# Cashflow Driven Investing for defined benefit pension schemes

Secure income investing in a low-yield environment

Alpha Real Capital

## Cashflow Driven Investing overview

The path to 'self-sufficiency' for defined benefit pension schemes was never expected to be smooth but few Trustees could have predicted the journey pension scheme funding levels have taken since the global financial crisis ('GFC'). Most pension schemes were not fully hedged against changes in UK interest rates and have experienced significant increases in their liabilities as UK government bond yields (used to discount their liabilities) have fallen and kept on falling beyond what many commentators believed possible (see charts 1 and 2). The rise in liabilities since the GFC, has resulted in increasing concerns about the need to improve returns and generate cashflow to meet member benefits as schemes mature.

### Traditional LDI approach

Most pension schemes have been partially protected from changes in UK interest rates by holding nominal and index-linked government bonds. A significant number of schemes have also combined their UK bond investments with derivatives, such as 'swaps' and 'repos' in order to leverage and match the shape and duration of their liabilities to better manage liability risks, in what is known as Liability Driven Investing ('LDI').

An LDI approach to portfolio construction divides an investment strategy into two components; one that manages liability risk and one that attempts to generate an appropriate level of investment returns to meet pension scheme liabilities as they fall due. This LDI approach seeks to enable Trustees to carry a level of interest rate and inflation risk that they are comfortable with whilst selecting a set of return-seeking assets to outperform their liabilities. This, combined with a sponsor contribution schedule should give Trustees a path to 'self-sufficiency' given a suitable level of risk and time horizon agreed with the scheme sponsor.

**Chart 1: UK defined benefit pension schemes assets and liabilities over time (£bn)[1]**

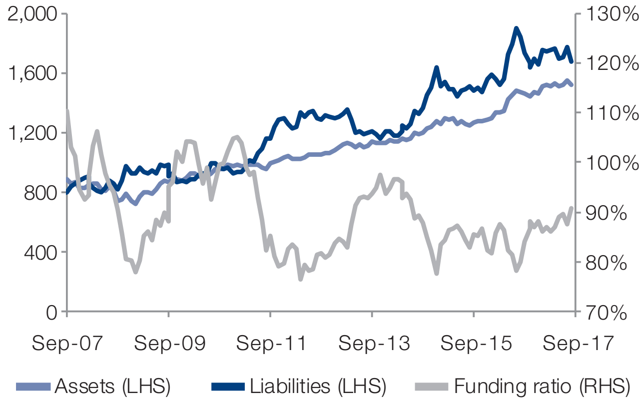
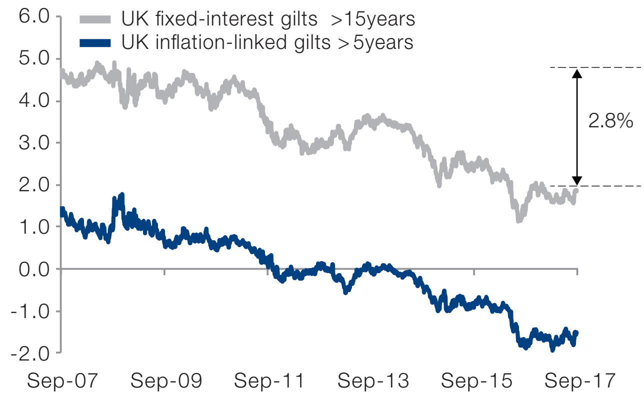



**Chart 2: UK government bond yields over time (%)[2]**




Sources: 1) Payment protection fund PPF 7800, 2) Barclays

### The rise of Cashflow Driven Investing

As underfunded pension schemes mature and with real yields having fallen to circa -1.5% as at 30 Sept 2017[2], traditional secure income generating assets such as UK government bonds are less attractive from an income perspective. This has resulted in an increasing number of Trustees turning their attention to alternative secure income producing assets, that can be grouped together as Cashflow Driven Investments ('CDIs'), which in Alpha Real Capital's view are defined as:

## 'Assets which provide an index-linked or nominal, contractual, secure cashflow with a yield pickup over UK government bonds'

CDI can build on the traditional LDI approach of splitting a portfolio between liability hedging and return seeking assets by adding a third section of assets which are specifically focused on generating secure income.

This approach can help to meet the cashflow requirements of defined benefit pension schemes whilst also providing a yield pickup over UK government bonds.

### The path to self-sufficiency

| **Required return** | | **LDI** | | **CDI** | | **Asset growth** |
|---|---|---|---|---|---|---|
| Liabilities<br>+<br>x% return | = | Assets to hedge liabilities | + | Assets to generate cashflows | + | Assets to generate capital return |

> This paper looks at the what, the why and how of CDI. Identifying assets which Alpha Real Capital considers CDI, why we feel CDI is attractive for pension schemes, and how to assess and invest in CDI.

Sources: 2) Barclays

## Example Cashflow Driven Investments

The CDIs shown in the table below have been selected because they all seek to provide a secure contractual cashflows with a yield pickup over UK government bonds. For commercial balanced real estate and REITs, whilst they typically generate income, often the cashflows are either not contractual (e.g. PRS and student accommodation) or are subject to asset price volatility (e.g. REITs) that make them unsuitable to be classed as secure CDIs. Alpha Real Capital however views commercial real estate let on long leases as suitable CDIs, for example, social real estate assets, which have Full Insuring and Repairs (FRI) leases providing contractual income for in excess of 20 years, typically with annual CPI or RPI rental uplifts.

**Table 1:** Example CDIs

| | LDI | CDI | Other |
|---|---|---|---|
| UK government bonds | ✔ | | |
| Investment grade corporate bonds | | ✔ | |
| Infrastructure debt | | ✔ | |
| Commercial real estate debt | | ✔ | |
| Lifetime mortgages | | ✔ | |
| Commercial ground rents | | ✔ | |
| Commercial balanced real estate | | | ✔ |
| Commercial long lease real estate | | ✔ | |
| REIT/Listed yield co | | | ✔ |

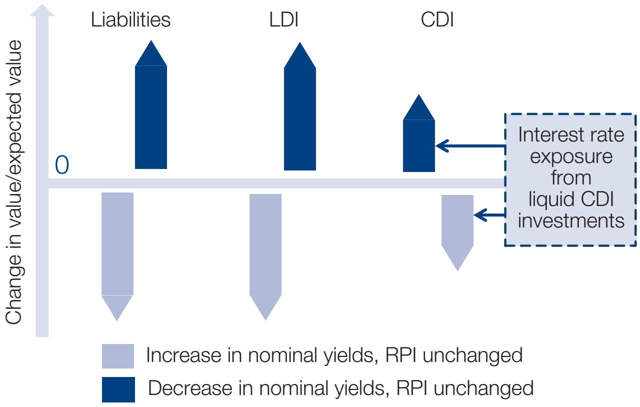
## Portfolio construction – LDI and CDI complement each other

A key difference between LDI and CDI is the categorisation between a liability matching and a cashflow matching investment.

As discussed, LDI portfolios are designed to directly respond to changes in UK defined benefit liabilities, so as real government bond yields decline and pension fund liabilities increase, so does the value of the LDI portfolio – providing a direct hedge to changes in scheme liabilities (see chart 3).

For CDI however, it depends on the underlying asset and in particular its liquidity:

**Chart 3:** Comparison between LDI and CDI – changing UK Government bond yields




**1)** Illiquid assets (e.g. commercial ground rents and long lease property) are not instantaneously responsive to changes in real bond yields, so do not provide a direct liability hedge. However, illiquid CDI yields and UK government bond yields do tend to be positively correlated over longer time horizons as the illiquid asset yields eventually shift to reflect the change in market conditions.

**2)** Liquid assets at the other end of the spectrum (e.g. investment grade corporate bonds and infrastructure debt), do provide a hedge against changes in interest rates and this exposure should be included within an LDI portfolio.

In terms of inflation, LDI portfolios are typically designed to hedge this risk. However, with CDI, there is again a spectrum, with some assets providing explicit inflation hedging (e.g. commercial grounds rents), others providing an inflation correlation (e.g. long lease property with 5 yearly RPI (1,4) uplifts), and others providing fixed cashflows (e.g. lifetime mortgages).

It is important for Trustees to speak to their investment consultant or investment manager to look through to the underlying CDI to understand to what extent it is hedging interest rate and inflation risk, as this will need to form part of the LDI strategy in order to accurately target a scheme's desired hedge ratios.

In short, LDI provides the majority of a scheme's interest rate and inflation hedging, whilst CDI generates the cashflow required to meet member benefits.

## Potential advantages of CDI for defined benefit pension schemes

### 1) Improving portfolio diversification and portfolio efficiency

Assets that generate secure cashflows, have different return drivers to liquid return-seeking assets such as equities. Adding these to a portfolio can improve its risk-adjusted return. For example, increasing a portfolio's allocation to CDI from a combination of LDI and return-seeking assets has the potential to achieve the same expected return at a lower level of risk (or vice versa) (see table 2).

### 2) Enhancing the cashflow yield of the portfolio

If Trustees shift some of their portfolio from low-yielding LDI they can significantly improve the cashflow yield of their portfolio, which is particularly valuable for cashflow negative pension schemes. This can help to mitigate the need to sell down more volatile risky assets at inopportune moments; crystallising losses in a falling market, which can have a significant compounding impact overtime.

Further, having a higher cashflow yield also helps reduce a Trustee's governance burden from making disinvestment decisions as well as potentially reducing transaction costs, including commissions and spreads.

### 3) Increasing security and predictability of cashflows

CDIs generate secure, predictable cashflows (relative to cashflows generated by traditional return-seeking assets) which is important in planning future member benefit payments.

### 4) Yield pickup above liabilities

CDIs generate a yield above liabilities, unlike government bonds, which can help to close the funding gap in underfunded schemes, whilst still providing a high degree of income security.

**Table 2: Potential for lower risk (same risk) with same expected return (higher expected return)**

| Illustrative portfolio allocation % | | Traditional | CDI: higher return | CDI: lower risk |
|---|---|---|---|---|
| **Return seeking** | Equities | **25%** | **20%** | **15%** |
| | Core property | 10% | 10% | 10% |
| | REITs | 5% | 5% | 5% |
| | EMD | 5% | 5% | 5% |
| | Hedge funds | 5% | 5% | 5% |
| | Global credit | 10% | 10% | 10% |
| **CDI** | Diversified portfolio | **0%** | **20%** | **20%** |
| **LDI** | Index-linked and nominal gilts, cash | **40%** | **25%** | **30%** |
| **Liability hedge ratio** | | 70% | 70%* | 70%* |
| **Annualised expected return above liabilities – 10 year** | | 2.2% | 2.4% | 2.2% |
| **Annual portfolio volatility** | | 7.6% | 7.6% | 6.7% |

* Maintained with leverage

## Assessing CDI – reward for running various risks

### The return on CDIs will typically be a function of the yield demanded for running various risks.

Trustees should consider the implications of carrying these risks and what they mean relative to the appropriate UK government bond benchmark:

**Illiquidity risk** – the risk of holding an asset that cannot quickly be converted into cash at fair market value. This is a reward for investing for the longer term. Pension schemes should be comfortable holding a part of their allocation to illiquid assets as long as there is enough liquidity in the portfolio to withstand downside scenarios.

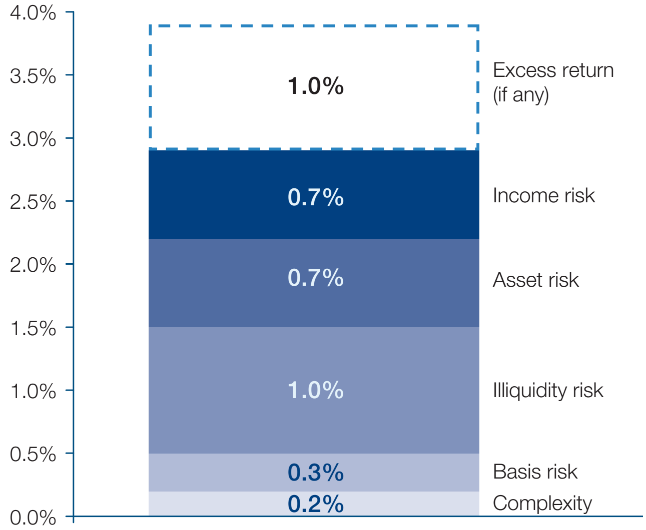
**Asset risk** – the return attributed to the exit value of the underlying asset, the volatility of the exit value and the potential impact this has on expected return. The longer the contracted cashflows, the less significant the asset risk as the income received overtime dominates the return from the exit value. Some CDIs remove asset risk by having fully amortising structures.

**Income risk** – the security of rental income (covenant/credit risk) is the sustainability of a counterparty's business model and the ability to replace, or recover lost income in the event of default. CDIs target assets with a high degree of income security based on quality of the counterparty and/or collateral.

**Complexity risk** – the risk assumed as a result of the additional upfront or ongoing complexity of investing in CDI.

**Basis risk** – the risk that the value of the asset does not move in line with the pension scheme's swap or gilt based liability benchmark. CDIs carry varying degrees of basis risk. Analysis will need to be undertaken on the impact of CDI basis risk from switching matching assets to CDI.

**Chart 4: Assessing CDI – example spread over UK Government bonds**




## Additional considerations


The challenge for some CDIs is in asset origination. Trustees need to select investment managers with a compelling origination strategy and track record.


The requirement for cashflow amongst UK defined benefit pensions schemes and self investing pensioners provides a long term demand for CDIs. For schemes considering buyout, not all CDIs are suitable and consideration will be needed as to how CDI fits into Trustees' long term investment strategies.

## How to invest?

When considering how to invest, Alpha Real Capital have seen a number of different paths taken by Trustees:

- **Dynamic de-risking** – some Trustees have included it as part of their dynamic de-risking strategy, investing a proportion in CDI instead of LDI when their funding level has outperformed the Recovery Plan
- **Disinvest from LDI** – others have switched from LDI to get a return pick up, with some Trustees increasing the leverage within their LDI portfolio to maintain the level of interest rate and inflation hedging
- **Disinvest from return-seeking assets and LDI** – some have sold a mixture of return-seeking assets and LDI, in order to try and improve portfolio diversification and efficiency.

## What about governance?

CDI is not as tricky from a governance perspective as you might think, with many schemes already invested in forms of CDI (think investment grade corporate bonds, long lease property).

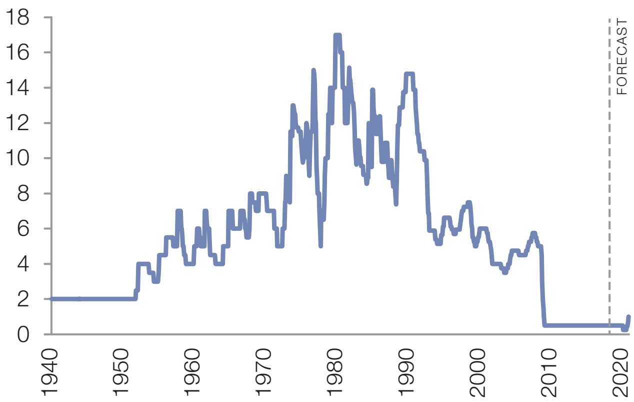
There is likely to be more of a focus compared to traditional assets on the initial set up. However, once in place there should be a relatively low governance requirement, with emphasis on monitoring the strategy to confirm that the hedging is working and that the assets are delivering their cashflows as planned.

For Trustees that recognise the appeal of CDI but are cautious to avoid upfront significant changes to the portfolio, a potential solution is to work towards a CDI strategy over time, using incremental changes to gradually shift the focus towards CDI as a long-term aim.

## Conclusions

Since the GFC, the decline in UK government bond yields has left many defined benefit schemes with significant funding deficits. In the current low-yield environment, mature pension schemes are looking for secure income generating assets that provide a yield pickup over UK government bonds in order to help meet member benefit payments and close funding gaps.

**Chart 5: UK interest rates over time (%)**
Is the current low yield environment the ''new norm''?




CDI target assets that specifically meet these cashflow requirements, such as investment grade corporate bonds, infrastructure debt, commercial real estate debt, lifetime mortgages, commercial ground rents and long lease property.

The cashflow CDI generates helps to mitigate the sale of other assets at inopportune moments and provides diversification benefits from accessing alternative return drivers compared to traditional investments.

Alpha Real Capital believe CDI should be considered as part of a holistic investment strategy, providing a yield pickup over UK government bonds to help close scheme funding gaps whilst generating secure cashflows to help meet member benefit payments as they fall due.

> Alpha has developed a number of CDI solutions including the Social Long Income Fund which invests in UK social real estate and the Index Linked Income Fund which invests in UK commercial ground rents

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