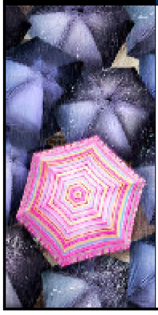
STANDARD & POOR'S



Enterprise Risk Management

ERM Seminar

3 July 2006

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The McGraw-Hill Companies

Agenda

Why do ERM?

What is S&P's view of ERM?

What are our findings so far?

What is the potential impact on our capital analysis?

Winds of Change for Insurers

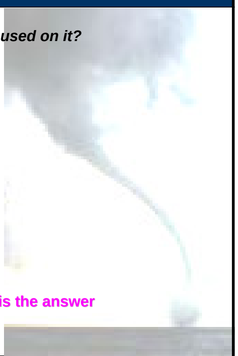
Why are insurers doing ERM? Why is S&P focused on it?

- Poor profitability
- Catastrophes and capital market crisis
- Risk analysis in silos
- In Europe, Solvency II

Need to re-examine old assumptions about

- *risks*
- *cost of risks*
- *risk adjusted capital allocation*

"Enterprise Risk Management" is the answer



What is Good Risk Management?

1) Identifying and monitoring significant risks
2) Setting risk limits for each risk
3) Maintain the level of risk retained within the risk limits
4) Establish tolerances for losses based on events and/or in the aggregate
5) Limit losses to within these tolerances

The product of Good Risk Management is

a controlled risk taking environment

Good ERM Programmes

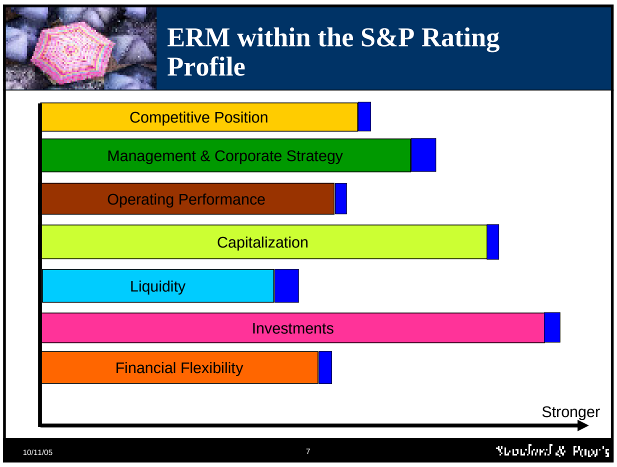
- Practicing Good Risk Management across <u>ALL</u> of the significant risks of the Enterprise
- <u>Consistently</u> across the risks
- Consistently with the <u>fundamental objectives</u> of the enterprise
  - Expressed as a tolerance for:
    - Risk of default
    - Risk of capital loss
    - Risk of earnings loss

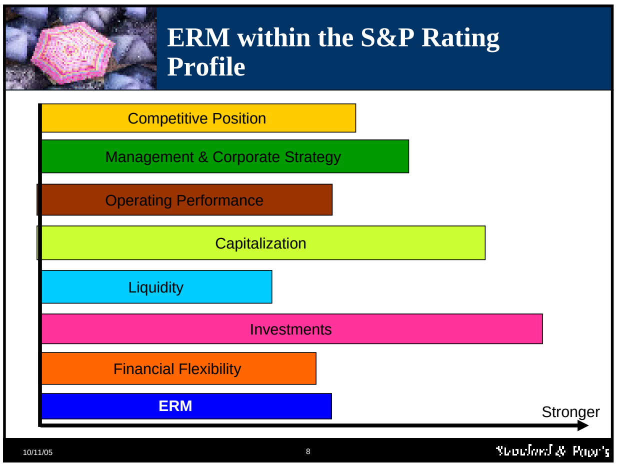
Excellent ERM Programmes

All of the characteristics of Good ERM Programmes *plus…*

- Systems to periodically measure the <u>capital</u> needed to support the retained risks
- Capital measures used for:
  - strategic decision making
  - policy design and pricing
  - catastrophe risk aggregates
  - reinsurance programme design
  - investment selection
  - financial performance evaluation

The product of excellent ERM is the <u>optimization</u> of enterprise <u>risk adjusted return</u>


ERM within the S&P Rating Profile
Competitive Position
Management & Corporate Strategy
Operating Performance
Capitalization
Liquidity
Investments
Financial Flexibility
Stronger
10/11/05
7
Standard & Poor's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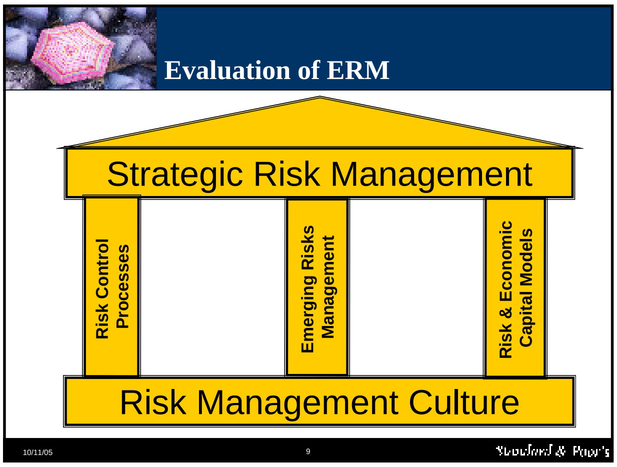
Evaluation of ERM
Strategic Risk Management
Risk Control Processes
Emerging Risks Management
Risk & Economic Capital Models
Risk Management Culture
10/11/05
9
Standard & Poor's

Risk Management Culture

- The degree of awareness of risk and importance of risk management at all levels of the insurer
- If it's healthy:
  - Results in embedding risk management concepts into every business decision
  - Risk Management is integral to Corporate Management

Risk Management Culture

What will we look for?

1. Corporate commitment to Risk Management
2. Highly qualified risk management staff
3. Regular communication with board on risk positions and risk management programs
4. Clear and widely-known risk management policies, procedures and objectives
5. Manager's compensation is linked to the achievement of risk management objectives
6. Insurer's governance structure supports effective risk management
7. Risk management is independent from risk taking

Risk Control Process

Risk Control

Credit Risk	Market Risk	Insurance Risk	Operational Risk
Bonds	Interest Rate	Pricing/Underwriting	Distribution
Mortgage Loans	Equity Derivatives Hedging	Reserving	Process & people
Reinsurance Ceded	FX	Catastrophe	IT
Other Assets	Property Real Estate	Mortality/Longevity	Fraud & Internal Control
		Policyholder Behavior	HR
		New Product	Outsourcing
			Reputational

Emerging Risks Management

Terrorism, Natural Disasters, Pandemic, Man-made Disasters, IT Failures, Power Failures, Stock Market Crash, Banking Crisis, Interest Rate Spike, Systemic Liquidity Crisis, Hyperinflation, Negative Real Interest Rates, Significant Negative Economic Growth, Stagflation, Price Deflation, Currency Exchange Rate Crash

- To the extent these are not considered under operational risk management.
- To the extent that the risk are not core (catastrophe risk coverage)

Emerging Risks Management

What will we look for?

- **Process for Anticipating Extreme Risks**
- **Process for Envisioning Significance**
- **Process for Preparing Response -** Contingency Planning
- **Past Events**
- **Learning from History -** Post Mortem
- **Environmental Scanning**

Risk Models & Economic Capital Models

1. **Risk Metrics**
   - (Ultimately) Appropriateness of Assumptions, Methods and Models
   - Comprehensiveness of Models – risks not covered by models
   - Effective Usage – acting on information – timing & magnitude of response
   - Evaluation of risk at alternate time horizons & probabilities
   - Determination & usage of sensitivity metrics
2. **Adequacy of Modeling Infrastructure**
   - Timeframe
   - Timely process for updating data and assumptions
3. **Aggregation of Risks**
   - Benefits of diversification

Strategic Risk Management

Periodic strategic risk decision making

What will we look for?

- **Policy Design and Pricing**
  - Balancing risk and reward
  - Treatment of risk capital in product profit analysis
  - Treatment of Aggregation effects in developing risk capital allocation to product
- **Asset Allocation Process – risk and reward**
- **Capital Budgeting Process**
- **Risk Adjusted Performance Measures**

Assessments of ERM Quality

We will assess and publish opinion of ERM:

- *Excellent*
- *Strong*
- *Adequate*
- *Weak*

Implementation

Phase 1:

"Evaluating The Enterprise Risk Management Practices Of Insurance Companies" published 17 October 2005

Phase 2:

Detailed analysis including model evaluation: new criteria in 2006

Overall Findings

Weak	**Lacking basic controls for important risk(s)**	**6%**
Adequate	**Basic risk controls in place for all major risks**	**62%**
Strong	**Basic risk controls in place for all major risks PLUS:** **1) Process to make strategic choices among risks based on risk & reward framework** **2) Process to prepare for Emerging Risks**	**24%**
Excellent	**Mastery of Controls, Emerging Risk preparations & strategic risk applications**	**8%**

Potential Impact on Capital Analysis

Current capital adequacy analysis gives no quantitative credit for interline diversification

Qualitative credit given in analysis of:

- Capital
- Competitive position
- Earnings

Ultimately **quantitative credit will be given for an insurer with excellent/strong ERM with credible economic capital models**

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