Optimizing Asset Allocation

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The asset allocation decision is the single most important asset decision since it affects all assets and the funded status of a pension plan. *Strategic* asset allocation (AA) takes a long-term view and establishes weights for each asset class in order to achieve the highest probability of earning the target return on assets (ROA). These weights tend to be static and not responsive to the funded status. *Tactical* AA is a short-term view that changes the strategic weights due to a market opportunity it is trying to capture. *Responsive* AA is when AA responds to the ever-changing funded ratio and funded status. Since the true objective of a pension is **to secure benefits (liabilities) in a cost-efficient manner with reduced risk over time… responsive AA is the more appropriate methodology.**

It should be obvious that a 60% and a 90% funded plan should have two very different asset allocations. But if they have the same or similar ROA they will have the same or similar strategic or tactical asset allocations. Focusing on the ROA has misled most plan sponsors down a return objective path instead of a liability objective direction. This ROA focused road has been a roller coaster of volatile funded ratios and spiking contribution costs.

Responsive AA requires accurate and current knowledge of the true *economic* funded status (assets MV / liabilities MV and assets MV – liabilities MV). This is difficult due to annual accounting and actuarial reports that are usually months delinquent and don't calculate the economic market value of liabilities (i.e., GASB accounting). Assets need to know what they are funding (benefits + expenses). Assets need to outgrow liabilities to enhance the funded status, so assets need to know the market value and growth rate of liabilities. Assets need a scoreboard of asset growth vs. liability growth that is updated frequently to help them play the pension game.

Custom Liability Index (CLI)

The solution to the accounting and actuarial delinquent information is a Custom Liability Index (CLI). In 1991, Ron Ryan and his team invented the first CLI as the best representation of the true client objective. Although funding liabilities is the true objective, liabilities tend to be missing in action in asset allocation, asset management, and performance measurement. The reason for this disconnect is the absence of a Custom Liability Index (CLI) that monitors the present value, term structure, and risk/reward behavior of liabilities. Once a CLI is installed as the proper **benchmark**, then and only then can the asset side function effectively on asset allocation, asset management, and performance measurement.

Liabilities are like snowflakes… you will never find two alike. Pension liabilities are unique to each plan sponsor. As a result, only a *Custom Liability Index* could ever properly represent or measure these unique liabilities of any plan sponsor. A CLI should be calculated accurately and frequently so the plan sponsor and its consultant can be informed with timely data that can support the asset allocation decision. Assets need to know what they are funding. The economic truth is… assets fund the **net liabilities after contributions**. Our CLI will provide both a gross and net liability valuation based on market rates (ASC 715 and Treasury STRIPS) as well as the discount rates that apply (ROA, ROA bifurcated with 20-year munis, PPA spot rates, and PPA 3-segment). The CLI will provide a monthly or quarterly calculation of the current present value of liabilities so the funded ratio and funded status can be updated… and a monthly or quarterly calculation of the liability growth rate so performance measurement of total assets vs. total liabilities can be assessed.

Since current assets fund net liabilities after contributions, current assets need to know the projected benefits, expenses, and contributions for every year as far-out as the actuary calculates such projections. Noticeably, contributions are a missing asset in the calculation of the funded ratio / funded status and usually play no role in the asset allocation strategy of most plan sponsors. Given the size of contributions today, it is critical that contributions should be a major consideration in the asset allocation strategy.

Asset Exhaustion Test (AET)

We commend GASB accounting for requiring a test of solvency whereby the plan's actuary must calculate and present proof that projected benefits + expenses (B+E) will be fully funded from both a return on asset (ROA) assumption + projected contributions. If the assets fail this test, then the GASB ROA discount rate is bifurcated at the time that assets are exhausted, and liabilities are then discounted at a 20-year AA muni rate going forward. Ryan ALM modifies the AET to calculate the ROA needed to fully fund (B+E) – C. This **calculated ROA** should help AA understand the minimum ROA or target return needed to fully fund net liabilities. Asset allocation needs to know the hurdle rate that has to be achieved to fully fund B+E with help from contributions. Our experience has been that this calculated ROA is always much different than the normal ROA used today. Usually, it is a much lower ROA rate for plans that pass this solvency test since contributions are a major contributor while it could be much higher for plans that fail this test. We highly recommend that all pensions apply this modified AET test of solvency to provide AA with the proper ROA target return rate.

Asset Allocation (AA)

As stated previously, Asset allocation is the single most important asset decision as it controls the risk/reward behavior of 100% of the assets. Since it will greatly affect the funded ratio and funded status, the success or failure of the asset allocation strategy is the single most important asset decision. Pension consultants are very diligent in their AA recommendation for each client to achieve the ROA hurdle rate. It is our recommendation that the asset allocation strategy should be based on the funded ratio (present value of assets/liabilities), funded status (present value of assets – liabilities) and the modified AET with a calculated ROA. Logically, a large deficit status should have a more aggressive asset allocation strategy than one with a surplus or fully funded status. Unfortunately, the funded ratio tends to play little or no role in many asset allocation strategies today. Most often the asset allocation focus is on achieving the return on asset (ROA) assumption… an ***absolute*** **return target**.

Since the **true plan objective is to secure benefits in a cost-efficient manner with reduced risk over time**, asset allocation needs to be in harmony with this objective. We recommend that asset allocation separate assets into liability Beta and liability Alpha assets. The liability Beta assets are to secure benefits by ***cash flow matching*** liabilities through a structured bond portfolio (defeasance). This should be the ***core portfolio*** of the pension plan since it best represents the true objective. The liability Alpha assets job is to **outgrow liabilities in $s** to enhance the funded status such that contribution costs are reduced over the life of the plan. In order for contributions to be reduced, pension assets must outgrow pension liabilities in $s. A simple example might explain this better:

	Begin	Growth Rate %	Growth Rate $	End
Assets	$700m	7.50%	$52.5m	$752.5m
Liabilities	$1 billion	6.00%	$60.0m	$1.06b
Funded Ratio	70.0%			71.0%
Funded Status	-$300m			-$307.5m

In this example assets outgrew liabilities in % return (7.50% vs. 6.00%). But because the funded ratio/status was a big deficit of 30%, the asset $ growth was less than the liability $ growth ($52.5m vs. $60.0m). This created a larger deficit that requires a larger contribution. In order to maintain the funded status at -$300m would require asset growth of $60.0m or an **8.57% return**.

Only with a CLI can the plan know the true economic funded status on a routine basis. With the synergy of liability Beta and Alpha assets, AA now has the proper structure to achieve the true objective. Based on the economic funded status AA can now determine the allocation between these two asset groups. With a modified AET, AA now knows the calculated ROA needed to fully fund net liabilities. The plan return objective should be for assets to outgrow liabilities in $s… it is the *relative $ returns* that count not an absolute % return (ROA). **Asset allocation models need to focus on enhancing the funded status by creating liability Alpha in $s… not an absolute % return target (ROA).**

Asset allocation needs to be *responsive* to this ever-changing net funded ratio/status. *Strategic* and *Tactical* asset allocation do not respond to the funded status. A responsive asset allocation responds to the funded status through a process called *Portable Alpha*. If the liability Alpha assets exceed liability growth in $s (as measured by the CLI), a prudent discipline is to transfer (port) this excess $ return over to the liability Beta assets. This will secure more benefits and reduce more volatility on the funded status. Just like the gambler in Las Vegas… take your winnings off the table to reduce your risk of losing! Asset allocation needs to recognize and respond to the funded status. A Portable Alpha strategy does this as a procedure or discipline thereby protecting the plan, so it doesn't become too risky or chase the wrong ROA objective.

Performance Measurement

In harmony with the true pension objective, assets need to be measured vs. the risk/reward behavior of the CLI. This should be the acid test of asset allocation. **Total asset growth must outperform total liability growth in $s for the funded ratio and funded status to be enhanced**. Without a CLI, such a measurement would be difficult and certainly not timely. Total asset growth should be measured and monitored vs. total liability growth routinely (quarterly) for every investment review meeting. However, liability growth and the current funded status are usually MIA. The CLI will correct this error of omission. A simple warning is applicable here: **If you outperform the S&P 500 and any generic market index benchmark but lose to liability growth… the plan sponsor loses!**

Obviously, there is no victory or liability Alpha earned if asset growth underperforms liability growth although traditional performance measurements vs. generic market indexes could suggest otherwise. All liability Beta and liability Alpha assets need to be in sync with the true objective of enhancing the funded ratio, the funded status, and reducing contribution costs.

Conclusion

Traditional asset allocation models are focused on achieving the ROA assumption. This is not the true or proper pension objective. Until a Custom Liability Index (CLI) is installed as the proper benchmark and an AET is performed, asset allocation will be disconnected from the true liability objective. Contributions should be a major consideration in the asset allocation process since they are a large future asset that enhances the funded status. Contributions are the first source to pay the current liabilities due each year, thereby reducing the liabilities current assets need to fund. This *net liability* needs to be calculated and monitored by the CLI on a frequent basis. Since full funding is the goal, asset allocation needs to know the annual hurdle rate or calculated ROA needed to reach this funding status. The modified AET will provide the calculated ROA needed to fully fund net liabilities (B+E) – (C). A Portable Alpha strategy will then rebalance the asset allocation accordingly by taking the excess returns over net liability growth as measured by the CLI (liability Alpha) and porting them over to the liability Beta assets. Performance measurement will then monitor total asset vs. total liability growth to verify that the pension plan is on the proper road to full funding.

Ryan ALM Mission:

To solve liability driven problems with low cost, low risk solutions.

About Ryan ALM, Inc.

Ryan ALM was founded by Ronald J. Ryan, CFA on July 12, 2004 as an Asset Liability Management firm. The firm has developed a proprietary turnkey system of synergistic products designed to achieve the true liability objective… **fund liabilities in a cost-efficient manner with prudent risk**.

Ryan ALM is unique in having its own index company named **ALM Research Solutions, LLC**. This company builds both custom and generic bond indexes. Such indexes range from Custom Liability Indexes to ETF indexes.

Our asset management entity (Ryan ALM Advisers, LLC) is entirely focused on *cash flow matching* with a product we call the **Liability Beta Portfolio™.** Our **LBP** is a cost optimization model that cash flow matches and funds clients projected liabilities at the lowest cost using investment grade bonds. Our LBP should be able to reduce funding costs by about 2% per year (i.e., 1-20 year liability schedule = 20% funding cost savings).

Our team has been recognized for our expertise, especially Ron Ryan who won the prestigious **William F. Sharpe Index Lifetime Achievement Award.**