Unique challenges for Defined Benefit plans

The 3rd quarter of 2011 has been marked by all time lows in Treasury yields and a 15% drop in equity markets – sparked by the US Debt ceiling crisis and fueled by continued uncertainty in the Eurozone. We noted, in our previous newsletter, that the funded status of Defined Benefit (“DB”) plans (e.g. – a pension plan) are potentially under the most pressure given falling equity prices and increasing liabilities due to falling interest rates. Given this confluence of damaging market forces, we would like to highlight a potential approach to manage the funded status for Defined Benefit plans: Liability Driven Investing (“LDI”).

What is Liability Driven Investing?

Liability Driven Investing is a strategy based on the cash flows needed to fund future liabilities. Naturally, LDI works because these future liabilities can be predicted with some degree of accuracy. Working with actuaries, pension plans are able to model future anticipated cash payouts to pensioners over their expected lifetimes, so these plans are often prime candidates for LDI strategies.

Traditional financial modeling vs. Liability Driven Investing

First, let us consider the traditional model typically used by endowments, foundations or any individual investor. The classic approach attempts to optimize two characteristics: the return of the portfolio relative to the volatility of the portfolio (measured by standard deviation) of those returns. Most portfolios are generally designed to maximize the expected return for a given level of volatility.

Let us compare that classic model to a Liability Driven Investing approach. Consider the return goals: a typical investor, institutional or personal, wants to maximize returns. In general, investors are going to be pleased with very high returns. However, a Defined Benefit plan has limited utility from returns beyond a certain point. For example, once a plan’s ratio of assets to liabilities (i.e. - funded status) exceeds 115%, there are a limited number of options for these so called “stranded assets”. Defined Benefit plans, if they reach funded status levels over 110%, often investigate the possibility of closing or terminating the plan in an effort to remove risk to the plan sponsor.

Next, let’s consider risk. For typical investors, a portfolio is designed to minimize volatility for a given level of return. In general, investors are going to be pleased with very low volatility. However, a Defined Benefit plan sponsor may be more concerned with matching its assets to its liabilities. The Defined Benefit plan may prefer to have a higher absolute volatility to their returns, so long as those returns correlate to their future liabilities. Why? Consider that the IRS rules for underfunded Defined Benefit plans will translate into higher immediate contributions to the plan – directly impacting available balance sheet cash.

Traditionally, an investor’s primary concern is investment risk. In a DB Plan, a sponsor has to contend with investment risk and liability risk. Even if the sponsor manages the investment risk, the liability can still fluctuate because of changes in interest rates. The plan’s funded status can change
without regard to how the assets perform. It is this relationship that created the need for LDI. The return on assets is less important than how that return compares to the interest credited on and used to value accrued liabilities. In other words, a Defined Benefit plan may be better served by a portfolio with potentially higher asset level volatility, but with comparatively stable funded status.

What does Liability Driven Investing look like?

At first glance, an LDI driven portfolio may look like a typical institutional diversified portfolio with substantial allocations to traditional assets (fixed income and equities). However, the drivers for the asset allocation between fixed income and equity is often different. For a very simplified example, consider a charitable foundation that would like to operate forever with an 8% spending target. The foundation might simply invest in an optimized combination of traditional assets that, ideally, generates a long-term 8% return in perpetuity with the smallest amount of volatility. By comparison, the LDI strategy first considers the Defined Benefit plan’s funded-status and then determines how much to allocate towards an equity-dominated (return-seeking) sleeve of the portfolio or placed into the fixed income-dominated (liability-hedging) sleeve of the portfolio.

The goal of the LDI strategy is to fully pay for all of the current and future liabilities. Over time, assets are taken from the return-oriented sleeve of the portfolio and placed into the liability-hedging sleeve of the portfolio. Whereas a charitable foundation’s strategic asset allocation may theoretically never change, an LDI strategy is expected to adjust towards a fully immunized portfolio wherein all liabilities, future and current, are paid for by a comparatively stable fixed-income portfolio.

Furthermore, the underlying components of the strategies differ. Again, the goal is to hedge against the plan’s liabilities. That goal is accomplished by considering the duration of portfolio. As a quick explanation, duration is the measure of how sensitive a liability, or a bond, is to changes in interest rates. For example, duration of 15 means that a 1% change in interest rates results in a 15% change in the price of the liability or bond. Defined Benefit plan liabilities go up and down with interest rates & inflation, as do the prices of long duration bonds. This correlation works to our advantage and combinations of longer duration bonds are often used in LDI strategies to hedge against increases in liabilities. In practical application, combinations of long and intermediate term bonds are used to mirror the duration of the plan’s liabilities. Matching the duration of the DB plan liabilities and the bonds in the portfolio keeps the unfunded liabilities stable and predictable. As DB plans freeze or terminate, the duration of the bond portfolios are drawn down in unison with the plan liabilities.

Current interest rates and Liability Driven Investing

Recent discussions on LDI strategies have, of late, focused on the historic lows in interest rates and the possible inopportune investment in long duration fixed income. The worry is that long duration bonds have rallied sharply and interest rates are already at historic lows. Therefore, plan sponsors worry that interest rates must eventually go higher and that they may have already missed their opportunity to immunize their portfolio with an LDI strategy. In other words, why invest in long duration bonds now, after their greatest period of outperformance?
It’s true, if the economy improves, interest rates will eventually rise and longer duration bond prices may suffer. However, that ignores the central tenet of Liability Driven Investing: the goal is not to maximize returns, but rather to match assets and liabilities. In other words, if long duration bond prices suffer due to interest rate increases, the liabilities of the plan should also go down as well.

Currently, the spread between long duration bonds and short duration bonds is steep, with the shortest duration bonds earning next to nothing in this pessimistic market environment. If interest rates do rise, the higher yield in long duration paper may rise less sharply than short duration securities (i.e. – a flatter yield curve). Long bond holders should also benefit from the higher relative yield positions that may partially compensate investors against modest interest rate increases. Furthermore, market pessimists also suggest that interest rates can indeed go lower. As an example, they point to Japan which has had interest rates of nearly zero for an extended period of time.

Our goal in this paper is not to predict the direction and timing of interest rate changes. Rather, we should consider the ongoing ability of an LDI strategy to match assets with liabilities, regardless if interest rates move up or down.

Other concerns

There are other practical considerations when implementing an LDI strategy. Without going into exhaustive detail, we would like to highlight some of the considerations when designing a strategy. For example, most open Defined Benefit plans are not 100% funded at the moment, so setting a glide path that will gradually phase into a Liability Driven Investing model is a requirement. Again, as funded status improves, assets are taken from the equity-dominated, return-oriented sleeve of the portfolio and placed into the liability-hedging sleeve of the portfolio. Also, most LDI implementations start with higher weights of long treasuries, but they gradually increase the weight of long corporate credit as equities are drawn out of the portfolio. The goal is to maintain a balanced level of credit risk, and the glide path should model these changes.

Funded status requirements for plan termination are another concern. The IRS rules are changing; it is less costly for DB plans to make lump-sum payments than under prior rules. Under the new rules, the costs of a lump sum are more comparable to the cost of annuitized payments for pensioners. This makes the costs of lump sums and annuities comparable to the cost to terminate a plan. Even so, the additional expenses for plan termination generally require a funding status somewhat in excess of 105%.

Timing can also be an issue. An investment committee typically meets once a quarter. The markets have been quite volatile and prone to quick moving corrections. For example, equity prices moved 15% within the past quarter, but it certainly can be worse. While assets were rapidly losing value, liabilities quickly increased because interest rates dropped to new lows. Thus, an investment committee may wish to prepare automatic triggers (e.g. market driven, date-scheduled or a combination) that move assets from the return-driven sleeve to the liability-hedging sleeve of the portfolio without a meeting.
Finally, LDI plan sponsors that have typically relied on long duration assets have been disappointed by the lack of implied safety (due to the US debt downgrade), limited supply of long bonds, insufficient duration of long bonds, and the concentration risk inherent to corporate issuers of long credit bonds. To counter these risks, LDI specialists have been investigating swaps and other derivatives as a more attractive option to a pure bond strategy.

**Implementing an LDI Strategy**

Again, the exact implementation of an LDI strategy is unique to every institution. There are several considerations that a plan sponsor must make in order to proceed. For example, the status of the plan (e.g. – frozen, terminating) will have a significant impact on an LDI strategy implementation. Certainly, a through reviewing of the Investment Policy Statement is a requirement. An IPS for a DB plan will typically detail target returns, asset allocation ranges, actuarial assumptions, and the like. Implementing an LDI strategy will require a full rewrite of that framework and, ideally, provide a roadmap for the future (e.g. – details on glide paths, triggers for rebalancing, etc.). Furthermore, benchmarking, and selecting, an investment manager to manage the assets is particularly difficult for an LDI strategy. LDI strategies are typically customized to individual plans, so there are fewer standards for comparisons. With fewer objective benchmarks, the due diligence bar for plan fiduciaries is, by necessity, higher.

Rather than a comprehensive examination of LDI (or a walkthrough of a complete implementation), we hope that this primer has outlined some of the discussions to have with your investment consultant and/or fiduciary consultant.

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