

# An enlightened pension endgame?

## Taking a more reasoned approach to risk

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**Defined benefit (DB) pensions are not simply a costly relic from an earlier age of retirement planning.** Examined closely, traditional pensions reveal a capacity to deliver valuable retirement benefits to employees, along with tangible financial benefits to plan sponsors. Years ago, these notions were commonplace, but two decades of funding volatility and costly recapitalization efforts have erased plan sponsors' collective memory of the value in maintaining a DB pension.

Reimagining a bright future for DB plans should not be hard, but sponsors must take the first step by shedding conventional wisdom and recognizing the intrinsic value of an overfunded plan. In most cases, a few modest changes would suffice to make that goal a reality. Many pension practitioners would need to make only slight adjustments to their plans' de-risking glide paths and investment portfolios to arrive at an accretive, low risk strategy. For practitioners that have already closed and frozen plans in anticipation of their eventual termination, serious consideration should be given to reopening a DB plan alongside an existing defined contribution (DC) plan.

In this paper, we provide a new framework for the pension endgame, one in which the accrual of value inside the plan supports participants while preserving optionality at the sponsor level. This framework relies on three key principles: first, that virtually any sponsor can realize tangible value from a pension surplus; second, that asset allocations can be structured to seek to deliver returns in excess of liability growth, with low risk; and third, that a DB plan offers benefits that cannot be easily replicated elsewhere. We will walk through each of these principles in depth, offering our rebuttal to the argument that the DB era is over.

### Part 1: Adapting pension strategy to surplus funding

#### Pension plan de-risking: Final destination or just a layover?

For many years, pension funding has—rightly—been the dominant factor in determining investment strategy. But many plan sponsors seem to think that this relationship operates in only one direction and that funding improvements must always be accompanied by de-risking into liability-driven investing (LDI) strategies as a precursor to eventual plan termination. The flaws in this notion are becoming increasingly apparent as more sponsors reach full funding and move into a position of surplus. Instead of viewing the surplus as an accident that resulted from a failure to de-risk, sponsors are beginning to appreciate the benefits that the surplus provides.

#### Authors



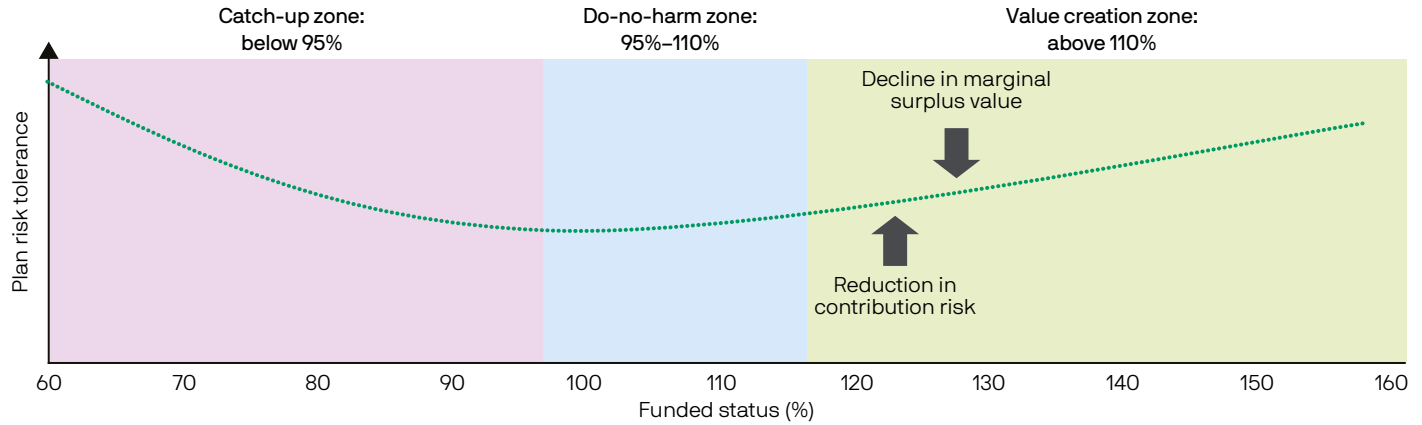
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## Risk tolerance may increase as a surplus grows

EXHIBIT 1: RELATIONSHIP BETWEEN RISK TOLERANCE AND SURPLUS VALUE



Source: J.P. Morgan Asset Management. For illustrative purposes only.

In our framework, plan funding moves through three broad stages: the catch-up zone, the do-no-harm zone and the value creation zone. **Exhibit 1** illustrates the relationship between plan funding and risk tolerance across these three zones.

### The catch-up zone

When a plan is underfunded, we can make a straightforward case for taking on investment risk relative to liabilities. Over time, the excess returns will help recapitalize the plan. In essence, operating a pension fund with a deficit is a little like walking up a down escalator: Unless one is able to walk faster than the speed of the steps, progress is impossible, despite the energy expended.

Paying off liabilities from an insufficient pool of assets could be considered the real-world equivalent: With each payment, a plan's funded status gap grows a bit bigger. A natural response would be to increase asset returns—at least enough to cover the drag from benefit payments—and usually by a sufficient margin to improve funding over time. Some additional level of risk in the form of surplus volatility might be unavoidable, but it could be managed through thoughtful portfolio construction.

### The do-no-harm zone

As a plan nears full funding, reducing asset-liability risk is a rational choice. There are regulatory, financial and psychological benefits that derive from a plan being fully funded, and it makes sense to limit funding volatility to reduce the risk of falling back below this important marker. But the targeted minimum level of risk should not be zero, nor should it be permanent.

As we have explored in previous papers,<sup>1</sup> it is unrealistic to de-risk a plan completely. Some risks—in particular, the extension of longevity across time—cannot be hedged with financial assets. Other risks, such as financial losses from downgrades and defaults within the hedge portfolio, can be reduced (but not eliminated) via active management. The solution is straightforward: Accept that a limited amount of risk is unavoidable, even when a plan is close to the 100% threshold, and preserve sufficient return-generating assets to reach a funding level at which short-term volatility concerns fade away.

### The value creation zone

In the pension endgame, targeting a significant surplus is a reasonable response to the economics of pension

<sup>1</sup> Jared Gross and Michael Buchenholz, "Rethinking the Pension Plan Endgame," October 2021, "The Roadmap to Pension Stability," March 2022, and "Pension Defrost," January 2023, J.P. Morgan Asset Management.

risk, and it acknowledges the real-world opportunities to capture value from that surplus. Not all sponsors will be in a position to pursue surplus value in equal measure, but there is always some benefit to reaching and maintaining a surplus. This is doubly true for open plans with healthy levels of liability accrual, where the need to accumulate a surplus is matched by the need to earn returns that can offset service costs.

As plan funding improves, moving higher into surplus territory, traditional arguments in favor of de-risking reverse. Overfunded plans can efficiently take on a measured amount of surplus risk in exchange for stable returns. Concerns about short-term volatility fade as the surplus provides a growing capital cushion, and the normal business of paying benefits now adds to the funded status. To return to our earlier analogy, the escalator is now moving in the right direction.

### Surplus pension economics

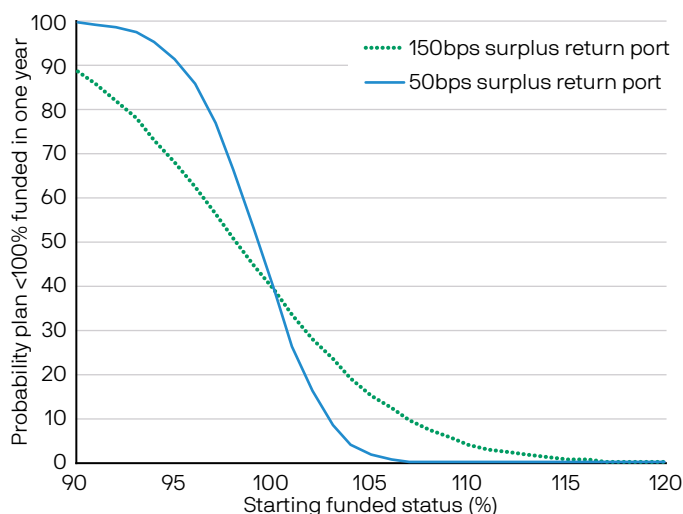
In previous papers, we discussed the inefficiency of so-called hibernation strategies, as well as the high embedded costs of a pension risk transfer (PRT). As an alternative, we proposed increasing asset allocation efficiency via a more diversified, or “stabilized,” approach capable of outperforming the plan’s liability across time.

As potential paths to achieving a surplus, hibernation and stabilization are fundamentally opposed. After all, how can a plan achieve a surplus if it fully de-risks as soon as it reaches full funding? It cannot. For plan sponsors, accepting modestly higher risk to achieve a surplus can be justified, given the value of the surplus, and the exercise brings an added benefit: The strategy becomes less risky over time as the surplus builds.

During the period when a plan is passing through what we call the do-no-harm zone, sponsors are likely to place a premium on avoiding a return to underfunded status. Given this expectation, we can evaluate different strategies with respect to the risk they pose of forcing a plan back below 100% funding. **Exhibit 2** illustrates the relationship between two important variables: the level of initial funding (at a specified point in time) and the portfolio risk (measured as the probability of becoming underfunded over a one-year time horizon).

### Lower risk/return portfolios require a smaller surplus to buffer contribution risk

EXHIBIT 2: EVOLUTION OF RISK FROM DEFICITS TO SURPLUS



Source: J.P. Morgan Asset Management; data as of September 30, 2023. For illustrative purposes only. Actual account allocations and characteristics may differ.

The chart provides a number of interesting takeaways:

- When underfunded, the plan following the more conservative strategy, which targets just 50 basis points (bps) of excess return over liabilities, has virtually no chance of ending in surplus and shows a 100% probability of remaining underfunded. A plan following the riskier strategy, which targets 150bps of excess return, has at least some chance of improving to 100% funding. Clearly, a plan that de-risks too soon will find it very difficult to improve its status.
- At exactly 100% funding, the strategies have nearly identical chances (approximately 40%) of falling below full funding over a one-year horizon. This makes sense, as both approaches are biased to outperform, but at precisely 100% funded, the margin for error is small.
- The low risk strategy requires approximately 105% funding to effectively eliminate the risk of a deficit. If a pension were to adopt this strategy when a plan achieved full funding, reaching 105% funding might take quite a long time.
- The higher volatility strategy requires funding closer to 115% to fully remove the possibility of a deficit.

Why would a sponsor choose this strategy? First, it has a reasonable chance of actually reaching its funding target; second, long before the strategy reached 115% funding, the level of risk would decline markedly while the strategy maintained its upside return potential.

Ultimately, the choice of approach depends on two factors: how much value the surplus offers beyond its role as a cushion against underperformance, and the ability of the plan’s investments to outperform liabilities with low risk over time.

### Assigning value to a pension surplus

Sponsors that choose to put their plans into hibernation at very low levels of surplus funding are implicitly accepting that a surplus has no value. However, it is increasingly apparent that they have been misinformed and that the potential value of a surplus is actually much higher than they believe. To be fair, the de-risking glide paths that many sponsors now follow were created in an era of severe underfunding. At the time, exploring the nuances of how best to capture surplus value was not a focus because it was such a distant prospect.

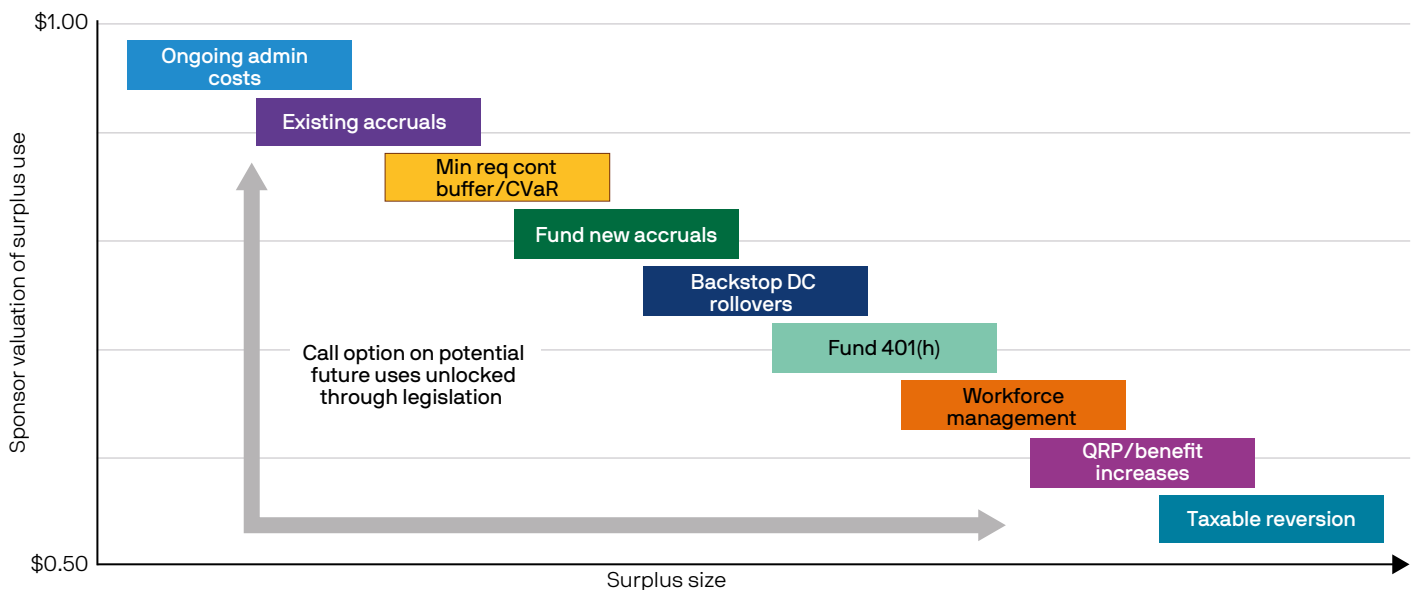
That said, there is no penalty today for reconsidering the parameters of an outdated glide path and adapting it to reflect a more complete understanding of surplus economics. Many sponsors are doing exactly that: rewriting their glide paths to target a slower pace of de-risking, a higher level of terminal funding and a permanent role for diversified portfolio strategies. This shift reflects a willingness to assign a positive value to the current—and future—uses of a surplus.

**Exhibit 3** describes a “waterfall” of possible uses for a hypothetical plan sponsor’s surplus. The highest value is to pay for what the plan already owes at 100 cents on the dollar, including service accruals, ongoing administrative expenses and Pension Benefit Guaranty Corporation (PBGC) flat-rate premiums. Assuming the surplus accrues from asset returns (and not voluntary contributions), the sponsor can effectively cover these costs for free.

Another high value use case for surplus funding is to deploy it as a buffer against negative demographic impacts and/or market shocks that might otherwise translate into contribution requirements. These risks are not purely hypothetical. Even a fully hibernated

### The marginal value of a surplus evolves as it grows

EXHIBIT 3: HYPOTHETICAL SOURCES OF VALUE IN A PENSION SURPLUS



Source: J.P. Morgan Asset Management. For illustrative purposes only.

portfolio retains some residual risk relative to the liability, and in an extreme left-tail scenario this risk could result in a funding loss in the range of 5%–7%.

Beyond funding existing costs and buffering prevailing risks, the surplus can serve as a storehouse of value that sponsors can access at their discretion to fund retiree medical liabilities, backstop DC plan rollovers, finance mergers and acquisitions or potentially reinstate accruals for a frozen plan, among other benefits.

We believe sponsors may also benefit from a more hypothetical, but still positive, option value from future regulatory flexibility. As more DB plans enter surplus status, the legislative pressure to unlock greater value from those plans will inevitably increase. While there is certainly no guarantee anything will change—and the so-called option may expire worthless—a cursory look at the past 15 years of relevant legislation suggests that government officials are amenable to accommodating retirement plan sponsors.

Are there any scenarios in which the surplus has effectively zero value? No. Despite the widely held belief that the excise tax on reversions<sup>2</sup> charged by the Internal Revenue Service (IRS) will ultimately capture a pension surplus, it is quite easy to avoid that fate. Only a sponsor reversion can trigger the imposition of the excise tax—and, of course, any such reversion is ultimately at the behest of the sponsor. Furthermore, when a reversion coincides with the introduction of a qualified replacement plan (QRP) and/or benefit increases, the effective excise tax rate drops to 20% or less. As a result, even this supposed worst-case scenario holds the prospect of delivering real value.

## Part 2: Considering the value of pension risk transfers

### Should pensions be shrinking their balance sheet or keeping it?

As more and more pension plans cross the line from deficit into surplus, sponsors confront another choice beyond portfolio allocation. They must consider the

possibility of settling the pension liability with an insurance company. Frequently, these decisions center on financial accounting, in which the insurance company's quote is compared to the current carrying value of the plan. But this calculus ignores a critical component: Transferring a pension balance sheet (both assets and liabilities) to an insurance company does not just remove the pension at its current valuation; it may also eliminate its future growth in value.

To understand what plan sponsors are truly giving away in a PRT transaction, it is helpful to analyze why life insurers are so keen to take on pension risk and how they expect to generate positive value from doing so. Because it turns out that sponsors are more than capable of generating equivalent or higher levels of value by keeping the pension upside for themselves and their employees.

### Insurance vs. pensions

The PRT business is attractive to insurance companies for two main reasons. First, insurers believe that they can invest to outperform liabilities meaningfully across time. This is the case even though they operate within a highly constrained set of capital rules and solvency regulations that substantially limit their access to the full investment opportunity set. Second—and specifically in the case of insurers owned by private investment firms—the insurance balance sheet provides a captive source of permanent capital for which the parent firms can originate products that generate fee income. We address each of these issues in turn.

Insurance regulations and capital rules have a significant impact on the construction and efficiency of insurers' investment portfolios. In practice, insurance companies have a strong preference for rated securities across public and private markets that carry modest capital charges. Higher returning public and private asset classes are treated relatively punitively, leading to diminished usage. Given this regulatory dynamic, it should come as no surprise that a pension fund, operating without any similar constraints beyond prudent portfolio construction, can do far better.

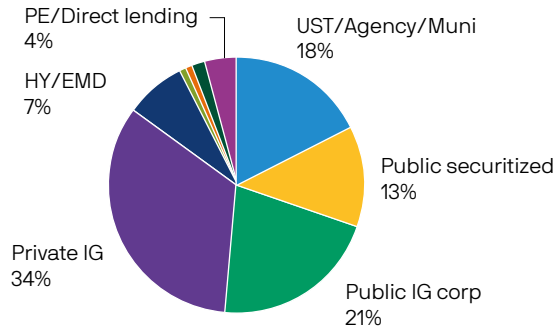
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<sup>2</sup> A reversion refers to the amount of cash and other property received directly or indirectly by an employer from its sponsored, qualified pension plan.

**Regulations preclude insurers from holding more efficient “pension stabilization” portfolios**

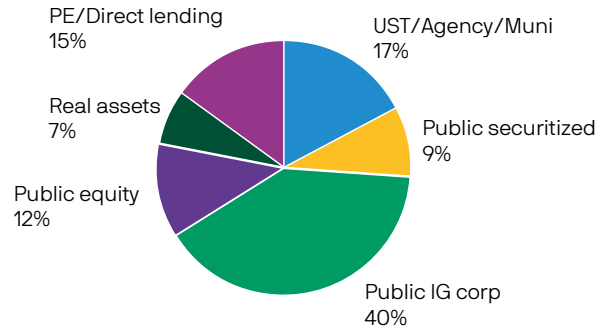
**EXHIBIT 4: TYPICAL LIFE INSURER GENERAL ACCOUNT VS. HYPOTHETICAL PENSION STABILIZATION**

**4A: LIFE INSURANCE GENERAL ACCOUNT**



Expected return (%)	5.6
Surplus return (bps)	65
Surplus volatility (%)	3.6
Rate hedge ratio (%)	93
Worst quarter GAAP funding Δ (%)	-12.5
Risk-based capital (% of assets)	1.3

**4B: ILLUSTRATIVE PENSION STABILIZATION**



Expected return (%)	6.7
Surplus return (bps)	175
Surplus volatility (%)	3.6
Rate hedge ratio (%)	100
Worst quarter GAAP funding Δ (%)	-4.3
Risk-based capital (% of assets)	7.2

Source: SNL, J.P. Morgan Asset Management; data as of June 30, 2023. Contribution to risk-based capital from investment net of diversification benefits. For illustrative purposes only. Actual account allocations and characteristics may differ.

**Exhibit 4** illustrates this point. We start with the general account holdings of a typical insurance company active in the annuity marketplace and compare the insurer’s hypothetical portfolio model with that of a typical pension fund. Starting from the implied surplus volatility of the insurance portfolio, we then construct a pension strategy with the same level of risk. Our possible conclusion? The pension may achieve this objective while generating more than 100bps of additional returns.

We note that some insurance firms active in the annuity market make use of investment strategies originated by their corporate parent or significant equity investor—often a large alternative investment firm. Under the Employee Retirement Income Security Act of 1974 (ERISA), transactions between a pension and its sponsor would generally be prohibited, but in the insurance world they are permissible. We are not suggesting that the investments themselves are unsuitable. However, the extra layer of economic gain for the parent firm in the form of fee income may not only support more aggressive pricing of the risk transfer itself but may also increase portfolio—and possibly solvency—risk at the insurer.

**Do the inner workings of insurance companies matter?**

To a pension sponsor looking to offload its plan at the cheapest possible cost, this observation may well elicit a response of “So what?” Assuming that the insurance company meets regulatory minimum standards, why be concerned with its internal economics or those of its parent? The price is the price.

While that view may still be valid, regulators are starting to take a keen interest in insurers’ inner workings. The SECURE 2.0 Act of 2022<sup>3</sup> requires a review of Interpretive Bulletin (IB) 95-1, which provides guidance on ERISA fiduciary duties for plan sponsors when selecting a PRT annuity provider. That review, which is now being conducted by the Employee Benefits Security Administration (EBSA), is generating industry-wide debate.

To date, plan sponsors have conducted searches for appropriate PRT partners within the safe harbor of the current IB 95-1 regulations. However, amid increasing scrutiny of those regulatory standards, as well as heightened awareness of some insurers’ investment

<sup>3</sup> Setting Every Community Up for Retirement Enhancement Act.

strategies, concerns are growing about the potential legal risk in PRTs. (We highlight some of these issues in **Appendix A**.) In the highly unlikely event of an insurer insolvency, there could be a risk of liabilities being reassigned, or “put back,” to the sponsor. More broadly, however—if the spate of fiduciary lawsuits in the DC world is any guide—sponsors may find themselves targeted even if they have followed the rules.

Those risks are moot if the plan sponsor opts to keep its pension fund in-house. As we have shown in our recent research series,<sup>4</sup> pension investors are more than capable of generating equivalent or higher levels of value by retaining control of the investment portfolio and, unencumbered by the restrictions of insurance rules or the profit motives of a third party, developing a more efficient asset allocation strategy we describe as a pension stabilization approach (Exhibit 4).<sup>5</sup>

### Post-PRT blues

That pension risk transfers are being executed is an incontrovertible fact. In part, the reason lies in the ability of sponsors to offer only a portion of their plan to the insurance market. Some subcomponents of the fund’s overall liability profile are particularly appealing to insurers—and can be settled therefore at a disproportionately attractive price. These tranches of liability, some of which may be offloaded below GAAP book value, are almost exclusively retiree blocks that encompass only investment and longevity risk.

Shedding these liabilities can be a reasonably compelling use of pension surplus when viewed in isolation, but the attractive economics conceal a longer-term threat: The residual liability that remains after settling retiree blocks (and small balance participants) is likely to be much riskier (an issue addressed in **Appendix B**). Non-retiree blocks, terminated vested (TV) employees awaiting benefit commencements and remaining active employees all tend to be much more sensitive to changes in actuarial assumptions.

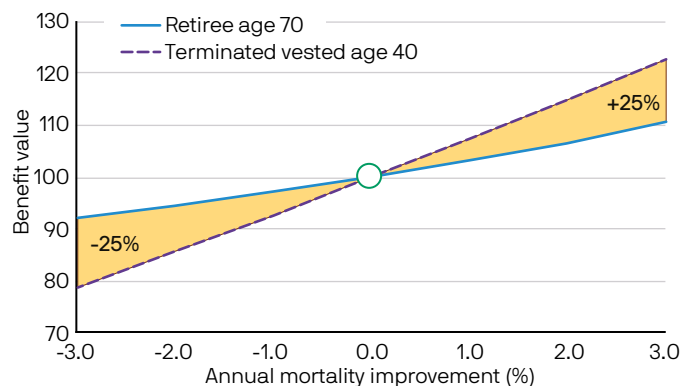
<sup>4</sup> Gross and Buchenholz, “Rethinking the Pension Plan Endgame,” “Roadmap to Pension Stability” and “Pension Defrost.”

<sup>5</sup> Recently, sponsors have developed an evolved investment toolkit to help their plans outperform liabilities with very little funded status volatility or contribution risk. We refer to this model as “pension stabilization” because it focuses on the efficiency of the overall pension strategy (instead of focusing solely on risk minimization) and thereby avoids the steep “last-mile” de-risking costs endemic to hibernation-style strategies.

**Exhibit 5** plots the sensitivity of a \$100 benefit for an aged 70 retiree vs. an aged 40 TV employee. A 3% annual mortality improvement/deterioration would alter the value of the retiree benefit by +/-10%, but that rises to +/-25% for the equivalent TV benefit. Furthermore, non-retiree benefits are more sensitive across the entire range of actuarial assumptions they are exposed to: discount rates, salary scale and form-of-payment elections. The uncertainty surrounding benefit commencement and cash flow timing is particularly costly because it translates directly into a reduced ability to hold illiquid alternatives.

### PRT transactions increase the sensitivity of residual liabilities to changes in actuarial assumptions

**EXHIBIT 5: RETIREE LIABILITY LEAST SENSITIVE TO ASSUMPTIONS**



Source: J.P. Morgan Asset Management. Calculations based on a retirement age of 62, a 5% discount rate and Pri-2012 male mortality table projected to 2023 with MP-2021 generational mortality improvements. For illustrative purposes only.

In short, the more of the pension liability that is transferred, the more uncertainty lingers in the residual expected benefits stream. This risk can emerge slowly over time, as actual experience deviates from actuarial assumptions—even the best actuaries experience gains and losses—or it may appear all at once when an assumption update meaningfully changes the shape and value of the liability.

In the first section, we articulated a case for maintaining some additional risk in plan assets to build up a surplus and access multiple sources of value. Here, we demonstrate the need for additional capital to offset more volatile liabilities in the wake of a pension risk

transfer. Regardless of the reason, managing the plan to a higher surplus target is one way for sponsors to offset these risks.

### Part 3: Restoring the role of DB plans in retirement

#### In real life: A pension defrost case study

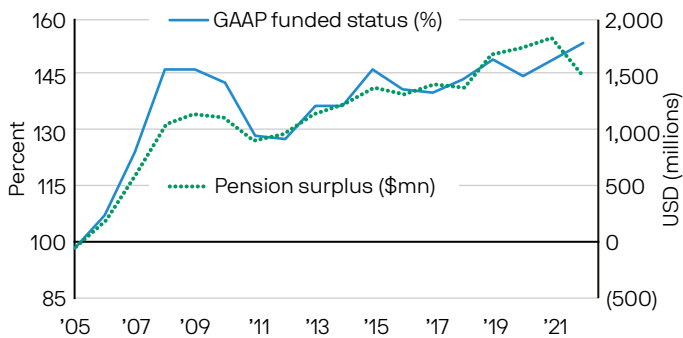
In our most recent paper, “Pension Defrost,”<sup>6</sup> we proposed that sponsors of well-funded plans should consider reopening closed DB pensions. Many have since offered feedback suggesting that, while the argument is solid, the cause is lost—no sponsors are ever going to restore DB pensions.

<sup>6</sup> Gross and Buchenholz, “Pension Defrost.”

#### DB plans can be reinstated in a very risk-controlled manner

##### EXHIBIT 6: CASE STUDY—REOPENING A FROZEN DB PLAN

##### 6A: PLAN HAS BEEN IN SURPLUS FROM GFC ONWARDS—HISTORICAL GAAP FUNDING



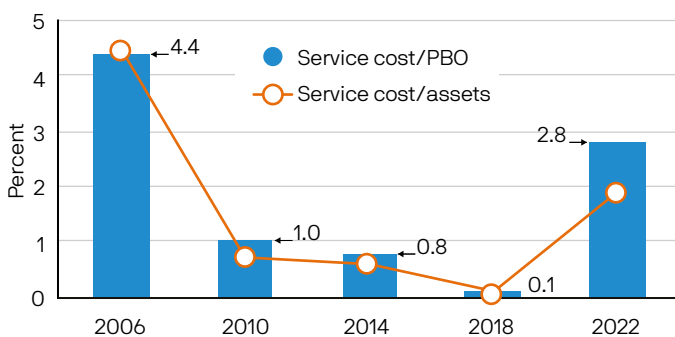
Perhaps, perhaps not. Over the past several years, we have been collecting anecdotes from clients, consultants and actuaries about sponsors that are considering reopening their plans. In fact, several have done so.

One particularly instructive example is a large mutual insurance company that recently reopened its defined benefit plan. In 2007, prior to the onset of the global financial crisis, the company had frozen and significantly de-risked its DB plan (moving 75% to hedge assets). It weathered the storm and subsequently improved its funded status to approximately 150% (a surplus of about \$1.5 billion). Then, in 2021, almost 14 years after it had frozen accruals, the sponsor reopened its multibillion-dollar plan to employees (**Exhibit 6**).

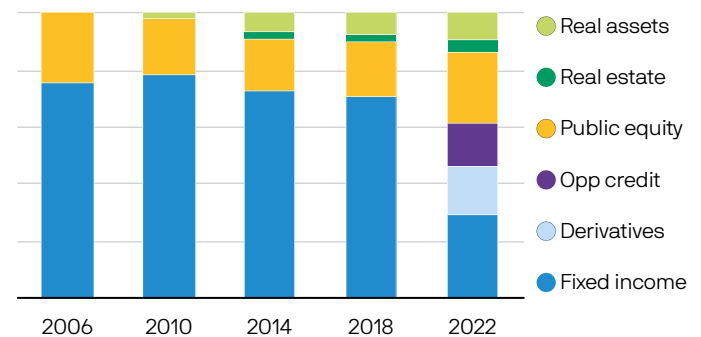
##### 6B: PLAN STATUS TIMELINE—ESTABLISHING CASH BALANCE BENEFIT

- **2007:** Participation and accruals frozen for Final Average Pay (FAP), except certain grandfathered participants
- **2021:** Opens cash balance benefit, starting with one-time age-based pay credit of 3%–9%
  - All employees eligible
  - Offers 3% pay credit and 10-year Treasury interest crediting rate with floor at 0% and cap at 3%
  - DB plan paired with DC plan matching up to 8% (employer puts in \$2 per \$1 up to 4%)

##### 6C: ACCRUALS DWINDLED POST-FREEZE, UNTIL RE-OPENING—HISTORICAL SERVICE COST RATIO (%)



##### 6D: TARGET ASSET ALLOCATION—TARGET ALLOCATION FOR FOLLOWING YEAR



Source: Statutory financial statements and Department of Labor 5500 regulatory filings, J.P. Morgan Asset Management; data as of December 31, 2022. For illustrative purposes only. Actual account allocations and characteristics may differ.



We noted above that one of the most valuable uses of a pension surplus may be subsidizing new benefit accruals. This is exactly what the sponsor did in 2021. Starting that year with a one-time age-based pay credit of 3%–9%, the insurer created a cash balance benefit that would accrue in the future with a 3% pay credit and a Treasury-based interest crediting rate. All employees were eligible for this benefit, not just those who were lucky enough to have participated in the original final average pay plan.

This employer is now able to offer prospective employees an extremely competitive and compelling set of retirement benefits. The DC plan offers a two-for-one match for employee contributions up to a total of 8%, while the DB cash balance provides a 3% pay credit. In total, the sponsor is providing up to 11% of salary in retirement savings; however, almost one-third of that total is fully self-financed through the pension surplus.

It's also worth noting that the plan's asset allocation model has evolved from a traditional liability-driven investment strategy geared toward volatility reduction to a more diversified stabilization strategy. Since reopening, the plan has increased private real assets and introduced opportunistic credit and derivatives (for capital efficiency), while maintaining a relatively low surplus risk profile. This approach should allow the plan to comfortably outperform its liability across time while maintaining a large capital cushion to protect against future volatility.

### Reversing the rollover

Most sponsors are familiar with the DB rollover: When plan participants reach retirement age (which we define here as the age at which they can begin receiving benefits) or have an opportunity to take their benefit as a single amount through a lump sum payout window, they can extend the tax deferral period by rolling the distribution into an individual retirement account (IRA) or, if permitted, an employer DC plan.

What far fewer sponsors are familiar with, however, is the concept of a DC rollover—participants' ability to annuitize their DC assets through their employers' DB

plan. In a world of pension surplus, this feature offers tremendous value to plan sponsors. Potential benefits of a DB/DC rollover for a plan sponsor include:

- An ability to offer employees attractively priced guaranteed lifetime income, which is difficult and costly to obtain in the private market
- An opportunity to generate consistent positive plan cash flow, increasing flexibility around investment liquidity
- A chance to capture the economics of asset-liability outperformance rather than forfeiting those benefits to a third-party insurer
- An occasion to offer participants the best of both worlds: DC portability, control of investments, ownership of the account at retirement and control over how much to annuitize

Such rollovers are explicitly permitted, despite their obscurity. Over the years, regulators have taken steps to facilitate and expand employee lifetime income options. In 2012, the IRS published a revenue ruling<sup>7</sup> explaining how a sponsor with both a DB and a DC plan could enable participants to purchase DB annuity payments with their DC account balance. Since sponsors are not required to offer these rollovers, they can tailor the circumstances under which such rollovers are permitted to occur.

Based on our own analysis of Department of Labor 5500 filings, only a very small subset of DB plans accept rollovers; of those that do, the amounts tend to be small relative to existing assets. For example, General Mills allows eligible employees to roll over funds directly from their employer 401(k) plans if they meet the "Rule of 70," which is defined as the sum of the employee's age and years of service at termination; if that total meets or exceeds 70, the employee is eligible to claim the rollover. However, the uptake appears to be quite small, totaling only a few million dollars per year.<sup>8</sup>

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<sup>7</sup> IRS Revenue Ruling 2012-4.

<sup>8</sup> 2021 5500 filings for General Mills Pension Plan and General Mills Pension Plan I.

The limited uptake may be a consequence of employees not fully understanding the potential value of the conversion. As a baseline, any such rollover is converted from a DC balance to a DB annuity using the same 417(e) discount rate and mortality assumptions as a traditional lump sum conversion. This means that a participant can buy into the DB plan on terms that are more favorable than those found in the individual private annuity market.

### The value of obtaining an annuity via an employer’s DB plan

The potential power of this conversion is unmistakable. In **Exhibit 7**, we compare a survey of private market single life annuities to what could be purchased through a DC-to-DB conversion of similar size on the same date. On average, the conversion provides 20% more retirement income than the insurer’s quote.

There are several factors driving this disparity, but an important one is its anti-selection bias: The insurer needs to reflect the fact that only the healthiest customers, if acting rationally, would seek out a life annuity product.

Although more generous assumptions are permitted, any increases are subject to the IRS’s 415(b) maximum annual benefit limits—which totaled \$265,000 per year for a DB plan in 2023—so restrictions would be necessary. However, this constraint shouldn’t deter sponsors from exploring the possibility of subsidizing DC rollovers with their DB surplus to provide a second layer of benefit enhancement (beyond the already attractive pricing of the conversion relative to marketplace annuities).

## DB annuities are much more cost effective than marketplace annuities

EXHIBIT 7: SINGLE PREMIUM IMMEDIATE ANNUITY RATES AS OF JUNE, 2023

Age	Sex	Monthly income/\$100,000 premium				Implied discount rate			
		Retail: Average quote (USD)	Retail: Best quote (USD)	DC to DB conversion (USD)	DC conversion premium average (%)	Retail: Average quote (%)	Retail: Best quote (%)	DC to DB conversion (%)	DC conversion premium (bps)
60	M	517	568	605	+17	3.5	4.4	5.2	+170
	F	500	543	605	+21	3.7	4.4	5.2	+152
65	M	576	623	670	+16	3.2	4.0	5.2	+198
	F	550	591	670	+22	3.4	4.1	5.2	+178
70	M	653	711	764	+17	2.8	3.8	5.2	+244
	F	617	668	764	+24	3.0	3.9	5.2	+218
75	M	770	844	904	+17	2.1	3.4	5.2	+310
	F	715	780	904	+26	2.4	3.5	5.2	+286
<b>Average</b>					<b>+20</b>				<b>+219</b>

Source: J.P. Morgan Asset Management. Retail immediate annuity payout data sourced from Immediate Annuities.com’s Comparative Annuity Reports. Retail quotes are based on a survey of 16 different insurance companies. Implied discount rates are estimated using Pri-2012 sex-specific mortality projected to 2023 using MP-2021 generational mortality improvements. DC-to-DB conversion rates and values are based on prescribed IRS 417(e) unisex mortality and discount rates; 6/30/2023. For illustrative purposes only. Actual account allocations and characteristics may differ.

## Combining DB and DC can provide the best of both worlds to participants

### EXHIBIT 8: ILLUSTRATIVE RETIREMENT OFFERING

Feature	Defined Benefit/Cash Balance	Defined Contribution / 401(k)
Benefit	<ul style="list-style-type: none"> <li>• 4% of salary pay credit</li> </ul>	<ul style="list-style-type: none"> <li>• Match 50% up to the first 8% of salary</li> </ul>
Investment returns/accumulation	<ul style="list-style-type: none"> <li>• 10-year Treasury Yield</li> <li>• Preservation of capital</li> </ul>	<ul style="list-style-type: none"> <li>• Participant-directed investments</li> </ul>
Form of payment/decumulation	<ul style="list-style-type: none"> <li>• Life annuity</li> <li>• Rollover to IRA</li> <li>• Rollover to 401(k)</li> <li>• Taxable cash-out</li> </ul>	<ul style="list-style-type: none"> <li>• Rollover to IRA</li> <li>• Rollover to DB plan</li> <li>• Taxable cash-out</li> </ul>
Flexibility	<ul style="list-style-type: none"> <li>• Between DB and DC plans, participants can customize their risk profiles and create any combination of annuity and investments</li> </ul>	

Source: J.P. Morgan Asset Management. For illustrative purposes only.

### Putting it all together: An enlightened retirement offering

An overfunded DB plan can serve as the foundation for a cost-effective, full-spectrum retirement offering that delivers the best of both DB and DC approaches. In **Exhibit 8**, we illustrate a retirement program that offers between 4% and 8% of salary. The cash balance plan pays a 4% annual pay credit, while the 401(k) matches 50% of employee contributions up to the first 8% of salary. The DB plan offers stable accumulation at a market rate of interest while providing a preservation-of-capital guarantee; the DC plan risk profile can be tailored to each participant’s unique risk profile and may even allow employees to be a little more aggressive in their investment elections, given the stability of the DB benefit. Allowing rollovers both to and from DB and DC plans gives participants complete flexibility to structure any decumulation they want, from 100% in equities to 100% in a secured life annuity.

If the DB plan has an existing surplus or even just an ability to generate surplus returns to earn the accruals, this type of structure can be executed in a very cost-effective manner. The sponsor can deliver 8% of salary (plus DB interest accumulation) at an outlay of just 4% of salary. Participants get portability and the opportunity to customize their investments (and their mortality/longevity risk) to meet their own needs.

### Conclusion: From pension endgame to new beginning

After a long and sometimes painful journey, many plan sponsors have reached a milestone: They have exceeded full funding. Throughout this research series, we have sought to question widely held assumptions about modern pension strategy and offer a new vision for the future.

Although many sponsors are rightly focused on reducing risk and preventing their plans from returning to underfunded status, we believe it is critical for sponsors to consider just how close they may be to reaching a level of funding surplus that offers material economic and risk management benefits. Should sponsors opt to de-risk their plans too soon or offload their pension obligations to an insurance company, these benefits will remain out of reach.

Instead of shedding the burden of responsibility for their plans, however, sponsors should explore the tangible benefits of operating at a surplus. The pension’s long-forgotten role as an engine of value creation may be overdue for a return to the spotlight.

## Appendix A: Capital arbitrage on insurance balance sheets

Some insurance companies active in the pension risk transfer marketplace make use of capital structure arbitrage, whereby investments that would normally be treated as risky under the prevailing capital rules can be reengineered to reduce the required amount of capital. While there is some genuine risk reduction that accompanies certain types of these transactions, the degree to which modest structural changes can lead to dramatic reductions in risk-based capital (RBC) is a potential concern.

**Exhibit A** describes how a direct lending fund can be structured three ways, with very different capital requirements:

- **Direct investment in limited partner stake:** Investing traditionally into a direct lending fund as a limited partner garners an RBC charge of 90.1%. Thus, for each dollar invested in the fund, the insurer needs 90 cents of surplus.
- **Independently rated separately managed account (SMA):** If instead those same loans are rated by a nationally recognized statistical ratings organization (NRSRO) and held in a separately managed account, the RBC charge drops to 34.7%.
- **CLO structure:** The current trend among many insurers is to create a collateralized loan obligation (CLO) structure whereby the same loans are split into investment grade notes and a much smaller residual equity piece. This structuring reduces the RBC charge to just 3.3%. Instead of 90 cents on the dollar, the amount of required capital for the same economic exposure is just over 3 cents.

### Some PRT insurers rely heavily on structuring arbitrage

EXHIBIT A: THE SAME ECONOMIC EXPOSURES CAN BE RE-ENGINEERED TO DRASTICALLY REDUCE (FULLY LOADED NET) CAPITAL CHARGES

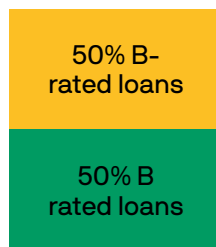
#### UNRATED DIRECT LENDING FUND



Return: 8.0%  
RBC: 90.1%

LP strategy where loans are held directly on Schedule BA, receiving similar pre-diversification capital charge as private equity

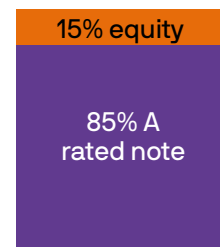
#### RATED SEPARATELY MANAGED ACCOUNT (SMA)



Return: 8.0%  
RBC: 34.7%

Loans held directly on Schedule D Part 1 and rated 50% B / 50% B- by an NRSRO

#### CLO STRUCTURE



Return: 8.0%  
RBC: 3.3%

Loans are transformed into an 85% A rated note and a 15% equity piece

Source: J.P. Morgan Asset Management. Retail immediate annuity payout data sourced from Immediate Annuities.com's Comparative Annuity Reports. Retail quotes are based on a survey of 16 different insurance companies. Implied discount rates are estimated using Pri-2012 sex-specific mortality projected to 2023 using MP-2021 generational mortality improvements. DC-to-DB conversion rates and values are based on prescribed IRS 417(e) unisex mortality and discount rates. For illustrative purposes only.

## Appendix B: PRT risk reduction is almost entirely attributable to shrinking dollar value

A common objective of a PRT transaction is to reduce the risk that the pension plan poses to the sponsor. From this perspective, risk is really a measure of the potential shortfall or drawdown in dollar terms. There are two main levers for reducing the dollar risk to a pension plan: de-risking the asset allocation and shrinking the size of the plan through PRT. Generally, de-risking through asset allocation is a much more effective tool.

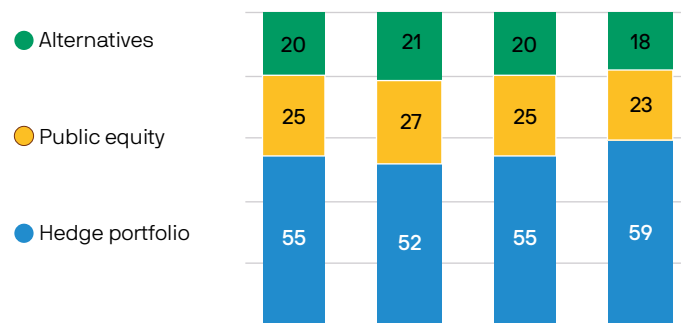
In **Exhibit B**, we show the risk reduction stemming from a retiree lift-out via a PRT transaction. This transaction has a few immediate effects:

- Liability duration increases:** Offloading the shortest-duration retiree liabilities results in a net increase to the overall plan liability duration, increasing surplus volatility (all else being held equal). As discussed in the body of this paper, the plan’s uncertainty and sensitivity to actuarial assumptions also increase.
- Asset risk increases:** Most transactions are accomplished by transferring matching fixed income assets in kind. The resulting effect is an increase in return-seeking and illiquid assets, with a corresponding decline in hedge assets. Liquid asset imbalances can be corrected fairly easily, but the denominator effect cannot be easily rectified.
- Surplus volatility increases:** The net impact of increases in liability risk and asset risk is an increase in surplus volatility.

In this specific example and in our general experience, we have found that for most plans the dollar risk reduction stemming from a 10% retiree PRT can be matched with a 5% shift from return-seeking to hedging assets. This move allows plans to maintain some upside potential in surplus funding growth (and is often a much easier operational lift).

## PRT actually increases surplus volatility unless imbalances are corrected

EXHIBIT B: PORTFOLIO IMPACT OF RETIREE LIFT-OUT PRT TRANSACTION



	Current	10% retiree PRT-fund from fixed income	10% retiree PRT-fund pro rata	De-risk without PRT
Assets (\$mn)	1,000	940	940	1,000
GAAP liability (\$mn)	1,000	940	940	1,000
Liability duration (years)	11.8	12.1	12.1	11.8
Surplus volatility (%)	6.24	6.75	6.32	5.61
Hedge ratio (%)	66	61	65	71
Max drawdown (%)	-16.7	-17.8	-16.7	-15.0
Surplus CVar95 (%)	14.2	14.4	14.2	13.9
Surplus CVar95 (\$mn)	139.3	137.5	133.1	133.1

Source: J.P. Morgan Asset Management. For illustrative purposes only. Actual account allocations and characteristics may differ.

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