



Institute
and Faculty
of Actuaries

IFOF A CONFERENCE

A BLUEPRINT FOR INTEGRATED RISK MANAGEMENT

30 May 2018



A Blueprint For Integrated Risk Management Introduction

- The guidance on Integrated Risk Management is now over two years old but the profession has [struggled to articulate a model](#) to help trustees and employers to fully embrace it.
- The [Risk Bowtie](#) is risk management model that is [widely used](#) to provide a simple and intuitive way of [visualising and managing risks](#).
- If widely adopted, this model could provide a [common framework](#) to be used by trustees and employers in the financial management of schemes

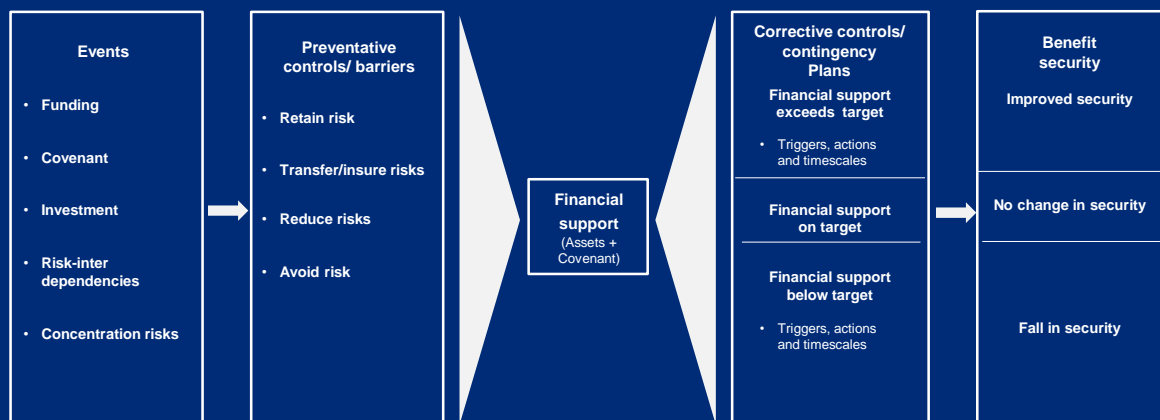


Institute
and Faculty
of Actuaries

30 May 2018

2

A Blueprint For Integrated Risk Management Bowtie model

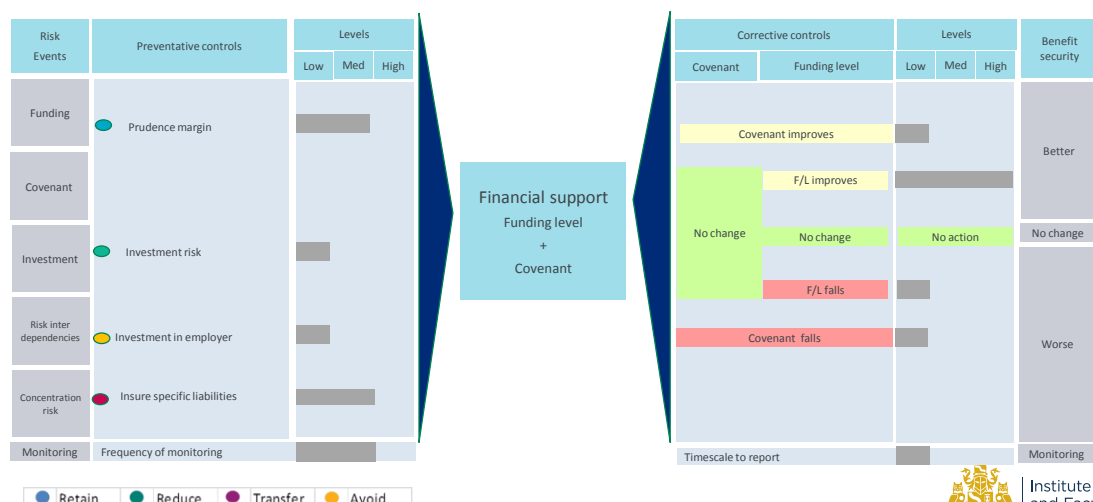


The lower the level of financial support, the greater the level of controls that are required to maintain benefit security



Institute
and Faculty
of Actuaries

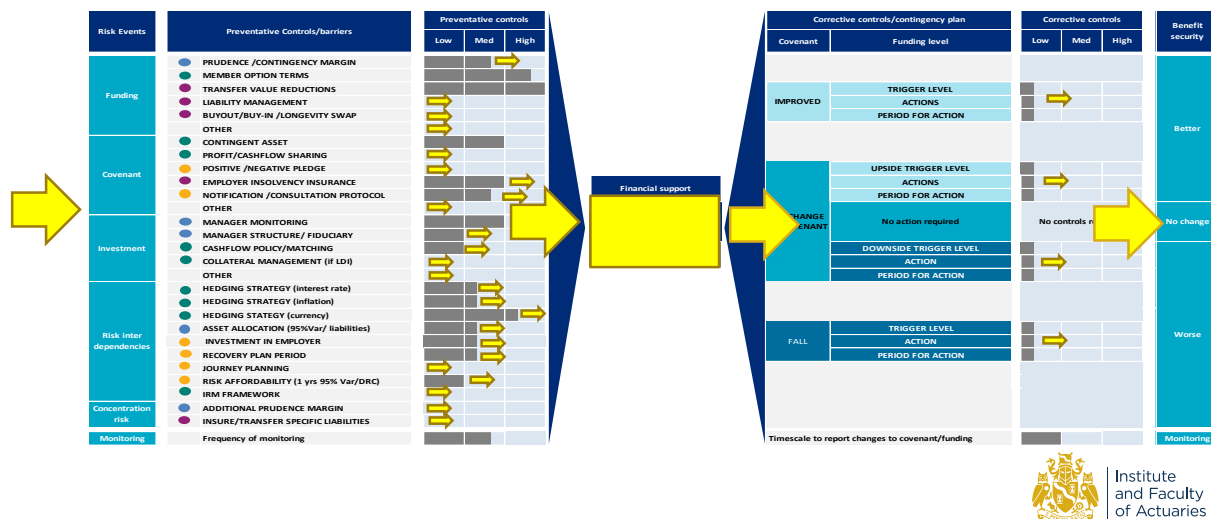
A Blueprint For Integrated Risk Management How would it work in practise



Institute
and Faculty
of Actuaries

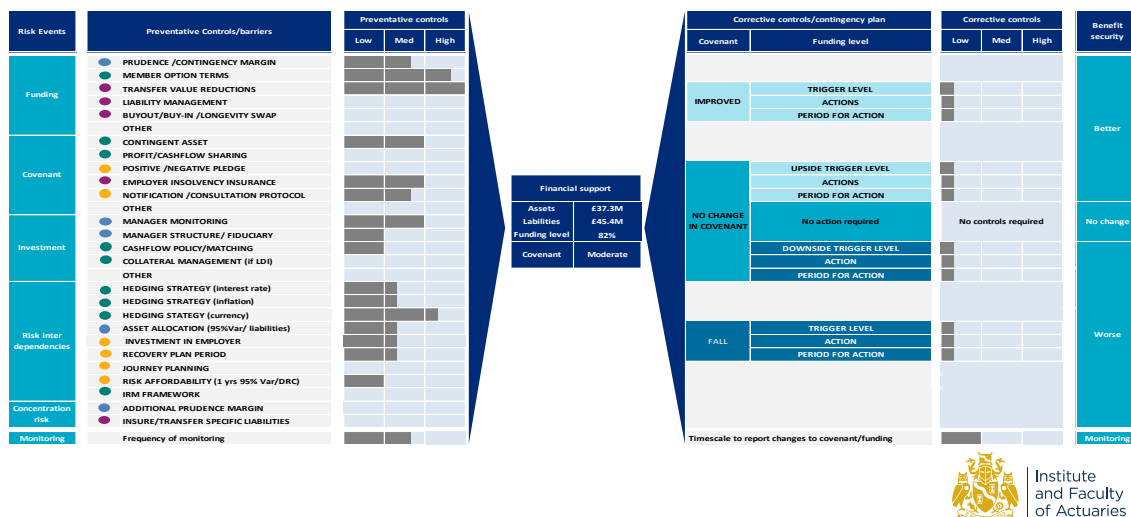
A Blueprint For Integrated Risk Management

How would it work in practise



A Blueprint For Integrated Risk Management

Funding Case study - 2015



A Blueprint For Integrated Risk Management Funding Case study - 2015

Risk Events	Preventative Controls/barriers	Preventative controls		
		Low	Med	High
Funding	PRUDENCE /CONTINGENCY MARGIN			
	MEMBER OPTION TERMS			
	TRANSFER VALUE REDUCTIONS			
	LIABILITY MANAGEMENT			
	BUYOUT/BUY-IN /LONGEVITY SWAP			
Covenant	OTHER			
	CONTINGENT ASSET			
	PROFIT/CASHFLOW SHARING			
	POSITIVE /NEGATIVE PLEDGE			
	EMPLOYER INSOLVENCY INSURANCE			
Investment	NOTIFICATION /CONSULTATION PROTOCOL			
	OTHER			
	MANAGER MONITORING			
	MANAGER STRUCTURE/ FIDUCIARY			
	CASHFLOW POLICY/MATCHING			
Risk inter dependencies	COLLATERAL MANAGEMENT (if LD)			
	OTHER			
	HEDGING STRATEGY (interest rate)			
	HEDGING STRATEGY (inflation)			
	HEDGING STRATEGY (currency)			
Concentration risk	ASSET ALLOCATION (95%Var/ Liabilities)			
	INVESTMENT IN EMPLOYER			
	RECOVERY PLAN PERIOD			
	JOURNEY PLANNING			
	RISK AFFORDABILITY (1 yrs 95% Var/DR)			
Monitoring	IRM FRAMEWORK			
	ADDITIONAL PRUDENCE MARGIN			
	INSURE/TRANSFER SPECIFIC LIABILITIES			
	Frequency of monitoring			

Financial support	
Assets	£37.3M
Liabilities	£45.4M
Funding level	82%
Covenant	Moderate

- In this case study the controls are mostly at medium, except transfer value reductions , member options and currency hedging
- A key element in this scheme is the guarantee/contingent asset provided by the parent company which also provides insolvency insurance



Institute
and Faculty
of Actuaries

A Blueprint For Integrated Risk Management Funding Case study - 2015

Risk Events	Preventative Controls/barriers	Preventative controls		
		Low	Med	High
Funding	PRUDENCE /CONTINGENCY MARGIN			
	MEMBER OPTION TERMS			
	TRANSFER VALUE REDUCTIONS			
	LIABILITY MANAGEMENT			
	BUYOUT/BUY-IN /LONGEVITY SWAP			
Covenant	OTHER			
	CONTINGENT ASSET			
	PROFIT/CASHFLOW SHARING			
	POSITIVE /NEGATIVE PLEDGE			
	EMPLOYER INSOLVENCY INSURANCE			
Investment	NOTIFICATION /CONSULTATION PROTOCOL			
	OTHER			
	MANAGER MONITORING			
	MANAGER STRUCTURE/ FIDUCIARY			
	CASHFLOW POLICY/MATCHING			
Risk inter dependencies	COLLATERAL MANAGEMENT (if LD)			
	OTHER			
	HEDGING STRATEGY (interest rate)			
	HEDGING STRATEGY (inflation)			
	HEDGING STRATEGY (currency)			
Concentration risk	ASSET ALLOCATION (95%Var/ Liabilities)			
	INVESTMENT IN EMPLOYER			
	RECOVERY PLAN PERIOD			
	JOURNEY PLANNING			
	RISK AFFORDABILITY (1 yrs 95% Var/DR)			
Monitoring	IRM FRAMEWORK			
	ADDITIONAL PRUDENCE MARGIN			
	INSURE/TRANSFER SPECIFIC LIABILITIES			
	Frequency of monitoring			

Financial support	
Assets	£37.3M
Liabilities	£45.4M
Funding level	82%
Covenant	Moderate

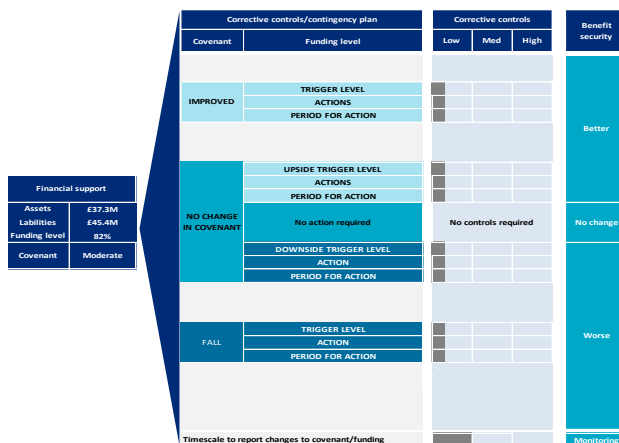
Corrective controls/contingency plan		Corrective controls			Benefit security
Covenant	Funding level	Low	Med	High	
IMPROVED	TRIGGER LEVEL				Better
	ACTIONS				
	PERIOD FOR ACTION				
NO CHANGE IN COVENANT	UPSIDE TRIGGER LEVEL				No change
	ACTIONS				
	PERIOD FOR ACTION				
	No action required	No controls required			
	DOWNSIDE TRIGGER LEVEL				
FALL	ACTION				Worse
	PERIOD FOR ACTION				
Timescale to report changes to covenant/funding					Monitoring



Institute
and Faculty
of Actuaries

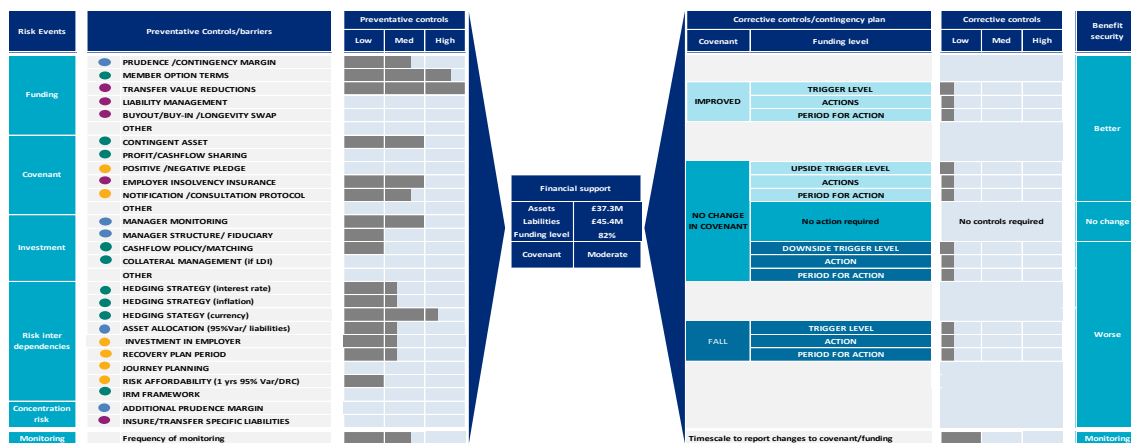
A Blueprint For Integrated Risk Management Funding Case study - 2015

- On the contingency plan side, a much simpler picture!
- In this case there is no formal contingency plan. i.e. Controls are Low.
- This means any actions are agreed as/when required



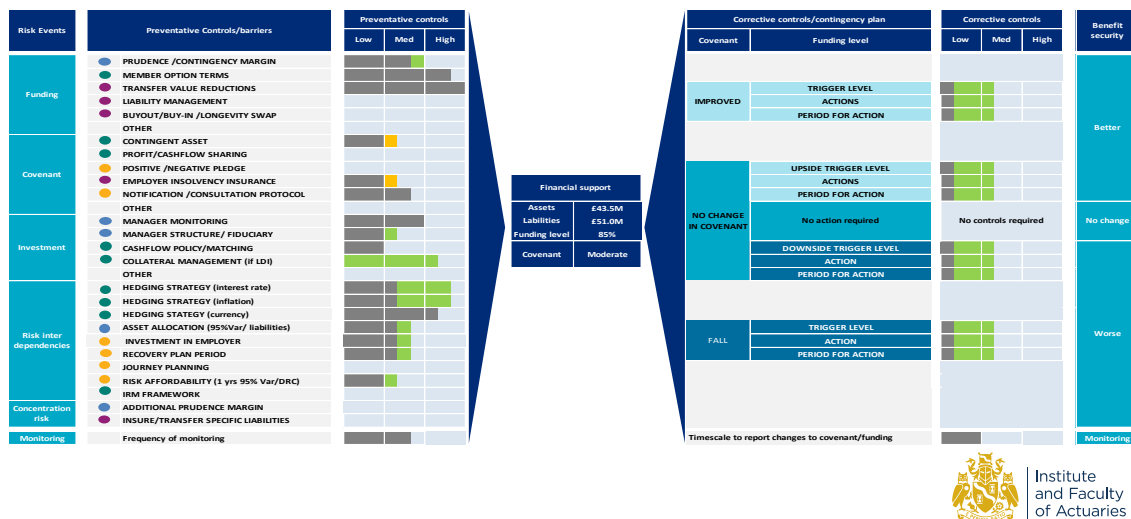
Institute
and Faculty
of Actuaries

A Blueprint For Integrated Risk Management Funding Case study - 2015



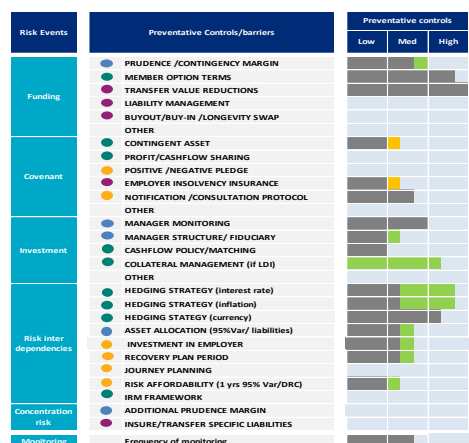
Institute
and Faculty
of Actuaries

A Blueprint For Integrated Risk Management Funding Case study – three years later 2018



Institute
and Faculty
of Actuaries

A Blueprint For Integrated Risk Management Funding Case study – three years later 2018



Financial support			
Assets	£43.5M		
Liabilities	£51.0M		
Funding level	85%		
Covenant	Moderate		

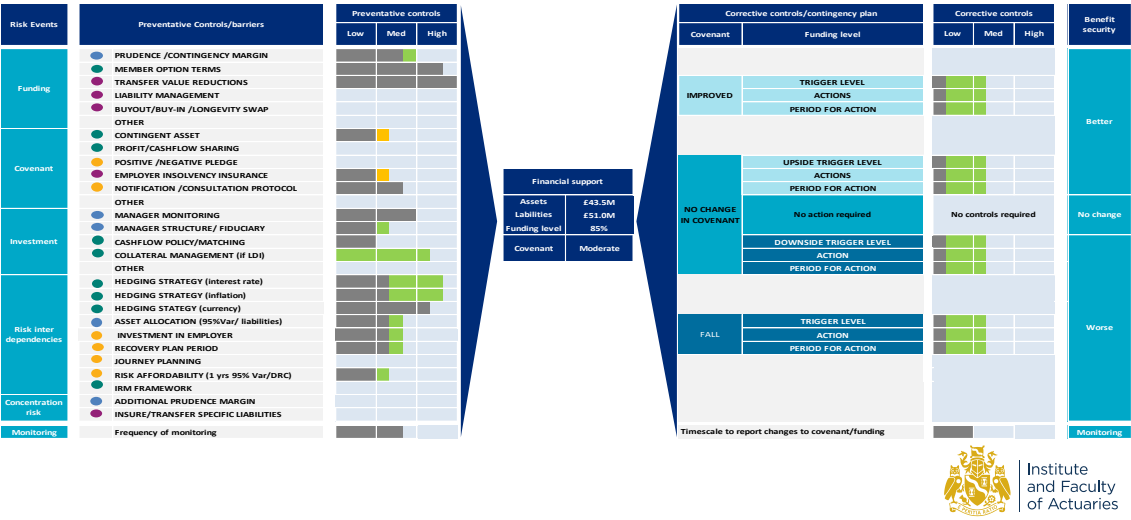
- Changes to investment strategy increased expected return and reduced var
- Prudency margin improved
- Investment risk reduced
- Risk affordability improved
- Increase in hedging ratio reduced interest and inflation risk
- But new controls around collateral management required
- Increased diversification in manager structure



| of Actuaries

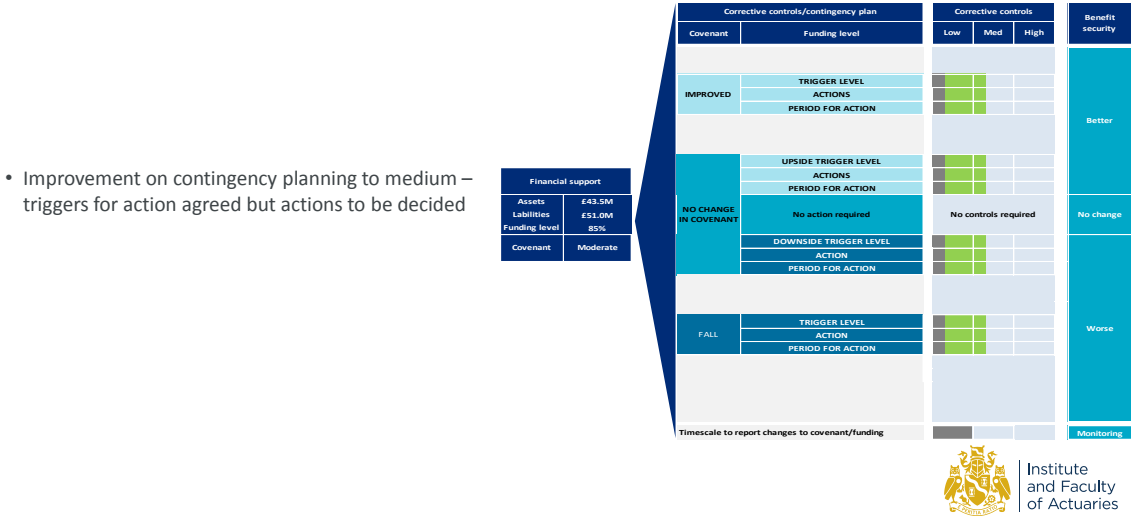
A Blueprint For Integrated Risk Management

Funding Case study – three years later 2018

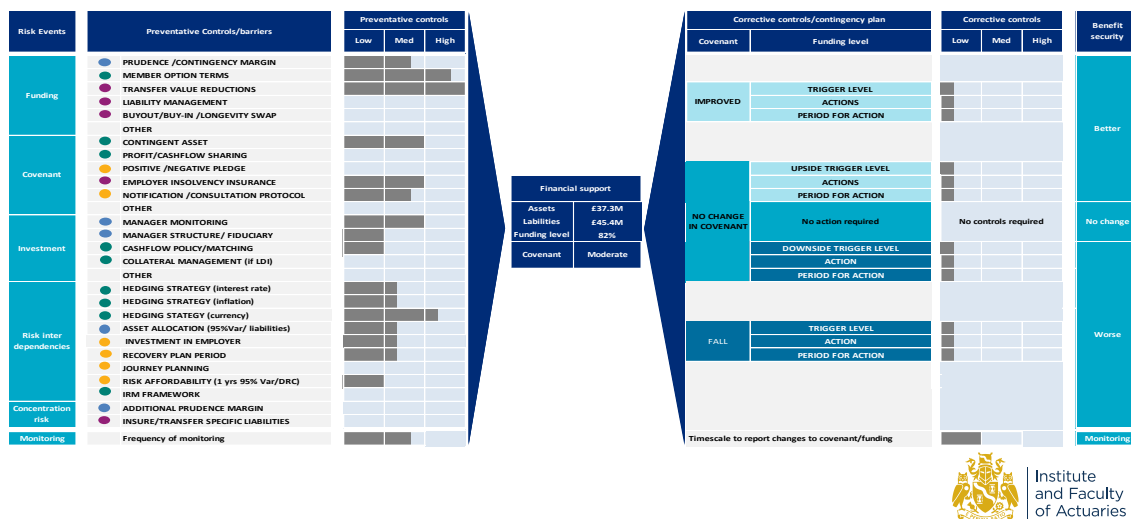


A Blueprint For Integrated Risk Management

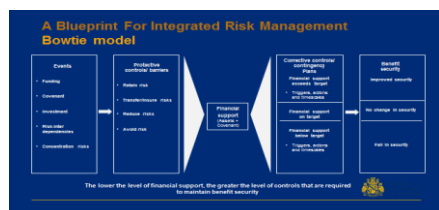
Funding Case study – three years later 2018



A Blueprint For Integrated Risk Management Funding Case study – three years later 2018



A Blueprint For Integrated Risk Management Uses of bowtie



As a visual representation of IRM



A Blueprint for integrated risk Management

Why to use bow-tie model to explain IRM

- Visual
- Simple and the flow from left to right is intuitive
- Summarises key controls on one page
- Stresses importance of security of member's benefits
- Emphasises the need for and balance between Preventative and Corrective controls
- Aligns pension scheme risk management with risk management generally
- If widely adopted this model could provide a common framework to be used trustees and employers in the financial management of schemes