ERM – The wider context

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Networking event: ERM for pension funds and their sponsors

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Agenda

- ERM: what is it and why the current interest?
- Enhancing pension scheme modelling
- Enhancing pension scheme governance

Definition of ERM (1)

- Chapman (2006) summary definition:
  - "*a comprehensive and integrated framework for managing company-wide risk in order to maximise a company's value*"
- Lam (2003):
  - "*ERM is all about integration, in three ways:*
  - *... an integrated risk organisation;*
  - *... the integration of risk transfer strategies;*
  - *... the integration of risk management into the business processes of a company*"

Definition of ERM (2), from Kemp and Patel (2011)

- **A framework, using risk as the core building block, to enable key business decisions to be aligned with inherent risk**

- Involves holistic (‘enterprise’-wide, i.e. ‘entity’-wide) management of risk and (usually) management of business/portfolio as an ‘enterprise’

ERM versus other types of Risk Management

Differentiators

- Considers all risks
- Applied across whole business
- Risk embedded into decision-making processes

Key enablers

- Commitment and leadership from the top
- Risk owned by business
- Supporting risk management function
- Effective communication to all stakeholders of how risk is managed

Why the current interest?

- Trend towards improved (enterprise) risk management disciplines across entire financial sector and beyond:
  - Risk management weaknesses seen as contributing to crisis
  - UK Walker review, CRO, increased Board focus on risk management
  - Solvency II and ORSA
  - Stress testing and reverse stress testing
  - ‘Living wills’
- Trend apparent both in UK and overseas
- Underpinned by typical three pillar regulatory frameworks

Three pillar structure of modern international regulatory frameworks

- E.g. Basel II/III and Solvency II:

  Pillar 1: Minimum (regulatory) capital requirements

  Pillar 2: Supervisory review process – *supervisors* review how *firms* themselves assess they have adequate capital

  Pillar 3: Market discipline – firms have to disclose information on adequacy of their capitalisation

- Deliberately holistic, i.e. ERM based

Entity-wide Risk Management for Pension Funds

- Sessional research paper and presentation, Feb 2011, with Chinu Patel
  - see www.nematrian.com/presentationlibrary.aspx
- **Holistic** element highly relevant, but (for profit) **enterprise** element needs refining when entity (client) is fund in isolation
- Manage funding, investment policy and sponsor covenant exposure in tandem (for a typical UK DB scheme)
  - Within a well crafted governance framework
- Also argued that actuaries offer right blend of qualitative (governance) as well as quantitative (modelling) skills to help

Clarity / transparency and coverage

- Is it clear to everyone where the scheme is heading?
  - Is a PPFM or ORSA or equivalent appropriate?
  - Living wills – what if the sponsor's business model fell apart?
  - What should be published: trading off flexibility vs. clarity?
  - Communicating with beneficiaries
- Is the balance sheet structure fully understood?
  - Analogy between pension scheme balance sheets and those of CDOs and other SPVs
- Should Investment Committees be Risk Committees?
  - Are funding, investment and risk policies typically joined up?

Some say: ERM is for insurance, not pensions

Not true:

… As long as there is a purpose and objectives, which risks can derail

… ERM is about effective planning of delivery of these objectives

Similarities

- Planning to fulfil objectives in an effective way
- Managing discretions
- Managing conflicts
- Managing people interfaces

Read across

Differences

- Specific purpose
- Limited capital-raising ability
- Different stakeholder dynamics
- Different regulatory regime
- Greater ‘social’ element

Adaptations

Agenda

- ERM: what is it and why the current interest?
- Enhancing pension scheme modelling
- Enhancing pension scheme governance

Enhancing pension scheme modelling

- Model structures should marry up with intrinsic dynamics
- Traditional ALM models may be too investment focused and not sufficiently ERM friendly, e.g.
  - Include more on sponsor covenant risk
  - Identify and communicate proportions of (investment and other) risks and associated rewards that will flow to different stakeholders

Model Example (1)

- Illustrative DB Final Salary Scheme, closed to new accrual, no discretionary benefit increases, target funding level of 100%, deficits/surpluses versus target amortised 20% each year
- Funding 'valuation' includes discount rate 1.2% pa higher than wind up valuation (equity risk premium – asset strategy 60% equities)
  - See www.nematrian.com/EntityWideRiskManagementForPensionFunds.aspx

	Priority on wind up	**Benefit value on wind up basis, assuming actual recovery (if sponsor defaults) is 100%**			
Market implied default rate:		2% pa	4% pa	6% pa	8% pa
Active*	*2 (to deferred on wind up)*	6619	6365	6163	6001
Deferred	*2*	18013			
Pensioner	*1*	34259			

* Active members benefit from salary inflation above price inflation, and hence receive higher eventual benefits the longer the scheme does not wind up

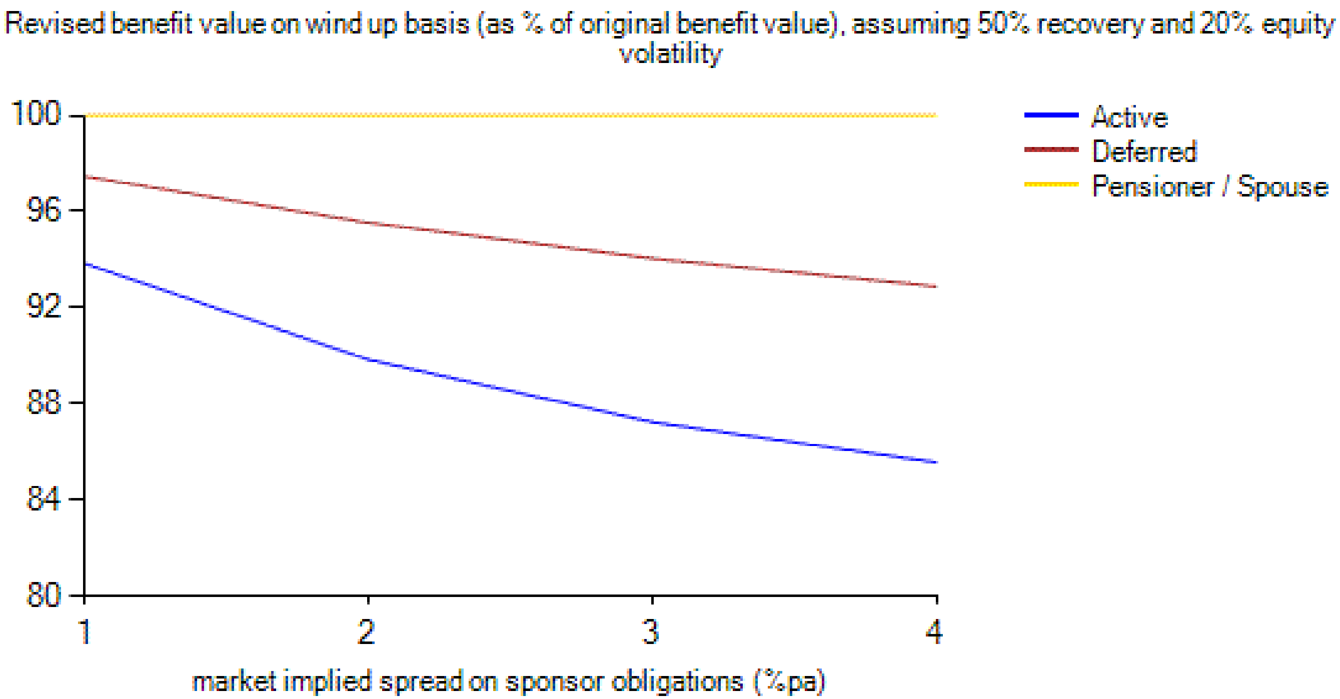
Model Example (2)

	Equity volatility (%pa)	Revised benefit value on wind up basis (as a proportion of value shown on previous page), assuming actual recovery (if sponsor defaults) is only 50%			
Market implied default rate:		2% pa	4% pa	6% pa	8% pa
Market implied recovery rate:		50%			
Spread versus risk-free		1% pa	2% pa	3% pa	4% pa
Active	0	96.2%	93.5%	91.5%	90.1%
Deferred	0	98.2%	96.7%	95.5%	94.5%
Pensioner	0	100.0%	100.0%	100.0%	100.0%
Active	20	93.8%	89.8%	87.2%	85.6%
Deferred	20	97.5%	95.5%	94.1%	92.9%
Pensioner	20	100.0%	100.0%	100.0%	100.0%

Source: Nematrian Limited, 1000 simulations for 20% equity volatility

Numerical and graphical presentations

- Graphics may aid communication and explanation
- Choice of output and how presented may influence interpretation



Model Example (3)

- **Question**: What proportion of asset returns accrue to beneficiaries?
  - Initial funding level increased by 1% but otherwise example unchanged (e.g. trustees' target funding level remains 100%)
- **Answer**: Depends on riskiness of sponsor covenant, but often not much
  - Consistent with position if pension fund assets merely 'collateral' for a bond (issued by sponsor to beneficiaries)
  - N.B. Importance of assumed recovery rates, correlations, discretionary benefits

	Change in benefit value if initial funding level is 101%			
	Spread versus risk-free			
	1% pa	2% pa	3% pa	4% pa
Active	0.09%	0.19%	0.28%	0.36%
Deferred	0.07%	0.13%	0.19%	0.25%
Pensioner / spouse	0.00%	0.00%	0.00%	0.00%

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Characteristics of successful ERM frameworks

- Vision and strategy is set by Board
- Risk is owned by the business … with risk management (RM) an enabling process
- Governance framework appropriate to nature, scale and complexity of the business and its risks.
- Ideally:
  - Risk decisions integrated with decisions concerning business operations
  - Promotes desired cultural and behavioural expectations
  - All material risks addressed on enterprise-wide basis, consistently applied across the business and supported by well defined RM policy
  - Improved capture of upside opportunities and mitigation of downside risks

Typical ERM framework – large financial

- Risk governance framework might include:
  - **Risk Committee, separate from Audit Committee**
    - Centralised oversight of risk
    - Risk policy sets risk management responsibility
    - Engagement with executive management and board
  - **CRO, reporting to risk committee, independent from business units**
    - Organisation’s risk champion
    - Enterprise-wide oversight of RM activities
    - Guidance to risk owners
    - Challenges to business decisions on key risk areas
  - **Supporting RM function**

Typical ERM framework – non-financial firm

- Often less formal and more fragmented
- No CRO requirement
- CFO / Treasury / Audit Committees may have a greater role
- Sometimes ERM elements may fit around functional responsibilities
- ERM might be confined to major risks, or specific projects

Governance challenges for pension funds include

- Availability of skilled resources to manage and monitor risks holistically
  - Often greater use of external expertise, management of agency issues
- Need for clear mission and objectives and aligned management policies
  - Requires value propositions which are practical and acceptable to both members and sponsors
- *For fund in isolation*: need to manage interaction between sponsor covenant risk, investment strategy and contribution policy
  - Risk committees rather than just investment committees?
- *When definition expanded to include sponsor*: Wider array of risks, larger stakeholder base, more management interfaces and additional decision-making constraints
  - How to handle risks arising from 'social' element of pensions?

Summary

- ERM
  - A holistic framework, using risk as the core building block, to enable key business decisions to be aligned with inherent risk
- Enhancing pension scheme modelling
  - Traditional ALM models may be too investment focused and not sufficiently ERM friendly
- Enhancing pension scheme governance
  - Challenges but also opportunities for profit/gain if ERM framework is well-crafted

Important Information