CUMBRIA COUNTY COUNCIL PENSION FUND

INVESTMENT STRATEGY REVIEW

September 2017

IMPORTANT NOTICES

References to Mercer shall be construed to include Mercer LLC and/or its associated companies.

This contains confidential and proprietary information of Mercer and is intended for the exclusive use of the parties to whom it was provided by Mercer. Its content may not be modified, sold or otherwise provided, in whole or in part, to any other person or entity, without Mercer's prior written permission.

The findings, ratings and/or opinions expressed herein are the intellectual property of Mercer and are subject to change without notice. They are not intended to convey any guarantees as to the future performance of the investment products, asset classes or capital markets discussed. Past performance does not guarantee future results. Mercer's ratings do not constitute individualised investment advice.

Information contained herein has been obtained from a range of third party sources. While the information is believed to be reliable, Mercer has not sought to verify it independently. As such, Mercer makes no representations or warranties as to the accuracy of the information presented and takes no responsibility or liability (including for indirect, consequential or incidental damages), for any error, omission or inaccuracy in the data supplied by any third party.

This does not constitute an offer or a solicitation of an offer to buy or sell securities, commodities and/or any other financial instruments or products or constitute a solicitation on behalf of any of the investment managers, their affiliates, products or strategies that Mercer may evaluate or recommend.

For the most recent approved ratings of an investment strategy, and a fuller explanation of their meanings, contact your Mercer representative.

For Mercer's conflict of interest disclosures, contact your Mercer representative or see www.mercer.com/conflictsofinterest

INVESTMENT STRATEGY

INTRODUCTION AND RECAP

WHAT DO WE MEAN BY INVESTMENT STRATEGY?

What is Investment Strategy?

Allocation between asset classes

(not decisions about the managers to manage the asset classes)

Why is Investment Strategy important?

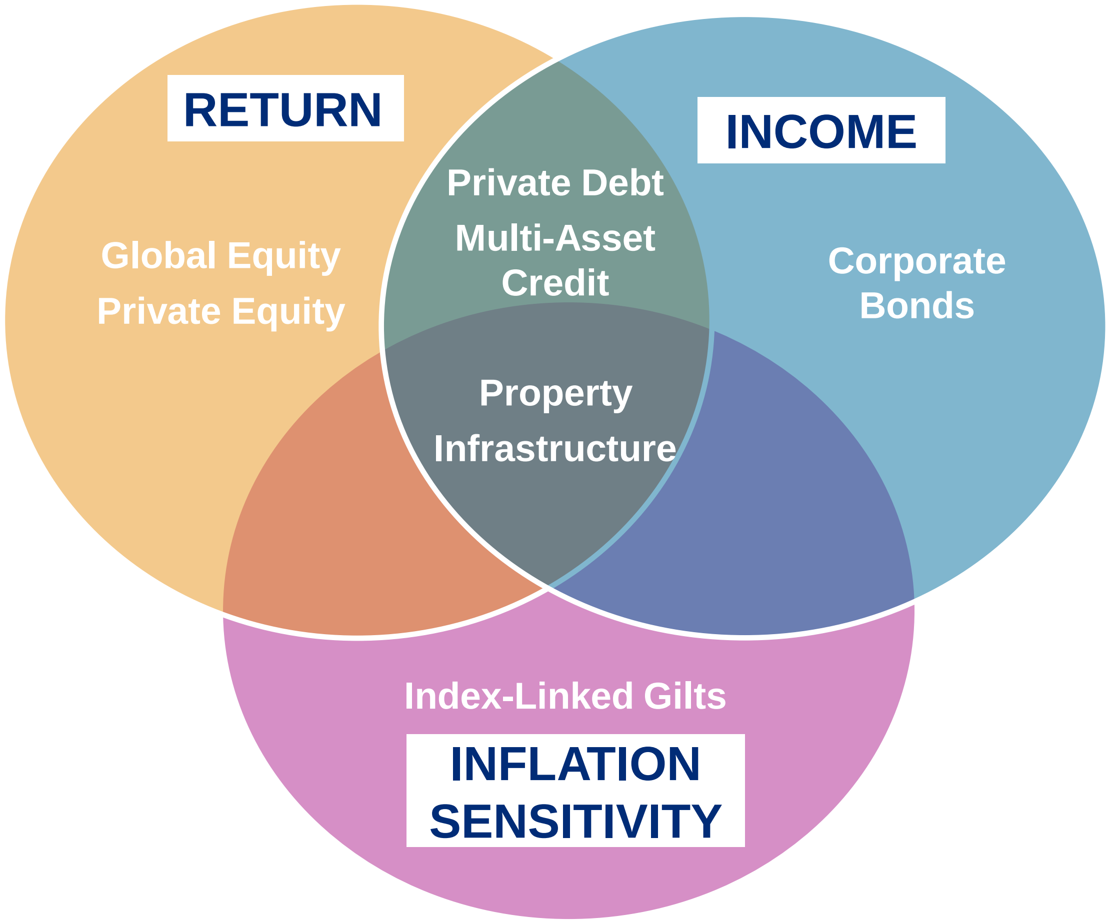
Expected to account for the majority (c.80%) of the asset performance

Different assets have different roles in the portfolio

Why review Investment Strategy?

Provide a Clear Plan	**Good Governance During Each Triennial Actuarial Valuation**	**New Solutions**
Changes to the Liabilities	**Changes in the Market Environment**	**Changes to Employers**

WHAT ARE THE KEY ASSET CLASSES WE INVEST IN AND WHY?



THE FUND'S ASSETS ARE INVESTED IN A DIVERSIFIED RANGE OF INVESTMENTS WITH THE AIM OF PROVIDING RETURN, INCOME AND / OR INFLATION-SENSITIVITY

WHAT ARE THE FUND'S INVESTMENT BELIEFS?

The Fund has seven key investment beliefs:

1. Our investment strategy should be determined by reference to the Fund's assets, liabilities and our risk tolerances
2. Asset allocation has the greatest impact on the overall risk and return of the Fund
3. It is important to take a long term perspective when considering the investment strategy, but recognise the implications of shorter term market volatility
4. Good governance improves the quality of decision making
5. All investments have a degree of financial risk but we should only accept financial risk where we have a strong belief that we will be rewarded for it.
6. There are multiple risks to which the Fund is exposed and those risks that are not sufficiently compensated should be mitigated, managed or avoided if possible.
7. We should continually consider all risks in our investment process by investing responsibly, including environmental, social and corporate governance factors.

REGULAR REVIEW OF STRATEGY IS KEY TO GOOD GOVERNANCE
ARE THESE BELIEFS EVIDENCED IN THE STRATEGY?

WHAT ARE THE FUND'S INVESTMENT OBJECTIVES?

- The long-term objective is for the Fund to achieve a funding level of 100% over a maximum recovery period of **sixteen years from April 2016**.
- A funding level of 100% indicates the Scheme Actuary believes the Fund has enough money set aside to pay its pension promises as they arise.
  - But in assessing the funding level the Scheme Actuary must make a number of financial and economic assumptions which may not bear out in reality.
- A key assumption in assessing the funding level of the Fund is the return that the investments are expected to generate between now and payment of the Fund's pension promises.
- The Fund's investment objective set out in its **Investment Strategy Statement** ("ISS") is to achieve an investment return to match the actuary's long term assumptions over a **sixteen year period from April 2016**.
  - The Fund will target an outperformance of this over 10 years, within a diversified portfolio to stabilise returns and reduce volatility throughout the period.
- The combined manager target investment return for the Fund as a whole is 0.6% per annum ahead of the Fund's customised benchmark return over rolling five-year periods.

KEY QUESTIONS FOR THIS STRATEGY REVIEW

Is the current strategy expected to generate sufficient returns?

- If so, can we refocus the growth portfolio towards assets more likely to generate CPI plus returns, rather than absolute or gilts plus, and still generate the required return?

Are there risks that can be mitigated through changes to the asset allocation or investment policy?

- Are there undesirable concentrations of risk?
- Are there risks / opportunities in the current market environment that could be better addressed? (e.g. inflation and equity market valuations)

How could the actual asset allocation be brought closer to the target?

- Are there other asset classes we should be considering that will generate return, income &/or inflation sensitivity?
- What should the objectives of the defensive and opportunistic portfolios be?
- How does this fit with pooling and the market environment?

Do we need to think about cashflow generation?

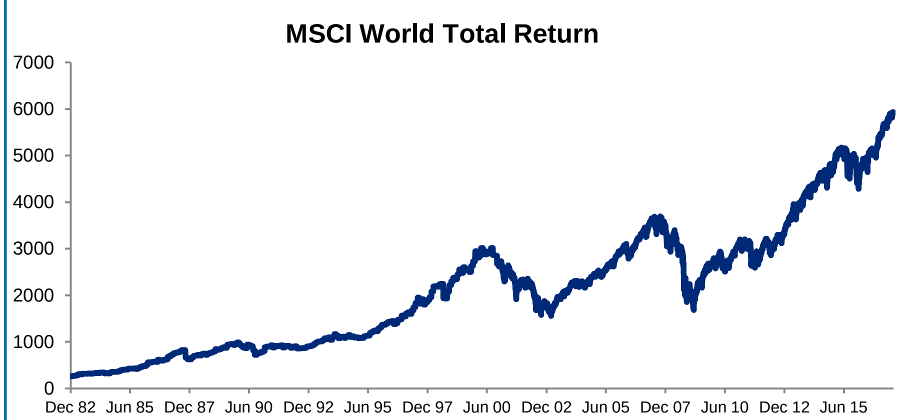
- How is the Fund's cashflow profile expected to develop?
- Where could we get more income if needed?
- Do we need to consider in light of the expected BCPP strategy?

HAS THE STRATEGY WORKED TO DATE?

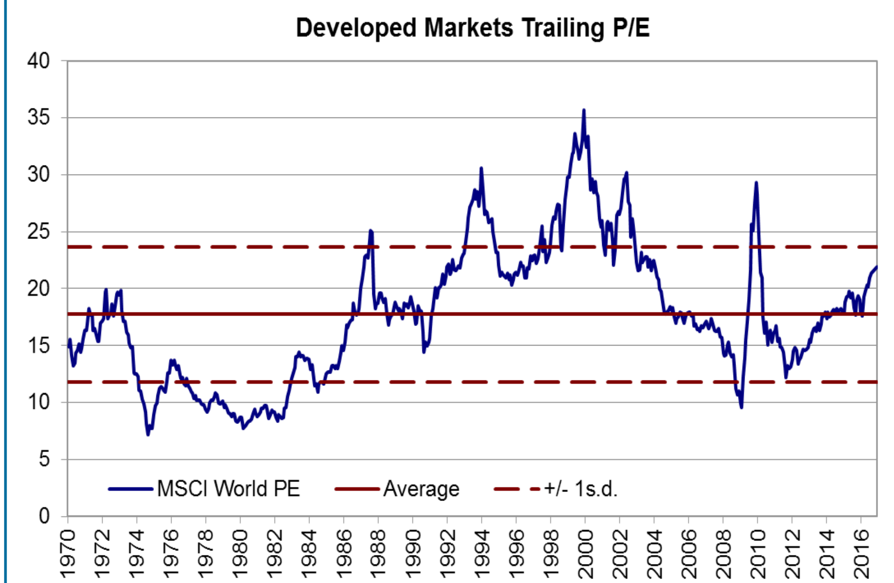
INVESTMENT STRATEGY
THE BACKDROP

EQUITY MARKETS HAVE HAD A GOOD RUN

Equity markets at historic highs and …..



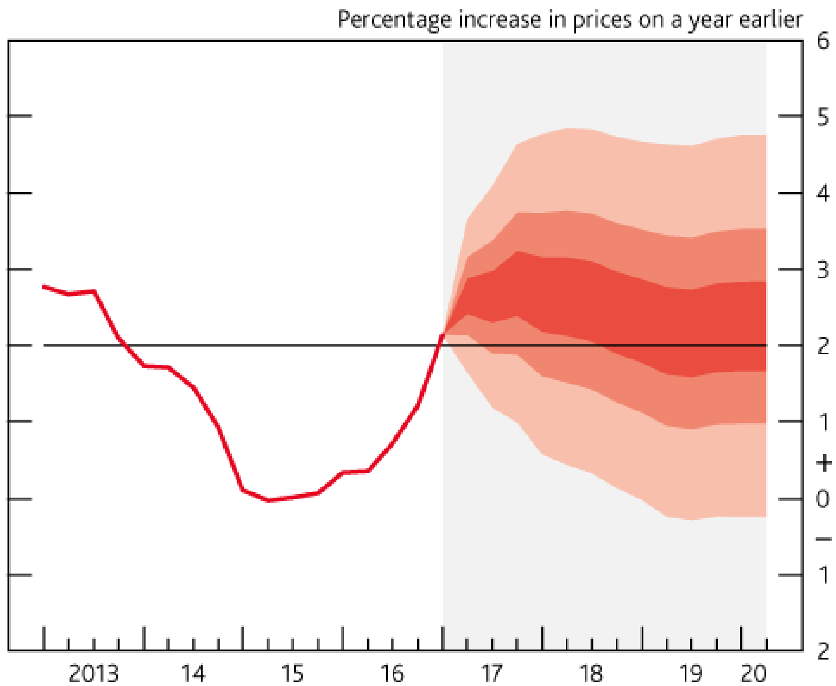
…becoming more expensive…



Source: Thomson Reuters Datastream

CONSIDER STRATEGIES TO PROTECT RECENT STRONG RETURNS SUCH AS PHYSICAL DE-RISKING, EQUITY PROTECTION STRATEGIES OR FURTHER DIVERSIFICATION

INFLATION EXPECTATIONS ON THE RISE



Bank of England CPI Inflation Expectations, May 2017 Report

- Rising inflation is a key risk to the Fund due to the inflation sensitivity of the benefits which the Fund pays out to pensioners.
- While future inflation rates remain hard to predict - as illustrated by the wide fan of potential outcomes in the Bank of England CPI inflation expectation chart - inflation has been rising.

RISING INFLATION IS A KEY RISK TO THE FUND

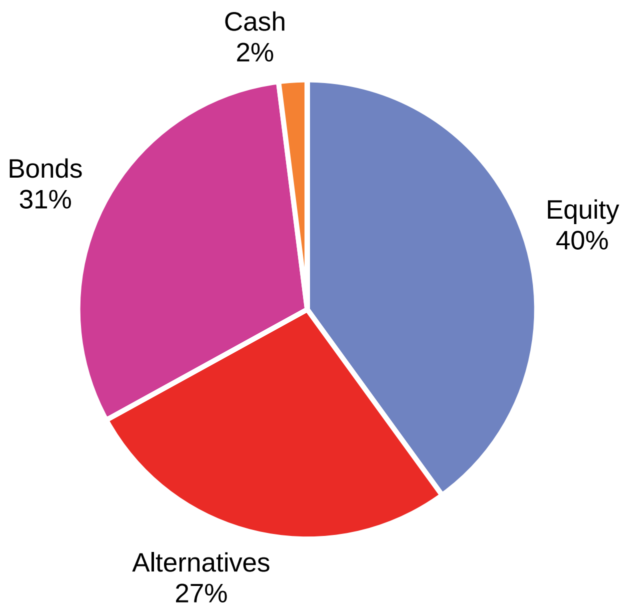
ADDITIONAL EXPOSURE TO INFLATION SENSITIVE ASSETS MAY THEREFORE BE HELPFUL

INVESTMENT STRATEGY

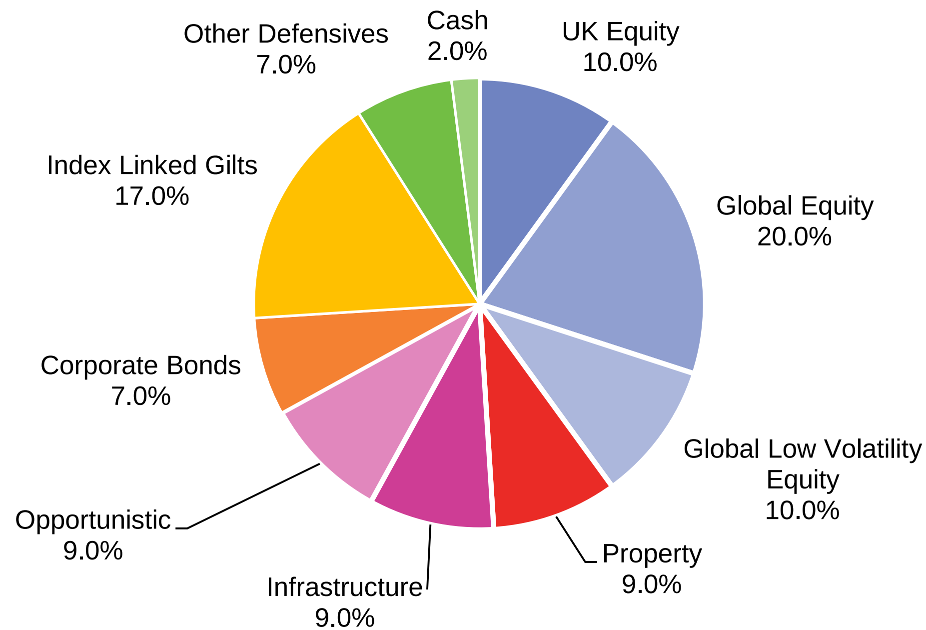
WHERE WE ARE TODAY

CURRENT POSITION
YOUR INVESTMENT STRATEGY

BENCHMARK ASSET ALLOCATION

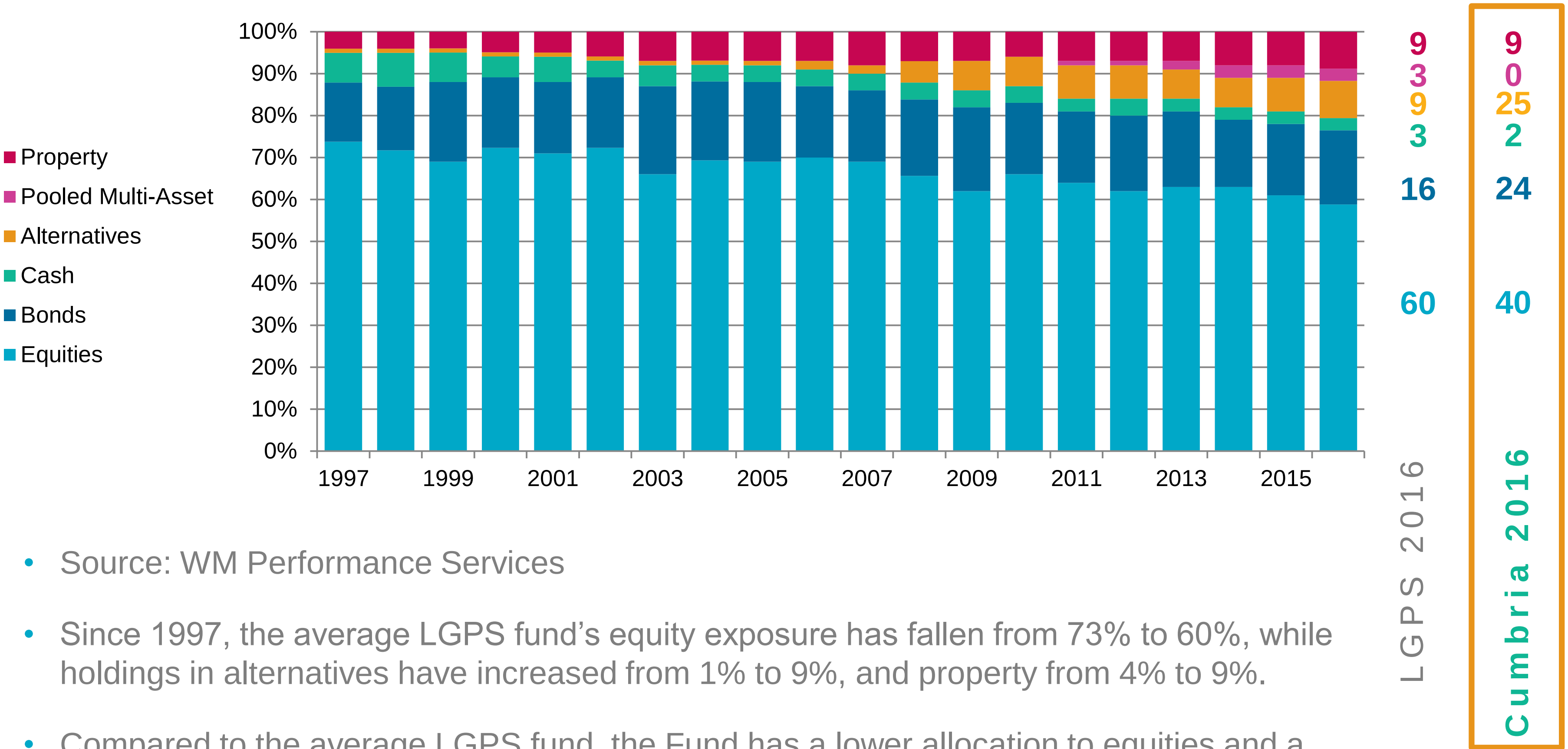


DETAILED ASSET ALLOCATION



- Has the strategy worked? Has performance been as expected?
- Has the Fund benefited from diversification? Is it too early to draw conclusions?
- Is the Fund getting value for money from its suite of alternative assets?

CURRENT POSITION
WHAT ARE OTHER LGPS FUNDS DOING?



- Source: WM Performance Services
- Since 1997, the average LGPS fund's equity exposure has fallen from 73% to 60%, while holdings in alternatives have increased from 1% to 9%, and property from 4% to 9%.
- Compared to the average LGPS fund, the Fund has a lower allocation to equities and a higher allocation to alternatives and bonds.

CURRENT POSITION
FUND RETURNS HAVE BEEN STRONG

Net of fees	Cumbria Performance	Bespoke Benchmark	Variance to Benchmark
1yr performance	19.2%	17.6%	+1.6%
3yr performance	11.9%	9.9%	+ 2.0%
5yr performance	11.3%	9.7%	+1.6%
10yr performance	7.4%	6.8%	+ 0.6%

- Past performance to 31 March 2017 suggests long term absolute and relative performance has been strong and above that assumed by the Actuary.
- The Fund’s LGPS universe rankings have also been high over the period to 31 March 2016.
- Total fees, despite the level of alternative assets, appear well controlled from comparing net and gross returns.
- Lower fees secured in traditional asset classes like property and equities are arguably masking higher “alternative” asset class fees which will increase as these allocations grow.
- Something to keep under review in view of the increasing focus on fees and value for money.

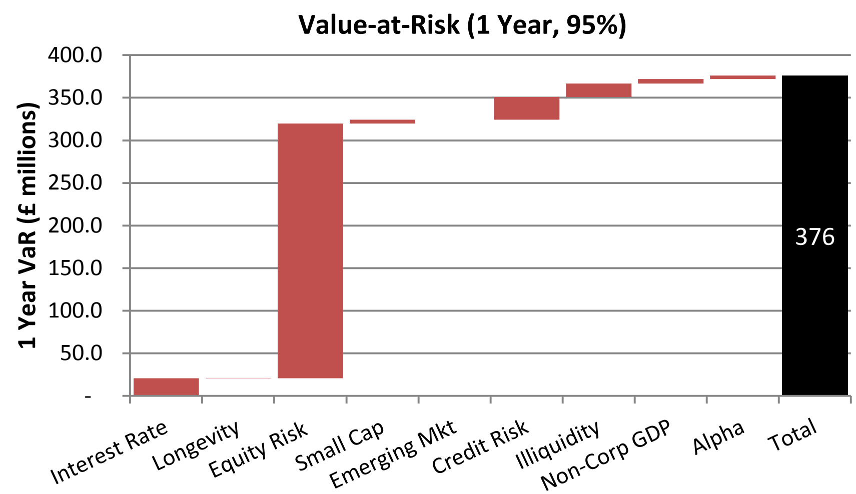
CURRENT POSITION
TRIENNIAL VALUATION RESULTS

- The Fund was 91% funded at the date of the 2016 triennial actuarial valuation.
- Since 31 March 2016 the Fund's funding position has improved more than anticipated due, primarily, to greater than anticipated investment returns.
- Over the long term the Fund's funding position is expected to improve due to a combination of cash contributions and investment returns.
- However, the variability of markets and economic conditions means that the Fund tends to experience "lean" years (where funding falls) and "fat" years (where funding improves faster than anticipated), rather than a gradual upward trend in the funding position.
- Strong market returns have seen improvements in the Fund's funding position but there are no guarantees that these won't be lost through market corrections.
- Options for locking in some of these gains include:
  - Reducing volatile growth assets like equities in favour of holding more defensive assets.
  - Equity protection strategies which use derivatives to reduce the impact of falling equity markets.
  - Growth asset diversification i.e. replacing volatile assets like equites with less volatile growth assets.

EQUITY MARKET RETURNS HAVE BEEN STRONGER THAN ANTICIPATED- CONSIDER SEEKING TO PROTECT SOME OF THESE GAINS TO ENHANCE EMPLOYER CONTRIBUTION STABILITY AT THE NEXT VALUATION

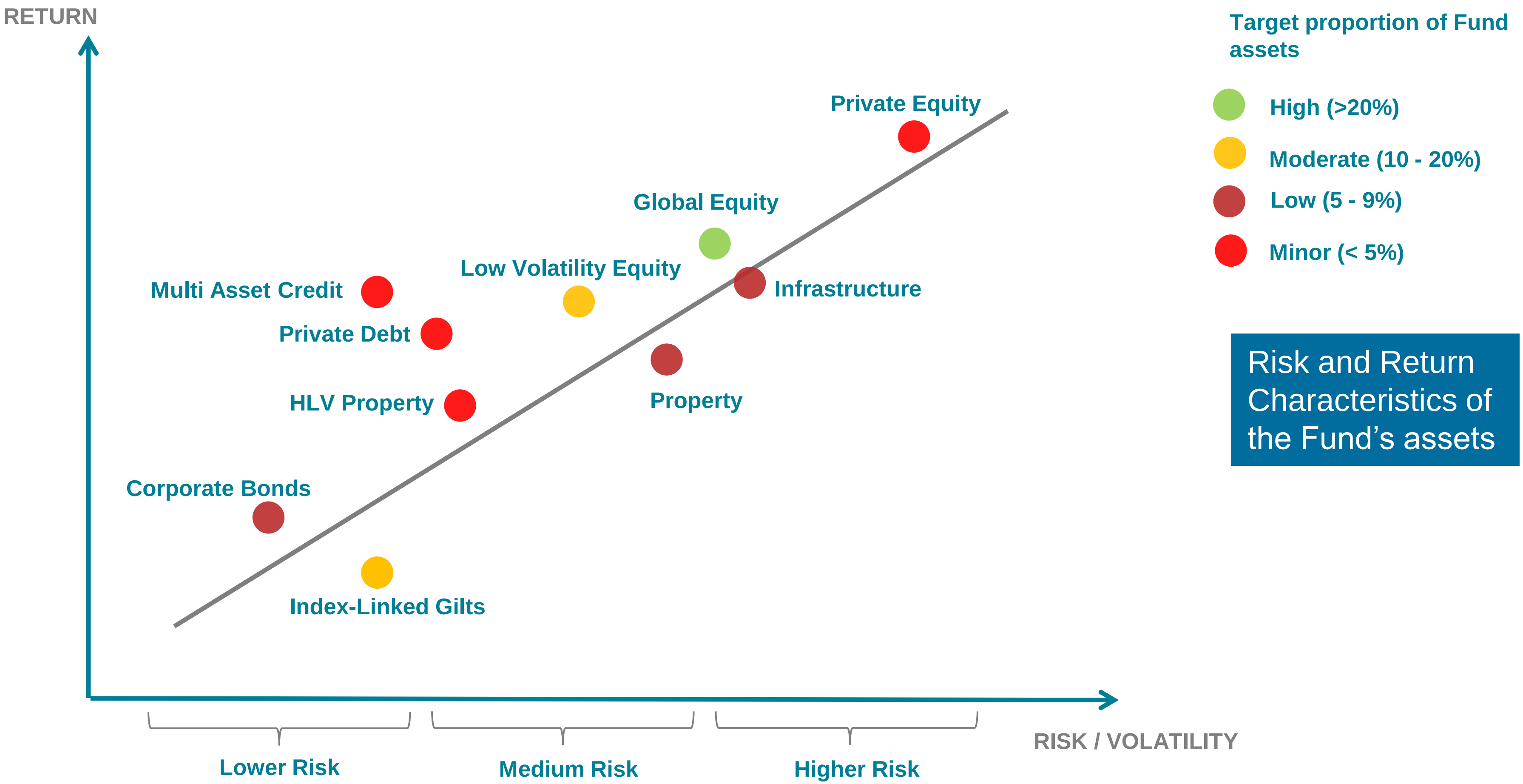
CURRENT INVESTMENT STRATEGY
RISK AND RETURN ANALYSIS

- **What do we expect the current strategy to return?**
  - Median return of CPI +2.2%p.a. as at 31 March 2017.
  - Strategy remains suitable to meet the target return required by the Actuary.
- **How risky is the current strategy?**
  - Annualised volatility of 11.4% as at 31 March 2017.
  - Volatility of 11.4%p.a. means that we expect Fund returns to deviate from the median (CPI+2.2%p.a.) by no more than +/-11.3%p.a. around two-thirds of the time, i.e. 2/3rds of the time, returns are expected to be between -6.8%p.a. and 15.8%p.a.
- **1 Year Value at Risk** – over the next 12 months there is a 1 in 20 chance that the deficit could be at least £376m worse than expected.



THE FUND'S EQUITY ALLOCATION IS THE KEY DRIVER OF RISK - ALBEIT IT IS EXPECTED TO BE REWARDED RISK

CURRENT INVESTMENT STRATEGY
WHAT IS DRIVING RISK AND RETURN?



Risk and Return Characteristics of the Fund's assets

CURRENT INVESTMENT STRATEGY
QUALITATIVE VIEW OF KEY RETURN DRIVERS

Sources of return:	Target Allocation	Equity risk premium	Small Cap premium	Emerging markets premium	Credit premium	Term premium	Surprise inflation	Illiquidity premium	Non-corp GDP growth	Alpha
Equity	High	High	Some	Moderate						Moderate
Property	Moderate				Moderate	Some	High	High	High	Moderate
Infrastructure	Moderate	High	Moderate	Some			High	High	High	High
Private equity	Some	High	High					High		High
Real Estate Debt	Some		Some		High		Some	High	High	Moderate
Corporate bonds	Moderate				High	High				Some
Index Linked gilts	High					High	High			
Private Debt	Some		High		High	High		High		High
MAC	Some				High	Some		Moderate		Moderate
Overall (Current)		High	Moderate	Some	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate

- Our qualitative assessment of the Fund's strategy is that it is well balanced between key return drivers
- The key area under-represented is exposure to emerging markets

EXPOSURE TO EMERGING MARKETS COULD BE INCREASED THROUGH A MAC MANAGER WITH EM DEBT EXPERTISE

CURRENT INVESTMENT STRATEGY
SCENARIO ANALYSIS

Scenario	Continued / Improving Recovery	Persistent Inflation with Low Growth	Depression
Equity	Continue to perform well as confidence remains / improves	Expected to struggle given negative outlook	Potential for equity drawdown
Property	Continue to benefit from recovery and stable inflation	Real asset so should rise, however low growth may impact rental yield growth / increase void rate	Asset values expected to fall, cash flows should remain fairly stable if voids don't increase materially
Infrastructure	Continue to benefit from recovery and stable inflation	Should maintain value, essential infrastructure still needed	Asset values expected to fall, cash flows should remain fairly stable
Private equity	Continue to perform well as confidence remains / improves	Expected to struggle given negative outlook, could be mix of winners and losers	Valuations will be effected, could provide opportunities for nimble companies
Real Estate Debt	Continue to provide positive performance	Should hold value as floating rate rises increasing cashflow value	Stable cashflow a positive, however property values may reduce, covenants weaken
Corporate bonds	Yields slowly rise and bonds produce flat / negative returns	Lose value with inflation rising	Perform ok with interest rates staying lower for much longer, offset by widening credit spreads
Index Linked gilts	Inflation is subdued and yields rise slowly	Perform well, given link to inflation and potential increase in demand	Flight to safety offset slightly by fall in inflation expectations
Private Debt	Continue to provide positive performance	Should hold value as floating rate rises increasing cashflow value	Perform ok with interest rates staying lower for much longer unless default rate picks up
MAC	Credit spreads remain tight, defaults low, pick up high coupons	Short duration assets so yields more resilient to high inflation, but spreads and defaults could rise offset ting this	High risk credit would suffer, credit spreads and defaults would rise, no benefit from lower rates due to short duration
Overall (Current)	Funds assets should continue to rise	Funds assets should maintain value, however expected to fall short of inflation	Funds assets overall would fall, driven primarily by fall in equities

AREAS FOR FURTHER CONSIDERATION

Is the current strategy expected to generate sufficient returns?

- Yes, the strategy should still deliver the return required by the Actuary.
- Concern is whether the strategy will struggle in the short term in a persistent high inflation environment and if equity markets fall.

Are there risks that can be mitigated through changes to the asset allocation or investment policy?

- Risk and return sources seem fairly well balanced within the strategy but further consideration should be given to equity risk (**protecting recent equity gains in particular**) and inflation risk.

How could the actual asset allocation be brought closer to the target?

- Top up existing allocations
- New asset classes could help do this as well as enhancing the Fund's exposure to income generating and inflation sensitive assets.

Do we need to think about cashflow generation?

- Ideally, unless the Fund can evidence to the contrary.

CONSIDER SEEKING TO PROTECT RECENT EQUITY GAINS TO ENHANCE EMPLOYER CONTRIBUTION STABILITY AT THE NEXT VALUATION

OTHER SECONDARY AREAS TO CONSIDER OVERLEAF

INVESTMENT STRATEGY

CURRENT ASSET CLASS REVIEW - OVERVIEW

REVIEW OF THE CURRENT PORTFOLIO
ISSUES FOR CONSIDERATION-GROWTH

Asset Class	Key Role	Target (range)	Role in portfolio	Action / potential considerations
Global Equities	Return	20% (20-25%)	• Returns through capital gains and income. • Indirect inflation linkage.	Equity protection, or an allocation reduction should be considered in the context of protecting recent gains and employer contribution stability at the next valuation. No other action required unless precipitated by manager concerns or pooling considerations. Blank sheet of paper equity structure discussed overleaf. A dedicated small/mid cap allocation has merit if an attractive option becomes available through BCPP.
UK Equities	Return	10% (9-13%)	• Returns through capital gains and income. • Indirect inflation linkage.	
Low volatility equity	Return	10% (10-12%)	• Returns through capital gains and income but with a more defensive bias. • Indirect inflation linkage.	
Infrastructure	Return, income & inflation sensitivity	9% (5-10%)	• Returns through capital gains and income. • Inflation linkage. • Diversification away from listed markets and the economic cycle. • Access to illiquidity and complexity premia. • Cashflow generative in due course.	No action at present. Continue building exposure through current commitments. Consider investing in a BCPP offering or other national initiatives in due course when cash is redeemed.
Opportunistic Alternatives	Return & income	9% (5-10%)	• Diversification away from listed markets and the economic cycle. • Access to illiquidity and complexity premia. • Potentially cashflow generative.	Clarify the objective for this allocation. To generate a return of 6%p.a.(net) with a low correlation to other assets.
Property	Return, income & inflation sensitivity	9% (8-10%)	• Returns through capital gains and rental yield. • Indirect inflation linkage. • Diversification from equity markets due to slower nature of property cycle. • Cashflow generative through rental yield.	Maintain the core and long lease property holdings and consider adding Private Rental Sector (“PRS”) either here or in the opportunistic portfolio to provide stronger inflation linkage and enhance diversification.

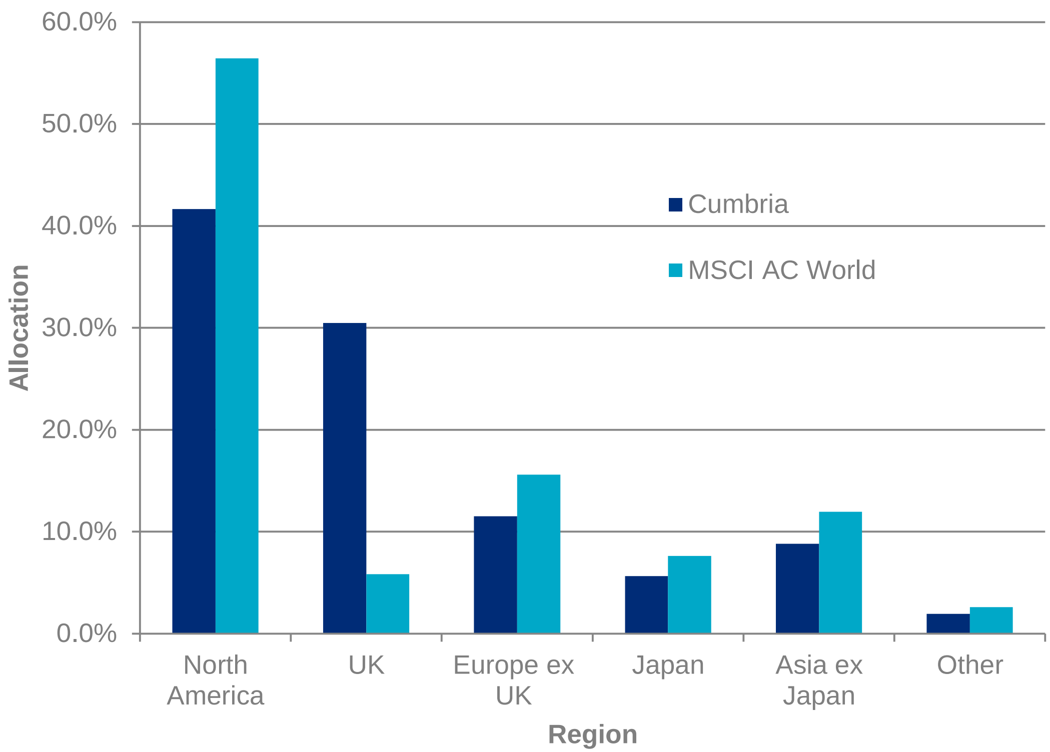
REVIEW OF THE CURRENT PORTFOLIO
ISSUES FOR CONSIDERATION- DEFENSIVE

Asset Class	Key Role	Target (range)	Role in portfolio	Action / potential considerations
Corporate Bonds	Income	7% (6-8%)	• Low volatility assets. • Diversification of defensive assets. • Potential to provide cashflow generation if required.	No action. Credit is less attractive under current market conditions and the new valuation basis but we continue to be supportive of buy and maintain approach and recommend it is retained if possible under BCPP arrangements.
Index-Linked Gilts	Inflation sensitivity	17% (17-21%)	• Low risk asset, zero default risk. • Explicit inflation protection through RPI linkage of coupons and principal.	No action required. While Index-Linked Gilts remain expensive they provide good inflation protection in an environment where inflation expectations are rising. The current supply and demand imbalance is also likely to support prices. Potential to reduce risk by increasing the strategic allocation (by not rebalancing the current overweight and reducing equities).
Defensive Assets	Income & return	7% (3-7%)	• Lower volatility assets. • Cashflow generative. • Some inflation sensitivity.	Adopt a clear objective for this allocation. To generate CPI+2% (or 4.5%p.a.) with a high degree of certainty. Ideally through allocations providing contractual cashflows and/or income generation. We recommend adding a complimentary liquid MAC allocation and/or a “secure finance” allocation to build out this allocation faster.
Cash		2% (2-5%)	• Low volatility assets • Capital preservation in market shocks • Short term liquidity to fund alternative asset drawdowns and other cashflows.	No action proposed.

INVESTMENT STRATEGY

CURRENT ASSET CLASS REVIEW - EQUITIES

EQUITY PORTFOLIO STRUCTURE
REGIONAL ALLOCATIONS

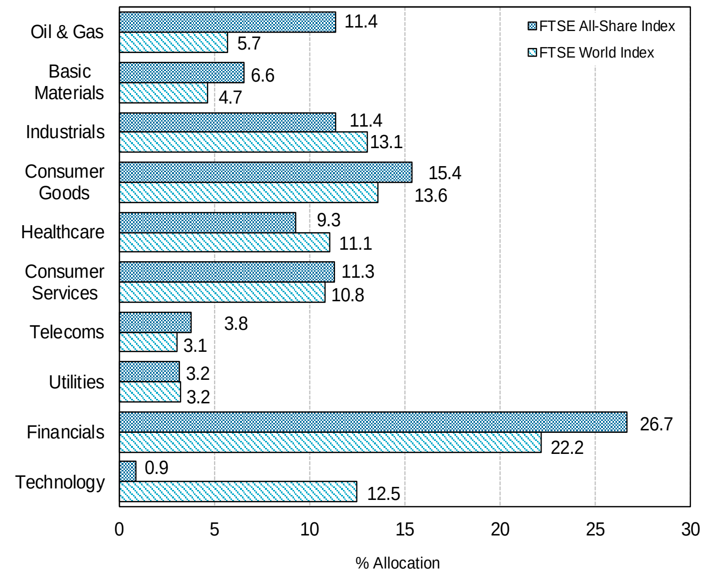


- Overweight position to the UK, relative to a market cap weighted index, and hence a lower allocation to the other regions.
- Home bias is hard to justify from an investment perspective but not so "broken" as to make paying transaction costs to "fix" it sensible.
- If costs are to be incurred due to pooling or manager issues, we would encourage the Fund to invest more globally.
- We would however also recommend taking a pragmatic approach to balancing optimal equity portfolio structure and optimal manager structure decisions once the options via BCPP are better developed.
  - i.e. consider maintaining a UK bias if the active UK equity pool is viewed as being more attractively structured than then global options.

INVEST MORE GLOBALLY OVER TIME / AS THE TRANSITION TO BCPP PROCEEDS AND THERE IS CLARITY AROUND SUB-FUND OPTIONS AIM TO REDUCE THE UK ALLOCATION TO 10%

EQUITY PORTFOLIO STRUCTURE
UK EQUITIES

- While the FTSE All Share Index comprises of c.640+ companies, the UK is a fairly concentrated market.
- 20 stocks make up over 50% of the market by value.
- As at 30 June 2017, the top 10 stocks, as shown in the table below, represented 36.5% by market value.
- This introduces a level of stock specific risk (through these very large index constituents) which could be reduced by reducing the UK allocation.
- And sector specific risk due to a relatively high weighting in financials, and lower exposure to technology stocks than the wider global economy. This is shown in the chart to the right.

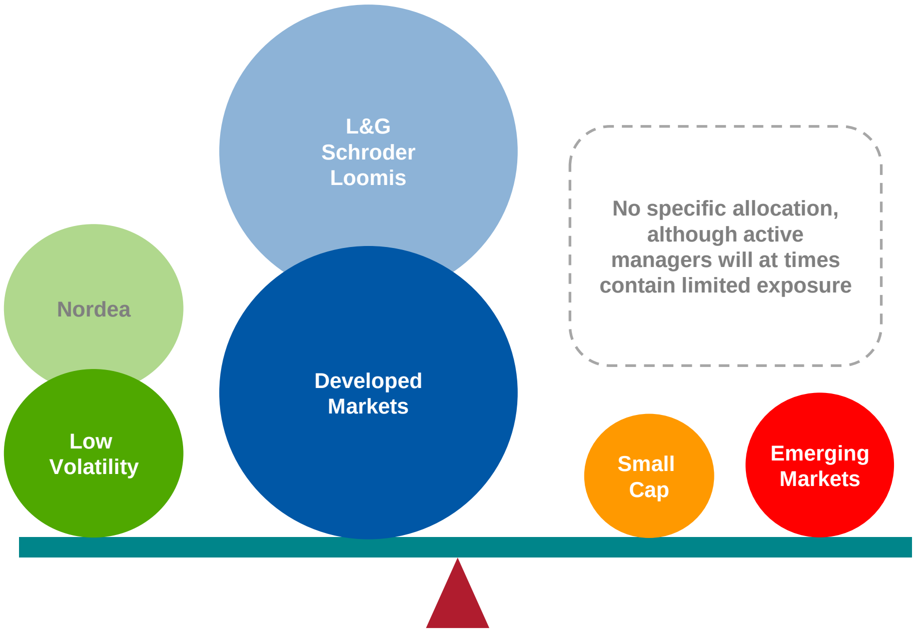


Source: Thomson Reuters Datastream.

Top 10 Largest FTSE All Share companies	Allocation (%)	Top 10 Largest FTSE All Share Companies	Allocation (%)
Royal Dutch Shell	7.2	AstraZeneca	2.8
HSBC	6.1	Vodafone	2.5
British American Tobacco	4.2	Diageo	2.4
BP	3.7	Unilever	2.1
GlaxoSmithKline	3.4	Reckitt Benckiser Group	2.1

Products don't sum to above due to rounding

EQUITY PORTFOLIO STRUCTURE
WITH A BLANK SHEET OF PAPER



Component	Allocation (%)	Cumbria (%)
Broad market exposure (developed & emerging)	50	75
Emerging markets (specialist and niche)	10	0
Smaller companies	15	0
Low volatility	20	25
Niche (opportunistic and theme-specific)	5	0
Total	**100**	

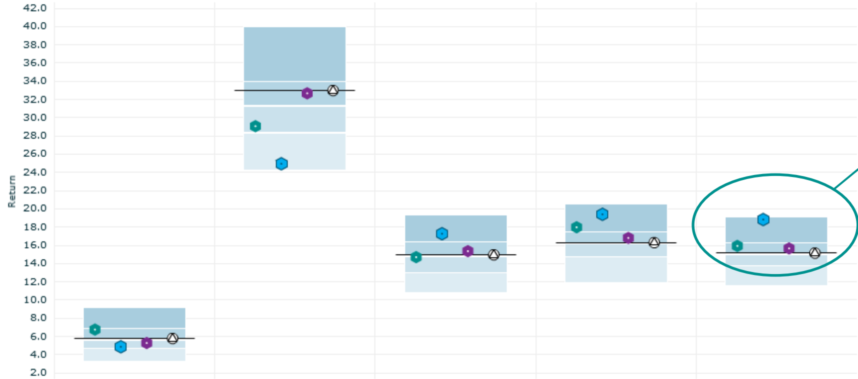
- The Fund has exposure to low volatility equities, and a diversified core allocation to developed markets.
- No specific holdings to small cap or emerging markets, but the active global managers will have some emerging market exposure.
- Diversification of the equity portfolio across a wider variety of 'style factors' and areas of the market can help to reduce risk and place less reliance on certain areas and styles for future performance.

CONSIDER ADDING SMALL /MID CAP ALLOCATION DEPENDING ON ATTRACTIVENESS OF THE OPTIONS THAT BECOME AVAILABLE THROUGH BCPP

EQUITY PORTFOLIO STRUCTURE
GLOBAL EQUITY BLEND HAS WORKED TO DATE

Return in GBP (before fees) over 3 mths, 1 yr, 2 yrs, 3 yrs, 3 yrs 3 mths ending March-17

Comparison with the Global Equity universe (Actual Ranking)



	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	3 yrs 3 mths (%pa)
Loomis	6.8 *(150)*	29.1 *(363)*	14.7 *(231)*	18.0 *(66)*	15.9 *(130)*
Nordea	4.9 *(390)*	24.9 *(475)*	17.3 *(71)*	19.4 *(38)*	18.8 *(26)*
MSCI World	5.3 *(325)*	32.7 *(187)*	15.4 *(190)*	16.8 *(154)*	15.7 *(153)*
MSCI AC World	5.8 *(252)*	33.0 *(173)*	14.9 *(217)*	16.3 *(195)*	15.1 *(189)*
95th Percentile	9.2	40.0	19.4	20.5	19.1
Upper Quartile	6.9	34.0	16.4	17.4	16.3
Median	5.6	31.3	14.8	16.3	15.1
Lower Quartile	4.7	28.3	13.1	14.7	13.8
5th Percentile	3.3	24.2	10.8	11.9	11.5
Number	552	518	454	395	386

Since inception of the mandates (31 December 2013) Nordea and Loomis have both performed better than the median Global equity manager in the Mercer universe with Nordea's low volatility approach generating close to upper quartile returns

Performance characteristics vs. MSCI AC World in GBP (before fees) over 3 yrs and 3 mths ending March-17

Comparison with the Global Equity universe (Actual Ranking) (monthly calculations)

	Ret (%pa)	Std Dev (%pa)	Ret/SD	TE (%pa)	IR
Loomis	15.9 *(130)*	10.1 *(174)*	1.6 *(142)*	4.5 *(129)*	0.2 *(140)*
Nordea	18.8 *(26)*	9.6 *(268)*	2.0 *(10)*	4.5 *(122)*	0.8 *(28)*
MSCI World	15.7 *(153)*	9.5 *(292)*	1.6 *(104)*	1.2 *(384)*	0.5 *(73)*
MSCI AC World	15.1 *(189)*	9.8 *(211)*	1.5 *(172)*	0.0 *(386)*	-
95th Percentile	19.1	12.7	1.9	7.3	0.9
Upper Quartile	16.3	10.7	1.6	5.0	0.3
Median	15.1	9.9	1.5	3.8	0.0
Lower Quartile	13.8	9.6	1.3	2.9	-0.4
5th Percentile	11.5	9.0	1.0	1.9	-0.9
Number	386	385	385	385	385

Both have produced risk adjusted returns above the MSCI AC World Index.

As expected Nordea's returns have been less volatile than the market and offset Loomis' higher volatility approach.

EQUITY PORTFOLIO STRUCTURE
SMALLER COMPANIES

Higher growth potential

- Higher levels of private (i.e. director) ownership, and entrepreneurial leadership
- Younger, higher growth firms
- New and niche technologies
- Higher potential for M&A activity

More Volatile

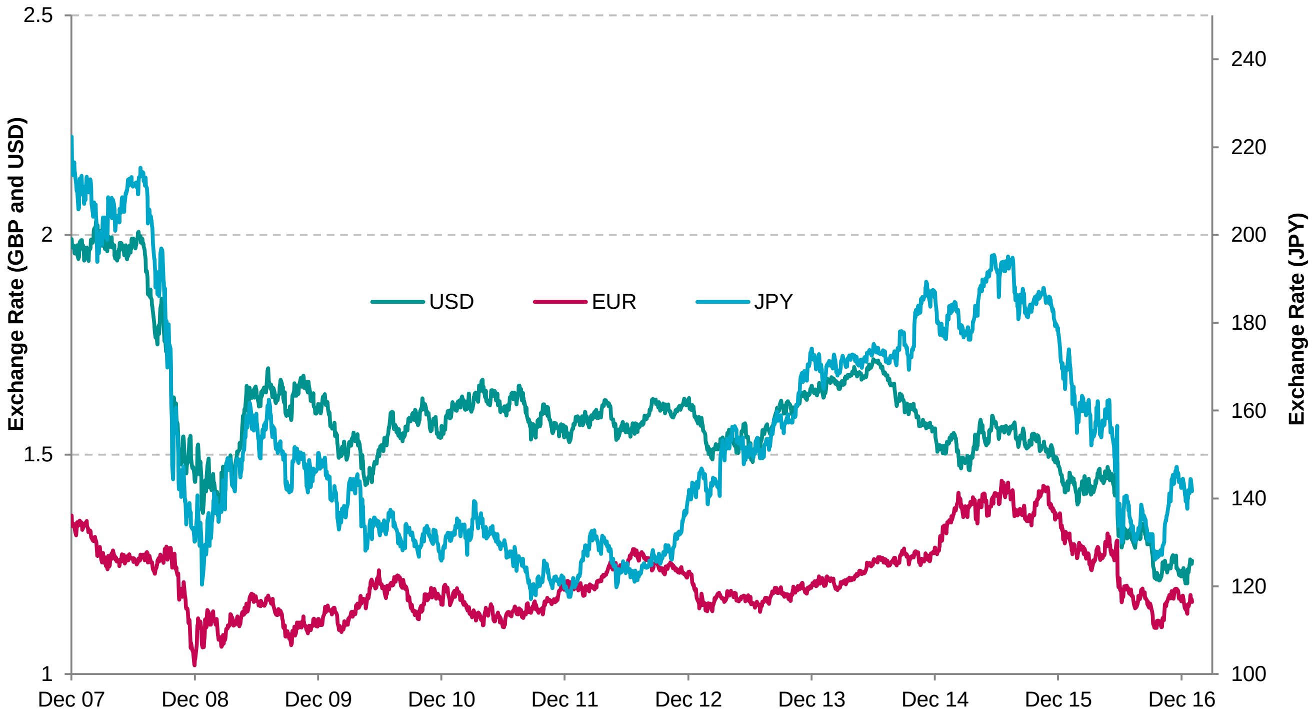
- Greater earnings variability ("further down the food chain")
- Greater volatility in valuations (growth–oriented, so back-end loaded valuations)
- Higher failure rate

Other Characteristics

- Lower trading liquidity
- Market inefficiency/low analyst coverage should provide strong alpha potential
- More regionally focused rather than global funds available
- **Unclear impact of current macroeconomic environment**; small cap performance typically stronger during periods of loose monetary policy, but in the US in particular (making up 60% of Global small cap indices), Trump's election could benefit some smaller companies who will benefit from reduced overseas competition and lower corporate tax. Brexit is also a clear concern for UK strategies.

WE HAVE A STRONG PREFERENCE FOR ACTIVE MANAGEMENT IN SMALL / MID CAP EQUITIES BUT ARE LESS CONCERNED ABOUT WHETHER MANDATES ARE REGIONAL OR GLOBAL

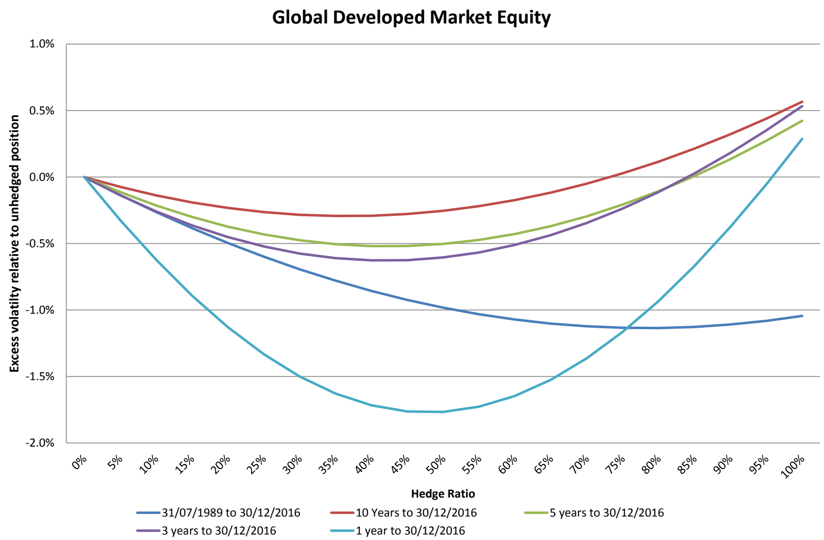
EQUITY PORTFOLIO STRUCTURE
CURRENCY HEDGING

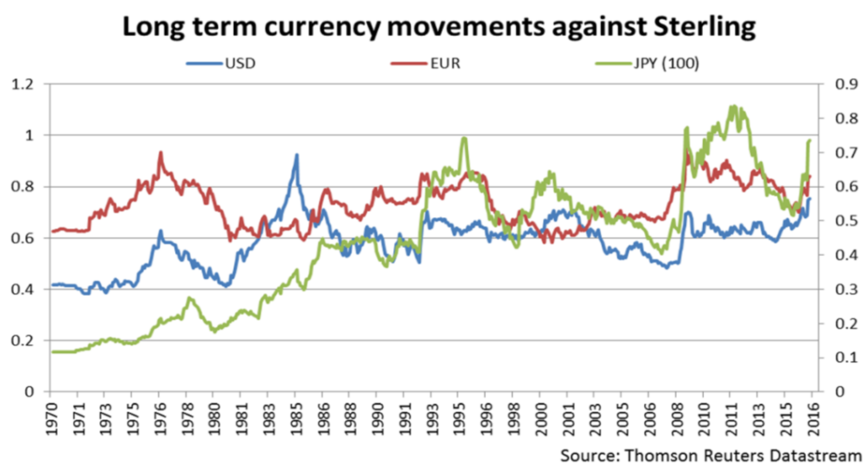


- We do not recommend changing the current level of currency hedging.
- In addition to the expectation that the Fund will benefit from reduced asset volatility, GBP is at a historic low, especially versus the US$
- We note however that the new EMIR regulations which are expected to come into play in 2018 may make segregated currency hedging mandates less efficient due to the requirement for daily collateralisation of FX contracts and recommend reviewing your position with LGIM.

WE ARE SUPPORTIVE OF THE CURRENT POLICY OF HEDGING 50% OF DEVELOPED MARKET EQUITY CURRENCY EXPOSURE

EQUITY PORTFOLIO STRUCTURE
CURRENCY HEDGING





- For global developed market equities, there has been a modest reduction in volatility (over the long term) from currency hedging for sterling investors.
- We don't believe there is a "right answer" and the appropriate level of currency hedging will vary from one investor to the next depending on their objectives, beliefs and time horizon.
- Long-term trends in currencies could lead to a positive or negative impact on returns from overseas equity portfolios. History provides numerous examples of such trends.
- We therefore recommend fully hedging non-sterling allocations in low and moderate returning asset classes like global bonds and property
- We are less concerned about hedging non-sterling exposures in higher returning asset classes like the Fund's infrastructure and private equity allocations, where the impact of currency movements are expected to be small in the context of the overall Fund return.

CASE FOR CONSIDERING EQUITY PROTECTION
CURRENT EQUITY MARKET LEVELS

Decade to 31.12.16	USA (S&P 500)	UK (FTSE 100)	Europe (Euro Stoxx 50)	Japan (Nikkei 225)	Emerging Markets (MSCI EM)
Total period return	95.7%	66.7%	20.3%	32.6%	24.0%
Annualised return	6.9%	5.2%	1.9%	2.9%	2.2%
Volatility	18.6%	19.2%	23.3%	23.5%	24.3%
Best quarter	15.9%	21.9%	20.0%	22.8%	34.8%
Worst quarter	-21.9%	-12.9%	-23.0%	-21.2%	-27.6%

Source: Thomson Reuters Datastream. Total return indices in local currency and USD for MSCI Emerging Markets index.

CASE FOR CONSIDERING EQUITY PROTECTION
MSCI WORLD 3-YEAR RETURN DISTRIBUTION

- Since December 1969, historical returns have shown that based on rolling quarterly data, the MSCI World 3-year performance has been negative in about 25% of the cases.
  - In these cases, the average negative performance has been -17.2%;
  - For shocks beyond 10%, the average negative performance over 3 years has been -24.3%.
  - Protecting against falls beyond 10% would therefore add on average 14.3% of return over three years if markets experience negative shocks.

Negative shocks:

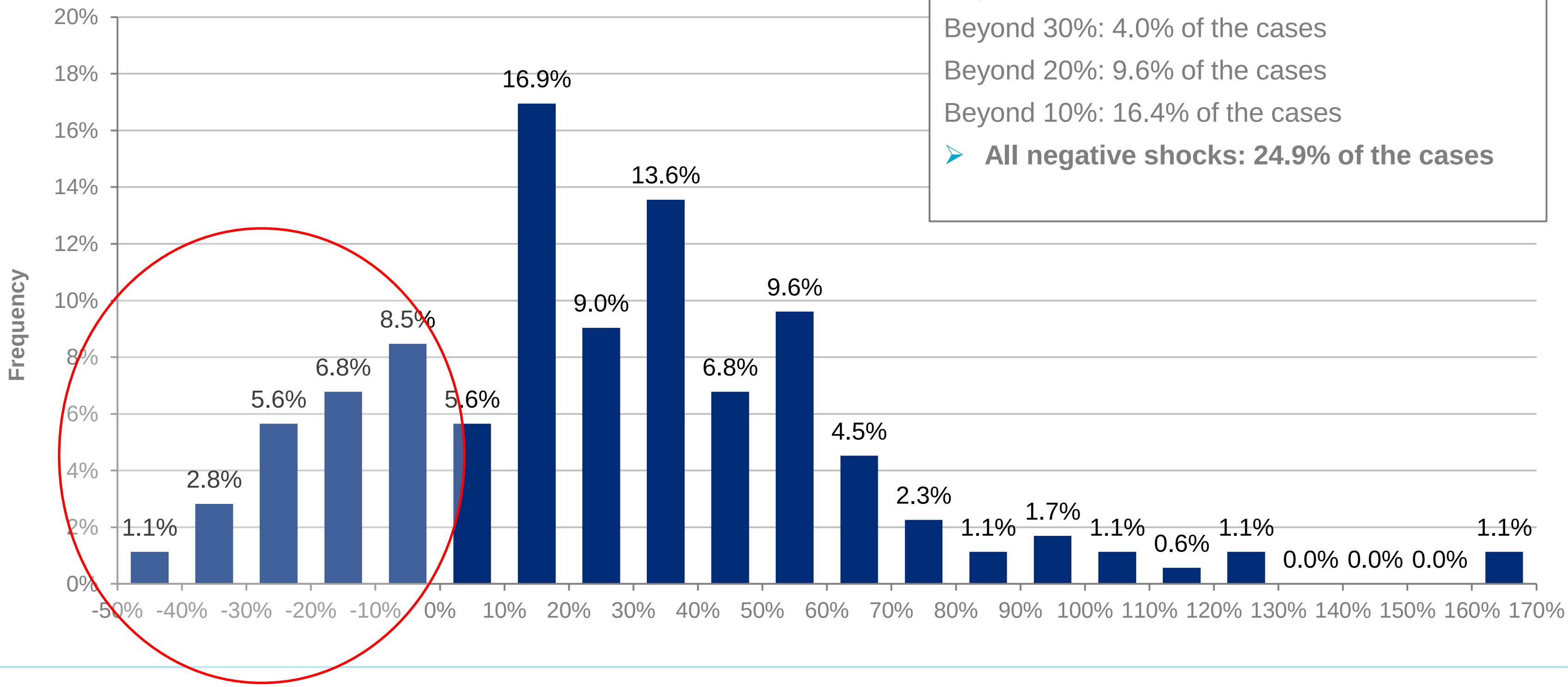
Beyond 40%: 1.1% of the cases

Beyond 30%: 4.0% of the cases

Beyond 20%: 9.6% of the cases

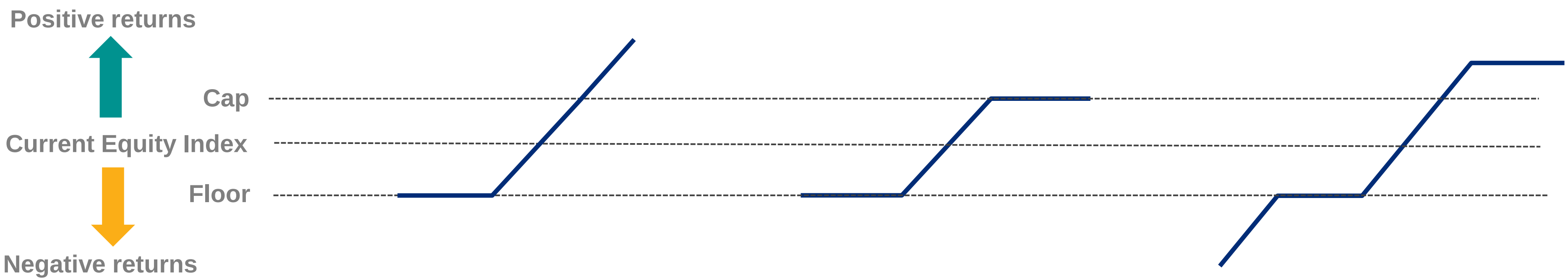
Beyond 10%: 16.4% of the cases

➢ **All negative shocks: 24.9% of the cases**



Source: Mercer, Thomson Reuters Datastream, 31 December 1969 – 31 December 2016 (performance in USD)

CASE FOR CONSIDERING EQUITY PROTECTION
EXAMPLE PROTECTION STRATEGIES



	Put Option	Vanilla Collar	Put-spread Collar
Example	Buy downside protection	• Buy downside protection • Sell upside to offset the cost	• Buy downside protection • Sell upside to offset cost but… • Participate in downside beyond a certain level to achieve greater upside potential
Rationale	• Participation in all upside • Key drawback is the cost of the protection (i.e. like an insurance contract)	• Gains above a certain level may not be required (e.g. if the Plan is fully funded) • Can be structured to be zero cost	• Gain extra upside compared to a vanilla collar by only capping downside loss to a given point

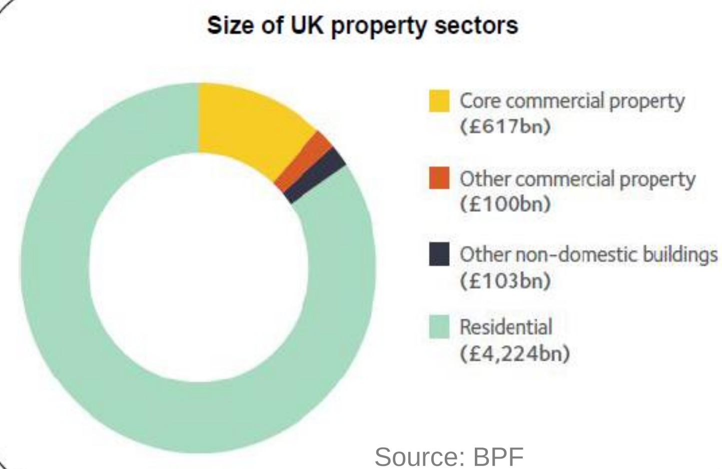
CONSIDER EQUITY PROTECTION AS PART OF A WIDER REVIEW OF POTENTIAL STRATEGIES TO PROTECT RECENT FUNDING LEVEL IMPROVEMENTS

INVESTMENT STRATEGY

CURRENT ASSET CLASS REVIEW – DEFENSIVE & REAL ASSETS

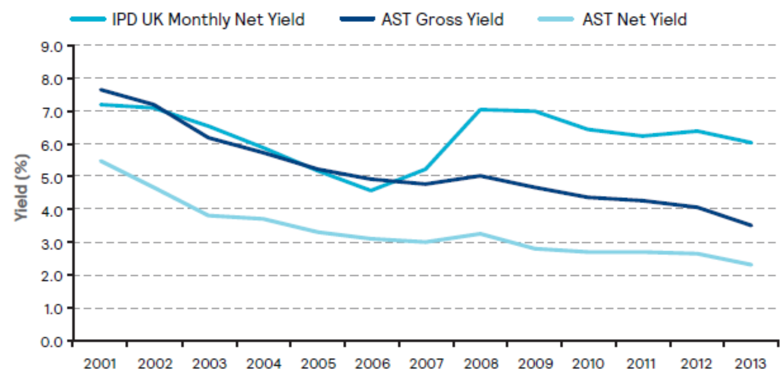
REAL ASSETS
PRIVATE RESIDENTIAL PROPERTY (PRS)

- Investment in purpose built residential property
- New area for the UK but well established sector of the property market elsewhere e.g. US
- Supply and demand dynamics favour the sector and should drive strong income growth (and potentially capital growth)
- **Inflation linkage through inflation linked rent increases**
  - Rental growth has been shown to provide superior inflation-linkage characteristics to core property
- Slightly lower but more stable expected long term yields than "core" portfolios.
  - Expected return made up of c2%-3% net initial yield plus 3%-4% growth in income: 5%-7% p.a. overall
  - Funds target 5 - 7%p.a. including distributable yield
- Low correlation with other property sectors results in good diversification benefits when combined with traditional commercial property portfolios
  - More resilient than commercial sectors (despite shorter leases)



Source: BPF

Income Yields PRS Versus Commercial



Source: IPD *AST: Assured Shorthold Tenancy*

REAL ASSETS
PRIVATE RESIDENTIAL PROPERTY (PRS)

Benefits

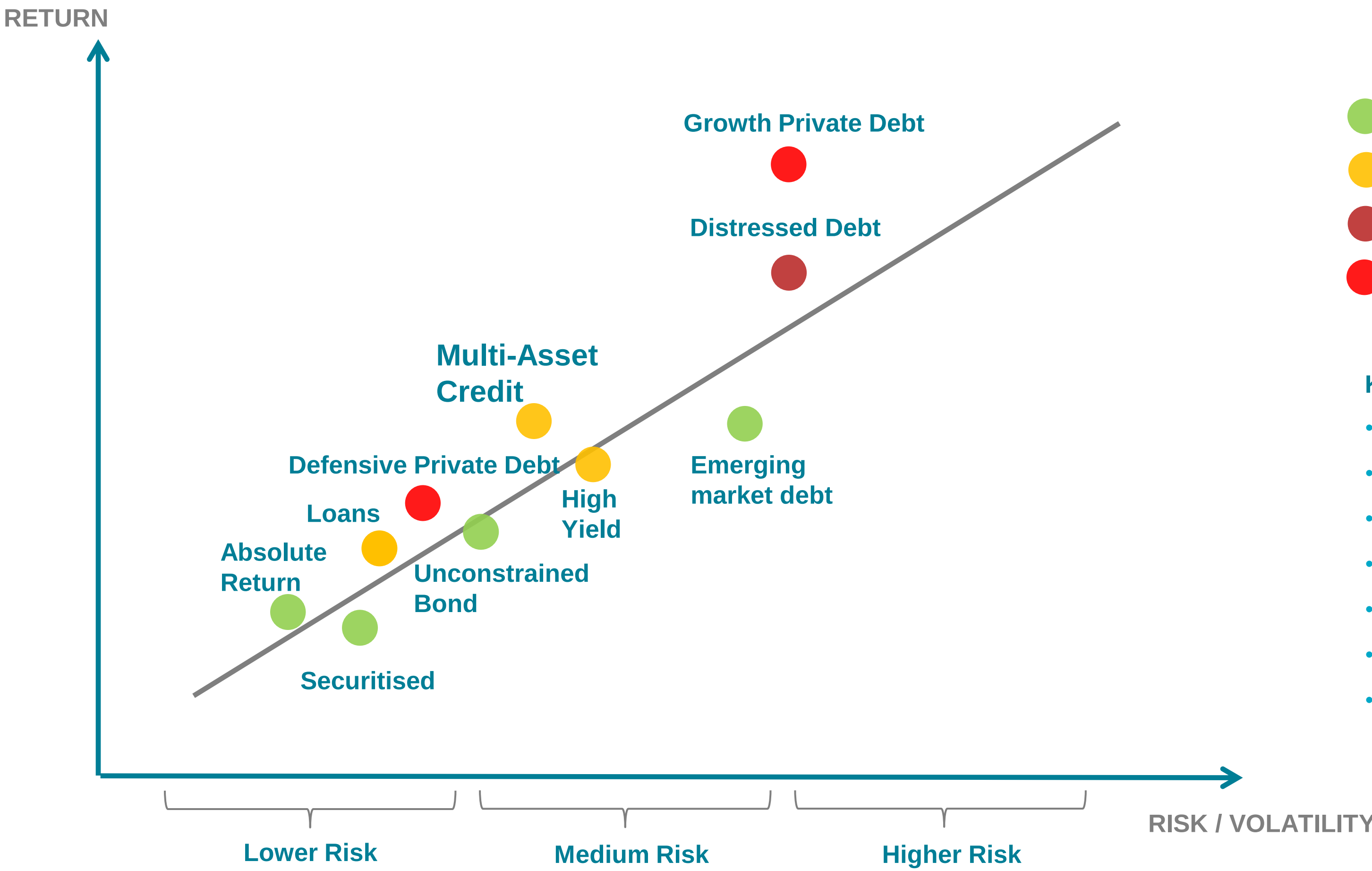
- Introduces additional sources of return to the Fund
- Provides diversification from traditional property and other asset classes due to low correlation to traditional assets
- Access to inflation linked returns due to inflation linked rental increases
- Lack of dependency on the economic cycle - residential property market has cooled but it is demographics (demand for rented properties) not capital values (house prices) that drive returns
- Option to be strongly cashflow generative (inflation linked cashflows) once up and running

Drawbacks

- Are prospective returns attractive enough?
- Regulation/government changes to tax/rent
- Asset class still in its infancy
- Higher fees than long lease or core : 0.8 – 1.3% p.a. manager fees + the same transaction costs as core property
- Liquidity: Could take 12-24 months to invest or redeem from open ended funds (some structured as closed ended funds). Funds may apply an initial lock in e.g. 3 years before redemptions can be

AN ALLOCATION TO PRS WOULD INCREASE THE INFLATION SENSITIVITY OF THE FUND'S ASSETS AS WELL AS INTRODUCING AN ALLOCATION WITH STRONG INCOME GENERATION POTENTIAL TO MEET FUTURE FUND CASHFLOWS

DEFENSIVE PORTFOLIO REVIEW
WHAT IS MULTI-ASSET CREDIT (MAC)?



- Good liquidity (daily)
- Moderate liquidity (c. monthly)
- Poor liquidity (> quarterly)
- Very illiquid (c. 5-7 years)

Key Considerations

- Expected return
- Expected Risk
- Liquidity
- Fixed rate v floating rate
- Regional Focus
- Credit Quality
- Tolerance for complexity

DEFENSIVE PORTFOLIO REVIEW
MAC CAN MEAN MANY DIFFERENT THINGS

Key styles of Investment within Mercer view of "Multi-Asset Credit"

Traditional Leveraged Finance

- Capital structure focus
- Credit catalyst approach
- Limited top-down views

Conventional Asset Allocation

- Broad asset allocation
- Beta rotation emphasis
- Less sophisticated

Sophisticated

- Specialist opportunities
- Capital preservation
- Trading approach

The Fund's allocation to the Partner's Group MAC

ALLOCATING ANOTHER 1-2% TO LIQUID MAC MANDATE(S) WITH A COMPLEMENTARY APPROACH TO PARTNERS GROUP WOULD BUILD UP THE DEFENSIVE PORTFOLIO AND INCREASE DIVERSIFICATION. FUNDS WHICH WILL INCLUDE EXPOSURE TO EMERGING MARKET DEBT AND CURRENCIES WOULD ALSO PROVIDE EXPOSURE TO THIS RETURN DRIVER.

DEFENSIVE PORTFOLIO REVIEW
WHAT IS SECURED FINANCE?

- Diversified range of debt securities that typically have a form of collateral backing or secured cashflow.
  - Asset Backed Securities including Mortgage Backed Securities
  - Collateralised Loan Obligations
  - Real Estate and Infrastructure debt
  - Bank loans
  - Direct lending
  - Supply chain finance
- Return targets: typically Cash +2-4% but they vary from product to product and can target cash+6%
- Compensation for illiquidity, complexity, scarcity of opportunities / private transactions and mispricings arising from structural inefficiencies such as regulatory changes.
- Typically strategies are seeking to provide credit risks in the investment grade spectrum, though with some sub-investment grade exposure and in many instances manager ratings rather than agency ratings.
- Broadly in line with the BCPP “capital preservation MAC” sub-fund guidelines being discussed.

Background
Liquidity has been withdrawn from the debt market due to regulatory changes reducing the ability of banks to lend or hold certain types of debt. The mismatch of supply and demand for finance has created opportunities for institutional investors to step in as providers of capital.

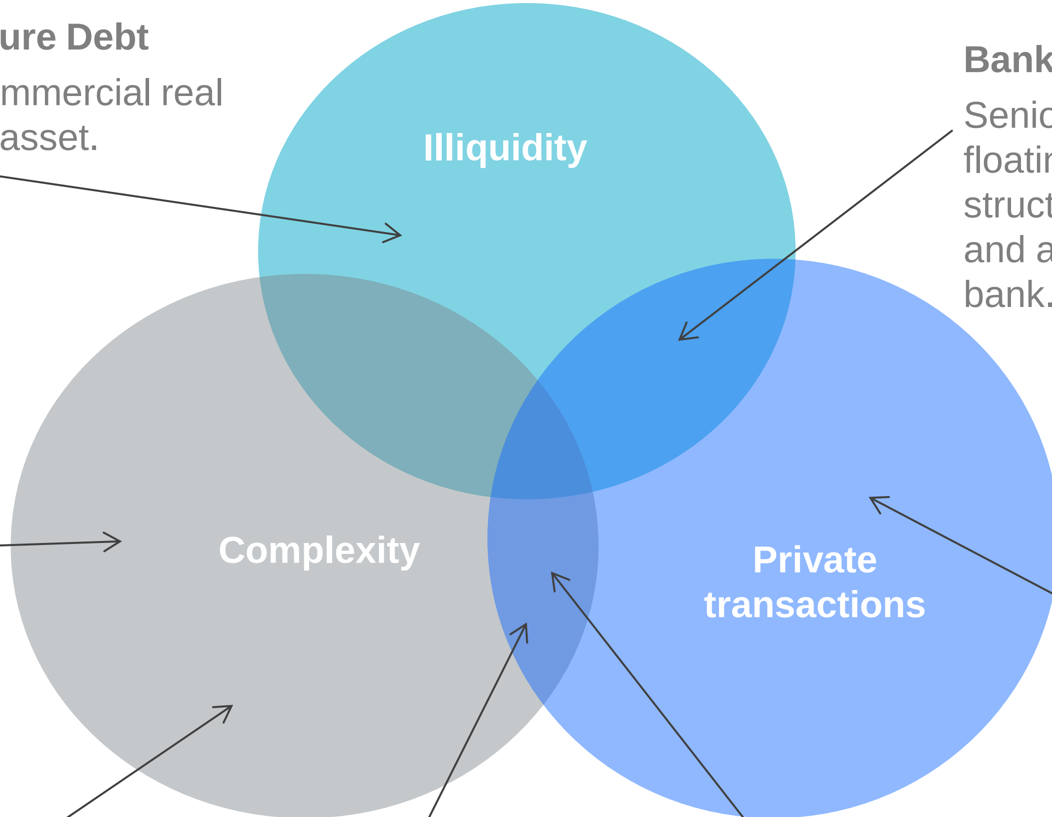
DEFENSIVE PORTFOLIO OPTIONS
SECURED FINANCE SUB-ASSET CLASS EXAMPLES

Real Estate & Infrastructure Debt

Senior debt secured on commercial real estate or an infrastructure asset.

Bank loans

Senior and secured floating rate debt structured syndicated and administered by a bank.



Collateralised Loan Obligations (CLO)

Tradeable structured credit vehicle backed by corporate loans.

Private Debt

Direct lending to, often smaller/ mid-sized companies, to finance acquisitions or expansions.

Asset Backed Securities

A mixed pool of performing loans including Residential Mortgage Backed Securities (RMBS) and Commercial Mortgage Backed Securities (CMBS).

Trade Finance

Short term loans to support the physical flow of goods between buyers and sellers.

Trade receivables/ factoring

The sale, at a discount, of the claim to outstanding invoices on already delivered goods or services.

DEFENSIVE PORTFOLIO OPTIONS
SECURED FINANCE SUMMARY

Benefits

- Secure attractive potential returns: cash + 2-6% target depending on the strategy.
- Volatility expected to be low (although this relies on avoiding defaults).
- Primarily investment grade credit quality investments. This a key difference from most MAC mandates.
- Flexible multi-asset structure allows managers to allocate between different asset classes as opportunities rise.
- Reasonable fees: 0.4 - 0.7%p.a typically.
- Some funds offer income distributing share classes to help meet future cashflow requirements.

Drawbacks

- Complex / less familiar investments.
- Low or potentially no liquidity once invested (although some funds will distribute income).
- Credit assessment reliant on manager skill.
- Allocations may take time to fully deploy.
- Multi-asset funds of this nature are new and hence there are limited track records.
- Limited pooled fund options currently available.
- Pooled fund options are structured differently, depending on the manager's skill set, and hence are difficult to directly compare.

DEPENDING ON FUND CHOSEN A SECURE FINANCE/"CAPITAL PRESERVATION MAC" IS ANOTHER DEFENSIVE OPTIONS THAT COULD BE USED TO ACCELERATE THE BUILD OUT OF THE DEFENSIVE PORTFOLIO AND INCREASE THE CERTAINTY OF ASSET RETURNS

INVESTMENT STRATEGY

ALIGNING THE ASSETS

ALIGNING THE ASSETS
WITH THE CURRENT TARGET STRATEGY

Asset	Actual % (31.3.2017)	Adjusted* % (31.3.2017)	Target %	Range %	Adjusted Deviation * %	Comment
Equity	50.4	42.2	40.0		+2.2	In view of the move to pooling we don't recommend incurring costs seeking to rebalance the equity allocations, which are all within range, at this time. Current cashflow policy for drawdowns from the equity portfolio looks sensible.
-UK	13.2	10.4	10.0	9-13%	+0.4	
-Global Other	25.9	20.5	20.0	20-25%	+0.5	
-Global Low Volatility	11.3	11.3	10.0	10-12%	+1.3	
Alternatives	18.2	23.9	27.0		-3.1	
- Infrastructure	6.2	8.1	9.0	5-10%	-0.9	
- Opportunistic	3.4	7.2	9.0	5-10%	-1.8	Consider investing in the next round of M&G Real Estate Debt funds and adding Rental Sector Property to increase this allocation.
Property	8.6	8.6	9.0	8-10%	-0.4	Includes M&G SPIF.
Growth total	**68.6**	**66.1**	**67.0**		**-0.9**	Consider taking profits from equity gains and reduce back to benchmark by increasing the Index-Linked Gilt or defensive allocations.
Corporate Bonds	7.0	7.0	7.0	6-8%	0.0	
Index-Linked Gilts	19.2	19.2	17.0	17-21%	+2.2	
Other Defensive	2.1	4.6	7.0	3-7%	-2.4	Consider adding a complementary liquid MAC &/or secure finance mandates to increase this allocation faster. Includes Aviva Lime.
Strategic Cash	3.0	3.0	2.0	2-5%	+1.0	
Defensive total	**31.4**	**33.8**	**33.0**		**+0.8**	

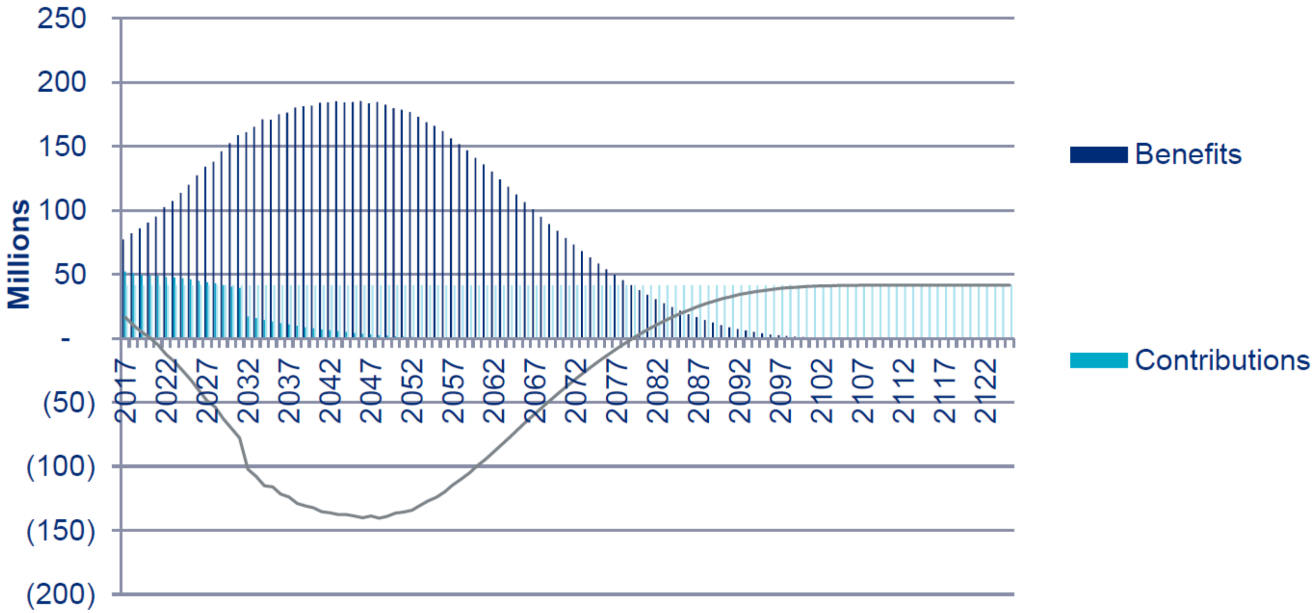
*After current commitments are drawn down

- Defensive allocation remains furthest underweight even after commitments are taken into account.
  - Funding one (or two) liquid MAC mandates which will be fully invested on day one – WAMCO have an attractive fund which Surrey are invested in – would address this underweight, increase diversification and facilitate a reduction in the overweight to growth assets.
  - Secure finance would another option but funds tend would take more time.

INVESTMENT STRATEGY

CASHFLOW GENERATION

HOW IS THE FUND'S CASHFLOW PROFILE EXPECTED TO DEVELOP?

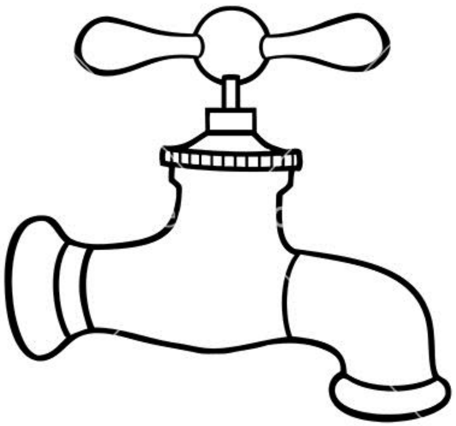


- The chart shows the cashflow position of the Fund, based on the 2016 valuation and allows for the current level of investment income as stated in the accounts. It includes allowances for some employers to pay their next three years' deficit contributions in advance, there has been no allowances for new entrants to the Fund.

- The Fund's positive cash flow position falls away quickly even after allowing for current investment income
- BCPP will provide sub funds where the income generated will be received by the Fund but this will need careful management.
- The projection that the Fund will become cashflow negative in the medium term combined with the CPI+ actuarial basis suggests that the Fund should look to maintain a substantial allocation to real and income generating assets, such as property.

IS MORE DETAILED CASHFLOW PLANNING REQUIRED?

SOURCING INCOME



- Current income sources
- Current assets which could/will provide income
- New assets which could provide income

Equity dividends

Infrastructure

Secure Income

Contributions

Gilts

Core Property

Corporate bonds

PRS Property

MAC / Private debt

HLV Property

Real Estate Debt

WIDE RANGE OF OPTIONS FOR GENERATING MORE INCOME IN THE FUTURE FROM THE CURRENT ASSETS BUT THIS COULD BE ENHANCED FURTHER

INVESTMENT STRATEGY
CONCLUSIONS

ANALYSIS OF CURRENT STRATEGY

Is the current strategy expected to generate sufficient returns?

- Yes – expected to generate a return in line with that required by the Actuary.
- Consider protecting gains from stronger than anticipated equity market returns with the aim of increasing the likelihood of employer contribution stability at the next valuation.

Are there risks that can be mitigated through changes to the asset allocation or investment policy?

- Equity risk is the key driver of risk (and return) but could be mitigated through further diversification, de-risking or an equity protection strategy.
- Allocating more to inflation sensitive growth assets should reduce the risk of the assets not keeping pace with the discount rate.

How could the actual asset allocation be brought closer to the target?

- The defensive portfolio could be built out more swiftly by allocating to one or more liquid MAC funds with contrasting styles.
- PRS could also be used to bolster the opportunistic allocation but is likely to be slower to implement.

Do we need to think about cashflow generation?

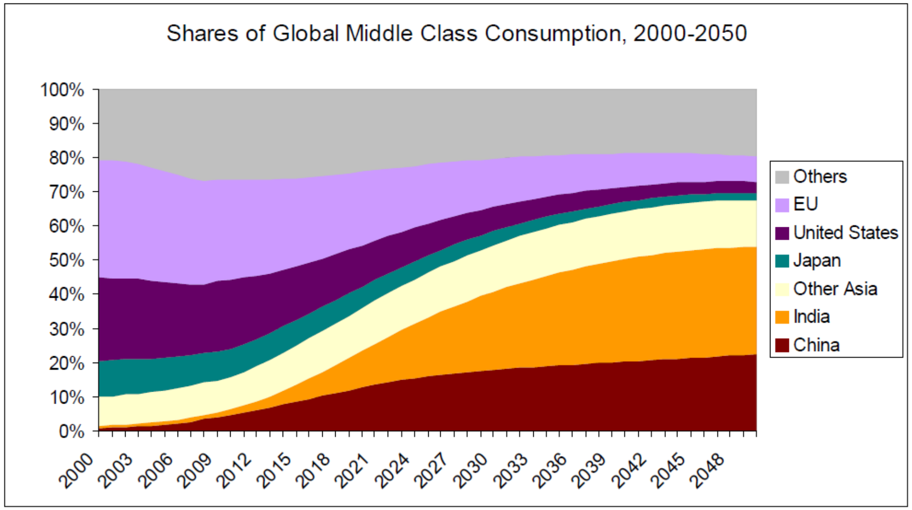
- Fund has medium term cashflow plan in place.
- Many of the current assets could be income generating if desired to help meet higher cashflow demands in future.
- To be considered in context of pooling.

CONCLUSIONS

- The Fund's investment strategy is in good shape with no material changes required. We do however make the following recommendations:
- **Growth assets**
  - **Consider whether the Fund should look to protect recent equity market gains and the options for doing so e.g. selling growth assets, diversification, downside protection strategies etc.**
  - Consider funding a Private Rental Property allocation within the opportunistic portfolio which will increase the inflation sensitivity of the Fund's assets.
  - Continue expanding the Fund's exposure to inflation sensitive assets over time as and when the funding position improves and options become available through BCPP.
  - Adopt a clearer definition for the opportunistic portfolio
    - To generate an expected return of 6%p.a. with a low correlation to other portfolio assets.
- **Defensive assets**
  - Maintain the current Index-Linked Gilts despite the current high valuations
  - Consider increasing the speed of building out the defensive allocation with one or two complementary MAC managers with contrasting styles to Partners Group and/or a secure finance allocation.
  - Adopt a clearer definition for the defensive portfolio
    - To generate an expected return of CPI+2% (or c.4.5%p.a.) with a high degree of certainty. Ideally through allocations providing contractual cashflows and/or income generation.

APPENDIX

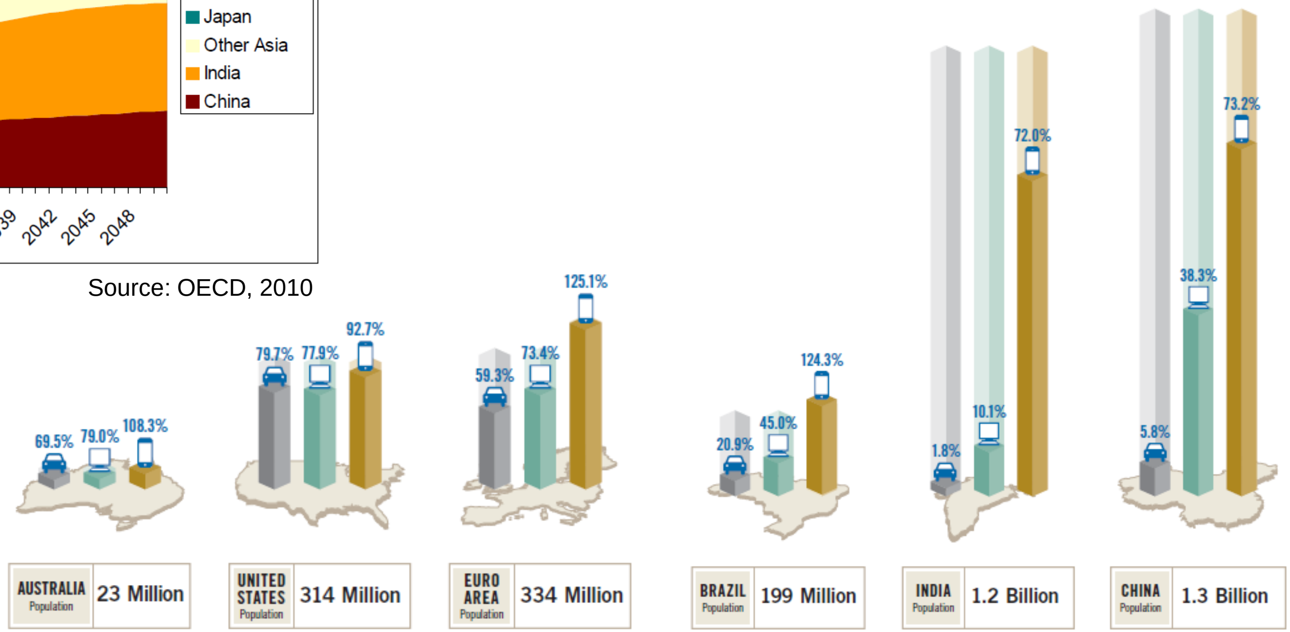
EQUITY PORTFOLIO STRUCTURE
EMERGING MARKET EQUITY



Source: OECD, 2010

- One possible scenario is that India and China could dominate in years to come
- Asia's middle class consumption alone could replace the US as the driver of the global economy

Solid bars show current consumption of cars, computers and mobile phones. Shaded bars show potential based on population.



Source: World Bank, International Telecommunications Union, Franklin Templeton

WE HAVE A STRONG PREFERENCE FOR ACTIVE MANAGEMENT IN EMERGING MARKET EQUITIES

MULTI ASSET CREDIT

Multi-Asset Credit

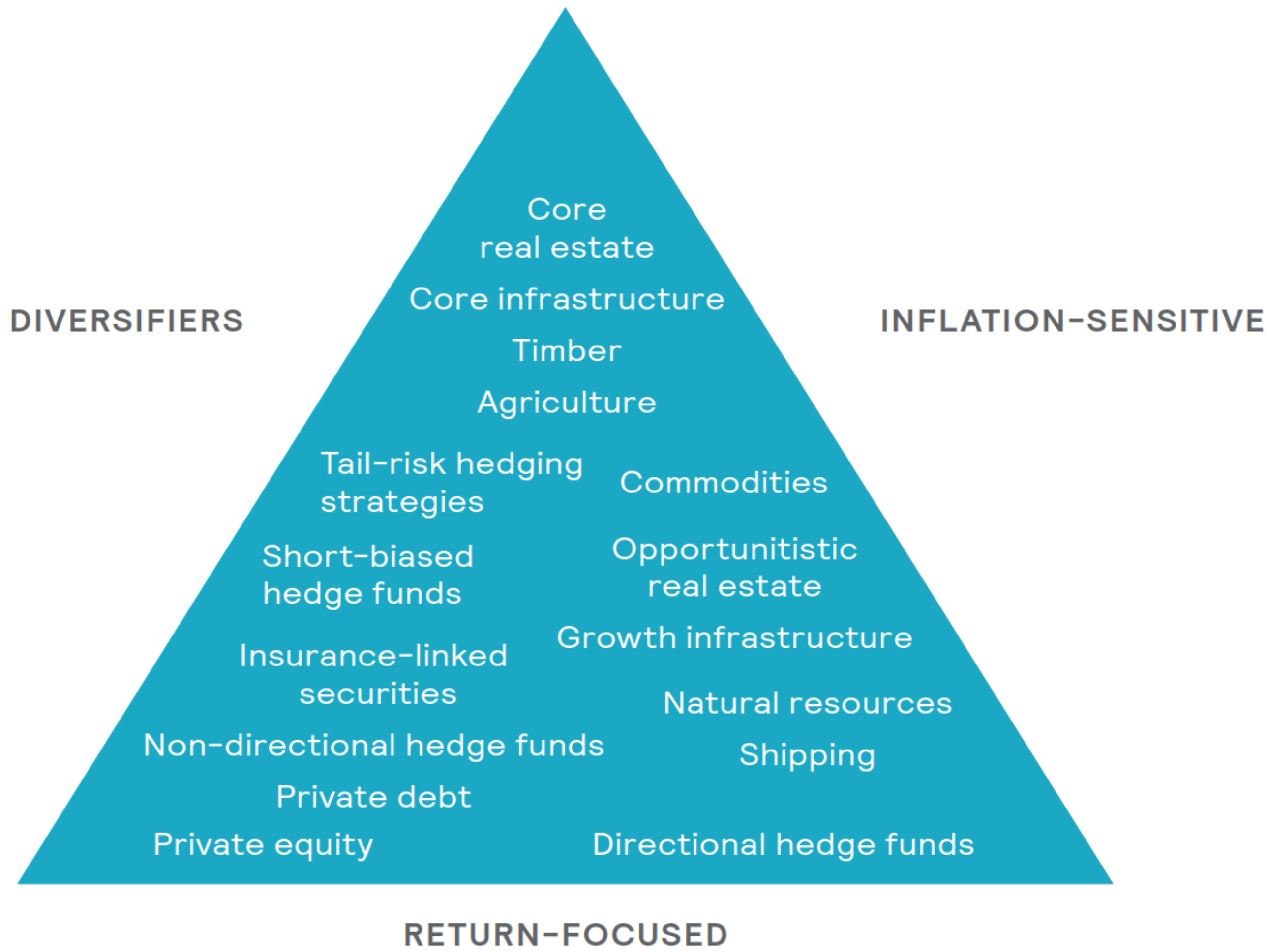
- Returns driven by market allocation plus active management from bond selection & rotation across types
- Target Return: cash + 4 – 6% p.a.

  Expected volatility: 5 – 10% p.a.
- Typically sub-investment grade focus, although investment grade, sovereign and cash used for defensive reasons
- Low interest rate sensitivity
- Typically monthly liquidity
- **Flexibility** to move to cash and/or implement hedges and, in some cases, shorting
- **Broad opportunity set** high yield debt, bank loans, securitised debt, distressed debt, emerging markets bonds & convertible bonds
- Unconstrained with a focus on “best ideas”

SECURE FINANCE
SUB ASSET CLASS EXAMPLES

Asset Class	Description	Premium	Liquidity/ Term	Public/ Private
Asset Backed Securities (ABS)	A mixed pool of performing loans including Residential Mortgage-Backed Securities (RMBS) and Commercial Mortgage-Backed Securities (CMBS).	Complexity	High Liquidity	Public
Collateralised Loan Obligations (CLO)	A tradable structured credit vehicle, backed by corporate loans. Principal and interest proceeds paid out in a series of prescribed tranches.	Complexity	High/Medium Liquidity	Private
Bank Loans	Senior and secured floating rate debt structured, syndicated and administered by a bank.	Illiquidity/Private Transaction	3-5 Year Term	Private
Private Debt	Direct lending to, often smaller and mid-sized, companies to finance acquisitions or expansions of existing profitable businesses. Occasionally those requiring restructuring expertise.	Private Transaction/ Illiquidity	3-5 Year Term	Private
Real Estate & Infrastructure Debt	Senior debt secured on commercial real estate or an infrastructure asset.	Illiquidity/Private Transaction	5-30 Year Term	Private
Trade Finance/ Receivables	Trade Finance - short term loans to support the physical flow of goods between buyers and sellers. Trade/accounts receivables/factoring – the sale at a discount of the claim to outstanding invoices on already delivered goods or services.	Private Transaction/ Complexity	3-6 Month Term	Private

ALTERNATIVES
THE OPPORTUNITY SET



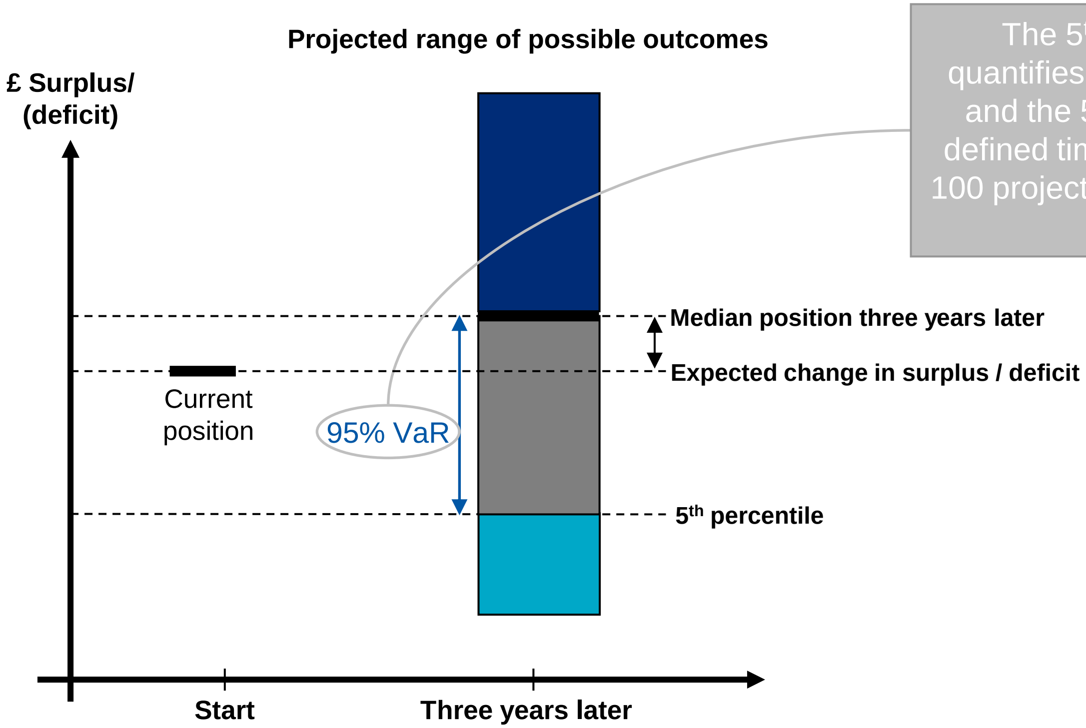
THE CASE FOR PRIVATE MARKETS

LONG TERM INVESTMENT HORIZON	Capitalize on the illiquidity premium available to the providers of long term capital
BETTER DIVERSIFICATION OF RETURN	Diversifies risk away from listed public market performance
ACCESS OPPORTUNITIES	Access to investment opportunities that are not accessible through public markets
GREATER ALPHA POTENTIAL	Greater alpha potential through active management with high quality managers expected to demonstrate significant value-add

RISK METRICS
WHAT IS VALUE AT RISK (VAR)?

- VaR (Value at Risk) measures risk in terms of how much value in pounds could be lost (i.e. by how much a deficit might grow) under a poor economic or market outcome over a certain **time period** and with a particular **level of confidence**. Using VaR as a risk indicator provides an indication of the overall level of expected risk to which the Group is exposed to. VaR is also appealing because it can be related to the financial impact on contribution requirements and ultimately the sponsor's covenant.

- The chart below provides an illustration of a VaR calculation.



The 5th percentile **Value at Risk (95% VaR)** analysis quantifies the value between the median surplus/deficit level and the 5th percentile projected surplus/deficit level over a defined time horizon. As an example, if the analysis provided 100 projected outcomes, the 5th percentile would represent the 5th worst outcome

MAKE TOMORROW, TODAY