FIRST PRINCIPLES CAPITAL MANAGEMENT

"The Electric Glide"

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Thoughts on the state of corporate pension plans - part I of II

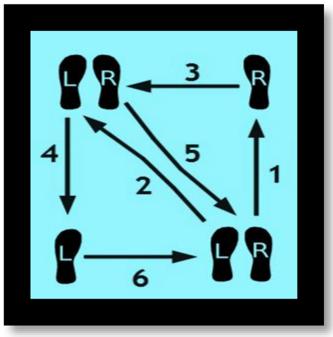
Much like the late '80s viral line dance, the Electric Slide, where each dancer moves in unison, many U.S. corporate pension funds behave in a similar fashion and move together. This is a natural by-product of a marketplace confronted with the same regulatory regime, facing similar retiree demographic challenges, and served by a handful of pension consultants – not to mention having similar underfunded levels (i.e., currently 81.5% funded per the Milliman 100 Pension Index). So, the corporate pension marketplace tends to slowly move as a monolith.

Over the past several years, many corporate plan sponsors have closed their pension plans to new participants as well as eliminated future benefit accruals for existing beneficiaries. Most pension investment committees have adopted a rules-based investment strategy designed to slowly de-risk their closed plans, known as a "glide path". This investment approach entails systematically investing in more fixed income securities (i.e., primarily long-term high quality corporate bonds) as the funded status of the pension plan improves over time, gliding a plan towards a lower risk-and-return profile.

After implementing these major changes, many CFOs, treasurers and investment committees probably thought that their pension job was done. That their pension plan would slowly earn its way out of the underfunded status in a few years, particularly since future benefit-related costs were eliminated. They could largely wash their hands of managing retirement benefits going forward, and switch on the pension equivalent of auto-pilot thanks to the glide path. But much like the fun line dance, after all the many steps, gyrations and maneuvers, most pension plans feel good about their accomplishments; yet many years later they have ended up where they started.

"It's Electric!"

According to the Milliman 100 Pension Funding Index, the funded status of the top 100 plans as of January 2017 is almost exactly where it was in January 2012, even though most equity markets have reached all-time highs. Over the past five years, the S&P 500 has added approximately 1,000 points, and the long end of the Treasury curve (i.e., 10- and 30-year yields) hasn't changed appreciably compared to January 2012. Pension plans are essentially doing the fiduciary equivalent of the popular line dance: lots of prudent steps and activity with plan assets moving up and down and funded ratios moving to and fro. But they are largely going nowhere towards materially improving their funded ratio and de-risking along the glide path. Corporate pensions are doing the "Electric Glide".



Why haven't funded status levels improved? Two words: **hurdle rate**.

Underfunded corporate pension plans have extremely high hurdle rates – that is the required return on assets needed to stay at the same funded percentage each year. When a pension plan has a funded status of say 80%, it is like playing a hockey game short-handed the entire game. The short-handed team (i.e., assets) must outperform just to stay neutral versus the fully-staffed opposition (i.e., the liability). Said more precisely, the hurdle rate on plan assets is high because plan assets need to generate a return sufficient to meet the *grossed-up* implied cost of capital of the liability, plus plan-related administrative and regulatory expenses, plus the implied costs of the discount linked to periodic benefit payments, as laid out in the formula below for a frozen plan:

AHR = LCC/FS + PBGCF + AF + BPD

Where, AHR = Asset Hurdle Rate; LCC = liability cost of capital; FS = funded status; PBGCF = PBGC premiums payments; AF = administrative fees; and BPD = benefit payment discount

In pursuing their mandate, most plan fiduciaries focus on asset returns and investment performance. Indeed, each year a plan's investment committee promulgates their plan's expected return on plan assets for accounting purposes for the upcoming plan year. Yet, few fiduciaries evaluate returns in the context of the liability's economic hurdle rate, nor fully appreciate how high is the return bogey, even for a frozen plan without a service cost component.

Table I: Required return on assets given cost of liability and funded status

Liability components	*fx*	Liability costs	Required asset return
Long-term cost of debt (i.e., ABO)	LCC	4.25%	5.21%
Expected PBGC premium (due in part to underfunded amount)	PBGCF	0.40%	0.49%
Expected administrative fees	AF	0.50%	0.61%
Benefit payment discount	BPD		1.36%
Total	AHR	5.15%	7.67%
February 2017 GAAP pension plan funded status per Milliman	FS		81.5%
Average 5-yr benefit payments (% of liability / % of assets)		6.00%	7.36%

For a typical underfunded closed plan, the economic hurdle rate may be 250 basis points greater than its liability costs, as outlined in Table I above. Key drivers are the extent of the plan's underfunding and the amount of its near-term benefit payments, with the latter being the funded-ratio silent killer and the most overlooked. For example, when a pension with a funded status of 81.5% makes annual benefit payments to retirees equal to 6% of the total liability, the plan needs to liquidate 7.36% of its assets to satisfy distributions. It's hard to win that hockey game let alone stay even year after year.

The second order effect of the Electric Glide is that once you are doing the dance it becomes increasingly difficult to stop, thanks in part to the glide path itself.

As part of a de-risking strategy, most plans have implemented a hedge ratio policy, which outlines a baseline amount of long-duration fixed income securities used to hedge a portion of the liability's interest rate and spread risks. Corporate plans frequently allocate 25-50+% of plan assets to hedging assets, which imparts a 20-40+% liability hedge ratio – ignoring leverage. The glide path policy also outlines changes in the ratio, which programmatically increases as the funded status improves in expectation.

The unintended consequence of liability hedging is that it can make it harder for plans to break free from the same funded-status dance pattern. That's because the long-duration hedging portfolio typically generates a return below the hurdle rate. Consequently, the higher the baseline hedging percentage amount, the more difficult it is to progress with alacrity along the glide path – potentially leaving a plan stuck doing the Electric Glide.

Table II: Required return on global risk assets given a desired hedge ratio

Total portfolio		Asset allocation / liability hedge	Required return to meet hurdle
Plan A	Global risk assets	55%	10.49%
	Liability hedge: Long-duration fixed income	45%	4.25%
	Total portfolio	100%	7.68%
Plan B	Global risk assets	75%	8.82%
	Liability hedge: Long-duration fixed income	25%	4.25%
	Total portfolio	100%	7.68%

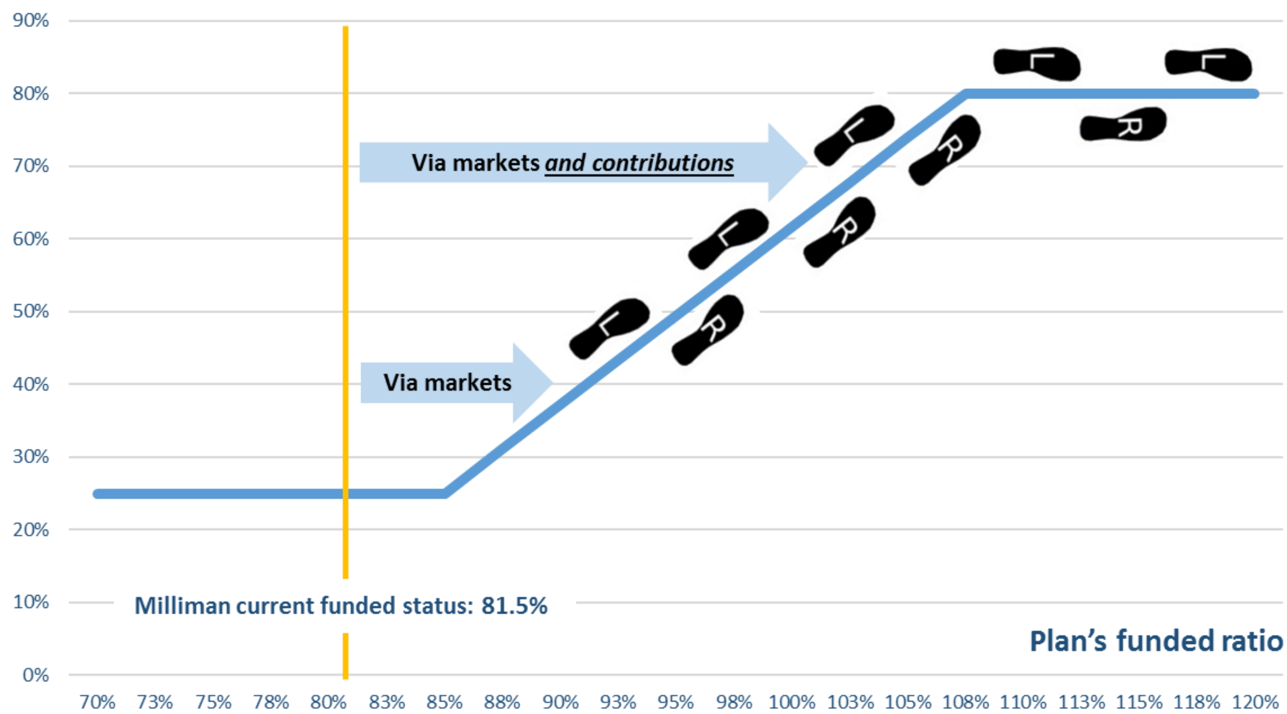
Table II highlights the conundrum facing committees, using two examples. Both pension plans have the same funded status (81.5%) and hurdle rates (7.68%), but they have pursued two different hedge ratios. Plan A, with the higher hedge ratio, will need to earn more than 10% on its growth portfolio (e.g., global risk assets) just to break even. By comparison, Plan B needs to earn nearly 9%. With 30-year Treasury yields near 3.00%, flawless investment performance is required in both cases.

Importantly, this is not to suggest that glide paths are imprudent. Quite the contrary. Rather, it suggests two things. One is that hurdle rates are extremely high for a typical underfunded plan's growth-oriented investment portfolio. Two, investment committees should adjust de-risking expectations accordingly, as well as decide on which is an easier task: to hedge the interest rate risk of the plan's liability or to continually generate double-digit investment returns. Both are daunting and are mutually exclusive without the use of leverage (i.e., derivatives hedging overlay).

The remaining question is how does a pension plan step away from the seemingly never ending line dance and start progressing towards a more fully-funded pension with a substantially immunized investment strategy. In short, a combination of cooperative market forces and plan sponsor contributions is required, recognizing that friendly markets can only get a plan so far.

Chart I: A typical pension glide path

% of pension portfolio invested in long duration fixed Income



To best demonstrate that beneficial capital markets can only get a pension a short distance along its glide path, let's consider the following example. In order for an 81.5% funded pension with a 20% hedge ratio to improve its funded ratio by 10% over a short-term horizon, one of three market-related events needs to happen:

1. The investment portfolio's growth assets will need to increase by approximately 14% during the period, without impacting the liability.
2. Interest rates rise sufficiently such that the liability falls by more than 11% during the period, without impacting the value of the growth portfolio.
3. Some combination of 1 and 2.

Numbers 1 and 2 in isolation are big asks for any investment committee, with number 3 being the most probable of the three.

Nonetheless, over the past five years the financial markets have empirically tried their level best to help pensions by producing healthy returns. Sadly, most plans don't have much to show for it, except possibly for a select few that were dancing with investment stars.

Where does that leave a plan that wants to stop the Electric Glide? Contributions and more contributions. Perhaps it's time for a slow dance between the pension investment committee and the corporate plan sponsor.

"Boogie, woogie, woogie . . ."

About the author:

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