SYNCHRONIZE YOUR PENSION LIABILITIES

MAXIMIZE THE IMPACT OF THE LDI STRATEGY

RUSSELL INVESTMENTS RESEARCH

Contents

Synchronize your pension liabilities

Maximize the impact of the LDI strategy by having your pension liabilities all swimming in the same direction.

Justin Owens, FSA, CFA, EA, Senior Director, Co-Head of Strategic Asset Allocation

Background

U.S. corporate pension plan sponsors are required to measure their plan liabilities for a few important purposes. The most important of these are summarized in the **Exhibit 1**.

Exhibit 1: Comparison of liability measures

LIABILITY MEASURE	PRIMARY PURPOSE(S)	DISCOUNT RATE METHODOLOGY & OPTIONS[1]	OTHER CONSIDERATIONS
Projected Benefit Obligation (PBO)	Accounting	Current market "spot" rates	Some sponsors use selective bond models which can artificially increase the discount rate
Funding Target (FT)	Contribution requirements, benefit restrictions	1. 24-month average, subject to corridor around the 25-year average[2] 2. Full yield curve (spot[3])	Election change requires IRS approval
Premium Funding Target	PBGC Variable Rate Premiums	1. Standard method (spot) 2. Alternative method (linked to Funding Target)	Election can be changed after 5 years

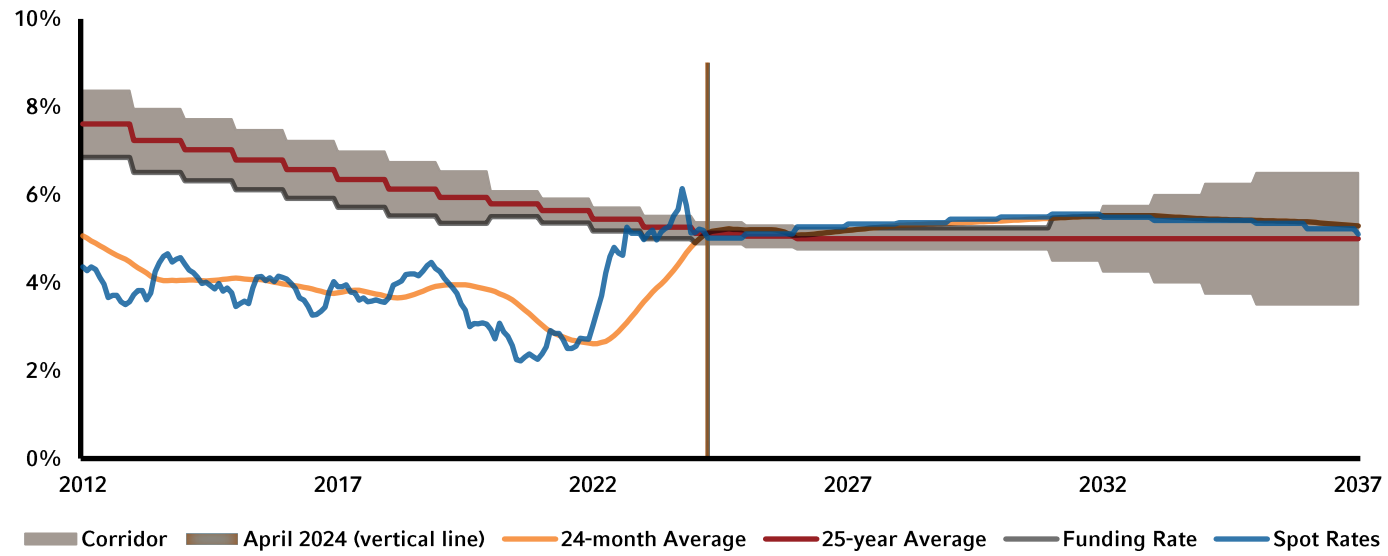
Of the liability measures in **Exhibit 1**, LDI strategy is most effective at addressing the PBO and PBGC *Standard method* measures since they are based on spot rates with a fairly predictable sensitivity to interest rate movements. LDI portfolios can be designed to closely match the expected behavior of these liabilities, thus reducing funded status volatility. For plans that are in a *hibernation* state[4]—fully funded, usually frozen and with high allocations to LDI—this strategy has proven to be quite effective[5].

The Funding Target used for contribution requirements has been much lower than the PBO for most of the time since the year 2012. This was when pension law changed with MAP-21[6], introducing a new type of funding relief. MAP-21 changed discount rates to be tied to a range around the 25-year average. Due to this, the Funding Target now shows very little sensitivity to ongoing interest rate changes. Until the end of 2022, the Funding Target's associated funded status, the FTAP[7], had been much higher than the PBO funded status since the 25-year average of rates was also much higher than spot rates from 2012 to 2022. This provided plan sponsors with significant funding relief, given contribution requirements are directly tied to the FTAP (lower FTAP leads to higher contribution requirements).

> *...LDI strategy is most effective at addressing the PBO and PBGC Standard method measures since they are based on spot rates with a fairly predictable sensitivity to interest rate movements.*

Exhibit 2 shows the historical and projected path of various discount rate measures, including the spot rates (blue line), similar to what is used for accounting, and the funding rate as shown with the black line. Observe the large gap between the black and blue lines that led to the significant difference between FTAP and PBO funded status between 2012 and 2022.

Exhibit 2: Comparison of funding discount rates



Source: IRS and Russell Investments calculations. Only segment 2 shown. Future rates assumed to be the 50th percentile of Russell Investments Strategic Planning capital market forecasts as of December 31, 2023.

For PBGC premium purposes, plan sponsors have two options for setting discount rates—the Standard method (spot rates) and the Alternative method (24-month average[8]). Sponsors can elect to change this method after five years. At some point, most sponsors have elected to change from the Standard to the Alternative method or vice versa to reduce PBGC premiums. In **Exhibit 2**, the orange line shows what the Alternative method discount rate would have been, while the Standard method would have been the blue line.

Given the significant increase in rates in 2022, all these measures are now similar (see current rates at the vertical line), and if spot rates were to rise above the corridor, the FTAP would actually be *lower* than the PBO funded status and could lead to contribution requirements even when on a marked-to-market (MTM) basis the plan is fully funded.

> *Given the significant increase in rates in 2022, all these measures are now similar…*

Electing the full yield curve

Sponsors can elect to use the full yield curve (FYC) for contribution requirement purposes, which more closely follows the spot rates similar to what is used for accounting purposes. The election is effectively permanent[9], so sponsors should consider this a long-term strategic choice, rather than a one-time tactical decision to reduce contributions or PBGC premiums in the near term only.

Making this election has historically been uncommon. Based on the most recent public information available, less than 1% of plan sponsors elected the FYC [10]. This will almost certainly increase now that rates have risen and the case is more compelling. But it will still take some time for the trend to pick up.

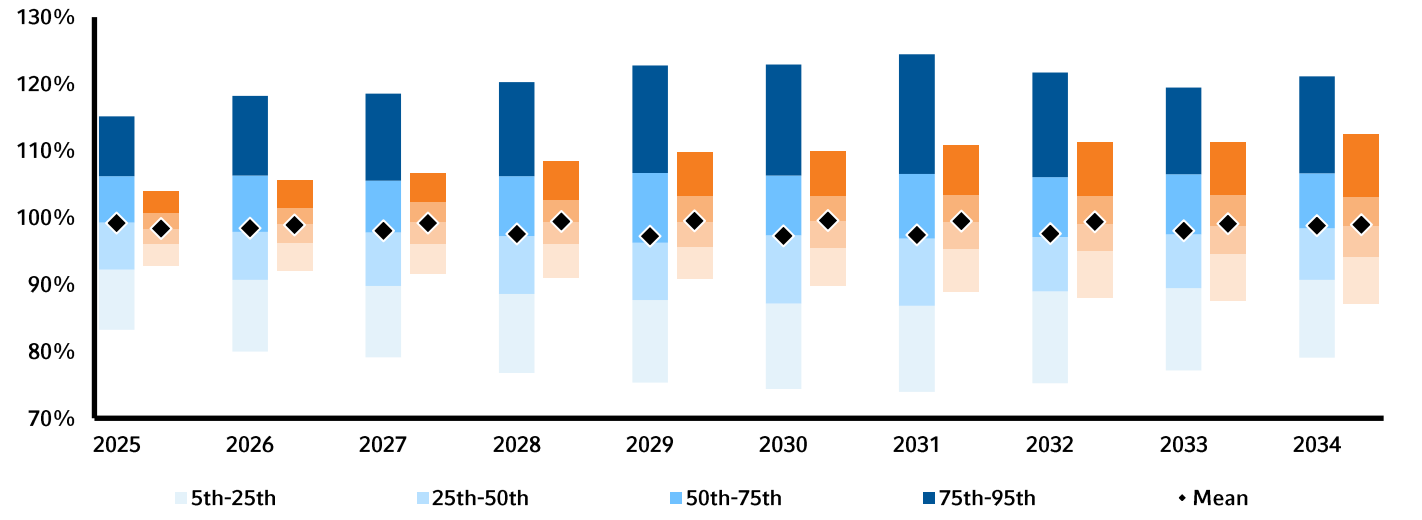
> *...electing the FYC is quite effective at stabilizing both FTAP funded status and contributions.*

Why would a plan sponsor choose to go MTM for funding purposes? Because in combination with a high allocation to LDI and a well-funded position, electing the FYC is quite effective at stabilizing both FTAP funded status and contributions. This means better predictability and lower chances of cash required.

To illustrate, see **Exhibit 3** that shows the range of FTAP funded status under current discount rate assumptions (in blue) and under a FYC election (in orange). This assumes the plan is 100% funded, frozen and with 90% in LDI. While some uncertainty still remains due to equity risk and asset/liability mismatches, the range of outcomes narrows significantly when the FYC is elected. This is due to funding liabilities no longer being bound by a range of discount rates disconnected from current markets, allowing assets and liabilities to move more closely in tandem.

Exhibit 3: FTAP Funded status % | Portfolio: 10/90

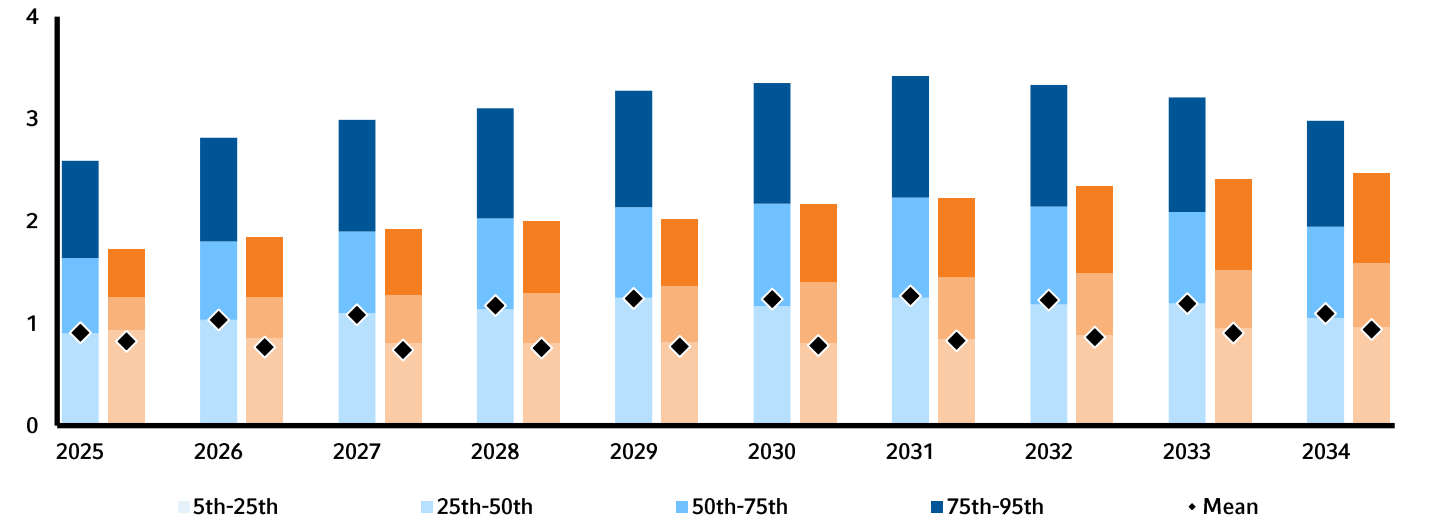
Comparison of FTAP Projections with (orange) and without (blue) FYC election for 100% funded frozen plan with 90% in LDI.



One other important takeaway from **Exhibit 3** is how likely it is that the FTAP falls below 100% using the current discount method and by how much. Since contributions are generally required whenever the FTAP falls below 100%, the FYC election should lead to lower contribution requirements, which is shown in **Exhibit 4** (again, blue is the current method while orange is the FYC). In fact, contribution requirements would be expected to be more stable, lower and less at-risk for extremes.

Exhibit 4: Contributions | Portfolio: 10/90

Comparison of Minimum Required Contribution projection with (orange) and without (blue) the FYC election, assuming the plan is 100% funded, frozen with 90% in LDI



Assessing tradeoffs

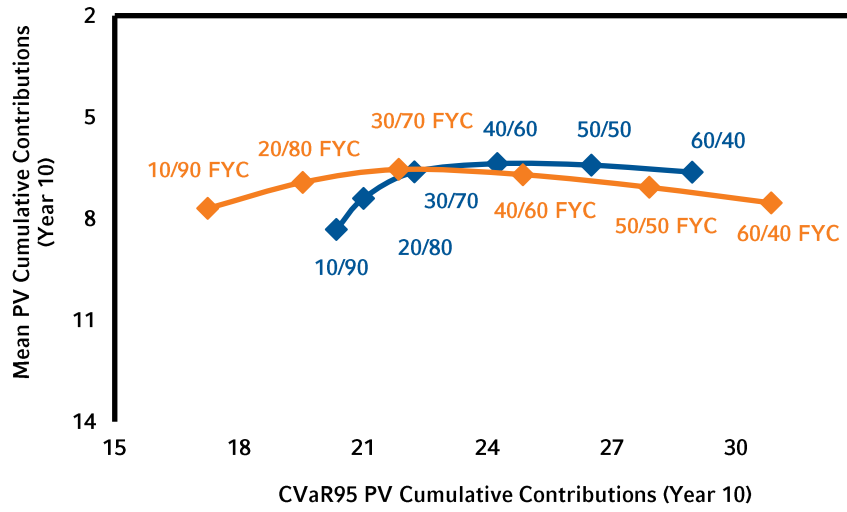
The effectiveness of electing the FYC will depend on a few important factors. We will focus on the impact of MTM funded status and overall allocation of LDI. We will assume for this purpose that the plan is frozen and does not currently hold any credit balances. We also assume plan expenses are paid from plan assets. These and other assumptions and factors will influence the impact of a FYC election, and we recommend long-term stochastic asset/liability modeling to assess the full effect of a FYC election.

The effectiveness of electing the FYC will depend on a few important factors.

Let's start with a 100% funded, frozen plan. At this stage, sponsors generally are trying to reduce the absolute amount of contributions they would need to pay, but they would also like to mitigate worst-case contribution outcomes. **Exhibit 5** shows a range of portfolios, from 60% global equity and 40% LDI (60/40) to 10% global equity and 90% LDI (10/90). The blue series assumes that the standard discount rate method (tied to the 25-year average) is used, while the orange line is the same but with the FYC method.

In this exhibit, portfolios toward the left are less risky (i.e., better worst-case outcomes), while portfolios toward the top have lower average contributions. With this framework, we can compare portfolios to see which are both less risky and require less contributions. Portfolios trending to the upper left are preferred.

Exhibit 5: 100% Funded, Frozen Plan, Comparison of Present Value of Future Cumulative Contributions

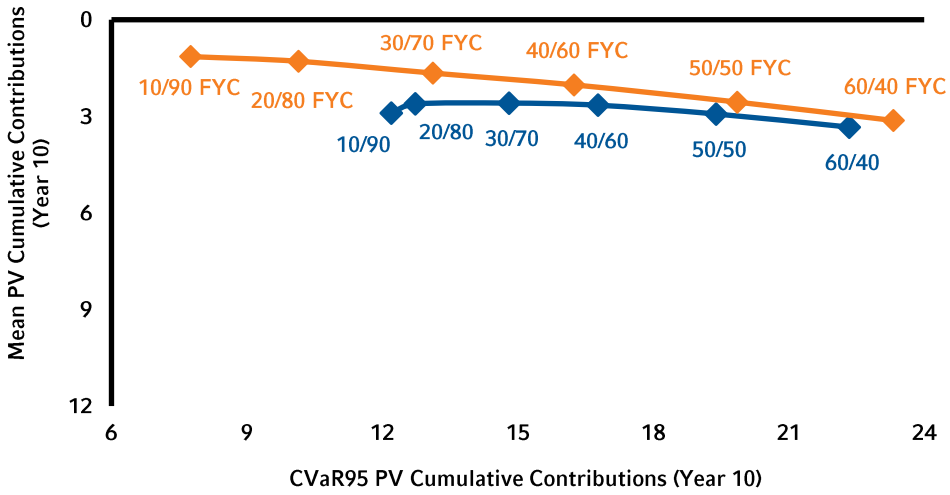


The main takeaway from **Exhibit 5** is that the FYC election for a 100% funded, frozen plan starts to make sense when the portfolio holds 70% or more in LDI. With less than 70% in LDI, the equity risk tends to dominate the risk and return potential.

Now, what if the plan were better funded, assuming 110% on a MTM basis? At that point the risk of falling below 100% funded (and having contribution requirements) is quite low if the funded status can be effectively stabilized. **Exhibit 6** shows this.

> *The FYC election starts to make sense [with] 70% or more in LDI.*

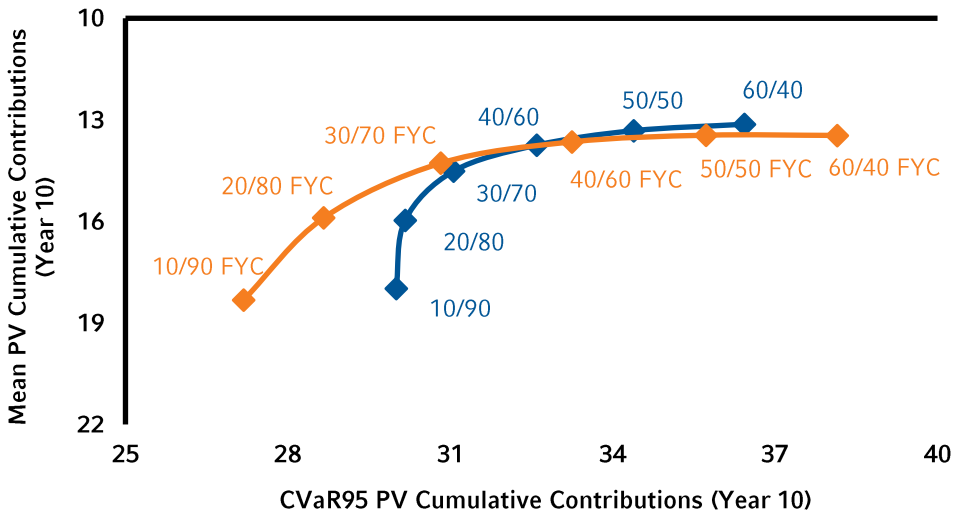
Exhibit 6: 110% Funded, Frozen Plan, Comparison of Present Value of Future Cumulative Contributions



In this scenario, the benefit to the FYC election is more clear. Given the overfunded position, a 10/90 portfolio that effectively stabilizes funded status[11] with the FYC election is far and away the most efficient portfolio—a compelling case which would be even more compelling as funded status further improves.

Let's take a step back and consider the effectiveness if the plan is less well funded at 90%. Here contributions would likely be required regardless, and the FYC election is helpful for stabilizing funded status but not necessarily in improving funded status over time. It does, however, help avoid extreme funded status declines attributed to asset/liability mismatches.

Exhibit 7: 90% Funded, Frozen Plan, Comparison of Present Value of Future Cumulative Contributions



We would generally not recommend electing the FYC [for underfunded plans] unless the sponsor has a strong desire for liability alignment and commitment to contribute.

In **Exhibit 7** we see less benefit to the FYC election, as it would likely be advisable to retain more than 30% in return-seeking assets at this funded level (unless the sponsor was committing to fund the deficit). We would generally not recommend electing the FYC unless the sponsor has a strong desire for liability alignment and commitment to contribute.

Other considerations

While the case for electing the FYC may seem compelling, where could it go wrong? Sponsors should consider the following before making this election.

- **Timing.** The election cannot be reversed without authorization from the IRS. A long-term perspective is important. Some sponsors may prefer to *wait and see* if rates rise to a level where the discount rate mismatch is problematic and consider this election again at that point.
- **Asset method.** We recommend that at the time of this election, the sponsor also remove asset smoothing from the Actuarial Value of Assets calculation to better align assets with liabilities[12]. The minimum required contribution itself will still allow for 15-year amortizations of funding deficits.

- **Asset/liability mismatches.** These will still be present and could be the main driver of funded status changes. These include liability gains and losses during actuarial valuations, which can come from demographic experience, changes in assumptions or changes in methods.
- **Credit migration.** Within the LDI, credit downgrades/defaults not made up for with active credit management or other excess returns could lead to deterioration of funded status. In addition, equity risk taken to help generate return to offset asset/liability mismatches or plan expenses can also have adverse effects on funded status.
- **Law changes.** Pension law could change and alter the 25-year average corridor to simply being a floor, which would impact this analysis. We have not seen this law change proposed, but it is possible.

Conclusions

For sponsors with well-funded, frozen plans and high allocations to LDI, we see a strong case for electing the full yield curve for calculating funding liabilities. Doing so would synchronize all the liability measures, stabilizing expected contributions and reducing funded status volatility.

[1] All discount rates are based, to some extent, on high quality U.S. corporate bond yield curves
[2] 25-year average floored at 5.0%
[3] The Funding Target version of the spot rate is actually averaged over the month but remains highly correlated to the PBO version, which is typically set the last day of the month
[4] Owens, J. (2023). A guide to pension plan hibernation. *Russell Investments Viewpoint*. Available at: https://russellinvestments.com/-/media/files/us/insights/institutions/defined-benefit/a-guide-to-pension-plan-hibernation.pdf
[5] Owens, J. (2021). DB plan hibernation: Does it really work?. *Russell Investments Blog*. Available at: https://russellinvestments.com/us/blog/db-plan-hibernation.
[6] Moving Ahead for Progress in the 21st Century Act
[7] Funding Target Attainment Percentage
[8] Technically this method aligns with the Funding Target, except for the 25-year smoothing constraint. See Barry, M. (2024). Three issues corporate plan sponsors should be aware of in 2024. *Russell Investments Blog*. Available at: https://russellinvestments.com/us/blog/plan-sponsors-2024-issues.
[9] The IRS would have to approve any change, or Congress would need to update the law
[10] Based on 2022 5500 filings. The most recent data is as of the beginning of 2022 and prior to the large rate rise seen that year.
[11] See endnote 5.
[12] Note that this election is also effectively permanent, requiring the approval of the IRS to change

QUESTIONS?

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First used: June 2024.

AI-30255-06-27