

The Actuarial Profession
making financial sense of the future

Risk & Investment Conference 14 June 2010
Andrew Hitchcox, Ken McGauchey



ERM for insurance companies
– adding the investor's point of view

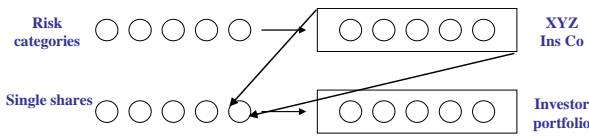
The Actuarial Profession
making financial sense of the future

Overview of paper

1. Managing risk across silos
2. Transformation of risk behaviour at different levels
3. Investor's total risk and reward at portfolio level
4. Governance of risk from investor's point of view

Source: The Actuarial Profession, 2010. All rights reserved. The Actuarial Profession is a registered charity. www.actuarial.org.uk

Managing risk across silos



Risk categories ○ ○ ○ ○ ○

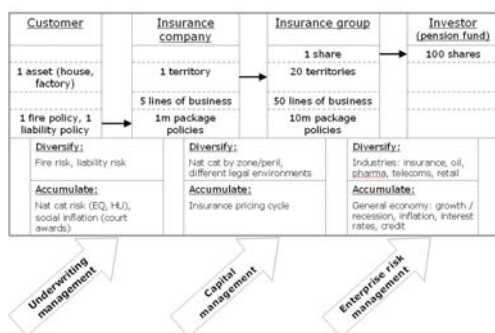
Single shares ○ ○ ○ ○ ○

XYZ Ins Co

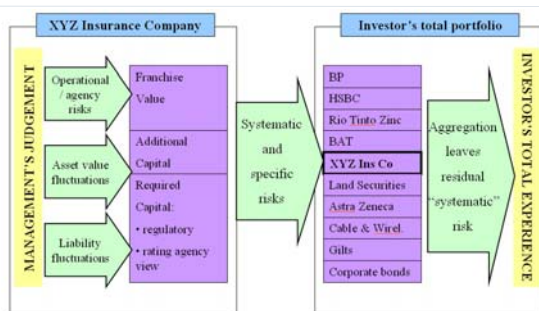
Investor portfolio

Source: The Actuarial Profession, 2010. All rights reserved. The Actuarial Profession is a registered charity. www.actuarial.org.uk

Transformation of risk behaviour at different levels



Investor's total risk and reward at portfolio level



Governance of risk from investor's point of view

| | |
|---------------------------------|---|
| Systematic risk: assets | <ul style="list-style-type: none"> correlation with financial markets impact on cost of capital |
| Systematic risk: liabilities | <ul style="list-style-type: none"> correlation with financial markets replicating portfolio |
| Large parameter / trend risks | <ul style="list-style-type: none"> hedged or unhedged mean-variance risk -versus- tail risk |
| Economic Capital adequacy ratio | <ul style="list-style-type: none"> buffer capital protect franchise value -vs- dilute ROE |
| Franchise value risks | <ul style="list-style-type: none"> correlation with macroeconomics frictional costs dilute ROE |
| Model risk: future "unknowns" | <ul style="list-style-type: none"> management judgements big part of recent financial crisis |
| Agency risk | <ul style="list-style-type: none"> behaviour of management remuneration policy |

Aligning ERM with Shareholder Disclosures

A Case Study

Internal Use Only - Not to be disclosed outside Standard Life group 2010 The Standard Life Group

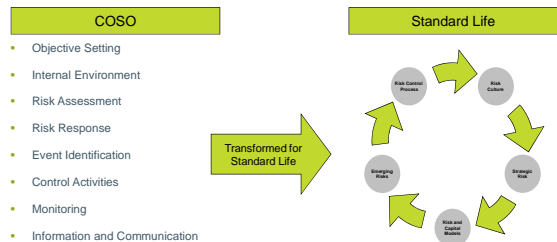
Risk management disclosures

- **Public disclosures**
 - Annual reports
 - Management updates
 - Analyst presentations
- **FTSE100 life insurance groups**
 - Aviva
 - Friends Provident
 - Legal & General
 - Old Mutual Group
 - Prudential
 - Standard Life
- **"3 lines of defence" model popular**
- **Risk policies**
- **Risk appetites**
 - Multiple metrics
 - Qualitative and quantitative

Demonstrating relative consistency

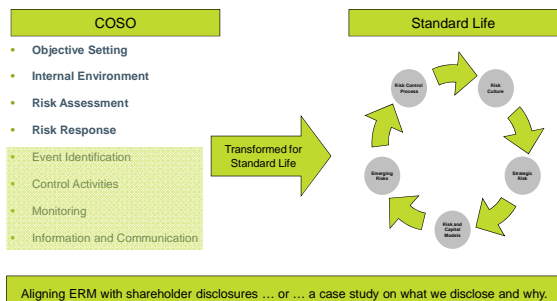
Is this recognising the shareholder as the ultimate customer?

Two Alternate views of the ERM world

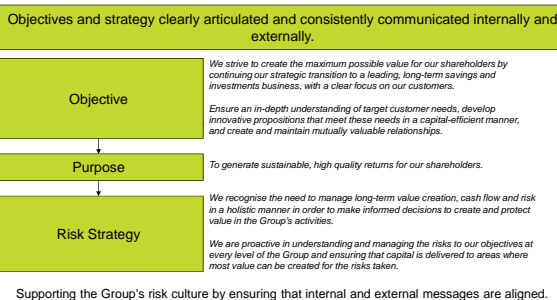


Aligning ERM with shareholder disclosures ... or ... a case study on what we disclose and why.

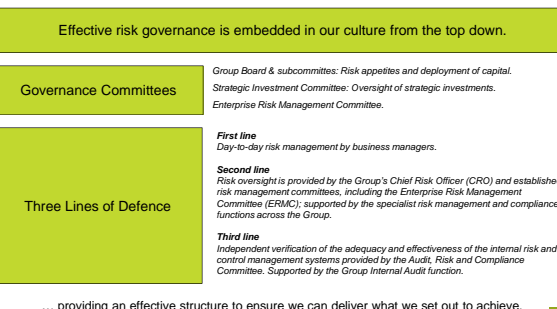
Two Alternate views of the ERM world

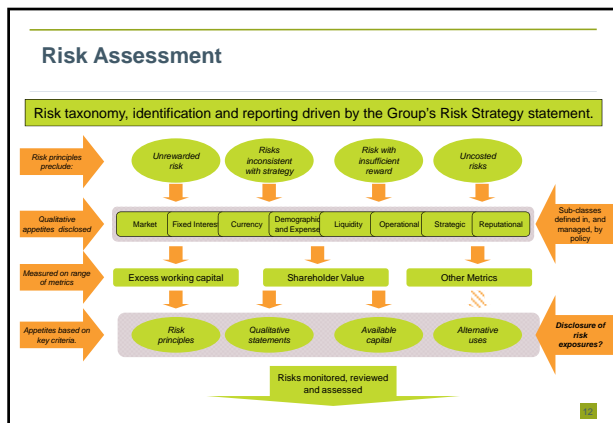


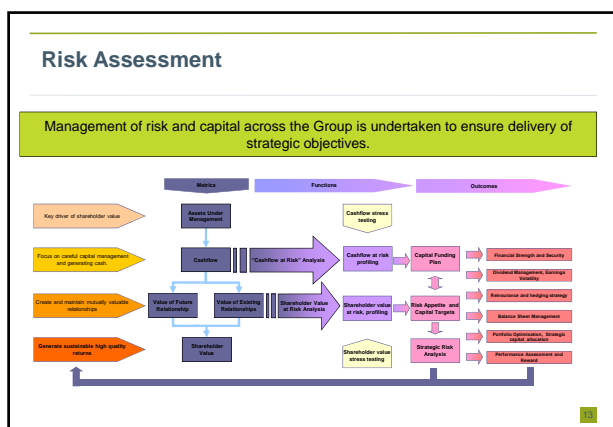
Objective Setting

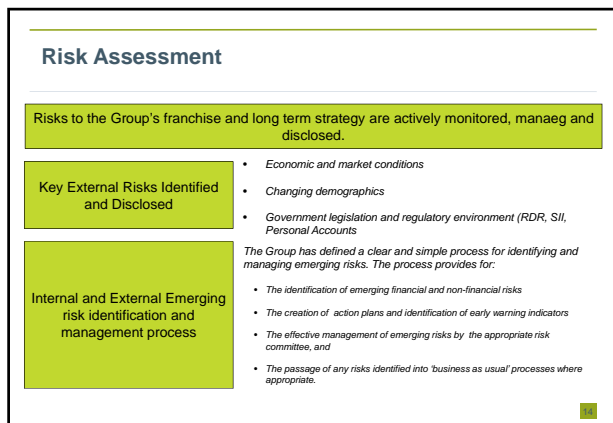


Internal Environment









Risk Response

| Purpose / Objective | Risk Targeted |
|--|----------------------------|
| Hedging of equity risks associated with "high guarantee" UWP business. | Market (Equity) |
| Asset Liability Matching in annuity portfolio | Fixed Interest |
| Reinsurance of £6.7bn of annuity liabilities. | Longevity |
| Management of SL Bank's funding requirements | Liquidity |
| Restructuring of Global Liquidity Funds | Liquidity |
| Restructuring of cash funds | Operational / Reputational |
| Sale of Standard Life Bank to Barclays | Liquidity |
| Operational Risk and Control Initiatives | Operational |

Internal Use Only - Not to be distributed outside Standard Life Group 2010. The material is confidential.

11

Governance of risk from investor's point of view

| | |
|---------------------------------|---|
| Systematic risk: assets | <ul style="list-style-type: none"> correlation with financial markets impact on cost of capital |
| Systematic risk: liabilities | <ul style="list-style-type: none"> correlation with financial markets replicating portfolio |
| Large parameter / trend risks | <ul style="list-style-type: none"> hedged or unhedged mean-variance risk -versus- tail risk |
| Economic Capital adequacy ratio | <ul style="list-style-type: none"> buffer capital protect franchise value -vs- dilute ROE |
| Franchise value risks | <ul style="list-style-type: none"> correlation with macroeconomics frictional costs dilute ROE |
| Model risk: future "unknowns" | <ul style="list-style-type: none"> management judgements big part of recent financial crisis |
| Agency risk | <ul style="list-style-type: none"> behaviour of management remuneration policy |

Internal Use Only - Not to be distributed outside Standard Life Group 2010. The material is confidential.

12

Risk Assessment Revisited

Some risk information provided either formally or informally on IFRS, IGD and EEV bases:

- Interest Rates
- Equity and Property
- Credit
- Longevity
- Other Mortality
- Lapses
- Risk Discount Rates

Well trodden issues remain relevant:

- Unclear calibration;
- Principles and regulation based, not management's view?
- Lack of allowance for interactions, second order and tail effects;
- Limited data on correlations (either quantitative or qualitative);
- Lack of focus on cash and timing of emergence of cashflows.

Will (or should?) these problems be solved by Solvency II, MCEV?

13