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ISSUE BRIEF

A Forensic Review of Factors Causing Chicago's Persistent Public Pension Debt

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KEY FINDINGS

- The primary driver of Chicago's unfunded liabilities today is Interest on the Debt. This is because of the long amortization schedules for Chicago pension funds targeting just 90% funded ratios between 2055 and 2059.
- The second fastest growing contributor to Chicago's unfunded liabilities is Assumption Changes to align actuarial forecasts with actual experience, such as adopting lower assumed rates of return and updating mortality tables.
- Commonly cited concerns, such as benefit enhancements or underpaying required contributions, were factors before 2001 but are not significant components of today's $52 billion in unfunded liabilities.

OVERVIEW

The city of Chicago's public pension plans are so poorly funded that their combined unfunded liabilities are larger than 43 states — including New York, Michigan, and Florida.

The state and the city have made numerous attempts to improve the health of these defined benefit plans and get their costs into a more manageable condition and some of those policy efforts may have slowed the accumulation of unfunded liabilities relative to what exists today. But, whatever the merits of these efforts, they have not meaningfully improved Chicago's pension funding over the past 25 years. The practical reality is that Chicago has over $52 billion in pension debt across its various retirement systems, driving costs that are expected to be 15.4% of the city's budget in 2025.[1]

So, what is causing pension debt to persist in The Windy City?

Equable's research team performed a forensic review of the annual change in actuarially accrued liabilities and assets. That analysis found that the factors causing growth in unfunded liabilities have changed over the years — ranging from legacy underfunding to unfunded benefit changes, to underperforming investments. But, for the last decade, the primary reason for persistent unfunded liabilities in Chicago is accumulating interest on the debt. This is a result of policies that only target 90% funding, while stretching out the amortization period to reach that goal for multiple decades — instead of the 20 year maximum period to reach a 100% funded ratio recommended by actuaries.

A FORENSIC ANALYSIS OF CHICAGO PUBLIC PENSION DEBT

There are many claims about what has caused Chicago's unfunded liabilities. Some arguments are rooted in politics and history ("It's expensive, generous benefits!" or "Chicago didn't pay their pension bills!"). Other arguments point to financial factors ("It's their investment returns!"). Each of these can be appealing to certain audiences because they fit broader stories told about Chicago and Illinois. This is because each is likely tapping into some real aspect of Chicago's narrative. But none of these claims tell the entire story.

In reality, there are multiple factors that have contributed to—and are continuing to cause—Chicago's unfunded pension liabilities.

The most appropriate way to understand the root of these problems for Chicago (or any set of pension plans) is to review the actuarial valuation data showing which factors actuaries identified as causing unfunded liabilities to change from year to year. Such a forensic review of pension debt can classify contributing factors into several different categories, shown in the table below.

FACTORS THAT CAUSE UNFUNDED LIABILITIES TO INCREASE OR DECREASE

Assumption Changes
Changes to liabilities due to adopting new assumptions

Interest on the Debt
Expected contributions are greater or less than interest growth on liabilities

Investment Experience
Changes to assets due to investment returns higher/lower than assumed

Demographic Experience
Experience in retirement, payroll, mortality, etc. different than assumed

Benefit Experience
Changes to benefit values, COLA experience, different than assumed

Contribution Experience
Contributions paid are greater, the same, or less than expected

Other Experience
Changes to liabilities that are reported in a generic "other" category

Unreported Change
Changes to liabilities that are not documented in pension plan reporting

Starting Status
Funded status at the start of a plan's actuarial gain/loss data reporting

Financial reports published by Chicago's pension funds at the turn of the century had limited actuarial detail about what was causing unfunded liabilities. Publicly available valuation reports with actuarially valued asset data are available for all Chicago plans starting in 2006. And, by 2010, all Chicago plans were publishing complete actuarial change data.

WHAT ARE THE MAJOR FACTORS CAUSING CHICAGO PENSION DEBT?

FIGURE 1 | CHICAGO COMBINED UNFUNDED LIABILITIES[2]

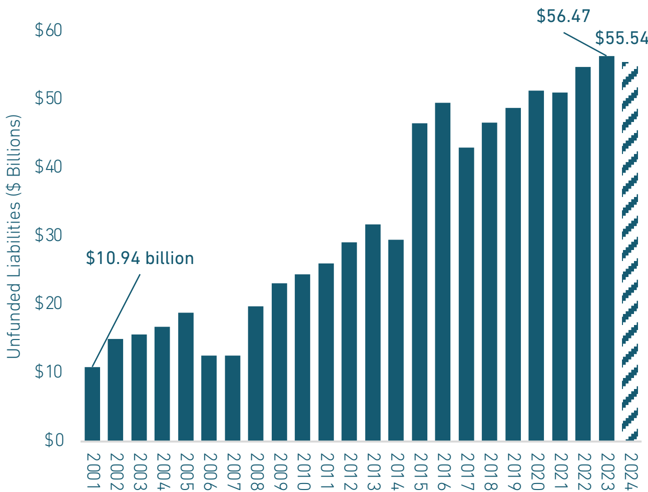
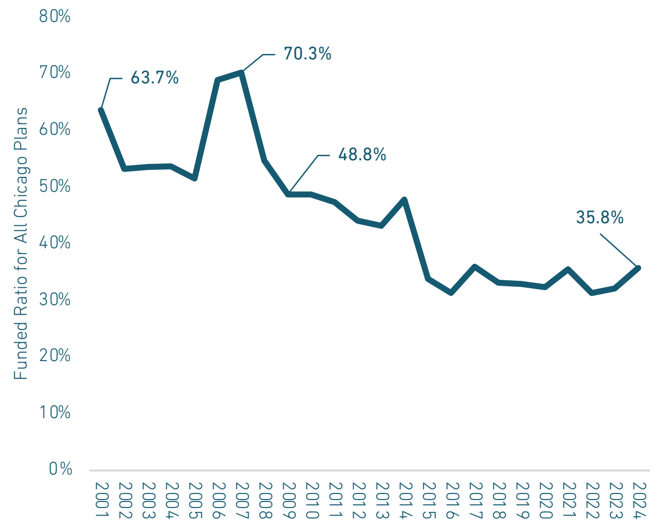


FIGURE 2 | CHICAGO COMBINED FUNDED RATIO[3]



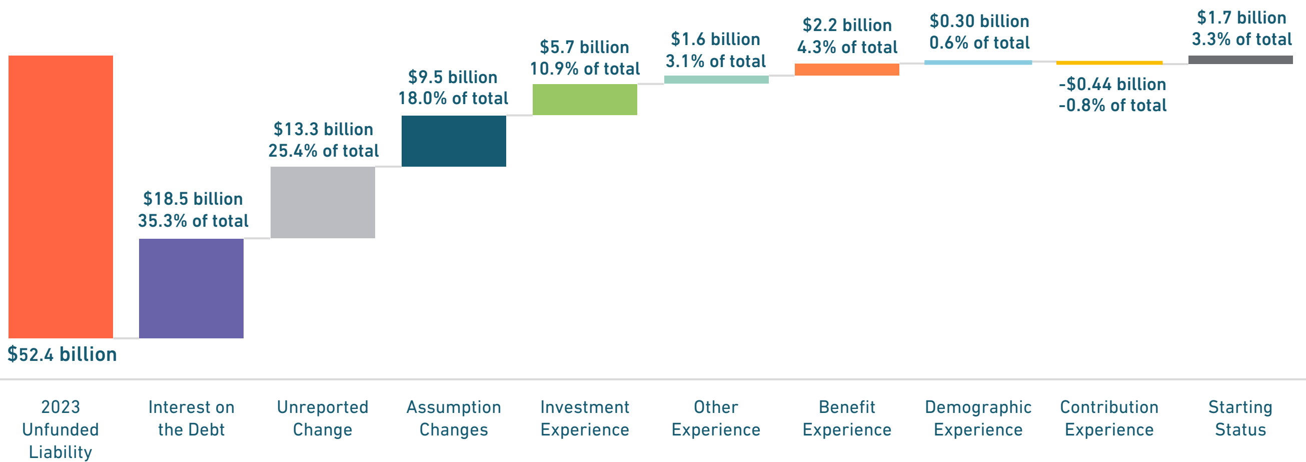
Unfunded liabilities have long been a problem for Chicago, shown in Figures 1 and 2. But pension debt has become a particularly challenging problem over the last two decades. In 2006, most of Chicago's $13.9 billion in unfunded liabilities were from experiences prior to 2001:

- Unreported Changes from the prior years was $10.7 billion of 2006 unfunded liabilities, or 77% of the total pension debt. This is actually slightly less than the $10.9 billion in unfunded liabilities that Chicago carried over from the 20th century.
- Valuation reports from the 1990s do not provide enough detail to provide precise totals, but the categories that are baked into that $10.7 billion figure include:
    - Benefit Experience (changes to benefits that were not pre-paid or otherwise paid for),
    - Contribution Experience (failure to pay required contributions), and
    - Interest on the Debt (a long amortization schedule set in place, e.g., the "Edgar Ramp").
    - Most of the rest of the 2006 unfunded liability figure is from underperforming Investment Experience, which totals $1.9 billion, or 14.3% of the pension debt.

By 2023, Chicago pensions funds had added $38.5 billion more in unfunded liabilities, but the driving factors had changed (as shown in Figure 3):

- Interest on the Debt accounts for $18.1 billion of the unfunded liabilities (35% of the total).
- Assumption Changes have led to another $9.5 billion of today's pension debt (18%).
- Investment Experience is $5.7 billion of Chicago's pension debt (11%).
- Unreported Change is still 25% of today's unfunded liabilities, but it is no longer growing, nor is it a majority share.

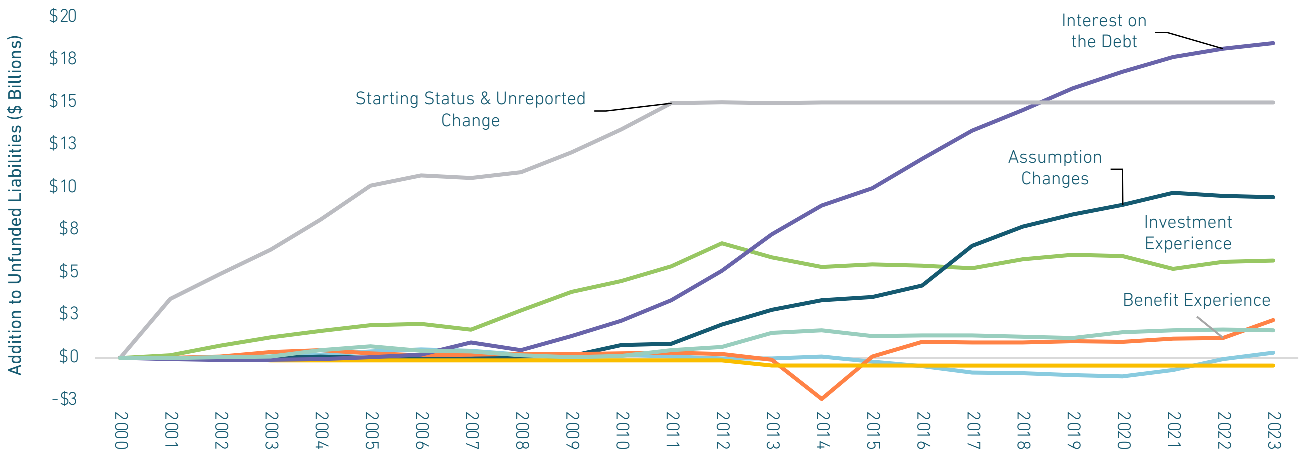
FIGURE 3 | THE SPECIFIC CAUSES OF CHICAGO PENSION DEBT AS OF 2023



HOW THE CAUSES OF CHICAGO PENSION DEBT HAVE CHANGED OVER TIME

The chart below provides a visual way to understand how factors contributing to unfunded liabilities have changed over time. Each year numerous factors could cause pension debt to increase or decrease. Figure 4 shows the cumulative total of each factor between 2000 and 2023.

FIGURE 4 | CHANGE OVER TIME IN FACTORS CAUSING CHICAGO PUBLIC PENSION UNFUNDED LIABILITIES



The three overwhelming reasons why unfunded liabilities have gotten worse in Chicago since 2010 are: Interest on the Debt, Assumption Changes, and Investment Experience. (Unreported Change is no longer growing now that there is full data transparency in publicly reported data.)[4]

- Interest on the Debt: This fastest growing source of unfunded liabilities and the largest share at 35% of the total for 2023. Even when the city pays 100% of "required" contributions, if the policies determining that required payment use excessively long amortization schedules into the 2050s and only target 90% funded ratios, those contributions will be less than interest accumulating on the pension debt. That is what is happening today.[5]
- Assumption Changes: Chicago plans have not always used the most reasonable actuarial assumptions, so when forced to adopt better investment assumptions, mortality assumptions, or demographic assumptions the city's pension funds had to recognize an increase in unfunded liabilities from Assumption Changes.

- Investment Experience: Most of the investment underperformance came from the Global Financial Crisis (losses from which were phased in between 2008 and 2012). Years of good and bad investment performance since then have largely balanced themselves out.

It is noteworthy that other factors like Benefit Experience or Demographic Experience have only contributed in small ways. For example, recent cost-of-living adjustments were higher than actuarially assumed, which added to pension debt in 2022 and 2023, but prior to this most unpaid for benefit enhancement contributions to Chicago pension debt happened in the 20th century and are generally blended among other elements in the Unreported Change category.

THE FUTURE OF CHICAGO'S UNFUNDED LIABILITIES

The trendlines for factors causing Chicago unfunded liabilities over the last few years provide a helpful guide to understand if the situation is going to get better any time soon. The two biggest categories of concern are:

- Interest on the Debt: Chicago's pension plans are, with one exception, targeting being 90% funded at some point between 2055 and 2059 (each plan has its own amortization schedule). This is going to mean that Interest on the Debt keeps growing for the foreseeable future as contributions going into the pension plans are less than interest accumulation. The exception to this trend is Chicago's Water District fund, which has a 100% funded ratio target by 2050—which is the right funding target but still has 25 years remaining in their amortization schedule.

- Assumption Changes: Three of Chicago's largest pension plans (Municipal, Police, and Fire) are using a 6.75% assumed rate of return, as of their most recent actuarial reports. This assumption is around the national average today and is likely to be lowered further at some point in the coming few years. Other Chicago plans are using investment assumptions as high as 8.25% (Transit Authority) — which are on the absolute extreme edge of assumed returns nationally and will need to be reduced in the coming years to comply with actuarial reasonability standards.

It will be important to monitor Investment Experience in the coming years, and whether the actual returns Chicago's pension funds generate are tracking with assumptions. If assumed rates of return are reduced, it makes it more likely that investment returns will outperform assumptions, which will reduce the share of the UAL that can be attributed to Investment Experience.

Benefit Experience is not a major contributor to Chicago's pension debt currently, but it will also be important to monitor. There could be changes to Tier 2 benefits related to concerns about Social Security's "safe harbor" rules, and this could cause an increase in unfunded liabilities. In addition, high rates of inflation could cause actual COLA's paid to be higher than what is assumed.

Generally, the only path forward to stop the growth of Interest on the Debt in Chicago's pension funds would be to target 100% funded ratios and reduce the years in the amortization schedule.[6] Such a policy would drive up contribution rates beyond even today's fiscally challenging levels. A step in the right direction would be to target 100% funding, even if the payment targets remained in the 2050s. Beyond that continuing to find ways of making supplemental payments and assigning future revenue streams (such as future casino revenue to the Police and Fire pension funds) can chip away at the unfunded liabilities. The faster the city can pay down its unfunded liabilities, the lower the overall costs will be in the long run.

NOTES & CITATIONS

[1] Chicago's 2025 budget forecast anticipates 15.4% of its Corporate Fund will be spent on pension costs, see p. 15. There are four major pension plans in Chicago that cover individuals considered to be employees of Chicago (Municipal, Police, Fire, and Teachers). Chicago Public Schools is in the process of becoming a separate unit that will have a more complex relationship with the city going forward. There are four additional pension funds in Chicago whose costs are covered by Chicago taxpayers but are formally providing benefits to employees separate government units (Transit Authority, Laborers Board, Water District, and Parks). The table below provides data for seven of those Chicago pension plans that are analyzed in this issue brief (excluding Parks because of its small size):

	UNFUNDED LIABILITIES, 2023 (ACTUARIAL VALUE OF ASSETS)	STATUTORILY DEFINED EMPLOYER CONTRIBUTION, 2024 (IN DOLLARS)	EMPLOYER CONTRIBUTION RATE, 2024 (AS A % OF PAYROLL)	
			Statutory Rate	Actuarially Required Rate
Municipal Employees Annuity and Benefit Fund of Chicago	$14,672,435,682	$941,017,242	37.4%	49.3%
Public School Teachers' Pension and Retirement Fund of Chicago	$13,807,209,479	$1,022,546,000	33.0%	50.1%
Chicago Policemen's Annuity Benefit Fund	$13,409,994,933	$928,842,000	67.3%	89.9%
Firemen's Annuity and Benefit Fund of Chicago	$5,650,198,029	$443,074,073	80.0%	97.7%
Retirement Plan for Chicago Transit Authority Employees	$1,777,608,000	$160,336,263	21.6%	17.0%
Laborers' & Retirement Board and Employees' Annuity and Benefit Fund of Chicago	$1,756,601,454	$127,349,567	53.4%	70.7%
Chicago Metropolitan Water Reclamation District Retirement Fund	$1,331,142,770	$88,734,000	43.4%	46.2%
Chicago Plans Combined	**$52,405,190,347**	**$3,711,899,145**		

[2] Publicly available actuarially valued asset data for 2001 to 2005 is limited due to valuation report availability. However, market value of asset data is available for this period. This figure shows MVA based data through 2005 and then switches to AVA based data for 2006 to 2023. This is necessary since defined benefit plans report their unfunded liability changes based on actuarially valued asset data. Fortunately, this does not have a material effect on the reported value of unfunded liabilities over time. While there is some variance between market valued data (or using GASB accounting standards) and actuarially valued data, it is not significant over time. For 2006, the market valued unfunded liabilities were $12.6 billion for Chicago plans combined, compared to the $13.9 billion in actuarially valued unfunded liabilities (which were still phasing in investment gains from prior years). As of FYE 2023 reports the actuarially valued unfunded liabilities were $52.4 billion. By contrast, using GASB accounting standards for 2023, the combined net pension liability equaled $53.9 billion, with a funded ratio of 34.44%. Equable Institute's "State of Pensions" FYE 2024 estimates for Chicago plans total a net pension liability of $55.4 billion with a similar 34.45% funded ratio.

[3] Funded ratio figures shown are based on market valued asset data.

[4] This chart starts with known levels of actuarially valued unfunded liabilities in 2000, which were around $1.7 billion, and then grows from there. We separately know from market valued data that there was more pension debt in 2000 (closer to $11 billion), and as Chicago's pension plans improved the transparency of their publicly reported data, those amounts were added to the Unreported Change line. This line tops out at $13.3 billion, and if combined with the Starting Status $1.7 billion, the figure is showing that there is around $15 billion of the $52.4 billion in unfunded liabilities that is not specifically accounted for (as it was primarily accumulated in the 20th century). However, the picture for most of Chicago's pension debt is otherwise very clear.

[5] The state of Illinois statewide pension plans have faced a similar dynamic (40% of collective downstate pension plan unfunded liabilities are from Interest on the Debt). Gov. Pritzker's proposal to start targeting 100% funded ratios would be a step in the right direction toward changing this dynamic.

[6] It may be possible to use voluntary mechanisms (such as buyouts) to lower Chicago's liabilities that would reduce required contribution rates and make it more affordable for the city to reduce the amortization schedule. However, there is unlikely a fiscal path forward with benefit reductions that changes the need for increased contributions in the near-term.