Ryan ALM
Asset/Liability Management

What's Better for a Pension Plan?
20% Asset Return or 20% Liability Cost Reduction

by

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Asset returns are uncertain and very volatile. The S&P 500 is a good example. Since 1990 this index has enjoyed 13 years of 20% + growth. Unfortunately, it was accompanied with several negative return years which brought the average 20 year return down to **9.75%**:

1995 = 37.20%	
1996 = 22.68%	**2013 = 32.15%**
1997 = 33.10%	**2017 = 21.83%**
1998 = 28.34%	**2019 = 31.49%**
1999 = 20.89%	**2021 = 30.92%**
2003 = 28.36%	**2023 = 26.29%**
2009 = 25.94%	**2024 = 25.02%**

The decades of the 2000s began with three negative return years for the S&P 500 as follows:

2000 = (9.03%) 2001 = (11.85%) 2002 = (21.97%)

This combined with a secular decline in interest rates made liability growth spike by **55.12%** in those three years (according to the Ryan ALM Liability Index) causing funded ratios to drop significantly by as much as 47%. This brings up the commonsense math… if funded ratios go down about 50%, they need to have assets outgrow liabilities by about 100% to get back to full funding. Since the return on assets (ROA) forecast is not based on the funded status but on the expected return of the plan's asset allocation, the actuarial projections must make up the funded status deficit by increasing contributions. Most pension plans have experienced spiking contributions costs since 2000 which I proclaimed as the primary impetus for the US pension crisis in my 2013 book (The U.S. Pension Crisis). The uncertainty and volatility of the actual ROA has plagued pensions forever and will continue if this remains the focus of asset allocation.

Since the **true objective of a pension is to secure benefits in a cost-efficient manner with prudent risk** then asset allocation should be focused on this objective and not an ROA objective, which doesn't guarantee success. This is best accomplished by bifurcating assets into liquidity (Beta) and growth (Alpha) assets. The liquidity or Beta assets should fully fund the liability cash flows (benefits + expenses) chronologically with certainty for as long as the allocation will cover. We define risk as the **uncertainty** of achieving the objective. So, the least risky asset strategy is to cash flow match (defease) the liability cash flows with certainty. Depending on the plan's funded status will dictate the asset allocation between the liquidity and growth assets. The funded status is best measured by the

Asset Exhaustion Test (AET) which compares the annual asset cash flows (including contribution) versus the annual liability cash flows (including benefits + expenses).

Ryan ALM recommends starting with an allocation to liquidity or Beta assets that fully funds the liability cash flows for the next 10 years. Then we run the AET to see what ROA is needed for the residual growth assets to fully fund the residual liability cash flows. If the calculated ROA is lower than the current ROA assumption, you can allocate more to the liquidity assets and vice versa.

The benefits of the Ryan ALM cash flow matching strategy (Liability Beta Portfolio™) are numerous and significant:

- Reduces risk (de-risks) by ***cash flow matching*** liability cash flows with certainty
- **No interest rate risk** since it is funding future values (B+E liability payments)
- Provides timely and proper liquidity to fully fund benefits + expenses (B+E)
- AET will calculate proper allocation between liquidity and growth assets
- AET will calculate ROA needed to fully fund liability cash flows
- Reduces funding costs by about 2% per year (1-10 years = 20%)
- Reduces asset management costs (Ryan ALM fee = 15 bps)
- Reduces volatility of the funded ratio and contributions
- Buys time for the Alpha assets to grow unencumbered
- No need for a **cash sweep** to meet liquidity needs

In summary, a LBP cash flow matching strategy for liquidity assets will reduce funding costs by about 2% per year (1-10 years = 20%) while fully funding the liability cash flows with **certainty**. This will reduce the volatility of the funded status and allow plan sponsors and their consultants to better plan asset allocation for the growth assets. By eliminating a cash sweep, the growth assets can now reinvest their income and enhance their ROA. So, I ask once again: What is better for a pension plan? A 20% asset gain or a 20% liability cost reduction? It is clearly the cost reduction given the certainty of the outcome!