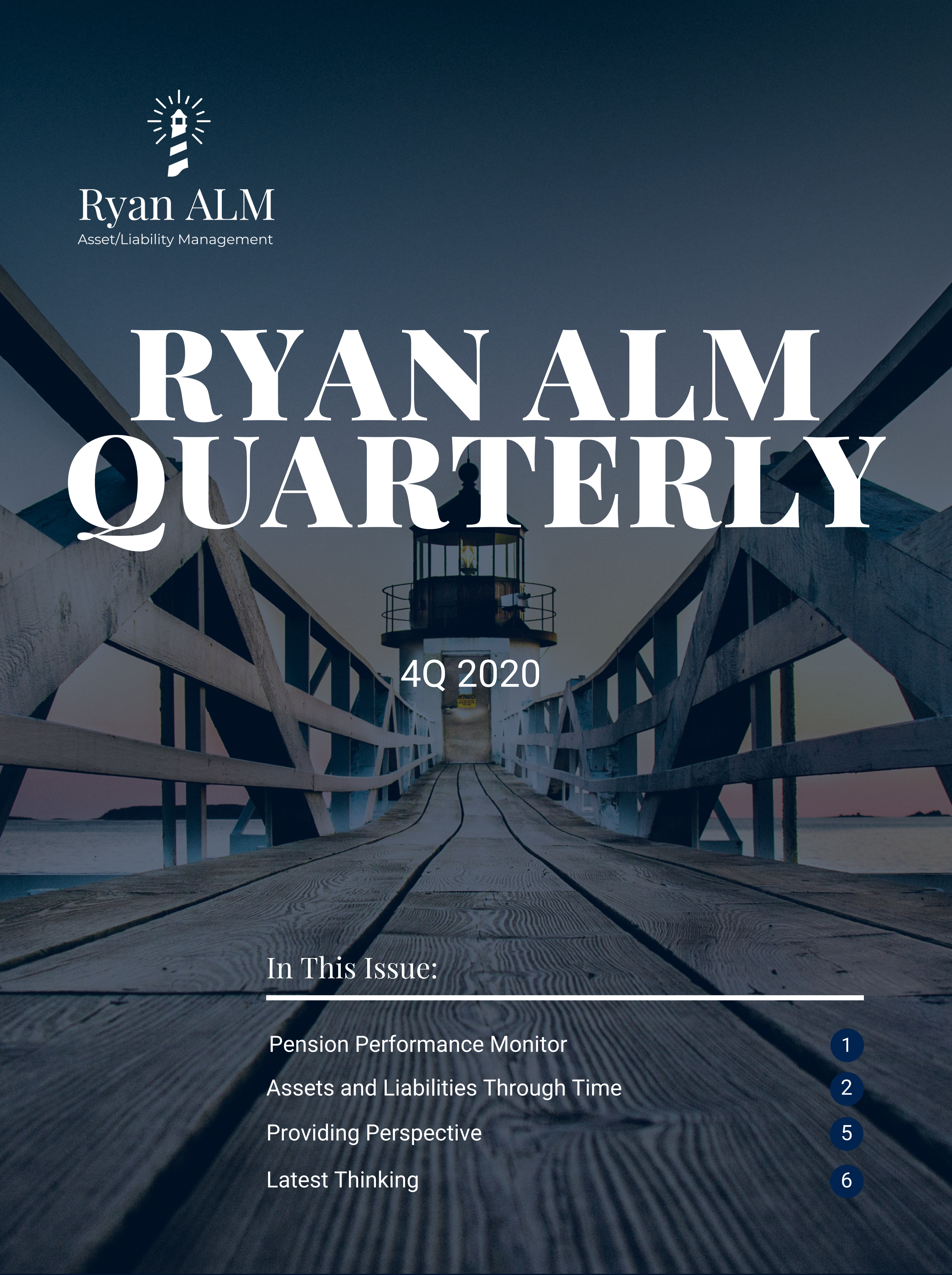


Ryan ALM
Asset/Liability Management

RYAN ALM QUARTERLY

4Q 2020

In This Issue:

Pension Performance Monitor

Pension Liabilities	YTD (%)
Market (Treasury STRIPS)	16.45
ASC 715 (FAS 158)	16.69
PPA (MAP 21 = 3 Segments)	12.88
PPA (Spot Rates)	14.26
GASB /ASOP (7.50% ROA)	7.50

Pension Assets	
Cash (Ryan Cash Index)	1.08
Bloomberg Barclay Aggregate	7.51
S&P 500	18.39
MSCI EAFE International	8.39
Asset Allocation Model[1]	14.40

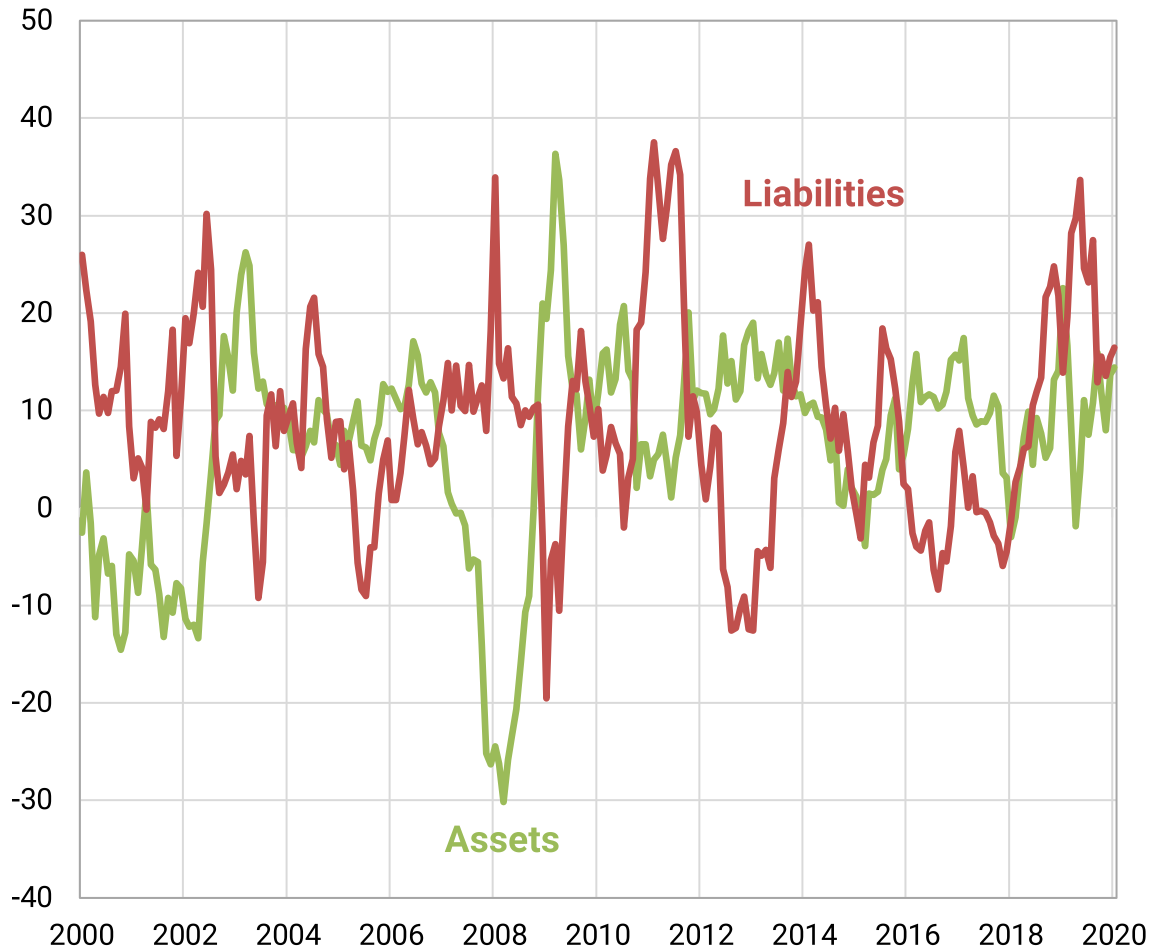
Pension Assets Minus Liabilities	
Market (Treasury STRIPS)	-2.05
ASC 715 (FAS 158)	-2.29
PPA (MAP 21 = 3 Segments)	1.52
PPA (Spot Rates)	0.14
GASB/ASOP (7.50% ROA)	6.90

Based on the weights of the Asset Allocation Model[1], the difference in pension asset versus liability growth in 2020 remained challenging despite a significant equity rally from April until the end of 2020. Corporate pensions underperformed their liability discount rate measurements, while accounting rules helped Public and Multiemployer plans show outperformance. As we wrote in our last newsletter, falling discount rates (interest rates) have damage the funded status of most pension plans longer-term. As a result, greater contributions will likely result in an environment that may not be able to support that need.

1. Model weights are: 5% Ryan Cash, 30% Bloomberg Barclay Aggregate, 60% S&P 500, and 5% MSCI EAFE International

Assets and Liabilities Through Time

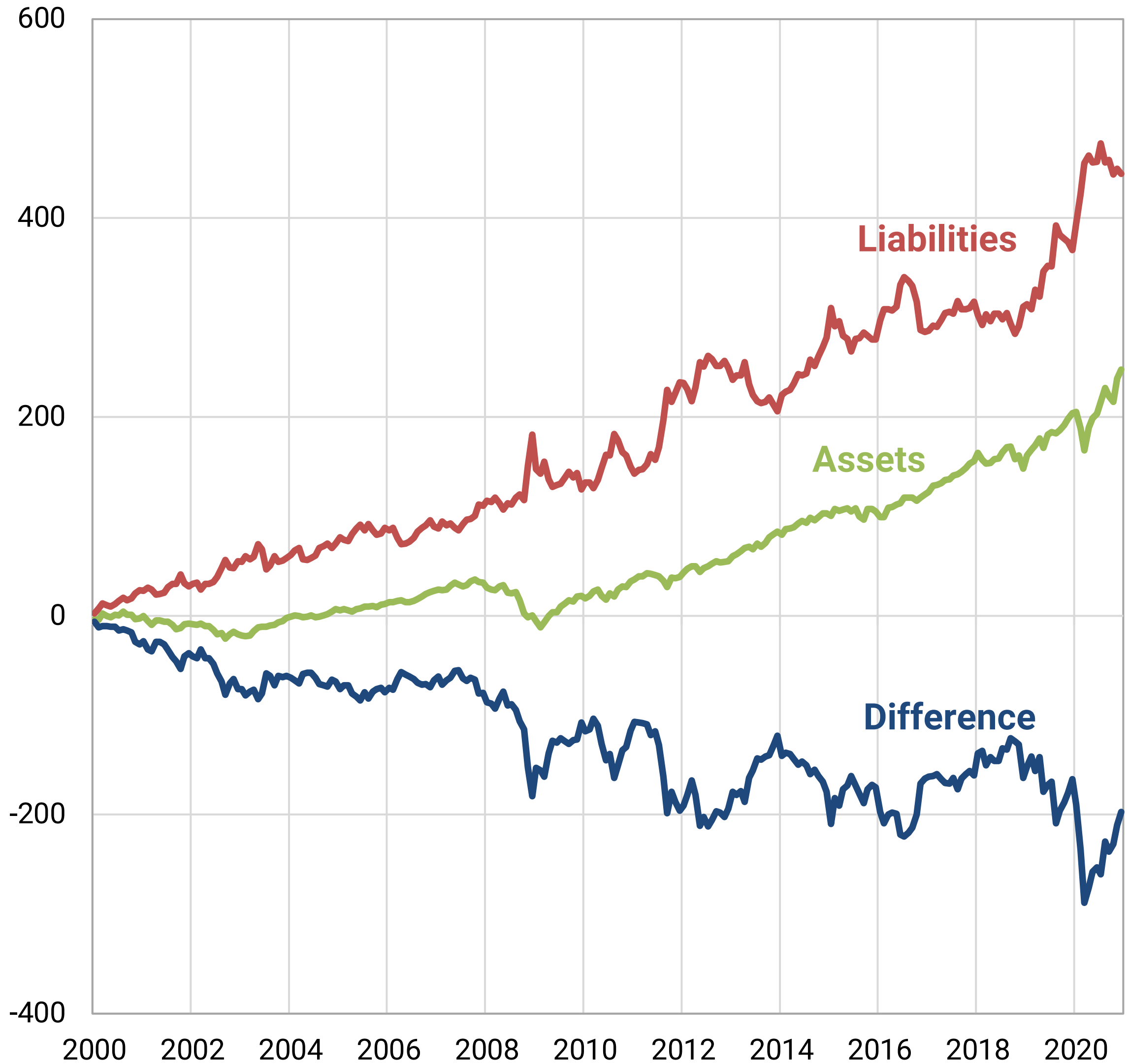
Rolling 12-month asset versus liability growth



Source: Ryan ALM, Inc.

The bull market for equities that lasted more than 10 years did little to help assets versus liability growth, as indicated by the red line in the graph below. While equities were rallying, US fixed income continued one of the longest bull-market runs in history, which began in 1982. Failure to manage plan assets relative to plan liabilities lead to significant volatility in both contribution costs and the funded ratio.

Cumulative returns of assets versus liabilities



Source: Ryan ALM, Inc.

Most pension funds enjoyed a funded ratio surplus in 1999, but pension asset growth has underperformed liability growth (based on the Ryan ALM Treasury STRIPS discount rate) fairly consistently since then by an estimated -197.1% on a compound index basis starting at 100 on 12/31/99. Starting at a funded ratio of 100 on 12/31/99, the estimated funded ratio today would be **only 63.8%!** The lack of focus on plan liabilities has led to this deterioration in funding.

Cumulative returns of assets versus liabilities (%)

	Assets	Liabilities	Difference	Cumulative Difference	Funded Ratio
2000	-2.50	25.96	-28.46	-28.46	77.4
2001	-5.40	3.08	-8.48	-37.59	71.0
2002	-11.41	19.47	-30.88	-73.40	52.7
2003	20.04	1.96	18.08	-60.08	62.0
2004	8.92	9.35	-0.43	-66.13	61.8
2005	4.43	8.87	-4.44	-76.75	59.2
2006	12.25	0.81	11.44	-64.60	66.0
2007	6.36	10.99	-4.63	-77.50	63.2
2008	-24.47	33.93	-58.40	-181.57	35.7
2009	15.73	-19.52	35.25	-106.94	52.9
2010	11.89	10.13	1.76	-115.67	53.8
2011	3.27	33.77	-30.50	-195.73	41.5
2012	11.79	4.46	7.33	-194.30	44.4
2013	19.04	-12.59	31.63	-120.74	60.5
2014	9.74	24.35	-14.61	-177.14	53.4
2015	1.22	-0.49	1.71	-172.78	54.3
2016	8.12	1.92	6.20	-163.36	57.6
2017	15.15	7.94	7.21	-160.34	60.9
2018	-2.96	-1.26	-1.70	-162.67	60.4
2019	22.82	13.92	8.90	-163.93	65.0
2020	14.40	16.45	-2.05	-197.14	63.8

Source: Ryan ALM, Inc.

Providing Perspective

The Flaws of Bond Indexes…Benchmark, Bogey or Bogus?

Such bond indexes have structural flaws that should prevent them from being accepted as benchmarks for most institutions especially those with a liability objective. Read here

What's the Objective?

There has been a tug of war for decades within pension systems (public, private, and multiemployer) as to what is the correct objective: maximizing return or securing the promised benefits. Unfortunately, the idea that pension systems should maximize return has come out on top in this battle. Regrettably, this "goal" has done little to improve the funded status of these plans despite the last decade of strong equity and fixed income returns. Read here

The Gap Matters Big Time

At roughly the same time that traditional DB plans were starting to fade from use in the private sector and workers were being asked to primarily fund their own retirements through a DC option, wage growth diverged unexpectedly and significantly from productivity growth. Read here

Waiting for Godot?

Come on already! The multiemployer retirement crisis continues to worsen daily. When will we finally see action? Time for more review has long passed. Further delays are unacceptable. Read here

A Pension Riddle Solved?

The pension industry has its own version of the "which came first: the chicken or the egg" riddle. For years, members of our community have debated whether the return on asset (ROA) assumption is set and then asset allocation is determined or the plan's asset allocation is derived and then the ROA is calculated from that combination of asset class exposures. If you ask actuaries, asset consultants, and plan sponsors this question, you'd likely get 1/3 saying that asset allocation is first determined, another 1/3 saying that the ROA is set first, and another 1/3 that just don't know. Well, we, at Ryan ALM, believe that none of those are right. Read here

Liquidity Management – The Third Pillar?

Conducting business as usual, especially in this environment is not a winning formula. It is time to get back to basics by focusing on plan liabilities and the generation of cash (liquidity) to meet those promises. Read here

Latest Thinking

Ryan ALM is engaged in a number of exciting conversations with major public pension systems regarding the appropriateness of using a Pension Obligation Bond (POB) to help close the funding gap, improve liquidity to meet near-term benefit payments and expenses, while also reducing the stress on state and municipal budgets that have been impacted by the disruptive Covid-19 virus.

We are using the implementation that Ron Ryan designed as part of the Butch Lewis Act legislation. As a reminder, that legislation was created to save multiemployer plans designated as in “Critical and Declining” status and those likely to become insolvent within the next 15 years. We are excited about the potential savings and improved funded status that our initial projects have highlighted.

In addition, we have recently been retained by a corporate pension plan sponsor to use our cash flow matching skills to do a vertical cut of the plan’s liabilities. We have historically used our cash flow matching capabilities to fund and match liabilities from the most current month as far out as the allocation permits. This provides 100% of the cash flow necessary to meet benefits and expenses. In this latest implementation, we are being asked to manage both cash flow and duration (about 12% of projected liabilities over 80 years). By using this approach, we can save our client an incredible 30%+ funding cost savings on the future value of the plan's liabilities. Please don’t hesitate to reach out to us if you’d like to learn more.

Ryan ALM's mission is to solve liability driven problems through low cost, low risk solutions.

About Ryan ALM, Inc.

Ryan ALM was founded by Ronald J. Ryan, CFA on July 12, 2004 as an Asset/Liability Management firm. The firm builds a turnkey system of proprietary synergistic products designed to measure liabilities as a Custom Liability Index (CLI) and manage assets to the CLI as Liability Beta Portfolios.

Ryan ALM is unique in having its own proprietary Index company named ALM Research Solutions, LLC. This company builds both custom and generic bond indexes. Such indexes range from Custom Liability Indexes to ETF Indexes.

Our Liability Beta Portfolio™ is our proprietary cost optimization model that "cash flow matches" clients projected liability benefit payment schedules at the least cost using investment grade bonds. It is back-tested since 2009 showing a consistent cost savings of 8% to 15%. Our LBP best represents the core portfolio of a pension plan.

Our team has been recognized for our expertise and results including Ron Ryan having won the William F. Sharpe Index Lifetime Achievement Award.

Ryan ALM
Asset/Liability Management

Contact Us

Russell D. Kamp
Managing Director
rkamp@ryanalm.com
+1 (201) 675-8797

500 Ocean Trail Way
Unit 410
Jupiter, FL 33477