An overview of the Defined Benefit Investment Strategy for the 2020 valuation

A presentation for sponsoring employers

21 February 2022

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Executive summary

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- **Objectives of this overview presentation**
  - This presentation gives an overview of the **Valuation Investment Strategy (VIS)** and the process leading to the formal consultation on the **Statement of Investment Principles (SIP)**. Its objectives are:
    1. To improve understanding of the **VIS** within the construct of the 2020 valuation
    2. To help employers prepare for the **formal consultation on the SIP**
    3. To provide you with a basis for **further reflection, questions and informal feedback**

- **Summary: The VIS**
  - The Trustee Board in December 2021 made an **"in-principle"** decision on the details of the VIS
    - This decision is **SUBJECT TO** (i) execution of the deed of amendment in respect of benefit changes approved by the JNC and (ii) further review following formal consultation on the Statement of Investment Principles (SIP)
  - The **allocation to growth assets has been maintained at the current level** (c. 60%)
  - **Additional liability hedging** has been incorporated while maintaining growth assets to bring the strategy within risk appetite
  - **Additional leverage** has been incorporated to facilitate the additional hedging whilst maintaining growth asset exposure

- **Summary: The SIP**
  - The formal consultation with employers on the SIP will start in late March / early April 2022
  - The SIP is a document covering the ***principles***, rather than the details, of investment strategy (see Appendix)
  - The SIP refers to more detailed documents covering, for example, the VIS, Responsible Investment, SIP Implementation Statement
  - The consultation will provide an opportunity for employers (including UUK and UCU) to provide formal feedback

Process of development and finalisation of the VIS

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- **The Trustee's "in-principle" decision on the valuation investment strategy (VIS)**
  - This decision made Trustee in December was based on more than 12 months of work by the ALM/Investment Strategy working group, with the involvement of the Trustee Board and the Investment Committee
  - This decision reflects:
    - Comprehensive, holistic **analysis** of the investment strategy **in the context of the IRMF**
    - The **impact of (i) benefit change and (ii) additional covenant support**
    - Consideration of **stakeholders' views** that the level of growth assets should **not** be reduced
    - Advice from **external advisors** (LCP, Mercer and PwC), who have been closely involved throughout the process
    - The outcome of comprehensive **discussions and workshops with the Trustee Board** to calibrate risk appetite

- **There are two feedback processes before the VIS is finalised**
  - We are currently seeking **informal feedback** on the VIS until 9 March
    - This feedback will be considered in relation to the formal SIP Consultation
  - The SIP Consultation will provide an opportunity for **formal feedback**
    - It will begin late March/Early April and run for 4-6 weeks
  - **The Trustee's decision on the VIS will be reviewed** after the formal Consultation on the SIP
    - Following the consultation, the VIS will either be confirmed or modified

The SIP is supplemented by additional documentation

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Statement of Investment Principles (SIP)

The Pensions Act 1995 ('PA 1995')
Requires that trustees put in place, and maintain, a SIP which governs how they make decisions about the investment of the scheme's assets. Trustees (or the fund manager acting on their behalf) must exercise their investment power with a view to giving effect to the principles contained in the statement, so far as reasonably practicable.

See the Appendix for what is covered by the SIP

The current version of the SIP is available on the USS website in the section "How USS invests"

Subject to formal consultation with employers

Related Documents

Available in the Annual Report and Accounts

- The SIP Implementation Statement

Available on the USS website in the section "How USS invests"

- The Valuation Investment Strategy (VIS) for the DB Section
- Composition of the Valuation Investment Strategy (VIS)
- Investment beliefs
- Responsible investment documents
- And others

See in particular:

- https://www.uss.co.uk/how-we-invest/our-principles-and-approach
- https://www.uss.co.uk/how-we-invest/responsible-investment
- https://www.uss.co.uk/how-we-invest/how-we-manage-the-funds
- https://www.uss.co.uk/how-we-invest/investment-strategies
- https://www.uss.co.uk/how-we-invest/where-we-invest

Subject to informal feedback

The process for finalising investment strategy: Informal engagement followed by the formal SIP consultation

JNC update
14 Jan

EPF presentation
26 Jan

Deadline for any written feedback
9 Mar

JNC update following Trustee Board decision
29 Mar

Trustee Board final decision
24 May

Jan Feb Mar Apr May Jun

HOI update
18 Jan

Trustee Board decision for the formal SIP consultation
24 Mar

- UCU meeting
- UUK meeting
- Employer overview webinars (21 and 25 Feb)
- Employer technical webinar (28 Feb)

From mid Feb to early Mar

Formal SIP consultation with employers
From late Mar/early Apr for 4-6 weeks

The "Valuation Investment Strategy" or "VIS"

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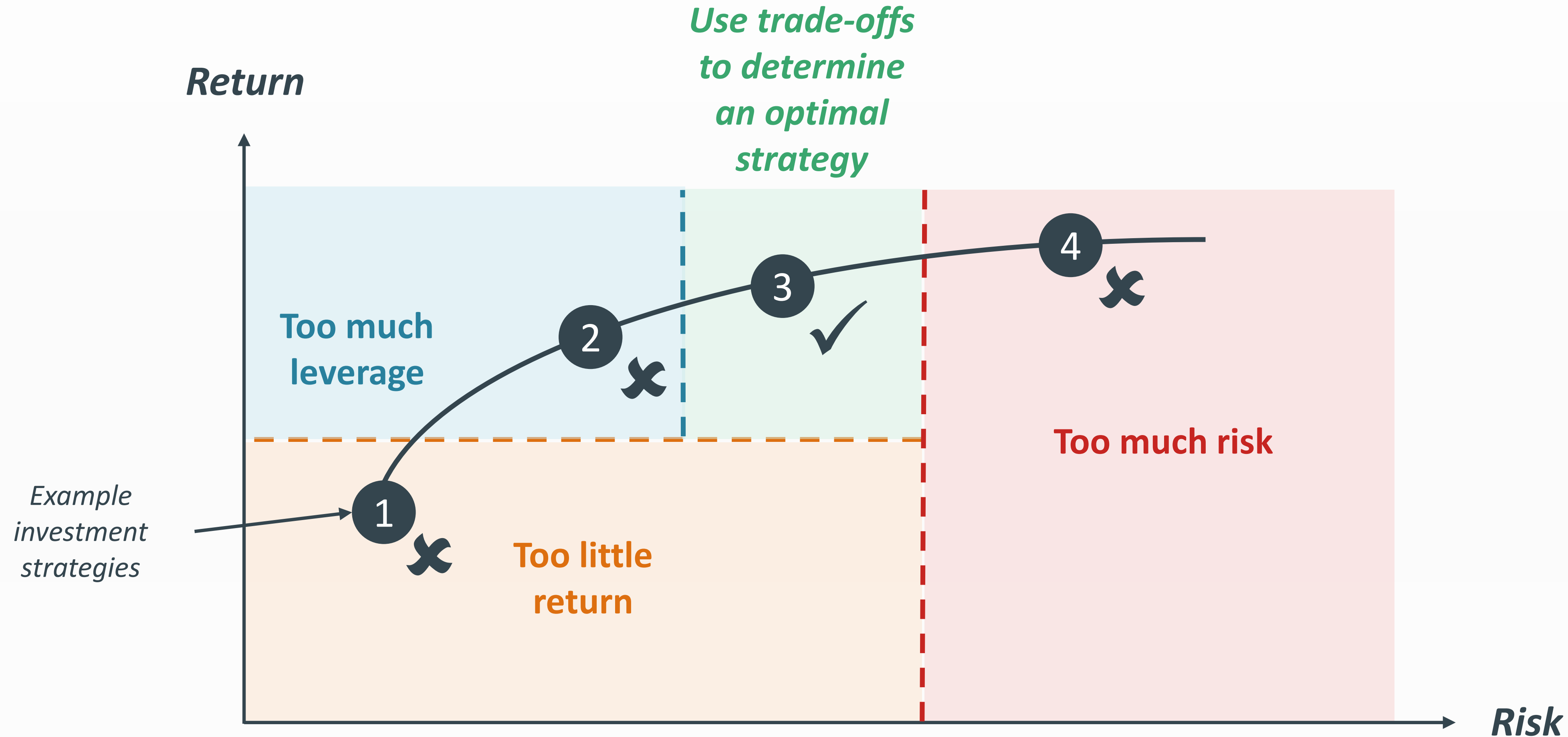
- **Role of the Valuation Investment Strategy**
  - To support the outcome of the valuation
  - To monitor progress against the valuation's baseline position (Monitoring & Actions Framework)
  - To feed into the valuation's Financial Management Plan (FMP)
  - For communication

- **The Valuation Investment Strategy is:**
  - An investment strategy **aligned with the IRMF, the valuation methodology/assumptions and Trustee risk appetite**
  - **Similar to the current Reference Portfolio** in formulation/composition
  - Reflective of the expected **gradual migration of the pre-and post-retirement liability cohorts**
  - An **input to guide the development of the implemented portfolio**

- **The Valuation Investment Strategy is not:**
  - The **implemented investment portfolio**
  - Intended to impose the expected gradual migration as **a mechanically implemented journey plan**

The VIS has three key building blocks: *growth assets*, *hedging assets* and *leverage*

The proposed VIS reflects a *trade-off* between risk and expected return in the acceptable range



Filter strategies that either: use too much leverage, take too much risk, or generate too little return

The proposed VIS

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- **Growth: Maintains a high allocation to growth assets over time**
  - The proposed VIS maintains the current allocation to **growth assets of c. 60%**
  - The proposed VIS would maintain a **higher allocation to growth assets over time than under the 2018 valuation**, which involved a progressive reduction in the allocation to growth assets of c. 7.5% every three years

- **Hedging: Has increased hedging of liability-related risks (inflation risk and interest rate risk)**
  - The additional hedging **reduces the total risk** (relative to the liabilities) and **reduces the imbalance between different risks**
  - **The hedge ratio** (essentially the value of hedging assets as a percentage of the self-sufficiency liability) **has increased from 34% for interest rate risk / 28% for inflation risk** (at 30 September 2021) **to 40% for both**

- **Leverage: Has increased leverage**
  - The additional leverage allows increased liability hedging **without** reducing the allocation to growth assets

- **How does the proposed VIS compare with the "notional" investment strategies considered earlier in the valuation?**
  - Relative to the "notional" strategies containing up to 55% growth assets that were modelled earlier in the valuation, the VIS has a **similar expected return** and a better balance of risks, in particular more protection against interest rate and inflation risks
  - We believe that the actual investment strategy should not be dictated directly by the DDR approach, a point that has also been made by UCU's advisor First Actuarial

The asset allocation for the proposed VIS maintains growth assets at 60%, while increasing the hedging of liability-related risks

Asset Allocation for the VIS (% of assets)

	Current[1]	VIS
Growth	61%	**60%**
Credit	21%	**25%**
LDI (Hedging)	35%	**52%**
Leverage[2]	–17%	**–37%**
Total	100%	**100%**

[1] Current allocation is as of 30 September 2021.
[2] Leverage effectively involves a collateralised form of "borrowing" using different financial instruments. Because of the requirement to post collateral and the risks associated with leverage, it needs to be monitored and managed carefully.

Breakdown of Growth and Credit for the VIS

Component	Asset class	Sub-asset class breakdown
Growth	90% Equity	20% UK Equity 65% Developed Market ex UK 15% Emerging Market
	10% Property	100% Property
Credit	100% Other Fixed Income	15% Emerging Market Debt 40% UK Credit 20% Global Credit 10% Global High Yield 15% US TIPS

The proposed VIS reflects an appropriate balance of risks and expected return;
It is consistent with the IRMF and the Trustee's risk appetite

Hedging more liability-related risks helps us to better manage: (i) the overall level of risk and (ii) the balance of different risks

- **The current portfolio has an unacceptable risk profile under the 2020 valuation**
  - The **total risk is beyond risk appetite** under the 2020 valuation, and the **profile of different risks is unbalanced**
    - Around two thirds of the total risk in the Self-Sufficiency Deficit is driven by liability-related risks (interest rate and inflation risks) and around only one third is driven by the risk associated with growth assets

- **There are benefits from hedging more liability-related interest rate and inflation risks**
  - The additional hedging **reduces the total risk** (relative to liabilities) and **reduces the imbalance between the risks**
  - We believe that our risk exposures should be well diversified, and have conviction that exposure to growth asset risks are rewarded over the long term
  - We don't have to give up hope of higher returns from growth assets simply because we want to hedge liability risks
    - Instead of selling growth assets, we can use **leverage** to purchase liability hedges. We concluded that this is the most appropriate way to manage the "cost" of hedging, and that this approach retains exposure to potentially higher returns
    - The risks associated with leverage have been analysed by USSIM and are comfortably within risk appetite

- **Note:**
  - **Hedging does not remove all the liability-related risks**, but it does reduce them. **There remain significant unhedged risks:**
    - **60% of the risk** related to the **accrued Self-Sufficiency liability** is unhedged, and
    - **100% of the risk** related to the **future service liability** is unhedged

What could be the return impact of more hedging?

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- **The return impact of more liability hedging depends on potential changes to UK real interest rates**
  - All else equal, if UK real interest rates:
    - ***FALL***, **the extra hedging would be 'profitable'**, but **the funding level would deteriorate** (the liabilities would grow by more than the assets because 60% of the liability interest rate and inflation risk remains unhedged)
    - ***RISE***, **the extra hedging would not be 'profitable'**, but **the funding level would improve** (the liabilities would fall by more than the assets, again because of unhedged liability risk)

- **The cost of hedging depends on the scenario that plays out**
  - Consider an instantaneous c. 10% increase to the Hedge Ratio: [1]
    - ***Under market-consistent projections***, the cost of the additional hedging is 0
    - ***Under FBB Base Case assumptions***, UK real interest rates ***rise*** by c. 2.1% over 10 years. The increased hedging ***reduces the expected return*** of the VIS by c. 0.25% p.a. But the funding level would still be high
    - ***Under the opposite assumption*** that UK real interest rates ***fall*** in an analogous way, the increased hedging ***increases the expected return*** of the VIS relative to the Reference Portfolio by c. 0.25% p.a. So the funding level would be partially protected

- **Note:** The current Reference Portfolio is on a de-risking journey under the 2018 valuation, with it's Hedge Ratio due to reach 40% (i.e. same as the VIS) by around mid-2025. The hedging in the VIS can therefore be thought of as an accelerated version of the 2018 Reference Portfolio journey plan, but with a higher growth allocation

[1] *Before transaction costs and with all else being equal*

Why are we proposing to hedge more now?

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The following 3 key points underpin our decision to increase the hedge ratio at this point in time

1. **Size of Scheme vs the Higher Education Sector**
   - The **size of the Scheme has continued to grow relative to the size of the Sector.** So the risks have become more meaningful in relation to the risk capacity of the sector
   - Increasing the Hedge Ratios is important to better align investment strategy with the Sector's risk capacity and the Trustee's risk appetite

2. **The current level and possible future path of real interest rates**
   - Current UK interest rates are low by historical standards, and the UK real interest rate curve is likely further depressed by the well documented supply and demand imbalance
   - These observations are reflected in our Base Case FBB expected return assumptions, which allow for an upward migration of UK nominal and real interest rates over a 10-year period
   - However, this assumption is subject to a wide margin of uncertainty and there are plausible scenarios in which such migration would not happen for an extended period. As a result, **there remains a distinct possibility of further falls in UK real interest rates**
   - A further downward move in real rates would put further pressure on the funding position relative to the size of the sector

3. **Implementation Factors**
   - It will take time to build up the scheme's hedge ratio to that in the VIS given the available supply of UK Index Linked Gilts. We plan therefore to build up the hedge ratio over time, taking advantage of periods of heightened supply and attractive pricing points
   - The move to a 40% Hedge Ratio represents an increase of 6% in rates and 12% in inflation as of 30/09/2021. This is a relatively modest increase, and indeed was already factored into the Reference Portfolio journey plan over the coming years

Leverage is an important tool in investment management

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- **What do we mean by leverage and collateral?**
  - Leverage effectively involves a **collateralised form of "borrowing"** using different financial instruments, such as repurchase agreements (repos), swaps, futures and other derivatives
  - **We "post" and "receive" collateral** when managing leverage. This protects both the lender and the Scheme in the event of default. Different types of assets are accepted as collateral depending on the form of leverage
  - The amount of collateral posted is a function of the level of leverage, the associated risk, and the unrealised profit/loss
  - We therefore have to closely control our ability to manage collateral when considering the level of supportable leverage

- **What is the purpose of leverage?**
  - The primary purpose of leverage is to **facilitate efficient risk management**. It also facilitates efficient capital deployment
  - Like many UK DB schemes, leverage is an important building block of the USS investment strategy and has been for many years
  - It permits management of hedges without necessarily adjusting growth assets. This allows us to pursue higher risk-adjusted returns
  - The increased leverage in the VIS is deployed in a way that reduces the impact of adverse changes in interest rates and inflation on the funding position and allows us to maintain a similar expected return

- **How does leverage interact with the wider portfolio?**
  - All else being equal, the higher the allocation to growth assets, the higher the leverage required to support the same hedge ratio
  - The level of supportable leverage is constrained by collateral requirements and operational/regulatory limits (see next page)
  - This is, in part, why allocations to growth assets higher than 60% are **not** consistent with the Trustee's risk appetite

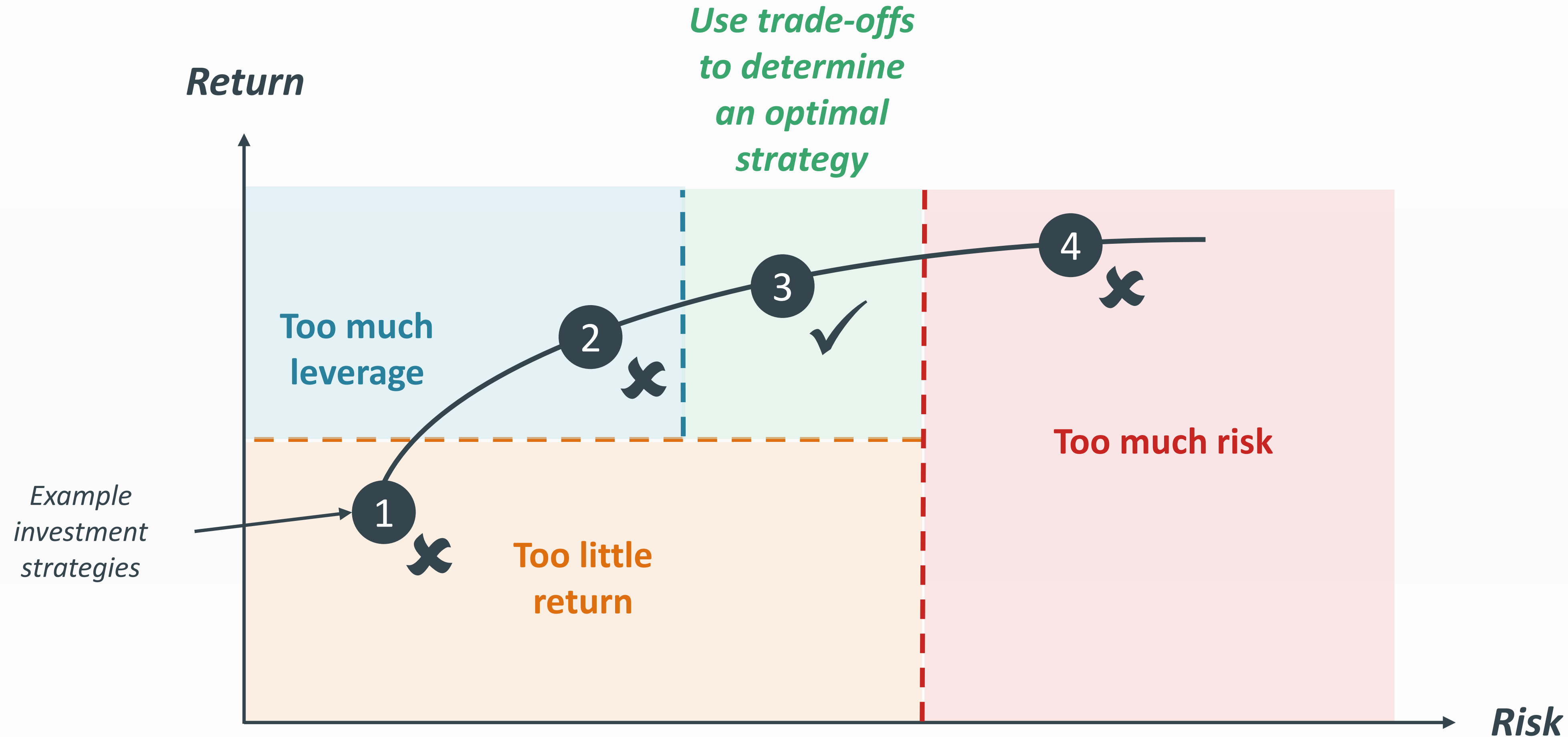
Leverage is an important tool in investment management

- **Leverage improves asset-liability risk management, but introduces other risks**
  - Because of the requirement to post collateral and the risks associated with leverage, it needs to be monitored and managed carefully
  - Some of our leverage controls include:
    - **Leverage monitor** – are we staying within allowed bands?
    - **Liquidity monitor** – could we run out cash?
    - **Counterparty risk monitor** – are we diversifying across counterparties? Is counterparty creditworthiness acceptable? Is the counterparty exposure within the specified limits?
    - **Limits on repo processes** – reduce risk associated with rolling repos
    - **Stress testing collateral demand** – could we run out of collateral?

USS leverage (December 31st 2021)	
Source of Leverage[1]	Amount in £
Bond and Equity Swaps/Futures	£9.7bn
Repo/Gilt TRS	£4.8bn
Interest Rate & Inflation Swaps	£8.5bn
Commodity Swaps	£630m
Cash assets (negative leverage)	-£1.8bn
Total (net of cash assets)	**£21.2bn** (23.0%)

[1] Prevailing funding costs are a key determinant with respect to the source of capital for the purposes of hedge ratio management.

The proposed VIS reflects a *trade-off* between risk and expected return in the acceptable range



We started with a wide range of strategies and identified those in the acceptable green range

Some examples of candidate investment strategies

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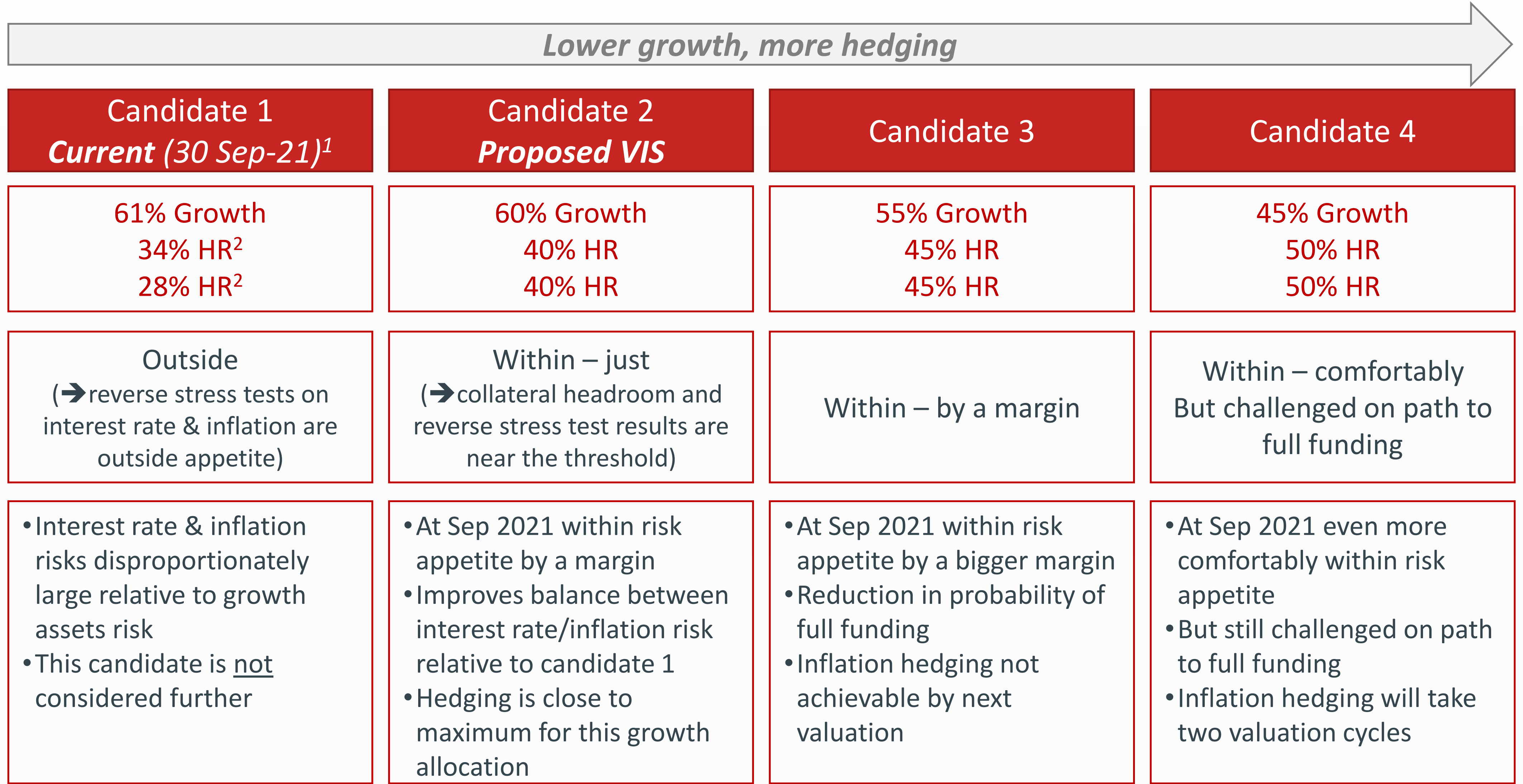

Lower growth, more hedging →

	Candidate 1 ***Current** (30 Sep-21)*[1]	Candidate 2 ***Proposed VIS***	Candidate 3	Candidate 4
Growth assets:	61% Growth	60% Growth	55% Growth	45% Growth
Int. rate hedge:	34% HR[2]	40% HR	45% HR	50% HR
Inflation hedge:	28% HR[2]	40% HR	45% HR	50% HR
Risk Appetite Position (Mar 2021)	Outside (➔reverse stress tests on interest rate & inflation are outside appetite)	Within – just (➔collateral headroom and reverse stress test results are near the threshold)	Within – by a margin	Within – comfortably But challenged on path to full funding
	• Interest rate & inflation risks disproportionately large relative to growth assets risk • This candidate is not considered further	• At Sep 2021 within risk appetite by a margin • Improves balance between interest rate/inflation risk relative to candidate 1 • Hedging is close to maximum for this growth allocation	• At Sep 2021 within risk appetite by a bigger margin • Reduction in probability of full funding • Inflation hedging not achievable by next valuation	• At Sep 2021 even more comfortably within risk appetite • But still challenged on path to full funding • Inflation hedging will take two valuation cycles

[1] The current portfolio composition modelled in the ALM Framework corresponds to 60% Growth, 25% Credit, 30% inflation HR and 30% interest rate HR.

[2] The hedge ratios (HR) for the current portfolio are determined based on a beta of 1 for TIPS.

A perspective on the risk-return trade off – as at 31 March 2021 (for different expected returns)

Probability of Being Fully TP Funded at Year 10

75%
70%
65%
60%
55%
50%

Candidates under Base Case FBB expected returns

More Growth, Less Hedging

1
2
3
4

2
1
3
4

Candidates under expected returns based on YFTF "yields follow the forwards"

Less Growth, More Hedging

0.0% 0.5% 1.0% 1.5% 2.0% 2.5% 3.0% 3.5% 4.0%

Probability at year 3 of the SS deficit breaching 150% of Affordable Risk Capacity

- 1 Current portfolio 60% growth, c. 30% HR
- 2 60% growth, 40% HR
- 3 55% growth, 45% HR
- 4 45% growth, 50% HR

Note that this is not an "efficient frontier" chart, but merely a chart of risk vs return for selected portfolios

Conclusion: The proposed VIS

- **Current portfolio is outside the Trustee's risk appetite under the 2020 valuation**
  - The **total risk is beyond risk appetite** and the **profile of different risks is unbalanced**
    - Reverse stress tests show the self-sufficiency deficit could exceed 150% of the Affordable Risk Capacity
    - Stochastic modelling implies a relatively high probability of breaching 150% of ARC for the current portfolio
    - Around two thirds of the total risk in the Self-Sufficiency Deficit is driven by liability-related risks

- **The VIS involves only a moderate change to the current allocation, but would be very different in the long term**
  - **Growth assets:** Same as the current allocation of c. 60%, but would remain much higher over time than the 2018 valuation
  - **Hedging assets:** Moderately higher hedging of interest-rate and inflation risks to Hedge Ratios of 40%
  - **Leverage:** Higher leverage of 137%, not out of line with large UK schemes for which the range is 100%-200%

- **Why are we proposing to increase hedging now?**
  - The size of the Scheme has continued to grow relative to the size of the HE Sector. So the risks have become more meaningful in relation to the Sector's risk capacity
  - Increasing the Hedge Ratios in the VIS is important to better align investment strategy with the Sector's risk capacity and the Trustee's risk appetite