Invesco

An introduction to CDI
Sourcing and preserving income with greater certainty

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Introduction

The challenge of investing to meet pension scheme liabilities increasingly demands innovative thinking. The growing problem of how Defined Benefit schemes can meet rising cashflow requirements offers a compelling illustration.

Many schemes that are closed to future accrual and reaching "peak asset value" must shift their focus towards delivering predictable levels of income rather than total returns. Cashflow-driven investing (CDI) can offer an especially effective means of achieving this goal.

In this document we seek to answer four key questions:

- What is CDI?
- Why is a Buy and Maintain strategy important within CDI?
- Which assets should make up a CDI solution?
- How can CDI be implemented within a scheme's existing portfolio?

What is CDI?

CDI is an umbrella term for bespoke investment solutions that are designed and managed to mitigate the risk of a Defined Benefit pension scheme holding insufficient cash when liabilities fall due.

An open and growing scheme tends to focus on "growth" assets, generating high and diversified total returns while hedging "unrewarded" risks such as changes in interest rates and inflation. However, growth assets may need to be sold before they have delivered the returns required of them. As a scheme matures and its asset pool starts to decline, recovering lost returns from the remaining assets becomes harder.

CDI solutions aim to address the risks and costs that can arise from forced selling and sequencing risk. They consider both the level and timing of income needed to achieve full funding and meet liabilities. Although the range of assets within a CDI portfolio can vary from manager to manager, all assets are held with the intention of providing sufficient income to meet a scheme's cashflow requirements over time.

Asset growth will usually need to outpace liability growth to reach this position, but the focus will be on high and predictable income rather than uncertain capital growth. Assigning assets as "growth" or "liability matching" becomes less useful as a scheme matures, and this "barbell" approach can limit the pace of de-risking as capital growth is baked into the liability discount rate but may not be delivered in practice.

Strategies therefore need to evolve towards holistic cashflow delivery, providing both growth and stable income. As we will see, Buy and Maintain Credit can be a key source of both. LDI funds will continue to be an important tool for hedging residual interest-rate and inflation risk until this risk can be fully hedged with physical assets, and higher-income assets will be required to close deficits.

In short: a CDI approach can deliver a similar level of return but with more certainty, allowing more de-risking to happen sooner.

Why is a Buy and Maintain approach important within CDI?

A Buy and Maintain approach is one of the strategies by which CDI aims to source and preserve income with greater certainty. It seeks to mitigate several key risks that a maturing Defined Benefit pension scheme faces – specifically:

- Locking in losses when bonds are sold
- Reinvesting cashflows at unknown yields
- The return drag in LDI portfolios from gilts and the cost of leverage

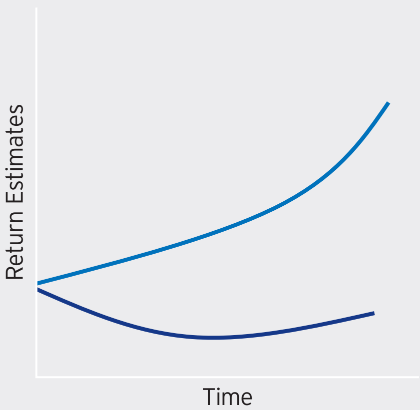
It is important to consider the appropriate measure of risk. Buy and Maintain fixed income may have similar "risk" to equities on a one-year measure, even though the latter has very limited liability-matching characteristics, as illustrated in the charts below.

Viewed using the appropriate risk measures, a Buy and Maintain fixed income approach can substantially increase the certainty of returns to pay pensions.

How assets can vary in return estimations

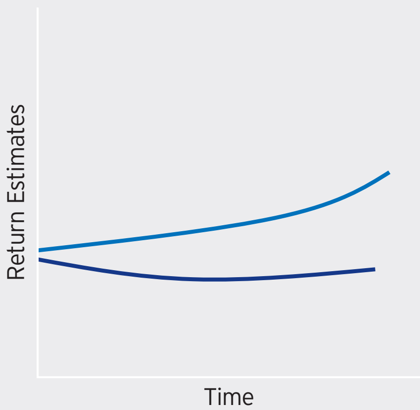
95th percentile forecasts
5th percentile forecasts

Equities



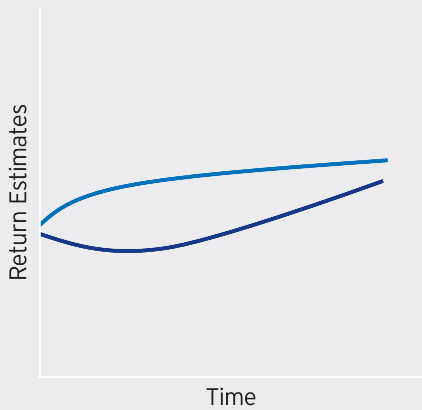
Equities and similar growth assets have a high dispersion of potential returns. This exposes mature schemes to the risk of locking in losses if these assets need to be sold before they have delivered the returns required of them.

Traditional Fixed Income



Fixed income strategies that need to rebalance or maintain a constant duration also pose the risk that bonds might be sold at unknown future prices and reinvested at unknown future yields.

Buy and Maintain Fixed Income



Assets that are held to maturity reduce the uncertainty of a bond's value. Such an approach should capture a credit risk premium and lock in additional value.

Source: Invesco. For illustrative purposes only.

Which assets should make up a CDI solution?

We believe that a successful CDI solution – one that unites the objectives of traditional growth and matching portfolios to liabilities – requires assets that combine duration and stable income.

- **Duration:** Assets with a high degree of cashflow certainty, held with both a long time horizon and low turnover
- **Stable income:** High-quality, public, private, fixed-rate and floating-rate assets that deliver a steady stream of income over time

A diverse opportunity set can be crucial in achieving this combination. As a global asset manager, Invesco is able to draw on such a set in designing and implementing optimal CDI solutions for clients.

How Invesco strategies can support a CDI solution

Category	Role	Example strategies / capabilities
Liquid		
Cash	Meets short-term cash needs	– Invesco Sterling Liquidity Strategy – Invesco Fixed Income ETFs
Investment Grade Credit	Matches cashflows and delivers yield above gilts with high degree of capital preservation	– Invesco Global Buy and Maintain Credit
Multi-Sector Credit	Delivers higher contractual income from credit risk to close deficit with lower drawdown risk	– Invesco Multi-Sector Credit
Illiquid		
Private Debt	Captures illiquidity premium and delivers lower volatility to close deficit with lower drawdown risk	– Invesco Credit Partners – Invesco Real Estate Debt
Real Assets	Provides opportunities for capital and inflation-linked growth	– Invesco Real Estate – Access to diversified private markets
Overlay		
Derivatives	Hedges risks and protects capital	– Interest rate and inflation overlay – Volatility control – Equity options

Source: Invesco. For illustrative purposes only.

How can CDI be implemented within a scheme's existing portfolio?

A vital consideration in implementing a successful CDI solution is how asset allocation evolves over time as market conditions and client return requirements change. An example of this evolution is shown in the illustration below.

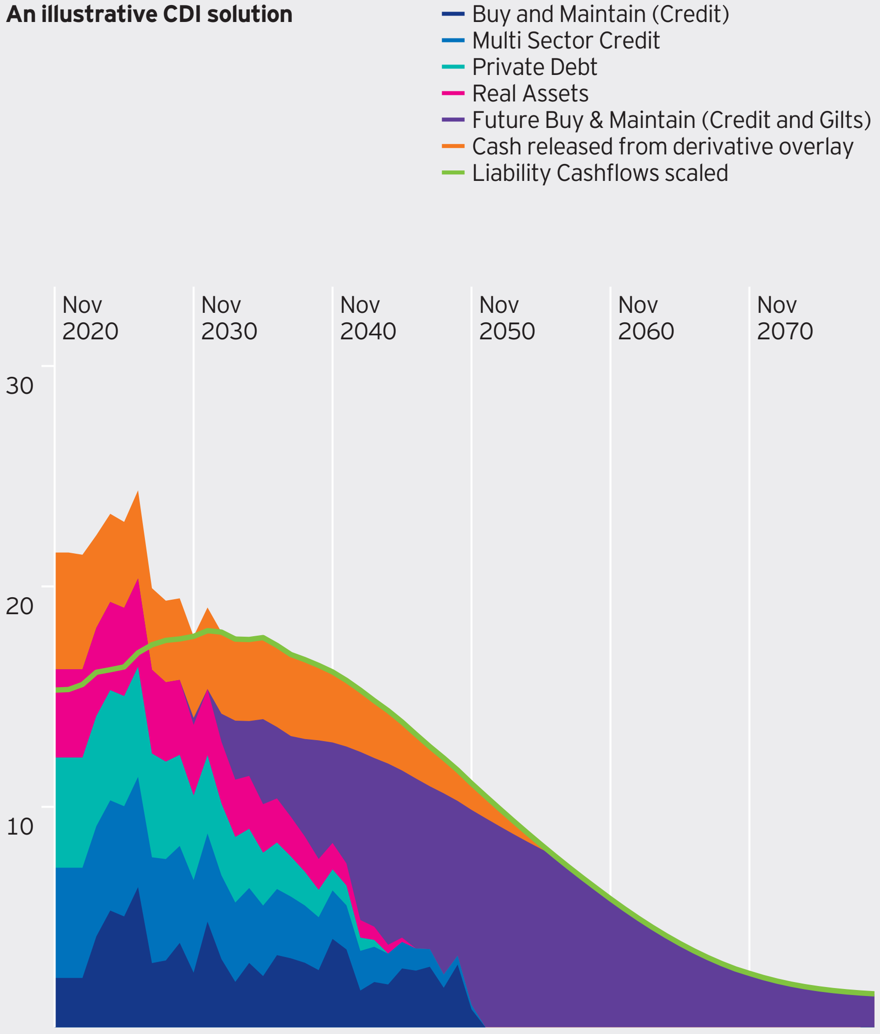
The solution shown here initially includes higher-yielding assets such as multi-sector credit, as well as Buy and Maintain Credit. This allows the scheme to de-risk from pure growth assets more rapidly and to a greater extent than would be possible by de-risking into gilts and investment-grade credit alone. A diversified portfolio of fixed income can deliver lower risk for the same level of return in comparison to one that holds equities, which carry notable drawdown risk, and LDI instruments with very low yields.

The growing allocation to long-duration credit also allows assets backing leveraged LDI to be extracted over time, as the whole portfolio is delivering greater liability matching. Meanwhile, a Buy and Maintain Credit manager can invest de-risking proceeds as and when affordable to build towards a full liability cashflow match by the time the scheme is significantly mature.

It is important from the outset that an asset manager is able to conduct robust, multi-asset cashflow and risk modelling to provide greater outcome certainty and avoid making the unnecessary choice between higher returns and predictability. Holistic portfolio management is then required to ensure that allocations reflect collateral and cash needs over time.

Crucially, it is not necessary for the same manager to manage all assets. For example, a Defined Benefit scheme can use LDI and Buy and Maintain strategies without blending the two into a single mandate. Different approaches require different specialisms, which is why – as long as the necessary data is exchanged – manager diversity can bring several advantages[1].

An illustrative CDI solution



Source: Invesco. For illustrative purposes only. (Yearly Cashflows).

[1] We discuss this issue in detail in another paper, Thinking Differently About Meeting Pension Liabilities: The Case for Manager Diversity and a Global Outlook.

How Invesco implements CDI

Our proprietary Invesco Vision approach to CDI implementation uses a combination of our own Capital Market Assumptions and the highly respected BarraOne® fundamental risk factor model. It aims to enhance investors' understanding of risk exposures and to build solutions whose asset allocations remain optimal throughout the journey towards maturity.

Invesco Vision is an analytics and portfolio construction tool that is able to model the risk, return and cashflow expectations of internally and externally managed strategies, including private markets and alternatives, to provide genuinely diversified portfolios at both security and asset-class levels. It is also able to assess thousands of bonds with a view to targeting higher yields without compromising quality or diversification.

We focus on building implementable portfolios, using actual transaction cost data and capturing primary market issuance. This also enables us to identify optimal additions to a portfolio over time, which helps us manage credit risk over the long term.

Invesco Vision capabilities

1. Models assets and liabilities, including cashflows and a wide range of private markets
2. Identifies portfolios' risk factor exposures
3. Stress-tests portfolios, based on hypothetical and historical scenarios
4. Evaluates the impact of changes to asset allocation over time
5. Designs optimised portfolios that reflect clients' specific needs

Conclusion

Maturing pension schemes must look beyond the need to match the overall value of assets to liabilities. As a result, the important role that cashflow-focused solutions can play in complementing LDI is earning more recognition.

CDI solutions that use Buy and Maintain strategies can help a Defined Benefit scheme match liability cashflows to the specific timing of the income generated by a portfolio. By holding assets to maturity while simultaneously reducing the need to pay for gilts in exchange for additional liquidity, such solutions can also help investors lock in additional value.

Optimising portfolios on the basis of target yield, diversification and timing should enhance the reliability of cashflows. This, in turn, should allow maturing schemes to de-risk earlier. Such advantages are likely to become increasingly attractive as more schemes close to future accrual and reach "peak asset value" – and as the need to source and preserve income with greater certainty thus becomes ever more pressing.

Investment risks

The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and investors may not get back the full amount invested.

Buy & Maintain strategies will invest in derivatives (complex instruments) which will result in leverage and may result in large fluctuations in value.

Debt instruments are exposed to credit risk which is the ability of the borrower to repay the interest and capital on the redemption date.

Investments in debt instruments which are of lower credit quality may result in large fluctuations in value.

Changes in interest rates will result in fluctuations in value.

Contact us

Chris Evans
Head of UK Pensions
& EMEA Consultant Relations
chris.evans@invesco.com

Mark Humphreys
Head of EMEA Client Solutions
mark.humphreys@invesco.com

Derek Steeden
Portfolio Manager
derek.steeden@invesco.com

Invesco Investment Solutions

Invesco has been building multi-asset solutions focused on income generation for more than 20 years. We work with clients to understand their de-risking objectives and build bespoke solutions to help them achieve their goals.

Invesco Investment Solutions is an experienced multi-asset team that seeks to deliver desired client outcomes by using Invesco's global capabilities, scale and infrastructure. From robust research and analysis to bespoke investment solutions, our team brings insight and innovation to your portfolio construction process. Our approach starts with a complete understanding of your needs.

- By delivering insightful and thorough analytics, we help support better investment outcomes.
- By putting analytics into practice, we develop investment approaches specific to your needs.
- By working as an extension of your team, we engage across functions and implement solutions.

Invesco Fixed Income

With a team of 225 investment professionals, Invesco Fixed Income (IFI) manages £285 billion in AUM. It has been managing Buy & Maintain portfolios since 2014, with £17.2 billion in AUM[2].

The team has a presence in 16 locations around the globe, giving local market knowledge that translates into thorough credit research and ultimately meaningful yield enhancement – which is vital to support clients in delivering to members over the long term.

With one of the largest private debt platforms in the industry, covering senior loans, direct lending and distressed debt, IFI possesses an information advantage in the origination of private debt. This enables the team to deploy capital more quickly and without compromising on diversification or underwriting.

Through its proprietary fundamental and ESG rating system, IFI is also committed to incorporating ESG into its security selection processes, providing key support for clients in this growing area.

[2] Source: Invesco as at 30 April 2020

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