worcestershire county council

AGENDA ITEM 7

PENSIONS COMMITTEE
13 DECEMBER 2019

STRATEGIC ASSET ALLOCATION REVIEW DECEMBER 2019

Recommendation

1. **The Chief Financial Officer recommends that:**

   a) **The Strategic Asset Allocation recommendations set out in paragraph 5 of the report be approved: and**

   b) **The Strategic Asset Allocation actions set out in paragraph 7 of the report be included in the Forward Plan of the Committee and the Pension Investment Sub-Committee.**

Purpose of Report (Section 1)

2. The Worcestershire Pension Fund (the Fund) is valued at £2.9 billion as at the end of October 2019. The Fund's value has risen by £0.9 billion since the last triennial valuation in 2016 when it was valued at £2.0 billion.

3. The purpose of this Strategic Asset Allocation Report is two-fold:

   a) to set the scene and take stock on the performance and composition of the Fund's Strategic Asset Allocation as endorsed by the Pensions Committee in 2016 (See Sections 4 and 5 of this report);

   b) to recommend for approval any changes required to the Fund's Strategic Asset Allocation with the aims of:

      i. meeting the requirements of the Fund's draft 2019 Funding Strategy Statement;

      ii. maintaining targeted returns,

      iii. improving the Fund's opportunity to minimise volatility of returns and optimising diversification of risk, and

      iv. Ensure that sufficient resources are available to meet all liabilities as they fall due

4. The report also provides a:

   a) Summary of Recommendations (Section 2)

   b) Executive Summary (Section 3)

   c) Review of the Funds (including conclusions)

      a. Strategic Asset Allocation including Risk (Section 6)

      b. Equities (Section 7),

c. Equity Protection Strategy (Section 8)

d. Fixed Income (Section 9)

e. Exposure to Currency and inflation (Section 10)

f. Property and Infrastructure (Section 11)

g. Net Cashflow Requirements (Section 12)

h. Responsible Investment, Climate change and Impact Investing (Section 13)

Summary of Recommendations (Section 2)

5. Set out below is a summary of the recommendations contained in this report for approval at the Pensions Committee. The recommendations are to enable the Fund to continue to meet the assumptions contained within the Fund's Funding Strategy Statement with regards to ongoing expected returns more than CPI inflation and consider Central Government's asset pooling agenda that established the LGPS Central pool from the 1 April 2018:

Recommendation 1 (paragraph 176).

a) Increase the allocation to Infrastructure or a mix of Infrastructure and Real Estate by 5% from the current strategic allocation of up to 15% of the Fund to 20%.

b) Delegation is sought for the Chief Financial Officer in consultation with the Chair of the Pensions Committee and the Chair of the Pensions Investment Sub Committee to procure appropriate investment managers to secure increases to existing investments or enter new investments.

Recommendation 2 (paragraph 177).

c) The Fund's existing investment into both Property and Infrastructure result in Capital distributions in between Strategic Asset Allocation reviews as the capital element of those investments is depreciated.

d) Therefore, a "rolling" investment programme either from follow on funds from existing fund managers or suitable alternative fund managers is proposed to continue for Property and Infrastructure investments to reinvest distributions that are received in that way in order that actual investment in this asset class is maintained at the levels up to those indicated in this Strategic Asset Allocation.

Recommendation 3 (paragraph 142).

e) Maintain the Fund's allocation to Passive Equity Alternative Indices at 15% within the strategic equities allocation currently at this stage.

f) Approval is sought for Fund officers with the support of the Fund's current alternative indices investment Manager, Legal and General Asset Management, to also consider the appropriate balance of alternative indices to support the Fund's investment objectives.

Recommendation 4 (paragraph 121 and 123)

g) To fund the above structural asset allocation changes, it is recommended that the asset allocation structural changes be implemented through an overall 5% reduction to each regional market capitalisation indices passive equity allocation pro-rated equally based on the previous target allocation

h) Approval is sought for Fund officers with the support of the Fund's current alternative indices investment Manager, Legal and General Asset Management, to also consider the appropriate optimal reduction / mix in regional market capitalisation indices passive equity allocation to support the Fund's investment objectives and that

i) A review of regional equity weightings be carried out in particular the allocation to UK and US equities. A regular review of regional equity weightings is recommended to form part of a more dynamic approach to asset allocation undertaken by the Pension Investment Sub Committee

Recommendation 5 (paragraph 159).

j) Maintain the Fund's current Target Fixed Income allocation at 10% and consider increasing the actual allocation to the full target allocation.

Recommendation 6 (paragraph 26).

k) Tolerance ranges as set out below are implemented and maintained to allow the required portfolio flexibility.

Table 1: Summary Changes to the Strategic Asset Allocation

By Review Year	2016		2019	
Asset Type by %	**Allocation**	**Tolerance**	**Allocation**	**Tolerance**
Equities	75	70 - 85	70	65 - 75
Fixed Income	10	5 – 15	10	5 - 15
Infrastructure and Property	15	5 – 15	20	15 - 25

Recommendation 7 (paragraph 35).

l) To agree to the principle that the Fund operates three distinct investment strategies or ‘pots’, being **Higher, Medium and Low** and that detail of how this will be implemented and managed be bought to the March Pensions Committee for approval.

Recommendation 8 (paragraph 145d).

m) Agree to use the Equity Protection strategy as a tool to manage and mitigate the risk of having still a relative high equity exposure but review regularly and update at Pensions Investment Sub Committee.

n) Agree trigger points were discussions should take place to discuss if any action such as restructuring or even exiting the Equity Protection strategy and

o) Agree that Fund officers with the support of the Fund's current Investment Advisor closely monitor the existing strategy and bring back more detailed information on how the strategy has performed at least on a quarterly basis to Pensions Investment Sub Committee

Recommendation 9 (paragraph 187).

p) Note the suggestion of a high-level liquidity waterfall for accessing cash and that this be discussed further at the next Pensions Investment Sub Committee

Recommendation 10 (paragraphs198 to 200).

q) Review further how Responsible Investment is integrated into the Strategic Asset Allocation and update the Investment Strategy Statement for the March Pensions Committee.

6. Going forward we will bring recommendations as to the appointment of appropriate Investment Managers as these will naturally fall to the continued plan of reviews.

7. The following actions are recommended in accordance with the other responsibilities of the Pensions Committee and Pensions Investment Sub Committee to be included in the Forward Plan of the Pensions Committee and Pensions Investment Sub Committee.

Recommendation 11 (paragraph 171).

a) To plan in at least annually intervals the Fund's exposure to currency and inflation risks given the global nature of the Fund's investments as well as the bias towards Equities

Recommendation 12

b) To review the Asset Allocation Strategy quarterly and have an annual formal review / stock take

Recommendation 13 (paragraph 41)

c) To map existing and future allocation requirements across to LGPS Central and implement a consistent framework to help review options and ensure good engagement with the pool.

Recommendation 14 (paragraph 131)

d) To review the Far East Developed mandate exploring several options suggested in paragraph 7.32

Recommendation 15 (paragraphs 112 and 113)

e) To review the appropriateness of ‘active versus passive’ as part of traditional index passive mandates. i.e. UK, US and Europe

Executive summary (Section 3)

8. This report sets out the analysis and conclusions of the review of Worcestershire Pension Fund Strategic Asset Allocation. It covers a range of investment issues pertinent to the Fund. The key findings from the review are detailed below.

9. The fund has a much-improved funding position in 2019 than 2016 being 91% funded. However, it still has a deficit and the objective of the Fund should be to maintain returns that the Fund is currently delivering within a structure that achieves reduced volatility and improved diversification

10. However as detailed in paragraph 37 below, translating the Fund's investment and funding objectives into a single suitable investment strategy is challenging. The key objectives often conflict. For example, minimising the long-term cost of the scheme is best achieved by investing in higher returning assets e.g. equities. However, equities are also very volatile (i.e. go up and down frequently in fairly large moves), which conflicts with the objective to have stable contribution rates.

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

12. In order that the Fund delivers on its key objectives; ensuring that each employer takes the appropriate level of investment risk, giving each the best opportunity possible to achieve its long-term funding objective whilst increasing certainly of cost, the Fund is looking to operate three distinct investment strategies or 'pots', being Higher, Medium and Low.

13. The risk versus return of the current proposed strategy highlighted in Hymans report and in Figure 12 of this report in paragraph 172 showed the continuing risk mitigation of the Equity Protection Strategy and the impact of increasing the Fund's allocation to Property and Infrastructure or a combination of each. This is expected to maintain expected return, reduce risk / volatility, add diversification and continue to offer some inflation hedge to the overall portfolio.

14. The aim of investment risk management should be to minimise the risk of an overall reduction in the value of the Fund and to maximise the opportunity for gains across the whole Fund portfolio. This is achieved by asset diversification to reduce exposure to market risk (price risk, currency risk and interest rate risk) to an acceptable level.

15. After a long period in which equity investors have seen excellent returns on their portfolios, some caution should now be considered prudent as we appear to be entering a period of uncertain global growth. It is within this more uncertain environment that active developed market managers can more readily outperform passive benchmarks, as investors become more focused on individual company prospects

16. There is no clear case to move from regional allocation of equities to global currently. Global exposure is also gained through the Fund's passive alternative indices allocation, so in reality the Fund employs a mixed approach to equities asset allocation.

17. From the peer group evidence provided the Fund doesn't currently contract best in class active equity managers but neither do we have the lowest performing. The Emerging Markets mandate has now transitioned to LGPS Central, with Corporate Bonds due to follow shortly. We will be monitoring the performance of their appointed managers closely. This just leaves our Developed Asian Markets outstanding and a review of the options that will be considered are detailed in paragraph 131.

18. The passive alternative indices have added additional returns and reduced volatility compared to market capitalisation indices.

19. The Equity Protection strategy should only be used as a tool to manage and mitigate the risk of having still a relative high equity exposure but review regularly and update at Investment Sub Committee

20. Both Bfinance and more recently Hymans believe private debt can provide strong growth within the Fixed Income Portfolio, but with reduced market-to-market volatility, more transparency and prefer the visibility of return through contractual income offered by private debt opportunities.

21. There is little evidence that currency hedging adds to returns over time. The Fund is aware that investing in overseas equities introduces an element of currency risk, but given the level of diversification within the Fund, the Fund is comfortable taking this risk in general but may act to mitigate potentially significant risks as and when they are identified.

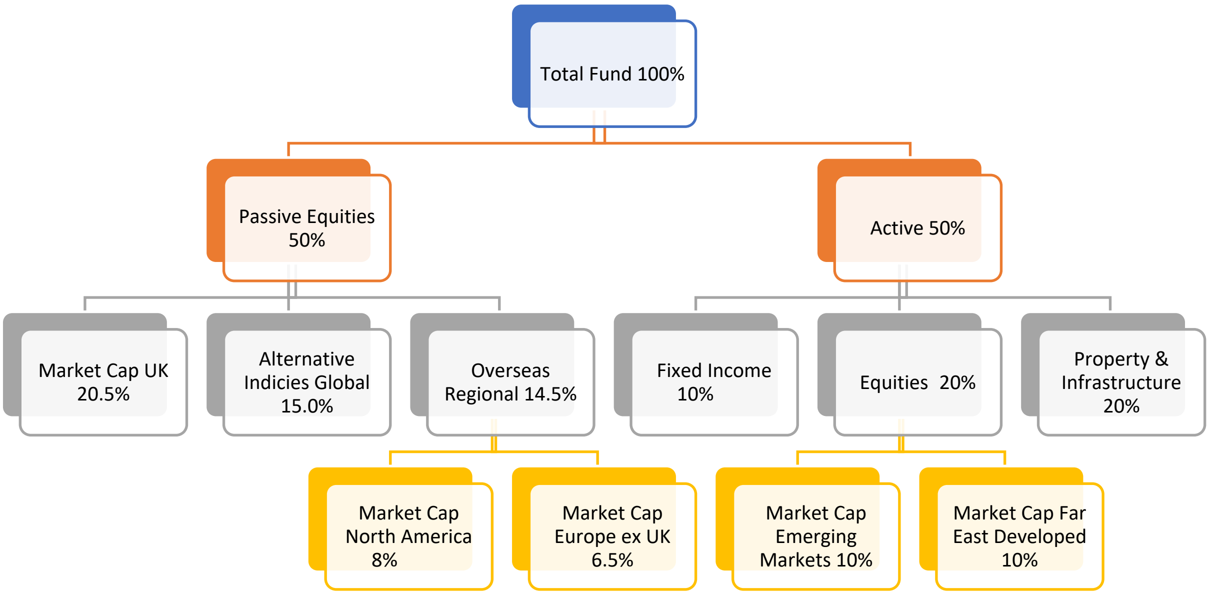
22. The Fund is currently marginally cashflow negative in the current year due to several main employers within the pension fund prepaying their 3-year contributions in April 2017. This, together with the likelihood that employers will seek to reduce or extend deficit repayments at the 2019 valuation will require the Fund to increase the level of income generated from its assets whilst minimising the impact on returns as much as possible

23. The list of reasons to invest responsibly is growing. Building a better society and protecting the planet by funding companies that treat employees with respect, conserve water and reduce climate- damaging carbon emissions is a motivation for many. The Fund needs to refresh its Investment Strategy Statement to take on board the increasing aspects of Responsible Investment (RI), climate change and Impact Investment. However, from an asset allocation perspective, it would be preferable to think about impact and RI strategies within well-established asset classes rather than as a standalone bucket. The fund should also consider the Sustainable investment products in paragraph 194 of this report being developed by LGPS Central and West Midlands Pension Fund to assess whether these are suitable investments within the Funds evolving strategic asset allocation framework.

24. This will be an evolving strategy and the overall conclusion and proposal as shown in Figure 1 below is to increase the allocation to Infrastructure or a mix of Infrastructure and Real Estate by 5% from the current strategic allocation of up to 15% of the Fund to 20% and reduce the overall Equity strategic allocation exposure (proposal to reduce Market Cap indices element) by 5% (from 75% to 70%), with Fixed income remaining at 10%. This will help reduce portfolio risk and reduce portfolio concentration to large cap companies and therefore increase diversification across the number and size of companies in which the portfolio invests.

25. The new proposed structure is designed to maintain current long term expected returns whilst reducing asset volatility and downside risk and thus reducing the volatility of the Fund during periods of economic crisis. The 5% increased allocation to Infrastructure and Property from Equities is designed to maintain expected returns, reduce volatility and increase the level of inflation hedge within the portfolio.

Figure 1 Proposed structure change



26. The proposed tolerance ranges as set out in Table 2 below are implemented and maintained to allow the required portfolio flexibility.

Table 2 tolerance ranges

Asset Type	Core Asset Allocation	Range %
Equities	70%	65 - 75
Fixed Income	10%	5 – 15
Infrastructure and Property	20%	15 – 25

Section 4: Setting the Scene for the Strategic Asset Allocation Review

27. This section sets out the emerging findings of the Triennial Actuarial valuation, summarises progress being made with Central Government's Local Government Pension Scheme (LGPS) reforms including the implementation of LGPS Central, the key findings of the initial investment strategy review undertaken by Hymans Robertson LLP in February 2019 and reported to Committee in March 2019 and an update on the Equity Protection.

Section 4: Setting the Scene: Initial Strategic Asset Allocation Review conducted by Hymans Robertson LLP in February 2019

28. Given the improved funding position of the fund and the implementation of the Equity Protection Strategy, it was felt that it would be beneficial to conduct an interim review in advance of the 2019 actuarial valuation to assess the suitability of the current investment strategy and asset allocation set in 2016. This was conducted by Hymans

Robertson and the key findings of the report which were reported to Pension Committee in March 2019 together where these are covered in the report are detailed in Appendix 1.

Section 4: Setting the Scene: Triennial Actuarial Valuation

29. The Fund is nearing conclusion on its discussions with the Actuary, Mercer, on the triennial valuation. A full report will be presented to the Pension Committee at its meeting on 13th December 2019. In summary, the likely outcome will be:

a) Recognition of excess returns above Actuarial estimates made as part of the 2016 triennial actuarial valuation which will result in a decrease in the deficit;

b) An increase in the Future rate due to a more prudent actuary outlook on the Fund's liabilities. The valuation of the real return over CPI inflation for determining the past service liabilities is 1.65% (2.15% in 2016) per annum and for determining the future service ("Primary") contribution rates is 2.25% (2.75% in 2016) per annum. CPI inflation has been assumed at 2.4% on average over the review period making the total discount rate / investment return target of 4.65%

c) An increase in the funding level from 75% to 91.3% with a similar funding strategy required.

d) Providing employers, a choice on the 'McCloud' implications to include these estimated costs over 2020/23 as part of their certified contributions or to make allowance within their budgets and potentially make backdated contributions if the remedy is known before the next valuation

30. This means that there is not a need to fundamentally alter the Fund's Funding Strategy Statement in any significant way and therefore the aims of its investment strategy remain intact.

31. The Actuary has reflected on the Fund's ability to manage any future risk around inflationary pressures and volatility of returns and asset valuations due to the Fund's bias towards Equity as an asset class

32. Whilst this bias is a conscious one that members of the Pensions Committee will be familiar with, it should also be recognised that the strategic allocation to this asset class has reduced from 90% in the 2010 Strategic Asset Allocation to 80% in the 2013 Strategic Asset Allocation and reduced to 75% in the 2016 Strategic Asset Allocation. This reduction has been matched by implementing an Equity Protection Strategy against its passive equity portfolio and an increase in Property and Infrastructure as an asset class. The nature of which have moved inherent protections against future inflationary pressures and historically have been less volatile in terms of valuation than Equities.

Investment Strategies / 'Pots' and the Funds objectives

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

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

35. In order that the Fund delivers on its key objectives; ensuring that each employer takes the appropriate level of investment risk, giving each the best opportunity possible to achieve its long-term funding objective whilst increasing certainly of cost, the Fund is looking to operate three distinct investment strategies or 'pots', being **Higher, Medium and Low.**

36. The Fund will look to set up principles in relation to the risk management / de-risking strategy and how these run through the asset allocation, the implementation plan and the ongoing governance arrangements by the 1 April 2020. These principles are likely to cover:

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

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

38. The current Fund investment strategy will apply to the "higher risk pot" where it is likely that most of our existing Employers will be placed. The "medium risk pot" and "lower risk pot" will give employers the option to reduce the level of investment risk that they wish to take, particularly for those employers that are considering leaving the Fund. In addition, any orphaned liabilities once an employer exits the Fund will generally be moved into the lower risk pot as these liabilities have no sponsoring employer and are ultimately underwritten by all employers within the Fund.

Section 4: Setting the Scene: LGPS Central (Pooling)

39. On 25 November 2015, DCLG published its response to the May 2014 consultation (Opportunities for collaboration, cost savings and efficiencies). It said responsibility for asset allocation would stay with the 90 administering authorities and that savings could be delivered using asset pooling and collective investment vehicles. Worcestershire Pension Fund (WPF) in collaboration with eight other Local Authorities (Cheshire, Leicestershire, Shropshire, Staffordshire, the West Midlands, Derbyshire, Nottinghamshire, and the West Midlands Integrated Transport Authority) set up a collective investment vehicle called LGPS Central the Company was authorised to operate as an Alternative Investment Fund Manager (AIFM) and became formally operational from the 1 April 2018.

40. LGPS Central has been in operation just for 12 months and several local authorities have transitioned some of their existing asset allocations to be managed by the company. WPF transferred its Active Emerging Market Funds to LGPS Central's Global Active Emerging Market on the 1 July 2019 and is anticipated to transfer its active corporate bond fund early in 2020. The total AUM with LGPS Central as at the 31st November 2019 is £334m

41. Hymans highlighted a key consideration of investigating options for mapping existing allocations across to LGPS Central should be carefully considered and a consistent framework applied to help review options and ensure good engagement with the pool. Detailed below in table 3 are a list of products that have recently been developed (*) or are currently being developed.

Table 3 List of products that have recently been developed and planned launch timeline

2019/20	2020/21	2021/22
Corporate Bond Fund	Targeted Return Fund	Sustainable Equities (WMids) *
Private Equity (PE) Vintage Fund *	Infrastructure & Indirect Property	Liability Driven Investments (LDI) Completion
Emerging Market Debt	Small Cap Global Equities Fund	Conventional Fixed Income
Multi Asset Credit	Private Debt	Japanese Equities
Global Active Emerging Markets*	Liability Driven Investments (LDI)	
Factor Based Equities includes All World Global Climate Change*	PE 2020 Vintage	
UK Active Equities		

Section 4: Setting the Scene: Equity Protection

42. An Equity Protection solution was implemented (via River & Mercantile) in February 2018 (covering an 18-month period) focussing on providing downside protection to the Fund's passive UK, U.S. and European equities with a combined market value of c. £1.2bn at that time. This was based on the advice of the actuary primarily to

- Reduce the likelihood that further deficit contributions will be required at the 2019 valuation; and
- Seek to “bank” some of the recent upside with a view to potentially reducing contributions at future valuations

43. At the time alternative approaches to equity protection were considered which would be to simply de-risk by moving funds from equities to other asset classes. The challenge with this approach is that it would also reduce return commensurately which would have an impact on the affordability of providing future benefits

44. As part of a strategy meeting with the Actuary on the 15 May 2019 discussions were held concerning the Equity Protection Strategy. The actuary provided a specific paper on the 'impact of Equity Protection on contributions'. River & Mercantile were in attendance along with the Funds Independent Investment advisor.

45. This emphasised that the Fund had implemented an equity protection strategy as at the 31 March 2018 for a specific reason; to protect from the risk of falls in the investment markets leading to deterioration in the Pension Fund’s funding position with consequent increased contributions at the next valuation.

46. Given the expiry date (September / October 2019), it was felt a good time to review whether the current structure should continue or whether an alternative long-term approach should be adopted. Several potential strategies were considered at the June 19 Pension Committee: -

a) We no longer require the protection strategy, and the options are left to expire and not renewed;
b) The same static strategy is renewed;
c) A different static strategy which offers different downside protection and upside potential is adopted; and
d) A longer-term dynamic strategy is better suited to the Fund's objectives.

47. The paper provided by the Actuary considered these options for several different market scenarios to illustrate the impact competing structures have on contributions. It also provided a more in-depth analysis of the static approach (protection for a certain fixed length of time) and dynamic approach (a longer-term tool to control equity downside risk).

48. The caveat to all this was that the Actuary believes that the Fund could benefit from using an equity protection strategy in terms of providing increased certainty and affordability of contributions if markets were to deteriorate. In discussions it was felt that there were several aspects to consider being: -

a) **The Governance angle** to protect from the risk of increased employer contributions. This would mean extending the current static strategy to around mid-2020 slightly past the formal sign off date for the 2019 actuarial valuation (31 March 2020). As part of this consideration it would be investigated as to whether more upside participation can be implemented over this period without giving up too much downside protection. This would also provide the Actuary certainty that the Equity Protection is in place when the actuary's rates and adjustments certificate must be signed off;
b) **The Risk profile** as technically the Equity Protection strategy does help provide diversification in the portfolio and reduces the risk profile as part of the valuation (admittedly at a cost similar to paying an insurance premium); and
c) **A longer term dynamic strategy.** This needs to be considered as part of the Asset Allocation review that will be conducted from June through to around November 2019 to ascertain whether the Equity Protection Strategy should become an integral part of the Funds future investment strategy.

49. This was discussed and agreed at the June Pensions Committee that:

a) The Equity Protection current static strategy be extended to mid-2020 to protect employer contributions and provide certainty to the Actuary that the Equity Protection is in place when the actuary certificate must be signed off. (**This has been extended to September 2020).**

b) Options be explored as to whether more upside participation can be implemented over this period without giving up too much downside protection be delegated to the Chief Financial Officer in consultation with the Chair of Pensions Committee; **(This was implemented, and details reported to the October Pension Committee)** and.

c) The Equity Protection Strategy be considered as part of the Asset Allocation review that will be conducted from June through to around November 2019 to ascertain as to whether this should become an integral part of the Funds future investment strategy. (see paragraphs 145d)

Section 5: Taking Stock: Summarising the current Strategic Asset Allocation

50. The current long-term strategic asset allocation for the Fund is listed below in Table 4:

Table 4 current long-term strategic asset allocation for the Fund

Asset Allocation	%	Manager, Method & Performance Target
Actively Managed Equities		
Far East Developed	10.0	Nomura Asset Management - FTSE All World Asia Pacific Index + 1.5%
Emerging Markets	10.0	LGPS Central Global emerging markets equity mandates (BMO, UBS and Vontobel split a third each). All World Emerging Market Index +2.0%
Passively Managed Equities - Market Capitalisation Indices		
United Kingdom	23.5	Legal and General Asset Management - FTSE All Share Index
North America	9.0	Legal and General Asset Management - FTSE All World North America - Developed Series Index
Europe ex - UK	7.5	Legal and General Asset Management - FTSE All World Europe ex UK Index - Developed Series Index
Passively Managed Equities – Alternative Indices		
Global	15.0	Legal and General Asset Management: - 40% GPAE - FTSE-RAFI Dev. 1000 Equity Fund - 30% GPBK - MSCI World Mini Volatility Index - 30% STAJ - CSUF - STAJ MF36726/36727
Fixed Income	10.0	- JP Morgan Asset Management - 100% Barclays Global Aggregate Corporate Bond Index – Hedged into GBP - EQT Corporate Private Debt Fund
Property & Infrastructure	15.0	Through a mix of Green Investment Bank, Invesco, Hermes, Walton Street, Venn Partners, AEW, Stonepeak and Firststate,
	100.0	

Section 5: Taking Stock: Overview of the Fund's current investment strategy

51. The current asset allocation has maintained a clear but reduced focus on equity assets, a target of 75%. Equities are recognised as a growth asset class and can be both passively managed (linked to the respective indices) and actively managed. In addition to equities, the Fund targets 15% of the fund's assets to property and alternatives and 10% investment into fixed income.

52. Following the endorsed recommendation, at the 2016 asset allocation review Pension Committee meeting, to transition 5% of the fund's assets from equities to property and alternatives, the fund currently has a commitment of 15% of its assets to a combination of eleven property and infrastructure pooled funds. This helps improves diversification and reduce volatility of returns. However, these types of assets do take time to deploy the capital and this needs to be taken into consideration.

53. The Funds Management Fees for 2019 are just over benchmark cost compared to the LGPS average Fund and to the other members of the LGPS Central pool. Significant work has been carried out over the past few years to negotiate fee discounts with the Fund's active managers and to gain savings through the joint re-procurement of the passive mandate. This will continue through LGPS pooling arrangements. However, management fees may increase as the fund continues to disinvest from low cost passive funds into higher cost Infrastructure and Property funds.

54. The following Table 5 sets out the current Fund asset allocation as compared to the Local Government Pension Scheme average asset allocation as at 31 March 2018 derived from the LGPS universe. This LGPS universe does not differentiate between passive and active management

Table 5: Comparison of Fund against Local Government Pension scheme average

Asset Class	Fund	Local Authority Average*
	%	%
Equities	76.2	57.0
Fixed income	13.6*	17.4
Property	4.9	7.1
Alternatives Infrastructure	3.6	3.6
Cash	0.8	2.2
Private Equity	0.0	4.6
Hedge, Balanced, Global Tactical Allocation Fund, etc & Derivatives	0.9	8.1
	100.0	100.0

*The information for comparison is taken from the CEM Benchmarking Report 2018. Note the Fixed Income includes the Equity Protection as these are shown as Gilt investments used as collateral for the protection strategy

55. After taking the Fund's continuing transition from equities to property and infrastructure into account, the Fund's allocation to Equities as an asset class remains significantly higher than the mean allocation. While this is not necessarily a bad thing while the strategy works, it does expose the Fund to substantially increased volatility in performance when equities are out of favour, as has been seen over recent history.

56. The Fund’s liabilities are discounted by a CPI+ methodology, giving more stable liabilities going forwards. Significant volatility in the Fund’s asset value will directly impact on the funding level and subsequent recovery plans. The Pensions Committee should note this risk that the Fund holds by having a higher equity allocation exposure than the local authority average. However, the Fund still needs to recover a Funding Deficit in line with its Funding Strategy Statement and continues to take steps to mitigate this risk via the Equity Protection strategy and equity disinvestment into Property and Infrastructure.

57. The Pensions Regulator holds an oversight role for LGPS Funds, and along with GAD and the LGPS Scheme Advisory Board will be monitoring funding levels and recovery plans closely in future years. The five asset classes currently utilised by the Fund are summarised below.

Active equities

To justify the higher cost of management and the greater risk profile, it is reasonable to assume that higher rewards should come from this element. For this to be fully effective it has been expected that appointed managers should have a high level of conviction in their stock selections and therefore be relatively unconstrained within their mandate but demonstrate strong governance and responsible investment.

Passive equities

These investments remove the risk of potential poor performance from active managers. These investments do not remove the impact on fund values from oscillations in the tracked indices. After a period of rising markets with low volatility we have seen an increase in volatility in world markets over the last year or so, this may well continue if fears of a global recession grow and equity markets start to fall..

Fixed Income

Corporate Bonds

A corporate bond is a bond issued by a corporation in order to raise financing for a variety of reasons such as to on-going operations, M&A, or to expand business. The term is usually applied to longer-term debt instruments, with maturity of at least one year.

Corporate Private Debt

Corporate Private debt comprises mezzanine (This type of capital is usually not secured by assets and is lent strictly based on a company's ability to repay the debt from free cash flow) and other forms of **debt** financing that comes mainly from institutional **investors** such as funds and insurance companies – but not from banks. In contrast to publicly listed **corporate** bonds, **private debt instruments** are generally illiquid and not regularly traded on organised markets

Property pooled funds

A Property pooled fund is a type of mutual fund that primarily focuses on investing in securities offered by public real estate companies. Most of real estate funds are invested in commercial and corporate properties, although they also may include investments in raw land, apartment complexes and agricultural space.

Infrastructure pooled funds

Infrastructure can be defined as the essential facilities and services upon which the economic productivity of society depends. These assets are typically involved in the movement of goods, people, water, and energy. Infrastructure returns can be accessed through listed Infrastructure, which is more correlated to Equity returns, unlisted Infrastructure equity investments accessed through pooled funds and Infrastructure Debt, again usually accessed through pooled funds.

Other types of investment that WPF is not yet invested in and why at this time are as follows: -

Multi Asset Credit

Multi- Asset Credit Strategies offer a flexible approach that invests dynamically across a range of credit asset classes. These alternative assets include high yield bonds, bank loans, asset- and mortgage backed securities, emerging market debt and more illiquid opportunities in real estate and infrastructure debt. The Fund has not yet reached the stage were a complex strategy to generate income is required. It is to be hoped that LGPS Central will develop a range of options over time to meet this requirement in a cost-effective manner.

Private Equity and Venture Capital (or unquoted equity)

This is often deemed to be particularly appropriate for pension funds, given the longer-term nature of the investments. Basically, that means that such investments can be illiquid, but to some extent can be addressed by investing in quoted private equity companies. Again, there are different routes to making investments, ranging from direct investment in individual companies to investing in fund of funds (which helps diversify risk). At this stage in the investment cycle Private Equity investments are relatively expensive, with the danger of a deteriorating outlook. This is an attractive area of investment, but it would be preferable to wait until values look more attractive before a programme of investments is initiated. The experienced team at LGPS Central are well placed to provide appropriate advice.

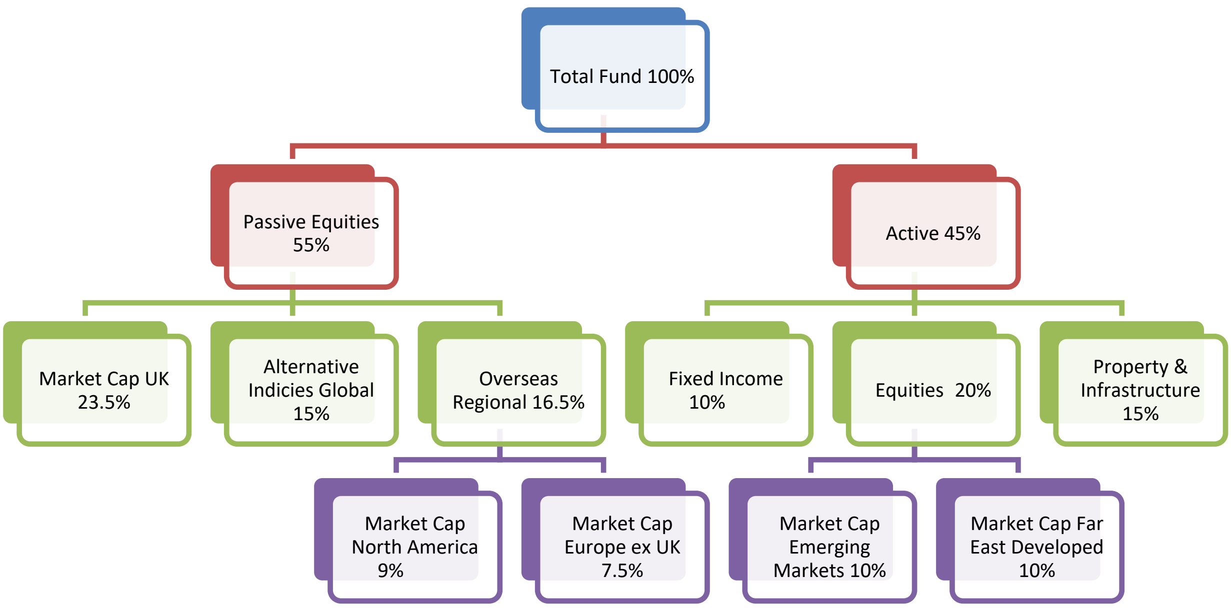
Gilts

Government bonds in the U.K., India, and several other Commonwealth countries are known as gilts. Gilts are the equivalent of U.S. Treasury securities in their respective countries. The term gilt is often used informally to describe any bond that has a very low risk of default and a correspondingly low rate of return. They are called gilts because the original certificates issued by the British government had gilded edges. The Fund switched from Gilts to corporate bonds in 2003 because it was deemed that Gilts looked relatively more expensive than corporate bonds. The impact of quantitative easing has led to a continuing scenario in which Gilts offer very poor value to investors and are mainly held for liability matching purposes.

58. Equities are primarily split on a regional geographic basis, except for the alternative indices allocation in the passive equity portfolio, which is on a global basis. The current allocation is set out in Figure 2 below. Bond investments are in global corporate debt. All active equity indices are 'Market Cap' based, whilst the passive allocation is 'Market Cap' based for the developed regional equity investments and a mix of alternative indices for the global allocation.

59. Over the past three years the Fund has continued to diversify away from the traditional asset classes of equities and bonds, to help achieve a lower risk and volatility profile, alongside seeking additional sources of income and growth. This strategy is in-line with the actions taken by other LGPS Funds. At present the Fund has diversified into property and infrastructure pooled funds and Corporate Private debt.

Figure 2: Current allocation of assets

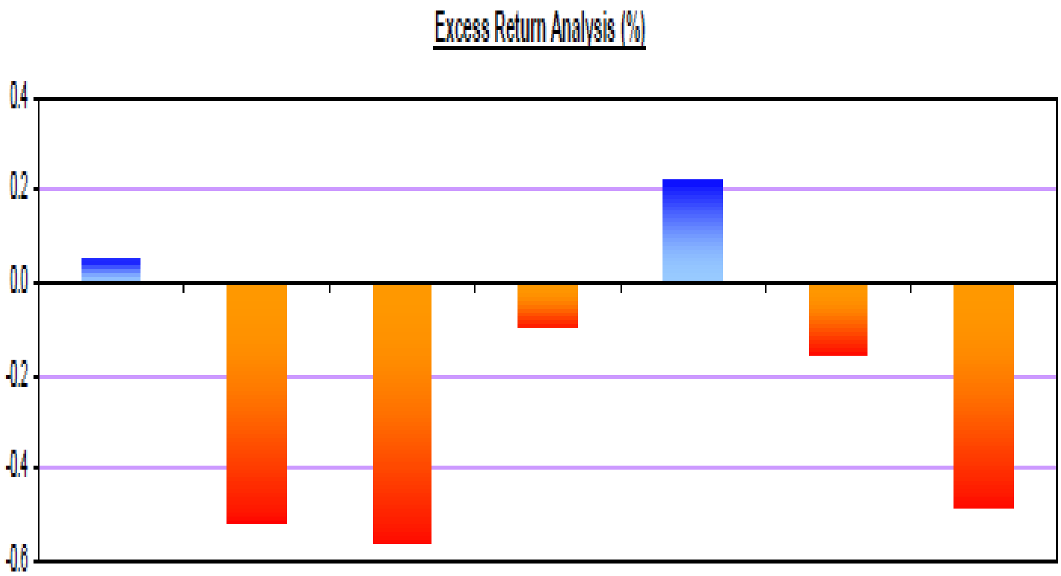


Section 5: Taking Stock: Summary of Fund performance

Fund performance over 1, 3, 5 and 10 years (where applicable)

60. The Fund's performance, as at 30 September 2019, can be analysed against the bespoke benchmark as shown in figure 3 below which reflects the specific assets that the Fund invests in, or against a peer group of other Funds (usually specifically other LGPS Funds). A comparison will be made against other Funds later in this section. Therefore, this will concentrate on performance against the Fund’s own benchmark

Figure 3: Summary performance of total Fund against Fund benchmarks



	QTR	YTD	1 Yr	3 Yr	5 Yr	10Yr	Since Mar 87 (p.a.)
Excess Return	0.0	-0.5	-0.6	-0.1	0.2	-0.1	-0.5
Portfolio Return	2.3	6.4	5.7	8.7	9.8	9.1	8.1
Benchmark Return	2.3	6.9	6.3	8.8	9.5	9.2	8.6

All returns for periods in excess of 1 year are annualized. The portfolio return is net.

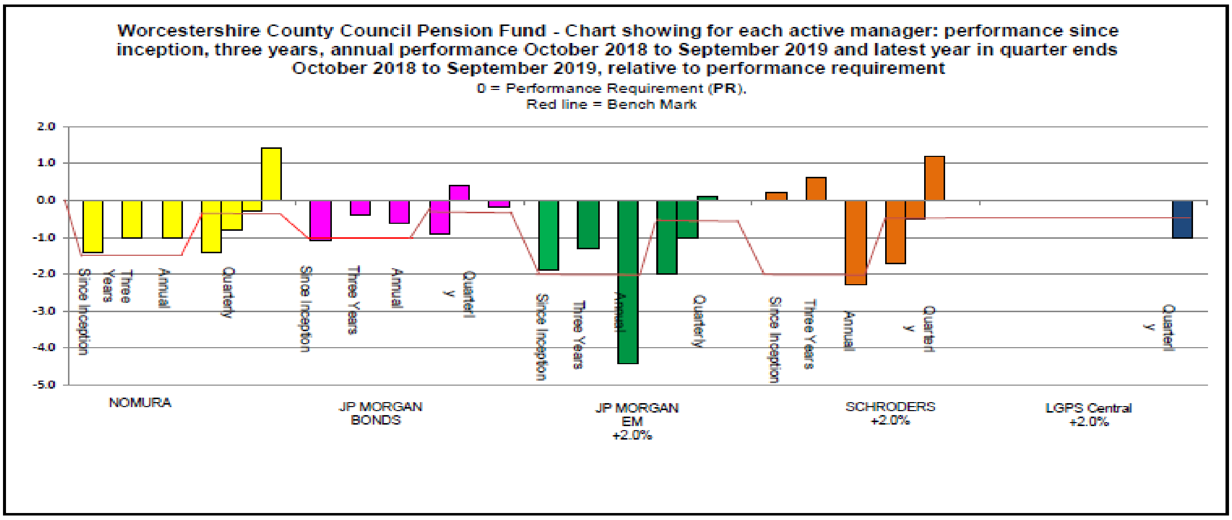
60. Over one year the Fund has underperformed the benchmark by 0.6%, over three years has underperformed by 0.1% per annum and underperformed over the past ten years by 0.1% per annum.

61. The Fund's performance represents a minimal divergence from benchmark and can be explained by the actual high percentage of assets (54%) that are managed on a passive basis. The reversion to passive equity investment that has happened since the last triennial valuation and asset allocation review was made with the intention to reduce the risk of significant underperformance occurring on any timescale. It also recognised that in rising markets it is hard for active managers to outperform general market movements in developed markets, such North America. The slight underperformance illustrated above over the ten-year period is directly attributable to the active managers employed at the time, one of which was relieved of their mandate in 2013. As we enter a market phase that is likely to be more volatile and has an increased risk of values falling, the opportunity for active managers to outperform traditional market capitalisation benchmarks tend to improve.

Investment managers performance

The performance by Fund Manager is illustrated in Figure 4 below

Figure 4: Summary performance by Fund Manager



£1,586.4 million – Passively managed Equities *as at the end of September 19*

62. The passive equities mandate is managed by Legal and General Asset Management (LGIM). The mandate has been held by LGIM since December 2015 following the joint procurement by six Midlands based Funds, five of which are also members of the LGPS Central pool. The joint procurement exercise generated significant fee saving for the six Funds involved and has since been replicated by other LGPS Funds across the country. The mandate covers the UK, Europe ex-UK, North America and a global alternative indices allocation.

63. The passive equity mandate has performed broadly in line with the benchmark, which is as expected and table 6 below shows the performance as at the end of September 19. Therefore, this section on manager performance will concentrate on the Bonds mandate, Active Equity mandates and the Property and Infrastructure investments.

Table 6: Passive Equity Funds performance as at the end of September 19

Asset Class	3 Year Actual	3 Year BM	Since Inception	Since Inception BM
	Return	**Return**	**Return**	**Return**
	% p.a.	**% p.a.**	**% p.a.**	**% p.a.**
Passive				
UK Equity Fund	7.0	6.8	9.8	9.6
North America Equity Fund	15.2	15.1	18.7	18.7
Europe Equity Fund	9.9	10.1	12.4	12.7
Total Passive Equity	**9.9**	**9.5**	**12.9**	**12.3**
Alternatives Factors				
RAFI	10.9	11.0	14.9	15.0
Low Volatility	11.7	11.6	16.9	16.9
Quality	15.3	15.4	18.3	18.4
Total Alternatives	**12.2**	**12.7**	**15.3**	**15.7**
TOTAL FUND All Equities	**9.2**	**9.6**	**13.0**	**13.1**

£914.1 million – Actively managed Equities *as at the end of September 19*

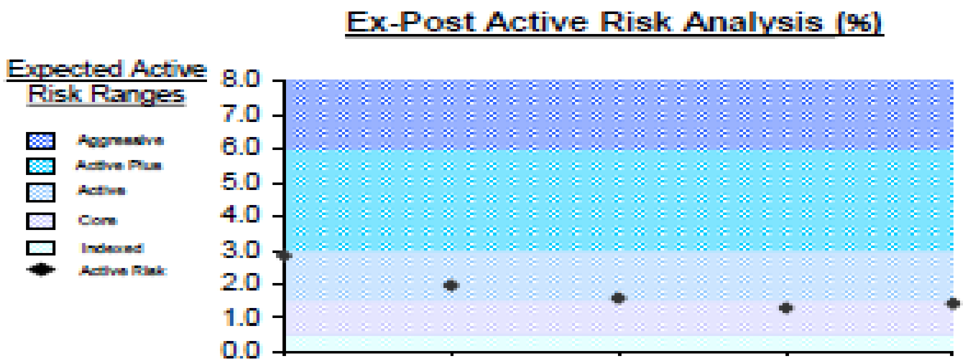
64. The Far East Developed Equities mandate managed by Nomura and the Bonds mandate managed by JP Morgan have been in place for just over thirteen years. The Emerging Markets Equities mandates previously managed by JP Morgan and Schroders had been in place since 2011. These were transitioned across on the 19th July 2019 to the LGPS Global Active Emerging Market mandate split equally to the three-active global emerging markets equity fund managers BMO, UBS and Vontobel within the portfolio.

65. The Far East Developed Equities mandate and the Bonds mandate performed well for the first five years until the financial year 2007/08. Since 2008 the active elements have delivered relatively poor performance relative to target. JP Morgan have struggled with performance on their Emerging Markets mandate, however Schroders performed relatively well since inception apart from last year. Since inception, in absolute annualised returns terms Emerging markets have delivered +8.4%, the Far East has provided +10.5%.

66. Across the life of these mandates performance has been volatile, with many months showing negative returns, which has hampered achieving consistent performance. This volatility is illustrated in the individual manager sections shown in Figure 4 above

67. The amount of risk taken by the active managers is shown in Figure 5 below, which shows how active management adds to total portfolio risk

Figure 5: Ex Post Active Risk Analysis



	1 Yr	3 Yr	5 Yr	10 Yr	Mar 87
Active Risk	2.9	2.0	1.6	1.3	1.4
Portfolio Risk	6.9	6.7	7.9	9.7	12.6
Benchmark Risk	9.3	7.5	8.2	9.6	12.4

68. Table 7 below shows the Active Equities performance as at the end of September 2019 over the past 3 to 5 years respectively and since inception.

Table 7: Active Equities performance as at the end of September 2019

Asset Class	3 Year Actual	3 Year BM	3 Year PBM	5 Year Actual	5 Year BM	5 Year PBM	Since Inception	Since Inception BM	Since Inception PBM
	Return	Return	Return	Return	Return	Return	Return	Return	Return
	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.
Nomura	**8.8**	8.3	9.8	**11.8**	11.1	12.6	**10.5**	10.4	11.9
JPMorgan	**8.9**	9.7	11.7	**9.5**	9.5	11.5	**7.7**	7.8	9.8
Schroders	**11.2**	9.5	11.5	**11.2**	9.5	11.5	**9.1**	7.2	9.2
TOTAL									

<u>£423.1 million – Nomura Asset Mgt UK Limited – Japan and Developed Asia ex-Japan</u>

69. Nomura have underperformed over the last 12 months (against their performance target of 1.5%) by 1.0%, over 3 years by 1.0% (per annum) and since inception (February 2003) by 1.4%.

70. This remains a diverse mandate, covering a lot of territory, which brings considerable challenges in making sure money is invested in the right markets at the right time. For instance, Nomura continue with investment in Australia even though in the long term this has been a persistent negative contributor to the overall portfolio.

71. In broad terms the Japanese element of the mandate has performed better than the rest of the region. Over the last 5 years the Japan element has achieved an annualised return of 13.6% against a benchmark of 12.2% compared to the 9.5% annualised return (same as benchmark) for the rest of the region.

72. LGPS Central has indicated that in their current plans they do not intend to create a Developed Asia sub fund, so consideration about future options for this mandate will be included in the Strategic Asset Allocation review.

JP Morgan Asset Mgt – Emerging Markets (transitioned to LGPS Central 19th July 2019

73. JP Morgan had underperformed over the last 12 months (against their 2% per annum performance target) by 2.4% and since inception (12/12/2011) underperformed against their performance benchmark by 2.1% per annum.

Schroder Investment Management Limited – Emerging Markets (transitioned to LGPS Central 19th July 2019

74. Schroders had outperformed (against their 2% per annum performance target) over 12 months by 0.6% but have underperformed since inception (20/10/2011) by 0.1% per annum.

75. Schroders performance has tended to be quite volatile at times. Over time they stuck with their strategies and was rewarded. Schroders provided some exposure to Frontier Markets, thus extending the geographical spread for the Fund.

£336.2 million LGPS Central Global Active Emerging Market as at September 2019

76. Performance objective is to outperform the benchmark by 2.0% annually over rolling 5 years. This has started off with an underperformance of -0.04% (-3.24% v. -3.20%) since inception on 19 July 2019. This will be closely scrutinised, and the Fund will have more of an opportunity to compare leaders and laggards with three managers, compared to just looking at our previous managers JP Morgan and Schroders

Fixed income investments

77. This covers our JP Morgan Bond Investment and our recent Corporate Private Debt Mandate with EQT

£154.8 million - JP Morgan Asset Management - Bonds as at September 2019

78. JP Morgan have underperformed (against their 1% per annum performance target) over the past 12 months by 0.6% and have underperformed over the last 3 years per annum by 0.5%. Since inception (31/3/03) they are behind target by 0.3% per annum.

79. The transition of this mandate to LGPS Central's appointed managers (Fidelity and Neuberger Berman) for Global Investment Grade Corporate Bonds after robust due diligence was agreed by Pensions Investment Sub Committee on the 11th June 2019. This has been postponed until early 2020, due to concerns about potential market volatility during the transition process.

80. Since inception the cumulative return has been disappointing. Initial returns were positive, but then tailed off sharply in late 2007/2008. There was subsequently a gradual improvement, particularly following the changes made to the mandate in 2009 and 2012 but performance has remained below target. Concerns were consistently challenged that JP Morgan had not utilised their risk budget effectively to achieve their performance target and this continues despite changes in manager.

£13.8 million – EQT Corporate Private Debt Fund as at September 2019

81. A report to Invest Panel on the 28 March 2019 which was subsequently agreed by Pensions committee identified that the Fund at that time had an actual allocation to fixed income of 6% (SAA target of 10%) via a segregated account with JP Morgan Asset Management and as such was under-allocated by c. 4% (c. £110m) relative to the strategic asset allocation target. The c. 4% underweight position was due to the Fund's equities outperforming corporate bonds and an active decision not to rebalance the weights to these asset classes. The Fund was therefore overweight to equities due to the underweight position in corporate bonds.

82. Taking into consideration the improved funding position and the Committee's decision at that time to implement an equity protection strategy it was recommended and agreed that the overweight position to equities was reduced and alternative investment options considered.

83. Bfinance were asked to consider the underweight position to Corporate Bonds and assess alternative investment options outside of Bonds given the Interest rate and market environment at that time and still presently prevails. Bfinance recommend that in the current market environment, corporate private debt offers an attractive risk adjusted return with strong downside protection and yield. Further details regarding corporate private debt vehicles were provided to the Committee in December 2017.

84. BFinance then undertook a portfolio design of the proposed investments in terms of style, size and geographic exposure along with analysis of proposals from interested managers and preparation of a report to select a short list of suitable specialists capable of managing the mandate successfully and EQT were appointed in May 2018 with a commitment of £65m.

85. The Funds Investment Strategy Statement was also amended to include fixed income investments (change from Bonds to Fixed income) such as corporate debt vehicles as this is in line with the Funds objectives and beliefs.

86. The latest EQT performance against the agreed benchmark showed an outperformance of 5.0% over the quarter (6.6% v. 1.6%). The latest valuation data for EQT is for Q2 2019, the period ending 30 June. As at the end of July, the Fund's portfolio comprised of investments in 16 companies, representing approximately 61% of total commitments. Amount drawn less recallable distributions: £14.4m (€16.8m) as at 30th June 2019 against the £65m commitment.

£418.6million Property & Infrastructure as at September 2019

87. Over the past three years the Fund has continued to diversify away from the traditional asset classes of equities and bonds, to help achieve a lower risk and volatility profile, alongside seeking additional sources of income and growth. This strategy has been in-line with the actions taken by other LGPS Funds. This is set to continue over the medium term following the Strategic Asset Allocation day in September 2019 with other partner funds and LGPS Central particularly given the improved actuarial funding positions.

88. At present the Fund has diversified into property and infrastructure pooled funds and Corporate Private debt, which by their nature have more inherent protections against future inflationary pressures and historically have been less volatile in terms of valuation than Equities. However, flexibility is also required when investing in Infrastructure and Property funds, as drawdown periods can be lengthy, and a programme of rolling reinvestment will require time to fully implement efficiently

Management fee

89. The 2019 CEM Benchmarking showed that our investment cost of 46.8 bps was above our benchmark cost of 46.2 bps. CEM commented that the cost increase was due entirely to asset mix changes, primarily adding more property and infrastructure. This was offset by decreases in what we paid for the UK stock, global property and infrastructure. Whilst work continues to look at fee savings via LGPS pooling arrangements, Committee need to be mindful that some of these savings may in fact be offset as the fund continues to disinvest from low cost passive funds into higher cost Infrastructure and Property funds

90. The current performance against the benchmark as at the end of September 2019 is detailed in table 8 below. At this time the fund had £176.5m (6.0% of the fund) in pooled property and £242.1m (8.3% of the fund) in infrastructure against an overall Property & Infrastructure SAA target of 15%.

Table 8: current performance against the benchmark as at the end of September 2019

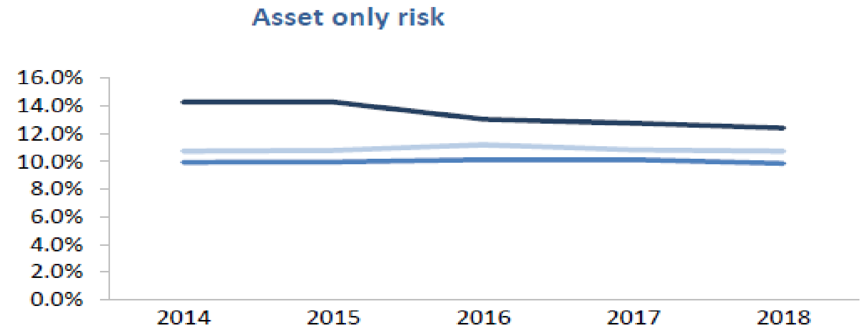
Asset Class	1 Year Actual	1-year Benchmark Return	3 Year Actual	3 Year Benchmark	Since Inception Actual	Since Inception Benchmark
	Return	Return	Return	Return	Return	Return
	%	%	% p.a.	% p.a.	% p.a.	% p.a.
Pooled Property	4.6	7.1	6.9	7.1	8.2	7.1
Pooled Infrastructure	5.1	4.3	8.1	8.7	7.3	8.2

Section 5: Taking Stock: Comparison with the asset risk of other LGPS Funds

Asset Risk Trends 2014 to 2018

91. Figure 6 below provides the asset risk being the expected volatility of our asset mix compared to the LGPS universe for 2018. Asset risk will only change if policy asset mix changes. Between 2014 and 2018 the asset risk of WPF decreased from 14.3% to 12.4%. This remained above our peers due to the funding position and recovery plan accepted by the Committee in 2016.

Figure 6: Asset risk being the expected volatility of our asset mix compared to the LGPS universe



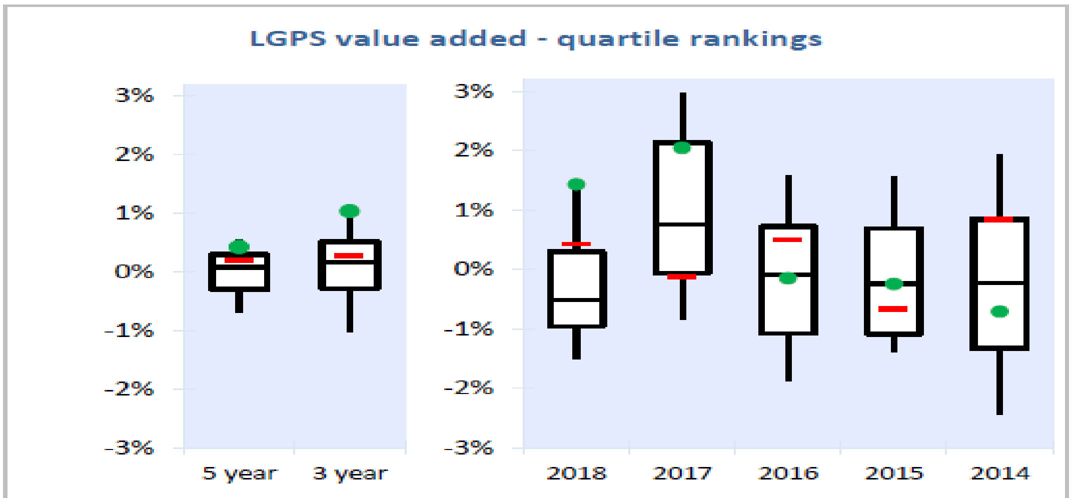
	2014	2015	2016	2017	2018
You	14.3%	14.3%	13.1%	12.8%	12.4%
Peer Average	9.9%	10.0%	10.1%	10.1%	9.9%
LGPS Average	10.8%	10.8%	11.2%	10.9%	10.7%

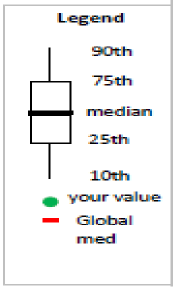
*The information for comparison is taken from the CEM Benchmarking Report 2018. **Note 'You' = WPF**

92. This will be mainly due to our diversification of assets into Infrastructure and Property and the reduction in our passive portfolio over time. This is still 1.7% above the LGPS average which shows our appetite to risk to increase our funding levels.

93. Figure 7 below shows the 'Net value-added component of total returns from active management It equals the total net returns minus the strategic asset mix return. It is a function of active management decisions which includes tactical asset allocation, manager selection, stock selection, choice of benchmarks, overlays, etc. The Funds 5 – year net value added of 0.4% compares to a median of 0.1% for the LGPS Universe.

Figure 7: Net value-added component of total returns from active management





LGPS	5 year	3 year	2018	2017	2016	2015	2014
90th	0.6	1.0	1.4	3.0	1.6	1.6	1.9
Q3	0.3	0.5	0.3	2.1	0.7	0.7	0.8
Median	0.1	0.2	-0.5	0.8	-0.1	-0.2	-0.2
Q1	-0.3	-0.3	-1.0	-0.1	-1.1	-1.1	-1.3
10th	-0.7	-1.0	-1.5	-0.8	-1.9	-1.4	-2.4
Average	0.0	0.1	-0.2	0.9	-0.2	-0.2	-0.1
Global Median	0.2	0.3	0.4	-0.1	0.5	-0.7	0.8
Your fund	0.4	1.0	1.4	2.0	-0.1	-0.2	-0.7
LGPS %ile	83%	91%	90%	73%	47%	48%	36%

*The information for comparison is taken from the CEM Benchmarking Report 2018

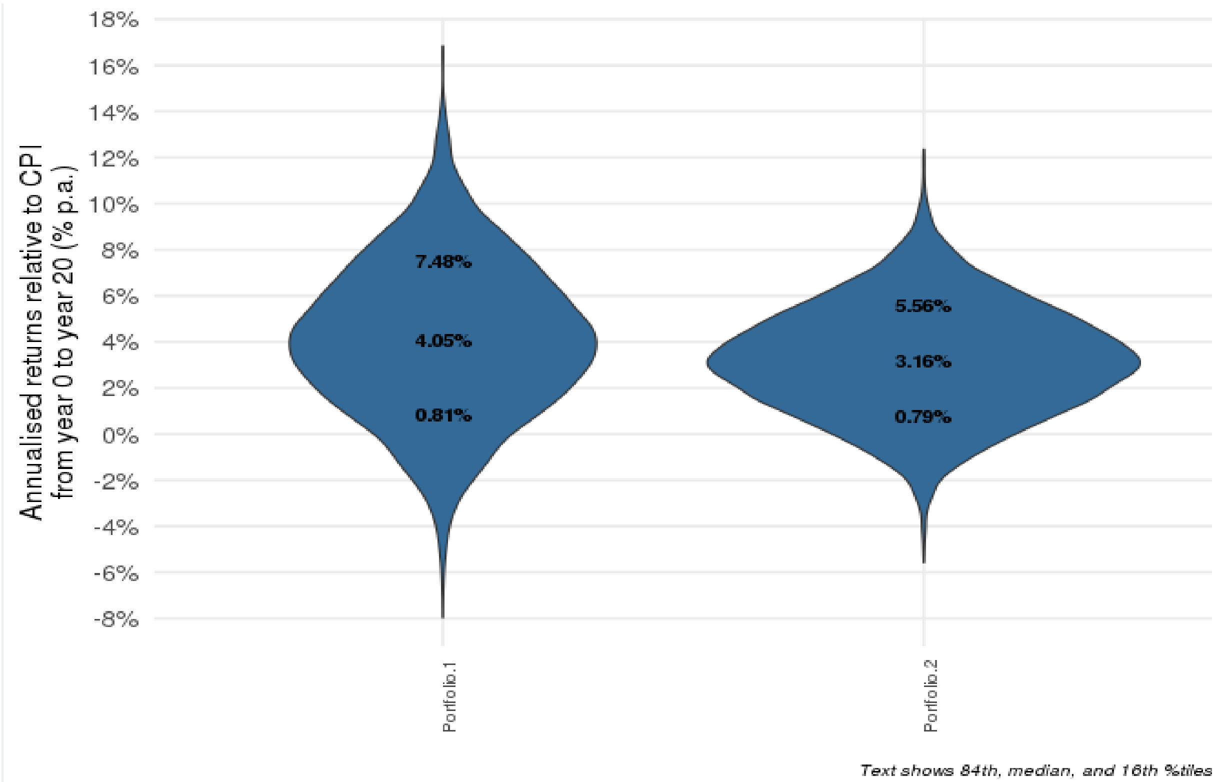
Section 6: Review of the Fund's Strategic Asset Allocation

Risk analysis - High Level Risk and return analysis

94. Hymans Robertson provided some high-level risk and return analysis. The modelling that they undertook allowed them to look at the expected return against liabilities and associated volatility of a variety of different investment strategies. It also allowed them to show how each mandate contributes to the total risk within the portfolio.

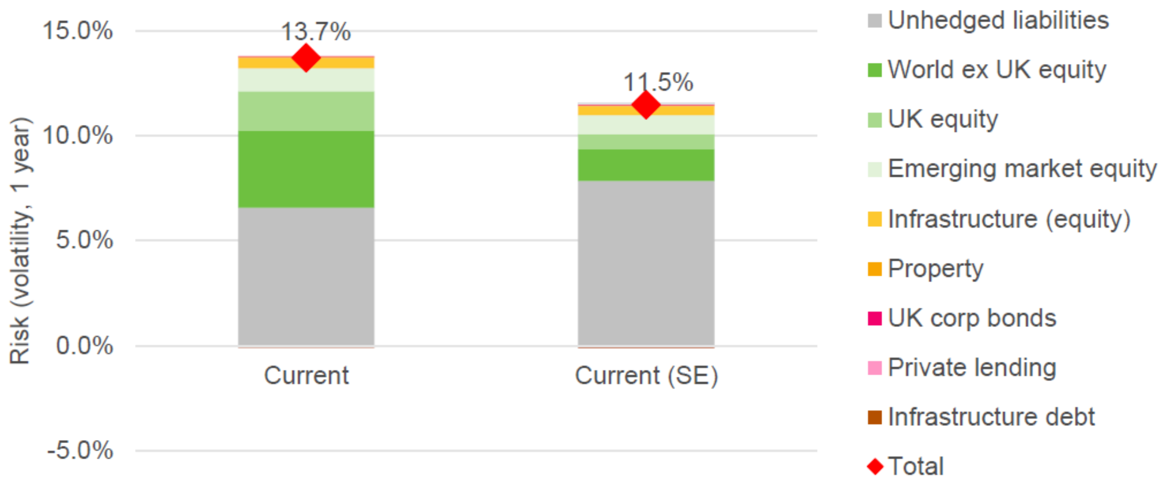
95. The chart below shows expected returns relative to CPI inflation based on Hymans Robertson Long-term capital markets assumptions within their report presented to Committee in March 2019. The Fund's expected return assumptions and valuation discount rate is derived relative to CPI. Both expected returns exceed the underlying valuation assumption of CPI+ 2.15% p.a. and CPI +2.75% p.a. for past and future service respectively.

Figure 8: Expected returns relative to CPI (with and without structured equity arrangement)



96. Figure 9: shows the Fund's allocation to equities as a large contributor to the overall Fund's risk allocation accounting for 6.7% of the 13.7% volatility measure. The equity component of the overall risk halves to 3.1% with the structured equity overlay

Figure 9: Risk contribution (with and without structured equity arrangement)



97. Whilst the yield risk of the un-hedged liabilities is large (the grey section of the chart) Hymans viewed this more as a short-term mark to market risk than a real risk as it combines both moves in interest rates and inflation which the current valuation approach is less sensitive to.

Section 7: A review of Equities Structures

Global Based Mandates

98. These mandates are popular as asset managers strive to concentrate their attentions on markets with the best prospects, wherever they are, developed, emerging or even frontier. However, the scale of operations needed to support a global investment manager usually means that their focus tends to be on larger, more tradable company names, meaning that there are plenty of opportunities for regional specialists to identify smaller, less well-known companies with good long-term prospects for their investors.

99. Out of the main market areas (USA, Europe, Far East and Emerging Markets); in the medium-term Emerging Markets and the Far East probably continue to have the best potential upside. However, after a long period in which equity investors have seen excellent returns on their portfolios, some caution should now be considered prudent as we appear to be entering a period of uncertain global growth. It is within this more uncertain environment that active developed market managers can more readily outperform passive benchmarks, as investors become more focused on individual company prospects.

Far East and Emerging Markets

100. It is important to focus on the relative attractions of the various parts of the region to ensure that the Fund has exposure to the most attractive areas. The mandate with Nomura is focused purely on Japan and Developed Asia ex-Japan and is designed to complement the exposure to Asia within the separate Emerging Markets mandate, the management of which is now overseen by LGPS Central. The underlying managers are BMO, Vontobel and UBS.

101. The fee discount for the Developed Asia portfolio remains in place with Nomura until target returns are achieved over a rolling three-year period. The Japanese element has generally shown satisfactory performance over time. However, the ex-Japan element has always struggled to produce a consistently above target performance record. The original mandate with Nomura initiated in 2003, so it would now be appropriate to review our management arrangements, including considering the separation of the Japan and ex Japan elements into discreet mandates.

102. Emerging Markets as a group have had a volatile period over the last few years. As always with such a diverse range of factors influencing individual markets, including the oil price, currency issues, trade worries and geopolitical events, it can be difficult for asset managers to produce consistently good returns against such a background.

North America

103. The U.S. stock markets have seen almost unprecedented gains since the election of Donald Trump as President. His background in business, rather than politics, has certainly shaped his economic policy with the direct intention of boosting US internal trade and industry and markets have responded accordingly.

104. Our underweight position in the U.S. is in part due to the belief that such a developed market would struggle to outperform more vibrant and developing economies. The decision not to continue with active management of this portfolio was determined by the lack of conviction that active managers could add value over a passive mandate. While the U.S. market is at a level at which it would be difficult to justify increasing the weighting at this time, consideration should be given to doing this if circumstances present an appropriate opportunity in the future. Market conditions at that time might be such that active management is considered again, at least in part.

Europe

105. It continues to be very difficult to construct a consistently good case for a positive stance to Europe. It is a challenge to see what course of events will trigger a substantial and sustainable recovery in most of the Eurozone, given the sheer scale of sovereign debt and continuing potential banking issues, on top of increased political volatility. The post Brexit scenario will be challenging, on both sides of the Channel.

UK

106. In relative valuation terms the UK market looks attractive in comparison to other developed markets, but this situation has been brought about by uncertainties about the global trading environment in a post Brexit scenario. Although there is likely to be a period of considerable readjustment so far as our trading partners are concerned, once the outlook becomes clearer then it is possible that the UK stock markets will rally. However, volatility is likely to remain, and many uncertainties will persist for the foreseeable future.

Conclusion

107. After a long period in which equity investors have seen excellent returns on their portfolios, some caution should now be considered prudent as we appear to be entering a period of uncertain global growth. It is within this more uncertain environment that active developed market managers can more readily outperform passive benchmarks, as investors become more focused on individual company prospects

Review of Active versus passive Equities

Recap of Hymans view

108. Hymans highlighted that having a well-defined set of investment beliefs offers several advantages to the Committee including clarity of rationale for each mandate held within the Fund inconsistency around decision making Beliefs can apply to high level strategy and risk appetite but also to the approach to investing in different asset classes and how these are accessed. For example, the belief that passive management has a role to play in a Funds asset allocation, bringing liquidity, transparency and reducing fee levels

109. Table 9 below sets out the Funds current mandates and whether these are managed on an active or passive basis

Table 9: Fund current mandates

Mandate	Target Allocation	Active / Passive
Far East Developed	10%	Active
Emerging Markets	10%	Active
Global Equities	**55%**	**Passive**
Market Cap	40%	
Alternative Factors		
RAFI	6%	
Low Volatility	4.5%	
Quality	4.5%	
Total Equities	**75%**	**20% / 55%**
Fixed Interest	10%	Active
Alternatives (Property & Infrastructure)	15%	Active

110. Around 45% of the Funds mandate are managed on an Active basis at total fund level and around 25% of the target equity allocation is managed actively. Active management at the moment is employed only in the emerging markets and far east regions in the belief that these regions are less efficient relative to other global regions

111. Hymans highlighted that the long-term track record of active equity managers within the LGPS sector has generally been disappointing pointing out that based on statistics to March 2016. They did add that relative performance will vary over time as similar statistics from 5 years ago show a track record of no added value from the average UK equity manager but 1.2% outperformance from overseas managers. The key requirement therefore suggested by Hymans was the ability to identify in advance an above- average manager

Conclusion

112. Hymans believed there is a role for an allocation to passive equities as part of an overall equity allocation which was reflected in their own beliefs due to the low risk and low fee benefits. They believed that active management should only be considered where the Committee believes it adds value.

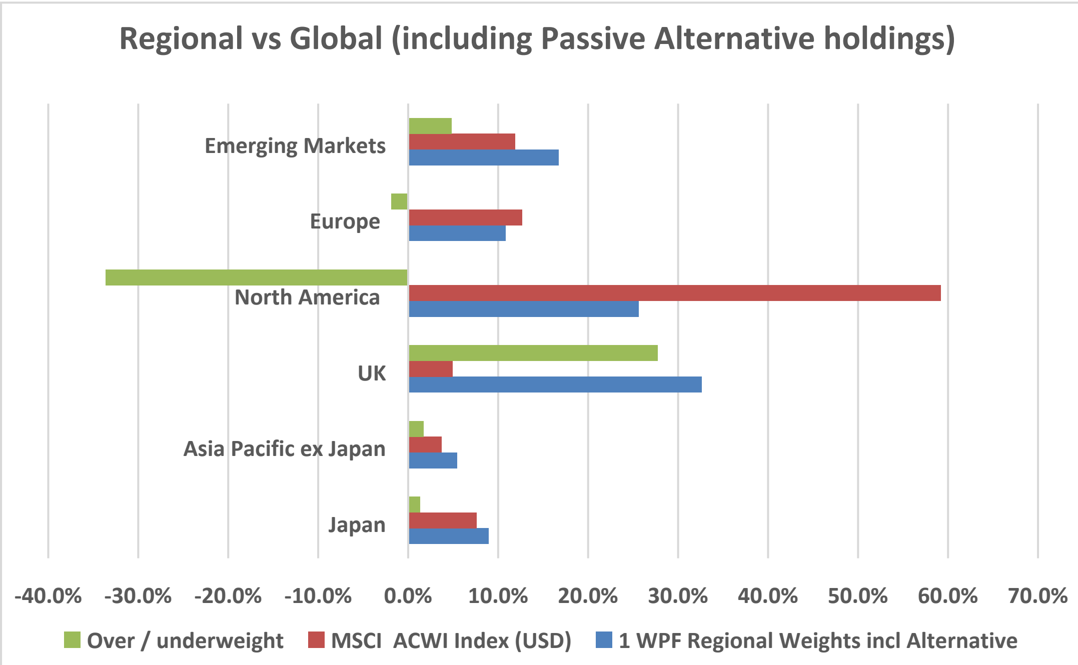
113. Another consideration is that we have seen generally less volatility in world markets over the last decade until quite recently. Volatility is likely to increase if we enter into a bear market phase. This may then be a time for consideration that selective active management may add more value to the portfolio in these circumstances, as active managers have more opportunities to produce differentiated strategies in less “perfect” market conditions.

Review of Regional weights compared to global index

114. Equities are primarily split on a regional geographic basis, except for the alternative indices allocation in the passive equity portfolio, which is on a global basis. All active equity indices are 'Market Cap' based, whilst the passive allocation is 'Market Cap' based for the developed regional equity investments and a mix of alternative indices for the global allocation

115. Figure 10 below sets out the Fund's equity exposure via regional portfolios relative to the MSCI All Country World Index (ACWI).

Figure 10: Funds equity exposure via regional portfolios to the MSCI ACWI



116. Compared to the MSCI All Country World Index the Fund has a significant underweight to North America, a significant overweight to the UK. Over the long term the process of determining regional weights is likely to be a major driver of the Fund's equity allocations performance. Table 10 below shows the performance of the two regions to which the Fund had material deviations relative to the global standard benchmark over one year, three years and five years to September 2019.

Table 10: Regional performance

Region	Index	1 Year	3 Years (p.a.)	5 Years (p.a.)
North America	S&P 500 (USD)	8.47	12.24	9.31
UK	FTSE 100 (GBP)	2.68	6.76	6.79

117. Over the past five years North America has performed very strongly compared to the UK. Therefore, over this shorter time horizon allocating to equities on a global basis would have been optimal for Funding the short-term valuations of the UK market relative to the US have been depressed, due to uncertainties surrounding Brexit with the associated political issues and US valuations being boosted by a favourable tax regime. In due course it would be appropriate to seek to rebalance these weightings, but timing will be important.

118. Performance of regional vs. global allocations will fluctuate over time but investing via a series of regional weightings does offer the Fund better opportunities to fully tailor regional weights and provides the option of dynamic asset allocation by the Pension

119. Table 11 below sets out the benefits of a regional and global approach to equities asset allocation

Table 11: benefits of a regional and global approach to equities asset allocation

Regional Equity Portfolios	Global Equity Portfolios
- Easy to fully express customised regional tilts;	- Delegation of regional tilts to managers;
- May benefit from specialist regional managers;	- Managers have full flexibility of global stock universe.
- Domestic allocation tax/local knowledge benefits;	- Global managers now have meaningful track records;
- Appropriate resourcing required for implementation.	- Easy implementation of global equity exposure.

Conclusion

120. There is no clear case to move from regional allocation of equities to global currently. Global exposure is also gained through the Fund's passive alternative indices allocation, so in reality the Fund employs a mixed approach to equities asset allocation

121. To implement the proposed 5% strategic target allocation to Property & Infrastructure it is proposed to reduce 5% of the Passive equity market cap indices pro-rated equally across the previous allocation. The optimum reduction will be reviewed, and the outcome reported to a future Pensions Investment Sub Committee

123. It is also recommended that a review of regional equity weightings be carried out in particular the allocation to UK and US equities. A regular review of regional equity weightings is recommended to form part of a more dynamic approach to asset allocation undertaken by the Pension Investment Sub Committee.

Review of active Emerging Markets managers

124. As described in paragraph 64 the Emerging Markets Equities mandates previously managed by JP Morgan and Schroders since 2011 were transitioned across on the 19 July 2019 to the LGPS Central Global Active Emerging Market mandate. The WPF investment was split equally to the three-active global emerging markets equity fund managers BMO, UBS and Vontobel within the portfolio.

125. In the due diligence that had been undertaken and reported to the Investment Sub Committee on the 11 June 2019, it was noted that these were 'stock pickers' but all assess the opportunity differently. The style analysis on the 3 fund managers was more or less neutral apart from a slight bias to quality. The multi manager approach should help achieve diversification of alpha sources (measure of the active return on an investment)

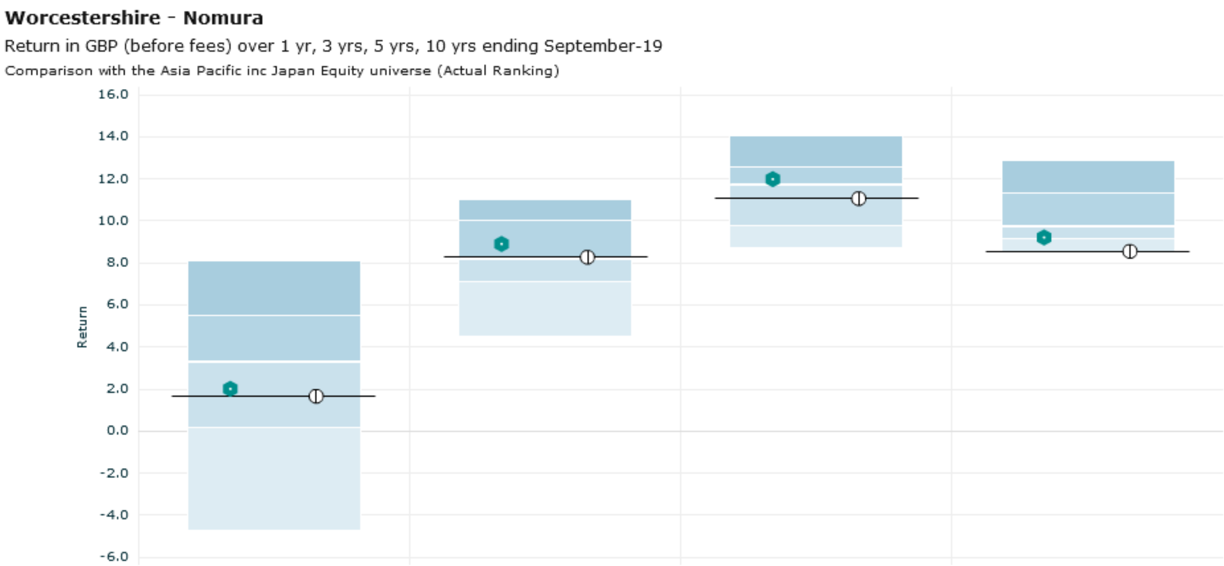
<u>Conclusion</u>

126. It is recommended that the Pension Investment Sub Committee continue to monitor closely the Emerging Markets portfolio as part of the regular review of the overall asset allocation.

<u>Review of Nomura – Developed Far East equities</u>

127. Figure 10 below has been provided by Mercers to evidence their performance compared to peers for various periods over the past ten years. The analysis has been run from the Mercer Insight database.

<u>Figure 11 Nomura comparison to their Peers</u>



	1 yr (%)	3 yrs (%pa)	5 yrs (%pa)	10 yrs (%pa)
PB inc Japan	2.0 *(19)*	8.9 *(10)*	12.0 *(10)*	9.2 *(16)*
FTSE AW AP	1.7 *(20)*	8.3 *(13)*	11.1 *(14)*	8.5 *(20)*
95th Percentile	8.1	11.0	14.1	12.9
Upper Quartile	5.5	10.0	12.6	11.4
Median	3.3	8.2	11.7	9.8
Lower Quartile	0.2	7.1	9.8	9.2
5th Percentile	-4.7	4.5	8.7	8.5
Number	28	25	24	21

Created on 27 Nov 2019 at 2:07 PM

MERCER

PB inc Japan = Nomura mandate

128. The analysis shows that the 3-year and 5-year return are above median, and the 1-year and 10-year returns are below the median.

<u>Conclusion</u>

129. It is best practice to review active manager arrangements from time to time to ensure that the Fund is still employing the best managers for the selected mandates.

130. From the peer group evidence provided the Fund doesn't currently contract best in class active managers but neither do we have the lowest performing. There is significant manager selection risk involved with trying to select the best in class managers, with manager performance rotation an issue over the short term. It should be noted that our Emerging Markets mandate has now transitioned to LGPS Central, with Corporate Bonds due to follow shortly. We will be monitoring the performance of their appointed managers closely. This just leaves our Developed Asian Markets outstanding, the options for which are listed below.

131. As detailed in paragraphs 71 above the Japanese element of the mandate has performed better than the rest of the region. Given this mandate has been in place since 2003 and that LGPS Central have indicated in their current plans they do not intend to create a Developed Asia sub fund it is recommended to explore several potential options as follows: -

- Maintain the mandate as is but potentially retender
- maintaining the Japan element only and disinvest from the Far East developed which would include an assessment on the impact on the regional coverage of the Fund
- Discuss further with LGPS Central their plans and advice for funds in this area

Review of the passive equities alternative indices blend Passive equities investment strategies

132. Passive investment removes active manager risk, but the investor is still exposed to the full impact of market volatility, which can have a profound impact on Fund values when markets fall sharply. The Fund currently gains exposure to passive equities through the following two different types of indices:

a) Regional Market capitalisation weighted Indices

A capitalisation-weighted index is a type of market index with individual components that are weighted according to their total market capitalisation. The larger components carry higher percentage weightings, while the smaller components in the index have lower weights.

b) Global Alternative Indices

A set of investment strategies that emphasise the use of alternative index construction rules to traditional market capitalisation-based indices. Alternative indices emphasise capturing investment factors or market inefficiencies in a rules-based and transparent way. The aim is to remove some of the market driven volatility from the measurement process.

133. Just over half of the Fund's equities are managed on a passive market capitalisation weighted index tracking basis. A capitalisation-weighted index applies weights according to the total market value of the constituent companies' outstanding shares. There are several positive attributes to a market cap index tracking approach:

- Management fees are low, generally at 0.10% p.a or less;

- Most managers use market cap indices as benchmarks resulting in high levels of liquidity and correspondingly lower transaction costs for market cap index tracking funds;
- Market cap index funds generally require less rebalancing due to index construction – the indices are, to a large degree, self-rebalancing. The index stock weights move in tandem with the market prices, negating the need for buying and selling shares; and
- Index tracking managers do need to deal with events such as rights issues, new entrants to and departures from the index and taxation issues; however, this is a relatively simple and predictable task, and is often where tracking managers can add marginal value

134. The major criticism for price led index construction is that it has a pro-cyclical nature. As a stock's price increases relative to other index constituents, so does its weight in the index and vice versa. If companies' share prices accurately reflect their underlying financial performance, then market cap weighted indices are behaving efficiently. However, stock prices are very erratic, driven by short term news and investors' behavioural drivers. There is much evidence to suggest that, even over extended periods, the relationship between share price and underlying fundamental value breaks down.

135. Hymans believed that passively managed market-cap weighted equity investment has an anchor role to play in most pension schemes' equity allocations, reducing average fee levels. However, market-cap weighted indices do have their drawbacks. The passive acceptance of market prices implicit in market cap weightings means that opportunities to exploit the many opportunities when markets overshoot or undershoot fundamental value is missed. Hymans believed there is evidence to suggest that an appropriately constructed portfolio of factor tilts can provide a more efficient way of investing, net of fees and costs, than a market cap index.

For example:

- Exposure to "valuation factors" can improve risk adjusted returns over time. 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;
- Exposure to the "low volatility factor" can reduce absolute equity volatility and improve risk-adjusted returns. Strategies can be implemented which manage downside risk while achieving market returns over time;

136. A factor-based approach is based on using specific characteristics ('factors') to construct benchmarks with the aim of generating a more attractive risk and return profile. Four common factors are described below. The Fund already has exposure to a number of these alternative passive equity approaches through a multi-factor mandate managed by L&G as detailed below.

- **Value** - The value factor targets companies whose share price is deemed to be lower than the fundamentals of the company would suggest. The argument for the existence of a value premium is that investors on average overestimate how long stocks can sustain high growth and therefore under-price those stocks seen as low-growth.

- **Low volatility** – Some studies suggest that stocks with lower risk, due for example to the stability of the company, earn higher risk-adjusted returns. The behavioural argument is that investors' desire to share in the possibility of high returns from high-risk stocks lead them to be overpriced on average.

- **Quality** – What constitutes 'quality' is less well defined than other factors, but, as a rule, high-quality companies are typically either highly profitable or are conservatively managed. The general argument for the existence of a quality premium is that investors tend to underestimate the ability of some companies to produce stable growth over the long term

137. Smaller stocks – Smaller companies tend to be ignored by many investors. It is argued that this lack of attention, as well as their lower liquidity, creates a premium for smaller stocks. Currently we do not invest in this area although LGPS Central are currently looking to develop a small companies passive investment mandate for consideration.

138. Table 6 in paragraph 63 above details the performance to date of the 'alternative passive factors and have outperformed the passive factors in terms of annualised returns

139. The alternative indices blend has provided additional diversification as intended at the point of implementation and due to market environment has provided additional return since 2013.

Hymans view recap

140. Hymans liked the Fund's allocations to factor tilted equity strategies. There is an ongoing debate about the existence, size and sustainability of these various risk premiums and therefore investment beliefs are often key in determining which approaches are favoured. The decision to allocate c75% of the overall equity allocation to passive market cap along with a multi factor mandate is evidence that the Committee believes a factor-based approach has potential to enhance the expected returns from a market cap approach and deliver a less volatile return series. The decision to allocate between different equity styles indicates caution over risk concentration with a particular style. Alternative indices performance vs market capitalisation indices

<u>Conclusion</u>

141. The passive alternative indices have added additional returns and reduced volatility compared to market capitalisation indices.

142. It is not recommended to increase the Fund's allocation to alternative indices at this stage but that further analysis be carried out by Fund officers with the support of Legal and General Asset Management to consider whether the current style of 40% RAFI, 30% quality and 30% low volatility is optimal and explore alternative strategies.

Section 7: Review of Equity Protection (EP) Strategy

143. As described in paragraph 46 there is a need to consider whether the whether the Equity Protection Strategy should become an integral part of the Funds future investment strategy. Hymans recommended that several points needed to be addressed when considering this as follows: -

144. Current pricing – does the trade off in terms of downside protection and loss of upside give the Fund the desired level of insurance given the current market environment?

i. This has successfully been renegotiated and extended through to September/October 2020 and additional upside has been gained whilst maintain downside protection.

145. Is this a long-term strategy or are there other options for managing risk; extending the structured equity solution may be appropriate if there is a lead in time for funding other asset solutions?

a) LGPS Central were asked to undertake a review of our EP strategy and were asked if this should continue and if there are alternative strategies that could be implemented. Their objective was to provide a view on the benefit/risks of making equity protection part of a longer-term strategy within their Strategic Asset Allocation and to consider alternatives with the aim of maintaining employer contribution rates at the same level.

b) Their conclusion was *in Summary LGPSC believe that as a short to medium Risk Management tool equity protection strategies can work well, provided they are managed dynamically and supported by appropriate controls/tools. But, due to the requirement of managing it dynamically to sufficiently mitigate the return uncertainty, there is an impact through costs which may make the equity protection not suitable to be integrated as a long-term strategy in the Fund's Investment Strategy.*

c) From a funding perspective the most volatile and most significant parts of the funding equation, is the cost of future service benefits. This is not driven by existing asset volatility but the assumed return on assets. It is therefore important that the insurance of a structure equity solution, while helping manage deficit volatility, does not negatively impact on future service costs by reducing expected returns

d) Discussions on the 14th November 2019 with River and Mercantile and the Chair of the Pensions Committee and Investment Sub Committee discussed in detail how the Equity Protection strategy can be managed dynamically to help mitigate the impact on expected returns. It was agreed to: -

   a. Use the EP strategy as a tool to manage and mitigate the risk of having still a relative high equity exposure to other similar sized funds but review regularly and update at Investment Sub Committee.
   b. Agree trigger points were discussions should take place to discuss if any action such as restructuring or even exiting the Equity Protection strategy and
   c. That Fund Officers with the support of the Fund's Investment advisor closely monitor the existing strategy and bring back more detailed information on how the strategy has performed at least on a quarterly basis to Pensions Investment Sub Committee.

e) The delegated powers are in place already should action need to be taken. It should be noted that the Equity Protection can be exited at any time if as part of the ongoing Strategic asset allocation discussions it is felt that the strategy is no longer required or alternative strategies can achieve the same level of risk mitigation.

146. How important is the risk reduction from structured equity to the funding approach and what impact will it have on funding of future service costs?

a) As well as providing protection and mitigating risk to the Funds passive equity market cap investments a key element was to help protect and stabilise employer's contributions. Through negotiations on the 2019 actuarial valuation with the Funds actuary, Mercers the extension of the Equity Protection strategy has enabled employer contributions to be circa £5m to £10m less per annum so £15m t0 £30m over the lifetime of the valuation period. In net terms allowing for fees £0.5m pa and any cost of restructuring re transaction costs which are estimated to be between 5 and 15bps so mid-point say £1m, then net employer contributions reductions would be circa £3.5m to £8.5m pa

Section 9: Review of FIXED INCOME

Review of the Bond portfolio and Corporate Private Debt Portfolio

Global Investment Grade Corporate Bond

147. Details of the current JPMorgan bond portfolio and the transition of this mandate to LGPS Central's appointed managers (Fidelity and Neuberger Berman) which is due to take place early 2020 is detailed in 78 to 80 above.

148. The Pool corporate bond fund has an active +0.80% target (1% previously with JP Morgan) and 50% UK, 50% overseas benchmark. This strategically fits in with our current Fixed Income allocation.

149. Some of the key reasons for the investment into LGPS Central Global Investment Grade Corporate Bond after robust due diligence were: -

- Lower performance fees
- Better comparable performance compared to current portfolio with JP Morgan (*although past performance is no guarantee of future performance*)
- Better diversification when compared to UK Investment grade corporate bonds
- Opportunities to benefit from market anomalies – different spreads in different markets for the same issuer

Investment strategy

150. This is currently an outlier in terms of portfolio risk compared to LGPS average and therefore it is recommended to maintain the current global corporate Bonds strategy and transition this to the LGPS Central Global Investment Grade Corporate Bond. Maintaining a small investment to Government Bonds in the short to medium term is also logical given the current market environment.

Conclusion

151. It is recommended to maintain the Funds current global corporate bonds strategy and transition the existing JP Morgan mandate to the LGPS Central Global Investment Grade Corporate Bond as previously agreed at Investment Sub Committee on the 11th June 2019.

Review of EQT Corporate Private Debt Fund

152. In paragraph 83 above a report to Pensions Committee in March 2018 highlighted that Bfinance were asked to consider the underweight position to Corporate Bonds and assess alternative investment options outside of Bonds given the Interest rate and market environment at that time and still presently prevails. Bfinance recommend that in the current market environment, corporate private debt offers an attractive risk adjusted return with strong downside protection and yield. This resulted in a commitment of £65m to EQT.

153. Hymans Robertson in their SAA report to Committee in March 2019 were favourable of investment in Private Debt. They commented as follows: -

154. We believe the current trend for pension funds to provide more direct finance to businesses at the expense of banks will continue and that the rewards will be earned by those pension funds which are prepared to withstand a degree of illiquidity. At a time when yields on traded bonds have fallen to very low levels, there is still a material premium to be earned (of 1% - 2% p.a.) for less liquid forms of debt, reflecting the fact that the vast majority of investors cannot commit capital to these markets and are restricted to investing in bond market securities.

155. Several funds now exist where specialist managers make a series of direct loans to businesses using capital committed primarily by pension funds. The credit quality tends to be reasonably strong and the loans generate a strong income stream from the outset. Potential returns in the region of 5% p.a. above LIBOR appear attractive against our current expectations from equities which are in the region of 6% p.a. Therefore, the Fund would not be giving up much in terms of expected returns by switching assets from equities into an investment where returns will be delivered in the form of a high and regular income stream.

156. We believe private debt can provide strong growth but with reduced mark-to-market volatility and more transparency, and we prefer the visibility of return through contractual income offered by private debt opportunities.

157. Private debt funds are closed ended, and therefore the Fund could look to invest further in these opportunities ahead of asset pooling and retain the new investments outside of the pool. Alternatively, it would be possible to wait for suitable debt vehicles to be made available within the Central Pool.

Conclusion

158. Both Bfinance and more recently Hymans believe private debt can provide strong growth but with reduced market-to-market volatility, more transparency and prefer the visibility of return through contractual income offered by private debt opportunities.

159. It is therefore recommended to maintain the current strategic asset allocation target at 10% and invest any existing underweight into suitable Fixed Income Products such as Private Debt. Further dialogue will be undertaken with LGPS Central to assess whether they are looking at suitable debt vehicles, if not the Fund will look to invest further outside of the pooling arrangements.

Section 10: Review of the Fund's exposure to currency

160. There exists the potential for the Fund to be impacted by rising inflation and currency movements. As part of the review of potential risks to the Fund's assets and returns, an assessment of the potential impact of an increase in inflation and substantial movements in key currencies has been undertaken.

161. Mitigating the impact of currency movements can be considerably more complicated, but again this is a potential key risk when investing in non-Sterling assets, at both the asset level and to interest payments. The usual arrangement would be to hedge against the impact of adverse currency movements, but as this comes at a cost it would need to be considered as part of the investment assessment. Some Funds use their custodian to arrange currency hedging on a passive basis; others have employed managers to hedge currency exposures in a more dynamic process.

162. Table 12 shows how the Fund is exposed to currency movements through its investments in overseas equities and investments in property and infrastructure. Any currency risk associated with the corporate bond holdings is 100% hedged back to GBP by JP Morgan

Table12: Outline of Currency exposures

Mandate	Strategic Target	Currency Exposure
Actively managed Equities – Far East and Emerging	20%	Yes, currently unmanaged
Passively managed Equities – Market Cap	40%	Yes, currently unmanaged
Passively managed Equities – Alternative Indices	15%	Yes, currently unmanaged
Actively managed Alternative – Property and Infrastructure	10%	Some, majority hedged back to GBP
Actively managed Bonds – corporate and direct lending	15%	Some, majority of investments are in UK or hedged to GBP

163. Most of currency risk faced by the Fund is through its exposure to global equities, the Fund currently does not hedge any of its overseas currency exposure across the equity mandates. The Fund maintains a diverse equity portfolio across a range of regions but has a bias towards UK Equity exposure versus global market cap weights, with the US dollar accounting for most of the primary currency risk.

Currency hedging

164. Putting in place a passive foreign currency hedge is designed to reduce the extent to which the value of the overseas investments fluctuates from one year to the next – i.e. reduce short/medium term volatility.

Hymans comments and overall view

165. Hymans commented that there is little evidence that currency hedging adds to returns over time; indeed, over the very long term, sterling has historically been a relatively weak currency and exposure to overseas currencies has had a positive impact for UK based investors. The outlook for the UK, both economically and politically, has changed significantly over the last year and there is no reason why sterling should necessarily revert to its previous levels.

165. Currency hedging is typically considered to reduce the overall risk of a portfolio, through removing the additional risk of currency fluctuations and leaving the residual risk of the underlying asset.

166. Historically currency hedging would have reduced volatility of equity returns. For example, rolling 10-year equity volatility figures from the MSCI AC World index were 13.9% for GBP hedged returns vs 15.4% for unhedged returns since 1970.

167. However, over the last 10 years currency hedging has not had the intended effect of reducing equity return volatility due to there being a significant correlation at times between equity market moves and currency moves. In fact, over the last 10 years hedging has increased equity return volatility.

Hymans view

168. On balance, Hymans preference is not to try and predict the future direction of currency markets, or to implement currency hedging on a tactical basis. In their view, LGPS funds like ourselves can withstand short term volatility in the value of their investments if they are not required to sell assets on a regular basis to meet benefits.

169. Therefore, they did not see it as a strategic requirement for the Fund to hedge out its foreign currency exposure. However, the approach to managing currency risk should reflect the investment beliefs of the Committee (*current Investment Strategy belief detailed below*) and some of the considerations set out above.

2018 Investment Strategy belief extract

170. The Fund is aware that investing in overseas equities introduces an element of currency risk, but given the level of diversification within the Fund, the Pensions Committee is comfortable taking this risk in general but may act to mitigate potentially significant risks as and when they are identified.

Conclusion

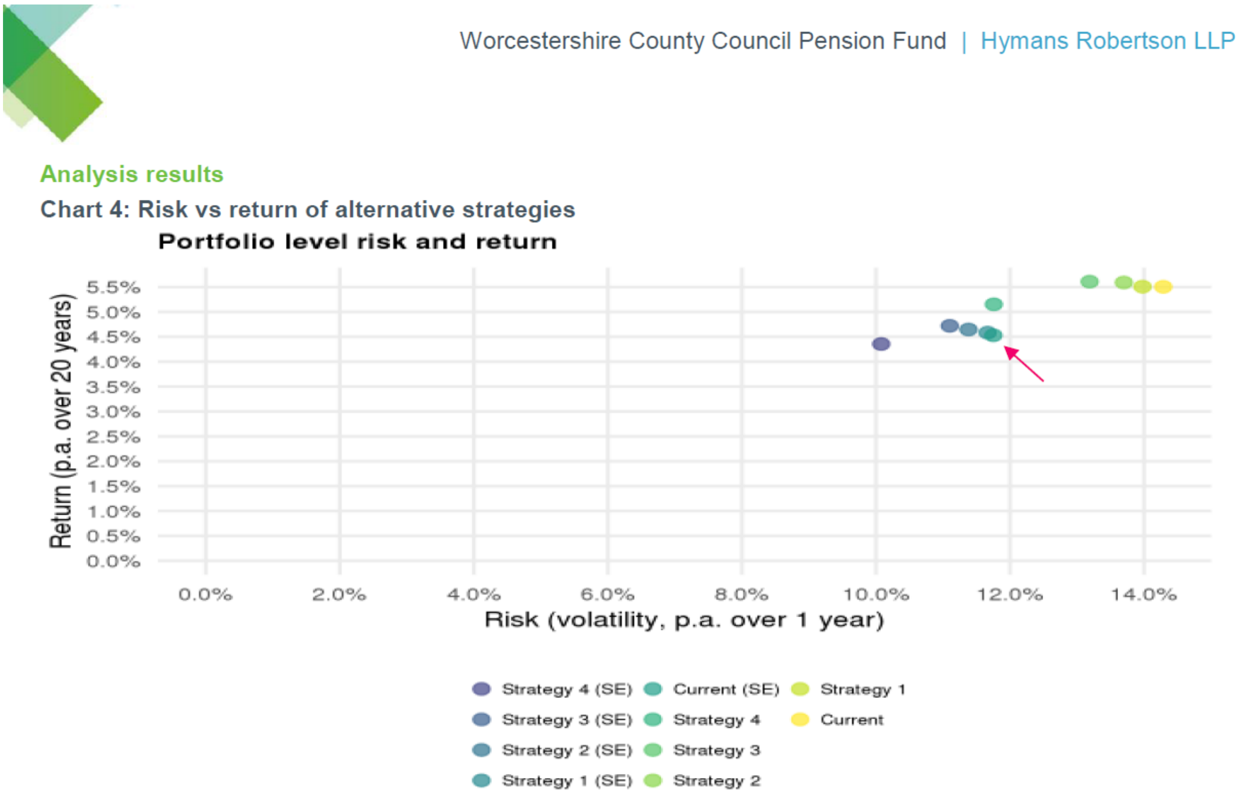
171. It is recommended that the Fund's equities remain unhedged in terms of currency at least until the Brexit negotiations are finalised, as this is likely to be a continuing volatile period for Sterling. The decision of whether to currency hedge overseas equities should be kept under review by the Pension Committee at least annually.

Section 11: Review of the Property and Infrastructure Allocation Current allocation to Infrastructure and Real Estate

Investment Risk in terms of volatility and impact on returns of moving 5% from Equities to Property & Infrastructure

172. It is worth revisiting the alternative strategies that were highlighted in Hymans report that were chosen to explore the impact of increasing the Fund's allocation to alternative income generating credit assets as these assets will help to diversify equity risk, generate income and provide more stability to the Fund's return stream. This is shown in Figure 12 below: -

Figure 12: Risk vs return of alternative strategies



173. The Fund’s current proposed strategy (70% Equities, 20% Property & Infrastructure and 10% Fixed Income) including the impact of a rolling structured equity arrangement (before this was restructured to allow more upside) is highlighted by the **pink arrow**. This showed a risk volatility per annum over 1 year of just under 12% and an average return per annum of around 4.5%. Hymans highlighted that without the structured equity in place this strategy would have an increased volatility risk to 14% but increased average returns of 5.5%. The analysis showed: -

a) It is possible to marginally improve the expected return of the Fund’s assets whilst simultaneously reducing volatility of returns by diversifying the Fund’s growth allocation. This has been achieved in the modelling by either including higher allocations to multi asset credit and private debt or increasing allocations to property and infrastructure. Further investment in property and infrastructure have less impact on risk given the Fund already has allocations to these assets but would be positive from an income perspective.

b) The impact of a rolling structured equity arrangement is expected to reduce both the volatility and expected returns of the Fund’s assets.

c) The Fund could afford to de-risk to strategy 4 (55% Equities, 15% Property & Infrastructure and 30% Fixed Income) and still have a higher expected return and reduced volatility than the current investment strategy with the structured equity overlay.

However, Hymans commented that the market outlook for lower risk assets like gilts was not particularly appealing and recommended that the Fund should not look to de-risk now but instead focus on diversification of risk and revisit the potential for setting triggers or a risk management framework as part of the upcoming valuation

d) The increased allocation to alternatives or fixed income under strategies 1, 2, 3 and 4, will improve the income generated from the Fund's assets to help meet the cashflow deficit without materially foregoing return.

174. Hymans were supportive of the current programme to build up the allocation to property and infrastructure as diversifying, income focussed assets

Conclusion

175. Increased allocation to Infrastructure, Real Estate or a combination of each is expected to maintain expected return, reduce risk / volatility and add continue to offer some inflation hedge to the overall portfolio.

176. It is recommended that a 5% increased allocation (overall from 15% to 20%) to Infrastructure is implemented or a mix of Infrastructure and Real Estate. It is recommended that the 5% be transitioned from the Fund's passive market cap Equity allocation.

177. Continue "rolling" the investment programme either from follow on funds from existing fund managers or suitable alternative fund managers to reinvest distributions and to provide a spread over "vintage" years. Hopefully this will also enable investments to be made as attractive opportunities occur, when valuations in sub sectors look particularly attractive.

178. A review of the funds resources is undertaken to ensure the appointment and monitoring of the investments is manageable given the Fund's current resources.

Section 12: Review of the Funds Net Cashflow Requirements

179. The Fund is currently marginally cashflow negative due to several main employers within the pension fund prepaying their 3-year contributions in April 2017. This, together with the likelihood that employers will seek to reduce or extend deficit repayments at the 2019 valuation requires the Fund to increase the level of income generated from its assets whilst minimising the impact on returns as much as possible.

180. It is likely that the requirement for the Fund to generate more income to meet future liabilities and the pressure to reduce contributions will continue to grow as the Fund matures. The Fund also has c.£180m of undrawn commitments within the property and infrastructure portfolio and is currently disinvesting from equities as and when required to meet capital calls.

181. The Fund monitors its cashflow daily and looks to forecast ahead the inflows and outflows including the potential investment capital drawdowns (based on information from its fund managers) over a 12 to 18-month period.

182. Table 13 below shows the Cashflow over the past 4 years and the forecast for 2019.20 and 2020-21.

Table 13: Cashflow over the past 4 years and the forecast for 2019.20 and 2020-21

Cashflow Management	20-21 £'M	19-20 £'M	18-19 £'M	17-18 £'M	16-17 £'M	15-16 £'M
Contributions receivable	112.5*	101.0	81.8	185.2	107.8	104.3
Benefits Payable	-120.0	-113.2	-106.3	-98.0	-95.5	-93.9
Net Cashflow before investment income - surplus / deficit (-)	**-7.5**	**-12.2**	**-24.5**	**87.2**	**12.3**	**10.4**
Investment income *(**)*	43.0	43.5	51.7	35.8	29.4	38.1
Net Cashflow	**35.5**	**31.3**	**27.2**	**123.0**	**41.7**	**48.5**

Note

* *This is an estimate of the contributions to be received and is dependent on which investment 'pot' employers are placed and also if employers decide to prepay.*

*** The Investment Income includes equity dividends which are reinvested. In 2018.19 around £26m of the £51.7m related to direct cash income from some of our Property and Infrastructure investments to aid cashflow*

183. It is proposed to continue to use the Infrastructure & Property assets and explore potentially some alternative type of credit assets as suggested within the Hymans report such as multi asset credit and private debt (existing allocation already with EQT) to aid future income generation. These assets are attractive for the level of income they provide but also the predictability and stability of returns.

184. The Fund currently has no strategic allocation to cash and chooses to keep the amount of cash held within the Fund very low to maximise investment return. However, this does introduce liquidity risk. It is therefore necessary to consider the most efficient way by which income can be sourced from the Fund's existing assets to mitigate this liquidity risk and prevent the Fund form being a forced seller of assets at potentially inopportune times.

Re-balancing and liquidity waterfall

185. Even with regular income being generated from the Fund's assets the Fund may need to access capital at short notice to meet outgo. The Fund is currently disinvesting from equities to meet any additional outgo not met by the current level of contributions and income. To limit liquidity risk and prevent the Fund from being a forced seller of assets it is proposed to establish a formal re-balancing policy and liquidity waterfall framework.

186. The Committee currently monitors the Fund's investment strategy relative to the agreed strategic benchmark against the ranges in table 14 below. If ranges are breached, then appropriate discussions / debates take place and where necessary action is taken by the Chief Financial Officer

Table 14: Rebalancing Ranges

Asset Type	Strategic Target (%)	Range (%)
Equities	75	70 - 80
Fixed income	10	5 - 15
Infrastructure & Property	15	10 - 20

187. It is proposed to establish a high-level liquidity waterfall for accessing cash should it be required to fund any future investments or to pay member benefits and discuss this at the next Pensions Investment Sub Committee. An illustration of this is shown below in Appendix 2.

Section 13: Responsible Investment, Climate Change and impact investing

188. The list of reasons to invest responsibly is growing. Building a better society and protecting the planet by funding companies that treat employees with respect, conserve water and reduce climate- damaging carbon emissions is a motivation for many.

189. The growing body of research claiming that these strategies not only reduce risk, but investors do not have to sacrifice return by adopting them is another attraction.

190. A Responsible Investment (RI) or an Environmental Social Governance (ESG) investment (properly conceived) is not an asset class or sub-asset class with 30 years of history of returns data. It can be conceived of as a style within an asset class, for example within equities a sustainable approach can offer style diversification, though there is typically some overlap with the Quality style. Quality is typically useful to investors in late cycle. More universally, good ESG integration can be seen simply as good portfolio management, an indication of superior investment processes.

191. Climate change can be thought of as a risk factor and depending on Pension Committee views play a part in the asset allocation strategy. For example, Mercer's modelling of asset class returns has been augmented to consider the ways in which physical climate risks (extreme weather events, sea level rise, etc) and transition risks (technological substitution, carbon prices/ taxes, policy shifts, etc) could affect different asset classes and different sectors. LGPS Central are to provide a Climate Risk Reports to our Fund early in 2020 and will be a convenient time to take stock and assess any further action required

- Climate scenario analysis across all our asset classes
- Carbon Metric scorecard to identify our carbon footprint
- A Climate stewardship plan

Impact investing

192. Impact investing has gained a lot of traction in the past 18 months. Recently regulatory language (e.g. DWP new Statement of Investment Principles (SIP) regulations, pressure to consider beneficiaries, or the MHCLG wording on “social investment”) has paved the way for inflows into impact strategies. Again, certain fund managers have used the 17 Sustainable Development Goals (SDG’s) to productise an impact investment fund, i.e. by targeting specific development goals and intentionally seeking to invest such that a financial return, and an impact in that SDG goal obtain. SDG 2019 Report

193. It remains a challenge to fit impact investing into existing models of asset allocation. It does not appear to be a standalone asset class and, therefore we do not see asset allocators carving (for example) 5% of their allocation (though there are some exceptions). Impact strategies are available in most major asset classes (listed equities, private equity, corporate bonds, infrastructure), **and from an asset allocation it appears to us preferable to think about impact strategies within this well-established asset classes rather than as a standalone bucket.**

194. The fund already actively invests in green energy through a £52m investment in offshore wind farms through Green Investment Bank and investments in solar energy and onshore wind farms through a £46m investment in Hermes Infrastructure Fund. However, several funds have been recently developed or are in the process of being developed by LGPS Central such as

- A Sustainable Equities Framework has been instigated by West Midlands Pensions Fund with support from LGPS Central and 5 differing funds are available for future investment. Worcestershire Pension Fund was involved in the due diligence on these funds.
- The case for investing in Global Smaller Companies; and
- The case for a 2% performance capped active UK benchmark.
- Low Carbon Multi Factor sub-fund (Now launched)

195. The Fund should look closely at these and consider if they fit in or are a suitable investment as part of our SAA Framework

196. Additional specific training for Committee and Pension Board members is being provided on the 13 December. In addition, we are looking to enhance our current Investment Strategy Statement concerning Responsible Investment which will come to the March 2020 Pensions Committee for approval. A draft extract is as follows: -

Core Principle

We will use an evidence-based long-term investment appraisal to inform decision-making in the implementation of RI principles and consider the costs of RI decisions consistent with our fiduciary duties.

Associated Actions

- The Fund will consider the potential financial impact of ESG related issues on an ongoing basis (e.g. climate change or executive remuneration).
- The Fund will consider the potential financial impact of investment opportunities that arise from ESG related factors (e.g. investment in renewable energies or housing infrastructure).
- The Fund will consider investment opportunities that have positive impacts and recognises that the changing external environment presents new opportunities i.e. Renewable energy and social impact investments

197. The Fund's current approach to managing these issues is set out in the Investment Strategy Statement (ISS)[1], which contains the following under Investment Beliefs:

> ***"- Effective management of financially material Environmental, Social and Governance (ESG) risks should support the Fund's requirement to protect returns over the long term. - Investee companies with robust governance structures should be better positioned to handle the effects of shocks and stresses of future events";***
>
> and the following under Responsible Investment (RI):
>
> **"With regard to climate change risks, the Fund recognises that the scale of the potential impacts is such that a proactive and precautionary approach is needed to address them**

Conclusions

198. From an asset allocation perspective, it would be preferable to think about impact and RI strategies within well-established asset classes rather than as a standalone bucket.

199. The Investment Strategy Statement needs refreshing and will reflect the core principle in 196 above

200. Further work on this area would be required once the LGPS Central provide the Climate Risk Reports early next year and additional specific training for Committee and Pension Board members is being provided on the 13th December 2019.

Supporting Information

Appendix 1: Hymans Robertson and the key findings of the report which were reported to Pension Committee in March 2019
Appendix 2: Proposed high-level liquidity waterfall for accessing cash

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Background Papers

In the opinion of the proper officer (in this case the Chief Financial Officer) the following are the background papers relating to the report:
2016 Asset Allocation Review December 2016 Pensions Committee and the Hymans Robertson Strategy Review report to Pensions Committee in March 2019:

Appendix 1

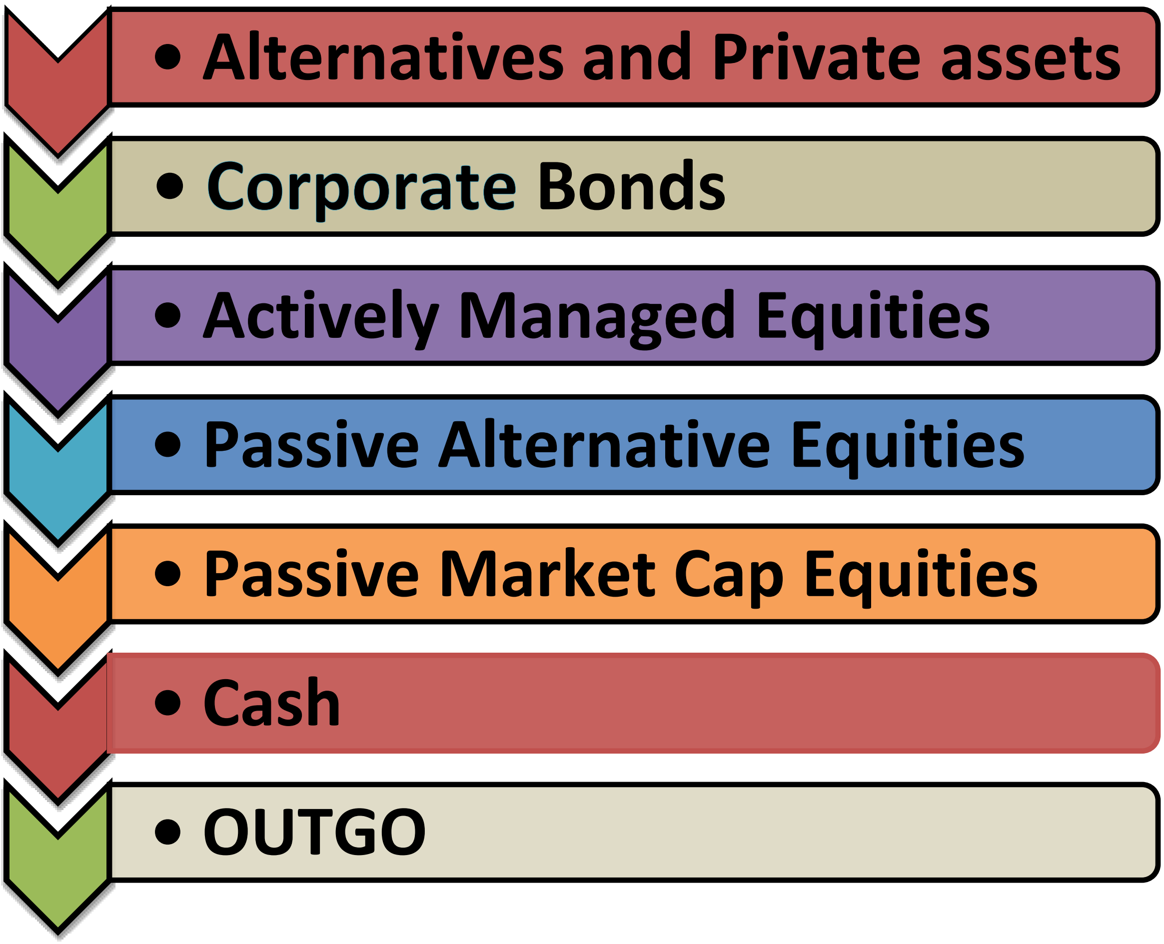
Hymans Robertson and the key findings of the report which were reported to Pension Committee in March 2019

- *The Fund looks to be in a strong place in its ability to deliver the required return against the current funding plan. Equities are clearly the main driver of return but also a significant contributor to risk. While the structured equity solution will help manage this risk if held on a rolling basis, we believe this also has the potential to impact on expected returns. (See Section 8 of this report)*
- *We believe there is an opportunity to marginally improve the expected return on Fund assets while reducing volatility by reducing the exposure to equities and allocating to alternative and income focussed assets such as multi-asset credit and private debt. (See Section 9 of this report)*
- *We are supportive of committing additional monies to private debt and multi-asset credit but would consider the timing of implementation for multi-asset credit carefully. We also support the current programme to build up the allocation to property and infrastructure as diversifying, income focussed assets. (See Section 11 of this report)*
- *De-risking into more liability focussed assets like gilts may be a more effective way of reducing risk than structured equity. However, we would not recommend doing this at present given the current outlook unless it was considered as part of a wider de-risking framework that also considered funding affordability.*
- *The future of the structured equity solution should consider the Fund's long-term objectives and impact on funding. We are not in favour of a long term rolling allocation to structured equity given the potential impact on returns. If considering whether to extend the existing solution into 2020, the Committee would need to address: (See Section 8 of this report)*
    - *whether pricing gives the required trade off in terms of downside protection and loss of upside; and*
    - *how important the risk reduction provided by a structured equity arrangement is to the funding approach and what impact it will have on funding of future service costs.*
- *We would not recommend the Fund look to de-risk into lower risk assets like gilts at present but should instead focus on diversification of risk and revisit the potential for setting funding level triggers or a risk management framework as part of the upcoming valuation. (See paragraph 33 to 38 of this report)*
- *Regarding currency risk, for the equity allocation our preference is not to try and predict the future direction of currency markets, or to implement currency hedging on a tactical basis. We do not see it as a strategic requirement for the Fund to hedge out its foreign currency exposure. (See Section 10 of this report)*
- *The Fund is likely to continue to be cashflow negative and these demands may increase in the coming years. We believe work should be undertaken to understand the likely cashflow demands of the illiquid asset commitments like infrastructure, debt and property. We also propose the Committee look to establish a high-level liquidity waterfall framework for accessing cash should it be required to fund any future investments or to pay member benefits. (See Section 12 of this report)*
- *The split between active and passive management will depend on the Committee's belief in the ability of active management to add value. However, we believe there is merit in moving the corporate bond allocation to a passive approach. (see paragraphs 108 to 113 of this report)*

- *The Committee could also consider whether the split between market cap and multi-factor remains appropriate and whether the allocation to market cap could be reduced in favour of multi-factor. (see paragraphs 132 to 142 of this report)*
- *The Committee will also need to engage with the Central pool to understand what equity style options will be offered within the pool. (see Section 4.13 to 4.15 of this report)*
- *Interest rate and inflation risk can have a significant impact on the funding position and is an important risk consideration. Our preference would be for the Fund to focus on generating long term real returns and only consider hedging if looking at managing employer specific risks or if there was an improvement in the pricing or outlook for index-linked gilts. (See Section 10 of this report)*
- *The options for mapping existing allocations across to LGPS Central should be carefully considered and a consistent framework applied to help review options and ensure good engagement with the pool. Immediate options for mapping existing allocations into LGPS Central should be considered for passive UK Equities and active Emerging market equities. (see paragraphs 39 to 41 of this report)*
- *Further strategic considerations are required for mapping the remainder of the equity allocation including passive equities ex UK, active Asian equity and factor-based equities and corporate bonds if a passive alternative is not preferred. In our view the available equity options do not meet the strategic objectives of the Fund and therefore further engagement with the Pool is needed. (See Section 7 of this report)*
- *The Fund should look to engage with the Pool regarding solutions still in development or where no equivalent options are available for existing Fund allocations such as property, infrastructure, private debt and multi-asset credit. We are supportive of the Committee's development of a core set of investment beliefs as a framework for decision making. (This will form part of the Investment Strategy Statement review)*
- *We believe that any recommendations from this report are tested against these beliefs to ensure there is a robust process for testing investment decisions that can stand up to scrutiny and can be clearly explained to external parties or new members of Committee*

Appendix 2

Proposed high-level liquidity waterfall for accessing cash



a) Should access to funds be required instantly this should be sourced from the Funds most liquid asset, ideally cash.
b) If cash is unavailable funds should then be sourced from the next most liquid asset, passive market cap equities.
c) To prevent these liquid assets being depleted, they should then be replaced by the less liquid investments, over a short period.

To establish this waterfall, process a more detailed re-balancing process would need to be put in place. Maintaining the strategic asset allocation will ensure the Fund is taking the right level of investment risk and that there remain sufficiently liquid assets to meet Fund outgo.

The parameters around such a waterfall structure should be determined by the Pensions Investment Sub Committee, considering the Fund’s specific objectives and circumstances.