



Date: July 15, 2026
To: Board of Retirement
From: Doris L. Rentschler, Executive Director
Subject: MCERA Sustainability and Maturity Metrics

Recommended Action:

None. Informational.

Fiscal and Financial Impacts:

There is no financial impact from receiving this report.

Strategic Plan Importance and Risk Assessment:

This item directly relates to the Board's Strategic Plan success measures for its goals to protect the Plan's long-term financial health and strengthen risk oversight. Review of MCERA's plan metrics is prudent and provides an opportunity to determine if actions is needed.

Background and Discussion:

This discussion follows previous discussions regarding how MCERA can address maturity and cash flow needs while employer contributions reduce as layers of the unfunded liability are paid off. The attached report provides a comparison of various funded status, maturity, financial and investment metrics over a 10 year period. The accompanying slide desk includes a comparison of MCERA with other public California pension plans in Cheiron's interactive California Plan database.

Attachment: MCERA Sustainability and Maturity Metrics report
Sustainability and Maturity Metrics presentation

MCERA Sustainability and Maturity Metrics

Research and new metrics

A pension plan's funded ratio is often the sole metric used to measure the status and health of the plan. Taken in isolation, the funded ratio is an incomplete picture and does not reveal underlying trends or whether plan sponsors can pay the unfunded liability. (Cheiron, 2024).

After the Great Financial Crisis, several organizations, including Pew Charitable Trusts, NCPERS, Rand Corporation, Moody's, and the American Academy of Actuaries, expanded research of best practices and measurements to assess the sustainability and health of public pension plans, including standardization in reporting, the development of new metrics, and providing context to assist in understanding these measurements.

In 2013, the median discount rate was 7.75% and declined to 7.0% in 2023. If the funded ratios were approximated using a consistent 7.0% discount rate over that period "the funded ratio would have improved from roughly 63% in 2013 to 74% in 2023." That 11% theoretical improvement in funded ratio during that period "does not account for changes in mortality and other assumptions that have also strengthened during this time." (Cheiron, 2024).

MCERA's experience is similar to the experience of other public plans. MCERA reduced the assumed rate of return four times during that period and made significant mortality improvements. In 2013, MCERA's assumed investment return was 7.75% and the funded ratio was 74.2%, dropping to a low of 69.3% in 2014. In 2023, the return assumption was 6.5% and the funded ratio was 72.4% and improved in 2024 (74.2%) and 2025 (76.4%) respectively.

The assumption changes significantly increased the plan's unfunded liability and contributed to the slow improvement in the funded ratio. While MCERA's funded ratio would be higher absent the change in actuarial assumptions over the past decade, those changes have placed MCERA in a much stronger financial position to weather future stressors.

What is "sustainable"?

In the simplest of terms, a pension plan is sustainable if the plan sponsors can afford the required contribution. However, judging the affordability of contributions is not easily defined.

In the article "Sustainability for Defined Benefit Pension Plans," a sustainable plan is defined as one that can reasonably be expected to provide retirement benefits indefinitely. "Any analysis of sustainability likely needs to examine current metrics as well as projected future metrics and possible outcomes to ensure that the plan is expected to remain 'sustainable' over the longer term." (Newton, 2018).

Since plan sponsors revenues are tied to the local economy, comparisons to local gross domestic product (GDP) or the mean personal income (PI) measures are used as a proxy for the sponsors revenues and their ability to pay the required contribution. (Pew Trusts, 2021).

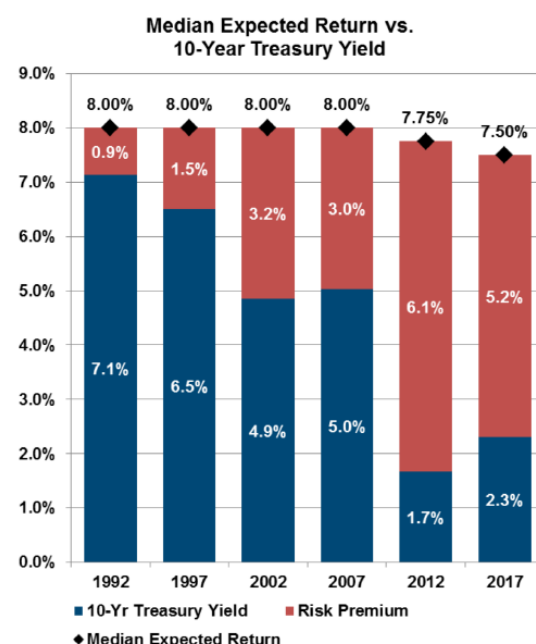
However, a comparison of a Plan's unfunded liability to the size of the local economy might not translate well to local government pension plans. Local governments have more constraints in assessing or raising taxes and have more restricted use funding sources tied to specific purposes by state law, voter approval, or dedicated taxes.

Opponents of public pensions often compare a Plan's total unfunded liability with annual revenues implying the unfunded liability cannot be supported. Supporters compare the Plan's unfunded liability to local GDP or PI over a period commensurate with the length of amortization to illustrate sustainability (Kahn, 2022). (i.e., a plan with a 20-year amortization would use 20-year projection of revenues or personal income)

Metrics like the interest cost on the unfunded liability and "stabilization" or "tread water" rates show how expensive it is to maintain the Plan and its funding level. Regardless of the measure, the trend in sustainability metrics can show whether the plan is moving toward or away from being able to pay promised benefits.

Sustainability depends on the ability of plan sponsors to make the contributions needed to cover the costs of newly earned benefits, current unfunded liability, and future unfunded liability. The historical lessons illustrated in "Ensuring Sustainable Pensions" identifies the following dynamics affecting pension plans. (Newton, 2018).

- Decline in interest rates led plans to take more investment risk to maintain expected rates of return
- Increasing plan maturity made plans more sensitive to these risks
- For mature plans, the consequences of significant loss can be severe
- Funded status provides very little information about which plans may not be sustainable
- Need to consider affordability of current costs as well as potential future losses to assess sustainability



The comparison below shows various Plan metrics in four categories.

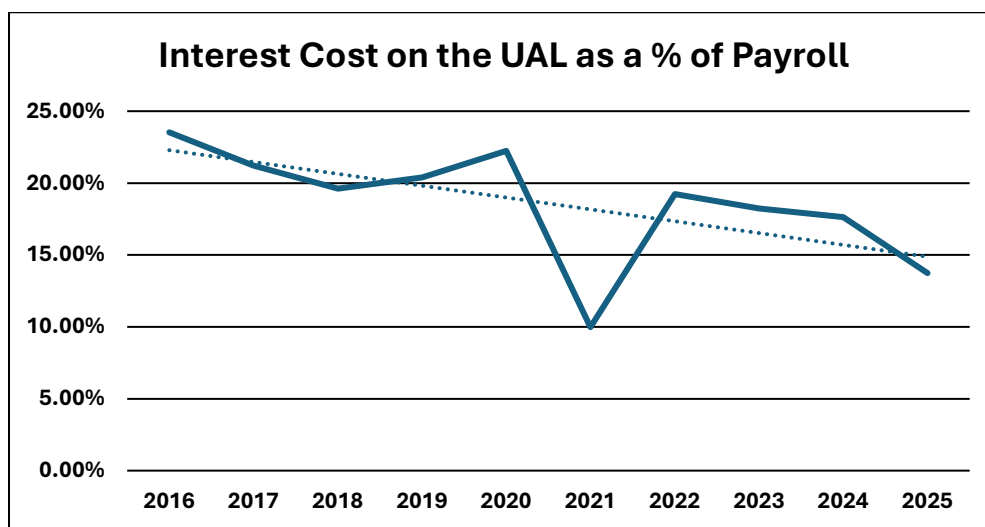
Funded Status Measures				
	2016	2025	10-Yr Chg.	Status
Actuarial Value Funded Ratio	70.7%	76.4%	5.7%	Improved
Market Value Funded Ratio	67.5%	79.6%	12.1%	Improved
Interest Cost as % Payroll	23.53%	13.74%	(9.79%)	Improved
Tread Water Rate as % Payroll	43.18%	39.4%	(3.78%)	Improved
TW UAAL Paydown Rate	-1.8%	9.9%	7.43%	Improved
Actuarial Value at 6/30	\$446,773,272	\$761,902,164	\$315,128,892	5.48% CAGR
Actuarial Accrued Liability	\$632,057,539	\$996,881,999	57.72%	4.66% CAGR
Unfunded Accrued Liability	\$185,284,267	\$234,979,835	26.82%	2.57% CAGR
Maturity Measures				
	2016	2025	10-Yr Chg.	Status
# of Active Members	1,123	1,094	(2.32%)	Declined
# of Payees	1,416	1,734	22.46%	Increased
Active to Payee Support Ratio	1 : 1.26	1 : 1.55	0.29	Weaker
Active to Nonactive Ratio	1 : 1.64	1 : 2.37	0.73	Weaker
Asset Leverage Ratio	7.0	8.5	1.5	Higher
Liability Leverage Ratio	10.3	10.7	0.4	Higher
Financial Measures				
	2016	2025	10-Yr Chg.	Status
Outflow Rate	(7.55%)	(7.70%)	(0.15%)	Stable
Net Cashflow Rate	(1.77%)	(0.91%)	0.86%	Improved
Market Value at 6/30	\$426,338,001	\$793,440,285	\$367,102,284	6.41% CAGR
Investment Returns				
	1-Year	3-Year	5-Year	10-Year
@ FYE 6/30/2025	12.33%	10.00%	9.64%	7.89%

CAGR – Compound Annual Growth Rate

Improvement in MCERA's funded ratio was slowed by the adoption of a lower investment return assumption, which along with other actuarial assumption changes added over \$100M to MCERA's unfunded liability.

MCERA's outflow rate has remained relatively stable over the past decade even though the number of persons receiving benefits has increased over 22% from 1,416 in 2016 to 1,734 in 2025. The outflow rate has remained constant due to increases in asset values due to investment performance and increased contributions. The reduction (improvement) in negative net cashflow rate reflects the increased support from employer contributions and substantial growth of plan assets.

Interest Cost: Since this metric uses the market value of assets, the interest cost figure can fluctuate significantly from year-to-year. However, over the past decade, the interest cost has experienced a significant downward trend. MCERA's interest cost peaked in 2016 at 23.5% and was 16.9% in 2025. In addition to the effect of using the market value of assets (see 2021), this metric is impacted by the size of covered payroll since it's presented as a percentage of payroll.

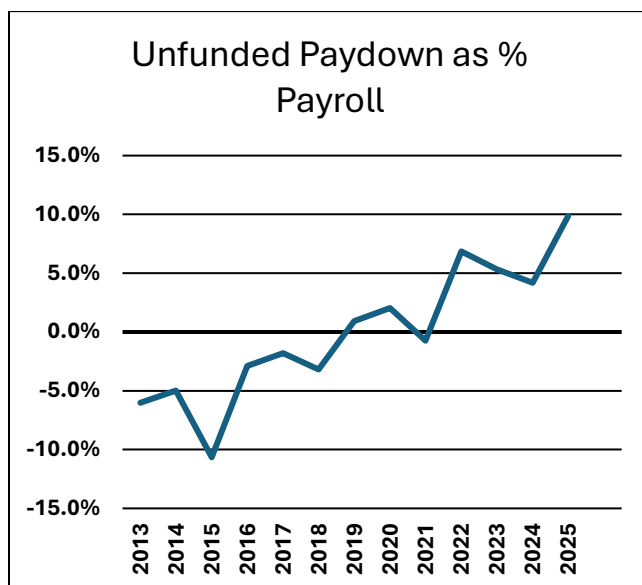
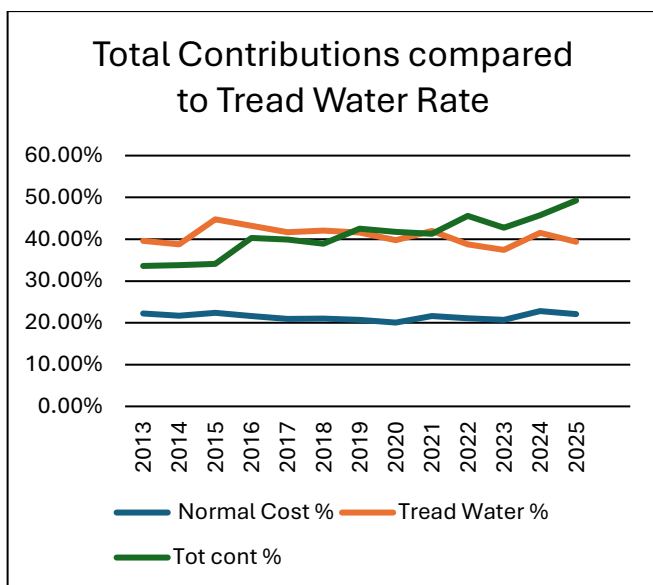


Tread Water Cost and Net Amortization:

The UAL stabilization and the tread water rate are similar measures. Both represent the amount necessary to keep the unfunded liability from increasing if all actuarial assumptions are met. The tread water rate is comprised of the Plan's normal cost (cost for service in the current year) and interest on the unfunded liability.

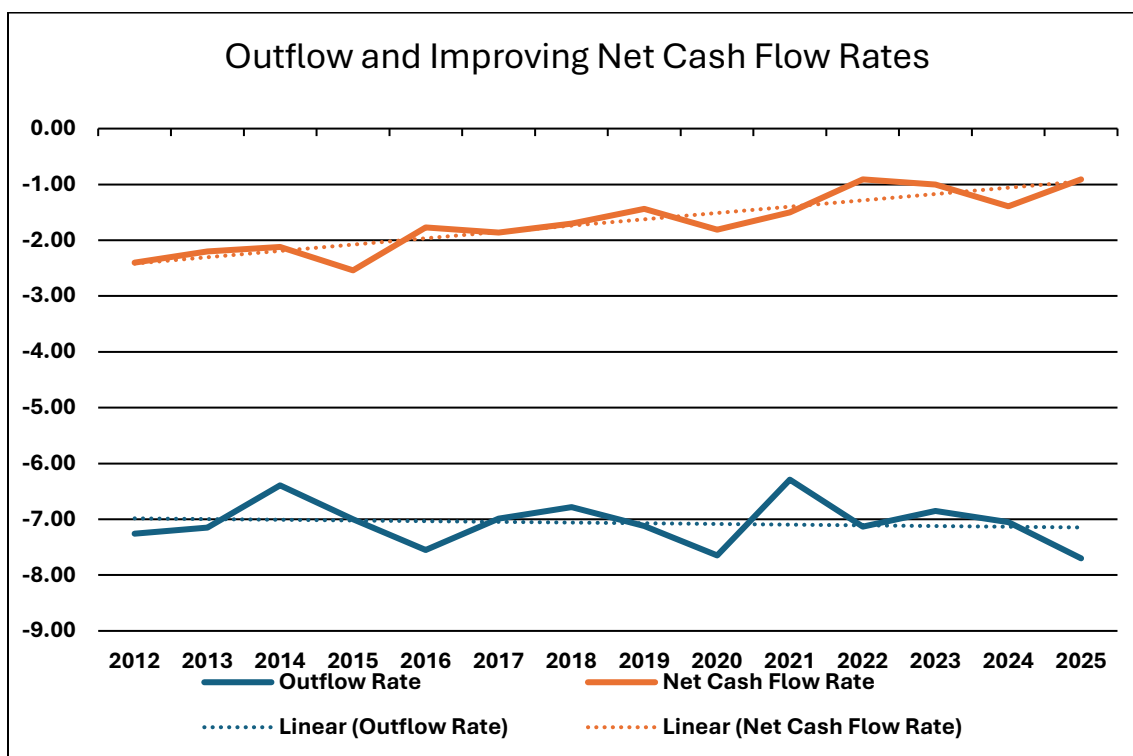
"Ratios comparing government contributions to the "tread water" level and "tread water" costs to government revenues shed light on budgetary fixed cost burdens stemming from pensions," Thomas Aaron, Vice President at Moody's.

Positive net amortization means that contribution inflows exceed tread water cost (when the green line is above the orange line in the graph below), and the unfunded liability will reduce, if the Plan's actuarial assumptions are met.



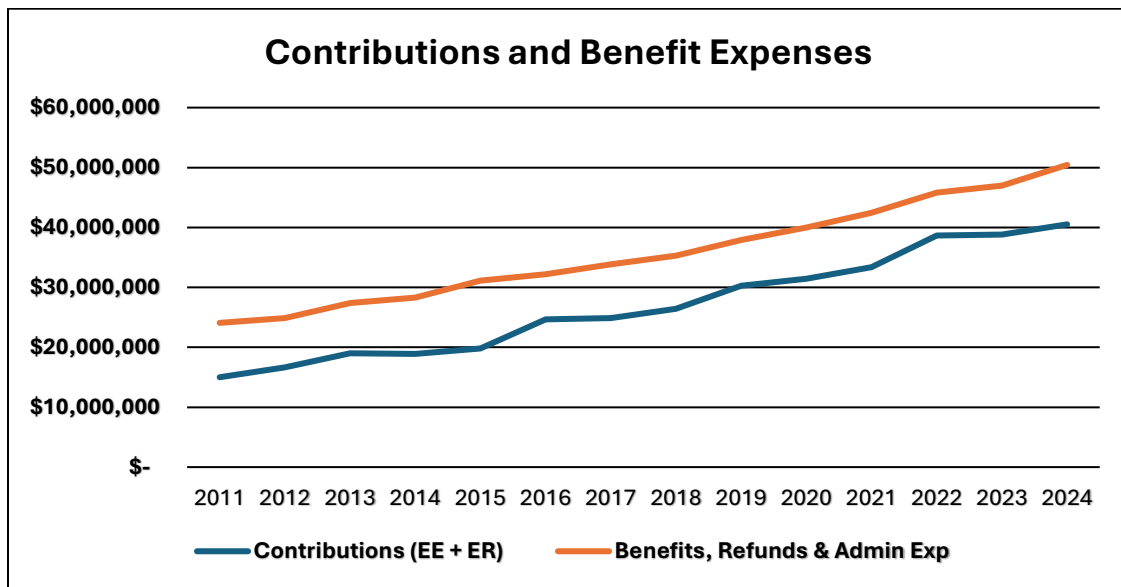
Operating Cash Flow and Net Cash Flow:

Operating cash flow and net cash flow rates fluctuate from year to year, but the long-term trend of operating cash flow has remained stable, averaging -7.0% since 2012. While net cash flow has improved from a low of -2.5% in 2016 to -0.91% in 2025. MCERA's benefit payments and expenses increased 65% from \$32.2 million to \$53.1 million over the last decade.



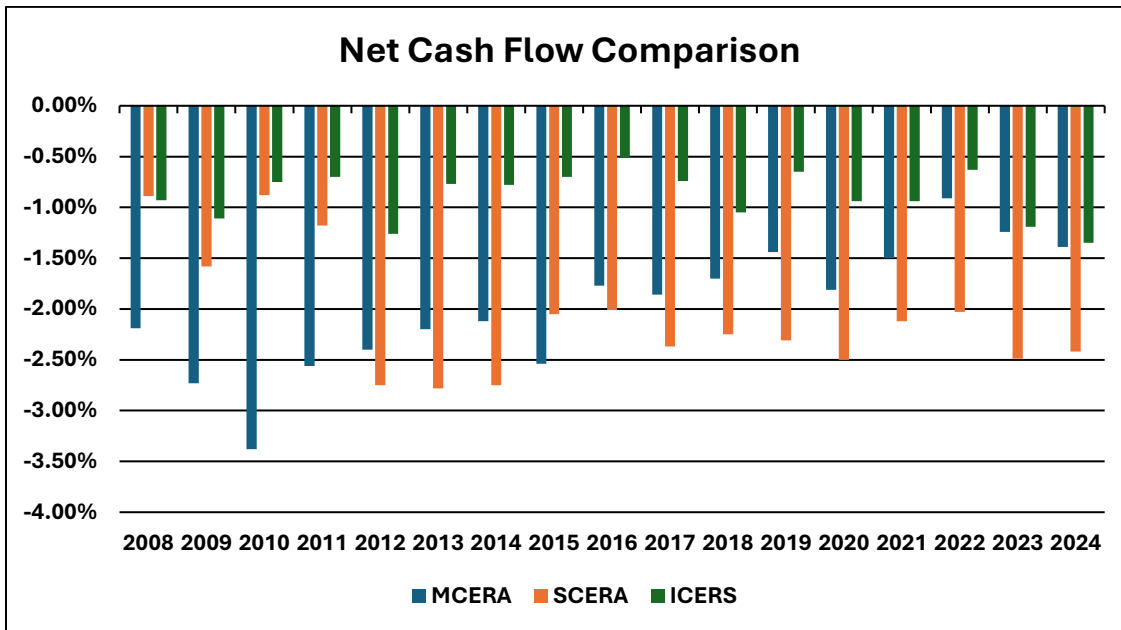
As a percentage of assets, the outflow rate has averaged around 7% and has remained stable, while negative cashflow decreased.

Contribution and Benefit Expense:



Total contributions increased by 6.4% per year over the past 10 years, while total payments increases by 5.14% during that time. The reduction (improvement) in negative net cashflow rate reflects the increased support from employer contributions and substantial growth of plan assets.

Cash flow is a key metric for plan maturity. As plans mature, negative cash flow is expected. Cash needed for benefit payments increases with more retirees, benefit increases (COLA), and potential reduction in employer contributions as layers of the UAAL are paid off and the plan's funded status improves. Here's the Segal chart shown as a percentage of assets.



How does maturity impact sustainability and affordability?

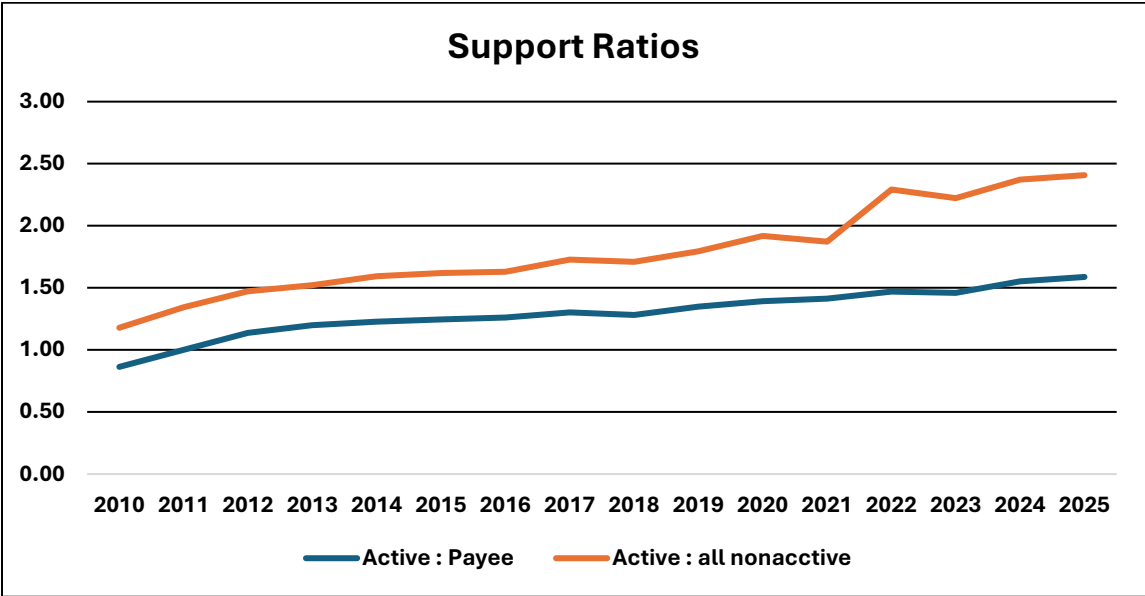
Addressing plan maturity is most effective when it starts before a plan matures. Ideally, funding and investment strategies evolve to keep risk manageable as a plan matures. The investment horizon shortens, so more conservative strategies may be appropriate, as downturns have a bigger impact and the plan has less time to recover.

According to MCERA’s Actuarial Risk Assessment (Angelo, P., Yeung, A., 2024). MCERA’s asset/liability mismatch risk, investment risk, and demographic risks may be reasonably anticipated to significantly affect the plan’s future financial condition. Risks from noninvestment experience relating to demographics include salary increases that differ from expected or a reduction in the number of total employees.

Over the past decade, the plan has become more mature as evidenced by an increase in the ratio of members in pay status to active employees (shown on page 3). It is important to recognize the Plan’s continued maturity to understand the volatility of both historical and future employer contribution rates. Any increase in Unfunded Actuarially Accrued Liability (UAAL) for the non-active would be amortized and funded over the payroll of the smaller group of active members. As the plan grows more mature, its contribution rate becomes more sensitive to investment volatility and liability changes.

Support Ratios:

Support Ratios measure the number of actively employed members against those receiving benefit payment or all those not actively employed including deferred/inactive members. Higher ratios mean the Plan is more sensitive to risk.



Over the past two decades, MCERA Plan Sponsors have experienced a contraction in the workforce resulting in the number of active members remaining stagnant or declining while the number of benefit recipients continues to increase.

Volatility Ratios (aka Leverage Ratios):

The higher the volatility ratios, the more contribution rates are impacted (both +/-) by investment performance and actuarial assumptions and experience.

Asset Volatility Ratio:

Shows the relationship between contributions to investment experience. The ratio increases meaning changes in investment experience have a larger more volatile impact on contributions as the plan's assets increase, unfunded liability decreases and the plan approaches full funding. The potential volatility of contribution rates makes it more difficult for the sponsors to budget for changes in contributions from year to year.

Liability Volatility Ratio:

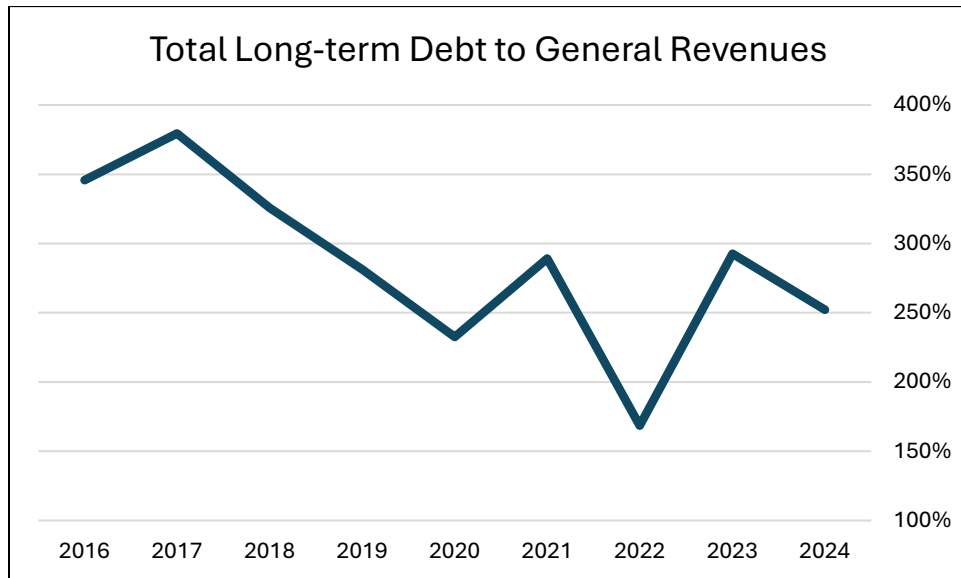
As a plan grows relative to the sponsors' size, financial impacts are leveraged. Existing debt becomes a bigger challenge when the plan sponsors' revenues don't grow as quickly, or if revenue decreases over a short time span. The liability volatility ratio shows the relationship between contributions to assumptions and demographic experience changes that impact the cost of benefits that have already been earned.

Plan Sponsor Debt Burden Metrics:

Debt burden metrics are used to help determine an entity's relative fiscal strength. Presented below are two simple ratios highlighting MCERA's primary plan sponsor, the County of Mendocino. The information is taken from the County's Annual Comprehensive Financial Reports (ACFR) from 2016-2024.

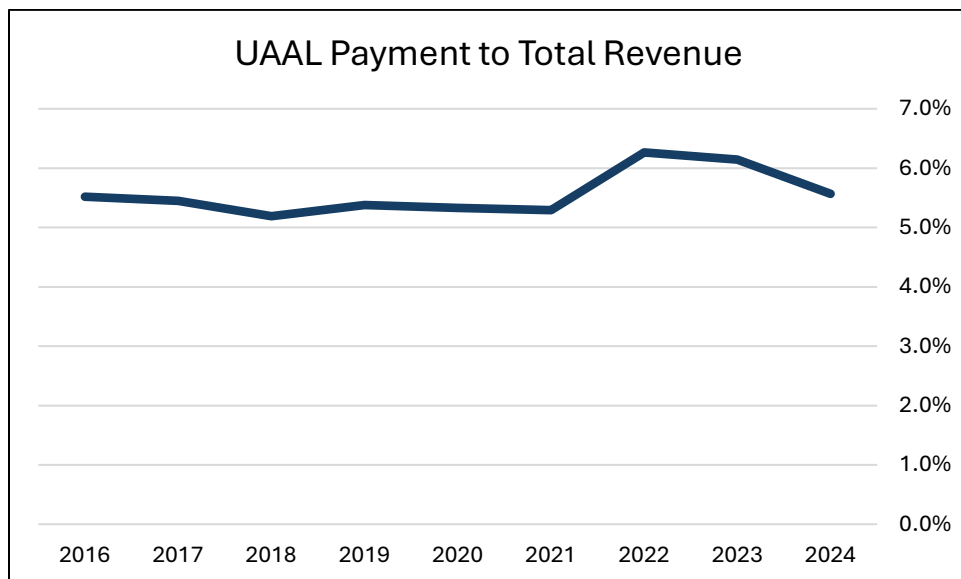
Mendocino County Long-Term Debt to General Revenues:

Long-term debt includes the County's portion of MCERA's Net Pension Liability and their long-term debt reported in Note 6 of their ACFRs. General Revenues are reported on their Statement of Activities, found right after the Statement of Net Position. Based on Moody's government debt/revenue ranking this would place the plan sponsor in the lower investment grade range of Baa, medium grade. However, Moody's currently ranks the County at A1, upper medium grade.



Mendocino County Minimum UAAL Payment to Total Revenues:

Per our funding policy plan sponsors are required to make a minimum payment each year toward the UAAL. The minimum payment divided by total County revenues is charted below. The amount has remained stable, between 5% and 6% for the last decade.



Summary

In summary, there is no one metric or set of metrics that can predict with certainty the long-term sustainability of a plan. However, routinely assessing the trends in maturity and sustainability metrics, how those metrics are expected to change in the future, and stress testing gives valuable insight into how sensitive the plan is to various risks and affords the opportunity to develop policies to manage risks.

Mature plans may need to balance the desire to reduce their risk exposure (which increases plan cost) with plan sponsors ability to support the contribution requirement.

Endnotes

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MCERA Plan Metrics

Board of Retirement
July 15, 2026

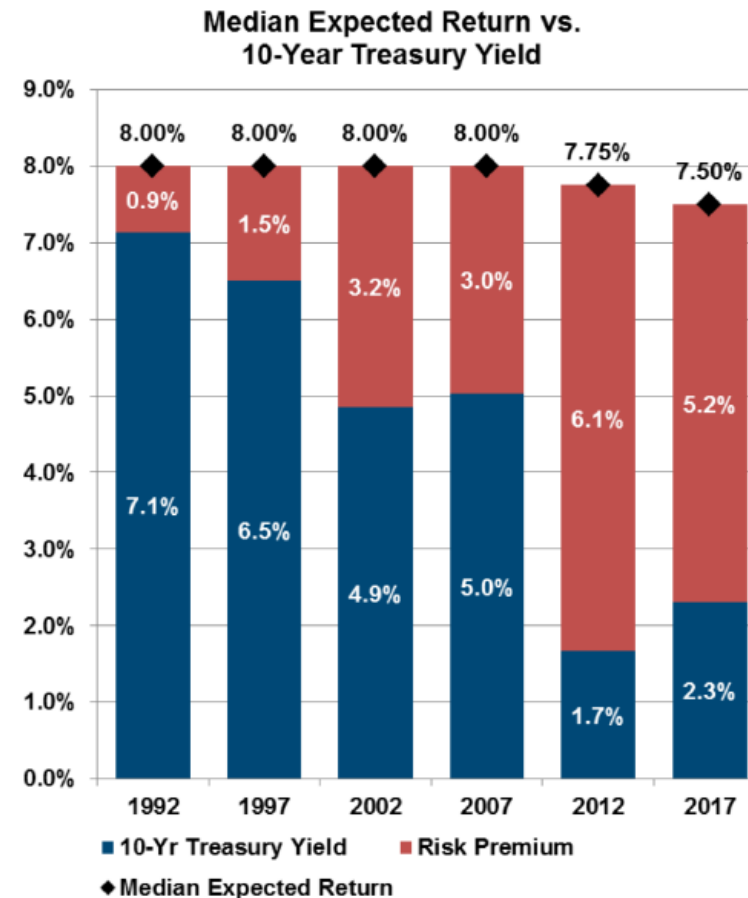


What is Sustainable?

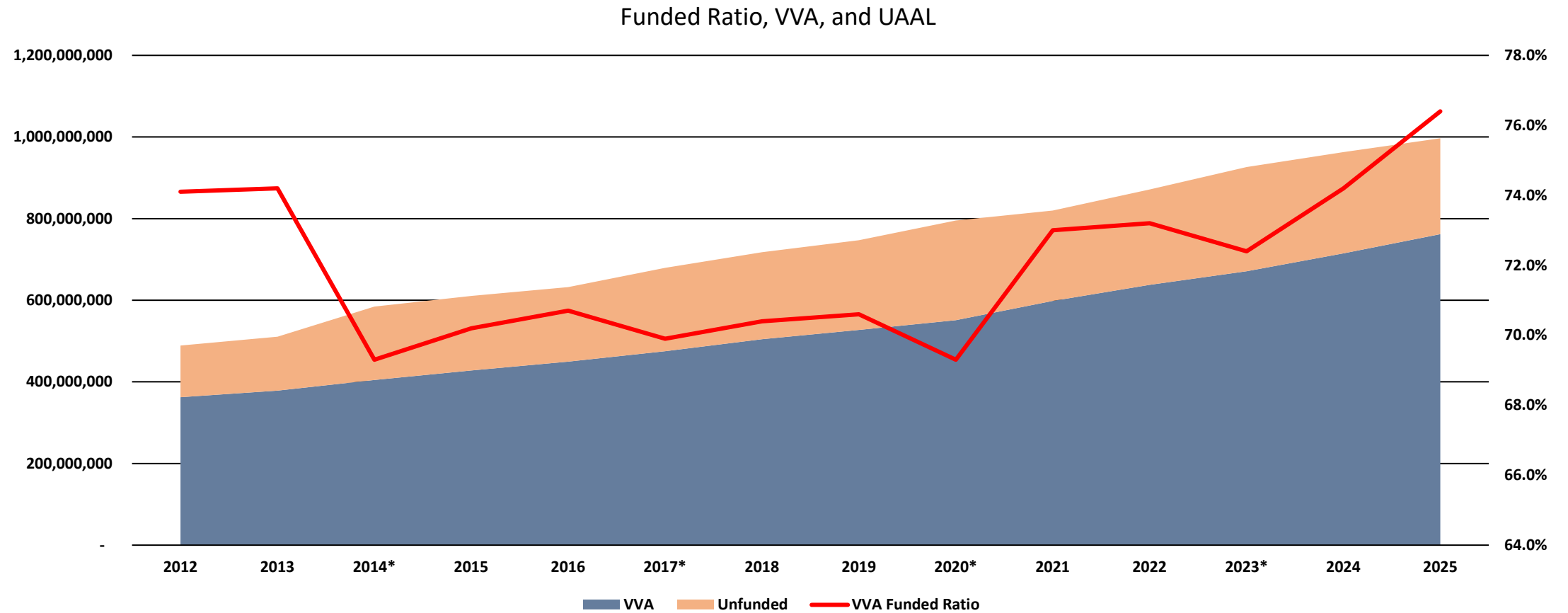


Historical Dynamics Affecting Pension Plans

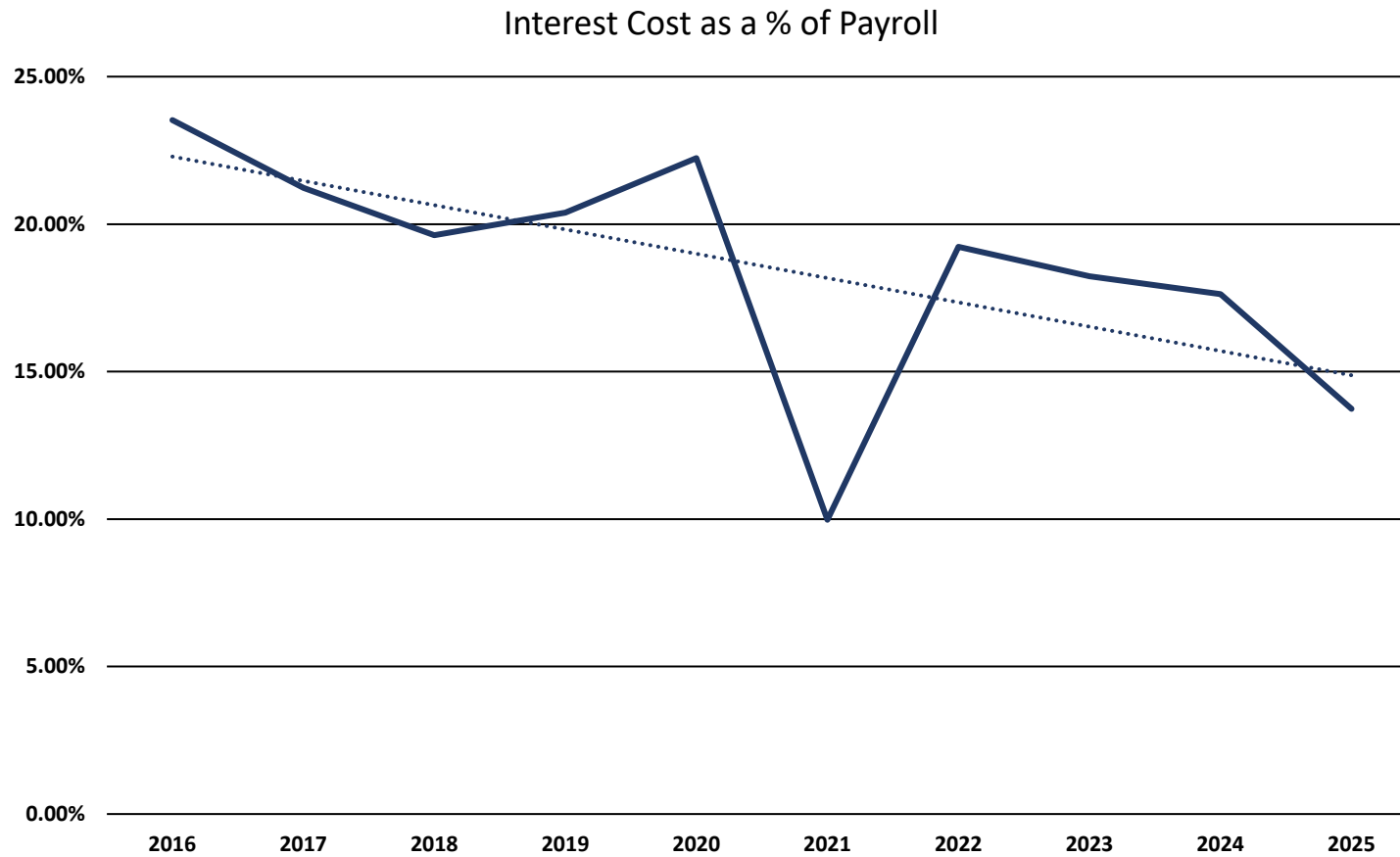
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Funding Progress

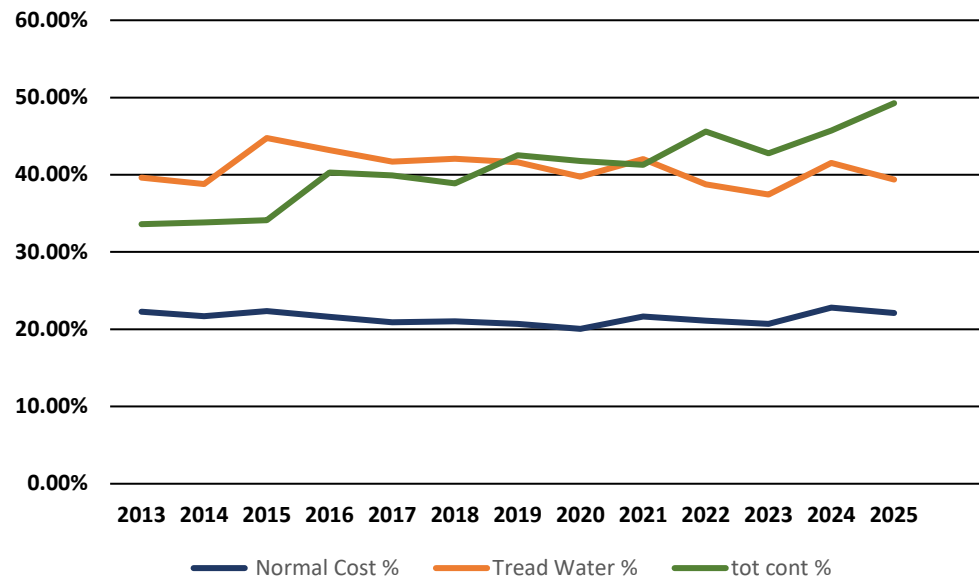


Interest Cost

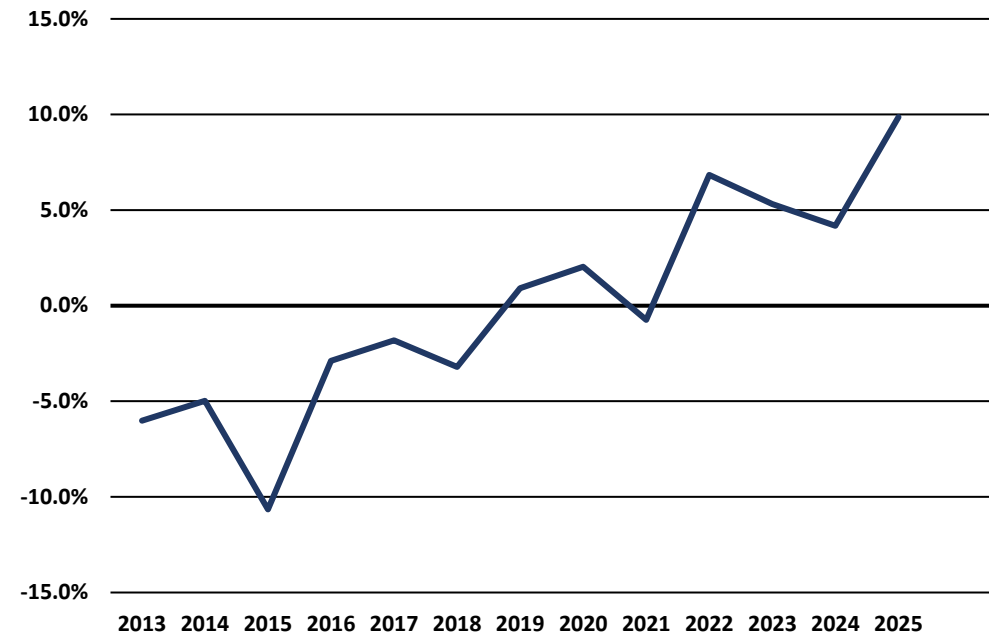


Tread Water Amount

Total Contributions compared to Tread Water Rate



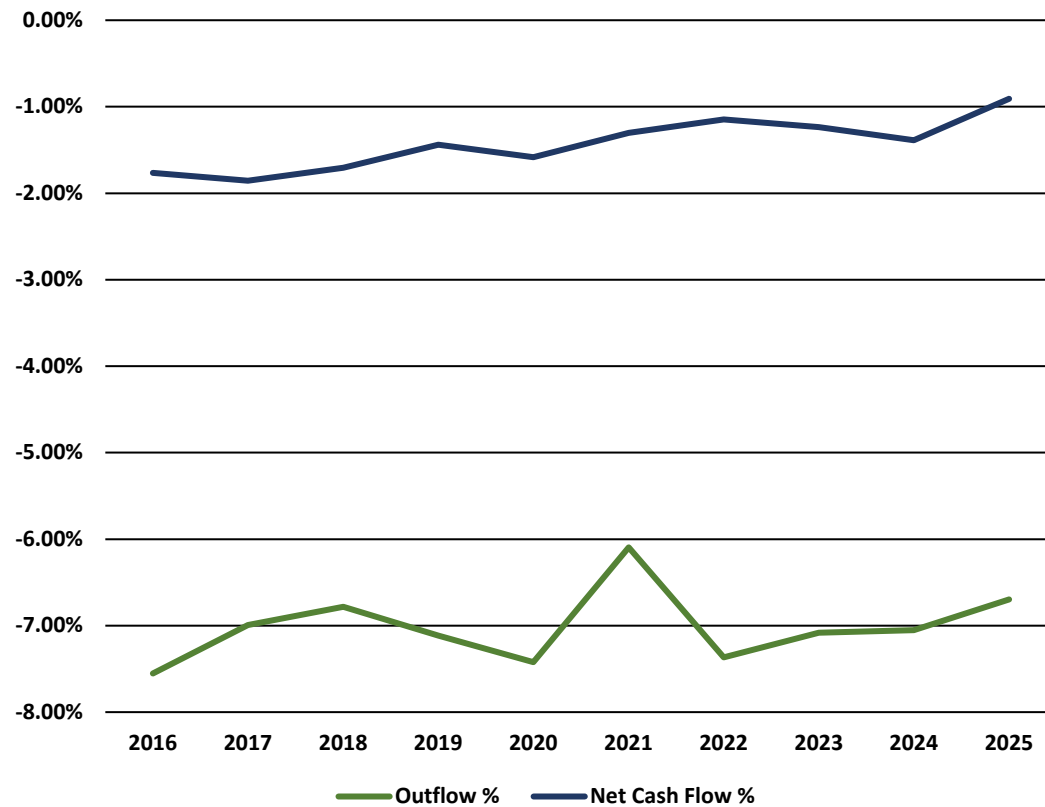
Unfunded Paydown as % Payroll



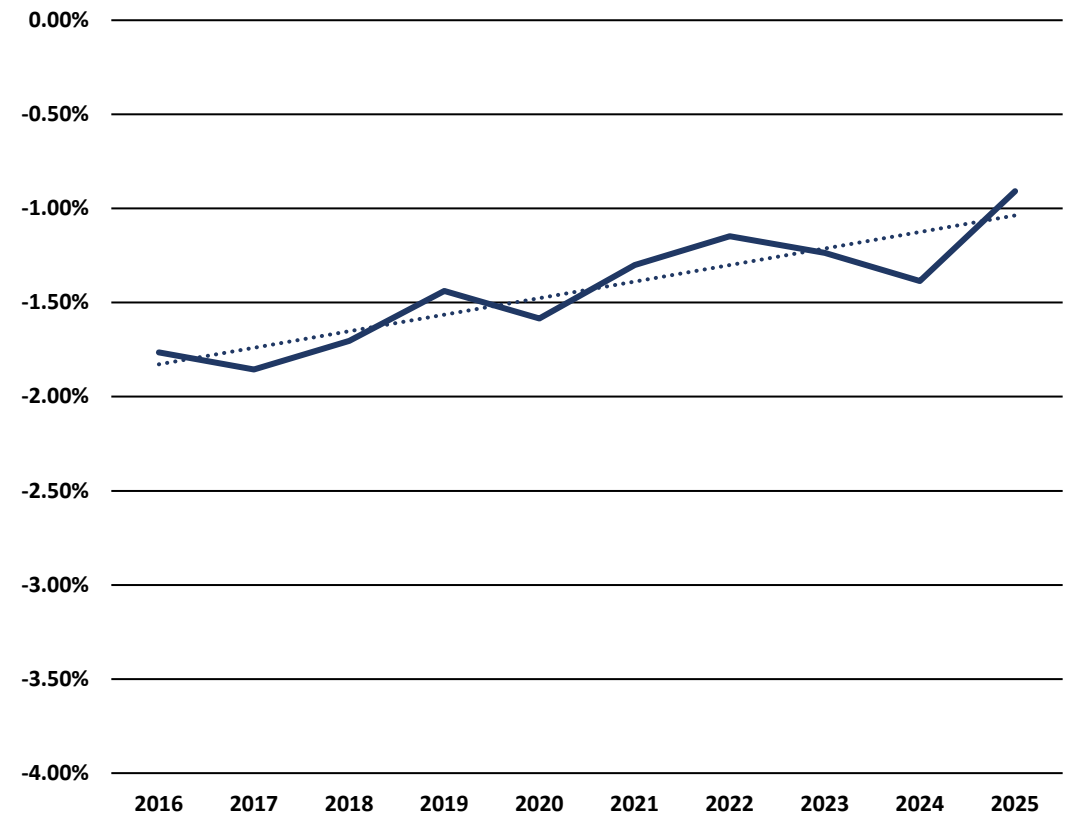
Cash Outflows



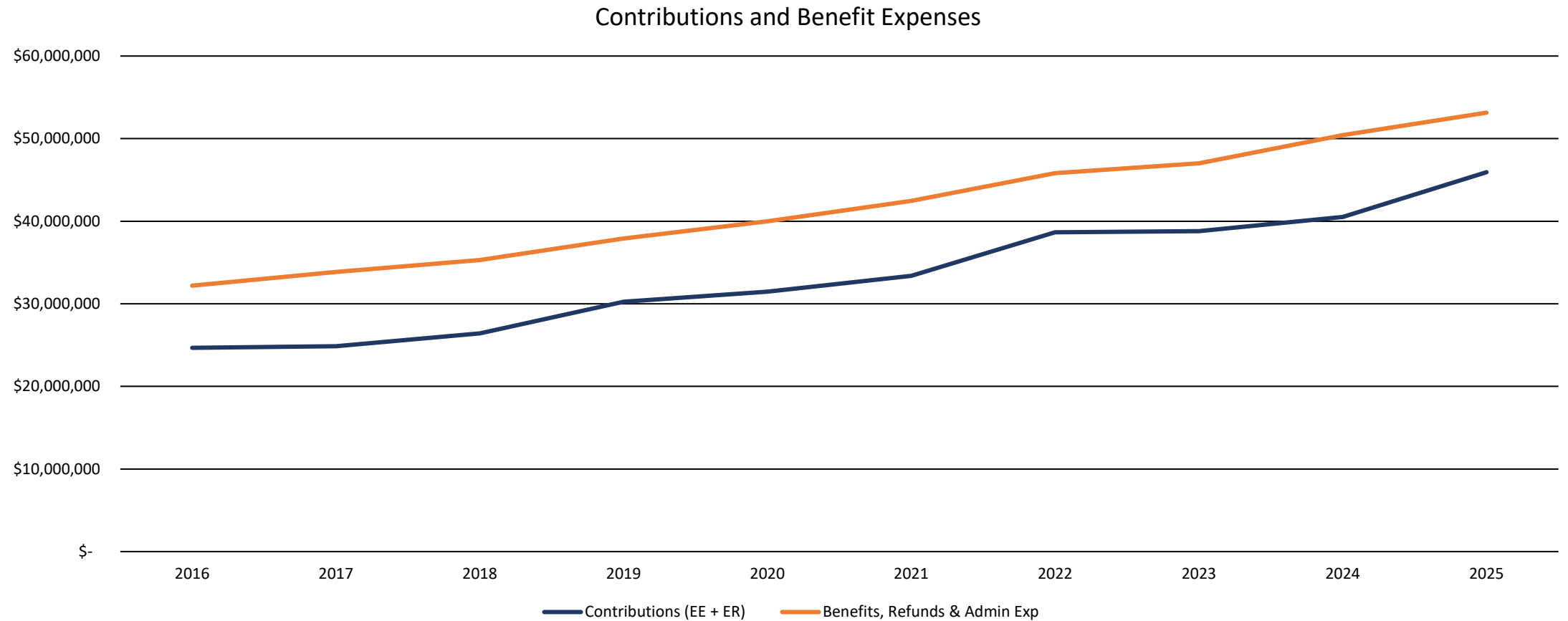
Outflow and Net Cash Flow Rates



Net Cash Flow %



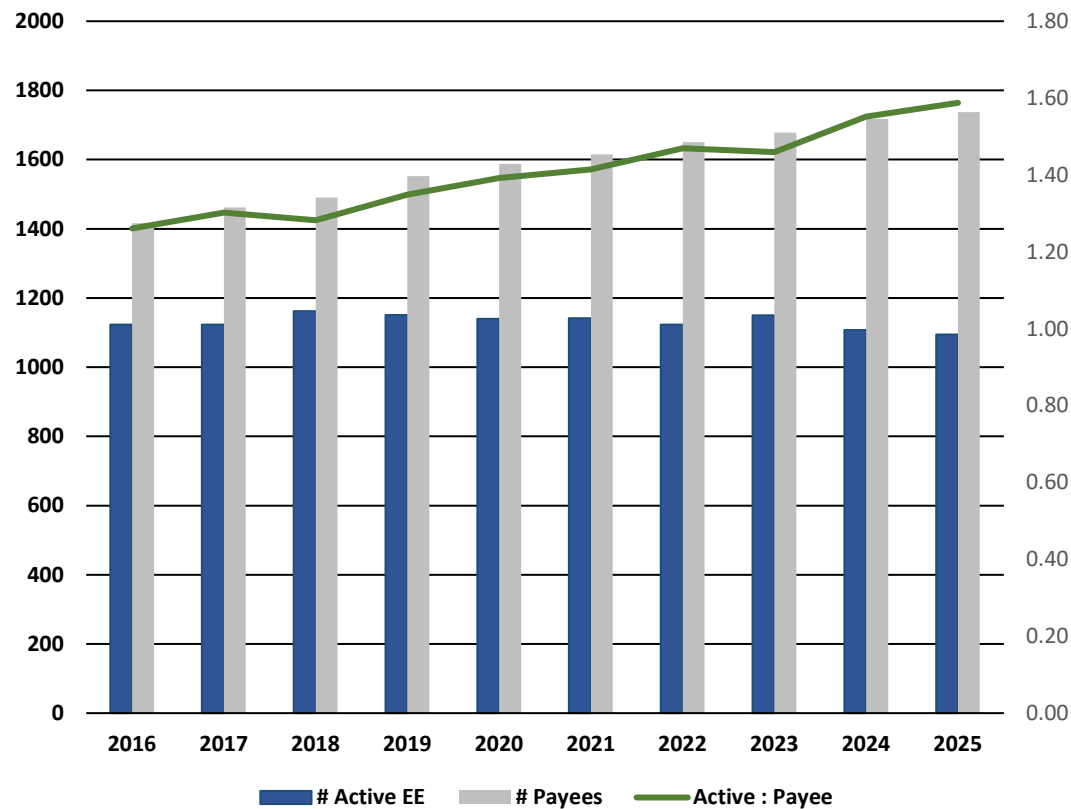
Contributions and Benefits



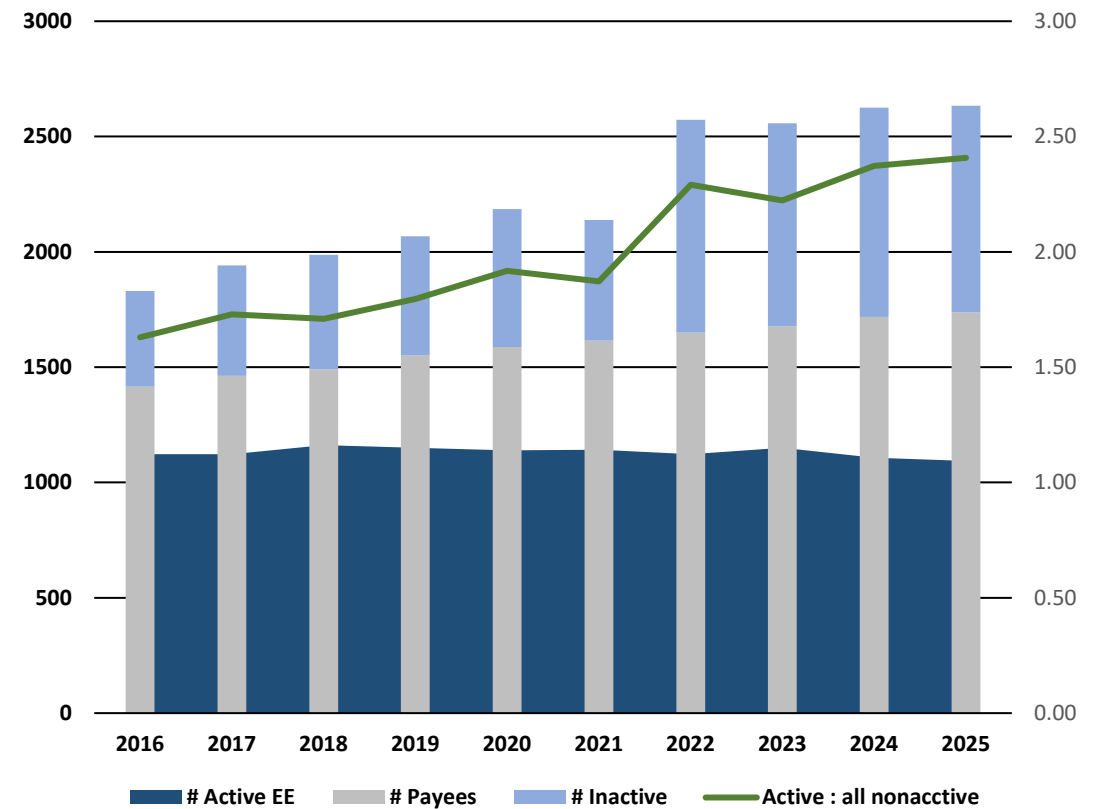
Support Ratios



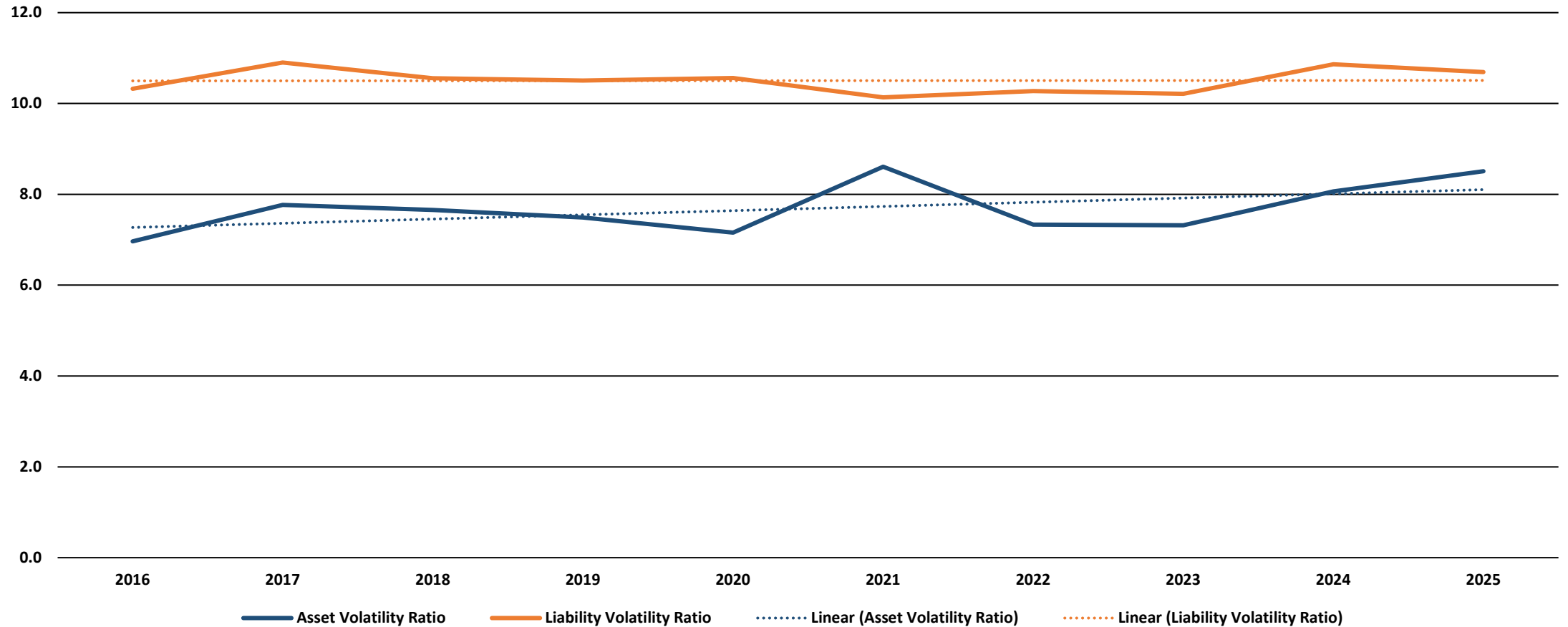
Active v. Payee Counts & Support Ratio



Active v. All Non-Active Counts & Support Ratio



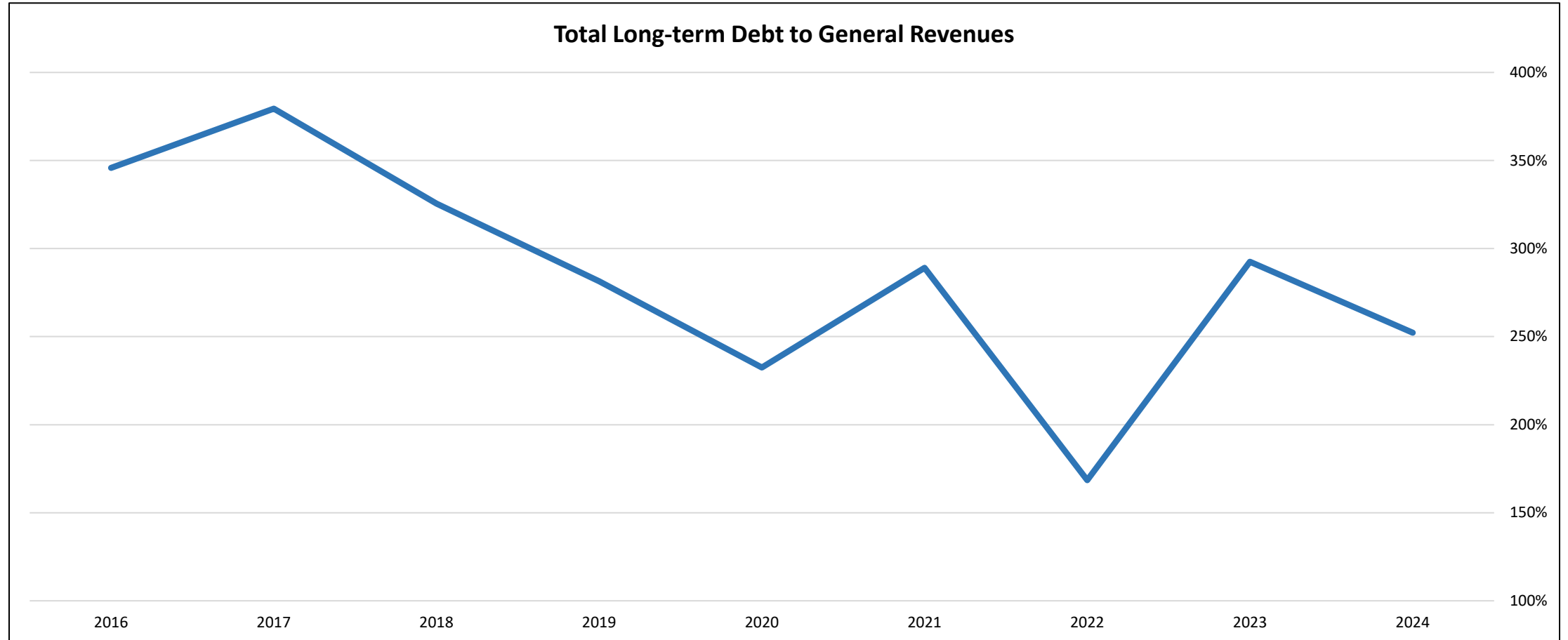
Volatility Ratios



Mendocino County



Total Long-term Debt to General Revenues



How Does MCERA Compare to Other California Plans?



Cheiron Interactive Database



<https://cheiron.us/cheironHome/content/resources/databases/survey-of-california-public-retirement-systems>

Cheiron.us – from the Resources tab at the top, select Databases. Scroll down and select the Survey of California Public Retirement Systems.



Cheiron's Survey of California Public Retirement Systems

Select a Card to Explore the Survey

Assumptions



Funded Status



Maturity



Contributions



Questions

