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Cambridgeshire Pension Fund

Use of Derivatives

November 2024
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Derivatives exposure

Fund year to 31 March 2024

14(a). RECONCILIATION OF MOVEMENTS IN INVESTMENTS AND DERIVATIVES

	Market value 01-Apr-23	Purchases during the year and derivative payments	Sales during the year and derivative receipts	Change in market value during the year	Market value 31-Mar-24
	£000	£000	£000	£000	£000
Equities	0	215,860	-194,372	298,689	**320,177**
Bonds	197,030	0	-9,708	-187,322	**0**
Pooled investments	2,854,045	891,228	-975,264	260,874	**3,030,883**
Pooled property investments	267,510	130,198	-10,237	-5,833	**381,638**
Private equity/infrastructure	879,370	82,884	-46,397	13,715	**929,572**
	4,197,955	**1,320,170**	**-1,235,978**	**380,123**	**4,662,270**
Derivative contracts:					
• Purchased/written options	1,442	1,760	0	-3,202	0
• Futures	0	6	-152	173	27
• Forward Currency Contracts	0	71	0	-71	0
	4,199,397	**1,322,007**	**-1,236,130**	**377,023**	**4,662,297**

Source: Pension Fund annual report, 2023/24

During the Fund year to 31 March 2024, the Fund had direct exposure to a number of derivative contracts:

- Options
- Futures
- Forward contracts

- Direct exposure relates to derivatives **where the Fund is a named counterparty to the contract**. This is required where the Fund invests in a segregated portfolio (i.e. has direct ownership of the underlying assets), however an investment manager is responsible for any derivatives trading activity. The Fund has economic exposure to the terms of the contract.

- Indirect exposure relates to derivatives **where the Fund is not a named counterparty, but has economic exposure to the contract**. For example, where the Fund invests in units in a pooled fund, and the underlying fund manager enters into derivatives contracts.

Derivatives

What are they and what are they used for?

Derivatives are financial instruments whose value is ‘derived’ from an underlying asset (i.e. a stock, bond, currency or commodity) or benchmark (an index or a return based on an agreed measure of interest rate or inflation).

Options

Give the holder the right, but not the obligation, to buy or sell an asset at a specified price within a specific timeframe

Futures

Standardised agreements to buy or sell an asset at a predetermined price and date

Forwards

Customised agreements to buy or sell an asset at a predetermined future price and date.

Swaps

The exchange of cash flows or liabilities between two parties based on predetermined terms

They have a range of potential uses, improving portfolio management efficiency and risk management, including hedging (i.e. to mitigate risks associated with price fluctuations, interest rate changes, or currency fluctuations) or speculation.

Derivatives

What has the Fund used them for?

The Fund's use of derivatives has focused on risk management or 'hedging' purposes. During the Fund year to 31 March 2024 the following activities resulted in direct derivatives exposure:

Equity Protection

The mandate, managed by Schroders (formerly River & Mercantile), sought to protect against equity downside risk by **buying and selling options** on underlying equity indices[a].

The Fund's equity protection mandate expired in May 2023.

Portfolio Management

UBS use **futures** for purposes of efficient portfolio management in the segregated Osmosis portfolio – specifically, residual cash balances are used to purchase index futures (e.g. S&P 500 index future) to gain economic exposure to equity markets and reduce tracking error vs the benchmark index.

Transition Management

Forward Currency Contracts relate to a currency trade to manage US Dollar risk vs £ Sterling on c.£10m of cash balances involved in the transition from UBS passive equity to Osmosis in May 2023.

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(a) Further detail of equity protection structure shown on slide 9.

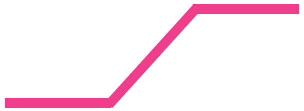
Equity protection

Options on equity indices

TYPES OF PROTECTION

DOWNSIDE PROTECTION

"Pay a premium to protect against losses"



COLLAR PROTECTION

"Nil premium, full protection in return for giving up upside"

SPREAD PROTECTION

"Nil premium, limited protection, more upside"

INSTRUMENTS AVAILABLE

Call option – An option to buy an equity index at an agreed price & date

Put option – An option to sell an equity index at an agreed price & date

The Fund's equity protection mandate was structured as a "put spread collar" that provided some downside protection by foregoing upside above an agreed level. Slide 10 provides further details.

A 'nil premium' structure meant there was no initial "payment" to achieve this protection. Instead, options were both bought and sold.

The options expired in May 2023, aligned with a decision not to maintain the equity protection mandate in recognition of the Fund reducing its overall equity exposure following the investment strategy review.

Where might they be used in future?

Currency Hedging

If the Fund employs a currency hedge overlay to efficiently manage currency risk across the Fund’s exposures (as discussed earlier in 2024), a segregated mandate may be appropriate in order to tailor the mandate to the Fund’s specific exposures and objectives.

This would likely require the use of derivatives (typically currency forwards) to achieve the desired level of currency hedging, with regular trading required to recalibrate the hedge profile.

Indirect exposure

Underlying pooled fund managers will continue to use derivatives for efficient portfolio management purposes and for currency hedging. The Fund is not a direct counterparty to such contracts (and they would not therefore be reflected in the annual report) but it would retain economic exposure to the performance of these contracts.

Appendix

Key risks and mitigations

Regret risk:

a) Buying protection that expires worthless. However, like insurance, you hope it does not have to be used. This can be mitigated by entering into a ‘nil premium’ structure.

b) Missing out on market upside. The Fund will miss out on the opportunity to have made more returns. Can be mitigated through setting upside cap.

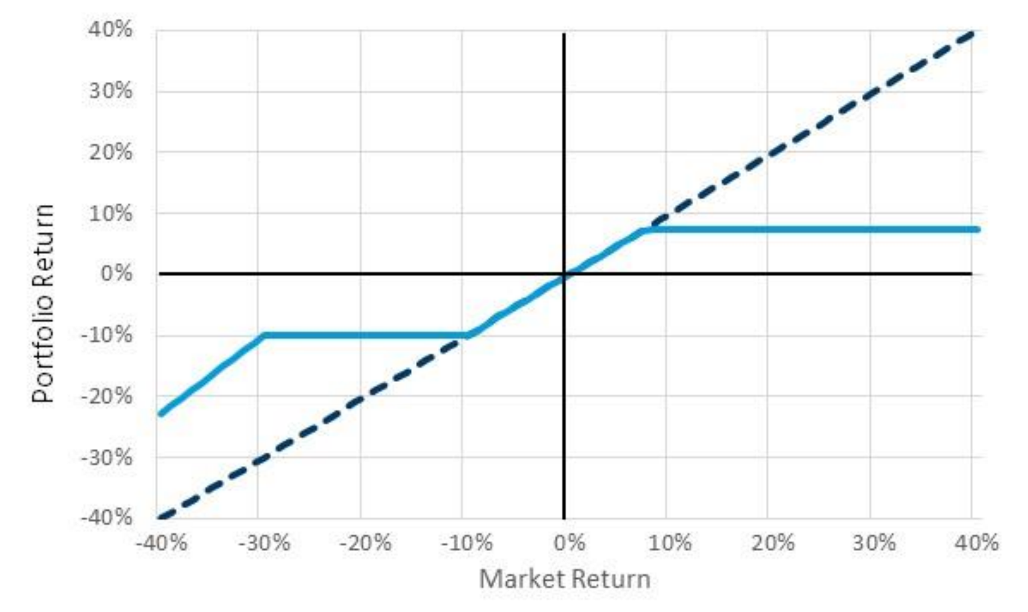
Basis risk: It may not be possible to exactly hedge the underlying ‘physical’ exposure. Performance of the derivative contract / structure may therefore deviate substantially from the underlying asset / index.

Derivative counterparty risk: Risk of counterparty to the contract defaulting. This is mitigated by the choice of counterparty, diversification of counterparty and via collateralisation.

Recapitalisation risk: May incur daily ‘market-to-market’ losses due to providing collateral to cover changes in value of the underlying assets / indices.

Equity protection parameters

Nil-premium 70-90 put spread collar



Parameters vs previous structure

Parameter	Target	Comments
Structure	A nil-premium put-spread collar	**As per current structure.** Protects against substantial market falls whilst providing sufficient scope to generate the level of equity return strategically required.
Coverage	Passive market cap exposure (£625m)	**Increased from £600m** to reflect the growth in the Fund's listed equity values. A partial approach remains appropriate (i.e. covering c.25% of the Fund's listed equity exposure).
Maturity/Term	12 months	**As per current structure.**
Starting Point	May 2022	To coincide with the existing contracts maturing
End Point	End May 2023	12 months from starting point.
Protection Start	10% fall	**As per current structure.**
Protection Ends	30% fall	**As per current structure.**
Upside cap and setting of minimum cap level	Set to make structure nil-premium. Determined at implementation.	**As per current structure.** Cap needs to allow sufficient scope for upside capture, we suggest **maintaining the minimum cap of 7.5% p.a.** Corresponding price level set for the term of the structure i.e. any rolled structure needs to be able to achieve this initial market price level. [1]
Equity Index	70% US 20% Europe 10% Japan	**As per current structure.** We believe this is an appropriate proxy for the Fund's global asset exposure, noting the 25% coverage, while providing a balance in terms of ongoing governance and costs.

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Importance of collateral

Collateral

Collateral is a term used to describe liquid, high quality assets (e.g. gilts and cash) that are required by an investor to back a derivatives contract.

It is typically smaller in value relative to the amount hedged.

Daily process

The majority of derivatives contracts require daily collateralisation.

Each day, the contract is valued and it can be either negative or positive depending on the movements of the underlying asset.

Counterparty credit risk

If negative, the investor owes the other counterparty and must pass collateral to the counterparty.

If it is positive, the counterparty passes collateral to the investor.

This daily collateralisation process mitigates credit risk.

Efficient Portfolio Management

Usage of Futures by UBS to manage regional market exposure

Exchange traded index futures may be used for purposes of efficient portfolio management to hedge cash balances and to ensure the portfolio is fully invested at all times. This cash reserve provides a useful source of funds to finance the purchase of new index constituents, thus reducing portfolio turnover. The amount of hedged cash is controlled to ensure it does not rise to a level that would jeopardize the overall tracking of the portfolio, with investment made into the underlying benchmark stocks when necessary.

Futures positions are valued at full economic exposure, so funds are never geared, and normally represent less than 2% of the fund value unless there is a known index event requiring a substantial cash investment in the near future when this limit may be temporarily exceeded. The main index futures contracts that we would typically use include: S&P 500 Index Futures, FTSE 100 Index Futures, FTSE 250 Index Futures, EUROSTOXX 50 Index Futures, CAC 40 Index Futures, DAX Index Futures, MSCI EMU Index Futures, MSCI World Index Futures, MSCI Emerging Markets Index Futures, TOPIX Index Futures, SMI Index Futures, S&P/ASX 200 Index Futures, TSE 60 Index Futures, Hang Seng Index Futures.

The use of index futures falls within our standard multi-layer risk control framework, implemented through our robust fully-automated portfolio management system where we monitor closely exposures and tracking errors, and view, via the futures look-through functionality, the underlying holdings of the index futures. In addition, every trade has to go through independent pre-trade checks and all positions are independently checked daily by Sentinel, our pre- and post- trade restrictions system. These checks ensure the portfolio remains within its set controls, is never geared on a full exposure basis or subject to a high unequitized cash balance that could cause performance drag.

Source: UBS

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