

Utility Pensions: What's Past is Prologue

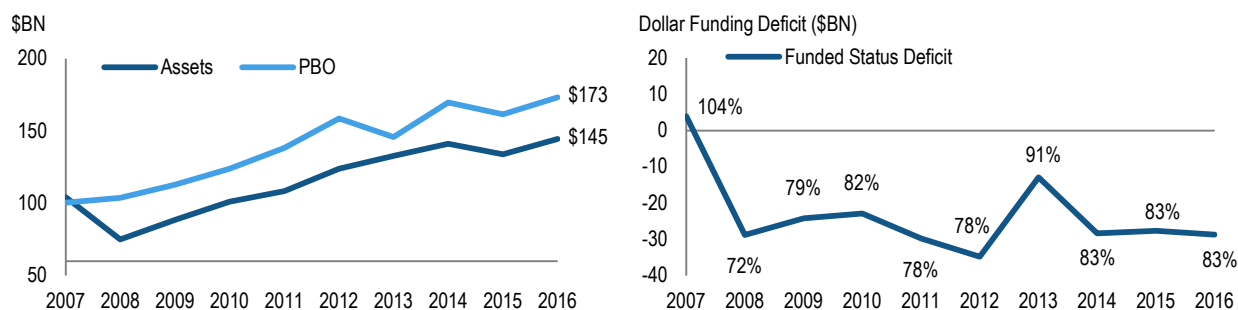
Executive Summary

As US pension plans move towards de-risking through liability driven investing, utility pension plans continue to fall behind. This is due, in part, to regulators that allow recovery of losses through a rate setting mechanism which, in turn, drives unnecessary allocation to equities and passes on investment losses to ratepayers. In this report, we provide key findings and recommendations based on a comprehensive analysis we performed on the financial statements of 47 publicly traded utilities from fiscal year-end 2007 to 2016.¹ By examining this past, Utilities can write a new prologue of prudent risk reduction for their pensions.

- **Defined benefit ("DB") pension exposure for the utilities industry is material.** The 47 utilities we analyzed have a combined Pension Benefit Obligation² of approximately \$173 billion, equal to 25% of the industry's aggregate market capitalization. Utility DB pension liabilities are only 83% funded, equal to a dollar deficit of \$29 billion, despite contributions in excess of \$41 billion since 2008 (Exhibit 1).³
- **In an effort to close the pension funding deficit, utility DB plans continue to maintain significant risk exposure to equities and unhedged interest rate risk.** Based on our analysis, utilities' average equity allocation is 46%, much larger than the 35% average equity allocation for companies in the S&P 500 with DB pension plans. Utilities also maintain a smaller allocation to fixed income (40% versus 44% for the S&P 500 company plans).
- **These risks are no longer desirable.** Changing pension legislation has increased the penalties associated with both plan surpluses and deficits. Many DB plans have also reduced their expected return on assets. These factors have contributed to a broad de-risking trend among US DB plans. Utilities have lagged this trend, largely due to regulatory concerns about the potential impact on ratepayers.
- **With the support of state regulators, we recommend that utility DB plans implement a fund and de-risk program** to pass on lower and more stable costs to ratepayers, secure DB plans, and improve the industry's financial health.

EXHIBIT 1: DEFINED BENEFIT PENSION EXPOSURE IS A MATERIAL RISK FOR UTILITIES

Utility DB assets and liabilities (left) and funded status levels (right)



Source: GSAM, Bloomberg and 10-K (2007-2016).

¹ 47 Companies selected for this study were publicly traded utilities that are members of the Edison Electric Institute, have consistent 10k data going back to 2007 and a December 31 measurement date.

² Pension Benefit Obligation: the present value of current liabilities plus the present value of future liabilities earned.

³ Source: GSAM, Bloomberg, 10-K (2007-2016).

Utility Pension Exposure: A Material Risk

Since year-end 2007, the utility industry's pension plans have continued to perform poorly compared to their liability growth and expected asset return. To get a clearer picture of the drivers of this underperformance, we conducted a comprehensive analysis of the financial statements of 47 publicly traded utilities for 2016.

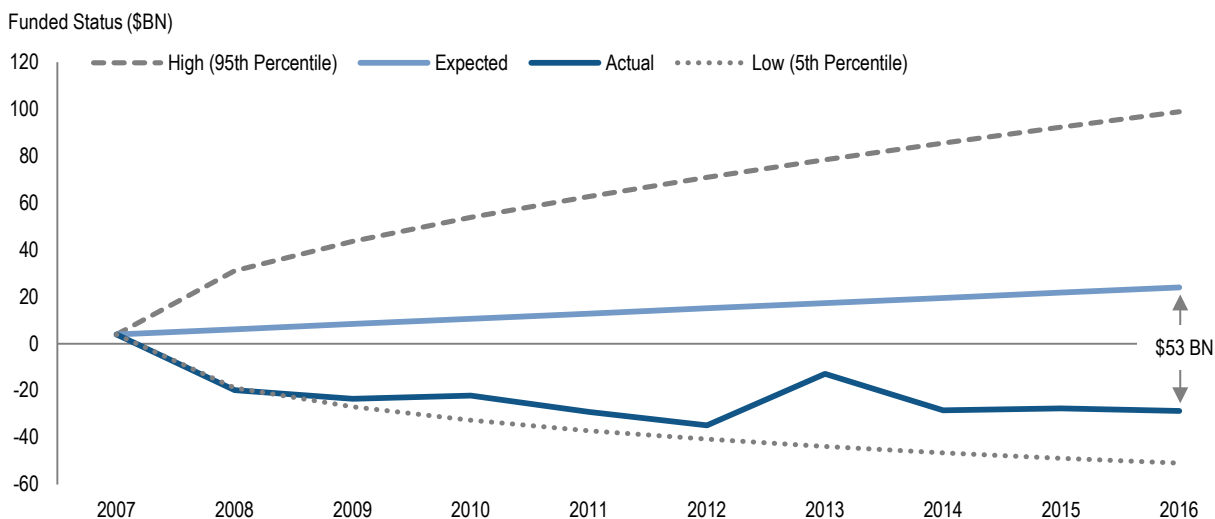
Our key findings:

- **DB exposure totaled approximately \$173 billion on a PBO basis.** That is equivalent to 25% of the industry's aggregate market cap of \$669 billion.
- **The funding deficit for utility DB plans was \$29 billion as of year-end 2016.** Utility DB plan funded status was 83% as of year-end 2016. The industry was fully funded on a PBO basis as of year-end 2007, but the funded status dropped by over \$33 billion in 2008 and has yet to recover.
- **Utilities have contributed more than \$47 billion to DB plans since 2008.** Actual contributions were far larger than the expected contribution of \$27 billion over this period, but this was not sufficient to close the funding deficit.
- **Utility industry pension plans were \$81 billion behind their own forecasts.** During the period from 2008 to 2016, plans underestimated the need for contributions by \$20 billion, underestimated the growth of liabilities by \$36 billion—primarily due to falling interest rates—and overestimated anticipated asset returns by \$25 billion. See Exhibit 2. For a complete breakdown of forecasts versus actual outcomes of utility industry assets and liabilities, see the Appendix on page 6.
- **On average, utilities allocate more to equities (46%) than fixed income (40%).** This is the opposite of S&P 500 companies with DB pension plans, which on average allocate more to fixed income (44%) than equities (35%). While actual plan asset allocations vary widely within the utility industry, 70% of plans have less than a 50% allocation to fixed income.

In our view, the size of utility DB pension plans, the sizable funding deficit and the significant market risk embedded in utility asset allocations represent a material risk exposure entirely unrelated to the utility industry's mandate and regulators' ultimate goal of protecting utility ratepayers.

EXHIBIT 2: UTILITY PENSION PLANS HAVE UNDERPERFORMED THEIR OWN FORECASTS

Utility industry pension funded status: actual versus expected⁴



Source: GSAM, Bloomberg and 10-K (2007-2016).
For Illustrative Purposes Only.

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Utility Pension Deficits: Are Regulatory Assets the Culprit?

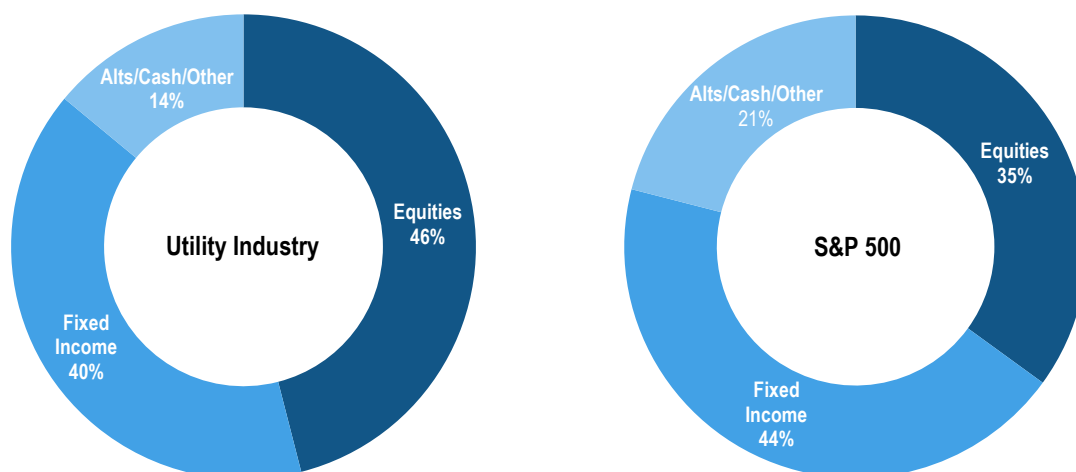
Reviewing the asset allocations of public utilities, it is apparent that the industry continues to maintain significant risk exposure to equities and alternatives that do not meaningfully hedge interest rate risk and may prolong funding deficits. As a result, utility DB plans are falling behind the broader trend toward de-risking among US pension plans.

As of year-end 2016, utilities allocated 46% of DB plan assets in equities and 40% in fixed income. This is markedly different from the average allocation among S&P 500 companies with DB plans. Over the last 10 years, S&P 500 companies with DB plans have steadily reduced equity allocations while increasing fixed income allocations. As of the end of 2016, these companies had an average asset allocation of 35% in equities and 44% in fixed income. The average fixed income allocation for this group exceeded the equity allocation beginning in 2014.

Historically, a high equity allocation was justified by the view that equities outperform in the long run, while interest rate risk was largely ignored. Continued risky asset allocations expose plan sponsors and ratepayers to the risk of significant losses. In a 5% worse case, funding deficits could increase to approximately \$100 billion by 2023.⁵

EXHIBIT 3: UTILITY INDUSTRY AVERAGE ASSET ALLOCATION COMPARED TO S&P 500 (FYE 2016)

Utility industry pension plans allocate more to higher risk asset classes than plans in the S&P 500



Source: GSAM, Bloomberg and 10-K (2007-2016).

Most importantly, losses from risky asset allocations in DB plans may divert capital away from utilities' core purpose of generating, transmitting, and distributing electric power (i.e. the contingent call on plan sponsors capital). In addition to the different risks across their enterprise in the form of operational risk and financial risk, rate regulated utilities take on investment risk from mismatches between pension assets and pension liabilities. These risks combine to form corporate-wide risk, which needs to be supported by equity capital.⁶

Are "regulatory assets" the culprit?

Pension debt can be more costly for ratepayers than ordinary corporate debt when combined with financial risk and market penalties. Unfortunately, GAAP accounting rules seem to encourage risk-taking by recording expected return on assets ("EROA") in current earnings and deferring actual gains and losses over a much longer time horizon. The difference between expected vs. actual gains and losses is captured in "unrecognized actuarial gains and losses." In the utility industry, actuarial losses are typically offset by a regulatory asset, ultimately funded by ratepayers. Unrecognized pension actuarial losses across the industry totaled \$40 billion at year-end 2016. These losses manifest themselves as a form of corporate debt obligation that will need to be amortized over time.

⁵ Source: GSAM, Bloomberg and 10-K (2007-2016).

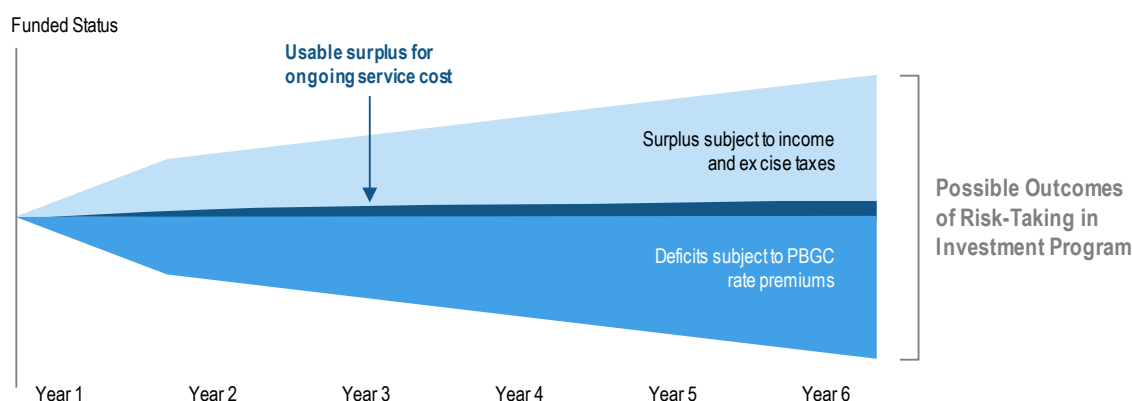
⁶ Views and opinions expressed are for informational purposes only and do not constitute a recommendation by GSAM to buy, sell, or hold any security. Views and opinions are current as of the date of this presentation and may be subject to change, they should not be construed as investment advice.

Asset-Liability Mismatches: No Upside to Surpluses, Penalties for Deficits

Changing pension legislation has increased the penalties associated with both plan surpluses and deficits. In the case of surpluses, tax legislation over the years has increased the penalties associated with reversions of plan surpluses to industry sponsors and their ratepayers. Currently, reverted proceeds are subject to corporate income tax and an additional 50% non-deductible excise tax. In the case of deficits, the 2012 Moving Ahead for Progress in the 21st Century Act ("MAP 21") and the Bipartisan Budget Act of 2015 ("BBA") have increased the penalties associated with running plan deficits by raising Pension Benefit Guaranty Corporation ("PBGC") variable rate premiums from 0.9% to greater than 5.4% annually over the next ten years. See Exhibit 4.⁷

EXHIBIT 4: DB PLANS RECEIVE NO UPSIDE FOR SURPLUSES AND ARE PENALIZED FOR DEFICITS

Penalties associated with surpluses and deficits for qualified DB plans

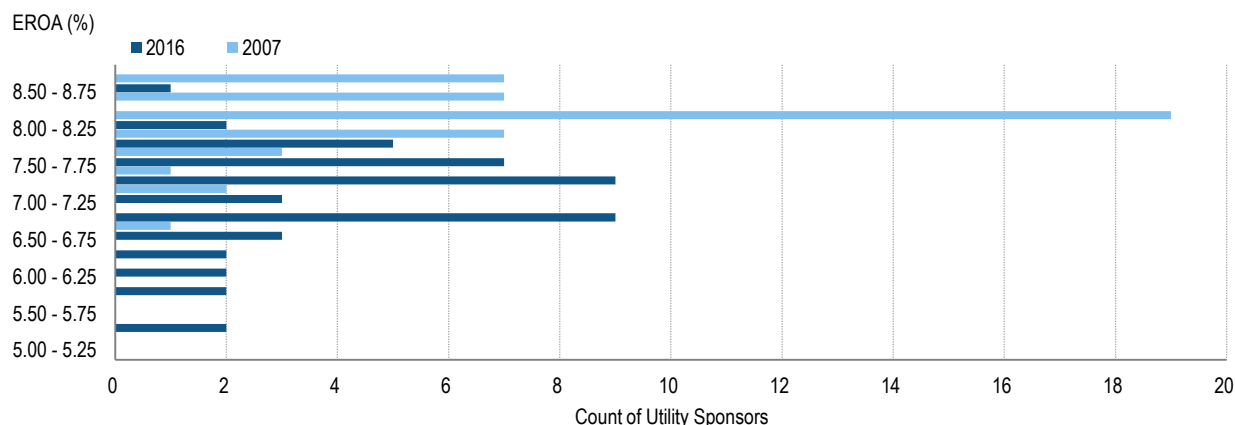


Source: GSAM, Bloomberg and 10-K (2007-2016).
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Advancements in asset-liability risk management, enabling liability-driven investing, have helped reduce interest rate risk and funded status volatility in pension plans. In turn, some utility sponsors have responded by adopting custom asset allocations tailored to each plan's unique liability profile, as well as implementing a de-risking strategy. These, as well as a lower interest rate environment, resulted in utility industry EROA dropping on average from 8.5% at year-end 2007 to 7.2% at year-end 2016. Nevertheless, more de-risking actions are warranted. See Exhibit 5.

EXHIBIT 5: UTILITIES HAVE LOWERED THEIR RETURN EXPECTATIONS

Dispersion of EROAs across utility pension plans within this study



Source: GSAM, Bloomberg and 10-K (2007-2016).

⁷ Goldman Sachs does not provide accounting, tax, or legal advice. Please see additional disclosures at the end of this document.

Conclusion: Managing Pension and Ratepayer Risks

Utility pension plan sponsors, and their regulators, should be aware that high equity allocations may lead to losses. These losses increase pension deficits which are debts that may ultimately be more costly for ratepayers than other types of corporate debt.

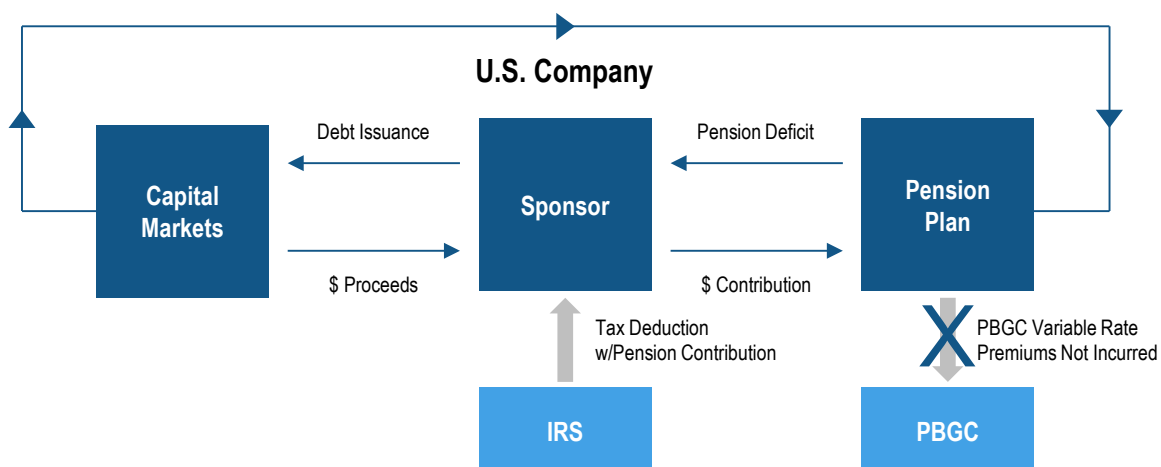
A high degree of risk-taking within DB plans might be endemic to the rate setting mechanism in a number of jurisdictions. For example, many rate setting mechanisms include the EROA of the pension plan as a part of the utility's income without considering the asset risk behind that EROA. Pension plans that invest heavily in equities, with little consideration for asset-liability risk management, typically have larger EROAs, but the likelihood that those EROAs are actually achieved is a little more than a coin toss.⁸

With the support of state regulators, our recommendation for utilities is to implement a fund and de-risk plan in order to pass on lower and more stable costs to ratepayers, secure DB plans, and improve their financial health.

Re-financing pension debt with publicly-traded corporate debt may allow plan sponsors to capture tax benefits and save on PBGC variable rate premiums; we estimate that the potential savings across the utility industry as a whole will range from \$6 billion to \$14 billion. These savings arise from a combination of a one-time tax benefit for contributing to the plan, plus the annual savings from avoiding rising PBGC variable rate premiums, in favor of lower and tax-advantaged public debt coupons. In effect, a fund and de-risk plan can monetize these potential "stranded benefits". In addition to cost savings, a fund and de-risk program may dramatically reduce financial risk across the industry if the debt proceeds are appropriately reinvested in an asset-liability risk management strategy. See Exhibit 6.⁹

EXHIBIT 6: COMPONENTS OF A FUND AND DE-RISK STRATEGY

Borrowing from the capital markets and contributing proceeds to pension plan is a debt-for-debt swap that garners not only a tax deduction but avoids PBGC variable rate premiums



Source: GSAM.
For Illustrative Purposes Only.

For more information on the borrow-to-fund strategy please see our latest commentaries, "[Pension Plan Management: Should Sponsors Borrow to Fund and De-risk Their Plans?](#)" and "[Does a Borrow-to-Fund and De-Risk Strategy Still Make Sense?](#)"

⁸ The views and opinions that I express today are my own and are for informational purposes only and do not constitute a recommendation by GSAM for you to take any action.

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Appendix: Public Utility Assets and Liabilities, 2007-2016

Utility pension plans have underperformed their own forecasts by \$81 billion from 2007-2016

Beginning 12/31/2007 (\$BN)	Expected	Actual	Difference
Beginning assets	\$102	\$102	
Beginning liabilities	98	98	
Beginning funded status	4	4	
Changes in assets only			
Benefit payments	-67	-67	
Contributions	27	47	20
Asset returns	80	55	-25
Other	0	8	8
Total changes in assets	40	43	2
Changes in liabilities only			
Benefit payments	-67	-67	
Service cost	27	27	
Interest cost	60	60	
Liability change due to market factors	0	36	36
Liability change due to demographics	0	7	7
Other	0	11	11
Total changes in liabilities	20	75	55
Ending assets	142	145	2
Ending liabilities	118	173	55
Ending funded status as of 12/31/2016	24	-29	-53
Total change in funded status	20	-33	-53

Source: GSAM, Bloomberg and 10-K (2007-2016).
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