Public Pension Plans

Objective
The true objective of a Public pension is to fund their liabilities (benefit payments) at ***stable*** and ***low contribution cost*** to the plan. Such an objective should be funded at ***reduced risk*** through time.

Problems :

Accounting Rules - Current accounting rules do not require valuing pension assets and liabilities to be marked to market. Instead they allow for *smoothing* techniques on assets (GASB) and discount rates on liabilities (ROA) which are much higher than market rates for risk free securities (GASB, ASOP 27). Such rules ***distort economic reality*** by not aligning assets and liabilities to accurate and frequent market valuations. Smoothing of assets will create an average valuation not a current market valuation (today this greatly *overvalues assets*). High and single discount rates severely ***undervalue the present value of liabilities***. This leads to misinformation on the true *economic* Funded Ratio which leads to misinformed benefit, contribution and asset allocation decisions. Most pension plans have much lower Funded Ratios and higher deficits than they have been told. This has led to several pension lawsuits.

Funded Ratio Volatility – Most Public pensions had surpluses in the 1990s. Since 1999, their funded ratios have fallen by about 50% and have been on a roller coaster ever since. What is missing is an anchor or core portfolio that will de-risk the plan gradually. Just like in Las Vegas, when you win you should take chips off the table… and secure your victory. Bonds that ***cash flow match liabilities is the prudent and proper approach to de-risking liabilities***. Duration matching, interest rate swaps and derivative strategies are not proper or even accurate de-risking strategies and involve too much cost and risk.

No Alpha in Bonds - It is difficult to find performance value or Alpha in bonds. This can be seen when you look at historical return behaviors. The PIPER (P&I) fixed income performance ranking survey proves that the return difference between Median bond management and the index benchmark is small (@ 30 bps. per year) suggesting little value added. However, these surveys are before fees! After fees, the Median manager would consistently lose to the benchmark. The true value in bonds is cash flows. They are the only asset class with a known cash flow. That is why bonds are chosen to de-risk liabilities (dedication, immunization).

Annualized Total Returns
(5 year periods ending)

	12/31/10	12/31/14
Median PIPER	**6.16%**	**4.98%**
Barclay's Govt./Credit	**5.84%**	**4.69%**
Difference	**0.32%**	**0.29%**

Ryan ALM, Inc.

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Public Pension Solutions

Ryan ALM offers a turnkey system of CLI + Liability Beta Portfolio as a pension solution

1. **Ryan ALM will build a Gross & Net Custom Liability Index (CLI).**
   CLI will show the projected benefit payment schedule, projected contributions + annual income to create a gross and net liability. In truth, ***current assets fund the Net liability (after Contributions and Income) and not the gross liability***. We will price these liabilities in conformity to GASB 67/68 (ROA / 20-year muni) as well as AA Corporates discount rates so the pension plan can see both the accounting and economic valuation. Note that Moody's will be appraising the pension liabilities using AA Corporates as the discount rates for credit rating purposes. The CLI will provide numerous calculations including the economic growth rate of liabilities to use as a performance benchmark as well as the interest rate sensitivity of liabilities. The CLI will provide all of the data needed for bonds to be managed as a LBP vs. liabilities.

2. **Ryan ALM will create a Liability Beta Portfolio (LBP) to fund the 1-10 year Retired Lives Net Liabilities at the lowest cost.**
   Retired Lives are the most certain and most important liabilities. Retired Lives should win political favor as plan sponsors would want to take care of their most tenured workers who have dedicated so much of their working career to the city/state. The ***Liability Beta Portfolio (LBP) is a cost optimization model that funds liabilities at the lowest cost*** using investment grade bonds skewed to A/BBB. The LBP will calculate the amount needed to fund the 1-10 year area of the Retired Lives ABO (minus Annual Contributions + Income). Calculating an exact amount to defease 1-10 year liabilities using our LBP model will determine how much to allocate to bonds. This approach will buy 10 years for the Alpha assets (non-bonds) to perform which fits in well with the evidence of historical returns that given time, risky assets outperform bonds. The LBP model can be either full discretion or advisory where it is managed internally by the pension (Several State Funds profile) or their favored bond manager.

3. **BENEFITS**
   a. **LBP reduces bond management fees by 50%**
   b. **LBP model outyields bond indexes… enhances ROA**
   c. **De-risk /defease the 1-10 year liabilities (Retired Lives)**
   d. **Reduces Funding costs (4% savings for 1-10 years Retired Lives)**
   e. **Helps determine bond allocation = 1-10 year Retired Lives defeasance**
   f. **CLI provides calculations to better inform the pension plan + consultant**
   g. **CLI = Performance measurement benchmark (also measure Alpha generated)**

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