

INDUSTRY RESEARCH

2021 Report on State Retirement Systems: Funding Levels and Asset Allocations

Financial Overview

This is Wilshire's 2021 Report on State Retirement Systems: Funding Levels and Asset Allocation, which reports the aggregate funded status of over 100 U.S. state-sponsored defined benefit retirement systems. Wilshire has been compiling these statistics since 1990.

The Data

Financial data on public retirement systems have historically lacked the timeliness and uniform disclosure governing pension plans sponsored by publicly traded companies, making it difficult to conduct a study with data that are both current and consistent across systems. For this reason, our study methodology involves collecting data during the first two months of each calendar year with the objective of acquiring as many reports as possible with a June 30 valuation date from the previous year. Even for systems with the desire to report in a timely manner, it often takes six months to a year before actuarial results are published. One-hundred-and-two (102) of the 134 systems surveyed reported actuarial values on or after June 30, 2020.

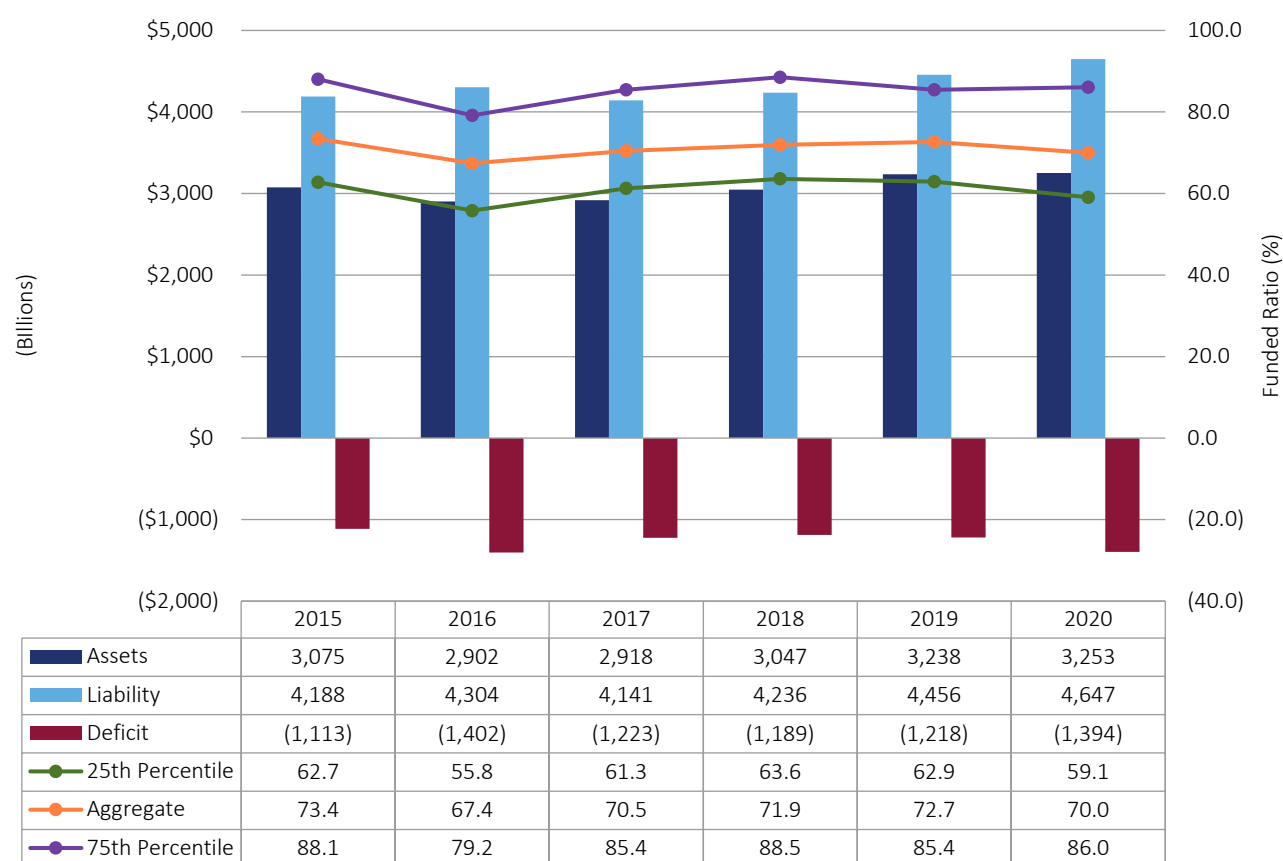
This study reports the aggregate Total Pension Liability (TPL) values used for financial reporting under the accounting and financial reporting standards for state and local governments: Governmental Accounting Standards Board Statements No. 67 and 68 (GASB 67/68). Through these Statements, GASB and the financial industry have taken major steps to increase transparency and comparability of pension plan accounting. GASB's Statement 67, "Financial Reporting for Pension Plans," impacts annual pension reporting for plans; Statement 68, "Accounting and Financial Reporting for Pensions," impacts annual pension reporting for the employers contributing into government agency-sponsored pensions and applied to employers' financial reporting starting in June 2015.

Funded Ratio

This year's report is based on the financial statements reported by these state plan sponsors as of their last fiscal year end (FYE) measurement date – June 30, 2020 is the most frequent measurement date for plans in this year's report.

Wilshire estimates that the aggregate funded ratio was 70.0% at FYE 2020, which represents a 2.7% decrease from FYE 2019 ending a streak of three consecutive years of aggregate funded ratio increases.

Exhibit 1 shows the aggregate reported funded status, asset, liability and surplus/deficit values over the past six fiscal years.

Exhibit 1: Funded Ratio History


Wilshire estimates that the aggregate Total Pension Liability (TPL) increased to \$4.65 trillion as of FYE 2020, up over four percentage points (4.3%), or \$191 billion, from \$4.46 trillion as of FYE 2019. Aggregate assets increased to \$3.25 trillion as of FYE 2020, up by less than a percentage point (0.5%), from \$3.24 trillion as of FYE 2019. Largely due to the increase in aggregate TPL, the aggregate shortfall is estimated to have increased by \$176 billion to \$1.39 trillion from \$1.22 trillion. This year's estimated aggregate asset value is the highest since Wilshire began reporting on state retirement system funding levels for the second consecutive year and marks the fourth consecutive annual increase.

Attribution of Changes in Funding

Exhibit 2 shows the components of aggregate annual change in TPL and Plan Fiduciary Net Position (\$, Billions).

Exhibit 2: Changes in Asset and Liability Values

	(\$, Billions)	% of BoY
Total Pension Liability, BoY	\$4,456.3	
Service Cost	84.5	1.90%
Interest Cost	310.5	6.97%
Benefit Payments	-252.5	-5.67%
Actuarial (Gains)/Losses	11.1	0.25%
Other	37.3	0.84%
Total Pension Liability, EoY	\$4,647.2	4.28%
Plan Fiduciary Net Position, BoY	\$3,237.7	
Total Contributions	161.8	5.00%
Actual Return on Assets	102.3	3.16%
Benefit Payments	-252.5	-7.80%
Other	3.5	0.11%
Plan Fiduciary Net Position, EoY	\$3,252.8	0.47%

Liabilities

Wilshire estimates that the aggregate Total Pension Liability (TPL) increased to \$4.65 trillion as of FY 2020 up more than four percentage points from \$4.46 trillion as of FY 2019. The two largest components of the annual increase in aggregate TPL were continued annual benefit accruals, i.e. service cost, and interest cost.

- Service Cost, or continued annual benefit accruals, is estimated to have increased the TPL by 1.9%.
- Interest cost is similar to changes in the time value of money and is approximately equal to the discount rate as a percentage of the beginning of year TPL. The increase due to interest cost is estimated to be 7.0% for FYE 2020.
- Benefit payments are estimated to have decreased the TPL by -5.7%.
- Actuarial losses and “Other” in aggregate increased the TPL by 1.1%.

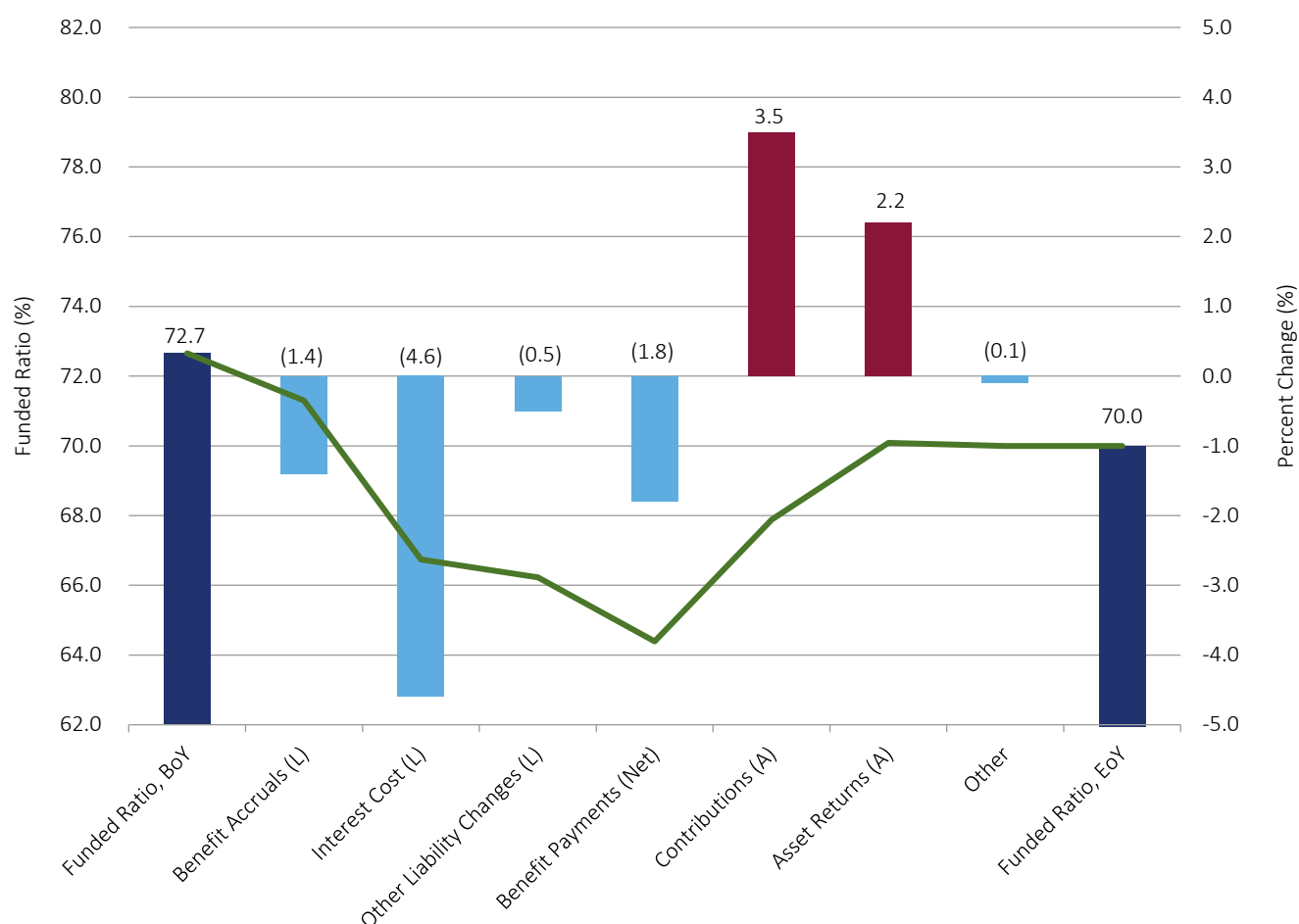
Assets

Wilshire estimates that aggregate assets increased to \$3.25 trillion as of FYE 2020, up less than 1% from \$3.24 trillion as of FYE 2019. Continued positive investment returns and contributions drove asset values to record levels for the second consecutive year and the fourth consecutive annual increase.

- Contributions increased the asset value by nearly 5% for the year with nearly 30% coming from plan participants.
- Investment income increased the asset value by 3.2% for the year.
- Benefit payments are estimated to have decreased asset value by -7.8%.
- “Other” items are expected to have marginally increased asset values by 0.1%.

Exhibit 3 shows the components of change in TPL and Plan Fiduciary Net Position from Exhibit 2 and their relative impact on aggregate funded ratio change during the fiscal year.

Exhibit 3: Changes in Annual Funded Ratio



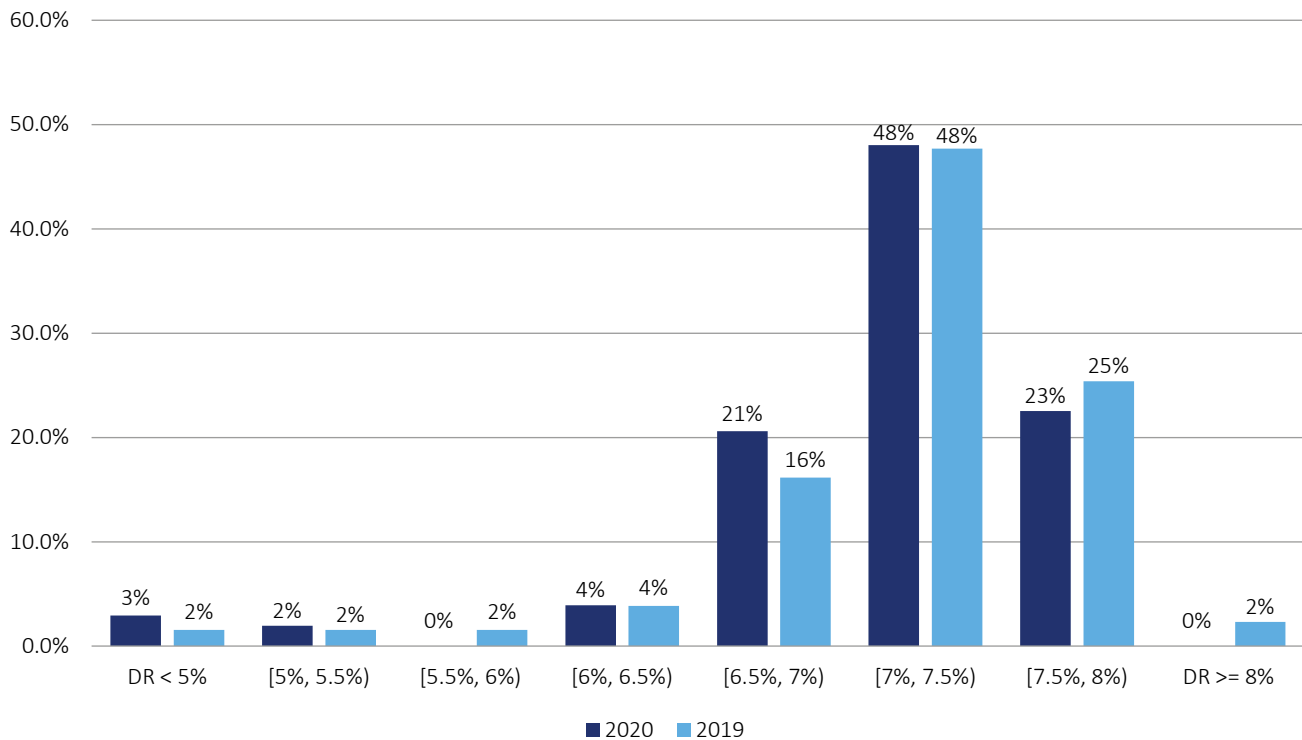
Benefit accruals, interest cost and benefit payments decreased the funded ratio by more than eight percentage points which was partially offset by contributions and asset returns which increased funded levels by nearly six percentage points.

Discount Rates

The discount rate represents the expected long-term rate of return on invested plan assets used to calculate liability values (present value of a stream of projected benefit payments). Discount rates have trended lower over the past several years with nearly one quarter of this year's study plans lowering their discount rate. The range for discount rates this year is 2.87% to 7.75% with a median of 7.10%, a 0.15% decrease compared to last year's median discount rate. For plans projected to run out of assets, GASB 67/68 requires the use of a blended discount rate using the plan's expected long-term rate of return on invested plan assets and the yield on a municipal bond high grade rate index. The calculation of the blended discount rate is based on a mandated projection methodology.

Exhibit 4 shows the distribution of discount rates used to calculate the TPL.

Exhibit 4: Distribution of Discount Rates*

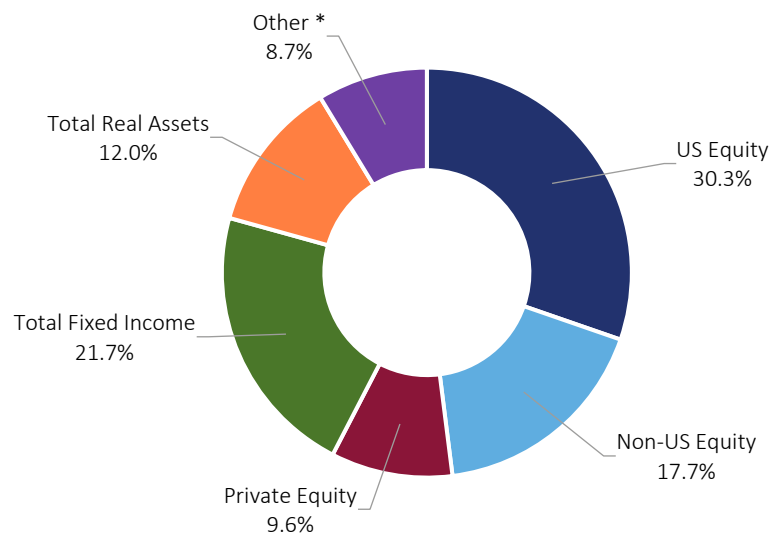


* The total may not sum to 100% due to rounding.

Pension Plan Asset Allocation

Exhibit 5 shows the aggregate asset allocation for State Retirement Systems.

Exhibit 5: Aggregate Asset Allocation



*Other refers to any other asset class for example Hedge Funds and Commodities.

Exhibit 6 examines the change in aggregate asset allocation over the last ten years.

Exhibit 6: Change in Aggregate Asset Allocation for State Pension Plans

	2010 (%)	2015 (%)	2020 (%)	Change in Exposure		
				10-15 (%)	15-20 (%)	10-20 (%)
Equity						
U.S. Equity	31.1	27.3	30.3	-3.9	3.0	-0.8
Non-U.S. Equity	17.6	20.1	17.7	2.6	-2.4	0.1
Private Equity	9.0	10.0	9.6	1.0	-0.4	0.6
Equity Subtotal	57.7	57.4	57.6	-0.3	0.2	-0.1
Total Fixed Income	28.1	23.4	21.7	-4.7	-1.7	-6.4
Total Real Assets	6.0	8.1	12.0	2.1	3.9	6.0
Other*	8.2	11.1	8.7	2.9	-2.4	0.5
Return**	4.6	4.9	5.0	0.3	0.1	0.4
Risk**	11.3	11.6	11.8	0.3	0.2	0.5

*Other refers to any other asset class for example Hedge Funds and Commodities.

**Return and Risk are based on Wilshire's current asset class assumptions (Exhibit 7).

Over the past ten years, the total allocation to equity has remained relatively unchanged. The allocation to Fixed Income has decreased by over six percentage points with the decrease offset by the six percentage point increase in the allocation to Real Assets.

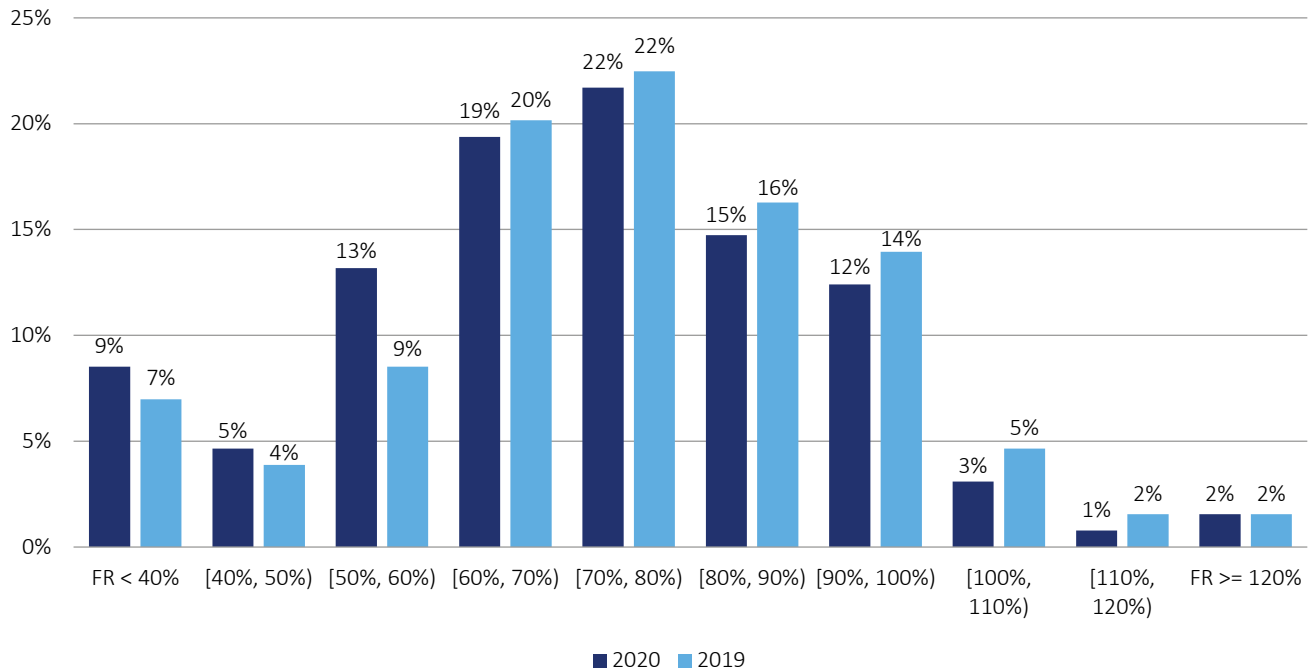
Exhibit 7 shows Wilshire's current long-term return and risk assumptions. The 10-year expected return for many asset classes are near-or-at their lowest point due to the historically low interest rate environment.

Exhibit 7: Wilshire's December 2020 Capital Market Assumptions

	Expected Return (%)		Risk (%)
	10-Year	30-Year	
U.S. Equity	5.00	6.55	17.00
Non-U.S. Equity	6.00	7.20	19.15
Private Equity	6.95	8.90	28.00
Fixed Income	1.30	3.30	4.30
Real Assets	6.20	7.10	14.00

We conclude the report with Exhibit 8, which shows the distribution of funded ratios over the past two years. Within each 10% funded ratio bucket, distribution of plans with funded ratios greater than 60% decreased year-over-year (with the exception of plans with funded ratios greater than 120%). This decrease was offset by the increase in the distribution of plans with funded ratios below 60%.

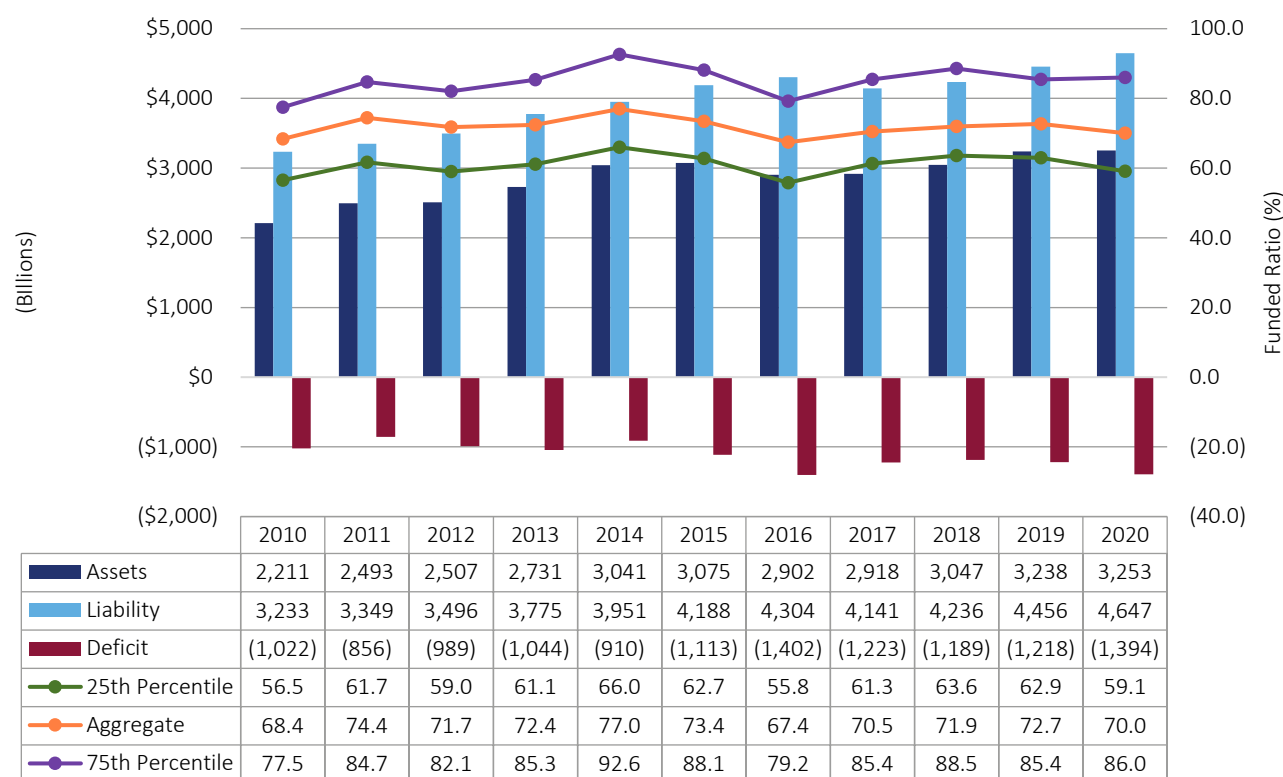
Exhibit 8: Distribution of Funded Ratios*



* The total may not sum to 100% due to rounding.

Appendix: Funded Ratio History

This appendix shows the aggregate reported funded status, asset, liability and surplus/deficit values over the past ten (10) fiscal years.



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