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How to Talk to Employers About Their Defined Benefit Plans (or “Pensions in Plain English”)

This column aims to communicate some essential, but widely misunderstood, actuarial and investment concepts, and to aid employers with DB plans in understanding what they have and what to do with them.

BY PETE SWISHER

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Employers with defined benefit (DB) plans rarely understand them. Financial advisors rarely understand them, either, yet they are often called upon to translate. Even retirement plan specialists and third-party administrators rarely understand DB plans, since most retirement professionals deal mainly with defined contribution (DC) plans. And the technicians who actually understand DB plans sometimes tend to communicate like technicians.

The purpose of this column is to translate some key actuarial and investment concepts into something approaching plain English, and to provide a framework for helping an employer who has a DB plan understand what they have and what to do with it. The purpose is not to teach the basics, but to attempt to show a path toward communicating the basics meaningfully.

Disclaimers: First, this column is about traditional, employee-benefit-style DB pension plans, not owner-driven cash balance plans, which call for a different type of conversation. Second, the proposed “plain English” conversations are, in reality, still complicated bits of actuarial gobbledegook. So, focus on the “*back-of-the-napkin*” summaries and how to deliver them based on understanding the core concepts. If you can do a good back-of-the-napkin drawing and discussion—mission accomplished. [See *The Back of the Napkin* by

Dan Roam (Penguin Group (USA), Inc. 2008) for a great lesson in how to make the complex simple.]

Final disclaimer (since the audience is, after all, the pension community): If you dislike the blithe generalizations, imprecise language, and careless mathematics employed below, know that I revel in your discontent.

Sample Conversations

The best place to start is with examples of conversations that have worked. The concepts behind them are summarized afterwards. You will know if you have done a good job when the employer says something like, “This is the first time I feel like I’ve ever understood this,” or “I actually understood most of that.” The goal is to spur action, such as adoption of a sensible strategy, hiring you, or not firing you.

Conversation No. 1: Helping Terminate with Triggers and Dashboards

Situation. The client shares these facts: \$10 million DB plan with 150 participants; they froze the plan three years ago and want to terminate. They say they are “pretty well-funded—about 95 percent.” The goal is to terminate the DB as soon as possible and have only their 401(k) going forward.

Possible Conversation (after asking the right questions). “The 95 percent funding level is probably more like 80 percent because of the ‘fake math’ we’re allowed to use these days, and the real cost of termination is usually something like 120 percent. So, the cost to terminate today is probably more than you’re ready for in any one year (it’s in the millions). What you might want is a strategy that looks opportunistically for the right time to pull various triggers—based on a dashboard of indicators about the plan, the markets, and the economy—to get you where you want to be. A typical trigger to pull is to decide on a partial ‘settlement’ (like terminating a part of the plan, but not all of it), and an example of a favorable dashboard indicator might be bond rates that are at least 100 bp higher than they are today—because higher bond rates make your costs go down. The key is that terminating today is expensive, so you take it in bite-sized chunks, using an opportunistic strategy based on sound data and monitoring.”

Back-of-the-napkin drawing:

- 95% funded based on “fake math”
- 80% funded based on “real math”
- 120% to actually terminate the plan (“termination liability”)

- You need millions to terminate, so use a thoughtful, *opportunistic strategy* based on regular monitoring of dashboard statistics to decide when to pull action triggers.

This conversation revolves around simplifying the explanation of different types of valuation of liabilities, as discussed below, and the concept of getting out thoughtfully over time (the only option if an employer cannot afford to get out today).

Conversation No. 2: Reducing PBGC Premiums

Situation. The same employer (\$10 million frozen plan, 150 participants), who is subject to FASB accounting rules (see below), asks for help reducing its Pension Benefit Guaranty Corporation (PBGC) premiums (the money paid to the government for insurance against the possibility the employer will default on its benefit obligations in the plan).

Possible Conversation. “PBGC premiums are \$64 per participant (going up in 2019), plus 3 percent of the unfunded liability (but the 3 percent is capped at \$500 per participant). You might think your unfunded liability is only \$500,000 since you’re 95 percent funded, but the 95 percent is based on assumptions that we sometimes describe as ‘fake math’ because they are very different from the ‘real math’ that the PBGC requires for this particular calculation. Let’s say, for the sake of argument, that under those assumptions you’re really 80 percent funded, in which case you have \$2 million of unfunded liability. Your PBGC premium is, therefore, \$64 plus 3 percent of \$2 million, for a total of \$69,600, or about \$464 per participant. You can get rid of all but \$64 per participant if you have \$2 million you can contribute. But *any* extra you can contribute will help, for two reasons: first, your unfunded liability is lower, which lowers your 3 percent PBGC ‘variable’ premium; and, second, because you actually get an *interest credit* on your P&L statement for the added contribution to assets. For example, if you put in \$1 million extra, you get to use your ‘fake math’ assumption of 6 percent to come up with an accounting credit of \$60,000 you can apply against your actual expenses—which goes directly to the bottom line for the current year’s P&L statement. On top of this, your PBGC premium will go down by 3 percent of \$1 million, or \$30,000, for a total P&L impact of -\$90,000.”

Back-of-the-napkin drawing:

- \$64 per participant plus 3% of unfunded liability [capped at \$500 per participant for this “variable” piece]
- \$464 per participant today
- Contribute \$1 million extra
 - Get 6% interest credit against expenses—\$60,000
 - Get 3% PBGC savings—\$30,000
 - \$90,000 goes to bottom line on P&L.

Conversation No. 3: Redesign for Success

Situation. The same employer wants help figuring out what to do—freeze, partial freeze, redesign, etc.

Possible Conversation. “A DB plan is actually a very efficient way to deliver a secure retirement if that’s something you want for your employees, and there are many ways to redesign a program to mitigate or eliminate the aspects of your current plan that trouble you today. For example, you can change the formula to reduce the DB benefit but pair it with your DC plan to deliver a high likelihood your employees can retire when it’s time. You can take a ‘funding holiday’ by temporarily freezing DC plan contributions while you catch up and even get ahead of the funding. You can convert your formula to a more fixed type of formula with more certainty in the funding cost. You can do a ‘partial freeze’ whereby you stop benefits for certain groups of employees but not for others, and even add benefits for certain groups. You can vary the benefits for different groups based on business goals. And if none of that makes sense, you should freeze and terminate based on a thoughtful plan. Though it’s worth noting that, if interest rates rise, or ‘normalize,’ as some would say, DB benefits will get a whole lot cheaper to provide.”

This conversation revolves around understanding basic redesign options, which are not covered in additional detail below since the conversation above is a fair summary.

The remainder of the column focuses on summarizing the key actuarial concepts behind these conversations, and how to put yourself in a position to convey them effectively.

The DB Marketplace in 2018

Those of us who still have anything to do with DB plans recognize that they are phasing out—though not completely. There are still tens of thousands of such plans in the United States (and many more overseas); they tend to be large and profitable clients; and they

need help. The summary below highlights the different types of DB plans and how their sponsors think.

The U.S. DB marketplace can be roughly divided into these types of plans and situations:

- **“Owner-Driven Plans”**—Cash balance or other DB plans put in place largely to help owners maximize pretax contributions.
- **“EB-Driven Plans”**—Plans put in place and maintained as an employee benefit (EB).

Most new plans are owner-driven; most existing plans are EB-driven. The typical owner-driven plan is a cash balance plan for a professional practice or small company. Such plans often have a “shelf life” of seven to ten years, since a major reason to put such a plan in place is to help an owner who is over 50 aggressively catch up on retirement funding. Once the owners or key partners retire, the plans often terminate.

We can further divide EB-driven plans as follows:

- **Financial Accounting Standards Board (FASB)**—Subject to special rules under FASB for how pension obligations and expenses are reported, so that P&Ls and balance sheets are fairly presented.
- **Non-FASB**—Not subject to FASB rules.

Understanding FASB is tricky for a non-pension geek, and is, therefore, discussed below. For now, just remember that companies subject to FASB usually care more about how the plan affects their financial statements in a given year than what the actual ERISA valuation and cash contributions are. Looked at another way, a small business owner (who is not subject to FASB, because he or she is not publicly reporting) cares about how much *cash* the plan will cost this year. The CFO or CEO of a FASB company probably cares far more about what *expense* is reported on the company P&L than on how much cash must be contributed. A large company that cares more about how much cash it costs than what the expense will be may be in financial trouble.

We can also, obviously, divide DB plans by size, from small to jumbo. As in any other market, the service providers and service arrangements vary by size, as do the resources of the HR and Finance staffs in charge of the plans.

Finally, we can categorize DB plans by status and long-term goals, as follows:

1. **Ongoing** (a non-frozen plan open to current and new employees).
2. **Partially Frozen** (new employees are not eligible for benefits, but grandfathered employees continue to accrue new benefits—so the plan is active for one group, but not available for others).
3. **Frozen** (no new benefits are being accrued or offered to any employees; the plan still exists in order to meet benefit obligations that have already been promised).
 - a. **Managed**—a frozen plan that will not terminate immediately, but is instead being managed until the time is right either to unfreeze or terminate.
 - b. **Terminating**—the employer wants out and is simply looking for the right time and circumstances—and help figuring out a plan for identifying them—to be able to terminate the plan at a reasonable cost.

Assets, Liabilities, and How to Value Them—A Crash Course for Non-Actuaries

DB plans are basically debts—money owed, at a future date, by a company to its employees. When we say “liability” with respect to a DB plan we are, therefore, talking about a balance sheet concept—money owed, valued in accordance with prescribed rules. For example, if Bob owes Sue \$100, to be paid in one year, how much is that obligation worth in today’s dollars? The answer depends on the discount rate, which is a proxy for how much money we would earn on the money in an investment. For example, if the money is invested today in a bank account yielding 3 percent, then \$100 payable in one year is worth a little over \$97 today. If the money is invested in a stock that earns 10 percent, the current value of the debt is roughly \$91. This is the amount that Bob would have to set aside today to ensure that the debt can be paid in full in one year. As long as we know the amount owed, when it must be paid, and the future interest rate, we know exactly how much the liability is worth. In a DB plan, of course, we never know the future interest rate—it’s in the future—and we rarely know exactly when the benefit will be paid, so we have to guess.

To carry forward the example, what if Bob borrowed \$100 from Sue, payable in 30 years, and the interest payable in any given year varied based on the performance of an investment index? In this case, it is impossible to know exactly how much money to set aside. This is how DB plans work: we can never

know exactly how much money to set aside, because the future net rates of return on the money are in the future—unknowable. So, we guess by using *actuarial assumptions*.

The first key actuarial assumption is the interest earned on an investment over time once the money is contributed to the plan. The second key assumption is the interest earned during the payout period, when the employee is receiving benefits. Typically, the actuary assumes a higher interest rate for investment purposes than during retirement. The effect of this is that liabilities for participants in payout status are more “expensive” than liabilities with respect to participants who are not yet in payout status. In addition, the actuary typically assumes that benefits will begin at the plan’s normal retirement date, even if participants may take the benefit before or after that date.

The Valuation of Liabilities

Because the plan is a “defined benefit” plan, we know precisely how much is owed. What we do not know is exactly when the benefit will start or the actual interest that will be earned on contributions and plan assets over time, which determines how much money will be available at payout time. We, therefore, do not know precisely how much to contribute in a given year, or what the pension liability (or “pension benefit obligation”) actually is. There are, therefore, rules for how to estimate the value of liabilities, which we can also think of as funding targets—and there are numerous possible funding targets based on different situations and rules, as explored below.

Liability Valuation Under ERISA

ERISA requires that employers put enough money into a plan to ensure that future benefits will be paid. The rules specify how to determine how well-funded a plan is as a percentage of a target: the actuarial Funding Target Attainment Percentage, or FTAP. The goal, naturally, is for a plan to be 100 percent funded. But 100 percent of what? Here things get tricky, because there are multiple targets.

Different Possible Funding Targets

Funding Target No. 1: The ERISA Target, or FTAP

The FTAP is a regulatory concept, so the regulations specify how it is calculated. In general, we can call the target the “ERISA liability”—the amount that ERISA says the employer ought to have in the plan

to pay future benefits based on reasonable investment and demographic assumptions. We can divide ERISA liability calculations into two categories:

Fake Math (Based on “Funding Relief”). Congress has passed laws that temporarily allow employers to use gentler assumptions to ease the burdens of funding. The idea behind these laws was that, in a time of economic stress, having to “fund up” fully would be such a burden on employers as to be counterproductive to the employees and to the economy overall. The way this played out legislatively is roughly as follows:

- Prior to 2006, many plans were underfunded, and Congress wanted them funded
- Therefore, the Pension Protection Act of 2006 (PPA) required full funding
- But the recession of 2008-2009 made it a hardship to do full funding as quickly as called for by PPA, so Congress passed “relief” in how quickly full funding had to be reached
- The specific laws were MAP-21, or the Moving Ahead for Progress in the 21st Century Act of 2012, a highway bill that included pension relief provisions, and which was extended by the Highway and Transportation Funding Act of 2014, HATFA. Yes, these were highway bills. Welcome to the USA. A third law was the Bipartisan Budget Act of 2015 (BBA). MAP-21, HATFA, and BBA were the “pension relief” bills.

So, there is a good reason that Congress allows employers to use fake math, but ultimately the benefits must be paid, and, therefore, the liabilities must eventually be valued using the real math.

Back-of-the-napkin:

- PPA-mandated liability valuation based on recent bond rates, which are low.
- Pension relief bills allowed the use of a longer-term average of bond rates, which are higher.
- *E.g.*, PPA: 4.5%; Pension relief bills: 6% (but eventually migrating back to pure PPA rates, wherever those stand when the clock runs out).

Real Math. The “real” math consists of interest assumptions based on what PPA requires. The notion behind the PPA assumptions is that they are approximations of what conservative pension investments

(bonds) might be expected to earn. The PPA rates are, therefore, a composite based on actual bond yields of various maturities and durations. A typical PPA interest assumption might be around 4.5 percent today, whereas the “fake” math of MAP-21 and HATFA/BBA allows valuing of liabilities based on a 6 percent rate, give or take, the effect of which is to decrease the amount of money needed to satisfy ERISA funding rules in the current year. The problem, of course, is that bonds are not paying 6 percent (and long-term projections for stocks are not much better; that’s the “fake” part), so the use of the higher interest assumptions delays, but does not cure, the need for additional contributions.

Back-of-the-napkin:

- Fake math: 6% assumption
- Real math: 4.5% assumption.
- Effect: your plan is not 95% funded, it’s more like 80% funded (or worse).

Funding Target No. 2: FASB Liability

Companies subject to FASB include financial institutions (banks and credit unions) and all public companies. The point of the rules is to provide generally accepted accounting principles (GAAP) for how pension liabilities are valued and reported, and how much a company must report as an expense (which affects the profit & loss statement, or P&L). Non-FASB plans value liabilities and determine contributions based on ERISA rules, and typically simply deduct whatever contribution is made and report it as an expense. In a FASB plan, by contrast, the valuation of liabilities can be quite different than under ERISA, and the reported expense in a given year can vary significantly from the actual cash contribution to the plan. The CFO of a FASB company, in other words, probably cares a lot more about the impact on the year’s financials than about how much the contribution must be for ERISA purposes, or how ERISA values the assets and liabilities.

Back-of-the-napkin:

- Small business contributes \$100,000, shows \$100,000 expense, feels pain of \$100,000 cost.
- FASB company contributes \$1 million, shows \$500,000 expense, feels pain of \$500,000 expense.
- Small business wants help not having to pay \$100,000 of cost; FASB company wants help not having to report \$1 million of expense.

Funding Target No. 3: Termination Liability

There is no specific interest assumption for “termination liability”; there are, rather, methods one uses to estimate how much it will cost to terminate a plan. If you apply hot pincers to an actuary, who will first protest that he or she would need to see lots of data and do a study to tell you how much it will cost, he or she will eventually tell you it costs something like 120–125 percent of current PPA-based liability (real math) to terminate a plan. Terminating a DB plan means distributing money in two ways: (1) buy annuities to guarantee future benefit payments (more expensive, generally), or (2) provide lump sums for those who choose them (which are generally cheaper). Both options call for more money than is required to simply maintain the plan, but terminated plans have no expenses and no risks—thus the desire to get out.

Looked at another way, the interest rate used to value lump sums is a reasonable tool for how to determine termination liability. Thus we can extend our back-of-the-napkin summary as follows:

- 6.5% “fake math” (95% funded).
- 4.5% “real math” (80% funded, maybe).
- 4% termination liability (requires 120%+ of the “real math” liability).

Funding Target No. 4: PBGC Liability

The PBGC is a government-run insurer created by Title IV of ERISA that provides protection against DB underfunding. If an employer goes out of business with an underfunded DB plan, the PBGC makes up the difference between what is owed to participants and how much money is available, within limits. This insurance has a cost, and the PBGC, therefore, charges premiums, and those premiums are based on a valuation of plan liabilities that is specific to the PBGC. Simplistically, however, the PBGC liability will be very similar to the termination liability, so the details are not important for this discussion.

Back-of-the-napkin:

- 6% “fake math” (95% funded)
- 4.5% “real math” (80% funded, maybe)
- 4% termination liability (requires 130%), which is roughly the same as PBGC liability.

Interest Rate Voodoo

New stockbrokers learn that as interest rates rise, bond values fall, and vice versa. A bond is a

liability. A DB pension obligation is a liability. So, the DB liability will rise as interest rates fall, and the liability will fall as interest rates rise. This is huge. A 200 basis point increase in interest rates today would probably cause an 80 percent funded plan to become over 100 percent funded, because the value of the liabilities falls as interest rates rise [see “The Impact of Rising Interest Rates on Defined Benefit Plans” at www.pentegra.com]. It is, therefore, cheaper to settle (*i.e.*, buy annuities or distribute via lump sums) liabilities or terminate a DB plan when interest rates are higher. Therefore, it might make sense to wait, opportunistically, for the right convergence of liabilities, interest rates, company cash flows, company financials, etc. before settling liabilities or “de-risking” a DB plan.

Back-of-the-napkin:

- Lower interest rates = more expensive DB benefits and contributions
- Higher interest rates = cheaper DB plans
- 200 basis point increase in bond rates = 80% funding goes to 100%+.

Interview an Actuary

Simplifying the complex is not a solo job. If you are an actuary, find a wordsmith with whom to exchange ideas. If you are an advisor seeking to simplify the complex, begin by interviewing an actuary.

The “interview” is an informal discussion where you seek to ensure that you grasp the big picture yourself. It will be necessary to deflect comments like, “Send me more data and I’ll take a look at that,” or “Let me study the information in more detail and get back to you.” The actuary needs something to go on—usually at least an actuarial valuation and a FASB valuation, if applicable, and a bit of time to glance at them—but invite them to remain at the 30,000-foot level. The goal is to obtain a gestalt that can be reduced to words and a back-of-the-napkin sketch. Think of yourself as an investigative reporter whose story is due tomorrow.

I had a rewarding experience recently. An investment advisor called for help communicating with an employer about a large DB plan. Despite 20 years of off-and-on DB experience and a Certified Pension Consultant credential from the American Society of Pension Professionals and Actuaries, I was in over my head. I, therefore, interviewed my firm’s chief actuary, Mike Wood, and other than the periodic,

involuntary twitching of his hand toward his desk-top calculator, he did a great job remaining at the 30,000-foot level and dumbing things down enough for me to leave, after one hour, saying, “I actually

understand this.” I took my notes and turned them into a summary for the advisor, after which the advisor said, “I actually understand this.” The client is in good hands. ■

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