



QUARTERLY PERFORMANCE REPORT

CITY OF FRESNO RETIREMENT
SYSTEMS

MARCH 31, 2024

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FIRST QUARTER 2024 SUMMARY

- **The US economy expanded (in real terms) at an annual rate of 1.6% in the first quarter.**
- **The two-year U.S. Treasury yield—a proxy for short-term market expectations for Fed interest rate policy—was unchanged at 4.6%, and consistent with Fed guidance on three expected cuts in 2024.**
- **U.S. equities outperformed developed market equities (Japan, Europe, etc.) .**
- **Fixed income fell during the quarter, and spreads in investment-grade remained steady while high-yield credit spreads narrowed.**
- **Total fund performance net of fees over the past 25 years was 7.0% per year, outperforming the Policy Index and the current 6.75% assumed rate.**
- **Manager selection remains a positive contributor to relative performance long-term.**

FIRST QUARTER 2024 SUMMARY

- **In the one-year ended March 31, 2024, the Total Fund returned 12.1%, outperforming the benchmark (net of fees) and ranking in the second quartile of peers.**
 - Outperformance was primarily driven by positive manager selection in fixed income and real assets.
- **Over the most recent quarter, the Total Fund returned 3.7%, underperforming relative to the policy benchmark (net of fees) and ranking in the third quartile of peers.**

MARKET OUTLOOK



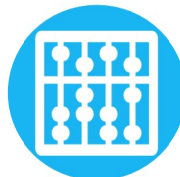
Stronger-than-expected economic data and concerns over stickier inflation have subdued market rate cut expectations



Performance within the Magnificent 7 diverged as A.I.-related guidance drove returns for a narrower set of companies



Market breadth expanded during the quarter and we continue to support U.S. large-cap value & RAFI exposures



Cash yields are attractive - we remain comfortable holding greater levels of cash to heighten portfolio liquidity levels

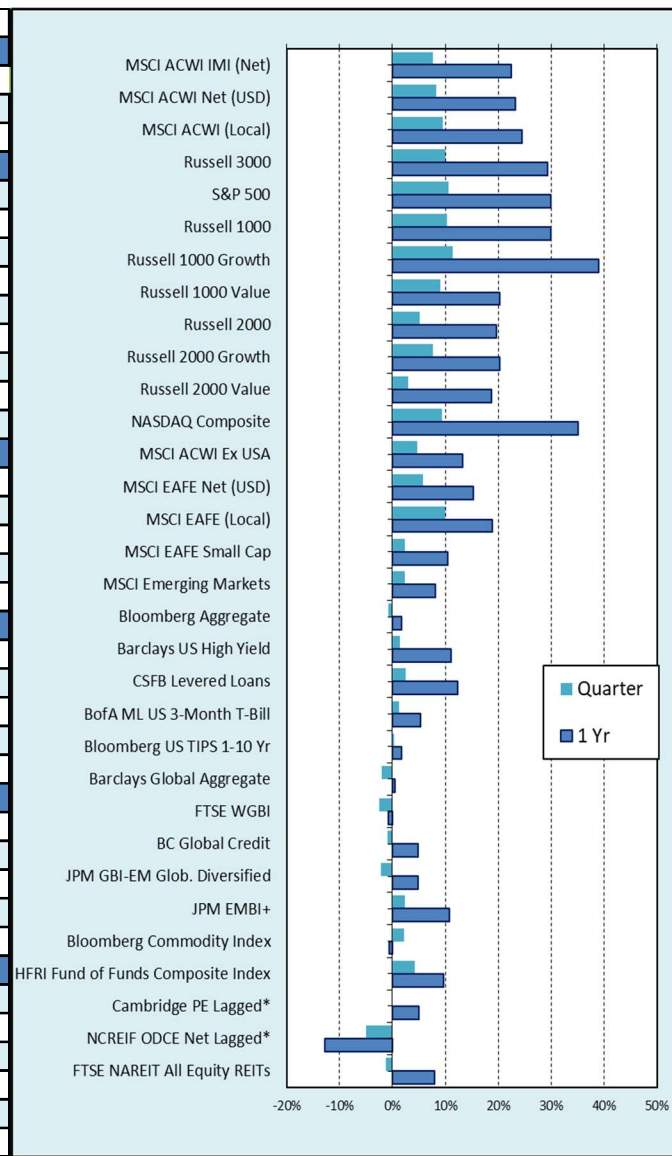


The all-in yield on U.S. high yield bonds remains attractive, but current spread levels are approaching historical lows

MARKET ENVIRONMENT

Q1 2024 OVERVIEW

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI IMI (Net)	World with Small Cap	7.72%	22.45%	6.31%	10.57%	8.43%
MSCI ACWI Net (USD)	World W/O Small Cap	8.20%	23.22%	6.96%	10.92%	8.66%
MSCI ACWI (Local)	World (Local Currency)	9.50%	24.44%	8.52%	11.68%	9.94%
Domestic Equity Benchmarks						
Russell 3000	Domestic All Cap	10.02%	29.29%	9.78%	14.34%	12.33%
S&P 500	Large Core	10.56%	29.88%	11.49%	15.05%	12.96%
Russell 1000	Large Core	10.30%	29.87%	10.45%	14.76%	12.68%
Russell 1000 Growth	Large Growth	11.41%	39.00%	12.50%	18.52%	15.98%
Russell 1000 Value	Large Value	8.99%	20.27%	8.11%	10.31%	9.01%
Russell 2000	Small Core	5.18%	19.71%	-0.10%	8.10%	7.58%
Russell 2000 Growth	Small Growth	7.58%	20.35%	-2.68%	7.38%	7.89%
Russell 2000 Value	Small Value	2.90%	18.75%	2.22%	8.17%	6.87%
NASDAQ Composite	Large Growth	9.31%	35.08%	8.17%	17.19%	15.73%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	4.69%	13.26%	1.93%	5.97%	4.25%
MSCI EAFE Net (USD)	Int'l Developed	5.78%	15.32%	4.78%	7.33%	4.80%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	9.96%	18.82%	9.43%	9.36%	7.66%
MSCI EAFE Small Cap	Small Cap Int'l	2.40%	10.45%	-1.36%	4.94%	4.70%
MSCI Emerging Markets	Emerging Equity	2.37%	8.15%	-5.05%	2.22%	2.95%
Domestic Fixed Income Benchmarks						
Bloomberg Aggregate	Core Bonds	-0.78%	1.70%	-2.46%	0.36%	1.54%
Barclays US High Yield	High Yield	1.47%	11.15%	2.19%	4.21%	4.44%
CSFB Levered Loans	Bank Loans	2.53%	12.40%	5.82%	5.30%	4.56%
BofA ML US 3-Month T-Bill	Cash	1.29%	5.24%	2.58%	2.02%	1.38%
Bloomberg US TIPS 1-10 Yr	Inflation	0.26%	1.65%	0.80%	2.96%	2.23%
Global Fixed Income Benchmarks						
Barclays Global Aggregate	Global Core Bonds	-2.08%	0.49%	-4.73%	-1.17%	-0.07%
FTSE WGBI	World Gov. Bonds	-2.42%	-0.84%	-6.12%	-2.21%	-0.82%
BC Global Credit	Global Bonds	-0.88%	4.78%	-3.16%	0.42%	1.16%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	-2.12%	4.90%	-1.60%	0.13%	-0.32%
JPM EMBI+	Em. Mkt. Bonds	2.32%	10.78%	-4.36%	-1.62%	1.40%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodities	2.19%	-0.56%	9.11%	6.38%	-1.56%
HFRI Fund of Funds Composite Index	Fund of Hedge Funds	4.17%	9.68%	2.88%	5.00%	3.59%
Cambridge PE Lagged*	Private Equity	0.00%	5.05%	13.11%	14.84%	13.16%
NCREIF ODCE Net Lagged*	Real Estate	-5.00%	-12.73%	4.01%	3.34%	6.33%
FTSE NAREIT All Equity REITs	REIT	-1.30%	8.02%	2.47%	3.96%	6.93%
CPI + 2%	Inflation/Real Assets	1.63%	5.54%	7.74%	6.28%	4.89%



* As of 12/31/2023

EXECUTIVE SUMMARY

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	15 Yrs (%)	25 Yr (%)	Inception (%)	Inception Date
Total Fund	3,935,483,878	3.7 (52)	12.1 (30)	5.6 (7)	8.8 (12)	8.4 (14)	7.7 (12)	10.4 (5)	7.0 (16)	9.2	Oct-85
<i>Policy Index</i>		4.0 (41)	11.8 (39)	5.0 (23)	7.6 (51)	7.5 (44)	6.9 (37)	9.7 (19)	6.5 (54)	9.1	
<i>60 MSCI World (Gross)/40 CITI WGBI</i>		3.9 (43)	13.4 (20)	2.0 (100)	6.1 (98)	6.3 (88)	5.3 (100)	7.7 (95)	5.3 (100)		
<i>InvMetrics Public DB > \$1 Billion Median</i>		3.7	11.1	4.2	7.6	7.3	6.6	9.1	6.6		
Population		47	32	28	28	26	24	20	12		

5 Years Ending March 31, 2024

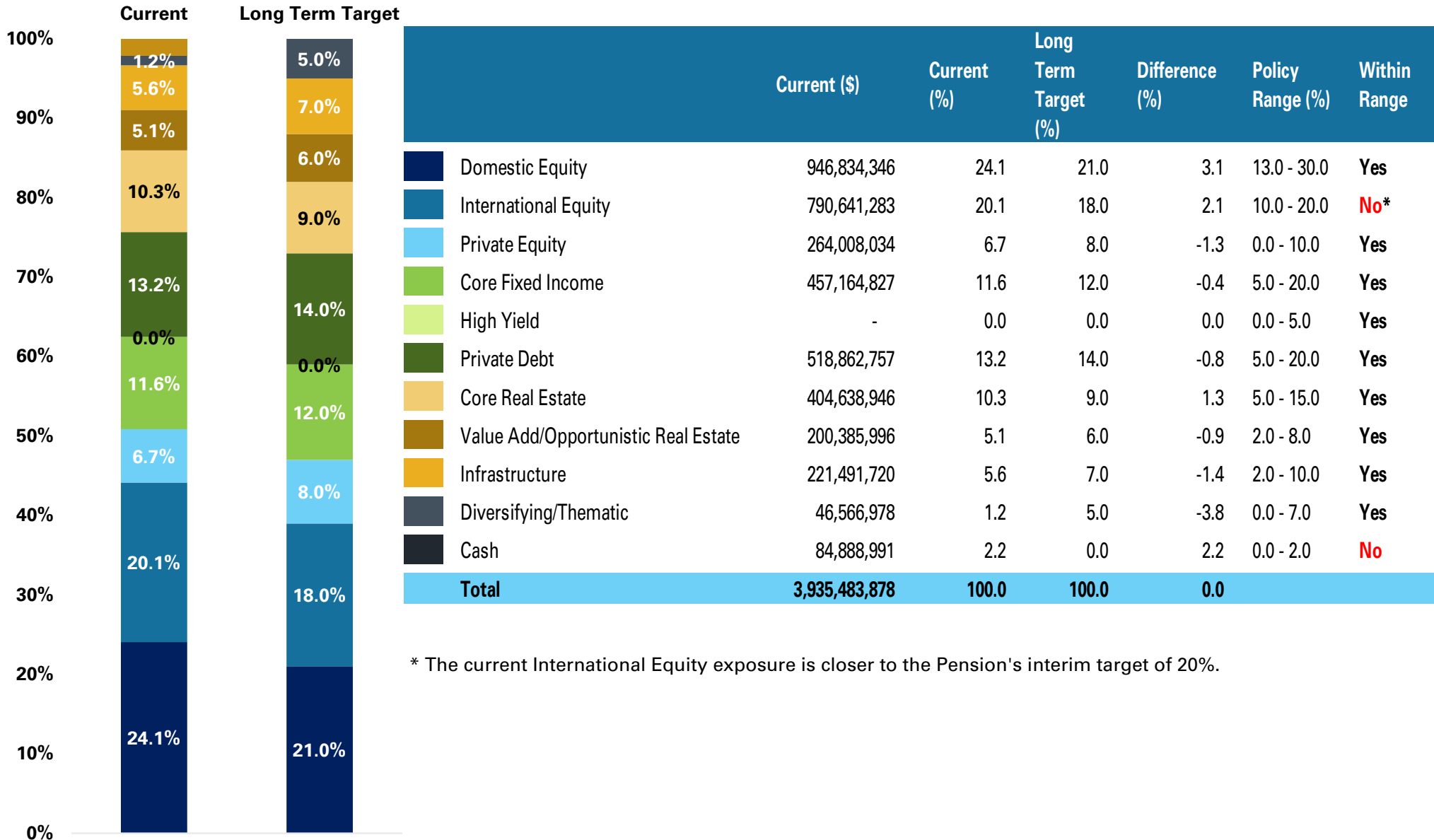
	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
Total Fund	8.8 (12)	11.1 (48)	0.6 (15)	0.9 (15)
<i>Policy Index</i>	7.6 (51)	11.1 (47)	0.5 (42)	0.8 (43)
<i>60 MSCI World (Gross)/40 CITI WGBI</i>	6.1 (98)	12.6 (81)	0.4 (100)	0.5 (99)

7 Years Ending March 31, 2024

	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
Total Fund	8.4 (14)	10.2 (52)	0.7 (18)	1.0 (18)
<i>Policy Index</i>	7.5 (44)	10.2 (51)	0.6 (50)	0.8 (50)
<i>60 MSCI World (Gross)/40 CITI WGBI</i>	6.3 (88)	11.4 (83)	0.4 (98)	0.6 (97)

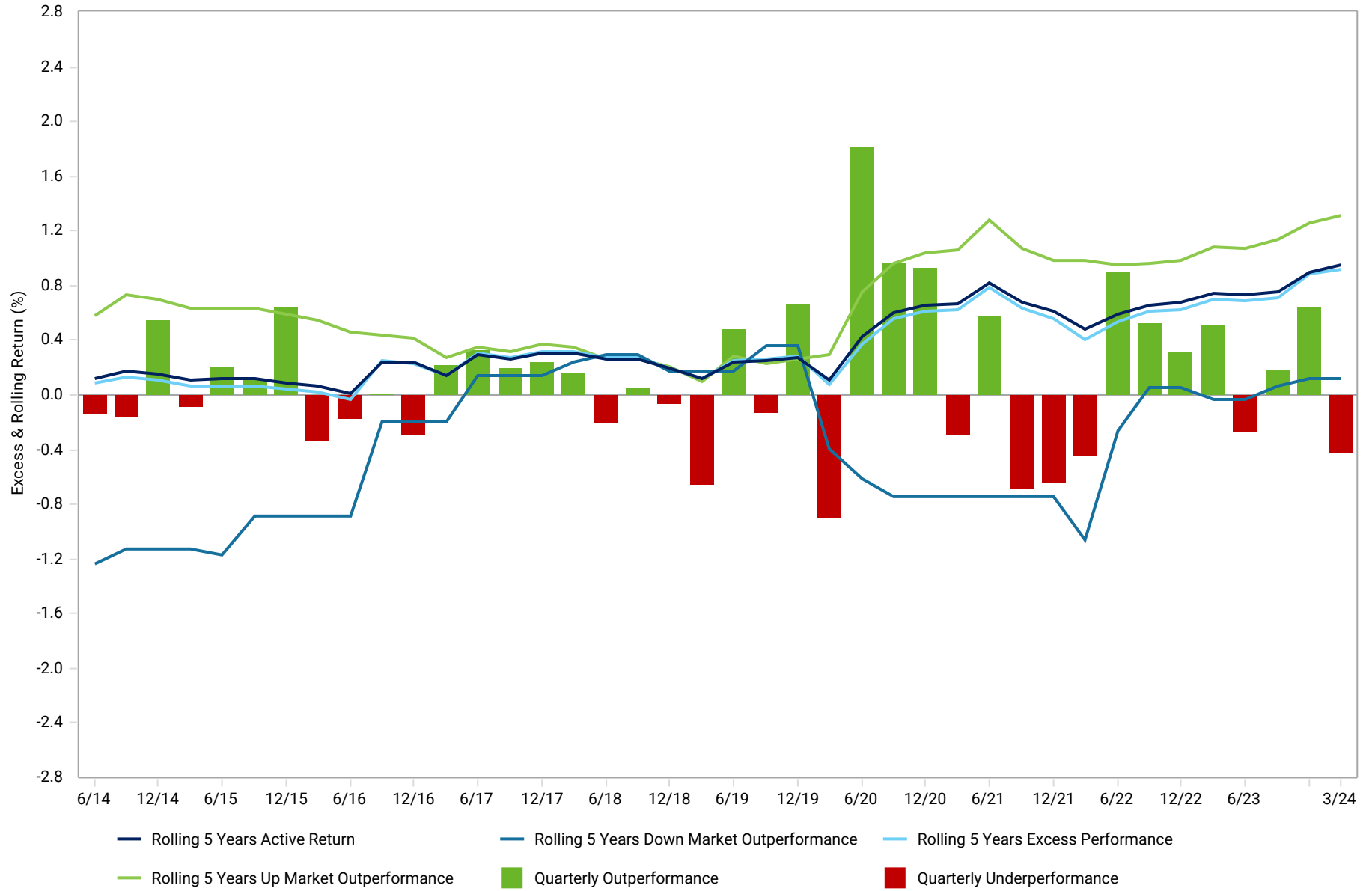
- Over the past five years, the Fund returned 8.8% per annum, ranking in the 12th percentile of the Investment Metrics Public Funds > \$1 Billion gross of fee universe. The Fund’s return outperformed the actuarial rate of return and outperformed the Policy Index by 1.2%.
- The Fund’s volatility was 11.1% which ranks in the 48th percentile of its peers. The Fund’s risk-adjusted performance, as measured by the Sharpe ratio, ranks in the 15th percentile of its peers.
- Over the past three years, the Fund returned 5.6% per annum, outperforming the Policy Index by 0.6% and ranking in the 7th percentile of its peer group. Over the past three years, the Fund’s Sharpe Ratio of 0.4 ranks in the 10th percentile.
- For the year ending March 31, 2024, the Fund returned 12.1%, outperforming the Policy Index by 0.3% and ranking in the 30th percentile among its peers.

ASSET ALLOCATION VS. POLICY



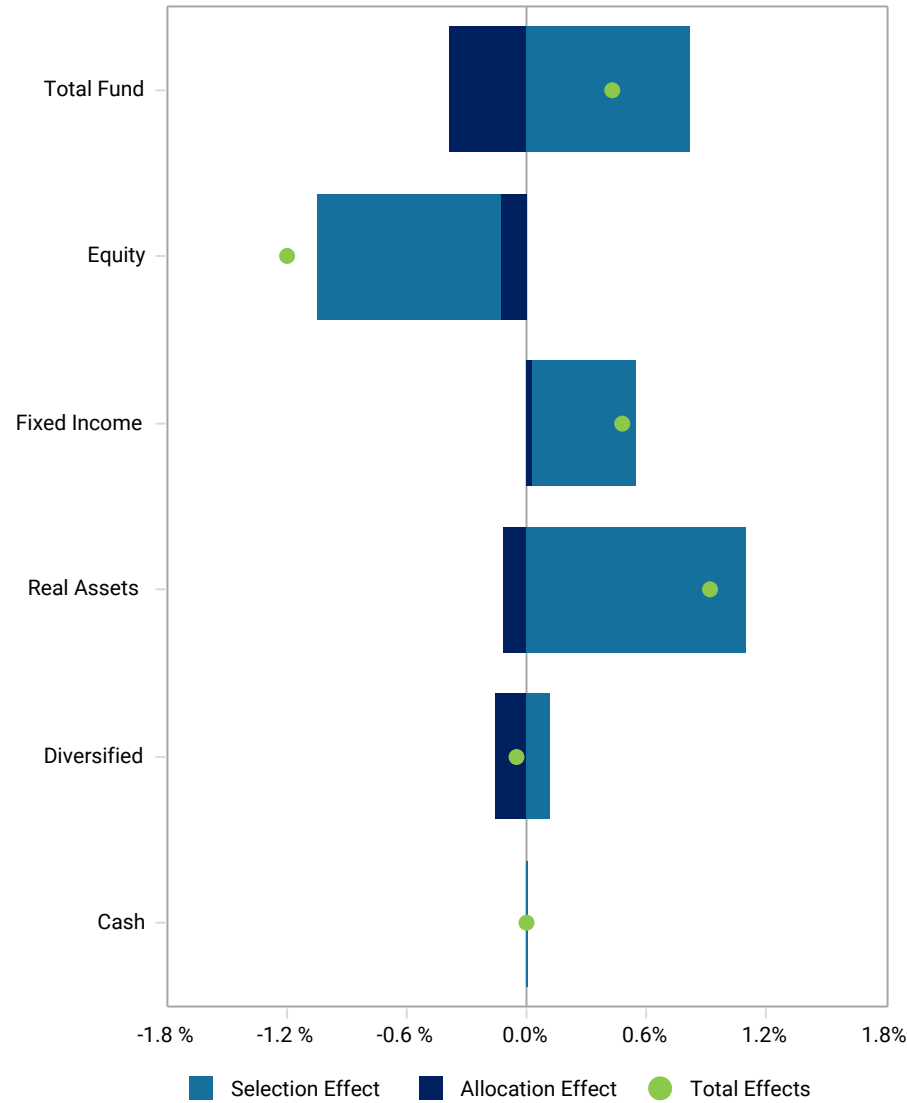
* The current International Equity exposure is closer to the Pension's interim target of 20%.

TOTAL FUND VS. POLICY INDEX



ATTRIBUTION ANALYSIS

Attribution Effects
3 Years Ending March 31, 2024



Attribution Summary
3 Years Ending March 31, 2024

	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Total Effects (%)
Equity	4.5	6.4	-2.0	-0.9	-0.1	-1.2
Fixed Income	3.7	2.0	1.8	0.5	0.0	0.5
Real Assets	9.1	3.9	5.1	1.1	-0.1	0.9
Diversified	7.7	8.6	-0.9	0.1	-0.2	0.0
Cash	3.6	2.6	1.0	0.0	0.0	0.0
Total Fund	5.4	5.0	0.4	0.8	-0.4	0.4

TOTAL FUND PERFORMANCE DETAIL NET-OF-FEES

	Allocation		Performance (%)							
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	3,935,483,878	100.0	3.6 (57)	11.9 (32)	5.4 (8)	8.5 (14)	8.2 (22)	7.4 (21)	8.8	Oct-85
Policy Index			4.0 (41)	11.8 (39)	5.0 (23)	7.6 (51)	7.5 (44)	6.9 (37)	9.1	
Over/Under			-0.4	0.1	0.4	0.9	0.7	0.5	-0.3	
60 MSCI World (Gross)/40 CITI WGBI			3.9 (43)	13.4 (20)	2.0 (100)	6.1 (98)	6.3 (88)	5.3 (100)		
Over/Under			-0.3	-1.5	3.4	2.4	1.9	2.1		
InvMetrics Public DB > \$1 Billion Median			3.7	11.1	4.2	7.6	7.3	6.6		
Total Equity Composite	2,001,483,663	50.9	7.0	19.3	4.5	10.3	9.9	8.7	8.5	Nov-95
MSCI AC World All Cap Index (Net)			7.7	22.3	6.2	10.5	9.9	8.4		
Over/Under			-0.7	-3.0	-1.7	-0.2	0.0	0.3		
Domestic Equity Composite	946,834,346	24.1	10.0	29.3	8.8	13.7	12.7	11.7	11.0	Apr-03
Domestic Equity Index			10.0	29.3	9.4	14.1	13.0	12.0	11.1	
Over/Under			0.0	0.0	-0.6	-0.4	-0.3	-0.3	-0.1	
NTAM Russell 3000	946,834,346	24.1	10.0 (55)	29.3 (42)	9.9 (52)	14.4 (38)	13.6 (33)		14.1 (32)	Oct-16
Russell 3000 Index			10.0 (55)	29.3 (42)	9.8 (56)	14.3 (41)	13.4 (40)		14.0 (36)	
Over/Under			0.0	0.0	0.1	0.1	0.2		0.1	
eV US Large Cap Core Equity Median			10.3	27.4	10.0	13.6	12.8		13.3	

Fiscal year end: June 30



TOTAL FUND PERFORMANCE DETAIL NET-OF-FEES

	Allocation		Performance (%)							Inception (%)	Inception Date
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)			
International Equity Composite	790,641,283	20.1	4.7	12.5	-0.9	6.2	6.4	5.0		Apr-94	
<i>International Equity Index</i>			<u>4.8</u>	<u>13.8</u>	<u>2.4</u>	<u>6.7</u>	<u>6.5</u>	<u>4.9</u>	<u>5.8</u>		
Over/Under			-0.1	-1.3	-3.3	-0.5	-0.1	0.1			
Baillie Gifford	216,262,570	5.5	3.8 (70)	8.6 (86)	-4.5 (90)	5.6 (74)	6.5 (51)	5.6 (34)	6.8 (38)	Oct-08	
<i>MSCI AC World ex USA index</i>			<u>4.8</u> (53)	<u>13.8</u> (44)	<u>2.4</u> (45)	<u>6.5</u> (62)	<u>6.4</u> (53)	<u>4.7</u> (58)	<u>5.6</u> (72)		
Over/Under			-1.0	-5.2	-6.9	-0.9	0.1	0.9	1.2		
<i>eV All ACWI ex-US Equity Median</i>			4.9	13.0	2.0	7.0	6.6	5.1	6.3		
Baillie Gifford Smaller Cos.	48,144,393	1.2	-2.9 (93)	1.2 (95)					-11.4 (94)	Jul-21	
<i>MSCI AC World ex USA Small Cap</i>			<u>2.2</u> (56)	<u>13.4</u> (47)					<u>-1.4</u> (44)		
Over/Under			-5.1	-12.2					-10.0		
<i>eV ACWI ex-US Small Cap Equity Median</i>			3.1	12.6					-2.4		
BlackRock ACWI ex US	313,571,076	8.0	4.4 (59)	13.3 (49)	1.9 (53)	6.0 (67)	6.0 (65)	4.4 (67)	4.4 (80)	Mar-11	
<i>MSCI AC World ex USA IMI</i>			<u>4.5</u> (59)	<u>13.8</u> (44)	<u>2.2</u> (49)	<u>6.5</u> (62)	<u>6.4</u> (54)	<u>4.8</u> (57)	<u>4.8</u> (69)		
Over/Under			-0.1	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4		
<i>eV All ACWI ex-US Equity Median</i>			4.9	13.0	2.0	7.0	6.6	5.1	5.4		
Principal Global	212,316,433	5.4	7.7 (16)	18.2 (21)	2.4 (45)	7.6 (42)	7.1 (38)	5.2 (45)	6.1 (29)	Sep-08	
<i>MSCI AC World ex USA IMI</i>			<u>4.5</u> (59)	<u>13.8</u> (44)	<u>2.2</u> (49)	<u>6.5</u> (62)	<u>6.4</u> (54)	<u>4.8</u> (57)	<u>4.7</u> (68)		
Over/Under			3.2	4.4	0.2	1.1	0.7	0.4	1.4		
<i>eV All ACWI ex-US Equity Median</i>			4.9	13.0	2.0	7.0	6.6	5.1	5.2		
Sanctioned Assets	346,672	0.0	5.5	24.7					26.7	Jul-22	
<i>MSCI EAFE (Net)</i>			<u>5.8</u>	<u>15.3</u>					<u>17.7</u>		
Over/Under			-0.3	9.4					9.0		

International Equity Composite includes \$138.61 from Global Transition Account.



TOTAL FUND PERFORMANCE DETAIL NET-OF-FEES

	Allocation		Performance (%)							Inception Date	
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)		
Private Equity	264,008,034	6.7	3.8	7.1	16.9	13.8				13.8	Apr-19
Ocean Avenue Fund V, L.P.	4,332,005	0.1	0.0	4.6						4.6	Apr-23
Russell 2000 + 3%			<u>6.0</u>	<u>23.3</u>						<u>23.3</u>	
Over/Under			-6.0	-18.7						-18.7	
Pantheon Asia Select 2021	19,378,765	0.5	26.3							26.3	Aug-23
Private Equity Index			<u>11.6</u>							<u>13.4</u>	
Over/Under			14.7							12.9	
Pantheon PE Fund of 1	184,480,463	4.7	-0.3	4.1	15.6					13.3	May-19
Private Equity Index			<u>11.6</u>	<u>23.4</u>	<u>7.0</u>					<u>12.0</u>	
Over/Under			-11.9	-19.3	8.6					1.3	
Pantheon Co-Investment V	39,746,795	1.0	18.7							-1.5	May-23
Private Equity Index			<u>11.6</u>							<u>14.8</u>	
Over/Under			7.1							-16.3	
Pantheon Co 2022	6,718,200	0.2	-2.2	1.3						10.0	Jul-22
Private Equity Index			<u>11.6</u>	<u>23.4</u>						<u>4.3</u>	
Over/Under			-13.8	-22.1						5.7	
Pantheon Secondary 2023	9,351,806	0.2	0.3							1.0	May-23
Private Equity Index			<u>11.6</u>							<u>14.8</u>	
Over/Under			-11.3							-13.8	
Total Fixed Income Composite	976,027,584	24.8	1.0	10.2	3.7	5.1	5.0	4.6	5.7	5.7	Nov-95
Fixed Income Index			<u>0.8</u>	<u>7.0</u>	<u>1.9</u>	<u>3.4</u>	<u>3.5</u>	<u>3.5</u>	<u>5.0</u>	<u>5.0</u>	
Over/Under			0.2	3.2	1.8	1.7	1.5	1.1	0.7		
Core Fixed Composite	457,164,827	11.6	-0.3	4.1	-1.4	1.3	1.9	2.3	3.6	3.6	Apr-03
Blmbg. U.S. Aggregate Index			<u>-0.8</u>	<u>1.7</u>	<u>-2.5</u>	<u>0.4</u>	<u>1.1</u>	<u>1.5</u>	<u>3.1</u>	<u>3.1</u>	
Over/Under			0.5	2.4	1.1	0.9	0.8	0.8	0.5		
Dodge & Cox	231,844,656	5.9	-0.2 (19)	4.8 (2)	-0.7 (2)	2.3 (1)	2.6 (1)	2.9 (2)	4.2 (4)	4.2 (4)	Jan-03
Blmbg. U.S. Aggregate Index			<u>-0.8 (88)</u>	<u>1.7 (79)</u>	<u>-2.5 (78)</u>	<u>0.4 (85)</u>	<u>1.1 (83)</u>	<u>1.5 (81)</u>	<u>3.1 (79)</u>	<u>3.1 (79)</u>	
Over/Under			0.6	3.1	1.8	1.9	1.5	1.4	1.1		
eV US Core Fixed Inc Median			-0.5	2.2	-2.2	0.7	1.3	1.8	3.4		
PGIM	225,320,171	5.7	-0.4 (41)	3.3 (14)	-2.2 (47)	0.6 (63)	1.3 (61)	1.7 (56)	3.3 (55)	3.3 (55)	Apr-03
Blmbg. U.S. Aggregate Index			<u>-0.8 (88)</u>	<u>1.7 (79)</u>	<u>-2.5 (78)</u>	<u>0.4 (85)</u>	<u>1.1 (83)</u>	<u>1.5 (81)</u>	<u>3.1 (79)</u>	<u>3.1 (79)</u>	
Over/Under			0.4	1.6	0.3	0.2	0.2	0.2	0.2		
eV US Core Fixed Inc Median			-0.5	2.2	-2.2	0.7	1.3	1.8	3.4		

TOTAL FUND PERFORMANCE DETAIL NET-OF-FEES

	Allocation		Performance (%)							Inception (%)	Inception Date
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)			
Private Credit	518,862,757	13.2	2.1	16.3	11.8	10.8	9.9	9.2	9.2	Sep-15	
<i>Private Credit Index</i>			<u>2.0</u>	<u>11.8</u>	<u>4.3</u>	<u>5.4</u>	<u>6.0</u>	<u>6.3</u>			
Over/Under			0.1	4.5	7.5	5.4	3.9	2.9			
Crescent Capital	28,521,954	0.7	2.9	16.2	11.2	9.3	8.9	8.0		Sep-15	
<i>Private Credit Index</i>			<u>2.0</u>	<u>11.8</u>	<u>4.3</u>	<u>5.4</u>	<u>6.0</u>	<u>6.3</u>			
Over/Under			0.9	4.4	6.9	3.9	2.9	1.7			
Arcmont Euro Private Debt	133,284,477	3.4	3.0	17.7	13.4			13.4		Apr-21	
<i>Private Credit Index</i>			<u>2.0</u>	<u>11.8</u>	<u>4.3</u>			<u>4.3</u>			
Over/Under			1.0	5.9	9.1			9.1			
Arcmont Co-Investments	9,301,960	0.2	3.4					3.4		Jul-23	
<i>Private Credit Index</i>			<u>2.0</u>					<u>9.2</u>			
Over/Under			1.4					-5.8			
Monroe Capital	225,799,502	5.7	2.8	12.4	10.4	9.8	9.3	9.9		Apr-16	
<i>Private Credit Index</i>			<u>2.0</u>	<u>11.8</u>	<u>4.3</u>	<u>5.4</u>	<u>6.0</u>	<u>6.2</u>			
Over/Under			0.8	0.6	6.1	4.4	3.3	3.7			
PIMCO COF II	36,692,667	0.9	-4.1	83.0	36.7	25.5	20.3	19.7		Aug-16	
<i>Private Credit Index</i>			<u>2.0</u>	<u>11.8</u>	<u>4.3</u>	<u>5.4</u>	<u>6.0</u>	<u>6.1</u>			
Over/Under			-6.1	71.2	32.4	20.1	14.3	13.6			
PIMCO COF III	85,262,197	2.2	1.2	8.9	8.7			26.3		May-20	
<i>Private Credit Index</i>			<u>2.0</u>	<u>11.8</u>	<u>4.3</u>			<u>5.6</u>			
Over/Under			-0.8	-2.9	4.4			20.7			

TOTAL FUND PERFORMANCE DETAIL NET-OF-FEES

	Allocation		Performance (%)							
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Assets	826,516,662	21.0	-0.9	-1.6	9.1	6.3	6.7	8.2	9.3	Jan-96
Private Real Estate Composite	200,385,996	5.1	-0.2	0.9	10.9	8.3	10.3	11.2	9.8	Jan-96
NCREIF ODCE			<u>-2.4</u>	<u>-11.3</u>	<u>3.4</u>	<u>3.5</u>	<u>4.7</u>	<u>6.8</u>	<u>8.2</u>	
Over/Under			2.2	12.2	7.5	4.8	5.6	4.4	1.6	
Oaktree Value Add	8,665,044	0.2	-4.5	-16.2	0.7	2.2	8.9		8.8	Dec-16
NCREIF ODCE + 1%			<u>-2.3</u>	<u>-11.1</u>	<u>3.5</u>	<u>3.6</u>	<u>4.8</u>		<u>5.1</u>	
Over/Under			-2.2	-5.1	-2.8	-1.4	4.1		3.7	
PCCP Value Add	19,424,273	0.5	1.4	-13.9	9.7	8.2	10.3		12.7	Oct-16
NCREIF ODCE + 1%			<u>-2.3</u>	<u>-11.1</u>	<u>3.5</u>	<u>3.6</u>	<u>4.8</u>		<u>5.0</u>	
Over/Under			3.7	-2.8	6.2	4.6	5.5		7.7	
PIMCO Bravo III	47,068,174	1.2	-0.8	11.7	11.7	9.1	10.2		9.3	Nov-16
NCREIF ODCE + 1%			<u>-2.3</u>	<u>-11.1</u>	<u>3.5</u>	<u>3.6</u>	<u>4.8</u>		<u>5.1</u>	
Over/Under			1.5	22.8	8.2	5.5	5.4		4.2	
Alidade Capital V	3,659,424	0.1	-18.7	-48.3					-33.0	Dec-21
NCREIF ODCE + 1%			<u>-2.3</u>	<u>-11.1</u>					<u>-0.1</u>	
Over/Under			-16.4	-37.2					-32.9	
Artemis AREPF III	15,838,525	0.4	-4.8	-2.8	19.0	16.0			10.1	Jan-19
NCREIF ODCE + 1%			<u>-2.3</u>	<u>-11.1</u>	<u>3.5</u>	<u>3.6</u>			<u>3.7</u>	
Over/Under			-2.5	8.3	15.5	12.4			6.4	
Brookfield SREP III	55,707,333	1.4	1.5	7.5	12.1				7.5	May-19
NCREIF ODCE + 1%			<u>-2.3</u>	<u>-11.1</u>	<u>3.5</u>				<u>3.6</u>	
Over/Under			3.8	18.6	8.6				3.9	
Blue Vista BVREP V	16,182,119	0.4	0.0	0.9	24.5				11.2	Mar-20
NCREIF ODCE + 1%			<u>-2.3</u>	<u>-11.1</u>	<u>3.5</u>				<u>3.4</u>	
Over/Under			2.3	12.0	21.0				7.8	
Kayne Anderson VI	33,841,104	0.9	3.0	6.0					4.5	Nov-21
NCREIF ODCE + 1%			<u>-2.3</u>	<u>-11.1</u>					<u>0.0</u>	
Over/Under			5.3	17.1					4.5	
Tristan	53,735,596	1.4	-2.2						2.2	Oct-23
NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net)			<u>-2.6</u>						<u>-7.4</u>	
Over/Under			0.4						9.6	

TOTAL FUND PERFORMANCE DETAIL NET-OF-FEES

	Allocation		Performance (%)							Inception (%)	Inception Date
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)			
Core Real Estate	404,638,946	10.3	-2.3	-8.0	6.8	5.1	5.3	6.8		Jan-96	
JP Morgan RE	123,595,687	3.1	-5.5	-17.8	-0.5	0.8	2.2	4.6	7.5	Jan-96	
<i>NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net)</i>			<u>-2.6</u>	<u>-12.0</u>	<u>2.5</u>	<u>2.6</u>	<u>3.8</u>	<u>5.8</u>	<u>7.2</u>		
Over/Under			-2.9	-5.8	-3.0	-1.8	-1.6	-1.2	0.3		
CFRSR-Carlyle CPI Fund	227,307,663	5.8	-0.5	-3.0	12.3				10.0	Jul-20	
<i>NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net)</i>			<u>-2.6</u>	<u>-12.0</u>	<u>2.5</u>				<u>2.9</u>		
Over/Under			2.1	9.0	9.8				7.1		
Infrastructure	221,491,720	5.6	1.3	8.8	6.1	6.2			5.8	Oct-18	
<i>CPI + 4% (Unadjusted)</i>			<u>2.8</u>	<u>7.6</u>	<u>9.9</u>	<u>8.4</u>			<u>8.1</u>		
Over/Under			-1.5	1.2	-3.8	-2.2			-2.3		
JP Morgan IIF	113,516,156	2.9	0.8	5.7	4.3	6.0			5.7	Oct-18	
<i>CPI + 4% (Unadjusted)</i>			<u>2.8</u>	<u>7.6</u>	<u>9.9</u>	<u>8.4</u>			<u>8.1</u>		
Over/Under			-2.0	-1.9	-5.6	-2.4			-2.4		
Ullico UIF	107,975,563	2.7	2.0	12.5	8.5	6.8			6.3	Dec-18	
<i>CPI + 4% (Unadjusted)</i>			<u>2.8</u>	<u>7.6</u>	<u>9.9</u>	<u>8.4</u>			<u>8.3</u>		
Over/Under			-0.8	4.9	-1.4	-1.6			-2.0		
Multi Asset	46,566,978	1.2	0.3	6.1					16.5	Dec-21	
Alternative Credit	46,566,978	1.2	0.3	7.4					2.1	Jul-22	
Cloverlay	11,015,103	0.3	1.1						-1.2	Jul-23	
Sixth Street TAO	35,551,875	0.9	0.0	9.6					3.3	Jul-22	

TOTAL FUND PERFORMANCE DETAIL NET-OF-FEES

	Allocation		Performance (%)							
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Cash & Equivalents Composite	84,888,991	2.2	1.5	5.1	3.6	2.5	2.3	1.7	1.8	Oct-03
<i>90 Day U.S. Treasury Bill</i>			<u>1.3</u>	<u>5.2</u>	<u>2.6</u>	<u>2.0</u>	<u>1.9</u>	<u>1.4</u>	<u>1.5</u>	
Over/Under			0.2	-0.1	1.0	0.5	0.4	0.3	0.3	
Investment Cash	82,720,597	2.1	1.5						1.5	Dec-23
<i>90 Day U.S. Treasury Bill</i>			<u>1.3</u>						<u>1.8</u>	
Over/Under			0.2						-0.3	
Payroll Account	764,336	0.0	1.5	5.3	2.3	1.8	1.7	1.3	2.0	Apr-99
<i>90 Day U.S. Treasury Bill</i>			<u>1.3</u>	<u>5.2</u>	<u>2.6</u>	<u>2.0</u>	<u>1.9</u>	<u>1.4</u>	<u>1.9</u>	
Over/Under			0.2	0.1	-0.3	-0.2	-0.2	-0.1	0.1	
Operating Funds	1,404,058	0.0	1.5	5.3	2.1	1.7	1.7	1.3	1.5	Oct-03
<i>90 Day U.S. Treasury Bill</i>			<u>1.3</u>	<u>5.2</u>	<u>2.6</u>	<u>2.0</u>	<u>1.9</u>	<u>1.4</u>	<u>1.5</u>	
Over/Under			0.2	0.1	-0.5	-0.3	-0.2	-0.1	0.0	

Fiscal year end: June 30

Composite rankings are used for Total Equity Composite (InvMetrics Public DB US Eq), Domestic Equity Composite (InvMetrics Public DB Total Eq), International Equity Composite (InvMetrics Public DB ex- US Eq), International Developed Equity Composite (InvMetrics Public DB Dev Mkt ex-US), International Emerging Markets Equity (InvMetrics Public DB Emg Mkt Eq), Total Fixed Income (InvMetrics Public DB Total Fix Inc), Core Fixed Composite (InvMetrics Public DB US Fix Inc), High Yield Composite (InvMetrics Public DB US Fix Inc) and Total Real Estate (InvMetrics Public DB Real Estate Pub+Priv).

Manager rankings are used for Large Cap Equity Composite (eA US Large Cap Equity), Small Cap Equity Composite (eA US Small Cap Equity), ACWI ex US Equity Composite (eA ACWI ex-US Equity), EAFE Equity Composite (eA All EAFE Equity) and Public Real Estate Composite (eA US REIT).



APPENDIX



CALENDAR YEAR INDEX PERFORMANCE

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Mar	YTD
S&P 500	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	18.4%	28.7%	-18.1%	26.3%	3.2%	10.6%
Russell 1000	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	21.0%	26.5%	-19.1%	26.5%	3.2%	10.3%
Russell 2000	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	20.0%	14.8%	-20.4%	16.9%	3.6%	5.2%
Russell 2500	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	20.0%	18.2%	-18.4%	17.4%	4.1%	6.9%
MSCI EAFE	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	7.8%	11.3%	-14.5%	18.2%	3.3%	5.8%
MSCI EM	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	18.3%	-2.5%	-20.1%	9.8%	2.5%	2.4%
MSCI ACWI	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	16.3%	18.5%	-18.4%	22.2%	3.1%	8.2%
Private Equity	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	17.2%	45.0%	-9.3%	3.1%	-	-
BBG TIPS	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	11.0%	6.0%	-11.8%	3.9%	0.8%	-0.1%
BBG Municipal	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	5.2%	1.5%	-8.5%	6.4%	0.0%	-0.4%
BBG Muni High Yield	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	4.9%	7.8%	-13.1%	9.2%	1.2%	1.5%
BBG US Corporate HY	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	7.1%	5.3%	-11.2%	13.4%	1.2%	1.5%
BBG US Agg Bond	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	7.5%	-1.5%	-13.0%	5.5%	0.9%	-0.8%
BBG Global Agg	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	9.2%	-4.7%	-16.2%	5.7%	0.6%	-2.1%
BBG Long Treasuries	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	17.7%	-4.6%	-29.3%	3.1%	1.2%	-3.3%
BBG US Long Credit	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	13.3%	-1.2%	-25.3%	10.7%	1.9%	-1.6%
BBG US STRIPS 20+ Yr	46.4%	-3.7%	1.4%	13.7%	-4.1%	20.9%	24.0%	-5.2%	-39.6%	1.1%	1.1%	-6.0%
JPM GBI-EM Global Div	-5.7%	-14.9%	9.9%	15.2%	-6.2%	13.5%	2.7%	-8.7%	-11.7%	12.7%	0.0%	-2.1%
JPM EMBI Glob Div	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	5.3%	-1.8%	-17.8%	11.1%	2.1%	2.0%
CS Hedge Fund	4.1%	-0.7%	1.2%	7.1%	-3.2%	9.3%	6.4%	8.2%	1.1%	5.8%	-	3.5%
BBG Commodity	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	-3.1%	27.1%	16.1%	-7.9%	3.3%	2.2%
Alerian Midstream	16.4%	-37.3%	33.8%	-2.4%	-13.3%	24.0%	-23.4%	38.4%	21.5%	14.5%	6.5%	10.2%
FTSE NAREIT Equity REITs	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	-8.0%	43.2%	-24.4%	13.7%	2.1%	-0.2%

*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag
Source: FactSet, Barclays, Thomson One



TRAILING ANNUAL INDEX PERFORMANCE

Equity						
	Mar-24	YTD	1 YR	3 YR	5 YR	10 YR
MSCI ACWI	3.1%	8.2%	23.2%	7.0%	10.9%	8.7%
S&P 500	3.2%	10.6%	29.9%	11.5%	15.0%	13.0%
Russell 1000	3.2%	10.3%	29.9%	10.5%	14.8%	12.7%
Russell 2000	3.6%	5.2%	19.7%	-0.1%	8.1%	7.6%
Russell 2500	4.1%	6.9%	21.4%	3.0%	9.9%	8.8%
MSCI EAFE	3.3%	5.8%	15.3%	4.8%	7.3%	4.8%
MSCI EM	2.5%	2.4%	8.2%	-5.1%	2.2%	2.9%

Credit						
	Mar-24	YTD	1 YR	3 YR	5 YR	10 YR
BBG Global Agg	0.6%	-2.1%	0.5%	-4.7%	-1.2%	-0.1%
BBG US Agg	0.9%	-0.8%	1.7%	-2.5%	0.4%	1.5%
BBG Credit	1.2%	-0.4%	4.1%	-1.9%	1.4%	2.5%
BBG US HY	1.2%	1.5%	11.2%	2.2%	4.2%	4.4%
BBG Muni	0.0%	-0.4%	3.1%	-0.4%	1.6%	2.7%
BBG Muni HY	1.2%	1.5%	7.9%	0.6%	3.0%	4.6%
BBG TIPS	0.8%	-0.1%	0.5%	-0.5%	2.5%	2.2%
BBG 20+ STRIPS	1.1%	-6.0%	-12.2%	-12.6%	-5.1%	1.2%
BBG Long Treasuries	1.2%	-3.3%	-6.1%	-8.0%	-2.8%	1.2%
BBG Long Credit	1.9%	-1.6%	3.3%	-4.3%	0.8%	3.1%
BBG Govt/Credit 1-3 Yr	0.4%	0.4%	3.5%	0.2%	1.4%	1.3%
JPM EMBI Glob Div	2.1%	2.0%	11.3%	-1.4%	0.7%	3.0%
JPM GBI-EM Glob Div	0.0%	-2.1%	4.9%	-1.6%	0.1%	-0.3%

Real Assets						
	Mar-24	YTD	1 YR	3 YR	5 YR	10 YR
BBG Commodity	3.3%	2.2%	-0.6%	9.1%	6.4%	-1.6%
Alerian Midstream Index	6.5%	10.2%	24.6%	20.5%	10.5%	4.8%
NAREIT Composite Index	1.9%	-1.3%	8.4%	2.1%	3.6%	6.7%



Source: S&P, MSCI, Russell, Bloomberg, JPM, Alerian, FTSE, FactSet

GLOSSARY OF INVESTMENT TERMINOLOGY— RISK STATISTICS

- **Alpha**
 - Measures the relationship between the fund performance and the performance of another fund or benchmark index and equals the excess return while the other fund or benchmark index is zero.
- **Alpha Jensen**
 - The average return on a portfolio over and above that predicted by the capital asset pricing model (CAPM), given the portfolio's beta and the average market return. Also known as the abnormal return or the risk adjusted excess return.
- **Annualized Excess Return over Benchmark**
 - Annualized fund return minus the annualized benchmark return for the calculated return.
- **Annualized Return**
 - A statistical technique whereby returns covering periods greater than one year are converted to cover a 12 month time span.
- **Beta**
 - Measures the volatility or systematic risk and is equal to the change in the fund's performance in relation to the change in the assigned index's performance.
- **Information Ratio**
 - A measure of the risk adjusted return of a financial security, asset, or portfolio.
Formula:
(Annualized Return of Portfolio - Annualized Return of Benchmark) / Annualized Standard Deviation (Period Portfolio Return - Period Benchmark Return). To annualize standard deviation, multiply the deviation by the square root of the number of periods per year where monthly returns per year equals 12 and quarterly returns is four periods per year.
- **R-Squared**
 - Represents the percentage of a fund's movements that can be explained by movements in an index. R-Squared values range from 0 to 100. An R-Squared of 100 denotes that all movements of a fund are completely explained by movements in the index.
- **Sharpe Ratio**
 - A measure of the excess return or risk premium per unit of risk in an investment asset or trading strategy.
Formula:
(Annualized Return of Portfolio - Annualized Return of Risk Free) / Annualized Standard Deviation (Portfolio Returns)
- **Sortino Ratio**
 - A method to differentiate between good and bad volatility in the Sharpe Ratio. The differentiation of up and down volatility allows the calculation to provide a risk adjusted measure of a security or fund's performance without upward price change penalties.
Formula:
*Calculation Average (X-Y) / Downside Deviation (X-Y) * 2*
Where X = Return Series X Y = Return Series Y which is the risk free return (91 day T-bills)
- **Standard Deviation**
 - The standard deviation is a statistical term that describes the distribution of results. It is a commonly used measure of volatility of returns of a portfolio, asset class, or security. The higher the standard deviation the more volatile the returns are.
Formula:
(Annualized Return of Portfolio - Annualized Arithmetic Average of the Portfolio Returns) Squared / The number of periods - 1

GLOSSARY OF INVESTMENT TERMINOLOGY— RISK STATISTICS

▪ Tracking Error

- Tracking error, also known as residual risk, is a measure of the degree to which a portfolio tracks its benchmark. It is also a measure of consistency of excess returns. Tracking error is computed as the annualized standard deviation of the difference between a portfolio's return and that of its benchmark.

Formula:

*Tracking Error = Standard Deviation (X-Y) * $\sqrt{\text{# of periods per year}}$*
Where X = periods portfolio return and Y = the period's BM return
For monthly returns, the periods per year = 12
For quarterly returns, the periods per year = 4

▪ Treynor Ratio

- A risk-adjusted measure of return based on systematic risk. Similar to the Sharpe ratio with the difference being the Treynor ratio uses beta as the measurement of volatility.

Formula:

(Portfolio Average Return - Average Return of Risk-Free Rate)/Portfolio Beta

▪ Up/Down Capture Ratio

- A measure of what percentage of a market's returns is "captured" by a portfolio. For example, if the market declines 10% over some period, and the manager declines only 9%, then his or her capture ratio is 90%. In down markets, it is advantageous for a manager to have as low a capture ratio as possible. For up markets, the higher the capture ratio the better. Looking at capture ratios can provide insight into how a manager achieves excess returns. A value manager might typically have a lower capture ratio in both up and down markets, achieving excess returns by protecting on the downside, whereas a growth manager might fall more than the overall market in down markets, but achieve above-market returns in a rising market.

Upside Capture:

Total Return (Fund Returns) / Total Returns (BM Return) when Period Benchmark Return is $> = 0$

Downside Capture:

Total Return (Fund Returns) / Total Returns (BM Return) when Benchmark Return < 0

Source: InvestorForce



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Past performance is no guarantee of future results.

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