

HARRIS SCHOOL OF PUBLIC POLICY · NEXTGEN PENSION CHALLENGE 2026

Does Bigger Mean Better?

Rethinking the Case for Fund Size in Public Pensions

Vickie Zou · Neelima Raheja · Prerna Panda

August 2026

Where We're Headed

01

Why This Matters

The consolidation argument, in plain terms

02

What We Looked At

50 funds, 29 states, 18 years

03

How We Tested It

Our method

04

What We Found

The access gap is real; the performance edge isn't

05

How Sure Are We

We checked it six different ways

06

What It Means

For consolidation policy going forward

THE BOTTOM LINE

Bigger funds invest more in alternatives. That part checks out.

But once we correct for how private equity and real estate are valued, that scale does not translate into better risk-adjusted returns.



The access gap is real

Larger funds put meaningfully more into private equity, real estate, hedge funds, and other illiquid assets.



The performance edge is not

Once we correct for a valuation quirk in how those assets are priced, the size advantage disappears — twice, independently.



So, what's the real case?

Consolidation should be argued on cost, governance, and administrative efficiency — not on a performance promise the evidence doesn't support.

A Fragmented Pension Landscape

The situation

Public pension plans range from multi-billion-dollar state funds down to small municipal plans of under \$100M — often covering similar workers under very different setups.

The common argument

Big funds can access private equity, real estate, and hedge funds. Small funds often can't. That access is assumed to translate into better returns.

The policy response

States including Wisconsin, New York, and Illinois have pursued — or are considering — consolidating smaller funds into larger pools on that basis.



SECTION 01 — WHY THIS MATTERS

This Isn't Just Our Hunch

Four recent studies point the same direction — access to alternatives grows with size, but the return story is murkier than headlines suggest.

Dyck & Pomorski

2011 / 2016

Bigger funds' private-equity edge fades once you adjust for risk — at least for US funds.

Andonov, Bauer & Cremers

2017

Underfunded funds lean harder into alternatives to chase returns — and it doesn't pay off.

Begenau, Liang & Siriwardane

2024, Harvard

Growth in alternatives looks more driven by consultants and peer pressure than fund size itself.

Dutch Central Bank

2024

Larger funds don't uniformly outperform; cost savings from scale don't show up in net returns.

What's different about our study: none of these compare funds within the same state. We do — so state-level rules and politics can't be driving the result.

SECTION 02 — WHAT WE LOOKED AT

18 Years, 50 Funds, One Consistent Trend

What went into the sample

- Public Plans Data (PPD), Center for Retirement Research at Boston College
- Police/fire and teacher retirement plans only
- Full asset-allocation history required, every year, 2007–2024
- Result: 50 funds across 29 states, no gaps in the data

What we measured, in plain terms

Fund size: Total assets under management

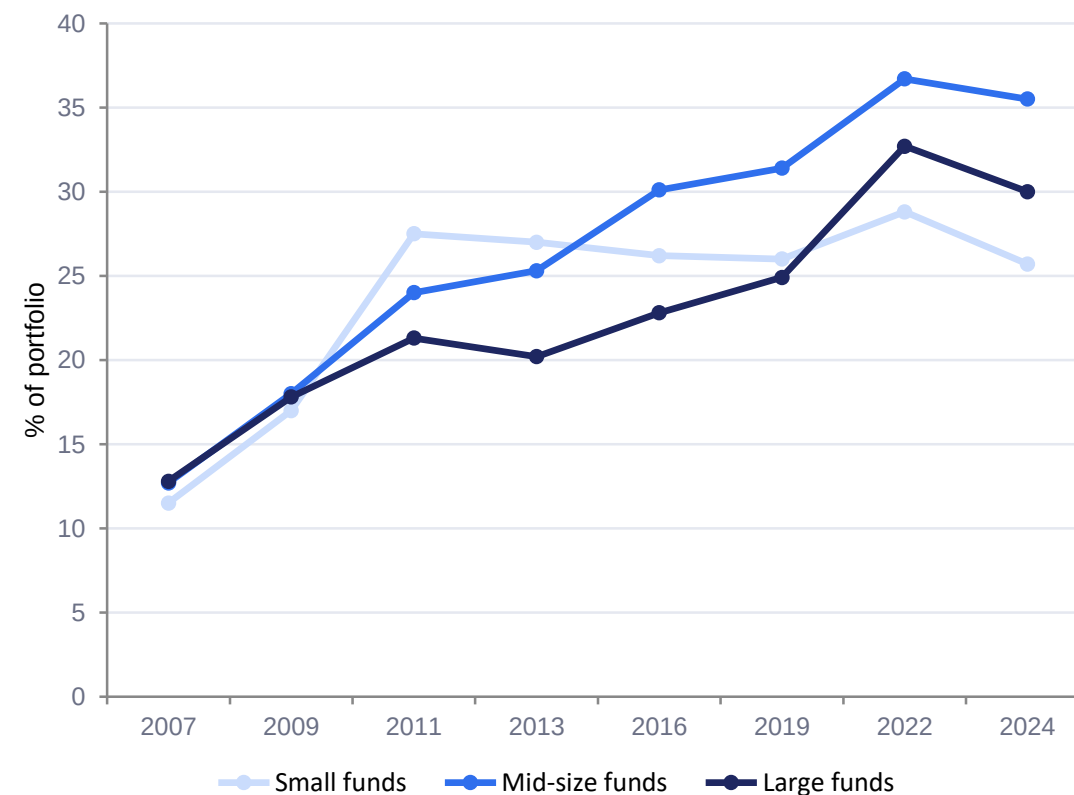
Alternatives exposure: Share in private equity, real estate, hedge funds, etc.

Risk-adjusted return: Return earned per unit of risk taken (the Sharpe Ratio)

Fee load, funding health, plan maturity: Standard control factors so we're comparing like with like

Alternatives allocation over time, by fund size

All funds have piled into alternatives — but larger funds got there first and went further.



Three Plain Questions, Answered in Order

1

Do bigger funds get into alternatives more?



2

Do bigger funds get better risk-adjusted returns?



3

If both are true, does the second come FROM the first?

Keeping the comparison fair

We only ever compare funds against other funds in the same state, in the same year — so differences in state law, tax rules, or politics can't masquerade as a "size effect." We also compare funds against their own past selves as a cross-check.

One catch we had to correct for

Private equity and real estate aren't priced daily like stocks — they're appraised periodically. That makes their reported returns look artificially smooth and stable, which inflates risk-adjusted performance for funds that hold a lot of them. We used two independent, well-established statistical fixes for this (details on the next slide) — and neither one is a judgment call we made up.

Why "Risk-Adjusted Return" Needed Fixing First

The Sharpe Ratio — the standard way to measure "return per unit of risk" — assumes you know how much an investment's value actually bounces around. Appraisal-based assets break that assumption.

The problem

PE and real estate are valued by appraisal every quarter or year, not traded daily. That makes their reported returns look unusually smooth — understating true volatility and inflating the risk-adjusted return.

Fix #1 — Lo (2002)

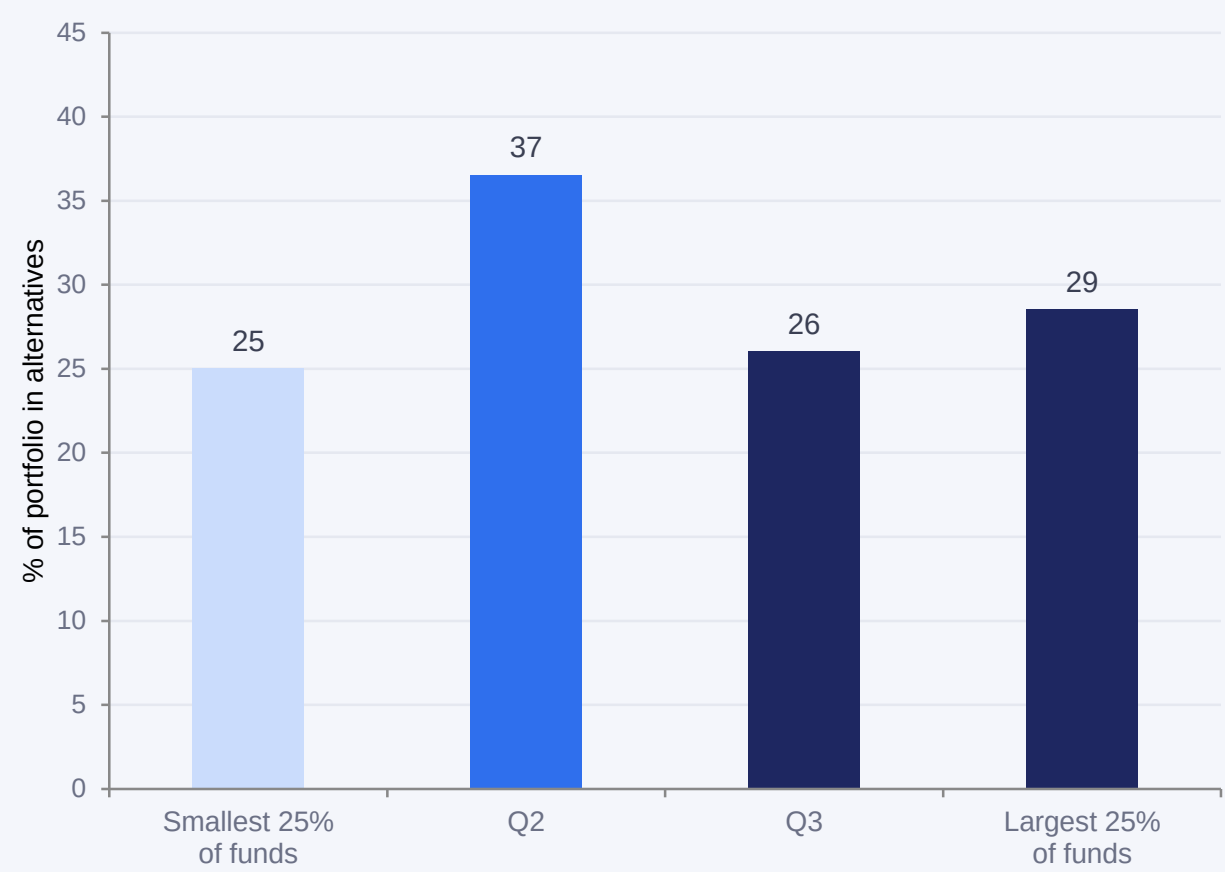
A well-established statistical adjustment that corrects the Sharpe Ratio formula itself for this smoothing pattern. This is our primary method.

Fix #2 — Geltner (1993)

A different, independent approach: it "unsmooths" the actual return series for the alternatives portion before recalculating volatility. Used to double-check Fix #1.

The two fixes are alternatives to each other, not add-ons — we never apply both at once (that would over-correct). What matters is that they were built independently, by different researchers, for different reasons, and they land on the same answer.

Finding 1: Bigger Funds Do Invest More in Alternatives



Larger funds consistently hold more in private equity, real estate, hedge funds, and other illiquid assets — this pattern holds across the whole size range, not just at the extremes.

+2.6

percentage points more in alternatives, for every step up in fund size

How confident are we?

Very. This is the single most reliable result in the entire study — it holds no matter which way we measure performance.

Bottom line: the access gap that motivates consolidation is real, and it's not a close call.

Finding 2: The Performance Edge Disappears After Correction

BEFORE CORRECTION

Using reported (smoothed) returns

A borderline edge

Bigger funds look marginally better on a risk-adjusted basis — this is what most existing literature reports and matches what you'd expect at face value.

Reliability: weak / borderline

(About a 1-in-12 chance this "edge" is just noise — most researchers wouldn't call that solid ground.)

AFTER CORRECTION

Using two independent valuation fixes

No edge at all

Once we price in the true volatility of alternatives, the size advantage essentially vanishes — and it vanishes under both correction methods, independently.

Reliability: essentially zero effect

Confirmed two ways: our primary correction (Lo) and a fully independent second method (Geltner) both land on essentially no effect.

Finding 3: Alternatives Aren't Driving Even That Small Edge

We also asked directly: does holding more alternatives explain any performance advantage? The answer flips depending on whether returns are corrected.



Reading the flip

Before correction: Alternatives look like they're helping performance — this is the story you'd tell from raw numbers alone.

After correction: That relationship disappears and even flips slightly negative. That flip is the signature of an illusion, not a real effect finally showing through.

Stress test: We reran this 1,000 different ways by resampling the data — the "no effect" conclusion held up every time.

We Checked This Six Different Ways

Same question, six different technical setups. If the "no performance edge" conclusion only showed up once, we wouldn't trust it. It shows up in five out of six.

!	Reported returns (no correction)	Borderline edge appears — this is the illusion
✓	Lo-adjusted returns (our primary method)	No meaningful edge
✓	Geltner correction, low setting	No meaningful edge
✓	Geltner correction, medium setting	No meaningful edge
✓	Geltner correction, high setting	No meaningful edge
✓	Comparing funds against their own past selves	No meaningful edge

Recalibrate the Case for Consolidation

✓ What consolidation CAN still claim

Real access to alternatives: larger funds genuinely reach investments smaller funds can't.

Cost and governance gains: economies of scale in administration and investment management fees are real and achievable.

✗ What consolidation CANNOT claim

Better risk-adjusted returns: the size premium disappears under both independent corrections.

Alternatives-driven alpha: the alternatives channel is not a confirmed source of outperformance once valuation smoothing is accounted for.

Three More Practical Takeaways

1

Watch the fee drag

Alternatives carry the highest fees of any asset class. Before expanding into them — through consolidation or otherwise — model the fee drag explicitly. A high fee can quietly erase any benefit.

2

Target the right funds

Focus consolidation on plans that are poorly governed or under-resourced — not simply small. A well-run small fund isn't automatically fixed by getting bigger.

3

Ask for honest reporting

As alternatives allocations keep growing, reported Sharpe Ratios will increasingly reflect smoothed valuations rather than true risk. Consider requiring stress-tested, unsmoothed return estimates alongside official numbers.

What This Study Doesn't Settle

Sample size

50 funds is a solid, carefully-vetted sample — but it's not huge. It's limited by our strict requirement of complete, uninterrupted data for all 18 years. A larger sample might sharpen the estimates further.

One measure of risk-adjusted return

We used the Sharpe Ratio, the standard tool. Future work could add other lenses — like downside-risk measures or a fund's ability to pay benefits when due — that may better fit a pension's real objective.

Sensitivity of the correction

We tested our correction at three strengths — low, medium, and high. Only the most aggressive setting showed any effect, and we believe that's a side effect of the method itself, not a genuine signal.

Correlation, not full causation

Our design accounts for a lot of alternative explanations, but true cause-and-effect would ideally come from a natural experiment — for instance, comparing funds just before and after an actual consolidation mandate.

CONCLUSION

The Size Effect Is Real — But It's a Measurement Artifact, Not a True Advantage

1

The access gap is real and robust.

Larger funds allocate significantly more to illiquid alternatives — this holds up every way we test it.

2

The performance premium is fragile — and it breaks.

A borderline edge in raw returns disappears completely under two independent, well-established corrections.

3

Alternatives don't explain even the small edge.

The relationship flips sign once returns are properly measured — the signature of an illusion, not a real effect.

The policy message: ground consolidation in governance, cost, and actuarial stability — not in a performance promise the corrected evidence doesn't support.

Full Statistical Results

438 fund-windows · 50 funds · 29 states · State + Time fixed effects · Standard errors clustered at the fund level

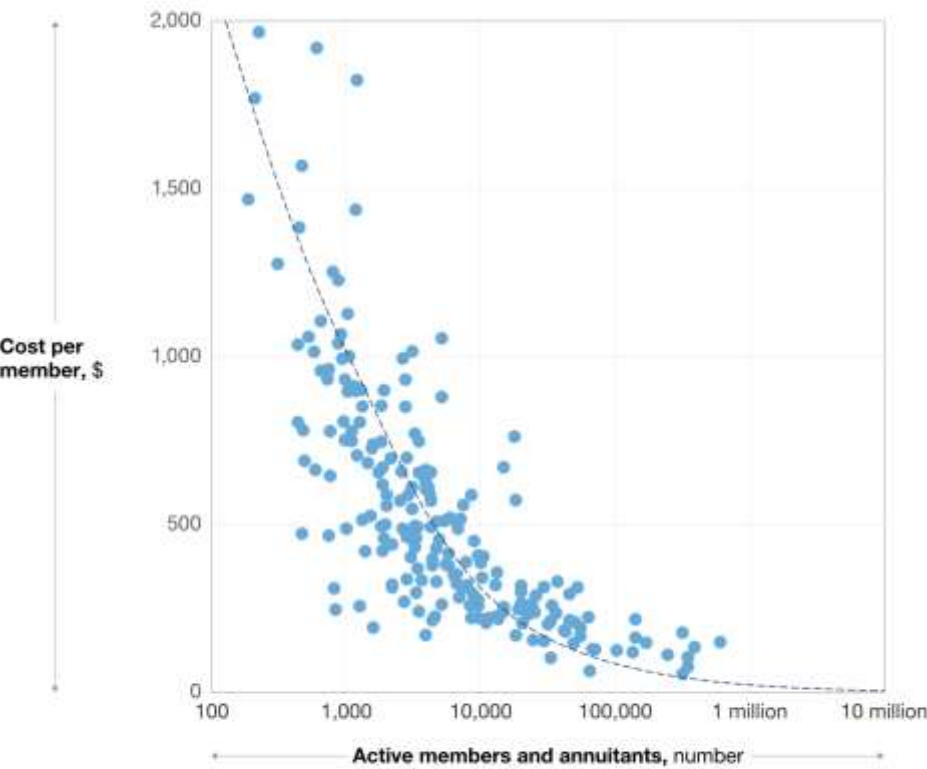
Step	Coefficient	Estimate	p-value	95% CI
Path A: Size → Alternatives	α_1	+0.0260	< 0.001 ***	[+0.013, +0.039]
Total effect: Size → Sharpe (Lo-adj.)	δ_1	+0.0069	0.351	[-0.008, +0.021]
Mediation: Size (direct)	β_1	+0.0104	0.347	[-0.008, +0.032]
Mediation: Alternatives → Sharpe	β_2	-0.1352	0.626	[-0.679, +0.408]
Bootstrap indirect effect	$\alpha_1 \times \beta_2$	-0.0035	n.s.	[-0.025, +0.015]

Robustness specification	Coefficient	Estimate	p-value
Fund FE (within-fund)	δ_1	-0.0668	0.501
Raw Sharpe (uncorrected)	δ_1	+0.0155	0.083 *
Geltner $\phi = 0.30$	δ_1	+0.0087	0.271
Geltner $\phi = 0.50$	δ_1	+0.0015	0.813
Geltner $\phi = 0.70$	δ_1	-0.0071	0.274

R² — Step 1: 0.845 · Step 2: 0.871 · Step 3: 0.871
*** p<0.01 ** p<0.05 * p<0.10
Geltner and Lo are alternative corrections for the same bias and are never combined.

APPENDIX • LARGE SCALE WILL DRIVE DOWN AVERAGE COSTS

Pension administration, cost per member vs active members



McKinsey&Company | Source: CEM Benchmarking

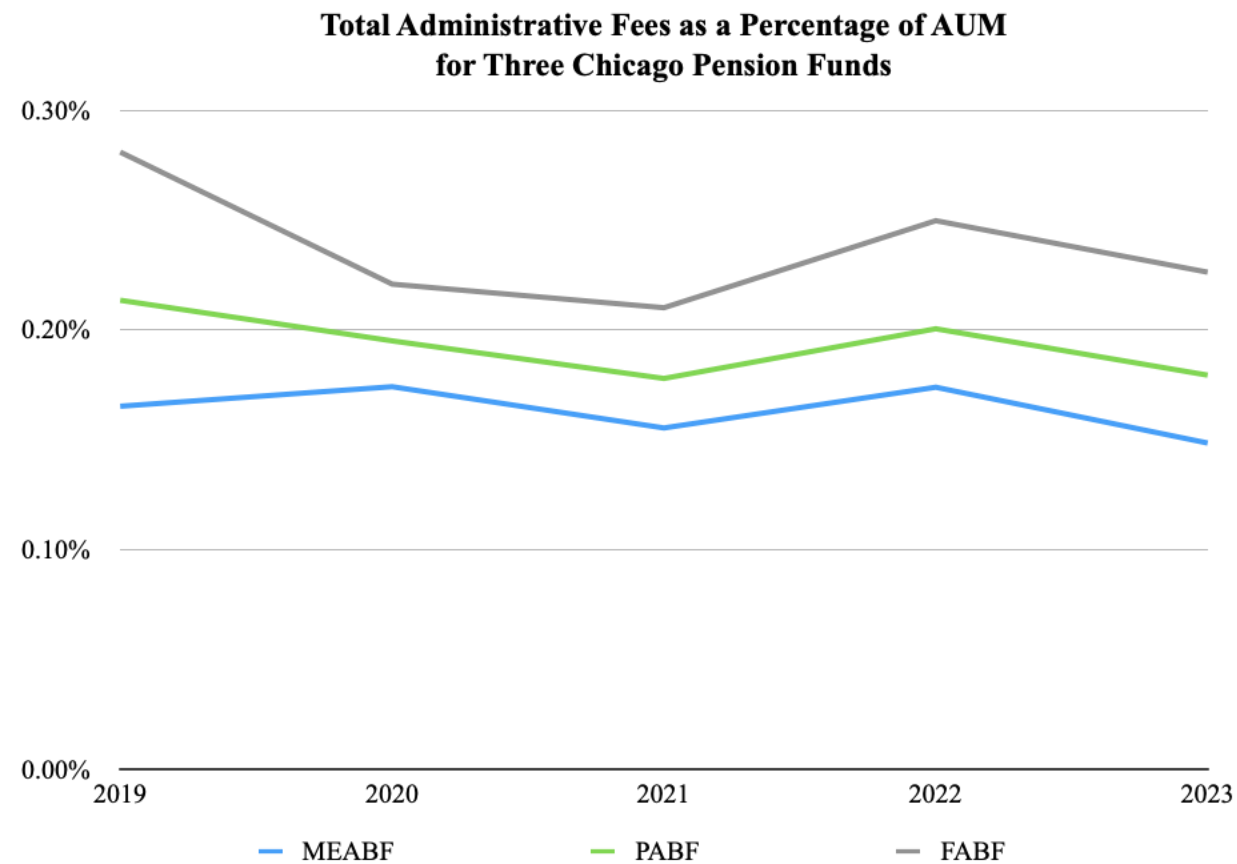
For administration costs, which, on average, account for roughly 10 to 15 percent of the total, CEM Benchmarking finds clear evidence of economies of scale. In a 2018 analysis covering 280 DB plans.

	Administrative Expenses (\$)	Active Members	Retirees and Beneficiaries	Cost/Member (\$)
Police	4,260,335	11,850	14,762	160.09
Fire	3,583,521	4,712	5,369	355.47
Municipal	6,650,922	36,968	26,028	105.57
Labor	3,566,372	2,643	3,583	572.81
TOTAL	18,061,150	56,173	49,742	

	Cost/Member (\$)	Total Active Members	Total Retirees and Beneficiaries	Potential Expenses at Low Costs (\$)	Potential Savings (\$)
Public Safety Funds	160.09	16,562	20,131	5,874,209.84	1,969,646.16
General Employee Funds	105.57	39,611	29,611	7,308,243.74	2,909,050.26

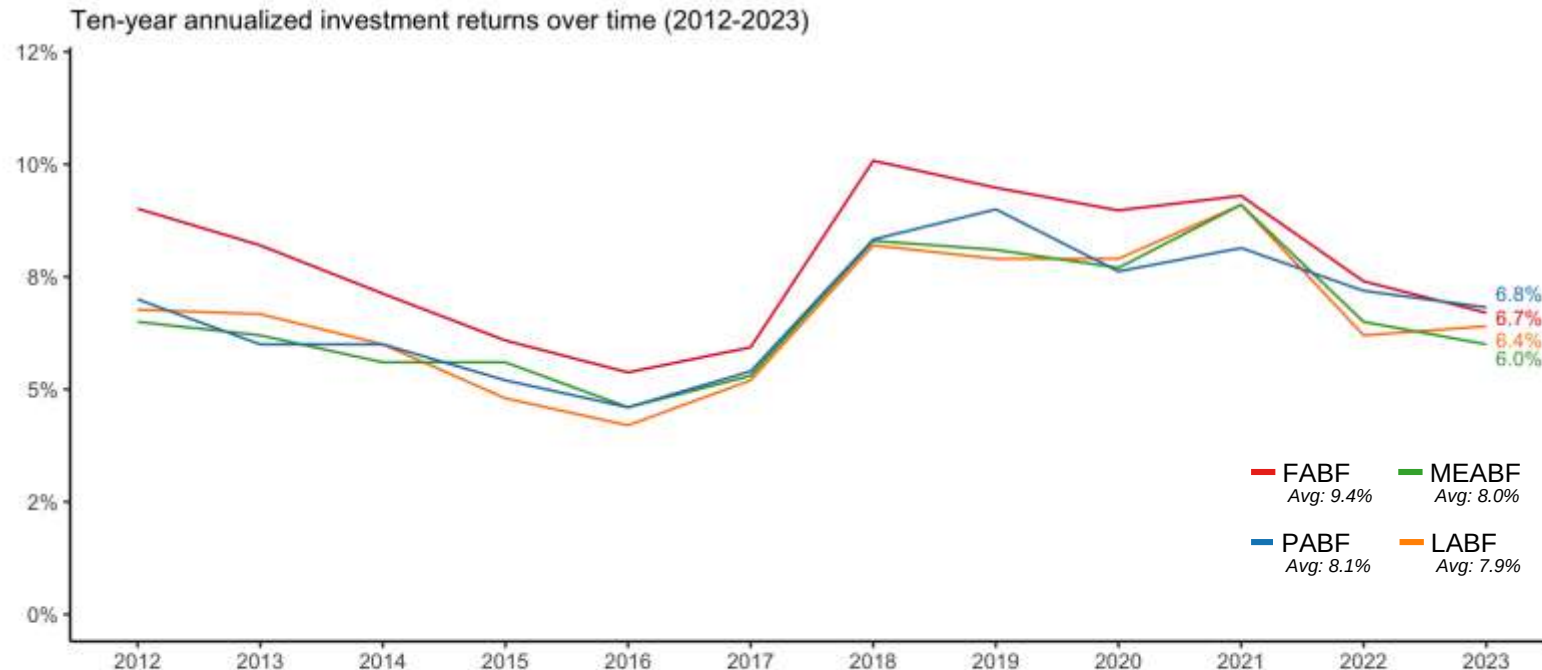
TOTAL 4,878,696.42
By calculating the **administrative cost per member**, we can assess cost efficiency across different pension funds and identify potential savings through consolidation. In this analysis, Public Safety Funds represent the merged Policemen’s (PABF) and Firemen’s (FABF) pension funds, while General Employee Funds consolidate the Municipal Employees’ (MEABF) and Laborers’ (LABF) pension funds.¹

Cost Efficiency in Chicago Pension Funds



- o Despite fluctuations, the trend supports the hypothesis that **larger pension funds operate more efficiently** due to economies of scale.
- o **Policy Implication:** Merging funds could enhance cost efficiency and improve financial sustainability.

Consolidation for Improved Investment Performance



Source: Public Plans Data

- If all four funds achieved an 8.7% return, the midpoint between FABF's 9.4% and the other three funds 8.0% the total incremental return would be ~\$50M¹
- If all four funds were brought to FABF's 9.4% return, the total incremental return would be ~\$130M

- Consolidated decision making could improve returns to FABF levels, reduce admin costs, totalling \$64 -139M savings
- The primary goal of consolidation is to save money by reducing management fees, and its impact on improving returns may not be as significant as we initially estimated.