Institute
and Faculty
of Actuaries

Investment Strategy for Pensions

Reflecting covenant strength in investment strategy

Paul Thornton OBE & Simon Willes

Gazelle Corporate Finance

14 May 2014

Institute
and Faculty
of Actuaries

What this presentation covers

- Why covenant is important
- Problems with current approaches
- Integrated risks solution
- Implications for setting investment strategy
- Regulatory focus

Institute
and Faculty
of Actuaries

Why covenant is important

Funding Target

Sponsor Contributions

Affordability?
Default risk?

Funding sources

Potential covenant issues

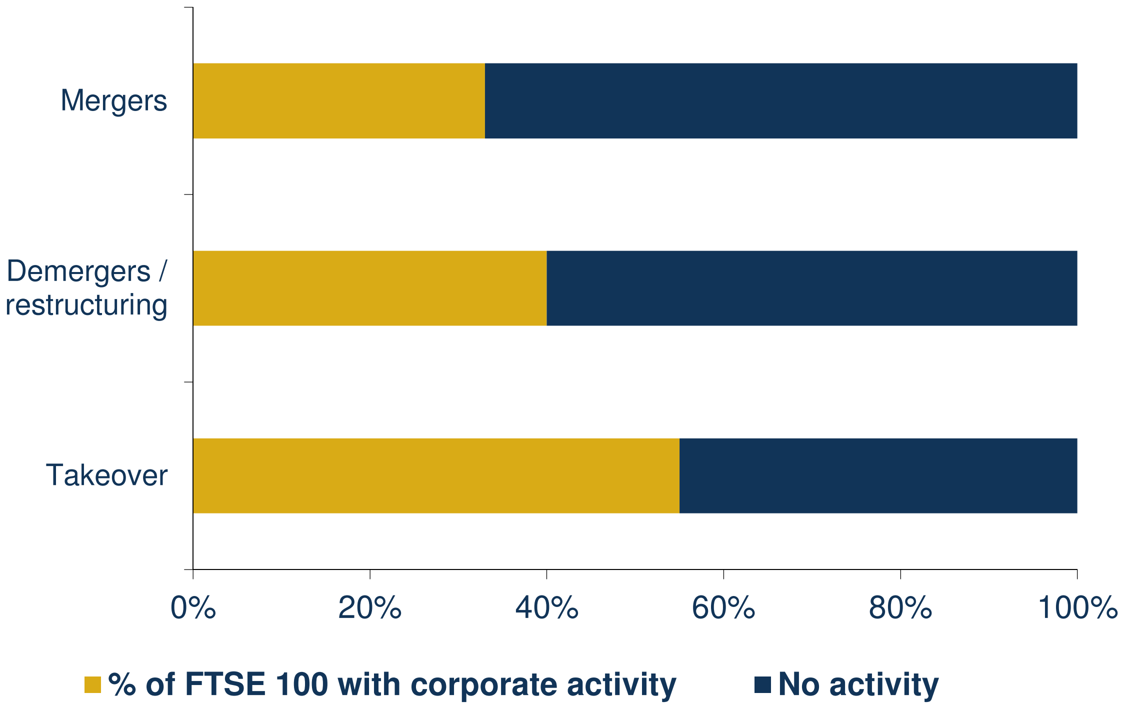
Return-seeking assets

Ability to withstand negative outcomes?

Institute
and Faculty
of Actuaries

Can covenant be ignored if the sponsor is strong?

FTSE 100 1985-2010 : Corporate activity analysis



- 85% experienced major transactions
- 26% experienced "financial stress"
- 7% defaulted

Institute
and Faculty
of Actuaries

ALM models and contributions

- Recovery plan contributions are assumed to be paid
- Nil contributions stress test?
- No allowance for **uncertainty** of sponsor resources

VaR and contributions

- VaR presents a “deficit” resulting from adverse investment outcomes

- Can VaR be repaired with additional contributions?
    - *If not then we experience sponsor default or scheme default*
    - *These expose a scheme to losses*

- Is there a value for additional contributions?
    - *Current equity market value?*
    - *Ignores uncertainty, correlation between investment returns and sponsor covenant*

The solution is modelling sponsor financial resources stochastically

- Net cash flow modelled **stochastically**
  - *Overlaying the risk of sponsor default*
  - *Reflecting the legal structure of covenant support*
- Compare **stochastic sponsor resources** with recovery plan
- Expected contributions reflect affordability and default risk

Institute and Faculty of Actuaries

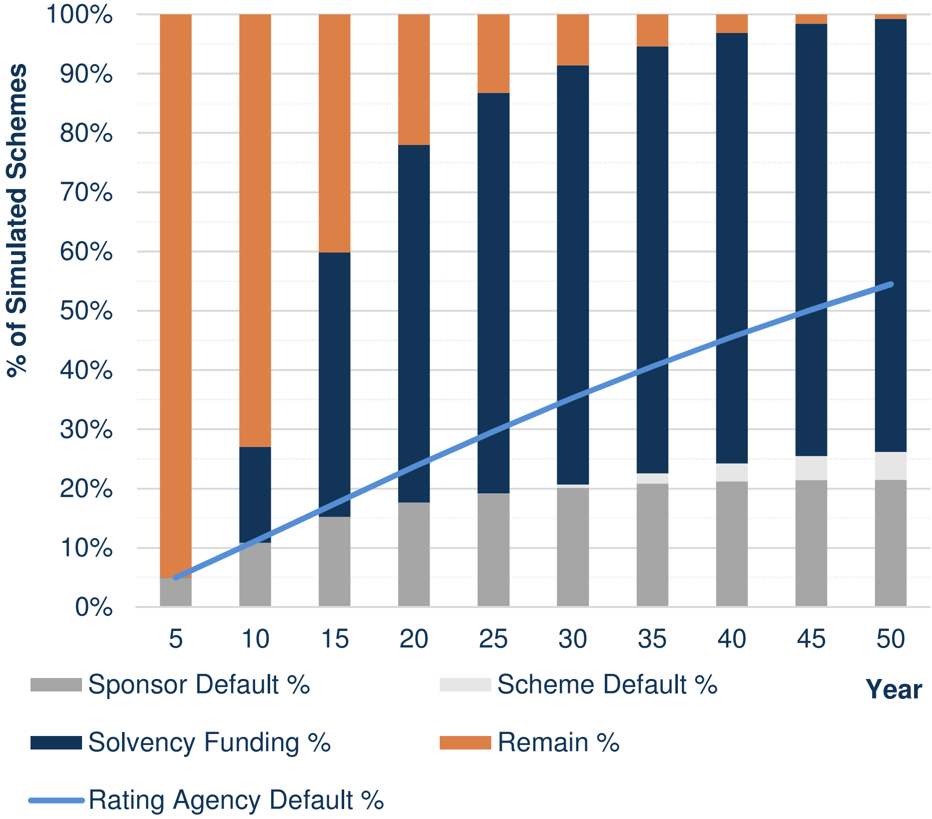
Scheme funding outcomes now reflect interacting risks

- We examine metrics which reflect this:
  - *the probability of reaching a scheme funding target over time*
  - *monetary measures of scheme loss resulting from sponsor default and scheme wind-up outcomes*

Illustrative outputs and metrics from Mousetrap®

Probability of reaching funding targets

Development of funding outcomes



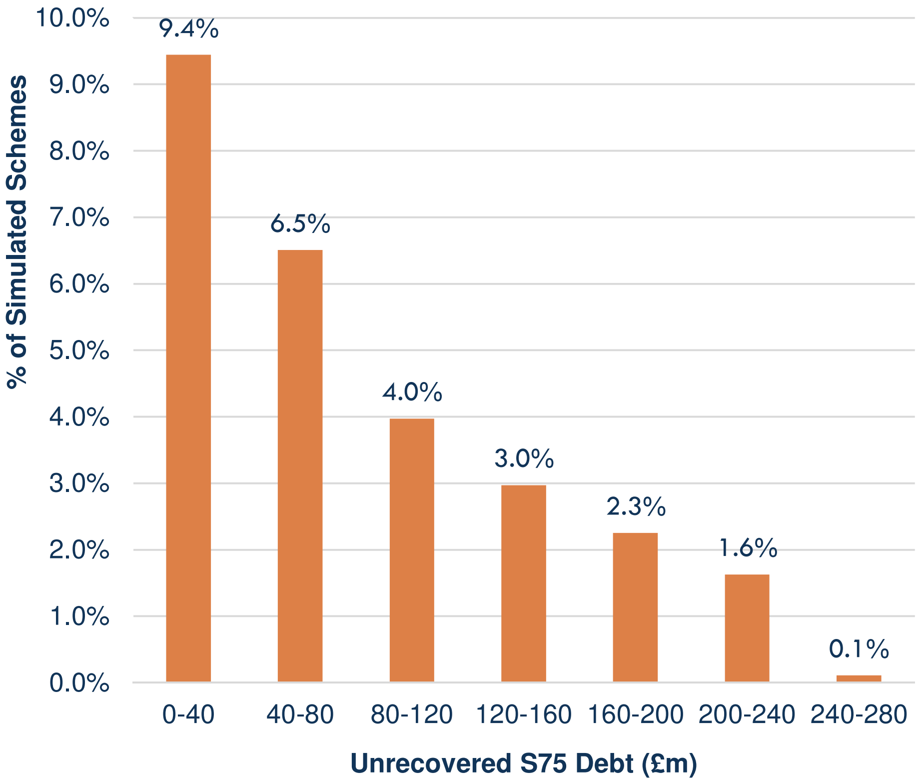
Probability of **Solvency Funding**	*73.1%*
Within 20 years	*60.3%*
Probability of Sponsor Default	*21.6%*
Probability of Scheme Default	*5.3%*
Prob. of **TP funding within 10 years**	***68.4%***

Institute and Faculty of Actuaries

Illustrative outputs and metrics from Mousetrap®

Analysis of loss distribution

Range of unrecovered S75 debt



Covenant Risk Value (£m)	***21.6***
Loss due to Sponsor Default (£m)	*19.1*
Loss due to Scheme Default (£m)	*2.5*
Average loss given default (£m)	*80.3*
"Weighted" CRV	*35.2*

Institute and Faculty of Actuaries

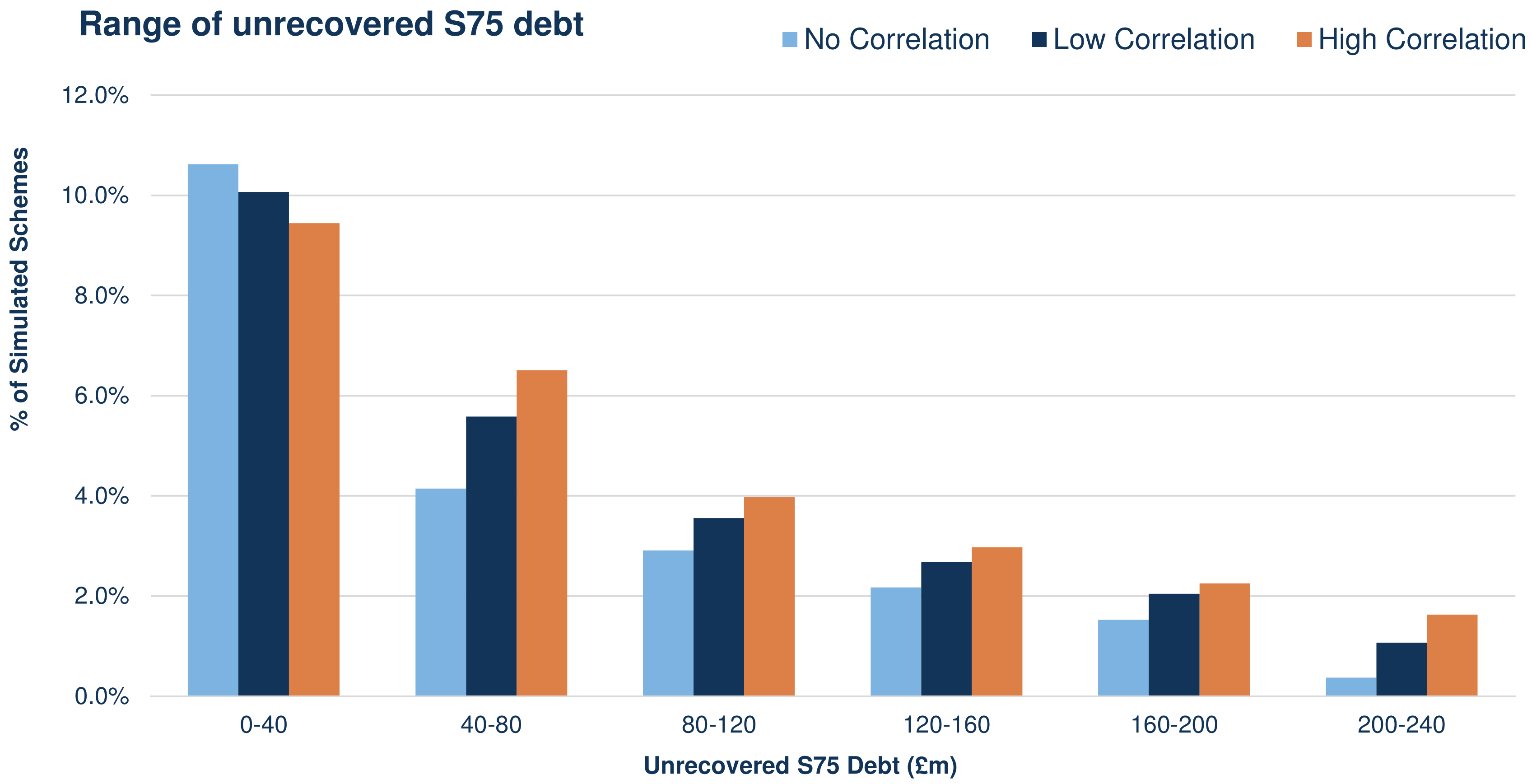
Institute and Faculty of Actuaries

Integrated Risk Modelling provides new insights

- A more prudent and realistic view
- Information is in a form Finance Directors can relate to
- Valuable new information is accessed:
  - *A wide range of sensitivities*
  - *Correlation between sponsor resources and investment outcomes*
  - *Affordability of contributions*

Illustrative outputs and metrics from Mousetrap®

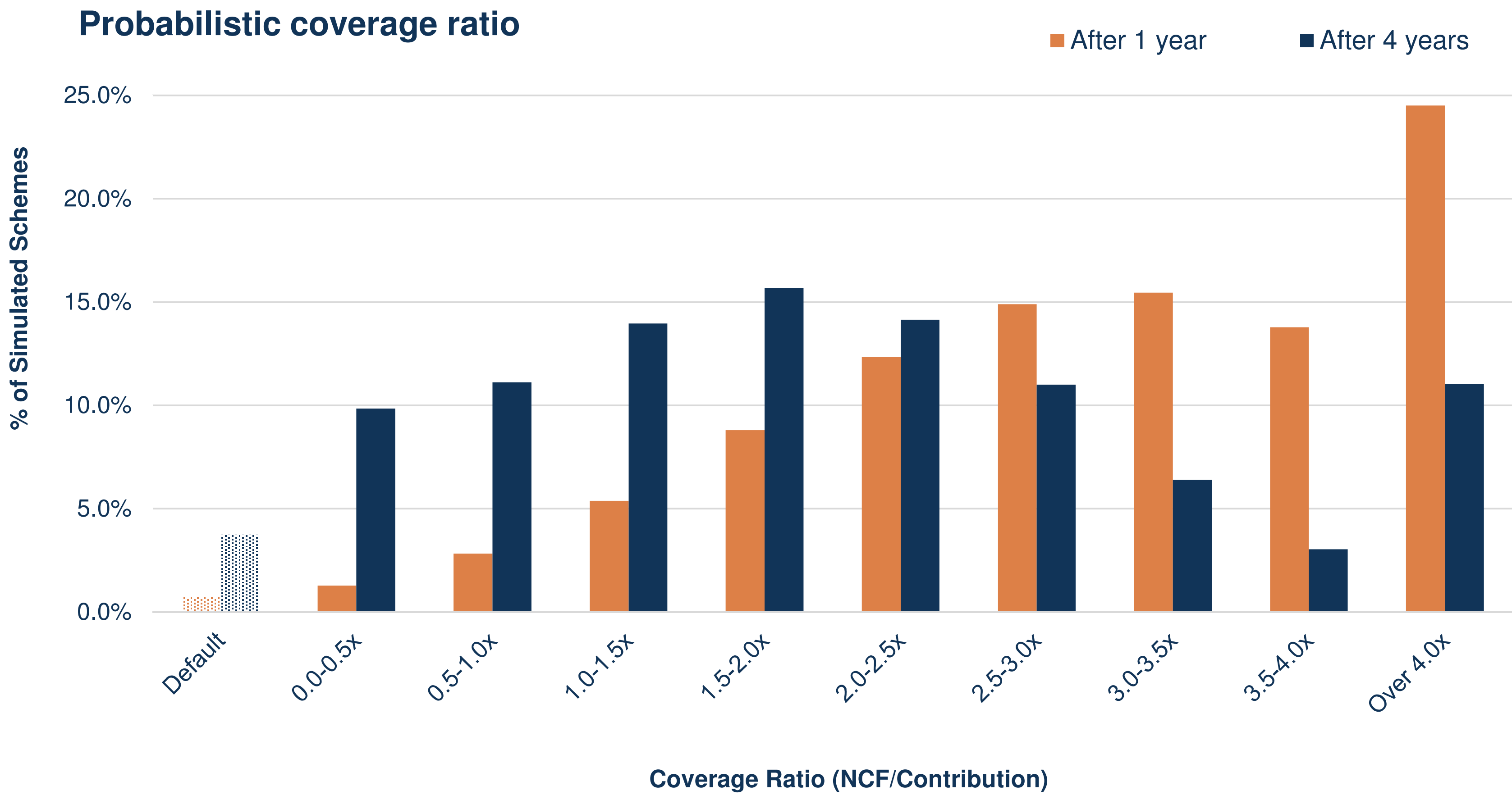
Measuring the impact of correlation



Institute and Faculty of Actuaries

Illustrative outputs and metrics from Mousetrap®

Measuring the affordability of contributions



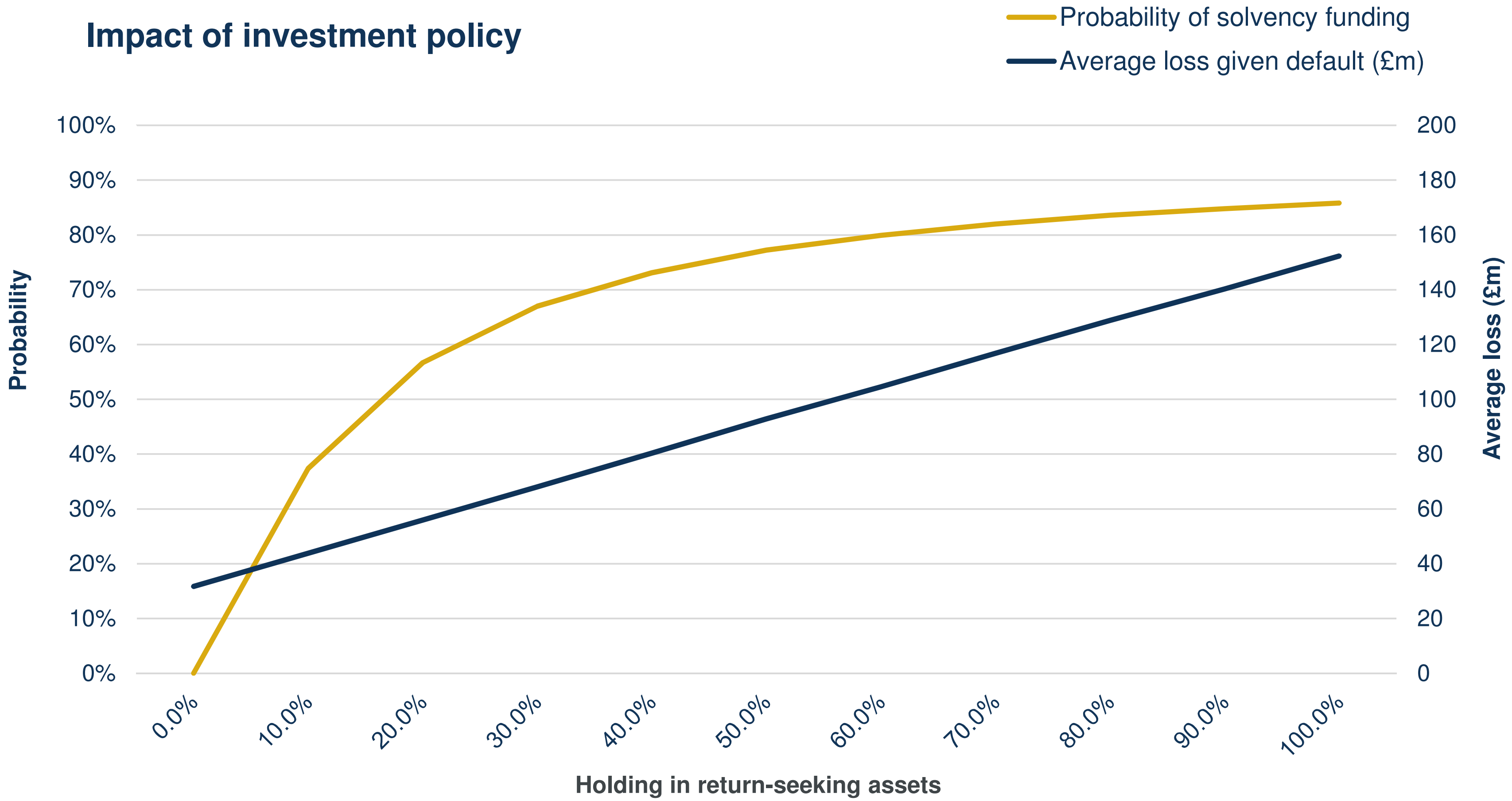
Institute and Faculty of Actuaries

The connection is now established between covenant & investment strategy

- Using these integrated risk metrics the scheme loss exposure can be examined for any given investment strategy
- This provides an **independent cross-check** on the appropriateness of investment strategy given the strength of sponsor covenant

Illustrative outputs and metrics from Mousetrap®

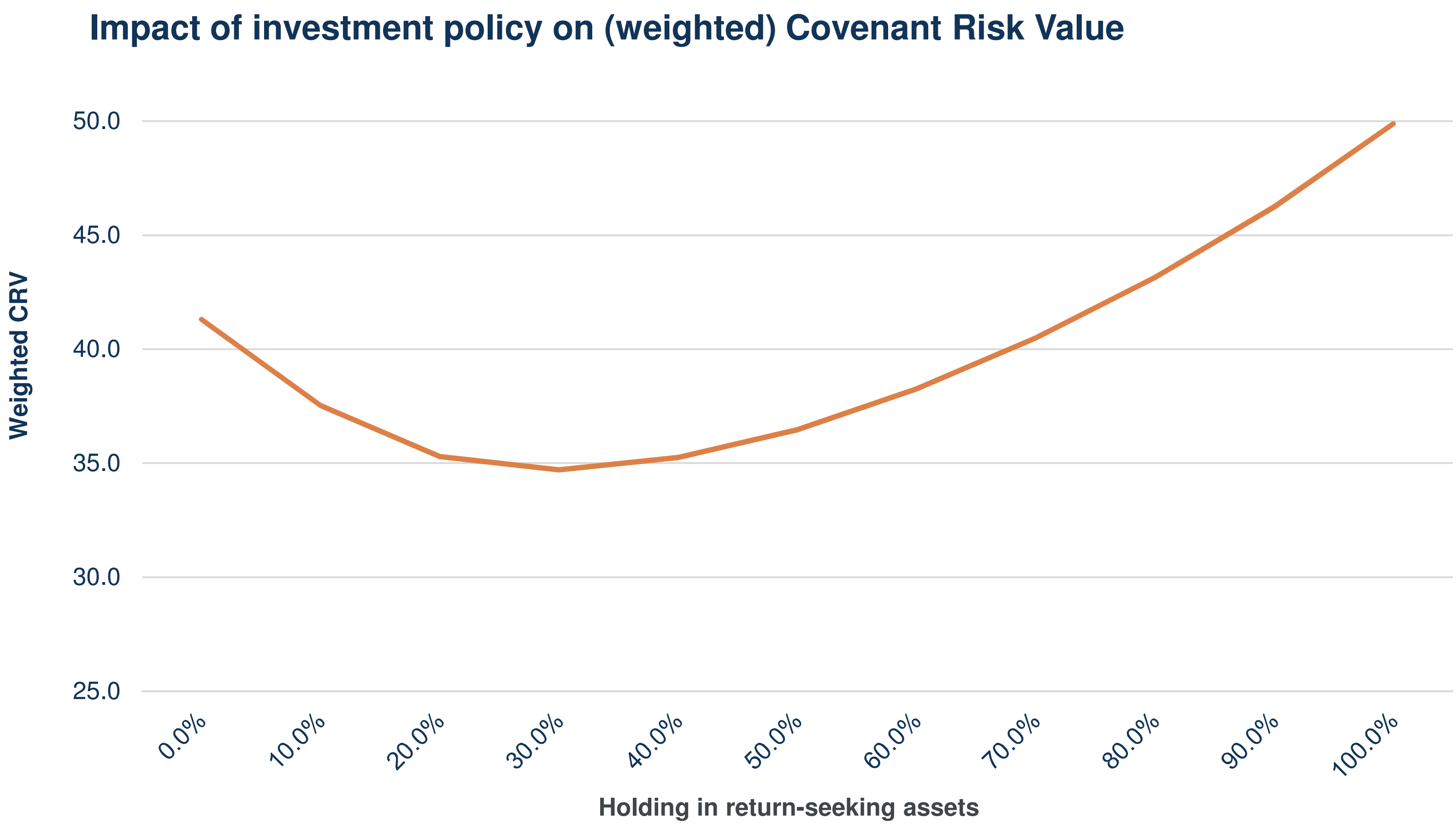
Measuring the impact of changes in investment policy



Institute and Faculty of Actuaries

Illustrative outputs and metrics from Mousetrap®

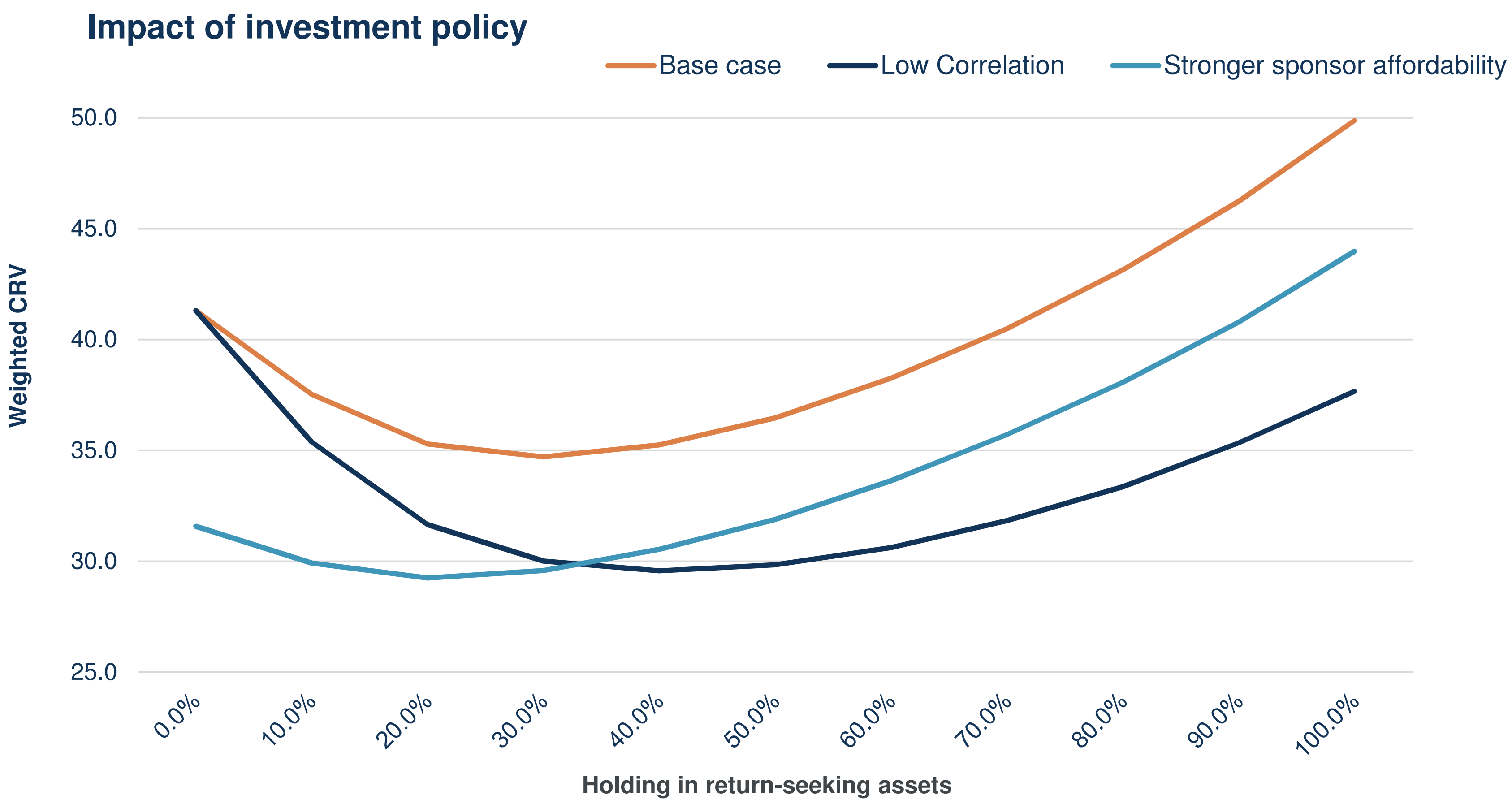
Measuring the impact of changes in investment policy



Institute and Faculty of Actuaries

Illustrative outputs and metrics from Mousetrap®

Measuring the impact of changes in investment policy



Our findings from using IRM so far

- Covenant strength is an important “scheme asset”. How is it best used?

To support investment risk exposure	To facilitate de-risking
• Sponsor can deal with poor investment outcomes	• Less risk from a prolonged path to self-sufficiency

Our findings from using IRM so far

- Covenant weakness presents issues for investment policy as the proportion of benefits members can expect to receive may be low
    - *Does de-risking reduce or increase loss exposure?*
    - *Can suitable pension credit enhancements facilitate investment risk exposure?*

A key area for regulatory focus

- TPR review letters now regularly question consistency between investment strategy and covenant
- Need to measure the ability of sponsors to repair large potential deficits and “evidence” this
- Risk management reports under IORP II

Institute and Faculty of Actuaries

Two illuminating examples

- **Scheme A:** fully-funded on a Technical Provisions basis, fully de-risked but dependent on parent of weak UK formal sponsor to achieve solvency funding or buy-out and still exposed to material unrecovered S75 debt on sponsor default.

- **Scheme B:** high equity exposure consistent with strong multinational parent but UK formal sponsor unlikely to be able to repair poor investment outcomes

Institute
and Faculty
of Actuaries

Example Case Study

- TPR questions sponsor ability to withstand adverse investment outcomes

- Methodology:
  - ALM provides expected investment outcomes
  - Mousetrap ® provides matching expected contributions reflecting uncertain sponsor financial resources and covenant support structure
  - Integrate ALM and Mousetrap ® to give simulated funding outcomes with correlation

- Resulting scheme loss exposure represents simulations the sponsor was unable to repair
  - Examine using statistical measures
  - Examine poor investment and poor sponsor scenarios

Institute and Faculty of Actuaries

Interacting risks require integrated solutions where covenant advice and investment consultancy combine

Covenant is a complex risk - if integrated with ALMs it must be properly modelled with full access to detailed covenant input

Institute and Faculty of Actuaries