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The Ryan Pension Letter

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Index	Returns YTD 2012	Estimated Weights
Pension Liabilities:		
Market (Tsy STRIPS)	4.46 %	100 %
FAS 158 (AA Corporates)	9.26	
PPA (3 Segment)	14.70	
PPA (Spot Rates)	18.05	
GASB /ASOP (8% ROA)	8.16	
Pension Assets:		
Ryan Cash	0.14 %	5 %
Lehman (Barclay)Aggregate	4.23	30
S&P 500	15.99	60
MSCI EAFE Int'l	17.88	5
Asset Allocation Model	11.79 %	100 %
Pension Assets – Liabilities:		
Market	7.33%	
FAS 158	2.73	
PPA (3 Segment)	-2.91	
PPA (Spot Rates)	-6.26	
GASB/ASOP (8% ROA)	3.63	

Using the Asset Allocation above, the difference in pension asset growth vs. liabilities in 2012 was: **7.33%** (market valuation STRIPS), **2.73%** (FAS 158), **-2.91%** (PPA rules-3 segment rates), **-6.26%** (PPA-Spot Rates) and **3.63** (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 -194.30% since 1999** on a compounded index basis starting at 100 on 12/31/99!

(see Pension Scoreboard on page 7)

	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	11.79	
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	4.46	
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	7.33	
Cumulative		-37.60	-73.40	-60.08	-66.13	-76.75	-64.60	-78.38	-181.57	-106.94	-115.67	-195.73	-194.30	

Pension Scoreboard for 2012

Based on the growth rates and asset allocation shown on the first page, here is our estimate of probable asset/liability performance and its benefits or consequences for calendar year 2012:

Economic Books

If pensions marked to market (MTM) using Treasury STRIPS we estimate they would have enjoyed a **large victory in 2012 = 7.33%** (assets = 11.79% vs. liabilities = 4.46%).

ASC 715 (formerly FAS 158)

FASB governs the financial statements of corporations. Actuarial gain/loss has played a major role in earnings in recent years (especially 2008 with a large actuarial loss carry forward for 10 to 15 years) when pension assets perform differently than the forecasted ROA. Although 2012 provided an actuarial gain since most pension assets outperformed the estimated ROA (i.e. 7.50%) there will be **no earnings enhancement** due to the 10% corridor exemption. Moreover, there remains a sizeable actuarial loss from 2008 which will haunt most companies EPS for another five to 10 years.

PPA (3 segment + spot rates)

PPA discount rates determine the valuation of liabilities which determine the Funded Ratio and contributions. Liability growth was significant in 2012 using the PPA 3 segment rates (14.70%) and spot rates (18.05%). This will most likely lower the Funded Ratio thus causing an **increase in contributions** among corporations.

GASB

GASB lives in the world of Peter Pan where interest rates do not change nor is there a yield curve. Using the ROA as the discount rate has significantly undervalued liabilities for about 25 years. With a ROA of 7.50% to 8.00%, liabilities are undervalued by about 50% to 70%. The year 2012 will look like a winner for most public plans as pension assets outperformed the ROA. However, many public plans will get a wakeup call when their actuaries tell them **contributions went up again**. If the Funded Ratio is at 60% assets have to outgrow liabilities by 66.6% to match liability growth. To calculate contributions, the actuary grows liabilities by the ROA. So for assets of \$60 to match liability growth of \$8 (\$100 of liabilities growing at 8%), assets would have to grow at 13.34% ($\$8 / 60 = 13.34\%$) not the ROA rate.

America's Fiscal Cliff or Cliffs?

America is facing both a debt burden and budget deficit that is unsustainable.

(\$ billions)

----- Budget Spending + Revenues -----

	Discretionary	Entitlement	Interest	TOTAL	Revenue	S/Deficit	Debt	% GDP
1992	803	976	300	2,079	1,642	-437	4,002	40.7%
2000	799	1,236	290	2,325	2,632	307	5,628	57.3%
2008	1,205	1,694	269	3,168	2,681	-487	9,986	69.7%
2012	1,289	2,053	220	3,563	2,435	-1,128	16,351	104.8%

America's federal debt has now exceeded 100% of GDP. Moreover, we are running annual budget deficits of over \$1 trillion per year... the largest deficit of any country on earth. Most

prudent families and corporations know that when faced with a financial crisis you must cut your spending significantly to balance your budget. It is rare that our country ever reduces discretionary spending. Then we have entitlements that are stuck in a demographics trend where a greater % of our population is receiving Social Security and Medicare payments. Perhaps, more alarmingly is the 300% growth in disability SS payments in the last four years. Fortunately, interest rates are historically low but can you imagine a secular trend to higher rates. A 1% increase in rates on federal debt would raise interest expense by \$160 billion per year at the current debt level. In the new fiscal cliff legislation, there were basically no cuts in government spending. Even with a parade of increased taxes, there is a projected \$1 trillion deficit per year suggesting a **\$20 trillion federal debt burden by 2016**. God Bless America!

“When you come to the end of your rope, tie a knot and hang on.”
Franklin D. Roosevelt

The Tax Man Cometh

On December 31, 2012 the Tax Relief Act of 2010 expired. The new fiscal cliff avoidance legislation has a wide sweep of increased taxes including a 47.6% increase in the FICA tax that every employee pays:

	<u>2013</u>	<u>2012</u>	<u>% Increase</u>
1. Social Security (every employee)	6.2%	4.2%	47.6%
----- Individuals with incomes over \$400,000 + Couples over \$450,000 -----			
2. Top income tax rate	39.6%	35.0%	13.1%
3. Capital Gains	20.0%	15.0%	33.3%
4. Dividends	20.0%	15.0%	33.3%
5. Obamacare Tax	3.8%	0.0%	∞
6. Estate & Gift Tax	40.0%	35.0%	14.3%

History of Treasury Auctions and Debt

America’s operating budget, as is every country, is financed thru tax revenues, borrowings and printing money (debt monetization). Unfortunately, America traditionally does not pay off our debt. The principal on our debt is usually refinanced and the interest is part of our budget that we borrow the funds to pay. As a result, the Treasury auction process has become like a snowball from hell as it gets larger and larger and larger with almost every auction year. Since 1980, the size of the individual Treasury auction has grown 7.1x (2-year) and 10.9x (30-year).

Size of Treasury Auctions (\$ billions) + Debt (\$ trillions)

Last Auction	2-year	5-year	10-year	30-year	Debt
1980	4.9	3.2	2.0	2.2	4,002
1992	17.1	12.1	11.7	11.7	4,002
2000	14.2	15.8	12.4	12.4	5,628
2008	40.8	30.0	23.6	23.6	9,986
2012	35.0	35.0	24.0	24.0	16,351

[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 an 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 third business day of each month. Our discount rate yield curve is monitored and approved by a major accounting firm. If you have an interest in subscribing to our data, please contact us at... RyanContact@RyanALM.com. Moreover, Ryan ALM creates **Custom Liability Indexes (CLI)** as the proper benchmark for liability driven objectives based on FASB, PPA, GASB and Market discount rates. Our CLI is a *daily index* report that calculates: Present Value, Term Structure, Growth Rates (Returns), Summary Statistics (YTW, MDuration, Average Price (Cost)) and Interest Rate Sensitivity.

[PBGC Needs a Bailout](#)

The New York post reporter Josh Kosman ran an update on the Pension Benefit Guaranty Corp. (PBGC) that protects the pension benefits employees of bankrupt corporations with a defined benefit plan suggesting they need a bailout itself. In a recent report from UBS, analysts Boris Rjavinski and Matthias Rusinski calculate that the PBGC has \$322 billion of pension exposure to pension plans that might soon terminate. Hostess Brands, for example, would account for about \$20 billion. PBGC's deficit rose 32% in the last year to a \$34 billion underfunding. Its funded ratio dropped from 75% the year previous to 70% which is the lowest level since 2004. **In the last year, the PBGC was cash flow negative by \$2.75 billion** (premiums = \$2.75 billion and benefits paid = \$5.5 billion). As a solution, Director John Gotbaum wants to charge riskier companies higher premiums to insure their pensions. The new MAP 21 legislation will also boost premium income by an estimated \$10.375 billion over 10 years.

[New Pension Relief Law \(MAP 21\) Increases PBGC Premiums Cost](#)

Moving Ahead for Progress in the 21st Century Act (**MAP-21**) law raises the PBGC fixed premium from \$35 per participant to \$42 in 2013 (20% increase), \$49 for 2014 (additional 16.7% increase) and then inflation adjusted thereafter. The variable premium (for unfunded plans below 70% Funded Ratio) will increase from \$9 per \$1,000 unfunded vested liability to \$14 in 2014 and \$19 in 2015 (more than double the current rate). The federal government estimates that MAP-21 will bring in **\$10.375 billion in new PBGC premiums over the next 10 years**. Please note that the higher PBGC premiums are not included in the CPI inflation calculation but certainly will be an added cost in doing business. Please email us at Ryancontact@RyanALM.com for more details on MAP 21

[U.S. Postal Service Reports Record \\$15.9 billion Loss](#)

The U.S. postal Service reported a record **\$15.9 billion annual loss** for the fiscal year ending September. This is the fifth consecutive year of multi-billion losses. Facing its own fiscal cliff, the Postal Service says it will run out of cash in October 2013 without congressional intervention. The Postal Service defaulted earlier this year on \$11.1 billion in required retiree-health-benefits payments. Anyone for allowing the private sector handle the U.S. mail?

[FHA Reports \\$13.5 billion Fiscal Deficit](#)

The Federal Housing Administration reported a **deficit of \$13.5 billion** for its fiscal year ending September 30. FHA says it will not have the capital resources to handle the estimated losses on

the roughly \$1.1 trillion in mortgage debt that it backstops. The FHA has \$25.6 billion in resources with a cash flow shortfall of -\$39.1 billion. A taxpayer bailout looks imminent. The FHA doesn't make loans but guarantees loans lenders make. The Community Reinvestment Act where loans were made available to low income individuals without proper down payments and credit qualifications led to the sub-prime disaster which was the major causes of this deficit. The Treasury will decide in February 2013 if FHA will receive additional funding. Is there a federal agency that is profitable?

Treasury to Sell GM Stake at a Loss?

The Treasury sold 200 million shares to GM at \$27.50 in December and plans to sell its remaining 300 million shares in January. The Treasury invested \$49.5 billion in GM during the TARP (Troubled Asset Relief Program) bailout. Assuming the government sells the remaining 300 shares at \$27.50, the taxpayers will lose about **\$12.6 billion** in total representing a total return loss of **-25.5%**. Once out of TARP, GM will be freed from government rules that limit executive pay.

Treasury to Sell AIG Stake at a Profit!

On December 11 the Treasury announced it was selling its remaining 16% ownership in AIG for \$7.6 billion which by their account would result in a **\$22.7 billion profit** on a \$182 billion bailout with the Treasury realizing a \$5.0 billion profit and the Federal Reserve a positive return of \$17.7 billion. Professor Neil Barofsky, the former inspector general of the government's TARP bailout program for AIG, banks and automakers, cautions that taxpayers will lose money from a waiver on future tax payments.

	Max Combined Commitment	Repayments, Canceled/Reduced Commitments, Interest/Fees/Gains	Positive Return
Federal Reserve	\$112.5 billion	\$130.2 billion	+\$17.7 billion
Fed Loans to AIG ¹	\$35.0 billion	\$41.8 billion	+\$6.8 billion
AIA/ALICO SPV, Preferred Interests	\$25.0 billion	\$26.4 billion	+\$1.4 billion
Maiden Lane II & III	\$52.5 billion	\$62.0 billion	+\$9.5 billion
Treasury	\$69.8 billion	\$74.8 billion	+\$5.0 billion
Common Stock	\$47.5 billion	\$51.6 billion	+\$4.1 billion
Preferred Stock	\$22.3 billion	\$23.2 billion	+\$0.9 billion
Total	\$182.3 billion	\$205.0 billion	+\$22.7 billion

As part of its overall \$5.0 billion positive return to date, Treasury realized a \$4.1 billion positive return on its common stock holdings and a \$0.9 billion positive return on its preferred stock holdings. Included in the Federal Reserve's \$17.7 billion positive return to date is a \$6.8 billion positive return on the Federal Reserve Bank of New York's (FRBNY) loans to AIG; a \$1.4 billion positive return on preferred interests in the AIA Aurora and ALICO special purpose vehicles that held AIG's largest foreign life insurance subsidiaries; and a combined

\$9.5 billion positive return on the Maiden Lane II & III special purpose vehicles. The combined profit of \$9.5 billion from the Maiden Lane II and III special purpose vehicles, which purchased mortgage-related assets from AIG and its counterparties, represented the largest portion of the overall \$22.7 billion positive return. Over the last 19 months, Treasury has conducted six public offerings of AIG common stock, selling a total of 1,655,037,962 shares (originally 92 percent of AIG's outstanding common stock) at an average price of \$31.18 per share. Treasury's \$20.7 billion AIG common stock offering in September 2012 alone represented the largest single U.S. common stock offering in history.

Public Pension Crisis: Pennsylvania

Pennsylvania's two public pension plans are faced with a combined \$41 billion pension shortfall (Employees = **-\$28 billion**; Public Schools **-\$13 billion**). The pension costs for these two plans alone will consume 62% of the fiscal 2014 revenue growth according to the state budget office. State revenue is projected to rise about \$818.7 million in fiscal 2014 while pension costs are estimated at \$511.2 million. In July, Moody's cut the state's GO debt rating to Aa2. Seems like PA, as well as many states, are at a critical junction whether to fully fund the pension annual required contributions (ARC) or make serious budget cuts.

Cities Bankruptcy Watch!

There is an ugly and unfortunate trend in America of our cities filing for bankruptcy under Chapter 9, Title 11 of the U.S. Bankruptcy Code. This crisis has developed due to unaffordable budgets mainly due to spiking pension contribution costs. For most cities, the annual pension contribution cost is equal to 100% of their budget deficit. Many states are worst but supposedly cannot file for bankruptcy. The moral here is: "Fix the pension costs and you fix the budget costs". Please read my research paper "**The Public Pension Crisis**" by emailing us at RyanContact@RyanALM.com which explains in detail how the Public pension crisis happened. There have been 7 bankruptcy filings so far in 2012, 13 in 2011, 6 in 2010, 12 in 2009. The most recent and most notable are:

July 10, 2012 = San Bernardino, CA

June 28, 2012 = Stockton, CA (largest city to file for bankruptcy)

April 14, 2012 = Mammoth Lakes, CA

2011 = Jefferson County, AL (largest bankruptcy = \$4 billion in debt)

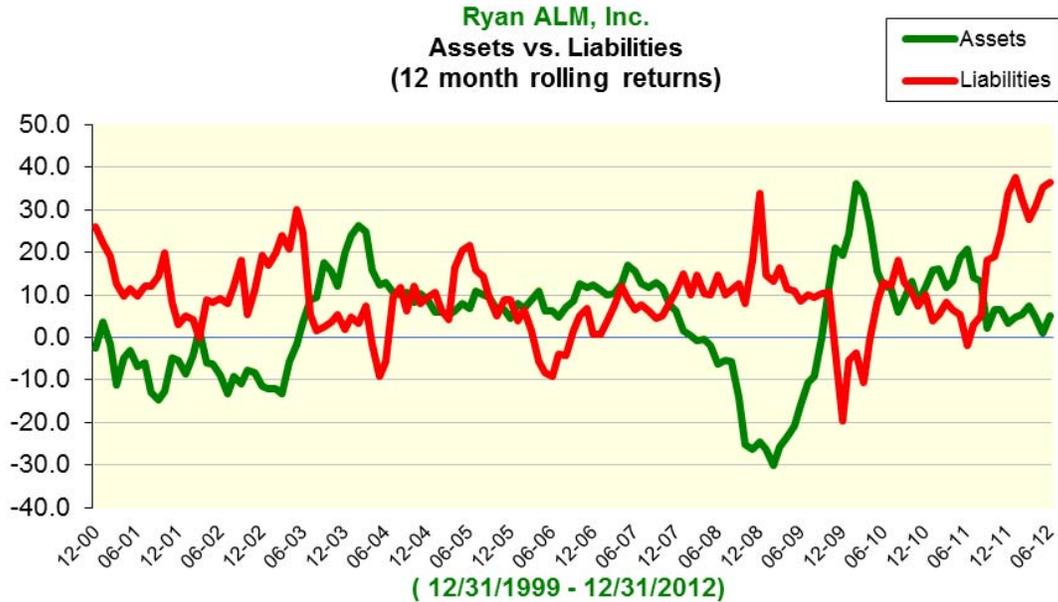
2008 = Vallejo, CA

Japan's Debt Load is a Ticking Time Bomb!

The third largest economy in the world (Japan) is in worst shape than Greece. With \$14.6 trillion in debt this amounts to 230% of their GDP, this is far higher than Greece at 165% of GDP. Apparently, Japan has never recovered from the stock market crash and real estate crisis of the 1990s. The government had to bail out banks and insurance companies. Since then economic growth has been dismal and tax revenues are less than 50% of government spending. The confusion is why are Japan's interest rates so low? The answer is that the country borrows most of its funds from its own citizens. Domestic banks and insurance companies have purchased 95% of the country's sovereign debt using the saving and investment deposits of its population. Moreover, the central bank (Bank of Japan) has adopted a very accommodating monetary policy. Since 2011, the central bank has provided \$1.2 trillion in stimulus funds (printed money) to banks to finance the growing government debt.

Ryan ALM Pension Scoreboard

The graphs below show asset vs. liability rolling 12 month and cumulative growth since 1999. **Ryan ALM Benchmark Liability Index = % growth while pension assets = % growth for a difference of -194.30% suggesting any pension **Funded Ratio below 225.19%** in 1999 has a deficit today on a *market weighted* basis. The **Ryan ALM Pension Funded Ratio = 44.41%**.**



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 (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 ASC 715 (formerly 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.

Ryan Canadian Corporate Bond Index (Pro-Financial fund)

In 2012, Ryan ALM designed an investment grade index for Canadian corporate bonds. This index should help with the new IAS 19 discount rate accounting rules.

To view all Ryan Indexes data go to: www.RyanALM.com

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

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!

Ryan ALM, Inc. - The Solutions Company
www.ryanalm.com

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 (Patent pending) - 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.