



# Ryan ALM, inc.

Asset/Liability Management

The Solutions Company



Ronald Ryan, CEO, CFA

## The Ryan Letter

March 31, 2012

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Index	Returns YTD 2012	Estimated Weights
<b>Liabilities :</b>		
Market (Tsy STRIPS)	-5.68 %	100 %
FAS 158 (AA Corporates)	1.15	
PPA (3 Segment)	4.47	
PPA (Spot Rates)	-3.00	
GASB /ASOP (8% ROA)	1.98	
<b>Assets :</b>		
Ryan Cash	0.00 %	5 %
Lehman (Barclay)Aggregate	0.31	30
S&P 500	12.58	60
MSCI EAFE Int'l	10.99	5
<b>Asset Allocation Model</b>	<b>8.09 %</b>	<b>100 %</b>
<b>Assets – Liabilities</b>		
Market	13.76%	
FAS 158	6.94	
PPA (3 Segment)	3.62	
PPA (Spot Rates)	11.09	
GASB/ASOP (8% ROA)	6.11	

Using the Asset Allocation above, the difference in asset growth vs. liabilities in 2012 was: **13.76%** (market valuation STRIPS), **6.94%** (FAS 158), **3.62%** (PPA rules-3 segment rates), **11.09%** (PPA-Spot Rates) and **6.11%** (GASB/ ASOP). Such valuations show the significant difference in not using *market* valuations. Most pension funds enjoyed a funded ratio surplus in 1999 but **pension asset growth has underperformed liabilities by about -165.49% since 1999** on a compounded index basis starting at 100 on 12/31/99!

(see Pension Scoreboard on page 6)

	Total Returns												2011	2012
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010			
Assets	-2.50	-5.40	-11.41	20.04	8.92	4.43	12.25	6.82	-24.47	19.43	11.89	3.27	8.09	
Liabilities	25.96	3.08	19.47	1.96	9.35	8.87	0.81	11.76	33.93	-19.52	10.13	33.77	-5.68	
Diff:														
Annual	-28.46	-8.48	-30.89	18.08	-0.43	-4.44	11.44	-4.94	-58.40	38.95	1.76	-30.50	13.76	
Cumulative		-37.60	-73.40	-60.08	-66.13	-76.75	-64.60	-78.38	-181.57	-106.94	-115.67	-195.73	-165.49	

### Milliman 2011 Annual Report Calculates Private Pension Deficits Up 41%

According to an annual report by Milliman Inc. (actuarial and consulting company) the pension deficit for the 100 largest private defined-benefit pension plans increased 41% last year from \$232.1 billion in 2010 to \$326.8 billion underfunding status in 2011. Pension-related charges to earnings increased to \$38.3 billion (a record) from \$30.5 billion in 2010. Milliman estimates that 2012 pension expense will increase to \$54 billion (a new record). The Funded Ratio fell to 79% as of 2011, down from 84% in 2010 and 82% in 2009.

### Pensions Reporting Spiking Contribution Costs!

As the 2011 year end financials are being reported, of note is the huge jump in pension Contribution Costs. Some of the more significant increases were:

**Verizon**    **\$1.2 billion (2012) vs. \$500 million (2011)**  
**3M**        **\$1.0 billion (2012) vs. \$500 million (2011)**  
**GE**        **\$1.0 billion (2012) vs. \$0 (2011)**

Credit Suisse estimates that pension contribution costs for S&P companies should reach \$90 billion in 2012 vs. \$52 billion in 2011...a 74% increase! Contribution costs could total \$400 billion for the five year period 2011 – 2015. Credit Suisse also calculates a -\$458 billion underfunding (74% funded ratio) for 2011 vs. -\$248 billion in 2010 (84% funded ratio).

### GE Reports 159% Increase (\$11.3 billion) in Unfunded Pension Liability!

GE reported a 159% spike in unfunded liabilities as the pension deficit went from **-\$7.1 billion** in 2010 to **-\$18.4 billion** in 2011. GE blames a lowering of the discount rate from 5.28% to 4.21% as the major reason. Based on the information provided here is our simplistic review:

	<u>2010</u>	<u>2011</u>
<b>Pension Assets</b>	<b>\$44.6 billion</b>	<b>\$42.1 billion</b>
<b>Asset Actual Return</b>		<b>- 5.9%</b>
<b>ROA</b>	<b>8.00%</b>	<b>8.00%</b>
<b>Pension Liabilities</b>	<b>\$51.7 billion</b>	<b>\$60.5 billion</b>
<b>Discount Rate</b>	<b>5.28%</b>	<b>4.21%</b>
<b>Liability Growth (10-yr Duration)</b>		<b>15.98%</b>
<b>Liability Growth (15-yr Duration)</b>		<b>21.33%</b>
<b>Funded Ratio</b>	<b>86.27 %</b>	<b>69.59%</b>
<b>Pension Contribution</b>		<b>\$ 1.0 billion</b>

As the above table shows, lowering the discount rate by 1.07% caused liabilities to grow between **15.98%** (10-year duration) to **21.33%** (15-year duration) for 2011. As a result of actual asset growth of -5.9%, assets underperformed liabilities by **-21.88%** to **-27.23%** thereby reducing the Funded Ratio from **86.27%** to **69.59%**. Most pension reports on the reasons why the Funded Ratio dropped significantly was due to poor asset returns. Of note here is that GE cites a lowering of the discount rate as the main culprit. We applaud the GE management for stating this observation. Too often the absolute pension discount rate is viewed as the growth rate of pension liabilities... NOT TRUE! Just like a bond, the discount rates are prices. If discount rates go down (as they have since 1982 as a secular trend) then bond prices (and

liability prices) go up. Based on the Ryan Liability Index Benchmark (portfolio of Treasury STRIPS equally weighted) shown on the first page table, the **annual growth rate of the Ryan Liability Benchmark has been 10.59% from 12/31/99 to 12/31/11!** Also note on the first page of this newsletter is the extreme volatility of liabilities growth rates from a high of **33.93% (2008)** to a low of **-19.52% (2009)**. Comparing the Ryan Liability Index to the S&P 500 and the Lehman (Barclay's) Aggregate shows the startling disparity and underperformance:

	<b>Time Horizon:</b> 12/31/99 to 12/31/11	
	<b><u>Annual Return</u></b>	<b><u>Difference vs. Ryan</u></b>
<b>S&amp;P 500</b>	<b>0.55%</b>	<b>- 10.03%</b>
<b>Lehman (Barclay's) Aggregate</b>	<b>6.47%</b>	<b>- 4.11%</b>
<b>Ryan Liability Benchmark</b>	<b>10.58%</b>	

### **Companies Moving to Mark-To-Market (MTM) Accounting on Pensions**

Several major companies have announced a move to mark-to-market (MTM) accounting for their pensions. They include ATT, IBM, Honeywell, UPS and Verizon. The primary motivation is get rid of the large *actuarial loss* carry forward that is a drag on future earnings. Such a loss occurs when the actual return on pension assets is well below the return on asset (ROA) forecast. The year 2008 all by itself was a huge asset underperformance year where assets had negative growth of around **-24%**. Compared to an ROA of 8% represents a difference of 32% minus a 10% corridor equals a difference of around **-20%**. This is then amortized over the average life of the pension as an annual direct hit to earnings. ATT announced it was restating 2008 earnings from a \$2.5 billion profit to a \$12.5 billion loss... an amazing \$15 billion adjustment! Many companies are saddled with a similar loss carryforward. Under the IASB new accounting rules effective 2013, the ROA is removed and companies must report actual asset returns. FASB is expected to follow given its outspoken accounting convergence philosophy. Such new accounting rules will enhances transparency and the ability to forecast benefit costs. It aligns pension plans with market-based accounting principles. These new rules will reflect pension plans' actual return on assets as well as changes in discount rates on liabilities.

### **ASC 715 (formerly FAS 158) Pension Discount Rates Available via Ryan ALM**

Ryan ALM produces pension discount rates in conformity with ASC 715 (FAS 87/158) by manufacturing a AA corporate zero-coupon bond yield curve since FAS 158 became effective in 2006. We make our discount rate curves available to any corporate plan sponsor, consultant, accounting and actuarial firm usually by the fourth business day of each month. If you have an interest in subscribing to our data, please contact us at... [RyanContact@RyanALM.com](mailto:RyanContact@RyanALM.com)

### **City of Stockton, CA to go Bankrupt?**

The city of Stockton, CA has the second-highest foreclosure rate and one of the highest unemployment rates in the USA. As a result, Stockton lost income from property taxes and other fees. Multi-year labor contracts with escalating costs added to the city's woes. The city has \$15 million deficit with forecasts of rising deficits growing to \$20 to \$38 million for fiscal year 2012-2013. Officials say this river port city of 290,000 could become the nation's largest city to fall into Chapter 9 bankruptcy protection. Under a new CA law (Assembly Bill 506),

Stockton could enter into mediation with its creditors. Vallejo, CA was the largest CA city to file for bankruptcy back in 2008 and it emerged from bankruptcy last year.

### **University of CA Issues \$500 million 100 year Taxable Bond**

In a rare event for municipal bonds, the University of CA issued \$500 million of 100 year bonds in February rated Aa1. The target audience is pension funds and foreign investors. Due to Operation Twist by the Fed there is a shortage of long Treasuries available. This will increase the system's outstanding debt to \$18 billion. Could it also be that CA wants no refinancing events for a long time given its budget and credit ratings problems? The University is the largest education system in the country with over 230,000 full-time students.

### **Cost of the Bail-Outs**

Jim Bianco, head of Bianco Research gave a comparison of the costliest government programs in our history:

<b>Current Bail-Outs</b>	<b>\$4.28 trillion</b>
<b>WWII</b>	<b>\$288 billion (inflation adjusted = \$3.6 trillion)</b>
<b>NASA (50 years cumulative)</b>	<b>= \$416.7 billion (inflation adjusted = \$851.2 billion)</b>
<b>Vietnam War</b>	<b>\$111 billion (inflation adjusted = \$698 billion)</b>
<b>Gulf War</b>	<b>\$551 billion (inflation adjusted = \$597 billion)</b>
<b>Korean War</b>	<b>\$54 billion (inflation adjusted = \$454 billion)</b>
<b>S&amp;L Crisis</b>	<b>\$153 billion (inflation adjusted = \$256 billion)</b>
<b>Louisiana Purchase</b>	<b>\$15 million (inflation adjusted = \$217 billion)</b>

### **Watch List: Countries Downgraded**

**USA:** on 8/11, S&P downgraded USA to AA+

**Belgium:** on 11/25/11, S&P downgraded Belgium to AA from AA+ because of renewed funding and market risk pressure. The outlook is also negative.

**France:** on 1/13/12, S&P downgraded to AA+

**Greece:** on 02/06/11, Moody's downgraded Greece below investment grade; on May 9, S&P cut Greece's credit rating from BB- to B. S&P downgraded Greece due to concerns that euro zone officials want to renegotiate Greece's debt by extending the maturities of the European Commission's portion of the \$110 billion euro bailout.

**Ireland:** on 07/12/11, Moody's downgraded Ireland below investment grade;

**Italy:** on 10/04/11, Moody's downgraded Italy to A2 with a negative outlook.  
on 1/13/12, S&P downgraded to BBB+

**Portugal:** on 07/05/11, Moody's downgraded Portugal below investment grade;

**Spain:** on 1/13/12, S&P downgraded to A

Note: These actions taken by Moody's were based on the Eurozone economic trends of growing federal debt, lack of austerity policies to reduce government spending and faltering economic growth. Does this look anything like the current American economic scenario?

Eurozone (17 countries): only Finland, Germany, Luxemborg, Netherlands remain AAA

### **Woody (the Pension Pencil)... the Weapon of Mass Destruction in the U.S.**

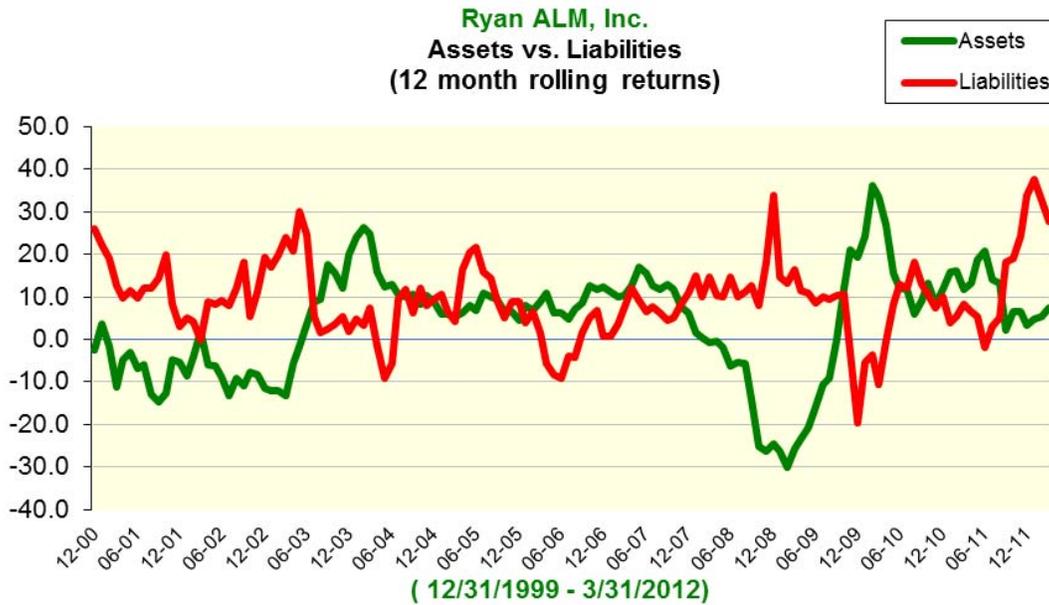
I have blamed accounting rules and schemes as the major villain causing the pension crisis. When I testified before the ERISA committee on pensions in 2003, I brought in a five foot pencil (*Woody*) which I proclaimed as the weapon of mass destruction among U.S. pensions. I showed how the pension accounting pencil is used to enhance the EPS of corporations, enhance the Funded Ratio of pensions, reduce Contributions and reduce the size of pension liabilities. Instead of using market values, the pension accounting rules smooth assets over 2 years (PPA) and 5 years (GASB) while using *hypothetical* corporate bonds (PPA) and significantly higher than market rates (GASB = ROA) as the discount rates. In the last 10 years this has led to an *overvaluation* of assets and a large *undervaluation* of liabilities (as much as 40% to 60% using GASB) which together created a significantly *overvalued* Funded Ratio. Such erroneous valuations misled most pensions into the wrong Asset Allocation, Benefit and Contribution decisions. My conclusion and recommendation was: **To validate any discount rates used... it must be purchasable such that the pension plan could settle or defease the liabilities if it so chooses with the discount rates used!** It should be a yield curve of discount rates such that every liability benefit payment has a distinct discount rate valuation. This is identical to how the bond market functions where every maturity is a separate and distinct yield. If you cannot buy the discount rates then they are *hypothetical rates* or financial lies and should not be used as financial valuations. After Enron and World Com, financial America should make sure that **we never tolerate financial lies anymore.**

### **CONGRATULATIONS! Invesco PowerShares wins ETF Product of the Year Award**

The RAFI High Yield 1-10 year bond index that combines the RAFI fundamental weights with the Ryan index rules approach to bond indexes became the catalyst for a new breed bond ETF which Invesco PowerShares introduced in August 2010. This High Yield ETF (symbol PHB) won the William F. Sharpe ETF Product of the Year 2010 award presented at the IMN Superbowl event. The ETF product of the Year is awarded to the company that had the most significant impact on the ETF market. “The William F. Sharpe Awards recognize the best and the brightest innovators in the field of indexing, ETFs and investment management,” said Ben Fulton, Invesco PowerShares managing director of global ETFs. “By weighting companies based on fundamental measures of their resources available to service debt we believe the PowerShares Fundamental High Yield Corporate Bond Portfolio represents an important alternative to market-cap-weighted fixed income portfolios and provides investors the potential for improved risk-adjusted returns” added Joseph Becker, senior fixed & equity income product strategist at Invesco PowerShares. “Applying the RAFI fundamental weights to the Ryan index style of *maturity buckets* where only one issue per issuer is permitted in the index per each maturity bucket of 1.0-5.0 years and 5.0-10.0 years enhances the liquidity and pricing efficiency of the index(s)” adds Ron Ryan, CEO of Ryan ALM. Ryan ALM is the calculation agent of the RAFI High Yield suite of bond indexes (three indexes) plus the RAFI Corporate suite of bond indexes (four indexes).

## Pension Scoreboard

The graphs below show asset vs. liability rolling 12 month and cumulative growth since 1999. The cumulative growth difference is **-165.49%** suggesting any pension **Funded Ratio below 210.28% in 1999** has a deficit today on a *market weighted* basis



## The World of 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, the Ryan Financial Strategy Group (RFSG) created the **1st STRIPS Index**. Based upon these Ryan STRIPS indexes we created the **1st Liability Index** as the proper Liability Benchmark for liability driven objectives. The Ryan team has developed hundreds of Custom Liability Indexes (CLI). Similar to snowflakes, no two pension funds are alike with unique benefit payment schedules due to different labor forces, mortality and plan amendments. Until a CLI is installed as the benchmark, the asset side is in jeopardy of managing vs. the wrong objective (market indexes). **If you outperform generic market indexes, but lose to the CLI ... the plan loses!**

### Ryan Treasury Yield Curve Indexes (Constant Maturity / Duration series)

In March 1983, the Ryan Financial Strategy Group (RFSG) created the **1st Daily bond Indexes (the Ryan Index)** as a *Treasury Yield Curve constant maturity* index series for each **auction** maturity series (from Bills to Bonds). In March 1985, the day after Treasury STRIPS were born RFSG created the **1st Treasury STRIPS indexes** as a *Treasury Yield Curve constant duration* series of 1-30 year maturities (30 distinct constant duration indexes + composite). The best way to measure interest rate risk is to use the Ryan Treasury Yield Curve Index series.

### RAFI Fundamental Weighted High Yield Index Series + RAFI Investment Grade Index Series (PowerShares ETFs = PHB + PFIG)

In January 2010, Research Affiliates announced the creation of a series of bond indexes based on the RAFI fundamental weights. These include a short, intermediate long and composite Investment grade series and a short and intermediate High Yield series. Ryan ALM was honored and chosen as the index designer and calculation agent. In August 2010 the RAFI 1-10 year High Yield Index was launched as a **PowerShares ETF (PHB)**. There is also a Canadian hedged version (**PFH\_CN**). In September 2011 the RAFI 1-10 year Investment Grade index was launched as a PowerShares ETF (**PFIG**). For more info on these ETFs and index, please go to:

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

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

On October 11, 2007 PowerShares launched a fixed income ETF (**PLW**) 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)

### Ryan ESG Bond Index Series (Global version)

In 2009 Ryan ALM launched the **1st ESG Global corporate bond index series** based upon the GSRA ESG ranking (G100 + G400 series) for the top ranked ESG Global companies. This index series includes a 1-30+ year index.

### Ryan FAS 158 Spot Rate Yield Curve Index

In 2006, Ryan ALM designed the FAS 158 yield curve index that prices any private pension liabilities in conformity to FAS 158 standards.

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

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*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**

*(Patent Pending)*

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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.