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THE FUTURE OF RETIREMENT PLANS: VARIABLE BENEFIT PLANS

A NEXT GENERATION RETIREMENT PLAN MINUS EMPLOYER RISK FACTORS

Companies have a menu of qualified retirement plan options to consider. Most companies, however, think the menu only has two choices:

1. **DEFINED BENEFIT (DB) PLANS,** which have fallen out of favor with most of corporate America.
2. **DEFINED CONTRIBUTION (DC) PLANS,** which have become so widespread that most people know the tax code section 401(k).

These two designs are at polar extremes when it comes to risk-sharing. Cash balance plans have gained some traction, especially among small businesses, as a hybrid design between the two traditional pillars. However, the cash balance design can carry just as many minuses of the traditional DB and DC plans as pluses.

If we truly want to design a best-in-class retirement program, we should try to combine the most positive attributes of the DB and DC platforms into one new plan design. The variable benefit plan does just that.

MANAGING RISKS

Before we get into the nuts and bolts of the variable benefit design, here is a quick review on risks. While there are numerous risks involved with any retirement plan, the three most significant are investment risk, interest risk, and mortality risk.

INVESTMENT RISK

Investment risk involves living with the ups and downs of a volatile market, and deciding where to invest your money. For retirees, investment risk can affect spending and living standards; for employers, investment risk can affect annual costs and funding.

INTEREST RISK

Interest risk can also be thought of as inflation risk since the two move together. For retirees, keeping pace with inflation is always a worry, especially as health care costs continue to outpace general inflation.

MORTALITY RISK

Mortality risk has tremendous implications for retirees in DC plans and sponsors of DB plans. Live too long and you could run out of money; die too early and you've missed out on opportunities. By pooling large groups of people together and applying the law of large numbers, mortality becomes much more predictable.

Traditional DB Plans and Risk

In a DB plan, the employer bears the investment risk. In 2008 when the market crashed, DB plan sponsors saw significant increases in contribution requirements due to lost investment earnings. This led to more plan freezes and companies moving away from traditional DB plan designs.

The current low interest rate environment means that liabilities reported for plans are higher because future promises to retirees are usually tied to bond yields. The combination of low investment returns and high liabilities has been referred to as a "perfect storm" for DB plans with dips in the economy.

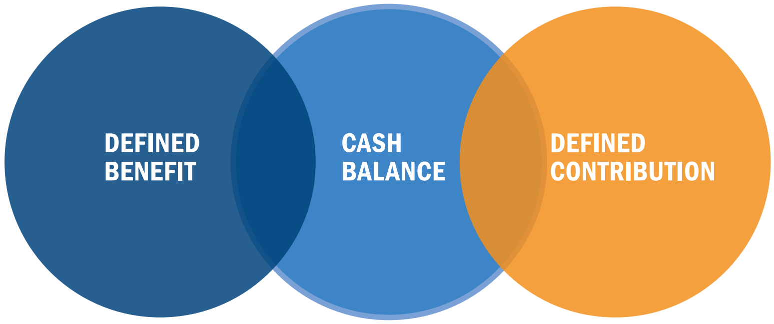
The employer also bears the mortality risk in a DB plan. In fact, most plan sponsors have seen an increase in their liabilities recently as statistics are showing that people are living longer, and employers are recognizing that more monthly payments will be made than initially expected.

Cash Balance Plans and Risk

Cash balance plans do have some risk-sharing, but they often do not share the right risks. The individual participant typically receives a lump sum at retirement and must manage all key risks personally thereafter. The employer manages the plan's investment risk and finds it difficult to hedge against the interest rate risk. For many of these plans, the biggest issues for the employee and employer remain unaddressed.

DC Plans and Risk

Meanwhile, with a defined contribution plan, all the investment risk is borne by the employee. This means not only dealing with the fluctuations of the market, but also the responsibility of trying to invest properly, a task many employees lack the skill or the time to handle effectively. Then there is the fundamental issue of getting employees to save significantly in the first place. Even with the advent of auto-enrollment, auto-escalation, and target-date funds to try to make saving as simple as possible, life gets in the way for too many employees who are paying off student loans, mortgages, and raising children. Interest risk and mortality risk are also on the shoulders of employees to manage. Mortality risk is nearly impossible to manage individually and has led to much discussion with little action to date on annuitizing participants' 401(k) balances.



WHAT IS THE RIGHT BALANCE?

Achieving the right balance is tricky as each group of people has their own set of priorities. The critical issue for retirees is having lifetime income; receiving payments in the form of a monthly annuity, instead of a lump sum of money to manage, is what benefits them the most. From an employer perspective, the investment risk is the biggest danger. Often a market correction is coupled with a recession and employers find themselves having to contribute more to DB plans when they can least afford it.

As DC plans have become dominant, the idea of someone's benefit decreasing is not the taboo that it was 20 years ago. A big complaint against DB plans by plan sponsors is the volatile funding pattern and funded percentage that fluctuates with investment returns and interest rates.

A Variable Benefit Plan as the Solution

A variable benefit plan is similar to a traditional DB plan, except that the investment risk and positive return is owned by the employees and not the plan sponsor. The plan sponsor defines an accrual rate (i.e., how much benefit is earned each year), usually a percentage of current year pay payable as an annuity at normal retirement. The plan sponsor also defines a "hurdle rate;" that is, the benchmark for asset returns, usually between 5% and 7%. The actual asset return for the year is compared to the hurdle rate.

If the asset return equals the hurdle rate, there is no adjustment to the participant's accrued benefit. If the asset return exceeds the hurdle rate, accrued benefits are increased proportionately. If the asset return is below the hurdle rate, accrued benefits are decreased proportionately.

The first questions that most people familiar with pension plans ask is, "Is that legal? Can an accrued benefit decrease?" The answer is yes, it is legal. While not widespread, this plan design is already being used in the US with approved Determination Letters from the IRS. It is also important to note that as long as the hurdle rate is at least 5%, the plan is not considered a "statutory hybrid plan" per final IRS regulations and thus would be exempt for those special rules.

> "IS THAT LEGAL? CAN AN ACCRUED BENEFIT DECREASE? THE ANSWER IS YES, IT IS LEGAL."

How Does this Work?

Let's put this in an example to show how the benefit adjustments work. For this example, let's assume the hurdle rate is 6%. For simplicity, we are not going to add new accruals just yet (as would be the case for a deferred vested participant or someone no longer in an eligible class of employees).

Age	Year	Accrued Benefit	Asset Return for Year
50	2016	$500.00	6%
51	2017	$500.00	0%
52	2018	$471.70	15%
53	2019	$511.75	10%
54	2020	$531.06	

Each benefit is the prior year's benefit adjusted by the actual return and divided by the hurdle rate (6% in our example). The participant has accrued a $500 per month benefit at age 50. During 2016, the asset return is exactly the hurdle rate of 6%, so no adjustment is made at age 51. In 2017, assets didn't grow, so at age 52 we need to adjust the benefit downward to reflect that the 6% target was not met. As often happens in the stock market, a bad year is followed by a good year and the assets earn 15% in 2018. The accrued benefit increases as follows:

$471.70 x 1.15 / 1.06 = $511.75

Taking the same example and applying it to an active participant earning service under the plan adds a step. We will assume the accrued benefit grows by 1% of pay for each year.

Age	Year	Accrued Benefit	Asset Return for Year	Pay for year	Accrual (1% of pay/12)
50	2016	$500.00	6%	$40,000	$33.33
51	2017	$533.33	0%	$41,000	$34.17
52	2018	$537.31	15%	$42,000	$35.00
53	2019	$617.93	10%	$43,000	$35.83
54	2020	$677.08			

EUREKA! STABLE COSTS IN A DB PLAN!

In these examples, the plan sponsor never pays an additional cost because of asset performance. When the benefits increase in a good year, it is only because the assets grew. Conversely, when there was a down year, benefits did not increase and the employer did not incur a spike in contributions. Consequently, we have eliminated a major source of volatility in required funding.

Even if this is True, Do I Still Have to Pay Big Premiums to the PBGC to Sponsor a DB Plan?

The variable benefit plan is a DB plan and is subject to Pension Benefit Guaranty Corporation (PBGC) premiums. However, the major portion of the premiums paid by current traditional DB plan sponsors is in the "variable rate premium" portion. The variable rate premium is a percentage of the amount of underfunding for the plan. Thanks to three different Congressional actions, this premium, which was less than 1% just a few years ago, is scheduled to increase to over 4% of the underfunding of the plan in a few years. But with the variable benefit design, the plan will always be very close to 100% funded because there is no investment risk by the sponsor. A plan with no underfunding does not pay variable rate premiums!

Best of Both Worlds

This white paper is designed to give a high-level overview of the major reasons why a variable benefit plan design is a far superior option to the traditional DB and DC programs that dominate the retirement landscape in the US. To summarize and emphasize all the positives of the variable benefit plan design, here is a chart comparing all three designs.

Favorable Plan Feature	Traditional DB	DC	Variable BP
No PBGC Variable Premiums		✓	✓
No Investment risk for plan sponsor		✓	✓
No Interest rate risk for plan sponsor		✓	✓
Employees don't manage money	✓		✓
Mortality risk borne by plan sponsor	✓		✓
Stable contributions to plan		✓	✓
Reward long term employees	✓		✓
Most administrative fees paid by participants		✓	✓
Inflation protection for participants		✓	✓

In the Weeds.... If You Want to Know

Any sponsor of a traditional DB plan agrees that liabilities are inflated because of the historically low interest rate environment that has persisted this decade. The variable annuity plan also solves the volatility issue on the liability side for sponsors as well! The key to this effect is to set your assumptions appropriately by making your expected rate of return in this scheme equal to your discount rate. Sorry, but a little bit of algebra is required here to prove this point.

Recall that a liability is the present value of the benefits payable to the participants in the plan in the future. The actuary determines the present value of the benefits payable at normal retirement for each participant, which is the accrued benefit affected by all the future asset return rates and all future hurdle rates.

$$\text{PRESENT VALUE} = \frac{\text{ACCRUED BENEFIT} \div \prod(1+\text{RETURN})}{\prod(1+\text{HURDLE RATE}) \times \prod(1+\text{DISCOUNT RATE})}$$

Okay that looks intimidating but hang in there... now if we assume that our asset return equals our discount rate, those terms cancel each other out. What we are left with is simply:

$$\frac{\text{ACCRUED BENEFIT} \div \cancel{\prod(1+\text{RETURN})}}{\prod(1+\text{HURDLE RATE}) \times \cancel{\prod(1+\text{DISCOUNT RATE})}}$$

$$\boxed{\text{PRESENT VALUE} = \frac{\text{ACCRUED BENEFIT}}{\prod(1+\text{HURDLE RATE})}}$$

Keep in mind that the hurdle rate is determined in the plan document and chosen by the plan sponsor when the plan is set up. This is a known and stable number from year to year. Therefore, we have eliminated the volatility in costs that traditional DB plan sponsors have had to endure forever.

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