HEALTH WEALTH CAREER

RISK MANAGEMENT STRATEGY AND IMPLEMENTATION POLICY

CHESHIRE PENSION FUND

1 MAY 2018

MAKE TOMORROW, TODAY MERCER

CONTENTS

Introduction

This document sets out Cheshire Pension Fund's approach to investment risk management and to the implementation of its risk management framework.

The following aspects of the strategy are encompassed within this handbook:

- Background to the rationale for establishing the risk management / de-risking strategy;
- The goals for the risk management / de-risking strategy;
- Detail on how the Fund's risk management / de-risking framework will work in practice;
- The make-up of the Fund's asset allocation at the various trigger points to be targeted;
- Key points to note in respect of how the strategy has been structured;
- Glossary of "risk management / de-risking" terms.

Governance is at the heart of this risk management / de-risking strategy and the key focus throughout the booklet is to ensure the roles and responsibilities of the Committee, Officers and Advisors are clearly defined and understood.

The Fund's Objectives

Translating the Fund's investment and funding objectives into a single suitable investment strategy is challenging. The key objectives often conflict. For example, minimising the long term cost of the scheme is best achieved by investing in higher returning assets e.g. equities. However, equities are also very volatile (i.e. go up and down fairly frequently in fairly large moves), which conflicts with the objective to have stable contribution rates.

Additionally, the number of employers in the Fund has increased significantly in recent years meaning that there are groups of employers with different underlying characteristics and with different long term funding objectives.

In order that the Fund delivers on its key objectives; ensuring that each employer takes the appropriate level of investment risk, giving each the best opportunity possible to achieve its long term funding objective whilst increasing certainly of cost, the Fund operates four distinct investment strategies.

The Fund has a set of principles in relation to the risk management / de-risking strategy and these run through the asset allocation, the implementation plan and the ongoing governance arrangements. Those principles are:

- to de-risk only when affordable
- to consider re-risking <u>if necessary</u>
- to take account of market conditions
- to build in protection strategies when appropriate
- to take account of different employer groups
- to retain as much simplicity in implementation as possible
- any changes to asset allocation must be scalable across all groups of employers.

The document sets out how the Fund will address these core principles.

Background

This section summarises the rationale of initiating a risk management / de-risking strategy.

Objectives

The investment objective is to maximise returns subject to an acceptable level of risk whilst increasing certainty of cost for employers, and minimising the long term cost of the scheme.

Stable and affordable contribution rate	versus	Achieve investment returns required under current funding arrangements

The two objectives of maximising returns and stabilising contribution rates can be conflicting (as risk needs to be taken in order to achieve returns, but risk does not guarantee returns). **The objective of this risk management / de-risking framework is therefore to better reflect the need to protect any future improvements in funding level to ensure a reasonable balance between the two objectives over time.**

What is de-risking?

De-risking is essentially reducing the level of risk inherent in the Fund's investment strategy, to increase the level of certainty in the Fund's funding position and contribution requirements. We outline below the general themes to be considered as part of any de-risking decisions for the Fund:

- Reducing allocations to the riskier asset classes
- Restructuring the bond portfolio to provide a better "match" against liabilities
- Possibly "buying protection" (against inflation or interest rates) when conditions are favourable
- Long term plan to reduce risk without affecting the chance of recovery
- Unlikely to remove risk assets entirely even if funding level improves dramatically

How can de-risking be appropriate given constraints on contribution rates?

The Fund is acutely aware of the costs of pension provision, and is committed to making the Fund as sustainable as possible for all stakeholders. The Fund firmly believes that risk management is key to maintaining stable contribution rates.

The purpose of the risk management / de-risking framework is to take risk out of the investment strategy when it is "affordable" to do so; explicitly so the de-risking action alone does not force an increase in total contribution rate. In short should the Fund's funding level improve over and above what is expected in light of the recovery plan, the Fund's allocation to growth assets can be reduced on the basis that the Fund can "bank" the improvements in funding level, without having any impact on achieving the overall objectives or contributions required. (It is recognised that a reduction in growth assets will likely mean an increased future service rate but this is counter balanced by a reduction in deficit contribution rate due to the improvement in funding level).

This section has provided a high level overview of the purpose and rationale for the risk management framework, the following sections outlines how the Fund's specific arrangements will work in practice for each of the Employer Groups and how the Fund will assist employers on their journey towards the funding objective.

Growth Strategy A

CONTENTS

GROWTH STRATEGY A

1

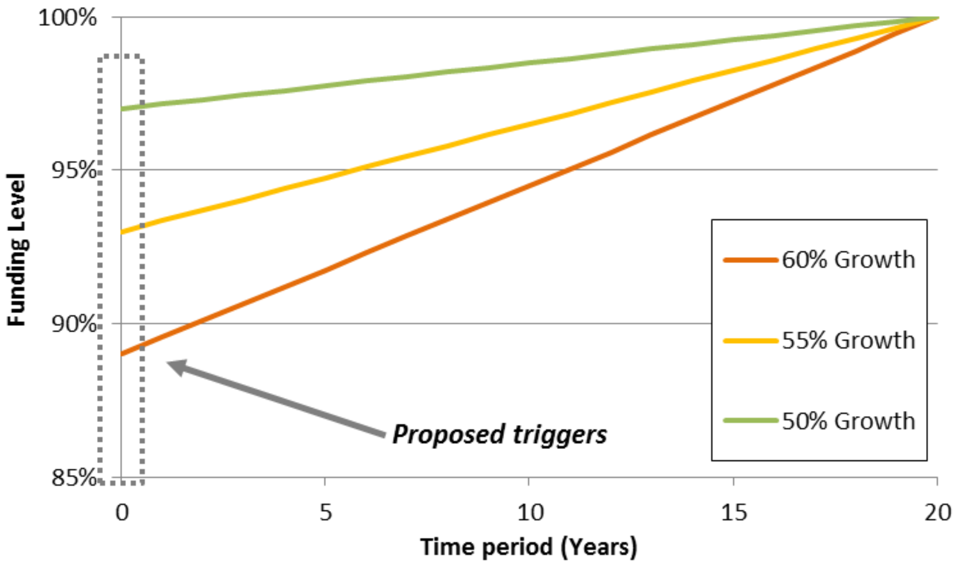
Risk management / De-risking framework

This section of the booklet outlines the Fund specific considerations including the following:

- The flight path and trigger points to be identified for any de-risking actions
- The funding basis to be used to value the liabilities for risk management / de-risking purposes
- Implementation considerations
- Re-risking and when this may be required

Flight path / trigger points

The premise of the risk management / de-risking framework is based upon the “flight path” which is illustrated on the chart below.



The current triggers for the risk management framework are based on the positions shown here and will be next reviewed in conjunction with the 31 March 2019 actuarial valuation.

The main points to note in respect of the flight path are as follows:

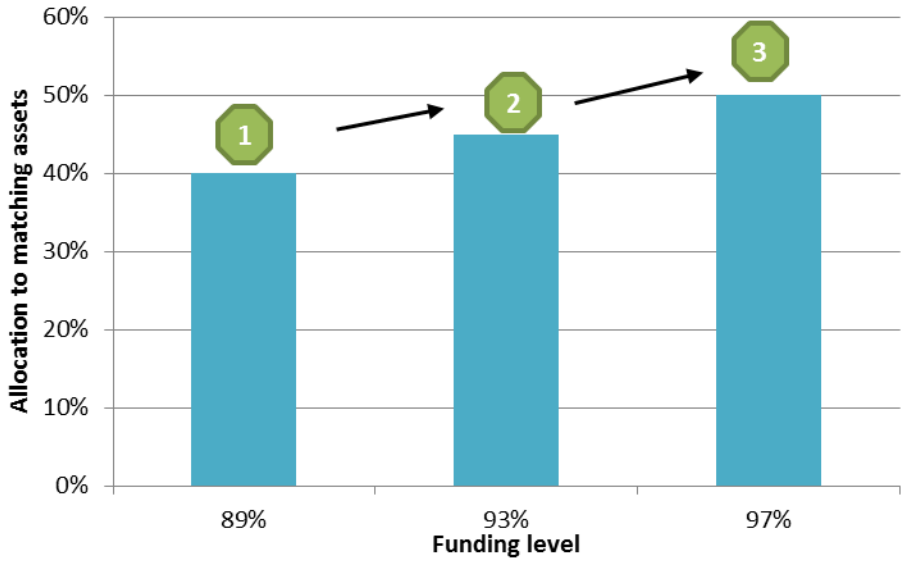
- Under the current 60% growth, 40% matching strategy (orange line), the Fund is currently expected to reach full funding within the 20 years originally projected from the 2016 actuarial valuation.

- The greater the funding level improvement (over and above that already expected on the “black line”) the greater the allocation to defensive assets that can be made.

Current trigger points

The trigger points agreed are shown below.

Trigger number	Funding level	Investment strategy required to expect to reach full funding
Current - 1	**89%**	**60% growth assets, 40% matching assets**
2	93%	55% growth assets, 45% matching assets
3	97%	50% growth assets, 50% matching assets



The chart above shows how the asset allocation changes as the funding level increases. So for example if the funding level reaches 93%, the growth allocation reduces to 55% from 60% and the matching allocation increases from 40% to 45%.

The framework will be re-calibrated regularly to take account of changes in market yields over the period. Following each triennial actuarial valuation, the framework will be more formally updated to take account of changes in the Fund's expected cash flows and updated liability information. As the framework is intended to be long term in nature we would not expect significant changes to the triggers over time.

The most recent update to the de-risking triggers was carried out in January 2017. The triggers will next be reviewed in conjunction with the 31 March 2019 actuarial valuation.

Funding basis

It should be noted that the funding levels set out above are on the actuarial valuation basis (known as the “gilts plus 1.6% p.a.” basis).

Re-risking considerations

In the same vein as "de-risking" when the funding level improves, if the funding level was to deteriorate from the current position, there is potential to re-risk (i.e. allocate more to growth assets).

In such circumstances, re-risking will not be automatic but will prompt a discussion with the Fund's advisors with an overall proviso that the case to re-risk should be extremely strong.

Unless exceptional circumstances apply, a re-risking trigger would comprise of the strategy funding level remaining below the **previous** de-risking trigger for a period of 3 consecutive months.

For example, if trigger 2 was met as the funding level for Strategy A was above 93%, if the funding level fell to below 89% (trigger 1) for a period of 3 consecutive months, then this would prompt a discussion.

Re-risking discussions will consider the following:

- **Expected timeframe to full funding** at the given funding level and date at which the re-risking trigger is met, to assess whether taking additional investment risk is required.
- **The flexibility to increase employer contribution rates** to close any funding shortfall, rather than increasing investment risk.

It should be noted that re-risking into growth assets is likely to expose the Fund to greater risk of more material funding level falls, therefore the case to re-risk should arguably be stronger than for de-risking.

The current working principle is that the Fund would not re-risk over and above the "backstop" allocation of 60% growth and 40% matching (the current allocation for Strategy A).

GROWTH STRATEGY A

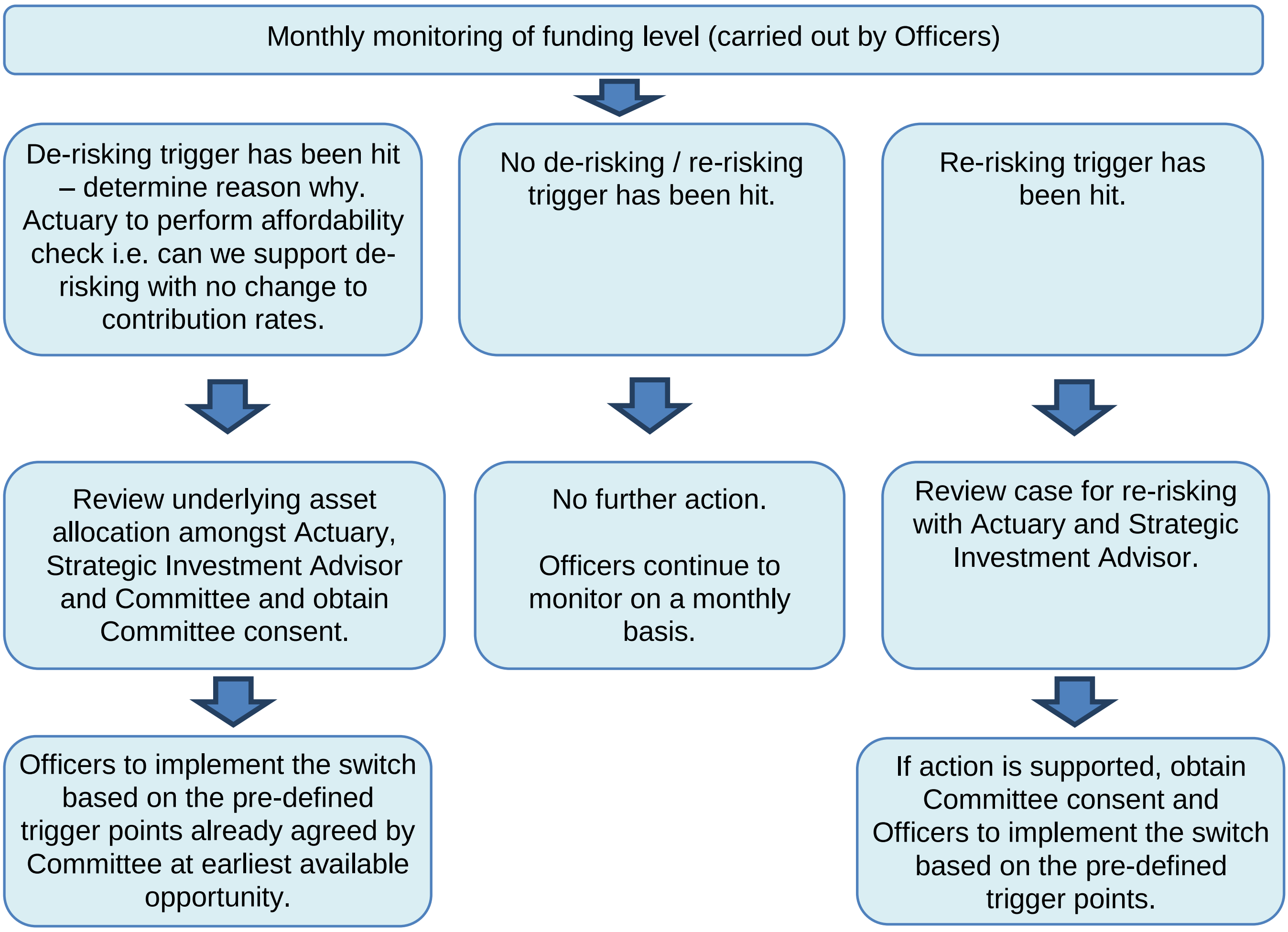
Implementation

The asset allocations at each of the trigger point funding levels are outlined later within this section.

The funding level will be monitored monthly by the Officers.

When a trigger is hit, instructions will be sent to the relevant investment managers and the switch implemented. In order that opportunities to de-risk (or indeed to re-risk if necessary) are not lost through lack of timeliness in a decision making process, the instructions have been agreed in advance along with the pre-defined triggers and implementation process.

The process can therefore be summarised in the following diagram:



First consideration will be given to implementing the default trades as set out in this policy document, once the relevant checks have been carried out by the Actuary. The Fund will always however consider the market opportunities available at the time and the costs associated with any trade prior to finalising each trade.

In addition to the monitoring of the growth / defensive split on a monthly basis, which forms the key part of the risk management / de-risking framework, market conditions will also be assessed quarterly by Officers and the Strategic Advisor.

GROWTH STRATEGY A

Governance

The Risk Management / De-risking document will act as the key reference document for all de/re-risking. At the point at which Officers identify that a de-risking trigger has been reached the following governance process will be adhered to:

i. Officers will inform the actuary and strategic investment advisor that a trigger has been hit;

ii. The Strategic Investment Advisor undertakes a high level assessment of what and why, before any modelling is commissioned,

iii. The Fund’s actuary will model the new investment strategy with established employer contribution rates to ensure that the long term funding objective remains achievable under the investment strategy;

iv. The Fund’s strategic investment advisor will consider the ‘secondary considerations’ outlined in this document. This piece of work will run concurrently with the actuarial work;

v. Officers will collate the two workstreams and communicate the recommended course of action to the Committee via Electronic Decision Notice (EDN);

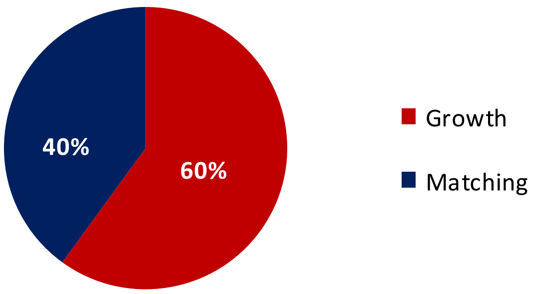
vi. For clarity and simplicity, the EDN will contain a ‘de-risking proforma’ which will reference this document. The proforma will clearly outline the advice from both advisors and set out the recommended course of action.

vii. The de/re-risking action will be implemented by Officers based on the Fund’s established governance and EDN protocol i.e. a clear majority (6 votes) is required in order to implement a decision.

2

Trigger 1 – Funding Level 89% (Current position – trigger met in July 2017)

Growth / Defensive split



Asset allocation

Asset Class	%
GROWTH ASSETS	**60**
Equity	***30***
Legal & General	15
Baillie Gifford	15
Absolute Return	***15***
Winton	
Arrowgrass	
Blackstone	
Illiquid Alternatives	***15***
DIVERSIFYING & MATCHING ASSETS	**40**
Diversified Fixed Income	***20***
Henderson	7
BlueBay	8
M&G	5
Liability Aware Portfolio	***20***
Index-linked gilts	***20***

In this and the following four sections we set out the asset allocation in two stages – firstly the high level growth / defensive split for each group of employers, and secondly the underlying asset allocation at each funding level increment / trigger. These policy allocations have been set by the Fund after consultation with the Strategic Advisor and approved by the Committee. In this section we set out the starting asset allocation.

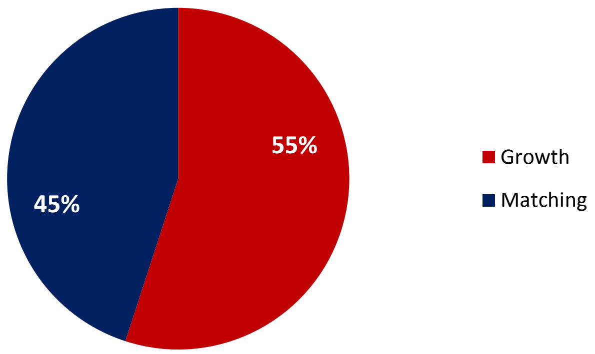
- **Re-Risking**
  - It is not expected that Strategy A would re-risk beyond the current position

GROWTH STRATEGY A

3

Trigger 2 – Funding Level 93%

Growth / matching split



Asset allocation and decision making process

Asset Class	%	Proposed changes
GROWTH ASSETS	55	5% decrease
Equity	***25***	5% decrease
Legal & General	15	No change
Baillie Gifford	10	5% decrease
Absolute Return	***15***	No change
Winton		No change
Arrowgrass		No change
Blackstone		No change
Illiquid Alternatives	***15***	No change
DIVERSIFYING & MATCHING ASSETS	45	5% increase
Diversified Fixed Income	***20***	No change
Henderson	7	No change
BlueBay	8	No change
M&G	5	No change
Liability Aware Portfolio	***25***	5% increase
Index-linked gilts	25	5% increase

1) Primary considerations

Once the funding level reaches 93% the default action is to move 5% of assets from growth to matching assets subject to consultation with **Strategic Advisor and approval of the Committee**.

2) Secondary considerations

The Fund will review at each decision point with the **Strategic Advisor** which elements of the growth portfolio to move to defensive assets, and the relevant defensive asset class opportunities.

Default position is to reduce allocations to equities in favour of the Liability Aware Portfolio (as illustrated in left hand table) but would be subject to secondary considerations, including:

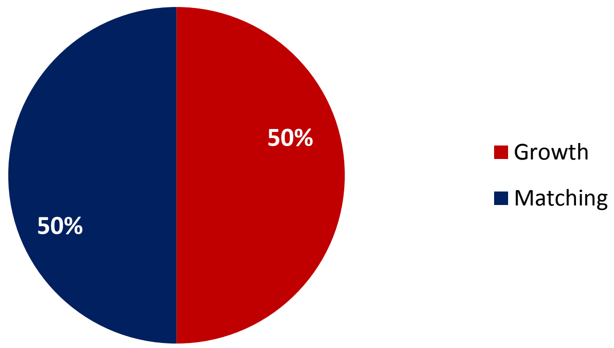
- Relative value of the underlying asset mix
- Cost of switching in the current environment
- Fund liquidity constraints
- Requirements of other strategies (including potential to trade internally
- Time constraints for implementation

GROWTH STRATEGY A

- **What is the change?**
  - Moving 5% of assets from growth to matching assets once the funding level reaches 93%.
  - Default position moving from equities to Liability Aware Portfolio.
  - Other defensive assets would be considered by the Officers at the time of implementation depending on market opportunities.
- **Rationale**
  - A further 4% funding level improvement can warrant a lower risk investment strategy without reducing the likelihood of achieving full funding over the next 20 years compared to what was previously anticipated.
  - Initial default allocation to be to take assets from equities to Liability Aware Portfolio as the most cost efficient way to reduce exposure to growth assets.
  - Liability Aware Portfolio chosen as “matching asset” as a pragmatic match against the Fund’s interest rate and inflation linked liabilities.
- **Execution**
  - Committee has already agreed the **55% growth / 45% defensive** split to be targeted at this trigger point as set out in this document.
  - Once the de-risking trigger is hit, the Officers will review underlying asset allocation regarding where to move the assets to (default position is equities to Liability Aware Portfolio but other opportunities would be considered at implementation) and obtain consent from Committee in line with this policy.
- **Re-Risking**
  - No automatic re-risking. Case for re-risking subject to review with Actuary and Strategic Investment Advisor.

Trigger 3 – Funding level 97%

Growth / defensive split



Asset allocation and decision making process

Asset Class	%	Proposed changes
GROWTH ASSETS	50	5% decrease
Equity	***20***	5% decrease
Legal & General	10	5% decrease
Baillie Gifford	10	No change
Absolute Return	***15***	No change
Winton		No change
Arrowgrass		No change
Blackstone		No change
Illiquid Alternatives	***15***	No change
DIVERSIFYING & MATCHING ASSETS	50	5% increase
Diversified Fixed Income	***20***	No change
Henderson	7	No change
BlueBay	8	No change
M&G	5	No change
Liability Aware Portfolio	***30***	5% increase
Index-linked gilts	30	5% increase

1) Primary considerations

Once the funding level reaches 97% the default action is to move 5% of assets from growth to matching assets subject to consultation with **Strategic Advisor and approval of the Committee**.

2) Secondary considerations

The Fund will review at each decision point with the **Strategic Advisor** which elements of the growth portfolio to move to defensive assets, and the relevant defensive asset class opportunities.

Default position is to reduce allocations to equities in favour of the Liability Aware Portfolio (as illustrated in left hand table) but would be subject to secondary considerations, including:

- Relative value of the underlying asset mix
- Cost of switching in the current environment
- Fund liquidity constraints
- Requirements of other strategies (including potential to trade internally rather than incur trading costs)
- Time constraints for implementation

GROWTH STRATEGY A

- **What is the change?**
  - Moving 5% of assets from growth to defensive assets once the funding level reaches 97%.
  - Default position moving from equities to Liability Aware Portfolio.
  - Other defensive assets would be considered by the Officers at the time of implementation depending on market opportunities.
- **Rationale**
  - A further 4% funding level improvement can warrant a lower risk investment strategy without reducing the likelihood of achieving full funding over the next 20 years compared to what was previously anticipated.
  - Initial default allocation to be to take assets from equities to Liability Aware Portfolio as the most cost efficient way to reduce exposure to growth assets.
  - Liability Aware Portfolio chosen as “defensive asset” as a pragmatic match against the Fund’s interest rate and inflation linked liabilities.
- **Execution**
  - Committee has already agreed the **50% growth / 50% defensive** split to be targeted at this trigger point as set out in this document.
  - Once the de-risking trigger is hit, the Officers will review underlying asset allocation regarding where to move the assets to (default position is equities to Liability Aware Portfolio but other opportunities would be considered at implementation) and obtain consent from Committee in line with this policy.
- **Re-Risking**
  - No automatic re-risking. Case for re-risking subject to review with Actuary and Strategic Investment Advisor.

GROWTH STRATEGY A

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Growth Strategy A Employers

Acton CE Primary Academy	PAM East
Adelaide School	Parkroyal Community School
Adlington Primary Academy	Pear Tree School
All Hallows Catholic College	Peover Superior Endowed Primary School
Alsager School	Puss Bank School
AM Services	Sandbach High School Sixth Form
ANSA Environmental Services Ltd	Sandbach Primary Academy
Ash Grove Academy	Shavington Academy
Better Care Keys	Shavington Primary School
Black Firs Primary School	Silk Heritage Trust
Brereton C of E Primary	Sir William Stanier Community
Brine Leas School	Skills and Growth Company
Broken Cross Prim Academy & Nursery	Smallwood C of E Primary Academy
Bunbury Aldersey C of E Primary	St Alban's Catholic Primary School
Calveley Primary Academy	St Johns Wood Comm School
Cheshire East Council	St Marys Catholic Primary School
Civicance Ltd	St Michaels Community Academy
Congleton High School	St Oswalds Worleston Primary School
Cranberry Academy	St Paul's Catholic Primary School
Crewe Engineering UTC	St Thomas More Catholic High
Eaton Bank Academy	Stapeley Broad Lane
Everybody Sport and Recreation	Super Clean - Park Lane
Fallibroome Academy	Super Clean Services Ltd - Alsager
Gawsworth Primary School	Super Clean Services Ltd - Ashdene
Gorseybank Primary School	Taylor Shaw - Bridgemere
Holmes Chapel Comprehensive	Taylor Shaw - Elworth
Holmes Chapel Primary School	Taylor Shaw - Leighton
Hungerford Primary Academy	The Berkeley Academy
Ivy Bank Primary School	The Hermitage Trust
Knutsford Academy	The Oaks Academy
Lacey Green Primary	The Quinta Primary School
Leighton Academy	Transport Services Solutions Limited
Macclesfield Academy	Tytherington School
Marlborough Primary School	Underwood West Academy
Marlfields Primary Academy	Upton Priory School
Midshire Catering Ltd	Warmingham C of E Primary
Monks Coppenhall Academy	Wheelock Primary School
Mossley CE Primary School	Whirley Primary School
Mottram St Andrew Primary	Willaston Primary Academy
Nantwich Academy	Wilmslow Academy
Nether Alderley Primary School	Wistaston Academy
Novus Networks Ltd	Wistaston Church Lane Academy
Offley Primary Academy	Worth Primary School
Orbitas Bereavement Svcs Ltd	Wybunbury Delves Primary

Growth Strategy B

CONTENTS

GROWTH STRATEGY B

1

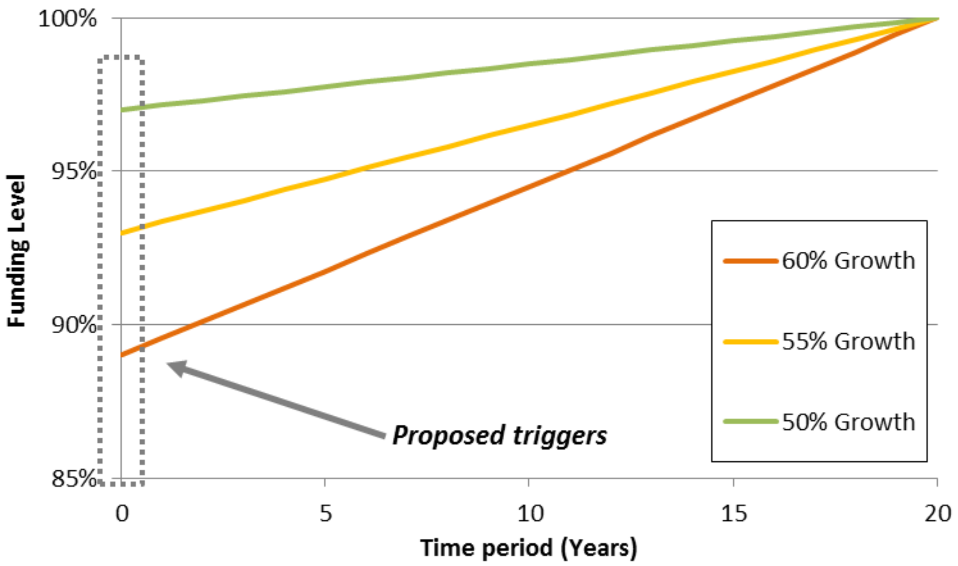
Risk management / De-risking framework

This section of the booklet outlines the Fund specific considerations including the following:

- The flight path and trigger points to be identified for any de-risking actions
- The funding basis to be used to value the liabilities for risk management / de-risking purposes
- Implementation considerations
- Re-risking and when this may be required.

Flight path / trigger points

The premise of the risk management / de-risking framework is based upon the "flight path" which is illustrated on the chart below.



The current triggers for the risk management framework are based on the positions shown here and will be next reviewed in conjunction with the 31 March 2019 actuarial valuation.

The main points to note in respect of the flight path are as follows:

- We would expect the employers contained within Growth Strategy B will still be able to achieve fully funded status in 20 years if the funding level fell to c.80% and a 70% growth, 30% matching strategy was adopted. This therefore forms the basis of our "starting asset allocation" as discussed later in this section.

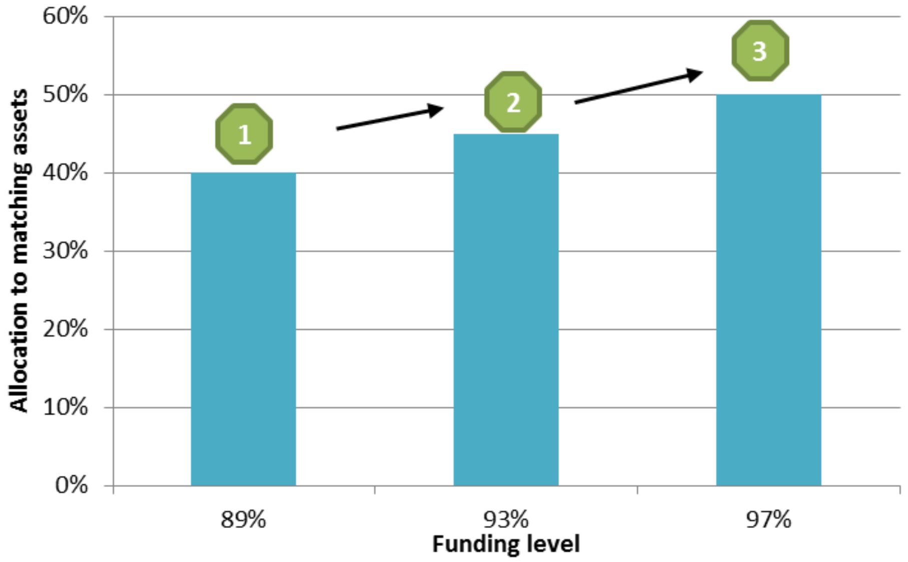
- The greater the funding level improvement (over and above that already expected on the "black line") the greater the allocation to defensive assets that can be made.

GROWTH STRATEGY B

Current trigger points

The trigger points agreed are shown below. Trigger 4 was met in July 2017.

Trigger number	Funding level	Investment strategy required to expect to reach full funding
1	89%	60% growth assets, 40% matching assets
2	93%	55% growth assets, 45% matching assets
3 - current	**97%**	**50% growth assets, 50% matching assets**



The chart above shows how the asset allocation has changed as the funding level increased over time. So for example as the funding level reached 97%, the growth allocation reduced to 50% from 55% and the matching allocation increased from 45% to 50%.

The framework will be re-calibrated regularly to take account of changes in market yields over the period. Following each triennial actuarial valuation, the framework will be more formally updated to take account of changes in the Fund's expected cash flows and updated liability information. As the framework is intended to be long term in nature we would not expect significant changes to the triggers over time.

The most recent update to the de-risking triggers was carried out in January 2017. The triggers will next be reviewed in conjunction with the 31 March 2019 actuarial valuation.

Funding basis

It should be noted that the funding levels set out above are on the actuarial valuation basis (known as the "gilts plus 1.6% p.a." basis).

GROWTH STRATEGY B

Re-risking considerations

In the same vein as "de-risking" when the funding level improves, if the funding level was to deteriorate from the current position, there is potential to re-risk (i.e. allocate more to growth assets). In such circumstances, re-risking will not be automatic but will prompt a discussion with the Fund's advisors with an overall proviso that the case to re-risk should be extremely strong.

Unless exceptional circumstances apply, a re-risking trigger would comprise of the strategy funding level remaining below the **previous** de-risking trigger for a period of 3 consecutive months.

For example, Strategy B has implemented trigger 3 as the funding level was above 97%. If the funding level fell to below 93% (trigger 2) for a period of 3 consecutive months, then this would prompt a discussion.

Re-risking discussions will consider the following:

- **Expected timeframe to full funding** at the given funding level and date at which the re-risking trigger is met, to assess whether taking additional investment risk is required.
- **The flexibility to increase employer contribution rates** to close any funding shortfall, rather than increasing investment risk.

It should be noted that re-risking into growth assets is likely to expose the Fund to greater risk of more material funding level falls, therefore the case to re-risk should arguably be stronger than for de-risking.
The current working principle is that the Fund would not re-risk over and above the "backstop" allocation of 60% growth and 40% matching (the current allocation for Strategy A).

Implementation

Further de-risking via switches from growth to matching assets beyond the current 50/50 split are not planned within the existing risk management framework. However, alternative options to reduce risk, such as by improving diversification, where possible, within the growth and matching portfolios and / or increasing the level of interest rate and inflation protection provided by the Fund's matching assets, may be considered by the Committee.

Further detail is set out in the 'Interest Rate and Inflation Protection' section on page 41.

GROWTH STRATEGY B

Governance

The Risk Management / De-risking document will act as the key reference document for all de/re-risking. At the point at which Officers identify that a de-risking trigger has been reached the following governance process will be adhered to:

i. Officers will inform the actuary and strategic investment advisor that a trigger has been hit;

ii. The Strategic Investment Advisor undertakes a high level assessment of what and why, before any modelling is commissioned,

iii. The Fund's actuary will model the new investment strategy with established employer contribution rates to ensure that the long term funding objective remains achievable under the investment strategy;

iv. The Fund's strategic investment advisor will consider the 'secondary considerations' outlined in this document. This piece of work will run concurrently with the actuarial work;

v. Officers will collate the two workstreams and communicate the recommended course of action to the Committee via Electronic Decision Notice (EDN);

vi. For clarity and simplicity, the EDN will contain a 'de-risking proforma' which will reference this document. The proforma will clearly outline the advice from both advisors and set out the recommended course of action.

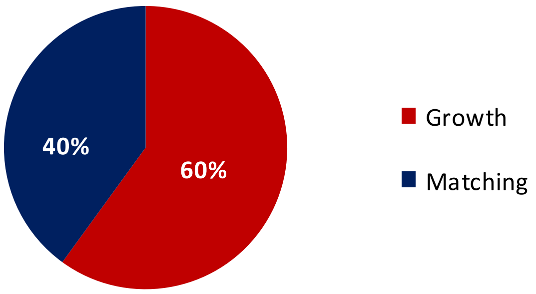
vii. The de/re-risking action will be implemented by Officers based on the Fund's established governance and EDN protocol i.e. a clear majority (6 votes) is required in order to implement a decision.

GROWTH STRATEGY B

2

Trigger 1 – Funding Level 89%

Growth / Defensive split



Asset allocation and decision making process

Asset Class	%
GROWTH ASSETS	**60**
Equity	***30***
Legal & General	15
Baillie Gifford	15
Absolute Return	***15***
Winton	
Arrowgrass	
Blackstone	
Illiquid Alternatives	***15***
DIVERSIFYING & MATCHING ASSETS	**40**
Bonds	***20***
Henderson	7
BlueBay	8
M&G	5
Liability Aware Portfolio	***20***
Index-linked gilts	20

In this and the following four sections we set out the asset allocation in two stages – firstly the high level growth / defensive split for each group of employers, and secondly the underlying asset allocation at each funding level increment / trigger. These policy allocations have been set by the Fund after consultation with the Strategic Advisor and approved by the Committee. In this section we set out the starting asset allocation.

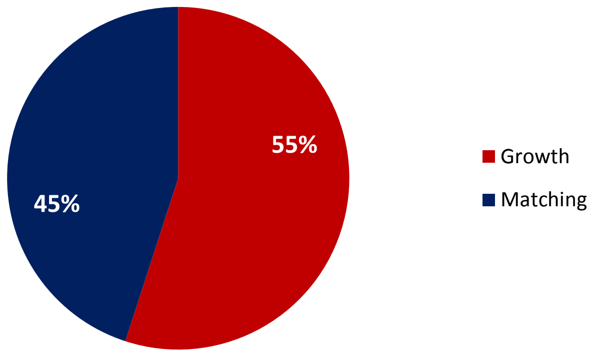
- **Re-Risking**
  - It is not expected that Strategy B would re-risk beyond this strategy

GROWTH STRATEGY B

3

Trigger 2 – Funding Level 93%

Growth / matching split



Asset Class	%	Proposed changes
GROWTH ASSETS	**55**	5% decrease
Equity	***25***	5% decrease
Legal & General	15	No change
Baillie Gifford	10	5% decrease
Absolute Return	***15***	No change
Winton		No change
Arrowgrass		No change
Blackstone		No change
Illiquid Alternatives	***15***	No change
DIVERSIFYING & MATCHING ASSETS	**45**	5% increase
Bonds	***20***	No change
Henderson	7	No change
BlueBay	8	No change
M&G	5	No change
Liability Aware Portfolio	***25***	5% increase
Index-linked gilts	25	5% increase

1) Primary considerations

Once the funding level reaches 93% the default action is to move 5% of assets from growth to matching assets subject to consultation with **Strategic Advisor and approval of the Committee**.

2) Secondary considerations

The Fund will review at each decision point with the **Strategic Advisor** which elements of the growth portfolio to move to defensive assets, and the relevant defensive asset class opportunities.

Default position is to reduce allocations to equities in favour of the Liability Aware Portfolio (as illustrated in left hand table) but would be subject to secondary considerations noted above.

GROWTH STRATEGY B

Secondary considerations will include:

- Relative value of the underlying assets mix
- Cost of switching in the current environment
- Fund liquidity constraints
- Requirements of other strategies (including potential to trade internally rather than incur trading costs)
- Time constraints for implementation

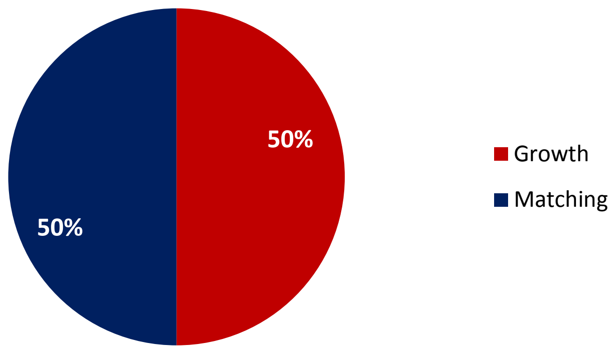
- **What is the change?**
  - Moving 5% of assets from growth to matching assets once the funding level reaches 93%.
  - Default position moving from equities to Liability Aware Portfolio.
  - Other defensive assets would be considered by the Officers at the time of implementation depending on market opportunities.
- **Rationale**
  - A further 4% funding level improvement can warrant a lower risk investment strategy without reducing the likelihood of achieving full funding over the next 20 years compared to what was previously anticipated.
  - Initial default allocation to be to take assets from equities to Liability Aware Portfolio as the most cost efficient way to reduce exposure to growth assets.
  - Liability Aware Portfolio chosen as “matching asset” as a pragmatic match against the Fund’s interest rate and inflation linked liabilities.
- **Execution**
  - Committee has already agreed the **55% growth / 45% defensive** split to be targeted at this trigger point as set out in this document.
  - Once the trigger is hit, the Officers will review underlying asset allocation regarding where to move the assets to (default position is equities to Liability Aware Portfolio but other opportunities would be considered at implementation) and obtain consent from Committee in line with this policy.
- **Re-Risking**
  - No automatic re-risking. Case for re-risking subject to review with Actuary and Strategic Investment Advisor.

GROWTH STRATEGY B

4

Trigger 3 – Funding level 97% (Current position – trigger met in July 2017)

Growth / defensive split



Asset allocation and decision making process

Asset Class	%	Proposed changes
GROWTH ASSETS	**50**	5% decrease
Equity	***20***	5% decrease
Legal & General	10	5% decrease
Baillie Gifford	10	No change
Absolute Return	***15***	No change
Winton		No change
Arrowgrass		No change
Blackstone		No change
Illiquid Alternatives	***15***	No change
DIVERSIFYING & MATCHING ASSETS	**50**	5% increase
Bonds	***20***	No change
Henderson	7	No change
BlueBay	8	No change
M&G	5	No change
Liability Aware Portfolio	***30***	5% increase
Index-linked gilts	30	5% increase

1) Primary considerations

Once the funding level reaches 97% the default action is to move 5% of assets from growth to matching assets subject to consultation with **Strategic Advisor and approval of the Committee**.

2) Secondary considerations

The Fund will review at each decision point with the **Strategic Advisor** which elements of the growth portfolio to move to defensive assets, and the relevant defensive asset class opportunities.

Default position is to reduce allocations to equities in favour of the Liability Aware Portfolio (as illustrated in left hand table) but would be subject to secondary considerations noted above.

GROWTH STRATEGY B

Secondary considerations will include:

- Relative value of the underlying assets mix
- Cost of switching in the current environment
- Fund liquidity constraints
- Requirements of other strategies (including potential to trade internally rather than incur trading costs)
- Time constraints for implementation

- **What is the change?**
  - Moving 5% of assets from growth to defensive assets once the funding level reaches 97%.
  - Default position moving from equities to Liability Aware Portfolio.
  - Other defensive assets would be considered by the Officers at the time of implementation depending on market opportunities.
- **Rationale**
  - A further 4% funding level improvement can warrant a lower risk investment strategy without reducing the likelihood of achieving full funding over the next 20 years compared to what was previously anticipated.
  - Initial default allocation to be to take assets from equities to Liability Aware Portfolio as the most cost efficient way to reduce exposure to growth assets.
  - Liability Aware Portfolio chosen as "defensive asset" as a pragmatic match against the Fund's interest rate and inflation linked liabilities.
- **Execution**
  - Committee has already agreed the **50% growth / 50% defensive** split to be targeted at this trigger point as set out in this document.
  - Once the trigger is hit, the Officers will review underlying asset allocation regarding where to move the assets to (default position is equities to Liability Aware Portfolio but other opportunities would be considered at implementation) and obtain consent from Committee in line with this policy.
- **Re-Risking**
  - No automatic re-risking. Case for re-risking subject to review with Actuary and Strategic Investment Advisor.

5

Growth Strategy B Employers

Adoption Matters North West	Crewe Town Council
Alderley Edge Parish Council	Curzon Cinemas
Alsager Town Council	CWP NHS Trust
Appleton Parish Council	Daresbury Primary School
Aspens-Services	Dataspire
Avenue Services (NW) Limited	Delamere and Oakmere PC
Barnton Primary School	Delamere CofE Primary Academy
Beamont Collegiate Academy	Disley Parish Council
Birchwood Community Academy	Dolce (Moulton)
Birchwood Town Council	Dolce (Rossmore)
Bishops Blue Coat COE HS	Edsential
Bollington Town Council	ENGIE Services Limited
Boughton Heath Academy	Enviroserve
Bridgewater High School	Eric Wright - EP Schools
Bridgewater High Trading	Evelyn Street Primary
Bridgewater Park Primary	Frodsham Town Council
Brio Leisure	Grappenhall Thelwell Parish Council
Bruche Primary	Great Sankey High School
Bulloughs - Brine Leas	Great Sankey Primary School
Bulloughs - Collegiate	Hall Cleaning Services
Bulloughs - Lymm	Halton Borough Council
Bulloughs Cleaning Ltd	Halton Housing Trust
Burtonwood Community Primary	Halton Transport
Catalyst Choices CIC	Handforth Parish Council
Catering Academy - UCEA	Hartford Parish Council
Catering Academy - UPAW	Highfields Comm Primary
Catering Academy - UPW	Hochtief
Cavendish High Academy	Holmes Chapel Parish Council
CG Cleaning- Bridgewater	HQ Theatres Limited
CG Cleaning- Great Sankey	I S S Facility Services Ltd
Chapelford Village Primary School	Innovate Tytherington Ltd
Cheshire and Warrington Sports PT Ltd	Kelsall Primary School
Cheshire College South and West	King's Leadership Academy
Cheshire Fire and Rescue Service	Kingsley & District Nursery
Cheshire Peaks and Plains Housing Trust	Kingsmead Parish Council
Cheshire West & Chester Council	Knutsford Town Council
Christleton High School	Lafarge Tarmac
Churchill Services Ltd	Little Sutton C of E Primary
City West Housing Trust	Liverpool Mutual Homes
Cloughwood Academy	Livewire
Clutton C of E Primary	Lymm High School
Compass - Chartwells Ltd	Lymm Parish Council
Congleton Town Council	Macclesfield College
County High School Leftwich	Macclesfield Town Council

GROWTH STRATEGY B

Mack Trading (Heaton Park) Limited	St Bernard’s RC Primary School
Marketing Cheshire	St Martin's Academy
May Gurney	Stockton Heath Parish Council
Mears Care Limited	Tarpoley High School
Mersey Gateway Crossing Board	The Catholic High School
Mid Cheshire College	The Fermaine Academy
Middlewich Cemetery Committee	The Grange School
Middlewich Town Council	The Guinness Partnership
Mill View Primary School	The Heath School
Nantwich Town Council	The Kings School Chester
Neston High School	The Oak View Primary Academy
Neston Town Council	The Russett School
Nether Alderley Parish Council	The Winsford Academy
Northwich Town Council	Turning Point Services Ltd
Norton Priory Museum Trust	University Academy Warrington
NW Fire Control Ltd	University C O E Academy
Odd Rode Parish Council	University Cathedral Free School
Ormiston Bolingbroke Academy	University Of Chester
Ormiston Chadwick Academy	UOC Academies Trust
Over Hall Community School	UOC Academy Northwich
Palacefields Academy	UP Academy Weaverham
PAM West	Upton Heath C of E Primary
Park Road Primary School	UTC - Warrington
Penketh High School	Victoria Road Primary
Penketh Parish Council	Vivo Care Choices Ltd
Penketh Primary	Wade Deacon High School
Plus Dane Housing Association	Warrington & Vale Royal College
Plus Dane Housing Association Ltd	Warrington Borough Council
Police And Crime Commissioner	Warrington Collegiate
Poulton Fearnhead Parish Council	Warrington Collegiate Education Trust
Poynton Town Council	Warrington Community Living
Prestbury Parish Council	Warrington Cultural Trust
Priestley Sixth Form College	Warrington Housing Association
Queens Park High School	Warrington Transport
QWest Services Limited	Warrington Voluntary Action
R M Estates Ltd	Weaver Vale Housing Trust
Reaseheath College	West Cheshire Facilities Management
Ringway Infrastructure Services Ltd	Westbrook Old Hall School
Ringway Jacobs	Widnes Academy
Riverside College	Wilmslow Town Council
Riverside Truck Rental Ltd	Winsford Town Council
Rudheath Community Primary School	Winwick Parish Council
Sandbach School	Wistaston Parish Council
Sandbach Town Council	Your Housing Group
Sandymoor School	
School Food Company Ltd	
Sir John Deanes College	
Sir Thomas Boteler High School	
St Augustines Catholic Primary School	

Medium Growth Strategy

CONTENTS

MEDIUM GROWTH STRATEGY

1

Asset allocation

The Medium Growth Strategy is the target allocation for employers who are generally closed to new entrants and are targeting a managed exit from the Fund. The asset allocation of 50% growth and 50% matching represents the Fund's assessment of the most suitable blend of return seeking and risk management assets in the pursuit of sustainable, stable contribution rates once the deficit has been removed. Growth Strategy A is targeting the 50 / 50 allocation, reducing risk as and when there is a funding level improvement, while Growth Strategy B has already reached the 50 / 50 allocation (at the time of writing).

There are also some employers within Strategy C who do have a deficit, but they are on a pathway to full funding on a lower risk basis and the 50/50 allocation represents a more appropriate starting point than Growth Strategy A which would carry more risk.

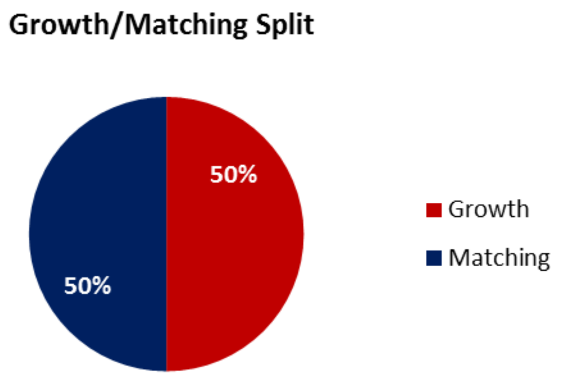
The 50 / 50 allocation is reviewed at each triennial valuation to ensure that the blend of risk and return continues to work in tandem with the goal of keeping future service rates affordable

This is the current investment strategy in place during the refresh of the risk management / de-risking framework at 2016/2017.

There is no further de-risking planned for this group as a whole, although a number of these employers may move to the Gilts Strategy as they get closer to their exit point.

MEDIUM GROWTH STRATEGY

Growth / matching split



Asset allocation and decision making process

Asset Class	%
GROWTH ASSETS	**50**
Equity	***20***
Legal & General	9
Baillie Gifford	11
Absolute Return	***15***
Winton	
Arrowgrass	
Blackstone	
Illiquid Alternatives	***15***
DIVERSIFYING & MATCHING ASSETS	**50**
Bonds	***20***
Henderson	7
BlueBay	8
M&G	5
Liability Aware Portfolio	***30***
Index-linked gilts	30

1) Primary considerations

Committee agree to the overall 50% growth / 50% defensive split based on advice from **Officers** and the **Strategic Advisor**.

2) Secondary considerations

The Fund will review the underlying elements of the growth and defensive portfolios on an ongoing basis with the **Strategic Advisor. Any proposed changes will be based on appropriate advice and subject to Committee approval**.

The secondary considerations will include:

- Relative value of the underlying asset mix
- Cost of switching in the current environment
- Fund liquidity constraints
- Requirements of other strategies (including potential to trade internally rather than incur trading costs)
- Time constraints for implementation

2

Medium Growth Strategy Employers

Belong Limited
Canal and River Trust (Waterways Trust)
Care Quality Commission
Cheshire and Warrington E C
Cheshire Community Action
Cheshire Sports Club
David Lewis Centre
Deafness Support Network
Golden Gates Housing Trust
Making Space
Sanctuary Housing Association
Tommy Thumbs
Vision Support
Youth Federation

Gilts Strategy

CONTENTS

1

Asset allocation

For some employers that have exited the Fund on a gilts funding basis, it will be appropriate to have an allocation of 100% diversifying and matching assets.

This is a static investment strategy and is not subject to monthly funding level trigger monitoring.

The make-up of the 100% matching portfolio is outlined below. As a default, this will be a 100% Liability Aware Portfolio on the grounds of risk reduction as the strategy is aligned with the gilts funding basis.

Asset allocation and decision making process

Asset Class	%
GROWTH ASSETS	**0**
Equity	***0***
Legal & General	0
Baillie Gifford	0
Absolute Return	***0***
Winton	
Arrowgrass	
Blackstone	
Illiquid Alternatives	***0***
DIVERSIFYING & MATCHING ASSETS	**100**
Bonds	***0***
Henderson	0
BlueBay	0
M&G	0
Liability Aware Portfolio	***100***
Index-linked gilts	100

1) Primary considerations

Committee agree to the overall 100% matching asset allocation.

2) Secondary considerations

The Fund will review the underlying elements of the growth and defensive portfolios on an ongoing basis with the **Strategic Advisor. Any proposed changes will be based on appropriate advice and subject to Committee approval**.

The secondary considerations will include:

- Relative value of the underlying asset mix
- Cost of switching in the current environment
- Fund liquidity constraints
- Requirements of other strategies (including potential to trade internally rather than incur trading costs)
- Time constraints for implementation

2

Gilts Strategy Employers

Cheshire Magistrates
Creative Support

Interest Rate and Inflation Protection

For the majority of the Fund's benefits, the rate of future inflation affects the actual payments made to members, and so higher than expected inflation represents a very tangible risk to the Fund.

Although interest rates do not explicitly impact the level of future benefits to be paid by the Fund, interest rates are used to discount the expected future benefit payments to place a present value on the benefits in today's terms (carried out as part of the Fund's actuarial valuation). Therefore, in terms of managing affordability of contributions today, interest rates are clearly important.

A further objective of the risk management / de-risking framework relates to reducing the interest rate and inflation risks associated with the mismatch between the Fund's assets and liabilities. To an extent this will happen naturally through any de-risking actions to move from growth to matching assets over time, but can also be captured by using more "efficient" matching-type assets and techniques.

Assets and techniques that seek to reduce the Fund's interest rate and inflation risk are complex in nature and this is an area that will be considered in detail prior to the 2019 actuarial valuation.

Implementation Process

The implementation process of any risk management / de-risking triggers will be carried out by Officers and Advisors.

The key questions that will be covered prior to any de-risking actions with Committee are as follows:

Item	Question	Guideline
1	What is the funding level?	See triggers.
2	How much of the funding level improvement (over and above what is expected) is as a result of changes in gilt yields and / or growth assets and can we take account of this from a funding perspective?	Input from Hymans Robertson.
3	What is the relative attractiveness of the Liability Aware Portfolio versus growth assets (e.g. equities)?	Measured by Mercer's Dynamic Asset Allocation (DAA) view.
4	What is the relative attractiveness of the Liability Aware Portfolio versus other real assets?	Input from Mercer.
5	Are equities the optimal place to de-risk from?	Input from Mercer
6	Are market conditions such that there is potential to increase level of interest rate or inflation protection?	Input from Mercer's "Fair Value" analysis (and Hymans to confirm additional protection does not impact on funding).

The de-risking triggers are intended as a guide for future de-risking actions. Should there be any potential for any de-risking actions to impact on contributions or funding arrangements in place, the de-risking trigger will not be actioned.

Re-Risking

Re-risking will not be automatic, and meeting a re-risking trigger should prompt a discussion with the Advisors, considering the expected timeframe to full funding at the given funding level and date at which the trigger is met and the flexibility to increase employer contribution rates to close any funding shortfall. It should be noted that re-risking into growth assets is likely to expose the Fund to greater risk of more material funding level falls, therefore the case to re-risk should arguably be stronger than for de-risking.

The current working principle is that the Fund would not re-risk over and above the current asset allocation for each Strategy.

Points to note / FAQs

Why does the Risk management / De-risking Strategy Framework “stop” at 100% funding level?

The derivation of an “endpoint” investment strategy seems somewhat arbitrary for an LGPS fund. An initial target of approximately 50% growth : 50% defensive assets and a funding level that is approaching 100% was an intuitive place to start for a framework that had simplicity at its heart. The strategy framework will be reassessed annually and the triggers and associated asset allocations may well evolve (if for example, the funding level improves more quickly than we might expect and we can de-risk further without impacting contribution rates).

Do index linked gilts need to be the “least risk” asset class?

By considering a more medium term market outlook on a quarterly basis, de-risking could take place via a move from equities to the illiquid alternatives portfolio for example. However, this will depend on the make-up of the illiquid alternatives portfolio and the commitment profile at the time. For example, we may want to increase the allocation to illiquid assets instead of index linked gilts, but there may be a delay before commitments are actually invested. As such there would need to be a degree of pragmatism employed. The strategy would therefore be to de-risk via index linked gilts, but to periodically assess whether a move from index linked gilts to the illiquid portfolio is advisable.

Why have the allocations to illiquid alternatives and absolute return mandates not been changed as part of the de-risking process?

The focus of the framework has been to review the overriding growth / defensive split by changing the underlying equity and bond asset mix. The rationale for this includes looking to limit transaction costs, to ensure timely execution of any de-risking actions and to minimise any out of market exposure.

The transaction costs associated with moving into or away from illiquid assets are higher than more liquid instruments such as equities and bonds. Further, it is typically more time consuming to implement trades on illiquid assets and therefore from a practical perspective it is typically less compelling to use illiquid assets to facilitate any de-risking without a particular strategic objective, or market opportunity, in mind.

The absolute return portfolio has been set up with specific objectives to diversify the Fund’s assets and reduce the reliance on equity to drive returns. The portfolio was compiled with a long term target and to reduce the level of volatility associated with the Fund’s returns. We would therefore not look to fundamentally review this allocation as part of any de-risking in the first instance, but as the Fund’s allocation to growth assets materially reduces we will review this position.

Why are the triggers based on 4% - 5% changes in the funding level?

Due consideration has been given to ensuring that any de-risking actions taken will have a meaningful impact on the Fund’s overall risk and return expectations.

There is a time delay between understanding the Fund's funding position and implementing any de-risking actions. If triggers were based on smaller changes in funding level (i.e. 2-3% funding level improvements), there is greater potential for markets to move and erode opportunities before they have been implemented. For example, at the time the funding level is reviewed a trigger may have been hit, but by the time the de-risking measure is actually implemented, the funding level may have since deteriorated. In order to reduce this risk, we have ensured the funding level triggers are set at markedly different funding levels, of between 4-5%.

Furthermore, if de-risking actions are taken based on smaller changes in funding levels, this is expected to increase the trading costs associated with implementing any risk reduction actions.

Will we take account of the reason the funding level has improved?

The Fund's funding level can improve due to a combination of factors or one in isolation e.g. strong equity market returns or rises in gilt yields. Whilst the we are not looking to time markets and they key drivers for the changes we are making are strategic (not tactical) if, there have been large market moves in the assets we are buying or selling (i.e. an asset looks particularly attractive or unattractive) the Officers, acting on the advice of the Fund's advisor will take this into account.

How will the Committee be kept informed?

Officers will report monthly and as and when any triggers are hit.

Glossary of terms

Term	Definition
Absolute return strategies	A fund that aims to achieve a positive return in absolute terms rather than relative to an index or benchmark. Often also referred to as cash plus funds and aim to have a low correlation to equity markets and preserve value in periods of market stress.
Actuarial Valuation	Professional assessment undertaken by an actuary to determine whether the assets of a plan are likely to be sufficient to meet the accrued benefits; normally carried out at least every three years, in line with legislative requirements.
Actuary	Professional who advises on financial issues relating to risks, probabilities and mortality, most frequently in relation to the financing of pension plans and insurance companies.
Asset allocation	Distribution of investments across categories of assets, such as cash, equities and bonds. Asset allocation affects both risk and return and is a central concept in financial planning and investment management.
Bonds	A debt investment in which an investor loans money to an entity (corporate or governmental) that borrows the funds for a defined period of time at a fixed interest rate. Seen as a good “matching” asset for a pension scheme.
Credit	Debt issued by non-government bodies.
Default allocation	The working assumption to be used to move from growth to matching assets. In practice, this allocation will be reviewed by Officers and Strategic allocation prior to implementation.
Diversification	Risk management technique which involves spreading investments across a range of different investment opportunities, thus helping to reduce overall risk. The risk reduction arises from the different investments not being perfectly correlated. Diversification can apply at various levels, that is, diversification between countries, asset classes, sectors and individual securities. Diversification reduces both the upside and downside potential and allows for a more consistent performance under a wide range of economic conditions.
Duration	Average term (in years) of the payments from a bond, taking into account the present value of each payment. The longer the duration, the more sensitive the price of the stock to changes in interest rates.
End point strategy	The “targeted” investment strategy assuming a favourable funding position has been reached. It should be noted that whilst a specific asset allocation may be targeted, in practice this may change over time depending upon market opportunities and Fund specific events (e.g. make-up of the liability profile – proportion of pensioners / non pensioners etc).
Equities	A share in a company. Seen as a “risky” or “growth” asset from a pension scheme perspective.
Expected return	Statistical measure of the average future return from an asset or portfolio. Often an asset with a higher expected return will also have a higher standard deviation of return i.e. higher risk.
Fixed income	Asset where the timing and amount of future interest or coupons are specified (and fixed) at the time of issue. Considered a matching asset class from a pension scheme perspective.
Flight path	The expected change in the Fund’s funding position over time, allowing for contributions and investment returns.
Fully funded	When the Fund’s assets and liabilities are equal.
Funding basis	The assumptions used by the Scheme Actuary to place a value on the Fund’s liabilities (the value of the benefits to be paid out of the Fund).

Term	Definition
Funding level	The difference in the value of the Fund's assets and liabilities. Assesses the financial health of the Fund.
Gilt	Bond issued by the UK government. The payments on the gilt may be either fixed (fixed-interest gilt) or increase with inflation (index-linked gilt).
Index-linked gilt	UK government stock with the interest payments and final redemption proceeds linked to the Retail Prices Index. Such stocks provide protection against inflation whereas conventional gilts do not.
Inflation	A measure of the change in the cost of goods and services in the economy over a given period.
Interest rate	A risk free rate of borrowing linked to the yield available on government bonds or derived from swap market pricing. Commonly used to discount projected cash flows to calculate liability values
Investment risk	a) Risk that an asset will not deliver the expected returns (or meet the objectives) for which it is held. b) Chance that a permanent loss will be sustained on an investment through company failure, default on loans, fraud or other factors. c) Volatility in the value of a security or market, usually measured as the standard deviation of returns over a given period.
Investment strategy	Investor's long-term distribution of assets among various asset classes, taking into consideration, for example, goals of the trustee group, attitude to risk and timescales etc.
Illiquid asset	An asset which is not easily traded (i.e. cannot be converted into cash quickly and with minimal impact to the price received)
Liabilities	Financial obligations – for example, money owed to banks or future pension payments – that must be met to satisfy the contractual terms of the obligation. Liabilities may be time-based (i.e. payable at a specific time) or contingent upon the occurrence of a future event (e.g. retirement, death).
Liquid asset	An asset which is easily traded (i.e. can be converted into cash quickly and with minimal impact to the price received)
Real asset	Asset whose value is linked (directly or indirectly) to inflation. Equities, property, forestry, venture capital and inflation-linked bonds are often considered to be real assets.
Risk	a) Likelihood of a return different from that expected and the possible extent of the difference. Downside risk is the likelihood of a loss, or a return less than expected on an investment. b) Also used to indicate the volatility of different assets.
Strategic asset allocation	Benchmark allocation between the main asset classes with the aim of meeting the investor's risk and return objectives.
Trigger point	Instigates a change in the growth / defensive split of the Fund based on the Fund's funding position at a point in time.
Value at Risk (VaR)	A statistical method of measuring risk of loss. VaR is often used as a measure of funding level risk. It can be defined with different levels of probability, for example VaR95 denotes the 95th percentile loss.
Volatility	Variability of the price of a security. Typically quantified as standard deviation.
Yield	Return on an investment expresses as a percentage. More often used to refer to the gross redemption yield on a bond, being the return to a purchaser if the bond is held to maturity ignoring taxes and the prospect of default. Another term for interest rate.

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