TEACHER'S RETIREMENT FUND

Net of All Fees and Expenses

Periods Ending November 30, 2019

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
Teacher's Retirement Fund	**100.0%**				**$18,818.7**	**1.19**	**3.92**	**3.23**	**14.34**	**10.66**	**8.81**	**6.45**	**7.78**	**7.83**
Policy Benchmark						*0.83*	*3.61*	*3.33*	*13.45*	*11.11*	*9.20*	*6.51*	*7.85*	*7.92*
Dynamic Benchmark						*0.97*	*4.05*	*3.40*	*13.87*	*10.93*	*9.06*	*6.36*	*7.57*	*N/A*
Domestic Equity	**22.6%**	**20.0**	15.0	25.0	**$4,252.9**	**3.80**	**7.79**	**7.25**	**27.24**	**15.28**	**14.17**	**10.57**	**14.10**	**13.18**
Russell 3000						*3.80*	*7.90*	*7.27*	*27.34*	*15.49*	*14.22*	*10.61*	*14.11*	*13.41*
Developed Markets ISF	**15.3%**	**11.0**	6.0	16.0	**$2,886.1**	**0.88**	**6.79**	**3.13**	**17.93**	**11.58**	**9.02**	**5.92**	**8.40**	**7.26**
MSCI EAFE IMI Net						*1.28*	*8.06*	*5.16*	*20.29*	*13.67*	*10.31*	*6.29*	*8.70*	*7.28*
Emerging Markets ISF	**9.0%**	**9.0**	4.0	14.0	**$1,702.5**	**0.34**	**5.31**	**1.10**	**14.08**	**11.06**	**9.31**	**3.58**	**2.95**	**3.89**
MSCI Emerging Markets IMI						*-0.19*	*5.97*	*-0.47*	*9.62*	*6.84*	*8.48*	*2.90*	*2.82*	*3.30*
Core Fixed Income	**11.6%**	**16.0**	11.0	21.0	**$2,183.5**	**-0.02**	**-0.32**	**2.44**	**7.97**	**9.17**	**3.64**	**2.73**	**2.39**	**3.56**
Barclays U.S. Aggregate Bond Index						*-0.05*	*-0.28*	*2.53*	*8.79*	*10.79*	*4.10*	*3.08*	*2.71*	*3.59*
Emerging Market Debt	**5.8%**	**5.0**	0.0	10.0	**$1,098.5**	**-1.22**	**1.14**	**-1.01**	**9.36**	**10.19**	**6.14**	**3.46**	**1.95**	**5.03**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*-1.15*	*0.68*	*0.79*	*10.91*	*12.38*	*6.41*	*3.07*	*1.99*	*5.13*
High Yield	**6.1%**	**6.0**	1.0	11.0	**$1,146.1**	**0.49**	**0.85**	**1.14**	**10.45**	**7.53**	**5.43**	**4.42**	**5.05**	**6.91**
FTSE High Yield Market Capped Index						*0.52*	*0.99*	*1.67*	*11.71*	*9.12*	*5.99*	*4.99*	*5.35*	*7.30*
Inflation Linked Bonds	**4.8%**	**5.0**	0.0	10.0	**$900.9**	**-0.68**	**-0.47**	**1.32**	**7.52**	**8.94**	**4.18**	**1.73**	**0.58**	**2.88**
Barclays World Gov't Inflation Linked Bond Index						*-0.86*	*-1.41*	*1.13*	*7.51*	*8.78*	*4.11*	*1.87*	*0.62*	*2.87*
Liquidity Fund	**3.0%**	**1.0**	0.0	3.0	**$560.1**	**0.16**	**0.51**	**0.93**	**2.24**	**2.45**	**2.03**	**1.23**	**0.80**	**0.79**
One Month Libor						*0.15*	*0.49*	*0.87*	*2.12*	*2.32*	*1.74*	*1.17*	*0.89*	*0.69*
Real Estate[1]	**6.3%**	**10.0**	5.0	15.0	**$1,188.4**	**N/A**	**1.36**	**2.38**	**6.15**	**6.39**	**7.05**	**8.49**	**9.45**	**8.52**
*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	**$1,363.9**	**N/A**	**4.57**	**5.78**	**12.83**	**15.75**	**14.44**	**13.13**	**13.29**	**13.12**
*Russell 3000 + 250 basis points 1Q in Arrears^*						*N/A*	*4.65*	*4.65*	*3.61*	*11.48*	*14.09*	*10.52*	*14.05*	*13.20*
Alternative Investment Fund	**8.2%**	**7.0**	2.0	12.0	**$1,535.7**	**0.74**	**2.07**	**2.31**	**4.54**	**4.54**	**5.19**	**3.00**	**4.10**	**N/A**
90-Day T-Bill + 300 basis points						*0.37*	*1.22*	*2.11*	*4.88*	*5.32*	*3.03*	*1.88*	*1.35*	*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 November 30, 2019

											Compound, annualized returns			
Funds / *Benchmark*	**Percent Holdings**	**Policy Weights**	**Lower Range**	**Upper Range**	**Market Value (mil.)**	**Month**	**Three Months**	**Fiscal YTD**	**Calendar YTD**	**One Year**	**Three Year**	**Five Year**	**Seven Year**	**Ten Year**
State Employees' Retirement Fund	**100.0%**				**$13,577.7**	**1.18**	**3.92**	**3.23**	**14.33**	**10.77**	**8.91**	**6.50**	**7.81**	**7.89**
Policy Benchmark						*0.83*	*3.61*	*3.33*	*13.49*	*11.18*	*9.21*	*6.51*	*7.85*	*7.98*
Dynamic Benchmark						*0.97*	*4.04*	*3.41*	*13.89*	*11.07*	*9.20*	*6.46*	*7.66*	*N/A*
Domestic Equity	**22.4%**	**20.0**	15.0	25.0	**$3,046.6**	**3.80**	**7.79**	**7.25**	**27.25**	**15.29**	**14.17**	**10.58**	**14.10**	**13.17**
Russell 3000						*3.80*	*7.90*	*7.27*	*27.34*	*15.49*	*14.22*	*10.61*	*14.11*	*13.41*
Developed Markets ISF	**15.1%**	**11.0**	6.0	16.0	**$2,055.3**	**0.88**	**6.79**	**3.13**	**17.93**	**11.58**	**9.02**	**5.92**	**8.39**	**7.26**
MSCI EAFE IMI Net						*1.28*	*8.06*	*5.16*	*20.29*	*13.67*	*10.31*	*6.29*	*8.70*	*7.28*
Emerging Markets ISF	**9.1%**	**9.0**	4.0	14.0	**$1,230.5**	**0.34**	**5.31**	**1.10**	**14.09**	**11.06**	**9.31**	**3.58**	**2.95**	**3.89**
MSCI Emerging Markets IMI						*-0.19*	*5.97*	*-0.47*	*9.62*	*6.84*	*8.48*	*2.90*	*2.82*	*3.30*
Core Fixed Income	**11.7%**	**16.0**	11.0	21.0	**$1,592.2**	**-0.02**	**-0.32**	**2.44**	**7.97**	**9.17**	**3.64**	**2.73**	**2.39**	**3.56**
Barclays U.S. Aggregate Bond Index						*-0.05*	*-0.28*	*2.53*	*8.79*	*10.79*	*4.10*	*3.08*	*2.71*	*3.59*
Emerging Market Debt	**5.9%**	**5.0**	0.0	10.0	**$807.4**	**-1.22**	**1.14**	**-1.01**	**9.36**	**10.19**	**6.14**	**3.46**	**1.95**	**5.03**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*-1.15*	*0.68*	*0.79*	*10.91*	*12.38*	*6.41*	*3.07*	*1.99*	*5.13*
High Yield	**6.1%**	**6.0**	1.0	11.0	**$825.5**	**0.49**	**0.85**	**1.14**	**10.45**	**7.53**	**5.43**	**4.42**	**5.05**	**6.91**
FTSE High Yield Market Capped Index						*0.52*	*0.99*	*1.67*	*11.71*	*9.12*	*5.99*	*4.99*	*5.35*	*7.30*
Inflation Linked Bonds	**4.8%**	**5.0**	0.0	10.0	**$657.8**	**-0.68**	**-0.47**	**1.32**	**7.52**	**8.94**	**4.18**	**1.73**	**0.58**	**2.89**
Barclays World Gov't Inflation Linked Bond Index						*-0.86*	*-1.41*	*1.13*	*7.51*	*8.78*	*4.11*	*1.87*	*0.62*	*2.87*
Liquidity Fund	**3.3%**	**1.0**	0.0	3.0	**$450.4**	**0.16**	**0.52**	**0.93**	**2.24**	**2.46**	**2.04**	**1.23**	**0.81**	**0.80**
One Month Libor						*0.15*	*0.49*	*0.87*	*2.12*	*2.32*	*1.74*	*1.17*	*0.89*	*0.69*
Real Estate[(1)]	**6.2%**	**10.0**	5.0	15.0	**$847.5**	**N/A**	**1.36**	**2.38**	**6.15**	**6.39**	**7.05**	**8.49**	**9.45**	**8.53**
*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	**$974.2**	**N/A**	**4.57**	**5.78**	**12.83**	**15.75**	**14.44**	**13.13**	**13.29**	**13.12**
*Russell 3000 + 250 basis points 1Q in Arrears^*						*N/A*	*4.65*	*4.65*	*3.61*	*11.48*	*14.09*	*10.52*	*14.05*	*13.20*
Alternative Investment Fund	**8.0%**	**7.0**	2.0	12.0	**$1,090.2**	**0.74**	**2.07**	**2.31**	**4.54**	**4.54**	**5.19**	**3.00**	**4.10**	**N/A**
90-Day T-Bill + 300 basis points						*0.37*	*1.22*	*2.11*	*4.88*	*5.32*	*3.03*	*1.88*	*1.35*	*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 November 30, 2019

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
Municipal Employees' Retirement Fund	**100.0%**				**$2,766.7**	**1.29**	**3.96**	**3.37**	**13.72**	**10.85**	**8.39**	**6.28**	**7.11**	**7.31**
Policy Benchmark						*0.83*	*3.61*	*3.33*	*12.88*	*11.15*	*8.63*	*6.16*	*7.18*	*7.52*
Dynamic Benchmark						*1.06*	*4.08*	*3.46*	*13.25*	*11.16*	*8.59*	*6.15*	*6.80*	*N/A*
Domestic Equity	**25.8%**	**20.0**	15.0	25.0	**$712.7**	**3.80**	**7.79**	**7.25**	**27.24**	**15.29**	**14.17**	**10.58**	**14.10**	**13.17**
Russell 3000						*3.80*	*7.90*	*7.27*	*27.34*	*15.49*	*14.22*	*10.61*	*14.11*	*13.41*
Developed Markets ISF	**13.3%**	**11.0**	6.0	16.0	**$366.9**	**0.88**	**6.79**	**3.13**	**17.94**	**11.58**	**9.02**	**5.92**	**8.40**	**7.26**
MSCI EAFE IMI Net						*1.28*	*8.06*	*5.16*	*20.29*	*13.67*	*10.31*	*6.29*	*8.70*	*7.28*
Emerging Markets ISF	**9.0%**	**9.0**	4.0	14.0	**$250.1**	**0.34**	**5.31**	**1.10**	**14.08**	**11.06**	**9.31**	**3.58**	**2.96**	**3.89**
MSCI Emerging Markets IMI						*-0.19*	*5.97*	*-0.47*	*9.62*	*6.84*	*8.48*	*2.90*	*2.82*	*3.30*
Core Fixed Income	**11.9%**	**16.0**	11.0	21.0	**$330.6**	**-0.02**	**-0.32**	**2.44**	**7.97**	**9.17**	**3.64**	**2.73**	**2.40**	**3.57**
Barclays U.S. Aggregate Bond Index						*-0.05*	*-0.28*	*2.53*	*8.79*	*10.79*	*4.10*	*3.08*	*2.71*	*3.59*
Emerging Market Debt	**5.9%**	**5.0**	0.0	10.0	**$162.4**	**-1.22**	**1.14**	**-1.01**	**9.36**	**10.19**	**6.14**	**3.46**	**1.95**	**5.03**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*-1.15*	*0.68*	*0.79*	*10.91*	*12.38*	*6.41*	*3.07*	*1.99*	*5.13*
High Yield	**4.7%**	**6.0**	1.0	11.0	**$130.2**	**0.49**	**0.85**	**1.14**	**10.45**	**7.53**	**5.43**	**4.42**	**5.05**	**6.91**
FTSE High Yield Market Capped Index						*0.52*	*0.99*	*1.67*	*11.71*	*9.12*	*5.99*	*4.99*	*5.35*	*7.30*
Inflation Linked Bonds	**4.9%**	**5.0**	0.0	10.0	**$134.5**	**-0.68**	**-0.47**	**1.32**	**7.52**	**8.94**	**4.18**	**1.73**	**0.58**	**2.89**
Barclays World Gov't Inflation Linked Bond Index						*-0.86*	*-1.41*	*1.13*	*7.51*	*8.78*	*4.11*	*1.87*	*0.62*	*2.87*
Liquidity Fund	**2.9%**	**1.0**	0.0	3.0	**$79.1**	**0.16**	**0.51**	**0.93**	**2.24**	**2.45**	**2.04**	**1.23**	**0.80**	**0.81**
One Month Libor						*0.15*	*0.49*	*0.87*	*2.12*	*2.32*	*1.74*	*1.17*	*0.89*	*0.69*
Real Estate(1)	**6.2%**	**10.0**	5.0	15.0	**$172.6**	**N/A**	**1.36**	**2.38**	**6.15**	**6.39**	**7.05**	**8.49**	**9.45**	**8.51**
*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)	**7.3%**	**10.0**	5.0	15.0	**$201.0**	**N/A**	**4.57**	**5.78**	**12.83**	**15.75**	**14.44**	**13.13**	**13.29**	**13.12**
*Russell 3000 + 250 basis points 1Q in Arrears^*						*N/A*	*4.65*	*4.65*	*3.61*	*11.48*	*14.09*	*10.52*	*14.05*	*13.20*
Alternative Investment Fund	**8.2%**	**7.0**	2.0	12.0	**$226.6**	**0.74**	**2.07**	**2.31**	**4.54**	**4.54**	**5.19**	**3.00**	**4.10**	**N/A**
90-Day T-Bill + 300 basis points						*0.37*	*1.22*	*2.11*	*4.88*	*5.32*	*3.03*	*1.88*	*1.35*	*N/A*

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