



# Ryan ALM, inc.

Asset/Liability Management

The Solutions Company



Ronald Ryan, CEO, CFA

## The Ryan Letter

June 2009

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Index	Returns YTD 2009	Estimated Weights
<b>Liabilities :</b>		
Market (Tsy STRIPS)	-17.93 %	100 %
FAS 158 (AA Corporates)	4.78	
PPA (3 Segment)	-0.07	
PPA (Spot Rates)	2.71	
GASB /ASOP (8% ROA)	4.00	
<b>Assets :</b>		
Ryan Cash	0.26 %	5 %
Lehman Aggregate	1.90	30
S&P 500	3.16	60
MSCI EAFE Int'l	8.41	5
<b>Asset Allocation Model</b>	<b>3.31 %</b>	<b>100 %</b>
<b>Assets – Liabilities</b>		
Market	21.24%	
FAS 158	- 1.47	
PPA (3 Segment)	3.38	
PPA (Spot Rates)	0.60	
GASB/ASOP (8% ROA)	- 0.69	

Using Asset Allocation above in 2009, pension asset growth difference vs. liabilities was: **21.24%** (market valuation STRIPS); **-1.47%** (FAS 158); **3.38%** (PPA rules-AA Corporate rates) and **0.60%** (PPA-3 Segments); **-0.69%** (GASB/ ASOP). Such valuations show the significant difference in not using proper *market* valuations. Most pension funds enjoyed a funded ratio surplus in 1999 but **have underperformed liabilities by about -127.65% since 1999** on a compounded index basis starting at 100 on 12/31/99! (see Pension Scoreboard )

Total Returns										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Assets	-2.50	-5.40	-11.41	20.04	8.92	4.43	12.25	6.82	-24.47	3.31
Liabilities	25.96	3.08	19.47	1.96	9.35	8.87	0.81	11.76	33.93	-17.93
Difference: Annual	-28.46	-8.48	-30.89	18.08	-0.43	-4.44	11.44	-4.94	-58.40	21.24
Cumulative		-37.60	-73.40	-60.08	-66.13	-76.75	-64.60	-78.38	-181.57	-127.65

### **J.C. Penney “Pensionomics”**

We congratulate Robert Cavanaugh, CFO, and the J.C. Penney management team for their approach to pension management which they call Pensionomics. P&I featured J.C. Penney in their June 29<sup>th</sup> edition. Mr Cavanaugh explained that “the accounting liability has it all wrong. The tax liability has it all wrong. Those are not the real liabilities. The **economic liability** is the liability we always managed to. From that liability, we then try to match the investment strategy and the contribution strategy. That is what goes into all the annual impacts, including financial, capital structure, earnings per share volatility and the plan’s funded status.” J.C. Penney says that their approach produces significant risk reduction to both the pension plan and the corporation. They are moving to a 75% allocation to fixed income with a goal of 100% for their \$4.1 billion closed defined benefit plan. Penney’s longtime use of mark-to-market accounting has been the driving force behind its historically well-funded plan and LDI strategy. A job well done J.C. Penney.

### **Economic Books**

As I have preached for decades, until companies create a set of *economic books* that mark-to-market assets vs. liabilities in an accurate and frequent way, all asset functions are in jeopardy of operating to the wrong objective(s). Indeed, that is the core problem. Currently, it is hard to find the liability objective in asset allocation, asset management and performance measurement. J.C. Penney figured it out and focused everything on economic books (i.e. market valuations). That is why I created the **Custom Liability Index (CLI) concept** in 1991 as the proper asset benchmark that best represents the true client objective. Until the CLI is installed, all asset functions are not in sync with the liability objective. With a CLI benchmark any LDI assets can now understand, be managed and monitored to the liability objective. Most asset allocation models use the ROA as their target return instead of focusing on the economic Funded Ratio (market value of assets/liabilities). This ROA focus creates a static asset allocation that is reviewed usually infrequently (triennially) and is not responsive to the economics of the plan (funded ratio). With a CLI, asset allocation can now focus on the economic Funded Ratio. In the late 1990s when pensions had surpluses they didn’t correct their asset allocation to more bonds matched to liabilities because they were focused on meeting the ROA hurdle rate. With low bond rates, a greater allocation to bonds would have put a drag on the asset allocation validating the ROA. This has proven to be a drastic mistake.

Asset management and performance measurement focus on *market indexes* which persuade assets to have a risk/reward behavior that has a negative correlation to liability growth behavior. The CLI creates a bridge that allows assets to be managed and measured vs. the liability objective. These negative correlation assets (i.e. the Alpha assets) mission should be to outgrow liabilities (i.e. Liability Alpha) and enhance the Funded Ratio. To measure Liability Alpha requires a CLI. Bonds should be managed vs. the CLI instead of traditional generic bond indexes whose cash flows look nothing like any pension benefit payment schedule. Bonds should be the core or Beta portfolio whose mission is to match and fund the liabilities. Performance measurement should compare asset growth to liability growth in a timely and accurate economic valuation. In the words of Confucius ...”Given the wrong index, you will get the wrong risk/reward.”

### 2009 ... A Great Year for Pension Funded Ratios !

So far 2009 has started out as a great year for pensions not because of great asset returns but because of negative growth in liabilities. Based on the Ryan Liability Index (registered trademark of Ryan ALM, Inc.) we calculate a growth of **-17.93%** in the present value of our *generic* Ryan Liability Index (average duration = 15 years) for the first six months of 2009. This is due to a spike up in interest rates on the Treasury STRIPS yield curve (see Ryan Indexes on our web site).

As I have presented often at seminars and through my newsletters and research reports, it is the liability side that will most likely allow pensions to recover and improve their Funded Ratios not the asset side. Instead of chasing golden rings and risky asset strategies, the best way to pension recovery is through higher interest rates. This will raise the economic discount rates and lower the economic present values of liabilities. A likely scenario is that interest rates will go up on long Treasuries for the next five years. If the 30-year Treasury goes to 8.0% within five years, most pension liabilities would go down in present value by about **- 25%** (15-year liability duration). If pension assets only grow at 6% annually (below the ROA of 8%) the economic Funded Ratio of most pensions would increase significantly

#### **Funded Ratio (Market Valuation)**

	<u>06/30/09</u>	<u>06/30/14</u>	<u>Annual Growth Rate</u>
<b>Pension Assets</b>	<b>\$600 mm</b>	<b>\$757 mm</b>	<b>6%</b>
<b>Pension Liabilities</b>	<b>\$1 b</b>	<b>\$750 mm</b>	<b>- 5%</b>
<b>Funded Ratio</b>	<b>60.0%</b>	<b>100.9%</b>	

Given the above scenario, the economic Funded Ratio would be fully funded in 5 years and at no time did assets achieve the ROA! This would allow for reduced contributions and the opportunity to match liabilities with bonds thereby securing the victory and eliminating the volatility of the Funded Ratio and Contributions. Asset Allocation needs to focus on the economic Funded Ratio and not the ROA.

Current accounting rules (especially GASB) distort the economic value and reality of pension liabilities. As the Society of Actuaries cited, pension assets cannot be managed to current accounting books! They recommended that pensions create a set of *economic books* that mark to market assets and liabilities accurately and frequently. **Ryan ALM provides a Custom Liability Index (CLI) that prices liabilities *daily* and calculates the true economic value of liabilities.** With a CLI as the proper benchmark, the pension asset side can now function effectively on Asset Allocation (since it now knows the true economic Funded Ratio), on Asset Management (which requires an index benchmark to understand the risk/reward behavior it is to match or outperform) and Performance Measurement (which should be the risk/reward comparison of assets vs. the true client objective ...liabilities). With a CLI as the asset benchmark and client objective index, all asset functions can now be in harmony with the true client objective.

## Public Pension Watch

There seems to be an avalanche of Public Pension announcements concerning Pension + OPEB deficits and the mismanagement of such funds. **Potential municipal bankruptcies are waiting to erupt across America due to budget crises stemming mainly from unaffordable pension and OPEB contributions!** As I have preached since 1991, the accounting and actuarial rules (GASB and ASOP 27) governing Public Pension plans are the start of the pension crisis since they do not *mark to market* assets and liabilities. Assets are valued using a five-year *smoothing* technique that can undervalue or overvalue assets. Currently, this method *overvalues assets by @ 25%*. Liabilities are valued at a Discount Rate = ROA rate (@ 8.00% vs. market rates @ 4.00%). Using the ROA as the discount rate has *undervalued public pension liabilities by 30% to 55%* this decade. As a result, reported **Funded Ratios are greatly overstated**. These inappropriate rules have led to inappropriate benefit decisions, contribution decisions and asset allocation decisions. It all links! Here is an update on some municipalities:

**Moody's – Issued a *negative outlook* to the creditworthiness of *all* local governments in the U.S.. This is the first time Moody's ever issued a blanket report on municipalities.**

**Worst Funded Cities – Based on actuarial reports (which *overvalue* Funded Ratios) the cities with Funded Ratios below 50% are: Atlanta, Jersey City, Little Rock, Philadelphia, Pittsburgh, Providence and Wilmington.**

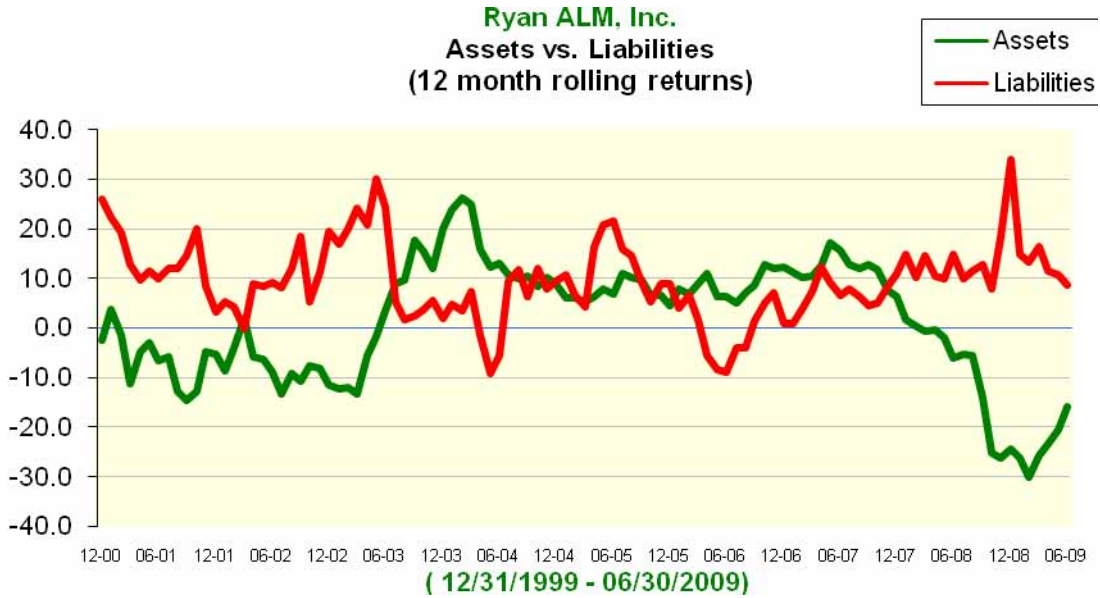
**Federal** – The Congressional Budget Office (CBO) reports that the fiscal policy of the United States is unsustainable. Debt is growing faster than gross domestic product. Under the CBO's most realistic scenario, the publicly held debt will reach 82% of GDP by 2019 (2x the size of 2008). It would reach 200% by 2038. This huge mass of debt can be handled mainly through spending cuts, tax increases or both. Medicare and Medicaid will cost 10% of GDP by 2035 and 17% by 2080 from 5% today.

**Philadelphia** – The PA Public Employees Retirement Commission (PERC) is recommending legislation that would move pensions with less than 50% funded ratios into a state run pension plan. PERC executive director, James McAneny ascertained that most municipalities don't seem to be able to resist increasing benefits in spite of the fact they can't afford it. They would use a discount rate of about 7% instead of the 8.75% currently used to be more conservative in investments.

***“Investors should be skeptical of history-based models. Beware of geeks bearing formulas.”***  
**Warren Buffett**

## Pension Scoreboard

The graphs below show asset vs. liability rolling 12 month and cumulative growth since 1999. The cumulative growth difference is **- 127.65%** suggesting any pension **Funded Ratio below 222.81 in 1999 has a deficit today!**



## Ryan Indexes

### Custom Liability Indexes ... (Patent Pending)

The best way to price (discount rate) and understand the interest rate sensitivity of liabilities is the **Ryan Treasury STRIPS yield curve indexes** as a **LIABILITY INDEX BENCHMARK**. In March 1985, when STRIPS were born, my team and I at the Ryan Financial Strategy Group (RFSG) created the **1st STRIPS Index**. Based upon these Ryan STRIPS indexes we created the **1st Liability Index in 1991** as the proper liability Benchmark for liability driven objectives. Since 1991, the Ryan team has developed hundreds of Custom Liability Indexes (CLI). Similar to snowflakes, no two pension funds are alike in that they each have unique benefit payment schedules due to different labor forces, mortality and plan amendments. Without a CLI it would be difficult, for assets to be managed vs. this liability objective. Until a CLI is installed as the benchmark, the asset side is in jeopardy of managing vs. the wrong objective (generic market indexes). **If you outperform generic market indexes, but lose to the CLI ... the plan loses !**

### Ryan Treasury Indexes

In March 1983, my index team and I at the Ryan Financial Strategy Group (RFSG) created the **1st Daily bond Index ... the Ryan Index** as a *Treasury Yield Curve* index series for each auction maturity series (from Bills to Bonds). The best way to understand the interest rate behavior of bonds is to use the Ryan Treasury constant maturity series for each Treasury *auction* series with two composite indexes ... **Ryan Cash and Ryan Index**.

### Ryan/Mergent 1-30 year Treasury Maturity Ladder Index (PowerShares ETF)

On October 11, 2007 PowerShares launched a fixed income ETF based upon the Ryan/Mergent 1-30 year Treasury Maturity Ladder index. This index is an equal-weighted diversified portfolio of 30 distinct maturities. For more info on this ETF and index, please go to :

[www. Powershares.com](http://www.Powershares.com) (click on fixed income portfolios)

To view all Ryan Indexes data go to : [www.RyanIndex.com](http://www.RyanIndex.com)

*Ryan Index is a Registered Trademark of Ryan ALM, Inc.*

*Note: In October 2005, Ron Ryan terminated his license agreement with Ryan Labs to distribute and calculate the Ryan Indexes and Ryan STRIPS Indexes. Ron Ryan and Ryan ALM have no affiliation with Ryan Labs. Any use of the formulas, methodologies and data of any of the Ryan Indexes without Ron Ryan's written permission is prohibited.*

*Given the Wrong Index ... you will get the Wrong Risk/Reward  
Confucius*

## **Pension Solutions: Custom Liability Index and Liability Beta Portfolio**

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*Ryan ALM offers a turnkey system of CLI + Liability Beta portfolio as a pension solution:*

**Custom Liability Index** - The first step in prudent pension management is to understand, measure and monitor the liability objective frequently and accurately. Until liabilities are packaged as a **Custom Liability Index (CLI)** the asset side is in jeopardy of managing to the wrong objectives (i.e. market indexes). Only a CLI best represents the unique liability schedule of pensions. Just like snowflakes, no two pension liability schedules are alike due to different labor forces, salaries, mortality and plan amendments. How could a *generic market index* ever properly represent such a diverse array of pension liabilities? Once the CLI is installed the pension will now know the true **economic Funded Ratio** which should dictate the appropriate Asset Allocation, Asset Management and Performance Measurement. Ryan ALM is a leader in CLI as Ron Ryan was the inventor of the *first Liability Index* in 1991. In 2006, Ron won the *William F. Sharpe Index Lifetime Achievement Award* !

**Liability Beta Portfolio (Patent Pending)** – The value added in bonds is small as every performance ranking study proves (1<sup>st</sup> quartile vs. median difference). **The best value in bonds is to match and fund liabilities** as Dedication, Immunization and Defeasance have proven for decades. Since liabilities are dynamic calculations they need a CLI to monitor their risk/reward behavior. The *core* or Beta portfolio for a pension should be in high quality bonds that match and fund liabilities. A Beta portfolio is defined as the portfolio that matches the objective. If the true objective is liability driven then, by definition, the proper beta portfolio for any liability objective must be ... a **Liability Index Fund or Liability Beta Portfolio**. This requires a Custom Liability Index in order to be executed.

The Ryan ALM Beta portfolio system will invest only in high quality securities that match the CLI. This provides our clients with the *lowest cost and lowest risk portfolio*. It is the lowest risk portfolio since it has:

- No Interest Rate Risk (matches CLI)**
- No Liquidity Risk**
- No Credit Risk**
- No Event Risk**
- No Prepay Risk**

The Ryan ALM Beta portfolio is the lowest cost portfolio since we will always out yield liabilities by more than our low fee thereby guarantying each client **No Net Fee** to maturity (liability benefit payment dates). Moreover, the Beta portfolio is a matching liability portfolio that fully funds liabilities so no extra contributions are needed in this space reducing the volatility of contributions.