Protecting Your Defined Benefit Pension Plan From Inflation

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High inflation may increase costs for defined benefit (DB) pension plans and potentially affect their funding status. The authors review how inflation impacts multiemployer and public DB plans and offer strategies for mitigating inflation risks.

benefits
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Defined benefit (DB) pension plans and retirees alike have felt the effects of inflation over the last three years. Inflation impacts investment performance, actuarial assumptions and more for DB plans while posing a persistent threat to the value of retirement savings for retirees.

Before diving into the details of these impacts and how DB plans may want to respond, it's important to review the history of inflation and recent trends.

Review of Inflation

Inflation remained low and relatively stable for almost three decades but rose sharply during the COVID-19 pandemic, spiking to 9.1% in June 2022—the highest level in 40 years. In response to the pandemic, the Federal Reserve reduced the short-term federal funds rate (the rate at which banks lend money to each other overnight) from 1.5% to 0.0%, and the government passed approximately $5 trillion in relief and stimulus packages. The fiscal and monetary stimulus injected into the economy, along with supply chain shortages and labor scarcity, likely contributed to the increase in inflation.[1] Figure 1 displays historical inflation rates and the Consumer Price Index (CPI).

Inflation can often be attributed to an imbalance of supply and demand, which may be either transitory or persistent.

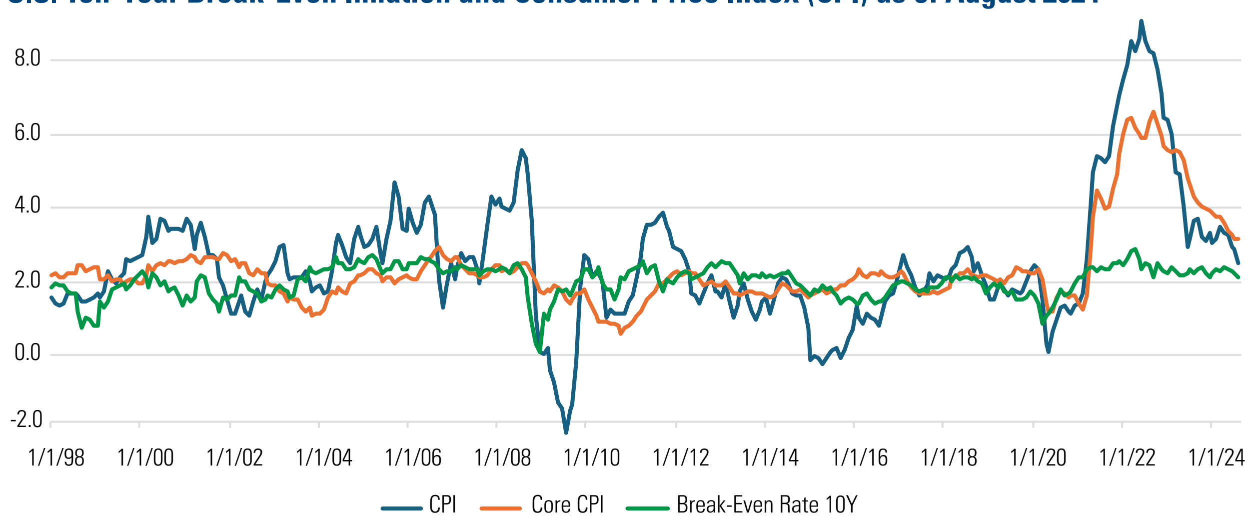
Transitory sources of inflation may include pent-up demand for certain products created by unanticipated events (e.g., the demand for hand sanitizer during the COVID-19 pandemic) or supply chain breakdowns. Persistent sources of inflation may result from conditions such as labor shortages, higher wage growth than expected, elevated consumer demand or an excessive money supply.

Beginning in March 2022, the Federal Reserve aggressively moved to tame inflation by gradually raising the federal funds rate. The Fed raised rates 11 times to reach a target range of 5.25-5.50% by August 2023. As a result, inflation has declined, with the CPI reaching 2.5% year over year in August 2024. The Fed's goal is to have inflation continue to subside to its 2% target (similar to inflation rates just before the pandemic) over the next few years while keeping the economy growing. In mid-September, the Fed decreased the federal funds rate by a half-percent to account for the recent decline in inflation.

This article will explore the effects of inflation on public and multiemployer DB plans and describe strategies to mitigate inflation risks. While inflation is currently trending down, it is important for pension fund trustees to be aware that it continues to affect consumers, and it can quickly reignite

FIGURE 1

U.S. Ten-Year Break-Even Inflation and Consumer Price Index (CPI) as of August 2024



Source: Federal Reserve economic data from the Federal Reserve Bank of St. Louis, as of August 2024. The Consumer Price Index (CPI) and ten-year break-even average lines denote the average values from February 1997 to the end of August 2024, respectively. Break-even values represent month-end values for comparative purposes.

in response to several factors such as a strong labor market, growing federal deficits and a strong economy.

Impact of Inflation on DB Plan Benefits, Expenses and More

Benefits

The impact of higher inflation on DB pension benefits varies with each fund's particular circumstances, including the formula used to calculate benefits.

- For funds with final pay-based benefit formulas, wage inflation will increase the benefits payable to future retirees because their salaries will be higher.
- If the fund provides cost-of-living adjustments (COLAs) to pensioners, then those benefits are also likely to increase.[2]
- For funds with flat dollar per year of service formulas, inflation will not increase benefits, but participants may progressively feel that the benefits they are accruing are insufficient for retirement, causing pressure to improve benefit formulas or provide ad hoc COLAs, especially if the plans are well-funded.
- For funds that allow participants to elect a lump-sum distribution of their benefits, inflation typically lowers the lump-sum payment amount because higher interest rates are used to determine the present value of the pension benefit.

Expenses

Plan administrative expenses, such as professional fees and Pension Benefit Guaranty Corporation (PBGC) insurance premiums for multiemployer plans, generally increase over time. However, they may rise more quickly in periods of high inflation.

Contributions

On the positive side, plans that receive employee and employer contributions based on a percentage of pay may see higher contributions if inflation results in wage increases. The higher contributions may partially offset the higher expenses.

Actuarial Assumptions, Excluding the Discount Rate

If inflation remains high, actuaries may need to update actuarial assumptions. Actuaries conduct experience studies to review the reasonability of the current assumptions and consider new ones based on historical experience and future expectations.

For example, for pay-related plans and plans that provide COLAs, the actuarial liability relies on assumptions of future pay and COLA increases. If inflation persists, then these assumptions will require upward revisions, increasing the actuarial costs.

Inflation's Impact on Investment Return and the Discount Rate

The discount rate is one of the most important assumptions used to determine actuarial liabilities (promised benefits) for DB plans. It calculates the plan's liabilities by taking the present value of the projected pension cash flows for all DB plan participants. It has an inverse relationship to the size of liabilities—The higher the discount rate, the lower the liabilities, and vice versa.[3] Public plan trustees determine the discount rate with input from their actuaries and investment consultants, while actuaries determine the discount rate for multiemployer plans.

Consider a simple pension plan that pays a $500,000 lump sum at retirement at age 65, with one active participant aged 45. Assuming the participant will work for the next 20 years, the present value of the pension obligation will change depending on the discount rate used, described as follows.

- With a 4% discount rate (assuming no inflation), the liability is

takeaways

- Inflation remained low and relatively stable for almost three decades but rose sharply during the COVID-19 pandemic, spiking to 9.1% in June 2022—the highest level in 40 years.
- The impact of higher inflation on defined benefit (DB) pension benefits varies with each fund's particular circumstances, including the formula used to calculate benefits. For example, wage inflation will increase the benefits payable to future retirees and raise cost-of-living adjustments (COLAs) for funds that provide COLAs to retirees.
- DB plans that receive employee and employer contributions based on a percentage of pay may see higher contributions if inflation results in wage increases. The higher contributions may partially offset the possible negative cash flow created by higher expenses.
- Plan actuaries may need to update actuarial assumptions, including actuarial liability, if inflation remains high.
- Strategies that may insulate DB plans from high inflation include adjusting asset allocations to inflation-hedging asset classes such as real estate, commodities and others. Funds may also consider a variable annuity plan design.

$228,000. That is, the plan would need to invest $228,000 today and earn 4% annually for 20 years to reach the $500,000 required for the lump-sum pension payment.

- With a 7% discount rate (assuming inflation), the liability drops to $129,000. The plan would need to invest $129,000 today and earn 7% annually for 20 years to reach the $500,000 required for the lump-sum payment. The lower investment amount is due to higher returns with inflation.

Under this example, liabilities are $228,000 and $129,000 for this simple plan (Figure 2), determined at 4% and 7% discount rates. As the discount rate increases due to the higher expected return on assets, the liability decreases.

Investment and Inflation Trends 2000 to 2020

Low interest rates and high equity valuations since the global financial crisis contributed to making future pension commitments more expensive. Generally, low rates signal lower future returns from fixed income assets, and high valuations signal lower future returns from stocks. As a result, the long-term expected return for institutional portfolios has decreased over the last decade. In response, actuaries, boards and investment consultants often felt it was prudent to reduce the discount rate for many multiemployer and public sector plans.

Given the market at the time, fixed income investments such as bonds offered lower yields (annual income) and reduced future return expectations, which led some pension plans to adjust their asset allocation mix. Many plans have reduced their fixed income allocation since the early 2000s to take advantage of equity returns. These allocations dropped further following the global financial crisis to shift assets to more volatile assets such as private equity, private

FIGURE 2

Impact of Discount Rates on Pension Plan Liability

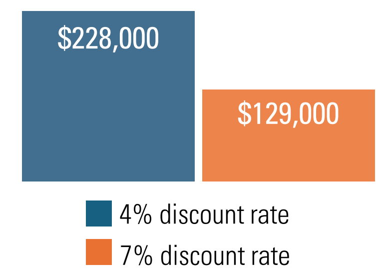
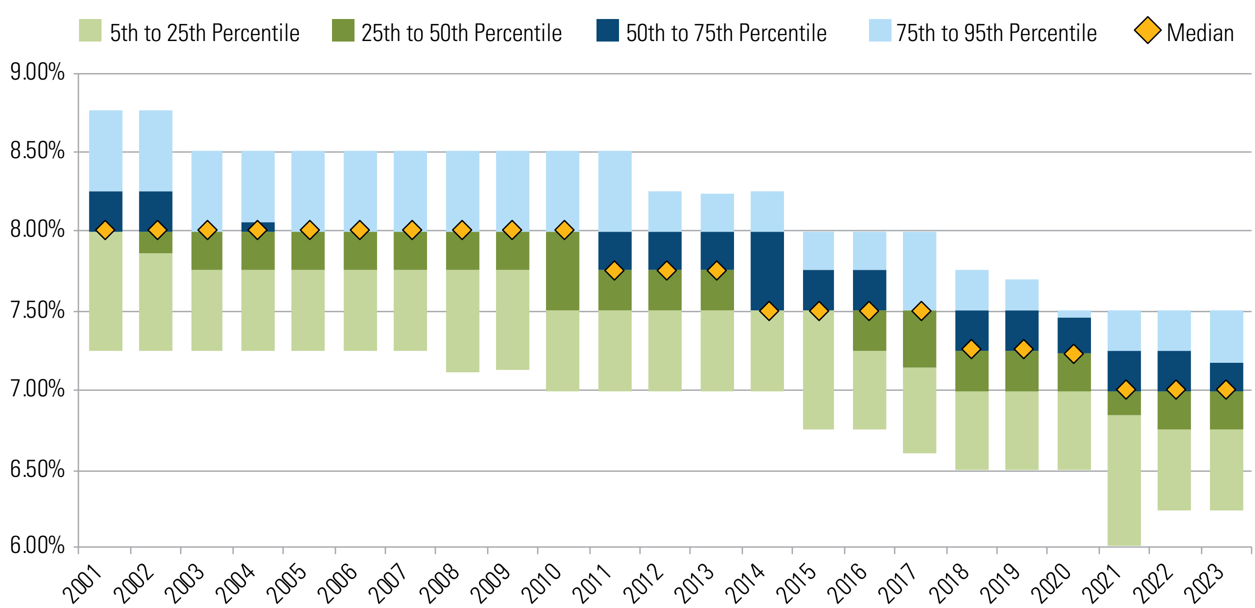


FIGURE 3

U.S. Public Sector Pension Plan Discount Rate Distribution, 2001-2023



Source: Cheiron calculations based on Public Plans Data, 2001-2023. Center for Retirement Research at Boston College, MissionSquare Research Institute, National Association of State Retirement Administrators and the Government Finance Officers Association.

credit, hedge funds and other alternative classes.

However, even the shift into less traditional asset classes could not fully compensate for lower expectations for future returns. Over the past two decades, discount rates for public and multiemployer DB plans have steadily declined. For example, the Public Plan Database of the Center for Retirement Research at Boston College shows that the discount rate for public DB plans dropped by 100 basis points or 1%, on average, between 2001 and 2023 (Figure 3).

In addition to the lower discount rates, which increased liabilities and actuarially determined contributions, these plans' exposures to volatile assets have also increased. Higher volatility in investment returns can impede a plan's recovery from a down market if the plan has a negative cash flow. The surge in Baby Boomer retirements is accelerating the negative cash flows of many DB plans because they are paying out more in benefits than they collect in contributions. With more money going out of the plan than coming in, a sudden drop in asset values requires a larger portion of the plan's assets to be paid out to cover this negative cash flow. That money is no longer invested to reap the reward of a future recovery in asset values.

In summary, low inflation and the low-interest-rate environment over the past two decades caused many pension plans to have higher liabilities and increased exposure to market volatility.

TABLE

Average Annual Returns by Asset Class During Inflation, 1973-2020

Asset Class	Inflation Slightly Higher Than Expected	Inflation Moderately Higher Than Expected	Inflation Meaningfully Higher Than Expected
U.S. equity	-1.0%	-4.2%	-12.8%
Global equity	-0.7%	-3.6%	-12.3%
Long-term government bonds	-2.2%	-5.8%	-11.4%
Treasury Inflation-Protected Securities (TIPS)	-0.5%	-1.4%	-3.7%
Short-term TIPS	0.1%	0.0%	-0.4%
Commodities	1.7%	3.1%	1.2%
Gold	0.9%	1.9%	2.6%

Source: Meketa Investment Group, *The Inflation Variable: Evaluating Potential Outcomes.*

Enter Inflation and Higher Interest Rates

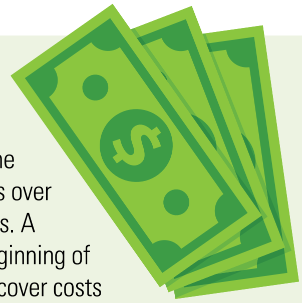
The inflation of the past few years is changing this situation. Higher inflation typically results in higher interest rates since investors demand higher yields to compensate them for the risk of loss in purchasing power. In the short term, higher interest rates tend to depress asset returns, especially for fixed income securities whose prices are inversely related to interest rates. Stocks may also suffer in the short term as company profits are squeezed by rising input costs.

However, higher rates may offer long-term benefits once DB plans weather this initial volatility. Once rates have increased, the higher yields available on fixed income investments may make them more attractive, since they offer greater flexibility to DB plans in structuring their investment portfolios. For example, plans could potentially reduce their exposure to volatile assets while maintaining their expected returns and, consequently, their discount rates. Moreover, if higher rates and return expectations persist, DB plan discount rates may gradually increase, ultimately lowering future pension costs. In general, discount rates for public employee and multiemployer plans have not increased during the current inflationary period.

Withdrawal Liability

Higher interest rates may cause withdrawal liability for a contributing employer to multiemployer plans to decrease if the calculation is based on market rates, such as the ERISA Section 4044 PBGC rates. Recently the 4044 PBGC rates have risen sharply, decreasing an employer's withdrawal liability. This is particularly applicable to plans receiving Special Financial Assistance, which, by law, must value

Inflation and Retirees



To understand how inflation affects retirees, consider how the purchasing power of $1 declines over time as inflation increases prices. A pensioner who retired at the beginning of 2009 would need $1 in 2024 to cover costs of 74 cents in 2008 if inflation had been at the Fed's 2% target from 2009 to 2024. Applying the actual Consumer Price Index (CPI) over the period brings the purchasing power of $1 in 2024 to 68 cents. During the first ten years of this period, purchasing power declined to 84 cents, slightly better than the Fed's 2% target, which would have been 82 cents. This illustrates how even a short period of high inflation can quickly erode the purchasing power of a pension benefit.

vested liabilities for withdrawal liability purposes using the 4044 rates.

If high inflation persists long term, plans may need to adjust their actuarial assumptions. For pay-related or COLA plans, the higher pay and COLA assumptions will be offset, possibly fully, by the higher discount rate. The actuarial costs should come down for plans with no automatic indexation of benefits.

Protecting a Plan From Inflation

How can trustees protect their plan from inflation? Is there a way to do this while providing increased benefits to retirees?

Plans may want to consider the following strategies.

Adjust the Asset Allocation

Some asset classes may serve as a more effective hedge against inflation, improve diversification and help bolster portfolio returns. These "real assets" include real estate, commodities, infrastructure, Treasury Inflation Protected Securities, public natural resource equities and gold. These assets tend to have better relative performance during inflationary episodes as shown in the table. While absolute returns might be underwhelming relative to traditional stocks and bonds, these assets look attractive and can provide diversification to a portfolio.

To combat inflation across economic cycles, investors may benefit most from a diversified portfolio of assets that has historically performed well during rising prices. Asset classes react differently to inflationary pressures, and diversification can help mitigate risk and capture potential gains across various holdings.

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Adopt a Variable Annuity Pension Plan

Shifting to variable annuity pension plans is another possibility. Variable annuity plans aim to share the investment risk between the plan sponsor and participants and to reduce the investment risk by investing conservatively. The plan sponsor's contribution rate is expected to remain stable, although increases may be required. To mitigate the risk of increasing required contributions, participants' benefits may be reduced if the investment return falls short of a predefined target known as a *hurdle rate*.

Each plan sets a hurdle rate, which may influence the value of the benefit accrual. Generally, if the plan's actual investment returns exceed the hurdle rate, then benefits increase; if returns fall below the hurdle rate, benefits decrease.

During inflationary periods, interest rates tend to rise, enabling future contributions to be conservatively invested at higher returns, which generally leads to benefit increases under the variable annuity plan. This approach may allow participants to maintain purchasing power more effectively than traditional plans, especially during periods of prolonged inflation.

The variable nature of these plans' benefits can raise concerns regarding legal and compliance issues and managing participant expectations. Clear communication is needed to ensure that all parties understand the risk-sharing aspects of this type of plan. Moreover, for public sector participants, only new hires may qualify for the variable annuity plans, so the plan gains only gradual protection from inflation over time.

Conclusion

The impact of inflation on DB pension plans can vary dramatically depending on their demographics, design, asset allocation, cash flows, funded status and assumptions as well as whether they are multiemployer or public sector. The impact will also vary depending on whether high inflation persists and how central banks react to inflationary episodes.

Rising inflation has reminded trustees of the importance of safeguarding DB plans and retiree purchasing power. Reconsidering asset allocation and exposure to inflation hedges can bolster a pension plan's resilience against inflation. In addition, for plans that do not offer COLAs, a review of potential pension increases for long-term retirees may be worth considering. For boards willing to make a more substantial redesign, variable annuity plans may offer a long-term solution by linking benefits to the funded status and reducing investment risk.

Endnotes

1. Betsy Vereckey, "Federal spending was responsible for the 2022 spike in inflation, research shows." July 17, 2024. MIT Management Sloan School.
2. According to the National Association of State Retirement Administrators, nearly 75% percent of public defined benefit (DB) plans provide automatic cost of living allowances (COLAs), which increase retiree benefits to help maintain purchasing power. Many plans limit COLAs to a maximum percentage, such as 3% per year. Some plans impose annual limits; others implement them cumulatively so that annual increases are carried over from year to year.
3. A rough rule of thumb used by actuaries is that liabilities increase about 10-12% for every 100-basis point decrease in the discount rate.

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