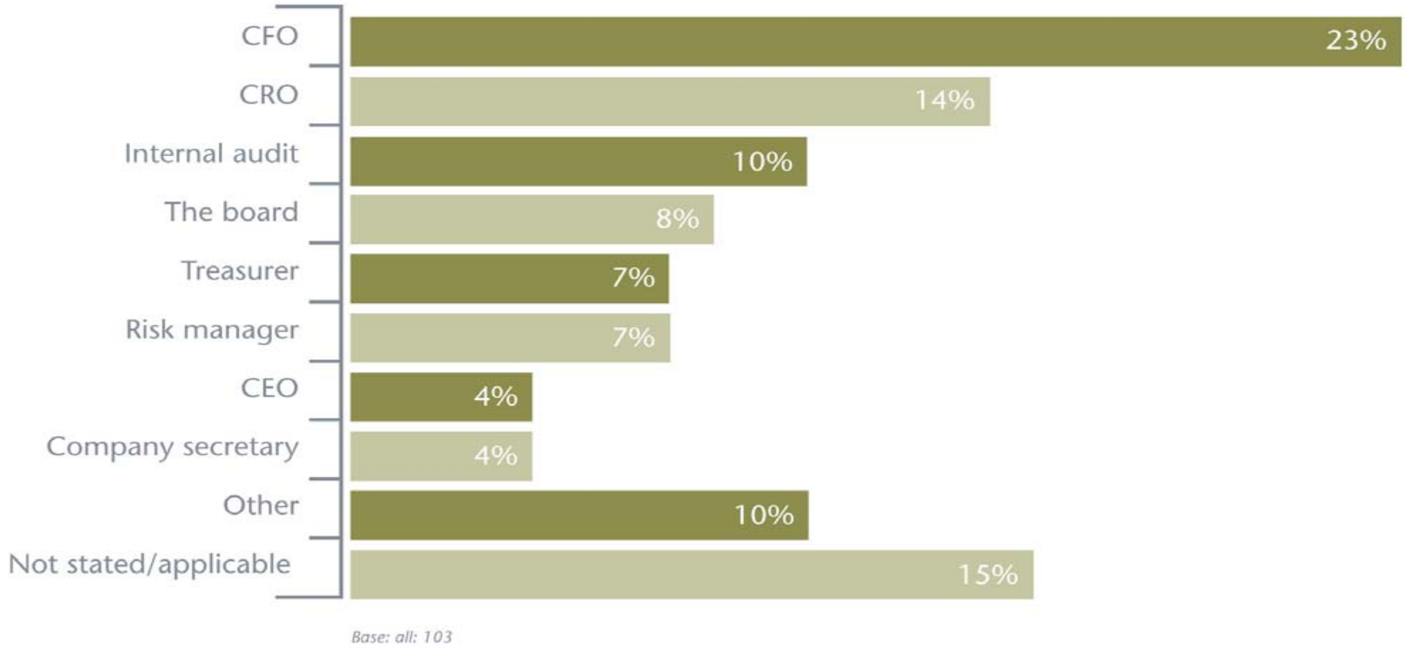
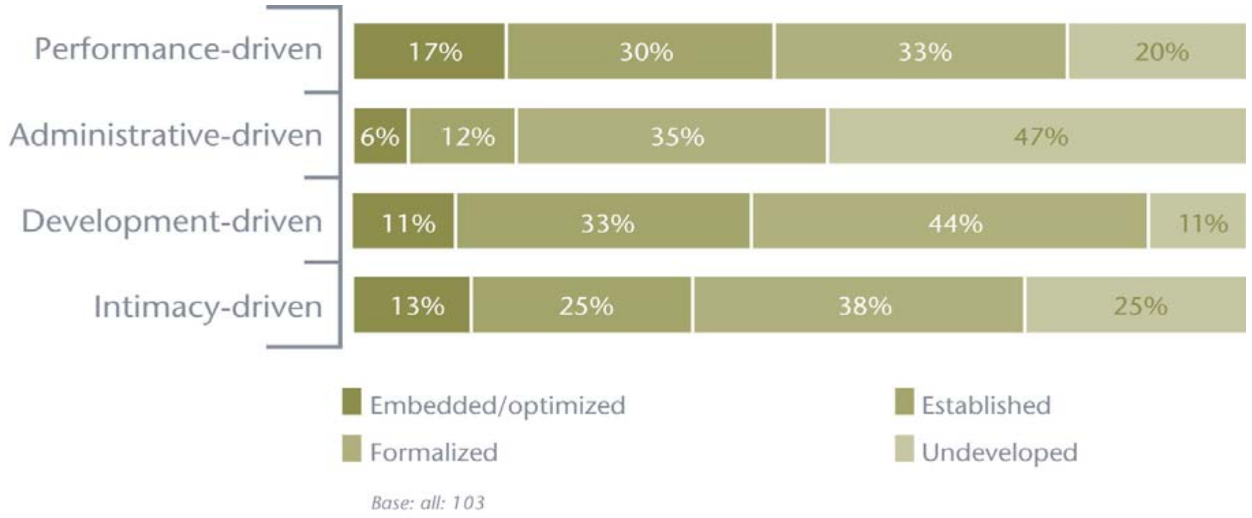
Prime Champion/Sponsor of ERM



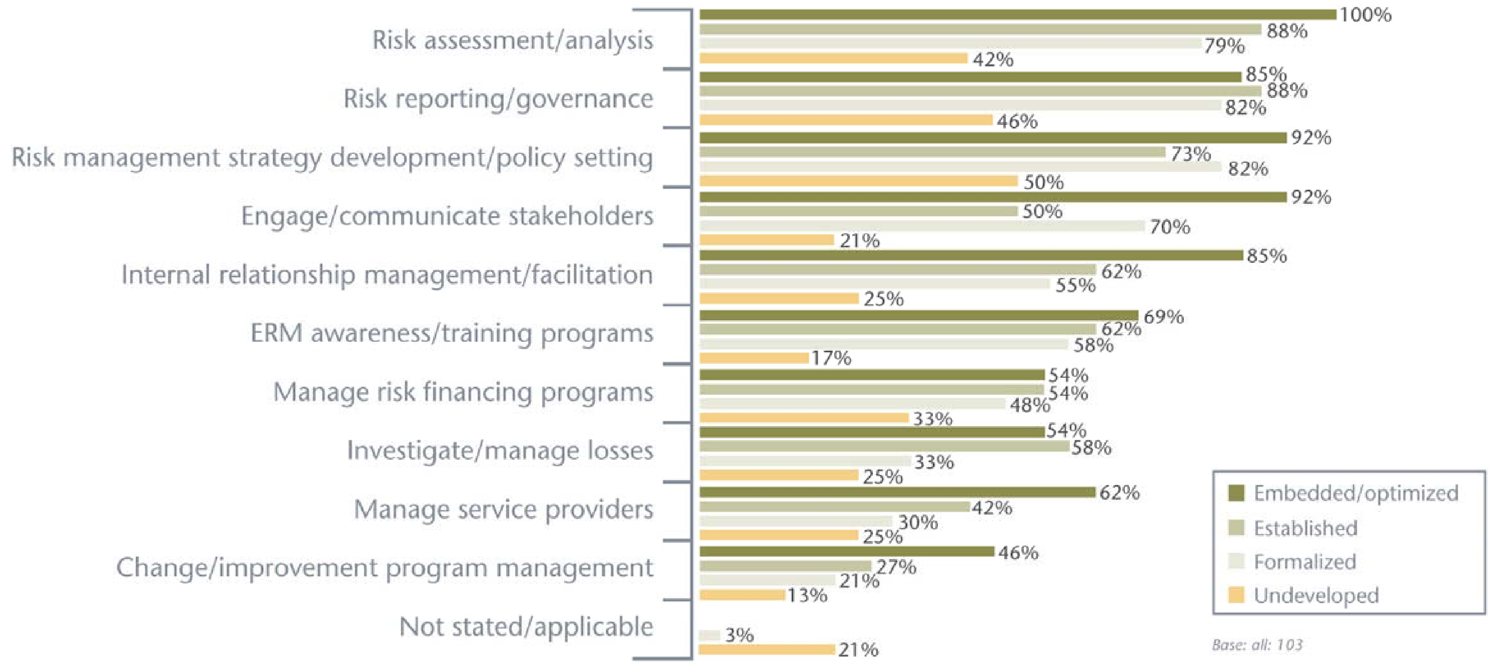
The primary champion or sponsor of ERM is typically an individual or group of individuals at top levels of the organization

Organizational Culture and the Development of ERM



Performance-driven cultures are more likely to have embedded/optimized and established ERM strategies and frameworks

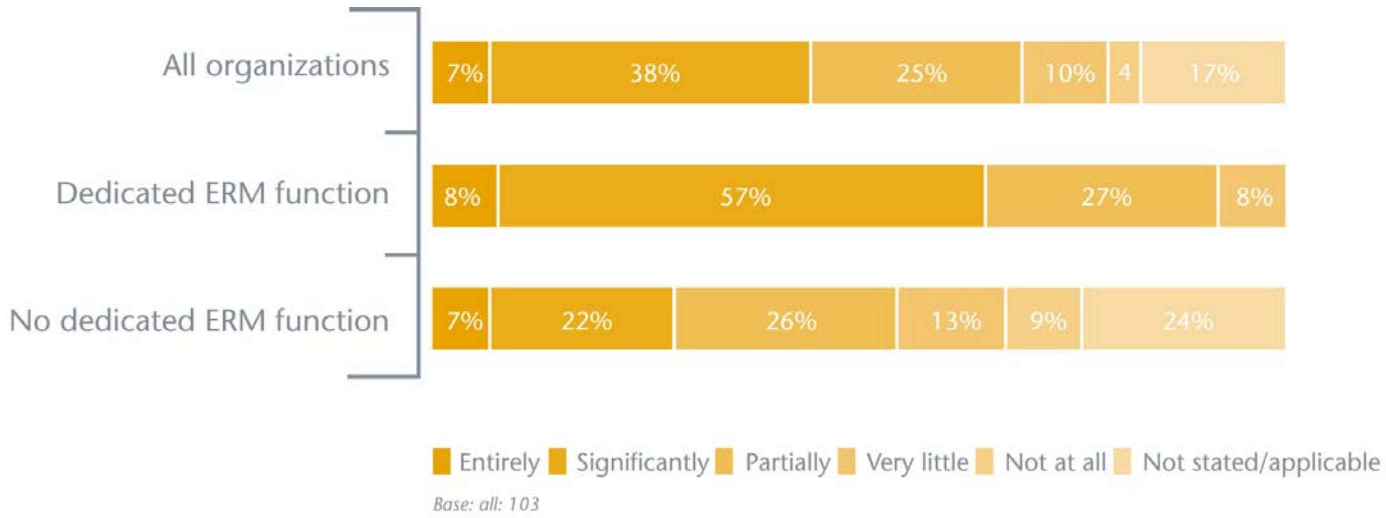
Key Activities of ERM Function



A greater range of ERM activities are undertaken by the ERM function the more an organization has developed its strategy and processes, with particular emphasis on communication and relationship management

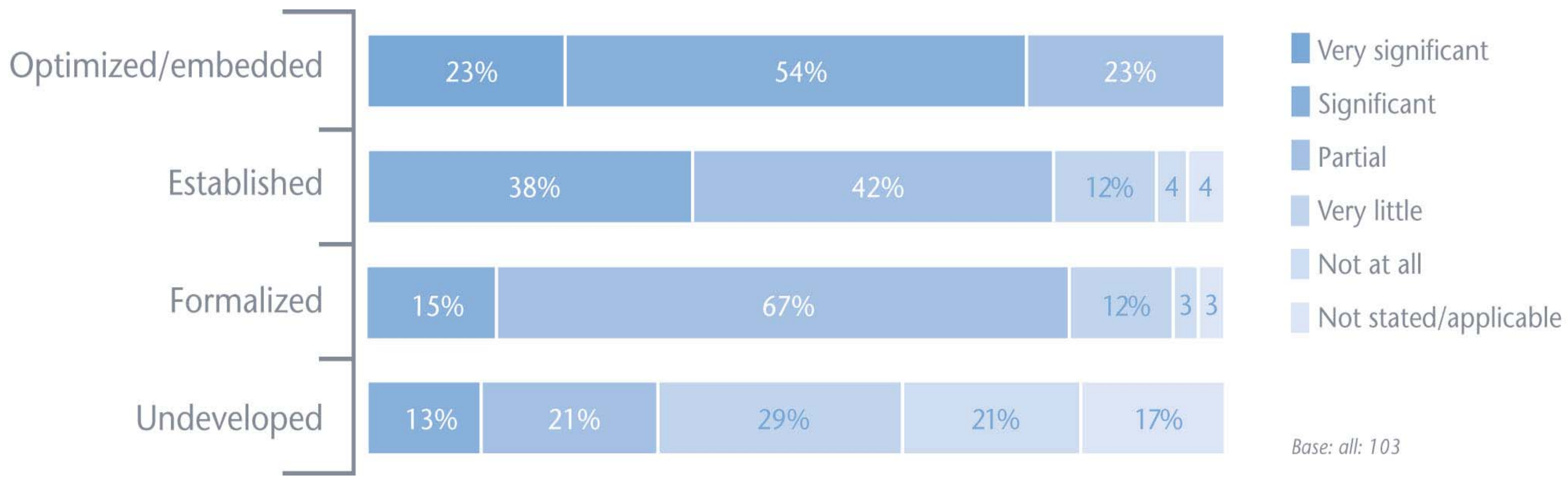
Extent to Which ERM Takes Account of Prevalent Culture

Among organizations with an ERM strategy that is optimized or embedded, 85% say culture was "entirely" or "significantly" taken into account, compared with 69% of those where ERM is established and 39% where it is formalized

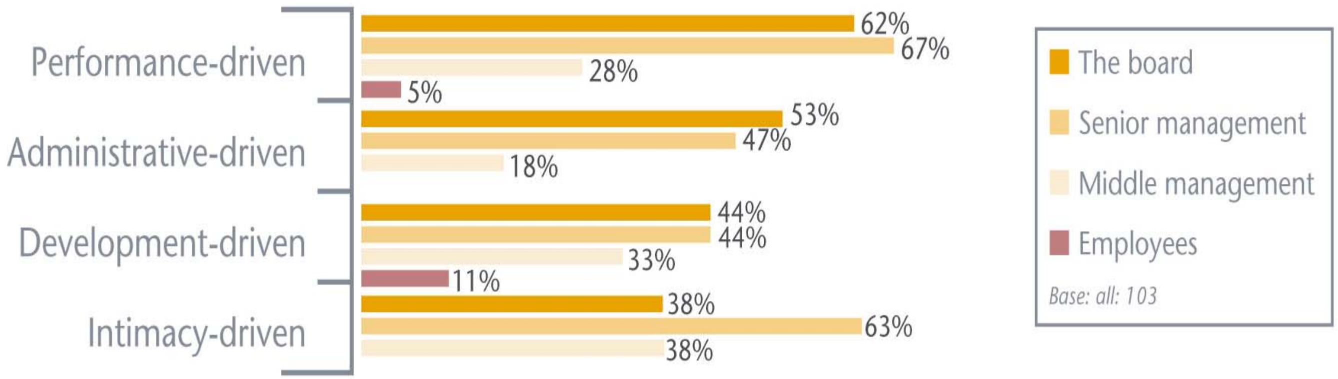


Influence of ERM on Strategic Planning

Despite wide-ranging objectives, approximately only one in four companies say that their ERM initiative had a significant influence on their organization's strategic planning processes



Understanding of and Support for ERM Objectives by Culture



% saying “entirely” or “significantly”

- **Performance-driven organizations are more likely to claim a high level of understanding of and support for ERM objectives at board of directors and senior management levels**

- **Communication falters even with middle management, and certainly with employees, no matter how mature the ERM effort, and regardless of the culture**

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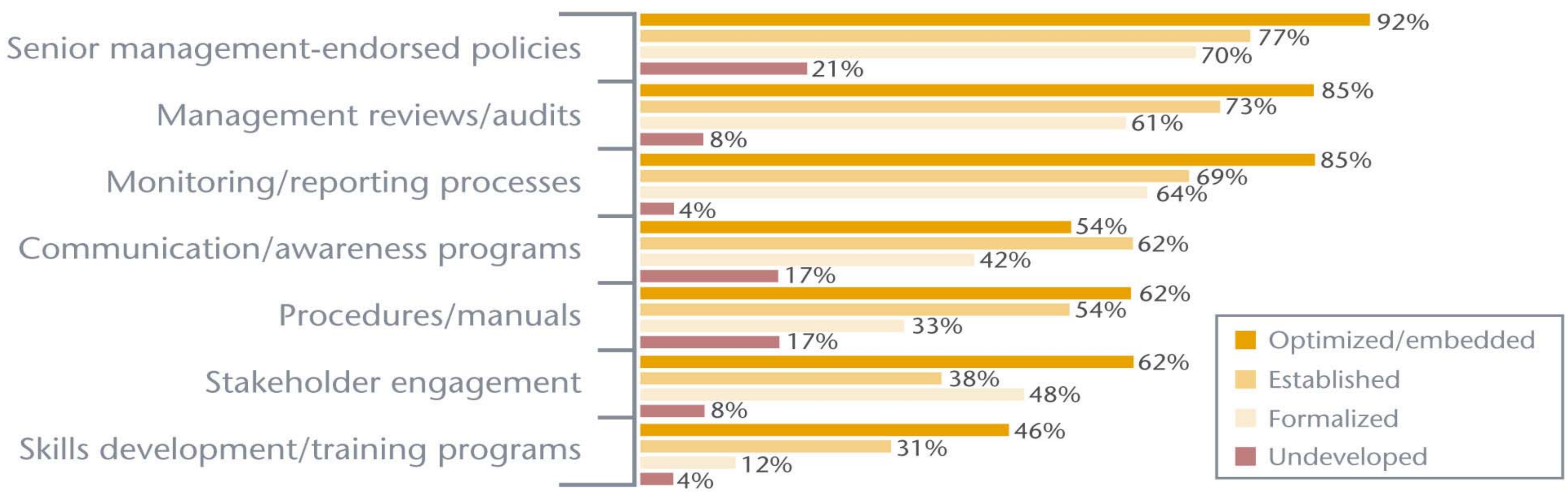
Techniques Used to Create Risk Management Culture

Creating and maintaining a strong risk management culture within the organization is paramount to a lasting and meaningful ERM program



Looking Ahead

- Aon's extensive ERM survey indicates that there is no single, standard approach to designing and implementing an effective ERM program; each program must be aligned, first and foremost, with the organization's culture

- The results also point to the importance of communication and the active engagement of internal and external stakeholders to facilitate change and embed ERM in key business processes throughout the organization

- According to the research, most organizations still focus primarily on top management when implementing ERM, and have not taken the next step to reach out to employees, which is after all where many of the risks occur. Until the employees are truly engaged in the risk management process, the full value and impact of ERM will not be realized.

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S&P ERM Proposal

S&P Proposed ERM Analysis

- In November 2007 Standard & Poor's proposed the introduction of Enterprise Risk Management (ERM) analysis into the corporate credit ratings process for non-financial companies [1]
- An ERM quality score would be assigned and factor into each firm's credit rating
- This coincides with increased interest and initiatives by many companies in risk management practices which:
  - Increase risk-adjusted returns
  - Improve strategic judgment
  - Avoid extraordinary losses due to lawsuits, fines, operational failures and negligence
- Analysis will focus on:
  - Risk management culture and governance
  - Risk control processes
  - Emerging risks
  - Strategic risk management

(1) Criteria: Request for Comment: Enterprise Risk Management Analysis for Credit Ratings of Nonfinancial Companies, Steven J. Dreyer, David Ingram

S&P ERM Analysis: “Excellent” Score

- Enterprise-wide view of risk focused on risk/reward optimization
- Maintains complete control processes for all major risks
- Well-developed capabilities to identify, measure and manage risk exposures and losses
- Established tolerance guidelines
- Risk and risk management are always important considerations in the firm’s corporate judgment

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Quality Scores Will Affect Credit Ratings

- The weight of ERM quality scores in credit ratings will vary depending on the importance of ERM for each company and sector. The ultimate importance of ERM will depend on:
  - The risks of the firm
  - The firm's susceptibility to those risks
  - The capacity of the firm to absorb losses
- Even a well-funded company must demonstrate the ability to maintain that position by limiting future losses

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S&P – Sample Questions

- Risk Management Culture and Governance
  - Do you have a risk management program?
  - Is there a statement of risk appetite/tolerance?
  - What staff is responsible?
  - What are reporting relationships?
  - What reports do the CEO/Audit Committee/Board see?
  - How do you measure success of the RM program?
  - How is RM integrated into performance/budgeting processes?
  - How do RM metrics impact compensation for managers?

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S&P – Sample Questions (cont.)

- Risk Control Processes
  - How do you identify and control major risks?
  - What are our risk limits for these major risks? How are they enforced?
  - How did you manage losses in the most recent loss events?
  - What changes were made to RM procedures as a result of the experience?
  - What information about each risk is shared with senior management?

S&P – Sample Questions (cont.)

- Emerging Risks Management
  - What do you do to prepare for extreme disaster situations?
  - What types of extreme disasters are of active concern?
  - What are your stress testing practices?
  - What are your liquidity risk management practices?
  - What contingency plans have you developed?
  - What environmental scanning techniques do you use to anticipate emergence of extreme disasters?

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S&P – Sample Questions (cont.)

- Strategic Risk Management
  - In strategic planning, is capital allocated using risk / reward analysis?
  - How does this work?
  - What effect has it had on financial decision-making?

Applying ERM to Insurable Risk

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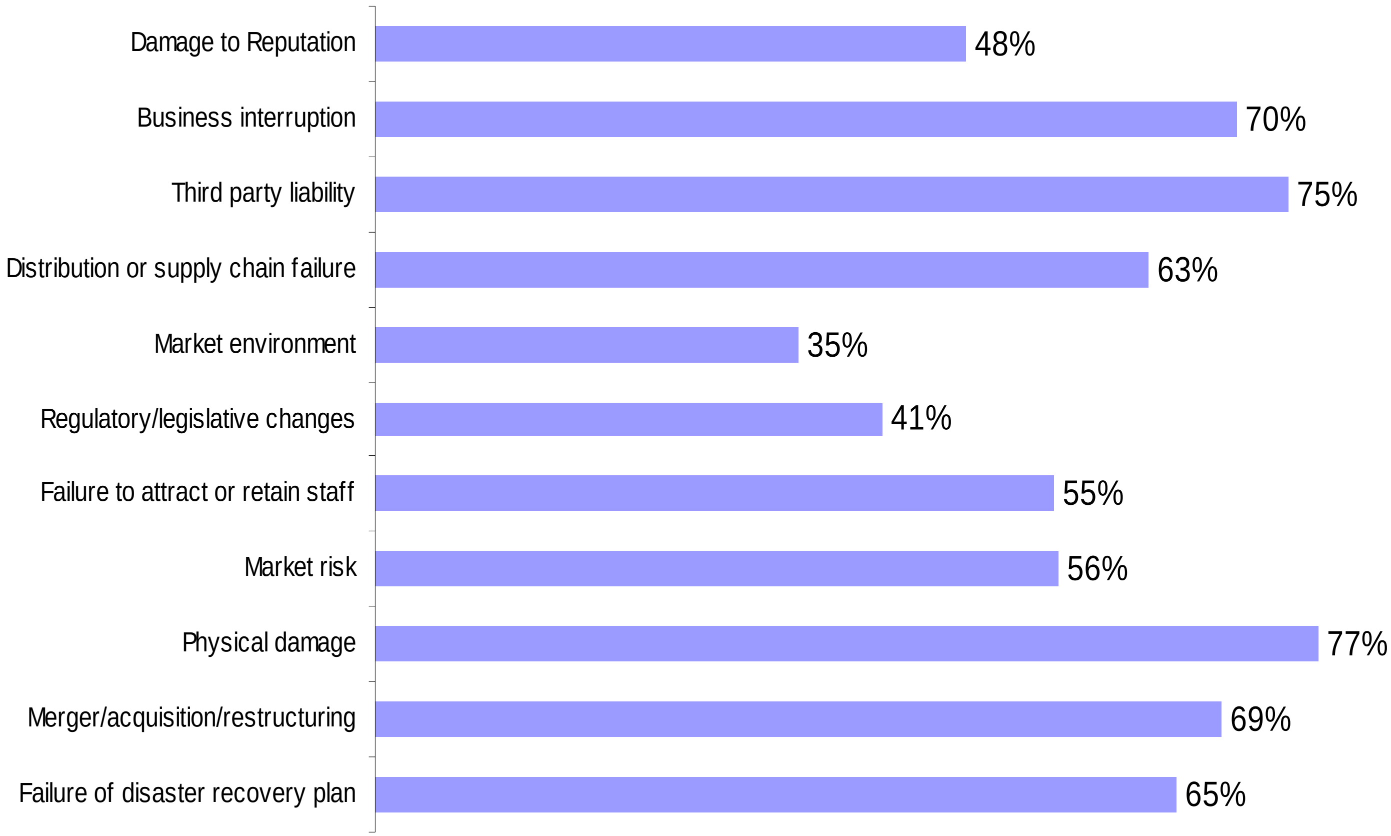
Applying ERM to Insurable Risk



Source: 2007 Aon Global Risk Survey – Top Risks/Level of Preparedness

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Applying ERM to Insurable Risk

- Implementing an ERM framework can be daunting
- Some start small
  - Division
  - Department
  - Function
- Some companies are starting by implementing an insurable risk framework
  - More comfortable with the risks
  - Organizational structure already in place
  - Historical/industry data available for many of the risks

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Applying ERM to Insurable Risk

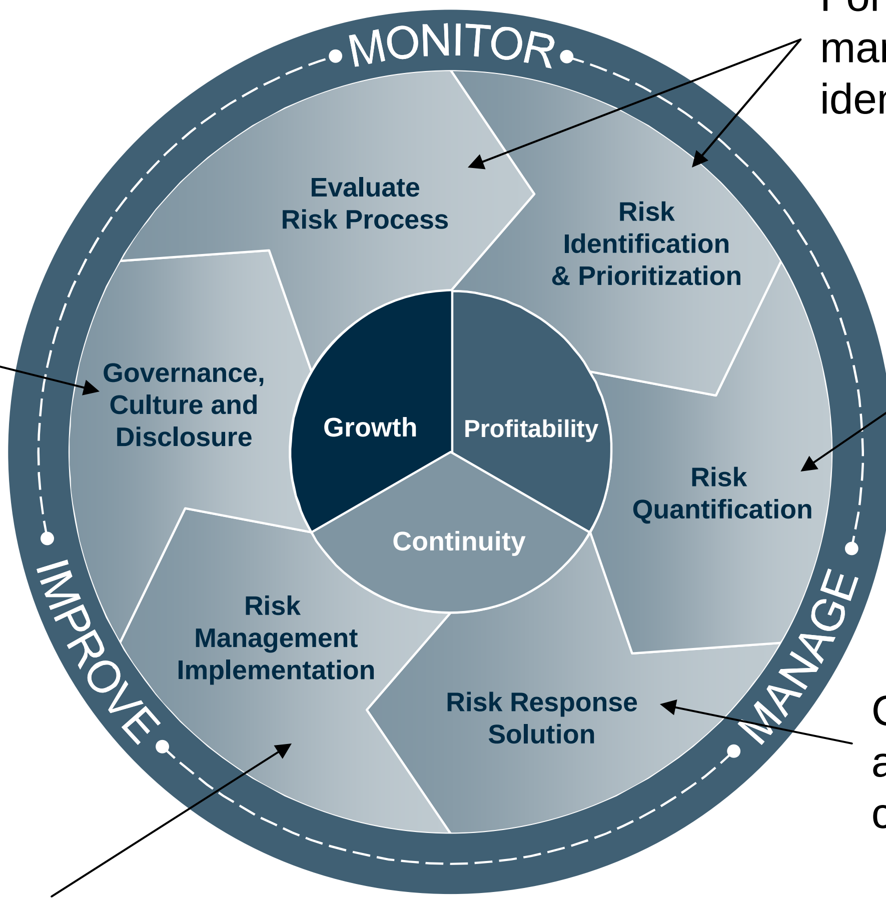
- Typical ERM framework/process

Applying ERM to Insurable Risk

- Modifying to apply to insurable risks

For the most part, risk management has identified the P&C Risks

Achieved through formalization of insurance buying decision – application of ERM framework to insurable risks



Becoming more common – senior management requiring more rigorous view of risk

Consideration of risk appetite becoming critical for firms

Insurance and risk management policies/procedures, ART

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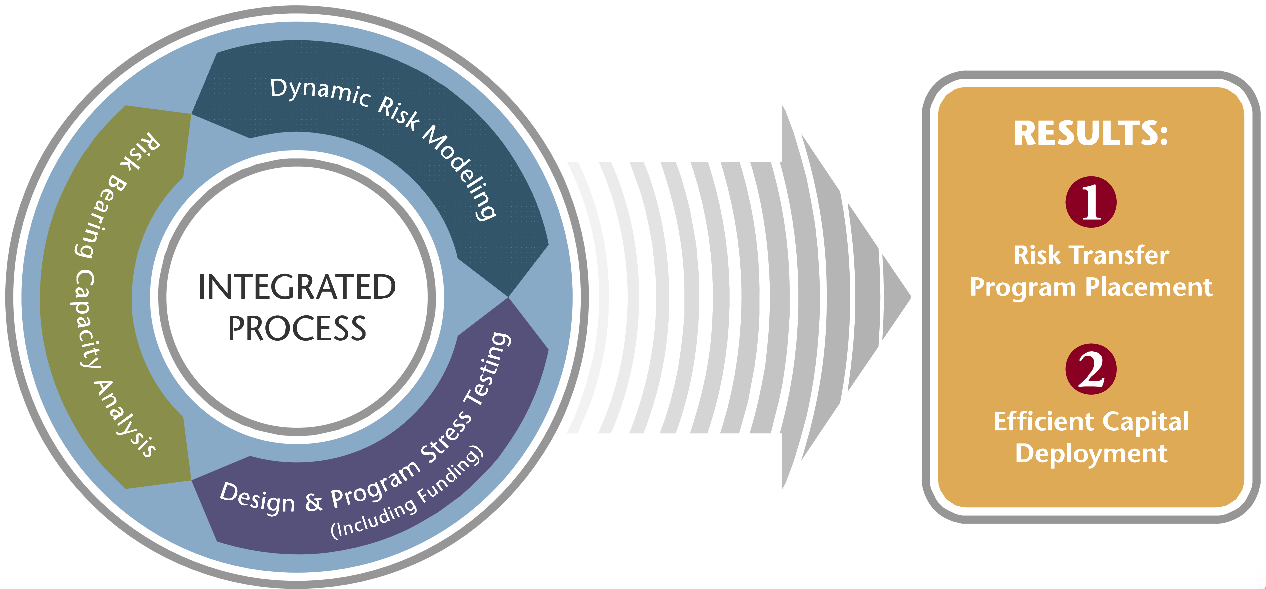
Applying ERM to Insurable Risk

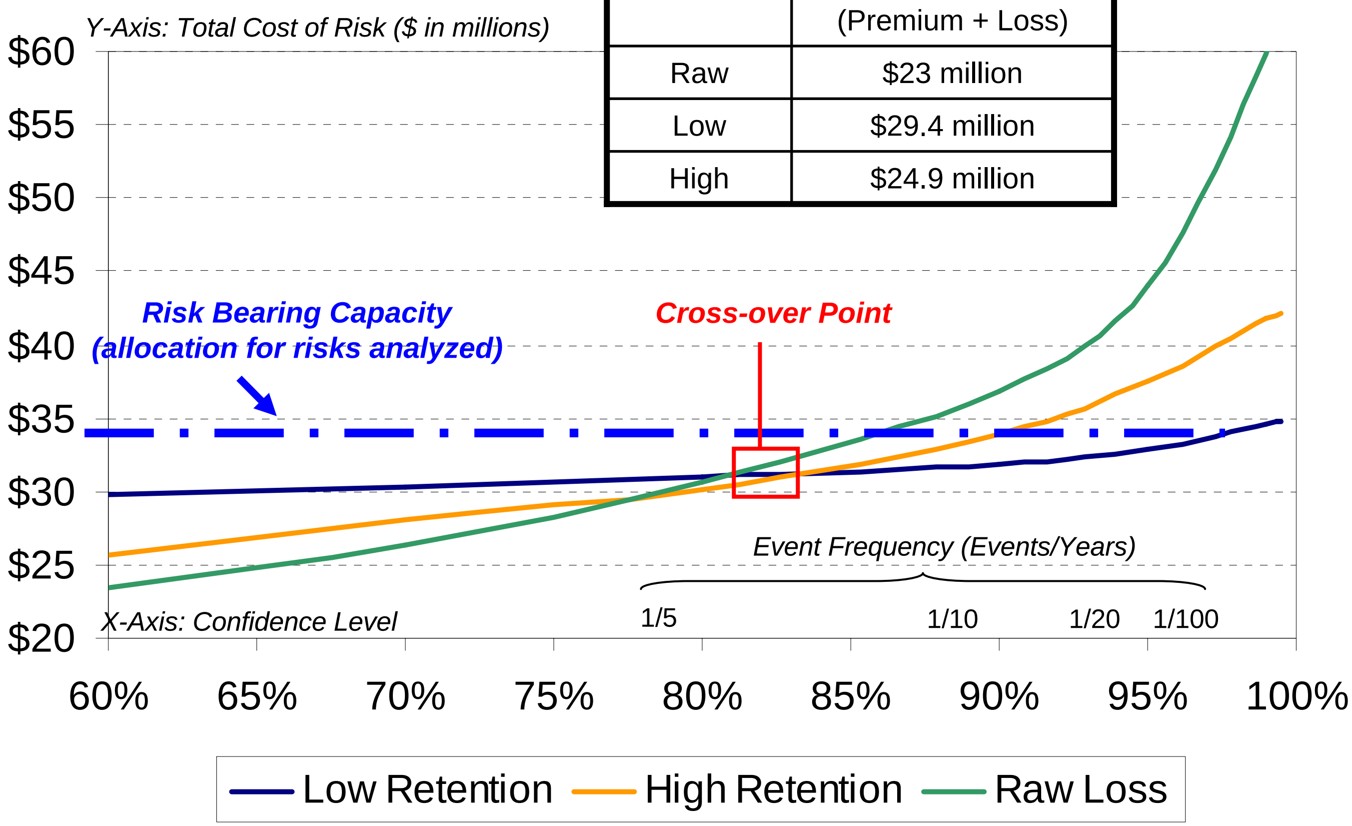
- Many firms now implementing an integrated, analytical process that links three main components:
  - Financial analysis
  - Actuarial modeling
  - Mitigation, leveraging and/or insurance market factors



Program/Strategy Comparison

- The higher retention program is recommended.

Program	Expected TCOR (Premium + Loss)
Raw	$23 million
Low	$29.4 million
High	$24.9 million



Applying ERM to Insurable Risk

This insurable risk ERM framework ensures risk transfer structures are:

- Appropriate, efficient, and fairly priced
- Aligned with financial management objectives and practices
- Validated through quantitative measures and analytics
- Transparent for Board and Executive Committee review
- Aligned with SOX compliance practices

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Case Studies

Case Study: Pharmaceutical

- Modeling was initiated to
  - Complement their ongoing ERM framework implementation
  - Assist in risk transfer decision
- Additional models were tied to the recall model
  - Product liability
  - Product launch delay and market share loss
  - Supply chain risk
  - Recognize the portfolio of key identified risk the organization faces
- Risk bearing capacity study also initiated
  - Guide company on capital allocation

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Case Study: Pharmaceutical

- Illustrative results*:

Metric	Conf. Level	Risk Bearing Capacity Remaining **no** Insurance	Risk Bearing Capacity Remaining **with** Current Insurance
EPS Growth	70%	$ 41 MM	$28 MM
EPS Growth	80%	$37 MM	$27 MM
EPS Growth	90%	$10 MM	$9 MM
EPS Growth	95%	($43) MM	$3 MM
EPS Growth	99%	($473) MM	($231) MM

**Actual results modified by a random function to protect client data*

- Actions
  - Justify need for risk transfer
    - Identified gaps in insurance coverage
    - Test market pricing for adequacy
    - Identified "cheap" coverages
  - Identify areas to direct risk capital for mitigation purposes
    - Need to increase production capacity and build safety stock
    - Justify additional production facility
  - Implement framework for making insurance purchase decisions

Case Study: Agricultural Producer

- Concerned with product contamination and recall exposures
  - Acquisition was doubling production
  - Historical claims experience at the acquired company
  - Insurance pricing considered unacceptable
- Goals were to
  - Better understand their exposure
  - Use the analysis to support a captive feasibility study
  - Determine what retentions and limits the captive should write
  - Better understand to portfolio impact of writing multiple risks in the captive

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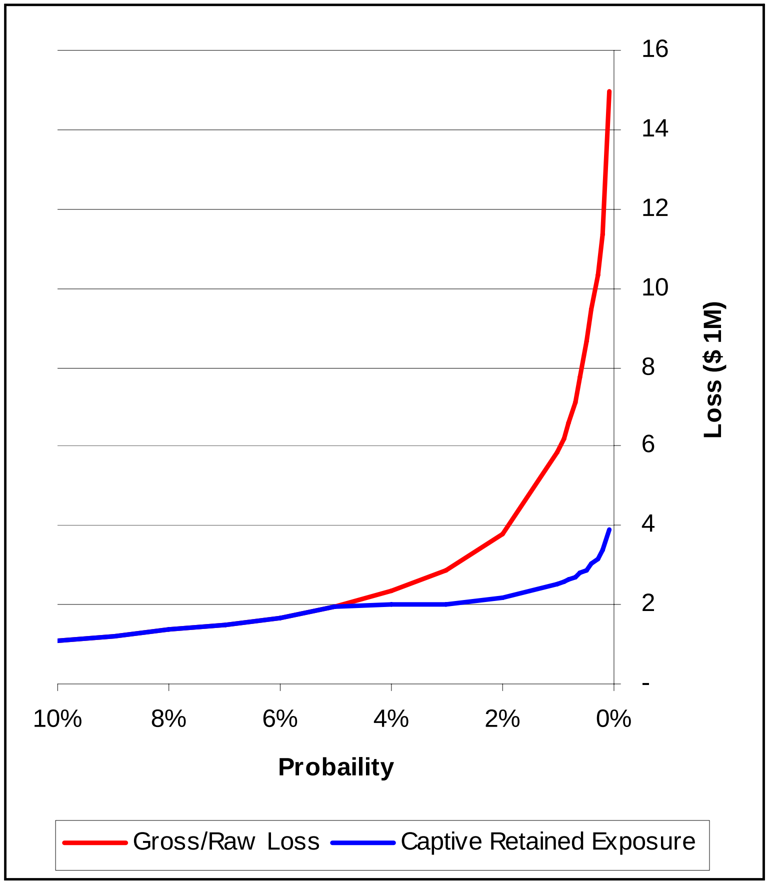
Case Study: Agricultural Producer

- Illustrative results*:



**Actual results modified by a random function to protect client data*

- Actions
  - Figures supported the creation of a captive insurance company
  - Multiple retention and limit structures were considered
  - Goal was to build up capital
    - Initial retentions and limits were low to meet this goal
    - Decision to reserve to higher than expected confidence level
    - Over time retentions and limits increased and confidence level target decreased as capital accumulated
  - Allocation methodology developed to accurately charge divisions for their risk contribution

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Case Study: OEM

- Modeling was initiated to complement their ongoing ERM framework implementation
- Goals were to
  - Understand magnitude and volatility of their recall exposure
  - Assess the value of insurance transfer products as well as the optimal amount to purchase
  - Determine appropriate per unit pricing loads to account for risk
  - Understand the impacts of stronger or weaker contract language
  - Determine cost drivers
  - Consider risk vs. reward of new product classes
- Multiple models were created
  - Separate major lines
  - Define major product classes within these lines

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Case Study: OEM

- Illustrative results*:

Prob.	1 Year In	Unmitigated Loss	Mitigated Loss
10.0%	10	437,474	-
9.0%	11	487,423	-
8.0%	13	539,890	-
7.0%	14	596,508	-
6.0%	17	649,869	-
5.0%	20	705,555	17,251
4.0%	25	758,768	149,771
3.0%	33	830,737	385,533
2.0%	50	921,405	576,276
1.0%	100	1,051,118	779,448
//	//	//	//
0.5%	200	1,162,981	933,261
//	//	//	//
0.1%	1,000	1,327,258	1,180,434
Expected Value		**259,935**	**132,130**

**Actual results modified by a random function to protect client data*

- Margins
  - Target 16%
  - Expected considering risk 15.3%
  - Probability of break even in unmitigated scenario: 5.3%
  - Probability of breakeven in mitigated scenario (adjusted for cost of mitigation): 1.5%
- Decisions
  - Implement proposed mitigation strategy to reduce volatility
  - Build in a per unit load to decrease probability of breakeven to below 1%

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Q&A