

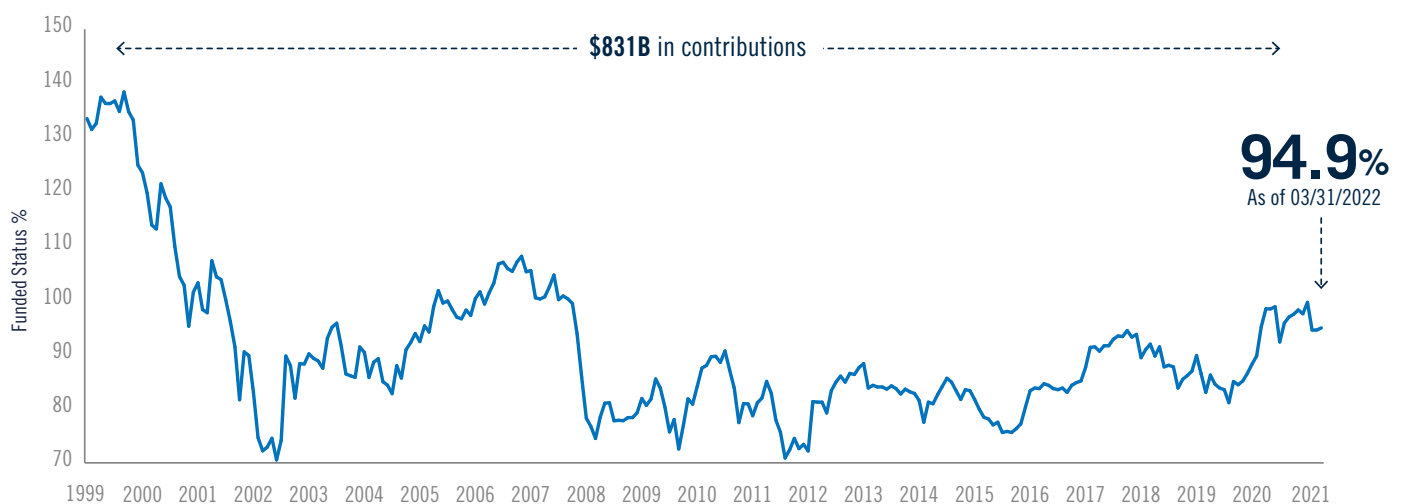
HIBERNATION'S WAKE-UP CALL

*Why annuitization can be the better
approach to manage pension risk*



A pension plan is a non-core business with significant costs and risks. Over the last 22 years, when looking at just the 100 largest U.S. pension plans, there have been over \$800 billion in cash contributions. Yet, despite significant contributions and favorable equity market returns, funded status has not meaningfully recovered from the low of the financial crisis at the end of 2008. With COVID-19 casting uncertainty over global markets and communities, it's especially important for corporations to consider the often misunderstood characteristics of their pension plan.

This paper explores the substantial hidden costs and risks inherent in a pension plan with a focus on the cost and risk associated with credit defaults and downgrades.



Source: Milliman 100 Pension Funding Index; the 100 largest U.S. corporate pension plans, March 31, 2022.

THE ADVICE TO “AVOID THE PREMIUM TO EXIT” IS A MISNOMER AND IGNORES HIDDEN PENSION PLAN COSTS

Companies create the most value for shareholders when they focus on their core business and eliminate unrewarded cost and risk. A pension plan is a clear distraction from a company's core business, and with limited ability to take out surplus assets the downside risk greatly outweighs the upside potential. That's why as funded status improves, a plan exit would be the natural progression to maximize long-term shareholder value. But often the advice is to “avoid the premium to exit” and “hibernate the plan” yourself, contradicting value creation for shareholders.

Corporate pension plan sponsors carry their pension liability on their balance sheet (i.e., the Pension Benefit Obligation (PBO)). PBO is the present value of benefit payments owed to plan participants as calculated by an actuary, who makes assumptions for how long people will live, when they will retire, etc. While PBO may seem like a logical measure for the present value of a pension liability, there are significant costs associated with running a pension plan that are not captured in a PBO, including:

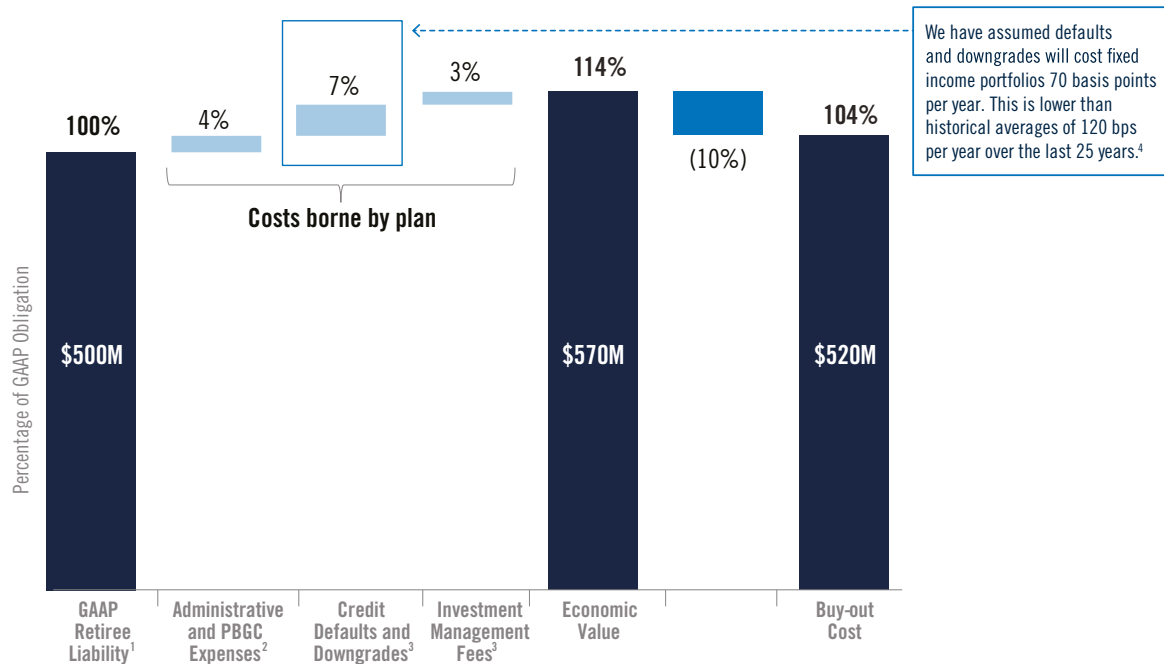
- Administrative costs to run the plan
- PBGC premiums*
- Investment management fees
- Credit defaults and downgrades

These additional direct expenses associated with retaining a set of retiree pension liabilities in a corporate plan can increase the economic payout by up to 14% (depending upon the population and funded status). Said differently, pensions are a long-term account payable which is held at a significant discount to its economic cost. These costs slowly divert resources away from the sponsor and shareholders and are not disclosed or considered in the accounting estimate of the liabilities.

By comparison, according to the Aon Annuity Purchase Tracker, annuity purchases for retirees only cost between 101% and 104% of PBO in 2018 and the premium charged covers all these costs and eliminates the risks for the plan and plan sponsor.

*The Pension Benefit Guaranty Corporation is a U.S. federal governmental agency that guarantees the “basic benefits” a pension beneficiary earned before his/her pension plan's termination date (whether as a result of the beneficiary's employer's bankruptcy proceeding or otherwise) up to legal limits set by Congress.

Evaluating a Retiree Pension Buy-out

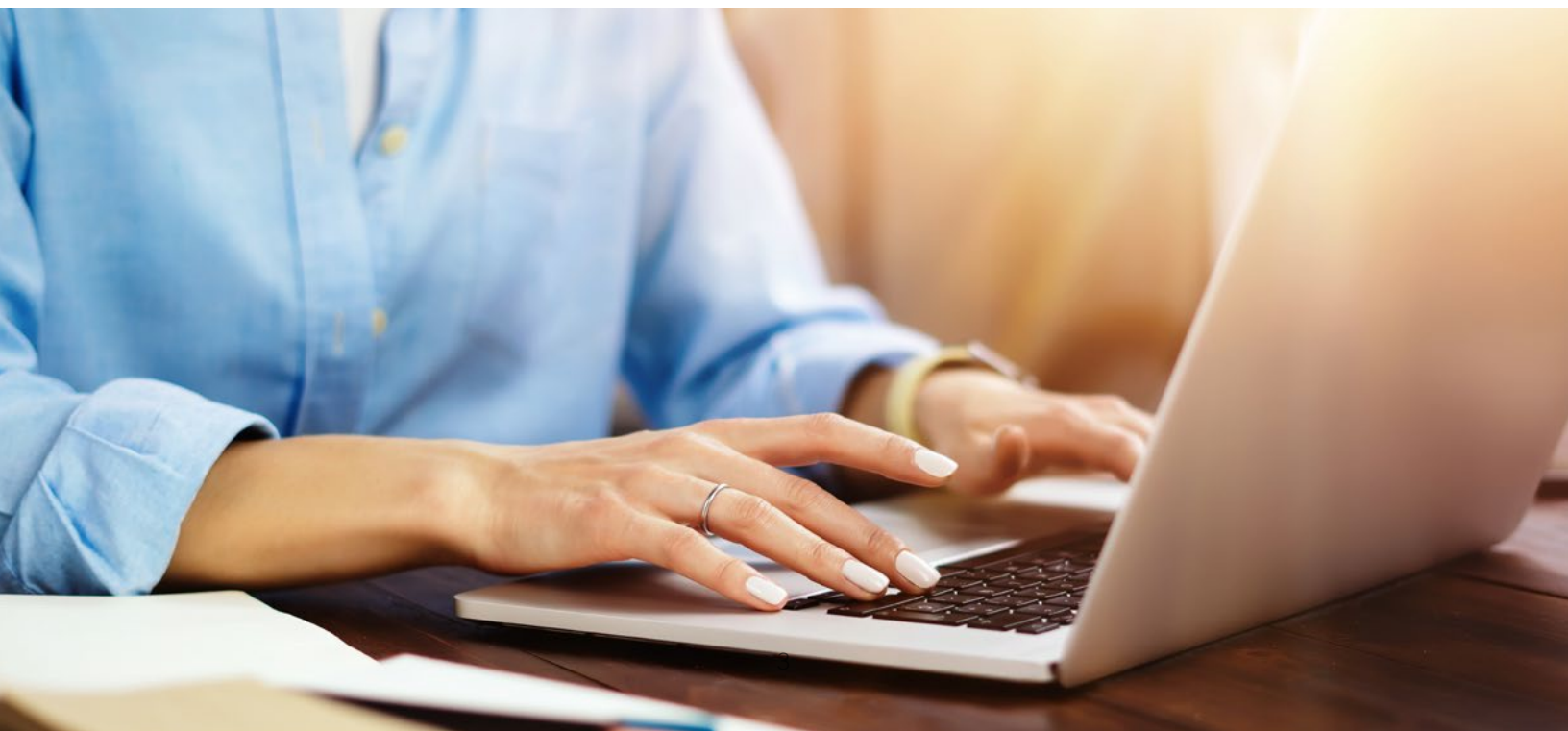


¹ GAAP liability reflects RP-2014 mortality table with MP-2018 and FTSE Pension Discount Curve.

² Costs not included in the GAAP retiree obligation include per person administrative expenses of \$40 per year indexed for inflation and PBGC per person expenses of \$83 in 2020, and indexed thereafter, plus PBGC variable rate premiums of 4.50% with a cap of \$561 per person in 2020 and indexed with inflation thereafter. Funded status for variable rate premium assumed to be 85%.

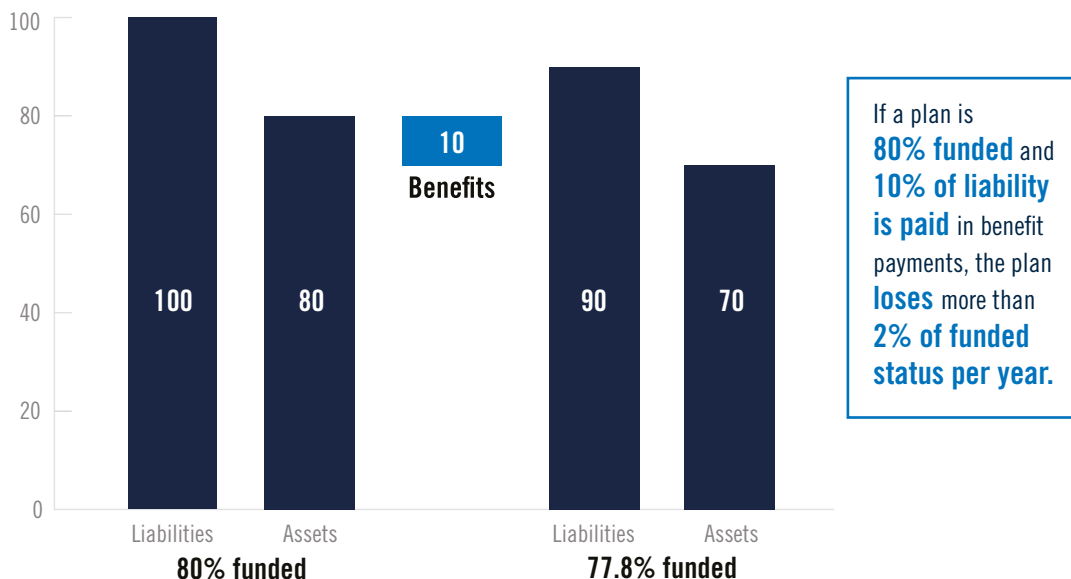
³ GAAP obligations are discounted using rates unadjusted for the risk of credit defaults and migrations and investment management fees. These are assumed to be 70 and 30 basis points per annum, respectively, based on Prudential estimates.

⁴ Prudential calculations.



Additionally, a plan that is less than 100% funded has the additional drag on funded status of paying out benefits at 100 cents on the dollar. For example, if a plan is 80% funded and 10% of liability is paid in benefit payments, the plan loses more than 2% of funded status per year. See our paper *“Take Bold Steps to Fund and Meaningfully Reduce Liabilities”* for more on this topic.

Paying Benefits Causes Drag on Funded Status

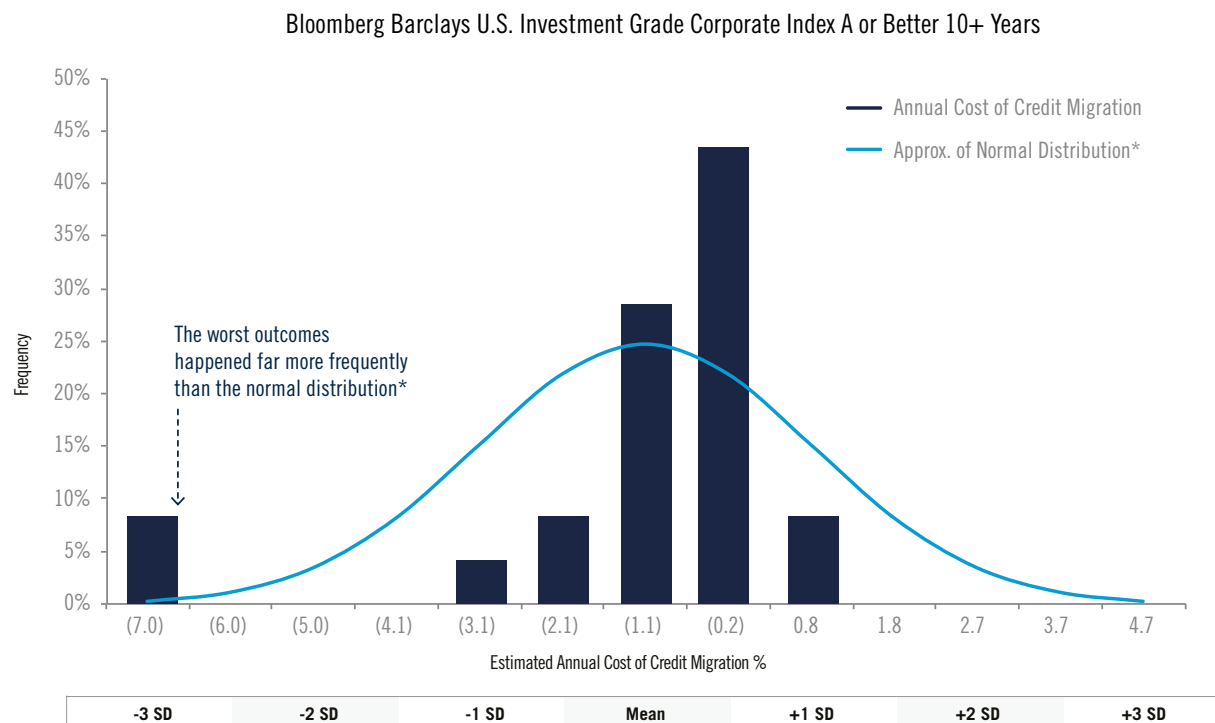


THE ADVICE TO “HIBERNATE THE PLAN YOURSELF” FAILS TO IMMUNIZE AGAINST RISK

There are considerable risks to running a pension, even when a plan is hibernated through a Liability Driven Investment (LDI) program. A hibernation strategy offers more protection than a traditional asset mix containing a large allocation to return-seeking assets but is not, by itself, the effective hedge many think it is, because defaults and downgrades can greatly exceed expectations.

Credit migration represents significant tail risk to a pension plan's funded status. This tail risk is not addressed in most hibernation standard asset allocation approaches, which are implemented to reduce risk in a normal distribution environment. As a result, hibernation strategies may be reasonable hedges for moderately stressful changes in interest rates and for expected credit migration. However, hibernation strategies are poor hedges against more severe credit risk events.

Estimated Annual Cost of Credit Migration (1994–2018)



Source: Barclays POINT, PGIM Fixed Income. As of December 2018.

* Normal distribution with same mean and standard deviation as the annual estimated cost of credit migration. For illustrative purposes only. Estimates are not actual and may vary.

Another challenge arises in the disconnect between the way pension liabilities are valued and the reality of managing an actual portfolio. Plans use a AA yield curve to discount liabilities. When a bond in the index used to create the yield curve gets downgraded, it's simply removed from the index. The yield for downgraded bonds is usually higher than the rest of the index, as the market typically begins devaluing a bond before a downgrade. When removed from the index, the downgraded bond causes a decrease in the discount rate and an increase in the liability. At the same time, the downgraded bond in the portfolio lowers a plan's market value of assets. The decrease in market value of assets compounded by an increase in the liabilities is an unhedgeable risk referred to as "basis risk."

When a bond is downgraded and removed from the index, the discount rate drops and liabilities increase while market value of assets decreases

After Downgrade

Discount Rate



PBO



Asset



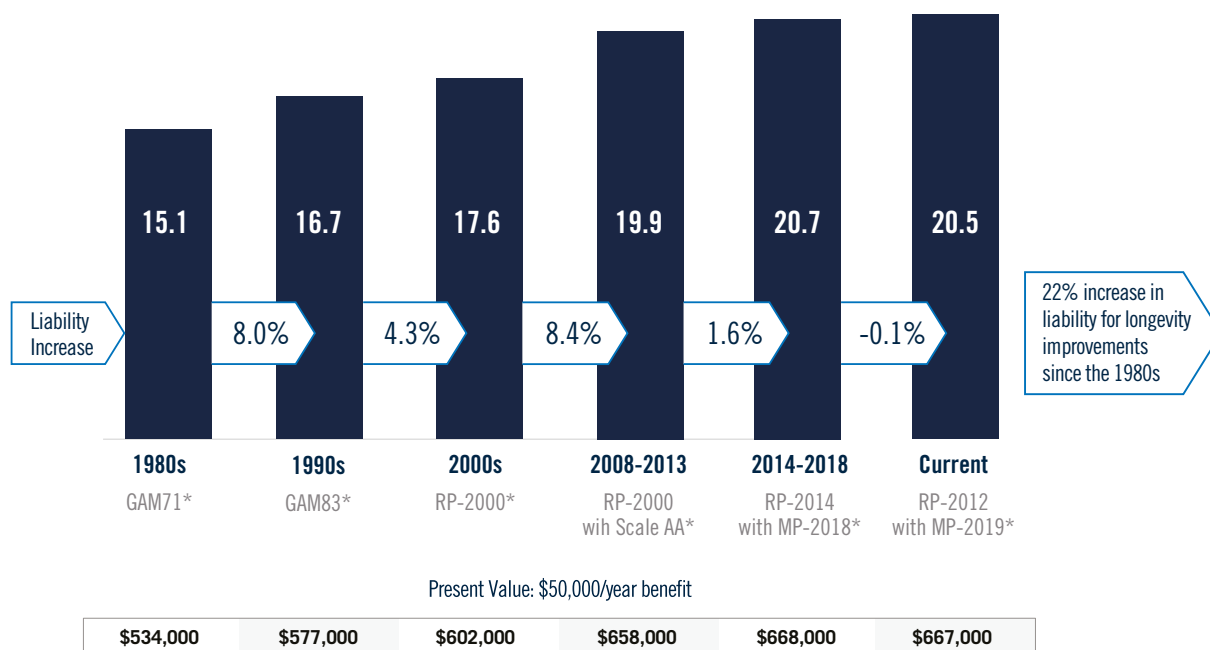
Funded Status



Additionally, hibernation strategies do not offer protection for longevity risk, regulatory risk, or convexity risk:

- Longevity risk can cause significant increases in benefit payments and PBO if people live longer than expected. A one-year increase in life expectancy, for example, could increase PBO by 3-6%. Despite recent decreases in expected longevity improvement, the long-term longevity uptrend is clear. See our paper *“Getting Out With a Buy-in”* for more on this topic.

65-year-old Male Life Expectancy



Present value based on a single life annuity of \$50,000 per year, using a 5% discount rate

*Source: Society of Actuaries Mortality Tables, mort.soa.org

- Regulatory risk can greatly increase costs to the plan sponsor if contribution requirements or PBGC premium amounts were to change. PBGC premiums have risen every year since 2012, from \$35 per participant and \$9 per \$1,000 of unvested benefits to \$88 per participant and \$48 per \$1,000 of unvested benefits, causing an ever-increasing drag on returns.
- Convexity causes greater-than-expected swings in liability for large movements in interest rates, and is rarely managed. A 100 bps decrease in interest could increase a plan's PBO by 10-50 bps above expectation.¹

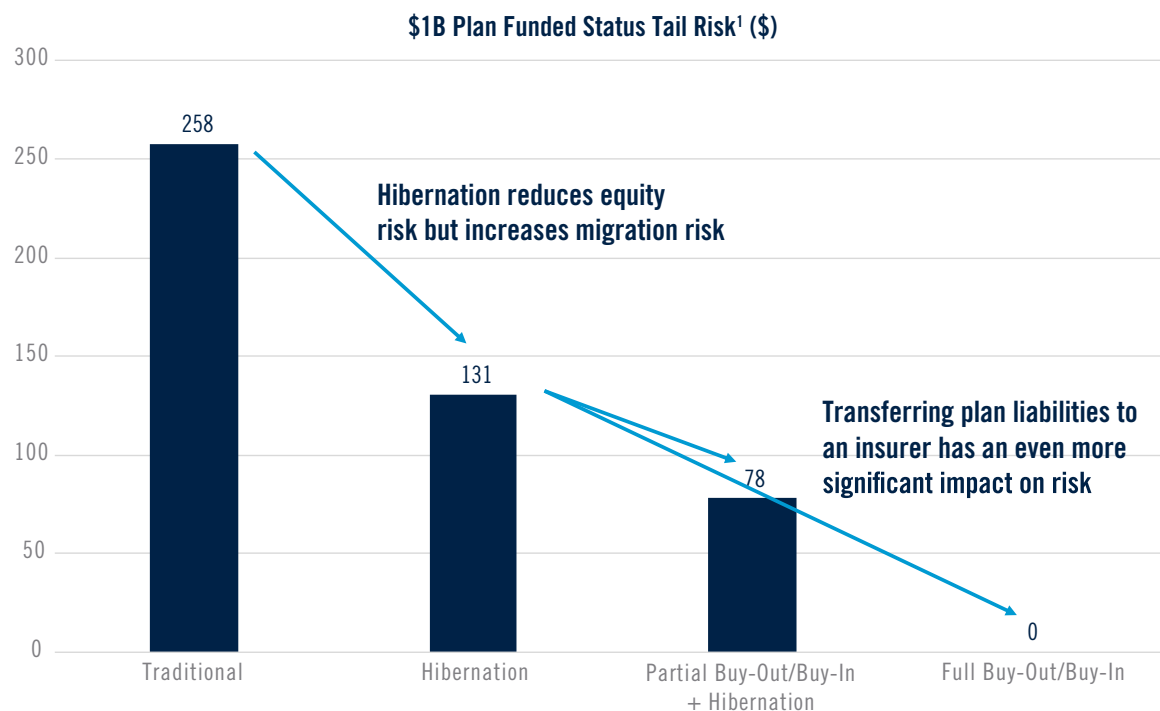
Overcoming the risks and costs is essentially impossible with a passive, index-oriented hibernation strategy. An active strategy may fare better, but naturally at a higher investment management cost and the needed alpha generation is not guaranteed.

¹ Prudential calculations

SCENARIO: 1-IN-100 EVENT

We've seen how the expected cost of credit migration is not captured in PBO, ignoring a significant cost, and mentioned how a market event beyond expectation could be even more impactful. To estimate that impact, consider as an example a severe (1-in-100-year tail risk) market event like the Great Depression or the 2008 Financial Crisis. Such a scenario would not impact a plan sponsor at all if liabilities were transferred to an insurer before its occurrence. However, that same event could be painful to a plan sponsor if liabilities were retained—even if that sponsor had implemented a hibernation strategy. A \$1 billion pension plan supported by a \$900 million asset portfolio using a hibernation strategy still has an additional \$131 million of funded status downside risk from capital markets alone. While convexity risk was modeled, this figure does not take additional risks such as longevity risk or regulatory risk into consideration.

Hibernation Strategies Do Not Eliminate Market Risk



¹ The severe (1-in-100 level) market event represents approximately a 1.25% decrease in interest rates, a 45% decrease in equities, defaults on 3%–12% of corporate bonds based on credit quality and tenor, and corporate spreads widening by 1%–12% based on credit quality and tenor. Assumes full plan has \$1B in liability at 13 duration and \$900M in assets, and \$500M in liability at 15 duration and \$450M in assets post partial buyout. Traditional asset mix assumed to be 50% equity/50% fixed income, hibernated asset mix assumed to be 10% equity/90% fixed income. Hibernated fixed income assumed to invest 30% in AA, 60% in A and 10% in BBB.

WAITING IS THE TRUE COST

Many U.S. pension funds bear the burden of significant credit risk, material administrative expenses, and astronomical PBGC premiums. We continue to believe there is significant value in implementing a hibernation strategy for many plan sponsors; in particular, when combined with or in advance of a pension buyout. That's why an LDI strategy may be the most important step on the road to a lower risk future; but it is just that—a step. A hibernation (or LDI) strategy does not protect a plan sponsor from credit risk events or other downside risks. It also doesn't remove the substantial hidden costs inherent in a pension plan. Most plans will need and want to go further. The only effective way to eliminate the substantial risk and expense inherent in maintaining a pension plan is to transfer all risk involved to an insurer.



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