Ryan ALM
Asset/Liability Management

Insurance Buyout Annuities
vs.
Cash Flow Matching

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The pension objective is to *secure benefits* in a cost-efficient manner!

Secure Benefits and Reduce Funding Costs

There are basically only two ways to secure pension benefits: **insurance annuities and defeasement (through cash flow matching benefit payments)**. Insurance buyout annuities (IBA) are extremely expensive. Corporations are purchasing IBAs in record amounts to get rid of the high and rising PBGC premiums caused by the MAP 21 legislation of July 6, 2012 and to avoid longevity risk. However, Corporations would be wise to do a cost analysis of the IBA versus a defeasance. The typical IBA prices Retired Lives (liabilities) at a discount rate of ASC 715 (AA corporate zero-coupon yield curve) plus a 3% to 4% premium. According to our calculations, a defeasance strategy (cash flow matching) using investment grade corporates would provide a **cost savings of about 30% versus IBA**, which is a very significant cost savings and should be reviewed. Such cost savings are immediate while the IBA savings of eliminating PBGC premiums is in the future.

Cash flow matching (using the Ryan ALM Liability Beta Portfolio™) is a *cost optimization model* where we go through numerous iterations to find the optimal cost savings that will fund each and every monthly Retired Lives benefit payment. Since liabilities are priced like bonds (ASC 715 discount rates) they behave like bonds. As a result, bonds become the proper assets to match liabilities. Bond math tells us that the longer the maturity and the higher the yield the lower the cost. Our LBP model skews the portfolio weights to longer maturities such that a 30-year coupon bond will partially fund 29 years of benefits through interest income. The same is true for a 29-year, 28-year, 27-year bond, etc. plus principal cash flow at maturities adds even more cash flow.

This is not how duration matching works, which has definite liability cash flow mismatches and cost inefficiencies. Since the longest duration coupon bonds are around 19-years today, duration matching is forced to use Treasury zero-coupon bonds (STRIPS) to fund any liability past 19-years. Since Treasuries are the lowest yielding bonds they are the highest cost bonds to fund and match liabilities. Moreover, duration is a present value (PV) calculation that is very interest rate sensitive. Duration matching is focused on matching liability growth rates and not on matching and funding benefit payments (future values). With a PV focus, duration matching can be an extremely interest rate sensitive strategy.

Reduce and Stabilize Contribution Costs

The LBP will match each and every monthly benefit payment in the liability schedule it is funding (Retired Lives). This will eliminate funded status volatility which will help stabilize contribution costs. The LBP is comprised of investment grade bonds skewed to longer maturities and A/BBB credits, so it will out yield liabilities priced as AA corporates (ASC 715 discount rates) by 50 – 100+ bps. Importantly, this extra yield creates an excess return (Alpha), which enhances the funded status, reduces contribution costs and reduces PBGC variable premium.

Only cash flow matching (defeasance) can secure benefits and reduce funding costs with certainty. By matching liabilities (benefit payments) it reduces risk accordingly. Our LBP has numerous benefits that best achieve the true pension objective:

Benefit: Enhances Funded Ratio /Status

LBP outyields Liabilities (ASC 715) by 50 – 100+ bps, which creates Alpha

Benefit: Reduces Costs

LBP reduces Contribution, Funding, PBGC premiums and Asset Management Costs

Contribution Costs:

LBP outyields liabilities thereby creating Alpha, which reduces contribution costs

Funding Costs:

LBP Cost < Liability Cost (based on AA Corporate discount rates)

Liability *Beta* Portfolio Yield > Liability Yield (AA Corporates)

Funding Cost Savings = 30% vs. IBA

PBGC Variable Premium

LBP fully funds liabilities which eliminates deficits

Asset Management Costs:

LBP Fee = 15 bps (very low fee vs. IBA)

Benefit: Reduces Volatility

Liability *Beta* Portfolio *Matches* and *Funds* Liabilities

Reduces *Volatility* of Funded Ratio/Funded Status

Reduces *Volatility* of Contribution Costs

Benefit: Reduces Risk

Pension Risk is Uncertainty of Funding Benefit Payments

Liability *Beta* Portfolio Matches and Funds Benefit Payments with certainty

Projected Benefit Payments are Future Value numbers

Future Values have No Interest Rate Sensitive

Benefit: Enhances ROA

Liability *Beta* Portfolio composition is:

Investment Grade corporates (skewed to longer A/BBB bonds)

LBP should *outyield* ROA bond assumption for bonds

Cash flow matching* the liability benefit payment schedule (Retired Lives) at the lowest cost is the ideal way to manage assets for a pension plan.** Since Retired Lives are the most **certain** and most important (most tenured employees) liabilities, cash flow matching is a perfect fit given the certainty of the bond cash flows. Since the pension objective is a cost focus, cash flow matching would produce the ***optimal cost savings. We urge corporations to do a cost analysis before they buy an IBA!