



Enterprise Risk Management 101 – Risk Taking or Risk Managing?

249_abstract_Sandberg

TRACK: Enterprise Risk Management (ERM)

SESSION: Introduction to ERM

DAY: Monday

DAT: 3/8/2010

TIME: 13h30 - 15h00

ROOM: Auditorium 2

Key Topics in Original Paper



- **What is the value gained from ERM?**
- **Core organizational principles of ERM**
- **Can a regulator also use a corporate ERM perspective and process to more effectively carry out its functions?**
- **Example(s)**

Subsequent Key Developments



- **Dave Ingram's work on differing styles of risk taking**
- **Systemic Risk Implications**

ERM Process



- **Companies see value to shareholders of transforming their corporate culture, measuring and decision-making through use of an ERM discipline**
- **Process for Management of Complex Risk**
 - Identify Risk
 - Measure Risk
 - Manage Risk

Value of Process



- **Not risk diversification, but creation of internal:**
 1. Accountability
 2. Transparency
 3. Learning focused reporting and management culture

- **Can Management Explain to Shareholder - How is the company adding Value?**

Identify Risk



- **Do not accept (or write) risk that is not understood or cannot be:**
 - Managed
 - Hedged
 - Reinsured
- **This includes an examination of the tail events and options (not just the median or “likely” events) as well as the determining and documenting the various management options**
- **Regardless of estimated likelihood, is there a risk that is “betting the company” or is it just “betting profits”?**

Risk Categories



- **Financial risk (equity, liquidity, interest or credit)**
- **Insurance risk**
- **Policyholder behavior**
- **Agent Behavior**
- **Management action risk [Past (u/wing) & Future (tough calls to accept risk limits & to manage in force)]**
- **Operational risk**
- **To Enhance Value – Manage (For company specific risk expertise) & Hedge/Reinsure (Where company is not expert)**

Measure Risk



- **Once identified - Measure in order to manage**
 - Internal phrase is "Follow the risk" - measure it, however crudely, with feedback so the measurement/model gets better each time. While in the past, measurement is to provide a balance sheet number. Now the value is:
 - A view of where the future could go (through sensitivity testing of key risk exposures)
 - A leading risk indicator tied to a management action

Manage Via Actions



– New Business Options

- Level of Sales
- Underwriting & Risk Driver Feedback loop process
- Repricing or Redesign of Products

– Enforce Business Options

- Dividends
- Excess Policy Credits
- Buy & Sell Assets

Manage Via Actions



– Corporate Actions

- Expenses
- Buy & Sell Assets
- Invest in Reputation

Next Steps



1. Set independent verification & validation processes for measurements
2. Examine timing and impact of options in the future, to determine when and if the management of that risk becomes unprofitable.
3. Once measured, set appropriate reserves, capital, company action levels and risk limits
4. Consistent Set of Risk Metrics
5. Documentation

Consistent Risk Metrics



- **Economic and/or regulatory?**
- **IRR, CTE, VAR, MCEV, ROE, EGP's**
- **While essential to have, they will not produce a magical answer for rule-based decision making**
- **Metrics become the basis for making informed risk decisions about the business.**

Consistent Risk Metrics



- **Metrics allow the implementation of measurable risk limits (budgets) to be considered and included in growth plans and product designs.**
- **Now a mechanism for the company to safeguard its rating through estimating and setting limits on economic and/or reported profit volatility that could impair its rating**

Documentation



Far more than “just” for later verification:

1. Documents internal accountability
2. Final numbers document expectations of the future
3. Lowers Operational Risk
4. Enhances Learning Focus of Corporate Culture

Quantifiable Key Risk Drivers



1. Spread and Hedging Costs tied to Renewal Caps and Credited Rates
2. Cost or Value of New Business
3. Company Budget and Expenses
4. Lapses
5. Mortality
6. Asset Credit Risk
7. Unhedged Risk Exposures

Qualitative Key Risk Drivers



1. Agent Compliance Monitoring
2. Suitability Monitoring
3. Hedge Efficiency Reports
4. Integrity of Risk Limit Management
5. Timeliness of Risk Reports
6. Enhanced Risk Reporting

This process has just gone through key steps in Actuarial Control Cycle

Concluding thoughts



- **Now just add Regulator into Control Cycle or Feedback Loop on Risks. They can**
 - Quickly see which companies don't know how to measure their risks
 - Learn from Company Best Practices
 - Provide feedback to industry on what reporting is working well and what needs improvement
 - See when risk measures and budgets are only betting profits, not promises.

Measurement Example



- **The Value of a Market Consistent Embedded Value Framework**
 - Quantitative Basis for Qualitative Decisions

History of EV Reporting at Allianz Life



- **2000**
 - EV guidelines developed at Group level
 - Movement analysis
- **2001**
 - Reviewed by external consultants – Group published results
- **2003**
 - Cost of options and guarantees estimated but not published
- **2004**
 - Move towards EEV principles
 - Values of options and guarantees published
- **2005**
 - Published and disclosed EEV results to public
- **2006**
 - Published and disclosed Market Consistent Basis

Looking at Product Pricing



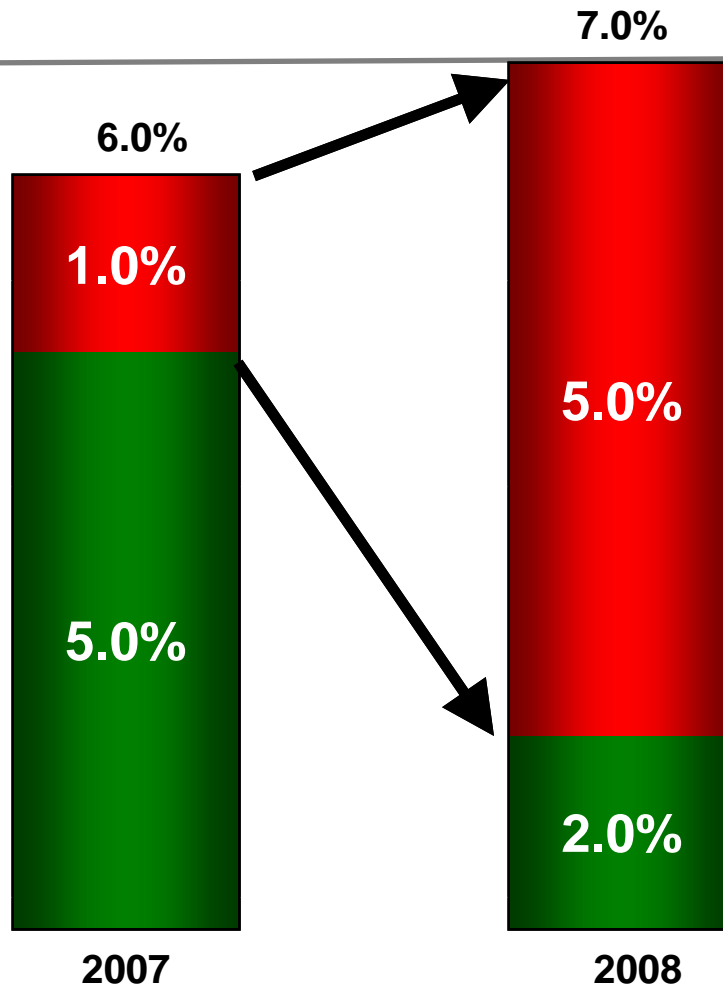
- 1. Annuities have primarily two risk categories:**
 1. Insurance risks (mortality, persistency, utilization)
 2. Investment risks (hedging, credit spreads)

- 2. Traditional profit measures of IRR and Profit Margin adequately measure expected insurance risk and sensitivities, but do not reflect extreme movements of investment risks**

- 3. Market Consistent Embedded Value (MCEV)**
 1. Measures the full extreme investment risk in products
 2. Provides greater transparency and consistency in comparing companies
 3. MCEV sets out a level playing field

Bond Markets

Bonds are made of risk free component plus risk premium
All assets (when adjusted for risk) = Risk Free

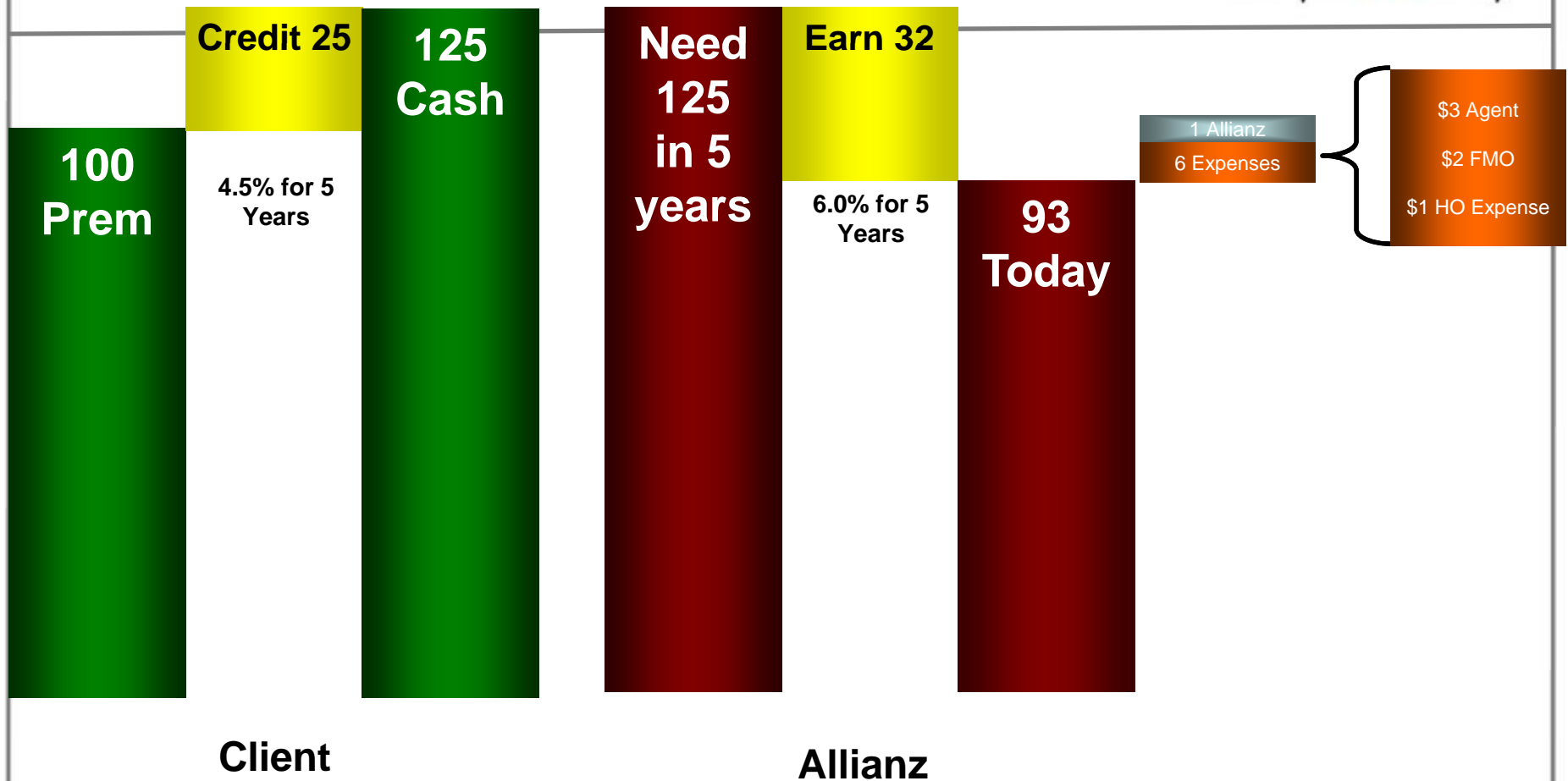


In 2nd half 2008 bond yields increased, but the risk free component fell

This means the riskiness of this asset increased **significantly.**

Yet some competitors reflected a full 1% rate increase.

Pricing a 5-year Multi-year Guaranteed Annuity



Same 5-year product: MCEV

Use Risk Free Rate to discount, not Risky Rate

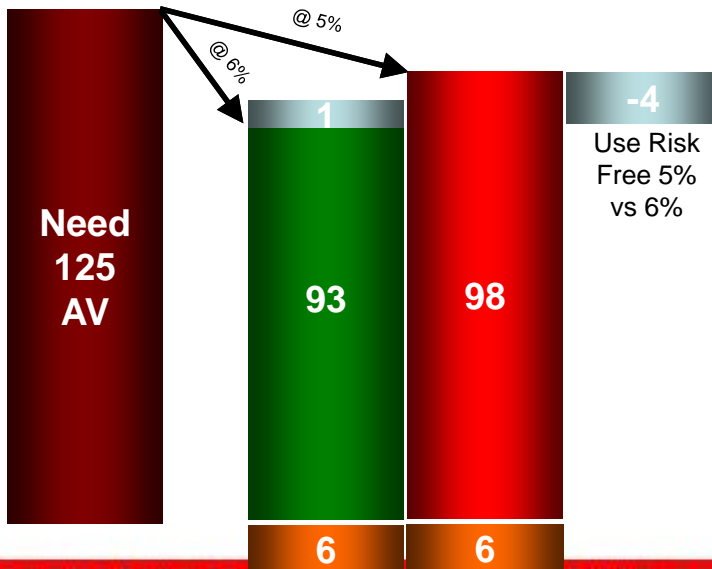


2007

Yield 6%, credit 4.5%

1% Profit
-4% MCEV

Risk losing 4
to earn 1

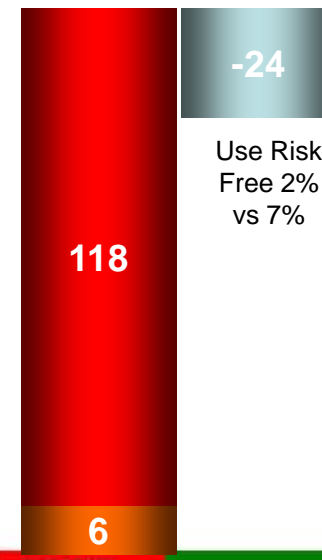


2008

Yield 7%, credit 5.5%

1% Profit
-24% MCEV

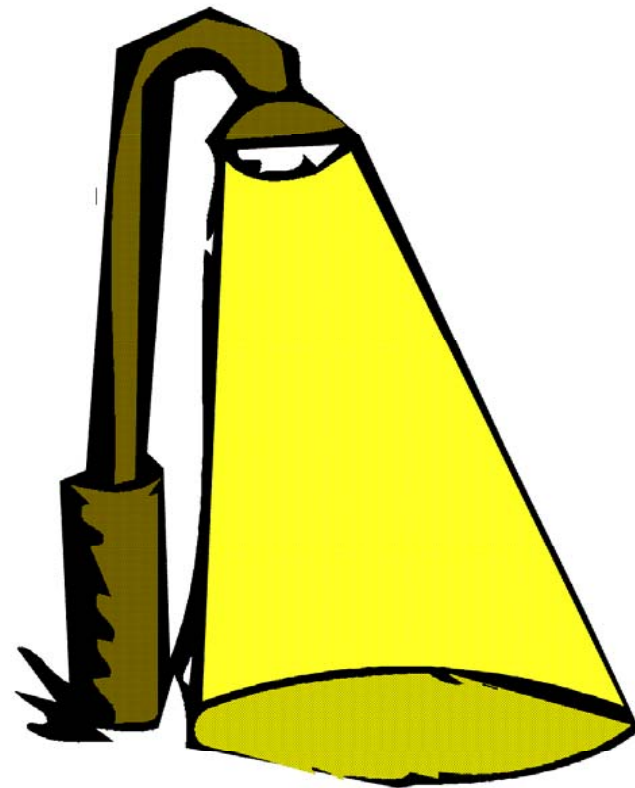
Risk losing 24
to earn 1



Qualitative Example Scenario Testing Based on Models



- Encourage the financial reporting process to shine its light into the future



From Speech by Australian Prudential Regulatory Authority (APRA)



(Speech Oct. 8, 2003)

- Looking ahead, the main potential source of risk to financial stability would be a substantial correction in the housing market, impacting on the balance sheets of authorized deposit-taking institutions through mortgage defaults. The concern would be a sharp jump in mortgage defaults ...
- Since reporting process had “the right lights on” APRA requested companies to run a stress test (30% one year reduction in housing prices + increase in defaults)
- http://www.apra.gov.au/Speeches/03_20.cfm

Results



- 1. Tests identified weaknesses**
- 2. Corrections were made to capital and concentration risks**
- 3. PMI Australia's rating is higher than its parent rating**
- 4. International recognition as strong & robust for banks and mortgage insurer market.**
- 5. SO YES, SOMETIMES YOU CAN KNOW WHAT YOU DON'T KNOW AHEAD OF TIME**

Summary of ERM Process



1. A healthy check and balance process to address divergent views. ERM does not dictate business but clarifies what is at risk to the company and why
2. Shifts focus from having a right or wrong “number” to understand and document methods and assumptions behind the numbers as well as clarify the change process for those assumptions and methods
3. Allows focus on company rating and the impact of profit volatility on that rating
4. Issuing a policy is to take on risk. Managed risk needs to be measured. Not measuring is gambling

Summary of ERM Process



5. ERM Internal Feedback Loop allows clarity of risk dialogue. Sets the “risk grammar” for the company.
6. Internal Models are scientific-based baselines to verify actual to expected (increasing competence via an organized learning process based on clear accountability)

Contact Details



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