



TEACHER'S RETIREMENT FUND

Net of All Fees and Expenses
Periods Ending September 30, 2019

Funds	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Teacher's Retirement Fund	100.0%				\$18,278.0	0.98	0.32	0.32	11.11	3.85	7.63	6.24	7.49	7.68
<i>Benchmark</i>						1.34	1.06	1.06	10.96	5.33	8.17	6.48	7.60	7.89
<i>Policy Benchmark</i>						1.40	0.76	0.76	10.97	4.45	7.87	6.28	7.13	N/A
Domestic Equity	22.3%	20.0	15.0	25.0	\$4,067.2	1.65	1.14	1.14	19.99	2.51	12.69	10.36	12.95	12.76
<i>Russell 3000</i>						1.76	1.16	1.16	20.09	2.92	12.83	10.44	13.00	13.08
Developed Markets ISF	16.5%	11.0	6.0	16.0	\$3,007.2	2.42	-1.09	-1.09	13.11	-1.94	7.30	5.06	8.25	6.77
<i>MSCI EAFE IMI Net</i>						2.86	0.10	0.10	14.50	0.08	8.17	5.52	8.43	6.64
Emerging Markets ISF	9.0%	9.0	4.0	14.0	\$1,647.5	1.38	-2.68	-2.68	9.82	1.03	5.95	2.97	2.51	3.85
<i>MSCI Emerging Markets IMI</i>						1.92	-4.28	-4.28	5.42	-2.41	5.41	2.03	2.34	3.36
Core Fixed Income	10.6%	16.0	11.0	21.0	\$1,933.7	-0.59	2.17	2.17	7.68	8.71	2.86	2.92	2.43	3.70
<i>Barclays U.S. Aggregate Bond Index</i>						-0.53	2.27	2.27	8.52	10.30	2.92	3.38	2.72	3.75
Emerging Market Debt	5.9%	5.0	0.0	10.0	\$1,084.8	0.70	-1.44	-1.44	8.88	8.08	3.81	3.38	2.18	5.18
<i>50% JPM EMBI Global Div / 50% JPM GBI EM Global Div</i>						0.25	0.37	0.37	10.44	10.91	3.89	3.19	2.24	5.21
High Yield	6.1%	6.0	1.0	11.0	\$1,121.3	0.34	0.63	0.63	9.89	4.07	5.35	4.31	5.09	7.21
<i>FTSE High Yield Market Capped Index</i>						0.25	0.92	0.92	10.89	5.64	5.73	4.91	5.44	7.51
Inflation Linked Bonds	5.0%	5.0	0.0	10.0	\$915.2	-0.56	1.22	1.22	7.42	6.10	2.03	1.98	0.75	3.29
<i>Barclays World Gov't Inflation Linked Bond Index</i>						-0.79	1.77	1.77	8.19	7.31	2.17	2.22	0.90	3.35
Liquidity Fund	2.4%	1.0	0.0	3.0	\$446.7	0.18	0.60	0.60	1.90	2.53	1.77	1.12	0.78	0.78
<i>One Month Libor</i>						0.17	0.55	0.55	1.80	2.38	1.67	1.11	0.85	0.67
Real Estate⁽¹⁾	6.6%	10.0	5.0	15.0	\$1,213.4	N/A	1.10	1.10	4.82	6.59	7.24	8.80	9.65	7.53
<i>ODCE Index 1Q in Arrears^</i>						N/A	1.00	1.00	3.84	5.58	6.57	8.64	9.30	9.15
Private Investment⁽¹⁾	7.3%	10.0	5.0	15.0	\$1,332.6	N/A	2.26	2.26	9.07	15.41	14.04	13.09	13.04	13.33
<i>Russell 3000 + 250 basis points 1Q in Arrears^</i>						N/A	4.65	4.65	3.61	11.48	14.77	11.64	13.84	13.65
Alternative Investment Fund	8.3%	7.0	2.0	12.0	\$1,508.3	0.53	0.76	0.76	2.95	3.39	5.18	2.77	4.19	N/A
<i>90-Day T-Bill + 300 basis points</i>						0.42	1.29	1.29	4.04	5.39	2.77	1.71	1.24	N/A

⁽¹⁾ Reported on a quarterly basis with a 90 day lag



STATE EMPLOYEES' RETIREMENT FUND

Net of All Fees and Expenses
Periods Ending September 30, 2019

Funds	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Benchmark														
State Employees' Retirement Fund	100.0%				\$13,245.8	0.97	0.31	0.31	11.09	3.92	7.72	6.29	7.53	7.75
Policy Benchmark						1.34	1.06	1.06	11.00	5.35	8.15	6.49	7.59	7.95
Dynamic Benchmark						1.38	0.77	0.77	10.98	4.54	7.99	6.39	7.21	N/A
Domestic Equity	21.8%	20.0	15.0	25.0	\$2,891.8	1.65	1.14	1.14	19.99	2.52	12.69	10.36	12.95	12.76
Russell 3000						1.76	1.16	1.16	20.09	2.92	12.83	10.44	13.00	13.08
Developed Markets ISF	15.8%	11.0	6.0	16.0	\$2,095.1	2.42	-1.09	-1.09	13.11	-1.94	7.31	5.06	8.25	6.77
MSCI EAFE IMI Net						2.86	0.10	0.10	14.50	0.08	8.17	5.52	8.43	6.64
Emerging Markets ISF	8.9%	9.0	4.0	14.0	\$1,181.2	1.38	-2.68	-2.68	9.83	1.03	5.95	2.97	2.51	3.85
MSCI Emerging Markets IMI						1.92	-4.28	-4.28	5.42	-2.41	5.41	2.03	2.34	3.36
Core Fixed Income	10.5%	16.0	11.0	21.0	\$1,392.4	-0.59	2.17	2.17	7.68	8.71	2.86	2.92	2.43	3.70
Barclays U.S. Aggregate Bond Index						-0.53	2.27	2.27	8.52	10.30	2.92	3.38	2.72	3.75
Emerging Market Debt	6.4%	5.0	0.0	10.0	\$847.9	0.70	-1.44	-1.44	8.88	8.08	3.81	3.38	2.18	5.18
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						0.25	0.37	0.37	10.44	10.91	3.89	3.19	2.24	5.21
High Yield	6.2%	6.0	1.0	11.0	\$815.6	0.34	0.63	0.63	9.89	4.07	5.35	4.31	5.09	7.21
FTSE High Yield Market Capped Index						0.25	0.92	0.92	10.89	5.64	5.73	4.91	5.44	7.51
Inflation Linked Bonds	4.9%	5.0	0.0	10.0	\$650.1	-0.56	1.22	1.22	7.42	6.10	2.03	1.98	0.75	3.29
Barclays World Gov't Inflation Linked Bond Index						-0.79	1.77	1.77	8.19	7.31	2.17	2.22	0.90	3.35
Liquidity Fund	3.6%	1.0	0.0	3.0	\$472.2	0.18	0.60	0.60	1.90	2.53	1.78	1.13	0.78	0.79
One Month Libor						0.17	0.55	0.55	1.80	2.38	1.67	1.11	0.85	0.67
Real Estate⁽¹⁾	6.5%	10.0	5.0	15.0	\$861.8	N/A	1.10	1.10	4.82	6.59	7.24	8.80	9.65	7.53
ODCE Index 1Q in Arrears^						N/A	1.00	1.00	3.84	5.58	6.57	8.64	9.30	9.15
Private Investment⁽¹⁾	7.2%	10.0	5.0	15.0	\$957.1	N/A	2.26	2.26	9.07	15.41	14.04	13.09	13.05	13.33
Russell 3000 + 250 basis points 1Q in Arrears^						N/A	4.65	4.65	3.61	11.48	14.77	11.64	13.84	13.65
Alternative Investment Fund	8.2%	7.0	2.0	12.0	\$1,080.6	0.53	0.76	0.76	2.95	3.39	5.18	2.77	4.19	N/A
90-Day T-Bill + 300 basis points						0.42	1.29	1.29	4.04	5.39	2.77	1.71	1.24	N/A

⁽¹⁾ Reported on a quarterly basis with a 90 day lag



MUNICIPAL EMPLOYEES RETIREMENT FUND

Net of All Fees and Expenses
Periods Ending September 30, 2019

											Compound, annualized returns			
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	Holdings	Weights	Range	Range	Value (mil.)	Month	Months	YTD	YTD	Year	Year	Year	Year	Year
Municipal Employees' Retirement Fund	100.0%				\$2,695.2	0.92	0.35	0.35	10.40	4.49	7.12	5.99	6.82	7.17
Policy Benchmark						1.34	1.06	1.06	10.40	5.77	7.47	6.08	6.94	7.50
Dynamic Benchmark						1.34	0.73	0.73	10.27	5.12	7.27	5.98	6.37	N/A
Domestic Equity	22.1%	20.0	15.0	25.0	\$595.1	1.65	1.14	1.14	19.99	2.52	12.69	10.36	12.95	12.76
Russell 3000						1.76	1.16	1.16	20.09	2.92	12.83	10.44	13.00	13.08
Developed Markets ISF	14.9%	11.0	6.0	16.0	\$400.5	2.42	-1.09	-1.09	13.12	-1.93	7.31	5.06	8.26	6.77
MSCI EAFE IMI Net						2.86	0.10	0.10	14.50	0.08	8.17	5.52	8.43	6.64
Emerging Markets ISF	9.0%	9.0	4.0	14.0	\$242.0	1.38	-2.68	-2.68	9.82	1.03	5.95	2.97	2.52	3.85
MSCI Emerging Markets IMI						1.92	-4.28	-4.28	5.42	-2.41	5.41	2.03	2.34	3.36
Core Fixed Income	13.4%	16.0	11.0	21.0	\$362.2	-0.59	2.17	2.17	7.68	8.71	2.86	2.92	2.43	3.71
Barclays U.S. Aggregate Bond Index						-0.53	2.27	2.27	8.52	10.30	2.92	3.38	2.72	3.75
Emerging Market Debt	5.4%	5.0	0.0	10.0	\$145.7	0.70	-1.44	-1.44	8.88	8.08	3.81	3.38	2.18	5.18
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						0.25	0.37	0.37	10.44	10.91	3.89	3.19	2.24	5.21
High Yield	6.0%	6.0	1.0	11.0	\$162.1	0.34	0.63	0.63	9.89	4.07	5.34	4.31	5.09	7.21
FTSE High Yield Market Capped Index						0.25	0.92	0.92	10.89	5.64	5.73	4.91	5.44	7.51
Inflation Linked Bonds	5.0%	5.0	0.0	10.0	\$133.9	-0.56	1.22	1.22	7.42	6.10	2.03	1.98	0.75	3.29
Barclays World Gov't Inflation Linked Bond Index						-0.79	1.77	1.77	8.19	7.31	2.17	2.22	0.90	3.35
Liquidity Fund	2.4%	1.0	0.0	3.0	\$64.9	0.18	0.60	0.60	1.90	2.52	1.78	1.12	0.78	0.80
One Month Libor						0.17	0.55	0.55	1.80	2.38	1.67	1.11	0.85	0.67
Real Estate ⁽¹⁾	6.5%	10.0	5.0	15.0	\$175.4	N/A	1.10	1.10	4.82	6.59	7.24	8.80	9.65	7.52
ODCE Index 1Q in Arrears^						N/A	1.00	1.00	3.84	5.58	6.57	8.64	9.30	9.15
Private Investment ⁽¹⁾	7.2%	10.0	5.0	15.0	\$194.7	N/A	2.26	2.26	9.07	15.41	14.03	13.09	13.05	13.33
Russell 3000 + 250 basis points 1Q in Arrears^						N/A	4.65	4.65	3.61	11.48	14.77	11.64	13.84	13.65
Alternative Investment Fund	8.1%	7.0	2.0	12.0	\$218.6	0.53	0.76	0.76	2.95	3.39	5.18	2.77	4.19	N/A
90-Day T-Bill + 300 basis points						0.42	1.29	1.29	4.04	5.39	2.77	1.71	1.24	N/A

⁽¹⁾ Reported on a quarterly basis with a 90 day lag