Variable / Adjustable Pension Plans

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Overview

This whitepaper discusses a couple of new pension plan designs available to plan sponsors and the rationale for why they should be considered.

- For years employers contributing to Defined Benefit Pension Plans have been wary of the risks associated with these plans.
- With the national move to Defined Contribution Plans, individual participants have fully taken on investment and longevity risk.
- With the new variable benefit plans and variable accrual plans, pension plan risks can be shared between employer and employee, providing contribution stability for employers, shared investment risk and the ability to provide employees a monthly income payable for life.
- We urge you to keep reading to find out the details behind these plans designs and the options available.

Pension Plan Risks

Plan sponsors have been moving away from traditional defined benefit pension plans in favor of defined contribution plans. This move has been more pronounced in the corporate world with single employer pension plans dropping significantly during the past two decades but similar discussions in the multiemployer world have begun. The key driver in this movement has been the transfer of risk from the plan sponsors / employers to the participants / employees. However, when this type of change is made the level of risk is significantly elevated when passed on to the individual participants.

How is the level of risk elevated? First you must understand the key risks in pension plans. These key risks are

- Investment,
- Longevity / Mortality, and
- Maturity / Cash Flow.

Let's consider each of these in the context of a traditional defined benefit plan and a defined contribution plan.

Investment Risk – We all know there is a great deal of volatility in the investment world and this particular risk is typically the main discussion driver of any plan change. In traditional defined benefit plans, if the investments do not meet the investment return objective of the plan, the employer must contribute additional money to help shore up the pension fund. Since the investment risk is passed onto the contributing employer and can lead to large unexpected contribution increases, the employers view these types of plans with a great deal of skepticism and anxiety. In addition, the employer's finance department has significant trouble when trying to forecast the short-term finances of the company, as the future contribution amounts are very volatile; and unfunded liabilities can adversely affect an employer's balance sheet and ability to raise capital.

Who is better positioned to make investment decisions, professionals doing this full time or individuals with other full-time jobs?

In the defined contribution plan environment, the investment risk is passed entirely onto the participants. Therefore, the cost volatility associated with the pension contributions is eliminated in favor of a fixed percentage of payroll or some other fixed amount which is easy for the employer's finance department to forecast. However, the individuals are typically not well prepared for investing on their own and may end up being very conservative with their investments leading to lower long term investment returns. Also, while it is easy for individuals to track their account balance and see the value grow year over year, they have no idea how much they need for retirement, neither in terms of a target account balance nor what that might provide as regular income over their anticipated lifetime. This typically leads to employees working longer to shorten their time in retirement, which can lead to unanticipated expenses such as increased disability claims and increased medical costs. These costs come from an aging workforce since participants do not feel comfortable retiring with no predictable annuity income other than Social Security. In some cases, the participants can transfer some or all of their defined contribution balance into an annuity with an insurance company, but this is likely to be very expensive.

Note that in a defined benefit arrangement, the plan sponsor often bears the investment responsibility with the aid of consultants and professionals with access to high-level information generally unavailable to the larger investing public, and can do so while paying investment-related expenses at what might be referred to as a "wholesale" level. Alternatively, participants investing their own defined contribution accounts generally lack such sophisticated knowledge and experience and must pay investment-related expenses at more of a "retail" level.

Longevity and Mortality Risk – In a defined benefit plan this risk is pooled and reasonably easy to manage. In the past, pension plans would see periodic increases in costs as mortality tables were updated and the models used by actuaries could not forecast mortality improvement. However, with better computer programs and models, actuaries can now account for future mortality improvement which mitigate these periodic spikes in cost, which in the past, would occur every 10 years or so.

Mortality Risk should be pooled where it can be more easily managed!

In the defined contribution plans, the mortality risk is no longer pooled but rather each individual has to defend against their own longevity risk and hope to not run out of money. This is where much of the risk increase comes from (along with lower expected investment returns). Again, the individual could purchase an annuity from an insurance company but this can be very expensive. The participants can offset some of this expense by working longer, saving more, and retiring later as the older they get the lower the cost of a lifetime annuity.

Maturity and Cash Flow Risk – This is probably the most overlooked risk in defined benefit plans. When a pension plan matures, at some point, the money flowing out to pay benefits will exceed the amount of money coming in from contributions. This, in itself, is not a problem as it is expected to occur. The problem arises from not properly preparing for this risk. When plans mature, they need to de-risk some of their investments so they can withstand an economic shock and ensure the ability to pay promised benefits. This was highlighted in 2008 when the stock market plunged and plans had to liquidate shares of investments in a depressed market to raise cash for paying benefits. If these plans were not forced to liquidate investments during the depressed period then when the investments came back, they would have returned to the funding levels they were at prior to the market collapse.

> Planning is key to success when it comes to Maturity!

In defined contribution plans each individual participant must understand and protect their investment on their own, but most participants do not have access to, or interest in pursuing, investment education, which can help them prepare a proper plan.

Solution

> Finally, a logical and reasonable solution to address everyone's concerns.

Until now, there have been few options but some new twists to pension plan designs offer fixes to the traditional design making them more attractive to plan sponsors. The key is the sharing of the above-described risks rather than placing all in the domains of sponsors or participants solely as has been done traditionally. These new designs offer more stability in the contributions by transferring some or all of the investment risk to the participants (like DC plans do) while maintaining professional investment management, maintaining pooled mortality risk and providing lifetime retirement income at more attractive rates than insurance companies provide.

There are two basic types of these new pension plans (loosely referred to as variable, stabilized or adjustable pension plans) which allow plan sponsors to select options that best suit the needs of their participants. One type adjusts the amount of the full accrued benefit each year so the amount you receive during retirement may go up or down each year. The other type adjusts future accruals only so the benefit you have earned is always guaranteed and not subject to change during retirement.

These are both defined benefit pension plans and offer participants life-long retirement security with no worry about outliving their benefits. And, for plan sponsors, the beauty of these plans is that they mitigate the volatility of contributions, so the employer's finance department can more accurately predict future costs.

Variable Benefit Plan

First, we will discuss the variable benefit design where the value of the accrued benefit paid to retirees will fluctuate from year to year.

In this type of plan, the benefit is described as a number of shares rather than a dollar value. The plan tracks a varying share value based on the Plan's investment performance as compared to a pre-defined hurdle rate. Each year the participants accrue additional shares in the plan and during retirement you receive a monthly check equal to the number of shares you have earned times the share value for that period.

When designing this type of plan, the actuary will perform a valuation using a conservative interest rate, typically between 5.00% and 6.00%. This valuation is used to determine the annual cost of benefits. The benefit rate is adjusted until the cost of benefits matches up with the expected contributions to be made to the plan. In addition, an initial Share Value is selected, typically this value starts at a nominal $10.00 or $100 as a baseline (but it really makes no difference what value you start with).

The pension plan formula will have some type of annual amount to be earned like in a traditional defined benefit plan. Let's say that amount is $50 per month per year of service or $600 per year assuming a full year of service. This amount is divided by the Share Value for that year to develop the number of shares earned for the year. So, with the sample numbers provided here, in year one a participant would be credited with 60 shares ($600 annual benefit divided by a $10 share value). As the share value changes each year, the number of shares you earn will vary accordingly. The number of shares you have represents your variable benefit and these accumulate each year as you earn additional years of service.

The valuation rate used is also referred to as the Hurdle Rate. Each year the investment performance is compared to the Hurdle Rate. The Share Value is adjusted each year by the following factor:

$$\frac{(1 + \text{Investment Return})}{(1 + \text{Hurdle Rate})}$$

So, if the investment return is 7.00% for a year and the hurdle rate was 5.00%, then the Share Value would increase by 1.019 (1.07/1.05 = 1.019). Starting with a Share Value of $10.00 we see the following year share value would be $10.19 ($10.00 x 1.019).

The benefit payable is then equal to the number of shares a participant has earned multiplied by the share value. As the share value changes each year, so will the amount paid to retirees and the amount accrued by all other participants.

> Selection of appropriate options will be key in the success of communicating the plan to participants and their acceptance of the plan.

There are options available under the variable benefit plan:

- Retirees may be allowed to convert to a fixed annuity at retirement. While this does forego the plan's ability to provide some inflation protection, it does allow the retiree to budget their retirement expenses to a predictable fixed income which should never decline.
- Retirees may be provided with a guaranteed minimum floor benefit to protect them in the event of a severe downturn in the market.
- Some plans provide for a stabilization reserve to protect retiree benefits from any declines. These plans require annual amendments to determine whether sufficient reserve exists to protect a drop in the benefits and whether the retirees' benefit should continue at the current level if the plan formula called for a drop in the share value
- The plan may use a cap on the investment return rate such that any investment returns above the cap are excluded from the Share Value calculation, which will help build up a reserve and increase the funding percentage of the plan. This reserve can be used to fund a floor benefit or the stabilization reserve.
- During the design phase, the plan may establish the initial cost such that the plan would target an expected funding level of, say, 110% to 120% (to provide additional investment protection)
- The actuary may use a generationally projected mortality table to help ensure that future mortality improvement will not undermine the cost of the plan.

While no guarantees can ever be stated, this type of design provides a lot of risk mitigation related to the investment risks in pension plans. By sharing this risk, using more modern actuarial projection models and valuation models, this design can provide lifetime income protection for retirees without the traditional levels of risk found in typical defined benefit plans.

Variable Accrual Plan

The other type of variable plan is a design in which future benefit accrual rates change based on the funded status of the plan. This is more like a typical defined benefit plan in that the benefit you have accrued is guaranteed and not subject to variability. However, since future accrual rates are based on the funded status of the plan, those accrual rates will change each year. As the participant nears retirement, they will have a clear picture as to what they have accrued and can compare that to their financial needs to plan for retirement.

As we showed in the discussion of the variable benefit plan, the investment results drive the final benefits earned under these types of plans. In the development of the variable accrual plan we focus our attention on the funded status of the plan. In doing this, we not only account for the investment returns but also the impact of mortality and other demographic assumptions as well as other economic assumptions. In the case of single-employer pension plans, we account for the changes to the underlying required discount rates. Note, for multi-employer plans we use more conservative assumptions, but we do not need to address annual changes to the investment assumptions. This ensures the plan maintains proper funding of the pension plan with a fixed pre-determined contribution rate. As before, we maintain pooled mortality risk, professional investment management, stable contributions and life long income protection for participants.

Consider all assumptions, not just the investment return.

In this type of plan the annual benefit accrual is described in much the same way as a traditional pension plan. We have an accrual rate which may be a percent of salary or a dollar amount for each year of service. Each year this rate will be updated to reflect changes to the plan's funding percentage. If the funding level is above the plan's target then the surplus assets will be used to provide for higher benefits. So, in this case, the plan will increase the following year accrual rate. If the funding level falls below the plan's target, then more of the annual contribution is needed to build up the funding level and therefore less is available to provide additional benefit accruals. In this case, the following year accrual rate will decrease to reduce the annual cost of the plan allowing more of the contributions to shore up the funded status of the plan.

It is important to note that your final benefit is the sum of all the annual accruals you have earned and that any reduction or increase in the accrual rate is only applied to the future years. All benefits that are earned under this type of plan are guaranteed and not subject to variability.

When designing this type of plan, the actuary will perform a valuation using a conservative interest rate for multi-employer plans, typically between 5.00% and 6.00%, or in the case of a single-employer plans we use the current segment rates. This valuation is used to determine the current annual cost of benefits. The benefit rate is adjusted until the cost of benefits matches up with the expected contributions to be made to the plan. For discussion, let's assume the accrual rate developed was an annual benefit of $50 per month or $600 per year for each year of service.

At the end of the first year, we determine the expected funded status of the plan based on actual earnings and projected liabilities. If we see that the plan is expected to be underfunded then the plan formula would call for a reduction in the benefit accrual. For discussion, we will assume the accrual for the second year will be $580. At the end of the second year the total accrued benefit is $1,180 ($600 for the first year and $580 for the second year).

As with the variable benefit plan, there are options available under the variable accrual plan:

- Cap on the annual change in accrual rate
- Cap on highest allowable accrual

- Floor on lowest allowable accrual
- Targeted funding percentage (typically 100% to 120%)
- Amortization period to spread out unfunded liability or surplus assets (not greater the IRS required period but may be shorter)
- Interest rates to be used for measuring liabilities

As before, no guarantees can ever be stated, this type of design provides a lot of risk mitigation related to the investment risks in pension plans as well as other risks that are not specifically addressed in other designs. By sharing this risk, using more modern actuarial projection models and valuation models, this design can also provide lifetime income protection for retirees without the traditional levels of risk found in typical defined benefit plans.

Just the FACTS – Our view on what we have seen and heard in the market

In many cases we have seen statements that guarantee certain results with these types of plans. These should be viewed with skepticism, as any guarantee of future performance cannot be made. While it is true that these plans mitigate and spread much of the risk found in defined benefit plans, they typically do not remove 100% of the risk to either plan sponsors or participants. While it may be possible on a theoretical level to eliminate all the risk, administratively it is just not practical to do so.

Some practitioners believe that the options we have described create a plan that cannot be properly valued or settled upon termination. We have a great deal of expertise in these designs and if a question comes up regarding the validity of the plan design, we would be happy to share our understanding of how these plans work and summarize discussions we have had with IRS representatives on these designs.

Many practitioners believe that whatever twist or modification they have made to these plan designs make it superior to all other plans. In our experience with various clients, every plan sponsor and industry have their own issues they need to address. By utilizing all available options and consulting with clients, we believe that customization will bring out the best solution for everyone. Any change to a retirement program is a substantial undertaking and should not be done lightly and plan sponsors should consider all available options so they make the best choice for their participants and of course, seek Fund Counsel’s opinion before making any changes.