Liability Driven Investing

A White Paper

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Today's institutional investor is faced with a complex and ever expanding set of challenges including increased regulatory scrutiny, heightened fiduciary requirements, and rising market volatility. At the outset of our client discovery process we initiate a 'checklist' approach to help ensure proper adherence to compliance regulations while minimizing strain on resources. The specific areas of concern identified are addressed by taking a ***Liability Driven Investment Approach*** (LDIA) to investing institutional assets.

Most institutional assets have required cash flows known in advance, such as a defined benefit pension payment, or a 5% spending requirement for a private foundation. The focus for these institutional assets should be on the cash outflow, specifically treating each flow as a liability. Once the liability is identified, LDIA by definition, attempts to position assets to mirror the movement of the liability. Taking a "liability first" approach allows institutional investors to limit volatility around generating returns, thus enabling them to meet both current and future liability payments in a prudent manner.

Investment vehicles like defined benefit plans (DBP) are long term, complex investments that require the participation of a range of professional services including an actuary, investment manager, consultant, third party administrator (TPA), and trustee. Over the last decade, DBP's came under significant scrutiny due to large plan failures, including Delta Airlines \$2.2B default in 2006.[1] Delta claimed the two main drivers for default were: 1) poor investment performance and 2) a difficult operating environment for the airline. However, Bradley Belt, executive director of the Pension Benefit Guarantee Corporation said in 2005 "it was a company's ability to mask their plans true financial status as part of the problem", and "companies are able to report that they are

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[1] http://news.delta.com/index.php?s=43&item=659

fully funded when in fact they are deeply in the hole and getting more deeply in the hole".[2] As a result of failures at Delta and other firms, the Pension Protection Act of 2006 (PPA) was passed and has been phased in over a period of five years.[3] It is fully enforceable in 2011, with the exception of a few loopholes. The PPA aims to drive strict oversight of pension investing and results in lower smoothing periods for plan assets, larger required annual contributions, and penalties for plans that carry an unfunded liability. Two notable PPA thresholds to avoid as a plan sponsor include: 1) "endangered status", which is triggered when funded status levels fall below 70%, and 2) "critical status", which is triggered when funded status erodes below 60%. Given the strict enforcement of the PPA, we recommend that plan sponsors perform an internal examination to ensure proper compliance to avoid potentially costly legal and fiduciary violations.

Today, considerable attention is paid to the definition of *fiduciary responsibility*. The Employee Retirement Income Security Act (ERISA) was established in 1974 and mandates that plan assets be managed for the sole benefit of plan participants.[4] Three sections of ERISA that we highlight: ERISA 404 (a) Breach of Fiduciary Duty, ERISA 406 (a) Transactions between plan sponsor and a party of interest, and ERISA 406 (b) Transactions between plan and fiduciary. Trustees, board members, and all interested parties should stay up to date with these sections to avoid any perception of imprudence or self dealing. How plan sponsors invest assets comes under significant additional scrutiny by the Department of Labor (DOL), the Securities Exchange Commission

[2] http://www.usatoday.com/news/washington/2005-06-07-pension-oversight_x.htm

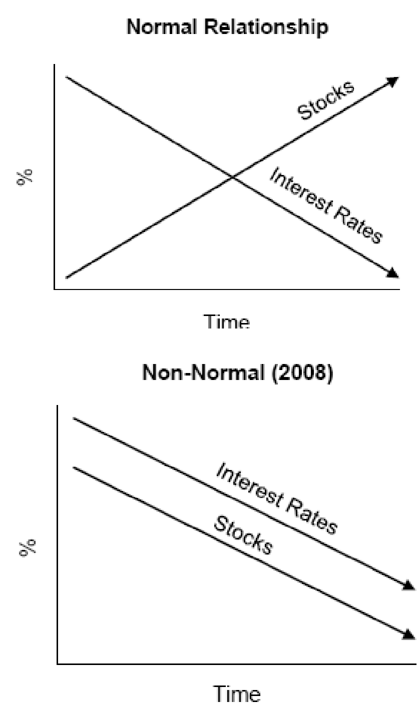
[3] http://aging.senate.gov/crs/pension9.pdf

[4] http://www.dol.gov/dol/topic/health-plans/erisa.htm

(SEC), and the Internal Revenue Service (IRS). Given the presence of multiple governing bodies, we recommend strict adherence to proper compliance as ERISA violations are severely punished.

Institutional investors accept the fact that investing in public markets are not without significant market risk. However, plan sponsors rarely grasp the significance of accounting risk, derived from pension liability exposure to falling interest rates and its effect on funded status calculations. In its simplest form, a defined benefit plan makes a stream of payments to plan participants upon retirement. This dollar value is discounted back (present value calculation) to generate a target asset base the sponsor needs to maintain a fully funded status. Thus, the pension liability has bond-like features including an inverse relationship to interest rate movements.

In 2008 the S&P 500 lost over 38% and interest rates fell to historic lows as the 10 year U.S. Treasury yield hit 2.05%.[5,6] This environment created a tsunami-like effect on many defined benefit plans as stocks and interest rates fell simultaneously, contrary to normal markets where lower rates are favorable for stocks. This unforeseen event weighed heavily on numerous plan sponsors due to: 1) overly aggressive asset allocations to stocks and alternative assets, and 2) plans sponsor failure to understand the role of accounting risk. Market volatility in 2008 ultimately drove down sponsor funded



[5] www2.standardandpoors.com/spf/xls/index/MONTHLY.xls

[6] www.usatoday.com/money/.../2010-03-29-treasuries29_ST_N.htm

status, increased their pension liability, drove higher the amount required to contribute to the plan, all while more regulation was set to be enforced from the phase-in of the PPA. Finally, as economic growth rebounds, interest rates will rise again. The big question is the timing and size of interest rate increases.

The solution is applying a ***Liability Driven Investment Approach*** to determine allocation and investment of plan assets. By aligning the duration of liabilities, with the duration of assets, you simultaneously align the market risk with the accounting risk of the plan. While duration matching doesn't solve the entire problem, as the liability is not truly investable, it does reduce large swings to the pension surplus. LDIA will typically result in reduced stock exposure, increased fixed income exposure, and longer duration within the fixed income segment. The allocation decision is driven first by funded status, then over time as the plan approaches fully funded status you de-risk the portfolio. The incremental gains from generating a large surplus with risky assets are not nearly as impactful as experiencing losses due to funding deterioration that requires higher contributions from the sponsor. In 2011, LDIA is popular among large plans including International Business Machines, Boeing, United Technologies, and Prudential. LDIA is a dynamic process that typically involves more resources; as a result, smaller, more resource constrained plans can't afford this type of allocation and advice.

Regulation requires plan sponsors to submit annually a Form 5500 to the IRS, DOL, and SEC. The IRS will test the estimates used by the plan sponsor and actuary to calculate their funded status in Schedule (SB) of the filling. The PPA requires that private plans use a combination of three discount rates on the investment grade corporate bond curve to discount liabilities and determine funded status. Plan sponsors who apply aggressive assumptions like using higher discount rates than allowed, could expose themselves to an IRS audit, pay penalties and interest, and a requirement to amend their filing.[7] In 2009, according to an SEI paper, plan sponsors used a median return on asset assumption of close to 8% to discount liabilities.[8] However, given today's muted market returns and the outlook for slower growth, discount rates must be constrained to allow for more realistic projections of liability values.

An essential requirement to apply LDIA is seamless information flow from actuary to investment manager. Historically, actuarial valuations took place annually. However, it's paramount today to have an actuary that provides quarterly updates to the investment manager to ensure the proper duration exposure at all times. As interest rates and actuarial assumptions change over time, the investment manager can dynamically manage the asset exposure. LDIA is most common among mature and potentially frozen plans where accruals have either slowed or stopped completely, and managing this information flow from actuary to investment manager is essential to reaching the end goal of plan termination.

By deploying a LDIA strategy for a defined benefit plan, institutional investors may limit surplus volatility and focus on maintaining a certain funded status target, but this approach is not without disadvantages. For example, LDIA may require more capital be allocated to fixed income to replicate the bond-like features of a DBP payment stream. As more capital is placed into bonds, there is less opportunity for outsized asset

[7] http://www.dol.gov/ebsa/

[8] http://www.seic.com/docs/Institutions/SEI-FAS-ASC-Paper-2011-FINAL.pdf

performance from equities, which may help limit future sponsor contributions to the plan. However, governing bodies of ERISA assets are only concerned that sufficient assets are present to make payments, not growing a surplus for sponsor comfort. That said, many plan sponsors choose LDIA for its ability to meet liability streams when due, and industry best practices characteristics of this investment strategy.

New regulations continue to put amplified demands on plan sponsors, making the decision to seek outside services a virtual necessity. For DBP's that are frozen or striving to reach termination, a LDIA strategy would be most effective at controlling duration and limiting surplus volatility. As a result, proper due diligence of all service providers should be performed prior to entering into any contract to gauge their experience and ability to implement a LDIA strategy. The most successful plan sponsors will choose service providers with aligned interests to the plan, allowing them greater ability to navigate the complex world of DBP's.

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