The pension redemption
2023 annual corporate pension peer analysis

In brief

- Our proprietary analysis of trends among the 100 largest U.S. corporate pension plans by assets found that the 2022 headline funded status is on the cusp of full funding at 99.4%—and that more than half of these sponsors are at or above 100%.
- During the year, sharply higher discount rates (250 basis points) largely offset negative asset returns (-18.4%), but differences in asset allocation, plan design and pension risk transfer (PRT) generated a wide dispersion in funded status.
- Despite “organic” PRT, a market-driven reduction in asset and liability values, the traditional single-premium buyout market hit an all-time record of $48.3 billion in 2022. Excluding the largest, $16 billion deal, however, PRT declined year-over-year. We also saw signs of diminished efficiency for repeat PRT transactions.
- Pension smoothing may cause some discomfort as plan sponsors wait for their Pension Benefit Guaranty Corporation (PBGC) liabilities to adjust to lower asset values and experience elevated premium costs. Even plans that are fully funded on a GAAP basis may be temporarily facing a variable rate premium bill.
- The denominator effect, which occurs when significant return differences among asset classes cause portfolio weights to diverge from targets, was pronounced: Alternative allocations posted their largest year-over-year gains (4.1 percentage points) since our data set began. Public equities appeared to be the major source of rebalancing flows during the year.
- We explore one sponsor’s pension plan reversion and dispel the myth that a pension surplus has no extractable value.

For years, many U.S. corporations have treated their defined benefit (DB) plans as an inconvenient burden—an appendage that must be removed and terminated in order to achieve financial and operational catharsis.

This year’s analysis of the 100 largest corporate pension plans reveals that many have reached a long-awaited milestone: They are back to full funding. Improved solvency, evolved risk management tools and a favorable regulatory backdrop, are challenging long-held assumptions about DB plans’ endgames.

Could this moment represent a transformational redemption of DB plans from perceived burdens into financial boons? Does the value—to both sponsors and employees—of providing cost-efficient retirement income outweigh the perceived toll?
Our latest annual analysis of the 100 largest corporate pension plans explores both the lingering challenges and the emerging opportunities across the defined benefit landscape.

### Funded status: Breaking through to full funding

Headline funded status for the top 100 corporate plans peer group increased for a sixth straight year in 2022, rising 2.8% to 99.4% (Exhibits 1A and 1B). The combination of dismal investment returns, -18.4% on average,\(^1\) and a record year-over-year (y/y) discount rate increase of 250 basis points (bps) led to what we’ve termed an organic pension risk transfer (PRT). Many sponsors have been seeking opportunities to reduce the size of their pension balance sheets via the cumbersome and costly mechanism of a pension risk transfer. Lo and behold, 2022 delivered what amounts to the largest PRT in history, as the average plan shrank by approximately 25%.

While this rescaling may be welcomed by some plan sponsors, it leads—much like an actual PRT—to its own challenges. With a lower asset base, plan sponsors are now looking at paying out benefits that average 7.8% of assets and may run as high as 12% or more in 2023. Similarly, fixed costs, such as Pension Benefit Guaranty Corporation (PBGC) flat rate premiums and administrative expenses, will create a larger drag on investment performance.

More positively, sponsors, in aggregate, outperformed their liabilities by 310bps in 2022, raising the 10-year industry surplus return to an annualized 220bps per year. This increase represents tangible value creation and cash savings by pension CIOs and their teams. Not all plan sponsors experienced this uplift, however: In contrast to 2021, when every top 100 plan improved its funded status, in 2022 approximately 40% experienced a decline in funding. Our analysis revealed a spread of 8 percentage points between the 25th and 75th percentile funded status change.

What could have driven such wide dispersion? And how could funded status decline when nearly every asset class outperformed pension liabilities?

### Analyzing the impact of investment exposures—and plan participants—on funded status

In our view, four major drivers had the greatest impact on the top 100 plans’ funding status in 2022: leveraged duration exposure, lump sum losses, rising interest crediting rates and convexity. Other factors, such as PRTs and benefit increases, also likely contributed but were not as closely linked to changing market conditions.

\(^1\) This result was akin to losses last experienced during the global financial crisis of 2008–09.

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**Exhibit 1A: Annual GAAP funded status for top 100 plans**

**Exhibit 1B: 2022 intrayear funded status volatility**

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1. Leveraged duration exposure

Leveraged duration exposure hurt plan returns, whether through the explicit use of interest rate overlays or by allocating to fixed income assets with a duration in excess of liabilities. This in turn limited funding improvements. But by how much? We estimated the funded status change for a hypothetical plan under various hedge/growth portfolio splits and interest rate hedge ratio combinations in 2022 (Exhibit 2).

How leveraged duration exposure impacted funded status in 2022

Exhibit 2: 2022 funded status change for a hypothetical plan

<table>
<thead>
<tr>
<th>Hedge/growth split</th>
<th>Interest rate hedge ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%/60%</td>
<td>40%</td>
</tr>
<tr>
<td>50%/50%</td>
<td>7%</td>
</tr>
<tr>
<td>60%/40%</td>
<td>6%</td>
</tr>
<tr>
<td>70%/30%</td>
<td>5%</td>
</tr>
<tr>
<td>80%/20%</td>
<td>4%</td>
</tr>
<tr>
<td>90%/10%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management; data as of December 31, 2022. Surplus returns are calculated based on a hypothetical plan that is 100% funded on a U.S. GAAP basis with a liability duration of 11.5 years. The growth portfolio is composed of ACWI public equity; the hedge portfolio is composed of a blend of U.S. long government/credit and U.S. STRIPS 20+ years to achieve the target interest rate hedge ratio. Portfolios are rebalanced monthly to target. The red box indicates our estimate of the top 100 average.

In a year when interest rates rose sharply, plans that had elected to use a duration overweight (whether physical or synthetic) found themselves at the bottom end of performance quartiles. At any given hedge ratio level, however, the larger the share of the portfolio dedicated to hedging, the better the performance.

This outcome shouldn’t discourage plan sponsors from squeezing as much duration from their hedge portfolios as feasible and allowing the balance to be invested in growth assets. Over the long term, this type of strategy should produce lower funded status volatility and higher returns than a comparable physicals-only portfolio. This approach comes with risks, of course, such as a down year with positive stock-bond correlation.

2. Lump sum losses

In 2022, many employees opted to retire before the delayed impact of rising discount rates dented their future pension payouts, generating headlines (see “Spotlight on lump sum valuations” on pg. 7). In the zero sum game of lump sum calculations, plan sponsors should the windfall payouts to employees, dampening the actuarial gains driven by discount rate increases. Similarly, many plans may offer the “better of” multiple benefit formulas, which can spike in value in an environment of heightened interest rate volatility.

These types of risks, along with adverse participant behavior, are difficult to quantify and generally unhedgeable. One way to account for them is simply by targeting higher returns to compensate for the uncertainty. The lack of precision around liability characteristics—and the potential need for an additional return buffer—create a natural fit for a “stabilization” portfolio: a diversified pension investment strategy that achieves moderate liability outperformance with moderate risk instead of seeking to minimize funded status volatility at any cost.

3. Rising interest crediting rates

When it comes to traditional final average pay (FAP) benefits, the liability behaves like a bond: Yields and prices move inversely. However, for cash balance plans the relationship can be a little more complex—rising rates also increase benefit amounts, which are tied to market yields through the interest crediting rate. By our estimation, nearly 60% of plan sponsors offer at least some form of cash balance benefit.

In Exhibit 3, we track the effective interest crediting rate2 for the top 100 plans. Over the past decade, more than 80% of plans with a minimum guarantee, or floor, were “in the money,” meaning that the market crediting rate was below the floor. By the end of 2022, only one-third of plans remained in the money (effectively, those with a floor of 4.0% or more) and the average crediting rate had risen by 140bps. To the extent that these plans updated their GAAP assumptions used to project

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2 The effective interest crediting rate is calculated by assuming all crediting rates are based on December 31 spot yields (i.e., ignoring any smoothing or lookbacks) and taking a simple average across all plans with cash balance liabilities.
account balances—and our analysis of 10-K filings suggests they largely have—the impact would have dampened the discount rate-driven liability gains.

4. Convexity
The market phenomenon of convexity impacted all plans to varying degrees in 2022. Convexity is a property of fixed income securities (and pension liabilities) that causes the duration to extend or contract as rates fall and rise, respectively. Pension liabilities are highly convex, even relative to a bond portfolio of the same duration. For this reason, when rates rise sharply, as they did in 2022, the duration of the liability shortens relative to the hedge portfolio and the result is negative for funded status.

Going forward, regardless of whether a plan experienced a funding increase or decrease, the question that sponsors must contend with is nearly universal: What does the pension plan endgame look like, in terms of both asset allocation and plan status?

Asset allocation: The denominator effect rules portfolios
Asset allocation for the top 100 plans reflected an acceleration of preexisting trends. Plan sponsors reduced allocations to public equities in favor of alternatives and fixed income. Alternatives logged their largest annual y/y increase, 4.1 percentage points, reaching a total weight of 21.7%. Allocation growth was concentrated in private equity, private credit and real assets, largely due to the denominator effect, which occurs when significant return differences among asset classes cause portfolio weights to diverge from targets. Here, lower public equity and fixed income prices have left institutions overweight private market allocations.

Private equity marks, which are smoothed and recognized on a time lag, did not fully absorb the -18.4% return on global public equities. Other private asset classes generated returns at or above their long-term expectations. U.S. core real estate, for example, returned 7.5% for the year. The net effect is that many plans now report a much larger portfolio weighting to illiquid alternatives.

It appears plan managers reacted to market volatility by rebalancing out of equities (where the average allocation declined by 5.6 percentage points, to 22.8%) into fixed income (where the average allocation increased by 1.2 percentage points, to 51.4%). We see evidence of this shift in the creation of long-duration U.S. Treasury STRIPS, which serve as a high frequency indicator of pension hedging flows. During 2022, nearly

3 MSCI ACWI Index; data as of December 31, 2022.
$40 billion of new 20+ year STRIPS bonds were created, and we believe the vast majority of investor demand is attributable to de-risking defined benefit plans.

In Exhibit 4, we measure the change in dollars allocated to each asset class during the past year. The value of public equity holdings declined by nearly 40%. Since public equities outperformed long-duration bonds during the year, this decline cannot be ascribed simply to allocation drift and suggests that public equities were the main source of rebalancing funds during the year. Plans clearly remain engaged in a broad de-risking of their asset allocations, which presupposes a bias to reduce equity risk when such rebalancing opportunities present themselves.

We also see alternatives moderating much more slowly than the total portfolio, driving these weightings higher. Within alternatives, private equity experienced the smallest allocation decline, while real assets became an additional source of liquidity—precisely because of their outperformance. Plan managers took income distributions instead of reinvesting capital, or attempted to redeem assets from open-ended funds (with varying degrees of success).

Plan sponsors also reacted to the denominator effect by lifting their target asset allocations to alternatives. Of those sponsors that disclosed a specific target for private equity, roughly half increased the target weighting (or upper bound) by 3.6%, on average. Of the remainder, most had private equity allocations that exceeded their disclosed targets. Other options for addressing the alternatives overweight do exist, including secondary sales and net asset value (NAV) financing (a credit facility that enables borrowing using the NAV of an illiquid fund as collateral). However, we did not see explicit disclosures of these actions in public filings.

In fixed income, we’ve continued to see duration increase but have noticed that nearly 10% of the top 100 plans reduced their fixed income duration between 2020 and 2021. Adding declining liability durations, particularly over the past year, we anticipate that intermediate-duration bonds will become a larger focus—if they aren’t already.

**Returns: What goes down must come up**

Nearly every asset class experienced a double-digit decline in returns in 2022, leading to an average total portfolio investment return of -18.4% for the top 100 plans. This brought the 10-year trailing return down to 5.6%, lagging the 10-year expected return assumption of 7.0% but comfortably beating the more meaningful target of liabilities, which returned just 2.9% over the same period.

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Declines in public equity dollars point to their use as a source of rebalancing in 2022

Exhibit 4: Top 100 plans’ changes in allocated dollars during 2022

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Change in dollars during 2022 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed income</td>
<td>-24%</td>
</tr>
<tr>
<td>Public equity</td>
<td>-37%</td>
</tr>
<tr>
<td>Total alts</td>
<td></td>
</tr>
<tr>
<td>Total alts - private equity only</td>
<td>-8%</td>
</tr>
<tr>
<td>Total alts - real assets only</td>
<td>-4%</td>
</tr>
<tr>
<td>Cash and other</td>
<td>-15%</td>
</tr>
<tr>
<td>Total assets</td>
<td>-23%</td>
</tr>
<tr>
<td>Total assets</td>
<td>-25%</td>
</tr>
</tbody>
</table>


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4 According to Department of Labor Form 5500 filings.
In Exhibit 5, we plot performance vs. liabilities and assumptions of the expected return on assets (EROA) for each of the top 100 plans. In line with the aggregate figures, we find that nearly every sponsor has lagged its expected return but far exceeded its liability return over the past decade. This outperformance—and each sponsor’s estimation of its persistence—should be a key factor when determining whether to keep or offload plan assets and liabilities.

Most plans trail their 10-year EROA assumption, but are beating the target that really matters: their liabilities

Exhibit 5: Top 100 plans’ excess returns—assets vs. liabilities (2013–2022)

Regardless of direction or magnitude of allocation changes, sponsors are raising their EROA assumptions

Exhibit 6: Changes in 2023 EROA assumptions grouped by changes in fixed income allocations for top 100 plans

Despite the EROA increase, many sponsors warned in their Q4 earnings calls of pension expense headwinds (Exhibit 7). Rising rates are often considered an unmitigated advantage to pensions. However, one drawback of higher rates is the increased interest expense on the liability. And for 2023, liability discount rates rose at a much faster pace than EROA assumptions (up 250bps vs. 60bps). The net effect is an expectation of higher pension costs for most plans during the coming year.

This headwind is not quite what it seems, however. With approximately 80% of plan sponsors generating pension income (a figure that would be even higher if we excluded one-time settlement charges), the pension headwind translates to a smaller y/y earnings per share (EPS) contribution—not an earnings detractor. The relative lack of concern on Wall Street could be heard on one recent earnings call, when a J.P. Morgan Securities analyst prefaced his question about pensions with an apology to Lockheed Martin’s CFO, Jesus “Jay” Malave. We think the quote captures the zeitgeist of the market’s current attitude toward DB plan issues: “Jay, I’m sorry to waste a question on pension.”

Most capital market assumptions are already signaling a positive shift in return expectations. With interest rates rising and equity valuations back to levels associated with more positive future performance, return projections are up across the board. Sponsors have largely been receptive to these changes, with many adopting more optimistic return assumptions for 2023 pension accounting, regardless of the direction or magnitude of recent asset allocation shifts. Out of the top 100 plans, approximately 60% disclosed an EROA assumption for 2023 accounting purposes; those figures indicated an average asset-weighted increase of 63bps (Exhibit 6).

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5 Lockheed Martin 4Q 2022 earnings call, January 24, 2023.
On our team, we like to track the number of mentions of the term “pension” on earnings calls as a proxy for investor focus on DB plans. Despite 2022 being a very eventful year, the number of pension discussions on earnings calls was relatively flat—and well below historical levels.

**Spotlight on lump sum valuations**

We’ve long observed that the most meaningful financial arbitrage available to corporate pension plans comes through the valuation of lump sums. At times, lump sums can be paid out to participants for as little as 80% of the GAAP pension benefit obligation (PBO). This discount is accessible because most plans lock in for one-year discount rates used to value lump sums, often referencing yields from the preceding November. Therefore, the cash payment remains unchanged while the GAAP balance sheet PBO (of the same liabilities) continues to move with discount rate changes. In a purely economic sense, lump sum valuation is a zero sum game played by plan sponsors and participants, and one in which the stakes increase with interest rate volatility.

In 2022, plan participants scored a blowout win over sponsors in the lump sum valuation battle. Instead of remaining in the dark corners of actuarial message boards, their victory made it into a *Wall Street Journal* article\(^6\) in October 2022 about record-high lump sum valuations driving senior management turnover as executives seized the moment to walk away with higher payouts. We took a look at the relevant data: That month, lump sum valuations reached an unprecedented level—nearly 180 cents on the dollar (Exhibit 8). Prior to 2022, the maximum lump sum value had only touched 125 cents on the dollar.

Lump sum valuation ranges are slightly asymmetric. Higher values for participants occur more often than lower values for sponsors, mirroring the way high quality corporate bond yields move. (They are more likely to widen dramatically than to rally over short periods.)

To illustrate how these lump sum valuations might entice someone to retire, let’s look at a hypothetical executive eligible to receive a life annuity of $265,000 per year (equivalent to the 2023 415[b][1][A] IRS annuity dollar limit). For simplicity, let’s assume that this person’s annual salary is also $265,000. If this executive had retired in October 2022, the life annuity would have a market value of roughly $1.7 million; however, the lump sum payout would have been nearly $2.9 million, or almost five additional years of salary.\(^7\) The good news for sponsors is that the arbitrage is working in their favor in 2023.

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\(^7\) These calculations are based on a 55-year-old with a normal retirement age of 65 and use IRS 2022 Static Unisex 417(e) mortality tables.
A common, albeit not necessarily economic, rationale for conducting a pension risk transfer is the desire to downsize the pension by reducing both plan assets and plan liabilities. In 2022, virtually all sponsors experienced what we’ve termed an organic PRT as the average plan shrank by nearly 25% due to the changing interest rate environment. Although an organic PRT comes with its own issues (rebalancing, overlay margin calls, the denominator effect, etc.), it certainly entails a lower cost than the traditional process via an insured counterparty PRT transaction.

Even as plans shrank in 2022, traditional PRT activity reached an all-time high, but a closer examination of the transactions reveals an altogether different story. Absent one exceptionally large PRT, IBM’s $16 billion deal in Q3 (Exhibit 9), the volume of deals would have declined 5% y/y and the average transaction size would have fallen from $80 million to less than $60 million. This trend suggests that sponsors are, as we have argued, viewing PRT deals more selectively and as just one tool among many in their arsenal for managing pension risk.
We have been outspoken about the benefits and costs of pension risk transfer. However, against the backdrop of a decade of liability outperformance by allocators, we believe sponsors should carefully weigh exactly what they are giving up when shipping off assets and liabilities to an insurer. Despite the downsizing of recent deals, the PRT business clearly remains profitable for insurers. At a recent conference, MetLife CEO Michel Khalaf said, "We expect every [PRT] deal to achieve our return objectives of 12% to 14%."

PRT deep dive

Among the top 100 plan sponsors, we examine one that stands out as a heavy user of pension risk transfers. Since December 2018, the company has transferred approximately $15.9 billion of pension liabilities on behalf of 109,000 retirees and beneficiaries. According to its 10-K, the sponsor has generated PBGC premium savings of $79 million per year. Was it a good deal? We cannot offer a simple, objective answer to this question, but we have analyzed data from the company’s Securities and Exchange Commission filings and PBGC premium filings and can make a few observations:

Underfunded PRTs leave a plan less well funded:
Even if we assume these PRTs were executed at par, or 100% of PBO, and the asset performance merely matched the liability performance, the plan contraction caused funded status deterioration, all else being equal. If we simply add back $16 billion of assets and liabilities to the plan, its funded status (as of December 31, 2022) improves dramatically, rising by 6.8 percentage points, from 80.9% to 87.8%.

The savings efficiency declines: Small-balance participant transfers are the most economically efficient in relation to PBGC premium savings, particularly when a plan is above the variable rate premium (VRP) cap. This sponsor’s largest plan has been above the cap since 2015. In the absence of the cap, the plan would have owed $319 million of VRPs instead of the capped amount of $60 million. We can see that each subsequent buyout deal has involved larger and larger average balances, meaning that the savings efficiency has declined with each successive PRT (Exhibit 10).

Pension risk transfer efficiency is declining with each deal

Exhibit 10: Summary of one sponsor’s PRT deals (2018–22)

<table>
<thead>
<tr>
<th>Deal type</th>
<th>Deal date</th>
<th>Liability transferred ($mn)</th>
<th>Participants transferred (000s)</th>
<th>Average benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buyout</td>
<td>Dec ’18</td>
<td>1,800</td>
<td>32.0</td>
<td>56.3</td>
</tr>
<tr>
<td>Buy-in</td>
<td>Dec ’18</td>
<td>800</td>
<td>9.0</td>
<td>88.9</td>
</tr>
<tr>
<td>Buyout</td>
<td>Dec ’19</td>
<td>1,900</td>
<td>20.0</td>
<td>95.0</td>
</tr>
<tr>
<td>Buy-in</td>
<td>Dec ’20</td>
<td>793</td>
<td>2.5</td>
<td>317.2</td>
</tr>
<tr>
<td>Buyout</td>
<td>Dec ’20</td>
<td>1,400</td>
<td>13.5</td>
<td>103.7</td>
</tr>
<tr>
<td>Buyout</td>
<td>Q3 ’21</td>
<td>4,900</td>
<td>18.0</td>
<td>272.2</td>
</tr>
<tr>
<td>Buyout</td>
<td>Q2 ’22</td>
<td>4,300</td>
<td>13.6</td>
<td>316.2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>15,893</td>
<td>108.6</td>
<td>146.3</td>
</tr>
</tbody>
</table>


Savings may be ephemeral, yet “PRT-nomics” frequently assumes they exist in perpetuity:
We estimate that approximately 90% of the premium savings will be ephemeral (Exhibit 11). At 2023 levels of $96 per participant, the flat rate premium (FRP) savings amount to roughly $10 million. The balance of the savings is derived from the reduction of the VRP cap via the elimination of the plan participant count. However, if and when the retirement program achieves full funding, the VRPs will cease to be levied and the hypothetical savings will be dramatically reduced.

The majority of premium savings may be ephemeral

Exhibit 11: Estimated breakdown of PBGC premium savings

<table>
<thead>
<tr>
<th>Premium type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable rate premiums</td>
<td>90%</td>
</tr>
<tr>
<td>Flat rate premiums</td>
<td>10%</td>
</tr>
</tbody>
</table>


9 Buy-in deals keep the plan assets, liabilities and participants on the balance sheet, so they do not result in a reduction of participant count for PBGC premium calculations until and unless they are converted to a buyout. For simplicity, in this example we assume that all buy-in deals have been converted and buy-in participants are no longer part of the participant count.
The opportunity cost associated with turning over assets to an insurance company is real and very large:

Since the end of 2018, this plan has generated a compound investment return of 6.3% (including a -18.0% return in 2022). Over the same period, the corresponding liabilities have generated a return of approximately 1.0%, largely owing to a 240bps discount rate rise during 2022, netting a 5.3% surplus return (Exhibit 12). If we apply the 5.3% surplus return to the $16 billion of plan assets and liabilities the plan has offloaded via successive PRTs—admittedly, a back-of-the-envelope calculation—we estimate that the plan has sacrificed $850 million of surplus generation per year.

PBGC methods and PPA funding: To smooth or not to smooth?

In last year’s peer analysis, we explored how the change in pension funding rules under the American Rescue Plan Act (ARPA) would transform pension investment strategy for the foreseeable future. We still hold this view, but the massive and rapid rise in discount rates has interrupted pension relief for some plans. Since this effect is temporary, we view it as a flashback of mild pain rather than a return of actual symptoms.

The mechanism of this pain is pension smoothing in Pension Protection Act (PPA) funding and PBGC premiums. While the effects are mild for PPA funding—few, if any, sponsors indicated meaningful contribution requirements on the horizon—the pain is more acute and widespread in 2023 PBGC premium costs. For this reason, we’ll explore the impacts on PBGC valuations.

There are two ways to determine PBGC liability valuations: the standard method and the alternate method (Exhibit 13). Their relative attractiveness varies depending on broader trends in interest rates. Generally, when rates rise, the standard method can be more cost-efficient; when rates fall, the alternate method prevails.

Sponsors can use one of two ways to determine their PBGC liabilities

<table>
<thead>
<tr>
<th>Method</th>
<th>Discount rates</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>High quality corporate bond yields averaged over a single month</td>
<td>Tends to produce lower PBGC premiums when discount rates rise</td>
</tr>
<tr>
<td>Alternate</td>
<td>High quality corporate bond yields averaged over 24 months</td>
<td>Tends to produce lower PBGC premiums when discount rates fall</td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management, company 10-K filings, DOL 5500 filings.
Over the past few years, in a falling interest rate environment, sponsors were able to dampen PBGC premiums by using discount rate smoothing under the alternate method (Exhibit 14A). However, sharply rising market yields are expected to turn this strategy on its head. A plan that is well hedged on a U.S. GAAP basis would have experienced a roughly 25% drop in both assets and liabilities, keeping funded status relatively constant. Under the standard method, this plan’s PBGC liabilities would largely mirror the change under U.S. GAAP, and variable rate premiums, to the extent they are paid at all, should not increase meaningfully. However, if this plan uses smoothed discount rates under the alternate method, its liability will not fully adjust downward and it will experience a 15% to 20% decline in PBGC funded status (Exhibit 14B). Many plans in this camp that are overfunded on a U.S. GAAP basis could still see a variable rate premium charge for 2023.

We anticipate that many plan sponsors will be contemplating switching methods. Any method change would be locked in for a period of at least five years, so sponsors have to consider market developments beyond next year. A strong view on interest rates could swing those decisions one way or the other. We note that while these smoothing effects can be painful, they are temporary. Over the long run, the economic view is what ultimately matters.

In the next section, we outline some recent legislative changes that also affect PBGC variable rate premiums.

### Regulatory roundup: Premium cost controls take effect

On December 29, 2022, the SECURE 2.0 Act of 2022 officially became law. Legislators designed the rule changes, which focus primarily on the defined contribution (DC) market, to encourage retirement savings and mitigate employer administrative burdens. However, buried in the legislation are several provisions applicable to defined benefit plan sponsors.

Plan sponsors have been pushing for years to address the PBGC premium burden and finally have some results to show for their efforts: The new legislation freezes variable rate premiums, which tax a plan’s deficit, at 5.2% of the unfunded vested benefits. However, the flat rate premium and VRP cap continue to be indexed to wage inflation. While this may be

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**Discount rate smoothing helps plans in a falling rate environment, but hurts when rates rise sharply and quickly**

<table>
<thead>
<tr>
<th>Year</th>
<th>Standard method</th>
<th>Alternate method (no lookback)</th>
<th>Alternate method (4-month lookback)</th>
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</thead>
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<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2021</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** J.P. Morgan Asset Management, PBGC premium filings; data as of March 1, 2023.

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**Exhibit 14B: Impact of 2022 rate changes on funded status of a typical DB plan, year-over-year change**

<table>
<thead>
<tr>
<th></th>
<th>U.S. GAAP Standard method</th>
<th>Alternate method (no lookback)</th>
<th>Alternate method (4-month lookback)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets (%)</td>
<td>-25%</td>
<td>-25%</td>
<td>-25%</td>
</tr>
<tr>
<td>Liabilities (%)</td>
<td>-25%</td>
<td>-23%</td>
<td>-10%</td>
</tr>
<tr>
<td>Funded status (%)</td>
<td>Unch</td>
<td>-2%</td>
<td>-16%</td>
</tr>
</tbody>
</table>

**Source:** J.P. Morgan Asset Management calculations, FTSE Pension Discount Curve, Internal Revenue Service; data as of March 1, 2023.

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10 Setting Every Community Up for Retirement Enhancement.
intellectually satisfying in the sense that dollar amounts should be inflation indexed, there is no conceivable justification for inflation indexing a percentage.

Although this freeze was necessary (after all, with continued inflation the VRP would eventually reach and exceed 100%), it may be too little, too late. In Exhibit 15, we calculate the 10-year PBGC premium savings under SECURE 2.0 for a range of pension plan types, varying both the funded status level and the average benefit size, and find that:

- With most plans at or above full funding, they are already avoiding VRPs, so the legislative cap has a minimal expected impact on costs. When a plan is very poorly funded, there are no savings, since the unchanged VRP cap determines the costs.
- When a plan is at the VRP cap, savings max out at a reduction of roughly 10%. Plans with higher balance participants achieve larger savings, all else being equal.\(^\text{11}\)

As of fiscal year 2022, the PBGC single-employer program is more than 140% funded, with a $37 billion surplus. Given the level of surplus risk in the corporate pension universe today, we think the program can afford to ease the premium burden even further. Importantly, the new legislation supports plan sponsors’ use of pension surplus.

The industry’s improved funded status should promote a desire to identify more valuable uses for pension surplus going forward. While SECURE 2.0 addresses only one surplus use, funding retirees’ benefits, the legislative focus on surplus is encouraging. Section 420 transfers (of pension surplus to a 401[k] retiree medical account) were originally set to expire in 2025, but those transfers have now been extended through 2032. Furthermore, SECURE 2.0 reduces to 110% the minimum regulatory funded status required to make such a transfer, broadening eligibility. Based on the latest Department of Labor (DOL) Form 5500 filings, roughly 40% of the top 100 plan sponsors have a separate-account 401(h) arrangement.

The legislation includes other, less attention-grabbing provisions that will impact DB plans, such as the move to cap the mortality improvement for funding valuations and the requirement to enhance lump sum disclosures.

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\(^{11}\) Plans with higher average balances hit the VRP cap at higher levels of funding. This is the same effect that drives sponsors to offload low balance participants as a means of reducing PBGC premium costs.

PBGC savings under SECURE 2.0: Too little, too late

**Exhibit 15: 10-year PBGC savings under SECURE 2.0 by funded status and participant balance**

![Diagram showing PBGC savings under SECURE 2.0 by funded status and participant balance](diagram)

Source: J.P. Morgan Asset Management calculations; data as of March 1, 2023. High balance = $200,000 premium funding target (PFT) per participant, average balance = $150,000 PFT per participant, medium balance = $100,000 PFT per participant, low balance = $50,000 PFT. Analysis assumes 2.6% annual wage inflation consistent with J.P. Morgan Asset Management’s 2023 Long-Term Capital Market Assumptions.
Money for nothing? Creating value through surplus

In some of our recent pieces, we have sought to dispel the notion that pension surplus is hopelessly trapped and worthless. While demonstrably false, this notion has taken root among many plan sponsors and is a contributor to the very real trend of sponsors moving to hibernate and terminate their pension plans. What has been lacking, perhaps, is a real-world example that offers a glimpse into the other side of the debate. But now we have one: Spirit AeroSystems.

Although the company does not currently feature in our top 100 peer set, Spirit provides a specific example of a sponsor winding down a pension plan successfully while minimizing excise taxes and transferring the large majority of the surplus value to itself and its plan participants. If sponsors are asking why they should continue to increase a surplus beyond 100%, they have an answer.

At the beginning of 2021, the sponsor’s U.S. plans were roughly 150% funded on a GAAP basis, with a $500 million surplus. During that year, Spirit executed a spinoff termination for a small subset of the participants, setting up a qualified replacement plan (QRP) to reduce the excise tax from 50% to 20% and extracting $27 million of cash flow, post-tax, to the sponsor. The QRP funds are held on the balance sheet as a restricted asset and will be disbursed over the next seven years, as required by the Internal Revenue Service (IRS).

In 2022, Spirit announced the termination of the remaining pension liability. In this case, benefit enhancements were offered to existing participants that similarly reduced the excise tax from 50% to 20%. A post-tax reversion cash flow of $120 million to $150 million is expected during the first quarter of 2023. Before termination, the plan also established a 401(h) retiree health account, funded with $10 million of surplus pension assets.

In Exhibit 16, we group all these cash flows together to determine the distribution of pension surplus. In aggregate, 45% of the surplus is cash flow to the sponsor while only 11% is paid in excise tax. The remainder is allocated to current participants or used to fund other liabilities. While this type of outcome may not scale infinitely, we find that continued surplus growth can provide tangible benefits to plan sponsors and that there is a rational reason to continue to seek returns past the point of having sufficient assets to terminate the plan.

Surplus value creation: from theory to practice

Exhibit 16: Distribution of surplus resulting from Spirit AeroSystems’ plan terminations

Source: Spirit AeroSystems 10-K filings and DOL 5500 filings. In the exhibit, we assume the 2023 post-tax reversion will be the estimated midpoint of $135 million; data as of March 1, 2023.

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13 While the plan assets are not large enough to make the top 100 list, and certainly won’t be after the termination is complete, the liabilities were acquired from Boeing in 2005 and so are somewhat adjacent to the group.
In a related development, the IRS released a private letter ruling\(^{14}\) for a sponsor that terminated its DB plan in 2022 and transferred a portion of the excess assets across three different defined contribution plans. Even though the DC plans did not individually meet the definition of a QRP, the IRS ruled that they did collectively. This allowed the sponsor to reduce the excise tax on any remaining reversion from 50% to 20%.

We anticipate these types of transactions will garner more attention from corporate peers as plan sponsors grapple with a good problem to have: what to do with an overfunded surplus. Our contention\(^{15}\) is that the highest and best value of a pension surplus is to subsidize future benefit accruals.

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Workers fight to hang on to their DB plans

The trend of closing and freezing plans continued through 2022 (Exhibit 17). In our conversations with plan sponsors, however, we are seeing some signs of life in the corporate DB universe—and increasing evidence that participants want DB plans. As part of its most recent collective bargaining agreement with its unionized workforce, Deere & Company put forward a retirement alternative to its traditional DB plan: an enhanced defined contribution plan called Choice PLUS.\(^{16}\) Provided with the opportunity to freeze their traditional DB plan and move to the Choice PLUS DC program, 90% of Deere’s workers declined.\(^{17}\)

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Corporations continue to freeze DB plans, but the tide may be turning

**Exhibit 17: Large corporate pension plans’ recent closing and freezing actions**

<table>
<thead>
<tr>
<th>Company</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deere &amp; Co.</td>
<td>Closed salaried plan to new entrants on January 1, 2023</td>
</tr>
<tr>
<td>Dow Inc.</td>
<td>Will freeze salary and service for U.S. plans as of December 31, 2023</td>
</tr>
<tr>
<td>AbbVie Inc.</td>
<td>Closed U.S. plan to new entrants effective January 1, 2022</td>
</tr>
<tr>
<td>United Parcel Service Inc.</td>
<td>Ceased accruals for nonunion participants in UPS Retirement Plan and UPS Excess Coordinating Benefit Plan, a nonqualified plan, effective January 1, 2023</td>
</tr>
<tr>
<td>The Coca-Cola Co.</td>
<td>Will freeze U.S. salaried participants effective December 31, 2025</td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management, company 10-K filings; data as of March 1, 2023.

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\(^{14}\) Internal Revenue Service, communication no. 202230006, index no. 4980.00-00, July 29, 2022.

\(^{15}\) Gross and Buchenholz, “Pension defrost.”

\(^{16}\) Choice PLUS includes a $1-for-$1 401(k) match up to 6% for 2022 and then a $0.70-to-$1 match, depending on company profits, for each subsequent year of employment. The company also offered to contribute 5% of employees’ annual wages to their 401(k)s.

\(^{17}\) Deere & Company 2023 10-K filing.
Conclusion: Our recommended approaches for 2023

After a volatile and challenging year for markets that left the majority of DB plans fully funded, sponsors have reached a crossroads. Inevitably, some will continue to head for the exits by setting in motion pension risk transfers and plan termination or running off pension liabilities on the balance sheet. In our view, other sponsors will reassess and decide to expand the role that DB plans play in their broader benefits strategy. Regardless of prevailing organizational attitudes toward pensions, we recommend plan sponsors consider the following approaches during 2023:

- Question your assumptions
We’re not advocating an interrogation of your auditors and actuaries. Instead, we’re referring to the assumptions underlying your organization’s approach to DB pensions. We’ve found it tremendously insightful to identify and challenge the implicit assumptions underlying pension strategies, including PRT and hibernation. Whether this activity simply reaffirms the existing blueprint or leads to a complete overhaul, it’s a worthwhile exercise.

- Age with grace
Pension liability durations have been shortening in two ways: gradually, then suddenly, as a consequence of a higher interest rate environment. Add in the unprecedented downsizing of both assets and liabilities, and net cash flows have become increasingly negative. Against this backdrop, the focus of liability-driven investment portfolios is increasingly shifting down the yield curve toward intermediate-duration bonds, and the importance of diversification and income generation is continuing to grow.

- Assess the value and uses of surplus for your organization
The use cases and extractable value of pension surplus will vary across sponsors. Understanding the landscape of options is important to determining a plan’s endgame, including its asset allocation strategy and terminal funding level. With 10-year trailing asset returns beating liabilities by 200bps, many sponsors may find they are leaving money on the table by implementing a risk minimization profile for their investment portfolios.

Whether they appear in Disney films or the Bible, there is something powerful and unique about stories of redemption, in which flawed subjects transform their lives in a positive direction. Given all the current tailwinds driving DB plans—higher rates, more lenient funding regulations, the evolution of endgame strategies—and the value that DB pensions provide, it feels as though we’re in the early stages of a classic redemption arc.