XXI ASSAL Annual Meeting Risk Management in Insurance Randi Woods – Chief Actuary

Principal International





Risk: The possibility of adverse events disrupting strategy or impacting financial results.

Risk Management: Framework of policies, procedures, guidelines, practices, models and metrics used to identify, analyze, assess, monitor, control, communicate, exploit, mitigate, avoid or eliminate risk.

"Risk Management is like driving a car, you can only go fast if you know you have good brakes." *

* Steven Hunt - VP Research at Forrester Research; Harvard Business Review, 2/2004



Why Risk Management?

- Insurance companies are in the business of taking risks. Risk Management helps us:
 - Identify and successfully manage those risks that present profitable growth opportunities and avoid those that don't.
 - Balance the sometimes competing demands of our various constituencies; meet our customer obligations, satisfy regulatory requirements, and optimize shareholder returns relative to the risks we take.



Risk Oversight and Assurance Activities

Credit Risk

Default/Prepayment Reinsurance Derivative Counterparty Other Counterparty

Investment and Market Risk

Interest Rate Reinvestment Liquidity Spread Equity Market Foreign Exchange

Product/Pricing Risk

Mortality/Longevity Morbidity Policyholder Behavior Medical Trend Other Assumptions New Product risk

General Operational

Fraud Ethics & Conduct Litigation Communication Physical Property Process Execution/Data Quality Policies & Standards Management Oversight Outsourcing Business Continuity Compliance

Information & Technology

Availability Access Privacy & Confidentiality Production Changes Functionality Malicious Acts Infrastructure

General Business

Business\Market Intelligence Reputation Strategic Decision Distribution & Sales Strategy Expense Management Branding & Marketing Rating Downgrade Resource Allocation Legislative & Regulatory Changes (including Tax)

Employment

Employee Retention/Performance Skill Availability Morale/Culture Employment Liability

Assurance/Oversight Provider Asset Liability Management – Green Internal Audit – Blue Strategic Risks Managed Through Senior Management Oversight



Risk Oversight and Assurance Activities Strategic Risks Managed Through Senior Management Oversight

General Business Business\Market Intelligence Reputation **Strategic Decision Distribution & Sales Strategy Expense Management Branding & Marketing Rating Downgrade Resource Allocation** Legislative & Regulatory **Changes (including Tax)**

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Risk Oversight and Assurance Activities Internal Audit

General Operational

Fraud Ethics & Conduct Litigation **Communication Physical Property Process Execution/Data Quality Policies & Standards Management Oversight Outsourcing Business Continuity** Compliance

Information & Technology Availability Access Privacy & Confidentiality Production Changes Functionality Malicious Acts Infrastructure



Risk Oversight and Assurance Activities Asset Liability Management

| <u>Credit Risk</u> | Investment and Market Risk | <u>Product/Pricing</u> <u>Risk</u> |
|-------------------------|-------------------------------|---------------------------------------|
| Default/Prepayment | Interest Rate | Mortality/Longevity |
| Reinsurance | Reinvestment | Morbidity |
| Derivative Counterparty | Liquidity | Policyholder Behavior |
| Other Counterparty | Spread | Medical Trend |
| | Equity Market | Other Assumptions |
| | Foreign Exchange | New Product risk |



Risk Intelligent Questions To Consider

- What risks haven't we thought of?
- How much could we lose if we don't manage this risk intelligently?
- What is the likelihood of the risk occurring?
- What is our vulnerability to this risk?
- Is the risk correlated with other risk exposures?
- Does this risk represent a concentration of risk that may cause problems in risk management or mitigation?
- If I hedge or mitigate this risk, how does this change the likelihood and impact?
- Does our risk management or mitigation strategy introduce any additional risk?
- How much can we gain if we take this risk provided we manage it properly?
- How can we get assurance that our confidence is justified?
- How much is it costing us (or will it cost us) to manage this risk?
- Is there a potential reputational risk impact from this risk?
- What individual or team is responsible for managing this risk end-to-end?



We are risk astute, not risk averse



