Balancing Act

Introducing a Risk Factor Approach to Liability-Driven Investing by ALEXIS PETRAKIS



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s a strategy that could help plan sponsors increase their funded ratio and also reduce risk too good to be true? Perhaps not. Adopting a risk factor framework across all asset and liability exposures can lead to a portfolio that is built for positive outcomes over a broad set of market environments. The framework should be not only more adroit at budgeting surplus risk, but also better at selecting those risks that are apt to be properly rewarded.

"Sometimes it's a tough sell to get plan sponsors to adopt a new approach," says Andy Hunt, head of BlackRock's liability-driven investment (LDI) capabilities in the Americas. "What we're trying to demonstrate is that there is a better way forward—one that grows assets versus liabilities and does not suffer the same painful setbacks that plans have repeatedly experienced over the past decade or so."



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UNINTENDED CONSEQUENCES

Plans have always believed in diversification, but are they approaching it the wrong way? From an asset perspective a typical plan (say, 60 percent equity and 40

percent bonds) is assumed to be diversified across asset classes. However, investors have begun to realize that capital diversification is not the same as risk diversification. The typical 60/40 portfolio allocates greater than 90 percent of its asset risk budget to equities, leaving it exposed to the risk of large economic slowdowns. And from a surplus perspective, there is also an underappreciation for the other side of the balance sheet—the liabilities.

"Numerous 'perfect storms' for pension plans over the past decade have taught us that in periods of stress, diversification often fails to deliver what was hoped for in our asset portfolios," says Dan Ransenberg, a strategist in BlackRock Solutions. "Adding insult to injury, plummeting Treasury interest rates can cause pension liabilities to skyrocket at the same time as the asset portfolio suffers. These two insights have spawned the risk parity and LDI strategies, respectively, that numerous sponsors are implementing today. We think the best way forward is to combine these strategies and to adopt a risk factor approach toward LDI."

LDI FROM A RISK FACTOR WORLD

A typical pension plan has significant positive (long) exposure to economic risk and substantial negative (short) exposure to interest rate risk. As we have witnessed, these exposures create problems for pension plans in economic downturns, which catastrophically are just when plan sponsors are most sensitive and vulnerable. During these periods of tumult, economic risk is not rewarded, but interest rate risk tends to

be highly rewarded in a corresponding declining rate environment. Unfortunately, a traditional plan portfolio is built with positive exposure to the former and negative exposure to the latter. As a result the plan is setting up for pain on both accounts.

"Quite simply, this means that the surplus portfolio is far less diverse than many plan sponsors believe," explains Hunt. "They might be aware of their bet on economic activity, but perhaps less

MAPPING RISKS TO REWARDS

Although it's important to understand and explain risk, the ultimate goal for managers is to deliver returns. Therefore, an investor should only be interested in bearing risks for which it expects to be rewarded. Naturally, this implies removing risks that are not properly rewarded. It sounds obvious, but a risk factor approach across all asset classes ultimately may help build a better portfolio.

Philip Hodges, a member of the research team in BlackRock's Multi-Asset Strategies Group, explained that the team has spent several years studying this and has identified six fundamental risk factors that are generally positively rewarded over long horizons. They are:

- Interest Rate: The risk of bearing exposure to changes in real interest rates. All cash flow instruments are subject to this, as are investors who hold real bonds to maturity and are subject to mark-to-market and opportunity-cost risk.
- ► Inflation: Investors worry about loss of purchasing power. Any investment that offers a nominal return rather than a real return should offer an inflation premium to compensate for this uncertainty.
- ► Economic: The risk of bearing exposure to uncertain economic growth. Economically sensitive investments should earn a positive economic growth premium compared to insurance-like assets that generate returns in poor economic states.

- ► Credit: The risk of bearing exposure to the possibility of default. Typically this is strongly linked to economic growth factor and also earns a positive premium over time. Conversely, insuring against default is costly.
- Political: The risk associated with holding securities in a sovereign nation that could materially change the rules under which an investor operates.
- ► Illiquidity: The risk associated with changes in systemic liquidity, which is reflected in the ability to trade an asset at low cost and with little price impact. It's important to point out that even (typically) liquid assets can be sensitive to illiquidity shocks.

"Understanding these risk factors helps us understand asset class behavior," says Hodges. "For example, we know that interest rate and inflation shocks tend to drive equities and bonds in the same direction, while economic growth shocks drive them in opposite directions. In other words, an economic growth shock is good news for high-quality bonds and bad news for equities, while an inflation shock is bad news for both asset classes."

What does all this mean for investors? Conventional asset portfolios probably lack adequate diversity, particularly in an inflationary environment. For a plan sponsor, a deeper understanding of the different risk factors is necessary, and knowing which ones are dominant should lead to better investment decisions.

aware of what might be an equally large bet on a rising rate environment."

This raises some valid questions regarding portfolio construction. Is this set of risk exposures (asset allocation) correctly positioned based on the investor's views, and are the positions scaled appropriately based on conviction? If not, the plan's asset mix may be both unintended and inappropriate.

"But it may be worse than that," warns Philip Hodges, a member of the research team in BlackRock's Multi-Asset Strategies Group. "A typical plan has a large negative exposure to rewarded risk factors—interest rate and inflation risks. That means investors with large, unhedged liabilities are not only doubling-down on economic growth risk, they also are undermining the long-term expected returns of the plan."

RAMIFICATIONS FOR THE TYPICAL PLAN

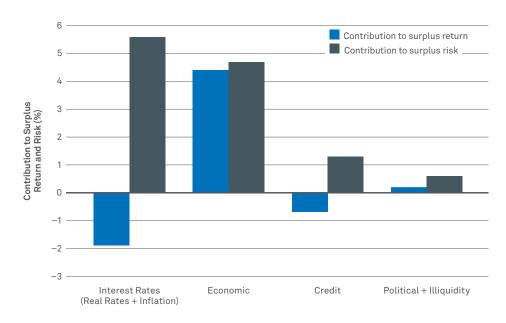
Building a better surplus portfolio requires balancing positive exposures across rewarded risk factors, thus increasing the likelihood of better performance in a more diverse array of economic environments. Because interest rates are a positively rewarded risk factor, this implies that plan sponsors should eliminate all of the negative interest rate exposure in the liabilities and move toward a surplus position that has positive interest rate exposure. "The question is not, 'What percentage of my liability interest rate risk should I hedge?' but rather, 'How much positive interest rate exposure do I want to have?" suggests Ransenberg.



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The Risk Factor Exposures of a Typical Plan

The plan's risk is dominated by two exposures: a positive exposure to economic growth and a negative exposure to interest rates. The negative exposure to interest rates detracts from the plan's long-run expected return and increases surplus risk.



Source: BlackRock.

A risk factor approach to LDI incorporates asset leverage to reduce total surplus risk, not increase it. "We do not advocate a risk parity approach in the purest sense," adds Hodges, "because not all risks are created equal. Our research indicates that interest rate and inflation risks are slightly less well-rewarded over long investment horizons than other risks. We recommend that investors have positive aggregate exposure to each rewarded risk factor, but they should weight these exposures based on expected returns and utility."

Of course plan sponsors can be understandably skeptical. If your board wants high single-digit returns, you may openly wonder how that might be possible when the recommendation is to reduce equity exposure. This is where the use of some leverage is necessary. Although leverage sometimes carries with it a negative connotation, plan sponsors must realize that many plans are already highly leveraged. An underfunded plan already has more liabilities than assets, and thus it is short bonds and long equities. As a result, at the surplus level it is more than fully invested (i.e., demonstrates leverage).

A risk factor approach to LDI incorporates asset leverage to reduce total surplus risk, not increase it. With leverage, the portfolio seeks to employ a lower and more balanced risk profile, reducing uncompensated risks without sacrificing expected returns.

THE CURRENT RATE ENVIRONMENT

Another common obstacle to fully embracing a risk factor framework is the current interest rate environment. "Sometimes plans hear the steady drumbeat from the financial media that increasing one's fixed income allocation is a dubious bet today," explains Ransenberg. "Yet the media is often focused on the short end of the yield curve, and pension liabilities are almost exclusively valued with very long dated yields. Because of that steepness in the yield curve, long dated yields aren't as low as you might think."

The Multi-Asset Strategies Group investment research team shares the view that interest rate premia are currently below long-term averages. Although constantly being adjusted, the team's risk factor based portfolios are currently positioned with a slight underweight in interest rate risk. Even so, the risk factor based portfolio has a positive exposure to interest rates and every single pension plan with a hedge ratio below 100 percent has negative exposure to interest rates. Similar active views can be easily incorporated into a risk factor based LDI approach, but all active views must be monitored and scaled appropriately according to the level of conviction.

THE RISK OF OVERCONFIDENCE

Although the current positioning of most plans suggests that they expect negative returns for bearing interest rate risk, the large size of this bet also implies they are overly confident in their ability to predict the direction of long-term interest rates. For most unfunded plans, the negative interest rate exposure represents the single largest active view in their portfolio. If a plan sponsor truly understands just how big its current exposure is to

a rising long-yield environment, it might be inclined to downsize that bet.

Pension plans have staked the success of their portfolios on a few large positions, but in doing so they may be setting themselves up for potential disappointment. Adopting a risk factor approach toward LDI could offer the best of both worlds—increasing the probability that funded ratios rise while also diversifying desired risks in a sensible manner. •

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