LGIMA investment brief

LDI Strategies: The relationship between the credit and Treasury components in today's market environment.

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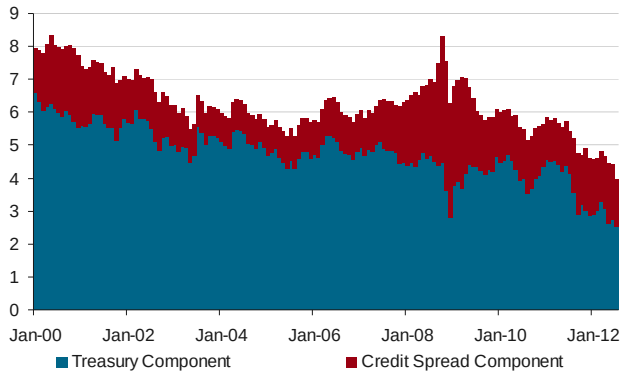
Sources of discount rate risk

Pension discount rate risk can be caused by two different market scenarios:

- Treasury rates falling ("Treasury Component") and/or
- A-AAA credit spreads narrowing ("Credit Spread Component")

The chart below illustrates the Treasury Component and Credit Spread Component of pension discount rates for a typical pension plan since December 2000.



Note: The above is based on a mark-to-market (PPA) discount rate and an average liability profile

The Treasury Component of the discount rate currently stands at all time lows, and for this reason we find that plan sponsors are reluctant to hedge this portion of the discount rate at current levels.

While we can envision a scenario where Treasury rates fall substantially, even from today's levels, and would argue that most pension plans are currently taking an unbalanced bet on interest rates, we can somewhat empathize with this view. Contrary to conventional wisdom, taking some interest rate risk might be a rewarded risk for pension plans at current market levels.

However, the Credit Spread Component has increased to become a significantly larger portion of overall discount rate risk, and arguably credit spread risk remains high. This means that there is a very real risk of deterioration in funded status that can be attributed to a credit spread contraction.

We measure the sensitivity of the assets and liabilities to changes in the Treasury Component and Credit Spread Components using "Treasury Duration" and "Credit Spread Duration" respectively. Note that based on this definition, credit assets would have both Treasury Duration and Credit Spread Duration, while Treasuries would only have Treasury Duration.

We advocate that pension plan sponsors consider setting their investment strategy to consider the Treasury Component and Credit Spread Component of the discount rate separately. One way this can be achieved is by splitting the credit and Treasury components of the fixed income portfolio.

Splitting the credit and Treasury components of the fixed income portfolio

By splitting the credit and Treasury components of the fixed income portfolio we mean setting the fixed income benchmark to have a specific allocation to Treasuries and a specific allocation to credit. We discuss in more detail the choice of benchmarks and the appropriate weightings for the credit and Treasury components in our paper "Level 1 LDI: Selecting an appropriate benchmark".

Traditionally, pension plans have adopted aggregate benchmarks for their fixed income portfolios, such as the Barclays Aggregate Index and more recently the Barclays Long Government/ Credit Index, where the split between credit and Treasuries is determined purely by the relative issuance of government debt and credit debt.

In the aforementioned paper "Level 1 LDI: Selecting an appropriate benchmark", we argue that strategically the split between credit and Treasuries should be determined from a total portfolio context, and the greater the allocation to equities in the overall asset allocation, the lower the allocation to credit should be in the fixed income portfolio.

Therefore, issuance determined fixed income benchmarks are likely to be less efficient at managing overall funded status risk when compared to a customized benchmark based on each plan's liability characteristics and allocation to return seeking assets.

The additional benefits of having a custom Treasury/ credit split for the fixed income benchmark include:

- Customization of the Credit Component. As the hedging portfolio becomes a larger portion of the assets, tracking the liabilities with more precision may be desired (e.g. move to an A rated or better benchmark).
- Customization of the Treasury Component. Choosing the Treasury benchmark to minimize overall funded status volatility. E.g. maximizing duration using long dated STRIPS when equity allocations are high and having a custom portfolio to match the liability profile when equity allocations are low.
- Puts infrastructure in place to adjust the strategic level of Treasury Duration and Credit Spread Duration and the benchmarks of the Treasury Component and Credit Spread Component as the plan de-risks. E.g. moving to a more liability aware benchmark for the Credit Spread Component as the allocation to fixed income increases.
- Introduces flexibility to be able to take advantage of market opportunities. E.g. in current markets, increasing Credit Spread Duration while maintaining Treasury Duration (discussed under Market Opportunities).

Conclusion

We see strong arguments for splitting the Treasury and credit components of the fixed income portfolio even in "normal" markets, but in today's markets the rationale is even more compelling.

We present our current best ideas on the next page for plans that are willing to split these components, as well as other ideas for traversing today's low Treasury rate environment.

Market opportunities

Idea	Whom would it work for?	Details	Why?
Switch aggregate bonds to custom mix of long credit and short duration Treasuries **Put in place Treasury rate trigger based strategies/ time based strategies to increase the duration of the Treasury**	• Holders of assets benchmarked against the Barclays Aggregate Index or a similar benchmark	• Move to a customized credit and Treasury mix • Credit benchmarked against Barclays Long Credit (for example) • Treasury benchmark chosen to keep overall Treasury Duration at the same level as before the switch • Could employ fixed income asset manager to monitor Treasury yields against market levels or time based triggers and increase Treasury Duration as they are hit.	• Increases the Credit Spread Duration at attractive levels, reducing the Credit Spread Component of discount rate risk • Keeps Treasury Duration at the same level (or lower) • Increases the flexibility of the fixed income portfolio as a whole to be able to take advantage of future opportunities • Trigger based execution strategies reduce the emotional element of making de-risking decisions and increases the ability to capture market opportunities (rise in yields) which can be fleeting
Move fixed income to long credit and reduce Treasury Duration using Treasury futures	• Plans that want to move their fixed income assets into long duration credit but are reluctant to increase Treasury Duration at current yields	• Change the benchmark of the credit assets to Barclays Long Credit (for example) • Simultaneously reduce Treasury Duration using short positions in Treasury futures (could also be achieved using interest rate swaps)	• Increases the Credit Spread Duration at attractive levels, reducing the Credit Spread Component of discount rate risk • Keeps Treasury Duration at the same level (or lower) • Increases the flexibility of the fixed income portfolio as a whole to be able to take advantage of future opportunities
Sell payer swaptions/ CMT options	• Plans who already have specific interest rate triggers to increase Treasury Duration if Treasury rates rise • Plans who would consider increasing Treasury Duration if Treasury rates rise	• As the plan would be increasing the Treasury Duration anyway, it can monetize this decision in the options market and earn a premium • Further details can be found in our paper “Swaptions: A better way to express a short duration view”	• Plan gets paid for a decision it has already made • If the trigger is not met upon the expiry of the option, plan retains the premium • If the trigger is met upon the expiry of the option then the plan has increased Treasury Duration at a level it would have done anyway, and it still receives the cash premium

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