

Kern County Employees' Retirement Association

Investment Performance Review

Period Ending: September 30, 2021



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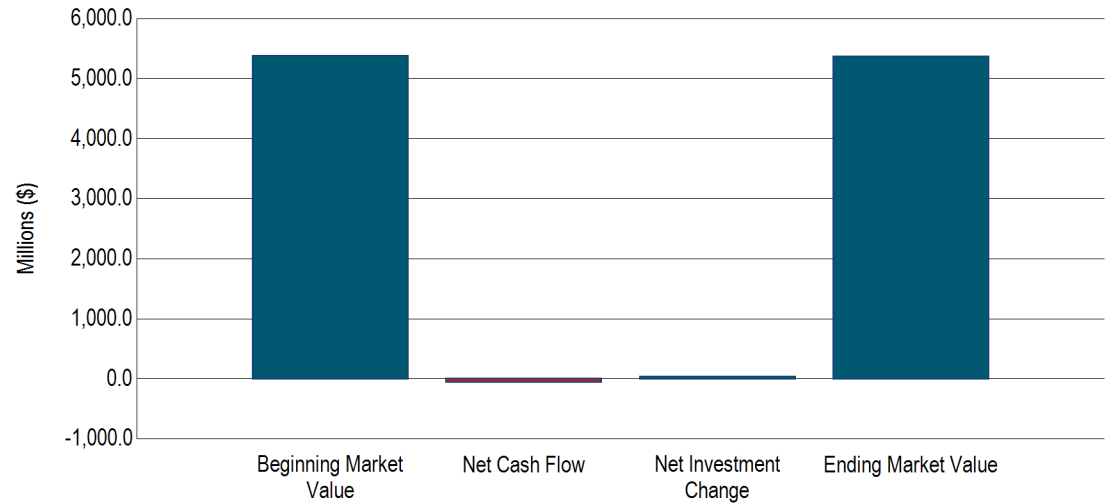
Total Fund Portfolio Reconciliation

Period Ending: September 30, 2021

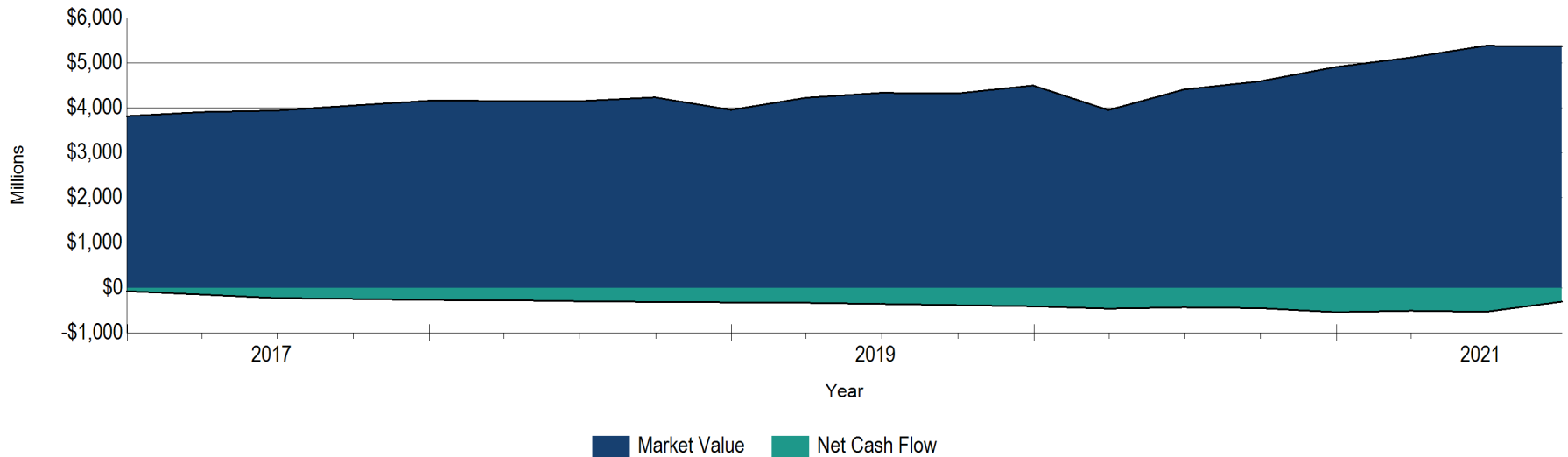
Portfolio Reconciliation

	Last Three Months
Beginning Market Value	\$5,382,666,380
Net Cash Flow	-\$45,131,784
Net Investment Change	\$31,631,285
Ending Market Value	\$5,369,165,881

Change in Market Value Last Three Months



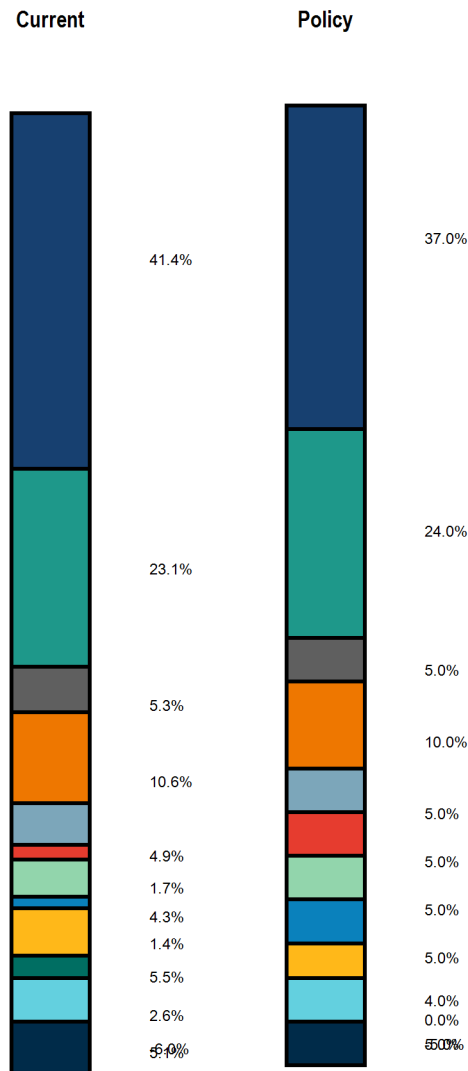
Market Value History



Contributions and withdrawals may include intra-account transfers between managers/funds. The Kern County Property Fund was removed at the beginning of 1Q 2016.

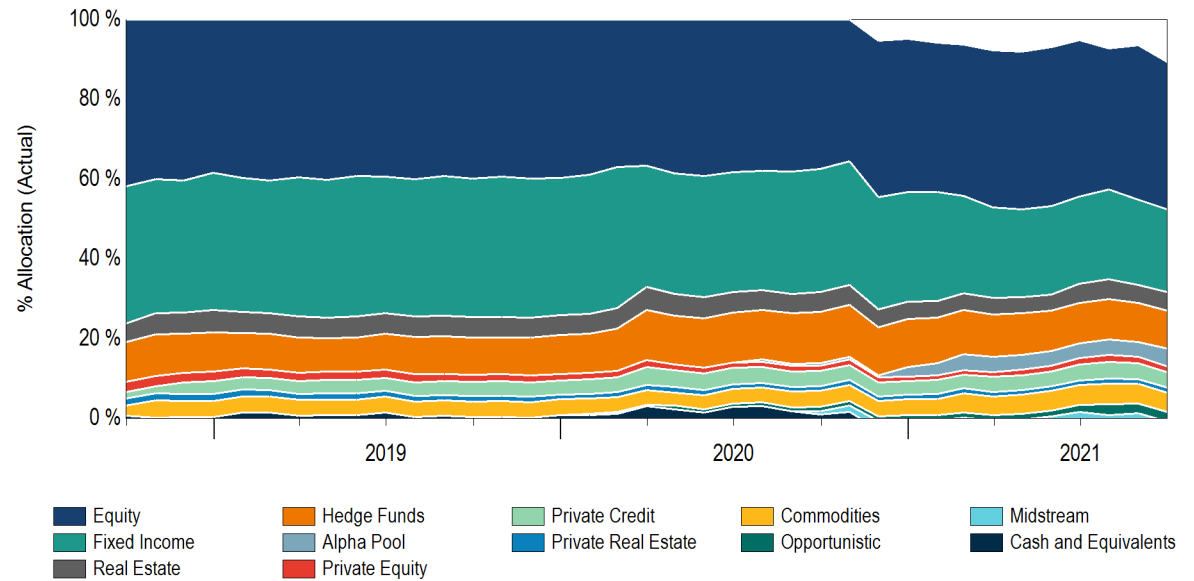
Total fund Asset Allocation vs. Policy

Period Ending: September 30, 2021



	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
Equity	\$2,224,860,375	41.4%	37.0%	\$238,405,348	32.0% - 46.0%	Yes
Fixed Income	\$1,239,659,636	23.1%	24.0%	-\$48,851,733	20.0% - 34.0%	Yes
Real Estate	\$285,338,420	5.3%	5.0%	\$16,898,551	3.0% - 7.0%	Yes
Hedge Funds	\$569,160,637	10.6%	10.0%	\$32,280,900	5.0% - 15.0%	Yes
Alpha Pool	\$263,869,129	4.9%	5.0%	-\$4,570,740	0.0% - 7.0%	Yes
Private Equity	\$92,173,965	1.7%	5.0%	-\$176,265,904	0.0% - 10.0%	Yes
Private Credit	\$230,498,256	4.3%	5.0%	-\$37,941,612	0.0% - 10.0%	Yes
Private Real Estate	\$74,733,039	1.4%	5.0%	-\$193,706,829	0.0% - 10.0%	Yes
Commodities	\$294,718,384	5.5%	4.0%	\$79,966,489	2.0% - 6.0%	Yes
Opportunistic	\$140,013,281	2.6%	0.0%	\$140,013,281	0.0% - 10.0%	Yes
Midstream	\$274,120,150	5.1%	5.0%	\$5,680,282	0.0% - 7.0%	Yes
Cash and Equivalents	-\$320,347,903	-6.0%	-5.0%	-\$51,908,034	-7.0% - 5.0%	Yes
Total	\$5,368,797,371	100.0%	100.0%			

Asset Allocation History



Market value does not include residual \$368,509 in Fidelity International.

Total Fund
Executive Summary (Gross of Fees)

Period Ending: September 30, 2021

	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017
Total Fund	5,369,165,881	0.5	9.8	0.5	19.5	10.0	9.5	9.1	24.3	3.2	5.7	6.8	12.1
<i>Policy Index</i>		0.6	9.3	0.6	19.0	10.2	9.3	8.3	23.7	3.3	6.4	7.0	10.0
<i>InvMetrics Public DB > \$1B Gross Rank</i>		21	42	21	82	55	78	77	90	16	42	96	74
Equity	2,225,228,885	-0.9	12.5	-0.9	30.2	12.5	13.7	13.4	41.2	0.7	5.3	12.4	20.6
<i>MSCI ACWI IMI GR</i>		-1.0	11.8	-1.0	29.5	12.9	13.6	12.5	41.5	1.7	5.1	11.7	19.6
Domestic Equity	1,248,477,702	0.4	16.5	0.4	33.6	15.8	17.3	--	43.6	6.3	9.2	16.1	19.4
<i>Russell 3000</i>		-0.1	15.0	-0.1	31.9	16.0	16.9	--	44.2	6.5	9.0	14.8	18.5
International Developed Equity	686,565,086	-0.3	10.8	-0.3	29.1	8.6	10.0	--	37.0	-5.5	-0.6	9.1	23.1
<i>MSCI World ex USA GR</i>		-0.6	9.7	-0.6	27.1	8.4	9.4	--	34.2	-5.0	1.8	7.6	20.1
Emerging Markets Equity	290,185,420	-7.6	0.9	-7.6	19.0	4.9	6.3	--	40.6	-10.9	0.4	4.0	20.4
<i>MSCI Emerging Markets</i>		-8.1	-1.2	-8.1	18.2	8.6	9.2	--	40.9	-3.4	1.2	8.2	23.7
Fixed Income	1,239,659,636	0.0	-0.3	0.0	3.1	6.4	4.4	4.2	5.4	6.6	7.9	0.2	4.6
<i>Fixed Income Custom Benchmark</i>		0.1	-0.3	0.1	2.4	5.7	3.8	4.1	4.1	5.2	8.4	0.0	3.2
Core Plus Fixed Income	650,124,102	0.2	-1.5	0.2	-0.1	6.1	3.7	--	1.0	9.5	8.0	0.0	1.4
<i>Bloomberg US Aggregate TR</i>		0.1	-1.6	0.1	-0.9	5.4	2.9	--	-0.3	8.7	7.9	-0.4	-0.3
High Yield/ Specialty Credit	321,141,440	1.1	4.9	1.1	10.2	6.5	6.2	--	13.6	0.0	7.5	3.3	10.4
<i>ICE BofAML High Yield Master II</i>		0.9	4.7	0.9	11.5	6.6	6.4	--	15.6	-1.1	7.6	2.5	12.8
Emerging Market Debt	268,242,840	-1.8	-3.3	-1.8	5.3	4.5	3.2	--	9.4	-1.2	8.5	-3.6	9.6
<i>50 JPM EMBI Global Div/ 50 JPM GBI EM</i>		-1.2	-1.6	-1.2	5.4	4.9	3.4	--	8.7	-3.0	11.2	-1.8	6.5
Commodities	294,718,384	2.5	23.3	2.5	37.2	7.9	6.8	--	43.5	-10.7	-6.2	13.7	-3.1
<i>Bloomberg Commodity Index TR USD</i>		6.6	29.1	6.6	42.3	6.9	4.5	--	45.6	-17.4	-6.8	7.3	-6.5
Hedge Funds	569,160,637	1.3	6.2	1.3	12.5	9.0	8.1	7.2	16.3	7.3	2.6	7.6	8.0
<i>75% 90 Day TBills +4% / 25% MSCI ACWI</i>		0.5	5.1	0.5	9.8	7.4	7.5	6.7	12.3	5.1	6.6	7.0	8.1
Alpha Pool	263,869,129	0.7	6.0	0.7	12.0	--	--	--	14.5	--	--	--	--
<i>91-Day T-Bill +4%</i>		1.0	3.0	1.0	4.0	--	--	--	4.1	--	--	--	--
Midstream Energy	274,120,150	-0.3	33.0	-0.3	57.8	--	--	--	--	--	--	--	--
<i>Alerian Midstream Index</i>		-1.3	38.9	-1.3	66.8	--	--	--	--	--	--	--	--
Core Real Estate	285,338,420	5.8	11.1	5.8	12.7	6.4	6.4	--	6.6	2.3	6.1	7.4	5.8
<i>NCREIF-ODCE</i>		6.6	13.1	6.6	14.6	7.1	7.5	--	8.0	2.2	6.4	8.4	7.9

Total Fund
Executive Summary (Gross of Fees)

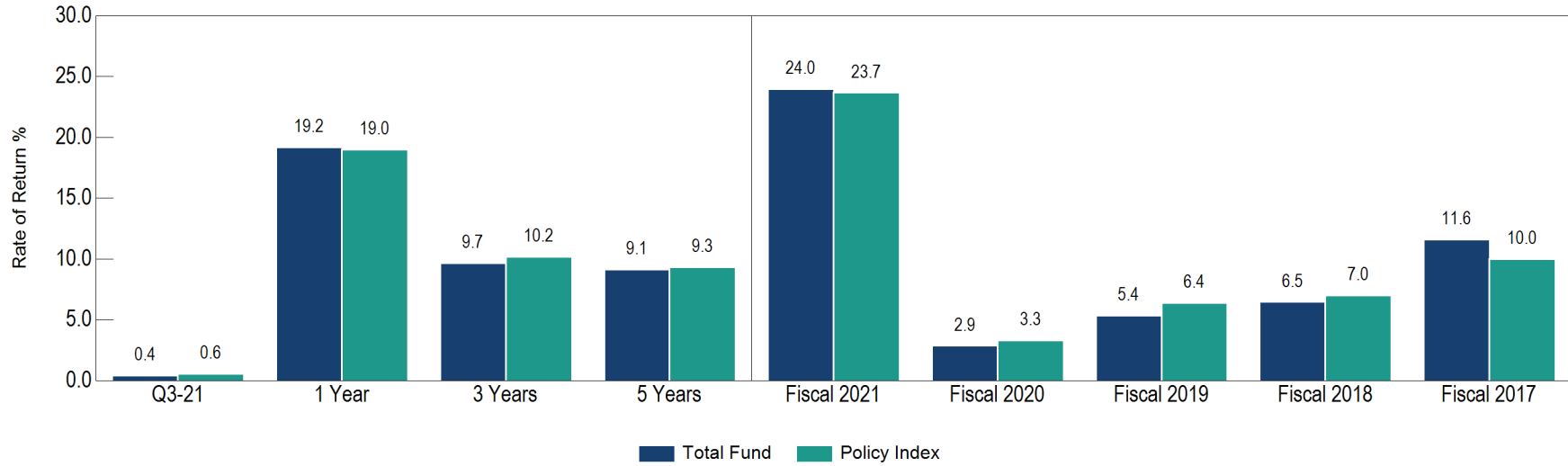
Period Ending: September 30, 2021

	Market Value	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017
Private Real Estate	74,733,039	6.6	15.7	6.6	25.6	8.7	8.0	13.5	12.1	4.4	9.0	5.4	6.4
Private Equity	92,173,965	8.5	26.2	8.5	37.0	12.9	13.0	11.1	41.7	-10.5	10.9	7.8	14.8
Private Credit	230,498,256	3.0	8.3	3.0	8.5	6.6	8.1	--	4.8	5.5	9.7	9.3	10.2
Opportunistic	140,013,281	-1.9	34.3	-1.9	38.3	--	--	--	52.0	--	--	--	--
Assumed Rate of Return +3%		2.5	7.7	2.5	10.4	--	--	--	10.4	--	--	--	--
Cash	-320,347,903												

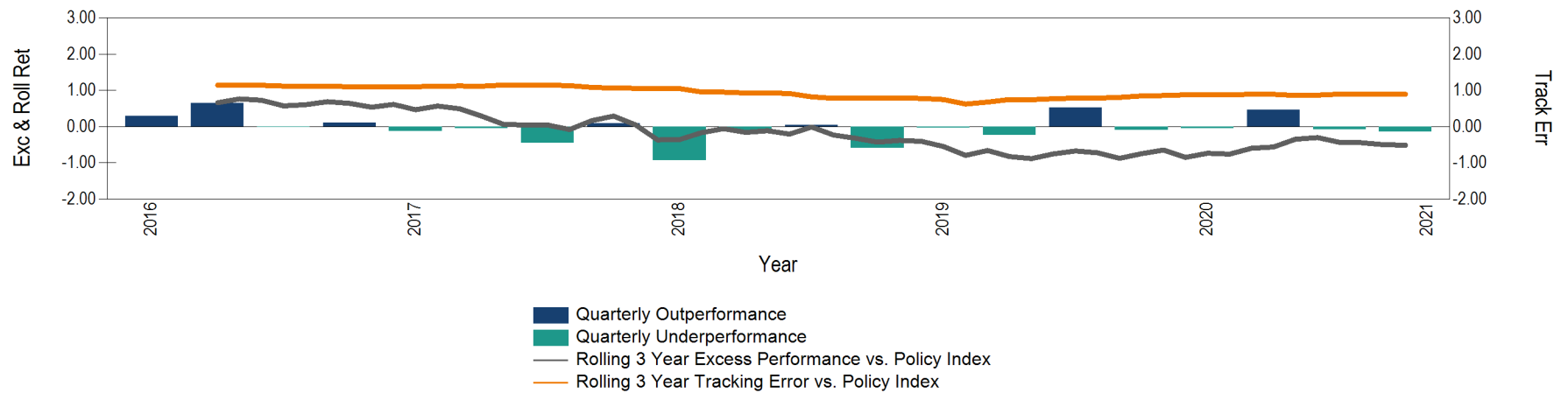
Total Fund
Performance vs. Policy (Net of Fees)

Period Ending: September 30, 2021

Annualized and Calendar Year Performance Vs. Benchmark



Rolling Annualized Excess Performance and Tracking Error
Total Fund vs. Policy Index



Performance and Attribution

Total Fund
Performance (Net of Fees)

Period Ending: September 30, 2021

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017	Inception	Inception Date
Total Fund	5,369,165,881	100.0	0.4	9.6	0.4	19.2	9.7	9.1	8.7	24.0	2.9	5.4	6.5	11.6	7.5	Jun-11
<i>Policy Index</i>			0.6	9.3	0.6	19.0	10.2	9.3	8.3	23.7	3.3	6.4	7.0	10.0	7.3	Jun-11
Equity	2,225,228,885	41.4	-1.0	12.2	-1.0	29.8	12.0	13.2	13.0	40.7	0.3	4.8	11.8	20.1		
<i>MSCI ACWI IMI GR</i>			-1.0	11.8	-1.0	29.5	12.9	13.6	12.5	41.5	1.7	5.1	11.7	19.6		
Domestic Equity	1,248,477,702	23.3	0.4	16.3	0.4	33.3	15.5	16.9	--	43.2	6.0	8.8	15.5	18.9		
<i>Russell 3000</i>			-0.1	15.0	-0.1	31.9	16.0	16.9	--	44.2	6.5	9.0	14.8	18.5		
Equity Beta Exposure	562,575,475	10.5	0.5	15.5	0.5	29.5	--	--	--	--	--	--	--	--	28.0	Jul-20
<i>S&P 500</i>			0.6	15.9	0.6	30.0	--	--	--	--	--	--	--	--	28.6	Jul-20
Russell 2000 Overlay	24,759,000	0.5	--	--	--	--	--	--	--	--	--	--	--	--	0.0	Sep-21
<i>Russell 2000</i>			--	--	--	--	--	--	--	--	--	--	--	--	0.0	Sep-21
Mellon DB SL Stock Index	366,460,521	6.8	0.6	15.9	0.6	30.0	16.0	--	--	40.8	7.5	10.4	--	--	16.1	Oct-17
<i>S&P 500</i>			0.6	15.9	0.6	30.0	16.0	--	--	40.8	7.5	10.4	--	--	16.2	Oct-17
PIMCO StocksPLUS	140,882,168	2.6	0.5	15.8	0.5	30.2	16.3	17.2	17.7	41.7	7.7	10.6	14.1	19.1	11.5	Jul-03
<i>S&P 500</i>			0.6	15.9	0.6	30.0	16.0	16.9	16.6	40.8	7.5	10.4	14.4	17.9	10.6	Jul-03
AB US Small Cap Value Equity	96,920,261	1.8	-0.4	28.7	-0.4	74.1	9.4	11.2	--	77.5	-19.4	-6.9	13.2	23.9	10.3	Jul-15
<i>Russell 2000 Value</i>			-3.0	22.9	-3.0	63.9	8.6	11.0	--	73.3	-17.5	-6.2	13.1	24.9	9.9	Jul-15
Geneva Capital Small Cap Growth	56,880,277	1.1	-1.9	6.0	-1.9	32.4	13.1	17.9	--	37.6	9.3	8.6	22.7	21.2	14.6	Jul-15
<i>Russell 2000 Growth</i>			-5.7	2.8	-5.7	33.3	11.7	15.3	--	51.4	3.5	-0.5	21.9	24.4	11.4	Jul-15
International Developed Equity	686,565,086	12.8	-0.3	10.6	-0.3	28.9	8.3	9.7	--	36.7	-5.7	-0.9	8.7	22.6		
<i>MSCI World ex USA IMI NR</i>			-0.4	9.4	-0.4	27.0	8.1	9.1	--	34.8	-5.1	0.2	7.7	19.7		
Mellon DB SL World ex-US Index	557,571,932	10.4	-0.7	10.8	-0.7	28.2	8.6	--	--	35.6	-5.5	--	--	--	7.9	Jul-18
<i>MSCI World ex USA IMI GR</i>			-0.4	9.9	-0.4	27.6	8.6	--	--	35.4	-4.7	--	--	--	8.3	Jul-18
Cevian Capital II	33,755,044	0.6	-0.1	16.5	-0.1	38.4	7.3	9.9	--	46.8	-8.2	-5.0	2.9	32.9	7.3	Dec-14
<i>MSCI Europe</i>			-1.6	10.1	-1.6	27.3	7.8	8.8	--	35.1	-6.8	1.9	5.3	21.1	6.0	Dec-14
American Century Non-US Small Cap	94,869,600	1.8	2.9	12.7	2.9	--	--	--	--	--	--	--	--	--	18.6	Dec-20
<i>MSCI World ex US Small Cap Growth</i>			1.3	8.8	1.3	--	--	--	--	--	--	--	--	--	16.2	Dec-20

Total Fund

Executive Summary (Net of Fees)

Period Ending: September 30, 2021

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017	Inception	Inception Date
Emerging Markets Equity	290,185,420	5.4	-7.7	0.3	-7.7	18.1	3.9	5.3	--	39.5	-11.8	-0.6	2.9	19.3		
<i>MSCI EM IMI GR</i>			-7.3	1.0	-7.3	21.2	9.5	9.7	--	43.7	-3.6	0.9	8.3	23.2		
DFA Emerging Markets Value I	83,838,459	1.6	-3.4	11.9	-3.4	35.4	5.4	8.0	--	47.6	-17.7	2.0	5.7	27.6	5.0	Mar-14
<i>MSCI Emerging Markets Value GR</i>			-4.9	4.8	-4.9	29.0	5.3	7.4	--	42.2	-15.3	5.6	4.8	22.1	4.3	Mar-14
AB Emerging Markets Strategic Core Equity	103,914,311	1.9	-10.7	-6.5	-10.7	6.4	3.5	--	--	33.6	-5.1	-2.6	1.2	--	5.9	Nov-16
<i>MSCI Emerging Markets Gross</i>			-8.0	-1.0	-8.0	18.6	9.0	--	--	41.4	-3.0	1.6	8.6	--	11.0	Nov-16
Mellon Emerging Markets Stock Index	102,432,650	1.9	-8.0	-1.1	-8.0	18.4	--	--	--	41.1	--	--	--	--	21.3	Jun-20
<i>MSCI Emerging Markets Gross</i>			-8.0	-1.0	-8.0	18.6	--	--	--	41.4	--	--	--	--	28.5	Jun-20
Fixed Income	1,239,659,636	23.1	-0.1	-0.5	-0.1	2.8	6.1	4.2	3.9	5.1	6.3	7.6	-0.1	4.3		
<i>Fixed Income Custom Benchmark</i>			0.1	-0.3	0.1	2.4	5.7	3.8	4.1	4.1	5.2	8.4	0.0	3.2		
Core Plus Fixed Income	650,124,102	12.1	0.1	-1.6	0.1	-0.3	6.0	3.6	--	0.8	9.3	7.9	-0.2	1.3		
<i>Bloomberg US Aggregate TR</i>			0.1	-1.6	0.1	-0.9	5.4	2.9	--	-0.3	8.7	7.9	-0.4	-0.3		
Mellon DB SL Aggregate Bond Index Fund	180,317,091	3.4	0.1	-1.6	0.1	-0.9	5.3	2.9	3.0	-0.4	8.8	7.9	-0.4	-0.3	3.4	Jan-11
<i>Bloomberg US Aggregate TR</i>			0.1	-1.6	0.1	-0.9	5.4	2.9	3.0	-0.3	8.7	7.9	-0.4	-0.3	3.4	Jan-11
PIMCO Core Plus	231,247,848	4.3	0.1	-1.0	0.1	0.2	5.3	3.4	3.4	1.1	8.7	6.3	1.0	1.4	3.6	Jan-11
<i>Bloomberg US Aggregate TR</i>			0.1	-1.6	0.1	-0.9	5.4	2.9	3.0	-0.3	8.7	7.9	-0.4	-0.3	3.4	Jan-11
Western Asset Core Plus	238,559,163	4.4	0.2	-1.9	0.2	0.6	7.0	4.4	4.4	2.4	9.3	9.4	-0.4	3.0	5.1	May-04
<i>Bloomberg US Aggregate TR</i>			0.1	-1.6	0.1	-0.9	5.4	2.9	3.0	-0.3	8.7	7.9	-0.4	-0.3	4.2	May-04
High Yield/ Specialty Credit	321,141,440	6.0	1.0	4.5	1.0	9.7	6.0	5.7	--	13.1	-0.5	7.0	2.8	9.9		
<i>ICE BofAML High Yield Master II</i>			0.9	4.7	0.9	11.5	6.6	6.4	--	15.6	-1.1	7.6	2.5	12.8		
Western Asset High Yield Fixed Income	189,028,884	3.5	0.9	5.2	0.9	12.1	6.6	6.2	7.0	16.5	-2.2	8.3	2.2	11.7	7.1	May-05
50% Bloomberg US HY Ba 2%/50% Bloomberg US HY B 2% CAP			0.9	3.9	0.9	9.8	7.5	6.4	7.2	13.4	2.1	8.8	1.8	10.9	7.0	May-05
TCW Securitized Opportunities	132,112,556	2.5	1.1	3.5	1.1	5.1	4.7	4.7	--	6.4	2.2	5.2	4.3	6.3	4.6	Feb-16
<i>Bloomberg US HY 2% Issuer Cap</i>			0.9	4.5	0.9	11.3	6.9	6.5	--	15.3	0.0	7.5	2.6	12.7	8.7	Feb-16
Emerging Market Debt	268,242,840	5.0	-1.8	-3.5	-1.8	5.0	4.0	2.7	--	9.1	-1.7	7.9	-4.2	8.9		
50 JPM EMBI Global Div/ 50 JPM GBI EM			-1.2	-1.6	-1.2	5.4	4.9	3.4	--	8.7	-3.0	11.2	-1.8	6.5		
Stone Harbor Emerging Markets Debt	108,178,756	2.0	-1.6	-3.1	-1.6	5.6	4.8	2.7	--	9.5	-1.8	8.2	-3.1	6.3	1.3	Aug-12
50 JPM GBI-EM Global Div/ 40 JPM EMBI Global Div/ 10 JPM Corporate EM Bond Idx			-1.8	-3.6	-1.8	3.7	4.9	3.2	--	7.2	-0.8	10.6	-1.7	6.3	2.4	Aug-12
PIMCO EMD	160,064,084	3.0	-2.0	-3.7	-2.0	4.6	--	--	--	8.7	--	--	--	--	1.2	Jan-20
50 JPM EMBI Global Div/ 50 JPM GBI EM			-1.2	-1.6	-1.2	5.4	--	--	--	8.7	--	--	--	--	0.2	Jan-20

Total Fund

Executive Summary (Net of Fees)

Period Ending: September 30, 2021

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017	Inception	Inception Date
Commodities	294,718,384	5.5	2.3	22.7	2.3	36.3	7.2	6.2	--	42.5	-11.3	-6.7	13.3	-3.7		
<i>Bloomberg Commodity Index TR USD</i>			6.6	29.1	6.6	42.3	6.9	4.5	--	45.6	-17.4	-6.8	7.3	-6.5		
Gresham MTAP Commodity	95,296,585	1.8	4.5	27.2	4.5	40.8	5.6	5.6	--	46.8	-16.3	-9.0	12.4	-3.8	-1.8	Sep-13
<i>Bloomberg Commodity Index TR USD</i>			6.6	29.1	6.6	42.3	6.9	4.5	--	45.6	-17.4	-6.8	7.3	-6.5	-2.1	Sep-13
Wellington Commodities	199,421,799	3.7	1.3	20.7	1.3	34.2	8.7	6.7	--	40.2	-7.5	-5.4	14.2	-3.3	-0.6	Sep-13
<i>S&P GSCI Commodity Equal Weighted</i>			1.8	20.8	1.8	34.7	7.6	6.5	--	40.9	-12.4	-3.5	12.6	-2.3	-0.7	Sep-13
Hedge Funds	569,160,637	10.6	1.3	6.1	1.3	12.4	8.8	7.9	6.4	16.1	7.0	2.5	7.6	7.1		
<i>75% 90 Day TBills +4% / 25% MSCI ACWI</i>			0.5	5.1	0.5	9.8	7.4	7.5	6.7	12.3	5.1	6.6	7.0	8.1		
Aristeia International Limited	66,436,489	1.2	0.6	6.4	0.6	14.5	11.5	10.0	--	21.6	8.7	9.2	2.6	13.1	5.7	May-14
Brevan Howard	67,664,967	1.3	0.7	1.6	0.7	5.3	12.8	9.3	--	6.1	20.5	12.7	7.8	1.0	7.3	Nov-13
D.E. Shaw	56,919,114	1.1	4.6	16.7	4.6	19.7	16.4	14.2	--	19.0	15.6	11.5	11.3	8.0	13.1	Jul-13
HBK Fund II	55,572,116	1.0	2.0	6.1	2.0	10.0	6.8	5.7	--	11.0	1.5	5.5	3.0	6.7	4.5	Nov-13
Hudson Bay	71,799,464	1.3	2.2	6.9	2.2	11.7	--	--	--	14.2	16.2	--	--	--	14.2	Jun-19
Indus Pacific Opportunities	40,338,968	0.8	0.3	9.2	0.3	22.6	11.8	10.8	--	38.0	15.8	-19.2	15.8	15.1	9.8	Jun-14
Magnetar Structured Credit	10,521,851	0.2	-0.7	16.0	-0.7	30.6	12.1	10.3	--	38.1	-0.2	5.4	7.7	8.6	8.6	May-14
Myriad Opportunities Offshore	17,445,148	0.3	-3.2	8.3	-3.2	18.3	2.6	4.2	--	30.6	-9.2	-8.4	10.4	8.2	4.6	May-16
Pharo Macro Fund LTD	65,533,137	1.2	-1.0	-8.1	-1.0	0.4	--	--	--	3.5	--	--	--	--	3.1	Dec-19
PIMCO Commodity Alpha	60,002,012	1.1	3.0	9.2	3.0	13.6	8.0	9.5	--	14.2	4.8	5.2	10.4	17.0	10.3	May-16
River Birch	830,168	0.0	-0.8	0.0	-0.8	-10.1	-7.7	-3.5	--	-0.7	-19.9	-0.5	2.8	9.6	-2.4	Aug-15
Sculptor Enhanced Domestic Partners	56,097,202	1.0	1.8	5.5	1.8	11.3	--	--	--	16.8	6.5	--	--	--	15.5	Mar-19
Alpha Pool	263,869,129	4.9	0.7	6.0	0.7	12.0	--	--	--	14.5	--	--	--	--		
<i>91-Day T-Bill +4%</i>			1.0	3.0	1.0	4.0	--	--	--	4.1	--	--	--	--		
Hudson Bay	55,459,395	1.0	2.0	6.4	2.0	11.2	--	--	--	--	--	--	--	--	12.3	Jul-20
Davidson Kempner	54,479,157	1.0	-0.3	6.4	-0.3	--	--	--	--	--	--	--	--	--	8.3	Dec-20
HBK Fund II	53,442,617	1.0	1.8	5.6	1.8	--	--	--	--	--	--	--	--	--	7.0	Dec-20
HBK Opportunities - SPAC Series	50,487,960	0.9	-0.7	7.5	-0.7	--	--	--	--	--	--	--	--	--	7.5	Dec-20
Garda Fixed Income Relative Value Opportunity Fund	50,000,000	0.9	0.0	--	0.0	--	--	--	--	--	--	--	--	--	--	Sep-21

Total Fund

Executive Summary (Net of Fees)

Period Ending: September 30, 2021

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017	Inception	Inception Date
Midstream Energy	274,120,150	5.1	-0.3	33.0	-0.3	57.8	--	--	--	--	--	--	--	--		
<i>Alerian Midstream Index</i>			-1.3	38.9	-1.3	66.8	--	--	--	--	--	--	--	--		
Harvest Midstream	144,247,048	2.7	-0.2	38.2	-0.2	68.7	--	--	--	--	--	--	--	--	57.9	Sep-20
<i>Alerian Midstream Index</i>			-1.3	38.9	-1.3	66.8	--	--	--	--	--	--	--	--	44.8	Sep-20
PIMCO Midstream	129,873,102	2.4	-0.3	26.8	-0.3	--	--	--	--	--	--	--	--	--	44.9	Oct-20
<i>50/25/25 Alerian Midstream/ ICE BofA US Pipeline/ ICE BofA US HY Midstream</i>			-0.1	20.8	-0.1	--	--	--	--	--	--	--	--	--	--	Oct-20
Core Real Estate	285,338,420	5.3	5.6	10.3	5.6	11.8	5.6	5.9	--	5.6	1.4	5.9	7.4	5.3		
<i>NCREIF-ODCE</i>			6.6	13.1	6.6	14.6	7.1	7.5	--	8.0	2.2	6.4	8.4	7.9		
ASB Real Estate	166,125,474	3.1	5.0	9.8	5.0	10.8	5.6	5.5	--	5.4	1.5	6.8	7.1	3.3	7.9	Sep-13
<i>NCREIF-ODCE</i>			6.6	13.1	6.6	14.6	7.1	7.5	--	8.0	2.2	6.4	8.4	7.9	9.3	Sep-13
J.P. Morgan Strategic Property	119,212,945	2.2	6.5	11.1	6.5	13.0	5.7	6.4	--	5.9	1.3	5.0	7.6	7.4	7.7	Jul-14
<i>NCREIF-ODCE</i>			6.6	13.1	6.6	14.6	7.1	7.5	--	8.0	2.2	6.4	8.4	7.9	9.0	Jul-14
Private Real Estate	74,733,039	1.4	6.6	15.7	6.6	25.6	8.7	7.9	12.9	12.1	4.4	9.0	5.4	5.7		
<i>Private Real Estate Benchmark</i>			6.6	15.7	6.6	25.6	8.7	7.9	12.9	12.1	4.4	9.0	5.4	5.7		
Private Equity	92,173,965	1.7	8.5	26.2	8.5	37.0	12.9	12.9	10.6	41.7	-10.5	10.9	7.8	14.1		
<i>Private Equity Benchmark</i>			8.5	26.2	8.5	37.0	12.9	12.9	10.6	41.7	-10.5	10.9	7.8	14.1		
Private Credit	230,498,256	4.3	3.0	8.3	3.0	8.5	6.6	8.1	--	4.8	5.5	9.7	9.3	10.2		
<i>Private Credit Benchmark</i>			3.0	8.3	3.0	8.5	6.6	8.1	--	4.8	5.5	9.7	9.3	10.2		
Opportunistic	140,013,281	2.6	-1.9	34.3	-1.9	38.3	--	--	--	52.0	--	--	--	--		
<i>Assumed Rate of Return +3%</i>			2.5	7.7	2.5	10.4	--	--	--	10.4	--	--	--	--		
DB Investors Fund IV	39,529,437	0.7	1.6	75.9	1.6	78.8	--	--	--	95.1	--	--	--	--	47.6	Jan-20
TAO Contingent	52,055,079	1.0	-3.2	12.7	-3.2	17.3	--	--	--	26.9	--	--	--	--	14.8	Apr-20
Aristeia Select Opportunities II	48,428,765	0.9	-3.1	--	-3.1	--	--	--	--	--	--	--	--	--	-3.1	Jul-21
<i>Assumed Rate of Return +3%</i>			2.5	--	2.5	--	--	--	--	--	--	--	--	--	2.5	Jul-21
Cash	-320,347,903	-6.0	0.0	0.0	0.0	0.0	0.8	1.8	--	0.1	1.0	2.0	3.2	2.7		

IRR Analysis as of IRR date												
Vintage Year	Manager/Fund	Estimated Market Value as of 9/30/2021	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Equity												
2001	Abbott Capital PE IV	\$1,114,514	\$50,000,000	\$49,650,000	99%	\$350,000	\$85,714,140	\$1,104,670	1.73x	1.75x	11.0%	12/31/20
2005	Abbott Capital PE V	\$5,315,079	\$65,000,000	\$62,790,000	97%	\$2,210,000	\$88,737,362	\$11,500,098	1.41x	1.50x	6.9%	06/30/21
2008	Abbott Capital PE VI	\$27,764,944	\$50,000,000	\$49,750,000	100%	\$250,000	\$70,189,271	\$29,986,842	1.41x	1.97x	13.9%	06/30/21
2006	Pantheon Global III	\$1,326,168	\$50,000,000	\$47,300,000	95%	\$2,700,000	\$51,500,000	\$1,326,168	1.09x	1.12x	2.0%	06/30/21
1998	Pantheon USA III	\$53,934	\$7,500,000	\$7,335,000	98%	\$165,000	\$8,197,500	\$53,934	1.12x	1.12x	1.9%	06/30/21
2002	Pantheon USA V	\$436,219	\$25,000,000	\$24,350,000	97%	\$650,000	\$37,950,000	\$436,219	1.56x	1.58x	9.0%	06/30/21
2004	Pantheon USA VI	\$982,303	\$35,000,000	\$33,075,000	95%	\$1,925,000	\$50,203,827	\$982,303	1.52x	1.55x	6.8%	06/30/21
2006	Pantheon USA VII	\$12,090,447	\$50,000,000	\$46,600,000	93%	\$3,400,000	\$74,975,001	\$14,140,448	1.61x	1.87x	10.3%	06/30/21
2020	Vista Equity Partners IV	\$9,102,279	\$25,000,000	\$9,831,983	39%	\$15,168,017	\$0	N/A	N/A	N/A	N/A	N/A
2021	LGT Crown	\$8,821,348	\$50,000,000	\$5,750,000	12%	\$44,250,000	\$0	N/A	N/A	N/A	N/A	N/A
2021	Brighton Private Equity	\$14,669,252	\$30,000,000	\$13,145,787	44%	\$16,854,213	\$1,167,799	N/A	0.09x	1.20x	N/A	N/A
2021	Warren Equity	\$6,020,389	\$32,500,000	\$6,729,903	21%	\$25,770,097	\$0	N/A	N/A	N/A	N/A	N/A
2021	Peak Rock Capital Fund III	\$4,477,089	\$30,000,000	\$4,619,160	15%	\$25,380,840	\$0	N/A	N/A	N/A	N/A	N/A

Total Private Equity	\$92,173,965	\$500,000,000	\$360,926,833	72%	\$139,073,167	\$468,634,900	\$59,530,682	1.30x	1.55x
% of Portfolio (Market Value)	1.7%								

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its respective manager.

IRR Analysis as of IRR date												
Vintage	Estimated Market	Total	Capital	%	Remaining	Capital	Market Value	Distrib./	Tot. Value/	Net IRR	IRR	
Year	Value	Commitment	Called	Called	Commitment	Returned	as of IRR date	Paid-In	Paid-In	Since	Date	
Manager/Fund	9/30/2021							(DPI) ¹	(TVPI) ²	Inception ³		
Private Credit												
2015	Colony Distressed Credit IV ⁴	\$50,998,021	\$60,000,000	\$73,340,099	122%	-\$5,500,870	\$24,003,132	\$51,535,333	0.33x	1.02x	1.0%	6/30/21
2017	Brookfield Real Estate Finance Fund V	\$25,199,984	\$50,000,000	\$35,545,586	71%	\$14,454,414	\$18,632,743	\$23,191,827	0.52x	1.23x	11.0%	6/30/21
2017	TSSP Adjacent Opportunities Partners	\$39,054,581	\$50,000,000	\$62,259,107	125%	-\$12,259,107	\$34,048,550	\$36,662,874	0.55x	1.17x	11.1%	6/30/21
2018	Magnetar Constellation	\$41,254,920	\$60,000,000	\$65,379,764	109%	-\$5,379,764	\$23,585,799	N/A	0.36x	0.99x	N/A	N/A
2019	H.I.G Bayside Loan Opportunity Fund V	\$33,295,474	\$60,000,000	\$21,119,236	35%	\$38,880,764	\$4,262,422	N/A	0.20x	1.78x	N/A	N/A
2020	Blue Torch Credit Opportunities	\$11,026,050	\$20,000,000	\$11,825,584	59%	\$8,174,416	\$1,190,933	N/A	0.10x	1.03x	N/A	N/A
2020	Fortress Credit Opportunities	\$6,434,771	\$40,000,000	\$6,000,000	15%	\$34,000,000	\$0	N/A	0.00x	1.07x	N/A	N/A
2021	Fortress Lending Fund II	\$23,234,456	\$40,000,000	\$23,200,000	58%	\$16,800,000	\$797,187	N/A	0.03x	1.04x	N/A	N/A
Total Private Credit		\$230,498,256	\$300,000,000	\$257,643,792	86%	-\$8,685,327	\$100,270,224	\$111,390,034	0.39x	1.28x		
% of Portfolio (Market Value)		4.3%										

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its respective manager.

⁴\$14,360,749 is recallable capital as of 6/30/2020.

IRR Analysis as of IRR date												
Vintage		Estimated Market Value	Total	Capital	%	Remaining	Capital	Market Value	Distrib./	Tot. Value/	Net IRR	IRR
Year	Manager/Fund	9/30/2021	Commitment	Called	Called	Commitment	Returned	as of IRR date	(DPI) ¹	(TVPI) ²	Since Inception ³	Date
Private Real Estate												
2012	Invesco Real Estate III	\$278,732	\$60,000,000	\$55,519,583	93%	\$4,480,417	\$81,296,679	\$286,862	1.46x	1.47x	13.6%	12/31/20
2014	Invesco Real Estate IV	\$23,422,694	\$50,000,000	\$43,637,717	87%	\$6,362,283	\$35,491,635	\$24,596,747	0.81x	1.35x	12.3%	12/31/20
2017	Landmark Real Estate Partners VIII	\$19,044,856	\$60,000,000	\$28,588,360	48%	\$31,411,640	\$15,084,932	\$18,637,114	0.53x	1.19x	13.8%	03/31/21
2018	Long Wharf Real Estate Partners VI	\$16,608,184	\$50,000,000	\$18,394,450	37%	\$31,605,550	\$5,748,266	\$16,608,184	0.31x	1.22x	24.3%	09/30/21
2020	Covenant Apartment Fund X	\$15,378,573	\$30,000,000	\$11,100,000	37%	\$18,900,000	\$0	N/A	N/A	N/A	N/A	N/A
Total Private Real Assets		\$74,733,039	\$250,000,000	\$157,240,110	63%	\$92,759,890	\$137,621,512	\$60,128,907	0.88x	1.35x		
% of Portfolio (Market Value)		1.4%										

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its respective manager. Long Wharf as of 9/30/2021, all other market values are as of 6/30/2021 and accounts for all capital calls and distributions through 9/30/2021.

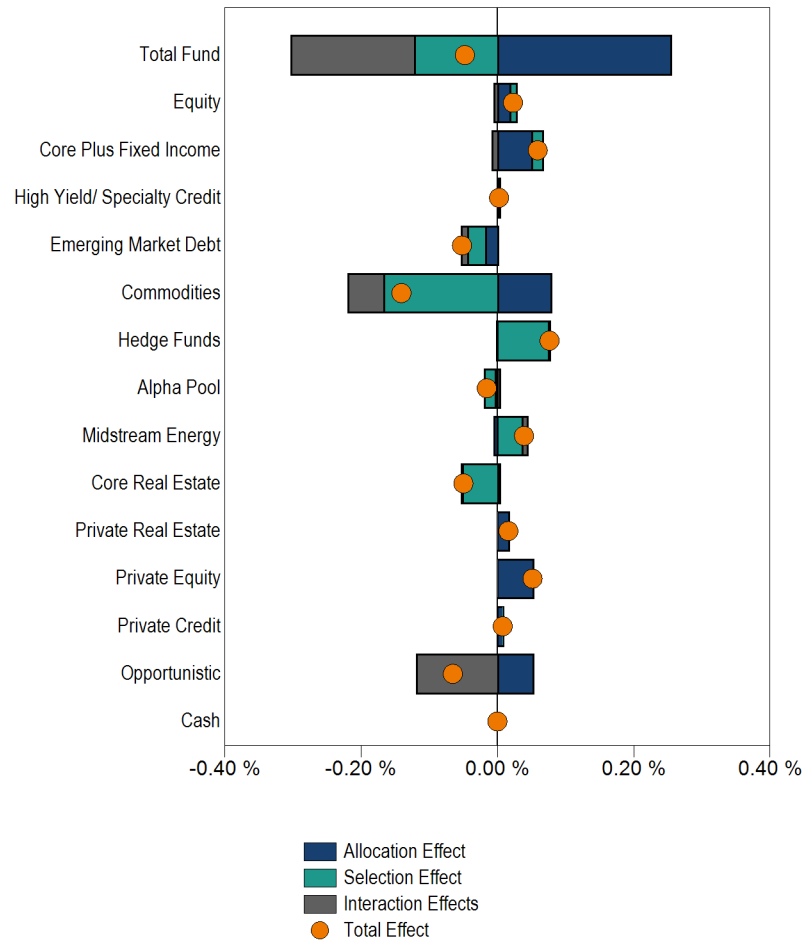
Total Fund

Attribution Analysis - Asset Class Level (Net of Fees)

Period Ending: September 30, 2021

Attribution Effects Last Three Months

Performance Attribution



	Quarter	Fiscal YTD
Wtd. Actual Return	0.50%	0.50%
Wtd. Index Return *	0.56%	0.56%
Excess Return	-0.06%	-0.06%
Selection Effect	-0.12%	-0.12%
Allocation Effect	0.25%	0.25%
Interaction Effect	-0.18%	-0.18%

*Calculated from benchmark returns and weightings of each component.

Attribution Summary Last Three Months

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	-1.0%	-1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Core Plus Fixed Income	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%
High Yield/ Specialty Credit	1.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Emerging Market Debt	-1.8%	-1.2%	-0.7%	0.0%	0.0%	0.0%	-0.1%
Commodities	2.3%	6.6%	-4.2%	-0.2%	0.1%	-0.1%	-0.1%
Hedge Funds	1.3%	0.5%	0.8%	0.1%	0.0%	0.0%	0.1%
Alpha Pool	0.7%	1.0%	-0.3%	0.0%	0.0%	0.0%	0.0%
Midstream Energy	-0.3%	-1.3%	0.9%	0.0%	0.0%	0.0%	0.0%
Core Real Estate	5.6%	6.6%	-1.0%	-0.1%	0.0%	0.0%	0.0%
Private Real Estate	6.6%	6.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Private Equity	8.5%	8.5%	0.0%	0.0%	0.1%	0.0%	0.1%
Private Credit	3.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Opportunistic	-1.9%	2.5%	-4.4%	0.0%	0.1%	-0.1%	-0.1%
Cash	--	--	--	--	--	--	--
Total	0.5%	0.6%	-0.1%	-0.1%	0.3%	-0.2%	0.0%

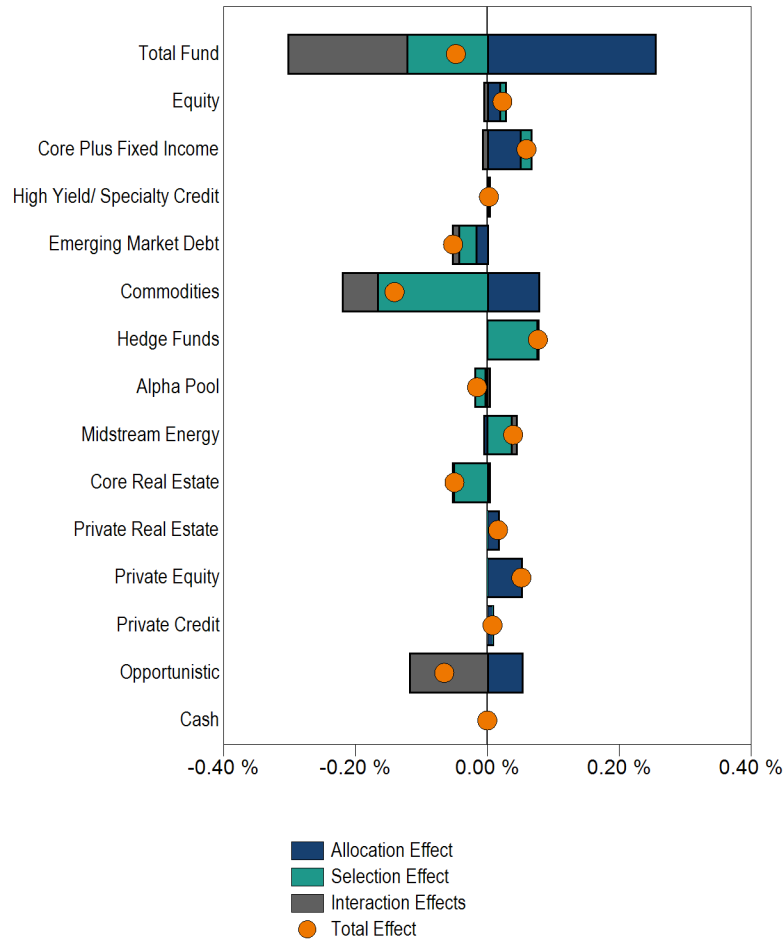
Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table.

Total Fund

Attribution Analysis - Asset Class Level (Net of Fees)

Period Ending: September 30, 2021

**Attribution Effects
Fiscal YTD**



Performance Attribution

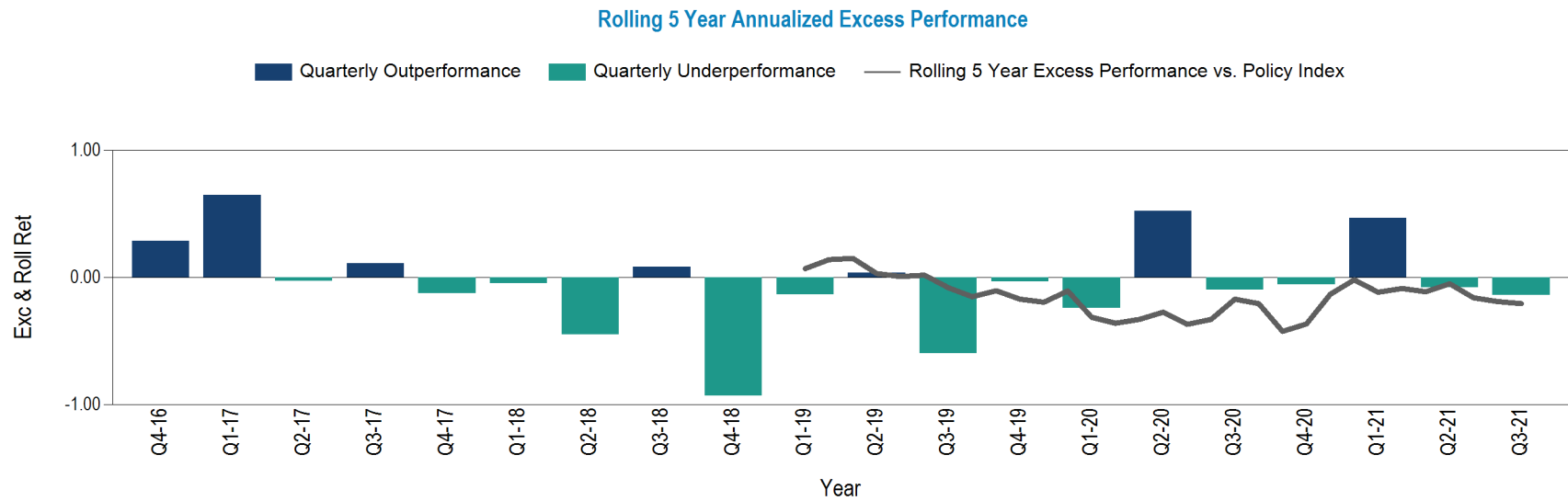
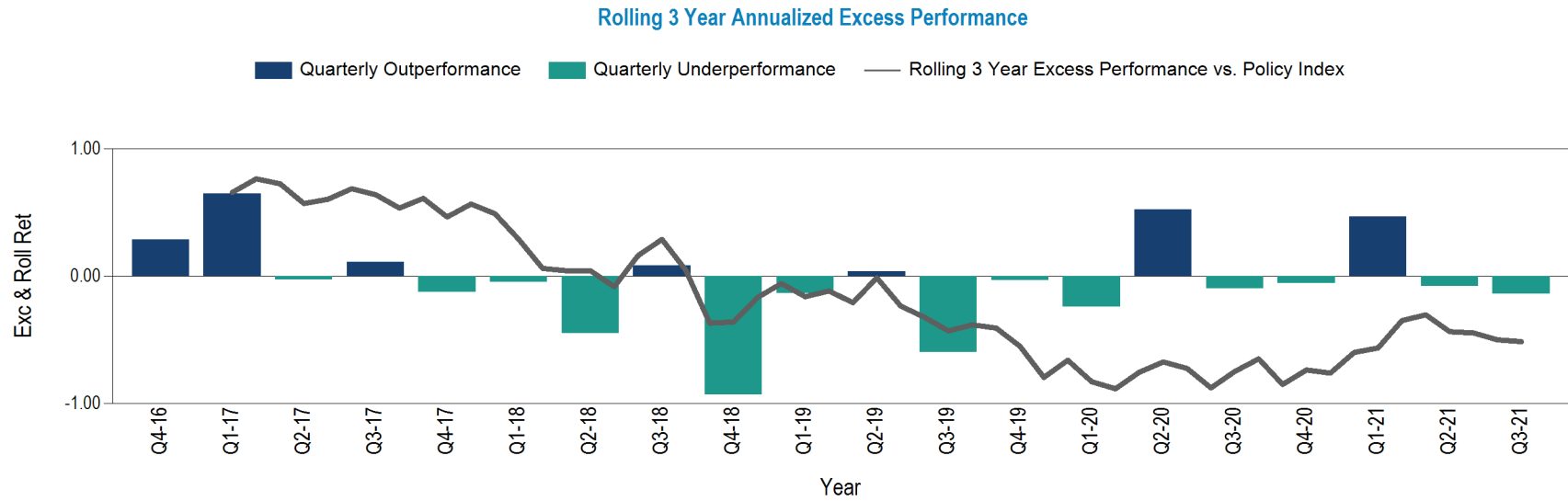
	Quarter	Fiscal YTD
Wtd. Actual Return	0.50%	0.50%
Wtd. Index Return *	0.56%	0.56%
Excess Return	-0.06%	-0.06%
Selection Effect	-0.12%	-0.12%
Allocation Effect	0.25%	0.25%
Interaction Effect	-0.18%	-0.18%

*Calculated from benchmark returns and weightings of each component.

**Attribution Summary
Fiscal YTD**

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	-1.0%	-1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Core Plus Fixed Income	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%
High Yield/ Specialty Credit	1.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Emerging Market Debt	-1.8%	-1.2%	-0.7%	0.0%	0.0%	0.0%	-0.1%
Commodities	2.3%	6.6%	-4.2%	-0.2%	0.1%	-0.1%	-0.1%
Hedge Funds	1.3%	0.5%	0.8%	0.1%	0.0%	0.0%	0.1%
Alpha Pool	0.7%	1.0%	-0.3%	0.0%	0.0%	0.0%	0.0%
Midstream Energy	-0.3%	-1.3%	0.9%	0.0%	0.0%	0.0%	0.0%
Core Real Estate	5.6%	6.6%	-1.0%	-0.1%	0.0%	0.0%	0.0%
Private Real Estate	6.6%	6.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Private Equity	8.5%	8.5%	0.0%	0.0%	0.1%	0.0%	0.1%
Private Credit	3.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Opportunistic	-1.9%	2.5%	-4.4%	0.0%	0.1%	-0.1%	-0.1%
Cash	--	--	--	--	--	--	--
Total	0.5%	0.6%	-0.1%	-0.1%	0.3%	-0.2%	0.0%

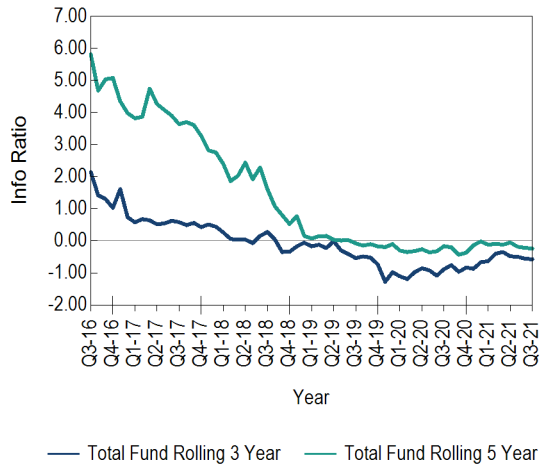
Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table.



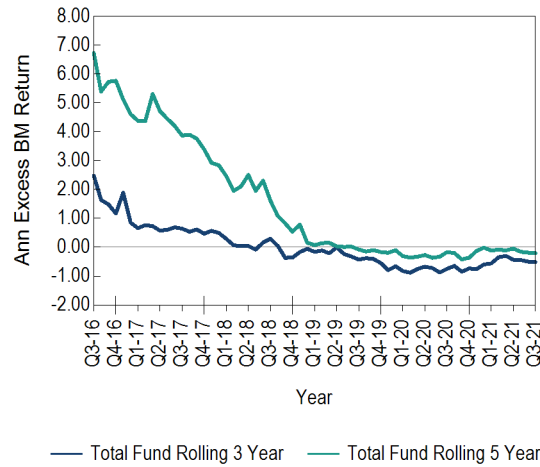
Total Fund Rolling Risk Statistics (Net of Fees)

Period Ending: September 30, 2021

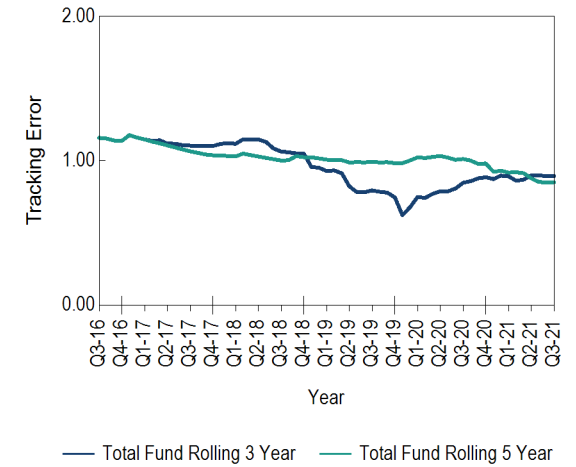
Rolling Information Ratio



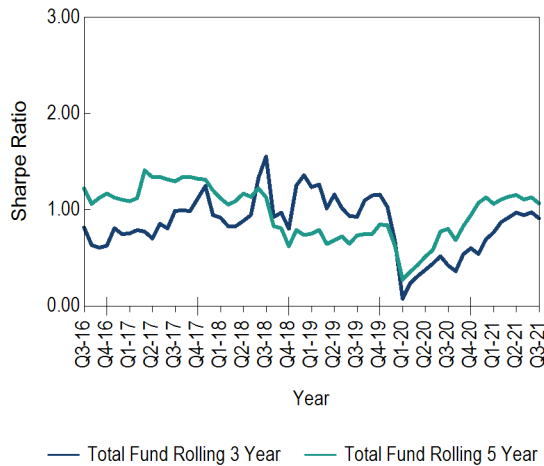
Rolling Annual Excess Benchmark Return



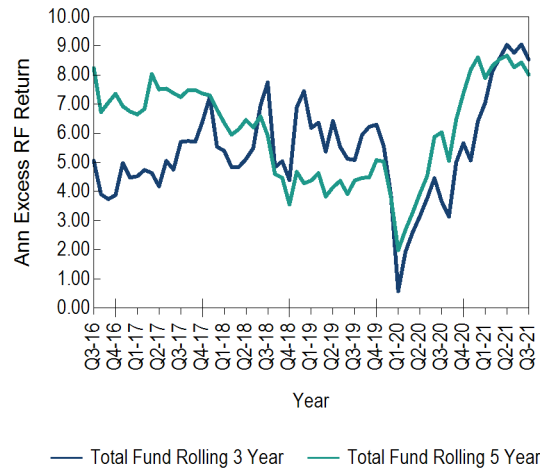
Rolling Tracking Error



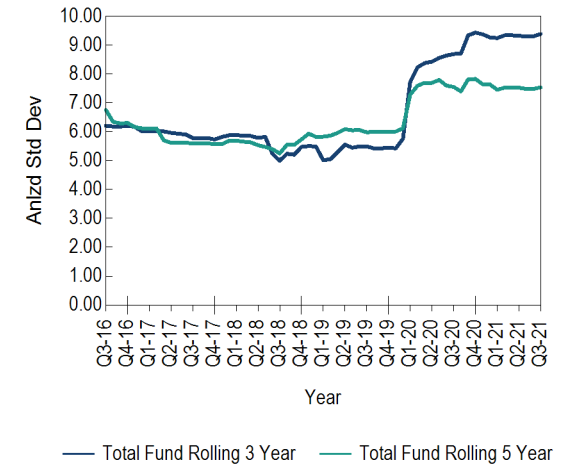
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



Rolling Annualized Standard Deviation



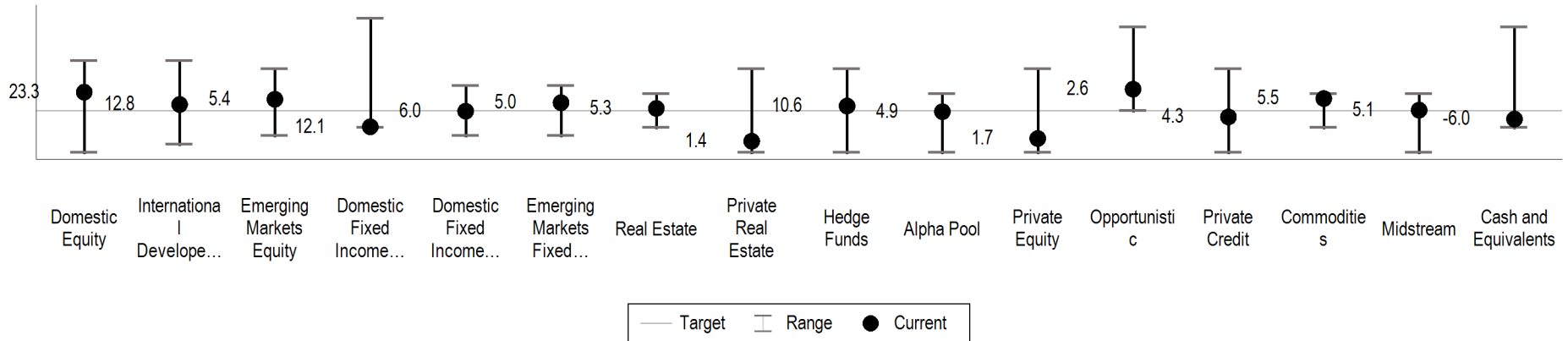
Asset Allocation

Total Fund
Sub-Asset Class Allocation

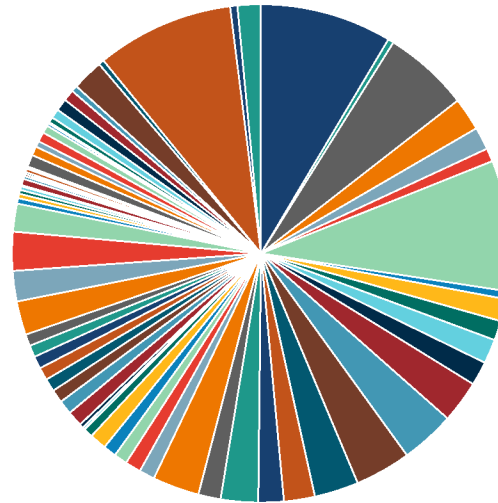
Period Ending: September 30, 2021

	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
Domestic Equity	\$1,248,478,379	23.3%	21.0%	\$121,030,931	16.0% - 27.0%	Yes
International Developed Equity	\$686,196,577	12.8%	12.0%	\$41,940,892	8.0% - 18.0%	Yes
Emerging Markets Equity	\$290,185,420	5.4%	4.0%	\$75,433,525	1.0% - 9.0%	Yes
Domestic Fixed Income Core Plus	\$650,275,356	12.1%	14.0%	-\$101,356,276	12.0% - 25.0%	Yes
Domestic Fixed Income High Yield	\$321,141,440	6.0%	6.0%	-\$986,402	3.0% - 9.0%	Yes
Emerging Markets Fixed Income	\$268,242,840	5.0%	4.0%	\$53,490,945	1.0% - 7.0%	Yes
Real Estate	\$285,338,420	5.3%	5.0%	\$16,898,551	3.0% - 7.0%	Yes
Private Real Estate	\$74,733,039	1.4%	5.0%	-\$193,706,829	0.0% - 10.0%	Yes
Hedge Funds	\$569,160,637	10.6%	10.0%	\$32,280,900	5.0% - 15.0%	Yes
Alpha Pool	\$263,869,129	4.9%	5.0%	-\$4,570,740	0.0% - 7.0%	Yes
Private Equity	\$92,173,965	1.7%	5.0%	-\$176,265,904	0.0% - 10.0%	Yes
Opportunistic	\$140,013,281	2.6%	0.0%	\$140,013,281	0.0% - 10.0%	Yes
Private Credit	\$230,498,256	4.3%	5.0%	-\$37,941,612	0.0% - 10.0%	Yes
Commodities	\$294,718,384	5.5%	4.0%	\$79,966,489	2.0% - 6.0%	Yes
Midstream	\$274,120,150	5.1%	5.0%	\$5,680,282	0.0% - 7.0%	Yes
Cash and Equivalents	-\$320,347,903	-6.0%	-5.0%	-\$51,908,034	-7.0% - 5.0%	Yes
Total	\$5,368,797,371	100.0%	100.0%			

Actual vs. Target



Current Allocation: by Manager



- | | | | | |
|---|---------------------------------------|--|---------------------------------------|--|
| Equity Beta Exposure | Western Asset Core Plus | Myriad Opportunities Offshore | Landmark Real Estate Partners VIII | Magnetar Constellation |
| Russell 2000 Overlay | Western Asset High Yield Fixed Income | Pharo Macro Fund LTD | Long Wharf Real Estate | H.I.G. Bayside Loan Opportunity Fund V |
| Mellon DB SL Stock Index | TCW Securitized Opportunities | PIMCO Commodity Alpha | Covenant Apartment Fund X | Blue Torch Credit Opportunities |
| PIMCO StocksPLUS | Stone Harbor Emerging Markets Debt | Sculptor Enhanced Domestic Partners | Abbott V | Fortress Credit Opportunities |
| AB US Small Cap Value Equity | PIMCO EMD | Hudson Bay | Abbott VI | Fortress Lending Fund II |
| Geneva Capital Small Cap Growth | Gresham MTAP Commodity | Davidson Kempner | Pantheon VII | DB Investors Fund IV |
| Mellon DB SL World ex-US Index | Wellington Commodities | HBK Fund II | Vista Equity Partners IV | TAO Contingent |
| Cevian Capital II | Aristeia International Limited | HBK Opportunities - SPAC Series | LGT Crown | Aristeia Select Opportunities II |
| American Century Non-US Small Cap | Brevan Howard | Garda Fixed Income Relative Value Opportunity Fund | Brighton Private Equity | Short Term Investment Funds |
| DFA Emerging Markets Value I | D.E. Shaw | Harvest Midstream | Warren Equity | Parametric Cash Overlay |
| AB Emerging Markets Strategic Core Equity | HBK Fund II | PIMCO Midstream | Peak Rock Capital Fund III | Goldman Sachs Cash Account |
| Mellon Emerging Markets Stock Index | Hudson Bay | ASB Real Estate | Colony Distressed Credit IV | Futures Offset |
| Mellon DB SL Aggregate Bond Index Fund | Indus Pacific Opportunities | J.P. Morgan Strategic Property | TSSP Adjacent Opportunities Partners | Collateral Cash |
| PIMCO Core Plus | Magnetar Structured Credit | Invesco Real Estate IV | Brookfield Real Estate Finance Fund V | BlackRock Short Duration Fund |

Total Fund
3 Year Correlation Matrix (Net of Fees)

Period Ending: September 30, 2021

Correlation Matrix
3 Years Ending September 30, 2021

	Total Fund Equity	Domestic Equity	International Developed Equity	Fixed Income	Core Plus Fixed Income	High Yield/ Specialty Credit	Emerging Market Debt	Commodities	Hedge Funds	Core Real Estate	Private Real Estate	Private Equity	Private Credit	Policy Index	
Total Fund	1.00	--	--	--	--	--	--	--	--	--	--	--	--	--	
Equity	1.00	1.00	--	--	--	--	--	--	--	--	--	--	--	--	
Domestic Equity	0.99	1.00	1.00	--	--	--	--	--	--	--	--	--	--	--	
International Developed Equity	0.99	1.00	0.99	1.00	--	--	--	--	--	--	--	--	--	--	
Fixed Income	0.76	0.74	0.74	0.73	1.00	--	--	--	--	--	--	--	--	--	
Core Plus Fixed Income	0.23	0.21	0.22	0.19	0.79	1.00	--	--	--	--	--	--	--	--	
High Yield/ Specialty Credit	0.96	0.96	0.95	0.96	0.82	0.32	1.00	--	--	--	--	--	--	--	
Emerging Market Debt	0.89	0.88	0.86	0.89	0.92	0.53	0.91	1.00	--	--	--	--	--	--	
Commodities	0.96	0.95	0.94	0.95	0.62	0.04	0.92	0.80	1.00	--	--	--	--	--	
Hedge Funds	0.92	0.93	0.92	0.92	0.73	0.23	0.88	0.86	0.86	1.00	--	--	--	--	
Core Real Estate	-0.26	-0.29	-0.30	-0.23	-0.48	-0.48	-0.29	-0.33	-0.09	-0.35	1.00	--	--	--	
Private Real Estate	-0.21	-0.21	-0.22	-0.17	-0.54	-0.58	-0.36	-0.35	-0.16	-0.19	0.60	1.00	--	--	
Private Equity	-0.03	-0.05	-0.08	0.00	-0.45	-0.69	-0.05	-0.26	0.17	-0.10	0.47	0.29	1.00	--	
Private Credit	-0.74	-0.76	-0.75	-0.74	-0.73	-0.34	-0.80	-0.78	-0.65	-0.84	0.61	0.46	0.23	1.00	
Policy Index	1.00	0.99	0.99	0.99	0.77	0.24	0.97	0.90	0.96	0.92	-0.27	-0.23	-0.03	-0.75	1.00

Cash Flows

Total Fund
Net Cash Flow - Three Months Ended

Period Ending: September 30, 2021

	Equity					
	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
Equity Beta Exposure	\$491,687,990	\$69,966,215	\$0	\$0	\$921,270	\$562,575,475
S&P 500 Overlay	--	\$59,962,917	-\$57,074,905	\$0	-\$2,888,012	--
Russell 2000 Overlay	--	\$24,750,869	\$0	\$0	\$8,132	\$24,759,000
Mellon DB SL Stock Index	\$364,341,050	\$0	\$0	-\$28,095	\$2,119,471	\$366,460,521
Mellon NSL Dynamic US Equity	\$56,395,661	\$0	-\$60,143,652	-\$24,196	\$3,747,991	--
PIMCO StocksPLUS	\$140,138,061	\$0	\$0	-\$180,155	\$744,107	\$140,882,168
AB US Small Cap Value Equity	\$97,142,318	\$0	\$0	-\$205,772	-\$222,056	\$96,920,261
Geneva Capital Small Cap Growth	\$57,877,486	\$0	\$0	-\$109,770	-\$997,210	\$56,880,277
Mellon DB SL World ex-US Index	\$313,375,880	\$250,000,000	\$0	\$0	-\$5,803,947	\$557,571,932
Cevian Capital II	\$33,776,678	\$0	\$0	\$0	-\$21,634	\$33,755,044
Fidelity Non-US Small Cap Equity	\$375,126	\$0	\$0	-\$374	-\$6,617	\$368,510
American Century Non-US Small Cap	\$92,235,200	\$0	\$0	-\$76,831	\$2,634,400	\$94,869,600
BlackRock International Alpha Tilts	\$264,510,502	\$0	\$0	\$0	-\$264,510,502	--
DFA Emerging Markets Value I	\$86,745,314	\$0	\$0	-\$113,661	-\$2,906,855	\$83,838,459
AB Emerging Markets Strategic Core Equity	\$115,934,250	\$0	\$0	-\$390,276	-\$12,019,939	\$103,914,311
Mellon Emerging Markets Stock Index	\$111,399,915	\$0	\$0	\$0	-\$8,967,265	\$102,432,650
Transition Equity	\$599	\$0	\$0	\$0	\$77	\$676
Total	\$2,225,936,031	\$404,680,001	-\$117,218,557	-\$1,129,130	-\$288,168,590	\$2,225,228,885

	Fixed Income					
	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
Mellon DB SL Aggregate Bond Index Fund	\$180,211,566	\$0	\$0	-\$15,324	\$105,525	\$180,317,091
PIMCO Core Plus	\$230,735,141	\$0	\$0	-\$168,730	\$512,708	\$231,247,848
Western Asset Core Plus	\$238,055,065	\$0	\$0	-\$127,588	\$504,098	\$238,559,163
Western Asset High Yield Fixed Income	\$187,293,638	\$0	\$0	-\$94,343	\$1,735,246	\$189,028,884
TCW Securitized Opportunities	\$130,701,129	\$0	\$0	-\$329,797	\$1,411,427	\$132,112,556
Stone Harbor Emerging Markets Debt	\$109,925,504	\$0	\$0	-\$163,388	-\$1,746,748	\$108,178,756
PIMCO EMD	\$163,361,607	\$0	\$0	-\$20,347	-\$3,297,523	\$160,064,084
Transition Fixed Income	\$159,756	\$0	-\$6,180	\$0	-\$2,322	\$151,254
Total	\$1,240,443,405	\$0	-\$6,180	-\$919,517	-\$777,589	\$1,239,659,636

Total Fund

Net Cash Flow - Three Months Ended

Period Ending: September 30, 2021

Commodities

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
Gresham MTAP Commodity	\$91,165,063	\$0	\$0	-\$114,347	\$4,131,522	\$95,296,585
Wellington Commodities	\$196,429,403	\$0	\$0	-\$371,111	\$2,992,396	\$199,421,799
Total	\$287,594,466	\$0	\$0	-\$485,457	\$7,123,918	\$294,718,384

Hedge Funds

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
Aristeia International Limited	\$66,028,661	\$0	\$0	\$0	\$407,829	\$66,436,489
Brevan Howard	\$67,194,167	\$13,597	\$0	\$0	\$457,203	\$67,664,967
D.E. Shaw	\$54,407,650	\$0	\$0	\$0	\$2,511,464	\$56,919,114
HBK Fund II	\$54,491,317	\$0	\$0	\$0	\$1,080,799	\$55,572,116
Hudson Bay	\$70,286,088	\$0	\$0	\$0	\$1,513,376	\$71,799,464
Indus Pacific Opportunities	\$40,202,150	\$0	\$0	\$0	\$136,818	\$40,338,968
Magnetar Structured Credit	\$10,593,872	\$0	\$0	\$0	-\$72,021	\$10,521,851
Myriad Opportunities Offshore	\$34,573,493	\$0	-\$16,353,296	\$0	-\$775,048	\$17,445,148
Pharo Macro Fund LTD	\$66,180,117	\$0	\$0	\$0	-\$646,981	\$65,533,137
PIMCO Commodity Alpha	\$58,253,692	\$0	\$0	-\$152,780	\$1,748,320	\$60,002,012
River Birch	\$1,285,015	\$0	-\$453,877	\$0	-\$970	\$830,168
Sculptor Enhanced Domestic Partners	\$55,115,203	\$0	\$0	\$0	\$981,999	\$56,097,202
Total	\$578,611,425	\$13,597	-\$16,807,173	-\$152,780	\$7,342,789	\$569,160,637

Alpha Pool

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
Hudson Bay	\$54,290,431	\$92,208	\$0	\$0	\$1,076,756	\$55,459,395
Davidson Kempner	\$54,575,257	\$90,620	\$0	\$0	-\$186,720	\$54,479,157
HBK Fund II	\$52,403,234	\$88,515	\$0	\$0	\$950,868	\$53,442,617
HBK Opportunities - SPAC Series	\$50,773,052	\$84,013	\$0	\$0	-\$369,105	\$50,487,960
Garda Fixed Income Relative Value Opportunity Fund	--	\$50,000,000	\$0	\$0	\$0	\$50,000,000
Total	\$212,041,974	\$50,355,356	\$0	\$0	\$1,471,799	\$263,869,129

Total Fund
Net Cash Flow - Three Months Ended

Period Ending: September 30, 2021

Midstream Energy

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
Harvest Midstream	\$129,562,296	\$15,000,000	\$0	\$0	-\$315,248	\$144,247,048
PIMCO Midstream	\$109,282,688	\$20,000,000	\$0	-\$110,000	\$590,414	\$129,873,102
Total	\$238,844,984	\$35,000,000	\$0	-\$110,000	\$275,166	\$274,120,150

Core Real Estate

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
ASB Real Estate	\$157,893,886	\$0	\$0	-\$313,696	\$8,231,589	\$166,125,474
J.P. Morgan Strategic Property	\$111,944,232	\$0	\$0	-\$233,768	\$7,268,714	\$119,212,945
Total	\$269,838,117	\$0	\$0	-\$547,464	\$15,500,303	\$285,338,420

Private Real Estate

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
Invesco Real Estate III	\$279,385	\$0	\$0	\$0	-\$653	\$278,732
Invesco Real Estate IV	\$22,388,635	\$0	\$0	\$0	\$1,034,059	\$23,422,694
Landmark Real Estate Partners VIII	\$19,646,740	\$0	-\$1,401,650	\$0	\$799,766	\$19,044,856
Long Wharf Real Estate	\$12,247,127	\$1,744,301	\$0	\$0	\$2,616,756	\$16,608,184
Covenant Apartment Fund X	\$11,081,261	\$4,500,000	-\$178,907	\$0	-\$23,781	\$15,378,573
Total	\$65,643,148	\$6,244,301	-\$1,580,557	\$0	\$4,426,146	\$74,733,039

Total Fund

Net Cash Flow - Three Months Ended

Period Ending: September 30, 2021

	Private Equity					
	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
Abbott IV	\$1,109,623	\$0	\$0	\$0	\$4,891	\$1,114,514
Abbott V	\$9,788,995	\$0	-\$4,409,680	\$0	-\$64,236	\$5,315,079
Abbott VI	\$27,736,842	\$0	-\$4,000,018	\$0	\$4,028,120	\$27,764,944
Pantheon Secondary III	\$1,332,302	\$0	\$0	\$0	-\$6,134	\$1,326,168
Pantheon III	\$55,402	\$0	\$0	\$0	-\$1,468	\$53,934
Pantheon V	\$429,741	\$0	\$0	\$0	\$6,478	\$436,219
Pantheon VI	\$1,035,184	\$0	\$0	\$0	-\$52,881	\$982,303
Pantheon VII	\$12,983,247	\$0	-\$2,050,001	\$0	\$1,157,201	\$12,090,447
Vista Equity Partners IV	\$6,649,443	\$2,588,288	\$0	\$0	-\$135,452	\$9,102,279
LGT Crown	\$6,548,360	\$1,500,000	\$0	\$0	\$772,988	\$8,821,348
Brighton Private Equity	\$13,711,014	\$0	-\$1,167,799	\$0	\$2,126,037	\$14,669,252
Warren Equity	\$6,287,648	\$0	\$0	\$0	-\$267,259	\$6,020,389
Peak Rock Capital Fund III	\$0	\$4,619,160	\$0	\$0	-\$142,071	\$4,477,089
Total	\$87,667,801	\$8,707,448	-\$11,627,498	\$0	\$7,426,214	\$92,173,965

	Private Credit					
	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
Colony Distressed Credit IV	\$51,535,333	\$0	\$0	\$0	-\$537,312	\$50,998,021
TSSP Adjacent Opportunities Partners	\$36,271,752	\$0	-\$123,409	\$0	\$2,906,238	\$39,054,581
Brookfield Real Estate Finance Fund V	\$25,233,983	\$0	-\$655,075	\$0	\$621,076	\$25,199,984
Magnetar Constellation	\$50,126,718	\$0	-\$9,611,053	\$0	\$739,255	\$41,254,920
H.I.G. Bayside Loan Opportunity Fund V	\$34,223,162	\$0	-\$3,108,593	\$0	\$2,180,905	\$33,295,474
Blue Torch Credit Opportunities	\$8,258,196	\$2,625,408	-\$117,371	\$0	\$259,817	\$11,026,050
Fortress Credit Opportunitites	\$6,060,291	\$0	\$0	\$0	\$374,480	\$6,434,771
Fortress Lending Fund II	\$16,194,710	\$7,200,000	-\$440,119	\$0	\$279,865	\$23,234,456
Total	\$227,904,145	\$9,825,408	-\$14,055,620	\$0	\$6,824,324	\$230,498,256

	Opportunistic					
	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
DB Investors Fund IV	\$38,888,067	\$0	\$0	\$0	\$641,370	\$39,529,437
TAO Contingent	\$58,548,241	\$0	-\$4,619,584	\$0	-\$1,873,578	\$52,055,079
Aristeia Select Opportunities II	\$0	\$50,000,000	\$0	\$0	-\$1,571,235	\$48,428,765
Total	\$97,436,308	\$50,000,000	-\$4,619,584	\$0	-\$2,803,443	\$140,013,281

Total Fund

Net Cash Flow - Three Months Ended

Period Ending: September 30, 2021

	Cash					
	Beginning Market Value	Contributions	Withdrawals	Fees	Net Investment Change	Ending Market Value
Short Term Cash Account	\$166,516	\$0	-\$166,515	\$0	\$0	\$1
Short Term Investment Funds	\$65,043,399	\$485,890,170	-\$524,864,743	\$0	\$105,900	\$26,174,727
Parametric Cash Overlay	\$243,681,043	\$90,285,190	-\$200,319,522	\$0	\$34,980	\$133,681,691
Goldman Sachs Cash Account	\$6,841,607	\$42,519,538	-\$73,069,703	\$0	\$0	-\$23,708,558
Futures Offset	-\$491,687,990	\$0	-\$95,646,485	\$0	\$0	-\$587,334,475
Collateral Cash	\$26,660,000	\$4,228,000	\$0	\$0	\$0	\$30,888,000
BlackRock Short Duration Fund	--	\$100,000,000	\$0	\$0	-\$49,289	\$99,950,711
Total	-\$149,295,424	\$722,922,899	-\$894,066,969	\$0	\$91,591	-\$320,347,903

Total Fund
Cash Flow History

Period Ending: September 30, 2021

Portfolio Reconciliation

	Quarter-To-Date	Fiscal Year-To-Date	One Year	Three Years	Five Years	Ten Years
Beginning Market Value	\$5,382,666,380	\$5,382,666,380	\$4,591,046,738	\$4,235,428,960	\$3,855,143,230	\$2,463,631,747
Contributions	\$1,287,749,009	\$1,287,749,009	\$4,290,343,498	\$7,368,125,451	\$9,835,229,610	\$13,982,685,831
Withdrawals	-\$1,059,982,137	-\$1,059,982,137	-\$4,132,393,157	-\$7,320,639,764	-\$10,072,852,966	-\$13,796,567,673
Fees	-\$3,344,349	-\$3,344,349	-\$14,194,325	-\$41,412,961	-\$69,195,232	-\$110,895,788
Net Cash Flow	\$227,766,872	\$227,766,872	\$157,950,342	\$47,485,688	-\$237,623,355	\$186,118,158
Net Investment Change	-\$241,267,371	-\$241,267,371	\$620,168,802	\$1,086,251,233	\$1,751,646,006	\$2,719,415,976
Ending Market Value	\$5,369,165,881	\$5,369,165,881	\$5,369,165,881	\$5,369,165,881	\$5,369,165,881	\$5,369,165,881
Net Change	-\$13,500,499	-\$13,500,499	\$778,119,143	\$1,133,736,921	\$1,514,022,651	\$2,905,534,134

Contribution and withdrawals include transfers in and out of accounts. Ending market value is net of fees. Market value and flows do not include the Short Term Cash Account balance.

Asset Class Details

Total Fund

Risk Analysis - 3 Years (Net of Fees)

Period Ending: September 30, 2021

	Alpha	Beta	R-Squared	Anlzd Return	Information Ratio	Ann Excess BM Return	Tracking Error	Sharpe Ratio	Ann Excess RF Return	Anlzd Standard Deviation	Sortino Ratio	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Total Fund	-0.04%	1.00	0.99	9.67%	-0.58	-0.51%	0.89%	0.91	8.53%	9.38%	1.15	97.24%	100.89%
Equity	-0.07%	1.00	1.00	12.04%	-0.97	-0.88%	0.91%	0.59	11.01%	18.74%	0.82	97.15%	100.73%
Domestic Equity	-0.04%	1.00	1.00	15.51%	-0.43	-0.48%	1.13%	0.73	14.48%	19.73%	1.05	99.81%	101.36%
International Developed Equity	0.02%	1.01	1.00	8.34%	0.23	0.24%	1.05%	0.39	7.30%	18.56%	0.61	103.42%	101.49%
Fixed Income	0.00%	1.08	0.98	6.10%	0.52	0.43%	0.82%	1.02	5.06%	4.98%	1.19	107.88%	105.79%
Core Plus Fixed Income	0.01%	1.08	0.91	5.95%	0.49	0.60%	1.23%	1.23	4.92%	4.00%	2.67	115.64%	118.49%
High Yield/ Specialty Credit	0.04%	0.81	0.98	5.97%	-0.30	-0.65%	2.13%	0.63	4.93%	7.81%	0.46	78.23%	75.23%
Emerging Market Debt	-0.09%	1.07	0.95	4.03%	-0.34	-0.89%	2.59%	0.26	2.99%	11.64%	0.32	100.62%	108.09%
Commodities	0.06%	0.96	0.88	7.23%	0.07	0.36%	5.46%	0.40	6.19%	15.67%	0.68	100.49%	98.92%
Hedge Funds	0.19%	0.87	0.52	8.80%	0.38	1.43%	3.78%	1.43	7.76%	5.41%	1.57	93.62%	47.20%
Core Real Estate	0.13%	0.57	0.85	5.61%	-0.61	-1.44%	2.36%	1.54	4.57%	2.96%	3.97	55.76%	74.88%

Total Fund
Risk Return Statistics: Last Three Years

Period Ending: September 30, 2021

Last Three Years			Last Three Years			Last Three Years			Last Three Years		
Equity	MSCI ACWI IMI GR		Core Plus Fixed Income	Bloomberg US Aggregate TR		High Yield/ Specialty Credit	ICE BofAML High Yield Master II		Emerging Market Debt	50 JPM EMBI Global Div/ 50 JPM GBI EM	
RETURN SUMMARY STATISTICS			RETURN SUMMARY STATISTICS			RETURN SUMMARY STATISTICS			RETURN SUMMARY STATISTICS		
Number of Periods	36	36	Number of Periods	36	36	Number of Periods	36	36	Number of Periods	36	36
Maximum Return	12.43	12.70	Maximum Return	2.64	2.59	Maximum Return	3.61	4.78	Maximum Return	6.74	5.49
Minimum Return	-14.74	-14.33	Minimum Return	-1.93	-1.44	Minimum Return	-10.52	-11.76	Minimum Return	-13.80	-12.61
Annualized Return	12.04	12.93	Annualized Return	5.95	5.36	Annualized Return	5.97	6.62	Annualized Return	4.03	4.91
Total Return	40.66	44.02	Total Return	18.94	16.94	Total Return	19.01	21.21	Total Return	12.58	15.48
Annualized Excess Return Over Risk Free	11.01	11.89	Annualized Excess Return Over Risk Free	4.92	4.32	Annualized Excess Return Over Risk Free	4.93	5.58	Annualized Excess Return Over Risk Free	2.99	3.88
Annualized Excess Return	-0.88	0.00	Annualized Excess Return	0.60	0.00	Annualized Excess Return	-0.65	0.00	Annualized Excess Return	-0.89	0.00
RISK SUMMARY STATISTICS			RISK SUMMARY STATISTICS			RISK SUMMARY STATISTICS			RISK SUMMARY STATISTICS		
Beta	1.00	1.00	Beta	1.08	1.00	Beta	0.81	1.00	Beta	1.07	1.00
Upside Deviation	10.46	10.63	Upside Deviation	2.48	2.50	Upside Deviation	3.83	5.23	Upside Deviation	6.50	5.94
Downside Deviation	14.74	14.15	Downside Deviation	2.23	1.56	Downside Deviation	12.92	13.60	Downside Deviation	12.47	10.93
RISK/RETURN SUMMARY STATISTICS			RISK/RETURN SUMMARY STATISTICS			RISK/RETURN SUMMARY STATISTICS			RISK/RETURN SUMMARY STATISTICS		
Annualized Standard Deviation	18.74	18.70	Annualized Standard Deviation	4.00	3.54	Annualized Standard Deviation	7.81	9.47	Annualized Standard Deviation	11.64	10.62
Alpha	-0.07	0.00	Alpha	0.01	0.00	Alpha	0.04	0.00	Alpha	-0.09	0.00
Sharpe Ratio	0.59	0.64	Sharpe Ratio	1.23	1.22	Sharpe Ratio	0.63	0.59	Sharpe Ratio	0.26	0.37
Excess Return Over Market / Risk	-0.05	0.00	Excess Return Over Market / Risk	0.15	0.00	Excess Return Over Market / Risk	-0.08	0.00	Excess Return Over Market / Risk	-0.08	0.00
Tracking Error	0.91	0.00	Tracking Error	1.23	0.00	Tracking Error	2.13	0.00	Tracking Error	2.59	0.00
Information Ratio	-0.97	--	Information Ratio	0.49	--	Information Ratio	-0.30	--	Information Ratio	-0.34	--
CORRELATION STATISTICS			CORRELATION STATISTICS			CORRELATION STATISTICS			CORRELATION STATISTICS		
R-Squared	1.00	1.00	R-Squared	0.91	1.00	R-Squared	0.98	1.00	R-Squared	0.95	1.00
Correlation	1.00	1.00	Correlation	0.95	1.00	Correlation	0.99	1.00	Correlation	0.98	1.00
Market Proxy: MSCI ACWI IMI GR Risk-Free Proxy: 91 Day T-Bills			Market Proxy: Bloomberg US Aggregate TR			Market Proxy: ICE BofAML High Yield Master II Risk-Free Proxy: 91 Day T-Bills			Market Proxy: 50 JPM EMBI Global Div/ 50 JPM GBI EM Risk-Free Proxy: 91 Day T-Bills		

91 Day T-Bills used as risk-free proxy

Total Fund
Risk Return Statistics: Last Three Years

Period Ending: September 30, 2021

Last Three Years			Last Three Years			Last Three Years		
	Commodities	Bloomberg Commodity Index TR USD	Hedge Funds	75% 90 Day TBills +4% / 25% MSCI ACWI		Core Real Estate		NCREIF-ODCE
RETURN SUMMARY STATISTICS			RETURN SUMMARY STATISTICS			RETURN SUMMARY STATISTICS		
Number of Periods	36	36	36	36	36	36		36
Maximum Return	8.01	8.29	3.99	3.34	3.34	4.24		6.59
Minimum Return	-12.65	-12.81	-5.24	-3.02	-3.02	-1.17		-1.56
Annualized Return	7.23	6.86	8.80	7.37	7.37	5.61		7.05
Total Return	23.28	22.04	28.79	23.78	23.78	17.78		22.68
Annualized Excess Return Over Risk Free	6.19	5.83	7.76	6.33	6.33	4.57		6.01
Annualized Excess Return	0.36	0.00	1.43	0.00	0.00	-1.44		0.00
RISK SUMMARY STATISTICS			RISK SUMMARY STATISTICS			RISK SUMMARY STATISTICS		
Beta	0.96	1.00	0.87	1.00	1.00	0.57		1.00
Upside Deviation	8.84	7.30	3.35	2.67	2.67	2.90		6.07
Downside Deviation	10.58	11.71	5.60	2.99	2.99	1.41		--
RISK/RETURN SUMMARY STATISTICS			RISK/RETURN SUMMARY STATISTICS			RISK/RETURN SUMMARY STATISTICS		
Annualized Standard Deviation	15.67	15.37	5.41	4.49	4.49	2.96		4.78
Alpha	0.06	0.00	0.19	0.00	0.00	0.13		0.00
Sharpe Ratio	0.40	0.38	1.43	1.41	1.41	1.54		1.26
Excess Return Over Market / Risk	0.02	0.00	0.26	0.00	0.00	-0.49		0.00
Tracking Error	5.46	0.00	3.78	0.00	0.00	2.36		0.00
Information Ratio	0.07	--	0.38	--	--	-0.61		--
CORRELATION STATISTICS			CORRELATION STATISTICS			CORRELATION STATISTICS		
R-Squared	0.88	1.00	0.52	1.00	1.00	0.85		1.00
Correlation	0.94	1.00	0.72	1.00	1.00	0.92		1.00

Market Proxy: Bloomberg Commodity Index TR USD

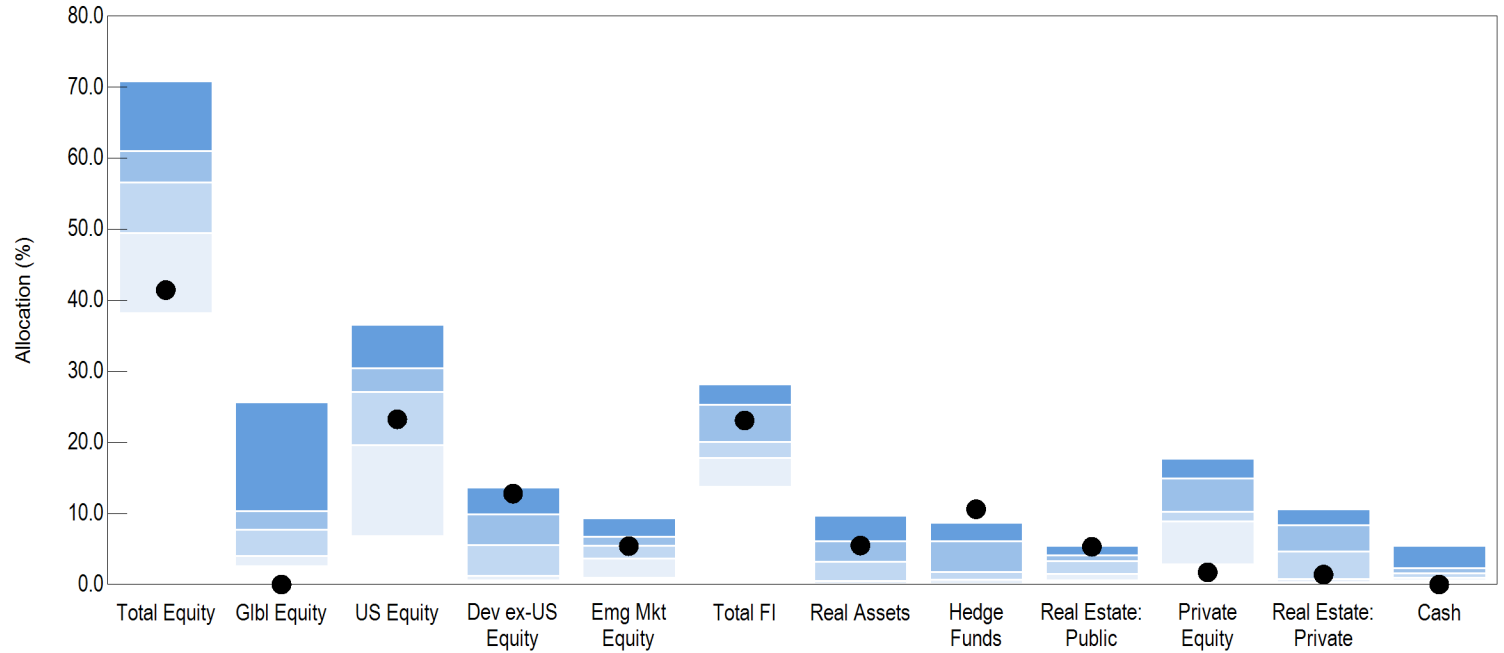
91 Day T-Bills used as risk-free proxy

Peer Comparison

Total Fund
Peer Universe Comparison: Asset Allocation

Period Ending: September 30, 2021

Total Plan Allocation vs. InvMetrics Public DB > \$1B Gross
As of September 30, 2021

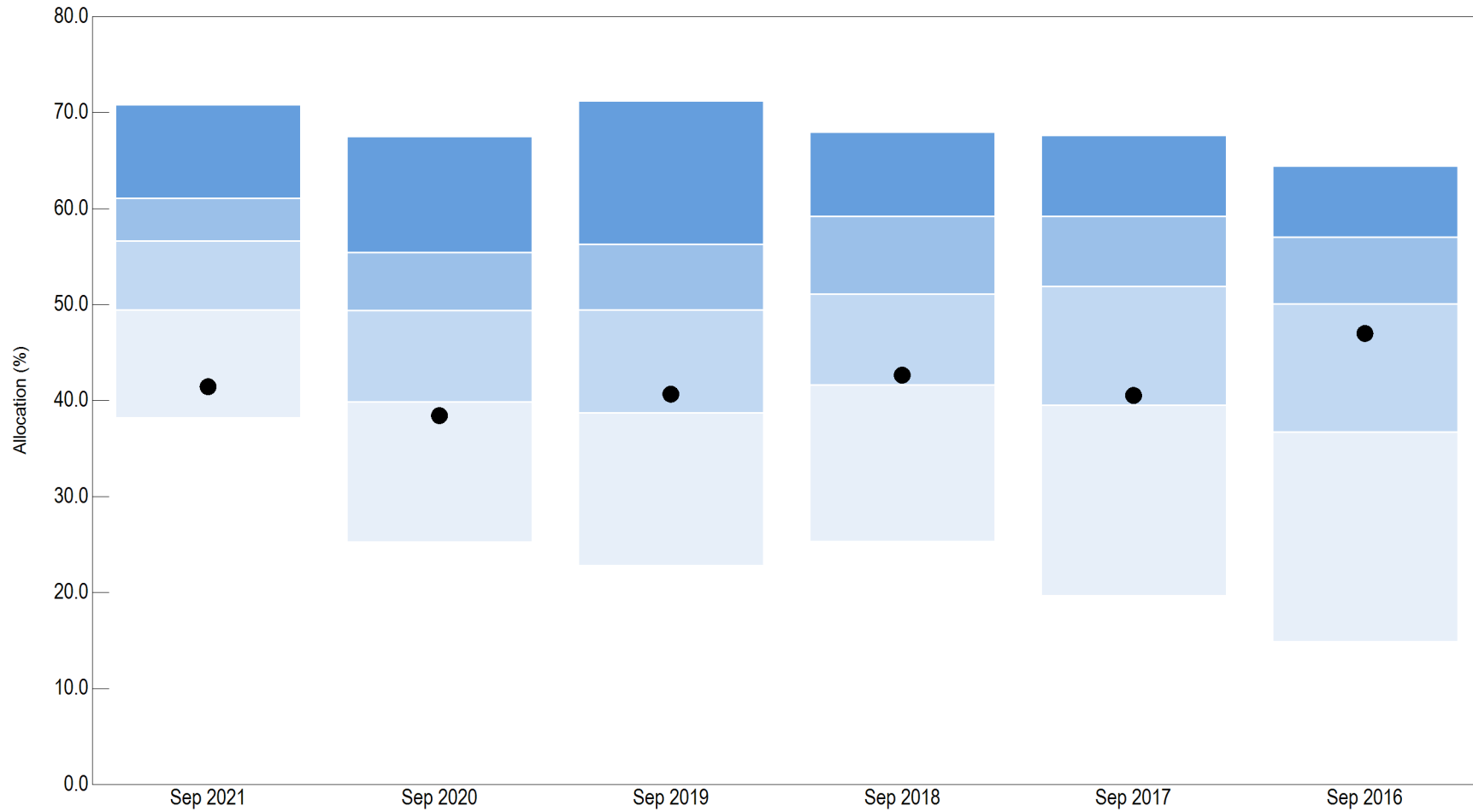


Allocation (Rank)

5th Percentile	70.8	25.7	36.6	13.6	9.4	28.2	9.7	8.7	5.4	17.7	10.6	5.5	--
25th Percentile	61.1	10.4	30.6	9.9	6.8	25.4	6.2	6.2	4.2	15.0	8.5	2.4	--
Median	56.7	7.8	27.2	5.6	5.5	20.2	3.3	1.8	3.4	10.3	4.7	1.7	--
75th Percentile	49.5	4.1	19.7	1.3	3.8	17.9	0.5	0.8	1.5	9.0	0.8	1.0	--
95th Percentile	38.3	2.7	6.9	0.7	1.0	13.9	0.1	0.1	0.7	2.9	0.4	0.7	--
# of Portfolios	27	12	20	11	19	27	14	15	6	21	20	26	--
● Total Fund	41.4 (89)	0.0 (99)	23.3 (64)	12.8 (9)	5.4 (51)	23.1 (37)	5.5 (39)	10.6 (1)	5.3 (7)	1.7 (98)	1.4 (71)	0.0 (99)	--

Private Credit allocation of 3.7% not included in the above chart. Opportunistic and midstream allocations not included in chart.

Total Equity Allocation vs. InvMetrics Public DB > \$1B Gross

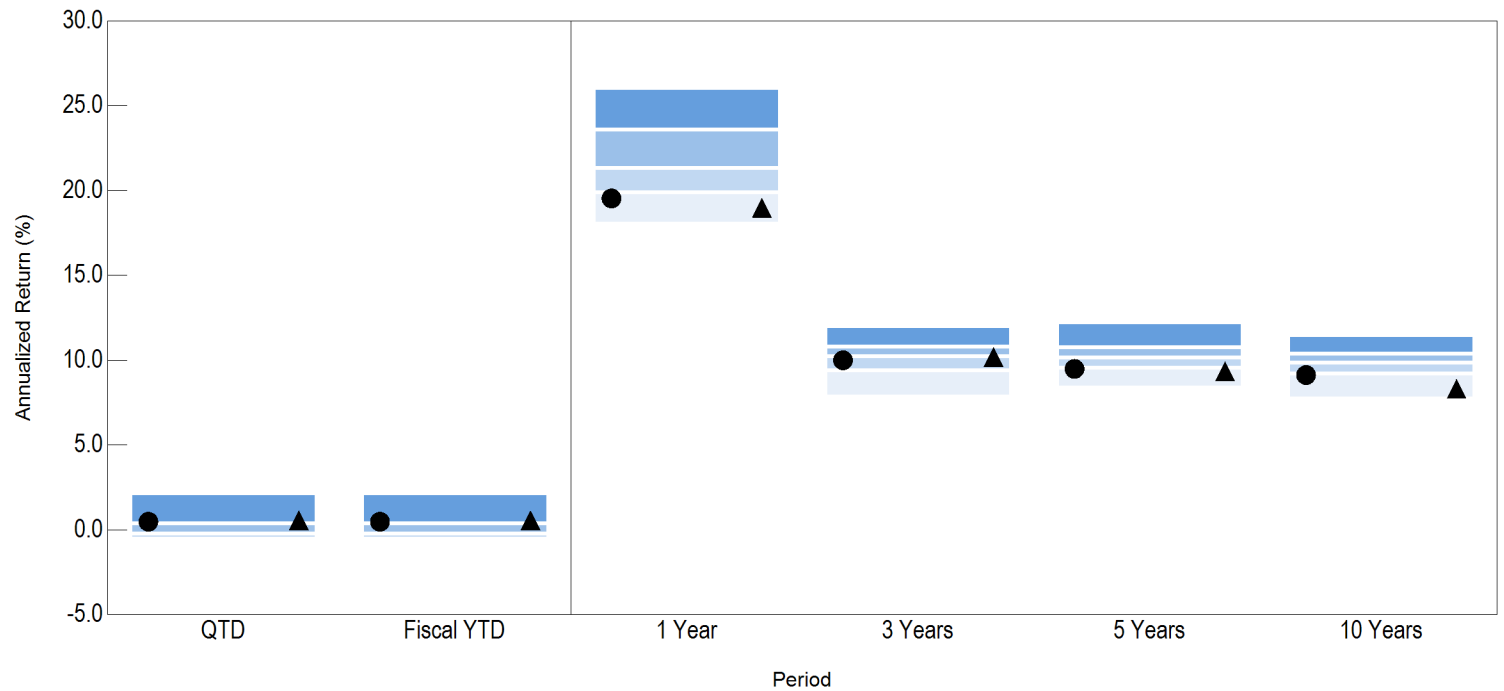


Total Fund

Peer Universe Comparison: Cumulative Performance (Gross of Fees)

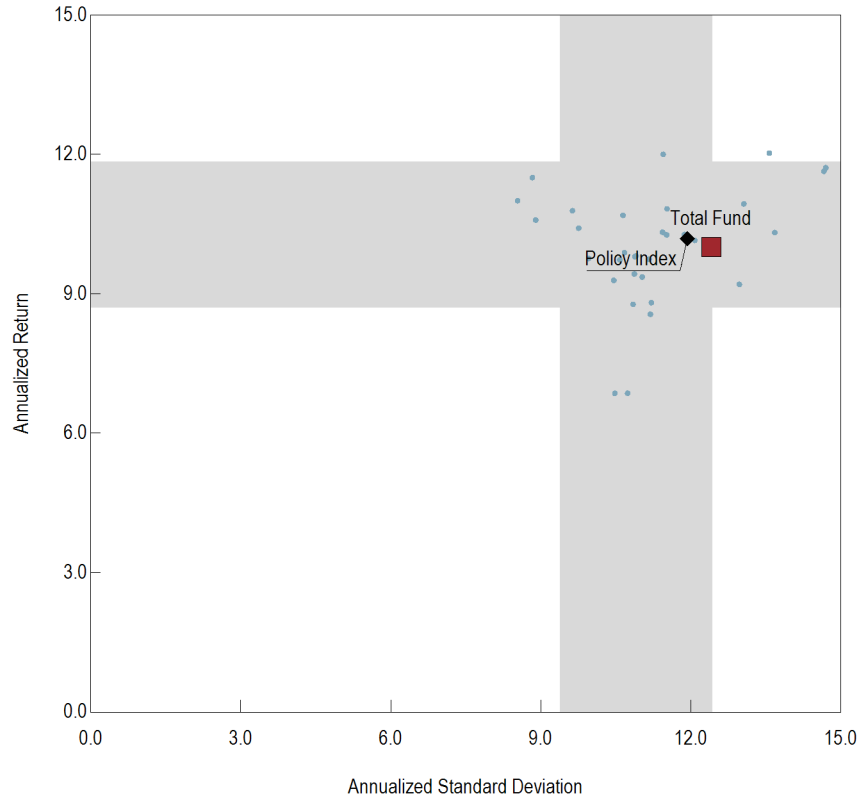
Period Ending: September 30, 2021

InvMetrics Public DB > \$1B Gross Return Comparison
Ending September 30, 2021



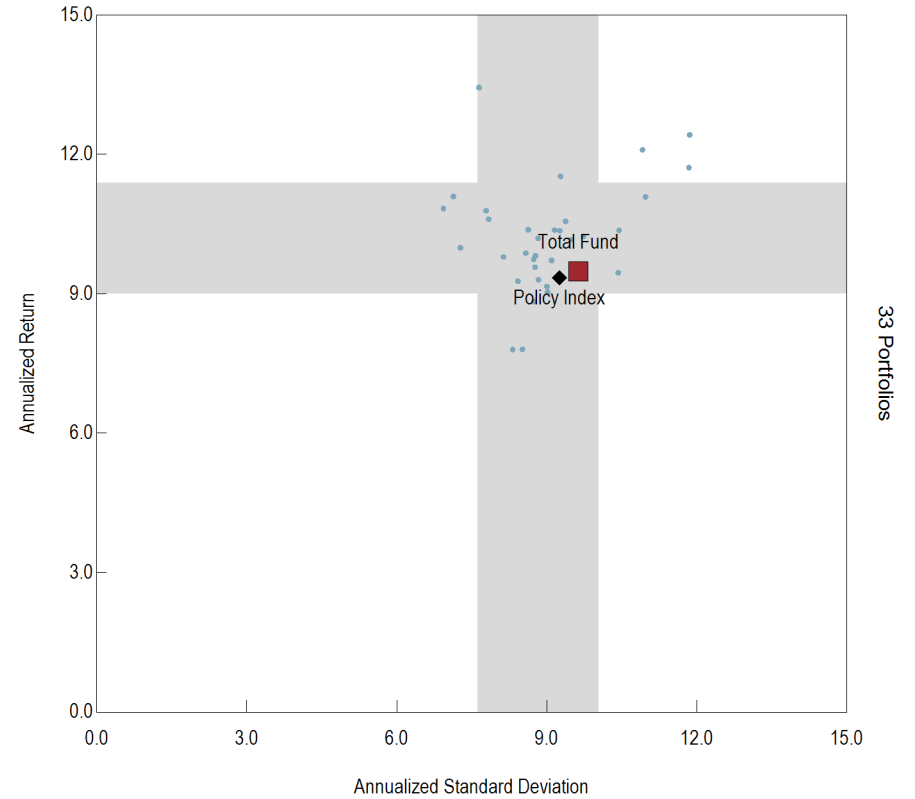
	QTD		Fiscal YTD		1 Year		3 Years		5 Years		10 Years	
5th Percentile	2.1		2.1		26.0		12.0		12.2		11.5	
25th Percentile	0.4		0.4		23.6		10.8		10.8		10.4	
Median	-0.2		-0.2		21.4		10.3		10.2		9.9	
75th Percentile	-0.5		-0.5		19.9		9.4		9.6		9.2	
95th Percentile	-0.7		-0.7		18.1		7.9		8.4		7.8	
# of Portfolios	33		33		33		33		33		31	
● Total Fund	0.5	(21)	0.5	(21)	19.5	(82)	10.0	(55)	9.5	(78)	9.1	(77)
▲ Policy Index	0.6	(19)	0.6	(19)	19.0	(92)	10.2	(53)	9.3	(81)	8.3	(91)

Annualized Return vs. Annualized Standard Deviation
 3 Years Ending September 30, 2021



- Total Fund
- ◆ Policy Index
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Gross

Annualized Return vs. Annualized Standard Deviation
 5 Years Ending September 30, 2021



- Total Fund
- ◆ Policy Index
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Gross

Other

Total Fund Investment Fund Fee Analysis

Period Ending: September 30, 2021

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Equity Beta Exposure		\$562,575,475		
Russell 2000 Overlay		\$24,759,000		
Mellon DB SL Stock Index	0.03% of Assets	\$366,460,521	\$109,938	0.03%
PIMCO StocksPLUS	0.50% of Assets	\$140,882,168	\$704,411	0.50%
AB US Small Cap Value Equity	1.00% of First 25.0 Mil, 0.90% of Next 25.0 Mil, 0.75% Thereafter	\$96,920,261	\$826,902	0.85%
Geneva Capital Small Cap Growth	0.75% of Assets	\$56,880,277	\$426,602	0.75%
Mellon DB SL World ex-US Index		\$557,571,932		
Cevian Capital II	Performance-based 1.50 and 18.00	\$33,755,044	\$506,326	1.50%
American Century Non-US Small Cap	0.32% of Assets	\$94,869,600	\$303,583	0.32%
DFA Emerging Markets Value I	0.54% of Assets	\$83,838,459	\$452,728	0.54%
AB Emerging Markets Strategic Core Equity	1.45% of Assets	\$103,914,311	\$1,506,758	1.45%
Mellon Emerging Markets Stock Index	0.05% of Assets	\$102,432,650	\$51,216	0.05%
Mellon DB SL Aggregate Bond Index Fund	0.05% of First 50.0 Mil, 0.04% of Next 50.0 Mil, 0.02% Thereafter	\$180,317,091	\$61,063	0.03%
PIMCO Core Plus	0.50% of First 25.0 Mil, 0.38% of Next 25.0 Mil, 0.25% Thereafter	\$231,247,848	\$671,870	0.29%
Western Asset Core Plus	0.30% of First 100.0 Mil, 0.15% Thereafter	\$238,559,163	\$507,839	0.21%
Western Asset High Yield Fixed Income	0.20% of Assets	\$189,028,884	\$378,058	0.20%
TCW Securitized Opportunities	1.00% of Assets	\$132,112,556	\$1,321,126	1.00%
Stone Harbor Emerging Markets Debt	0.60% of First 100.0 Mil, 0.55% Thereafter	\$108,178,756	\$644,983	0.60%
PIMCO EMD	0.05% of Assets	\$160,064,084	\$80,032	0.05%
Gresham MTAP Commodity	0.75% of Assets	\$95,296,585	\$714,724	0.75%

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

Total Fund Investment Fund Fee Analysis

Period Ending: September 30, 2021

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Wellington Commodities	0.75% of Assets	\$199,421,799	\$1,495,663	0.75%
Aristeia International Limited	Performance-based 1.00 and 20.00	\$66,436,489	\$779,370	1.17%
Brevan Howard	Performance-based 2.00 and 20.00	\$67,664,967	\$1,353,299	2.00%
D.E. Shaw	Performance-based 2.50 and 25.00	\$56,919,114	\$1,591,827	2.80%
HBK Fund II	Performance-based 1.50 and 20.00	\$55,572,116	\$882,196	1.59%
Hudson Bay		\$71,799,464		
Indus Pacific Opportunities	Performance-based 1.50 and 20.00	\$40,338,968	\$708,485	1.76%
Magnetar Structured Credit	Performance-based 1.50 and 20.00	\$10,521,851	\$204,894	1.95%
Myriad Opportunities Offshore	Performance-based 2.00 and 20.00	\$17,445,148	\$348,903	2.00%
Pharo Macro Fund LTD		\$65,533,137		
PIMCO Commodity Alpha	Performance-based 1.70 and 20.00	\$60,002,012	\$1,020,034	1.70%
River Birch	Performance-based 1.50 and 20.00	\$830,168	\$12,453	1.50%
Sculptor Enhanced Domestic Partners		\$56,097,202		
Hudson Bay		\$55,459,395		
Davidson Kempner		\$54,479,157		
HBK Fund II		\$53,442,617		
HBK Opportunities - SPAC Series		\$50,487,960		
Garda Fixed Income Relative Value Opportunity Fund		\$50,000,000		
Harvest Midstream		\$144,247,048		
PIMCO Midstream	0.69% of Assets	\$129,873,102	\$896,124	0.69%
ASB Real Estate	1.25% of First 5.0 Mil, 1.00% of Next 10.0 Mil, 0.75% Thereafter	\$166,125,474	\$1,295,941	0.78%
J.P. Morgan Strategic Property	1.00% of Assets	\$119,212,945	\$1,192,129	1.00%
Invesco Real Estate III	1.50% of Assets	\$278,732	\$4,181	1.50%
Invesco Real Estate IV	1.50% of Assets	\$23,422,694	\$351,340	1.50%

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

Total Fund Investment Fund Fee Analysis

Period Ending: September 30, 2021

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Landmark Real Estate Partners VIII	777,717 Annually	\$19,044,856	\$777,717	4.08%
Long Wharf Real Estate	1.50% of Assets	\$16,608,184	\$249,123	1.50%
Covenant Apartment Fund X		\$15,378,573		
Abbott IV	330,000 Annually	\$1,114,514	\$330,000	29.61%
Abbott V	545,000 Annually	\$5,315,079	\$545,000	10.25%
Abbott VI	1.00% of First 25.0 Mil, 0.90% Thereafter	\$27,764,944	\$274,884	0.99%
Pantheon Secondary III	73,114 Quarterly	\$1,326,168	\$292,456	22.05%
Pantheon III	0 Annually	\$53,934	\$0	0.00%
Pantheon V	16,345 Quarterly	\$436,219	\$65,380	14.99%
Pantheon VI	149,262 Annually	\$982,303	\$149,262	15.20%
Pantheon VII	303,750 Annually	\$12,090,447	\$303,750	2.51%
Vista Equity Partners IV		\$9,102,279		
LGT Crown		\$8,821,348		
Brighton Private Equity		\$14,669,252		
Warren Equity		\$6,020,389		
Peak Rock Capital Fund III		\$4,477,089		
Colony Distressed Credit IV	0.38% of Assets	\$50,998,021	\$191,243	0.38%
TSSP Adjacent Opportunities Partners	1.35% of Assets	\$39,054,581	\$527,237	1.35%
Magnetar Constellation	Performance-based 1.50 and 17.50	\$41,254,920	\$618,824	1.50%
H.I.G. Bayside Loan Opportunity Fund V		\$33,295,474		
Blue Torch Credit Opportunities		\$11,026,050		
Fortress Credit Opportunites		\$6,434,771		
Fortress Lending Fund II		\$23,234,456		
DB Investors Fund IV		\$39,529,437		
TAO Contingent		\$52,055,079		
Aristeia Select Opportunities II		\$48,428,765		
Short Term Cash Account		\$1		
Short Term Investment Funds		\$26,174,727		

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

Total Fund Watch List (Gross of Fees)

Period Ending: September 30, 2021

Name	Allocation Group	Status	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6	Rule 7	Rule 8	Rule 9
Equity Beta Exposure	Domestic Equity	No Issues	--	--	--	--	--	--	--	--	✓
Russell 2000 Overlay	Domestic Equity	No Issues	--	--	--	--	--	--	--	--	--
Mellon DB SL Stock Index	Domestic Equity	No Issues	--	--	--	--	--	--	--	--	✓
PIMCO StocksPLUS	Domestic Equity	No Issues	✓	✓	✓	✓	✓	✓	✓	--	--
AB US Small Cap Value Equity	Domestic Equity	No Issues	✓	✓	✓	✓	✓	✓	✓	--	--
Geneva Capital Small Cap Growth	Domestic Equity	No Issues	✓	Ⓡ	✓	Ⓡ	✓	Ⓡ	✓	--	--
Mellon DB SL World ex-US Index	International Developed Equity	No Issues	--	--	--	--	--	--	--	--	Ⓡ
American Century Non-US Small Cap	International Developed Equity	No Issues	--	--	--	--	--	--	--	--	--
DFA Emerging Markets Value I	Emerging Markets Equity	No Issues	Ⓡ	✓	✓	Ⓡ	✓	Ⓡ	✓	--	--
AB Emerging Markets Strategic Core Equity	Emerging Markets Equity	No Issues	✓	Ⓡ	Ⓡ	Ⓡ	Ⓡ	--	--	--	--
Mellon Emerging Markets Stock Index	Emerging Markets Equity	No Issues	--	--	--	--	--	--	--	--	✓
Mellon DB SL Aggregate Bond Index Fund	Domestic Fixed Income Core Plus	No Issues	--	--	--	--	--	--	--	--	✓
PIMCO Core Plus	Domestic Fixed Income Core Plus	No Issues	✓	Ⓡ	✓	Ⓡ	✓	Ⓡ	✓	--	--
Western Asset Core Plus	Domestic Fixed Income Core Plus	No Issues	✓	Ⓡ	✓	✓	✓	✓	✓	--	--
Western Asset High Yield Fixed Income	Domestic Fixed Income High Yield	No Issues	✓	✓	✓	✓	Ⓡ	Ⓡ	Ⓡ	--	--
TCW Securitized Opportunities	Domestic Fixed Income High Yield	No Issues	✓	✓	Ⓡ	✓	Ⓡ	✓	Ⓡ	--	--

Rule 1 - Manager has outperformed the 10th percentile in the appropriate style universe for the one year period.

Rule 2 - Manager has underperformed the 75th percentile in the appropriate style universe for the one year period.

Rule 3 - Manager has underperformed the benchmark index for the one year period.

Rule 4 - Manager has underperformed the 50th percentile in the appropriate style universe for the three year period.

Rule 5 - Manager has underperformed the benchmark index for the three year period.

Rule 6 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 7 - Manager has underperformed the benchmark index for the five year period.

Rule 8 - Fund experiences non-performance related issues including personnel turnover, changes in investment philosophy or drift, excessive asset growth, change in ownership and any other reason that raises concern.

Total Fund Watch List (Gross of Fees)

Period Ending: September 30, 2021

Name	Allocation Group	Status	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6	Rule 7	Rule 8	Rule 9
Stone Harbor Emerging Markets Debt	Emerging Markets Fixed Income	No Issues	✓	✓	✓	⚠	✓	⚠	✓	⚠	--
PIMCO EMD	Emerging Markets Fixed Income	No Issues	✓	⚠	⚠	--	--	--	--	--	--
Gresham MTAP Commodity	Commodities	Watch	✓	⚠	⚠	⚠	⚠	✓	✓	--	--
Wellington Commodities	Commodities	No Issues	✓	⚠	✓	✓	✓	✓	✓	--	--
Garda Fixed Income Relative Value Opportunity Fund	Alpha Pool	No Issues	--	--	--	--	--	--	--	--	--
Harvest Midstream	Midstream	No Issues	✓	✓	✓	--	--	--	--	--	--
PIMCO Midstream	Midstream	No Issues	--	--	--	--	--	--	--	--	--
ASB Real Estate	Real Estate	No Issues	--	--	⚠	--	⚠	--	⚠	--	--
J.P. Morgan Strategic Property	Real Estate	No Issues	--	--	⚠	--	⚠	--	⚠	--	--

Rule 1 - Manager has outperformed the 10th percentile in the appropriate style universe for the one year period.

Rule 2 - Manager has underperformed the 75th percentile in the appropriate style universe for the one year period.

Rule 3 - Manager has underperformed the benchmark index for the one year period.

Rule 4 - Manager has underperformed the 50th percentile in the appropriate style universe for the three year period.

Rule 5 - Manager has underperformed the benchmark index for the three year period.

Rule 6 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 7 - Manager has underperformed the benchmark index for the five year period.

Rule 8 - Fund experiences non-performance related issues including personnel turnover, changes in investment philosophy or drift, excessive asset growth, change in ownership and any other reason that raises concern.

Rule 9 - Index Fund Tracking Error exceeds 0.25% of the appropriate benchmark over the one year period.

Total Fund
Quarterly Historical Net Returns

Period Ending: September 30, 2021

	2021 Q3	2021 Q2	2021 Q1	2020 Q4	2020 Q3	2020 Q2	2020 Q1	2019 Q4	2019 Q3	2019 Q2	2019 Q1	2018 Q4
Total Fund	0.4	5.5	3.5	8.8	4.4	10.7	-11.3	4.6	0.2	3.1	6.8	-6.4
<i>Policy Index</i>	0.6	5.5	3.0	8.8	4.5	10.1	-11.1	4.6	0.8	3.0	7.0	-5.5

	2018 Q3	2018 Q2	2018 Q1	2017 Q4	2017 Q3	2017 Q2	2017 Q1	2016 Q4	2016 Q3	2016 Q2	2016 Q1	2015 Q4
Total Fund	2.3	0.3	-0.1	3.0	3.2	2.7	4.2	0.8	3.5	1.9	1.0	2.2
<i>Policy Index</i>	2.2	0.7	-0.1	3.2	3.1	2.8	3.5	0.5	2.9	2.2	1.8	1.4

	2015 Q3	2015 Q2	2015 Q1	2014 Q4	2014 Q3	2014 Q2	2014 Q1	2013 Q4	2013 Q3	2013 Q2	2013 Q1	2012 Q4
Total Fund	-5.4	0.7	2.4	0.8	-1.5	3.6	2.1	4.1	4.4	-0.6	4.4	2.2
<i>Policy Index</i>	-4.9	0.4	2.0	0.4	-1.4	3.4	2.4	3.8	4.4	-0.5	3.4	1.5

Performance Return Calculations

Performance is calculated using a Time Weighted Rates of Return (TWRR) methodology. Monthly returns are linked geometrically and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

Illiquid Alternatives

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Manager Line Up

<u>Manager</u>	<u>Fund Incepted</u>	<u>Data Source</u>	<u>Manager</u>	<u>Fund Incepted</u>	<u>Data Source</u>
AB Emerging Markets Strategic Core	11/3/2016	Northern Trust	Long Wharf Real Estate	6/27/2019	Long Wharf
AB US Small Cap Value Equity	7/7/2015	Northern Trust	Magnetar Constellation	11/14/2018	Magnetar
Abbott Capital PE IV	7/13/2001	Abbott Capital	Magnetar Structured Credit	5/1/2014	Magnetar
Abbott Capital PE V	5/25/2005	Abbott Capital	Mellon Aggregate Bond Index Fund	1/14/2011	Mellon
Abbott Capital PE VI	3/31/2008	Abbott Capital	Mellon EB DV Stock Index	10/18/2017	Mellon
American Century Non-US Small Cap	12/15/2020	American Century	Mellon EB DV World ex-US Index	8/1/2018	Mellon
Aristeia International Limited	5/1/2014	Northern Trust	Myriad Opportunities Offshore	5/19/2016	Northern Trust
ASB Real Estate	9/30/2013	ASB	Pantheon Global III		Pantheon
BlackRock Short Duration Fund	9/8/2021	BlackRock	Pantheon USA III		Pantheon
Blue Torch Credit Opportunities	7/24/2020	Blue Torch	Pantheon USA V		Pantheon
Brevan Howard	11/1/2013	Northern Trust	Pantheon USA VI		Pantheon
Brighton Private Equity	3/28/2021	Brighton	Pantheon USA VII		Pantheon
Brookfield Real Estate Finance Fund V	12/18/2017	Northern Trust	Parametric Overlay/ Cap Efficiency Program	7/31/2020	Parametric
Cevian Capital II	12/30/2014	Northern Trust	Peak Rock Capital Fund III	7/13/2021	Peak Rock
Colony Distressed Debt IV	12/28/2015	Colony	PIMCO Commodity Alpha	5/4/2016	PIMCO
Covenant Apartment Fund X	10/29/2020	Covenant	PIMCO Core Plus	1/21/2011	Northern Trust
DB Investors Fund IV	1/29/2020	DB	PIMCO EMD		Northern Trust
D.E. Shaw	6/30/2013	Northern Trust	PIMCO Midstream	10/9/2020	PIMCO
DFA Emerging Markets Value I	3/7/2014	Northern Trust	PIMCO StocksPLUS	7/14/2003	PIMCO
Fortress Credit Opportunities	12/17/2020	Fortress	Fidelity Non-US Small Cap Equity	6/10/2008	Northern Trust
Fortress Lending Fund II	3/15/2021	Fortress	River Birch	8/3/2015	Northern Trust
Garda Fixed Income Relative Value Opp	9/30/2021	Garda	Sculptor Enhanced Domestic Partners	3/26/2019	Sculptor
Geneva Capital Small Cap Growth	7/22/2015	Geneva	Short Term Cash Account		Northern Trust
Gresham MTAP Commodity	9/3/2013	Gresham	Short Term Investment Funds		Northern Trust
Harvest Midstream	9/28/2020	Harvest Midstream	Stone Harbor Emerging Markets Debt	8/8/2012	Stone Harbor
HBK Fund II	11/1/2013	Northern Trust	TAO Contingent	4/16/2020	TPG Sixth Street
Henderson Smallcap Growth	7/22/2015	Northern Trust	TCW Securitized Opportunities	2/3/2016	TCW
H.I.G Bayside Loan Opportunities Fund V	7/24/2019	H.I.G. Capital	Transition Equity		Northern Trust
Hudson Bay	6/7/2019	Northern Trust	Transition Fixed Income		Northern Trust
Indus Pacific Opportunities	6/30/2014	Northern Trust	TSSP Adjacent Opportunities Partners	11/17/2017	TPG Sixth Street
Invesco Real Estate III	6/30/2013	Invesco	Vista Equity Partners	7/24/2020	Vista Equity
Invesco Real Estate IV	12/18/2015	Invesco	Warren Equity	4/1/2021	Warren
J.P. Morgan Strategic Property	7/2/2014	J.P. Morgan	Wellington Commodities	9/10/2013	Wellington
Landmark Real Estate Partners VIII	4/29/2018	Landmark	Western Asset Core Plus	5/31/2004	Northern Trust
LGT Crown	2/1/2021	LGT	Western Asset High Yield Fixed income	5/31/2005	Northern Trust

Policy & Custom Index Composition

Policy Index: 1/1/2021-Present	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 5% Bloomberg US Aggregate, 4% Alerian Midstream, 1% Bloomberg US
Policy Index: 7/1/2020-12/31/2020	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 5% Bloomberg US Aggregate, 1% Alerian Midstream, 4% Bloomberg US
Policy Index: 4/1/2020-6/30/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 1/1/2020-3/31/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 10/1/2019-12/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*.
Policy Index: 7/1/2019-9/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 4/1/2019-6/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*.
Policy Index: 1/1/2019-3/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 10/1/2018-12/31/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*.
Policy Index: 7/1/2018-9/30/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 3% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 2% MSCI ACWI*, 7% Bloomberg US Aggregate*.
Policy Index: 1/1/2017- 6/30/2018	19% Russell 3000 Index, 18% MSCI ACWI ex US, 29% Bloomberg US Aggregate, 10% NCREIF-ODCE, 4% Bloomberg Commodity Index, 7.5% 91-day T-bills + 400bps, 2.5% MSCI ACWI, 5% Russell 3000 Index + 300 bps, 5% ICE BofA ML High Yield + 200 bps.
Policy Index: 4/1/2014-12/31/2016	23% Russell 3000 Index, 29% Bloomberg US Aggregate, 22% MSCI ACWI ex US,

Other Disclosures

*Private Asset actual weights, rounded to 1%, and actual time-weighted returns of Private Equity, Private Credit, Private Real Estate used in policy with the difference in weight versus target allocated to private market's public market "equivalent". Private Equity to Global Equity, Private Credit and Private Real Estate to Core Plus.

All data prior to 2Q 2011 has been provided by the investment managers.

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment manager fees will be included in the gross of fee return calculation

Fiscal year end: 6/30.

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$.

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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