LDI and the percentage fixed income question

John Delaney

As investors, we are often looking for simple ways to convey concepts in order to have a common language to make decisions. One concept we have found that is intended to simplify things but can cause confusion is the percentage of assets in fixed income or hedging within our asset portfolios.

Often, we decide to increase our fixed income or hedging allocation but then hesitate to reduce this allocation because it is perceived to be higher risk than our existing allocation.

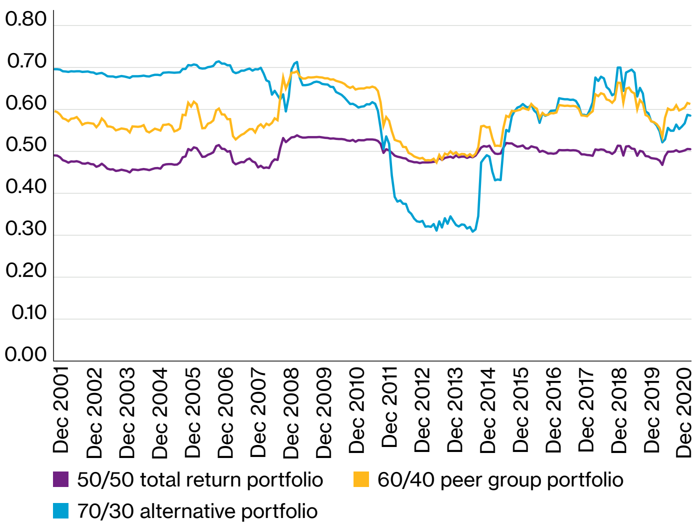
> **We can't move to that allocation. We're at 60% LDI; we can't re-risk.**

Historically, investors have used two main asset classes – equities and bonds – and used the split between those two to dictate return and risk. For example, a portfolio that is 60% equity/40% aggregate bonds is "riskier" and is expected to generate higher returns than a portfolio that is 40% equity/60% aggregate bonds. This can be potentially true if you are speaking very specifically about a certain type of bonds of duration and quality, but are investors asking the right question in how they think about risk? Said differently, does the capital allocation percentage of a portfolio invested in fixed income accurately define a risk level?

To test this point, we look at three portfolios of varying compositions across three different risk measures:

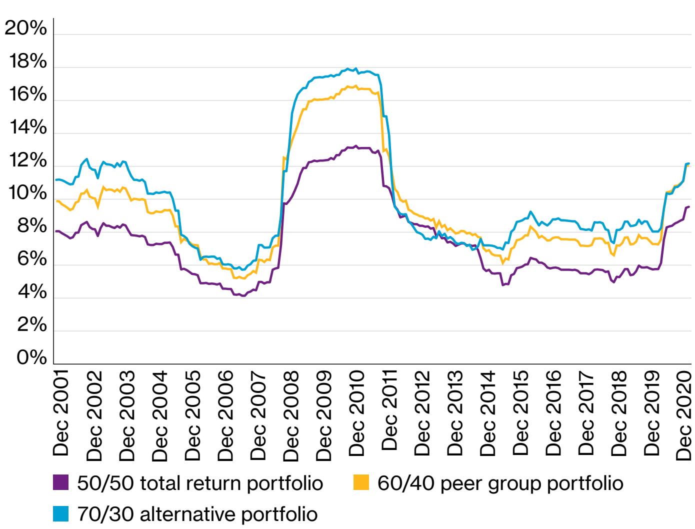
1. **50/50 portfolio:** 50% Global Equity/50% Aggregate Bonds – a typical total return investor portfolio
2. **60/40 portfolio:** 60% Global Equity/40% Long Govt/Credit Bonds – a typical peer group portfolio for U.S. defined benefit plans
3. **70/30 portfolio:** 70% Global Equity/30% U.S. Treasury STRIPS – an alternative portfolio for U.S. defined benefit plans that owns less fixed income

Figure 1: **Rolling 3 year equity beta**



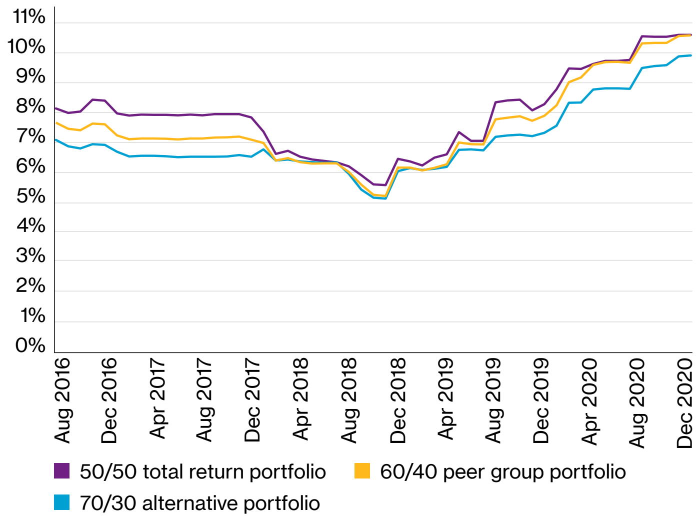
Source: Bloomberg Barclays, MSCI and Willis Towers Watson

Figure 2: **Rolling 3 year standard deviation**



Source: Bloomberg Barclays, MSCI and Willis Towers Watson

Figure 3: **Rolling 3 year tracking error relative to liability**



Source: Bloomberg Barclays, MSCI and Willis Towers Watson

While these metrics are a small sample of the types of measurable risks that concern pension and other types of investors, we think it is fair to say that less fixed income does not necessarily mean more risk (i.e., the blue line on the chart is not always the highest – or riskiest – on each of these measures, despite owning the least amount of physical capital in bonds).

In fact, depending on the risks you're trying to manage, having less of your capital tied to fixed income or liability hedging may actually be less risky if you take a total portfolio approach to managing your LDI program (Liability-driven investment strategies can be surprisingly simple).

Structuring investment objectives

An obvious retort to our thesis here is that there is some comfort and ease for investors in establishing a percentage fixed income as an objective or guideline of the risk level their investment program operates within. While we can't argue with the simplicity, we believe figures 1 - 3 challenge the efficacy of that approach to controlling risk and highlight that investors should document and structure their objectives more explicitly to what they're trying to achieve, rather than using a capital allocation-based objective.

Taking a more explicit objectives-based approach to risk management has two main potential benefits: 1) It gives investors control over the risks that actually matter to them; and 2) It allows the investment strategy and portfolio to evolve as market conditions evolve. The second benefit is especially important in today's world of low yields, as a strategy that focuses on maintaining a certain portion of the portfolio in bonds may not give an investor the best chance at reaching objectives over the long term. Focusing more on the risks you're trying to manage, namely equity beta and interest rate hedge ratios for pension plans, can provide the flexibility needed to navigate today's and tomorrow's potential market environment.

Illustrative examples of this framework and how it can be applied in real life is laid out in figures 4 and 5.

Figure 4:

Traditional Guidelines: Asset Allocation Focus		
Asset Class	Target Allocation	Allowable Range
Public Equity	60%	55 – 65%
Liability Hedging	40%	35 – 45%

Figure 5:

Updated Guidelines: Objective and Risk Focus	
Metric	Target
Liability Outperformance	+2.5%
Equity Beta	0.50 – 0.60
Interest Rate Hedge Ratio Range	60 - 80%

Low yields and opportunity cost

As pension investors, fixed income or liability hedging allocations provide duration exposure as insurance against discount rate declines and equity market selloffs. As yields have declined over the past several decades, we've seen the potential return generation capabilities of fixed income decrease as well. This creates increased opportunity cost from holding a large percentage of investor portfolios in investment-grade bonds, or viewed through the insurance framework, duration as insurance against rate declines and equity sell-offs is higher (or more costly) than it has been historically.

In order to avoid overpaying for this insurance, we advocate being efficient with your capital, owning fewer dollars in fixed income and instruments with higher positive convexity – and in the process not spending $2 for protection when $1 is sufficient.

In Figure 6, we highlight the potential benefits of focusing on managing hedge ratios rather than prescriptive fixed-income allocations whether rates are declining or rising.

Figure 6. **Managing hedge ratios versus prescriptive fixed-income allocations**

Stategy	Dollars invested	Duration	Dollar Duration	Convexity	Dollar Return post -100 bps shock	Dollar Return post +100 bps shock
Agg Bonds	$100	6	620	34	$6.37	**($6.03)**
Long Govt / Credit	$37	17	620	370	$6.88	**($5.52)**
STRIPS 15+	$26	24	620	602	$6.98	**($5.42)**

Source: Bloomberg Barclays, MSCI and Willis Towers Watson

The aggregate bond investor in Figure 6 is spending $100 for $6 worth of protection in a declining rate environment. This represents an opportunity cost of $60 to $75 when compared with the other two investors, who own better protection because the convexity of their protection actually gives them better trades-offs in both declining and rising rate environments. They also have $60 to invest elsewhere in their portfolio using asset classes that have higher yields than aggregate bonds or provide diversification to their portfolio.

Being capital efficient and focusing on hedge ratios rather than the percentage allocated to fixed income allows portfolios to get the duration insurance required for risk management with fewer dollars, reducing the potential opportunity cost of holding more physical low-yielding bonds and enabling further investment in other asset classes with higher potential surplus returns.

Additionally, the recent passing of the American Rescue Plan Act has extended the time period for funding-based liabilities to be more stable rather than market-based. This extension provides flexibility to the overall strategy of managing corporate defined benefit plans in terms of time horizons, cash funding strategies and the level of risk taken by the plan sponsor. Reassessing the plan's strategy through a total portfolio approach can provide additional flexibility and potentially more efficient solutions that can potentially reduce long-term cost by focusing on surplus returns needed and reduce potential contribution surprises by focusing on the total portfolio's sensitivity to equity market drawdowns (equity beta) and interest rate protection (hedge ratios).

To close, the purpose of this paper was not to discourage but to challenge traditional thinking on how risk is viewed by institutional investors and, in particular, pension plans. We believe that risk needs to be considered through many lenses, and the best way to manage risks while achieving objectives is to create total portfolio solutions that are tailored to the risks you need to manage.

As you examine this for your own portfolio, you may realize that you can create an 80% diversified return seeking/20% capital efficient liability hedging portfolio that generates higher potential returns than a 60% equity/40% investment-grade fixed-income portfolio, while being less “risky” based on the risks you need to manage. And don’t let the potential shift from 40% to 20% hedging assets discourage you; just make sure you’re asking and answering the right question.

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