Pension Solution # 2

Portable Alpha Liability System … PALS

After extensive research and development, Ryan ALM is proud to present …
Portable Alpha Liability System (PALS) as our solution to cure pension deficits !

The true financial objective of a pension plan is to **fund the pension liabilities at the lowest cost to the plan sponsor with prudent risk**. As a constant watchdog of the pension funded ratio trend since 1989, it is obvious that pension assets are not generally managed versus a liability benchmark or mandate. As a result, pension funds have a serious mismatch of assets to liabilities in terms of risk/reward behavior. This has caused many pension plans to become seriously underfunded and left struggling to find lower cost solutions if not the solvency of their plan.

Our **Pension Solution #1 … Custom Liability Index** research (www.ryanalm.com/research), dated 12/29/04, detailed that generic market indexes do not best represent the true objective of the pension plan and place the asset side in jeopardy of managing to the wrong objective(s). It then follows that **given the wrong objective… the pension plan will get the wrong risk/reward !** Pension liabilities are like snowflakes with no two plans alike. As a result, only a Custom Liability Index could represent the true objective of each unique pension plan. A Custom Liability Index is the necessary first step on the road to recovery and proper asset management.

With a Custom Liability Index, the asset side now has the consistent information to perform its duties. Such an index will provide a set of **economic books** that should reveal :
> 1. True economic funded ratio and size of the deficit
> 2. Term structure of liabilities (yield curve)
> 3. Growth rate (yield) of liabilities for each part of this term structure
> 4. Accurate risk/reward behavior of liabilities
> 5. Frequent reports (daily)

Mathematically, a pension fund can defease (match) liabilities with a 100% zero-coupon portfolio whose par values match the liability payment amount and whose maturity dates match the liability payment dates. This means that the **yield of each liability (as an annual percentage rate (APR)) is the growth rate of each liability to its payment date (maturity)**. Weighted as a liability portfolio or any term structure section thereof, asset management can know their **hurdle rate in advance !**

Each asset class manager should be clearly told what part of the liability term structure they are funding and they should be provided with a Custom Liability Index for that target area. A short duration asset manager should not be expected to produce the return of a long duration asset manager since the yield of liabilities is so different in these two target areas.

To repeat for emphasis … **the yield of liabilities for each part of the liability term structure is the true benchmark or hurdle rate over a time horizon equal to each liability payment date**. This means that **Alpha** (excess return above a benchmark) has finally been correctly measured for any asset/liability management (ALM) objective as **the excess return (growth) above the liability growth rate**. As a result, if you beat the S&P 500 but lose to liabilities … you lose !

With a Custom Liability Index we now know the return needed to outgrow liabilities in advance and over a long time horizon (to the benefit payment date). With yields at a 45-year low on long rates, liabilities should be a much easier objective to meet or beat than at any time in the last 45 years. If asset managers were told to beat 4.5% a year over 10 years (liability average yield / duration), they will behave much more conservative than if they were given the S&P 500 as their objective. Have you ever heard of an asset manager knowing the return they need before the year starts … or 10 years in advance? Yet that is exactly how the asset/liability game can be played. Beat a defeasance portfolio or buy it !

If a plan has a deficit, it will take time to cure. A 100% bond allocation would lock in this deficit and not be a low cost solution. A prudent strategy is to first understand the liability yield curve (term structure) as the return benchmark(s). Next understand the true economic deficit. Finally, have assets managed to each part of the liability term structure (i.e. short, intermediate, long) to outgrow the yields of this liability yield curve. This term structure focus is the critically important feature that Ryan ALM believes should become imperative for pension fund asset/liability management (ALM).

After extensive testing, **Ryan ALM is proud to present… Portable Alpha Liability System (PALS) for effective pension Asset/Liability Management(ALM) and our strategy to solve pension deficits**. PALS combines a Beta portfolio with an Alpha portfolio to create a synergistic solution :

> **Beta Portfolio** = A Government zero-coupon bond portfolio initially designed to preserve principal and match the present value of a target area of liabilities (i.e. 10-15 years). Based upon the Custom Liability Index, our Beta portfolio will match the term structure and duration of the target area of liabilities by investing in Government STRIPs for each monthly liability payment. Through time as the Alpha portfolio performs, the excess returns are ported over to the Beta portfolio to cure the deficit. The goal is to fully match (100%) the future value of liabilities such that the deficit is cured and secured. The Beta portfolio will always purchase the highest yielding Government Agency STRIPs to reduce the cost of defeasing these liabilities.

Alpha Portfolio = A portfolio of value added assets (i.e. Equities) whose objective is to outgrow the yield of the liabilities benchmark for a target area and create Alpha. Once enough Alpha has been created to cure the deficit (year by year), it is ported over to the Beta portfolio to secure this match. Any excess returns leftover after fully funding liabilities becomes **surplus** and can be ported over to a different liability target area or returned to the plan for reassignment (i.e. increase benefits).

A sophisticated research system of filters is employed within PALS to rank the value of stocks in an all cap universe. PALS is not confined to a style (no style drift) in order to maximize value and minimize risk. Since our yield hurdle rate is so low, PALS is designed with a series of constraint filters to avoid taking unnecessary risks.

PALS links well with the Custom Liability Index. Once **PALS** knows its yield hurdle rate (benchmark) it knows where Alpha is. Through a well tested strategy of **option writing and dividend enhancement** this yield hurdle rate can be greatly reduced to an annual benchmark of around **1.50%** in today's market. Such a low growth benchmark allows for a high probability of achieving large excess returns (**Alpha**). Once the amount of Alpha is achieved to fully fund any year of the target liabilities, it is immediately "ported over" to secure this victory and fully fund these liabilities year by year and month by month.

PALS is a series of value added strategies and asset classes. Initially, Ryan ALM begins with Series BE for Broad Equity and GPHF for Healthcare with a Real Estate Series RE already in progress.

"The way you react to adversity is the key to success" … Tom Landry