

Bond Yields... Caveat Emptor

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Most bonds are priced and traded on some yield calculation. These yield calculations are based on assumptions that are difficult, if not impossible, to achieve. For example:

Yield to Maturity (YTM) assumes you will reinvest every six months at the purchase YTM until maturity of the bond. How could this happen? Yields are changing every day, and will you reinvest exactly every six months into the same maturity and same YTM? Sounds like Mission Impossible! In fact, the reinvestment rate on any bond is based on the total return of what you reinvested into. Yes, it is possible to have a negative reinvestment rate if you reinvested into a security with a negative total return. Moreover, the longer the bond maturity... the more the reinvestment rate of return determines the yield or return to maturity. In truth, the basic value of the YTM is to determine a price for the security.

All other yields (yield to call, yield to average life, yield to worst, etc.) are based on assumptions that are most difficult to occur, if not impossible. The **intrinsic value of most bonds is the certainty of their cash flows**. This is what the smart investor should focus on and utilize. Remove the uncertainty that is embedded in all bond yield calculations. Bonds are the only asset class with this certainty of their cash flows. That is why bonds have been the logical choice for Dedication and Defeasance using **Cash Flow Matching (CFM)** strategies since the 1970s. Only CFM is a best fit for any liability driven objective (Endowments & Foundations, Lotteries, Pensions, OPEB, etc.). The primary objective of a pension is to **secure benefits** in a cost-efficient manner with prudent risk. CFM will secure and fully fund benefits by asset cash flows matching and fully funding monthly liability cash flows *chronologically* for as far out as the plan sponsor deems necessary.

We believe that a best practice is to separate liquidity assets (liability Beta assets) from growth assets (liability Alpha assets). The Beta assets should be the bond allocation to cash flow match the net liability cash flows (after contributions) chronologically for a target horizon (we recommend 10 years). This will provide the time for risky assets (Alpha) to grow unencumbered since you have the certainty of the Beta assets cash flows for as long a period as you want. It would also be wise to take the Cash and Fixed Income allocation and apply it to a CFM allocation. Several pension plans do a **cash sweep** of all assets' income to fund the monthly benefits and expenses. A study of S&P 500 data by Guinness Global has determined that dividends and dividends reinvested account for about 47% of the S&P 500 total return on rolling 10-year periods and 57% for 20-year time horizons. So why would you want to dilute equity returns by spending the dividend income? Let the cash + bond allocation fund the current monthly liability cash flows through our CFM model (**Liability Beta Portfolio™ or LBP**). Our LBP would match and secure benefits chronologically for as far out as the allocation of funds allows. Since we are dealing with net liabilities (after contributions) a 15% LBP allocation may fund liabilities out to 10-years. The Ryan ALM cash flow matching model is well tested showing a funding cost savings of about 2% per year or more for longer maturity programs (20% for 1-10 years) depending on the liability term structure.

The Ryan ALM **LBP model is funding benefits (future values) which are not interest rate sensitive**. This eliminates the largest risk in bonds. Our LBP model will usually outyield active bond managers by over 50 bps, which will also reduce costs.

Observations and Benefits of LBP:

- No change in Cash and Bond allocation
- No dilution of Alpha assets to fund B + E
- Reduces funding costs by about 2% per year
- Mitigates interest rate risk (funding future values)
- Secures + fully funds monthly B+E chronologically
- Eliminates the need for a cash sweep which dilutes equity returns
- LBP will out yield current bond managers and enhance the ROA
- Cash flow matching buys time for Alpha assets to grow unencumbered

Logic

Let the performance assets (Alpha assets) perform by growing unencumbered as the liquidity assets (Beta assets) provide cash flow sufficient to fully fund benefits plus expenses chronologically.

For more info on the Ryan ALM CFM, please contact Russ Kamp, CEO at: rkamp@ryanalm.com