East Sussex Pension Fund

Investment Manager Correlation Analysis

February 2022

isio.

Document Classification: Confidential

Introduction

Addressee

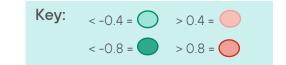
• This report is addressed to the East Sussex County Council ("the Council") as the Administering Authority of the East Sussex Pension Fund ("the Fund").

Background

- At the November 2021 meeting, the Committee raised concerns around rising inflation, the threat posed by lower central bank and government stimulus going forward, and how the Fund's investment managers might perform in such an environment.
- As well as a desire to see general correlation trends across the Fund's underlying investment managers, in particular, it was asked whether mandates with more inflation linkage in their underlying assets would act as effective diversifiers during inflationary periods.
- While the Committee decided not to proceed with a review of the direct inflation protection within the Fund's portfolio, it was agreed that Isio would prepare a correlations analysis paper. The key target outcome of the paper is to determine whether the Fund is sufficiently diversified, given the potentially challenging market outlook going forward, or whether any strategic changes or rebalancing could improve the position.

Scope of this report

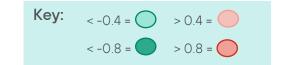
- Prepare a short paper summarising analysis of the historical correlation of the Fund's investment manager returns over various time periods, covering the following:
 - A correlation matrix of the Fund's underlying investment manager returns over the 1, 3 and 5 year periods; and
 - · Provide comments and observations based on the analysis.



1 year manager correlations

	UBS UK Equity	UBS Global Equity	Longview Equity	WHEB Equity	Wellington Equity	Storebrand Equity	Baillie Gifford Equity	Harbourvest PE	: Adams Street PE	Newton Real Return	Ruffer Absolute Return	Schroders Property	UBS Infra	Pantheon Infra	M&G Infra	Atlas Infra	M&G RED	M&G Absolute Return	M&G CBs	UBS ILG
UBS UK Equity	1.00																			
UBS Global Equity	0.69	1.00																		
Longview Equity	0.85	0.62	1.00																	
WHEB Equity	0.43	0.83	0.37	1.00																
Wellington Equity	0.54	0.86	0.44	0.85	1.00															
Storebrand Equity	0.61	0.96	0.64	0.87	0.82	1.00														
Baillie Gifford Equity	-	-	-	-	-	-	-													
Harbourvest PE	-0.18	0.02	-0.34	-0.02	0.08	-0.07	-	1.00												
Adams Street PE	0.10	0.23	0.08	0.15	-0.06	0.27	-	0.23	1.00											
Newton Real Return	0.82	0.70	0.72	0.51	0.64	0.68	-	-0.22	-0.15	1.00										
Ruffer Absolute Return	0.20	-0.07	0.38	-0.43	-0.36	-0.17	-	-0.29	-0.05	0.17	1.00									
Schroders Property	0.26	0.02	0.05	-0.06	-0.05	0.07	-	0.12	0.44	0.03	-0.42	1.00								
UBS Infra	-0.47	0.22	-0.27	0.39	0.16	0.26	-	0.24	0.31	-0.43	-0.19	-0.40	1.00							
Pantheon Infra	-0.08	0.25	-0.02	0.24	-0.02	0.28	-	0.26	0.95	-0.28	-0.07	0.21	0.58	1.00						
M&G Infra	0.22	0.21	0.07	0.16	-0.05	0.21	-	-0.10	0.73	0.05	0.05	0.20	0.07	0.64	1.00					
Atlas Infra	0.62	0.56	0.51	0.57	0.37	0.62	-	-0.04	0.54	0.50	-0.19	0.53	-0.12	0.42	0.33	1.00				
M&G RED	-0.16	-0.13	-0.47	0.03	0.09	-0.27	-	0.02	-0.44	0.08	-0.07	-0.43	-0.12	-0.39	0.01	-0.35	1.00		L	
M&G Absolute Return	0.02	-0.06	-0.05	-0.17	0.18	-0.26	-	-0.05	-0.38	-0.13	0.18	-0.41	-0.04	-0.30	-0.18	-0.54	0.35	1.00		
M&G CBs	-0.08	0.37	0.16	0.56	0.46	0.53	-	0.16	-0.16	0.25	-0.36	-0.26	0.42	-0.02	-0.31	0.15	-0.21	-0.37	1.00	
UBS ILG	-0.27	0.14	-0.01	0.43	0.21	0.31	-	0.05	-0.18	0.12	-0.20	-0.48	0.46	0.00	-0.23	0.05	-0.02	-0.39	0.91	1.00

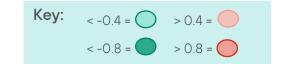
Source: Northern Trust, Isio calculations. Notes: Correlations for the 1 year period to 31 December 2021. © Isio Group Limited/Isio Services Limited 2022 All rights reserved



3 year manager correlations

	UBS UK Equity	UBS Global Equity	Longview Equity	WHEB Equity	Wellington S Equity	Storebrand Equity	Baillie Gifford Equity	Harbourvest PE	Adams Street PE	Newton Real Return	Ruffer Absolute Return	Schroders Property	UBS Infra	Pantheon Infra	M&G Infra	Atlas Infra	M&G RED	M&G Absolute Return	M&G CBs	UBS ILG
UBS UK Equity	1.00																			
UBS Global Equity	0.91	1.00																		
Longview	0.88	0.86	1.00																	
Equity WHEB Equity	-	-	-	-																
Wellington Equity	-	-	-	-	-															
Storebrand	-	-	-	-	-	-														
Equity Baillie Gifford	_	_	-	-	_	-	-													
Equity Harbourvest	0.07	0.04	0.15					100												
PE	-0.06	-0.04	-0.15	-	-	-	-	1.00												
Adams Street PE	0.01	0.02	-0.01	-	-	-	-	0.58	1.00											
Newton Real Return	0.72	0.75	0.71	-	-	-	-	-0.16	-0.12	1.00		_								
Ruffer Absolute Return	0.22	0.26	0.29	-	-	-	-	-0.13	-0.03	-0.01	1.00									
Schroders Property	0.33	0.18	0.24	-	-	-	-	0.26	0.40	0.27	-0.24	1.00								
UBS Infra	-0.38	-0.25	-0.26	-	-	-	-	0.38	0.40	-0.39	-0.09	-0.19	1.00							
Pantheon Infra	-0.11	-0.06	-0.08	-	-	-	-	0.52	0.81	-0.25	-0.01	0.14	0.69	1.00						
M&G Infra	0.06	0.01	-0.03	-	-	-	-	0.14	0.49	0.07	-0.18	0.30	0.01	0.26	1.00					
Atlas Infra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
M&G RED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
M&G Absolute Return	0.68	0.73	0.68	-	-	-	-	-0.19	-0.20	0.72	0.05	0.23	-0.34	-0.30	-0.17	-	-	1.00		
M&G CBs	0.38	0.55	0.44	-	-	-	-	-0.03	-0.10	0.62	-0.01	-0.02	0.04	-0.08	-0.26	-	-	0.62	1.00	
UBS ILG	-0.04	0.16	0.06	-	-	-	-	0.16	0.04	0.27	-0.06	-0.17	0.40	0.19	-0.20	-	-	0.14	0.73	1.00

Source: Northern Trust, Isio calculations. Notes: Correlations for 3 year period to 31 December 2021. © Isio Group Limited/Isio Services Limited 2022 All rights reserved



5 year manager correlations

	UBS UK Equity	UBS Global Equity	Longview Equity	WHEB Equity	Wellington S Equity	Storebrand Equity	Baillie Gifford Equity	Harbourve st PE	Adams Street PE	Newton Real Return	Ruffer Absolute Return	Schroders Property	UBS Infra	Pantheon Infra	M&G Infra Atlas Inf	a M&G RED	M&G Absolute Return	M&G CBs	UBS ILG
UBS UK Equity	-									Kotam	Kotum								
UBS Global Equity	-	-																	
Longview Equity	-	-	1.00																
WHEB Equity	-	-	-	-															
Wellington Equity	-	-	-	-	-														
Storebrand Equity	-	-	-	-	-	-													
Baillie Gifford Equity	-	-	-	-	-	-	-												
Harbourves t PE	0.00	-	-0.12	-	-	-	-	1.00											
Adams Street PE	0.02	-	-0.02	-	-	-	-	0.61	1.00										
Newton Real Return	0.73	-	0.68	-	-	-	-	-0.10	-0.09	1.00									
Ruffer Absolute Return	0.28	-	0.31	-	-	-	-	-0.07	-0.01	0.05	1.00								
Schroders Property	0.30	-	0.18	-	-	-	-	0.21	0.37	0.20	-0.23	1.00							
UBS Infra	-0.30	-	-0.15	-	-	-	-	0.41	0.40	-0.29	-0.06	-0.18	1.00						
Pantheon Infra	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
M&G Infra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Atlas Infra M&G RED	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-			
M&G	0.40		0.41					0.01	0.00	0.45	0.00	0.10	0.01				100		
Absolute Return	0.63	-	0.61	-	-	-	-	-0.21	-0.22	0.65	0.09	0.19	-0.31	-		-	1.00		
M&G CBs UBS ILG	0.35 -	-	0.34	-	-	-	-	0.02	-0.05	0.60	0.03	-0.03	0.05	-		-	0.57	1.00	_

Source: Northern Trust, Isio calculations. Notes: Correlations for 5 year period to 3` December 2021.

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Summary

Key Takeaways

We believe key takeaways from this analysis should be primarily focussed on the longer 3 and 5 year analysis periods. With that in mind, and based on the managers available, the portfolio appears well diversified, with some high level conclusions as follows:

- As is expected, the Fund's equity manager returns are all relatively highly correlated with each other; however differing approaches and management styles (active vs passive, ESG vs standard) mean that an element of diversification is present within the equity holdings. This is particularly evident over shorter time periods (with varying styles expected to perform differently in differing market conditions).
- The Fund's real asset managers (infrastructure and property) exhibit negative or low correlations with the Fund's other mandates, and act as effective diversifiers to the overall portfolio (this is in line with our expectations and the strategic rationale). Over the short term, the ATLAS infrastructure fund has provided less diversification, particularly relative to equity holdings; this is to be expected given the fund invests in listed rather than private infrastructure firms.
- The multi-asset mandates also provide effective diversification, particularly Ruffer Absolute Return, which shows low or negative correlations with all other mandates.
- UBS index-linked gilts and M&G corporate bonds appear highly correlated with each other (which is unsurprising given their interest rate exposure); however both provide diversification relative to higher risk mandates (with the former also providing inflation protection).
- The Fund's private equity managers also exhibit low or negative correlations with the other mandates, as a result of differing return drivers to public markets, as well as the lagged nature of private market valuations.
- It is worth noting that there are a number of gaps in the data as we have relied on data provided by Northern Trust and, as such, the data only covers the periods in which the Fund has been invested in the respective funds.

Looking Forward

- Given the key takeaways outlined, the Fund is well diversified across its existing holdings.
- Moving forward, in line with the strategy review presented in July 2021, the Fund intends to add new managers in infrastructure, private credit and inflation linked property, which should further diversify the Fund's overall holdings and increase its protection against rising inflation.
- We believe the above outlined changes are sufficient to compliment the Fund's existing holdings from a diversification perspective without any further significant strategic change needed at present.
- We believe this analysis could be used as a tool to inform any short term strategy rebalancing.

Thank you

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