Broadstone

Setting an Investment Strategy

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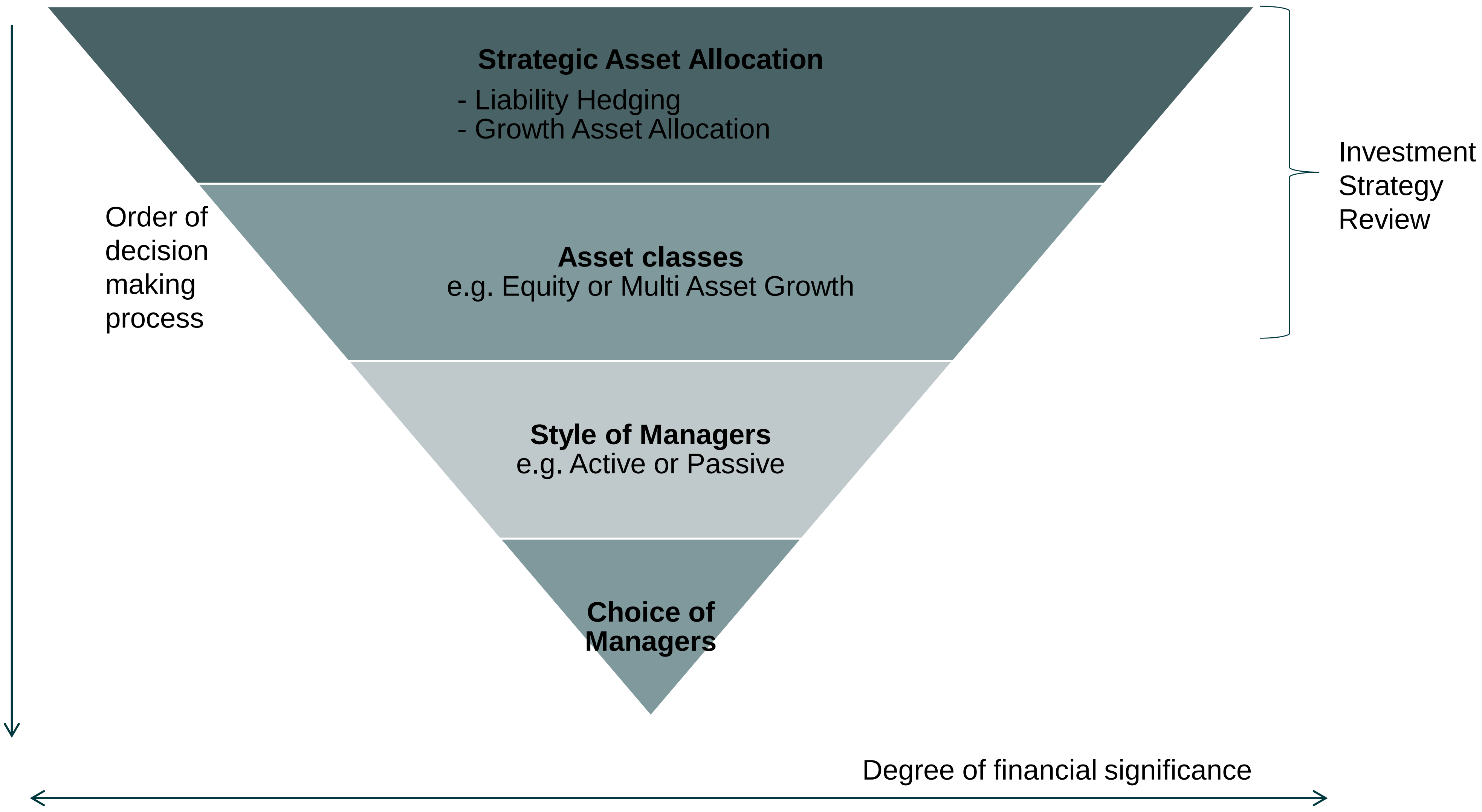
Agenda

- Trustee duties
- Investment objectives
- Risk and return
- Understanding the liabilities
- Investment risks
- Analysis of investment strategies
- Next steps

Investment Decisions



1 Trustee Duties

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Trustee Duties

Trustees are expected to act:

- In accordance with the scheme's governing documentation/ trust deed
- In the best interests of members
- Impartially
- Prudently, responsibly and honestly

Remember responsibility for any Defined Contribution (DC) and Additional Voluntary Contribution (AVC) members

Trustee Duties

Pensions Law and Investment

Take written advice from an authorised person

Prepare a Statement of Investment Principles

Invest the assets:

- in the members' best interests
- in a manner that, as a whole, ensures the assets have security, quality, profitability and liquidity
- reflects nature and duration of liabilities
- generally traded on regulated markets
- in a diversified manner

Restrict self-investment to less than 5% of the assets (including property)

Defined Benefit Funding Code due to come into effect from April 2024

2 Investment Objectives

Investment Objectives

Key Considerations

What is the long-term objective – e.g. buy-out or self-sufficiency and over what timeframe?

What is the trustees’ view of the sponsor’s covenant?

The trustees’ and sponsor’s capacity and appetite to tolerate funding risk?

What return is required to meet the funding plan and long-term objective?

Do the trustees have other objectives, for example cashflow matching?

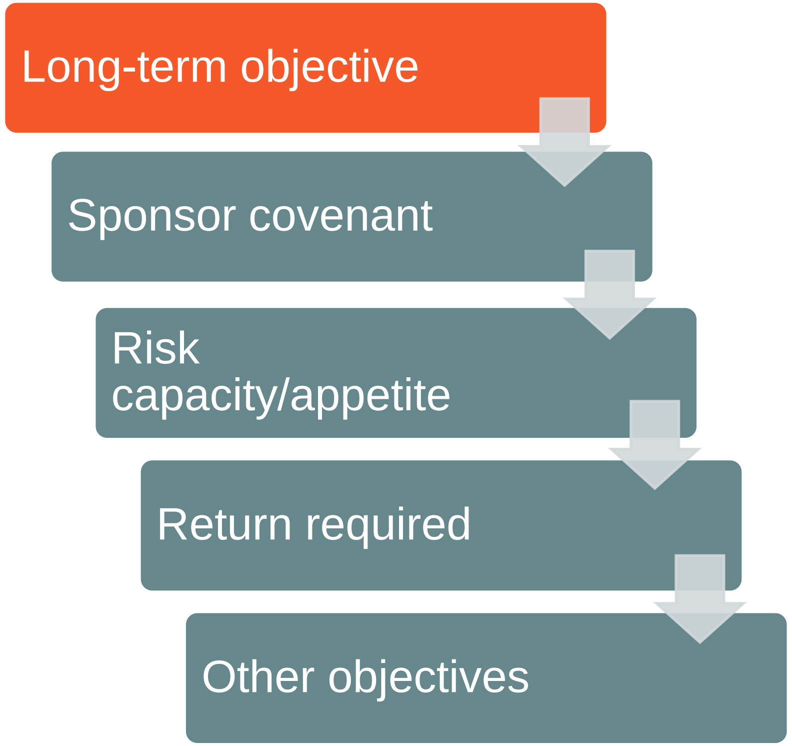
Investment Objectives

Long-Term Objective

The trustees and sponsor should agree the long-term objectives for the scheme, for example:

- Buy-out the Scheme with an insurance company
    - If so, over what timescale? With what level of risk?
- To run the Scheme for the foreseeable future
    - If so, on a self-sufficiency/low dependency basis?
- Close the Scheme to new members/future accrual (if not already)
- Use a Defined Benefit Consolidator

Different objectives can lead to different strategies, especially once the Scheme is well funded.



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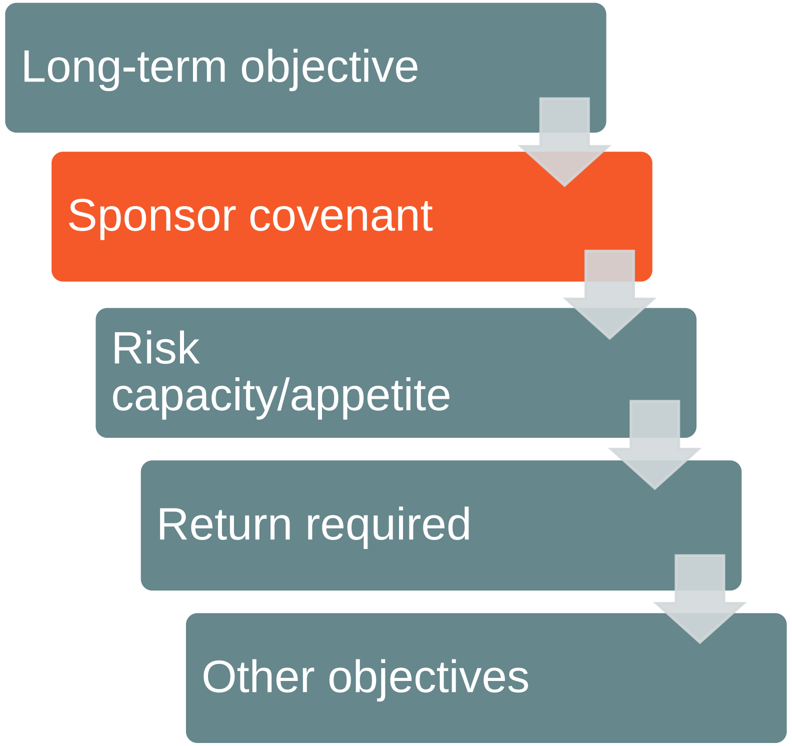
Investment Objectives

Sponsor Covenant

- To what extent can the trustees rely on the sponsor to support the scheme?
- Covenant strength fundamentally affects the trustees’ capacity and appetite to accommodate investment/funding risk:
  - the weaker the covenant the more concerned the trustees ***should be*** about the volatility of the funding position
  - the stronger the covenant the more relaxed the trustees ***can be*** about the volatility of the funding position
- Why worry about the funding position?

  - it reflects what proportion of the full benefits a scheme can provide with the existing assets



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Investment Objectives

Risk and Return Characteristics

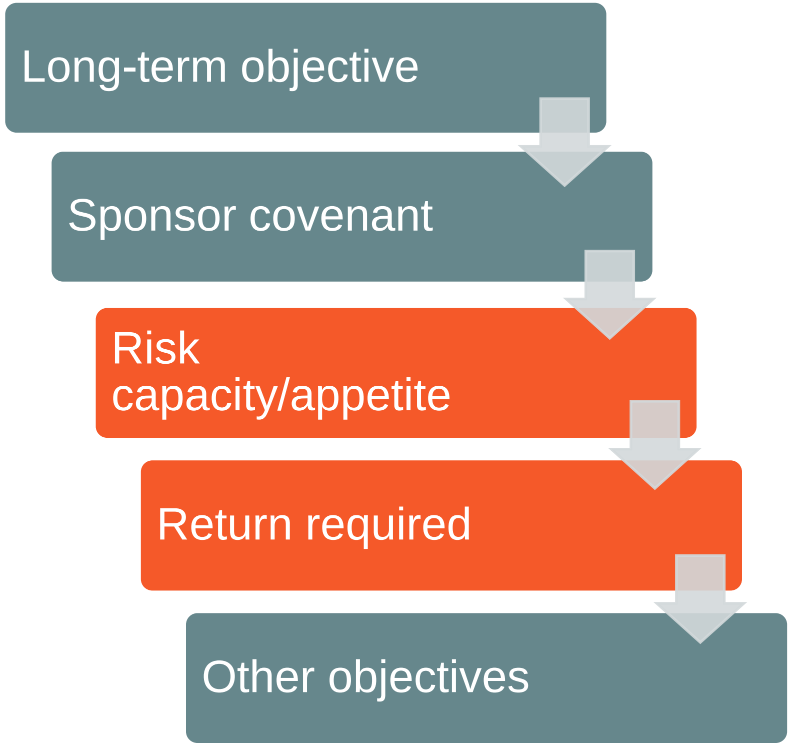
Trustees should consider to what extent they wish to mitigate investment/funding risks

Trustees view will be driven by:

- The **capacity** of the sponsor to absorb investment/funding risk
- The **appetite** of the sponsor to take on investment/funding risk
- The trustees' views on the way specific risks may develop over the longer term

What level of return is required to meet:

- The current funding plan
- The long-term objective, e.g. attaining buy-out over a specific timeframe



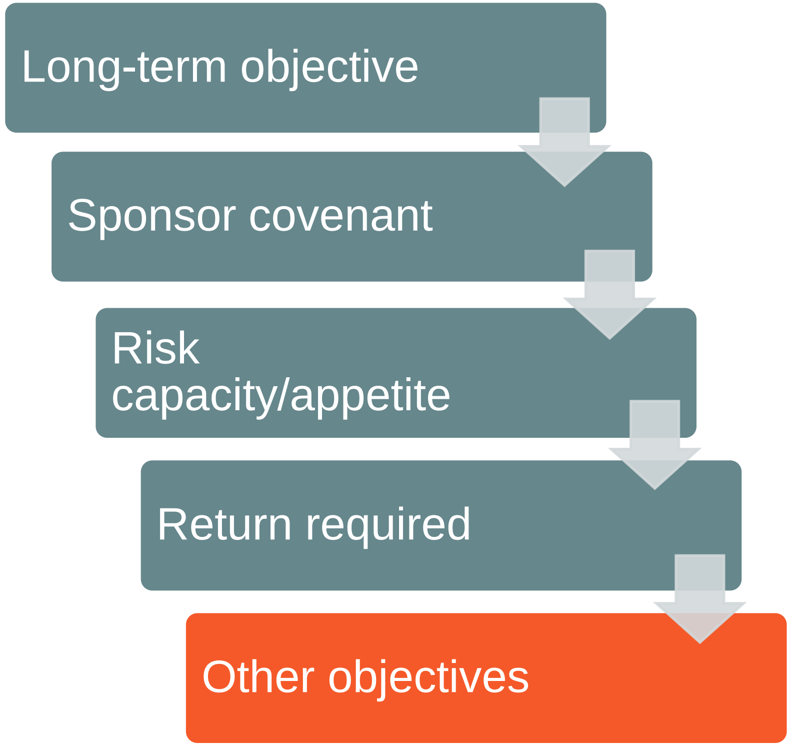
Investment Objectives

Longer Term Objectives

Trustees should consider any other objectives for the scheme – do they wish to:

- Reduce investment/funding risk as funding improves
- Reduce investment/funding risk as time passes
- Have the scheme's assets generate income to pay benefits

Trustees should consider the timeframe for achieving their aims – different timeframes can impact the practical strategy and implementation



Investment Objectives

Example Objectives

The trustees have agreed the following investment objectives:

- to meet the scheme's liabilities as they fall due, with an aim to buy-out the Scheme by 2030
- to invest in a diverse and liquid range of investments
- to invest in a way that is consistent with the funding objectives
- to target an exposure to downside equity market risk of 20%
- to target a level of protection against interest rate risk of 90%
- to target a level of protection against inflation risk of 80%
- where future opportunities arise to improve protection against key risks the trustees will consider steps to further reduce the volatility of the funding position

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Asset Risk and Return

Asset Risk and Return

Growth and Protection Assets

Growth assets

- generate long-term growth, typically 6%-10% per annum
- higher returns are associated with higher levels of volatility
- greater risk of default

Protection/hedging assets

- relatively secure, with limited expectation of default
- cashflows can be used to match payments due from the scheme
- commonly used as the basis to value liabilities – hence ability to use protection assets to dampen volatility of funding position

Asset Risk and Return

Growth and Protection Assets

Growth Assets

- Equities
- Diversified growth funds
- Property
- High yield bonds
- Emerging market debt
- Commodities
- Private equity/markets

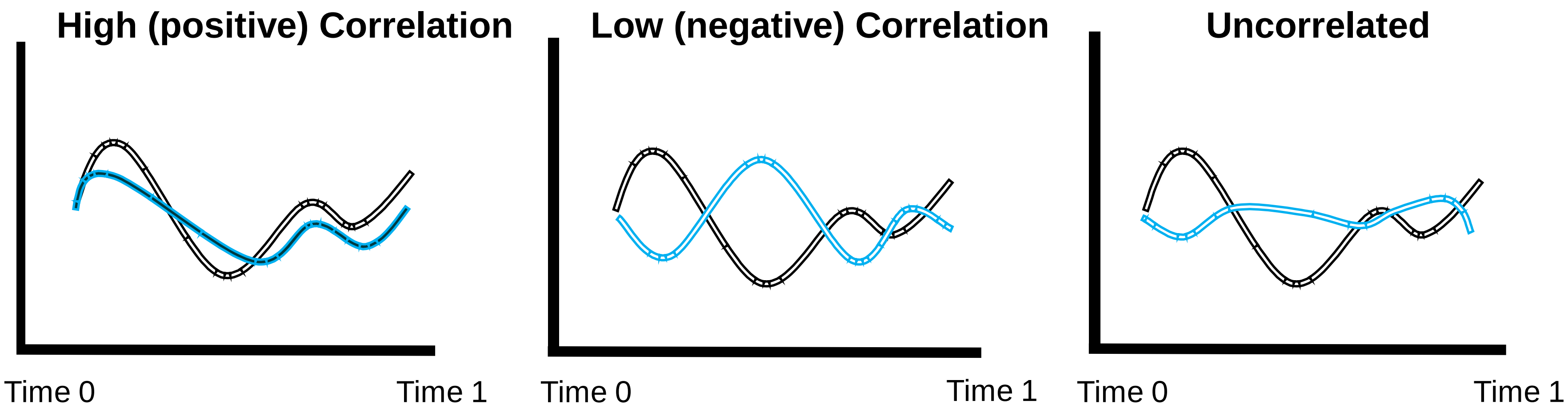
Protection Assets

- Government bonds
- High quality corporate bonds
- Absolute return bonds
- Liability Driven Investment vehicles
- Annuities
- Cash

Asset Risk and Return

Correlation and Diversification

- Correlation is the key to the theory of diversification
- It measures how the returns from two assets move relative to each other over time



Asset Risk and Return

Correlation

	UK Equities	Overseas Equities	Property	Fixed Interest Gilts
Overseas Equities	0.82			
Property	-0.02	-0.03		
Fixed Interest Gilts	0.11	0.24	-0.05	
Cash	-0.07	-0.03	-0.69	-0.12

Based on monthly returns over the 10 years to 31 December 2022

Note correlations **do** change over time, e.g. historically fixed interest gilts had a negative correlation to equities

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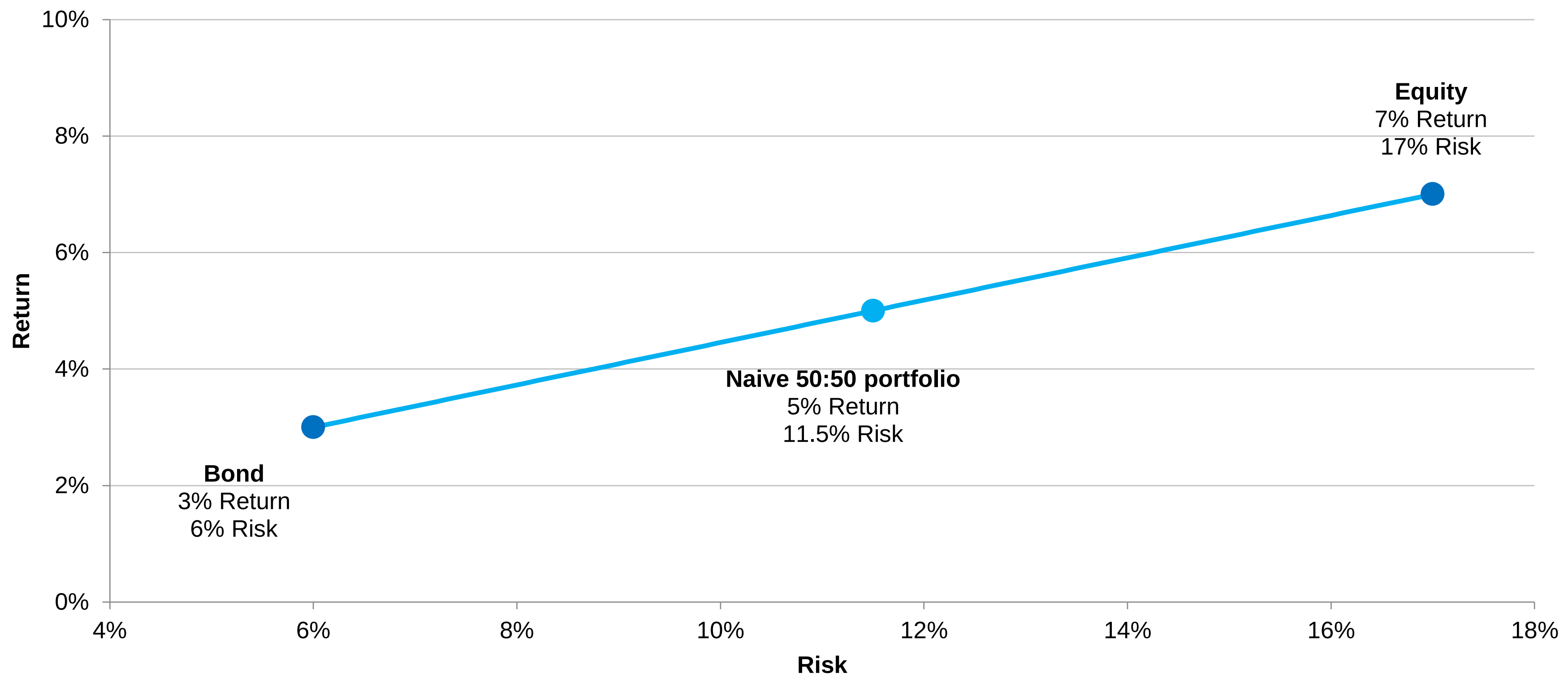
Asset Risk and Return

What you might expect…



…taking no account of correlation

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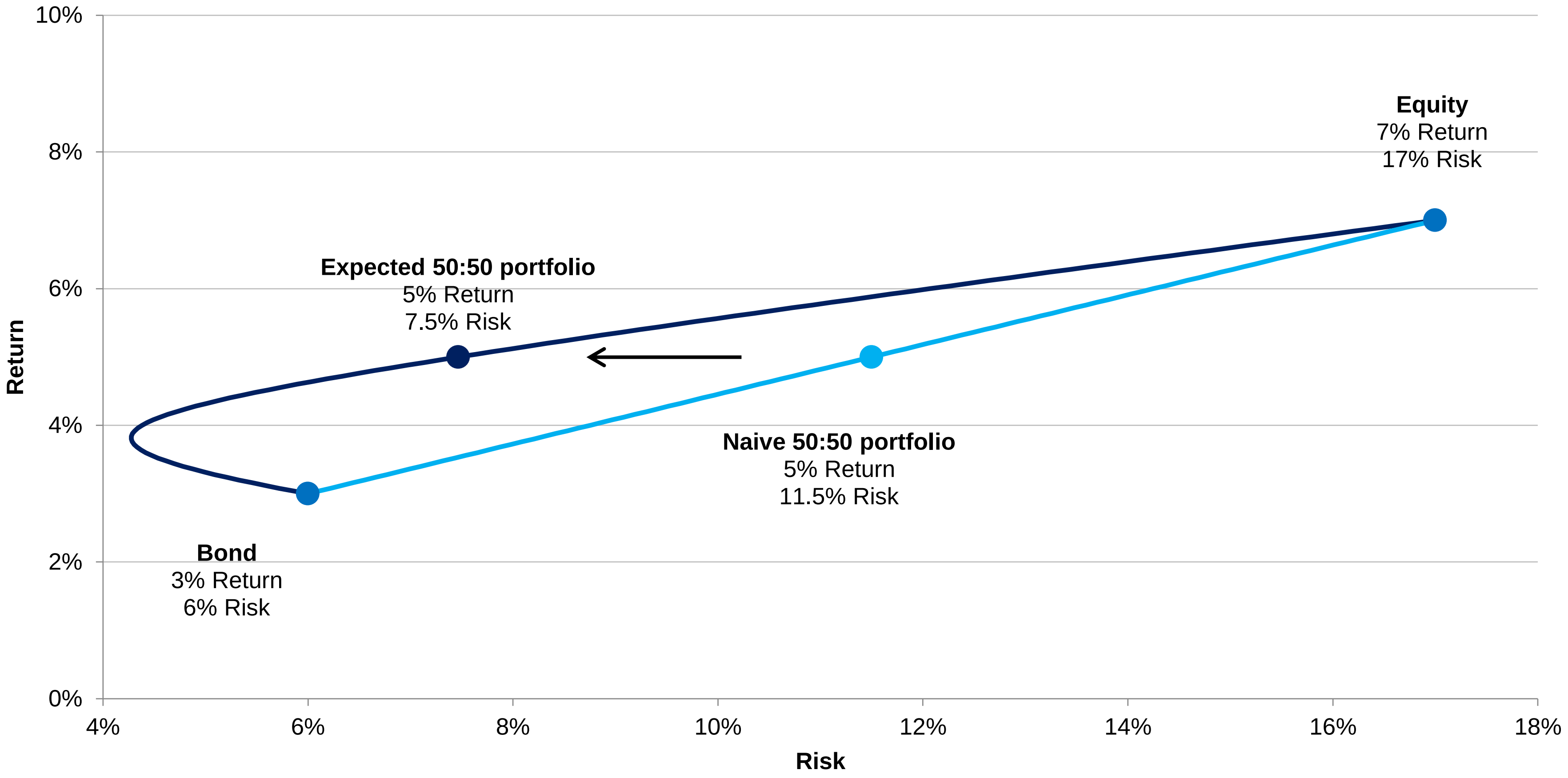
Asset Risk and Return

The benefits of diversification



…assuming a negative correlation between equities and bonds

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Understanding the Liabilities

Understanding the Liabilities

Marking to market

Market-related liability values are derived to be consistent with market prices of assets

Different liability measures are linked to market movements in different asset classes

Investment return assumptions are set with respect to different market rates of return:

- **Technical Provisions** – commonly based on fixed interest and index-linked gilts
- **Self-sufficiency/low dependency** – gilts/corporate bonds/swaps
- **Buy-out** – gilts/corporate bonds/swaps
- **Accounting** – AA-rated/high quality bonds

Understanding the Liabilities

Liability measures are driven by bond prices

Higher price of bonds leads to a higher value of liabilities and vice versa

Can reduce funding volatility by investing in lower returning protection assets…

…but the asset returns must support the funding assumptions and long-term objectives

Understanding the Liabilities

Sensitivity of liabilities

The sensitivity of the liabilities to changes in long-term interest rates and inflation expectations are key funding risk metrics

These measures are commonly referred to as ‘duration’ and are measured in years

They refer to the (actuarial) average duration of the scheme liabilities – for example, if the average term of the benefit payments is 15 years then the scheme is said to have a 15 year duration

These sensitivities vary over time and with market conditions

They are used when assessing to what extent the assets protect the funding level against changes in interest rates and inflation

For example, for a scheme with a 15 years duration, broadly speaking a 1% fall in gilt yields would lead to a 15% increase in its liabilities

5 Investment Risks

Investment Risks

Rewarded and unrewarded risks

- Rewarded risks offer higher investment returns in exchange for taking on the risk, unrewarded risks are not expected to be
- Risks have upside as well as downside – for example, rising interest rates reduce the value of liabilities

Rewarded Risks

- Growth asset volatility risk
- Default risk
- Liquidity risk

Unrewarded Risks

- Interest rate risk
- Inflation risk
- Longevity risk
- Concentration risk
- Manager risk
- Currency risk

Investment Risks

Key investment risks

Based on historical experience, the risks with most significant impact on development of funding position are:

- Growth asset volatility risk
- Interest rate risk
- Inflation risk

Other risks are important, but tend to have lower impact and can be mitigated through implementation

Investment Risks
Growth asset volatility risk

Growth asset volatility (GAV) risk is expressed in terms of the risk associated with developed market equities

Historically, developed equity market returns have typically varied by between 15% and 20% around their average return, with large falls in value from time to time

Some growth assets have less sensitivity to equity market rises and falls, e.g. property and diversified growth funds

For example, if a £10m portfolio has 50% GAV risk and equity markets were to suffer a 20% fall – one might expect the portfolio to lose 50% x 20% x £10m = £1m

Investment Risks

Interest rate and inflation risk

Interest rate and inflation risk mitigation is expressed in terms of hedging ratios – the extent to which the investment strategy would provide protection against changes in the liabilities caused by movements in long-term interest rates and inflation expectations

The sensitivity of assets or liabilities is measured as how they react to a small change in interest rates or inflation

For example, if a 0.1% p.a. fall in interest rates leads to a 2.0% increase in liabilities we say the sensitivity is 20 – also referred to as duration since it represents the average term to payment (in years)

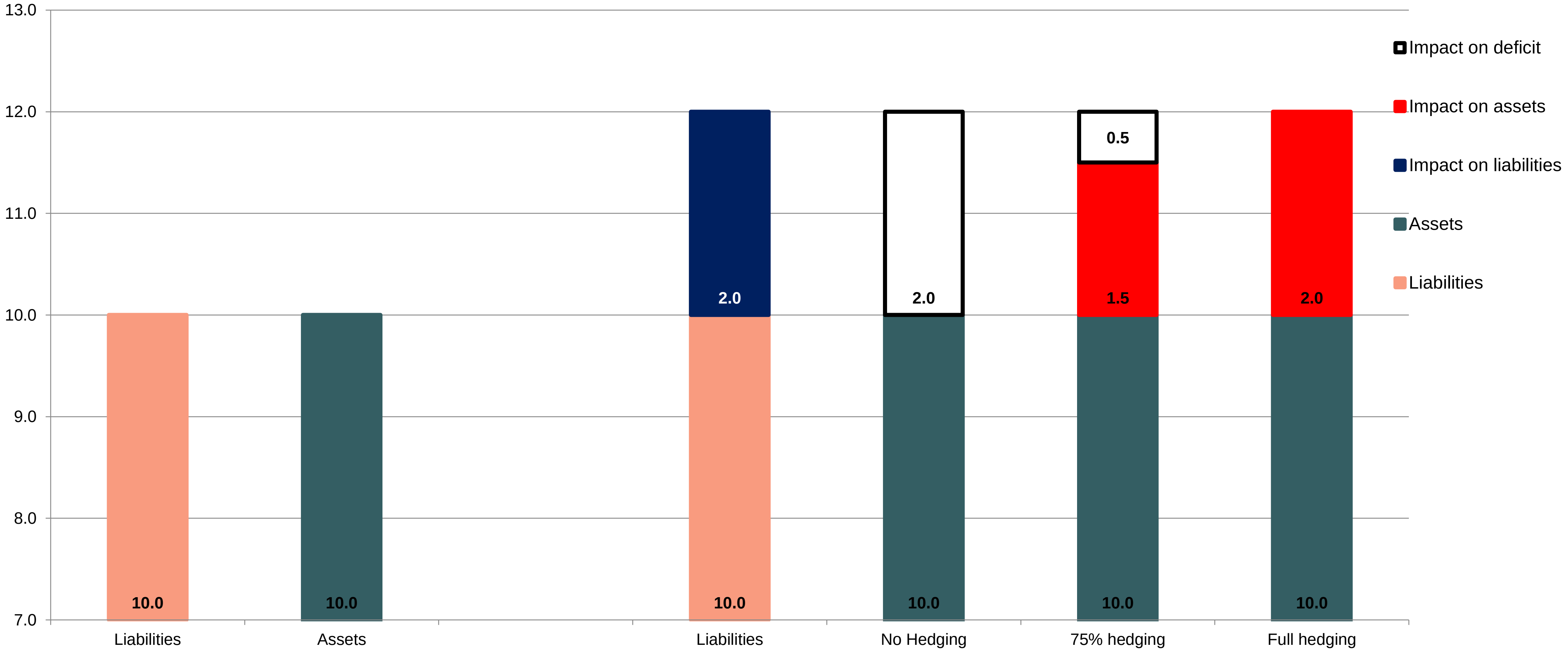
If scheme liabilities have a duration of 20 years and the assets have a duration of 15 years, the strategy has an 75% hedging ratio

Hedging ratios can be reduced in practice by the presence of a funding deficit, as the deficit would typically not be hedged

Investment Risks

Example of interest rate risk

Impact of a 1% fall in interest rates on £10m of fully funded liabilities with a 20 year duration: a 20% rise (£2m)



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Investment Risks

Neutral position on risks

A neutral position is taken by fully removing (or hedging against) that risk – if a risk is fully hedged, the future development of the Scheme's funding position should be unaffected by that risk.

Any material exposure to a particular risk should, ideally, be made explicitly and with a clear rationale.

If a funding deficit is present, even a 100% funded liability hedging ratio against interest rate or inflation risk will not remove all the risk

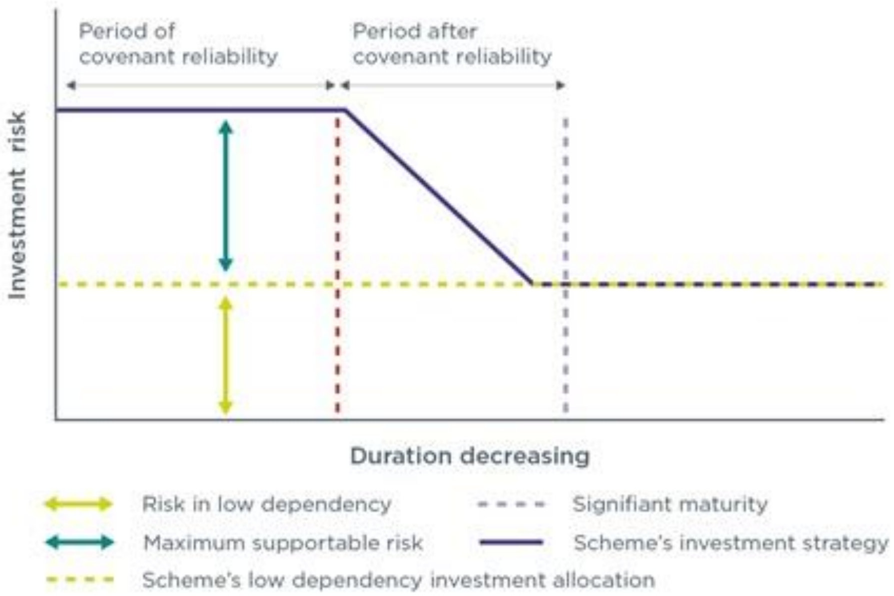
Investment Risks

New Defined Benefit Funding Code

The draft defined benefit funding code is expected to take effect from April 2024.

The Pension Regulator expects trustees to reduce risk over time.

- In particular de-risking expected once ‘covenant reliability’ period ends
- And finishing when the scheme reaches ‘significant maturity’.
- Scheme’s should be invested on a ‘low dependency’ basis once they reach ‘significant maturity’



Source: The Pensions Regulator

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Analysis of Investment Strategies

Analysis of Investment Strategies

Risk and return analysis

Consideration should be given to

- the current investment strategy
- potential alternatives
- in the context of the trustees’ objectives

The key risk metrics for the current and alternative strategies can be compared directly

Analysis of Investment Strategies

Stress tests

Stress tests show the impact of an individual market movements on the funding position in monetary terms

Example stresses illustrated might be:

- 20% fall in global equity markets
- 0.5% per annum fall in long term interest rates
- 0.5% per annum rise in inflation expectations
- 0.5% per annum widening of the credit spread (difference in yields between corporate bonds and government bonds)

Analysis of Investment Strategies

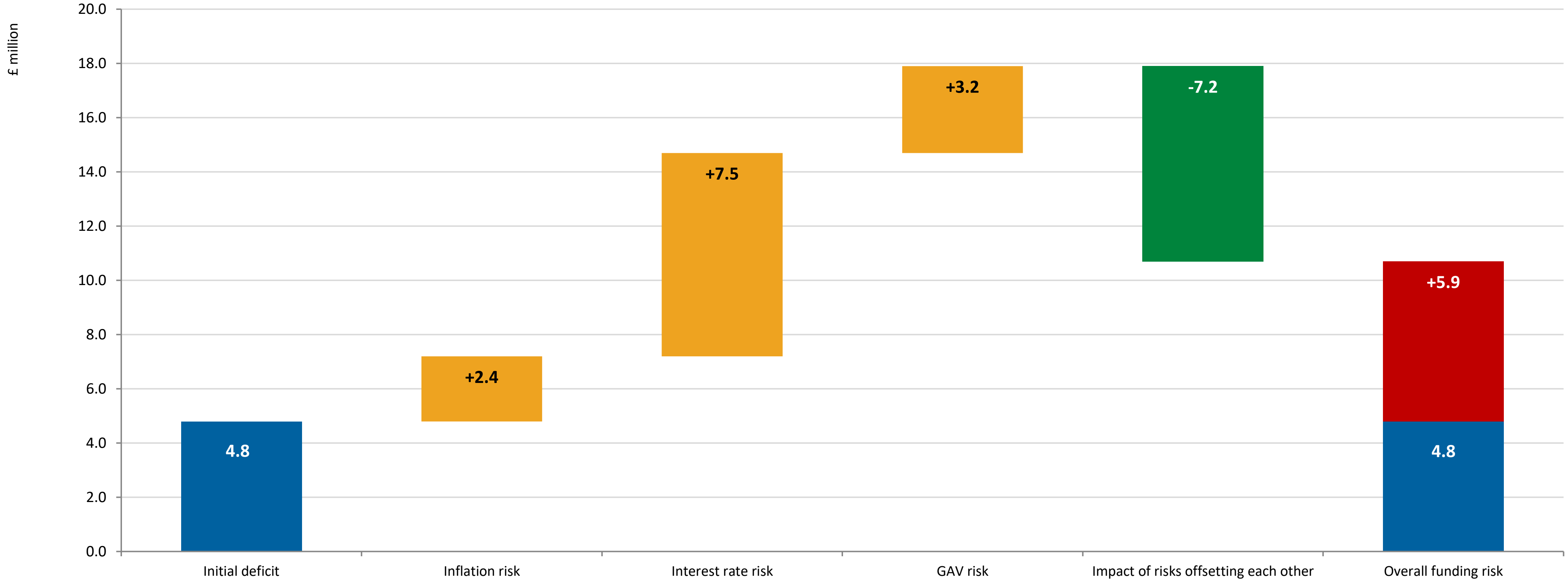
Value at risk

1. Value at Risk (VaR) provides a broad measure of risk.
2. It illustrates the overall funding loss that might be expected to be exceeded with a given probability over a specified timescale.
3. Can be based on past market experience or a model of future risks and returns
4. Allows for the interaction of the key risks that occur in practice, whereas the stress tests tend to focus on the impact of a single risk

Analysis of Investment Strategies

Example of one-year 95% Value at Risk

In this case, the deficit is expected to increase by more than £5.9m only 5% of the time



Analysis of Investment Strategies

Expected return

The expected return of any strategy should be compared against the return:

- assumed in the trustees' funding plan (as advised by the Scheme Actuary)
- required to meet any secondary long-term objective

The expected return on a prudent basis should be sufficient to support the valuation assumptions used for the Technical Provisions

The expected return on a best estimate basis should be sufficient to support the assumptions used for any Recovery Plan and be consistent with any long-term objective

Analysis of Investment Strategies

Example risk and return analysis

Strategy	CURRENT STRATEGY	STRATEGY A	STRATEGY B
General risk characteristics			
Equity-like downside GAV risk (as % of assets)	75%	55%	25%
Target hedging ratio against interest rate risk	0%	65%	90%
Target hedging ratio against inflation risk	0%	70%	90%
Market stresses			
Negative impact of a 20% fall in global equity markets	£3.0m	£2.2m	£1.0m
Negative impact of a 0.5% p.a. fall in long-term interest rates	£2.9m	£1.2m	£0.6m
Negative impact of a 0.5% p.a. rise in inflation expectations	£1.5m	£0.6m	£0.3m
One-year 95% Value at Risk			
One year increase in deficit exceeded, with a 5% probability	£5.9m	£3.1m	£1.0m
% risk reduction relative to current strategy	-	-48%	-83%
Expected returns relative to gilt yields			
Prudent expected return (relative to gilt yields)	2.0% p.a.	1.5% p.a.	1.1% p.a.
Best-estimate expected return (relative to gilt yields)	3.7% p.a.	3.2% p.a.	2.2% p.a.

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Analysis of Investment Strategies

Other considerations

- Putting a de-risking plan in place
  - reduce risk when pre-agreed triggers are met (such as achieving a particular funding level)
- Cashflow sustainability
  - is the scheme cashflow positive or negative?
  - will the assets help support cashflow requirements?
  - would poor investment performance at a time of heavy outgo mean selling at a permanent loss?
- Transaction costs
- Ongoing investment management costs

Analysis of Investment Strategies

Next steps

1. Consideration of the strategy by the trustees
2. Consultation with the sponsor
3. Decide upon a suitable manager structure
4. Transition the assets to the new structure
5. Produce a Statement of Investment Principles
6. Monitor the investment arrangements

Questions?

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