Enterprise risk management: does it add value and could it add more value?

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Presentation to Birmingham Actuarial Society
Birmingham
3 June 2015
Plan

• What is ERM?
• Does ERM add value?
• Why ERM is difficult and what can we do about it
  • Identifying risks
  • Measuring risks
  • Working out what action to take (the risk appetite problem)
  • Organising risk management
• Conclusions
WHAT IS ERM?

- COSO: “A process, effected by an entity’s board of directors, management and other personnel, applied in a strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives”
I would prefer...

- Risk is where outcomes are uncertain
- ERM is where a firm has the amount and type of risks that are best for its objectives
- i.e. it takes decisions and runs its operations consistent with this
- Assume a firm’s objective is shareholder value (what for a mutual?)
- ERM covers upside and downside risk
- And it is not just about regulation
Choosing between more and less risky courses of action – theory (1)

- For each course of action, consider: (1) what are the risks, (2) full range of possible outcomes of those risks, (3) their probabilities, (4) effect on shareholder value.

- Shareholder value is the value of the firm including goodwill; reflects all possible future outcomes; and is after the compensation shareholders require for risk-bearing (depends on correlation with other risks they bear).
Choosing between more and less risky courses of action – theory (2)

- More risk may bring more profit but also
  - Higher costs of planning and co-ordination
  - More taxes (depends on tax regime)
  - Lenders, employees, suppliers, customers require compensation for risk
- *Financial distress costs may > upside risk benefits

Diagram:

- Interest rate risk → Balance sheet → Embedded value → Shareholder value
- People risk → Shareholder value
- Competition risk → Shareholder value
In practice...

- Simplified rules needed for day-to-day risk management
- ISO 31000 makes some useful points, e.g.
  - Integral part of firm processes;
  - Explicitly addresses uncertainty;
  - Systematic, structured and timely;
  - Takes human and cultural factors into account
DOES ERM ADD VALUE?

• Surely it must be good to examine risk in a holistic, structured way, consistent with a firm’s objectives?

• Good to look at all risks together (not fully correlated, and hard to separate risk types)

Survey of US firms that had, in 2005, used ERM

AIG  Lehman Brothers
Adding value: the evidence

<table>
<thead>
<tr>
<th>ERM measure</th>
<th>Scope</th>
<th>Measure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appointing CRO(^1)</td>
<td>US firms 1992-2003</td>
<td>Cumulative abnormal return</td>
<td>No effect</td>
</tr>
<tr>
<td>Using ERM(^2)</td>
<td>US insurers 1998-2005</td>
<td>Tobin’s Q</td>
<td>+20% on value</td>
</tr>
<tr>
<td>Using ERM(^3)</td>
<td>US insurers 1992-2007</td>
<td>Stock volatility</td>
<td>Reduces by 12.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Profit per risk</td>
<td>Increases by 2%</td>
</tr>
<tr>
<td>Using ERM(^4)</td>
<td>US gen ins 2000-07</td>
<td>Tobin’s Q</td>
<td>Reduces by 5%</td>
</tr>
<tr>
<td>S&amp;P ERM rating(^5)</td>
<td>US insurers 2007</td>
<td>Tobin’s Q</td>
<td>Positive to ERM(^3) only or no effect</td>
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UK: 2008 benefitted from having learned the risk management lessons of 2000-03?
US banks 1995-2010; RMI is an index to reflect strong and independent risk controls

High RMI linked to banks that are profitable, have high % independent directors

High RMI linked to low tail risk, low % bad loans, better operating performance, share returns in crisis years (no link with share returns in non-crisis years)

... though RMI may focus on downside risk
ERM may add value for managers

• Why do some US gold-mining firms hedge gold price risk less than others?
  • if managers had high number of share options, low number of shares

• We typically find that more share options for directors are associated with more risks being taken
IDENTIFYING RISK

Risk disclosures

Easyjet 2010: Event causing widespread disruption, e.g. epidemics, pandemics, forces of nature (extreme weather, volcanic ash etc) and acts of terrorism

2009: volcanic ash not there!

- BP 2009: yes, drilling for oil is risky
- Barclays 2007: from a textbook?
- RSA: what went wrong in 2013?
Identifying risks: some lessons

• Don’t restrict to regulators’ categories
  • Include strategic risks to business model
• Include gradually emerging medium-term risks/opportunities
• Include ‘demand’ as well as ‘supply’ risk
  • The size of the market
  • Competition
  • Not only reputation (it isn’t a risk, it is at risk)
• Financial risks: Turner: Mis-placed reliance on sophisticated maths: inherent or fixable?
  • Models ok for ‘ordinary’ risks? but what about 2008? And for Solvency II?
  • Aviva: six 1-in-200 events in last 100 years?
• Natural risks: Tohuku earthquake 2011: official hazard map max 7.7; magnitude 9.1
• Operational risks: Challenger shuttle failure: probability 0.001% (mgt); 1% (engineers)
Convert probabilities to stresses
FSA risk capital margin for with-profits

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*Also credit spreads and persistency
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<td>15-year UK government bond yield</td>
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Stresses

• Haldane, Bank of England (2009): No incentive for banks to run severe stress tests:
  • With such a severe shock, the bankers would lose their bonus and possibly their job
  • The authorities would step in to save the bank
• How stressful should stress tests be?
But stress tests can help

- More transparent, understandable
- Freed from the probability dilemma

- Include non-standard stresses, such as threats to business model
- Include risks where probabilities difficult
- Can incorporate management actions
- Scenarios over time; second-round effects
### Measurement holistically
An example from pensions (1)

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DECIDING WHAT TO DO
The problem of risk appetite

• I have an appetite for all risks that increase shareholder value (SHV)
• Can you have a ‘prudent’ risk appetite if that means you reduce SHV?
• Need to understand the risk/SHV link
  • Difficult, especially if models focus on solvency and embedded value not SHV
• Risk appetite is about types as well as amounts of risk: can help focus on what you are good at
When adverse events occur... 
...not easy

- Easyjet 2010: Processes in place to adapt to widespread disruption. A business continuity programme is in place.
- Just Retirement Holdings 2012: The Board keeps a close watch on regulatory developments and trends in order to be able to respond quickly to any change in the regulatory environment.
• Walker (2009) recommended, for FTSE100 banks and life insurers:
  • Board Risk Committee for forward-looking risks, focussing on main prudential risks, chaired by a NED and with NED majority
  • High-level CRO independent of BUs, for all risks
  • Advise on risk weightings for performance objectives
• Similar PRA rule extended to general insurers
• There already were BRCs (e.g. Northern Rock)
Organising risk management
What Walker did at Barclays...

- Financial Risk Committee
- Conduct, Reputation and Operational Risk Committee: a key focus has been on monitoring the cultural change underway in the organisation
- Enterprise Wide Risk Committee: provides a useful opportunity for a more wide-ranging and freethinking debate about possible risks that might emerge
- All members of these committees were NEDs
In practice... 21 UK listed insurers (research in progress: 2014 accounts)

- 20 have a CRO (10 are actuaries)
- 17 have a Board Risk Committee (and 2 have a Board Audit & Risk Committee): typically cover all risks
- Some review all risk/remuneration issues
- Some risk functions focus on compliance
- 83 Risk Committee members: only 1 executive director: audit focus? Maybe whole Board for strategic discussion on risks?
Mikes’ survey of investment banks

Compliance
Build risk framework to comply with rules
CRO is compliance champion

Quantitative techniques
Sophisticated risk modelling on a firm-wide basis

Strategy
Strategic advisers: Quantitative sceptics; use models but build in commercial experience
OR Strategic controllers: Quantitative enthusiasts; big role for models in allocating capital using risk-adjusted rate of return
Concluding thoughts

• The theory of ERM is hard to apply in practice
• But the discipline of ERM can be beneficial: better to try and understand risks and work out management strategy than not to try
• Could we do better?
  • Understand the link between risk and value
  • Risk incl ‘demand’ & opportunities not just audit
• ERM has limitations and needs judgment, but can help the judgments that managers have to make