

managing DB plan risk: the dynamic asset allocation strategy

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Managing risk is one of the most important and most difficult jobs facing defined benefit (DB) pension plan sponsors — and one human resources can help tackle. First, however, HR professionals must have a basic understanding of the issues and solutions their finance partners are considering to more efficiently shoulder the financial risks of the organization's employee benefits programs. One of those solutions is receiving a lot of attention lately: dynamic asset allocation, which is a systematic way to change asset allocation as funded status changes.

Liability-Driven Investing

In order to understand dynamic asset allocation, it is necessary to first gain familiarity with liability-driven investing (LDD), which views risks in a holistic manner by considering

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pension plan assets and liabilities and their combined impact on contributions, pension expense and the pension balance sheet. The reason for this holistic perspective is that neither assets nor liabilities separately 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. Therefore, to reflect this holistic view, LDI introduces a conscious consideration of liability risk in developing asset allocations and strategies. Furthermore, as the primary liability risk for most pension funds is interest rate risk inherent in the liabilities, an LDI-related strategy takes into account this risk along with conventional asset-related risks. (Interest rate risk is the risk that liabilities, and therefore the plan's funded status, will change if interest rates change — even if assets are unchanged.)

In a typical LDI strategy, a pension fund's asset portfolio is split into two types of portfolios:

1 | **A 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).

2 | **A liability hedge portfolio (LHP)** focuses on hedging liabilities (i.e., investing assets in a manner that mitigates the 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, then, 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. Individual risk appetites will determine how much of the total portfolio is in the LHP and how much is in the RGP.

Although conventional LDI portfolios are an improvement over the traditional RGPs because of their holistic approach, the allocation between the RGP and the LHP is either static or changed on an ad hoc

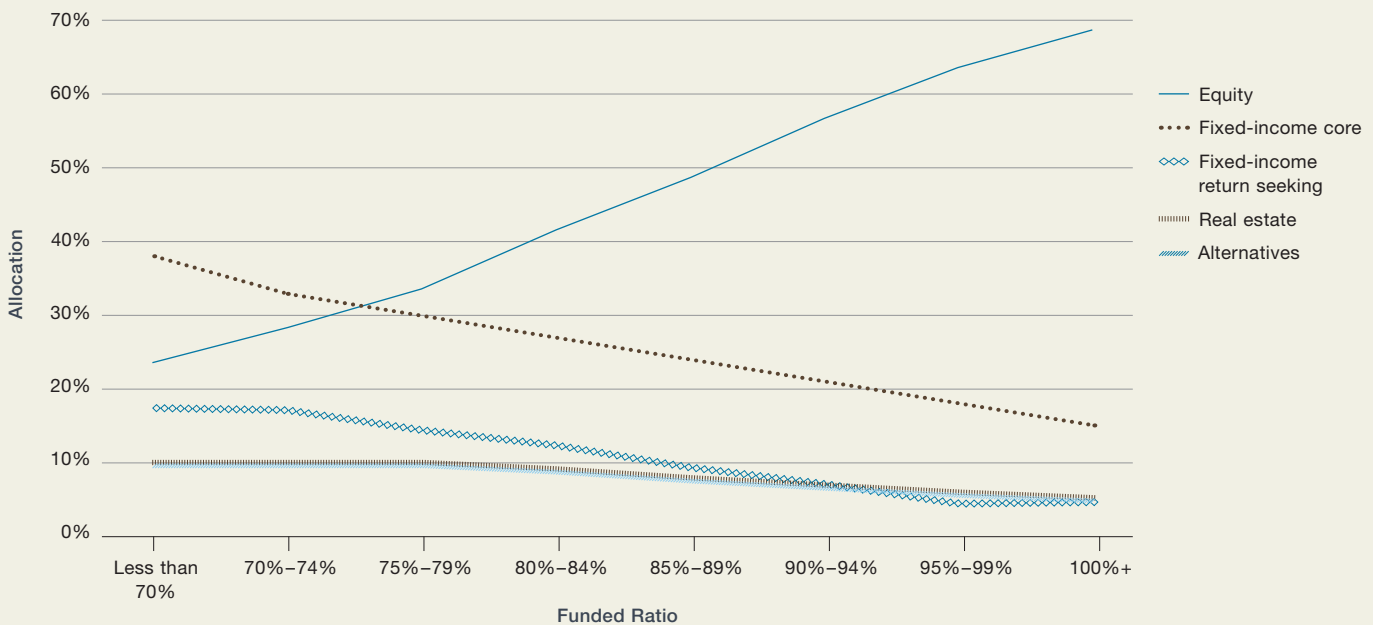
basis, which is not optimal when it comes to hedging the overall plan risk. By contrast, with dynamic asset allocation, the portfolio risk level responds to the plan's funded status in a systematic manner. As the plan's funded status improves (from investment returns, contributions or favorable liability movements), the risk posture is reduced as assets are moved from the RGP to the LHP. In lay terms, the dynamic strategy employs the following logic: When the plan is significantly underfunded, the sponsor overweights 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.

Dynamic Asset Allocation

As an extension of LDI, dynamic asset allocation addresses how much return is required and, therefore, how much risk to take. It 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

Figure 1 | A Sample Glide Path



Source: Segal Advisors

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 "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.

I 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.

I 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 benefits accruals on existing liabilities diminishes. Therefore, less investment return is required to finance those accruals, resulting in a path of decreasing investment risk.

I 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 derisking when asset classes have outperformed, thereby allowing plans to capitalize on favorable asset swings.

Dynamic asset allocation goes beyond the conventional diversified portfolio and addresses issues like enhanced security of 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.

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, as the funding status improves (moving to the right

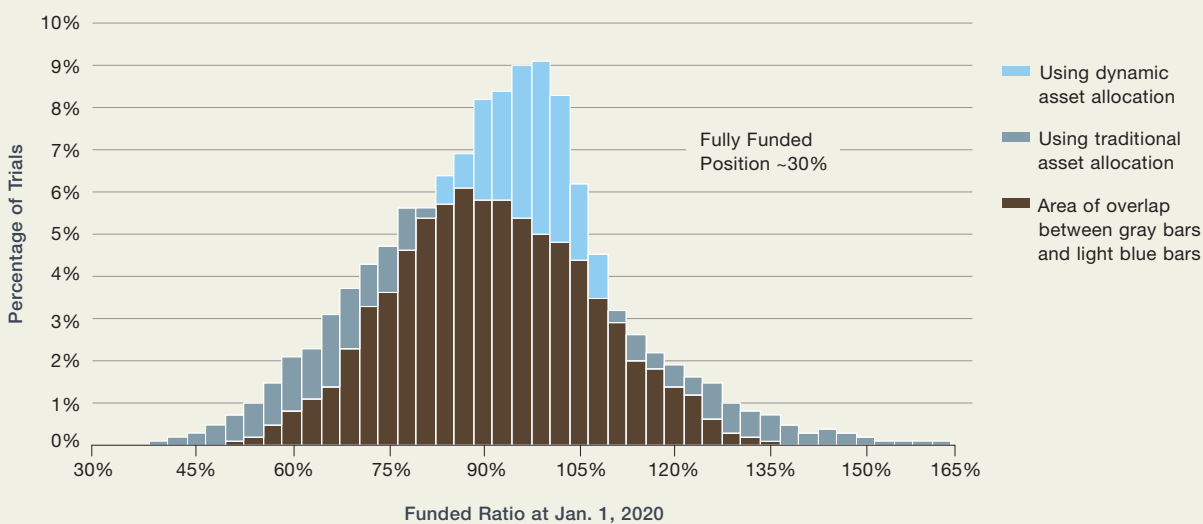
on the x-axis), the allocation to RGP (primarily return focused asset classes) decreases while the allocation to LHP (primarily duration matched long bonds — fixed income core) increases.

The glide path maps out the plan's derisking 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.

It is important to note that there is no single universally correct glide path. Each DB plan requires its own unique glide path, which should be based on the plan's financial profile, its current and forecasted maturity and the sponsor's risk preference. While the design of each strategy is unique to each plan, the strategy should address the following components:

I 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. This is almost always accomplished through the use of stochastic projections that help demonstrate the impact of these input parameters

Figure 2 | Distribution of Funded Status



Source: Segal Advisors

Even if it is automatic, plan sponsor sign-off can be required before the next investment change is triggered.

on the plan's strategy of migrating from a return-producing portfolio to one that emphasizes hedging. (Stochastic modeling is the process for estimating probability distributions of potential future outcomes by allowing for random variation in one or more inputs of the model, such as asset returns over time.) 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. Of course, even if it is automatic, plan sponsor sign-off can be required before the next investment change is triggered. Also, conceptually this is really no different than a standard rebalancing protocol — expect that in a standard protocol the investments are rebalanced to a static allocation, and in this case they are rebalanced to a dynamic allocation.

Fund-specific issues — As stated previously this involves monitoring results, determining when

to re-evaluate 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).

The Results of Dynamic Asset Allocation

Regarding the results of dynamic asset allocation, consider Figure 2 on page 49, which shows the distribution of funded status 10 years into a dynamic asset allocation strategy as compared to a static strategy using stochastic modeling. The gray bars show the range of funded status of a plan with a fixed asset allocation policy, and the light blue bars show the outcomes of a dynamic policy. (The dark blue area is where the light blue bars and the gray bars overlap.)

Clearly, and as intended, the use of the dynamic strategy mitigates the “tails” (i.e., the 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 negative extremes. Overall, the goal of reaching full funding is met more of the time under the dynamic strategy. Although not quantifiable per se, the expected ROI for adopting the dynamic strategy is severalfold:

- More risk will be taken when there is fair compensation for that additional risk (when the plan is poorly funded and investment gains are used to reduce the shortfall)
- Risk will be reduced when compensation is reduced (when the plan is well funded and investment gains may end up as marooned assets with very limited utilization).

A final note: Although not the primary intent of the dynamic 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, shocks

to the upside resulting in a better funded position lead to derisking so that the short-term gains are less likely to be reversed if the positive shock is reversed. The dynamics work in a similar manner for shocks to the downside (negative shocks).

Conclusion

Although this is a somewhat high-level treatment of a potentially difficult subject, it will help HR professionals best communicate with their financial counterparts regarding how dynamic asset allocation can help balance the rewards of investment return opportunities with the inherent risks embedded in the liabilities. The result will be a greater shared appreciation of the responsibilities of plan stewardship. By using dynamic asset allocation, DB pension plan sponsors can manage plan 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 deficit positions of their plans and derisk these plans as the funded status improves to mitigate the likelihood of being in this position again in the future. [w](#)

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