
2022 Budget Presentation

Employes' Retirement System

October 6, 2021

ERS Summary Information

(1/1/21 Actuarial Valuation)

Active Population	General	Police	Fire	Total
Members	8,135	1,735	697	10,567
Pensionable Payroll Size	\$ 371.86	\$ 154.61	\$ 59.90	\$ 586.37

Retirees	All Groups
Count	13,647
Total Annual Benefits	\$ 417.67

Employer Contribution Rates	General	Police	Fire
Actuarial Determined	17.22%	47.47%	51.44%
Stable Policy	7.48%	25.22%	26.83%

Total Actuarial Accrued Liability **\$ 6,745.30**

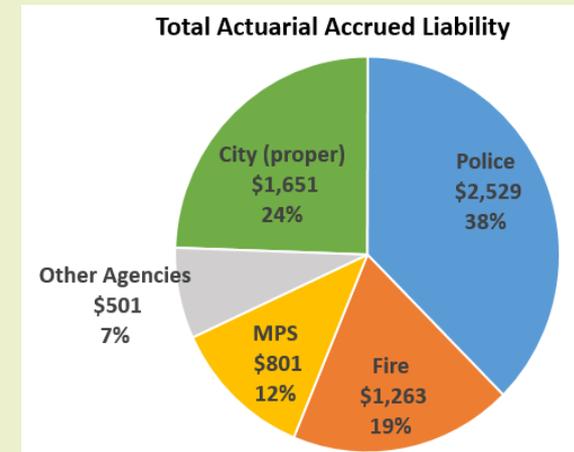
Unfunded Actuarial Accrued Liability

Based on Actuarial Value of Assets	\$ 1,304.43
Based on Market Value of Assets	\$ 1,095.57

Funded Ratio

Market Value of Assets	83.8%
Actuarial Value of Assets	80.7%

(all amounts are in \$ millions)



CMERS Participant Headcount (Active, Deferred and Retired) as of August 31, 2021

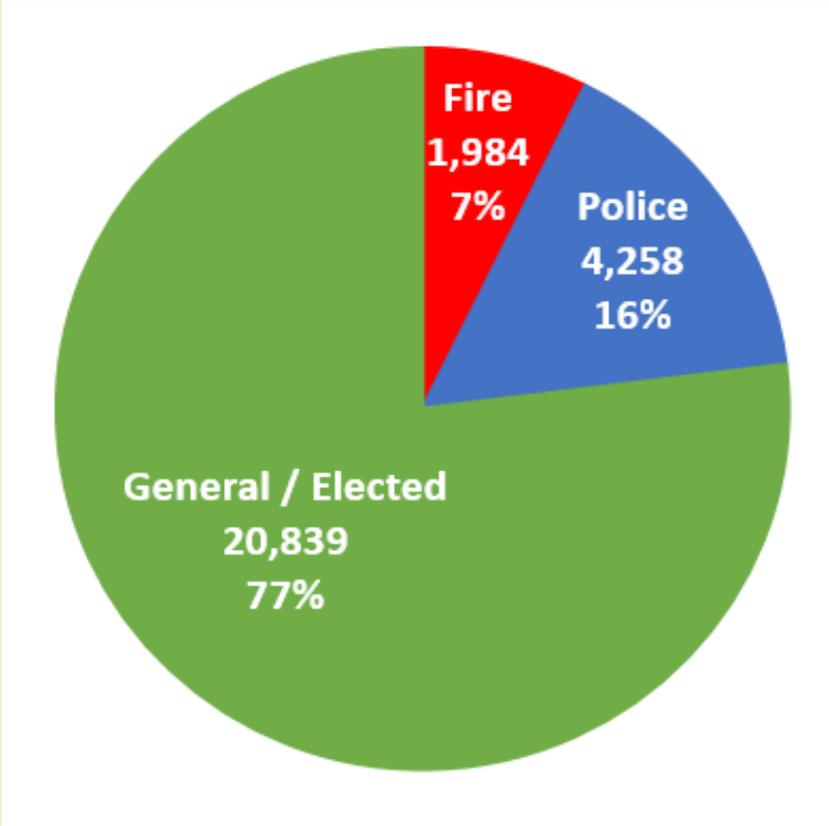
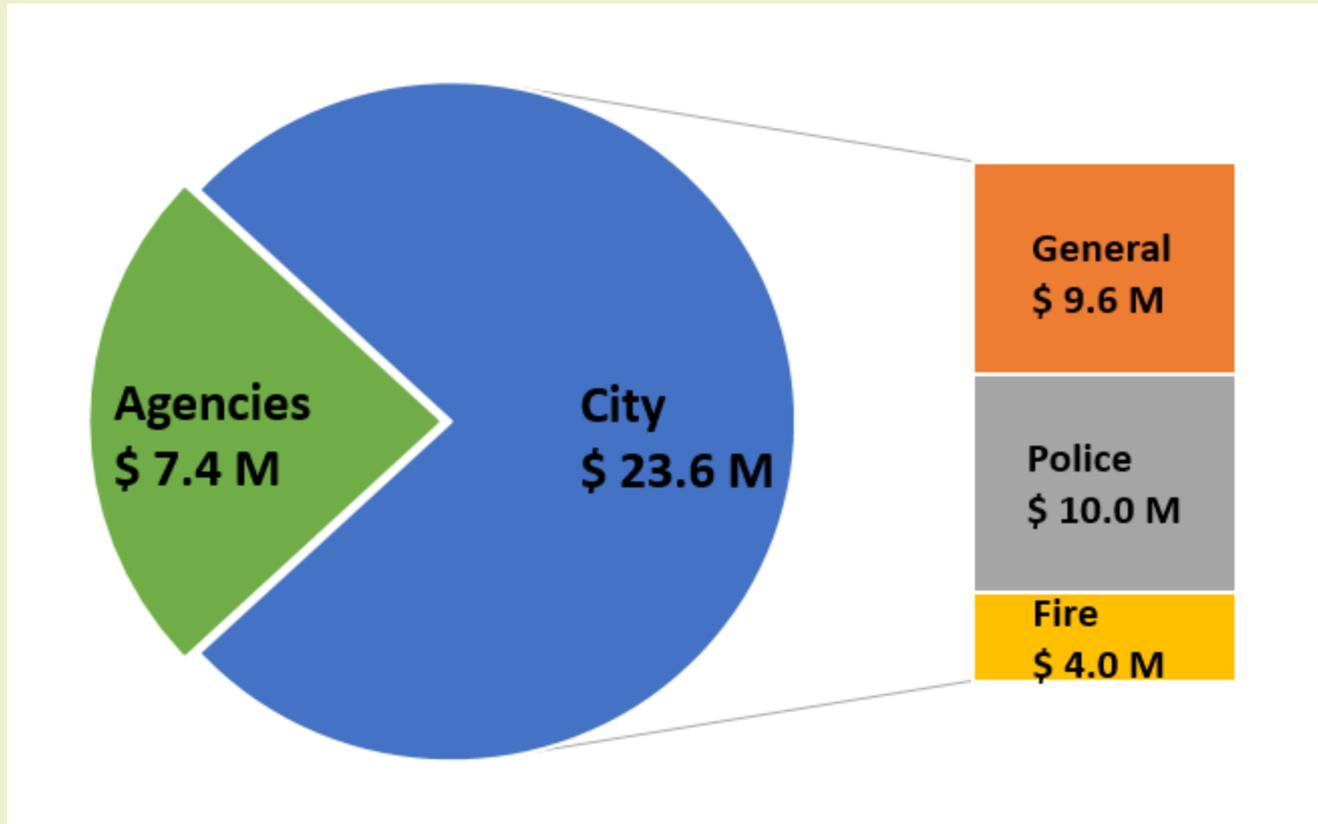


Chart does not include survivors/beneficiaries in payment

Total Annual Member Contributions

(in millions)
(projected for 2021)



Projected Total Member Contributions \approx \$31M

Annual Member Contributions

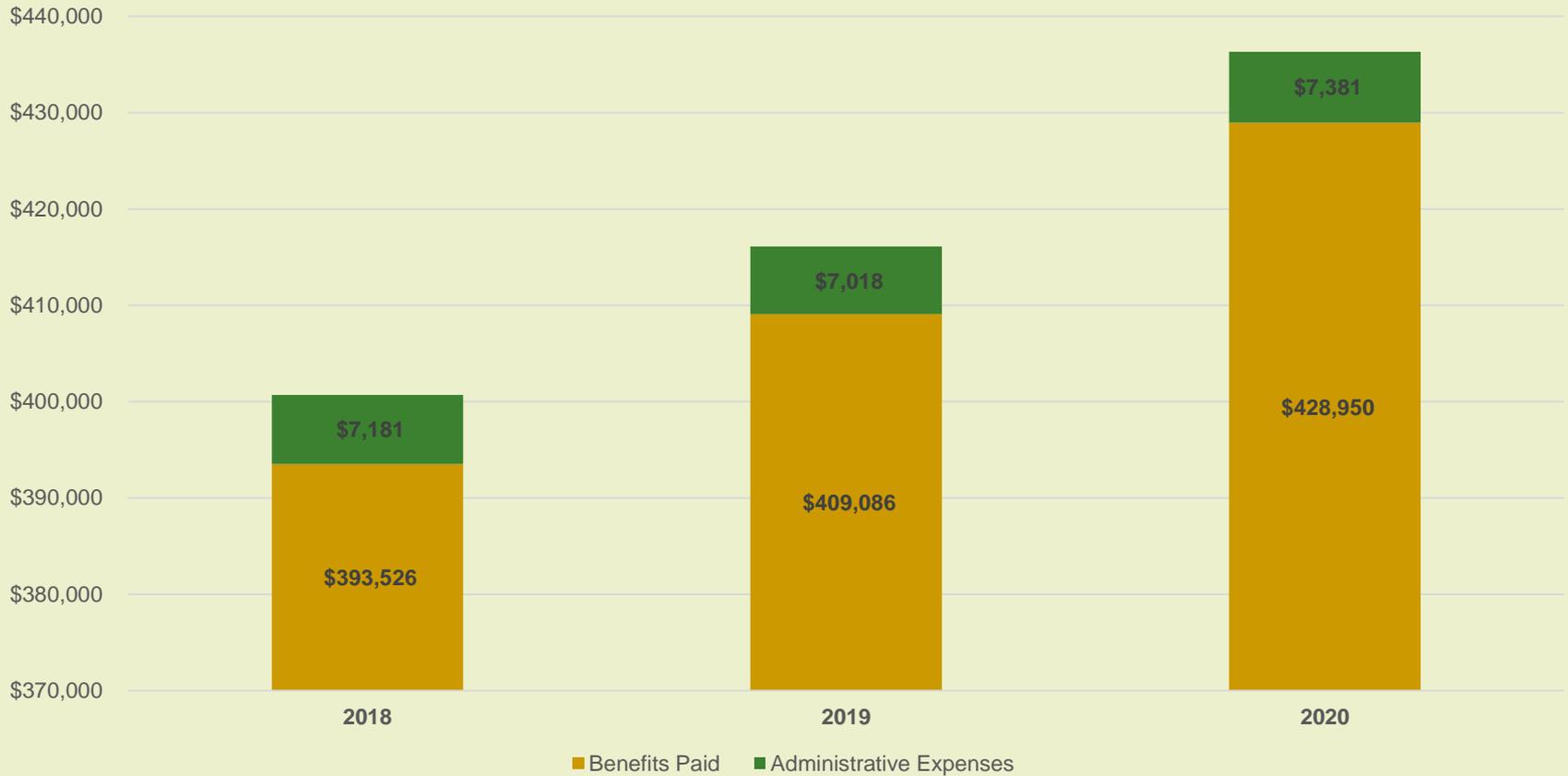
(projected for 2021)

Employer / Group	Reported through PP18-2021				Straightline Projections for FY2021			
	Pensionable Wages	Employer Paid Member Contributions	Employee Paid Member Contributions	Total Member Contributions	Pensionable Wages	Employer Paid Member Contributions	Employee Paid Member Contributions	Total Member Contributions
City-Fire	39,452,908	0	2,760,423	2,760,423	56,987,534	0	3,987,277	3,987,277
City-General	136,609,012	0	6,649,877	6,649,877	197,324,128	0	9,605,378	9,605,378
City-Police	98,534,842	0	6,897,334	6,897,334	142,328,105	0	9,962,815	9,962,815
City-Total	274,596,761	0	16,307,633	16,307,633	396,639,766	0	23,555,470	23,555,470
Agencies	106,975,949	47,333	5,063,008	5,110,340	154,520,816	68,370	7,313,233	7,381,603
Grand Total	\$ 381,572,711	\$ 47,333	\$ 21,370,641	\$ 21,417,974	\$ 551,160,582	\$ 68,370	\$ 30,868,704	\$ 30,937,073

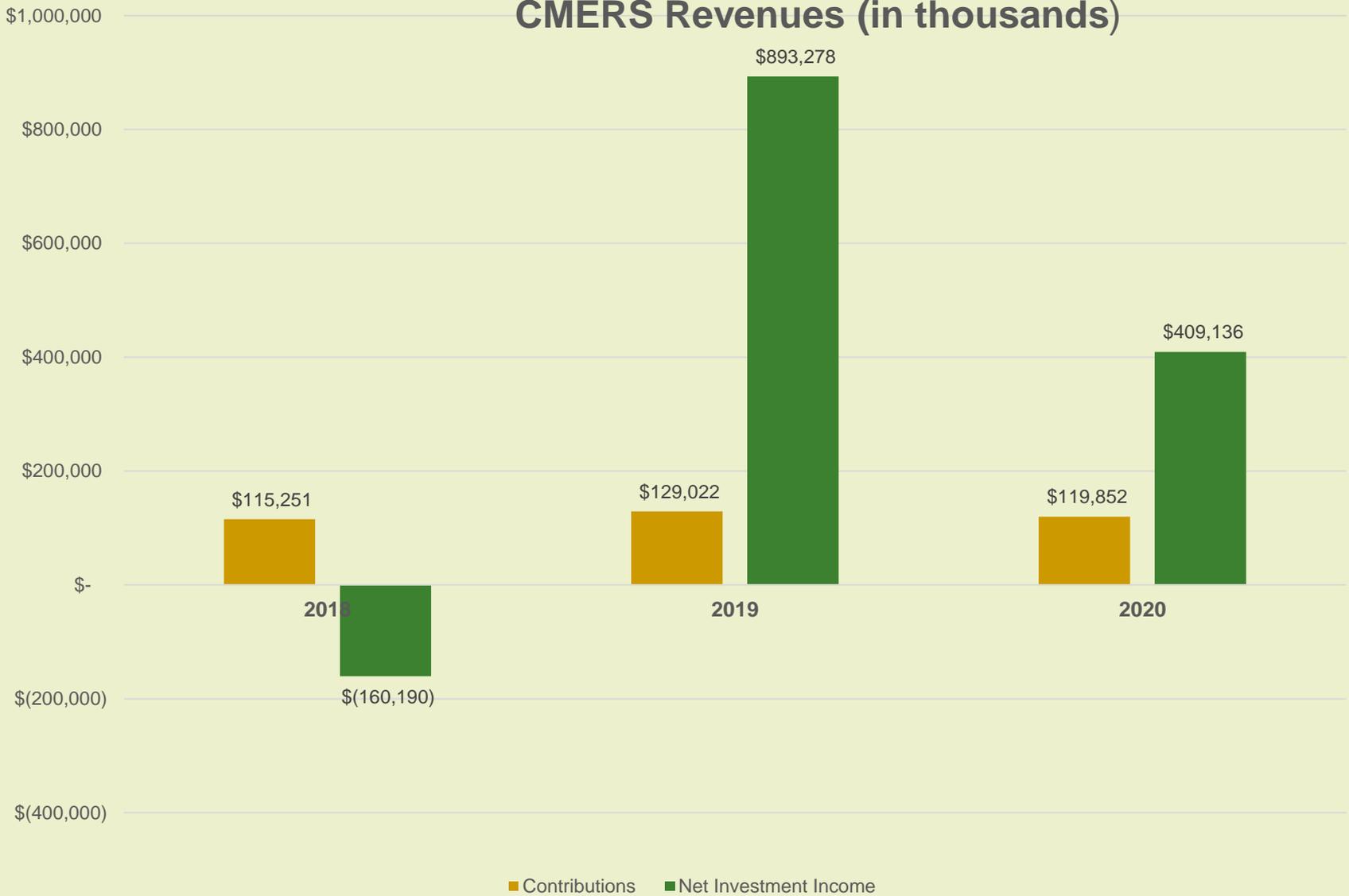
*for some agencies data has been reported through PP-17-2021

Benefit Payments Increased by 5%

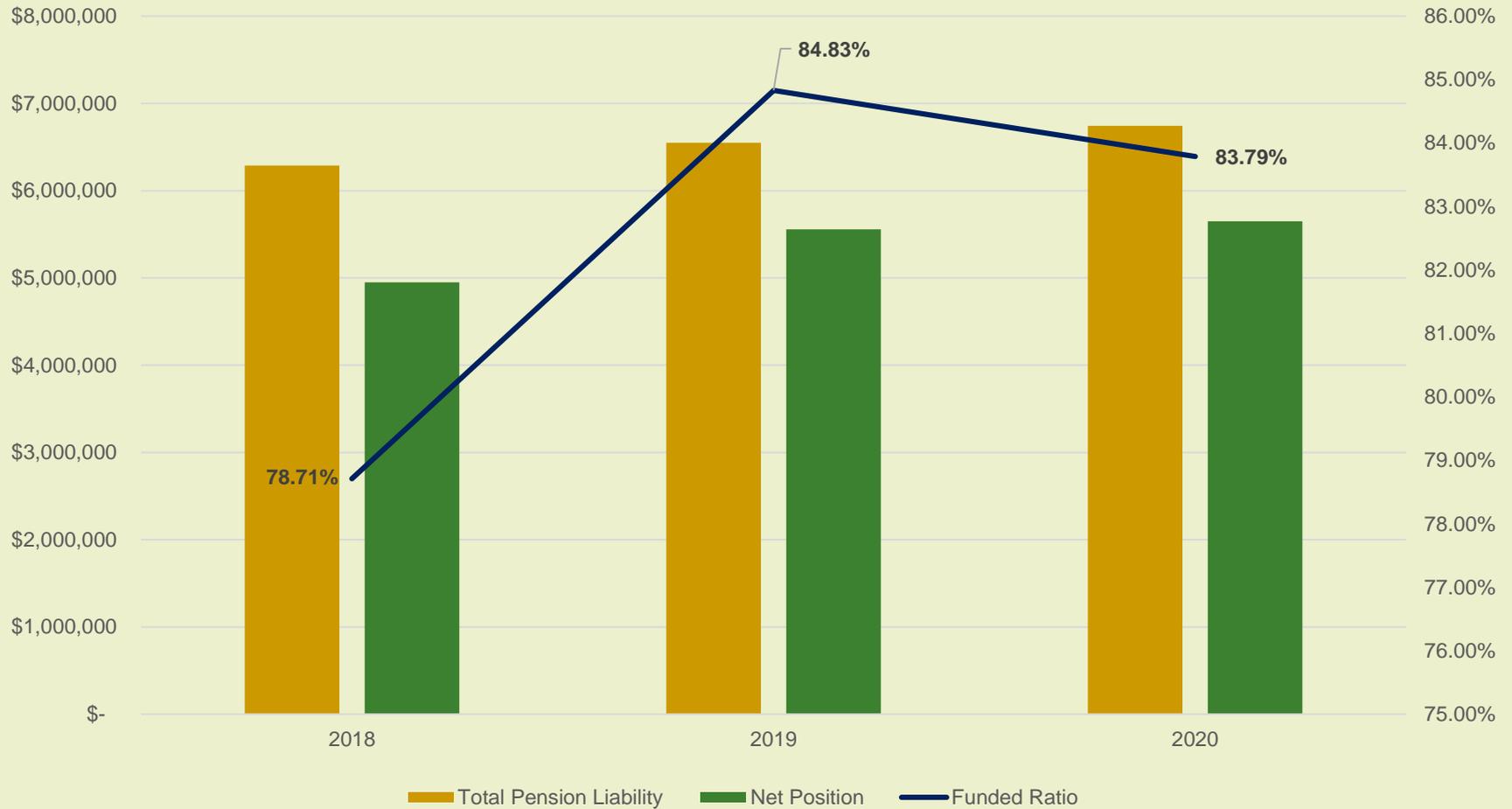
CMERS Expenses (in thousands)



CMERS Revenues (in thousands)

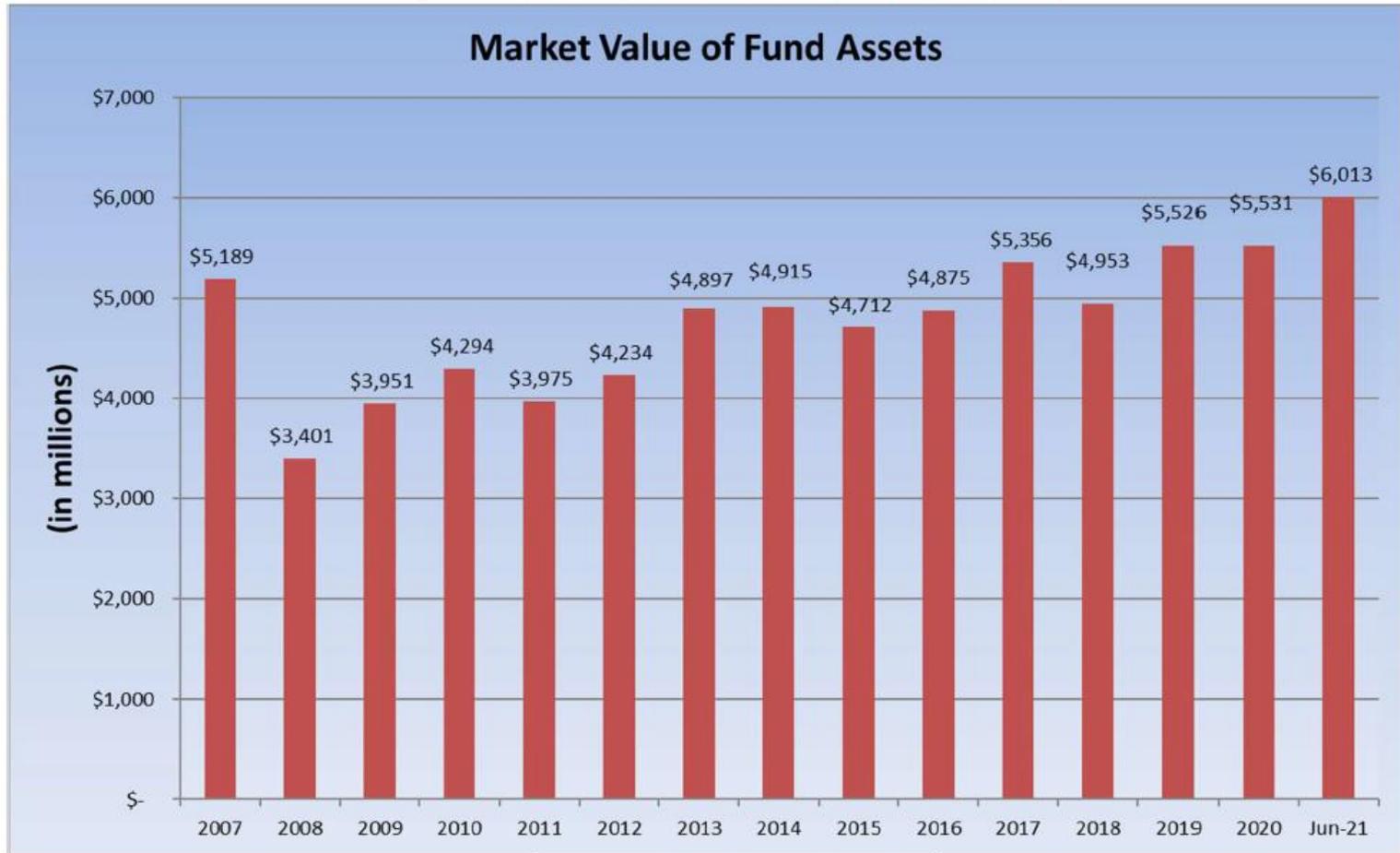


ERS IS FINANCIALLY RESILIENT



Fund Value of Assets: 2007 – June 30, 2021

(Year Ended Dates Reflect 12/31 Fund Values)

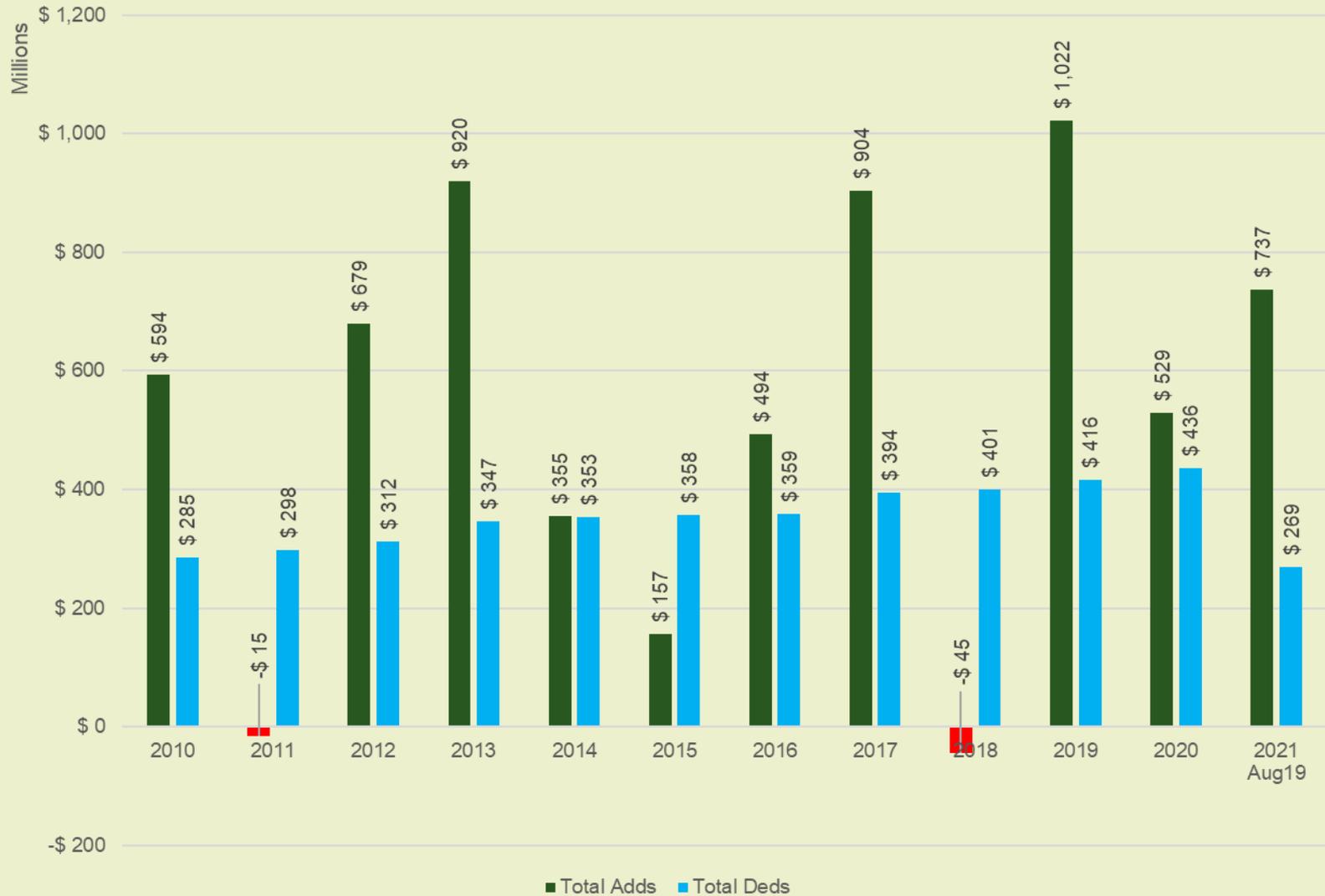


Most recent Actuarial valuation projects benefit payments to total \$5.1 billion in next 10 years.

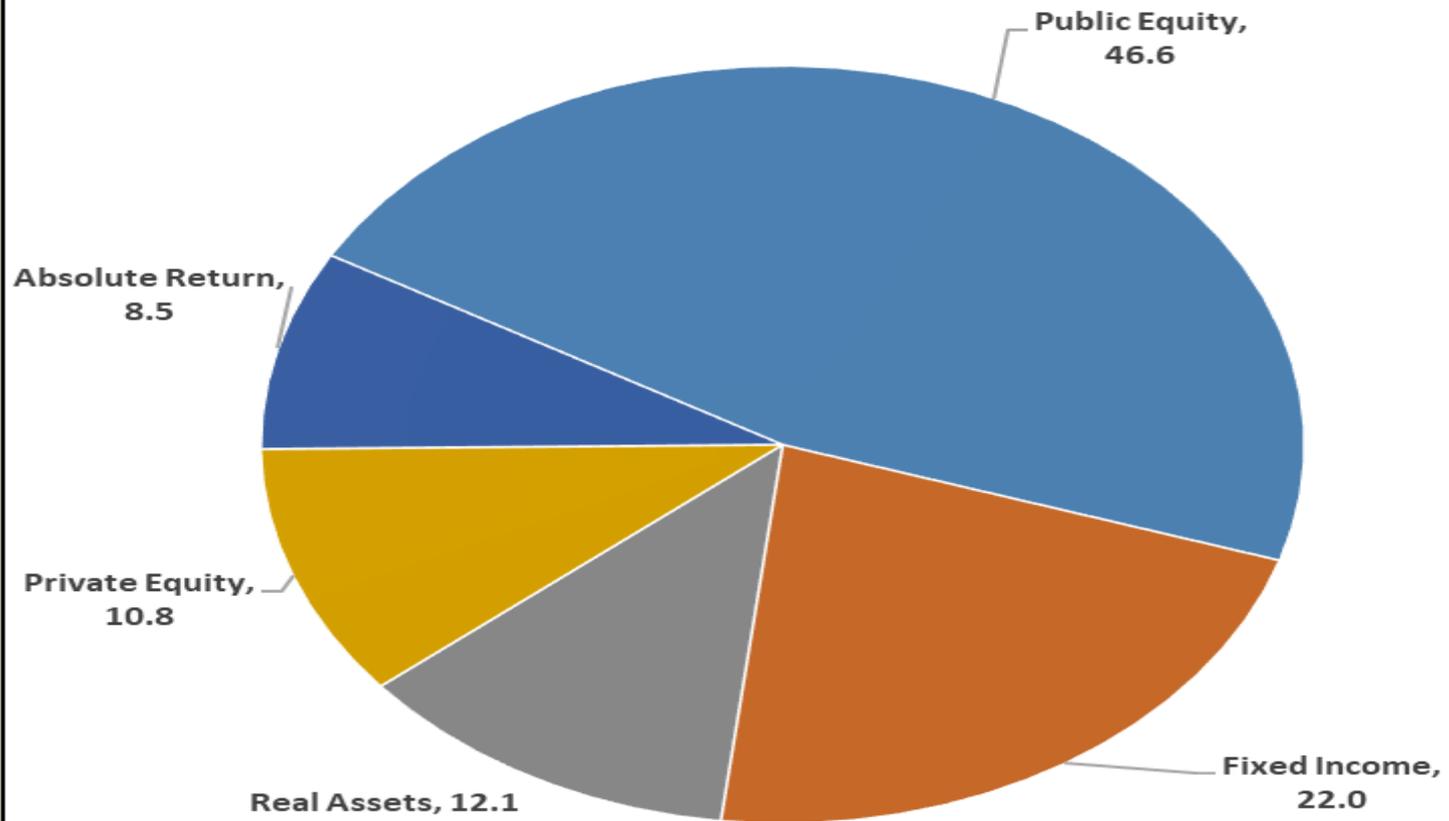
Benefit Payments	\$4.5 billion
Expenses	\$239 million
Contributions	\$1.3 billion
Investment Gain	\$4.3 billion

13 1/2 Year Estimates (1/1/2008 - 6/30/2021)

Additions vs. Deductions to Fund



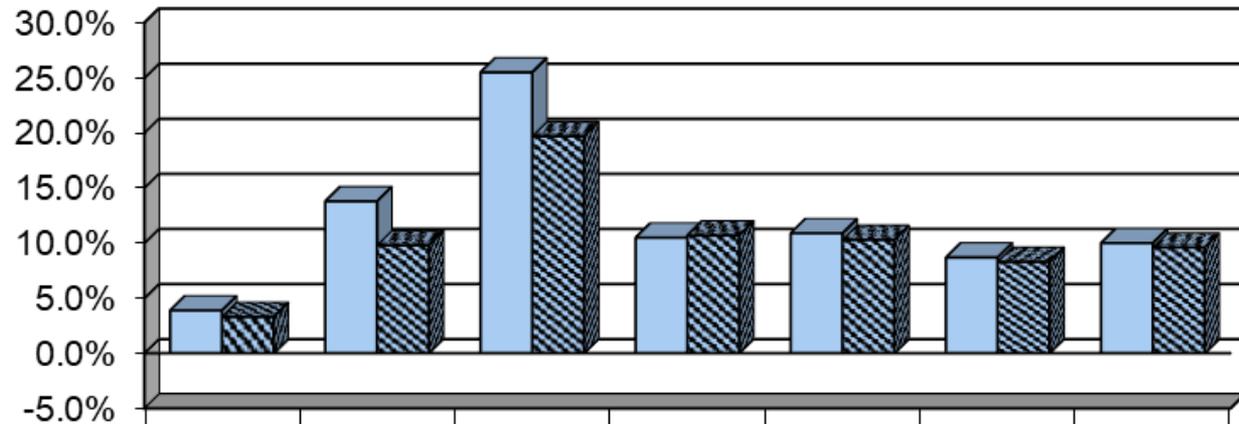
ERS Allocation as of August 31, 2021



ERS allocation weights may not total 100% due to rounding

CMERS Investment Performance History Periods Ending August 31, 2021

August 31, 2021

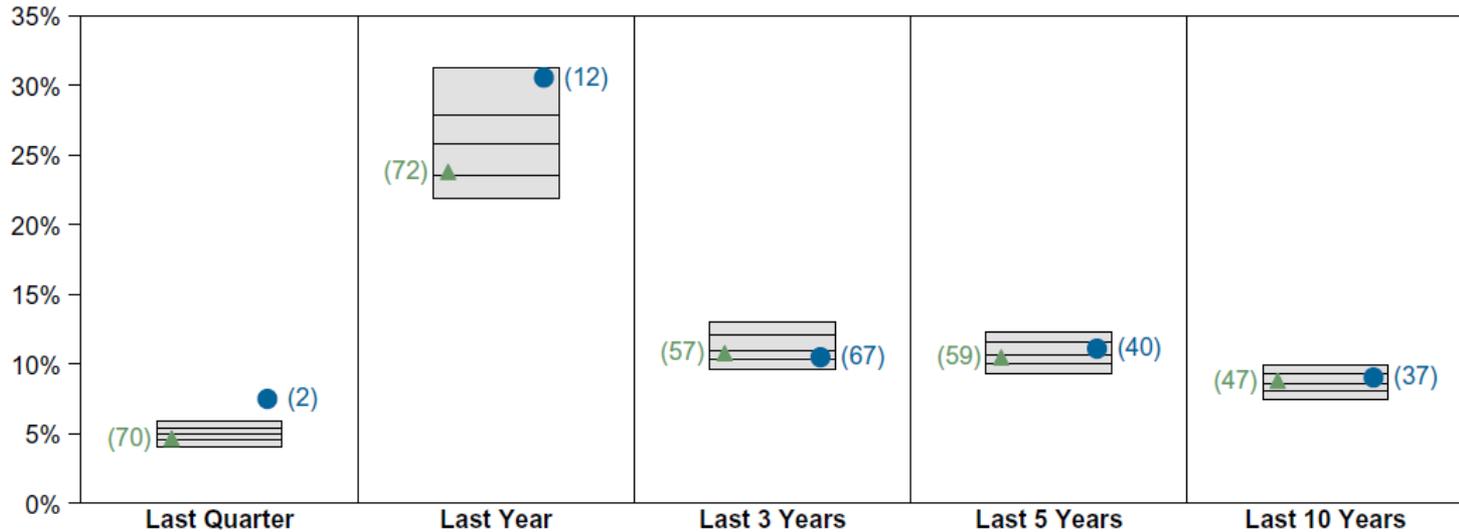


	3 Mo.	YTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ Total Fund Gross	3.9%	13.8%	25.5%	10.5%	10.9%	8.7%	10.0%
▨ Total Fund Benchmark	3.3%	9.8%	19.7%	10.7%	10.3%	8.3%	9.6%

■ Total Fund Gross ▨ Total Fund Benchmark

Investment Performance Compared to Public Fund Peers Periods Ending June 30, 2021

Performance vs Callan Public Fund Sponsor Database (Gross)



	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	5.87	31.25	12.99	12.34	9.96
25th Percentile	5.43	27.90	12.07	11.57	9.28
Median	4.96	25.78	10.95	10.67	8.59
75th Percentile	4.59	23.52	10.29	10.00	8.05
90th Percentile	4.08	21.86	9.61	9.32	7.42
Total Fund ●	7.49	30.55	10.48	11.10	9.03
Total Fund Reference Index ▲	4.66	23.78	10.78	10.47	8.80

Milwaukee Employees' Retirement System - September 29, 2021

Fund as of August 31, 2021

*Fund value of \$6.07b.
 *Fund return of 1.3%, gross of fees, outperformed the blended benchmark by 28bp.
 *Fund outperformed in the YTD, 1, 5, and 20-year periods, underperformed in the 15-year, and matched in the 10-year, net of fees.

August Relative Perf. Drivers

Manager Selection

*William Blair 10bp
 *Real Estate 10bp
 *UBS 6bp
 *Brandes 4bp

Sept. Update (as of 9/27/21)

*Fund return is -0.1% in Sept.
 *Fund return is 13.6% YTD, net.
 *Fund's approx. value is \$6.08b.
 *11 out of 15 active mandates outperforming YTD, net of fees.
 *Total Fund, along with all of the Fund's asset classes, are exceeding their respective benchmarks YTD, net of fees.

YTD, the Fund has generated:

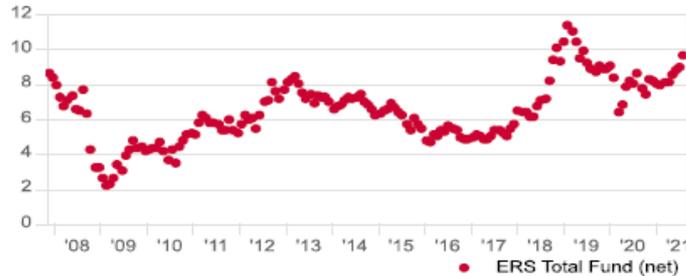
*Investment Gains: \$750.7m
 *Benefits & Expenses: 306.1m
 *Contributions: 99.2m

Monthly Withdrawals:

*William Blair \$11m
 *Brandes 10m
 *DFA International 7m
 *Polen 6m
 *MFS 4m

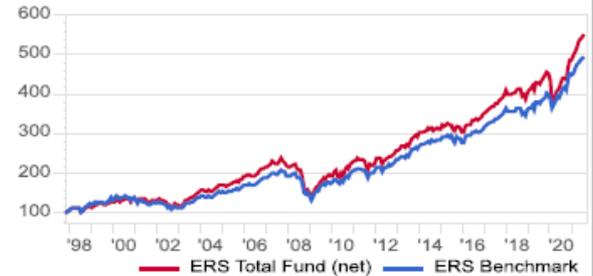
Total Fund - 10-Year Rolling Returns

11/28/1997 to 08/31/2021



Growth of \$100 - Total Fund & ERS Benchmark

11/28/1997 to 08/31/2021



Return Data

Source Data: Monthly Return

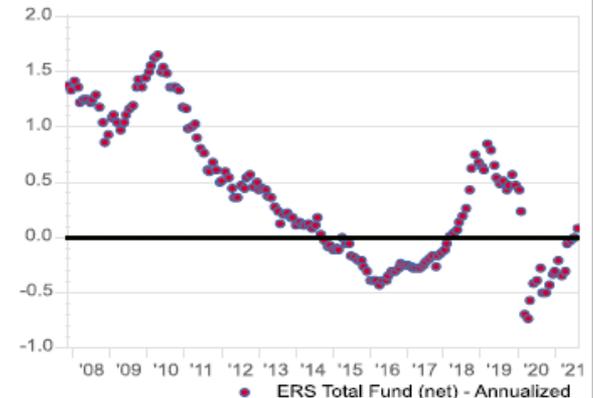
	1 Month	YTD	1 Year	5 Year	10 Year	15 Year	20 Year
Total Fund (net)	1.3	13.6	25.3	10.6	9.6	7.1	7.5
ERS Benchmark	1.1	9.8	19.7	10.2	9.6	7.2	7.1

Total Fund - 20-Year Risk & Return Data

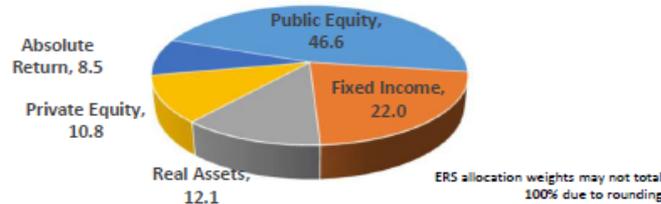
	Return	Std Dev	Tracking Error	Info Ratio (arith)	Sharpe Ratio	Alpha	Beta
Total Fund (net)	7.5	10.5	2.4	0.1	0.6	-0.4	1.1
ERS Benchmark	7.1	9.2	--	--	0.6	0.0	1.0

Total Fund - 10-Year Rolling Excess Returns

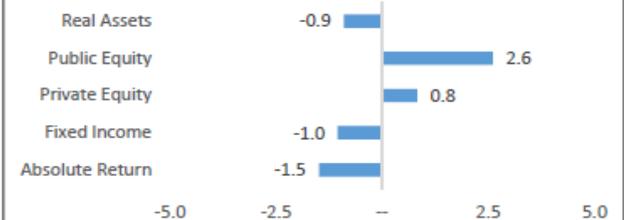
11/28/1997 to 08/31/2021



ERS Allocation as of August 31, 2021



Asset Allocation vs Policy as of August 31, 2021



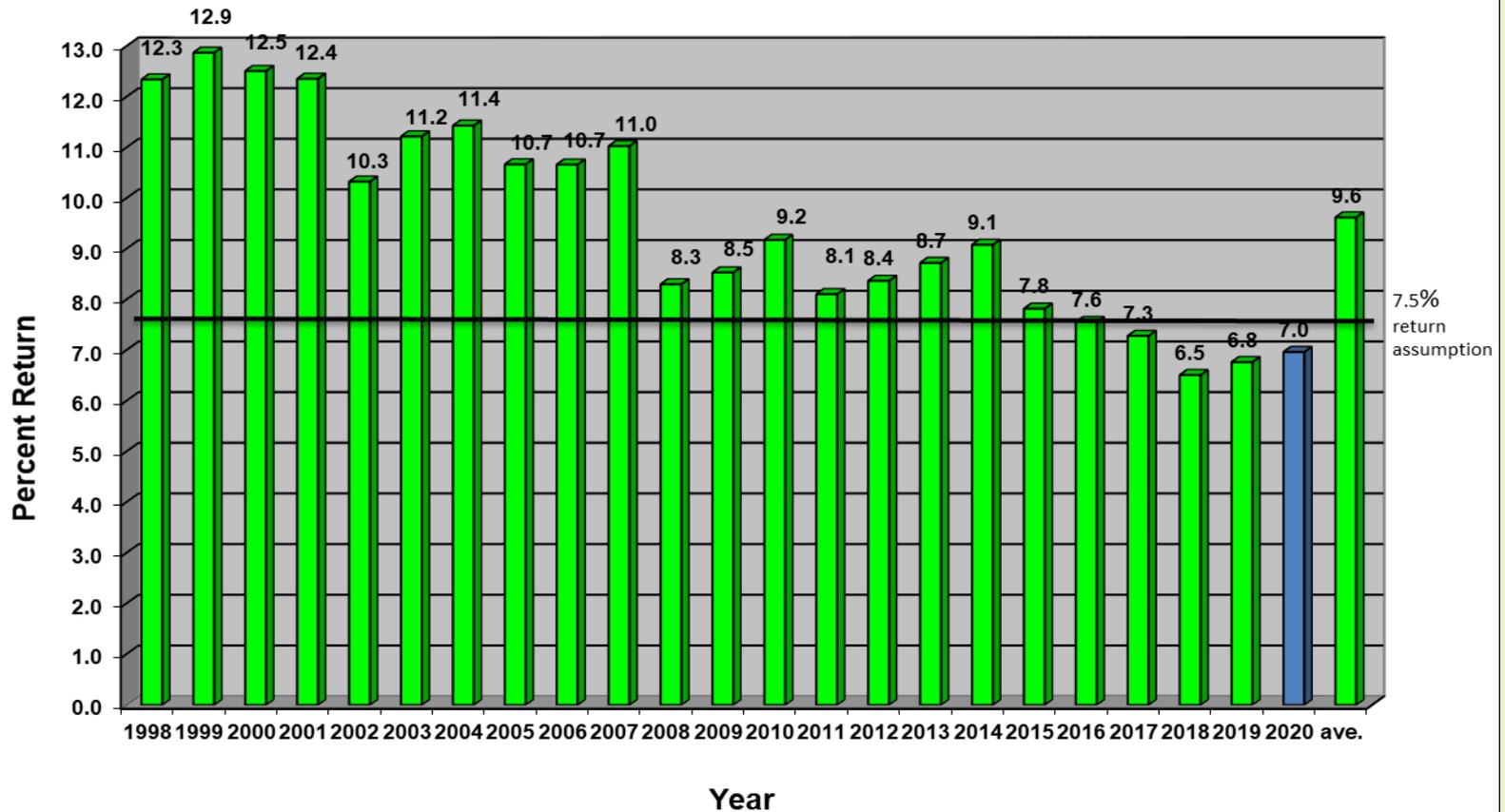
Comparison of WRS Core Fund vs ERS Returns



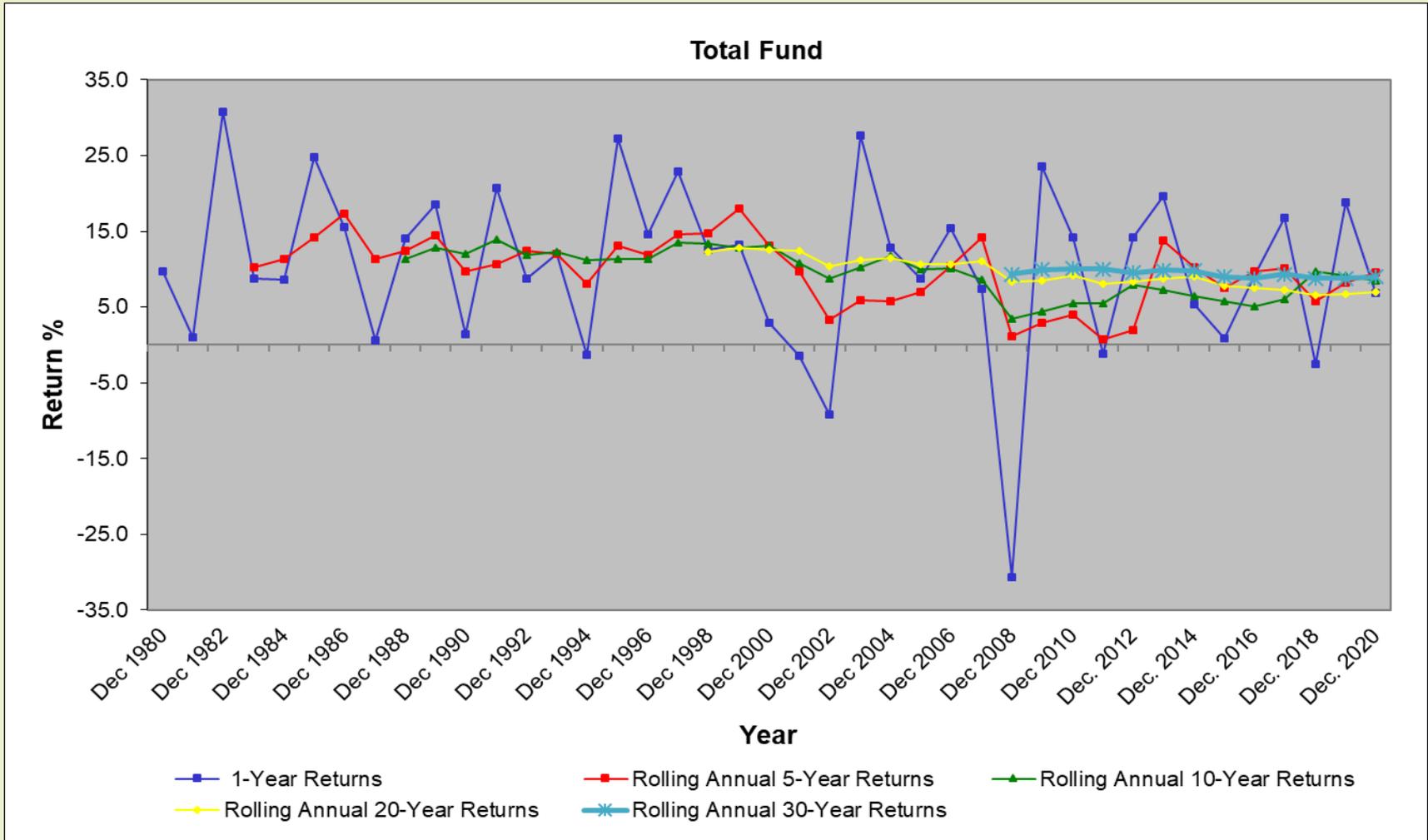
WRS Data Source: <https://etf.wi.gov/wrs-performance/annual-returns-rates-and-adjustments>

Year End	Rates of Return		Growth of \$1 on 1/1/2000		
	ERS	WRS	ERS	WRS	Higher
2000	2.84%	-0.80%	\$ 1.03	\$ 0.99	ERS
2001	-1.68%	-2.30%	\$ 1.01	\$ 0.97	ERS
2002	-9.44%	-8.80%	\$ 0.92	\$ 0.88	ERS
2003	27.34%	24.20%	\$ 1.17	\$ 1.10	ERS
2004	12.61%	12.80%	\$ 1.31	\$ 1.24	ERS
2005	8.46%	8.60%	\$ 1.42	\$ 1.34	ERS
2006	15.13%	15.80%	\$ 1.64	\$ 1.56	ERS
2007	7.21%	8.80%	\$ 1.76	\$ 1.69	ERS
2008	-30.84%	-26.20%	\$ 1.22	\$ 1.25	WRS
2009	23.30%	22.40%	\$ 1.50	\$ 1.53	WRS
2010	13.86%	12.30%	\$ 1.71	\$ 1.72	WRS
2011	-1.43%	1.40%	\$ 1.68	\$ 1.74	WRS
2012	13.88%	13.70%	\$ 1.92	\$ 1.98	WRS
2013	19.29%	13.60%	\$ 2.29	\$ 2.25	ERS
2014	5.09%	5.70%	\$ 2.40	\$ 2.38	ERS
2015	0.54%	-0.40%	\$ 2.41	\$ 2.37	ERS
2016	8.83%	8.60%	\$ 2.63	\$ 2.57	ERS
2017	16.38%	16.20%	\$ 3.06	\$ 2.99	ERS
2018	-2.91%	-3.30%	\$ 2.97	\$ 2.89	ERS
2019	18.44%	19.90%	\$ 3.52	\$ 3.47	ERS
2020	6.62%	15.20%	\$ 3.75	\$ 3.99	WRS

ERS 20 Year Rolling Ave. Investment Returns 1978-2021

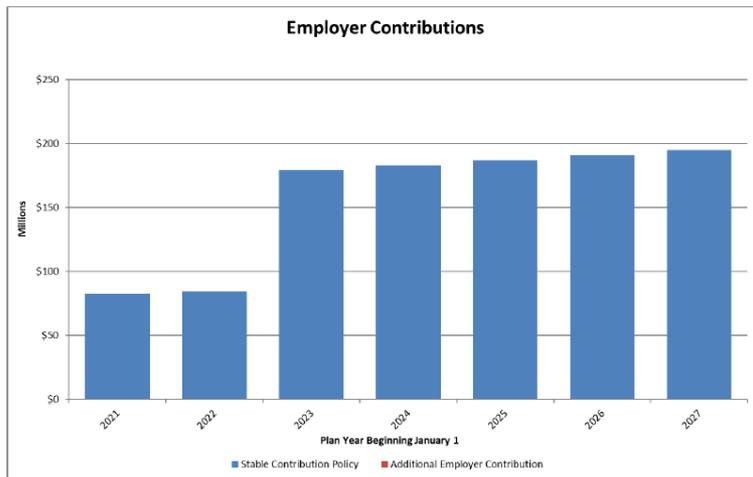


Rolling Fund Returns 1979 - 2021



Projected spike in employer contributions to ERS beginning in 2023 presents a challenge for the participating employers

Projections (Assuming All Assumptions Are Met)



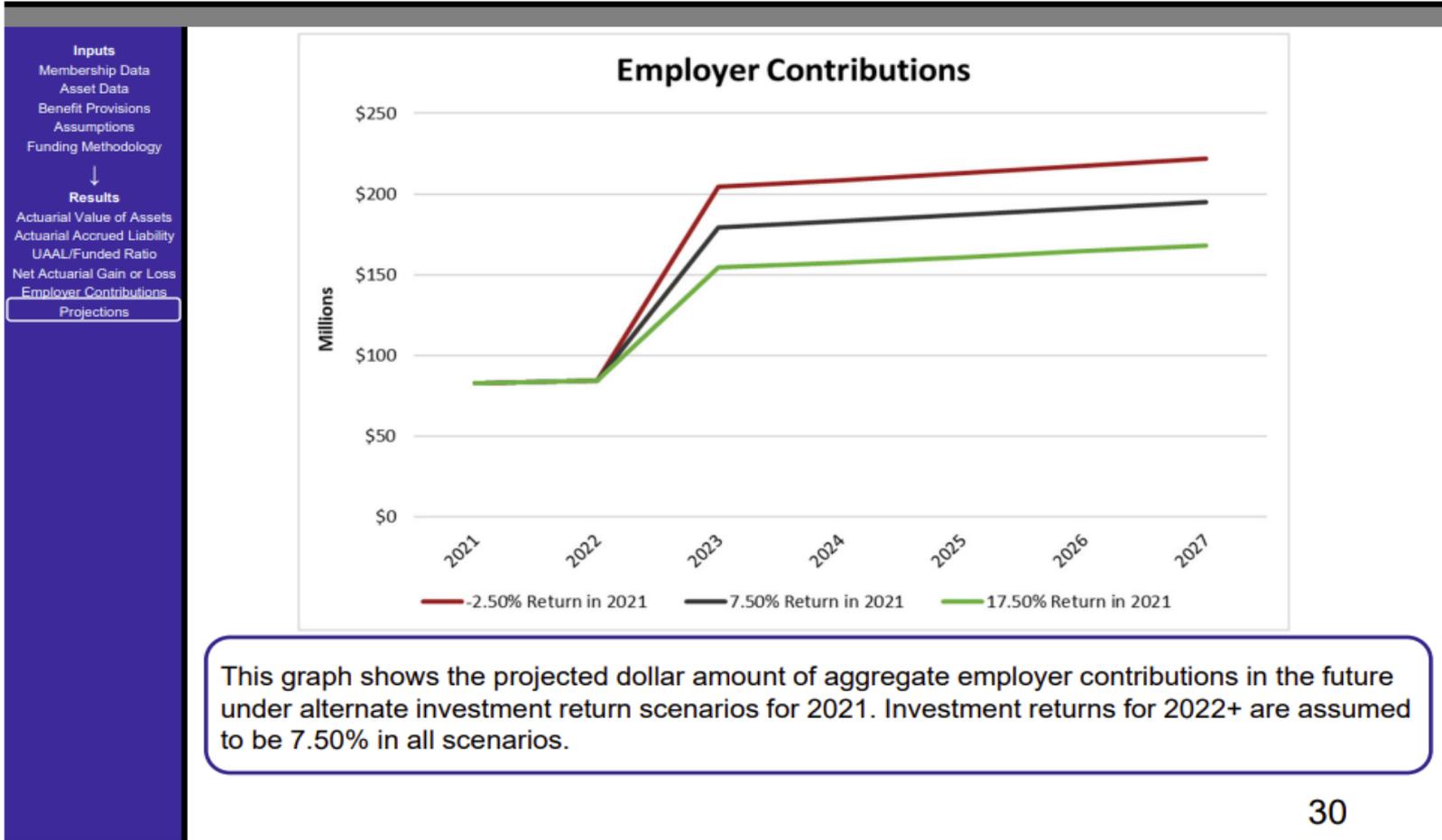
This graph shows the projected dollar amount of aggregate employer contributions in the future, if all actuarial assumptions are met.

All other assumptions held constant, it is projected that under the Stable Contribution Policy the total employer contributions (from all employers) will grow from about 15% of pensionable wages currently (approx. \$80M) to about 30% of pensionable wages due 1/2024 (approx. \$175M).

Summary of Economic Assumptions:

- Investment Return – 7.50% per year
- Price Inflation – 2.50%
- UAAL Payment Increase – 2.00%
- Salary Increase Rate (net of inflation) varies with age

Sensitivity Analysis (Alternate Investment Returns for 2021)



Normal Cost by Group (1/1/2021 Actuarial Valuation)

	General Employees	Policemen	Firemen	Total
1. Retirement Benefits	\$21,576	\$34,106	\$11,242	\$66,924
2. Withdrawal Benefits	12,269	2,874	1,271	16,414
3. Disability Benefits	1,382	2,542	4,384	8,308
4. Death Benefits	656	232	103	991
5. Total Normal Cost	\$35,883	\$39,754	\$17,000	\$92,637
6. Projected Payroll	\$371,863	\$154,607	\$59,899	\$586,369
7. Normal Cost Rate	9.65%	25.71%	28.38%	15.80%
8. Member Contribution Rate	(4.82%)	(7.00%)	(7.00%)	(5.62%)
9. Employer Normal Cost Rate	4.83%	18.71%	21.38%	10.18%

Employer Rate Based On:

Group	Market-Based		
	Stable Contribution Policy	Actuarial Determined Rate	Actuarial Determined Rate
General	7.48%	17.22%	14.98%
Policemen	25.22%	47.47%	42.28%
Firemen	26.83%	51.44%	46.02%

As a result of the events mentioned earlier, there is a significant difference between the actuarially determined employer contribution rate and the stable contribution policy rate as shown above.

Actuarially Determined Employer Contribution

(Combined Fund only as of January 1, 2021)

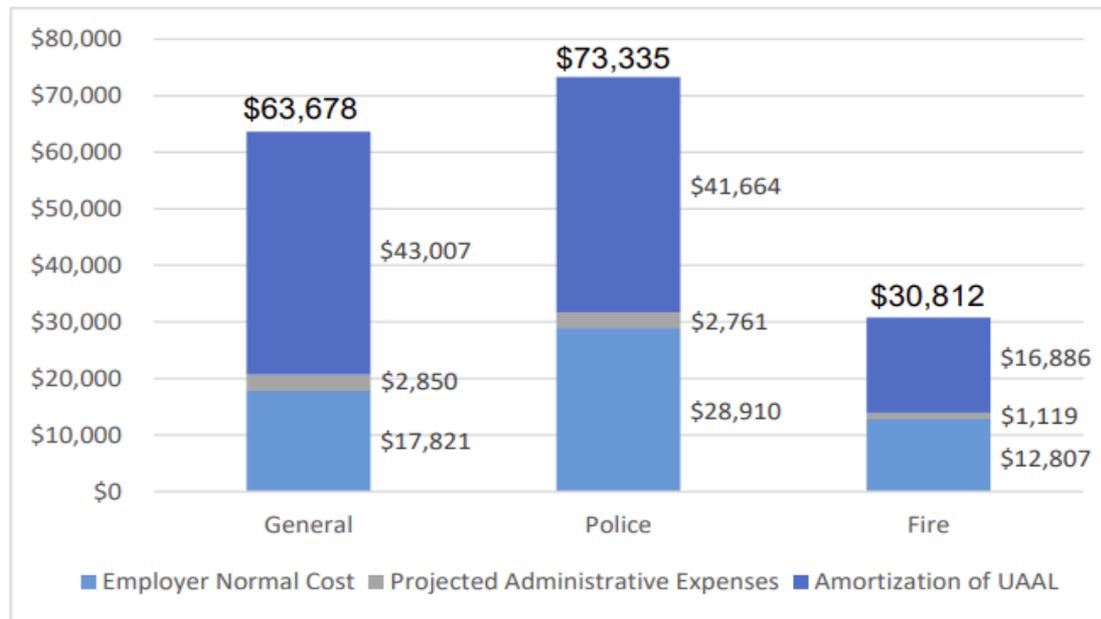
Inputs

- Membership Data
- Asset Data
- Benefit Provisions
- Assumptions
- Funding Methodology

↓

Results

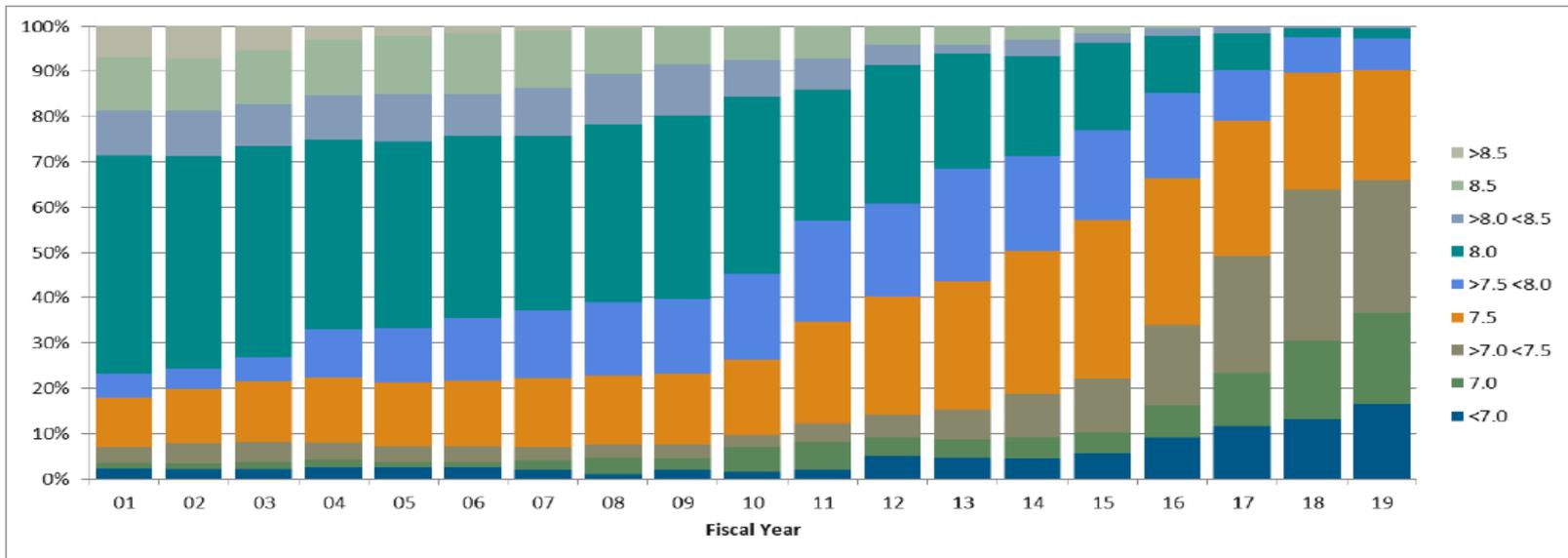
- Actuarial Value of Assets
- Actuarial Accrued Liability
- UAAL/Funded Ratio
- Net Actuarial Gain or Loss
- Employer Contributions**
- Projections



The normal cost is just part of the actuarially determined contribution. The amortization of the unfunded actuarial accrued liability (UAAL) is a major component of the actuarial determined contribution.

Discount Rates for Public Funds (Asset Liability Management Study 12/10/2020)

Public Fund Actuarial Discount Rates



- An industry consensus on low return expectations going forward has led to a steady decline in actuarial discount rates over the last decade
- The 2019 median actuarial discount rate is 7.25%

Source: Compiled by NASRA based on Public Fund Survey

APPENDIX

Calendar Year Returns	Net of Fees		Higher		Annualized Returns*	Net of Fees		Higher	
	CMERS	SWIB**	CMERS	SWIB		CMERS	SWIB	CMERS	SWIB
2000	2.84%	-0.80%	x		1-Year Annualized ending in 2000	2.84%	-0.80%	x	
2001	-1.68%	-2.30%	x		2-Year Annualized ending in 2001	0.55%	-1.55%	x	
2002	-9.44%	-8.80%		x	3-Year Annualized ending in 2002	-0.38%	-0.54%	x	
2003	27.34%	24.20%	x		4-Year Annualized ending in 2003	3.91%	2.36%	x	
2004	12.61%	12.80%		x	5-Year Annualized ending in 2004	5.60%	4.37%	x	
2005	8.46%	8.60%		x	6-Year Annualized ending in 2005	6.07%	5.06%	x	
2006	15.13%	15.80%		x	7-Year Annualized ending in 2006	7.32%	6.53%	x	
2007	7.21%	8.80%		x	8-Year Annualized ending in 2007	7.31%	6.81%	x	
2008	-30.84%	-26.20%		x	9-Year Annualized ending in 2008	2.19%	2.51%		x
2009	23.30%	22.40%	x		10-Year Annualized ending in 2009	4.13%	4.35%		x
2010	13.86%	12.30%	x		11-Year Annualized ending in 2010	4.98%	5.05%		x
2011	-1.43%	1.40%		x	12-Year Annualized ending in 2011	4.43%	4.74%		x
2012	13.88%	13.70%	x		13-Year Annualized ending in 2012	5.13%	5.40%		x
2013	19.29%	13.60%	x		14-Year Annualized ending in 2013	6.08%	5.97%	x	
2014	5.09%	5.70%		x	15-Year Annualized ending in 2014	6.02%	5.95%	x	
2015	0.54%	-0.40%	x		16-Year Annualized ending in 2015	5.66%	5.54%	x	
2016	8.83%	8.60%	x		17-Year Annualized ending in 2016	5.85%	5.72%	x	
2017	16.38%	16.20%	x		18-Year Annualized ending in 2017	6.41%	6.28%	x	
2018	-2.91%	-3.30%	x		19-Year Annualized ending in 2018	5.90%	5.75%	x	
2019	18.44%	19.90%		x	20-Year Annualized ending in 2019	6.49%	6.41%	x	
2020	6.62%	15.20%		x	21-Year Annualized ending in 2020	6.50%	6.82%		x

*Annualized Returns data show the compounded annualized returns of CMERS and SWIB, respectively, from 2000 to the "ending in" year time period. For example, CMERS' "5-Year Annualized ending in 2004" of 5.60% means that CMERS generated a 5.60% annualized return per year from January 1, 2000 to December 31, 2004; SWIB's "10-Year Annualized ending in 2009" of 4.35% means that SWIB generated a 4.35% annualized return per year from January 1, 2000 to December 31, 2009, and so on. While it is correct to say that SWIB's 6.82% annualized return per year for the 21-year time period ending in December 31, 2020 is higher than CMERS' 6.50% annualized return, it's important to note that Annualized returns are highly sensitive to the most recent calendar year return experience, which are the returns on the left. This phenomenon is often referred to as end-point sensitivity, and can be particularly pronounced when there is a material difference in returns between numbers being compared in the most recent year. In 2013 for example, CMERS' 19.29% return exceeded SWIB's 13.6% return and this set the stage for CMERS' Annualized returns to be higher than SWIB's for 7 consecutive years (13-Year Annualized ending in 2013 through 20-Year Annualized ending in 2019). In 2020, SWIB's 15.2% return exceeded CMERS' 6.62% return and resulted in SWIB's Annualized returns going higher than CMERS' in the 21-Year Annualized ending in 2020 time period. Ultimately, it's critical to understand end-point sensitivity with regards to the analysis of investment returns, and that the conclusions drawn from comparing investment return data in this manner may be different from year-to-year because the data may be skewed by the results of the most recent time period.

**Source for SWIB Calendar Year Returns: <https://etf.wi.gov/wrs-performance/annual-returns-rates-and-adjustments>

Note: A portion of the return differences shown above very likely include differences between CMERS' and SWIB's respective Strategic Asset Allocation. For example, based on publicly available data, SWIB's benchmark return over the 20-year time period ending on December 31, 2020 was an annualized 0.37% higher than CMERS' benchmark return.

Source for SWIB 20-Year Benchmark Return as of December 31, 2020:

https://7ffb9e60-f2dc-4359-b148-1db6b9d76c71.filesusr.com/ugd/69fc6d_1fb26f3efbdf4aa18c3c3ba865cac15ee.pdf

City Charter and State Law Requirements

- Employer contributions are due and payable in full by January 31 of the year following the current year as determined by the independent actuary (MCC 36-08).
- Employer contributions must be certified by the Annuity and Pension Board and calculations must adhere to Actuarial Standards of Practice (MCC 36-08 and 36-15).
- ERS Vested benefits are a contractual obligation of the City under state law and can not be diminished or impaired w/o consent of the Member (WI Laws Chapter 441, Laws of 1947; MCC 36-13).
- Global Pension Settlement provisions are locked in place by court order.
- Pension funding requirements can only be changed by a two-thirds vote of the Common Council, approval by the Mayor and the Annuity & Pension Board (MCC 36-15)
- Changes to funding policy pursuant to MCC-36-08 and 36-15 that cause “tangible harm” to members and beneficiaries may violate their contractual pension rights - Professional Police Association v. Lightbourn, 2001 WI 59, 243 Wis. 2d 512, 627.N.W.2d 807

Securing Payment of Employer Contributions

- MCC 36-08-6-f and g provide authority to levy taxes to fund ERS on real and personal property annually in addition to all other taxes. For agencies not authorized to levy taxes, the amounts are to be included in their budgets.
- In the event that the employer(s) do not contribute the required amount, the Annuity & Pension Board is obligated by state law as a fiduciary to exhaust all avenues to collect such funds, and as authorized under MCC 36-15-1 (“proper operation of the retirement system”) Also, Board Rule VII A.

Further Limitations to Benefits Alteration

Under MCC 36-14 (“Home Rule”), the City is authorized to “amend or alter the provisions of [MCC 36] in the manner prescribed by s. 66.0101, Wis. Stats., provided that no such amendment or alteration shall modify the annuities, benefits, or other rights of persons who are Members of the system prior to the effective date of such amendment or alteration.”