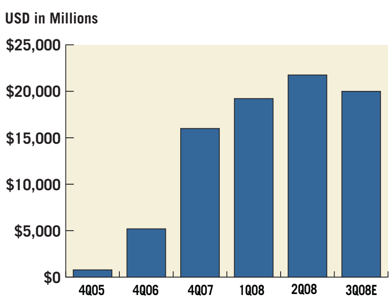
Fundamental Index® Newsletter · December 2008

rafi™ fundamentals

## RAFI® Managed Assets*




*Includes RAFI assets managed or sub-advised by Research Affiliates® or RAFI licensees.

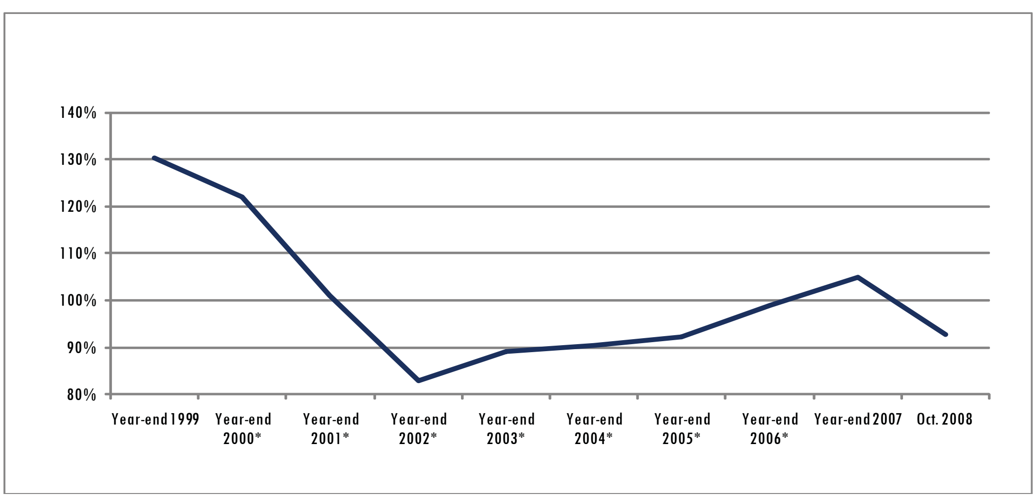
# THE PERFECT STORM: PART 2

When the 2000 bubble burst, many of us characterized it as a "perfect storm" for pensions: the falling yields boosted the mark-to-market value of the pension liabilities hugely, while falling stocks crushed asset values. This left us with sharp erosion in funded ratios. Shortly thereafter, liability driven investing (LDI) became a hot topic in finance committees and pension conferences. Like commuting Londoners, fiduciaries were warned to "Mind the Gap" between their assets and liabilities. Few moved fast enough on a large enough scale, so it's happening again… big time. In this issue we will explore the current status of U.S. pensions and what plan sponsors can do to achieve sustainable, healthy pensions.

Simply put, we can calculate the relative health of a pension by comparing its current assets to its promised benefits (many of which will be paid decades into the future.) In the case of the latter, we need to discount the projected obligations to a present value using current interest rates (typically a long-term, high quality bond rate such as Moody's AA). If the assets match the current value of the liabilities, the plan is considered 100% funded.

The funded status of the 100 largest U.S. corporate plans, illustrated in **Figure 1**, peaked in 1999 when these plans were, on average, 130% funded. At that time, sponsors were happy to assume 9%, 10%, even 12% returns on their pensions—although bond and stock market yields were only 6% and 1%, respectively. For those who did not embrace a "past is prologue" view of the world, it was painful watching this storm build and strike. By the end of 2002, the ratio had slipped to approximately 83%. The ensuing five-year bull market allowed plan sponsors to claw half-way back, reaching a funding ratio of 107% by October 2007, just in time for the second perfect storm to bear down on U.S. pensions. Milliman's October 2008 update showed funding levels had dropped to 92.7% no doubt driven by the 23.7% decline in a 60%/40% model portfolio of S&P 500 stocks and Lehman

**Figure 1. Average PBO Funded Ratio 100 Large U.S. Plans**




*Source:* Mlliman 2008 Pension Funding Study (http://www.milliman.com/expertise/employee-benefits/products-tools/pension-funding-study/pdfs/2008)-pension-funding-study04-16-08.pdf.

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Brothers (now BarCap) aggregate bonds.[1] Pensions were only saved (in a relative sense) by the rise in corporate bond yields leading to a reduction in the value of their liabilities.

Sadly, the silver lining of higher discount rates vanished—in a hurry—in November. A back-of-the-envelope calculation indicates things got much worse. The 60/40 portfolio "only" lost 3%, but interest rates declined significantly. For example, the BarCap Aa Corporate Long Bond Yield dipped from 7.75% to 6.93%; the drop in Treasury yields was farther and faster. A lower discount rate means a higher net present value for liabilities. Assets down and liabilities up translated to a "guesstimated" funded ratio of 81%.

How could pensions be hit twice by a perfect storm in the same decade? After 2002, plan sponsors that wanted to immunize some portion of their portfolio were confronted with paltry long-term rates making a move to LDI prohibitively expensive in the eyes of decision makers. About the same time, the mega endowments, with their uber-diversified and alternatives-heavy portfolios, were held out as the best way to earn materially higher returns with significantly less volatility than the old "60/40" model pension portfolio. That's the reason, despite all of the talk about LDI and an acute awareness of asset/liability mismatches, pension tracking error to a liability index remained very wide.

At the time, pension leaders didn't consider LDI an important strategy. In fact, a study conducted by CREATE, a UK-based think tank, showed that LDI finished 12th when pension sponsors were asked which asset classes will best meet their funding needs over the next five years.[2] Emerging markets equities, portable alpha, private equity, high-yield bonds, and real estate all were believed to be a better solution than LDI. Indeed, the "Yale Effect" had taken hold and pensions were well on their way to building sizeable alternatives allocations.[3] If the alternatives delivered their promises of higher returns and moderate volatility, then the pensions would not need to worry about their liabilities—or so they believed.

But alternatives haven't been immune to the take no prisoners market of 2008. As an example, hedge funds—measured by the HFRI Global Hedge Fund Index—were down 22.3% year-to-date through November 2008. REITs, as a proxy for real estate, were down 45.9%. And the true extent of the carnage in private equity won't be known for a few years.

So what to do now? We believe there's hope for increasingly distressed pensions. The forward-looking opportunities, however, require investment committees to reassess their priorities along four key criteria:

**1. Shift Risk Focus to Liabilities.** Many interest sensitive bond categories offer lower tracking error to liabilities and, consequently, more stable funding for pensions. **Figure 2** gives the traditional risk and return chart a twist by displaying current yields on the vertical axis and tracking error to a liability index on the horizontal axis. In a liability framework, long Treasuries show up as the low risk asset class, but also offer the least yield today. Next come core bonds (as measured by the Lehman Aggregate) and TIPS. Investment-grade corporate bonds offer yields in the 8% range, similar to many plans long-term return on asset assumptions, but with significantly less mismatch to liabilities than equities. Equities show a far larger tracking error to liabilities of 23%. Liability-focused investors, looking for a bit more return juice, will find credit categories like emerging market bonds or high yield much more efficient in an asset/liability framework.[4]

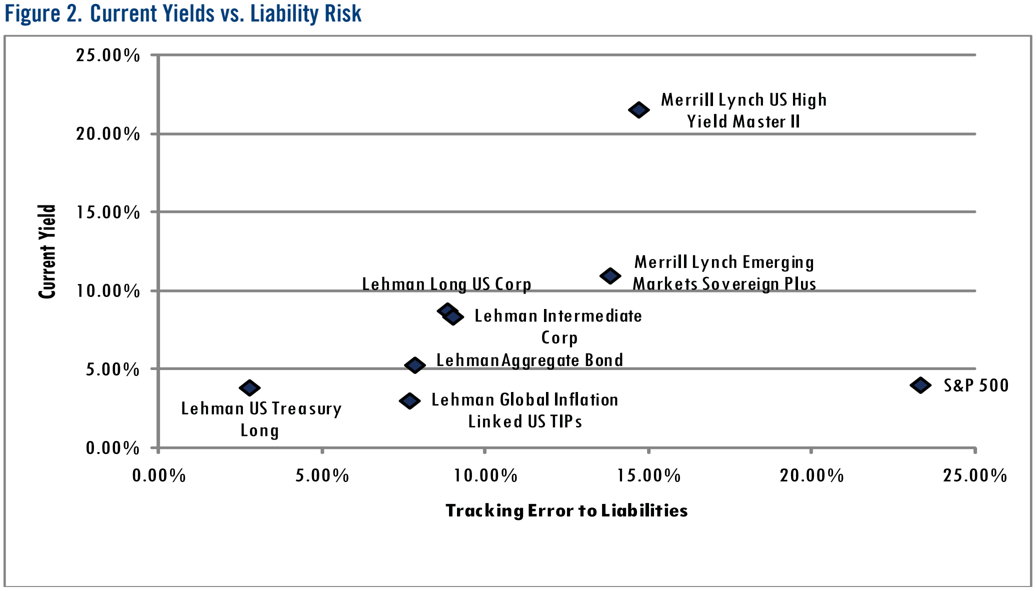
[1] See http://www.milliman.com/expertise/employee-benefits/products-tools/pension-funding-study/pdfs/100-largest-pensions-lose-10-01-08.pdf

[2] The 2006 CREATE report "Tomorrow's Products for Tomorrow's Clients:Innovation Imperatives in Global Asset Management" covered 300 global asset managers and pension plans representing $30 trillion in assets (http://www.create-research.co.uk/pdfs/report%20-%20tomorrows%20products.pdf).

[3] The "Yale Model" is not reliant on alternative markets or hedge funds, per se; rather, it's reliant on broadening our horizons considering a wider array of assets and the use of a well-diversified roster of well-priced assets.

[4] Figure 2 only displays starting yields as of November 20, 2008. In credit markets, particularly high yield and, to a lesser extent, emerging markets, we know we will have defaults that will erode returns from starting yields. Conversely, equities are expected to grow their income levels over time (historically on a real basis by 1.4% since 1900).

**Figure 2. Current Yields vs. Liability Risk**




*Note:* Yields as of November 20, 2008. Tracking errors are for 10 years ended September 30, 2008.
*Source:* Research Affiliates.

**2. Embrace Tactical Asset Allocation.** The forced liquidations by hedge funds and other levered players has tossed out many babies with the proverbial asset class bathwater. In particular, TIPS and convertibles appear to have suffered disproportionately with severe price dislocations. A Global Tactical Asset Allocation program allows the manager to rotate to efficiently capitalize on these distressed assets.

**3. Reexamine Equity Allocations.** If a pension portfolio is going to take on the sizeable liability mismatch of equities, the implementation should be optimized in the most cost effective manner. The Fundamental Index approach offers the many favorable attributes of indexing without the 2–4% long-term return drag of cap-weighting. Plus, as we outlined in a previous issue of *RAFI Fundamentals*, the concept has historically provided a better liability hedge than cap-weighted indexes.[5]

[5] See the June 2007 issue of *RAFI Fundamentals* (http://www.rallc.com/ideas/pdf/Fundamentals_200706.pdf).

**4. Utilize LDI at Least for the Longest Liabilities.** Plan sponsors shouldn't entirely abandon LDI solutions despite low Treasury rates. Some liability defeasement strategies have the potential for returns in line with pensions' long-term asset return assumptions.

For the first time in years, many asset classes offer attractive, forward-looking prospects that can rationally be expected to achieve long-term targeted pension returns. But we shouldn't assume pensions can "earn" their way out of their current predicament. Healthy and consistent sponsor contributions are also required. Perhaps more importantly, portfolio construction needs to be reassessed with an explicit focus on liabilities and the extent to which the current equity and alternatives-heavy mixes are ill-suited for funding purposes. These portfolios are 0 for 2 this decade. A financial system already under a heavy burden can ill afford a third strike.

## Performance Update

| TOTAL RETURN AS OF 11/30/08 | BLOOMBERG TICKER | YTD | 12 MONTH | ANNUALIZED 3 YEAR | ANNUALIZED 5 YEAR | ANNUALIZED 10 YEAR | ANNUALIZED 10 YEAR VOLATILITY |
|---|---|---|---|---|---|---|---|
| FTSE RAFI® 1000 Index[A] | FR10XTR | -40.89% | -41.62% | -9.94% | -1.25% | 2.43% | 15.13% |
| S&P 500[B] | SPTR | -37.66% | -38.09% | -8.67% | -1.39% | -0.93% | 15.21% |
| Russell 1000[C] | RU10INTR | -38.58% | -38.98% | -9.10% | -1.43% | -0.63% | 15.46% |
| FTSE RAFI® US 1500 Index[D] | FR15USTR | -41.47% | -41.69% | -11.66% | -1.22% | 7.23% | 19.22% |
| Russell 2000[E] | RU20INTR | -37.42% | -37.46% | -10.13% | -1.65% | 3.06% | 20.37% |
| FTSE RAFI® Developed ex US 1000 Index[F] | FRX1XTR | -46.68% | -47.58% | -6.29% | 3.76% | 4.86% | 16.42% |
| MSCI EAFE[G] | GDDUEAFE | -46.29% | -47.50% | -7.32% | 2.45% | 0.98% | 16.36% |
| FTSE All World Series Developed ex US[H] | FTS5DXUS | -46.31% | -47.36% | -6.67% | 3.05% | 1.86% | 16.57% |

Definition of Indices: (A) The FTSE RAFI® 1000 comprises the 1000 largest companies selected and weighted using our Fundamental Index methodology; (B) The S&P 500 Index is an unmanaged market index that focuses on the large-cap segment of the U.S. equities market; (C) The Russell 1000 Index is a market-capitalization-weighted benchmark index made up of the 1,000 highest-ranking U.S. stocks in the Russell 3000; (D) The FTSE RAFI® 1500 comprises the 1001st to 1500th largest companies selected and weighted using our Fundamental Index methodology; (E) The Russell 2000 is a market-capitalization weighted benchmark index made up of the 2,000 smallest U.S. companies in the Russell 3000; (F) The FTSE RAFI® Developed ex US 1000 Index comprises the largest 1000 non US-listed companies by fundamental value, selected from the constituents of the FTSE Developed ex US Index; (G) MSCI EAFE (Morgan Stanley Capital International Europe, Australasia, Far East) is an unmanaged index of issuers in countries of Europe, Australia, and the Far East represented in U.S. dollars; and (H) The FTSE All World ex-US Index comprises Large and Mid-Cap stocks providing coverage of Developed and Emerging Markets excluding the United States. It is not possible to invest directly in any of the indexes above.

Note: In November 2008 performance returns for all prior periods were restated to reflect a change in calculation methodology from using a 365 day period to annualize returns to a return calculation based on using monthly returns as of the last business day of each month to create a geometric return for each period.

Source: Based on price data from Bloomberg.