

City of Phoenix Employees' Retirement System

June 30, 2023

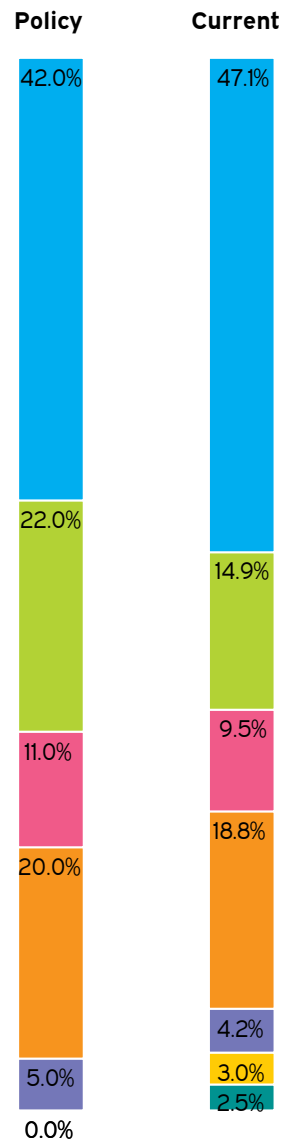
Performance Update

Index Returns – June Update¹

	June 2023 (%)	QTD (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Domestic Equity							
Russell 3000	6.8	8.4	16.2	19.0	13.9	11.4	12.3
Russell 1000	6.8	8.6	16.7	19.4	14.1	11.9	12.6
Russell 1000 Growth	6.8	12.8	29.0	27.1	13.7	15.1	15.7
Russell 1000 Value	6.6	4.1	5.1	11.5	14.3	8.1	9.2
Russell MidCap	8.3	4.8	9.0	14.9	12.5	8.5	10.3
Russell MidCap Growth	7.7	6.2	15.9	23.1	7.6	9.7	11.5
Russell MidCap Value	8.7	3.9	5.2	10.5	15.0	6.8	9.0
Russell 2000	8.1	5.2	8.1	12.3	10.8	4.2	8.3
Russell 2000 Growth	8.3	7.1	13.6	18.5	6.1	4.2	8.8
Russell 2000 Value	7.9	3.2	2.5	6.0	15.4	3.5	7.3
Foreign Equity							
MSCI ACWI ex USA	4.5	2.4	9.5	12.7	7.2	3.5	4.7
MSCI EAFE	4.6	3.0	11.7	18.8	8.9	4.4	5.4
MSCI EAFE Small Cap	2.9	0.6	5.5	10.2	5.7	1.3	6.2
MSCI Emerging Markets	3.8	0.9	4.9	1.7	2.3	0.9	3.0
Fixed Income							
Bloomberg US Universal TR	-0.2	-0.6	2.3	0.0	-3.4	1.0	1.8
Bloomberg US Aggregate TR	-0.4	-0.8	2.1	-0.9	-4.0	0.8	1.5
Bloomberg US TIPS TR	-0.3	-1.4	1.9	-1.4	-0.1	2.5	2.1
Bloomberg US High Yield TR	1.7	1.7	5.4	9.1	3.1	3.4	4.4
JP Morgan GBI EM Global Diversified TR USD	3.3	2.5	7.8	11.4	-1.4	0.3	-0.6
JP Morgan GBI EM Global Diversified TR LCL	1.6	2.8	5.7	10.4	0.0	3.9	5.1
Other							
NAREIT Equity	5.2	2.6	5.4	-0.1	8.9	4.6	6.4
Bloomberg Commodity Index TR USD	4.0	-2.6	-7.8	-9.6	17.8	4.7	-1.0

¹ Source: Thomson Reuters.

Asset Allocation Compliance | As of June 30, 2023



Allocation vs. Targets and Policy						
	Current Balance (\$)	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
Equity	1,585,867,542	47	42	5	22 - 62	Yes
U.S. Equity	724,049,171	21	16	5	11 - 21	No
Developed Market Equity	425,126,443	13	9	4	4 - 14	Yes
Emerging Market Equity	180,604,890	5	8	-3	3 - 13	Yes
Private Equity	256,087,038	8	9	-1	4 - 14	Yes
Rate-Sensitive	503,275,943	15	22	-7	12 - 32	Yes
Investment Grade Bonds	355,370,444	11	15	-4	10 - 20	Yes
TIPS	147,905,499	4	7	-3	2 - 12	Yes
Credit	320,678,996	10	11	-1	0 - 22	Yes
High Yield Bonds	150,463,466	4	5	-1	0 - 10	Yes
Bank Loans	93,566,861	3	3	0	0 - 6	Yes
Emerging Market Bonds	76,648,669	2	3	-1	0 - 6	Yes
Real Assets	634,117,968	19	20	-1	7 - 33	Yes
Real Estate	488,835,388	15	12	3	7 - 17	Yes
Infrastructure	85,548,720	3	4	-1	0 - 8	Yes
Natural Resources	59,733,860	2	4	-2	0 - 8	Yes
Hedge Funds	142,647,251	4	5	-1	0 - 10	Yes
Hedge Funds	142,647,251	4	5	-1	0 - 10	Yes
GTAA	100,103,730	3	0	3	0 - 0	No
Cash Equivalents	83,522,938	2	0	2	0 - 5	Yes
Cash Equivalents	83,522,938	2	0	2	0 - 5	Yes
Total	3,370,214,368	100	100	0		

Performance Summary												
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	3,370,214,368	100.0	2.4	1.9	4.6	5.4	5.4	7.2	5.8	6.5	7.3	Dec-87
<i>COPERS Policy Benchmark</i>			<i>1.9</i>	<i>2.3</i>	<i>6.8</i>	<i>4.5</i>	<i>4.5</i>	<i>7.9</i>	<i>6.3</i>	<i>7.1</i>	<i>8.2</i>	
<i>COPERS Custom Benchmark</i>			<i>2.3</i>	<i>2.6</i>	<i>6.7</i>	<i>5.3</i>	<i>5.3</i>	<i>7.4</i>	<i>6.2</i>	<i>7.0</i>	<i>--</i>	
Equity	1,585,867,542	47.1										
US Equity	724,049,171	21.5	5.8	3.7	5.8	11.2	11.2	10.9	7.8	9.7	8.0	Mar-05
<i>Russell 3000 Index</i>			<i>6.8</i>	<i>8.4</i>	<i>16.2</i>	<i>19.0</i>	<i>19.0</i>	<i>13.9</i>	<i>11.4</i>	<i>12.3</i>	<i>9.5</i>	
Developed Market Equity (non-U.S.)	425,126,443	12.6	3.6	1.7	11.6	14.5	14.5	4.3	3.5	5.8	4.8	Mar-05
<i>MSCI EAFE (Net)</i>			<i>4.6</i>	<i>3.0</i>	<i>11.7</i>	<i>18.8</i>	<i>18.8</i>	<i>8.9</i>	<i>4.4</i>	<i>5.4</i>	<i>4.6</i>	
Emerging Markets Equity	180,604,890	5.4	5.3	8.0	12.4	11.6	11.6	8.8	--	--	5.5	Nov-19
<i>MSCI Emerging Markets (Net)</i>			<i>3.8</i>	<i>0.9</i>	<i>4.9</i>	<i>1.7</i>	<i>1.7</i>	<i>2.3</i>	<i>0.9</i>	<i>3.0</i>	<i>1.0</i>	
Private Equity	256,087,038	7.6	2.8	2.8	3.7	-1.0	-1.0	24.3	18.2	--	13.9	Apr-15
<i>Russell 3000 + 2% 1Q Lagged</i>			<i>2.8</i>	<i>7.7</i>	<i>16.0</i>	<i>-6.7</i>	<i>-6.7</i>	<i>20.8</i>	<i>12.6</i>	<i>13.9</i>	<i>12.5</i>	
Rate-Sensitive	503,275,943	14.9										
Investment Grade Bonds	355,370,444	10.5	-0.3	-0.9	2.4	-0.9	-0.9	-3.9	0.7	1.8	3.4	Mar-05
<i>Blmbg. U.S. Aggregate Index</i>			<i>-0.4</i>	<i>-0.8</i>	<i>2.1</i>	<i>-0.9</i>	<i>-0.9</i>	<i>-4.0</i>	<i>0.8</i>	<i>1.5</i>	<i>3.0</i>	
TIPS	147,905,499	4.4	-0.4	-1.4	2.0	-1.4	-1.4	-0.2	2.5	--	2.4	Feb-18
<i>Blmbg. U.S. TIPS</i>			<i>-0.3</i>	<i>-1.4</i>	<i>1.9</i>	<i>-1.4</i>	<i>-1.4</i>	<i>-0.1</i>	<i>2.5</i>	<i>2.1</i>	<i>2.5</i>	

Fiscal Year begins July 1.

The Policy Benchmark, Custom Benchmark, and Emerging Market Debt Custom Benchmark formulas are shown on Benchmark History page.

Effective January 1, 2023, asset class and total plan performance is rolled up using a weighted average calculation.

Asset Allocation & Performance | As of June 30, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Credit	320,678,996	9.5										
High Yield Bonds	150,463,466	4.5	1.7	2.8	5.8	5.9	5.9	5.9	--	--	3.0	Aug-18
<i>Blmbg. U.S. Corp: High Yield Index</i>			<i>1.7</i>	<i>1.7</i>	<i>5.4</i>	<i>9.1</i>	<i>9.1</i>	<i>3.1</i>	<i>3.4</i>	<i>4.4</i>	<i>3.2</i>	
Bank Loans	93,566,861	2.8	2.3	3.3	7.1	11.4	11.4	5.9	--	--	4.1	Sep-18
<i>Credit Suisse Leveraged Loan Index</i>			<i>2.2</i>	<i>3.1</i>	<i>6.3</i>	<i>10.1</i>	<i>10.1</i>	<i>6.2</i>	<i>4.0</i>	<i>4.1</i>	<i>3.9</i>	
Emerging Market Bonds	76,648,669	2.3	3.0	3.5	6.3	10.4	10.4	-0.5	2.4	3.6	2.8	Feb-13
<i>Emerging Market Debt Custom Benchmark</i>			<i>2.0</i>	<i>1.8</i>	<i>4.9</i>	<i>7.8</i>	<i>7.8</i>	<i>-1.5</i>	<i>2.0</i>	<i>3.5</i>	<i>2.7</i>	
Real Assets	634,117,968	18.8										
Real Estate	488,835,388	14.5	-1.4	-1.7	-2.7	-2.6	-2.6	10.3	7.4	8.7	6.8	Dec-06
<i>NCREIF ODCE</i>			<i>-2.7</i>	<i>-2.7</i>	<i>-5.8</i>	<i>-10.0</i>	<i>-10.0</i>	<i>8.0</i>	<i>6.5</i>	<i>8.7</i>	<i>6.4</i>	
Core Real Estate	212,598,681	6.3	-1.7	-2.3	-5.1	-8.0	-8.0	8.2	6.4	8.7	6.6	Jan-09
<i>NCREIF ODCE</i>			<i>-2.7</i>	<i>-2.7</i>	<i>-5.8</i>	<i>-10.0</i>	<i>-10.0</i>	<i>8.0</i>	<i>6.5</i>	<i>8.7</i>	<i>6.8</i>	
Non-Core Real Estate	276,236,707	8.2	-1.2	-1.2	-0.8	2.2	2.2	12.1	8.4	8.5	8.3	Feb-09
<i>NCREIF ODCE</i>			<i>-2.7</i>	<i>-2.7</i>	<i>-5.8</i>	<i>-10.0</i>	<i>-10.0</i>	<i>8.0</i>	<i>6.5</i>	<i>8.7</i>	<i>6.8</i>	
<i>NCREIF ODCE 1Q Lagged</i>			<i>-3.2</i>	<i>-3.2</i>	<i>-8.0</i>	<i>-3.1</i>	<i>-3.1</i>	<i>8.4</i>	<i>7.5</i>	<i>9.5</i>	<i>6.2</i>	
Natural Resources	59,733,860	1.8	6.3	6.3	10.4	15.3	15.3	25.6	--	--	10.5	Sep-19
<i>S&P Global Natural Resources (1-Qtr Lag)</i>			<i>-1.1</i>	<i>0.6</i>	<i>17.9</i>	<i>-5.0</i>	<i>-5.0</i>	<i>27.7</i>	<i>7.8</i>	<i>5.1</i>	<i>12.7</i>	
Infrastructure	85,548,720	2.5	3.6	3.6	11.3	11.9	11.9	8.5	--	--	5.8	Sep-19
<i>CPI + 3% (1-Qtr Lag)</i>			<i>0.3</i>	<i>1.7</i>	<i>3.3</i>	<i>8.1</i>	<i>8.1</i>	<i>8.5</i>	<i>7.0</i>	<i>5.7</i>	<i>7.6</i>	
Hedge Funds	142,647,251	4.2	2.1	3.2	0.9	1.2	1.2	9.6	5.0	--	3.2	Jan-14
<i>HFRI Fund Weighted Composite Index</i>			<i>2.1</i>	<i>2.1</i>	<i>3.4</i>	<i>5.0</i>	<i>5.0</i>	<i>8.1</i>	<i>5.0</i>	<i>4.7</i>	<i>4.3</i>	
GTAA	100,103,730	3.0	2.5	0.7	4.0	4.7	4.7	6.9	4.7	3.9	2.7	Jul-07
<i>CPI + 4%</i>			<i>0.7</i>	<i>2.1</i>	<i>4.8</i>	<i>7.1</i>	<i>7.1</i>	<i>10.0</i>	<i>8.0</i>	<i>6.8</i>	<i>6.5</i>	
Cash Equivalents	83,522,938	2.5	0.4	1.2	2.3	3.7	3.7	1.3	1.5	0.9	1.3	Mar-05
<i>ICE BofA 3 Month U.S. T-Bill</i>			<i>0.5</i>	<i>1.2</i>	<i>2.3</i>	<i>3.6</i>	<i>3.6</i>	<i>1.3</i>	<i>1.6</i>	<i>1.0</i>	<i>1.4</i>	

Trailing Net Performance												
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	3,370,214,368	100.0	2.4	1.9	4.6	5.4	5.4	7.2	5.8	6.5	7.3	Dec-87
<i>COPERS Policy Benchmark</i>			<i>1.9</i>	<i>2.3</i>	<i>6.8</i>	<i>4.5</i>	<i>4.5</i>	<i>7.9</i>	<i>6.3</i>	<i>7.1</i>	<i>8.2</i>	
<i>COPERS Custom Benchmark</i>			<i>2.3</i>	<i>2.6</i>	<i>6.7</i>	<i>5.3</i>	<i>5.3</i>	<i>7.4</i>	<i>6.2</i>	<i>7.0</i>	<i>--</i>	
Equity	1,585,867,542	47.1										
US Equity	724,049,171	21.5	5.8	3.7	5.8	11.2	11.2	10.9	7.8	9.7	8.0	Mar-05
<i>Russell 3000 Index</i>			<i>6.8</i>	<i>8.4</i>	<i>16.2</i>	<i>19.0</i>	<i>19.0</i>	<i>13.9</i>	<i>11.4</i>	<i>12.3</i>	<i>9.5</i>	
SSgA FTSE RAFI U.S. Low Volatility	221,677,731	6.6	4.7	0.7	-0.5	5.5	5.5	13.8	8.8	--	8.1	Jan-15
<i>FTSE RAFI USD Low Volatility Index</i>			<i>4.8</i>	<i>0.7</i>	<i>-0.5</i>	<i>5.6</i>	<i>5.6</i>	<i>14.0</i>	<i>9.0</i>	<i>9.6</i>	<i>8.2</i>	
<i>Russell 3000 Index</i>			<i>6.8</i>	<i>8.4</i>	<i>16.2</i>	<i>19.0</i>	<i>19.0</i>	<i>13.9</i>	<i>11.4</i>	<i>12.3</i>	<i>11.0</i>	
Artisan Global Opportunities	196,547,471	5.8	4.7	5.9	15.5	17.3	17.3	5.2	9.2	--	10.6	Dec-14
<i>MSCI AC World Index (Net)</i>			<i>5.8</i>	<i>6.2</i>	<i>13.9</i>	<i>16.5</i>	<i>16.5</i>	<i>11.0</i>	<i>8.1</i>	<i>8.8</i>	<i>7.6</i>	
Robeco BP Large Cap Value	180,098,872	5.3	6.9	4.6	4.2	11.5	11.5	17.1	9.0	9.8	10.0	May-13
<i>Russell 1000 Value Index</i>			<i>6.6</i>	<i>4.1</i>	<i>5.1</i>	<i>11.5</i>	<i>11.5</i>	<i>14.3</i>	<i>8.1</i>	<i>9.2</i>	<i>9.2</i>	
Eagle Small Cap Growth	67,098,845	2.0	7.5	5.6	9.3	11.6	11.6	3.4	5.3	9.4	9.9	Jul-05
<i>Russell 2000 Growth Index</i>			<i>8.3</i>	<i>7.1</i>	<i>13.6</i>	<i>18.5</i>	<i>18.5</i>	<i>6.1</i>	<i>4.2</i>	<i>8.8</i>	<i>8.4</i>	
CRM Small Cap Value	58,626,253	1.7	8.3	3.2	2.3	12.8	12.8	14.2	3.3	7.3	6.9	Feb-08
<i>Russell 2000 Value Index</i>			<i>7.9</i>	<i>3.2</i>	<i>2.5</i>	<i>6.0</i>	<i>6.0</i>	<i>15.4</i>	<i>3.5</i>	<i>7.3</i>	<i>7.1</i>	

The Policy Benchmark and Custom Benchmark formulas are shown on the Benchmark History page.

Asset Allocation & Performance | As of June 30, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Developed Market Equity (non-U.S.)	425,126,443	12.6	3.6	1.7	11.6	14.5	14.5	4.3	3.5	5.8	4.8	Mar-05
<i>MSCI EAFE (Net)</i>			<i>4.6</i>	<i>3.0</i>	<i>11.7</i>	<i>18.8</i>	<i>18.8</i>	<i>8.9</i>	<i>4.4</i>	<i>5.4</i>	<i>4.6</i>	
Baillie Gifford ACWI ex-U.S. Alpha Equities	233,312,494	6.9	3.8	1.8	15.1	17.3	17.3	1.3	3.3	6.1	5.3	Jul-11
<i>MSCI AC World ex USA Growth (Net)</i>			<i>3.8</i>	<i>1.9</i>	<i>10.7</i>	<i>13.3</i>	<i>13.3</i>	<i>4.0</i>	<i>4.1</i>	<i>5.6</i>	<i>4.5</i>	
<i>MSCI AC World ex USA index</i>			<i>4.5</i>	<i>2.7</i>	<i>9.9</i>	<i>13.3</i>	<i>13.3</i>	<i>7.7</i>	<i>4.0</i>	<i>5.2</i>	<i>4.2</i>	
SSgA FTSE RAFI Dev. ex-U.S. Low Volatility Index	92,640,012	2.7	3.7	2.1	8.8	12.4	12.4	10.0	3.1	--	4.2	Aug-15
<i>FTSE RAFI Developed ex-U.S. Low Volatility Index</i>			<i>3.6</i>	<i>1.9</i>	<i>8.4</i>	<i>12.0</i>	<i>12.0</i>	<i>9.8</i>	<i>2.8</i>	<i>--</i>	<i>4.0</i>	
<i>MSCI EAFE Index</i>			<i>4.6</i>	<i>3.2</i>	<i>12.1</i>	<i>19.4</i>	<i>19.4</i>	<i>9.5</i>	<i>4.9</i>	<i>5.9</i>	<i>4.9</i>	
First Eagle International Value	77,405,812	2.3	2.8	0.7	6.9	9.6	9.6	--	--	--	2.8	Dec-20
<i>MSCI EAFE Value Index (Net)</i>			<i>5.6</i>	<i>3.2</i>	<i>9.3</i>	<i>17.4</i>	<i>17.4</i>	<i>11.3</i>	<i>2.9</i>	<i>4.1</i>	<i>7.1</i>	
<i>MSCI EAFE Index</i>			<i>4.6</i>	<i>3.2</i>	<i>12.1</i>	<i>19.4</i>	<i>19.4</i>	<i>9.5</i>	<i>4.9</i>	<i>5.9</i>	<i>4.8</i>	
Driehaus International Small Cap Growth	21,768,126	0.6	4.4	1.7	5.3	11.1	11.1	--	--	--	-9.1	May-21
<i>MSCI AC World ex USA Small Growth Index (Net)</i>			<i>3.3</i>	<i>1.8</i>	<i>7.6</i>	<i>10.6</i>	<i>10.6</i>	<i>5.2</i>	<i>2.4</i>	<i>6.0</i>	<i>-8.8</i>	
<i>MSCI AC World ex USA index</i>			<i>4.5</i>	<i>2.7</i>	<i>9.9</i>	<i>13.3</i>	<i>13.3</i>	<i>7.7</i>	<i>4.0</i>	<i>5.2</i>	<i>-2.8</i>	
Emerging Markets Equity	180,604,890	5.4	5.3	8.0	12.4	11.6	11.6	8.8	--	--	5.5	Nov-19
<i>MSCI Emerging Markets (Net)</i>			<i>3.8</i>	<i>0.9</i>	<i>4.9</i>	<i>1.7</i>	<i>1.7</i>	<i>2.3</i>	<i>0.9</i>	<i>3.0</i>	<i>1.0</i>	
GQG Emerging Markets Equity	92,876,819	2.8	6.5	11.1	14.8	10.5	10.5	6.5	--	--	5.7	Jan-20
<i>MSCI Emerging Markets Growth (Net)</i>			<i>3.5</i>	<i>-0.7</i>	<i>3.3</i>	<i>-0.5</i>	<i>-0.5</i>	<i>-1.4</i>	<i>0.5</i>	<i>3.8</i>	<i>-1.6</i>	
LSV Emerging Markets Value	87,728,071	2.6	4.1	5.0	9.9	12.8	12.8	11.4	--	--	4.3	Nov-19
<i>MSCI Emerging Markets Value (Net)</i>			<i>4.1</i>	<i>2.5</i>	<i>6.5</i>	<i>4.1</i>	<i>4.1</i>	<i>6.3</i>	<i>1.2</i>	<i>2.0</i>	<i>1.2</i>	

Asset Allocation & Performance | As of June 30, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Equity	256,087,038	7.6	2.8	2.8	3.7	-1.0	-1.0	24.3	18.2	--	13.9	Apr-15
<i>Russell 3000 + 2% 1Q Lagged</i>			<i>2.8</i>	<i>7.7</i>	<i>16.0</i>	<i>-6.7</i>	<i>-6.7</i>	<i>20.8</i>	<i>12.6</i>	<i>13.9</i>	<i>12.5</i>	
Neuberger Berman Sonoran Tranche A (P.E.)	132,622,609	3.9	2.5	2.5	1.9	-5.0	-5.0	21.6	16.8	--	13.1	Apr-15
Neuberger Berman Sonoran Tranche B (P.E.)	115,709,901	3.4	2.9	2.9	5.8	4.5	4.5	28.4	--	--	1.1	Jan-19
Neuberger Berman Sonoran Tranche E (P.E.)	7,754,528	0.2										
Rate-Sensitive	503,275,943	14.9										
Investment Grade Bonds	355,370,444	10.5	-0.3	-0.9	2.4	-0.9	-0.9	-3.9	0.7	1.8	3.4	Mar-05
<i>Blmbg. U.S. Aggregate Index</i>			<i>-0.4</i>	<i>-0.8</i>	<i>2.1</i>	<i>-0.9</i>	<i>-0.9</i>	<i>-4.0</i>	<i>0.8</i>	<i>1.5</i>	<i>3.0</i>	
SSgA US Aggregate Bond Index	154,050,319	4.6	-0.4	-0.8	2.3	-0.9	-0.9	-4.0	0.8	--	0.7	Apr-18
<i>Blmbg. U.S. Aggregate Index</i>			<i>-0.4</i>	<i>-0.8</i>	<i>2.1</i>	<i>-0.9</i>	<i>-0.9</i>	<i>-4.0</i>	<i>0.8</i>	<i>1.5</i>	<i>0.7</i>	
Longfellow Core Fixed Income	100,986,176	3.0	-0.3	-0.7	2.3	-1.1	-1.1	-3.3	0.8	--	0.9	May-18
<i>Blmbg. U.S. Aggregate Index</i>			<i>-0.4</i>	<i>-0.8</i>	<i>2.1</i>	<i>-0.9</i>	<i>-0.9</i>	<i>-4.0</i>	<i>0.8</i>	<i>1.5</i>	<i>0.9</i>	
Western Asset U.S. Core	100,333,949	3.0	-0.3	-1.0	2.7	-0.8	-0.8	-4.3	0.7	2.2	3.5	Feb-05
<i>Blmbg. U.S. Aggregate Index</i>			<i>-0.4</i>	<i>-0.8</i>	<i>2.1</i>	<i>-0.9</i>	<i>-0.9</i>	<i>-4.0</i>	<i>0.8</i>	<i>1.5</i>	<i>3.0</i>	
TIPS	147,905,499	4.4	-0.4	-1.4	2.0	-1.4	-1.4	-0.2	2.5	--	2.4	Feb-18
<i>Blmbg. U.S. TIPS</i>			<i>-0.3</i>	<i>-1.4</i>	<i>1.9</i>	<i>-1.4</i>	<i>-1.4</i>	<i>-0.1</i>	<i>2.5</i>	<i>2.1</i>	<i>2.5</i>	
SSgA U.S. TIPS	147,905,499	4.4	-0.4	-1.4	2.0	-1.4	-1.4	-0.2	2.5	--	2.4	Feb-18
<i>Blmbg. U.S. TIPS</i>			<i>-0.3</i>	<i>-1.4</i>	<i>1.9</i>	<i>-1.4</i>	<i>-1.4</i>	<i>-0.1</i>	<i>2.5</i>	<i>2.1</i>	<i>2.5</i>	

Asset Allocation & Performance | As of June 30, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Credit	320,678,996	9.5										
High Yield Bonds	150,463,466	4.5	1.7	2.8	5.8	5.9	5.9	5.9	--	--	3.0	Aug-18
<i>Blmbg. U.S. Corp: High Yield Index</i>			<i>1.7</i>	<i>1.7</i>	<i>5.4</i>	<i>9.1</i>	<i>9.1</i>	<i>3.1</i>	<i>3.4</i>	<i>4.4</i>	<i>3.2</i>	
Brigade Traditional High Yield	76,728,832	2.3	1.2	2.0	4.4	4.5	4.5	5.5	--	--	3.3	Aug-18
<i>Blmbg. U.S. Corp: High Yield Index</i>			<i>1.7</i>	<i>1.7</i>	<i>5.4</i>	<i>9.1</i>	<i>9.1</i>	<i>3.1</i>	<i>3.4</i>	<i>4.4</i>	<i>3.2</i>	
Polen Capital Management	73,734,634	2.2	2.3	3.7	7.3	7.4	7.4	6.3	--	--	2.6	Sep-18
<i>Blmbg. U.S. Corp: High Yield Index</i>			<i>1.7</i>	<i>1.7</i>	<i>5.4</i>	<i>9.1</i>	<i>9.1</i>	<i>3.1</i>	<i>3.4</i>	<i>4.4</i>	<i>3.1</i>	
Bank Loans	93,566,861	2.8	2.3	3.3	7.1	11.4	11.4	5.9	--	--	4.1	Sep-18
<i>Credit Suisse Leveraged Loan Index</i>			<i>2.2</i>	<i>3.1</i>	<i>6.3</i>	<i>10.1</i>	<i>10.1</i>	<i>6.2</i>	<i>4.0</i>	<i>4.1</i>	<i>3.9</i>	
Pacific Asset Management	93,566,861	2.8	2.3	3.3	7.1	11.4	11.4	5.9	--	--	4.1	Sep-18
<i>Credit Suisse Leveraged Loan Index</i>			<i>2.2</i>	<i>3.1</i>	<i>6.3</i>	<i>10.1</i>	<i>10.1</i>	<i>6.2</i>	<i>4.0</i>	<i>4.1</i>	<i>3.9</i>	
Emerging Market Bonds	76,648,669	2.3	3.0	3.5	6.3	10.4	10.4	-0.5	2.4	3.6	2.8	Feb-13
<i>Emerging Market Debt Custom Benchmark</i>			<i>2.0</i>	<i>1.8</i>	<i>4.9</i>	<i>7.8</i>	<i>7.8</i>	<i>-1.5</i>	<i>2.0</i>	<i>3.5</i>	<i>2.7</i>	
MetLife Emerging Markets Debt Collective Trust	76,648,669	2.3	3.0	3.5	6.3	10.4	10.4	-0.5	--	--	-0.1	Sep-19
<i>MetLife Custom Benchmark</i>			<i>2.0</i>	<i>1.8</i>	<i>4.9</i>	<i>7.8</i>	<i>7.8</i>	<i>-1.5</i>	<i>1.3</i>	<i>2.0</i>	<i>-1.0</i>	

The MetLife Custom Benchmark composition is included in the Emerging Market Debt Custom Benchmark detail shown on the Benchmark History page.

Asset Allocation & Performance | As of June 30, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Assets	634,117,968	18.8										
Real Estate	488,835,388	14.5	-1.4	-1.7	-2.7	-2.6	-2.6	10.3	7.4	8.7	6.8	Dec-06
<i>NCREIF ODCE</i>			<i>-2.7</i>	<i>-2.7</i>	<i>-5.8</i>	<i>-10.0</i>	<i>-10.0</i>	<i>8.0</i>	<i>6.5</i>	<i>8.7</i>	<i>6.4</i>	
Non-Core Real Estate	276,236,707	8.2	-1.2	-1.2	-0.8	2.2	2.2	12.1	8.4	8.5	8.3	Feb-09
<i>NCREIF ODCE</i>			<i>-2.7</i>	<i>-2.7</i>	<i>-5.8</i>	<i>-10.0</i>	<i>-10.0</i>	<i>8.0</i>	<i>6.5</i>	<i>8.7</i>	<i>6.8</i>	
<i>NCREIF ODCE IQ Lagged</i>			<i>-3.2</i>	<i>-3.2</i>	<i>-8.0</i>	<i>-3.1</i>	<i>-3.1</i>	<i>8.4</i>	<i>7.5</i>	<i>9.5</i>	<i>6.2</i>	
Core Real Estate	212,598,681	6.3	-1.7	-2.3	-5.1	-8.0	-8.0	8.2	6.4	8.7	6.6	Jan-09
<i>NCREIF ODCE</i>			<i>-2.7</i>	<i>-2.7</i>	<i>-5.8</i>	<i>-10.0</i>	<i>-10.0</i>	<i>8.0</i>	<i>6.5</i>	<i>8.7</i>	<i>6.8</i>	
Natural Resources	59,733,860	1.8	6.3	6.3	10.4	15.3	15.3	25.6	--	--	10.5	Sep-19
<i>S&P Global Natural Resources (1-Qtr Lag)</i>			<i>-1.1</i>	<i>0.6</i>	<i>17.9</i>	<i>-5.0</i>	<i>-5.0</i>	<i>27.7</i>	<i>7.8</i>	<i>5.1</i>	<i>12.7</i>	
Neuberger Berman Sonoran Tranche C (N.R.)	59,733,860	1.8	6.3	6.3	10.4	15.3	15.3	25.6	--	--	10.2	Aug-19
<i>S&P Global Natural Resources (1-Qtr Lag)</i>			<i>-1.1</i>	<i>0.6</i>	<i>17.9</i>	<i>-5.0</i>	<i>-5.0</i>	<i>27.7</i>	<i>7.8</i>	<i>5.1</i>	<i>10.1</i>	
Infrastructure	85,548,720	2.5	3.6	3.6	11.3	11.9	11.9	8.5	--	--	5.8	Sep-19
<i>CPI + 3% (1-Qtr Lag)</i>			<i>0.3</i>	<i>1.7</i>	<i>3.3</i>	<i>8.1</i>	<i>8.1</i>	<i>8.5</i>	<i>7.0</i>	<i>5.7</i>	<i>7.6</i>	
Neuberger Berman Sonoran Tranche D (Infra)	70,470,102	2.1	4.4	4.4	12.4	13.0	13.0	8.8	--	--	5.9	Aug-19
<i>CPI + 3% (1-Qtr Lag)</i>			<i>0.3</i>	<i>1.7</i>	<i>3.3</i>	<i>8.1</i>	<i>8.1</i>	<i>8.5</i>	<i>7.0</i>	<i>5.7</i>	<i>7.5</i>	
Neuberger Berman Sonoran Tranche F (Infra)	15,078,618	0.4										

Asset Allocation & Performance | As of June 30, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Hedge Funds	142,647,251	4.2	2.1	3.2	0.9	1.2	1.2	9.6	5.0	--	3.2	Jan-14
<i>HFRI Fund Weighted Composite Index</i>			<i>2.1</i>	<i>2.1</i>	<i>3.4</i>	<i>5.0</i>	<i>5.0</i>	<i>8.1</i>	<i>5.0</i>	<i>4.7</i>	<i>4.3</i>	
Carlson Double Black Diamond, Ltd.	50,107,656	1.5	0.4	-1.1	-0.3	1.0	1.0	8.6	4.3	--	3.4	Aug-14
<i>HFRI Relative Value (Total) Index</i>			<i>0.8</i>	<i>1.2</i>	<i>2.6</i>	<i>4.1</i>	<i>4.1</i>	<i>5.9</i>	<i>3.6</i>	<i>4.0</i>	<i>3.5</i>	
BH-DG Systematic Trading	47,055,848	1.4	4.2	9.7	-0.5	-0.3	-0.3	18.6	12.0	--	11.0	Mar-18
<i>Barclay CTA Index</i>			<i>0.7</i>	<i>2.2</i>	<i>0.2</i>	<i>-0.7</i>	<i>-0.7</i>	<i>5.7</i>	<i>4.4</i>	<i>2.4</i>	<i>3.9</i>	
Fir Tree International Value Fund, L.P.	45,262,091	1.3	2.1	2.0	3.8	3.1	3.1	3.6	1.1	--	-0.2	Nov-14
<i>HFRI Event-Driven (Total) Index</i>			<i>2.5</i>	<i>1.3</i>	<i>2.7</i>	<i>5.5</i>	<i>5.5</i>	<i>8.6</i>	<i>4.4</i>	<i>4.6</i>	<i>4.4</i>	
PAAMCO Newport Phoenix, LLC	221,656	0.0										
GTAA	100,103,730	3.0	2.5	0.7	4.0	4.7	4.7	6.9	4.7	3.9	2.7	Jul-07
<i>CPI + 4%</i>			<i>0.7</i>	<i>2.1</i>	<i>4.8</i>	<i>7.1</i>	<i>7.1</i>	<i>10.0</i>	<i>8.0</i>	<i>6.8</i>	<i>6.5</i>	
PIMCO All Asset	100,103,730	3.0	2.5	0.7	4.0	4.7	4.7	6.9	4.7	--	4.0	Dec-13
<i>All Asset Custom Benchmark</i>			<i>1.6</i>	<i>1.4</i>	<i>5.2</i>	<i>5.8</i>	<i>5.8</i>	<i>2.6</i>	<i>3.5</i>	<i>3.9</i>	<i>3.6</i>	
Cash Equivalents	83,522,938	2.5	0.4	1.2	2.3	3.7	3.7	1.3	1.5	0.9	1.3	Mar-05
<i>ICE BofA 3 Month U.S. T-Bill</i>			<i>0.5</i>	<i>1.2</i>	<i>2.3</i>	<i>3.6</i>	<i>3.6</i>	<i>1.3</i>	<i>1.6</i>	<i>1.0</i>	<i>1.4</i>	
Dreyfus Government Cash Management Institutional	83,522,938	2.5	0.4	1.2	2.3	3.7	3.7	1.3	1.5	0.9	1.3	Mar-05
<i>ICE BofA 3 Month U.S. T-Bill</i>			<i>0.5</i>	<i>1.2</i>	<i>2.3</i>	<i>3.6</i>	<i>3.6</i>	<i>1.3</i>	<i>1.6</i>	<i>1.0</i>	<i>1.4</i>	

Benchmark History

As of June 30, 2023

COPERS Policy Benchmark

9/1/2019	Present	16% Russell 3000 / 9% MSCI EAFE / 8% MSCI Emerging Markets / 9% Russell 3000 + 2% (1-Qtr Lag) / 15% BBgBarc US Aggregate TR / 7% BBgBarc US TIPS TR / 5% BBgBarc US High Yield TR / 3% Credit Suisse Leveraged Loans / 3% EMD Blend (35% JPM EMBI Global TR, 35% JPM CEMBI Broad Diversified TR USD, 30% JPM GBI EM Global Diversified TR USD) / 12% NCREIF ODCE / 4% CPI+3% (1-Qtr Lag) / 4% S&P Global Natural Resources Index TR USD (1-Qtr Lag) / 5% HFRI Fund Weighted Composite Index
10/1/2017	8/31/2019	16% Russell 3000 / 9% MSCI EAFE / 8% MSCI Emerging Markets / 9% Russell 3000 + 2% (1-Qtr Lag) / 15% BBgBarc US Aggregate TR / 7% BBgBarc US TIPS TR / 5% BBgBarc US High Yield TR / 3% Credit Suisse Leveraged Loans / 3% JP Morgan EMBI Global Diversified / 12% NCREIF ODCE / 4% CPI+3% (1-Qtr Lag) / 4% S&P Global Natural Resources Index TR USD (1-Qtr Lag) / 5% HFRI Fund Weighted Composite Index
1/1/2015	9/30/2017	22% Russell 3000 / 19% MSCI ACWI ex USA IMI / 20% BBgBarc US Aggregate TR / 5% JP Morgan EMBI Global Diversified / 8% CPI+4% / 15% NCREIF ODCE / 1% Russell 3000 +3% (1-Qtr Lag) / 10% ARS Custom Benchmark
Inception	12/31/2014	Policy benchmark input by previous consultant

COPERS Custom Benchmark

1/1/2015	Present	The Custom Benchmark is calculated monthly using the beginning of month asset class weights applied to each corresponding primary benchmark return.
Inception	12/31/2014	Custom benchmark input by previous consultant

COPERS Emerging Market Debt Custom Benchmark

9/1/2019	Present	MetLife Custom Benchmark (35% JPM EMBI Global TR, 35% JPM CEMBI Broad Diversified TR USD, 30% JPM GBI EM Global Diversified TR USD)
Inception	8/31/2019	JP Morgan EMBI Global Diversified

**Cash Flow Summary
Month to Date**

	Beginning Market Value	Net Cash Flows	Net Investment Change	Ending Market Value
Adler Real Estate V	\$3,835,434	\$0	-\$59,008	\$3,776,426
American Landmark III	\$39,980,226	\$0	\$1,248,209	\$41,228,435
Artisan Global Opportunities	\$187,686,725	\$0	\$8,860,747	\$196,547,471
Ascentris Value Add III	\$15,432,796	\$0	-\$3,153,483	\$12,279,313
Ascentris Value Add III - B	\$1,464,917	\$0	-\$47,712	\$1,417,206
Baillie Gifford ACWI ex-U.S. Alpha Equities	\$224,812,936	\$0	\$8,499,558	\$233,312,494
BH-DG Systematic Trading	\$45,147,948	\$0	\$1,907,900	\$47,055,848
Brigade Traditional High Yield	\$75,782,596	\$0	\$946,237	\$76,728,832
Carlson Double Black Diamond, Ltd.	\$49,930,482	\$0	\$177,174	\$50,107,656
CRM Small Cap Value	\$54,132,001	\$0	\$4,494,253	\$58,626,253
Dreyfus Government Cash Management Institutional	\$116,375,628	-\$33,264,461	\$411,771	\$83,522,938
Driehaus International Small Cap Growth	\$20,827,633	\$0	\$940,492	\$21,768,126
Eagle Small Cap Growth	\$62,391,698	\$0	\$4,707,147	\$67,098,845
Fir Tree International Value Fund, L.P.	\$44,343,619	\$0	\$918,472	\$45,262,091
First Eagle International Value	\$75,312,950	\$0	\$2,092,861	\$77,405,812
Focus SH Fund	\$29,710,422	-\$40,064	\$703,865	\$30,374,223
GQG Emerging Markets Equity	\$87,206,596	\$0	\$5,670,223	\$92,876,819
Hammes Partners III	\$15,936,825	-\$237,947	\$181,149	\$15,880,027
HSI Real Estate V	\$409,546	\$0	\$24,297	\$433,843
JPMorgan Strategic Property	\$83,682,674	\$0	-\$215,662	\$83,467,012
Longfellow Core Fixed Income	\$101,255,464	\$0	-\$269,288	\$100,986,176

Financial Reconciliation | 1 Month Ending June 30, 2023

	Beginning Market Value	Net Cash Flows	Net Investment Change	Ending Market Value
LSV Emerging Markets Value	\$84,243,139	\$0	\$3,484,932	\$87,728,071
MetLife Emerging Markets Debt Collective Trust	\$74,423,574	\$0	\$2,225,095	\$76,648,669
Morgan Stanley Prime Property	\$93,540,856	-\$923,823	-\$2,096,479	\$90,520,555
Neuberger Berman Sonoran Tranche A (P.E.)	\$129,450,251	\$0	\$3,172,358	\$132,622,609
Neuberger Berman Sonoran Tranche B (P.E.)	\$112,455,848	\$0	\$3,254,053	\$115,709,901
Neuberger Berman Sonoran Tranche C (N.R.)	\$45,429,373	\$11,000,000	\$3,304,487	\$59,733,860
Neuberger Berman Sonoran Tranche D (Infra)	\$67,509,199	\$0	\$2,960,903	\$70,470,102
Neuberger Berman Sonoran Tranche E (P.E.)	\$7,282,111	\$0	\$472,417	\$7,754,528
Neuberger Berman Sonoran Tranche F (Infra)	\$10,165,016	\$5,000,000	-\$86,398	\$15,078,618
Northwood Real Estate Partners, L.P. (Series IV)	\$27,468,015	\$0	-\$301,569	\$27,166,446
Northwood Real Estate Partners, L.P. (Series V)	\$36,258,147	\$0	-\$498,368	\$35,759,779
PAAMCO Newport Phoenix, LLC	\$239,854	\$0	-\$18,198	\$221,656
Pacific Asset Management	\$91,433,760	\$0	\$2,133,101	\$93,566,861
Pan Asia Core Plus Real Estate Fund	\$32,506,221	\$0	-\$423,449	\$32,082,771
PIMCO All Asset	\$97,707,033	\$0	\$2,396,697	\$100,103,730
Polen Capital Management	\$72,106,763	\$0	\$1,627,870	\$73,734,634
Real Estate Capital Asia Partners III LP	\$2,395,157	\$0	\$86,316	\$2,481,473
Real Estate Capital Asia Partners IV LP	\$12,115,779	\$0	-\$84,115	\$12,031,664
Real Estate Capital Partners V	\$20,410,007	\$307,692	-\$265,525	\$20,452,174
Realterm Logistics Income	\$39,925,994	\$0	-\$1,314,880	\$38,611,114
Robeco BP Large Cap Value	\$168,401,549	\$0	\$11,697,323	\$180,098,872

	Beginning Market Value	Net Cash Flows	Net Investment Change	Ending Market Value
SSgA FTSE RAFI Dev. ex-U.S. Low Volatility Index	\$89,323,830	\$0	\$3,316,182	\$92,640,012
SSgA FTSE RAFI U.S. Low Volatility	\$211,626,391	\$0	\$10,051,340	\$221,677,731
SSgA U.S. TIPS	\$148,425,152	\$0	-\$519,653	\$147,905,499
SSgA US Aggregate Bond Index	\$154,595,002	\$0	-\$544,683	\$154,050,319
Western Asset U.S. Core	\$100,613,056	\$0	-\$279,107	\$100,333,949
Wheelock Real Estate Fund	\$4,021,104	-\$227,367	-\$740,902	\$3,052,835
Wheelock Street Partners	\$2,972,102	-\$457,143	-\$8,415	\$2,506,544
Wheelock Street Partners II	\$8,659,290	-\$360,559	-\$3,050	\$8,295,681
Wheelock Street Partners VI	\$15,751,727	\$0	\$28,086	\$15,779,813
Wheelock Street V	\$11,290,210	\$0	-\$52,156	\$11,238,054
Total	\$3,308,404,624	-\$19,203,672	\$81,013,416	\$3,370,214,368

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