East Sussex Pension Fund

Investment Strategy Review

July 2021

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Document Classification: Confidential

Contents

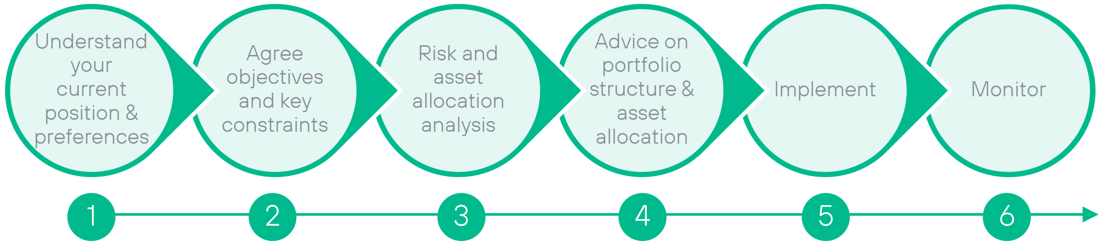
Introduction

Addressee

- This report is addressed to the East Sussex County Council ("the Council") as Administering Authority of the East Sussex Pension Fund ("the Fund").

Background

- The Council has engaged Isio to undertake a detailed review of the Fund's overall investment strategy in order to quantify the inherent risks and to consider options for the evolution of the asset allocation. As well as high level asset allocation, Isio has been asked to focus on certain key specific areas of the portfolio, and to provide recommendations on how these should evolve going forward.
- The diagram below highlights the key stages in our approach for assessing overall investment strategy, with this paper focussing on stages 1-4.



Scope of Report

- This paper provides a detailed review of the Fund's current investment strategy, asset allocation and investment structure, including:
    - Portfolio risk/return characteristics
    - The projected evolution of the funding position
    - An overview of the suitability of the Fund's equity, fixed income and diversified growth and real assets portfolios
    - An overview of the Fund's cash flow requirements, asset income and liquidity profile; and how these are expected to evolve going forward
    - An overview of any potential attractive asset class opportunities which could be suitable for the Fund
    - A range of alternative portfolios which we believe may be better aligned to the Fund's objectives.
- We have integrated environmental, social and governance ('ESG') considerations throughout the review, including in our assessment of how the portfolio could evolve going forwards. Such considerations have been evaluated with the Fund's ESG principles in mind.

Objectives

Financial Objectives

- We understand that the Fund's objectives, as outlined in the March 2020 Funding Strategy Statement, are:
    - To ensure the long-term solvency of the Fund, using a prudent long term view, to ensure that sufficient resources are available to meet all liabilities as they fall due.
    - To minimise the long-term cash contributions which employers need to pay to the Fund, by recognising the link between assets and liabilities and adopting an investment strategy which balances risk and return.
    - To reflect the different characteristics of different employers in determining contribution rates.
- Thus the objective is to deliver a return that improves the funding level over time (to achieve future lower employer contribution rates), with as little volatility in the funding level as possible (to maintain stability of contributions as far as possible), and maintain sufficient assets to meet liabilities i.e. an overall funding level of 100% or more. The assumptions underlying the Actuary's funding basis are important factors in determining the return requirement. As the Fund grows, it will also be important to ensure that stability, relative to sponsor budgets, is maintained.

Evolution

- The Fund remains open to new members and future accrual. It is therefore growing due both due to interest accruing on past service liabilities, and due to new liability accrual. The liabilities are also maturing (the proportion of pensioner members is growing) and this will change the cash flow profile of the Fund over time. Ultimately more cash will be paid out than is received in cash contributions, making asset income an increasingly important consideration going forward.

ESG

- In addition to the funding objectives, the Fund has clear principles in relation to ESG issues which are summarised in the Statement of Responsible Investment Principles. These are as follows:
    1. Apply long-term thinking to deliver long-term sustainable returns
    2. Seek sustainable returns from well-governed assets.
    3. Use an evidence-based long term investment appraisal to inform decision-making in the implementation of RI principles and consider the costs of RI decisions consistent with our fiduciary duties.
    4. Evaluate and manage carbon exposure in order to mitigate risks to the Fund from climate change.
- It is important to ensure the strategy is aligned with these principles.

Objectives (continued)

What Return is Required?

- At the March 2019 Actuarial Valuation, the discount rate used to value the liabilities was 4.0% p.a. The Actuary therefore requires the assets to deliver at least 4.0% p.a. to achieve full-funding based on the agreed contributions (all else being equal).
- The discount rate assumption is based upon the absolute level of returns that the asset portfolio is expected to achieve. As at 31 March 2019 the Actuary estimated that the Fund's assets had a 75% likelihood of achieving this return.
- As at the date of the modelling in this report, 31 March 2021, we estimated the expected return of the Fund's investment strategy to be 5.3% p.a. This is on a best estimate basis.
- The difference between the expected return of 5.3% p.a. and required return of 4.0% reflects an element of prudence in the Actuarial funding assumptions, which is to be expected.
- Given the significant surplus achieved and margin between the expected and required return, we believe there may be some scope to reduce overall risk and return if desired. However any change in expected return should be discussed with the Actuary prior to implementation to ensure this does not impact the funding methodology.

Current strategy

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Investment strategy overview

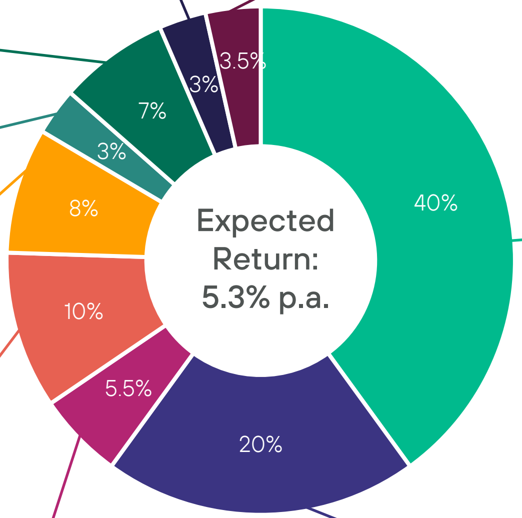
Key:
Strategic Weights in Chart
(Actual Allocations) in brackets

Index-Linked Gilts (3%)
UBS Over 5 Year IL Gilt Fund: £129m (3%)

Fixed Interest Bonds (2%)
M&G Corporate Bonds: £158m (4%)

Diversified Credit (7%)
M&G Alpha Opportunities: £285m (7%)

Private Debt (1%)
M&G Private Debt: £42m (1%)



Equity (42%)
UBS Global Equities: £362m (9%)
USB UK Equity: £67m (2%)
Longview Global Equity: £459m (11%)
WHEB Sustainability Fund: £223m (5%)
Wellington Global Impact Fund: £223m (5%)
Storebrand Global ESG Plus Fund: £455m (11%)

Infrastructure (4%)
UBS Infrastructure: £38m (1%)
Pantheon Infrastructure: £38m (1%)
M&G Infrastructure: £33m (1%)
ATLAS Global Infrastructure: £77m (2%)

Property (8%)
Schroders Property: £348m (8%)

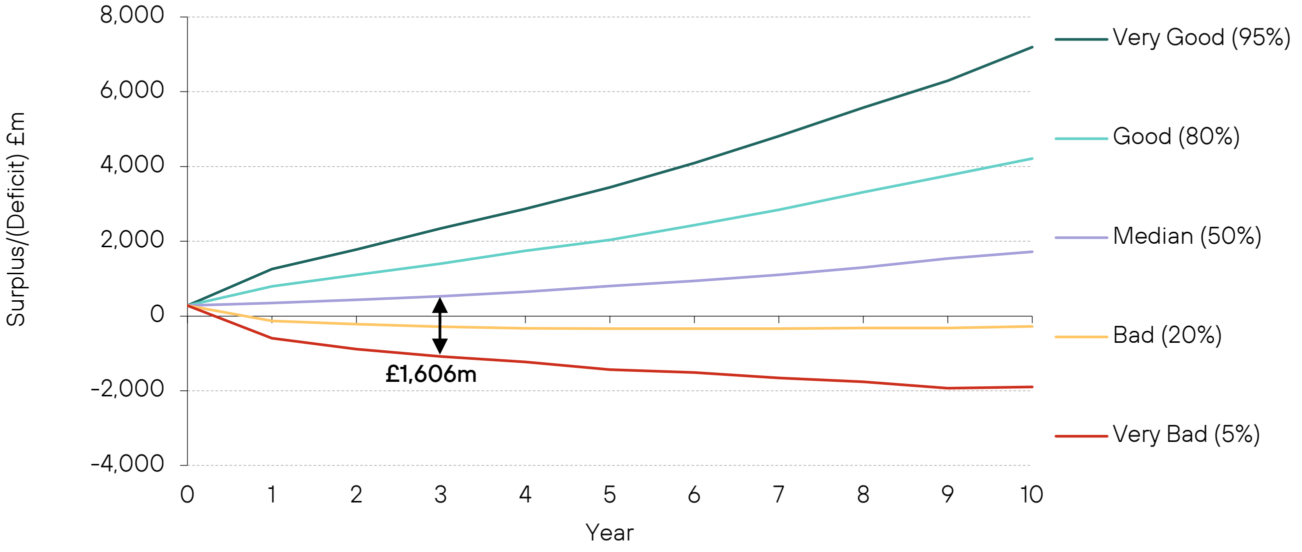
Private Equity (6%)
HarbourVest Private Equity: £111m (3%)
Adams Street Private Equity: £155m (4%)

Diversified Growth (24%)
Newton Absolute Return: £492m (12%)
Ruffer Absolute Return Fund: £510m (12%)

Source: Investment managers at 31 March 2021.

Funding trajectory

Current Funding Trajectory



Funding Position – 31 March 2021	
Discount rate	4.0%
Current surplus (deficit)	£277m
Current funding level	c.107%

Forecast Funding Position – 3 Years' Time	
Expected deficit / surplus	£524m
Expected funding level	c. 114%
Estimated Funding Deficit 1 in 20 chance (5%)	(£1,082m)

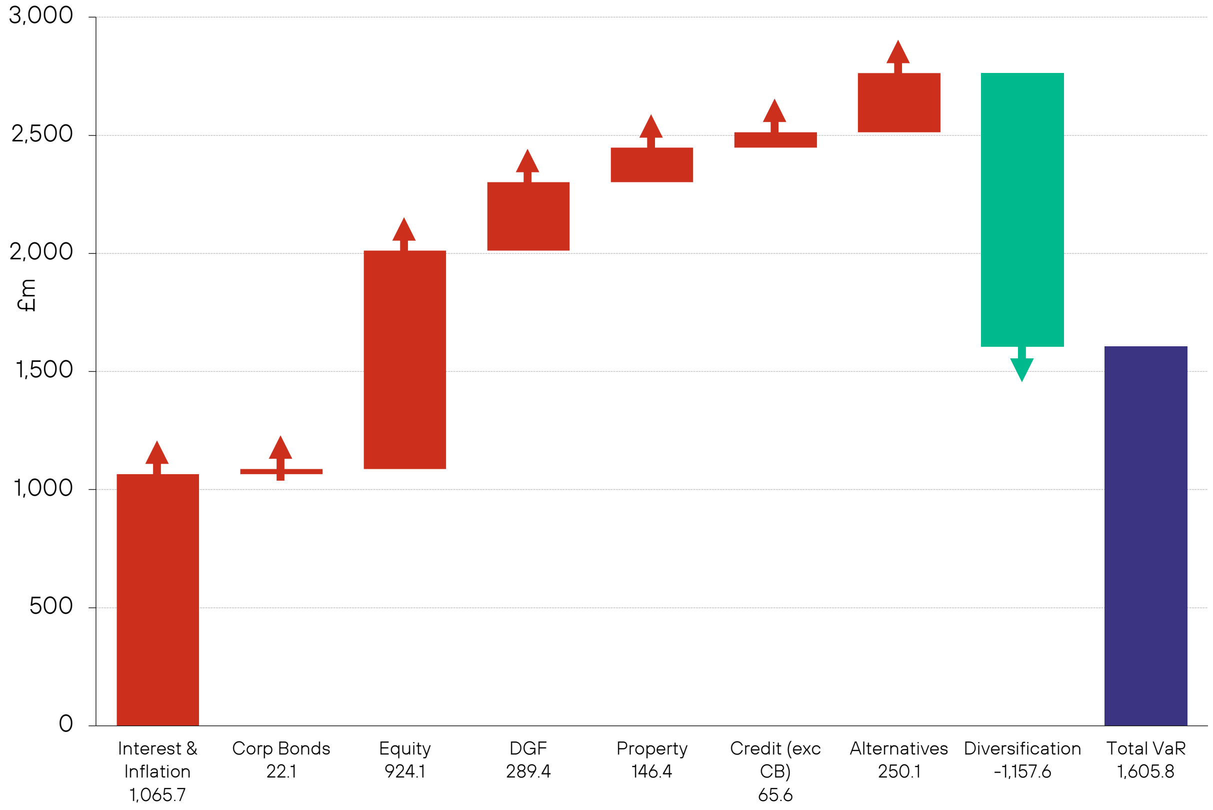
Source: Barnett Waddingham Robertson, Isio calculations. Notes: Start funding position has been assumed to be 107% as at 31 March 2021. This analysis assumes that there is no future funding strain for the Fund (i.e. the cost of future service accrual is broadly equal to future service contributions). This point has been confirmed by the Fund Actuary.

Comments

- The central expectation is for the funding position to continue to improve and increase gradually over time due to investment returns along with employer and employee contributions.
- Based on the estimated 31 March 2021 position and median predicted outcome going forward, we expect the Fund to be in a surplus of c. £520m in 3 years' time (up from c. £280m at the end of March 2021).
- Ultimately any surplus could be used to bring down the future service cost of the Fund to the employers.
- The chart highlights the degree of variation (both upside and downside) that the Fund is exposed to by the current investment strategy. This volatility could have a material impact on the funding position and the future cash funding requirements.
- Given the current investment risk in the strategy, there is a 1 in 20 chance that a deficit of c.£1,082m or more could arise in 3 years' time – this would trigger a need for the deficit contribution rate to be paid in addition to the cost of future accrual.
- Given the current strong funding position, we believe there is scope to reduce investment risk and lessen the impact of any potential downside scenarios, essentially narrowing the range of potential outcomes.
- Reducing investment risk, and narrowing the range of potential return outcomes, would reduce the potential variability of contribution rates at future valuations. We believe this could be done with minimal impact to expected returns.

Risk analysis

Value at Risk (3 year, 95%) Breakdown - Strategic allocation



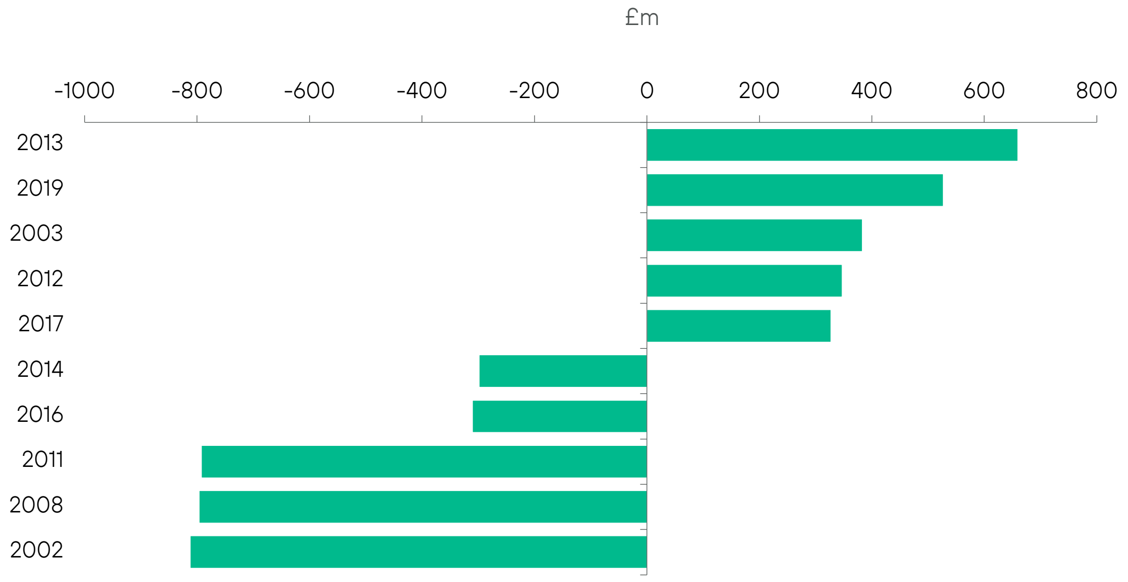
Source: Barnett Waddingham Robertson, Isio calculations. Notes: Start funding position has been assumed to be 107% as at 31 March 2021. This analysis assumes that there is no future funding strain for the Fund (i.e. the cost of future service accrual is broadly equal to future service contributions). This point has been confirmed by the Fund Actuary.

Equity and Inflation are the Most Significant Risks

- The chart to the left illustrates the overall level, and composition of investment risk in the strategic asset allocation, as measured by the 1 in 20, 3 year Value at Risk ("VaR"). The VaR represents the difference in the funding in three years' time between the expected outcome and a 1 in 20 outcome.
- The total risk (3 year, 1 in 20 VaR) is c.£1.6bn, i.e. that there is a 1 in 20 chance that the Fund could be £1.6bn behind (or ahead) of the expected position in 3 years time.
- The Fund's key risks are equity exposure and the interest rates / inflation risk inherent within the value placed on the liabilities. The 40% strategic allocation to equities means that a fall in equity valuations would result in a material decrease in the Fund's assets (similar to that experienced over Q1 2020, although this was quickly reversed).
- The significant risk from inflation is due to the majority of the pension benefits in the Fund being directly linked to inflation. While the Fund's discount rate is not explicitly linked to interest rates, we assume that a change in long term interest rates will be reflected to some degree in a change in the expected future returns from the investment strategy, and consequently also in the Actuary's discount rate.
- We believe the Fund should be aware of these risks and consider how these are managed as part of any strategic changes. In particular, we believe it will be beneficial for the Fund to
  - Continue to increase the Fund's exposure to assets which provide a direct link to inflation;
  - Continue to focus on building exposure to assets with a more contractual payoff profile which offer diversification from listed equity within the growth portfolio. The Fund can also harvest an illiquidity premium for long term investment.

Scenario analysis

How Would the Strategy have Performed (Approximate) – 5 best and 5 worst years (2000-2020)



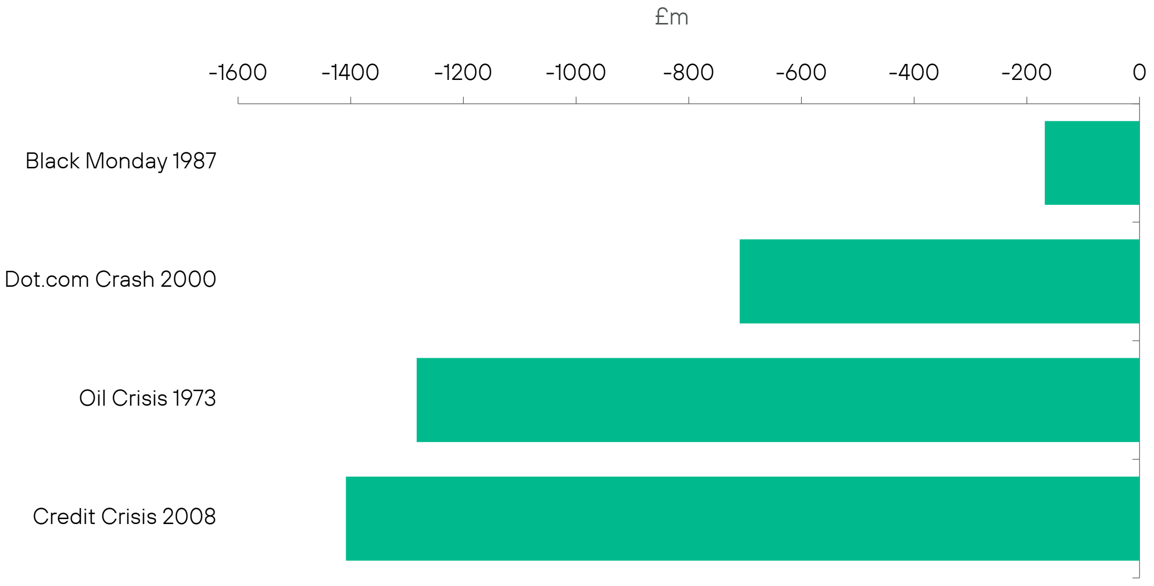
Comments

- Based on the current strategic allocation and asset value, we illustrate the funding level of the Fund would have changed under the best and worst calendar years since 2000.
- The Fund's 1 year Value at Risk figure is around £950m (over 3 years this is £1.6bn, as illustrated on page 9) . This means we would expect a worsening of funding position relative to expectations of c. £950m roughly 1 in 20 years. The chart opposite illustrates how frequently such events have occurred in practice over recent history.
- There have been three calendar years during the last 20 in which the Fund's funding position would have worsened by around £800m.

Source: Barnett Waddingham Robertson, Isio calculations. Notes: Start funding position has been assumed to be 107% as at 31 March 2021.

Scenario analysis

How Would the Strategy have Performed (Approximate) – 4 crises

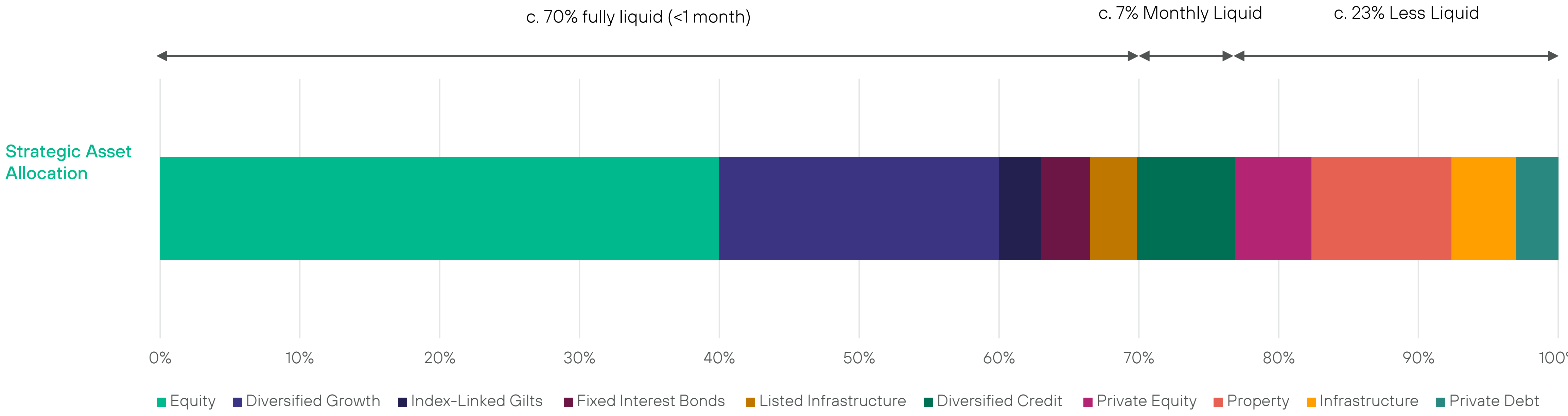


Source: Barnett Waddingham Robertson, Isio calculations. Notes: Start funding position has been assumed to be 107% as at 31 March 2021.

Comments

- Based on the current strategic allocation and asset value, we illustrate the funding level of the Fund would have changed under four historical market stress scenarios. These measure the impact across each specific event:
  - During the 2008 credit crisis, equity markets fell c. 50%, credit spreads widened materially, and long dated interest rates fell. Such moves would materially impact the Fund, given its equity exposure, and relatively low interest rate protection. The impact of these moves would have been partially offset by a c.0.5% fall in long dated inflation expectations, which would push down the value placed on liabilities.
  - The Fund would have suffered a significant drawdown during the 1973 Oil Crisis, with a c. 42% fall in equity markets, and a drop in long dated interest rates damaging the overall funding level.
  - The 2000 Dot.com crash saw a c. 35% fall in equity markets, but limited other negative market impacts for pension funds. However, we would expect such an event to still have a material impact on the Fund, given the 40% equity allocation.
  - A repeat of 'Black Monday' would have a negative impact on funding level, albeit not to the same extent as the other scenarios considered. In this scenario, equity markets fell c. 10%, however long dated interest rates increased – pushing down the value placed on pension fund liabilities.
  - The scenarios suggest that the 1 in 20 risk illustrated previously (occurring over a three year period) is not unrealistic given the quantum that was observed during past market crises.

Liquidity profile



Observations

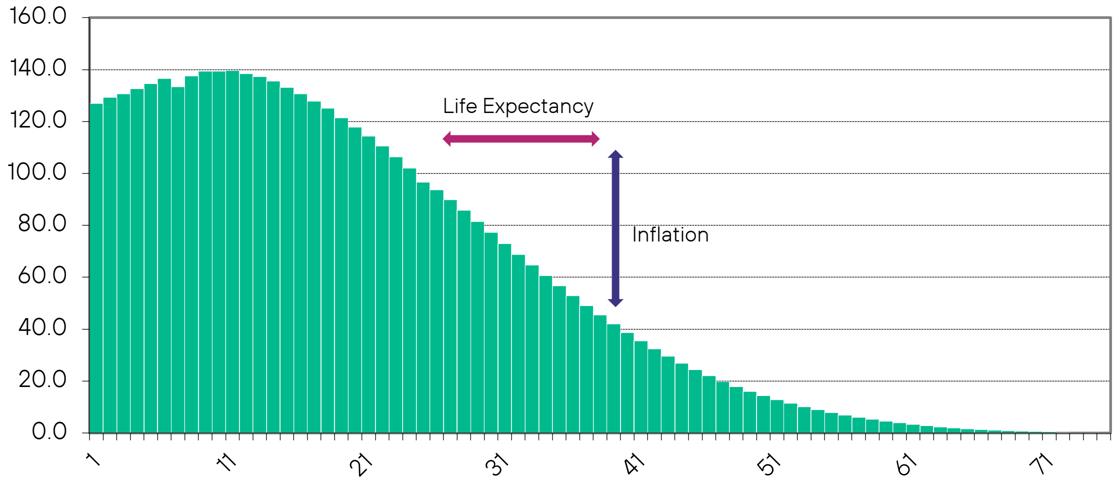
- Based on the target strategic allocation, the asset strategy remains relatively liquid, with around 65% - 70% of assets able to be liquidated within a month and a significant proportion of these in a matter of days. The remaining assets are well diversified across a range of less liquid asset classes.
- Whilst the Fund is large, much of the portfolio could be liquidated relatively quickly with limited market impact. We cannot currently envisage any circumstances where the Fund would need this level of liquidity or flexibility.
- As a long-term investor, the Fund has the ability to tie-up capital in opportunities with lower liquidity where there are good risk adjusted returns available for doing so. We believe there is scope for the Fund to further increase the allocation to less liquid markets and to harvest a premium for longer term investment.
- We consider the shorter term cashflow requirements in more detail overleaf.

Source: Investment managers

Cashflow profile

- The Fund is expected to have a number of cash outflows over the coming years. There are three core capital outflows:
  - Monthly pension payroll (which is fairly predictable);
  - Lump sum / death grant member payments (there is a degree of uncertainty over such benefits as they are more variable in nature);
  - Expenses such as manager fees, transaction costs and other miscellaneous charges.
- The Fund Actuary has shared details of the expected pension payments from the Fund. We note that these incorporate anticipated lump sum payments, but do not make any allowance for any transfers out of the Fund –we expect the overall magnitude of these to be negligible.
- The analysis in the table shows that the expected employer and employee contributions will largely offset the Fund's outgoings, though there is likely to be a small shortfall each year.
- This shortfall can be met using investment income form existing mandates
- Based on the current asset allocation, we expect that the Fund's illiquid mandates will produce enough income over the next 5 years to cover the small net negative cashflow. Further income can be drawn from the wider investment strategy if needed.
- The Fund also has more than sufficient liquidity to deal with any deviations in these amounts.
- We do not believe that there is a strong requirement to significantly increase the level of investment income within the strategy at this stage. However, we note that this may be a natural consequence of reducing the overall level of risk by focusing on mandates which deliver more of their returns via a more contractual payoff.

Liability Profile



Cashflows (£m)	Year 1	Year 2	Year 3	Year 4	Year 5
Income	**£120m**	**£124m**	**£127m**	**£131m**	**£135m**
Employer contributions	£92m	£95m	£98m	£101m	£104m
Employee contributions	£28m	£29m	£29m	£30m	£31m
Outgo	**(£129m)**	**(£136m)**	**(£141m)**	**(£148m)**	**(£155m)**
Pension Payments	(£129m)	(£136m)	(£141m)	(£148m)	(£155m)
Net Cashflow	**(£9m)**	**(£12m)**	**(£14m)**	**(£17m)**	**(£20m)**

Source: Barnett Waddingham, Isio calculations, Investment managers.
For these purposes, contributions have been assumed to rise at 3% p.a.

Direction of travel

Proposed direction of travel

Increase exposure to assets with direct inflation-linkage

Rising inflation is a key risk to the Fund given the liability structure, and increasing the allocation to assets with direct inflation linkage would help address this risk. e.g. infrastructure and long lease property.

Increase exposure to less liquid assets

Given the Fund's long term horizon, and the overall level of liquidity in the current portfolio, there is scope to target less liquid opportunities e.g. private market debt, equity and infrastructure to a greater degree and earn an excess return for doing so.

Increase alignment to Responsible Investment Policy

The Fund has made strong progress incorporating ESG considerations into its investment strategy and this is expected to remain a key focus going forward

Pooling of assets

The regulatory environment directs the pooling of assets going forward. This will need to be considered in conjunction with setting investment strategy and implementation of decisions.

Asset classes for consideration – inflation linked assets

Infrastructure Equity

Investments into large scale public or private facilities that are essential for economic activity (e.g. energy, utilities, transport and more recently renewables) or provide societal benefits (hospitals, prisons, schools) that deliver long term contractual income and inflation protection.

There are two primary asset types: 'Brownfield' assets which are already in operation provide a reliable cashflow stream and are considered lower risk; 'Greenfield' assets are projects still in the development stage, and which are considered higher risk due to the exposure to construction risk.

Expected net return p.a.	Gilts + 4.5%
Volatility p.a.	12%
Liquidity	Varies – low for 8-10 year close ended funds; medium for open ended private asset funds; high for open ended public infrastructure funds
Inflation linkage	High
ESG	ESG impact possible at fund and asset level, with products available which target positive ESG outcomes (through investments in renewable energy, energy efficient projects etc).

Inflation-linked Property

Inflation-linked property encapsulates a range of types of property investment, all of which have the similar characteristic of the majority of returns expected to be delivered through rental income which is linked to inflation in some manner, rather than the capital appreciation of the underlying properties.

Certain funds invest in a diversified blend of UK commercial properties which are leased out to high quality tenants. In contrast to balanced property, these funds target very long-dated rental agreements typically including a regular uplift between cashflows and prevailing inflation.

Other funds focus on the residential property market in various guises, with stakes taken in the development and management of private residential accommodation, which in turn is used to generate rental income.

Expected net return p.a.	Gilts + 2.5% - 3.0%
Volatility p.a.	8% - 13%
Liquidity	Medium – typically quarterly following a lock in period
Inflation linkage	High
ESG	ESG impact of commercial property assessed on fund-by-fund basis, typically focussed on deal-specific due diligence. Residential funds can offer attractive ESG footprint.

Asset classes for consideration – private credit

Private Corporate Debt

Private corporate debt involves providing finance (loans) in private markets, mainly to small to medium sized businesses. Investments are drawn down over a 3 year investment period.

Returns from the funds are generated from coupon payments, origination fees, as well as the principal repayment at the end of the loan, and provide pension schemes with a stream of contractual cashflows.

	Unitranche	
	Senior	**Junior**
Expected net return p.a.	Gilts + 3%	Gilts + 5%
Volatility p.a.	6-8%	8-10%.
Liquidity	5-8 year closed-end structure	
Inflation linkage	Low, floating rate	
ESG	ESG impact assessed on fund-by-fund basis, typically focussed on deal-specific due diligence.	

Commercial Real Estate Debt ('CRED')

CRED funds are comprised of a concentrated portfolio of loans, backed by commercial real estate (e.g. offices, hotels, shopping centres) which rank below other (senior) investors in the event of bankruptcy.

Historically, financing of CRED purchases was done almost entirely via commercial banks; however, they have increasingly withdrawn from this space since the financial crisis. As a result, institutional investors that can afford to lock up their capital for 8 10 years have the opportunity to fill in this gap and reduce their reliance on non contractual asset classes (e.g. equity) as primary return drivers. Unlike traditional property investments, the returns on CRE loans come in the form of coupon payments and origination and prepayment fees.

	Unitranche	
	Senior	**Junior**
Expected net return p.a.	Gilts + 1.8%	Gilts +5%
Volatility p.a.	6%	14%
Liquidity	Low – typically 8-10 year close ended funds	
Inflation linkage	Low	
ESG	ESG impact assessed on fund-by-fund basis, typically focussed on tenant engagement.	

Alternative portfolios

Reduced
Increased

	Current Strategic	Current Actual	Alt 1 *Evolution*
Global Equity	40.0%	42.2%	40.0%
Diversified Growth	20.0%	23.7%	17.0%
Private Equity	5.5%	6.3%	5.5%
Balanced Property	10.0%	8.2%	7.0%
Inflation-Linked Property	-	-	4.0%
Infrastructure Equity	8.0%	4.4%	11.0%
Private Credit	3.0%	1.0%	5.0%
Diversified Credit	7.0%	6.7%	10.5%
Corporate Bonds	3.5%	1.9%	-
Index-Linked Gilts	3.0%	3.0%	-
Cash	-	0.8%	-
Expected return (% p.a.)	**5.3%**	**5.3%**	**5.5%**
VaR (3 yr, 1 in 20 chance)	**£1,606m**	**£1,673m**	**£1,608m**
Expected 3yr position (Surplus)	**£524m**	**£518m**	**£560m**
3yr 1 in 20 downside position (Deficit)	**(£1,082m)**	**(£1,155m)**	**(£1,048m)**
% of assets with direct inflation linkage	**c. 11%**	**c. 7%**	**c. 15%**

Source: Barnett Waddingham, Isio Calculations. Notes: Direct inflation linkage assumed to be 100% of inflation-linked property, 100% of infrastructure equity, 100% of infrastructure debt, and 100% of index-linked gilts. Start funding position has been assumed to be 107% as at 31 March 2021. This analysis assumes that there is no future funding strain for the Fund (i.e. the cost of future service accrual is broadly equal to future service contributions). This point has been confirmed by the Fund Actuary. Inflation-linked property has been modelled as 50% long lease property, 50% residential property. Private Credit is expected to be made up of a diversified portfolio of underlying risks. Alt 1 Private Credit is split: 3% CRED, 2% Private Corporate Debt.

ESG considerations

Consideration	Description	Comments
1. ESG impact and alignment with RI policy	• The Fund has a defined Responsible Investment Policy containing explicit ESG objectives. This statement outlines how the Fund's Pension Committee consider ESG factors through the investment decision making process and how these are implemented in the Fund's portfolio.	• The Fund has already made significant strides in improving the ESG profile of the investment strategy. The primary asset class when considering ESG sustainable or impact investing is equity, and the Fund's holdings reflect this, with 75% of the public equity exposure (30% of Fund assets) to be invested in sustainable or impact-focussed funds. The steps taken to evolve the Fund's equity portfolio have placed it at the forefront of the shift towards ESG investing, relative to many of its peers. • In order to further the alignment with the Responsible Investment Policy, any new mandates under consideration should be reviewed fully from an ESG perspective prior to implementation – at both the asset class and manager level. We have outlined below how ESG considerations should be viewed in relation to the proposed strategic changes for the Fund: 1. Corporate Bonds switched to Diversified Credit – while current diversified credit funds are unlikely to have an explicit impact or sustainable focus (although M&G are due to launch one in late 2021), the greater flexibility within their investment process allows more scope for integration of ESG criteria, and therefore provides greater potential for managers to be able to differentiate themselves within the asset class through their ESG credentials. We note that the M&G corporate bond fund holds a consistently high fossil fuel allocation than the M&G Diversified Credit Fund. 2. Reductions in Index-Linked Gilts & Diversified Growth – both asset classes offer very limited scope to implement ESG beliefs at fund level; however DGF managers do have some flexibility to integrate ESG considerations at asset level. 3. Increase in Private Credit – there is limited scope to apply ESG considerations at fund level; however we believe the Committee should evaluate how well any potential new managers integrate ESG analysis into their 'bottom-up' deal level due diligence process e.g. some managers have begun to negotiate ESG specific covenants in their deals. 4. Increase in infrastructure Equity – infrastructure equity provides the Committee with significant scope to implement ESG considerations. There are infrastructure funds available which focus solely on renewable/sustainable projects; while all infrastructure funds have significant influence over the ESG footprint of projects at deal level. 5. Introduction of Inflation-Linked Property – this mandate is relatively flexible in terms of specific implementation method, covering multiple asset classes. If the Committee was to implement via long lease property, there is relatively little scope for fund level ESG integration; however we believe the Committee should evaluate how well any potential new managers integrate ESG analysis into their 'bottom-up' deal level due diligence process. Alternatively, the Committee could implement some form of residential/social housing mandate, which is likely to have explicit goals and targets around positive ESG impact.

Implementation considerations

Consideration	Description	Comments
1. Fund range currently available on the ACCESS Pool	• The Fund is required to move assets to the ACCESS Pool over time. As such the range of funds currently available on the ACCESS Pool should be considered in conjunction with setting investment strategy.	• The proposed alternative investment strategy outlined requires an increase in the Fund's allocations to Private Credit, Infrastructure Equity, Inflation-Linked Property and Diversified Credit. • The ACCESS pool currently offers a range of funds for investment in Diversified Credit and we propose these should be considered as a route of implementing the increased holding in this asset class, with a view to finding a mandate which compliments the Fund's current exposure with M&G. • The ACCESS pool does not currently offer funds in Private Credit, Infrastructure Equity or Inflation-Linked Property. As such, alongside a discussion with ACCESS in relation to their intentions in this area, we propose alternative methods of implementation for these allocations are considered.
2. Anticipated timescales for future fund launches	• The Fund is required to move assets to the ACCESS Pool over time. As such future fund launches from the ACCESS Pool and the timescales associated with these should considered in conjunction with setting investment strategy.	• The ACCESS pool does not currently offer funds in Private Credit, Infrastructure Equity or Inflation-Linked Property. • ACCESS have communicated that they intend to make offerings available for investment by pool members in each of these areas in due course, and this will be done in priority order. The order and time scales for the fund launches remains uncertain and this continues to be discussed with ACCESS. • ACCESS are currently in the process of appointing an implementation advisor whose mandate will be to advise on these fund launches.

Additional considerations (1)

Consideration	Description	Comments
1. Realigning the illiquid mandates with the strategic benchmark	• The Fund's allocations to property, infrastructure and private credit are underweight relative to their respective strategic targets.	• The Fund's infrastructure holdings vary in terms of their stage in the lifecycle, with some fully drawn and distributing, and others still to draw the majority of their commitments. In our recent paper, we recommended that the Fund consider making an allocation to an open-ended infrastructure fund, as well as consider allocating £30m to a renewables-specific fund (which would look to develop new infrastructure assets) whilst maintaining an exposure to liquid infrastructure via Atlas, recognising the diversification benefit and the time taken to deploy the new mandates. The proposed increase in the allocation would mean that the Atlas allocation can be maintained and other opportunities could be explored. • The majority of the Fund's commitment to the M&G commercial real estate debt fund has already been called. We previously rated M&G highly (green on a traffic light scale), but in the light of recent significant departures from the team, we have downgraded this proposition to amber. We believe the Council should make additional commitments to the asset class in order to increase the allocation towards benchmark, even if the strategic allocation is not increased as proposed in this report. Should the Fund's allocation be topped up, we would be happy to provide guidance around suitable managers. • Consideration should also be given to the balanced property mandate. This is currently 8% of total Fund assets, and is underweight relative to the 10% target. We believe other sub asset classes, including long lease property and residential, are more attractive strategically due to their inflation protection and the strong match for the Fund's liability profile this provides.
2. Restructuring the private and diversified credit holdings	• The proposed new strategy incorporates new allocations to private credit and diversified credit.	• Should the Committee decide to increase the strategic allocation to private credit, we believe the Committee could consider diversifying the private credit exposure by introducing private corporate debt to the existing real estate debt exposure. • Should the diversified credit allocation be increased, we believe there is scope to diversify the manager-specific risk by adding another provider. The Committee could also consider introducing a daily traded fund, if concerned about liquidity.
3. Stress scenario liquidity availability	• The Officers have previously undertaken analysis to estimate the level of immediate liquidity which could be required by the Fund in a worst case scenario	• Historical analysis indicates that in a worst case scenario the Fund may be cashflow negative of the order of £10-£20mln over an annual period. • In this circumstance there may be a requirement to source this amount via disinvestment from the asset portfolio. The scenario outlined will likely result in stressed asset prices and as such the Fund has expressed an preference to hold a small allocation to liquid assets which they would expect to perform in a stable manner in this environment and facilitate efficient disinvestment. Historically the Fund has looked to the holding in Index-linked Gilts for this. • We believe considering a daily liquid Diversified Credit Fund (considering the range of Funds available on the ACCESS Pool) would be appropriate for this allocation under the newly proposed strategy.

Additional considerations (2)

Consideration	Description	Comments
4. Overall Fund Governance	• The Fund currently has investments with 13 different managers.	• Across the 13 managers, the Fund has investments in 19 individual mandates. • Any restructuring of the Fund's assets should be done with a view to minimising any increase to the number or complexity of existing investment arrangements, to avoid further increasing the overall governance burden. Any decisions around new mandates should give consideration to the availability of funds on the ACCESS pool and the regulatory directive to transfer assets on pool.
5. Transaction Costs	• There are often explicit transition costs associated with the movement of assets.	• The round trip transaction costs of any movement in assets should be considered ahead of implementation. While we do not anticipate that the majority of the asset class changes proposed would incur transition costs, we do note that the sale of public credit assets is likely to incur a spread cost of up to 0.5%, while the purchase of property assets will incur trade costs of up to 5%.

Summary and Next Steps

Summary and next steps

Summary

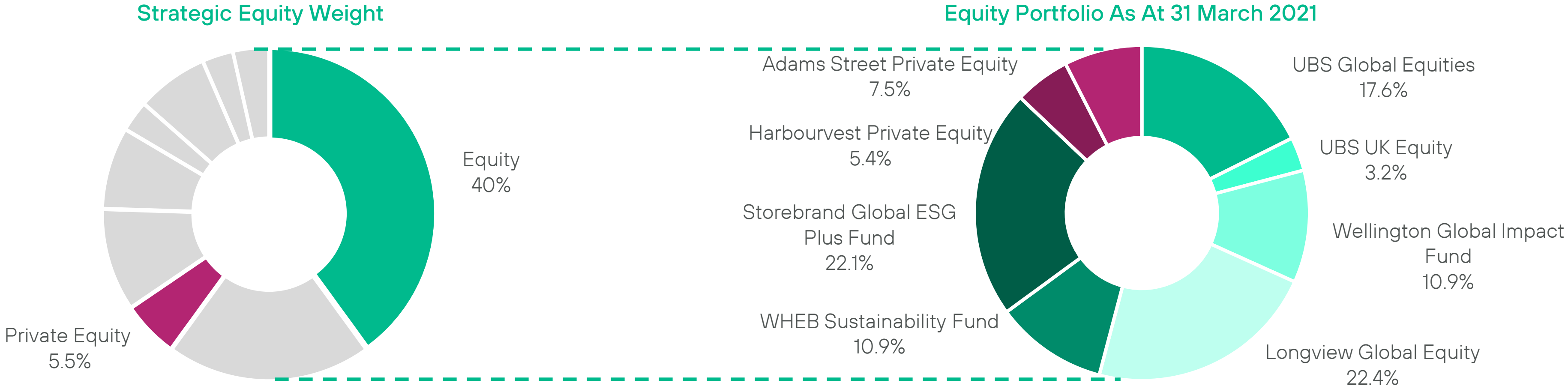
- The Fund has delivered strong investment returns in recent years during a period in which most asset markets have trended upwards, with the equity exposure being particularly beneficial. This performance has led to a surplus, of c. £280m as at 31 March 2021.
- Whilst equity risk remains one of the Fund's biggest risks, we believe that the Fund should maintain its existing strategic allocation to equities as a long term driver of overall return, and focus on increasing allocations to assets with direct inflation exposure, to help address the risk of rising inflation, and also less liquid assets to allow the fund to target a premium for being able to tie up its capital.
- We recommend the Fund seeks to continue building out the real assets portfolio, with a particular focus on opportunities within infrastructure. This would serve not only to increase the portion of Fund assets' with direct inflation exposure, helping to address a significant risk facing the Fund, but could also be implemented to further demonstrate the Fund's commitment to sustainable investments. Alongside this, we believe the Fund could consider introducing exposure to property assets with a direct inflation linked income stream to further increase the inflation protection.
- We recommend that the Fund's allocation to corporate bonds is switched into diversified credit, which exhibits a more attractive risk/return profile (as a result of its wider opportunity set and active management).
- We believe that further commitments to commercial real estate debt and private debt more broadly should be considered, in order to harvest the premium available and to broaden the Funds private debt exposure.

Next Steps

- The Committee should consider its views on:
  - addressing the strategically underweight allocations to commercial real estate debt and infrastructure.
  - the strategic proposal put forward for the infrastructure, commercial real estate debt, and diversified credit holdings.
  - whether there is appetite to adopt the alternative portfolio outlined in this paper.
- We look forward to discussing this report at the upcoming meeting.

Appendices

A1: Equity portfolio

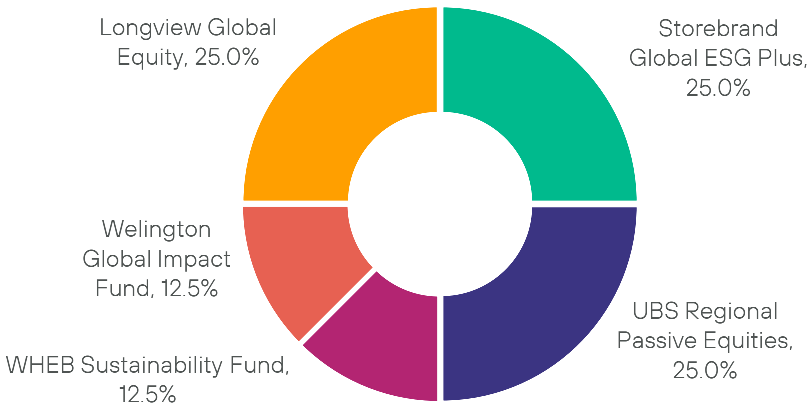


Manager	Mandate	Geography	Management Style	Description
UBS	Public Equity	Global	Passively managed	The UBS regional passive equity portfolio tracks the relevant index for each underlying fund and has a tilt towards companies with a large market capitalisation. The UBS portfolio currently comprises regional allocations to global markets, but has an underweight to the US and an overweight to Europe (including the UK) compared to the market cap index. Overall the allocation is low-cost.
Wellington	Public Equity	Global	Active: Impact / Growth	The Wellington Global Impact Fund looks to generate long term returns while addressing major social & environmental challenges. The Fund has a bias towards mid-cap companies within the UK and Europe and a slight inherent growth tilt given the way the manager constructs the portfolio. The Fund has the highest annual management charge of the equity funds.
Longview	Public Equity	Global	Active Growth at reasonable price	The LF ACCESS Global Equity Fund (Longview)objective is to outperform the MSCI benchmark by 3.0% gross of fees over 3 year rolling periods. The Fund is comprised of predominately large cap firms (greater than £5bn) and has a strong bias to US stocks.
WHEB	Public Equity	Global	Active: Sustainable / Growth at reasonable price	The WHEB Sustainability Fund looks to generate long term returns while advancing sustainability and prosperity. The Fund is comprised of mid cap stocks and exhibits some bias to the UK and Europe compared to the benchmark, as well as a slight growth style tilt.
Storebrand	Public Equity	Global	Passive: Sustainable Smart Beta	The Storebrand Global ESG Plus Fund tracks a benchmark with significantly reduced climate risk, excluding fossil fuels and climate negative stocks. The Fund is comprised of 95% large cap stocks and exhibits some bias to the UK and Europe.
HarbourVest	Private Equity	Global	Diversified by Style & Access Method	The HarbourVest private equity portfolio is comprised of a range of exposures, with the majority being primary and secondary fund-of-funds and a bias towards buyout relative to venture capital holdings. The portfolio is currently c. 75% drawn down.
Adams Street	Private Equity	Global	Diversified by Style & Access Method	The Adams Street private equity portfolio is comprised of a range of exposures, with the majority being primary and secondary fund-of-funds and a bias towards buyout relative to venture capital holdings. The portfolio is largely invested in the US and Western Europe. The portfolio is currently c. 75% drawn down.

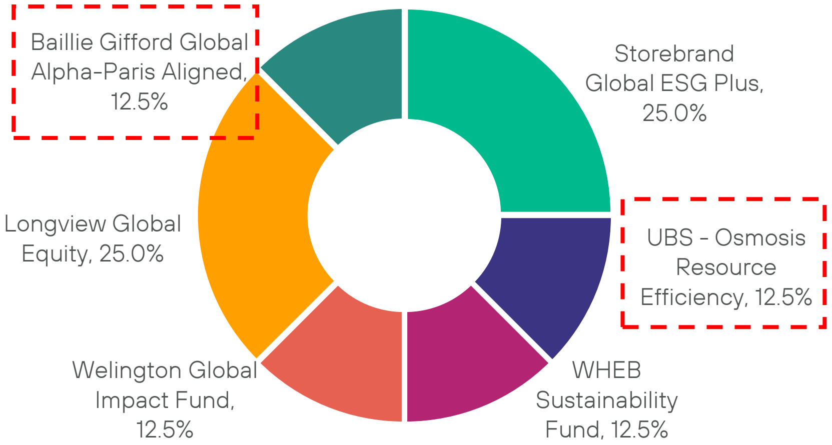
Source: Investment managers

A1: Equity portfolio - evolution

Current target public equity portfolio



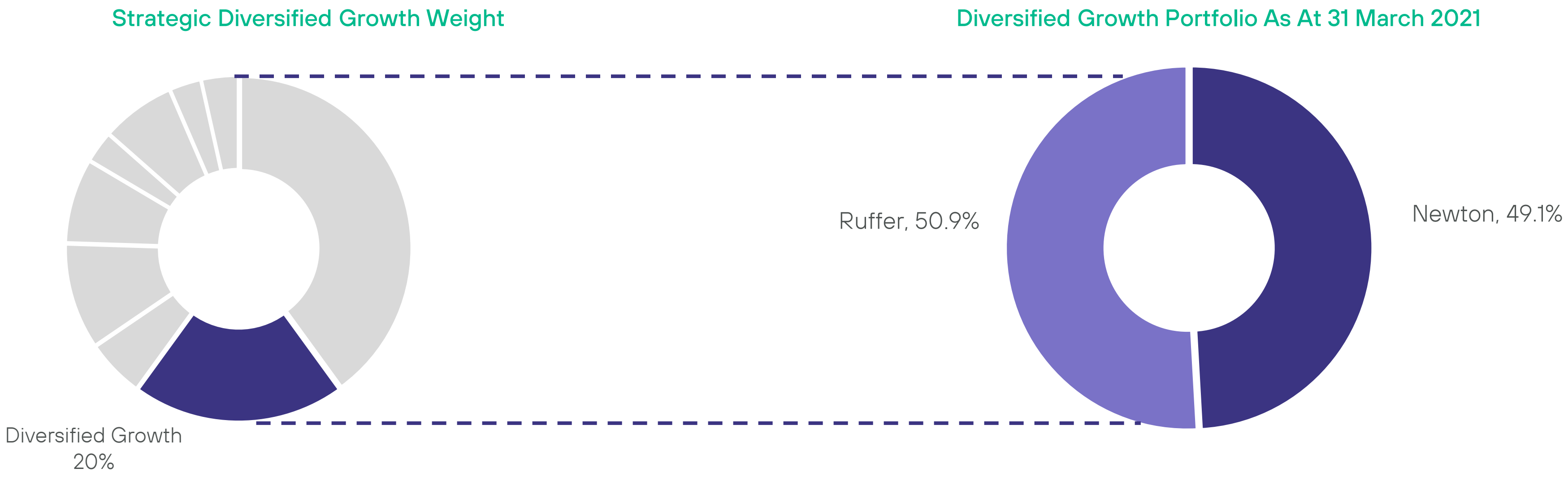
Agreed target public equity portfolio



Agreed Change	Comments
Public Equity: UBS passive equity exposure to be switched into a combination of the Osmosis Resource Efficient (Ex Fossil Fuel) Core Fund, and the Baillie Gifford Global Alpha Paris Aligned Fund.	The Fund currently holds c. 25% of its public equity portfolio in passive UBS funds. It has been agreed that this will be fully divested, with the proceeds to be split between a segregated mandate run by UBS which tracks the Osmosis Resource Efficient Core Equity (ex Fossil Fuels Index, and the LF ACCESS Global Alpha–Paris Aligned Fund. The first of the two new mandates, run by UBS using portfolio constructions rules provided by Osmosis, will provide the Fund with a portfolio which has a significantly lower water and energy usage, as well as waste production, relative to the global passive benchmark. Osmosis' philosophy is that by holding a portfolio of 'resource efficient' companies, constructed in a risk-controlled manner, the Fund can achieve both excess risk-adjusted returns, and a more attractive ESG footprint relative to passive global equities. The Fund has opted for the variant of the Fund which excludes fossil fuels. The second new mandate is comprised of an allocation to one of the ACCESS pool's active core equity funds (expected to be available on the platform in June or July). The underlying fund is managed by Baillie Gifford, an active growth equity manager with an extremely strong track record of outperformance. The fund itself will be based on one of the manager's flagship products, the Global Alpha Fund, with several quantitative and qualitative screens applies within the process to improve the ESG footprint of the portfolio. Alongside the existing exposure to ESG-focussed funds operated by Wellington, Storebrand and WHEB, these new allocations will serve to increase the magnitude of the positive ESG tilts within the Fund's portfolio. These moves are in line with the Fund's ESG principles.
Private Equity: Further allocations to be made to the existing managers, to maintain the Fund's allocation around the strategic target.	The Fund has made new allocations to the Fund's two existing private equity managers, Adams Street and HarbourVest, with the intention of maintaining the allocation as close to the strategic target of 5.5% as possible over the medium term.

Source: Investment managers

A1: Diversified growth portfolio

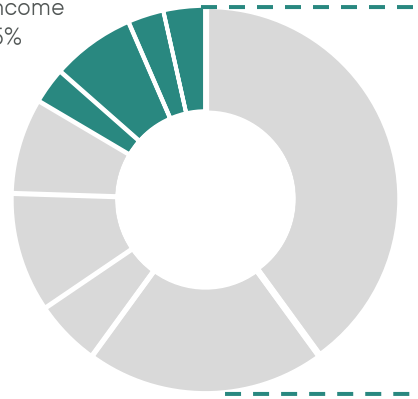


Manager	Mandate	Geography	Management Style	Description
Newton	Diversified Growth	Global	Active	The Newton diversified growth fund has a relatively simple investment style, with an investment universe of largely equities and bonds (and limited alternatives exposure). The tilts of the equity holdings are largely determined by the wider Newton views (the organisation is a strong active equity manager).
Ruffer	Diversified Growth	Global	Active	The Ruffer diversified growth fund has a much clearer focus on capital preservation than the majority of its peers. Similar to Newton, the fund has a relatively traditional investment universe, with a significant focus on equities and bonds (both fixed interest and inflation linked). The fund is heavily reliant on active manager skill, with the investment process incorporating relatively high conviction, concentrated positions relative to other managers. The approach is quite unique and has enabled the fund to successfully navigate a wide range of different market environments.

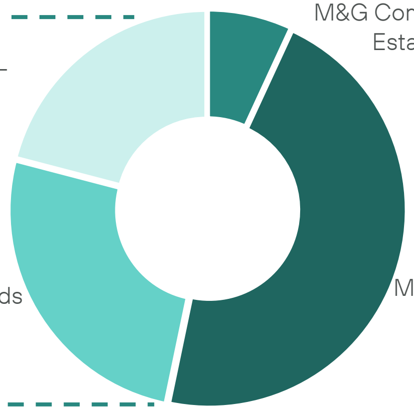
Source: Investment managers

A1: Fixed income portfolio

Strategic Fixed Income Weight



Fixed Income Portfolio As At 31 March 2021

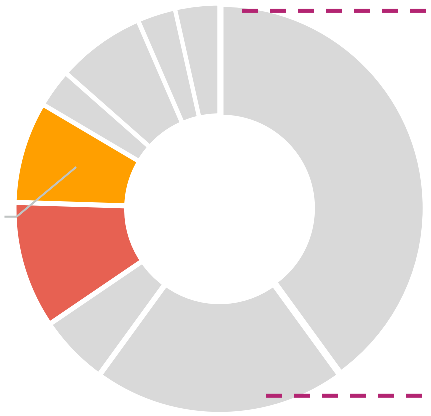


Manager	Mandate	Geography	Management Style	Description
UBS	Index-Linked Gilts	UK	Passive	The UBS Over 5 Year Index-Linked Gilts Fund is comprised of UK government bonds with 100% of the portfolio linked to inflation. The UK Government is currently rated AA in terms of its credit rating. The Fund looks to match the FTSE Index Linked Gilts Over 5 Years index and is the cheapest mandate in the fixed income portfolio.
M&G	Corporate Bonds	Global: UK focus (63%), USA (12%), Europe (18%) & Other (7%)	Active	The M&G LF Access Sterling Corporate Bond Fund is a 'fund of one' with the East Sussex Pension Fund as the only investor. The Fund aims to outperform the composite investment grade corporate bond benchmark by 0.5% p.a.. The portfolio is comprised of mostly investment grade credit with a maximum of 10% of assets permitted in sub-investment grade.
	Diversified Credit	Global: Predominately Europe (65%), USA (11%), UK (23%) & Other (1%)	Active	The M&G Alpha Opportunities Fund invests in a range of credit assets, allocating across sub asset classes where the manager sees value, and targets a return of Libor plus 2.6% to 4.6% p.a. The Fund retains an average credit rating of investment grade quality. The Fund deals monthly and is therefore has slightly lower liquidity.
	Commercial Real Estate Debt ('CRED')	Global: UK focus (64%), Europe (28%), USA (8%)	Active	The M&G Real Estate Debt Fund VI is a closed-ended mandate with a net projected IRR of 4.5%, The scheduled maturity date is 20 December 2027 and the current investments are split between investment grade and sub-investment grade credit and focus solely on private market real estate debt lending. The M&G mandate is the least liquid in the fixed income portfolio and provides the opportunity for the manager to harvest a premium for longer term investment.

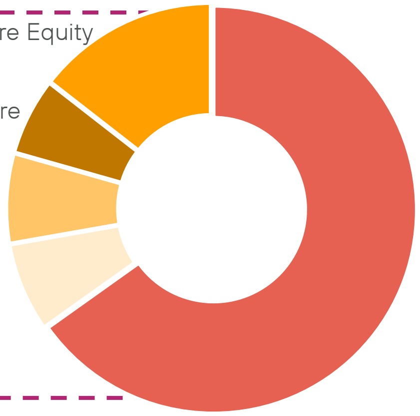
Source: Investment managers

A1: Real assets portfolio

Strategic Real Assets Weight



Real Assets Portfolio As At 31 March 2021



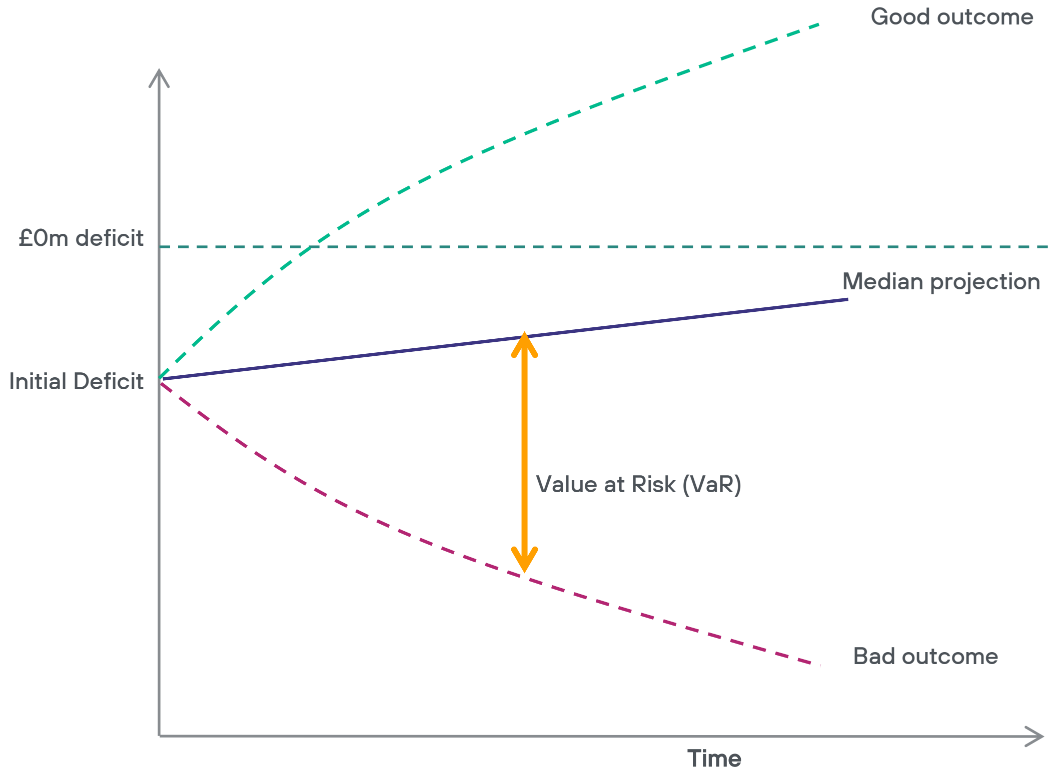
Manager	Mandate	Geography	Strategy	Description
UBS	Infrastructure	Developed Europe, North America & Australia	Core/Core Plus	The UBS infrastructure portfolio consists of two funds (AIIF I and AIIF III), the AIIF III Fund is the most recent vintage and is due to hold a final close in Q1 2022. The AIIF I Fund is fully deployed and expects to distribute capital and wind down by 2025. Both funds focus on similar geographical regions and sectors, including energy, utilities, transport and telecoms. AIIF III has a greater sustainability focus than AIIF I.
Pantheon	Infrastructure	Predominately Europe, North America & APAC	Core/Core Plus	The Pantheon infrastructure portfolio is currently drawing down capital and is due to be fully deployed in 1 - 2 years. The portfolio is split broadly 50/50 between secondaries and co-investments. Secondaries investments are the purchase of existing stakes in infrastructure funds, typically at a discount to NAV, from other limited partners. Co-investments are the taking direct stakes in companies or projects, alongside other large investors. The investments are comprised of broad sector exposure including digital infrastructure, renewables and energy efficiency, transport, power and utilities, and energy infrastructure.
M&G	Infrastructure	Europe	Greenfield & Brownfield Core/Core Plus	The M&G portfolio is comprised of two funds (M&G Greenfield II and M&G Brownfield III) both of which are currently drawing down capital. The Greenfield II Fund has a longer timeframe to full deployment (3-4 years) compared to the Brownfield III Fund (1 year). Both Funds target similar sector e.g. fibre, transport and energy sectors.
ATLAS	Listed Infrastructure	Global (Developed Markets only)	Core/Core Plus	In contrast to the other infrastructure allocations, the Atlas Global Infrastructure Equity Fund is open-ended (i.e. investors can buy in and out at any time, and the Fund's structure is evergreen) and invests in publicly listed infrastructure companies. This differs from the other infrastructure exposure, which is largely private companies/projects, accessed via closed –ended fund structures (i.e. investors' capital is locked up for a 6-10 year fund lifecycle, and paid back as investments are realised). The Fund is fully invested in sectors such as transport infrastructure, utilities and renewables..
Schroders	Balanced Property	UK	Core/Value Add	The Schroders fund utilises a 'fund-of'-funds' structure to access property markets, with c. 25% of the fund invested in closed-ended exposure, and the remainder in open ended funds. The Fund is overweight to the industrials sector and underweight to retail and London offices relative to benchmark, however it retains relatively significant Retail and Office exposure on an absolute basis. The fund-of-funds structure is a relatively expensive way to access property markets, given it introduces a second layer of fees (management fee in addition to underlying manager fees); albeit it does provide additional diversification versus a standalone property fund. Although the focus of the mandate is investing in commercial real estate equity the manager has requested flexibility for debt investment.

Source: Investment managers

A2: Value at Risk – an explanation

Value at Risk ("VaR")

- The 1 in 20 value at risk is the difference between the 5th percentile outcome and the expected (median) outcome. The VaR measure gives a sense of how much better or worse the funding position could be relative to the central expectation for different market conditions. This is important when comparing investment strategies and setting contribution rates.



Note: the above chart is for illustrative purposes only.

A3: Return and volatility assumptions (1)

Introduction to the Assumptions

- These are our "best estimate" asset class return, volatility and correlation assumptions. We believe there is a 50:50 chance that the actual outcome will be above/below our assumptions.
- The assumptions are long-term, for a 10-year period, expressed in Sterling terms.
- Return assumptions are:
  - Annualised (i.e. geometric averages), rounded to the nearest 0.1%.
  - Expressed relative to the yield on fixed interest gilts (the annual yield at the 10-year tenor on the Bank of England spot curve). This yield was 0.2% at 31 December 2020.
  - Net of management fees.
  - Before tax. UK pension schemes are exempt from tax on investments. The impact of taxation may reduce returns for other investors.
- Volatility assumptions are based on the standard deviation of annual returns over a 10-year period, rounded to the nearest 0.5%.
- Bond volatilities are sensitive to the duration of the index. Our Fixed Interest Gilts (FIG) and Index-Linked Gilts (ILG) assumptions both relate to Over 15 Year indices, but the cashflow profile of the ILG index is considerably longer than the FIG index. Hence the difference in volatilities does not necessarily mean that real yields are assumed to be more volatile than fixed yields.
- Correlation assumptions are based on the correlation of annual returns over a 10-year period, rounded to the nearest 5%.

Limitations and Risk Warnings

- There can be no guarantee that any particular asset class or investment manager will behave in accordance with the assumptions.
- The assumption setting process is subjective and based on qualitative assessments rather than a wholly quantitative process. Newer asset classes can be harder to calibrate due to the lack of a long-term history. Some asset classes may rely on active management to help deliver the assumed return. The returns on illiquid assets may vary by vintage; in these cases the quoted return expectation is necessarily an estimate encompassing multiple vintages.
- Where these assumptions are used within asset-liability modelling, please note that the model's projections are sensitive to the econometric assumptions. Changes to the assumptions can have a material impact upon the modelling output

A3: Return and volatility assumptions (2)

Asset Class	Sector [1]	Return [2]	Volatility [3]
Equity	Developed Markets – Passive	4.0%	20.0%
	Developed Markets – Core Active	4.5%	20.5%
	Global Unconstrained	5.0%	21.0%
	Developed – SmallCap Passive	4.6%	24.0%
	Emerging Markets – Passive	5.0%	28.0%
Property	UK Balanced Property	2.3%	13.0%
	Long Lease Property	2.5%	8.0%
	Private Rented Sector	3.0%	13.0%
	Global Property Secondaries	6.0%	30.0%
Hedge Funds	Multi-Strategy Fund of Funds	2.5%	10.0%
	Global Macro	3.0%	13.0%
DGF	DGF (lower risk) [5]	2.8%	10.0%
	DGF (higher risk) [5]	3.5%	12.5%
Alternatives	Private Equity	6.5%	30.0%
	Diversified Alternatives	6.0%	22.0%
	Infrastructure Equity	4.6%	12.0%

Asset Class	Sector [1]	Return [2]	Volatility [3]
Credit [4]	Corp. Bonds (IG All-Stk) – Passive	0.6%	7.0%
	Corp. Bonds (IG All-Stk) – Active	0.9%	7.0%
	Corp. Bonds (IG >15y) – Passive	0.6%	9.0%
	Corp. Bonds (IG >15y) – Active	0.9%	9.0%
	Absolute Return Bonds	1.3%	4.0%
	Asset-Backed Securities (IG)	1.7%	5.0%
	CLO	2.5%	9.0%
	Direct Lending	4.2%	10.5%
	Distressed Debt	7.0%	16.0%
	Diversified Private Credit	4.2%	10.0%
	Infrastructure Debt – Senior	2.0%	6.0%
	Infrastructure Debt – Junior	3.3%	9.5%
	Multi-Asset Credit (higher risk) [5]	3.3%	9.5%
	Multi-Asset Credit (lower risk) [5]	2.6%	6.5%
	Real Estate Debt – Senior	1.8%	6.0%
	Real Estate Debt – Junior	5.0%	14.0%
	Real Estate Debt – Whole Loan	3.5%	9.0%
	Secured Finance	3.0%	8.0%
	Semi-Liquid Credit	3.5%	9.0%
Gilts	Fixed Int. Gilts (>15y) – Passive	0.0%	8.0%
	Index-Linked Gilts (>15y) – Passive	0.0%	11.5%
Cash	Cash	0.0%	1.0%

Notes:
Please refer to full explanations and caveats on previous pages.
[1] Includes active management except where specified as passive.
[2] Expected return per annum, net of fees, relative to the yield on fixed-interest gilts.
[3] Expected standard deviation of absolute annual returns.
[4] Includes allowances for downgrades and defaults.
[5] "Lower risk" and "higher risk" are relative descriptions within the asset category only, with no wider meaning.
Source: Isio

A4: Modelling methodology (1)

Data and Sources

- Information on characteristics of the Fund's liability profile, including the split between membership types, was taken from information provided by Hymans Robertson in relation to the 31 March 2020 actuarial valuation initial results.

Modelling Principles

- SOFIA is a stochastic model that simulates a large number of possible future economic outcomes, in which financial conditions develop in a number of different ways, defined by assumptions for average outcomes, range of variability, and inter-dependency between different markets.
- The high-level market scenarios are generated by a third-party Economic Scenario Generator (ESG) provided by Moody's Analytics. The ESG is an industry-standard tool that is widely used by financial institutions (e.g. insurers, asset managers, and investment banks).
- Based on the scenarios generated by the ESG, SOFIA simulates asset-class returns calibrated to Isio's asset-class assumptions.
- SOFIA takes the initial starting position of the assets and the liabilities, and projects these values forward under the simulated scenarios, taking into account any relevant inflows and outflows.
- Different investment strategies are modelled in order to illustrate the effects of different allocations. In each case, SOFIA assumes that the strategy remains constant over the full projection period. Assets are annually rebalanced back to the original allocations.

Modelling Results

- The results of the projections are shown by ranking the calculated results from best to worst in each year, and presenting the following outcomes:
- Median: this is the middle outcome and can be thought of as the "expected result". Half of the modelled outcomes are better than this and half are worse.
- Bad: this splits the results so that there is a one in five (20%) chance of having a worse outcome. This is a measure of risk.
- Very Bad: this splits the results at a one in twenty (5%) chance of having a worse result. This is a more extreme measure of downside risk.
- Good and Very Good (where shown): these illustrate possible positive outcomes at the 20% and 5% levels respectively.
- The "Value at Risk", where shown, is defined as the difference between the Median outcome and the Very Bad outcome, i.e. it represents the variability of funding outcomes and shows the magnitude of the possible downside from the expected result. Please note that this is not the same as the possible downside loss from the starting position.

A4: Modelling methodology (2)

Compliance Statement

- This report, and the work relating to it, complies with "Technical Actuarial Standard 100: Principles for Technical Actuarial Work" ("TAS 100").
- This report has been prepared for the purpose of assisting the addressee in their review of the investment strategy. If you intend to use it for any other purpose or make any other decisions after considering this report, please inform Isio and we will consider what further information or work is needed to assist you in making those decisions.

Material Assumptions

- Isio's central asset-class assumptions are assessed and revised at each calendar quarter-end. The assumptions used within this modelling exercise are set out in the Appendix.
- Certain assumptions are sourced directly from the Moody's Analytics ESG and available market data, or set via adjustments to these sources. Where required or deemed to be more appropriate, assumptions are entirely determined by Isio. The assumption setting process is subjective and based on qualitative assessments rather than a wholly quantitative process. Where judgement is required, input is received from Isio's internal asset-class research teams.

Limitations and Risk Warnings

- The only risk factors considered in our modelling are those that affect the values of pension schemes' assets and the financial assumptions used to value schemes' liabilities. Some of the risks that are not reflected include demographic risks (e.g. uncertainty of life expectancy), future changes to members' benefits, and legislative risks. The modelling results should therefore be viewed alongside those risks, as well as other qualitative considerations including portfolio complexity, governance burden, and liquidity risk.
- The model's projections are sensitive to the starting position and the econometric assumptions. Changes to the assumptions can have a material impact upon the output. There can be no guarantee that any particular asset class or investment manager will behave in accordance with the assumptions. Newer asset classes can be harder to calibrate due to the lack of a long-term history.
- The modelling analysis is based on portfolios containing a range of asset classes and different approaches to fund management. Clients should not make decisions to invest in these asset classes or approaches to fund management based solely on the modelling analysis.
- Portfolios that make use of derivatives are exposed to additional forms of risk and can experience losses greater than the amount of invested capital.
- No guarantee can be offered that actual outcomes will fall within the range of simulated results. Actual outcomes may be better than the simulated 95th percentile or worse than the simulated 5th percentile.

A4: Modelling methodology (3)

Liability Basis

- Where the model illustrates a scheme-specific funding basis (e.g. Technical Provisions), the funding basis is calculated in the same way across all the investment portfolios modelled. We therefore focus on the effect of investment strategies on asset values and hence surplus/deficits, without the distorting effect of differing discount rates. However, in cases where the discount rate allows for a risk premium, the magnitude of the risk premium may depend on the proportion of return-generating assets in the portfolio, and therefore in practice the funding basis may be different under different investment strategies.

Contribution Basis

- The model's projections may be based on either fixed or variable contributions:
- "Fixed contributions" means that the current schedule of deficit contributions is assumed to remain in place for the full projection period. The purpose of this is to illustrate pure investment risk, showing the effect of differing investment strategies without the distorting impact of different amounts of money being contributed. In practice, however, the long-term downside outcomes would be less likely to be reached, as poor intermediate outcomes would lead to a requirement for additional contributions after future valuations.
- "Variable contributions" means that the model simulates future actuarial valuations every three years, and calculates the future deficit contributions that might be required under the particular situations being projected. This illustrates the range of possible future contribution requirements.
- In addition to the deficit contributions, the model also calculates contributions required to fund future service accrual, if there are active members accruing additional pension entitlements. In this case a small amount of variability arises from the range of possible future inflation projections. Therefore the "fixed contribution" projections may still show minor differences in contributions between, for example, Median and Bad outcomes.

A5: Disclaimers

- This report has been prepared for the sole benefit of East Sussex County Council as Administering Authority of the East Sussex Pension Fund and based on their specific facts and circumstances and pursuant to the terms of Isio Group/ Isio Services Ltd's Services Contract. It should not be relied upon by any other person. Any person who chooses to rely on this report does so at their own risk. To the fullest extent permitted by law, Isio Group/ Isio Services Ltd accepts no responsibility or liability to that party in connection with the Services.
- The information contained within the report is available only to relevant persons, and any invitation, offer or agreement to purchase or otherwise acquire investments referred to within the report will be engaged in only with relevant persons. Any other person to whom this communication is directed, must not act upon it.
- In the United Kingdom, this Report is intended solely for distribution to Professional Clients as defined by the Financial Conduct Authority's Conduct of Business Sourcebook.
- This report has not therefore been approved as a financial promotion under Section 21 of the Financial Services and Markets Act 2000 by an authorized person.
- Isio Service Limited is authorised and regulated by the Financial Conduct Authority FRN 922376.
- The output from our modelling is based on a large number of underlying assumptions. Changes to these assumptions can have a material impact on the results of the modelling.
- The outcomes shown above are not intended to be the best possible, or worst possible outcomes. The actual outcome could be worse than the 5th percentile, or better than the 95th percentile.
- The modelling analysis is based on portfolios containing a wide range of asset classes and different approaches to fund management. Clients should not make decisions to invest in these asset classes or approaches to fund management based solely on the modelling analysis.
- The only risk factors we have considered in our modelling are those that affect the values of pension schemes' assets and the financial assumptions used to value schemes' liabilities. Some of the risks we have not considered include demographic risks such as the life expectancy of pension schemes' members and future changes to members' benefits.

Thank you

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