



Ryan ALM, inc.

Asset/Liability Management

The Solutions Company



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NO Alpha in Bonds !

As the former Director of Fixed Income Research at Lehman and a bond proponent for near 40 years, it is rather hard to admit that **investment grade bonds have little or no Alpha versus the Treasury STRIPS yield curve**. Using the Lehman Aggregate and Merrill Lynch Domestic Master as the proxy for investment grade bonds risk/reward behavior and the Ryan STRIPS Index as the risk free benchmark, it is hard to find any historical period where these bond indexes outperformed the Treasury STRIPS index with the same or similar duration :

ALPHA

Alpha is defined as the excess return above an index benchmark. Since our focus here is bonds we used the most popular bond indexes. In reality, most institutional clients have a liability driven objective (i.e. Pensions, Medical, Insurance, Lotteries, Foundations, etc.). These **objectives are best measured by a Custom Liability Index (CLI) and not a generic market index. Hence, Alpha is best defined as the excess returns above the Custom Liability Index**. The Ryan Treasury STRIPS indexes are the best risk/reward measurement and pricing system for any liability objective. Moreover, the **intrinsic value** of any investment is relative to the Treasury STRIPS yield curve that matches the time horizon or volatility behavior of the investment. If your stock portfolio performance loses to the 15-year Treasury STRIP over 15 years, the relative intrinsic value would be a negative even if it outperformed the generic market index it was being managed to. Bonds are essentially priced as a yield spread off the Treasury yield curve. You expect that the yield difference is the minimum Alpha. But due to call features, credit risk, event risk, liquidity risk and reinvestment risk most non-government bonds do not produce the Alpha purchased.

Ryan Data

Using the modified duration of the Lehman Aggregate and ML Domestic Master as their advertised interest rate volatility, we compared these indexes to a 5-year constant duration STRIP from the Ryan STRIPS indexes that best matches their modified duration. Both the Lehman and Merrill Lynch indexes have a consistent pattern of modified durations between 4.50 to 5.00 years over the last 20 years. Currently, the ML Domestic Master ended 2005 at a modified duration of 5.03 years.

**Annualized Total Returns
(periods ending 12/31/05)**

Bond Index	20 years	10 years	5 years
Lehman Aggregate	7.88	6.17	5.87
ML Domestic Master	7.90	6.19	5.91
Ryan 5-year STRIPS	8.28	6.28	5.93

As the table indicates, the Lehman Aggregate and ML Domestic Master underperformed the Ryan 5-year STRIPS index by 38 to 40 bps per year for 20 years and 9 to 11 bps for the last 10 years. That is a startling statistic. Asset management tends to be a zero-sum game where about half outperform the index and half don't. The PIPER performance measurement studies report that **the median manager outperformed the Lehman Aggregate index by only 20 basis points annually for the last 10 years**. Moreover, the difference between 1st quartile and median bond manager was only 20 bps. Accordingly, **there is little value added in managing bonds**. Since performance numbers are "before fees", when viewed after asset management fees of 20 to 40 basis points, any value added quickly erodes. So, what's the value in bonds ... as the **BETA portfolio** !

BETA

Beta is the portfolio that matches the objective. Since the objective is almost always an index benchmark, Beta by definition is an index fund. However, the true objective of most institutions is liability driven (i.e. Pensions, Medical, Insurance, Lotteries, Foundations, etc.). Accordingly, **Beta for a liability objective is the portfolio that matches the liability payment schedule**. This requires a Custom Liability Index to correctly price and calculate the present value term structure and growth rate of liabilities. In truth, **the proper Beta portfolio for a liability objective is a Liability Index Fund**. Unlike Immunization which was focused on matching the average duration of the liabilities, the Beta portfolio (i.e. Liability Index Fund) must match each liability payment, it must maintain the same yield curve shape. This requires constant monitoring of the term structure to assure that you have hedged the interest rate risk precisely. **Pension plans and other liability driven objectives should consider transferring their investment grade bond portfolios to a proper Beta portfolio that matches liabilities**. A liability focused Beta portfolio construction will reduce Contribution Costs, Asset Management fees and reduce, if not eliminate, interest rate risk.

Obviously, there is no generic bond index that could match the term structure and cash flow of any liability benefit payment schedule. Liabilities are like snowflakes, each schedule is unique. As a result, until a **Custom Liability Index (CLI)** is built for each liability schedule, it is difficult to build a Beta portfolio. Such a portfolio is best constructed as a zero-coupon bond portfolio to eliminate reinvestment risks and uncertain cash flows. The Beta portfolio should be positioned as the **"Core portfolio"**. It is in the best interest of any liability driven objective to make the Beta portfolio a growth or anchor portfolio that will match assets to liabilities chronologically for as far out as prudent. As the Beta portfolio grows thru time, the client will be achieving their goal of funding their liabilities at low cost and low risk.

Portable Alpha

Now comes Portable Alpha. As the Alpha portfolios (non-investment grade bonds) perform by outgrowing liabilities on a cumulative return basis, this **excess return (Alpha) should be “ported over” or transferred to the Beta portfolio on a timely basis (quarterly)**. The Beta portfolio will reinvest these proceeds chronologically to match the next liabilities. Through time as the Alpha portfolio wins (cumulative returns) and excess returns are ported, the Beta portfolio grows thereby reducing the costs of the pension plan (Contributions and Asset Management fees) and reducing interest rate risks as the Beta portfolio will now match and track the liability portfolio (CLI). This coordination and synergy of the Alpha and Beta portfolios is what Asset Allocation was intended to do. Portable Alpha now accomplishes the Asset Allocation mission. **Portable Alpha is best defined as the synergy of transferring funds from the Alpha portfolio to a liability matching Beta portfolio based upon the excess returns of the Alpha portfolio versus a Custom Liability Index.**

PALS (Portable Alpha Liability System)

Ryan ALM is unique as an Asset Manager in providing an **ALM turnkey system** of :

- 1. Custom Liability Index (CLI)**
- 2. BETA Portfolio (Liability Index Fund)**
- 3. Series of Alpha funds**

We call our proprietary and unique product line ... **PALS (Portable Alpha Liability System)** where we integrate all three products into a synergistic system of Liability Driven Investments (LDI). After two years of development and six years of historical returns back testing ... **PALS is our Solution to curing Pension deficits.**

Based upon the **CLI**, we know the true economic deficit and the growth rate to earn Alpha. The PALS **Beta portfolio is a Government zero-coupon bond portfolio** whose mission is to fully fund the target area of liabilities. The initial PALS **Alpha portfolio is a Multicap Equity portfolio**. As the Alpha portfolio wins and outgrows liabilities, the excess returns are “ported over” to the Beta portfolio chronologically. This discipline of porting over to the Beta portfolio the excess returns above liabilities assures a disciplined strategic pattern that will reduce costs (Contributions, Asset Management fees) and reduce risks (Hedges Interest Rate Risk of Liabilities).

PALS can accommodate any asset class into its framework. This allows for asset allocation to work efficiently on the entire Alpha asset class(s) distribution. Portable Alpha is the effective way to handle **Tactical Asset Allocation** especially within a PALS structure.

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