Annual review of asset strategy and structure

Addressee

This paper is addressed to the Local Pension Committee (LPC) of Leicestershire County Council Pension Fund ("the Fund"). The purpose of this paper is to provide the 2016 annual assessment of the Fund's investment strategy and its implementation in the context of the required return, current market conditions and LGPS investment reforms.

Executive Summary

Required return

The Fund is structured to deliver a blend of diversified return sources, with an emphasis on long-term investment and an element of inflation linkage. The expected real return over CPI is currently around 3.9% p.a.

Based upon the results of the 2013 valuation we estimated that the required return above CPI inflation on Fund assets is likely to be in excess of 4% p.a. (after expenses), to avoid the need for further employer contribution increases that are over-and-above those assessed at the time of the 2013 actuarial valuation. It should be noted that most employing bodies are currently paying lower employer contribution rates than the full level that was assessed in 2013, so there is an inevitability that rates will rise from their current levels anyway. With real interest rates having fallen since 2013, and assets not having delivered the expected outperformance relative to gilts, the required return will, if anything, be slightly higher now.

However, we do not propose the need for any wholesale change in the target level of return, especially if there is also an expectation of some real yield reversion, (i.e. gilt yields to rise towards what are thought to be more reasonable long-term levels) and certainly would not suggest targeting a more risky strategy ahead of the 2016 valuation.

LGPS reforms

The Chancellor's 2015 Autumn Statement contained detail on the government's proposals for the reform of the approach to the investment of LGPS assets, and in particular the use of asset pooling across LGPS in England and Wales via six so called "British Wealth Funds" ("BWFs").

Each Authority is expected to "join" one of the BWFs for the vast majority of its assets, retaining only a limited number of existing assets outwith the pooling arrangements where this can demonstrate value for money.

Strategic asset allocation will remain a local decision for the administering authority and pensions committee. However, there seems to be some flexibility in relation to deciding what decisions will be taken by the pool which will be taken locally at individual fund level. This means funds will need to determine the principles or beliefs they wish to maintain, and to consider in their proposals the extent to which this is achieved through their choice of BWF.

It is expected, albeit not certain, that the extent to which each authority or pool uses passive management will remain their own decision, but the balance between active and passive should be kept under review to ensure that active management is delivering value for money. Conversely, there is a very emphatic statement that 'manager selection will need to be undertaken at pool level'.

Market Conditions

Our concern remains that the level of interest rates implied by long-dated gilt yields (c2.0% to 2.5% p.a. between 25 and 50 years' time, having peaked at 3.5% in 15 years' time) are too low, particularly relative to market priced implied RPI inflation in excess of 3.25% p.a. over the same period and a consensus view that growth remains relatively robust at over 2%.

The picture for US inflation and growth is very similar, with a little more upside in growth expected before it moderates to a similar level to that predicted for the UK. Even Consensus forecasts for Japanese inflation and economic growth are on a slightly upward trajectory, albeit from a lower starting point.

In this environment the outlook for equities is equally uncertain and this has been reflected in market volatility. A marginal boost from revaluation (i.e. a rise in P/E ratio) has been offset by lacklustre earnings growth, which appears to have flat-lined globally over the last three years, although this varies considerably across regions. Credit spreads have also widened over 2014 after a period of sustained narrowing

In this environment, we continue to consider shorter-dated debt and secure income assets, where there is reasonable visibility of returns above cash, to provide relative attraction.

Recommendations

We do not see the need for any fundamental changes to the Fund’s strategy. The recommendations we make this year continue to be an evolution of the existing strategy.

We recommend the following:

Equities

- Following the introduction of an allocation to Japanese equities made last year, we recommend increasing the allocation to Japan to 7.5% of the regional equity allocation, i.e. a “full weight” in line with the long-term benchmark allocation;
- Also in line with the long-term benchmark allocation proposed last year, we recommend funding this change through a further reduction in the bias to market cap weighted UK equities;
- Some modest reallocation of the regional allocation to be carried out to bring it into line with the long-term target allocation;
- In addition, we recommend the Fund consider the introduction of a global equity mandate with a growth bias to sit alongside the income mandates, or replacing one of the income mandates. This will give better diversification to sources of return in the equity portfolio than the current inherent factor biases. We would expect exposure to be achieved through active management rather than a passive index. However, we also note that implementation be considered alongside the route for LGPS pooling chosen by the Fund, rather than as a stand-alone exercise now.

Real Assets

- Recognising the reduced allocation to real assets, following the removal of the Fund’s commodity mandate, we propose that the Fund increases its target allocation to infrastructure to 5%.
- As a next step we recommend exploring further investment in the IFM fund and/or co-investment options with KKR. We also suggest investigating one or two new open-ended funds that would fit with the Fund’s existing arrangements. However, we also note that any decisions should be mindful of the evolution of LGPS pooling proposals and in particular the impact that these may have on any infrastructure investment and future opportunities to invest in infrastructure. Again, this may suggest considering implementation alongside broader progress on pooling, rather than progressing in isolation.

Prepared by:-

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January 2016
For and on behalf of Hymans Robertson LLP

Risk warning

Please note the value of investments, and income from them, may fall as well as rise. This includes equities, government or corporate bonds, and property, whether held directly or in a pooled or collective investment vehicle. Further, investments in developing or emerging markets may be more volatile and less marketable than in mature markets. Exchange rates may also affect the value of an investment. As a result, an investor may not get back the amount originally invested. Past performance is not necessarily a guide to future performance.

1. Fund Asset Allocation

The asset allocation and structure of the Fund is structured to accommodate the need for both the long-term return requirements (primarily equities and alternatives) and a degree of inflation linked returns, given the nature of the liabilities.

Details of the current target allocation are shown in the table below:

Equities (50.5-52.5%)		
	Manager	Target %
UK	LGIM	11.0
Regional	LGIM	24.0
Global	Kempen	4.0
	Kleinwort Benson	4.0
Emerging	LGIM	5.5
	Delaware	
Private	Adams Street	4.0

Real Income Assets (22.5%)		
Inflation Linked (12.5%)		
	Manager	Target %
Index-linked	Implemented	7.5
Infrastructure	IFM	3.0
	KKR	
Timberland	Stafford	2.0

Property (10%)		
	Manager	Target %
Fund of Funds	Aviva	5.0
Direct	Colliers	5.0

Alternative (25-27%)		
	Manager	Target %
Targeted		
	Ruffer	7.0
	Aspect	4.0
	Pictet	2.5[1]
Overlay		
	Millenium	-
Other opportunities		
EM Debt	Ashmore	2.5
Credit Opps	JPM UK Financing Fund Partners	5.0
Other opp. pool	M&G	4.0-6.0
	Kames Property	
	Markham Rae	

1. The Pictet Dynamic Asset Allocation Fund allocation is largely a result of removing the commodities allocation.

The lower end of the equity range (50.5%) will only be reached if the opportunity pool investments reach the full weighting of 6%. Until the opportunity pool investments exceed 4%, the strategic equity weighting to equities will be 52.5%.

The asset allocation outlined above contains a diversified range of sources of return. Across the strategies, the Fund has exposure to the following sources of return and risk:

- Corporate growth
- Government risk
- Interest rates
- Inflation
- Active management
- Illiquidity premium
- Complexity premium

Required rate of return on assets

The value placed on the Fund's liabilities is determined by measuring the discounted value of the benefits to be paid in the future for accrued benefits. Based on the most recent actuarial valuation (31 March 2013), the value placed on liabilities was £3,652 million. The value placed on assets in the valuation is their prevailing market value. At the valuation date, the value of assets was £2,628 million, so the Fund was 72% funded at that time.

Based upon the results of the 2013 valuation we estimated that the required return above CPI inflation on Fund assets is likely to be in excess of 4% p.a. (after expenses), to avoid the need for further employer contribution increases relative to the full rates that were assessed as part of the actuarial valuation. It should be noted than most employers are currently paying contribution rates that are below these full rates, so there are further rises that are already expected.

With real interest rates having fallen since 2013, and assets not having delivered the expected outperformance relative to gilts, the required return will, if anything, be slightly higher now, or the current strategy will take longer to restore funding.

However, we do not propose the need for any wholesale change in the target level of return, especially if there is also an expectation of some real yield reversion, and certainly would not suggest targeting a more risky strategy ahead of the 2016 valuation.

Strategic forecast return

As noted in previous reports, this real return target applies at the aggregate Fund level. It does not require every asset and mandate held by the Fund to deliver returns at this level, and the investment policy should reflect a combination of return sources that balance the need to generate return with the benefit of diversification of returns. In the table below we set out the target contribution from each component of the strategy to the overall objective.

	Benchmark weight (%)	Long-term Real Return (% p.a.)	Contribution to Strategic Return (% p.a.)
Equities (52.5%)			
Listed equity	48.5	4.3	2.1
Private equity	4	6.5	0.3
Real (22.5%)			
Inflation linked bonds	7.5	0.3	0.0
Infrastructure	3	3.8	0.1
Timber	2	3.3	0.1
Property	10	2.7	0.3
Alternatives/Diversifiers (25%)			
Targeted return	13.5	4.0	0.5
EMD	2.5	3.0	0.1
Global Credit	5	4.0	0.2
Opportunity Pool	4	4.3	0.2
Currency overlay (Notional weight)	(13)	1.0	0.1
TOTAL	**100**		**3.9**

Although this is based on our subjective views of long-term strategic returns, it highlights where the main sources of return are expected to be generated.

The overall return is expressed relative to CPI. A real return (after expenses) of 4% delivers the required return. Disciplined re-balancing should be sufficient to add a modest amount to returns, bringing the overall return above 4% p.a.

2. LGPS pooling and impact on the Fund's decision making and asset implementation

The Chancellor's 2015 Autumn Statement contained detail on the government's proposals for the reform of the approach to the investment of LGPS assets, and in particular the use of asset pooling across LGPS in England and Wales via six so called "British Wealth Funds" ("BWFs") or asset pools.

The extent of the proposals will fundamentally change the way in which LGPS assets are invested, even if it does not actually affect the high level strategic allocation. In principle, each Authority is expected to "join" one of the BWFs for the vast majority of its assets, retaining only a limited number of existing assets outwith the pooling arrangements where this can demonstrate value for money.

There may be scope to use more than one BWF, although this will depend upon the evolution of the pools, and is as yet unclear.

Existing illiquid investments, where there would be a penalty for disinvesting assets, are likely to be kept outwith pooling, although there may be some asset specific pools that would enable Funds to pool even some of the illiquid assets, such as property or infrastructure. It is not, however, expected that significant levels of assets can be kept out of the pools in the long-term – for example closed-ended private equity funds may be allowed to mature outside of the pools, but any new investment in private equity after the pools have been established is unlikely to be acceptable.

Timetable and Proposals to government

By **19th February 2016** Authorities must submit initial proposals including commitment to pooling, and describing 'progress towards formalising arrangements'. These submissions can be individual or joint with other Funds/BWFs or both.

By **15th July 2016** Authorities must make final submissions that fully addresses the criteria set out below, with enough information for the proposal to be evaluated by government. Each pool must make a submission which covers the joint proposals and describes the proposed governance, structure and implementation plan. Each authority must submit an individual return which sets out the profile of costs and savings, the transition profile for the assets and the rationale for any assets which it proposes to hold outside the pool.

There is a consultation on modernisation of investment regulations which will also facilitate pooling – this also requires a response by **19th February 2016**.

Criteria for pooling of assets – not subject to consultation

The DCLG document entitled **Local Government Pension Scheme: Investment Reform Criteria and Guidance** sets out the criteria that will be applied to proposals for the pooling of assets. In brief:

1 **Achieve the benefits of scale** – up to 6 asset pools, each of £25bn or more.

2 **Strong governance and decision-making** – investments managed appropriately by the pool, risk adequately assessed and managed. Pool to have appropriate resources and skills. Local authority to hold the pool to account.

3 **Reduced costs and excellent value for money** – pools need to deliver substantial savings in investment fees, both in the near term and over the next 15 years while at least maintaining investment performance.

4 **An improved capacity to invest in infrastructure** – proposals should show how the pooling arrangements will enable the funds to invest more in infrastructure and drive local growth (LGPS currently has approximately 1% of total assets invested in infrastructure although we note that the Fund has a 3% allocation).

These criteria reflect the discussions that have taken place with Treasury and DCLG since the first announcement of pooling in the 2015 Summer Budget.

Impact of pooling on the Fund's investment strategy, manager selection and implementation

Strategic asset allocation will remain a local decision for the administering authority and pensions committee. However, there seems to be some flexibility in relation to deciding what decisions will be taken by the pool (and, by implication, which will be taken locally at individual fund level) with the proviso that the pool has to deliver value for money.

We interpret this as meaning that the pool will decide, in consultation with the participating authorities, which decisions are made where and the range of asset choices the pool will offer.

This means that funds will need to determine the principles or beliefs that they wish to maintain, and to consider in their proposals the extent to which this is achieved through their choice of BWF in areas such as different choices for listed equity investment (UK, non-UK, manager style, active or passive), different approaches to the investment in bonds (traditional benchmarked approaches, multi-credit, absolute return) and the choice of external versus in-house investment if both are available in the same pool.

It is expected, albeit not certain, that the extent to which each authority or pool uses passive management will remain their own decision, but the balance between active and passive should be kept under review to ensure that active management is delivering value for money.

Conversely, there is a very emphatic statement that 'manager selection will need to be undertaken at pool level'. The expectation is that this will rationalise the number of managers used leading to lower investment fees.

It has also been made clear that there needs to be a good rationale for any assets that are to be held outside the pool. The expectation is that these will form a small proportion of the total assets and will be confined to existing investments. New allocations should be pooled to take advantage of the potential to share costs.

Authorities need to consider how they might get more direct access to infrastructure using the benefits of scale. They need to indicate how much they expect to be able to allocate to infrastructure in the future. We consider the Fund's allocation to infrastructure as part of this annual review.

Proposed changes to investment regulations – subject to consultation

The government has proposed the removal of Schedule 1 to the existing regulations which sets out specific limits on investments. The specific limits will be replaced by a "prudential approach". Each fund will be required to set out an 'investment strategy statement' which will in effect replace the current Statement of Investment Principles. The statement will be required to address risk, diversification, corporate governance, responsible investment and the authority's approach to pooling.

There will be 'backstop legislation' to deal with any authority which does not come forward with sufficiently ambitious plans to pool their investments. Draft regulation 8 in the investment regulations referred to above provides for the Secretary of State to intervene if an authority is:

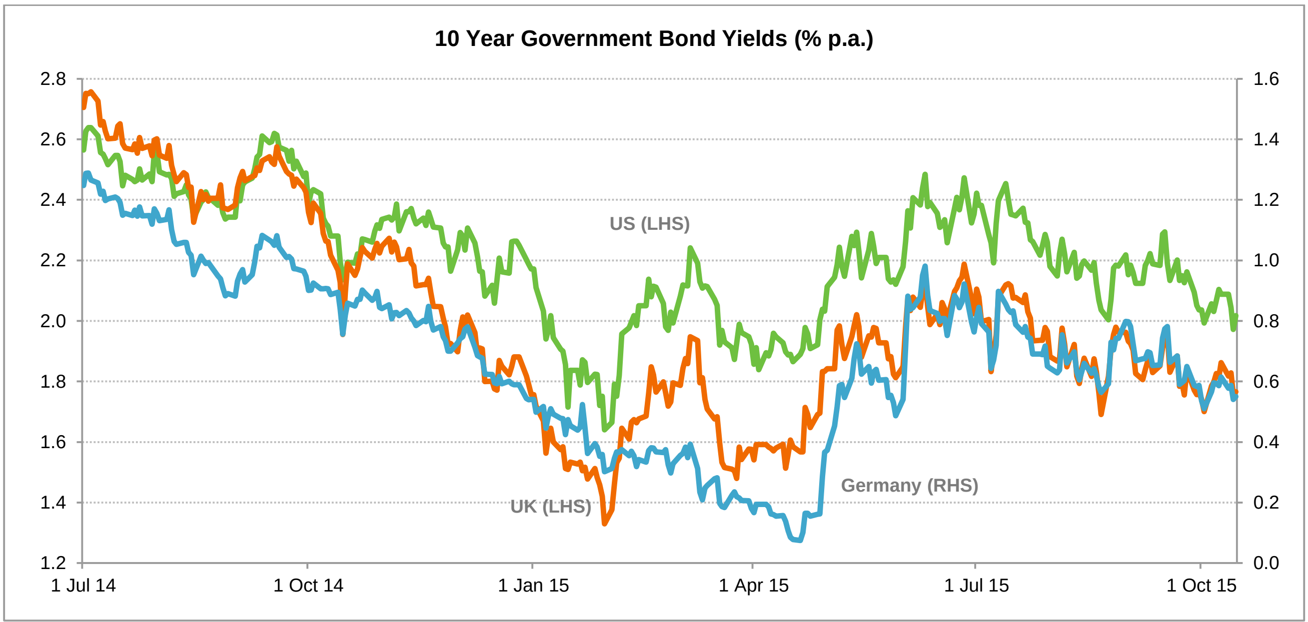
- Ignoring best practice;
- Is not following guidance, including not participating in one of the large asset pools or proposing a pooling arrangement that does not meet the criteria set out above;
- Carrying out another pension-related function poorly.

3. Market Commentary

The headlines following the publication of the November Inflation Report focused on the possibility that UK interest rates might not rise at all next year. The fact that gilt yields edged higher over the next few days suggests that did not come as a surprise to investors. UK rates are priced assuming no rise until early 2017.

Sitting geographically closer to Europe, the Bank of England takes a more jaundiced view of the outlook for overseas growth, particularly in emerging economies, in contrast to the more relaxed view the US Federal Reserve. The Bank also now thinks the effect of sterling strength in suppressing inflation will persist for longer.

The broad trends in gilt yields have largely mirrored those in US Treasury bonds; for all this year's fretting about a deteriorating global economic outlook and the deferral of interest rate rises, 10-year gilt, German Bund and US Treasury bond yields are all a little higher than they were at the end of 2014, albeit Gilt yields are c0.2% below Treasuries (left hand scale), and Bunds (shown on the right hand scale) 1.2% below that.



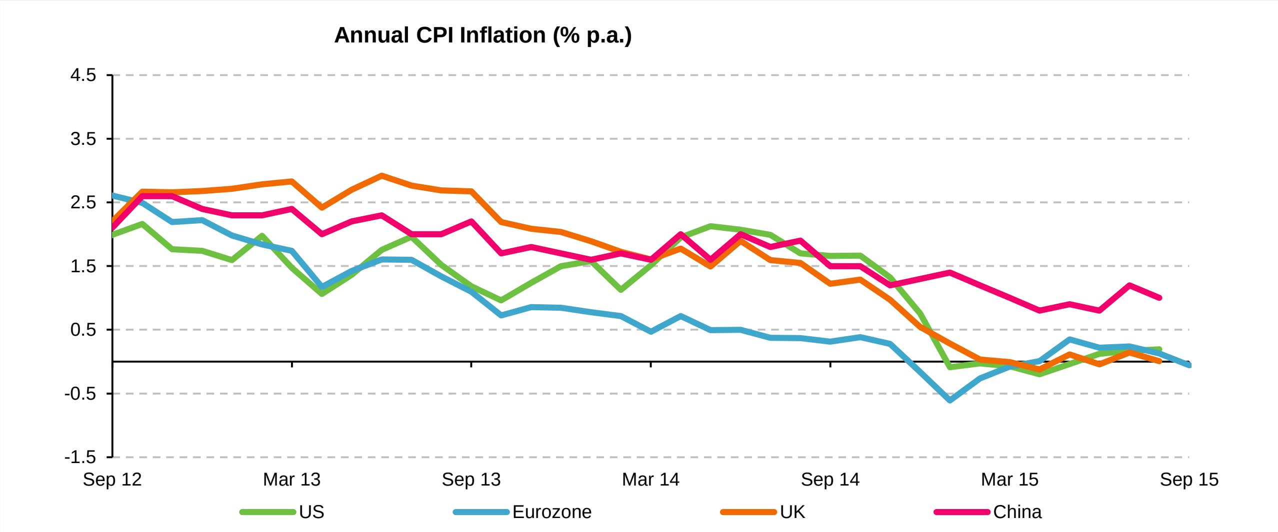
Our concern remains that the level of interest rates implied by long-dated gilt yields (c2.0% to 2.5% p.a. between 25 and 50 years' time, having peaked at 3.5% in 15 years' time) are too low, particularly relative to market priced implied RPI inflation in excess of 3.25% p.a. over the same period.

GDP growth in the UK is running at c2.5%, and although expected to moderate, Consensus forecast is that it remains relatively robust at over 2%.

CPI inflation is currently very low, but anticipated to rise to c2% over the next couple of years, suggesting nominal growth marginally in excess of 4% per annum.

Even if inflation and nominal growth come in a bit below these levels, it seems compatible with interest rates higher than the 2½% p.a. implied by long dated gilts. In short, only long-term economic performance that is very disappointing appears to justify current projected progress of government bond yields and there is a reasonable possibility that yields will need to rise (and hence capital values fall) by more than this at some stage in the future.

The picture for US inflation and growth is very similar, with a little more upside in growth expected before it moderates to a similar level to that predicted for the UK. Even Consensus forecasts for Japanese inflation and economic growth are on a slightly upward trajectory, albeit from a lower starting point.

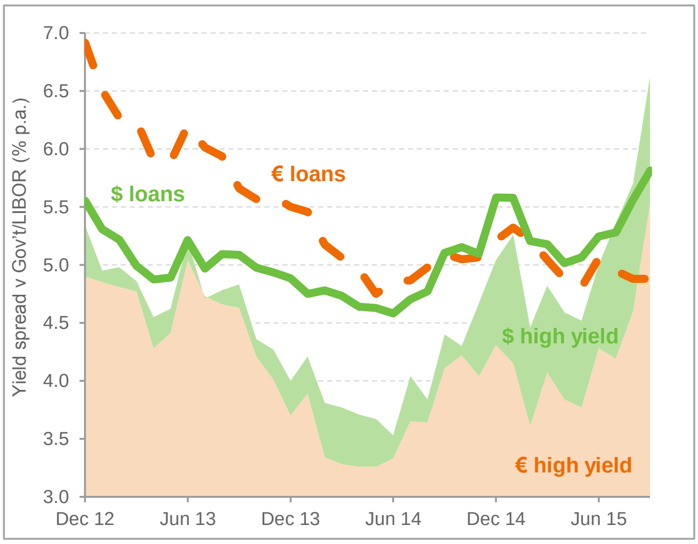


In this environment of uncertain growth, inflation and interest rates the outlook for equities is equally uncertain and this has been reflected in market volatility, even though at a global level, measured in $ terms, equities have more or less returned income and nothing else over the last few years. A marginal boost from revaluation (i.e. a rise in P/E ratio) has been offset by lacklustre earnings growth which appears to have flat-lined globally over the last three years, albeit this varies considerably across regions.

Overall payout ratios (i.e. dividends as a proportion of earnings) remain in line with the long-term average, just under 50%. However, this varies by region; UK listed companies' earnings have not kept pace with dividends and the payout ratio for UK listed equities has reached 65%, which we would consider unsustainable relative to historic average of 52%

In the US, profits growth is positive, but has drifted downwards this year and revaluation has been starting to push ahead of earnings growth. Emerging market valuations continue to look less extended than those in developed markets, albeit with some discrimination necessary in identifying where the value lies.

Reflecting corporate uncertainty, yields on high yield debt and corporate syndicated loans have risen, despite underlying reference yields and interest rates falling. The rise in yields has been more pronounced in the US, where energy related companies reflect a higher proportion of the market (14% vs 5% in Europe).



As a result, relative valuations in high yield bond markets are as cheap as they have been for a while – the last time yield spreads were this high was around two to three years ago. However, valuations are only cheap in an absolute sense to the extent that central bank interest rate policy keeps yields on all bonds below historic levels.

4. Equities

Current structure

The Fund's benchmark equity allocation is largely invested in listed equity markets (48.5%) with a further 4% of the Fund invested in private equity. The listed equity allocation comprises:

- a passive regional allocation;
- an allocation to passively managed fundamental (i.e. valuation based) indices in US and Europe;
- 2 active global income mangers;
- an active emerging markets manager.

Recommendations

We recommend the Fund makes the following changes to the portfolio:

- There are clear signs that corporate governance within Japan is greatly, after many years of companies failing to demonstrate they were actually prioritising shareholder value. Following the introduction of an allocation to Japanese equities made last year, we recommend increasing the allocation to Japan to 7.5% of the regional equity allocation, i.e. a "full weight" in line with the long-term benchmark allocation;
- Also in line with the long-term benchmark allocation proposed last year, funding this change through a further reduction in the bias to market cap weighted UK equities;
- Some modest reallocation of the regional allocation to bring it into line with the long-term target allocation proposed last year;

These changes are set out in the table below:

Mandate	Current benchmark %	Proposed benchmark %
L&G UK equity (market cap)	5	2.5
L&G UK equity (capped weights)	6	6.0
L&G Europe ex UK (market cap)	3.25	3.0
L&G Europe ex UK RAFI	3.25	3.0
L&G N America (market cap)	6.5	7.0
L&G N America RAFI	6.5	7.0
L&G Asia Pacific (market cap)	3	3.0
L&G Japan (market cap)	1.5	3.0
L&G Emerging Markets	1.5	2.0
Delaware Emerging Markets	4	4
Kempen Global equity income	4	4
Kleinwort Benson equity income	4	4
Total	48.5	48.5

In addition, we recommend the Fund consider the introduction of an actively managed global equity manager with a growth bias to sit alongside the income mandates, or if replacing one of the income mandates, to sit alongside the Kleinwort mandate. This will give better diversification to the equity portfolio's sources of return than the inherent factor biases in the current equity portfolio.

Implementation will need to be considered alongside the route for LGPS pooling chosen by the Fund.

The Fund's exposure to RAFI indices and equity income funds create an inherent bias towards 'value' within the Fund's equity portfolio. In order to give better diversification to the equity portfolio's sources of return, we recommend the Fund consider the introduction of a global equity mandate with a growth bias to sit alongside the income mandates, or if replacing one of the income mandates, to sit alongside the Kleinwort mandate.

We would expect exposure to be achieved through active management rather than a passive index, where growth biases solutions are limited. There is, however, a risk that the appointment of such a manager will turn out to be a short-term appointment of no more than 2 years given full implementation of the LGPS asset pooling is likely to be in place by this point, and there is no guarantee that the selected manager, or indeed the growth exposure, will be retained by the pool in which the Fund is involved. Hence, it may be sensible to defer implementation of this action at this stage and to enact it as part of the restructuring of assets when the pools are created or there is greater visibility around the construct of the pools.

5. Inflation protection assets

Until last year the Fund had a 25.5% target allocation to assets that are expected to deliver returns with a degree of inflation linkage, including the allocation to index-linked gilts. During the year the Fund exited its holding in commodities, and as such the target allocation has reduced to 22.5%. The proceeds have been invested in the Pictet Dynamic Asset Allocation fund, which invests in a broad mix of assets, primarily equities and bonds, pending other more attractive investment opportunities arising. The actual holding is a little lower than 22.5%, at 21%, due to current underweight holdings in index-linked gilts, timber and infrastructure (the underweighting of the two latter asset classes is due to there being undrawn commitments).

It would be ideal to increase the allocation to long-term real income based assets, given the long-term real nature of the liabilities. This said, the Fund should only invest in real assets when it can earn sufficient reward for its capital, and the demand for many assets in this category remains relatively strong, limiting relative value.

We see little reason to increase the strategic allocation to index-linked gilts given current yields; the current marginally underweight position can be corrected using natural cash flows of the Fund.

Equally, while we like a number of aspects of property markets, this mainly applies to the much lower yielding "safe" assets, that provide an alternative to index-linked gilts. Further detail is included in Appendix 3. For most of these assets the expected return is lower than the Fund's target return, and while it would be possible to switch some of the Fund's index-linked gilts into these assets it would have limited impact on the return at the overall level, but would lose access to liquidity. The core property market continues to be reasonably priced, but not especially good value from here. Hence, we also see no reason to amend the property allocation.

Turning to infrastructure, many parts of the market are also fully valued, especially in respect of some of the core regulated markets. However, we continue to see managers identifying specific opportunities at development stage or as active management opportunities, where prospective returns remain attractive. Hence, we propose that the PFMB target a more meaningful higher strategic weight to infrastructure assets of 5.0%, up from the current 3%. This will bring the strategic target to real assets up to 24.5%.

It should be noted that managing exposure to illiquid assets when they are expressed as a percentage of total assets is somewhat imprecise in nature as the allocation cannot be increased or reduced quickly; this is particularly so when the investment is via closed ended funds, where an initial commitment is only 'drawn down' as-and-when underlying opportunities are found by the manager.

At present the Fund has an actual weighting of c.2.6% in infrastructure (current target weighting of 3%), but with undrawn commitments of a further 1% of assets ($45m). When these undrawn commitments are invested, the Fund's actual asset allocation will depend on the relative performance of infrastructure against other asset classes and the level of distributions from the KKR I Fund; it is not inconceivable that the weighting could reach 4% (if infrastructure outperforms), but it equally has a chance of remaining below 3% (if other assets perform better).

In Appendix 4 we set out thoughts on how increasing the allocation to 5% could be achieved. In summary, given the central focus on achieving value for money and further investment in infrastructure, we believe the Fund should continue to invest in directly held infrastructure funds, rather than using fund of funds. Options include

- allocating more to the existing IFM fund, subject to availability;
- although the KKR Fund I and II are now fully closed, KKR do offer clients co-investment opportunities;
- as outlined in Appendix 4, a number of managers, including some of the Fund's existing managers for other mandates, provide open ended infrastructure funds if a third manager option is preferred for increasing exposure.

We propose that the Investment Sub-Committee is tasked with exploring these options for the Fund. As infrastructure investing is a key pillar of the Government's targeted outcomes we expect the landscape for LGPS infrastructure investing to continue to evolve through the likes of the Pension Infrastructure Platform ("PIP") and the new BWFs. The LPC will need to decide whether to allocate to existing funds or wait for a clearer picture on how infrastructure offerings develop in the post reform environment.

We also believe there may be merit in considering more targeted infrastructure funds as part of the Opportunities pool. We are seeing a number of smaller funds within the renewable energy area, typically UK based, providing scope for high single digit returns.

6. Alternatives

Over the last year the Fund has made a number of new commitments and amendments to existing mandates in the Alternatives bucket:

1) The Fund made a £40m commitment to M&G's Debt Opportunities Fund III, having previously committed £35m to DOF I and £40m to DOF II. By early January 2016, DOF I and DOF II were fully invested and DOF III had drawn down almost £10m and has a healthy pipeline that suggests it will draw its capital relatively quickly.

2) The Fund made a $40m commitment to the new Markham Rae trade financing fund as part of the Opportunities Pool. Current indications are that the first transaction of this fund will be in March 2016, at which time approximately one third of the commitment ($13.4m) will be drawn.

3) The Fund switched the £25m holding in JPMorgan's Global Strategic Bond Fund to the Multi Sector Credit fund. The Multi Credit fund is more focused on higher yielding debt, with a commensurate higher long-term expected return, and the Fund also benefited from a nil cost transition and a heavily discounted fee.

4) The Fund switched the £30m Pictet absolute return fund holding to the new Dynamic Asset Allocation Fund, which has a higher return target, and the Fund benefited from a heavily discounted fee.

   In addition the proceeds of the Investec commodities fund (£56m) were invested in the Pictet Dynamic Asset Allocation Fund.

   The Pictet holding, together with normal cash flows of the Fund, would be used to fund any increase in the Infrastructure allocation.

Other than continuing to identify additional investments for the Opportunities Pool, no further amendments are proposed at this time.

7. Summary of recommendations

The table below sets out our higher level strategic recommendations. The changes are highlighted in red.

	Current Benchmark weight (%)	Proposed Benchmark Weight (%)	Long-term Real Return (% p.a.)	Contribution to Strategic Return (% p.a.)
Equities (50.5 – 52.5%)				
Listed equity	46.5-48.5	46.5 – 48.5	4.3	2.1
Private equity	4	4	6.5	0.3
Real (24.5%)				
Inflation linked bonds	7.5	7.5	0.3	0.0
Infrastructure	3	5	3.8	0.2
Timber	2	2	3.3	0.1
Property	10	10	2.7	0.3
Alternatives/Diversifiers (23.0 - 25.0%)				
Targeted return	13.5	11.5	4.0	0.5
EMD	2.5	2.5	3.0	0.1
Global Credit	5	5	4.0	0.2
Opportunity Pool	4-6	4 - 6	4.3	0.2
Currency overlay (Notional weight)	(13)	(13)	1.0	0.1
TOTAL	**100**	**100**		**3.9**

In order to fund the additional infrastructure allocation, the PFMB will need to decide whether to increase the allocation now or wait for a clearer picture on how the BWFs' infrastructure offerings develop. If the PFMB wishes to progress this now, we propose that the Investment Committee is tasked with exploring the options. Funding for any additional allocation would be drawn from the Pictet Dynamic Asset Allocation fund plus normal cash flows, as previously discussed.

We also believe there may be merit in considering more targeted infrastructure funds as part of the Opportunities Pool.

In addition, within the equity portfolio, we recommend the following changes:

- increasing the allocation to Japan to 7.5% of the regional equity allocation, i.e. a "full weight" in line with the long-term benchmark allocation;
- funding this change through a further reduction in the bias to market cap weighted UK equities;
- Some modest reallocation of the regional allocation to be carried out to bring it closer into line with the long-term target allocation;
- In addition, we recommend the Fund consider the introduction of an actively managed global equity manager with a growth bias to sit alongside the income mandates, or replacing one of the income mandates. This will give better diversification to sources of return in the equity portfolio than the current inherent factor biases. However, we also note that implementation be considered alongside the route for LGPS pooling chosen by the Fund, rather than as a stand-alone exercise now.

Additional information

Appendix 1 – Equity benchmark;
Appendix 2 – Individual manager and RAFI analysis;
Appendix 3 – Property;
Appendix 4 – Infrastructure.

Appendix 1 Equity Benchmark

Background

Current structure

The Fund's benchmark equity allocation is largely invested in listed equity markets (48.5%) with a further 4% of the Fund invested in private equity.

Listed Equity Mandates	Current benchmark %
L&G UK equity (market cap)	5.0
L&G UK equity (capped weights)	6.0
L&G Europe ex UK (market cap)	3.25
L&G Europe ex UK RAFI	3.25
L&G N America (market cap)	6.5
L&G N America RAFI	6.5
L&G Asia Pacific (market cap)	3.0
L&G Japan (market cap)	1.5
L&G Emerging Markets	1.5
Delaware Emerging Markets	4.0
Kempen Global Dividend	4.0
Kleinwort Benson Global Developed / GEM	4.0
Total	48.5

The listed equity allocation comprises both passive management (conducted by L&G), and active management, with the latter focused on Emerging Markets and two Global Income strategies.

The passive index funds include exposure to regional market capitalisation indices and regional fundamental indices (RAFI) in the US and Europe. Part of the UK equity allocation is invested in a market weighted index, where the maximum exposure to any one stock is capped, in order to reduce stock specific risk. RAFI aims to capture a premium in excess of the cap weighted equity return over time by tracking a broad index based upon fundamental valuation, which rebalances towards stocks trading on lower valuations.

Regional equities - Long-term neutral benchmark

The global market cap weighted allocation, the Fund's long-term regional benchmark allocation (as discussed in the January 2015 review) and the Fund's current regional equity benchmark allocation are summarised below.

Region	Market cap weight %	Long-term regional benchmark %		Current regional benchmark %
UK equity	6.7	20	35	24.0
Europe ex UK	15.9	15		16.0
N America	55.1	35	35	35.5
Asia Pacific x Japan	3.7	7.5	15	7.2
Japan	7.9	7.5		4.4
Emerging Markets	10.7	15	15	12.8
Total	100.0			100

The UK bias of the long-term regional benchmark at the expense of US equities will give the portfolio an element of value and dividend yield bias relative to the global market cap index. It also provides a slight sector bias to energy and financials at the expense of IT. The long-term regional benchmark also has greater exposure to the Emerging Markets growth and reduces the bias to mega-cap companies.

The Fund's current benchmark is similar to the long-term benchmark, with the exception of still having the lower weighting to Japan and Emerging Markets, and a larger bias to UK equities. The extent of the UK bias and Japan underweight were reduced last year, with the introduction of a "half-weighting" to Japan.

Equity beliefs

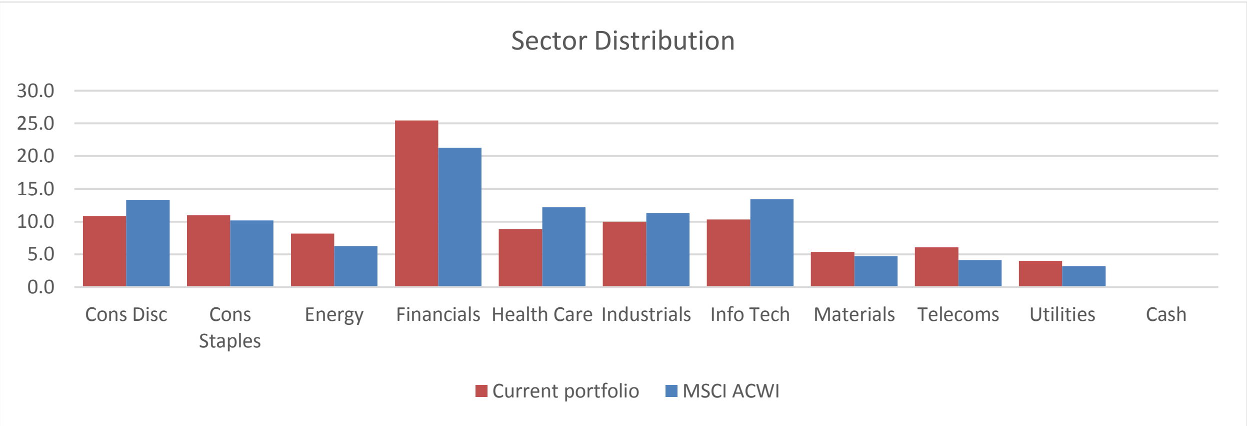
We set out below our core equity beliefs, which provide context for our comments that then follow on the current equity structure of the Fund.

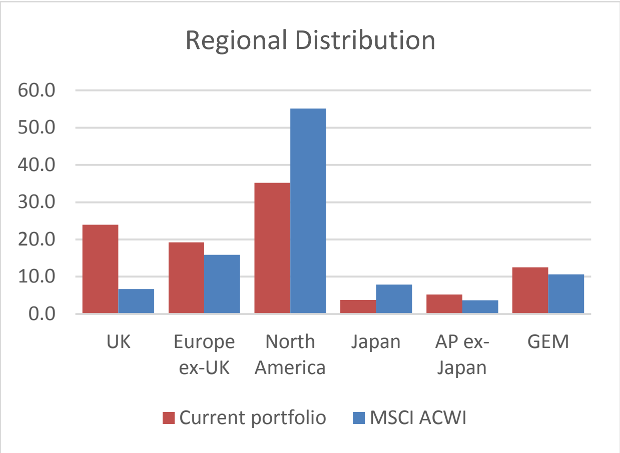
1. Passively managed market cap based investment has a core balancing role to play in most pension schemes' equity allocations, bringing liquidity, transparency and reducing average fee levels;
2. Market cap weighted indices have their drawbacks; adding carefully selected systematic, factor tilted equity strategies can improve risk-adjusted returns, and benefiting from disciplined rebalancing (the "rebalancing premium");
   - Even if outweighed by technical factors in the short-term, diversified exposure to valuation based factor tilts can add excess return per unit of risk over a reasonable timeframe;
   - Carefully selected exposure to growth strategies can improve the balance of overall equity exposure and improve risk adjusted returns;
   - A tilt towards medium and smaller sized businesses is generally rewarded over time;
3. Exposure to emerging markets provides diversification and the opportunity for higher returns due to the higher risk premium typically earned for investing in these markets;
4. With sufficient research and governance, active equity management can be incorporated to add value relative to market cap weighted indices; overall active equity exposure should be focused predominantly on stock-specific risk;

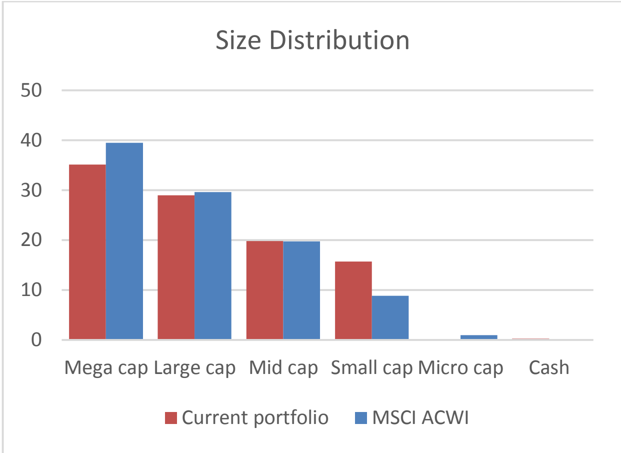
We believe that a combination of exposures that incorporates some or all of these investment beliefs enhances the risk adjusted return of investing in equities, net of fees, relative to passive investment in a global market cap index.

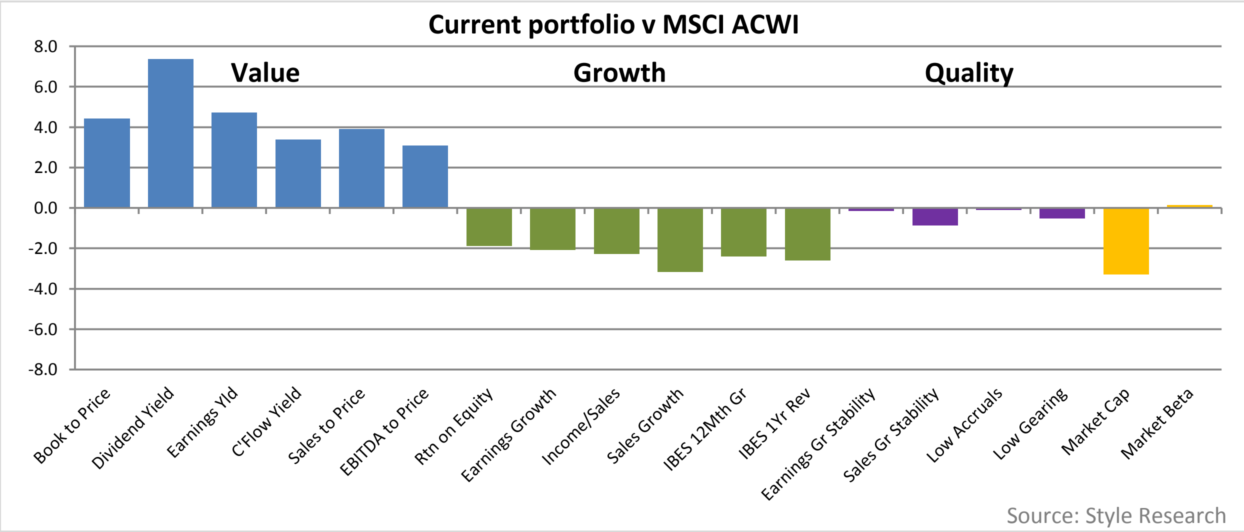
Current Fund style, sector, region and size analysis

In the charts below we compare the Fund's current portfolio with the market cap index.









Observations:

- Compared to the market cap index, the current portfolio is moderately overweight to the UK and underweight the US, Japan and Emerging Markets;
- The portfolio is biased away from mega-cap stocks and holds more in smaller cap stocks;
- The combined style biases introduced by RAFI and the active income manager allocations result in a persistent and significant tilt towards value, and away from growth stocks. Delaware is less factor biased (the individual manager and RAFI analysis is provided in Appendix 2);
- The portfolio has a bias away from long-term sustainable earnings growth and no positive quality bias.

We conclude that although the portfolio has a number of desirable features, the value bias is particularly strong, and there is a lack of quality and growth characteristics.

We believe it would achieve a better balance in the portfolio to introduce a growth focused global equity mandate. We would expect exposure to be achieved through active management rather than a passive index, where growth biases solutions are limited.

As highlighted in the main body of this report, there is a risk that the appointment of such a manager will turn out to be a short-term appointment given the LGPS asset pooling reforms, and hence, it would be sensible to defer implementation of this action at this stage and to enact it as part of the restructuring of assets when the pools are created or there is greater visibility around the construct of the pools.

UK equity allocation

Within UK equities, the agreement to make an allocation to UK mid-cap stocks from the FTSE All Share exposure has not yet been implemented as it has been challenging to identify a suitable entry point given the sustained outperformance of the FTSE Mid 250 Index. Unfortunately this trend has been extended over the past 12 months as the de-rating of commodity stocks has weighed heavily on several large cap stocks in the UK index.

The FTSE Mid 250 has outperformed the FTSE All Share by over 13% in the past 12 months and by circa 5% p.a. over the past 5 years. The FTSE Mid 250 price earnings ratio is only at a relatively narrow discount to the FTSE 100 p/e, compared with a greater difference historically. This reflects certain large cap share prices falling in anticipation of lower commodity related earnings in the future. However, looking at longer term averages we would conclude that the outperformance of the Mid 250 has been justified by relative progress in the earnings and dividends of its constituents.

The current equity structure already has a tilt away from large cap stocks and we do not think the FTSE Mid 250 is particularly materially cheap, and so we do not see the implementation of the 1% allocation to mid-cap stocks as a priority for the Investment Sub-Committee at this time.

Japanese equity allocation

The Fund introduced a 3.7% weighting to regional Japanese equities, half the 7.5% weighting in the long-term neutral allocation. The introduction of the half-weight to Japan reflected the renewed emphasis on improving corporate governance by the Japanese Government (although actual corporate governance in Japan, while improving, remains relatively poor).

The half-weighting was expected to be a directional move, to be increased to a full weighting once there is more sustained evidence of a move to better corporate governance in Japan. We believe the events of the last year provide evidence of progress.

As discussed in last year's paper, the JPX-Nikkei 400 Index was launched in early 2014, which aimed to "name and shame" large Japanese companies with poor profitability (measured by return on equity, or "ROE") by excluding these from this index. This index is primarily used as a "quality mark" by Japanese companies with limited take-up of this index as a benchmark for active or passive institutional investors, although the Japanese Government Pension Scheme (the largest in the world) has adopted this as its domestic equity benchmark. The turnover of this index remains relatively high, with c.10% of the 400 companies being replaced at each annual review to date.

A new Stewardship Code and Corporate Governance Code (heavily based on the UK equivalents) came into effect in June 2015, based on the principle of comply-or-explain.

In addition, one of the main proxy voting advisers (ISS) has adopted a policy of recommending a vote against top management in companies where the five year average ROE has been below 5%. As a result Japanese companies are experiencing sustained pressure to improve their corporate governance, financial performance and capital efficiency.

According to our conversations with investment managers, this has resulted in a number of companies making changes to their strategies, restructuring their businesses and providing better communication of these changes with shareholders in the months leading up to their AGMs. Others have been less well-prepared, and as a result had to quite hurriedly provide supplemental information in advance of AGMs and make senior executives available for sometimes difficult, last minute conversations in order to seek shareholder support for management at AGMs.

The most notable aspect of this has been the seriousness with which companies have treated these issues, with companies “reaching out” to their shareholders at an unprecedented scale (evidenced by speaking to investors for the first time, holding their first overseas investment roadshows, opening or expanding investor relations offices etc).

Finally, we note that Japan has outperformed other markets over the year to date. Although there may be many other underlying reasons, we note that these changes may well have made a contribution to improved stock market performance.

In conclusion, we believe there is sufficient evidence to increase the allocation to Japanese equities to its full strategic weight of 7.5%. We propose this further allocation is funded from UK equities, and continues to be invested in L&G’s FTSE Japan Index Fund.

Global Income

Since the appointment of the two active global equity income managers, Kleinwort Benson and Kempen, in late 2012, broad equity income indices have underperformed their standard market cap equivalents. This outcome has been driven primarily by their underexposure to low yielding but strongly performing US equities and an underlying tilt to value stocks which have materially underperformed growth stocks over the subsequent period.

	2015 Year to date (%)	1 Year (%)	3 Years (%)	3 Years Volatility (%)
MSCI ACWI	-4.3	0.4	9.4	9.9
MSCI ACWI High Dividend	-6.4	-4.4	6.5	10.0
MSCI ACWI Value	-7.3	-4.2	8.0	9.8
Kempen Global High Dividend	-3.2	-1.2	6.9	10.0
Kleinwort Benson ACWI Equity	-6.2	-2.0	9.4	10.0

Source: eVestment

Both of the Fund’s global equity income managers take a structured approach. Kempen confines itself to stocks yielding in excess of 3% and by and large evenly weights its portfolios of circa 100 stocks. Once these criteria are met, stock selection is based on fundamental research carried out by the small, Amsterdam based team.

Kleinwort Benson’s process is more systematic; the investible global universe is divided into regional industry buckets with the highest yielding / financially robust stocks selected in each. The resulting portfolio of 200 – 300 stocks will be much closer to regional and sector neutrality compared to the market cap index.

As a result of the difference in approach, Kempen has been materially underweight to US equities since inception of the mandate (even more so than the MSCI High Dividend Index), while Kleinwort has been broadly neutral in US equities.

Both managers carry a value bias in their portfolios although this is stronger for the Kempen portfolio. Kempen carries a bias to smaller cap equities, a natural function of an equally weighted portfolio, whereas Kleinwort is more size neutral.

The performance of both managers has been disappointing when compared with a standard cap weighted index. However, compared with the MSCI High Dividend Index, Kempen is just about in line after fees and Kleinwort has added value. Over the first 2 years Kleinwort fared materially better than Kempen, even outperforming the cap weighted index, but a very poor Q1 2015 when a surge in growth stocks hit relative performance surprisingly hard has pegged back longer term returns. In contrast Kempen has proved more resilient in 2015.

Our formal ratings on the managers are Kleinwort Benson: ‘5’ – Preferred manager and Kempen: ‘4’ – Retain. Considered in isolation our inclination would be to retain both managers as performance is broadly respectable within the context of global equity income investing in the current market climate.

Over the medium-term there are grounds for expecting the excess performance of US equities to abate and for there to be at least some element of mean reversion to provide some relief for value tilted portfolios.

If there is a structural factor to take into consideration, such as the inclusion of a quality growth manager to provide more balance to the overall equity portfolio, then we would retain Kleinwort Benson in preference to Kempen in line with our higher level of confidence in the former as reflected in our ratings. On balance we consider Kleinwort’s process to be the more stable as well as delivering lower volatility whereas Kempen’s stock selection has lacked innovation, remaining rather more heavily reliant on dividend stalwarts such as Telecoms and Utilities than we would ideally like to see.

Fundamental indexation (RAFI) allocation

At present, c.20% of the equity portfolio is invested in regional fundamental indexation (RAFI) mandates; c. 1/3 in Europe, and 2/3 in North America. This approach allowed the introduction of an allocation to fundamental indexation while the Fund had the zero weight to Japanese equities. Given the decision last year to introduce a partial weighting to Japan and our recommendation in this paper to increase this to a full weighting, we believe it is appropriate to review this allocation.

A simple option would be to replace the two regional L&G RAFI allocations with the global, all-country L&G RAFI 3000 Index Fund. This would offer the following advantages:

- Fundamental indexation exposure would be diversified across all six main regions (UK, Europe ex-UK, North America, Asia ex-Japan, Japan, Global Emerging Markets) rather than just the two regions (Europe ex-UK and North America);
- The RAFI 3000 Fund will automatically adjust and rebalance the regional weights based on the underlying fundamentals and attractiveness of each region, as well as rebalancing the stock weightings within each region.

However, we note that the global RAFI index has a persistent underweight position in US stocks, and relative overweight to European stocks. Hence, moving to a global RAFI index would lead to a further relative bias away from the US in the overall equity portfolio, unless specific action was taken to offset this bias.

We also note that performance of the RAFI global index relative to global market cap has been poor when compared with the RAFI European and RAFI US indices.

Relative performance*	RAFI Global	RAFI Europe	RAFI North America
1 year	-3.8	-3.4	-0.6
Since inception	-0.3	0.8	0.7

*Performance is shown relative to the relevant Global/European/North American market-cap indices

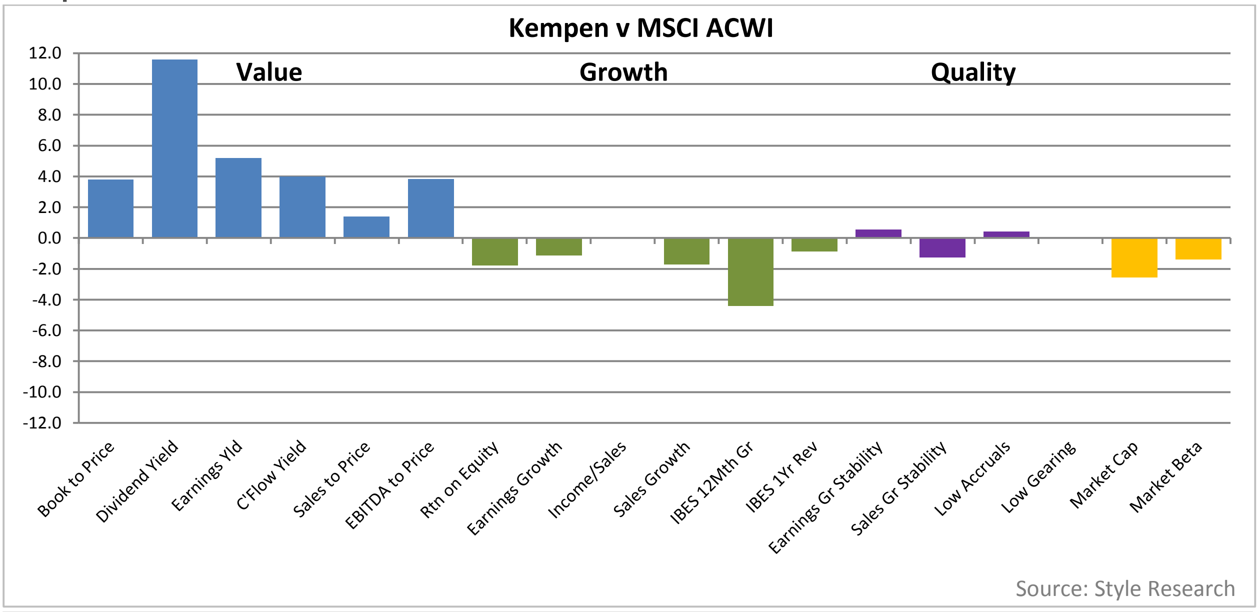
Finally, the change would potentially incur some transaction costs (although it would be reasonable to provide LGIM with a window to minimise costs by using their ability to cross investor flows between funds).

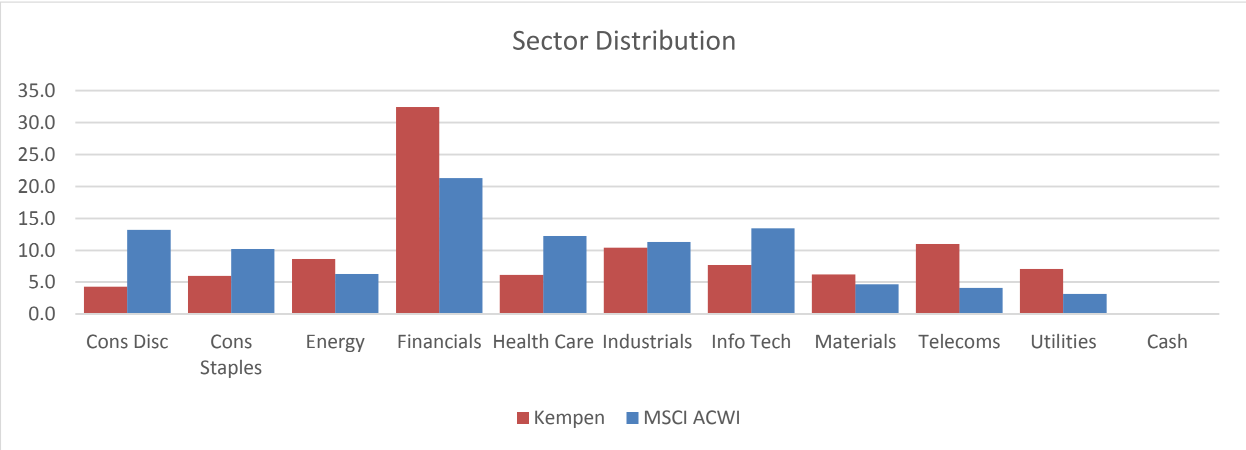
Hence, although with the reintroduction of a meaningful Japanese equity allocation the Fund could now move to a global RAFI 3000 Index for its fundamental indexation exposure, we see little compelling benefit or need to do so at this time.

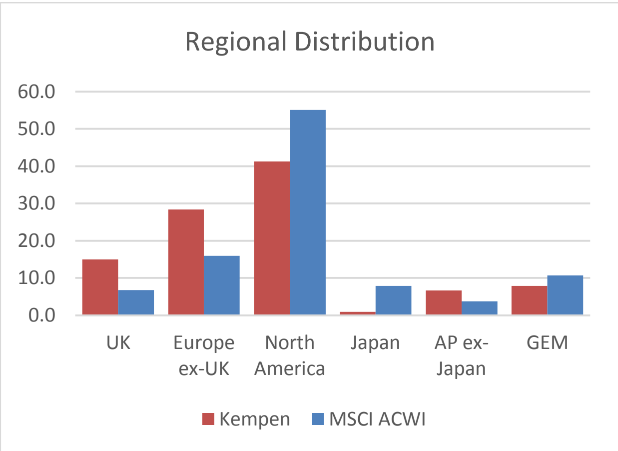
Appendix 2 Individual manager and RAFI analysis

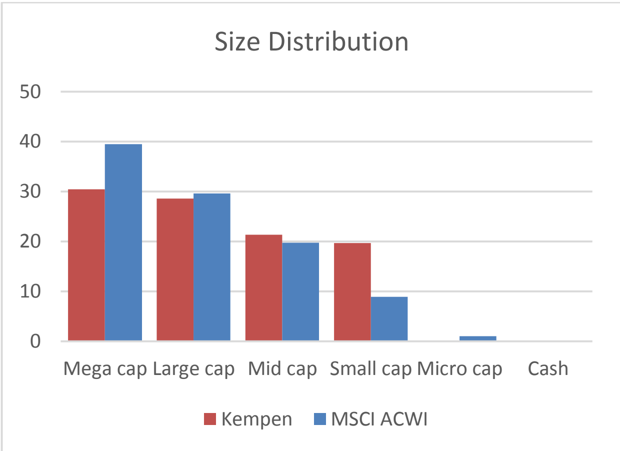
The charts below show the style, sector, region and style analysis for the individual active manager portfolios and the global, all-country RAFI index portfolio compared to the relevant global/emerging benchmarks.

Kempen

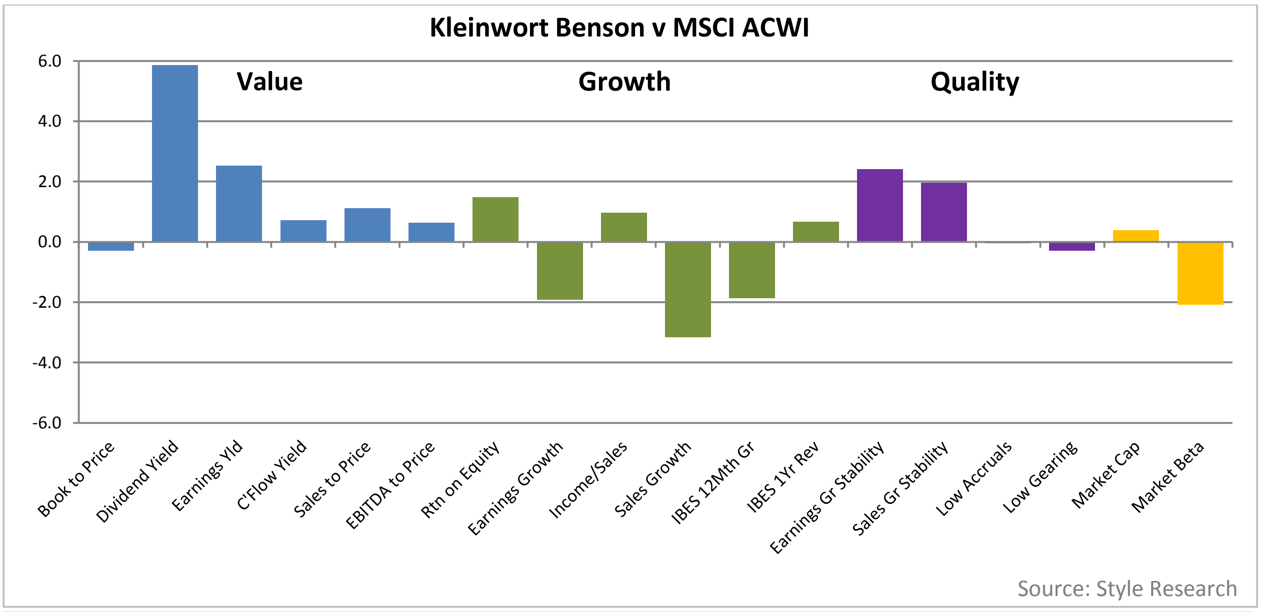


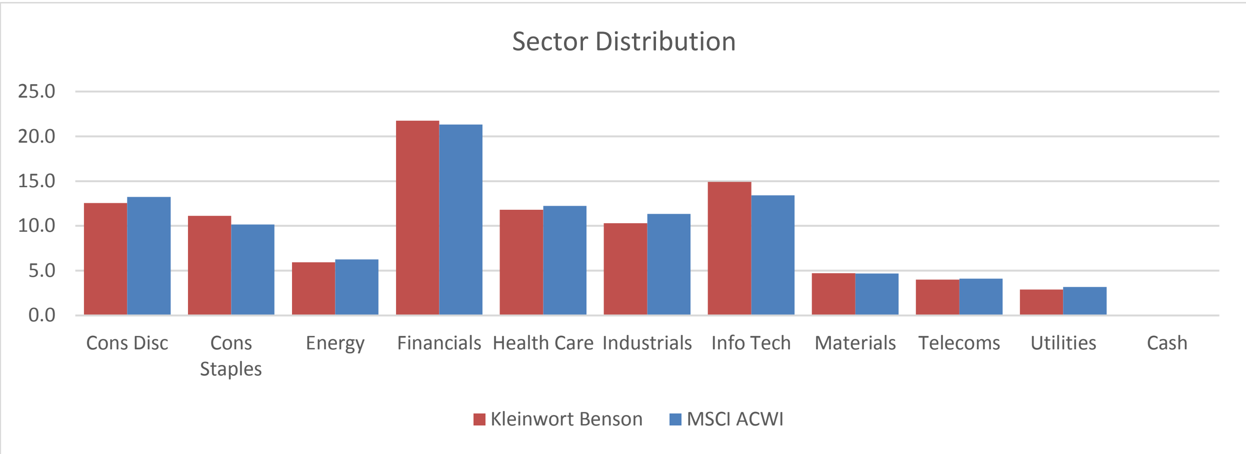


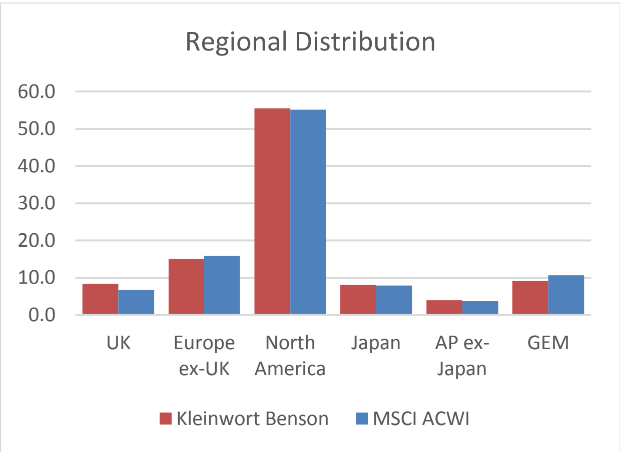


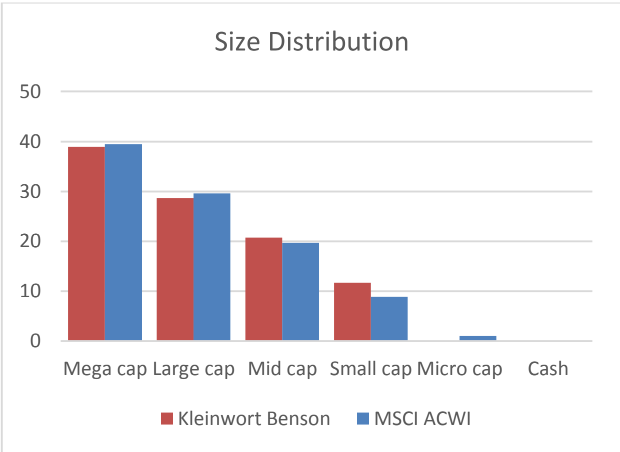


Kleinwort Benson

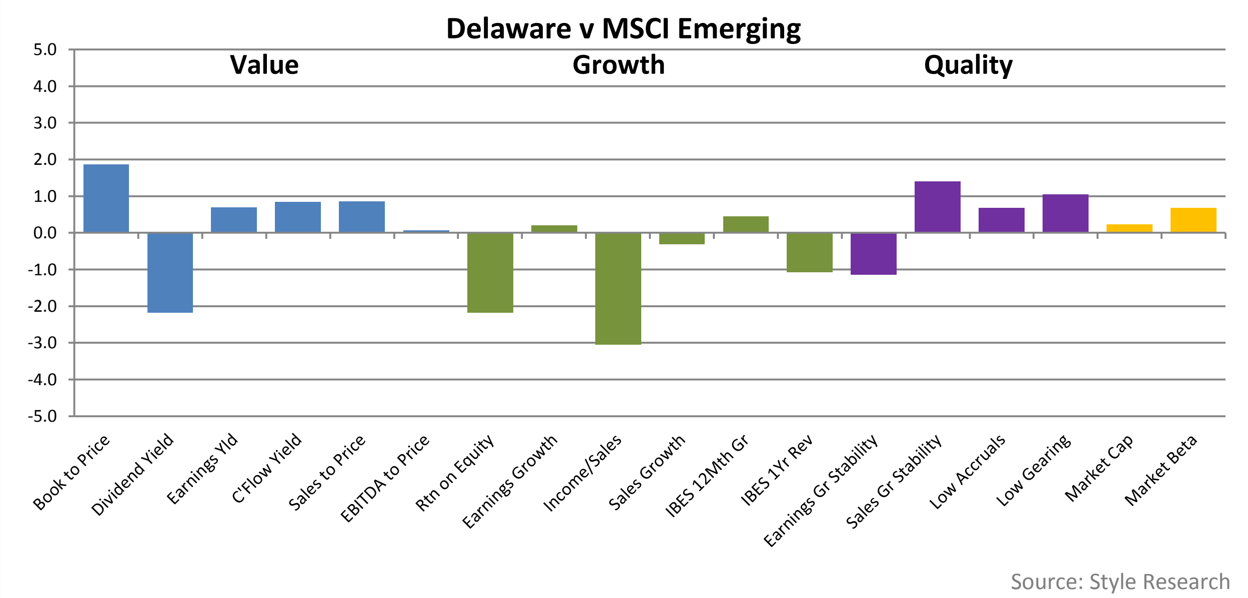


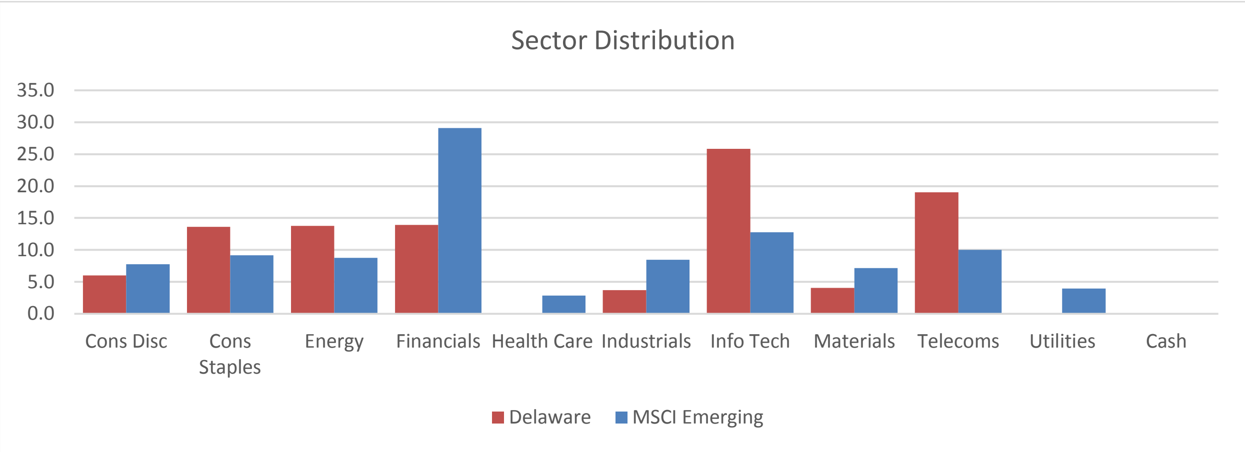


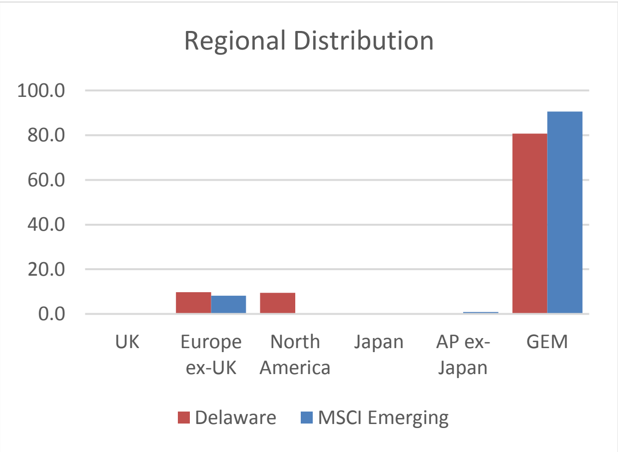


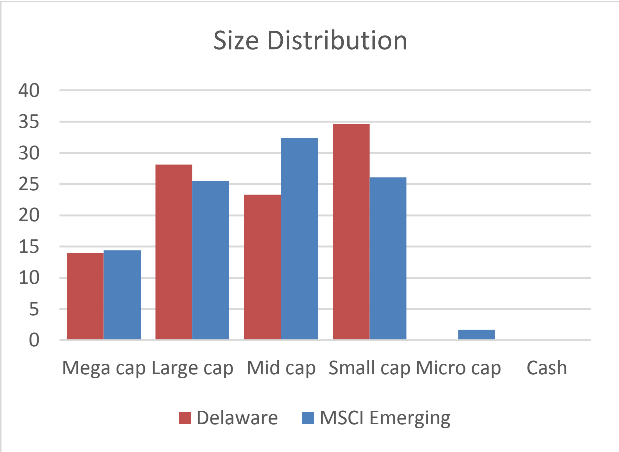


Delaware

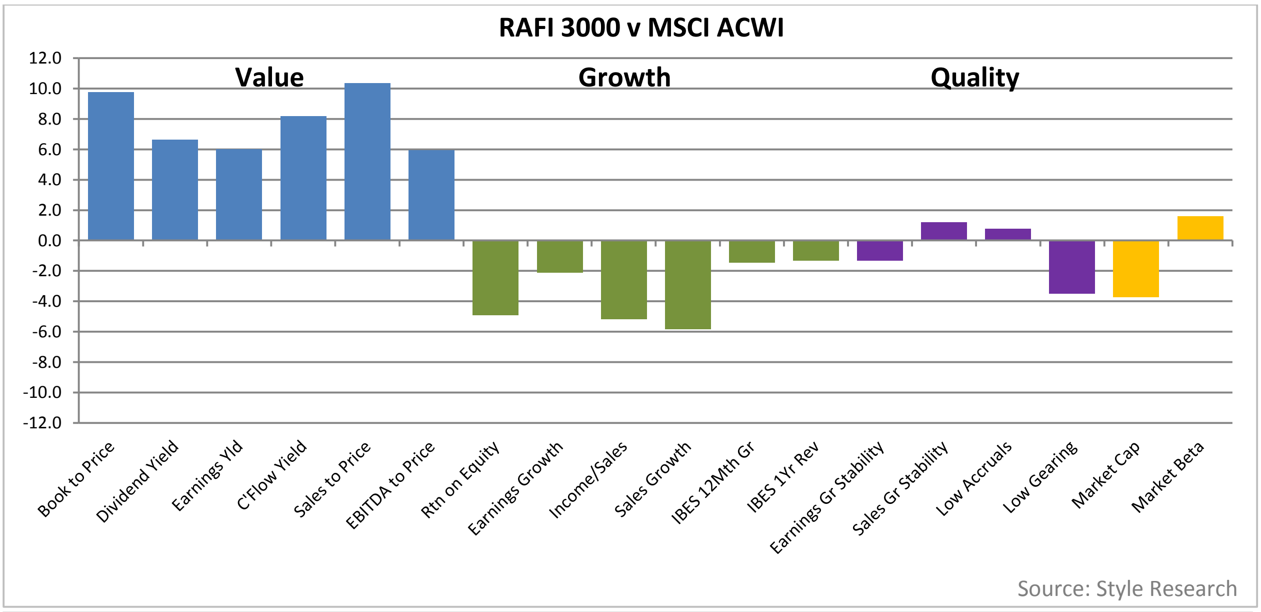

Delaware v MSCI Emerging
Value
Growth
Quality
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
Book to Price
Dividend Yield
Earnings Yld
C'Flow Yield
Sales to Price
EBITDA to Price
Rtn on Equity
Earnings Growth
Income/Sales
Sales Growth
IBES 12Mth Gr
IBES 1Yr Rev
Earnings Gr Stability
Sales Gr Stability
Low Accruals
Low Gearing
Market Cap
Market Beta
Source: Style Research

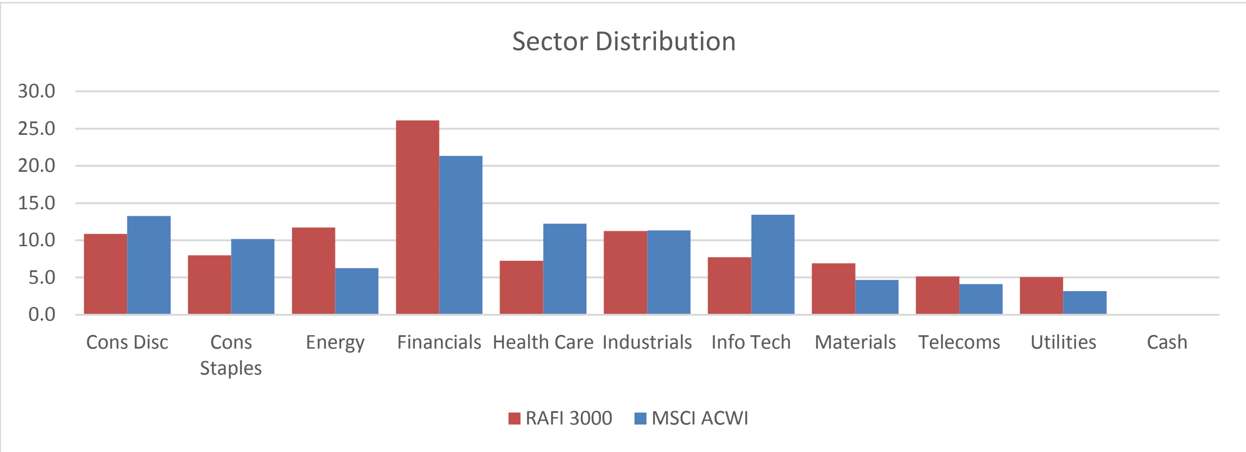

Sector Distribution
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Cons Disc
Cons Staples
Energy
Financials
Health Care
Industrials
Info Tech
Materials
Telecoms
Utilities
Cash
Delaware
MSCI Emerging


Regional Distribution
100.0
80.0
60.0
40.0
20.0
0.0
UK
Europe ex-UK
North America
Japan
AP ex-Japan
GEM
Delaware
MSCI Emerging


Size Distribution
40
35
30
25
20
15
10
5
0
Mega cap
Large cap
Mid cap
Small cap
Micro cap
Cash
Delaware
MSCI Emerging

RAFI 3000


RAFI 3000 v MSCI ACWI
Value
Growth
Quality
12.0
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
Book to Price
Dividend Yield
Earnings Yld
C'Flow Yield
Sales to Price
EBITDA to Price
Rtn on Equity
Earnings Growth
Income/Sales
Sales Growth
IBES 12Mth Gr
IBES 1Yr Rev
Earnings Gr Stability
Sales Gr Stability
Low Accruals
Low Gearing
Market Cap
Market Beta
Source: Style Research


Sector Distribution
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Cons Disc
Cons Staples
Energy
Financials
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Info Tech
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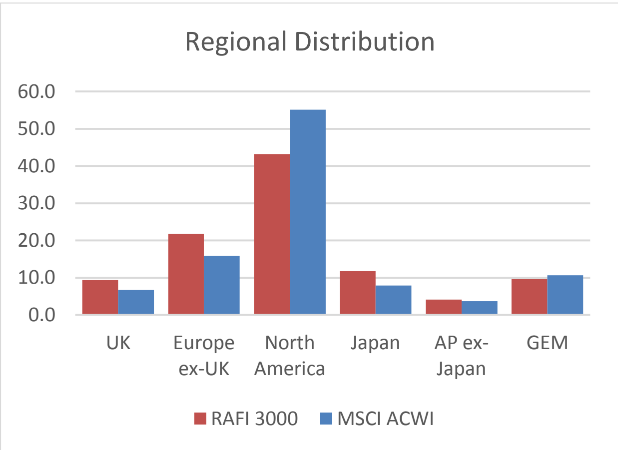
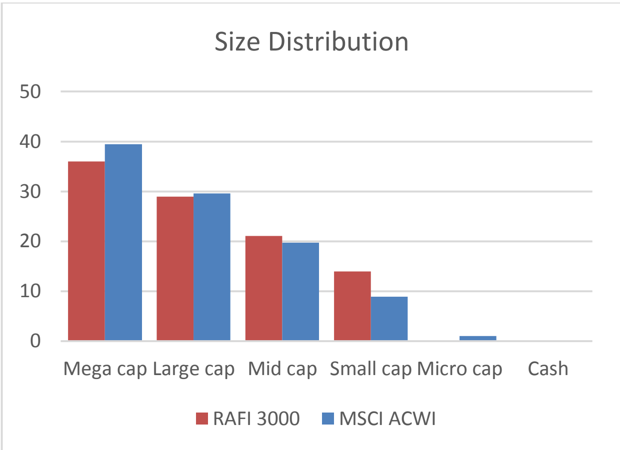
Utilities
Cash
RAFI 3000
MSCI ACWI


Regional Distribution
60.0
50.0
40.0
30.0
20.0
10.0
0.0
UK
Europe ex-UK
North America
Japan
AP ex-Japan
GEM
RAFI 3000
MSCI ACWI


Size Distribution
50
40
30
20
10
0
Mega cap
Large cap
Mid cap
Small cap
Micro cap
Cash
RAFI 3000
MSCI ACWI

Appendix 3 Property

Background

The Fund is currently very close to its 10% target allocation to property through its direct and indirect investments with Colliers and indirect investments managed by Aviva Investors. There is an additional 0.8% allocation to higher yielding properties through the Kames fund, which sits within the Fund's Opportunities Pool.

UK commercial property has been a core asset for UK pension funds for many years. Over recent years property mandates have evolved to cover a range of specific areas or sub-sectors of the property market to fulfil a variety of objectives. Each of these property sub-sectors offer the prospect of long-term investment returns, but with varying levels of certainty and security relative to the broader market.

The table below provides an overview of the core and sector specific forms of property mandate implemented by pension funds.

	Core	Secondary/ Higher yielding	Long Lease	Private Residential	Social Housing	Ground Rents	Global (Core)
Expected Return (vs IL gilts), net of fees	+2.5-3.5% p.a.	+3.0%-5.0% p.a.	+2.0-3.5% p.a.	+2.5-4.0% p.a.	+2.0-2.5% p.a.	+2.0-2.5% p.a.	+2.5-4.0% p.a.
Expected term of contractual income (1)	5-10 years	3-10 years	>20 years	c1 year	30-50 years	100+ years	3-10 years
Security of contractual income	Good (subject to ongoing health of tenants)	Can be weaker than broad market, or higher yield simply a reflection of a shorter lease or smaller lot size	Good to very good (subject to ongoing health of tenants)	Good (annual renewal of lease)	Very good (security improves over time)	Very good (investments are over-collateralised)	Good (subject to ongoing health of tenants)
Nature of increases in income	Either open market review or contractual fixed/inflation linked	Either open market review or contractual fixed/inflation linked	Typically contractual fixed/inflation linked (with caps/collars)	Open market review but implied inflation linkage	Contractual inflation linked (with caps/collars)	Contractual fixed/inflation linked (with caps/collars)	Dependent on jurisdiction
Key risks	Voids, Obsolescence	Voids, Obsolescence	Tenant default, residual value	Voids, Concentration, Reputation, Political	Political, Affordability	Management (for residential), Ability to build portfolios	Political, Currency, Voids
Liquidity if investment (2)	Moderate	Moderate	Good (given current demand)	Low	Negligible	Good (given current demand)	Low
Access to investing (3)	High	Variable; can take time for capital deployment	Reasonable (3-6 month delays on capital deployment)	Low (vehicles available, but underlying product is being built)	Low (deal dependent)	Very low (few vehicles with long queues)	Reasonable

Notes: (1) The expected contractual term of income represents the average length of leases within a portfolio. It should be noted that managers can intervene to extend the term of the income stream. (2) Liquidity refers to the ability to enter and exit the investment through either a primary or secondary market trade based on prevailing market conditions. (3) Accessibility refers to the prevailing ability to deploy capital into the strategy given both the availability of solutions and the capital currently allocated to the solutions.

The Fund has exposure to Core, a higher yielding element of core through Aviva and Kames, and a small allocation to residential and overseas property through the mandate with Aviva.

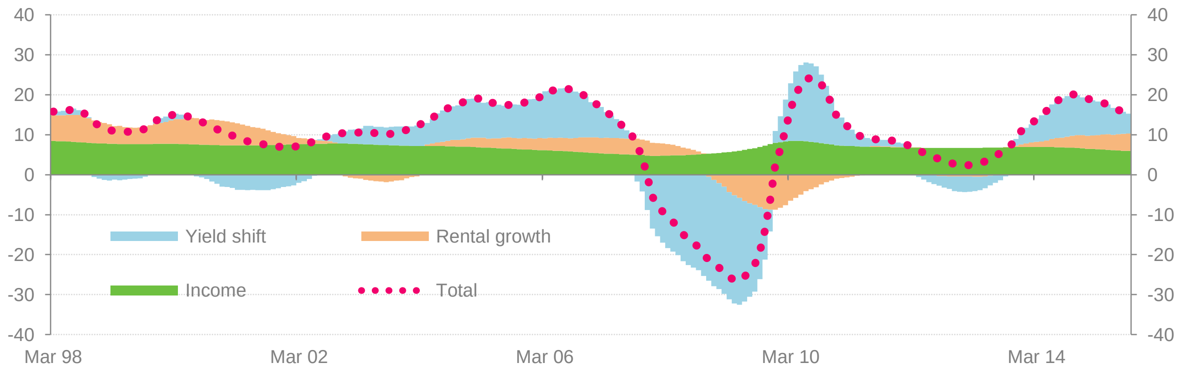
For the mainstay of UK pension fund property allocations, the rationale for the inclusion is typically to provide diversification away from equity and bond markets; to provide a partial hedge against inflation; and a return more focused on the underlying yield than the need for capital appreciation. Although property returns and risk profile have not always fulfilled this brief (2008 in particular), it has generally been effective at reducing overall risk within pension fund portfolios. Returns are primarily generated from rental income: over the long term, returns from UK commercial property have averaged c7% p.a. and the income component of total returns has been historically stable, between 5% and 6% p.a. This income security is supported by an average lease term of c10 years in the UK and the ability to re-let the property should an existing tenant default of their obligations.

Capital growth or underlying valuation is a far more volatile component of return, with both rental growth and yield shift experiencing negative periods of return (as illustrated in the first chart below).

The property market

UK property has delivered strong performance for the last 6 years following the c45% collapse in values around the time of the Global Financial Crisis. Since the trough in June 2009 capital values have risen by almost 40%.

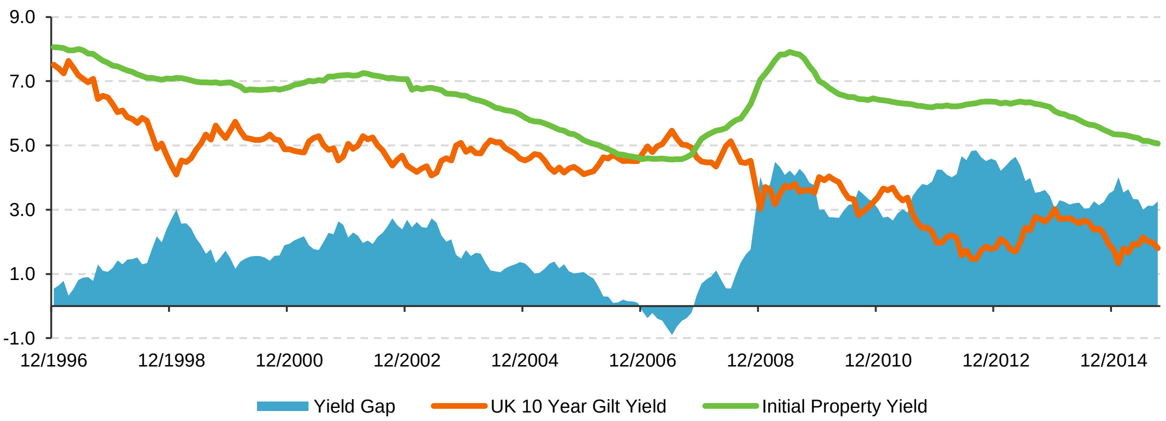
IPD Monthly Index – 12 month rolling returns (%)



Source: IPD, Hymans Robertson

The Net Initial Yield on the UK Monthly Index has continued to fall from c8% at the height of the financial crisis and now stands just above 5%, not far above the levels seen in 2006/7. However, values are still 22% off their 2007 peak and relative to gilt yields, the property market still offers a relatively attractive income gap as shown below.

Difference in yield between Gilts and Property



Source: IPD

A key question now is how resilient property values are to rising interest rates? This is likely to be sector specific and depend upon the geographical location of the property under consideration. Anecdotally, we note that yields on trophy assets in Central London have fallen below 3%.

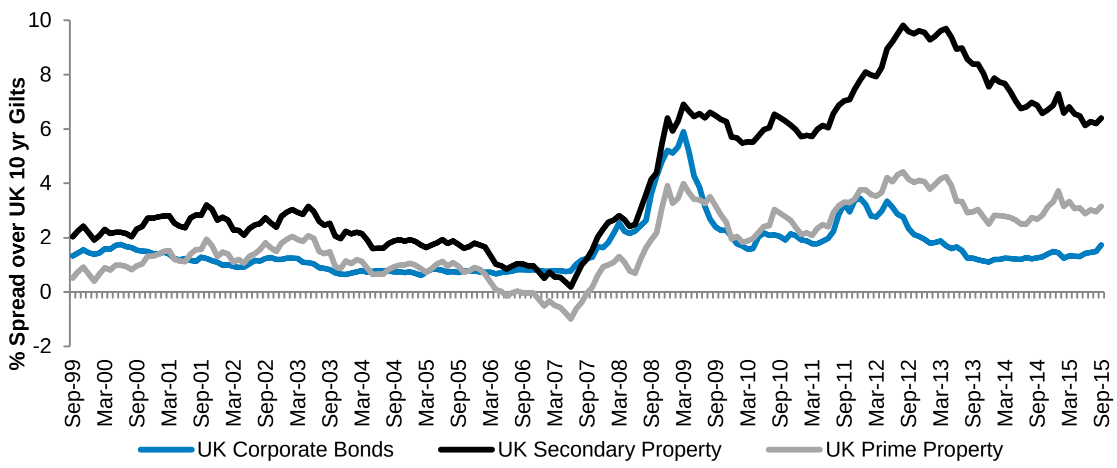
Data we receive from IPD (Investment Property Databank, now part of MSCI) suggests that some investors are already paying today for an element of expectation of future income growth that may or may not be realised. Whilst this may be justified in some areas, for example offices in London and the South East; it is clearly a risk to capital values.

Secondary or higher yield property

Property markets experienced a bifurcation following the financial crisis. Investors were initially attracted to the prime end of the market, lured by long-term, secure income streams. As a consequence, yields on prime assets remained close to their long term average whilst the yield on secondary quality assets increased substantially.

For the last 3 years or so yields have been falling, firstly on prime assets and followed by the best quality secondary properties as investors were attracted to this sub category by the exceptional yield differential. The chart below is similar to Chart 2 above but illustrates the divergence in yields according to quality of asset.

Yield spread on prime property, secondary property and corporate bonds relative to gilts



Source: CBRE, Bloomberg, FIL Limited

Secondary property is a wide term without a standard definition. Good quality secondary is generally an asset that falls short on one of the following: building quality, tenant covenant, least length and location. Unsurprisingly since location is the criterion that cannot be changed, it is generally treated as the most important. Some of what is included in the secondary data could be described as tertiary in quality and should be avoided by all but higher risk investors.

Although secondary yields have decreased substantially and some properties should perhaps be termed tertiary, the opportunity for good quality secondary properties is not necessarily over. The spread has narrowed but is arguably still attractive. The universe of secondary quality assets is large relative to prime assets, particularly when there has been limited new supply to the market.

The Fund appointed Kames in the first half of 2014 to exploit this opportunity, and Aviva also made commitments to its Recovery Fund I and Recovery Fund II.

Kames believe that the secondary market continues to offer a healthy supply of assets, particularly for properties in the £5m to £10m lot size range, where there is much less competition from other buyers.

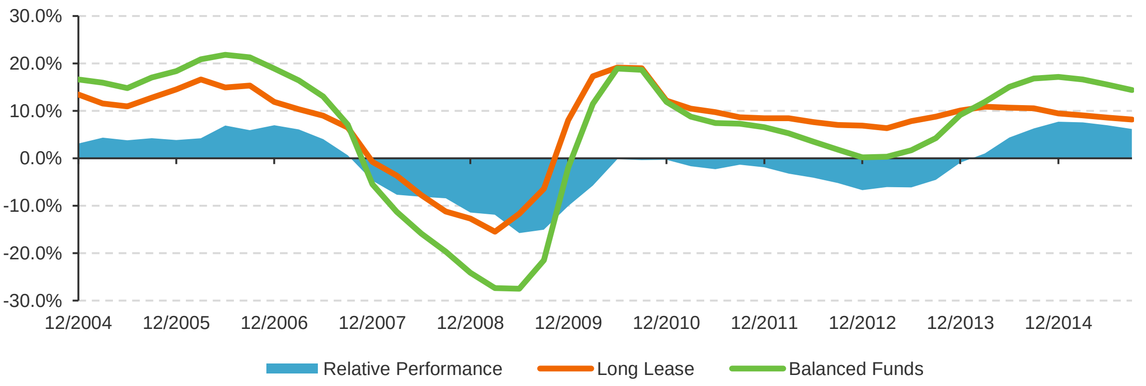
Aviva's Recovery Fund I is virtually fully repaid (it focused on the recovery of more prime property), and Aviva has received a bid for the whole of Recovery Fund II, which was launched to exploit mispricing on good quality secondary assets.

Long lease market

For the last 3 years the broader property market has outperformed the long-lease property segment driven as a consequence of both rental growth and yield shift (rising capital values). Rental growth across the property market has averaged 4.1% over the last 12 months, led by the office sector which has experienced rental growth of 8.5% over the year to 30 September 2015.

The long-lease sector is focused on contractual, often inflation-linked income streams. In an environment where inflation has been low, even when lease terms allow for a minimum level of increase, income has not been increasing as quickly.

Balanced Property Funds Index vs Long Lease Property Funds – rolling 12 month returns

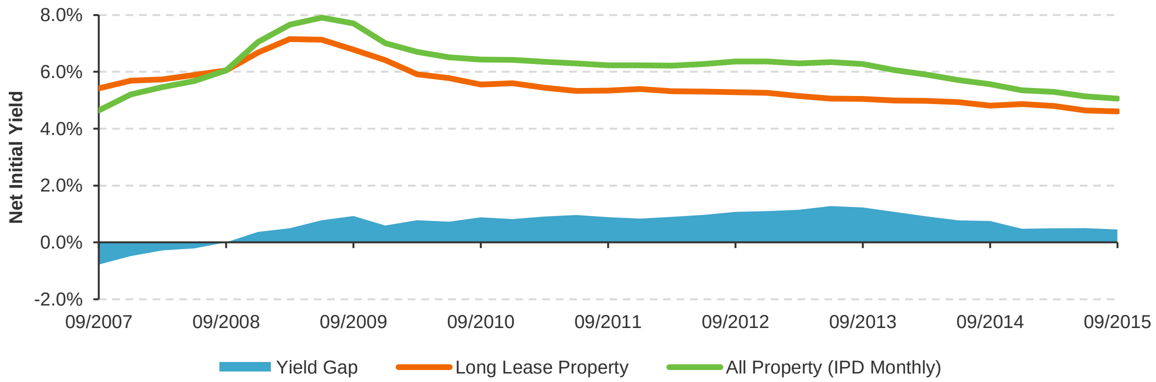


Source: IPD, Hymans Robertson

Over the long-term, we expect long lease property funds to be less volatile as illustrated above, and therefore investors can expect a lower yield than riskier core property funds.

Over the last c.3 years, the extra yield which core property offers has gradually been eroded as investors have paid up for the yield on core properties, and there have been some concerns with supermarkets, which comprise a significant proportion of many of the long lease funds.

Net Initial Yield on Long-Lease Property Funds vs All Property portfolios



Source: IPD, Hymans Robertson

For investors who believe that conventional property is now more than pricing in expectations of further rental growth, long lease property may be an attractive alternative or supplementary investment. We would add that although now more attractive on a relative basis, long lease properties are certainly not trading "cheaply".

Residential property

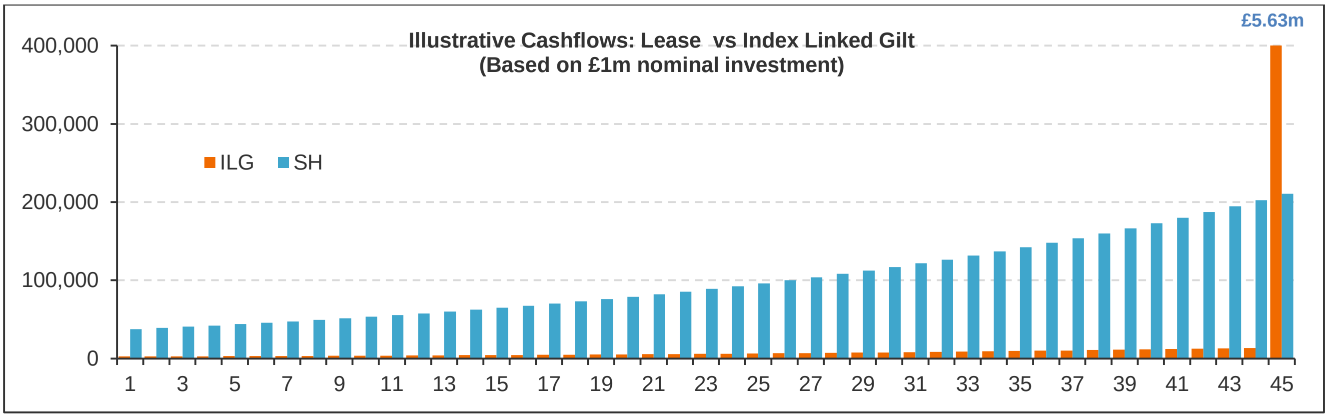
The UK has a chronic housing shortage due to lower numbers of houses having been built over many years and a rising population and increasing household formation. Residential property falls into social housing and the private rented sector. Demand for social housing is high; some 1.8 million households, equivalent to around 5 million people, are currently on the waiting list for such accommodation. The private rented sector has however been the fastest growing segment of the market. In order to meet the expected continued demand, it is estimated that around £200bn is needed to build 1.1 million new homes in the private rented sector over the next five years.

Social housing

Social housing is housing that is owned either by a local authority or a Registered Housing Provider, such as a Housing Association, and let to tenants at a rental level significantly below market levels based on the needs of the tenant. Whilst larger Housing Associations can and do raise finance through conventional debt markets, sale & leaseback is an alternative method of finance that has been used and can be attractive to pension schemes.

Under a Sale & Leaseback structure, investors gain exposure to an income stream secured against a portfolio of residential properties. This is typically an existing portfolio of assets, providing capital to the Housing Association (potentially to construct further properties).

Given the desire to retain ownership of the underlying properties and ensure that the properties remain social housing, the majority of investments typically include a de-minimis buy-back clause. This means that such investments are typically amortising in nature, offering a profile more consistent with pension scheme liabilities. The chart below compares the cashflows from a social housing (Sale & Leaseback) investment with those from an index-linked gilt.



Source: Hymans Robertson calculations. Assumes real yield on 45 year gilt of 0.25%; Assumes Net Initial Yield of 3.75% and RPI linkage in lease

The yield available on such investments will be dictated by levels of rent that can be charged to tenants. With rental income funded at least partially by housing benefit, future increases in lease payments need to reflect likely increases in housing benefit (which have been capped at CPI+1% p.a.).

Given both the regulation of Housing Associations and the increasing security associated with the investment as capital is gradually repaid over the lifetime of the investment, social housing is generally regarded as being very low risk. However, there is likely to be minimal liquidity associated with individual investments once made and investments are subject to political risk, such as changes to "right to buy".

Private Rented Sector (PRS) housing

In contrast to social housing, the private rental market is dominated by landlords with relatively few properties under management. Bringing scale to this market, from both an investment and management perspective, is an opportunity for investors to enter and “institutionalise” the sector.

The perception of residential property investment is that the income yield is generally lower than for commercial property. Evidence suggests that this assumption is correct although this is location dependent.

The evidence for rents increasing in line with inflation is reasonably strong. IPD data demonstrates that, over the 13 year period from 31/12/2000, rents rose by 2.6% p.a. compared to RPI increases of 3.0% p.a. Longer term evidence is available from overseas markets. For example, rental growth in Germany and the Netherlands, both of which have far greater levels of institutional investment in residential property, has exceeded CPI inflation by 1% p.a. and 1.2% p.a. respectively over the last 50 years.

Ground rents and Income Strips

It is easy to forget that there is more than one element to a property investment. Land can be owned independently of the buildings, with the landowner (or ‘freeholder’) owner granting a long (sometimes 100 years or longer) ‘ground lease’ to the property owners, in exchange for ground rent. The property owners can then let the buildings to a range of occupiers under a normal commercial lease. The long-leaseholder receives rent from the commercial occupiers, but pays ground rent to the freeholder. At the end of the ground-lease, ownership of the land and any buildings on the land reverts to the freeholder.

This structure provides significant security for the freeholder as:

- The level of the ground-rent is typically significantly less than the ongoing rent being paid under a commercial lease (often 10% or lower). In the event of default by the long-leaseholder, the freeholder can seek payments either from the occupiers, or if applicable, from any lender involved.
- The value of the ground lease is typically a fraction of the value of the buildings. In the event of default by the long-leaseholder, ownership of the buildings reverts to the freeholder and can be sold in the open market. As a result, long-leaseholders are heavily incentivised to continue to pay ground rents, even if the commercial property is currently vacant or they are under some sort of financial distress.

The protection or cushion provided by these factors means the risk of capital loss for the freeholder is minimal. As a result, ground rents have characteristics which are secure and bond-like in nature. Income strip assets, where the end value of the property reverts to the tenant, provide a similar return profile.

Ground rents and income strips may be fixed or increasing. Where increasing they may be capped and collared, similar to the long-lease property market.

This principal drawback of ground rent investment is the lack of supply and therefore difficulty gaining access. Moreover, the high security of the asset means that yields and expected returns are low, and more reflective of that which may be expected on investment grade bonds, meaning this type of investment may be attractive in a relative sense, but is unlikely to have a particular role to play for the Fund.

Appendix 4 Infrastructure

Background

The Fund has 3 existing infrastructure holdings: the IFM Global Infrastructure Fund and KKR Global Infrastructure Fund I and Fund II.

Infrastructure describes assets and services that societies require to function well. This definition will vary across geographies, but there are two basic categories of infrastructure assets: social and economic.

The former consists of social services such as schools, healthcare facilities and prisons, for which revenues are typically dependent solely on the facilities being maintained and available for use; revenues will have little or no reliance on how much or little the facilities are used, and therefore little correlation with the wider economic environment.

The latter consists of assets that support commerce, and for which revenues are typically dependent on fees charged direct to the consumer (demand based). Economic infrastructure can fall under the following sectors:

- **Transport Infrastructure** e.g. Bridges, Tunnels, Airports, Sea Ports, Rail and Mass Transport systems;
- **Communications Infrastructure** e.g. Cable Networks, Broadcast and Communication Towers, Satellite Systems;
- **Energy Infrastructure** e.g. Oil and Gas Pipelines, Power Generation, Gas Storage, Transmission and Distribution networks;
- **Environmental Infrastructure**, e.g. Water, Waste Treatment and Distribution, Waste and Recycling, Desalination Plants, Renewables.

Not all of these opportunities will present themselves in all geographies and, where they do, it is possible that they could have varying risk/return characteristics because of different regulatory or governance conditions. Typically managers quote expected net IRRs of 8-12% p.a. from investing equity in core infrastructure; we would consider high single-digits to be more realistic.

Financial characteristics

Although investment in infrastructure projects can be at different stages of the project, infrastructure projects have a number of distinct and typically common characteristics. In particular:

- Produce cashflows that are determined by a regulatory regime set by government, or sponsored by a government or quasi-government body;
- Are frequently monopolistic or quasi-monopolistic;
- Require a large initial capital outlay;
- Have to satisfy the double imperative of ensuring financial sustainability whilst meeting user needs and social objectives;
- Offer extended duration, stretching to 25 or 30 years and in some cases even longer;
- May provide inflation protection; the associated revenues are often combined with an inflation adjustment mechanism, whether via regulated income clauses, guaranteed yields, or other contractual guarantees;
- Provide stable and predictable long term cashflows that can support significant leverage;
- Provide a return that is predictable, inelastic and relatively uncorrelated with the business cycle.

Financing structures

Given these characteristics, there are two financing structures available to investors: debt and equity.

- **Debt:** Most infrastructure projects can be highly geared and sub-divided into 70-90% debt and 10-30% equity financing, depending on the project. The debt financing is generally:
  - Investment grade;
  - Secured on physical assets or contracts;
  - Issued by states, municipalities, utility companies, other large companies and banks; and
  - Can offers returns that may be linked to inflation and/or to project revenue.
- **Equity:** Exposure to equity can be via direct investment in listed and unlisted companies, and via unlisted (private equity like) funds and listed infrastructure funds.

Investment of pension fund assets in infrastructure debt is conceptually attractive – it is a socially responsible and constructive use of capital for economies, and should enable pension funds to earn a low risk return. However, in practice, with the exception of Network Rail, the actual level of debt made available to invest in state backed projects has been relatively limited, and in the past was quickly absorbed by insurance companies before pension funds even got chance to invest in it. As a result, pension funds have typically gained access to the debt of listed infrastructure related companies such as utilities and telecommunications debt as part of broader corporate bond mandates and specific allocations to infrastructure have been via equity.

The illiquidity of the equity-financed portion of infrastructure projects is one of the major constraints on pension fund involvement, especially for smaller pension funds, leading to some listed equity vehicles in addition to the unlisted equity funds. The valuation premium paid for the secure income stream from infrastructure equity in a low yielding environment, coupled with limited supply, has also led to the risk of investors potentially over-paying.

Risk and return characteristics

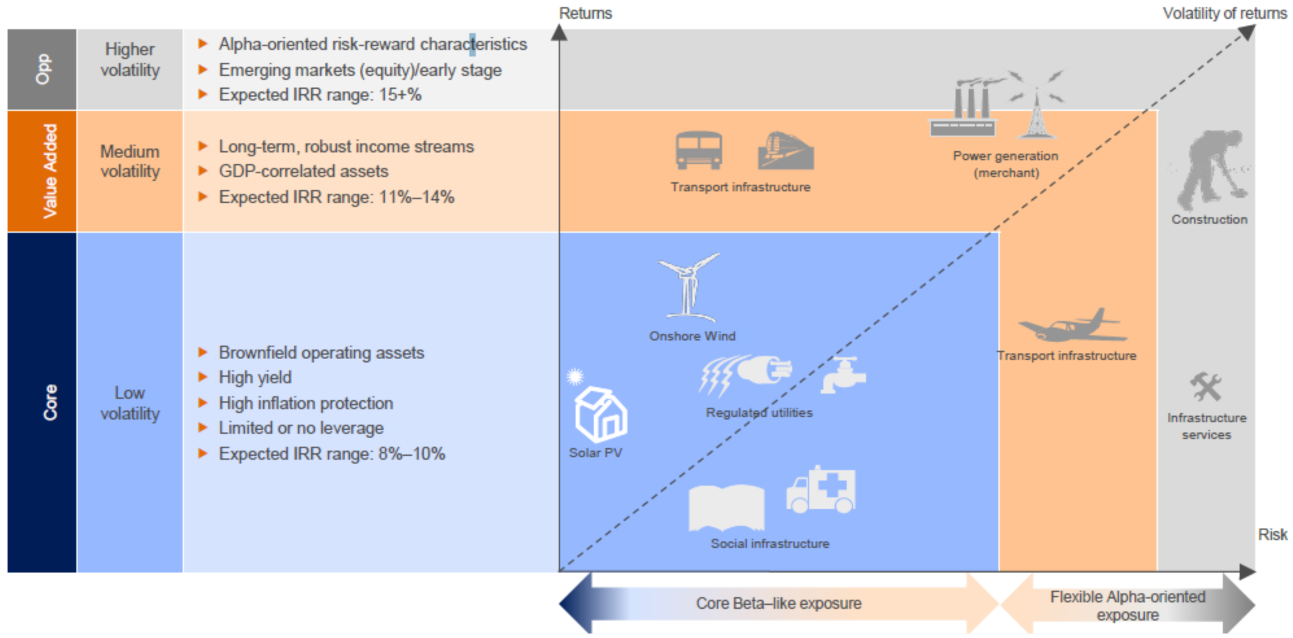
There are two popular ways to differentiate between higher risk and lower risk infrastructure assets. Traditionally risk has been defined by the stage in an asset's life – brownfield or greenfield.

Brownfield describes operations that are already up and running; therefore risk and expected returns is lower. Greenfield investments sit at the other end of the spectrum with risk and expected return higher for completely new projects.

The investment profile of a typical brownfield project is often described as similar to that of a long-term bond, with an immediate and sustainable income stream and a term of 20 years or more, and much of the overall return driven by current income. In contrast, greenfield infrastructure should correctly be characterised as being akin to private equity in terms of its risk and return expectations.

Pension funds are naturally more attracted to brownfield assets that already generate an income. However, if income is not required in the short term, accessing assets at an earlier stage could provide better risk adjusted returns as there tends to be high competition for brownfield assets, particularly in the current low yield environment, when traditional core brownfield asset prices have been bid up given the secure income stream.

Schematic of risk and return characteristics



Source: Hermes GPE

Perhaps a better way to differentiate between brownfield assets is to look at the surety and security of the income payments by differentiating between availability-based or demand-based infrastructure assets.

- availability-based assets generate income by making a service available (no matter how much that service is used); whilst
- demand-based assets generate income based on how much the asset is used.

Availability based assets are often subject to regulatory review. This is particularly true in sectors that used to be owned by the State and are now in private hands, such as water and utilities. Regulations effectively cap the returns that can be generated from assets whilst encouraging owners to manage the assets as efficiently as possible.

Infrastructure investing

Taken as a whole, LGPS has approximately 1% of total assets invested in infrastructure. However, the average is low since so many pension funds still have no exposure to the asset class and a higher allocation of c5% is not uncommon for individual funds.

Australian and Canadian pension funds, who were amongst the first institutional investors in infrastructure, allocate an average of 5% to the asset class. Their average is also driven by typically larger allocations from the biggest pension funds, whilst about two-thirds of Australian pension funds still have no infrastructure exposure.

Market opportunities

Core infrastructure assets can offer a decent cash yield of c4-6% p.a. and therefore are highly sought after and rarely trade cheap. The sheer weight of money chasing operational assets makes it tough to find attractive deals through auction processes.

That said, we believe good fund managers continue to find attractive deals in pockets of the market, working directly with potential sellers to avoid competitive processes in order to achieve higher yields.

There are a number of market dynamics underpinning deal flow:

- Lack of bank financing in smaller scale projects where it is inefficient for banks to syndicate out loans;
- Unbundling of supply chain from energy giants to increase European energy market competition; and
- The need of Governments and corporates to release capital from non-core / operational assets in order to invest in new projects.

Within this market sector, there are a number of opportunities open to investors or managers that remain relatively attractive:

- Various managers we research suggest that small-mid market deals appear to be less competitive.
- Co-investment opportunities are frequently available, at a lower fund management cost, due to the sheer scale of deals.
- Bolt on acquisitions can be found at times, which often exclude other buyers and may therefore secure a higher initial yield.
- Adding value through improving existing infrastructure assets to sell on to competitive core buyers can generate higher returns. To do this, it is important to have a team in place that is experienced at driving additional value from operating assets.
- Restricted opportunities remain on the secondary market to buy into existing funds from sellers that need/want liquidity.

Fund allocation

The Fund's initial allocation of 3% provided a first step into infrastructure. The Fund is currently a little below this 3% target exposure.

The Fund' current allocation is structured to deliver a blend of diversified return sources, with an emphasis on long-term investment and an element of inflation linkage. The Fund has 3 existing infrastructure holdings: IFM Global Infrastructure and KKR Global Infrastructure Fund I and Fund II. IFM's fund is open-ended therefore further capital could be committed over time. KKR's funds are closed-ended and have already passed their "final close" and therefore no new capital can be committed. However, KKR do offer clients co-investment opportunities outwith their fund investments and this could certainly be an option for the Fund if it is to increase exposure to the asset class over time.

We propose that the PFMB now target a 5% allocation. An allocation of c5% would have more of an impact and the Fund can benefit from the additional illiquidity premium.

As a next step we recommend exploring scope for further investment in the IFM fund and co-investment options with KKR, and perhaps investigating one or two new open-ended funds that would fit with the Fund's existing arrangements (see below).

However, as infrastructure investing is a key pillar of the Government's targeted outcomes we expect the landscape for LGPS infrastructure investing to continue to evolve. The Fund could eventually be compelled to pool infrastructure assets with other local authorities and the LPC will need to decide whether to allocate to existing funds or wait for a clearer picture on how infrastructure offerings develop in the post reform environment.

We provide below some comment on alternative options available to the Fund to increase the infrastructure allocation:

1. Allocate more capital to **IFM**;

   Core assets and in particular those large enough to be targeted by Sovereign Wealth Funds and other large infrastructure investors have been trading at keen yields for some time now. IFM has the advantage of having existing assets in place that may present unique opportunities to them through bolt-on acquisitions or large capital expenditure programmes. The team will not be purchasing assets if they do not believe the 8% hurdle return can be achieved. Cash yield has been 4.5% since inception but reduced to 2.8% in the last year due to large capital expenditure on new assets within the fund, in particular significant investment in Indiana Toll Road and Freeport LNG (a construction asset).

2. Increase exposure gradually through **co-investment opportunities brought to the Fund by KKR**;

   These will likely come along sporadically, but could provide the opportunity to achieve further investment in assets to which the Fund is already gaining access via the KKR funds. For each co-investment KKR will launch a separate limited partnership into which investors wishing to co-invest will commit. It could be considered as part of the "other opportunities" allocation rather than as part of the core infrastructure allocation. Timescales may well be short when opportunities are presented, and this approach may need additional governance or an amendment to the KKR mandate.

3. Invest through pooling structures such as:

   - The **Pensions Infrastructure Platform** ("PIP")

     The PIP was set up to invest in infrastructure projects "by UK pension funds, for UK pension funds", at a low cost for all. It has already deployed around £250 million in UK PPP assets. The current opportunity available is a UK small scale Solar PV (Photovoltaics) fund that is being launched by the PIP with Aviva Investors. The PIP is also preparing to launch a PIP Multi Strategy Infrastructure Fund. A core UK infrastructure fund with a long term buy and hold strategy generating cash flows that are linked to inflation. The PIP is working on achieving FCA approval for this strategy. We are meeting with the PIP in January to discuss this new strategy.

   - Another pooling arrangement that may come out of the LGPS pooling consultation.

4. Commit to another infrastructure fund

   - Another open-ended fund, including for example funds offered by one of the Fund's existing managers:

     - **Aviva Investors** offers a similar strategy to the one it manages for the PIP on an open-ended basis through its REALM Infrastructure fund; initially investing in solar but has started to diversify into other infrastructure sectors. Aviva's infrastructure investments are fully amortising meaning there is no capital expected to be paid back at the end of the assets' lives – the strategy is completely income based (see Income Strips within property appendix). Unlike its PIP strategy, Aviva's open-ended fund will top up investments over time to maintain duration.

    - **JP Morgan** offers an open-ended fund with a similar number of underlying investments to the IFM fund but a higher ongoing yield closer to 6%. This fund targets mid-scale deals which are said to be less completive than the large scale deals targeted by IFM.

  - A closed-ended fund, either a new fund or one that is approaching the end of its life but has a continuation offering available.

Separately, we also note that renewables is a sector specific area that can provide interesting opportunities for the Fund to explore. Returns for renewables can be based entirely on income, which is both distributed and often linked to inflation in some way. In recent years we have met with parties who have been attempting to consolidate sectors/industries that have, in the past, been rather fragmented. This can create interesting opportunities for opportunistic buyers who are ready to take full advantage. We believe opportunities of this nature should be considered under the Fund's Opportunities Pool rather than under the core infrastructure allocation.