Ryan ALM, inc.

Asset/Liability Management

The Solutions Company

Ronald Ryan, CEO, CFA

The Ryan Letter

December 31, 2011

Index	Returns YTD 2011	Estimated Weights
Liabilities :		
Market (Tsy STRIPS)	33.77 %	100 %
FAS 158 (AA Corporates)	19.58	
PPA (3 Segment)	14.56	
PPA (Spot Rates)	18.93	
GASB / ASOP (8% ROA)	8.16	
Assets :		
Ryan Cash	0.31 %	5 %
Lehman (Barclay)Aggregate	7.85	30
S&P 500	2.10	60
MSCI EAFE Int'l	-11.68	5
Asset Allocation Model	3.27 %	100 %
Assets – Liabilities		
Market	-30.50%	
FAS 158	-16.31	
PPA (3 Segment)	-11.29	
PPA (Spot Rates)	-15.66	
GASB / ASOP (8% ROA)	-4.89	

Using the Asset Allocation above, the difference in asset growth vs. liabilities in 2011 was: **-30.50%** (market valuation STRIPS), **-16.38%** (FAS 158), **-11.29%** (PPA rules-3 segment rates), **-15.66%** (PPA-Spot Rates) and **-4.89%** (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 **pension asset growth has underperformed liabilities by about -195.73% since 1999** on a compounded index basis starting at 100 on 12/31/99!

(see **Pension Scoreboard on page 6**)

Total Returns	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
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
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
Difference:												
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
Cumulative		-37.60	-73.40	-60.08	-66.13	-76.75	-64.60	-78.38	-181.57	-106.94	-115.67	-195.73

2011 = 3rd Worst Pension Year Ever!

As calculated on the first page asset allocation exhibit, pension assets have not grown well this year relative to liability growth. If pension liabilities were marked to market using the Treasury STRIPS yield curve as shown on the first page exhibit, most pension liabilities would have grown in present value by about 30% for the year (as measured by the Ryan Liability Benchmark using the Ryan Treasury STRIPS indexes from 1-year to 30-years *equally weighted*). This suggests that many pensions are having a very bad year. Since 1987 the worst pension years are **2008 (-58.40%) followed by 2002 (-30.89) and 2011 (-30.50%)**. The Fed stimulus plan to lower interest rates might help the economy some day but is killing pensions currently. Such poor asset *relative* performance will show up in higher contribution rates which will hurt EPS of corporations and budgets of cities and states.

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. 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

Best Performing Asset Class = Treasuries!

It is hard to find a more productive asset class than Treasuries in 2011 (and since 12/31/99). Given the secular trend to lower interest rates (started in 1982) as rates go lower… bond prices go higher. Although Treasury yields were historically very low starting the year 2011 they went lower thanks to the Fed economic stimulus posture and the more recent FOMC position to buy long Treasuries ("Operation Twist"). This led to a reduction (rally) in long Treasury rates. Amazingly, here are the total returns of key Ryan Treasury STRIPS indexes for the year 2011. Please go to our web site for all Ryan Indexes:

Ryan STRIPS Index	**2011**	**Other Assets (Futures)**	**2011**
5-year STRIPS	**9.74%**	**Gold**	**10.0%**
10-year STRIPS	**22.87**	**Crude Oil**	**8.0**
15-year STRIPS	**34.25**	**Silver**	**- 9.8**
20-year STRIPS	**45.63**	**Copper**	**- 23.0**
25-year STRIPS	**55.36**	**Natural Gas**	**- 32.0**

Treasury STRIPS Formation Falls Due to Fed's Operation Twist

The outstanding amount of zero-coupon U.S. Treasury debt fell for the fourth straight month in November making this the longest decline since 2009. This is a direct effect of The Federal Reserve's Operation Twist which has a major buyer of 30-year Treasuries. STRIPS (acronym for Separate Trading of Registered Interest and Principal Securities) are created by Wall Street broker/dealers who strip Treasury bonds into separate and distinct zero-coupon bonds for each interest payment dates + principal payment date. As such stripping a 30-year Treasury would create 61 STRIPS. Treasury released data showed that STRIPS fell by $643 million in November (33% drop) to $196.5 billion after reaching a 10-year high of $207.5 billion in July. The Fed's Operation Twist was a major catalyst to the total return performance of long

Treasuries and STRIPS in 2011. An estimated $8.357 trillion was eligible for stripping at the end of November.

Worst Performing Asset Class in 2011 = Finance (Bailout Companies)
Apparently, the $700 billion economic stimulus package known as TARP (Troubled Asset Relief Program) has not proven to help the stockholders of the bank and insurance TARP beneficiaries. In 2011, the worst performing stocks were the major bank and insurance TARP recipients with BoA the worst performing stock:

Worst Stocks of 2011		**TARP Funds received**
Bank of America	**- 59%**	**$45 billion**
AIG	**- 52%**	**$70 billion**
Goldman Sachs	**- 46%**	**$10 billion**
Citigroup	**- 43%**	**$50 billion**

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).

American Airlines and Parent (AMR Corp.) Bankruptcy Cost Pensioners
Tuesday, November 29 American Airlines filed for Chapter 11 bankruptcy protection. If and when the four pension plans are turned over to the PBGC, pension beneficiaries will face a cap on their benefits of $54,000 per employee. For most pilots, this would be a severe cut in what they expected. As a result, employees and retirees face a loss of $1 billion in pension benefits. Employees were notified Tuesday that future retirees can no longer get a lump sum distribution because the plan is now underfunded. The PBGC announced Tuesday it estimates that the four plans are underfunded by $10 billion with pension assets of $8.3 billion and liabilities of $18.5 billion. This is a major blow to the PBGC (and taxpayers) which currently already faces a record deficit of $26 billion. Such a bankruptcy filing allows AMR to restructure its cost structure particularly pension expense. This has been a common strategy for many corporations

in recent years especially the airline industry. The PBGC has now taken over 4,300 failed pension plans with 134 coming just in 2011 as of September 30, 2011.

US Postal Service (USPS) May Run Out of Funds to Operate in 2012

The USPS forecasts a record $14.2 billion loss for the 2012 fiscal year. In an e-mail dated November 22, the agency stated… "The US Postal Service must make fundamental changes to its business model to return to profitability and continue its mission of providing quality service to every address in the nation". In an effort to become solvent, the agency is closing post offices, wants to cut 220,000 jobs by 2015, end Saturday mail delivery and persuade Congress to let it delay payments for health benefits of future retirees. The USPS hired Evercore Partners Inc. to advise the agency on restructuring. Evercore is founded by former Treasury Secretary Roger Altman. The National Association of Letter Carriers, the second-largest postal-workers union, said it hired Lazard and former White House auto adviser Ron Bloom to propose restructuring ideas for the USPS.

PBGC Announces Largest Deficit in its History

The Pension Benefit Guaranty Corp. (PBGC) announced at the end of November that its deficit for 2011 is currently **-$26 billion**… the largest deficit in its 37 year history. The PBGC announced it has assets of $81billion with liabilities at $107 billion.

Eastman Kodak to Seek Bankruptcy Protection?

The WSJ reported that 131-year old Eastman Kodak Co. could be preparing bankruptcy protection in the next few weeks if efforts to sell a treasury of over 1,000 digital patents fall through. It is also seeking $1 billion in financing to keep it alive during bankruptcy proceedings. Kodak invented the digital camera in 1975 and was considered the titan of the camera and film industry for decades. The company has 19,000 employees. The stock closed at $0.47 on the WSJ news. The stock hit a high of $5.85 in the last 12 months, $8.00 in the last 3 years and $29.31 in the last 5 years.

Watch List: Countries Downgraded

Greece: on February 6, 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.
Portugal: on July 5, Moody's downgraded Portugal below investment grade;
Ireland: on July 12, Moody's downgraded Ireland below investment grade;
Italy: on October 4, Moody's downgraded Italy to A2 with a negative outlook.
Belgium: on November 25, S&P downgraded Belgium to AA from AA+ because of renewed funding and market risk pressure. The outlook is also negative.
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?

White House Property Valued at $264 Million?

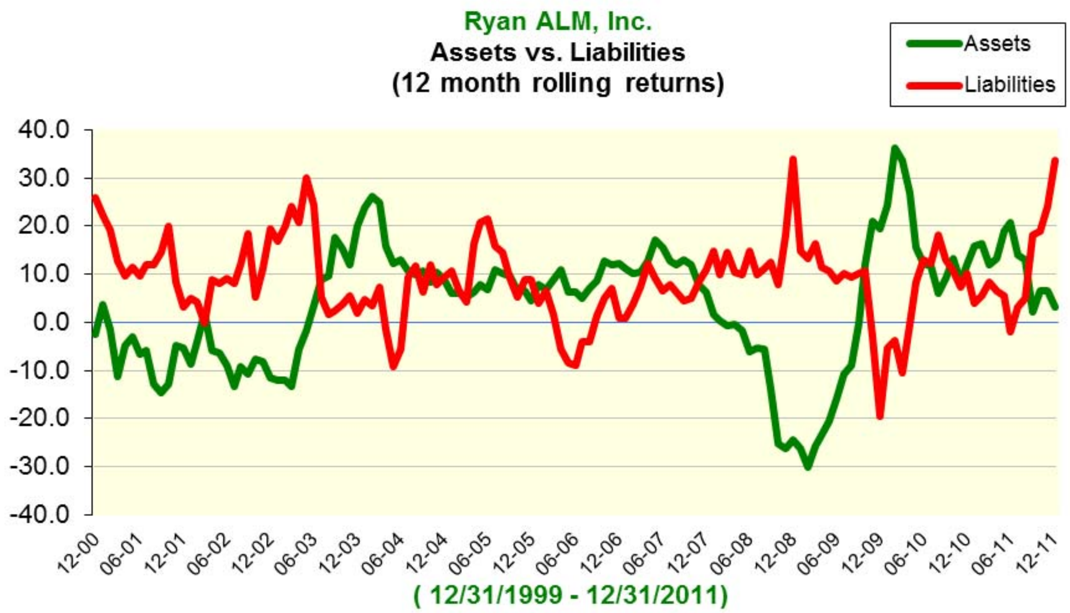
The real estate value website (Zillow) has valued the White House at $264 million. This unique property has 132 rooms with 16 bedrooms, 35 bathrooms, tennis court, swimming pool and much historical significance. Sounds pretty cheap for such a special piece of real estate with such unique history. No, it is not for sale… never has been and hopefully, never will be. But with our outrageous debt load… who knows? The U.S. General Services Administration would handle any sale of U.S. property.

***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**.

Pension Scoreboard

The graphs below show asset vs. liability rolling 12 month and cumulative growth since 1999. The cumulative growth difference is **–195.73% suggesting any pension Funded Ratio below 240.98% in 1999 has a deficit today on a *market weighted* basis**



(12/31/1999 - 12/31/2011)

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**.** 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 maintenance. In August 2010 the RAFI High Yield Index was launched as a **PowerShares ETF (PHB)**. There is also a Canadian hedged version **(PFH_CN)**. In September 2011 the RAFI Investment Grade index was launched as a PowerShares ETF **(PFIG)**. For more info on these ETFs and index, please go to:

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 (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 2008, 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

Given the Wrong Index … you will get the Wrong Risk/Reward
Confucius

Pension Solutions:
Custom Liability Index and Liability Beta Portfolio
(Patent Pending)

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 (1st 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.