The roller coaster that the international financial markets have been riding in recent years is just one of the many reasons companies with defined benefit (DB) pension plans continue to face an ongoing challenge to maintain the future financial health of these important employee benefits. Perhaps the most complicated and difficult aspect of overseeing these plans involves managing risk. Although risk management is primarily the purview of the company's financial department, it is nevertheless important for all key leaders, including Human Resources (HR), to understand how risk works and how to manage it. Not only do HR professionals need to be able to work with their colleagues to maintain the health of their pension plan, but if DB plan risk is not managed properly, the employer may be averse to taking on additional risk via other new/additional benefits or compensation programs.

There are three approaches plan sponsors can use individually or in combination to mitigate the financial risk of their DB plans. They can introduce plan design strategies, utilize funding alternatives and explore various investment strategies. This article focuses on the investment strategy approach, concentrating on one in particular that is currently receiving a lot of attention: dynamic asset allocation, which is a type of liability-driven investing (LDI).

Generally speaking, it is important to understand the current risk profile of the DB plan from a funding, P&L and balance sheet point of view and how that risk profile may change as the funded status of the plan improves or deteriorates. The key to moving forward will be to explore how that profile can be changed and the costs of doing so.

Question 1: What do I need to know about LDI?

LDI assesses risk by considering pension plan assets *and* liabilities and their combined impact on contributions, pension expense and the pension balance sheet. The reason for this is because of the fact that it is neither assets nor liabilities separately that drive employer cost. Rather, it is the movement of one relative to the other and the consequential impact on the plan's funded status that is of importance. LDI introduces a conscious consideration of liability risk in developing asset allocations and strategies. The primary liability risk for most pension plans is interest-rate risk.[*]

As noted, LDI looks at liabilities together with assets. As a result, any investment strategy that accounts for liabilities in any way can be considered an LDI strategy. In a typical LDI strategy, a pension plan's asset portfolio can be split into two broad types of portfolios:

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[*] Interest-rate risk is the risk that a plan's liability will change as interest rates change. It is simply a consequence that the Employee Retirement Income Security Act (ERISA) and the Financial Accounting Standards Board (FASB) require the plan's liability to be valued to reflect current market conditions. Unlike other financial risks — like investing in stocks where the plan expects to receive a greater return in compensation for taking this risk — interest rate risk is an uncompensated risk: the plan receives no compensation for this exposure.

- **Return-generating portfolio (RGP**) exemplifies the asset-only perspective, where the focus is on getting the most return with the least amount of volatility for that particular asset portfolio (without regard to liability).
- **Liability-hedge portfolio (LHP**) focuses on hedging liabilities (*i.e.,* investing assets in a manner that mitigates the plan's interest rate risk and the resultant variability of the plan's funded status). Because the LHP consists largely of bonds and similar assets, its return potential is less than that of a typical RGP.

The total portfolio can be thought of as a combination of the LHP and RGP, where the LHP is the portion of the portfolio that attempts to hedge liability shocks and the RGP is the portion of the portfolio that maximizes asset return. The plan sponsor's risk appetite will determine how much of the total portfolio is in the LHP and how much is in the RGP.

Traditional asset-allocation strategies that focus on RGPs only typically have fixed policy targets for asset classes that are rebalanced in a cost-efficient manner based on market movements and not liabilities. With LDI, the LHP is utilized to hedge the plan against movements in the plan's liabilities due to market movements. A LHP typically consists of longer duration fixed-income investments, as well as "synthetics," such as interest-rate swaps and Treasury futures. Although conventional LDI portfolios are an improvement over the traditional RGPs, the allocation between the RGP and the LHP is either static or changed on an *ad-hoc* basis, which is not optimal when it comes to hedging the overall plan risk, which changes as the funded status of the plan changes.

Question 2: What do I need to know about dynamic asset allocation?

Dynamic asset allocation is a systematic way to change asset allocation as funded status changes. Portfolio risk level responds to the plan's funded status in a systematic manner. As the plan's funded status improves (from investment returns, contributions or favorable liability movements), the risk exposure is reduced by moving assets from the RGP to the LHP. In lay terms, the dynamic strategy employs the following logic: When the plan is significantly underfunded, the sponsor over-weights the RGP because the gap must be closed, but as the gap is closed, weight shifts to the LHP to avoid backsliding once better funding levels are achieved.

As an extension of LDI, dynamic asset allocation addresses how much return is required and, therefore, how much risk to take. As the plan's funded status improves, the rate of return required to achieve funding objectives decreases.

Dynamic asset allocation recognizes that:

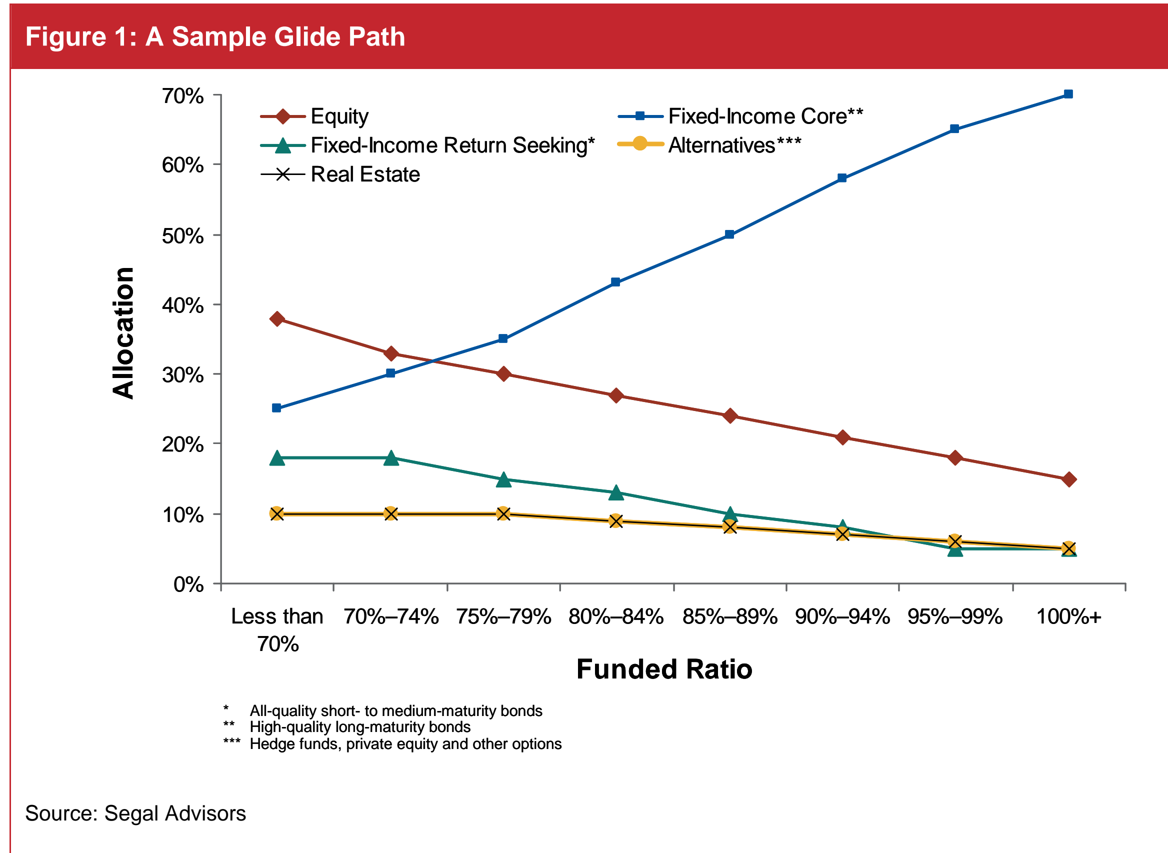
- ***While some surplus is good (to buffer volatility), a large surplus is not***. On the other hand, while a modest deficit is not good, a large deficit is much more painful. Therefore, while it might be necessary for a very underfunded plan to have 100 percent of its assets in an RGP, which could significantly increase or decrease the deficit, placing the same investment strategy "bet" for a well-funded plan might not be equally wise. Positive performance that meaningfully reduces the deficit might just expand the surplus beyond amounts that can be realistically used.
- ***The plan's investment objectives are determined by its funded status***. As the plan's funded status increases, the rate of return required to achieve its funding objectives declines. As the funded status approaches 100 percent, risk is "taken off the table."
- ***The plan's maturity plays a key role in deciding how to implement dynamic asset allocation***. As the plan matures, the relative impact of new benefit accruals on existing liabilities diminishes. Therefore, less investment return is required to finance those accruals, resulting in a path of decreasing investment risk as the plan matures.
- ***Passivity pays***. Dynamic asset allocation does not involve trying to time the market. Changes in allocation are based on predefined rules. Asset allocation shifts are based on funded status, not short-term forecasts for asset class returns. Generally, dynamic asset

allocation will result in portfolio “de-risking” when asset classes have outperformed, thereby allowing plans to capitalize on favorable asset swings.

Question 3: How do we go about implementing dynamic asset allocation?

The key step in implementing dynamic asset allocation is to establish a series of target allocations, commonly called a “glide path.” This is a pattern of decreasing risk exposure concurrent with higher funded ratios, as illustrated in Figure 1.

Figure 1: A Sample Glide Path



Source: Segal Advisors

It is important to note that there is no single correct glide path. Each DB plan needs its own, which its sponsors should base on the plan’s financial profile, its current and forecast maturity and the sponsor’s risk preference.

The glide path maps out the plan’s de-risking strategy (*i.e.*, as its funded ratio improves, the portfolio shifts from the RGP to the LHP) in a predetermined way. This means dynamic asset allocation does systematically what sponsors have done on an *ad-hoc* basis in the past.

Dynamic asset allocation goes beyond the conventional diversified portfolio and addresses issues such as enhanced security of the benefits, aging populations, exposure to wide swings in funded status and contribution requirements and a goal to be 100 percent funded. This can be an optimal approach for plan sponsors who are willing to give up surplus (beyond 100 percent funded status) to immunize their plans against event risks and improve the probability of achieving a funded status of 100 percent, inherently appropriate for frozen plans.

While the design of each strategy is unique to each plan, each strategy needs to address the following components:

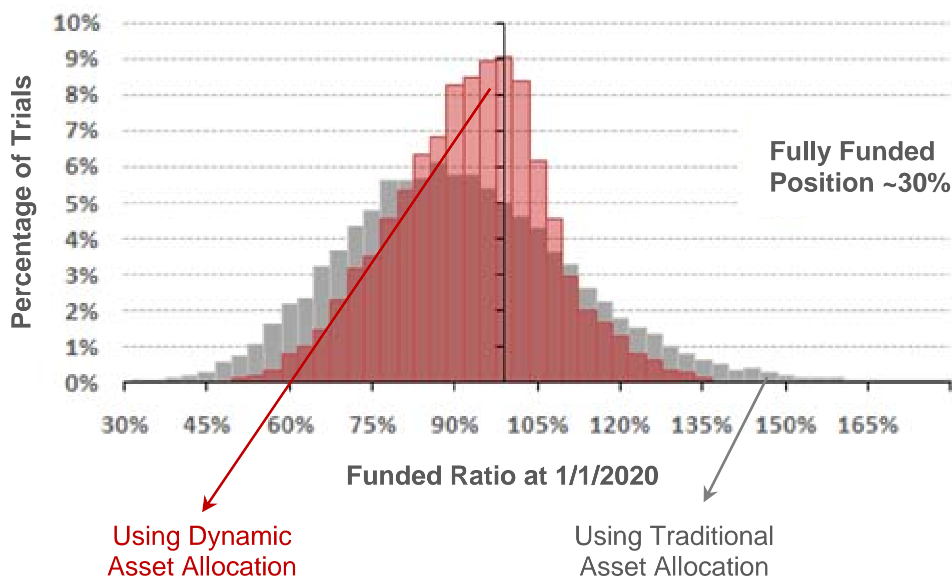
- ***Targets and Path*** Plan sponsors need to establish a targeted ultimate funded level, determine the initial and ultimate target asset allocations and decide on the path for getting to the ultimate target allocation starting at the initial one. Once the targets are set, plan sponsors should re-evaluate the glide path from time to time to account for major unanticipated changes, such as changes in law, accounting standards, plan design or plan sponsor risk appetite.
- ***Timing and Decision Authority for Changes*** This involves how often the funded percentage is measured and the allocation is adjusted, who makes the decision, how it is made and whether it is automatic.
- ***Plan-specific Issues*** As stated above, this involves monitoring results, determining when to reevaluate the glide path and when to consider changing the asset classes (*e.g.*, due to liquidity requirements, plan changes, demographic changes and capital-market assumption changes).

Although not the primary intent of the dynamic asset allocation strategy, one positive outcome is that reallocation decisions are made in advance and designed into the glide path so the allocation changes automatically with changes in funding level. Therefore, brief positive aberrations immediately result in both a better funded position and an opportunity to take risk off the table so that the short-term gains are less likely to be reversed if the positive shock is reversed.

Question 4: What results can we expect from dynamic asset allocation?

Figure 2 shows the distribution using stochastic modeling of a plan's funded status 10 years into a dynamic asset allocation strategy compared to a static strategy. The pink bars show the outcomes of a dynamic policy and the gray bars show the range of funded status of a plan with a fixed asset-allocation policy.

Figure 2: Distribution of Funded Status 10 Years After Dynamic Asset Allocation Compared to Traditional Asset Allocation



Source: Segal Advisors

Clearly, and as intended, the use of the dynamic strategy mitigates the “tails” (*i.e.*, huge deficits or surpluses). That is, using dynamic asset allocation, the funded status results are more tightly centered on a 100 percent funded ratio, with fewer results at either the positive or the negative extremes. Overall, the goal of reaching full funding is met more often under the dynamic strategy. Just as importantly, adverse extreme outcomes in the “tails”: (*i.e.*, outcomes with large deficits and non-utilized surplus) are greatly mitigated.

Question 5: What should I take away from this discussion?

By using dynamic asset allocation, DB pension plan sponsors can manage plans assets in a manner that balances the rewards of investment return opportunities with the inherent risks embedded in the liabilities. Plan sponsors must determine their willingness for risk-taking in terms of the current deficit positions of their plans and de-risk these plans as the funded status improves to mitigate the likelihood of being in this position again in the future. Although this is a somewhat high-level treatment of a complicated subject, it will help a company’s HR leaders and other non-financial professionals prepare for discussions that are bound to occur in the months ahead.

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This article is from the October 2011 issue of *Perspectives*, Sibson Consulting’s e-magazine. It is available on the following page of Sibson’s website: http://www.sibson.com/publications/perspectives/volume_19_issue_2/risk-management.html.

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