Enterprise Risk Management

Presented by Rotimi Okpaise *B.Sc, ASA, FIA*
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Index

1. Introduction
2. Definition of Risk and ERM
3. Financial & Non-Financial Risk
4. Example of Mitigating Actions
5. Risk Measurement
6. Example of Leading Global Insurer

Introduction

"One of the common denominators I have found is that *expectations* rise above that *expected*"

– George W. Bush, US President

ERM is really about managing the Outcomes of Expectations.

Lets briefly discuss a recent UK Insurance experience – Independent Insurance

Introduction: Independent Insurance

- UK based General Insurer
- Specialised in General and Public ***liability*** business

Volatile

- Premium Income in 2000 was about $830million.
- Premium Growth Rate 1999/2000: 64%
- *Published* Technical Reserves were independently certified by an Actuary

- Legal environment changed in the late 1990's leading to higher costs of settling claims.
- It was discovered that company was not processing/recording all claims in their register/accounting system.
- Actuary refused to sign off technical reserves as he no longer had an accurate assessment of the business

Revision in Technical Reserves

- ***Fraud***
- ***Operational Flaw***

Consequences

↓

Company Failed in 2001

↓

It could no longer meet its obligations

Why?

↓

- ✓ Change in Legal Environment – *Legal Risk*
- ✓ Rapid Business Growth – *Insurance and Operational Risk*
- ✓ Fraud – known claims not processed
- ✓ Ineffective Corporate Governance

- Example illustrates how the actualisation of *risk* exposures can SUDDENLY threaten an enterprise's existence

Risk

Definition:

The threat that an *event* will adversely affect an organisations ability to;

- maximise Shareholder Value, and
- achieve its business objectives/strategies.

Events could be missed opportunities or, possible threats.

Note from the definition that objectives and strategies must exist for risk to be relevant.

The further the ‘outcome’ is from the “expected” the more the exposure to risk (ruin).

Examples of enterprise objectives:

1. Being Technically Solvent
2. Ensure no statutory interference etc
3. Target ranges in the coming year for
    - Earnings per share
    - Dividend policy
    - Premium Growth Rate
    - Company Industry Ranking
4. Meeting Agency rating requirements

Examples of events can threaten an enterprise's objectives will be discussed a bit later but I give 2 examples below:

- Fall in asset values with no corresponding fall in liability exposure

Market Risk

- Claims pattern could significantly differ than anticipated

Insurance Risk

ERM

ERM is essentially a *process* of identifying risks within the enterprise and establishing methods of *managing* these.

"The process by which organizations in all industries assess, control, exploit, finance and monitor risks from all sources for the purpose of increasing the organization's short and long term value to its stakeholders."

- Casualty Actuarial Society, 2003

For our purposes today we will discuss risk under two headings;

- Financial Risks
- Non Financial Risks

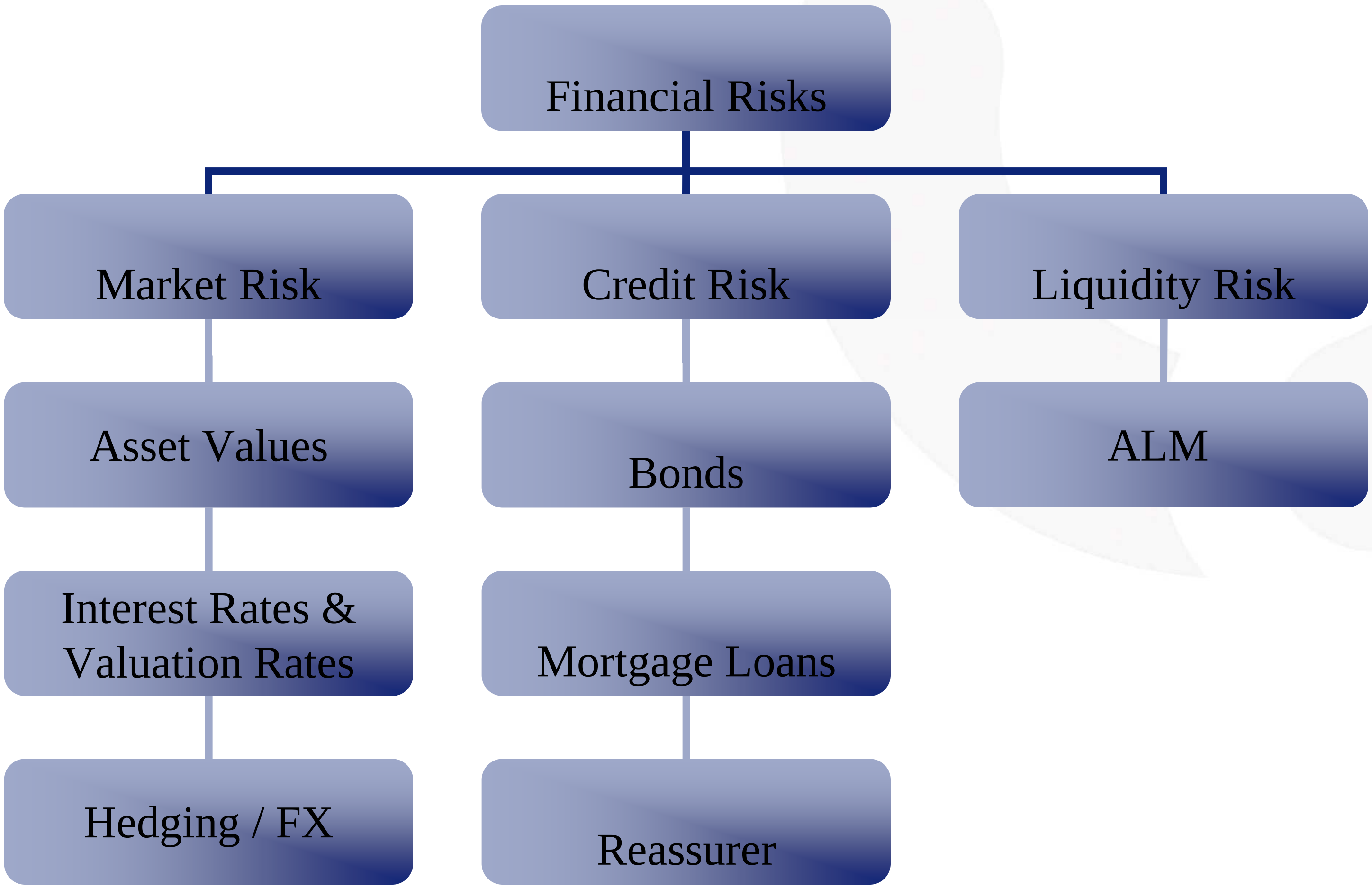
Financial Risk

Market Risk	The risk of an adverse change in the value of, or income from assets – without a corresponding change in the value of liabilities.
Credit Risk	The risk that a related party will fail to meet their obligations
Liquidity Risk	Inability to meet obligations, though solvent. - cashflow strains

Non Financial Risk

Insurance Risk	Risk that technical outcomes adversely exceed the expectations included in liability estimations (premiums, reserving)
Operational Risk	Risk of losses arising from failures of *internal* processes, systems people or from *external* events – legal (courts), regulatory, business climate

Risk contd...



Financial Risks
Market Risk
Credit Risk
Liquidity Risk
Asset Values
Bonds
ALM
Interest Rates & Valuation Rates
Mortgage Loans
Hedging / FX
Reassurer

Non Financial Risks

Insurance Risk

- Experience – claims, lapses, longetivity
- Expenses
- Investment Returns
- Product design (e.g. gtees)

Operational Risk

- People
- Process
- System

Operational *Risk*

Risk	Exposure Types	Risk	Exposure Types
People	• Skills/people adequacy/ training • Key person risk • Internal fraud/collusion	Systems	• Software risk • Hardware risk
Process	• Client service and interaction • Contract and documentation • Data input risk • Reassurance omission • Internal management information • Mis-selling • Agency data controls	External Events	• Legislative/Regulatory risk • Third Party liability • External fraud

ERM aims at limiting (not necessarily eliminating) operational 'surprises' and should ideally be adopted by all companies.

The level of sophistication employed will reflect the organisation's need/drive/capabilities.

ERM is most useful in companies with limited working capital and expected high /reasonable returns on capital employed.

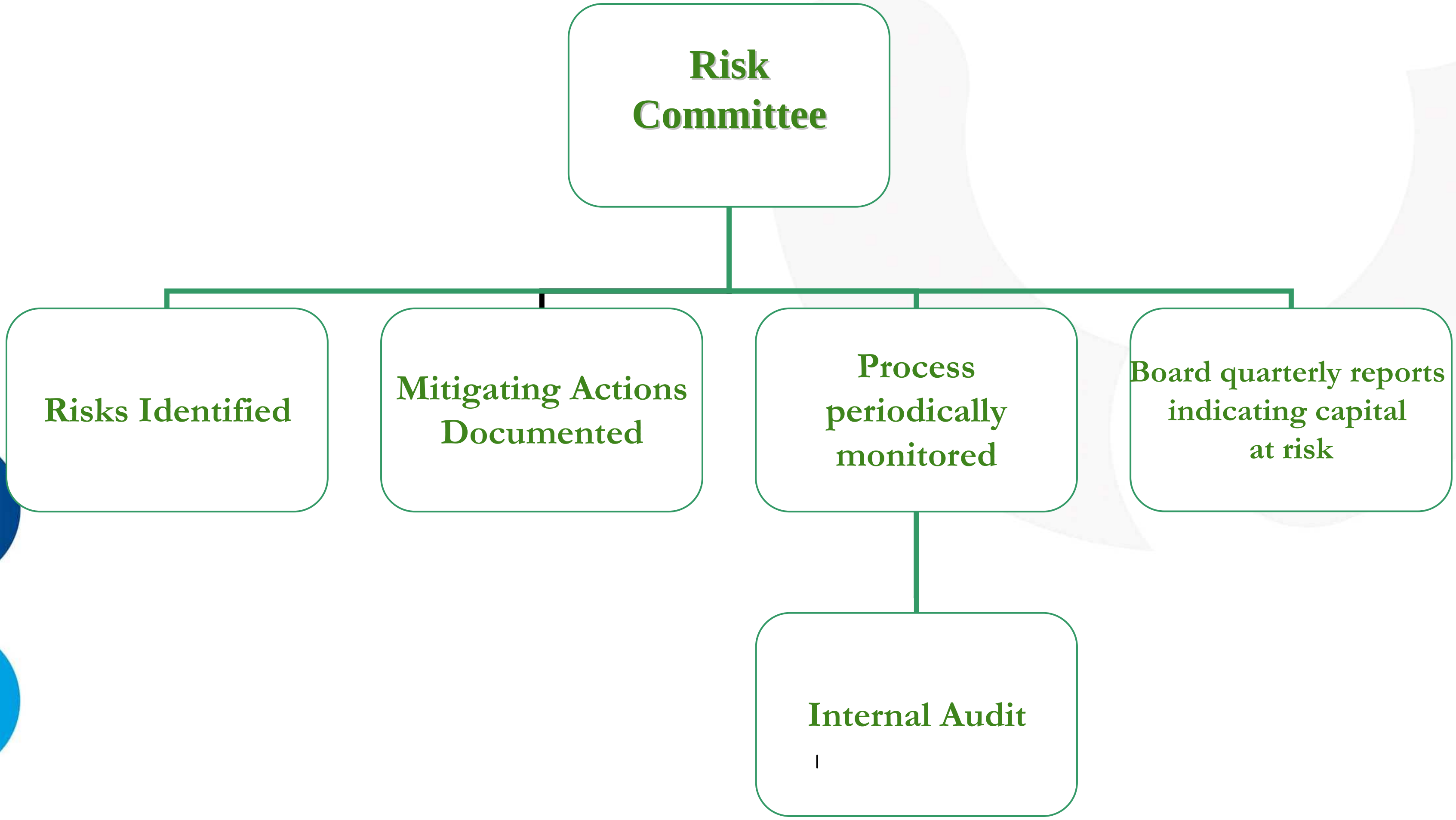
On the other hand, a company with sizeable capital and undemanding return targets can afford to relatively relax.

Ideally the Board should drive the enterprises approach to ERM by articulating the risk tolerance/appetite.

The Board could require management to;

- articulate the risks the company is exposed to and establish mitigation processes
- prepare periodic reports indicating the capital at risk

Example of Risk Management Culture



Example of Mitigating Actions

Market Risk	• Create investment committee and possibly a risk committee • Appoint knowledgeable members to these committees possibly including at least one (1) external independent member • Committees to articulate investment and risk strategies ✓ range of limits for asset type (i.e. portfolio mix|)– with reasons why ✓ Criteria for stock selection within sector e.g. quoted, rated etc with reasons why ✓ Sector and portfolio performance targets • Monitor and report performance
Liquidity Risk	• Routinely project enterprise income/outgo (quarterly) • Embrace ALM

IT Risk	• Installation of anti-virus software • Acquisition of necessary power back-up system • Establishment of offsite backup office and data recovery plan, etc • Use of security passwords • Employment of adequate staff
Legal Risk	• Use of lawyers to vet every agreement (including policy documents) • Define service level agreements with suppliers etc

Risk Measurement

Typically, risk will be measured applying statistical methods aimed at quantifying *volatility*.

Probability distributions of the losses will be created for each main risk.

Alternatively scenarios could be developed to illustrate potential impacts on losses. The average results from these scenarios, could be assumed as the risk capital needed.

Such scenarios will relate to:

- Claim frequency and severity
- Expenses
- Reassurer failing etc

Being higher than current experience

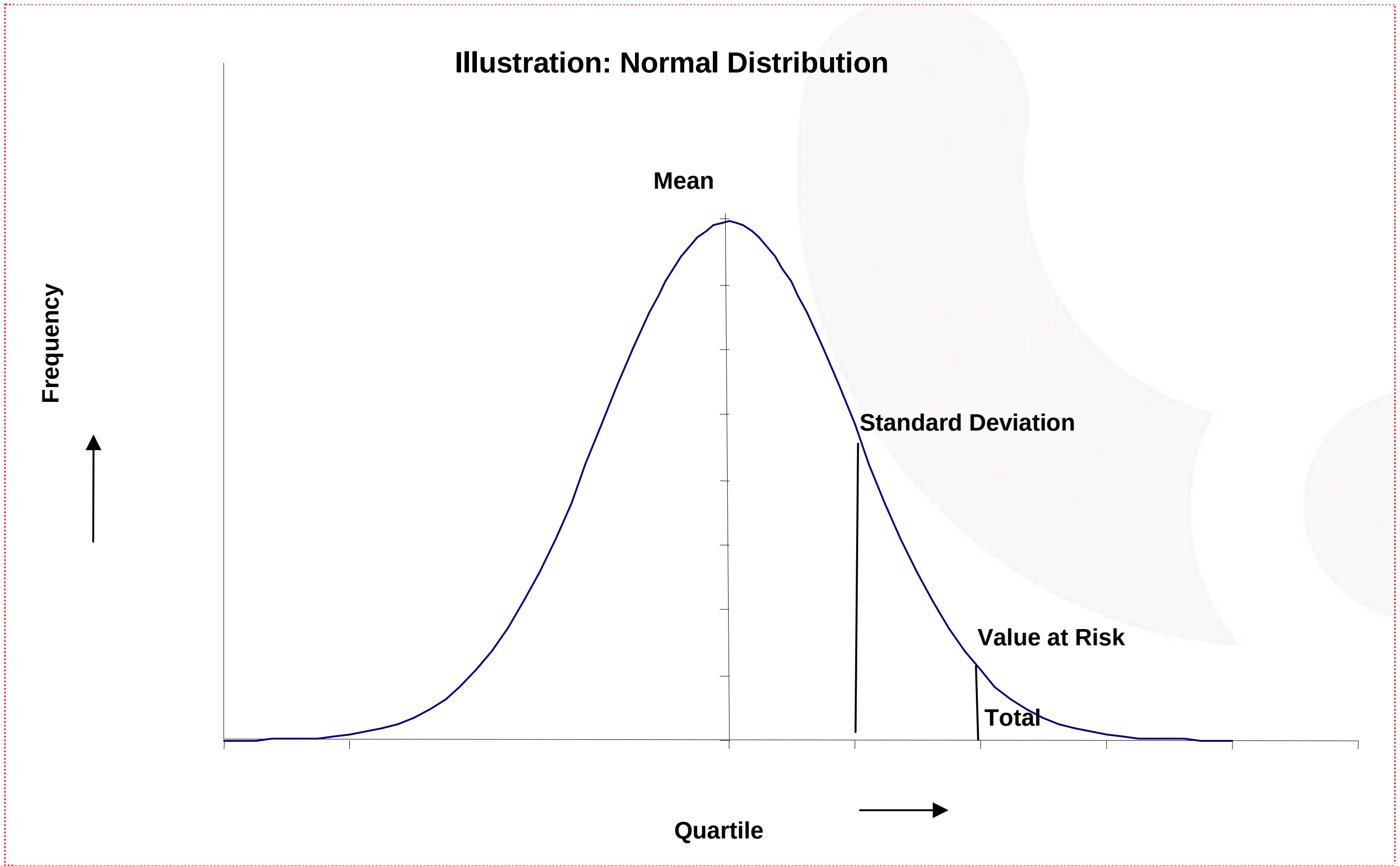


Illustration: Normal Distribution
Mean
Frequency
Standard Deviation
Value at Risk
Total
Quartile

The aim is to be able to state with a level of confidence (say 99%) that losses from each risk measure will not exceed Ny million and that the capital needed to support losses in excess of the stated amount is, Nk million.

The capital for each risk will be combined to obtain the capital needed to ‘protect’ the enterprise over the time horizon (1 year).

This is sometimes called the Economic Capital (EC).

Increasingly, EC is becoming important in the management of insurance as it is an informed ingredient in the allocation of capital to;

- Overall management
- A product line

Risk Management

- It would seem that ERM will ascend in corporate cultures.
- Recent failures in the financial sector - Barings, Equitable Life, Enron, Bearn Sears, M Lynch, Lehman Brothers etc, can to an extent each be linked to defects in the ERM culture
- Leading financial professions have started to alter their training curriculum to incorporate courses on RM and leading universities have started offering Master degree programs on RM
- The FSA in the UK have risk management documents targeted specifically at insurers and make 'surprise' visits to inspect its workings. In essence it is compulsory every insurer has a risk management operational framework.

Rating Agencies

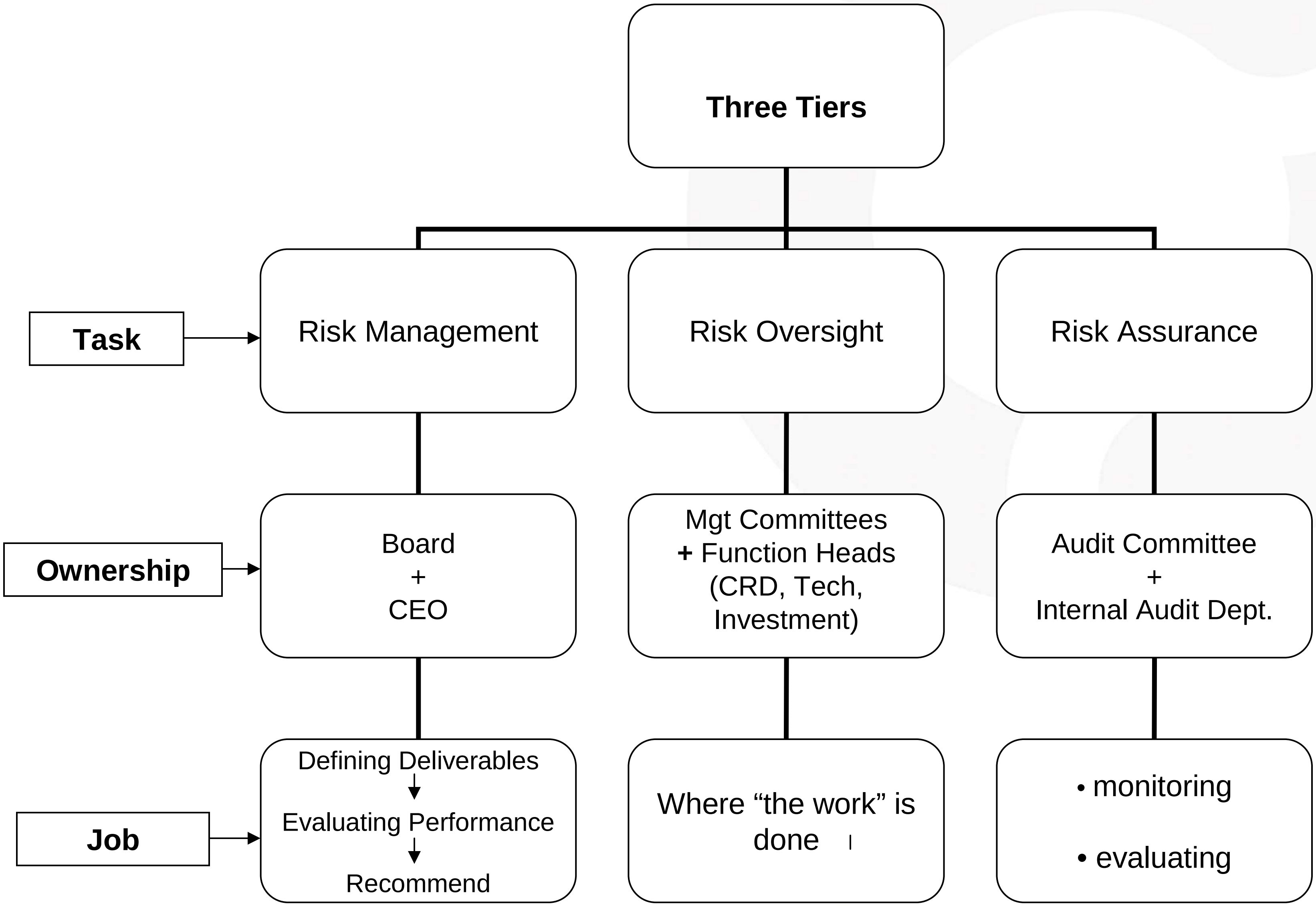
The practice of ERM is a key component of the evaluation process carried out by rating agencies. I show below an extract of the qualifications given insurers by a leading global rating agency.

ERM Rating	Comment
Weak	• Inconsistent or limited ability to identify, measure, manage major risk exposures • inadequate control process for one or more risk
Strong	• Clearly and consistently applies risk management in all decision making aimed at optimising returns • Has a robust process of identifying and preparing for future risks • Risk control processes well documented and implemented • Company top/down has a clear vision of risk tolerance, impacts and profile

Example of a Leading Global Insurer

Definition of Company Business	The managed acceptance of Risk.
Risk Attitude	Company has installed a group-wide proactive policy to identify, assess, control and monitor risk.
Company believes this attitude; • gives it a competitive advantage • enhances its embedded and franchise value	

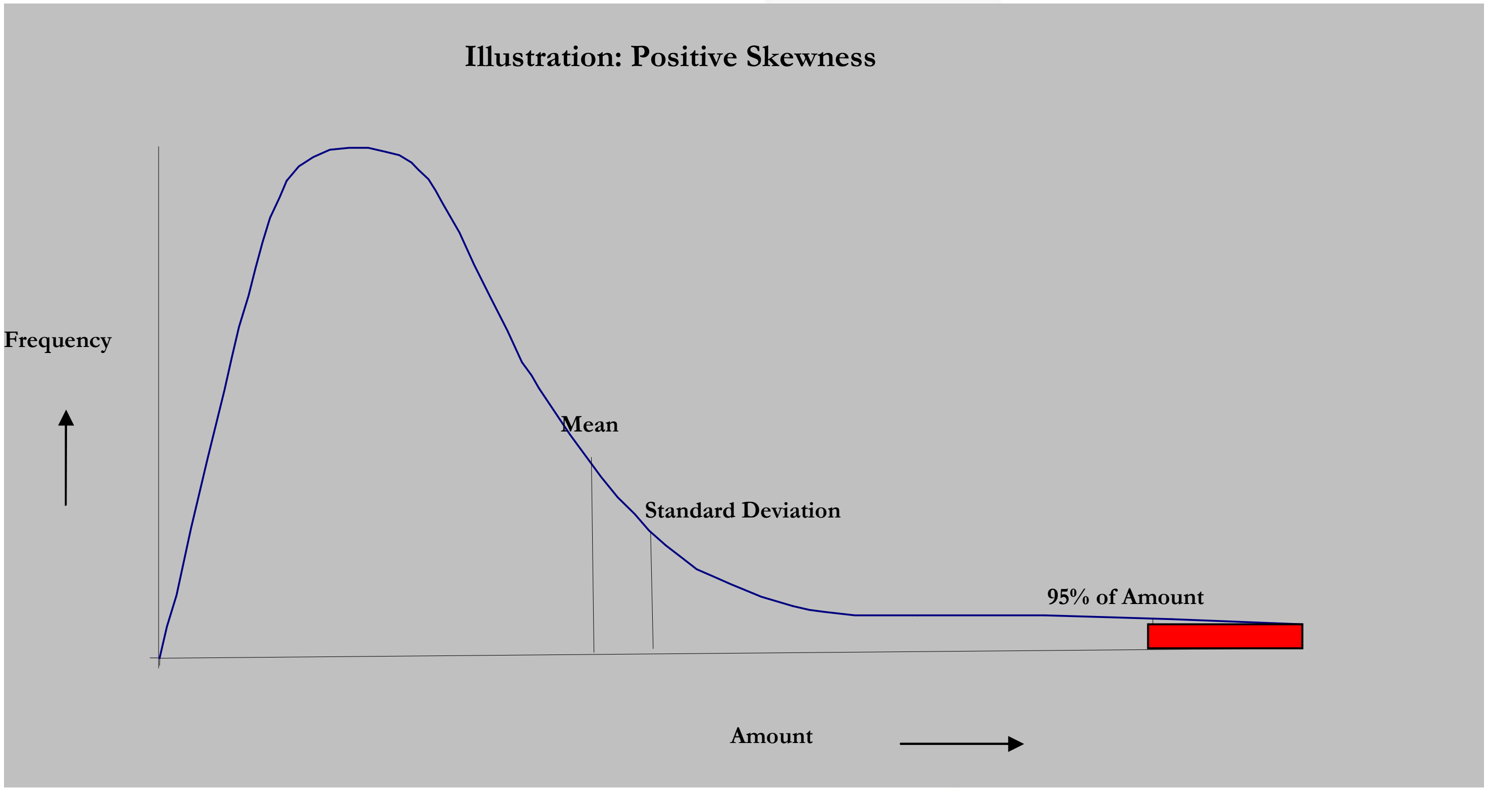
Risk Governance Structure



Risk Limits	- No risk should jeopardise the company's earnings and capital objectives.
Earnings Objective	- Earnings meet all outgo's – salary and welfare, fees, claims, debts, dividends etc. - Earnings volatility within a stated range.
Capital Objective	- company solvent - regulatory intervention avoided - target rating (e,g, A+) achieved

Risk (Economic) Capital.

Capital required to withstand a maximum loss over the next year with a confidence level of 99.5%.



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