Risk Management
5: ERM Frameworks and Assessment

Reading:

- Sweeting: Chapter 19, sections 19.2, 19.3
- COSO: ERM Integrated Framework (short and long versions)
- S&P: Evaluating the ERM Practices of Insurance Companies
- IAA: All, but especially Appendix 2 links to S&P

Comments: these cover many ideas still to be discussed in detail
Message: ERM involves complex and multidimensional processes with many quantitative and qualitative elements that can take many years to work from nothing to "Excellent ERM"

Introduction

As remarked in earlier units good ERM corporate governance alongside relevant laws and regulations

$\Rightarrow$

a company needs a good general ERM framework

Introduction

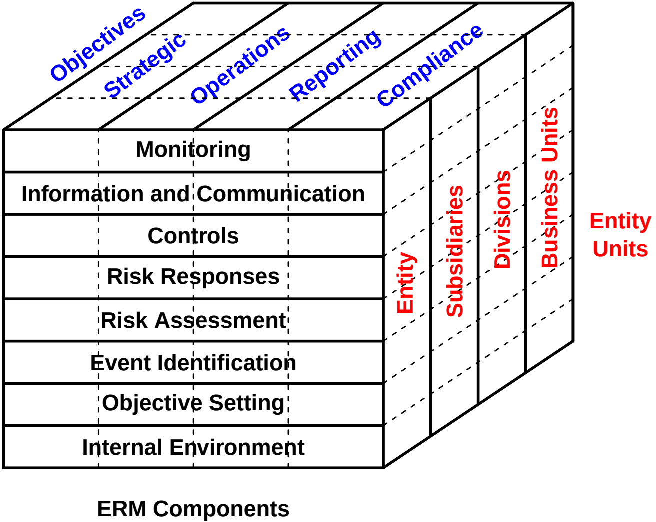
- Unit 5.1: the COSO framework; The IAA ERM Practice Note
- Unit 5.2: S&P Review of an insurance company's ERM framework, part 1
- Unit 5.3: S&P Review of an insurance company's ERM framework, part 2

Unit 5.1: the COSO Framework and the IAA ERM Practice Note

COSO: ERM Integrated Framework

- In general the underlying purpose of running a business is value creation
- Aim: optimal balance between risk and return
- A good ERM framework includes the following:
  - align risk appetite/tolerance & strategy
  - identify and select risk responses
  - avoid pitfalls and surprises
  - integrated management of inter-related risks
  - identify and realise opportunities
  - more effective capital allocation

COSO Risk Cube



Entity units

- ERM needs to be thought about in different ways at different levels $\Rightarrow$
  - different ERM objectives
  - different ERM components
  - e.g. big picture $\leftrightarrow$ very detailed

Objectives

- Strategic
  High level goals well formulated
- Operations
  Effective use of resources: assets, people, etc.
- Reporting
  Reliable and timely
- Compliance
  adherence to laws and regulations

- ERM Components
  - Internal Environment
    - ERM philosophy
    - Setting risk appetite
    - Culture
  - Objective Setting
    - Process to set objectives
    - Align with risk appetite
  - Event Identification
    - Risks
    - Opportunities
  - Risk Assessment
    - Likelihood
    - Impact
    - Quantification
    - Dependencies/correlation
  - Risk Responses
    - Accept
    - Reduce
    - Share
    - Reject/avoid
  - Control Activities
    - Ensure risk responses implemented effectively
  - Info. & Communication
    - Timeliness
    - Enable effective ERM implementation
  - Monitoring
    - Whole ERM process
    - Individual components
    - Modify processes and actions
    - Emerging risks
    - New opportunities, tools and techniques

PLUS: *interaction between boxes*

IAA

Commentary:

- Whole document covers all aspects of the ERM process, so similar in scope to COSO
- Appendix 2: similar ideas to the S&P document ERM for Insurers
- So okay to spread the reading of the IAA practice note over a few weeks.

Summary

- The COSO Risk Framework describes a general approach to setting up and developing your ERM capabilities in all its forms across the enterprise
- ERM objectives and activities need to be appropriate for the level of entity unit

Unit 5.2: S&P: ERM for Insurers Part 1

S&P: ERM for Insurers

This is NOT: about credit rating

This is not a framework (e.g. as in COSO), but it is a comprehensive guide to assessing four framework
$\Rightarrow$ What needs improvement?
Approach: Criteria used to assess success of ERM framework

1. Risk management culture
2. Risk control
3. Extreme event management
4. Risk models
5. Economic capital
6. Strategic risk management

The criteria can be easily adapted for application in other financial and non-financial settings.

S&P Risk Management Culture

16 culture indicators

- Board access for risk managers
- Clearly articulated risk tolerance
- Influential person responsible for ERM (e.g. CRO)
- Regular board reports
- ERM staff quality
- Co-ordinated objectives throughout organisation
- Salary/incentive structure
- ...

Homework: compare this list with the COSO and IAA documents
Look for common themes or differences

S&P: examples of good and poor cultures

- A: *"... governance ... supports effective RM through board access, authority and management reporting relationships for risk managers"*

  versus
- B: *"RM ... purely advisory role, solely in response to regulatory requirements or non-existent .... Access to board is ad hoc."* $\Rightarrow$
  - ERM not a well organised activity and not important
  - Regulations $\Rightarrow$ ERM seen as a constraint
  - ERM not seen as adding value for shareholders

S&P examples of articulation of risk appetite/tolerance

- A: *"clearly articulated risk tolerance ... consistent with goals and resources of firm and expectations of board and shareholders"*
  versus
- B: *"... risk tolerance unclear and varies from situation to situation"*

S&P examples of articulation of risk appetite/tolerance

- A: *"clearly articulated risk tolerance ... consistent with goals and resources of firm and expectations of board and shareholders"* $\Rightarrow$
  - well thought out
  - realistic
  - appropriate

S&P examples of articulation of risk appetite/tolerance

- B: *"... risk tolerance unclear and varies from situation to situation"* $\Rightarrow$
  - not well thought out
  - possible misinterpretation
  - no consistent use of ERM moving from group $\rightarrow$ subsidiaries $\rightarrow$ units
    $\Rightarrow$ group/aggregate ERM is in chaos
  - Does anyone have overall responsibility for ERM?

Homework: consider remaining points and explain $+/-$ of each indicator

Objective: propose a strategy for getting from *poor* to *good*

Summary

- Have an understanding of the criteria used by S&P to assess ERM capabilities
- Aim: to recommend how a company can improve from weak ERM to strong ERM

Unit 5.3: S&P: ERM for Insurers Part 2

Part 1: criteria for assessing ERM culture
Part 2: criteria for assessing other important aspects of ERM

S&P Risk Control

	6 indicators	Control Cycle?
1	risk identification	Yes
2	risk monitoring	Yes
3	standards and limits	Yes
4	risk management (responses)	Yes
5	enforcement of limits	Yes, monitoring of different type
6	learning	Partly (*)

PDF Table 3: good and bad indicators of risk controls
(*) E.g. the loss post-mortem process: was a loss a *possibility*? do we need to improve processes, models etc.?

Extreme Event Management

Good ERM $\Rightarrow$ must pay attention to:

- Everyday risk; and
- Low-frequency/high-impact events

(Recall: extreme event risk in the operational risk chapter)

Extremes $\Rightarrow$ usual control processes might not work so well

Do you have alternative or additional controls or plans in place to manage extreme event risk?

Extreme Event Management:

Good ERM activities:

- Statistical analysis includes:
  - extreme value theory
  - dependencies/copulas
  - model and parameter risk
- A range of stress and scenario tests
- Evaluation of the impact of extremes:
  - financial impact
  - liquidity (avoid "fire sale" of assets): funding liquidity risk
  - reputation

and evidence that this is not just treated as a routine checklist

Extreme Event Management:

Good ERM $\Rightarrow$

- Evaluation of the impact of extremes (continued):
  - contingency plans
  - risk mitigation already in place
    adequate and reliable? ...... counterparty credit risk?
  - operational risks
  - black swans
  - early warning system + rapid reaction plans
  - crisis management process

Risk models

- Indicative measures of risk:
  Accounting system + historical financial positions
  $\Rightarrow$ historical trends in risk factors, exposures etc.
- Predictive risk measures $\Rightarrow$
  Simulation model + risk measure
  Timeliness is important
- Sensitivity risk measures
  Sensitivity of financial position to changes in key input factors

Economic capital (EC) (later chapter)

- How much money do you need to run the Group with its current volume of business?
- EC can be equated to minimum regulatory capital (EC_{reg})
- .... but other interpretations as well
- Is EC calculation:
  - Formula based? (standard or customised)
  - Model based?
- S&P: How is EC being calculated and aggregated/disaggregated?
  $\Rightarrow$ economic capital allocation
  and how is it being used to inform risk management actions?

Strategic Risk Management

- 6 components
- Includes: optimising risk-adjusted return

Summary

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- Aim: to recommend how a company can improve from weak ERM to strong ERM