Kern County Employees' Retirement Association

Investment Performance Review
Period Ending: December 31, 2022

Verus®

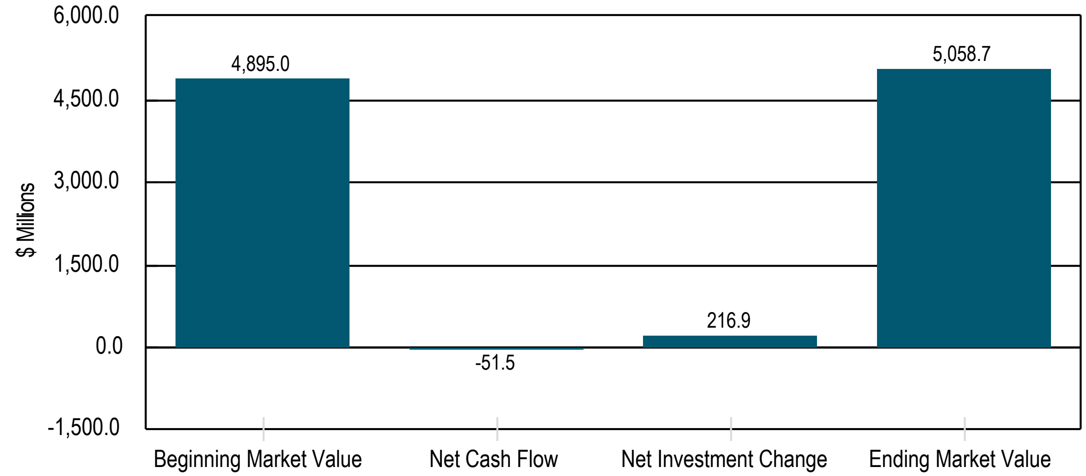
VERUSINVESTMENTS.COM

SEATTLE 206.622.3700
CHICAGO 312.815.5228
PITTSBURGH 412.784.6678
LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484

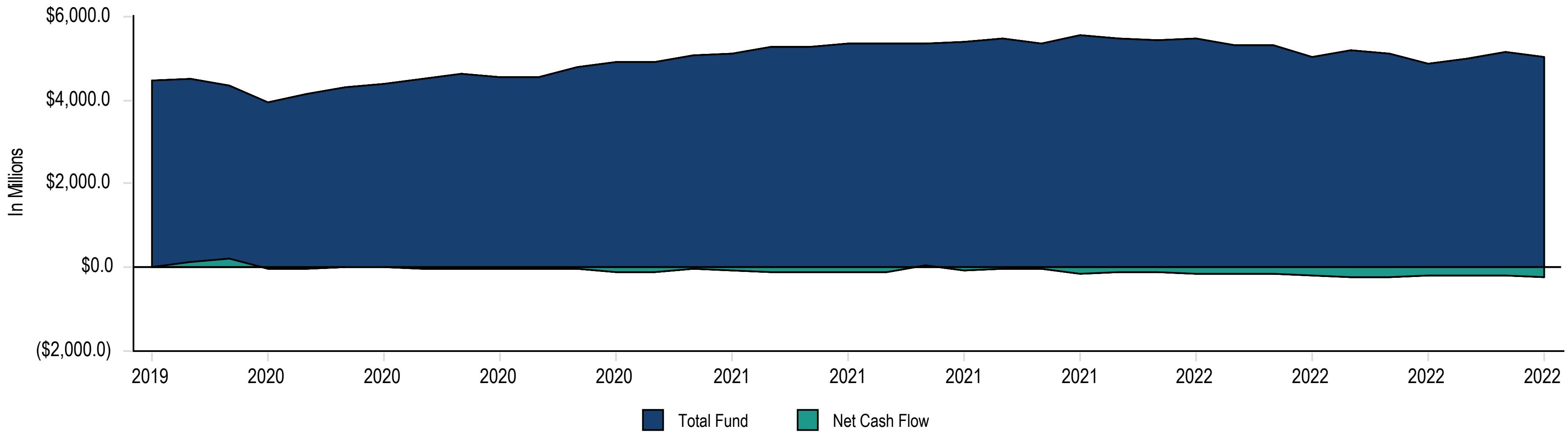
Portfolio Reconciliation

	Last Three Months
Beginning Market Value	$4,894,965,664
Net Cash Flows	-$51,517,947
Net Investment Change	$216,883,904
Ending Market Value	$5,058,733,151

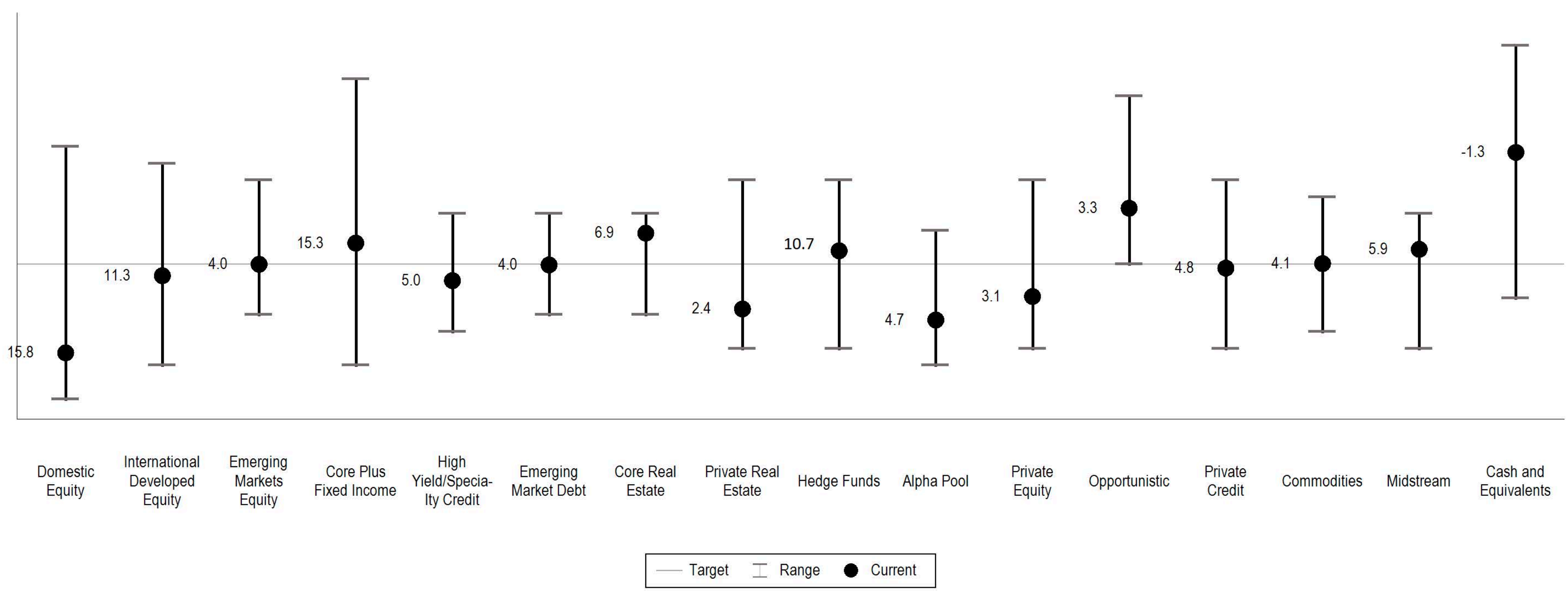
Change in Market Value Last Three Months

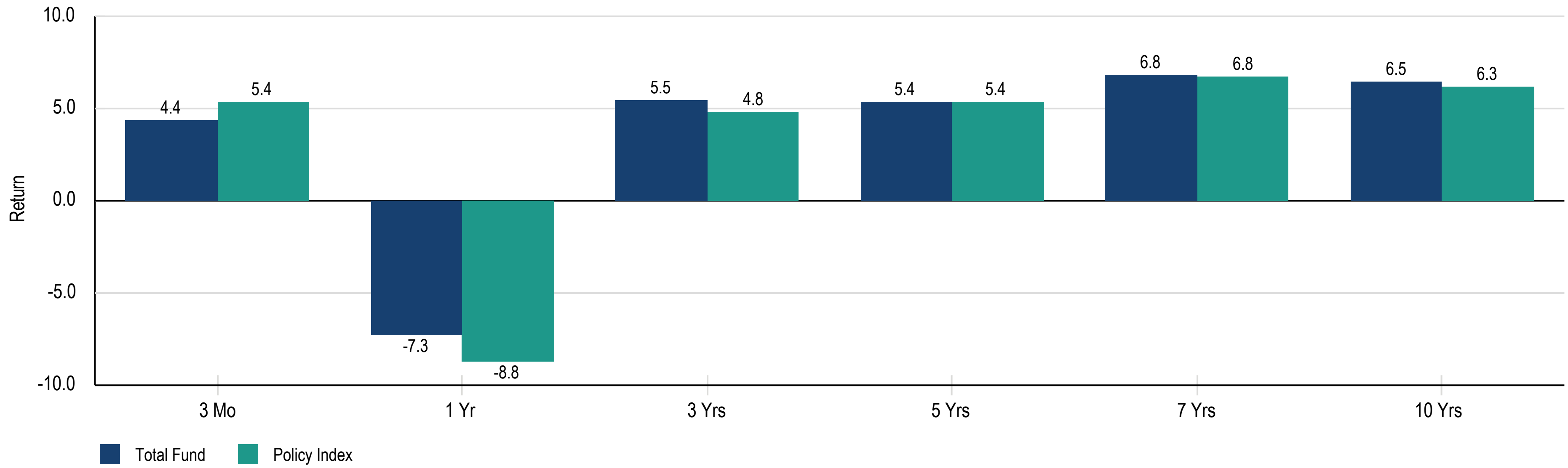


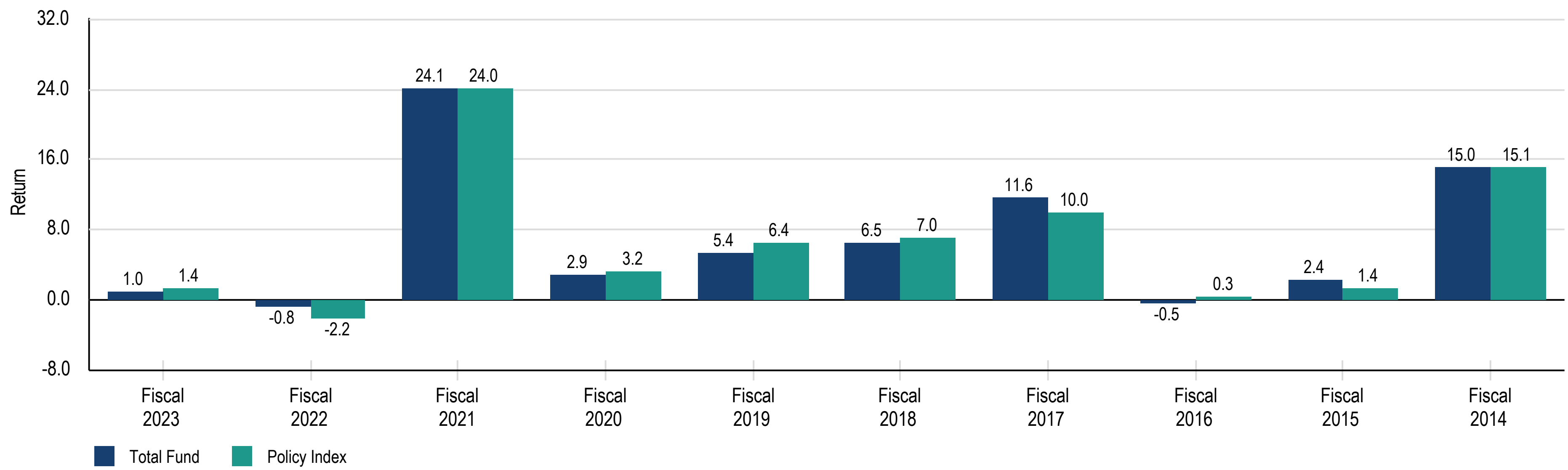
Market Value History



	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
Equity	$1,577,575,704	31.1%	37.0%	-$299,088,853	26.0% - 48.0%	Yes
Fixed Income	$1,232,206,332	24.3%	24.0%	$14,910,403	14.0% - 34.0%	Yes
Core Real Estate	$348,227,698	6.9%	5.0%	$94,624,380	2.0% - 8.0%	Yes
Hedge Funds	$542,272,051	10.7%	10.0%	$41,408,649	5.0% - 15.0%	Yes
Alpha Pool	$239,505,576	4.7%	8.0%	-$167,190,866	2.0% - 10.0%	Yes
Private Equity	$157,192,972	3.1%	5.0%	-$96,410,346	0.0% - 10.0%	Yes
Private Credit	$242,779,662	4.8%	5.0%	-$10,823,656	0.0% - 10.0%	Yes
Private Real Estate	$119,647,273	2.4%	5.0%	-$133,956,045	0.0% - 10.0%	Yes
Commodities	$205,801,777	4.1%	4.0%	$2,919,122	0.0% - 8.0%	Yes
Opportunistic	$169,805,558	3.3%	0.0%	$169,805,558	0.0% - 10.0%	Yes
Midstream	$299,392,352	5.9%	5.0%	$45,789,033	0.0% - 8.0%	Yes
Cash and Equivalents	-$67,752,688	-1.3%	-8.0%	$338,012,622	-10.0% - 5.0%	Yes
Total	**$5,058,733,151**	**100.0%**	**100.0%**			




10.0
5.0
0.0
-5.0
-10.0
Return
4.4
5.4
-7.3
-8.8
5.5
4.8
5.4
5.4
6.8
6.8
6.5
6.3
3 Mo
1 Yr
3 Yrs
5 Yrs
7 Yrs
10 Yrs
Total Fund
Policy Index


32.0
24.0
16.0
8.0
0.0
-8.0
Return
1.0
1.4
-0.8
-2.2
24.1
24.0
2.9
3.2
5.4
6.4
6.5
7.0
11.6
10.0
-0.5
0.3
2.4
1.4
15.0
15.1
Fiscal 2023
Fiscal 2022
Fiscal 2021
Fiscal 2020
Fiscal 2019
Fiscal 2018
Fiscal 2017
Fiscal 2016
Fiscal 2015
Fiscal 2014
Total Fund
Policy Index

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Total Fund	**5,058,733,151**	**100.0**	**4.5**	**1.1**	**-7.1**	**5.8**	**5.7**	**6.9**	**-4.2**	**24.4**	**3.2**	**5.7**	**6.8**
Policy Index			*5.4*	*1.4*	*-8.8*	*4.8*	*5.4*	*6.3*	*-6.5*	*24.0*	*3.2*	*6.4*	*7.0*
InvMetrics Public DB > $1B Rank			*80*	*45*	*14*	*29*	*51*	*63*	*33*	*90*	*21*	*61*	*97*
Equity	**1,577,575,704**	**31.2**	**10.5**	**2.8**	**-17.4**	**4.6**	**5.7**	**9.3**	**-14.9**	**41.2**	**0.7**	**5.3**	**12.4**
MSCI AC World IMI (Net)			*9.8*	*2.6*	*-18.4*	*3.9*	*5.0*	*7.9*	*-16.5*	*40.9*	*1.2*	*4.6*	*11.1*
Domestic Equity	798,916,006	15.8	7.6	2.0	-18.9	7.4	9.2	-	-12.0	43.6	6.3	9.2	16.1
MSCI USA IMI			*7.2*	*2.4*	*-19.2*	*7.3*	*8.9*	*12.2*	*-13.7*	*44.4*	*6.7*	*9.0*	*14.9*
International Developed Equity	574,955,091	11.4	15.3	5.8	-15.0	2.0	2.1	-	-17.2	37.0	-5.5	-0.6	9.1
MSCI World ex U.S. IMI Index (Net)			*16.0*	*5.3*	*-15.3*	*1.0*	*1.6*	*4.7*	*-17.7*	*34.8*	*-5.1*	*0.2*	*7.7*
Emerging Markets Equity	203,703,762	4.0	9.3	-2.6	-18.2	-2.7	-2.2	-	-21.4	40.6	-10.9	0.4	4.0
MSCI Emerging Markets IMI (Net)			*9.5*	*-2.3*	*-19.8*	*-1.8*	*-1.1*	*-*	*-24.8*	*43.2*	*-4.0*	*0.5*	*7.9*
Fixed Income	**1,232,206,332**	**24.4**	**2.9**	**-0.4**	**-12.8**	**-1.7**	**0.7**	**1.7**	**-12.7**	**5.4**	**6.6**	**7.9**	**0.2**
Fixed Income Custom Benchmark			*3.0*	*-1.0*	*-12.6*	*-2.4*	*0.4*	*1.6*	*-11.6*	*4.0*	*5.2*	*8.4*	*-0.1*
Core Plus Fixed Income	774,514,623	15.3	1.4	-3.2	-14.2	-2.6	0.2	-	-11.2	1.0	9.5	8.0	0.0
Blmbg. U.S. Aggregate Index			*1.9*	*-3.0*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-10.3*	*-0.3*	*8.7*	*7.9*	*-0.4*
High Yield/ Specialty Credit	255,740,719	5.1	2.4	2.5	-9.0	0.7	2.6	-	-9.5	13.6	0.0	7.5	3.3
ICE BofA U.S. High Yield Index			*4.0*	*3.3*	*-11.3*	*-0.2*	*2.1*	*3.9*	*-12.7*	*15.6*	*-1.1*	*7.6*	*2.5*
Emerging Market Debt	201,843,943	4.0	9.3	4.9	-12.6	-3.7	-1.8	-	-19.6	9.4	-1.2	8.5	-3.6
50 JPM EMBI Global Div / 50 JPM GBI EM Global Div			*8.3*	*3.3*	*-14.8*	*-5.7*	*-1.9*	*-0.2*	*-20.2*	*7.1*	*-1.1*	*10.8*	*-1.9*
Commodities	**205,801,777**	**4.1**	**5.3**	**-2.2**	**12.5**	**13.4**	**7.4**	**-**	**20.1**	**43.5**	**-10.7**	**-6.2**	**13.7**
Bloomberg Commodity Index Total Return			*2.2*	*-2.0*	*16.1*	*12.7*	*6.4*	*-1.3*	*24.3*	*45.6*	*-17.4*	*-6.8*	*7.3*
Hedge Funds	**542,272,051**	**10.7**	**2.4**	**4.1**	**4.8**	**9.2**	**7.1**	**6.5**	**2.8**	**16.3**	**7.3**	**2.6**	**7.6**
75% 90 Day TBills +4% / 25% MSCI ACWI IMI (Net)			*3.9*	*3.4*	*-0.6*	*5.0*	*5.7*	*5.9*	*-0.9*	*12.3*	*5.1*	*6.6*	*7.0*
Alpha Pool	**239,505,576**	**4.7**	**0.5**	**0.7**	**0.7**	**-**	**-**	**-**	**1.5**	**14.5**	**-**	**-**	**-**
90-Day T-Bill +4%			*1.8*	*3.3*	*5.5*	*-*	*-*	*-*	*4.2*	*4.1*	*-*	*-*	*-*
Midstream Energy	**299,392,352**	**5.9**	**7.7**	**13.1**	**22.8**	**-**	**-**	**-**	**9.6**	**-**	**-**	**-**	**-**
Alerian Midstream Energy Index			*8.4*	*7.3*	*21.5*	*-*	*-*	*-*	*11.4*	*-*	*-*	*-*	*-*
Core Real Estate	**340,306,582**	**6.7**	**-4.4**	**-3.8**	**7.9**	**8.9**	**7.8**	**-**	**25.6**	**6.6**	**2.3**	**6.1**	**7.4**
NCREIF ODCE			*-5.0*	*-4.5*	*7.5*	*9.9*	*8.7*	*10.1*	*29.5*	*8.0*	*2.2*	*6.4*	*8.4*
Private Real Estate	**119,647,273**	**2.4**	**2.4**	**5.6**	**17.7**	**17.6**	**12.3**	**13.2**	**31.3**	**12.1**	**4.4**	**9.0**	**5.4**
			2.4	*5.6*	*17.7*	*17.6*	*12.3*	*13.2*	*31.3*	*12.1*	*4.4*	*9.0*	*5.4*
Private Equity	**157,192,972**	**3.1**	**-3.3**	**-6.8**	**-1.8**	**12.5**	**10.9**	**11.1**	**23.0**	**41.7**	**-10.5**	**10.9**	**7.8**
			-3.3	*-6.8*	*-1.8*	*12.5*	*10.9*	*11.1*	*23.0*	*41.7*	*-10.5*	*10.9*	*7.8*
Private Credit	**242,779,662**	**4.8**	**-0.9**	**-2.1**	**-2.3**	**2.2**	**4.5**	**-**	**1.2**	**4.8**	**5.5**	**9.7**	**9.3**
			-0.9	*-2.1*	*-2.3*	*2.2*	*4.5*	*-*	*1.2*	*4.8*	*5.5*	*9.7*	*9.3*

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Opportunistic	**169,805,558**	**3.4**	**-0.8**	**-3.9**	**-14.3**	**9.7**	**-**	**-**	**-5.4**	**59.9**	**-**	**-**	**-**
Assumed Rate of Return +3%			*1.8*	*3.6*	*7.2*	*7.2*	*-*	*-*	*7.2*	*7.2*	*-*	*-*	*-*
Cash	**-67,752,688**	**-1.3**	**6.5**	**7.4**	**6.6**	**2.3**	**2.3**	**-2.3**	**-0.7**	**0.1**	**1.0**	**2.0**	**3.2**

Performance and Attribution

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
Total Fund	**5,058,733,151**	**100.0**	**4.4**	**1.0**	**-7.3**	**5.5**	**5.4**	**6.5**	**-4.5**	**24.1**	**2.9**	**5.4**	**6.5**	**6.2**	**Jun-11**
Policy Index			*5.4*	*1.4*	*-8.8*	*4.8*	*5.4*	*6.3*	*-6.5*	*24.0*	*3.2*	*6.4*	*7.0*	*6.0*	
Equity	**1,577,575,704**	**31.2**	**10.5**	**2.6**	**-17.6**	**4.3**	**5.3**	**8.8**	**-15.1**	**40.7**	**0.3**	**4.8**	**11.8**	**8.0**	**Jun-11**
MSCI AC World IMI (Net)			*9.8*	*2.6*	*-18.4*	*3.9*	*5.0*	*7.9*	*-16.5*	*40.9*	*1.2*	*4.6*	*11.1*	*7.1*	
Domestic Equity	**798,916,006**	**15.8**	**7.6**	**1.9**	**-19.1**	**7.2**	**8.9**	**-**	**-12.2**	**43.2**	**6.0**	**8.8**	**15.5**	**10.1**	**Jul-14**
MSCI USA IMI			*7.2*	*2.4*	*-19.2*	*7.3*	*8.9*	-	*-13.7*	*44.4*	*6.7*	*9.0*	*14.9*	*9.8*	
Equity Beta Exposure	108,880,200	2.2	6.8	0.7	-19.7	-	-	-	-11.0	-	-	-	-	7.4	Aug-20
S&P 500 Index			*7.6*	*2.3*	*-18.1*	-	-	-	*-10.6*	-	-	-	-	*8.5*	
Mellon DB SL Stock Index Fund	458,436,087	9.1	7.6	2.3	-18.1	7.6	9.4	-	-10.6	40.8	7.5	10.4	-	10.1	Oct-17
S&P 500 Index			*7.6*	*2.3*	*-18.1*	*7.7*	*9.4*	-	*-10.6*	*40.8*	*7.5*	*10.4*	-	*10.0*	
PIMCO StocksPLUS	99,467,229	2.0	7.5	1.6	-20.4	6.8	8.9	12.6	-12.8	41.7	7.7	10.6	14.1	10.0	Jul-03
S&P 500 Index			*7.6*	*2.3*	*-18.1*	*7.7*	*9.4*	*12.6*	*-10.6*	*40.8*	*7.5*	*10.4*	*14.4*	*9.4*	
AB US Small Cap Value Equity	86,111,927	1.7	10.0	4.3	-16.6	5.5	3.8	-	-16.1	77.5	-19.4	-6.9	13.2	6.7	Jul-15
Russell 2000 Value Index			*8.4*	*3.4*	*-14.5*	*4.7*	*4.1*	-	*-16.3*	*73.3*	*-17.5*	*-6.2*	*13.1*	*6.5*	
Geneva Capital Small Cap Growth	46,020,563	0.9	5.8	0.9	-24.4	4.2	7.5	-	-22.1	37.6	9.3	8.6	22.7	8.9	Jul-15
Russell 2000 Growth Index			*4.1*	*4.4*	*-26.4*	*0.6*	*3.5*	-	*-33.4*	*51.4*	*3.5*	*-0.5*	*21.9*	*5.2*	
International Developed Equity	**574,955,091**	**11.4**	**15.3**	**5.7**	**-15.0**	**1.8**	**1.9**	**-**	**-17.3**	**36.7**	**-5.7**	**-0.9**	**8.7**	**3.3**	**Jul-14**
MSCI World ex U.S. IMI Index (Net)			*16.0*	*5.3*	*-15.3*	*1.0*	*1.6*	-	*-17.7*	*34.8*	*-5.1*	*0.2*	*7.7*	*2.5*	
Mellon DB SL World ex-US Index Fund	471,377,465	9.3	16.1	5.6	-13.6	2.1	-	-	-16.1	35.6	-5.5	-	-	3.1	Jul-18
MSCI World ex U.S. IMI Index (Net)			*16.0*	*5.3*	*-15.3*	*1.0*	-	-	*-17.7*	*34.8*	*-5.1*	*0.2*	-	*2.0*	
Cevian Capital II	34,435,773	0.7	9.6	11.0	-3.8	8.5	5.2	-	-8.2	46.8	-8.2	-5.0	2.9	6.4	Dec-14
MSCI Europe (Net)			*19.3*	*7.2*	*-15.1*	*1.3*	*1.9*	-	*-17.6*	*35.1*	*-6.8*	*1.9*	*5.3*	*3.6*	
American Century Non-US Small Cap	68,889,933	1.4	13.1	4.2	-27.6	-	-	-	-27.4	-	-	-	-	-6.4	Dec-20
MSCI World ex U.S. Small Cap Growth Index (Net)			*13.6*	*3.6*	*-27.0*	-	-	-	*-28.6*	-	-	-	-	*-9.1*	
Emerging Markets Equity	**203,703,762**	**4.0**	**9.2**	**-3.0**	**-18.7**	**-3.4**	**-3.0**	**-**	**-21.9**	**39.5**	**-11.8**	**-0.6**	**2.9**	**0.1**	**Jul-14**
MSCI Emerging Markets IMI (Net)			*9.5*	*-2.3*	*-19.8*	*-1.8*	*-1.1*	-	*-24.8*	*43.2*	*-4.0*	*0.5*	*7.9*	*1.4*	
DFA Emerging Markets Value I	75,158,678	1.5	10.3	-0.5	-10.7	1.0	-0.1	-	-12.9	47.6	-17.7	2.0	5.7	3.1	Mar-14
MSCI Emerging Markets Value (Net)			*9.8*	*-2.3*	*-15.8*	*-2.6*	*-1.6*	-	*-18.6*	*41.6*	*-15.7*	*5.0*	*4.3*	*1.1*	
AB Emerging Markets Strategic Core Equity Collective Trust	48,185,996	1.0	6.6	-5.7	-24.0	-5.3	-4.2	-	-25.2	33.6	-5.1	-2.6	1.2	0.7	Dec-16
MSCI Emerging Markets (Net)			*9.7*	*-3.0*	*-20.1*	*-2.7*	*-1.4*	-	*-25.3*	*40.9*	*-3.4*	*1.2*	*8.2*	*4.2*	
Mellon Emerging Markets Stock Index Fund	80,359,088	1.6	9.7	-3.1	-20.5	-	-	-	-25.5	41.1	-	-	-	0.6	Jun-20
MSCI Emerging Markets (Net)			*9.7*	*-3.0*	*-20.1*	-	-	-	*-25.3*	*40.9*	-	-	-	*3.6*	
Fixed Income	**1,232,206,332**	**24.4**	**2.9**	**-0.5**	**-13.1**	**-1.9**	**0.4**	**1.4**	**-13.0**	**5.1**	**6.3**	**7.6**	**-0.1**	**2.9**	**Jun-10**
Fixed Income Custom Benchmark			*3.0*	*-1.0*	*-12.6*	*-2.4*	*0.4*	*1.6*	*-11.6*	*4.0*	*5.2*	*8.4*	*-0.1*	*2.7*	
Core Plus Fixed Income	**774,514,623**	**15.3**	**1.4**	**-3.2**	**-14.3**	**-2.7**	**0.1**	**-**	**-11.4**	**0.8**	**9.3**	**7.9**	**-0.2**	**1.2**	**Jul-14**
Bloomberg U.S. Aggregate Index			*1.9*	*-3.0*	*-13.0*	*-2.7*	*0.0*	-	*-10.3*	*-0.3*	*8.7*	*7.9*	*-0.4*	*1.0*	
Fixed Income Beta Exposure	337,322,663	6.7	-0.1	-5.6	-	-	-	-	-	-	-	-	-	-3.3	Jun-22
Bloomberg U.S. Aggregate Index			*1.9*	*-3.0*	-	-	-	-	-	-	-	-	-	*-4.5*	
Mellon DB SL Aggregate Bond Index Fund	157,713,715	3.1	1.9	-3.0	-13.1	-2.8	0.0	1.0	-10.4	-0.4	8.8	7.9	-0.4	1.8	Jan-11
Bloomberg U.S. Aggregate Index			*1.9*	*-3.0*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-10.3*	*-0.3*	*8.7*	*7.9*	*-0.4*	*1.9*	

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
PIMCO Core Plus	160,665,585	3.2	2.0	-2.9	-12.8	-2.0	0.3	1.1	-9.9	1.1	8.7	6.3	1.0	2.1	Feb-11
Bloomberg U.S. Aggregate Index			*1.9*	*-3.0*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-10.3*	*-0.3*	*8.7*	*7.9*	*-0.4*	*1.9*	
Western Asset Core Plus	118,812,660	2.3	3.1	-1.7	-15.9	-3.2	0.1	1.7	-14.5	2.4	9.3	9.4	-0.4	3.7	Jun-04
Bloomberg U.S. Aggregate Index			*1.9*	*-3.0*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-10.3*	*-0.3*	*8.7*	*7.9*	*-0.4*	*3.1*	
High Yield/ Specialty Credit	**255,740,719**	**5.1**	**2.3**	**2.3**	**-9.5**	**0.1**	**2.1**	**-**	**-10.0**	**13.1**	**-0.5**	**7.0**	**2.8**	**2.1**	**Jul-14**
ICE BofA U.S. High Yield Index			*4.0*	*3.3*	*-11.3*	*-0.2*	*2.1*	*-*	*-12.7*	*15.6*	*-1.1*	*7.6*	*2.5*	*3.1*	
Western Asset High Yield Fixed Income	161,987,205	3.2	3.9	3.7	-12.4	-0.9	1.8	3.6	-14.1	16.5	-2.2	8.3	2.2	5.6	Jun-05
50% Bloomberg US HY Ba 2%/50% Bloomberg US HY B 2% CAP			*4.6*	*3.8*	*-10.6*	*0.3*	*2.6*	*4.0*	*-12.4*	*13.4*	*2.1*	*8.8*	*1.8*	*5.8*	
TCW Securitized Opportunities	93,753,514	1.9	-0.2	0.5	-5.0	1.2	2.3	-	-4.0	6.4	2.2	5.2	4.3	3.1	Feb-16
Bloomberg U.S. High Yield - 2% Issuer Cap			*4.2*	*3.5*	*-11.2*	*0.0*	*2.3*	*-*	*-12.8*	*15.3*	*0.0*	*7.5*	*2.6*	*5.3*	
Emerging Market Debt	**201,843,943**	**4.0**	**9.2**	**4.6**	**-13.0**	**-4.0**	**-2.2**	**-**	**-19.8**	**9.1**	**-1.7**	**7.9**	**-4.2**	**-0.4**	**Jul-14**
50 JPM EMBI Global Div / 50 JPM GBI EM Global Div			*8.3*	*3.3*	*-14.8*	*-5.7*	*-1.9*	*-*	*-20.2*	*7.1*	*-1.1*	*10.8*	*-1.9*	*-0.2*	
Stone Harbor Emerging Markets Debt Blend Portfolio	63,666,940	1.3	9.1	4.7	-14.3	-4.9	-2.2	-1.0	-20.9	9.5	-1.8	8.2	-3.1	-0.6	Aug-12
50 JPM GBI-EM Global Div/ 40 JPM EMBI Global Div/ 10 JPM Corporate EM Bond Idx			*7.9*	*3.1*	*-14.2*	*-5.3*	*-1.6*	*-0.1*	*-19.5*	*7.2*	*-0.8*	*10.6*	*-1.7*	*0.5*	
PIMCO EMD	138,177,003	2.7	9.2	4.5	-12.2	-	-	-	-19.2	8.7	-	-	-	-4.3	Feb-20
50 JPM EMBI Global Div / 50 JPM GBI EM Global Div			*8.3*	*3.3*	*-14.8*	*-*	*-*	*-*	*-20.2*	*7.1*	*-*	*-*	*-*	*-5.9*	
Commodities	**205,801,777**	**4.1**	**5.1**	**-2.6**	**11.7**	**12.7**	**6.8**	**-**	**19.4**	**42.5**	**-11.3**	**-6.7**	**13.3**	**0.1**	**Jul-13**
Bloomberg Commodity Index Total Return			*2.2*	*-2.0*	*16.1*	*12.7*	*6.4*	*-*	*24.3*	*45.6*	*-17.4*	*-6.8*	*7.3*	*-0.2*	
Gresham MTAP Commodity Builder Fund	52,497,584	1.0	1.4	-3.7	16.7	12.8	6.4	-	24.7	46.8	-16.3	-9.0	12.4	-0.1	Oct-13
Bloomberg Commodity Index Total Return			*2.2*	*-2.0*	*16.1*	*12.7*	*6.4*	*-*	*24.3*	*45.6*	*-17.4*	*-6.8*	*7.3*	*-0.3*	
WTC-CTF	153,304,193	3.0	6.8	-1.9	9.9	13.2	7.2	-	17.2	40.2	-7.5	-5.4	14.2	0.7	Sep-13
S&P GSCI Commodity Equal Weighted			*6.9*	*-0.7*	*12.0*	*12.1*	*7.3*	*-*	*19.0*	*40.9*	*-12.4*	*-3.5*	*12.6*	*1.0*	
Hedge Funds	**542,272,051**	**10.7**	**2.2**	**3.7**	**4.6**	**9.0**	**7.0**	**5.9**	**3.0**	**16.1**	**7.0**	**2.5**	**7.6**	**5.9**	**Sep-10**
75% 90 Day TBills +4% / 25% MSCI ACWI (Net)			*3.9*	*3.4*	*-0.6*	*5.0*	*5.7*	*5.9*	*-0.9*	*12.3*	*5.1*	*6.6*	*7.0*	*5.8*	
Aristeia International Limited	68,181,409	1.3	-0.8	1.4	0.9	10.0	8.8	-	1.8	21.6	8.7	9.2	2.6	5.1	May-14
Brevan Howard Fund	76,763,840	1.5	0.3	5.4	19.8	16.1	13.9	-	15.2	6.1	20.5	12.7	7.8	8.3	Sep-13
D.E. Shaw Composite Fund	58,856,929	1.2	2.9	6.6	25.4	21.7	17.3	-	29.0	19.0	15.6	11.5	11.3	14.6	Jul-13
HBK Fund II	44,169,126	0.9	4.2	5.7	2.8	6.4	5.5	-	2.3	11.0	1.5	5.5	3.0	4.5	Nov-13
Hudson Bay Cap Structure Arbitrage Enhanced Fund	80,091,097	1.6	2.2	5.8	9.3	12.9	-	-	7.7	14.2	16.2	-	-	12.4	Jun-19
Indus Pacific Opportunities Fund	37,237,546	0.7	0.0	0.9	-0.6	13.1	4.0	-	-8.2	38.0	15.8	-19.2	15.8	7.3	Jul-14
Magnetar Structured Credit Fund	7,260,041	0.1	1.7	2.2	0.6	12.1	9.4	-	1.1	38.1	-0.2	5.4	7.7	7.8	May-14
Pharo Macro Fund	62,281,994	1.2	1.9	0.2	-7.5	-1.7	-	-	-11.1	3.5	-	-	-	-1.7	Dec-19
PIMCO Commodity Alpha Fund	63,025,840	1.2	7.2	4.4	2.1	9.4	8.1	-	8.6	14.2	4.8	5.2	10.4	9.9	Jun-16
Sculptor Domestic Partners II LP	44,404,229	0.9	1.5	0.8	-15.9	-0.7	-	-	-19.9	16.8	6.5	-	-	3.7	Feb-19
Alpha Pool	**239,505,576**	**4.7**	**0.5**	**0.6**	**0.7**	**-**	**-**	**-**	**1.5**	**14.5**	**-**	**-**	**-**	**6.5**	**Jul-20**
90-Day T-Bill +4%			*1.8*	*3.3*	*5.5*	*-*	*-*	*-*	*4.2*	*4.1*	*-*	*-*	*-*	*4.7*	
Hudson Bay	61,864,015	1.2	-0.5	1.4	4.2	-	-	-	6.7	-	-	-	-	8.4	Aug-20
Davidson Kempner Institutional Partners	54,247,004	1.1	-0.8	-2.0	-5.0	-	-	-	-3.4	-	-	-	-	1.3	Dec-20
HBK Fund II	42,476,585	0.8	1.6	2.2	-1.2	-	-	-	1.3	-	-	-	-	4.1	Dec-20
HBK Opportunities Platform – SPAC Series	24,757,936	0.5	-0.2	-0.8	-2.5	-	-	-	-2.5	-	-	-	-	2.2	Nov-20
Garda Fixed Income Relative Value Opportunity Fund	56,160,036	1.1	2.1	1.8	8.0	-	-	-	-	-	-	-	-	5.6	Sep-21

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
Midstream Energy	**299,392,352**	**5.9**	**7.6**	**13.0**	**22.4**	**-**	**-**	**-**	**9.3**	**-**	**-**	**-**	**-**	**31.6**	**Sep-20**
Alerian Midstream Energy Index			*8.4*	*7.3*	*21.5*	*-*	*-*	*-*	*11.4*	*-*	*-*	*-*	*-*	*28.9*	
Harvest Midstream	152,077,589	3.0	7.0	14.3	30.4	-	-	-	15.3	-	-	-	-	39.1	Aug-20
Alerian Midstream Energy Index			*8.4*	*7.3*	*21.5*	*-*	*-*	*-*	*11.4*	*-*	*-*	*-*	*-*	*28.9*	
PIMCO Midstream	147,314,763	2.9	8.4	11.0	12.4	-	-	-	2.2	-	-	-	-	24.8	Sep-20
50/25/25 Alerian Midstream/ ICE BofA US Pipeline/ ICE BofA US HY Midstream			*6.5*	*5.1*	*4.2*	*-*	*-*	*-*	*-0.7*	*-*	*-*	*-*	*-*	*-*	
Core Real Estate	**340,306,582**	**6.7**	**-4.6**	**-4.1**	**7.4**	**8.1**	**7.1**	**-**	**24.8**	**5.6**	**1.4**	**5.9**	**7.4**	**8.1**	**Oct-14**
NCREIF ODCE			*-5.0*	*-4.5*	*7.5*	*9.9*	*8.7*	*-*	*29.5*	*8.0*	*2.2*	*6.4*	*8.4*	*9.5*	
ASB Allegiance Real Estate Fund	189,419,041	3.7	-4.0	-1.9	10.7	8.6	7.5	-	23.0	5.4	1.5	6.8	7.1	8.4	Sep-13
NCREIF ODCE			*-5.0*	*-4.5*	*7.5*	*9.9*	*8.7*	*-*	*29.5*	*8.0*	*2.2*	*6.4*	*8.4*	*9.8*	
JPMCB Strategic Property Fund	150,887,540	3.0	-5.3	-6.7	3.8	7.8	6.9	-	27.8	5.9	1.3	5.0	7.6	7.9	Jul-14
NCREIF ODCE			*-5.0*	*-4.5*	*7.5*	*9.9*	*8.7*	*-*	*29.5*	*8.0*	*2.2*	*6.4*	*8.4*	*9.6*	
Private Real Estate	**119,647,273**	**2.4**	**2.4**	**5.6**	**17.7**	**17.6**	**12.3**	**12.7**	**31.3**	**12.1**	**4.4**	**9.0**	**5.4**	**12.8**	**Mar-11**
			2.4	*5.6*	*17.7*	*17.6*	*12.3*	*13.2*	*31.3*	*12.1*	*4.4*	*9.0*	*5.4*	*12.9*	
Private Equity	**157,192,972**	**3.1**	**-3.3**	**-6.8**	**-1.8**	**12.5**	**10.9**	**10.6**	**22.9**	**41.7**	**-10.5**	**10.9**	**7.8**	**10.5**	**Sep-10**
			-3.3	*-6.8*	*-1.8*	*12.5*	*10.9*	*11.1*	*23.0*	*41.7*	*-10.5*	*10.9*	*7.8*	*10.7*	
Private Credit	**242,779,662**	**4.8**	**-0.9**	**-2.1**	**-2.3**	**2.2**	**4.5**	**-**	**1.2**	**4.8**	**5.5**	**9.7**	**9.3**	**-25.2**	**Dec-15**
			-0.9	*-2.1*	*-2.3*	*2.2*	*4.5*	*-*	*1.2*	*4.8*	*5.5*	*9.7*	*9.3*	*6.6*	
Opportunistic	**169,805,558**	**3.4**	**-0.8**	**-3.9**	**-14.3**	**9.7**	**-**	**-**	**-5.4**	**59.9**	**-**	**-**	**-**	**10.0**	**Jan-20**
Assumed Rate of Return +3%			*1.8*	*3.6*	*7.2*	*7.2*	*-*	*-*	*7.2*	*7.2*	*-*	*-*	*-*	*7.2*	
River Birch International	7,537,076	0.1	1.8	8.4	7.8	-2.8	-2.7	-	-0.2	-0.7	-19.9	-0.5	2.8	-	Jul-15
Assumed Rate of Return +3%			*1.8*	*3.6*	*7.2*	*7.2*	*-*	*-*	*7.2*	*7.2*	*7.2*	*-*	*-*	*-*	
DB Investors Fund IV	21,705,376	0.4	-3.9	-14.9	-50.5	2.8	-	-	-34.4	95.1	-	-	-	2.8	Dec-19
Assumed Rate of Return +3%			*1.8*	*3.6*	*7.2*	*7.2*	*-*	*-*	*7.2*	*7.2*	*-*	*-*	*-*	*7.2*	
Sixth Street TAO Partners (D)	90,905,157	1.8	3.1	-1.8	3.6	-	-	-	9.6	39.6	-	-	-	16.0	Mar-20
Assumed Rate of Return +3%			*1.8*	*3.6*	*7.2*	*-*	*-*	*-*	*7.2*	*7.2*	*-*	*-*	*-*	*7.2*	
Aristeia Select Opportunities II	49,657,949	1.0	-6.1	-4.7	-3.6	-	-	-	-	-	-	-	-	-0.1	Jul-21
Assumed Rate of Return +3%			*1.8*	*3.6*	*7.2*	*-*	*-*	*-*	*7.2*	*-*	*-*	*-*	*-*	*7.2*	
Cash	**-67,752,688**	**-1.3**	**6.5**	**7.4**	**6.6**	**2.3**	**2.3**	**-2.3**	**-0.8**	**0.1**	**1.0**	**2.0**	**3.2**	**-1.9**	**Apr-11**

Vintage Year	Manager/Fund	Estimated Market Value as of 12/31/2022	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
			IRR Analysis as of IRR date									
Private Equity												
2005	Abbott Capital PE V	$2,868,708	$65,000,000	$62,790,000	97%	$2,210,000	$89,361,494	$3,100,331	*1.42x*	*1.47x*	*6.9%*	12/31/21
2008	Abbott Capital PE VI	$18,940,319	$50,000,000	$49,750,000	100%	$250,000	$77,095,564	$22,959,156	*1.55x*	*1.93x*	*13.0%*	09/30/22
2006	Pantheon Global III	$553,872	$50,000,000	$47,300,000	95%	$2,700,000	$52,000,000	$567,222	*1.10x*	*1.11x*	*1.9%*	09/30/22
1998	Pantheon USA III	$47,064	$7,500,000	$7,335,000	98%	$165,000	$8,197,500	$49,712	*1.12x*	*1.12x*	*1.9%*	09/30/22
2002	Pantheon USA V	$411,492	$25,000,000	$24,350,000	97%	$650,000	$37,950,000	$414,136	*1.56x*	*1.58x*	*9.0%*	09/30/22
2004	Pantheon USA VI	$346,190	$35,000,000	$33,075,000	95%	$1,925,000	$50,623,827	$354,968	*1.53x*	*1.54x*	*6.7%*	09/30/22
2006	Pantheon USA VII	$7,894,161	$50,000,000	$46,600,000	93%	$3,400,000	$79,424,999	$8,101,079	*1.70x*	*1.87x*	*10.2%*	09/30/22
2020	Vista Foundation Fund IV	$13,821,190	$25,000,000	$14,189,855	57%	$10,810,145	$30,252	$13,958,460	*0.00x*	*0.98x*	*9.8%*	09/30/22
2021	Crown Global Secondaries V Master S.	$24,331,453	$50,000,000	$19,250,000	39%	$30,750,000	$0	$21,065,609	*0.00x*	*1.26x*	*35.8%*	09/30/22
2021	Brighton Park Capital Fund I	$35,136,102	$30,000,000	$33,416,761	111%	-$3,416,761	$1,325,801	$37,910,214	*0.04x*	*1.09x*	*17.5%*	09/30/22
2021	Warren Equity Partners Fund III	$25,661,636	$32,500,000	$22,969,862	71%	$9,530,138	$508,290	$8,979,016	*0.02x*	*1.14x*	*23.8%*	06/30/22
2021	Peak Rock Capital Fund III	$10,755,627	$30,000,000	$11,109,034	37%	$18,890,966	$1,879,477	$9,273,982	*0.17x*	*1.14x*	22.27%	09/30/22
2021	Level Equity Growth Partners V	$4,037,203	$15,000,000	$4,759,015	32%	$10,240,985	$0	N/A	*0.00x*	N/A	N/A	N/A
2021	Level Equity Opportunities Fund 2021	$3,212,848	$15,000,000	$3,673,753	24%	$11,326,247	$0	N/A	*0.00x*	N/A	N/A	N/A
2022	Linden Capital Partners V LP	$5,461,028	$22,500,000	$5,623,610	25%	$16,876,390	$0	N/A	*0.00x*	N/A	N/A	N/A
2022	Rubicon Technology Partners IV LP	$3,214,080	$30,000,000	$3,214,080	11%	$26,785,920	$0	N/A	*0.00x*	N/A	N/A	N/A
2022	OrbiMed Private Investments IX, LP	$500,000	$10,000,000	$500,000	5%	$9,500,000	$0	N/A	*0.00x*	N/A	N/A	N/A
	Total Private Equity	**$157,192,972**	$542,500,000	$389,905,970	72%	$152,594,030	$398,397,205	$126,733,885	*1.02x*	*1.42x*		
	% of Portfolio (Market Value)	***3.1%***										

[1](DPI) is equal to (capital returned / capital called)
[2](TVPI) is equal to (market value + capital returned) / capital called
[3]Net 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.

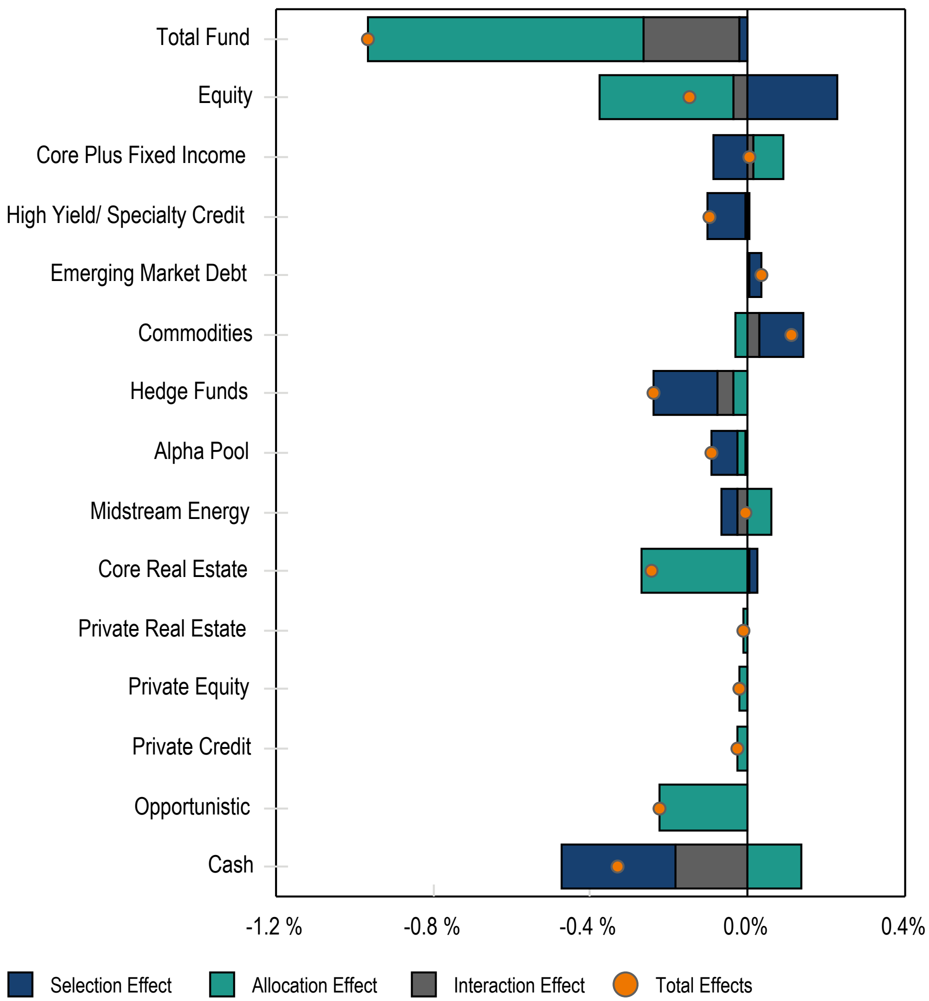
			IRR Analysis as of IRR date									
Vintage Year	Manager/Fund	Estimated Market Value 12/31/2022	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI)[1]	Tot. Value/ Paid-In (TVPI)[2]	Net IRR Since Inception[3]	IRR Date
Private Credit												
2015	DC Value Recovery Fund IV[4]	$18,822,414	$60,000,000	$73,340,099	122%	-$5,500,870	$37,625,485	$33,313,661	*0.51x*	*0.77x*	*11.0%*	9/30/22
2017	Sixth Street TAO Partners (B)	$38,674,463	$50,000,000	$67,850,097	136%	-$17,850,097	$42,191,344	$37,760,184	*0.62x*	*1.19x*	*9.9%*	9/30/22
2017	Brookfield Real Estate Finance Fund V	$19,618,101	$50,000,000	$36,019,917	72%	$13,980,083	$26,878,678	$19,766,051	*0.75x*	*1.29x*	7.70%	9/30/22
2018	Magnetar Constellation Fund V	$29,927,932	$60,000,000	$64,905,493	108%	-$4,905,493	$41,406,431	$29,927,932	*0.64x*	*1.10x*	*7.1%*	11/30/22
2019	H.I.G Bayside Loan Opportunity Fund V	$40,072,143	$60,000,000	$33,496,503	56%	$26,503,497	$11,244,389	$40,257,660	*0.34x*	*1.53x*	*17.8%*	9/30/22
2020	Blue Torch Credit Opportunities Fund II	$17,089,280	$20,000,000	$16,613,092	83%	$3,386,908	$1,836,476	$19,379,415	*0.11x*	*1.14x*	*13.7%*	9/30/22
2022	Blue Torch Credit Opportunities Fund III	$7,389,421	$40,000,000	$7,199,891	18%	$32,800,109	$0	*N/A*	*0.00x*	*1.03x*	*N/A*	*N/A*
2020	Fortress Credit Opportunites Fund V Expansion	$14,019,822	$40,000,000	$12,688,449	32%	$27,311,551	$468,590	$12,998,162	*0.04x*	*1.14x*	*23.8%*	9/30/22
2021	Fortress Lending Fund II	$28,599,104	$40,000,000	$32,137,851	80%	$7,862,149	$4,398,525	$30,712,727	*0.14x*	*1.03x*	*11.1%*	9/30/22
2022	Fortress Lending Fund III	$24,006,650	$40,000,000	$22,800,000	57%	$17,200,000	$0	$15,394,988	*N/A*	*N/A*	*N/A*	9/30/22
2022	OrbiMed Royalty & Credit Opportunities IV	$4,560,332	$30,000,000	$4,500,000	15%	$25,500,000	$0	$3,000,000	*0.00x*	*1.01x*	*25.8%*	9/30/22
	Total Private Credit	**$242,779,662**	$490,000,000	$371,551,392	76%	$126,287,837	$166,049,918	$242,510,780	*0.45x*	*1.10x*		
	% of Portfolio (Market Value)	***4.8%***										

[1](DPI) is equal to (capital returned / capital called)
[2](TVPI) is equal to (market value + capital returned) / capital called
[3]Net 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]Name changed from Colony Distressed Credit fund to DC Value Recovery Fund IV

			IRR Analysis as of IRR date									
Vintage Year	Manager/Fund	Estimated Market Value 12/31/2022	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 Real Estate												
2014	Invesco Real Estate Value-Add Fund IV	$2,659,454	$50,000,000	$43,637,717	87%	$6,362,283	$55,590,259	$4,031,249	*1.27x*	*1.33x*	*10.8%*	09/30/22
2017	Landmark Real Estate Partners VIII	$31,724,146	$60,000,000	$38,464,357	64%	$21,535,643	$22,374,230	$28,646,936	*0.58x*	*1.41x*	*21.8%*	09/30/22
2018	Long Wharf Real Estate Partners VI	$34,816,611	$50,000,000	$44,063,429	88%	$5,936,571	$17,542,121	$34,816,611	*0.40x*	*1.19x*	*24.8%*	12/31/22
2020	Covenant Apartment Fund X	$30,285,646	$30,000,000	$22,807,333	76%	$7,192,667	$6,027,231	$27,939,711	*0.26x*	*1.59x*	*33.3%*	09/30/22
2021	Singerman Real Estate Opportunity Fund IV	$8,214,827	$35,000,000	$8,146,250	23%	$26,853,750	$0	$3,850,122	*0.00x*	*1.01x*	*22.3%*	09/30/22
2022	LBA Logistics Value Fund IX, L.P.	$7,574,005	$40,000,000	$8,076,923	5%	$38,076,923	$0	N/A	N/A	N/A	N/A	N/A
2022	Covenant Apartment Fund XI	$4,753,125	$30,000,000	$3,300,000	105%	$38,076,924	$0	$1,507,333	*0.00x*	*1.44x*	*16.0%*	09/30/22
	Total Private Real Estate	**$120,027,813**	$295,000,000	$168,496,010	57%	$144,034,760	$101,533,841	$100,791,963	*0.60x*	*1.31x*		
	% of Portfolio (Market Value)	***2.4%***										

[1](DPI) is equal to (capital returned / capital called)
[2](TVPI) is equal to (market value + capital returned) / capital called
[3]Net 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.

Attribution Effects
Last Three Months



Performance Attribution

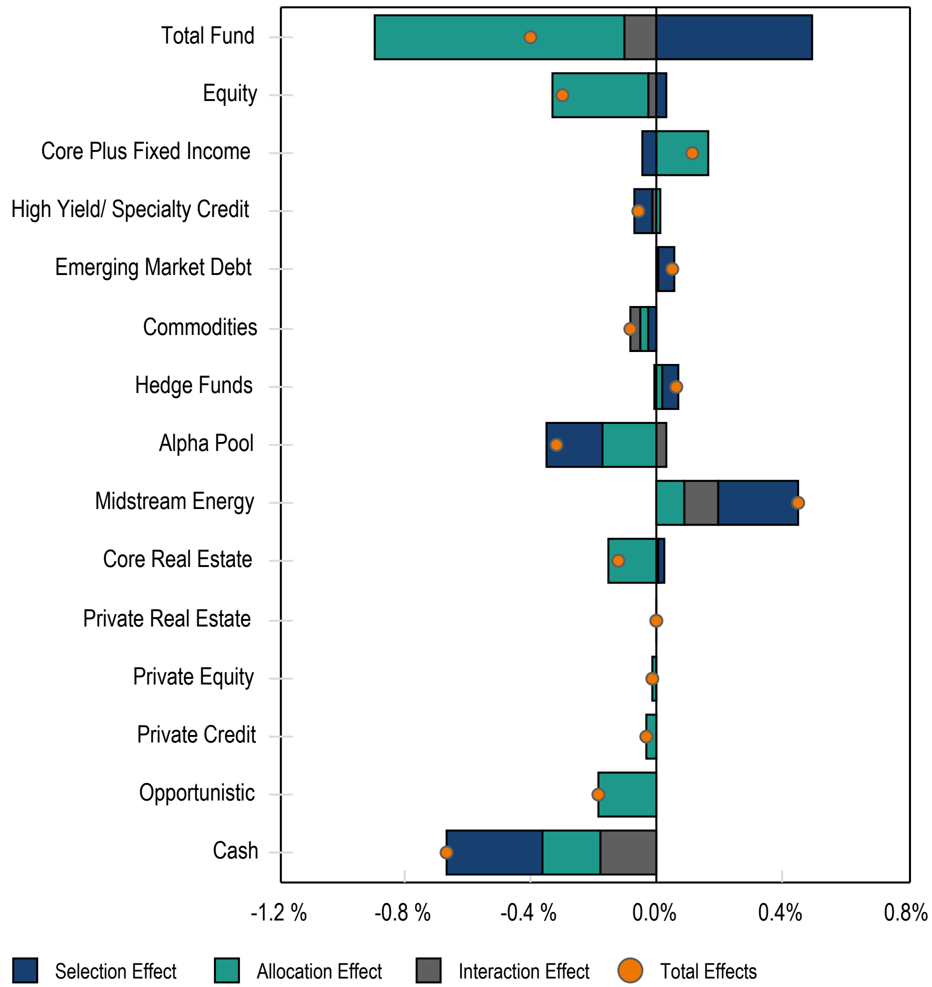
	Last Three Months
Wtd. Actual Return	4.4
Wtd. Index Return	5.4
Excess Return	**-1.0**
Selection Effect	0.0
Allocation Effect	-0.7
Interaction Effect	-0.2

Attribution Summary
Last Three Months

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	10.5	9.8	0.6	0.2	-0.3	0.0	-0.1
Core Plus Fixed Income	1.4	1.9	-0.5	-0.1	0.1	0.0	0.0
High Yield/ Specialty Credit	2.3	4.0	-1.6	-0.1	0.0	0.0	-0.1
Emerging Market Debt	9.2	8.3	0.9	0.0	0.0	0.0	0.0
Commodities	5.1	2.2	2.8	0.1	0.0	0.0	0.1
Hedge Funds	2.2	3.9	-1.7	-0.2	0.0	0.0	-0.2
Alpha Pool	0.5	1.8	-1.3	-0.1	0.0	0.0	-0.1
Midstream Energy	7.6	8.4	-0.8	-0.1	0.1	0.0	0.0
Core Real Estate	-4.6	-5.0	0.4	0.0	-0.3	0.0	-0.2
Private Real Estate	2.4	2.4	0.0	0.0	0.0	0.0	0.0
Private Equity	-3.3	-3.3	0.0	0.0	0.0	0.0	0.0
Private Credit	-0.9	-0.9	0.0	0.0	0.0	0.0	0.0
Opportunistic	-0.8	1.8	-2.6	0.0	-0.2	0.0	-0.2
Cash	6.5	0.8	5.7	-0.5	0.1	-0.2	-0.3
Total Fund	**4.4**	**5.4**	**-1.0**	**-0.6**	**-0.7**	**-0.2**	**-1.0**

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

Attribution Effects Fiscal YTD



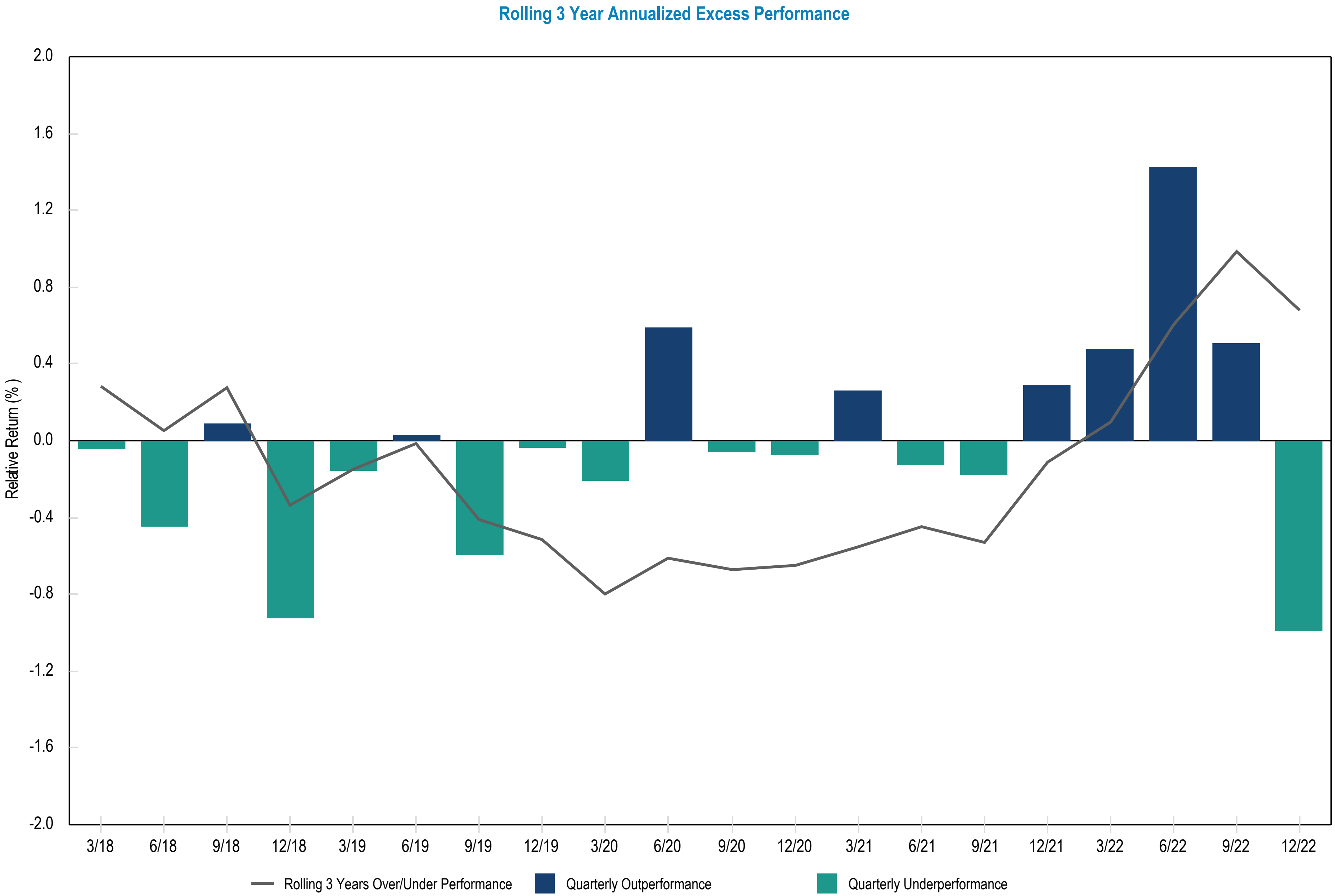
Performance Attribution

	Fiscal YTD
Wtd. Actual Return	1.0
Wtd. Index Return	1.4
Excess Return	**-0.4**
Selection Effect	0.5
Allocation Effect	-0.8
Interaction Effect	-0.1

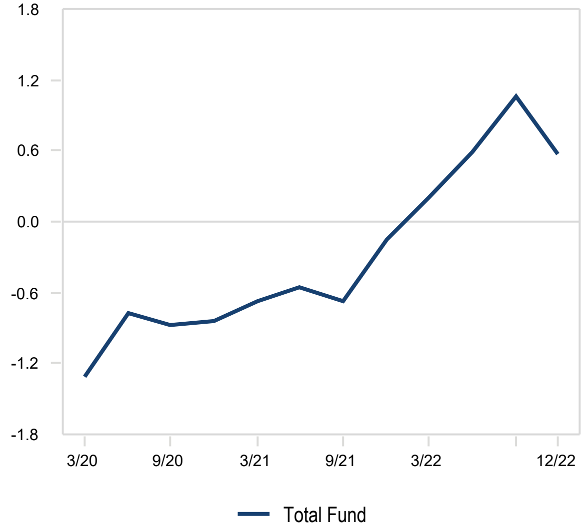
Attribution Summary Fiscal YTD

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	2.6	2.6	0.1	0.0	-0.3	0.0	-0.3
Core Plus Fixed Income	-3.2	-3.0	-0.3	0.0	0.2	0.0	0.1
High Yield/ Specialty Credit	2.3	3.3	-1.0	-0.1	0.0	0.0	-0.1
Emerging Market Debt	4.6	3.3	1.3	0.1	0.0	0.0	0.1
Commodities	-2.6	-2.0	-0.6	-0.1	0.0	0.0	-0.1
Hedge Funds	3.7	3.4	0.3	0.0	0.0	0.0	0.1
Alpha Pool	0.6	3.3	-2.7	-0.1	-0.2	0.0	-0.3
Midstream Energy	13.0	7.3	5.6	0.4	0.1	0.1	0.5
Core Real Estate	-4.1	-4.5	0.4	0.0	-0.1	0.0	-0.1
Private Real Estate	5.6	5.6	0.0	0.0	0.0	0.0	0.0
Private Equity	-6.8	-6.8	0.0	0.0	0.0	0.0	0.0
Private Credit	-2.1	-2.1	0.0	0.0	0.0	0.0	0.0
Opportunistic	-3.9	3.6	-7.5	0.0	-0.2	0.0	-0.2
Cash	7.4	1.3	6.1	-0.5	-0.2	-0.2	-0.7
Total Fund	**1.0**	**1.4**	**-0.4**	**-0.3**	**-0.8**	**-0.1**	**-0.4**

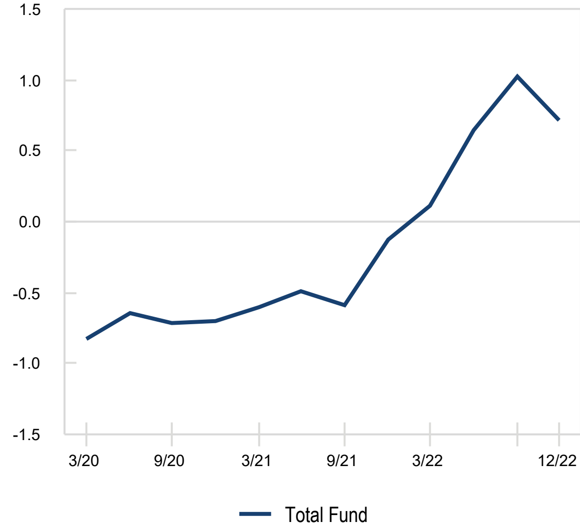
Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.


Rolling 3 Year Annualized Excess Performance
2.0
1.6
1.2
0.8
0.4
0.0
-0.4
-0.8
-1.2
-1.6
-2.0
Relative Return (%)
3/18
6/18
9/18
12/18
3/19
6/19
9/19
12/19
3/20
6/20
9/20
12/20
3/21
6/21
9/21
12/21
3/22
6/22
9/22
12/22
Rolling 3 Years Over/Under Performance
Quarterly Outperformance
Quarterly Underperformance

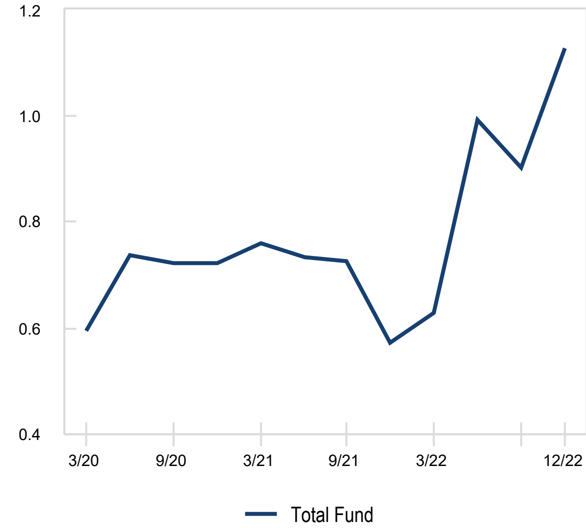
Rolling Information Ratio



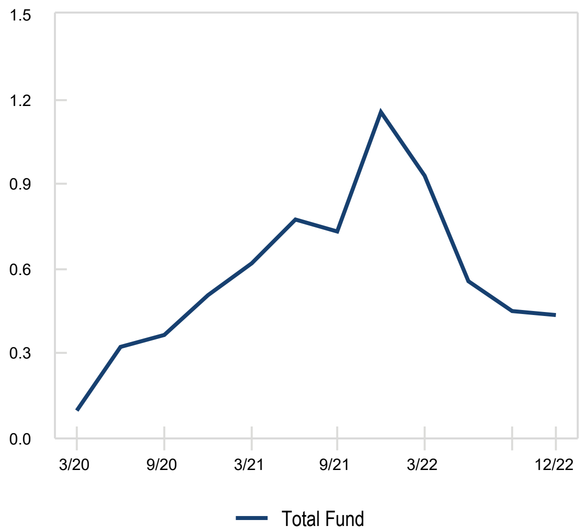
Rolling Annual Excess Benchmark Return



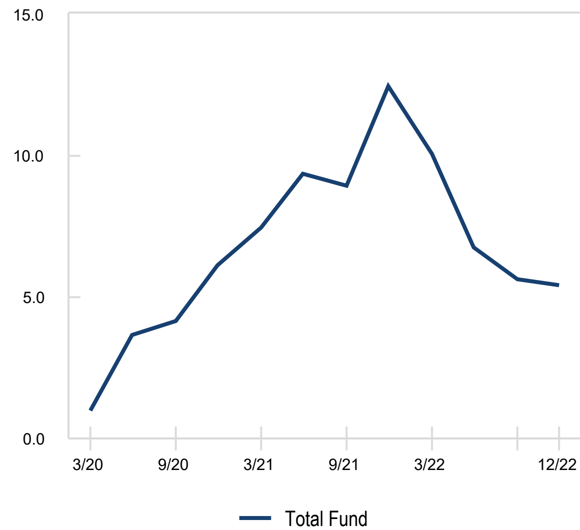
Rolling Tracking Error



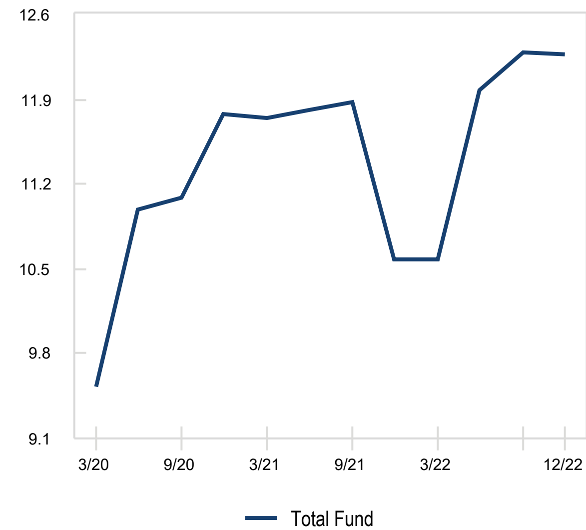
Rolling Sharpe Ratio



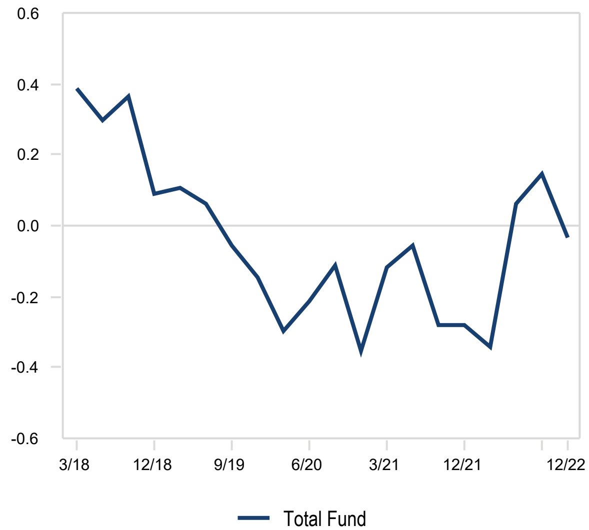
Rolling Annual Excess Risk Free Return



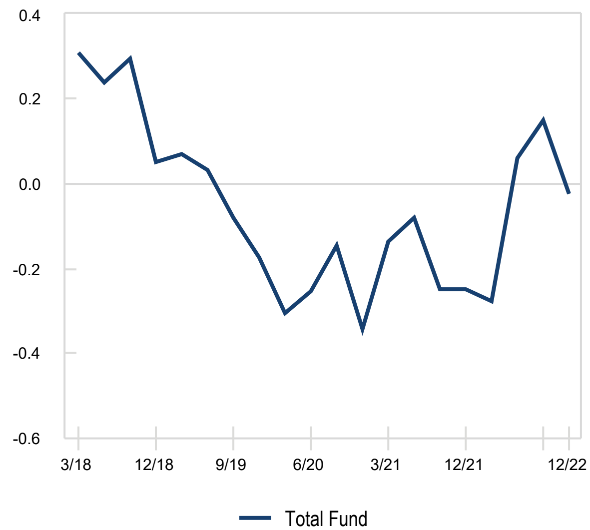
Rolling Annualized Standard Deviation



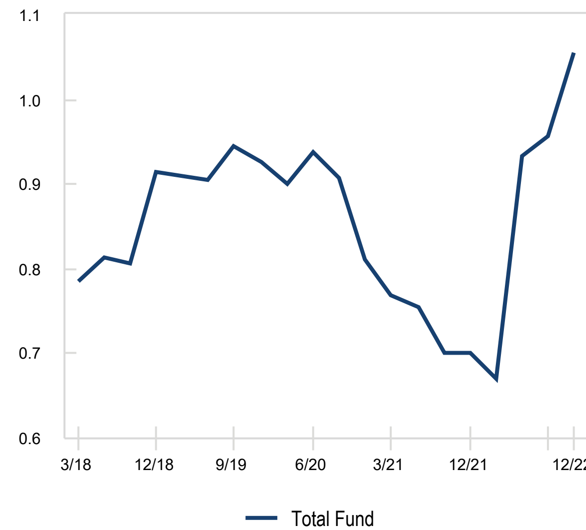
Rolling Information Ratio



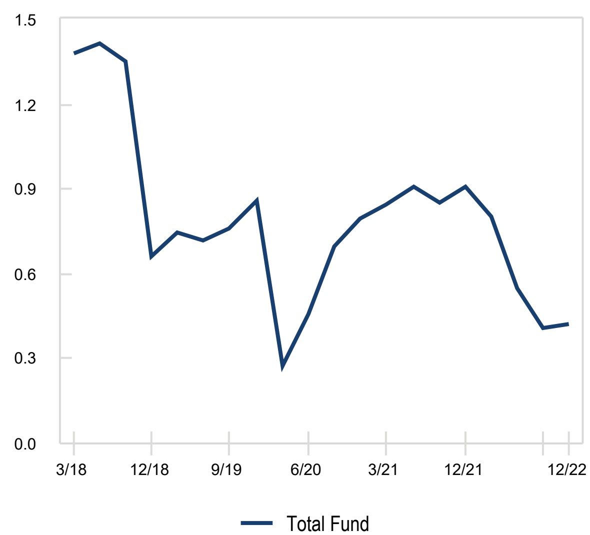
Rolling Annual Excess Benchmark Return



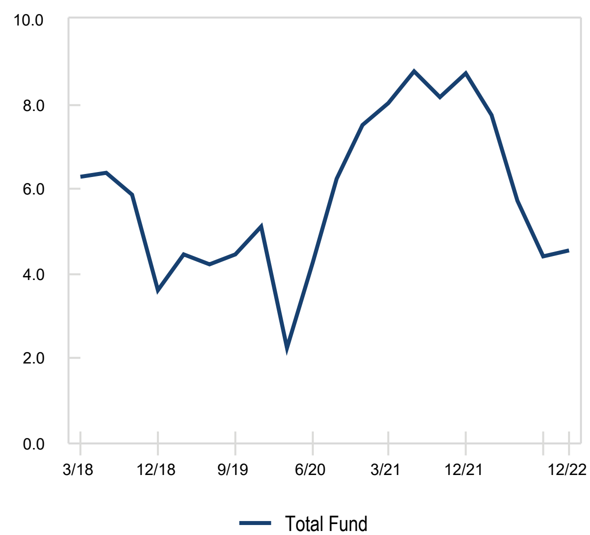
Rolling Tracking Error



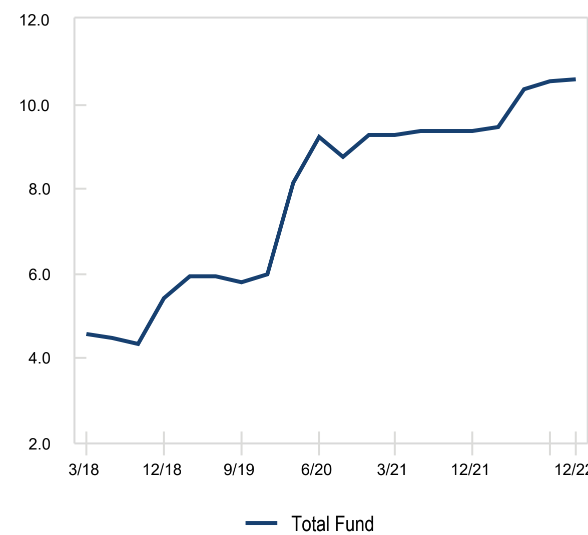
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



Rolling Annualized Standard Deviation



Cash Flows

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Ending Market Value
Equity	**1,469,296,073**		**-25,000,156**		**-20,000,020**	**153,279,806**	**1,577,575,704**
Equity Beta Exposure	124,611,900		-25,000,000			9,268,300	108,880,200
Mellon DB SL Stock Index Fund	426,205,824					32,230,263	458,436,087
PIMCO StocksPLUS	92,550,537					6,916,692	99,467,229
AB US Small Cap Value Equity	78,127,226					7,984,701	86,111,927
Geneva Capital Small Cap Growth	43,421,320		-156			2,599,399	46,020,563
Mellon DB SL World ex-US Index Fund	405,985,897					65,391,568	471,377,465
Fidelity Non-US Small Cap Equity	232,584					19,336	251,920
Cevian Capital II	31,433,651					3,002,123	34,435,773
American Century Non-US Small Cap	60,918,029				-20	7,971,923	68,889,933
DFA Emerging Markets Value I	68,160,210					6,998,468	75,158,678
AB Emerging Markets Strategic Core Equity Collective Trust	64,396,359				-20,000,000	3,789,637	48,185,996
Mellon Emerging Markets Stock Index Fund	73,251,800					7,107,288	80,359,088
Transition Equity	736					109	845
Fixed Income	**1,149,208,298**	**84,055,182**	**-2,658,271**	**-120,385**	**-29,921,330**	**31,642,837**	**1,232,206,332**
Fixed Income Beta Exposure	254,923,009	84,055,182				-1,655,528	337,322,663
Mellon DB SL Aggregate Bond Index Fund	154,776,570					2,937,145	157,713,715
PIMCO Core Plus	157,443,885					3,221,700	160,665,585
Western Asset Core Plus	115,138,268					3,674,392	118,812,660
Western Asset High Yield Fixed Income	183,575,160				-28,154,988	6,567,033	161,987,205
TCW Securitized Opportunities	97,625,393		-1,855,318	-120,385	-1,766,341	-129,835	93,753,514
Stone Harbor Emerging Markets Debt Blend Portfolio	59,118,869		-802,952			5,351,023	63,666,940
PIMCO EMD	126,505,886					11,671,117	138,177,003
Transition Fixed Income	101,258					5,790	107,047
Commodities	**231,611,569**			**-28,714**	**-37,000,000**	**11,218,921**	**205,801,777**
Gresham MTAP Commodity Builder Fund	78,689,436			-28,714	-27,000,000	836,861	52,497,584
WTC-CTF	152,922,133				-10,000,000	10,382,060	153,304,193
Hedge Funds	**555,236,603**		**-19,884,811**	**-1,110,390**	**-5,000,000**	**13,030,649**	**542,272,051**
Aristeia International Limited	68,735,073					-553,664	68,181,409
Brevan Howard Fund	76,508,122					255,718	76,763,840
D.E. Shaw Composite Fund	61,196,084		-4,120,886	-1,046,810		2,828,541	58,856,929
HBK Fund II	56,515,419		-14,726,776	-63,580		2,444,063	44,169,126
Hudson Bay Cap Structure Arbitrage Enhanced Fund	78,368,295					1,722,802	80,091,097

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Ending Market Value
Indus Pacific Opportunities Fund	37,249,096					-11,550	37,237,546
Magnetar Structured Credit Fund	8,159,524		-1,037,149			137,666	7,260,041
Pharo Macro Fund	61,133,696					1,148,298	62,281,994
PIMCO Commodity Alpha Fund	63,623,535				-5,000,000	4,402,305	63,025,840
Sculptor Domestic Partners II LP	43,747,759					656,470	44,404,229
Alpha Pool	**257,700,699**	**6,629,891**	**-18,326,095**		**-7,827,649**	**1,328,730**	**239,505,576**
Hudson Bay	60,533,289	1,605,247				-274,521	61,864,015
Davidson Kempner Institutional Partners	53,269,455	1,402,609				-425,060	54,247,004
HBK Fund II	54,349,773	1,424,384	-14,162,453			864,881	42,476,585
HBK Opportunities Platform – SPAC Series	35,999,510	741,862	-4,163,642		-7,827,649	7,855	24,757,936
Garda Fixed Income Relative Value Opportunity Fund	53,548,672	1,455,790				1,155,574	56,160,036
Midstream Energy	**322,797,858**				**-48,890,841**	**25,485,335**	**299,392,352**
Harvest Midstream	185,889,047				-47,789,638	13,978,180	152,077,589
PIMCO Midstream	136,908,811				-1,101,202	11,507,154	147,314,763
Core Real Estate	**360,386,343**			**-338,981**	**-3,926,267**	**-15,814,512**	**340,306,582**
ASB Allegiance Real Estate Fund	199,291,186				-1,951,028	-7,921,116	189,419,041
JPMCB Strategic Property Fund	161,095,157			-338,981	-1,975,239	-7,893,396	150,887,540
Private Real Estate	**104,997,989**				**12,462,751**	**2,186,534**	**119,647,273**
Invesco Real Estate Value-Add Fund IV	4,031,249					-1,371,795	2,659,454
Landmark Real Estate Partners VIII	28,646,936				2,020,382	1,056,828	31,724,146
Long Wharf Real Estate	33,209,484				1,268,583	338,544	34,816,611
Covenant Apartment Fund X	27,939,711				-380,540	2,345,935	29,905,106
Singerman Real Estate Opportunity Fund IV	3,850,122				4,331,250	33,455	8,214,827
LBA Logistics Value Fund IX, L.P.	5,813,153				1,923,077	-162,225	7,574,005
Private Equity	**151,555,511**				**10,660,667**	**-5,023,206**	**157,192,972**
Abbott V	3,100,331					-231,623	2,868,708
Abbott VI	22,959,156				-1,245,490	-2,773,347	18,940,319
Pantheon Secondary III	567,222					-13,350	553,872
Pantheon III	49,712					-2,648	47,064
Pantheon V	414,136					-2,644	411,492
Pantheon VI	354,968					-8,778	346,190

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Ending Market Value
Pantheon VII	8,101,079					-206,918	7,894,161
Vista Foundation Fund IV	13,958,460					-137,270	13,821,190
Crown Global Secondaries V Master S.C.Sp	21,065,609				2,500,000	765,844	24,331,453
Brighton Park Capital Fund I	37,910,214				748,993	-3,523,105	35,136,102
Warren Equity Partners Fund III	24,410,915					1,250,721	25,661,636
Peak Rock Capital Fund III	9,273,982				998,647	482,998	10,755,627
Level Equity Growth Partners V	2,872,189				1,443,646	-278,632	4,037,203
Level Equity Opportunities Fund 2021	1,371,903				2,022,817	-181,872	3,212,848
Linden Capital Partners V LP	5,145,635				477,975	-162,582	5,461,028
Rubicon Technology Partners IV L.P.					3,214,080		3,214,080
OrbiMed Private Investments IX, LP					500,000		500,000
Private Credit	**251,235,260**				**-6,167,405**	**-2,288,193**	**242,779,662**
DC Value Recovery Fund IV	33,313,661				-13,622,353	-868,894	18,822,414
Sixth Street TAO Partners (B)	37,760,184				325,471	588,808	38,674,463
Brookfield Real Estate Finance Fund V	19,766,051				-918,105	770,155	19,618,101
Magnetar Constellation Fund V	31,448,946				-1,900,729	379,715	29,927,932
H.I.G. Bayside Loan Opportunity Fund V	40,257,660					-185,517	40,072,143
Blue Torch Credit Opportunities Fund II	19,379,415				-262,540	-2,027,595	17,089,280
Fortress Credit Opportunites Fund V Expansion	12,998,162				1,041,074	-19,414	14,019,822
Fortress Lending Fund II	30,712,727				-1,130,223	-983,400	28,599,104
Fortress Lending Fund III	15,394,988				8,800,000	-188,338	24,006,650
OrbiMed Royalty & Credit Opportunities IV	3,000,000				1,500,000	60,332	4,560,332
Opportunistic	**168,102,976**				**3,050,766**	**-1,348,184**	**169,805,558**
DB Investors Fund IV	22,582,102					-876,726	21,705,376
Sixth Street TAO Partners (D)	84,455,252				3,814,422	2,635,483	90,905,157
Aristeia Select Opportunities II	52,911,257					-3,253,308	49,657,949
River Birch International	8,154,365				-763,656	146,367	7,537,076
Cash	**-127,163,515**	**139,365,938**	**-215,699,626**		**132,559,327**	**3,185,188**	**-67,752,688**
Short Term Cash Account	1						1
Short Term Investment Funds	62,107,829	67,719	-11,000,000		102,559,327	2,223,479	155,958,354
Parametric Cash Overlay	46,075,185	61,525,010	-40,652,380			623,880	67,571,696
Goldman Sachs Cash Account	25,625,978	40,797,305	-62,038,791				4,384,492
Futures Offset	-379,534,909	36,975,905	-102,008,455			-1,635,403	-446,202,863

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Ending Market Value
Collateral Cash							
BlackRock Short Duration Fund	118,562,401				30,000,000	1,973,232	150,535,633

Portfolio Reconciliation

	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Beginning Market Value	4,894,965,664	5,061,132,474	5,557,439,932	4,500,464,640	4,159,475,804	3,102,407,361
Contributions	478,685,097	1,865,510,648	3,377,821,291	10,197,839,022	12,256,238,485	18,157,043,144
Withdrawals	-530,203,044	-1,929,965,480	-3,480,405,383	-10,447,065,693	-12,619,579,200	-18,837,761,694
Fees	-1,598,469	-3,122,750	-12,587,940	-41,755,975	-68,491,880	-128,172,471
Net Cash Flows	-51,517,947	-64,454,832	-102,584,092	-249,226,671	-363,340,715	-680,718,550
Net Investment Change	215,285,435	62,055,509	-396,122,688	807,495,182	1,262,598,062	2,637,044,341
Ending Market Value	5,058,733,151	5,058,733,151	5,058,733,151	5,058,733,151	5,058,733,151	5,058,733,151
Net Change $	163,767,488	-2,399,323	-498,706,780	558,268,511	899,257,347	1,956,325,790

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.

Risk Metrics

Correlation Matrix
3 Years Ending December 31, 2022

	A	B	C	D	E	F	G	H	I	J	K	L
A	1.00											
B	0.98	1.00										
C	0.96	0.98	1.00									
D	0.96	0.98	0.93	1.00								
E	0.85	0.84	0.75	0.84	1.00							
F	0.82	0.79	0.75	0.77	0.77	1.00						
G	0.61	0.60	0.58	0.56	0.58	0.92	1.00					
H	0.90	0.85	0.82	0.82	0.79	0.87	0.65	1.00				
I	0.84	0.81	0.73	0.82	0.85	0.90	0.68	0.87	1.00			
J	0.71	0.63	0.57	0.67	0.62	0.39	0.11	0.60	0.56	1.00		
K	0.73	0.69	0.65	0.67	0.70	0.58	0.33	0.77	0.70	0.56	1.00	
L	-0.16	-0.17	-0.10	-0.21	-0.25	-0.36	-0.33	-0.25	-0.34	-0.01	-0.22	1.00

A = Total Fund
B = Equity
C = Domestic Equity
D = International Developed Equity
E = Emerging Markets Equity
F = Fixed Income
G = Core Plus Fixed Income
H = High Yield/ Specialty Credit
I = Emerging Market Debt
J = Commodities
K = Hedge Funds
L = Core Real Estate

Low Interaction
Moderate Interation
Moderate to High Interation
High Interaction

	Alpha	Beta	R-Squared	Return	Information Ratio	Excess Performance	Tracking Error	Sharpe Ratio	Excess Return	Standard Deviation	Sortino Ratio	Up Capture	Down Capture
Total Fund	1.0	0.9	1.0	5.5	0.4	0.7	1.5	0.5	5.2	10.3	0.7	95.7	89.3
Equity	0.4	1.0	1.0	4.3	0.4	0.4	1.0	0.3	5.6	20.1	0.4	100.1	98.6
Domestic Equity	0.0	1.0	1.0	7.2	-0.1	-0.1	1.2	0.4	8.5	21.3	0.6	99.1	99.2
International Developed Equity	0.8	1.0	1.0	1.8	0.7	0.8	1.1	0.2	3.2	20.4	0.2	102.2	99.7
Emerging Markets Equity	-1.7	1.0	1.0	-3.4	-0.6	-1.6	2.9	-0.1	-2.2	20.0	-0.1	91.0	97.4
Fixed Income	0.6	1.1	1.0	-1.9	0.5	0.4	1.0	-0.3	-2.4	7.1	-0.4	111.5	104.2
Core Plus Fixed Income	0.1	1.1	1.0	-2.7	0.0	0.0	1.2	-0.5	-3.3	6.2	-0.6	113.5	109.5
High Yield/ Specialty Credit	0.3	0.8	1.0	0.1	0.1	0.4	2.9	0.0	-0.2	9.0	0.0	75.6	73.4
Emerging Market Debt	2.1	1.1	1.0	-4.0	1.2	1.6	1.5	-0.3	-3.9	13.3	-0.4	109.8	97.1
Commodities	1.1	0.9	0.9	12.7	0.0	0.0	5.8	0.7	12.8	17.6	1.1	92.8	88.7
Hedge Funds	5.5	0.7	0.4	9.0	0.9	4.1	4.1	1.5	8.1	5.1	2.6	95.7	12.1
Core Real Estate	2.3	0.6	0.9	8.1	-0.5	-1.8	4.0	1.4	7.2	5.2	3.3	78.8	69.3
Private Real Estate	0.0	1.0	1.0	17.6	-	0.0	0.0	1.8	16.0	8.7	5.5	100.0	100.0
Private Equity	0.0	1.0	1.0	12.5	-0.6	0.0	0.0	0.9	12.1	13.9	1.7	100.0	100.1
Private Credit	0.0	1.0	1.0	2.2	-0.6	0.0	0.0	0.3	1.6	4.7	0.5	99.9	100.0

Data not available for time periods less than 3 years (Alpha Pool, Midstream, & Opportunistic added in 2020)

3 Years	Equity	MSCI AC World IMI (Net)	Core Plus Fixed Income	Bloomberg U.S. Aggregate Index	High Yield/ Specialty Credit	ICE BofA U.S. High Yield Index	Emerging Market Debt	50 JPM EMBI Global Div/ 50 JPM GBI EM Global Div	Commodities	Bloomberg Commodity Index Total Return	Hedge Funds	75% 90 Day TBills +4%/ 25% MSCI ACWI (Net)	Core Real Estate	NCREIF ODCE-monthly
RETURN SUMMARY STATISTICS														
Up Market Periods	21	21	16	16	23	23	17	17	25	25	23	23	34	34
Down Market Periods	15	15	20	20	13	13	19	19	11	11	13	13	2	2
Maximum Return	12.43	12.66	3.31	3.68	4.64	6.01	7.59	7.35	8.01	8.78	3.99	3.34	5.39	7.97
Minimum Return	-14.74	-14.39	-4.34	-4.32	-10.52	-11.76	-13.80	-12.46	-12.65	-12.81	-5.24	-3.02	-3.35	-4.97
Return	4.32	3.89	-2.73	-2.71	0.14	-0.25	-4.05	-5.66	12.65	12.65	9.03	4.99	8.12	9.93
Excess Return	5.56	5.18	-3.29	-3.30	-0.16	-0.33	-3.93	-5.73	12.83	12.98	8.09	4.28	7.25	9.13
Excess Performance	0.42	0.00	-0.01	0.00	0.39	0.00	1.62	0.00	0.00	0.00	4.04	0.00	-1.81	0.00
RISK SUMMARY STATISTICS														
Beta	0.99	1.00	1.05	1.00	0.79	1.00	1.06	1.00	0.91	1.00	0.69	1.00	0.58	1.00
Upside Risk	14.50	14.54	3.74	3.48	5.14	6.71	7.82	7.20	13.64	13.62	4.78	4.24	5.27	8.32
Downside Risk	14.05	14.18	4.98	4.66	7.34	8.84	10.84	10.33	11.83	12.95	3.10	2.89	2.15	3.00
RISK/RETURN SUMMARY STATISTICS														
Standard Deviation	20.11	20.24	6.19	5.77	8.96	11.10	13.33	12.51	17.63	18.38	5.10	4.93	5.20	8.37
Alpha	0.43	0.00	0.15	0.00	0.25	0.00	2.13	0.00	1.08	0.00	5.48	0.00	2.32	0.00
Sharpe Ratio	0.27	0.25	-0.53	-0.57	-0.02	-0.03	-0.29	-0.46	0.72	0.70	1.54	0.85	1.35	1.07
Excess Risk	20.23	20.36	6.22	5.78	9.09	11.22	13.39	12.56	17.78	18.54	5.24	5.04	5.35	8.49
Tracking Error	1.05	0.00	1.24	0.00	2.89	0.00	1.54	0.00	5.77	0.00	4.07	0.00	4.05	0.00
Information Ratio	0.36	-	0.01	-	0.06	-	1.18	-	-0.03	-	0.93	-	-0.46	-
CORRELATION STATISTICS														
R-Squared	1.00	1.00	0.96	1.00	0.96	1.00	0.99	1.00	0.90	1.00	0.45	1.00	0.86	1.00
Actual Correlation	1.00	1.00	0.98	1.00	0.98	1.00	0.99	1.00	0.95	1.00	0.67	1.00	0.93	1.00

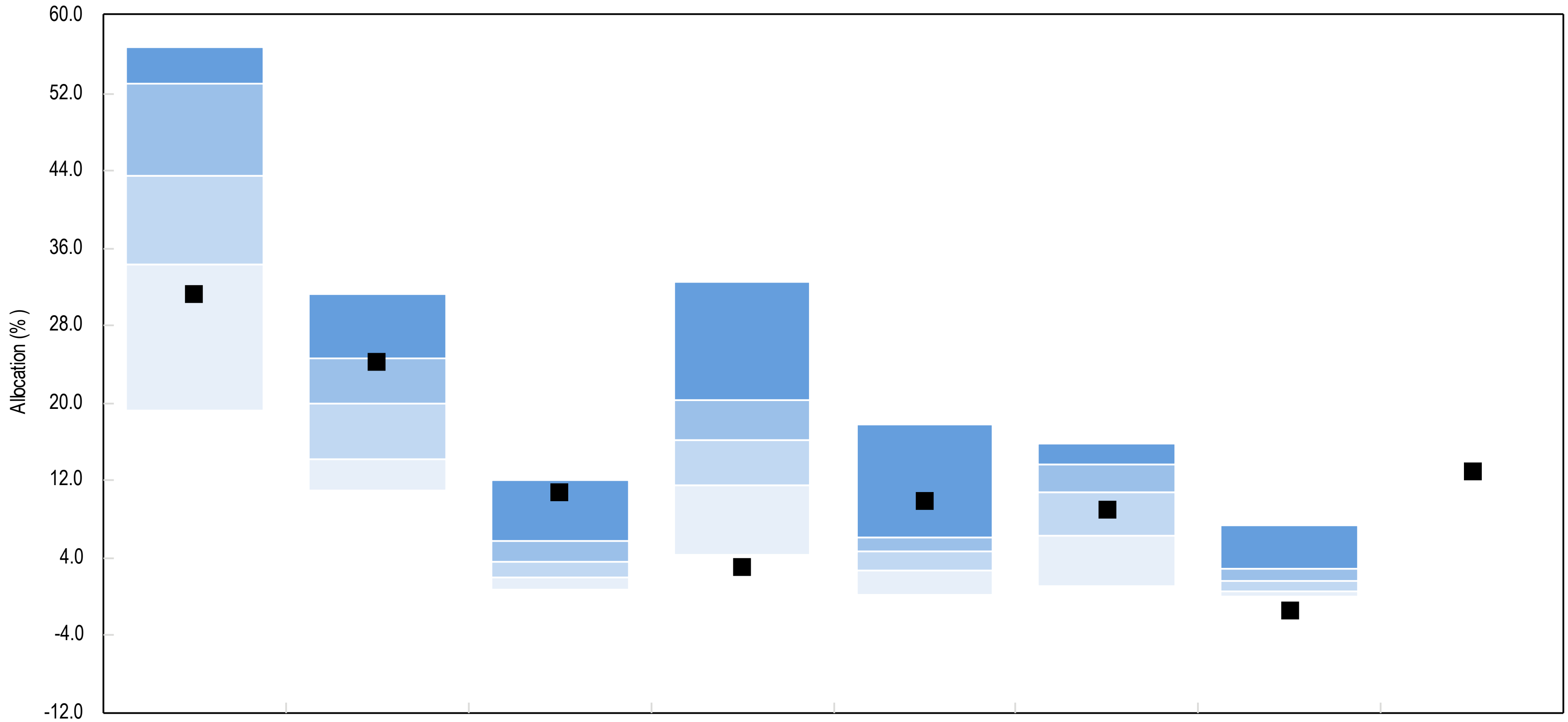
Risk Return Statistics: Last Two Years

	2 Yrs			
	Midstream Energy	Alerian Midstream Energy Index	Opportunistic	Assumed Rate of Return +3%
RETURN SUMMARY STATISTICS				
Up Market Periods	16	16	24	24
Down Market Periods	8	8	0	0
Maximum Return	11.20	11.05	19.65	0.58
Minimum Return	-11.82	-12.21	-4.04	0.58
Return	28.29	29.70	13.74	7.25
Excess Return	26.22	27.93	13.53	6.27
Excess Performance	-1.41	0.00	6.49	0.00
RISK SUMMARY STATISTICS				
Beta	0.85	1.00	-	-
Upside Risk	16.94	19.04	16.64	2.03
Downside Risk	11.36	13.31	5.38	0.00
RISK/RETURN SUMMARY STATISTICS				
Standard Deviation	18.85	21.70	17.00	0.00
Alpha	2.51	0.00	-	-
Sharpe Ratio	1.38	1.28	0.79	17.27
Excess Risk	18.95	21.80	17.09	0.36
Tracking Error	4.71	0.00	17.00	0.00
Information Ratio	-0.36	-	0.43	-
CORRELATION STATISTICS				
R-Squared	0.97	1.00	-	-
Actual Correlation	0.98	1.00	-	-

Data for unavailable for positions held for less than two years.

Peer Comparison

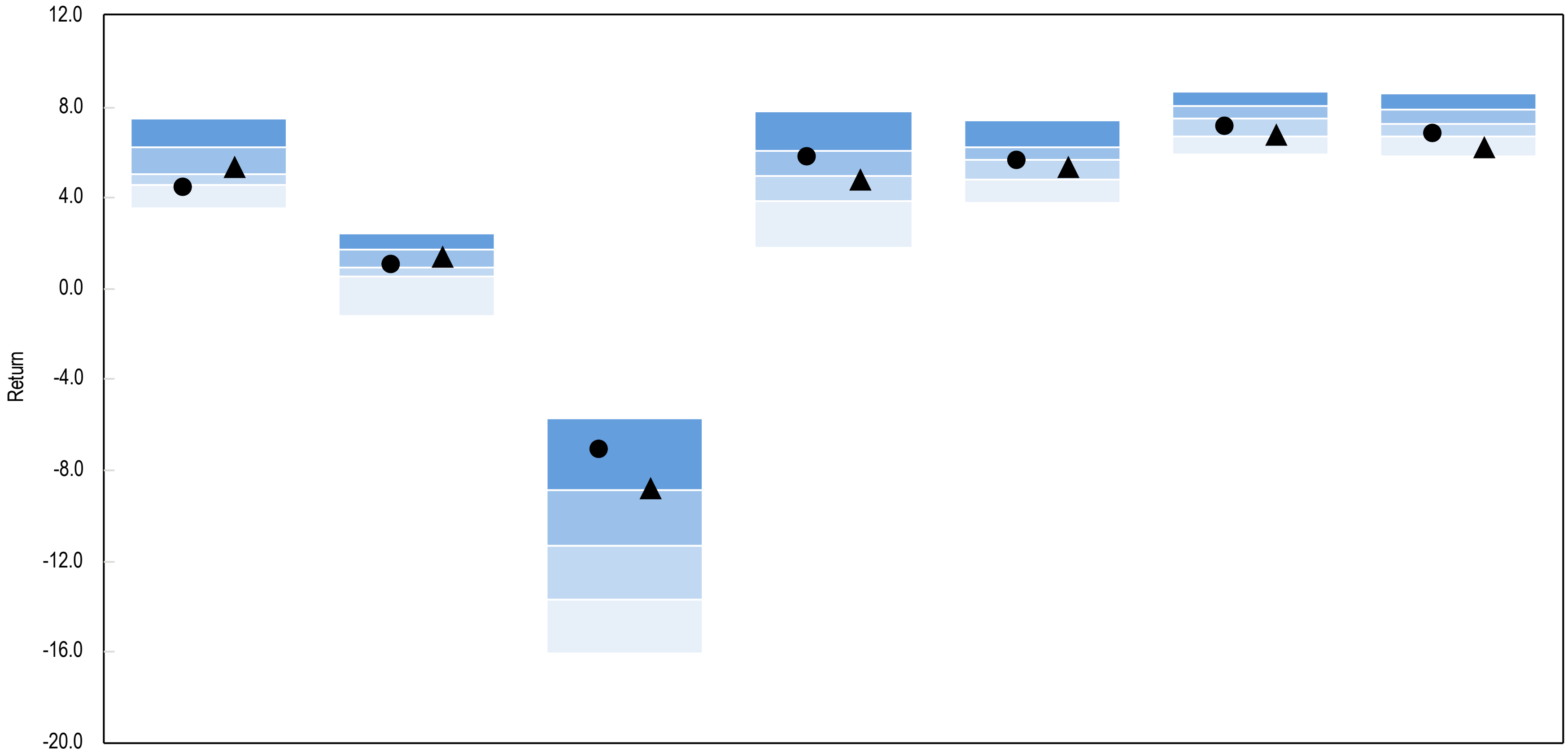
Total Plan Allocation vs. InvMetrics Public DB > $1B
As of December 31, 2022



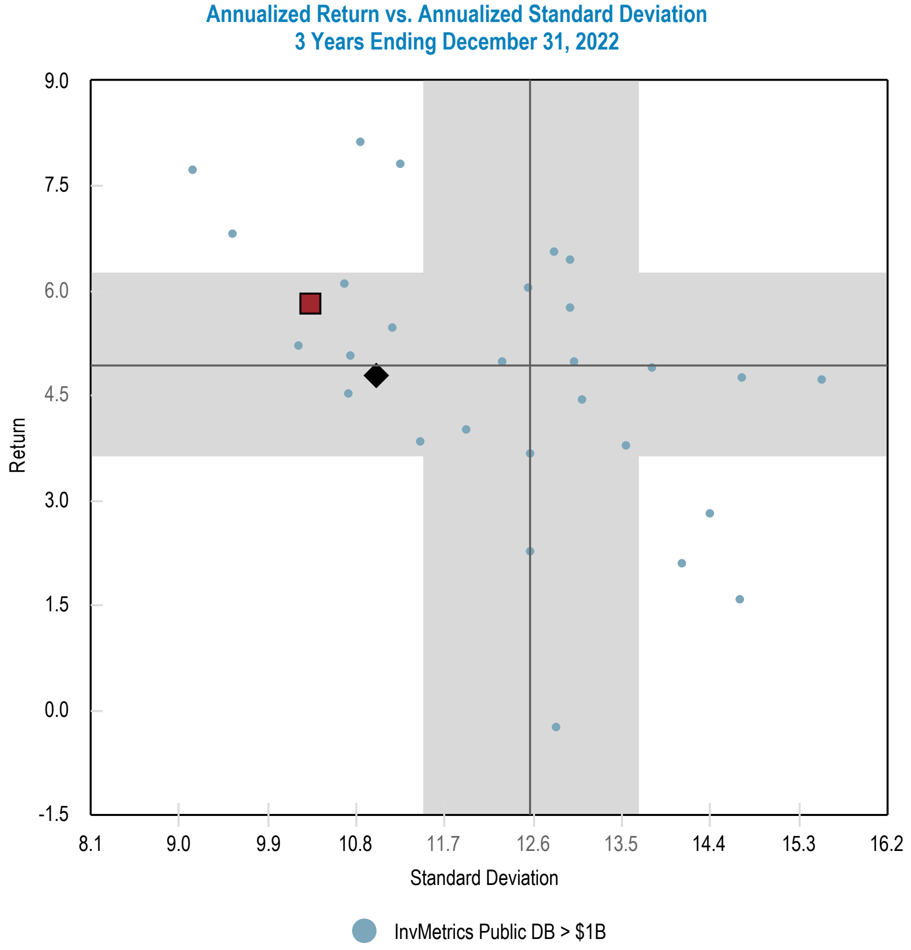
	Total Equity	Total Fixed Income	Hedge Funds	Private Equity	Real Assets/Commod	Real Estate - Private	Cash & Equivalents	Other
■ Total Fund	31.2 (86)	24.4 (27)	10.7 (9)	3.1 (97)	10.0 (22)	9.1 (63)	-1.3	12.9 (100)
5th Percentile	56.8	31.3	12.1	32.6	17.8	15.9	7.5	-
1st Quartile	53.1	24.6	5.8	20.4	6.2	13.7	3.0	-
Median	43.5	20.0	3.6	16.2	4.7	10.9	1.7	-
3rd Quartile	34.4	14.2	2.0	11.5	2.7	6.3	0.6	-
95th Percentile	19.3	10.9	0.8	4.3	0.3	1.1	0.1	-
Population	35	36	16	24	17	25	27	0

Parentheses contain percentile rankings. Other contains Alpha Pool, Opportunistic, and Private Credit. Real Estate contains Private and Core Real Estate. Real Assets contain Commodities and Midstream.

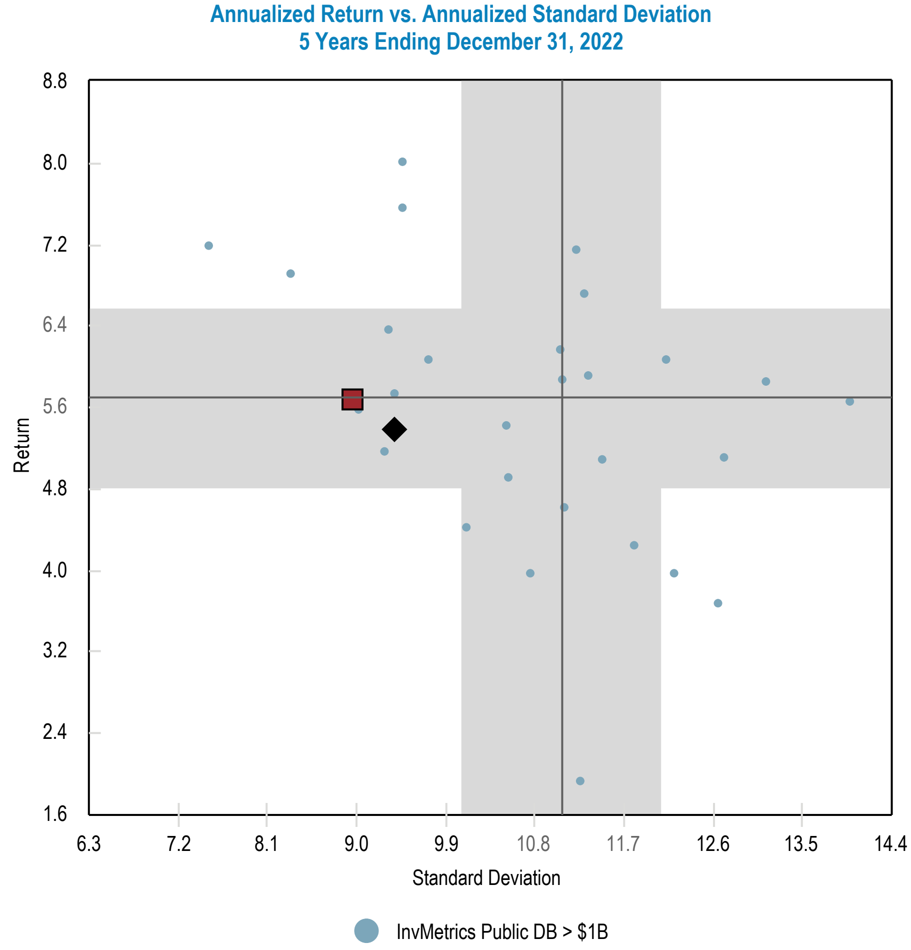
Total Fund vs. InvMetrics Public DB > $1B



	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years
● Total Fund	4.5 (80)	1.1 (45)	-7.1 (14)	5.8 (29)	5.7 (51)	7.2 (55)	6.9 (63)
▲ Policy Index	5.4 (42)	1.4 (34)	-8.8 (25)	4.8 (55)	5.4 (60)	6.8 (75)	6.3 (93)
5th Percentile	7.5	2.5	-5.7	7.8	7.4	8.7	8.6
1st Quartile	6.2	1.7	-8.9	6.1	6.2	8.1	7.9
Median	5.1	0.9	-11.3	4.9	5.7	7.5	7.3
3rd Quartile	4.6	0.6	-13.7	3.8	4.8	6.7	6.7
95th Percentile	3.6	-1.2	-16.0	1.8	3.8	5.9	5.8
Population	31	31	28	28	28	28	25



	Return	Standard Deviation
Total Fund	5.83	10.33
Policy Index	4.80	10.99
Median	4.95	12.58
Population	28	28



	Return	Standard Deviation
Total Fund	5.69	8.96
Policy Index	5.39	9.39
Median	5.69	11.07
Population	28	28

Other

Fund Name	Allocation Group	Overall Status	Outperformed Universe 10th percentile (1yr)	Outperformed Universe 75th percentile (1yr)	Outperformed Index (1yr)	Outperformed Median Rank (3 yrs)	Outperformed Index (3yrs)	Outperformed Median Rank (5 yrs)	Outperformed Index (5yrs)	Concern	Index Fund Tracking Error over 0.25% (1yr)
Equity Beta Exposure	Equity	■	-	-	-	-	-	-	-	-	⚑
Russell 2000 Overlay	Equity	■	-	-	-	-	-	-	-	-	-
Mellon DB SL Stock Index Fund	Equity	■	-	-	-	-	-	-	-	-	✔
PIMCO StocksPLUS	Equity	■	✔	⚑	⚑	⚑	⚑	✔	⚑	-	-
AB US Small Cap Value Equity	Equity	■	✔	⚑	⚑	⚑	✔	⚑	⚑	-	-
Geneva Capital Small Cap Growth	Equity	■	✔	✔	✔	⚑	✔	⚑	✔	-	-
Mellon DB SL World ex-US Index Fund	Equity	■	-	-	-	-	-	-	-	-	⚑
Fidelity Non-US Small Cap Equity	Equity	■	⚑	✔	✔	✔	✔	✔	✔	-	-
Cevian Capital II	Equity	■	-	-	-	-	-	-	-	-	⚑
American Century Non-US Small Cap	Equity	■	✔	✔	⚑	-	-	-	-	-	-
DFA Emerging Markets Value I	Equity	■	⚑	✔	✔	✔	✔	✔	✔	-	-
AB Emerging Markets Strategic Core Equity Collective Trust	Equity	■	✔	✔	-	⚑	-	⚑	-	-	-
Mellon Emerging Markets Stock Index Fund	Equity	■	-	-	-	-	-	-	-	-	-
Mellon DB SL Aggregate Bond Index Fund	Fixed Income	■	-	-	-	-	-	-	-	-	✔
PIMCO Core Plus	Fixed Income	■	✔	✔	✔	✔	✔	⚑	✔	P	-
Western Asset Core Plus	Fixed Income	■	✔	⚑	⚑	⚑	⚑	⚑	✔	-	-
Western Asset High Yield Fixed Income	Fixed Income	■	✔	✔	⚑	✔	⚑	✔	⚑	-	-
TCW Securitized Opportunities	Fixed Income	■	✔	✔	✔	✔	✔	✔	⚑	-	-
Stone Harbor Emerging Markets Debt Blend Portfolio	Fixed Income	■	✔	✔	⚑	⚑	✔	⚑	⚑	P	-
PIMCO EMD	Fixed Income	■	✔	✔	✔	-	-	-	-	-	-
Gresham MTAP Commodity Builder Fund	Commodities	■	✔	✔	✔	⚑	✔	⚑	⚑	-	-
WTC-CTF	Commodities	■	✔	⚑	⚑	⚑	✔	⚑	⚑	-	-

Legend For Overall Status
No Issues ■ (green)
Watch ■ (yellow)
Terminate ■ (red)

Legend for Standards
Pass ✔
Fail ⚑

Legend for Concern
Provisional P
Restricted R
No Issues --

Fund Name	Allocation Group	Overall Status	Outperformed Universe 10th percentile (1yr)	Outperformed Universe 75th percentile (1yr)	Outperformed Index (1yr)	Outperformed Median Rank (3 yrs)	Outperformed Index (3yrs)	Outperformed Median Rank (5 yrs)	Outperformed Index (5yrs)	Concern	Index Fund Tracking Error over 0.25% (1yr)
Aristeia International Limited	Hedge Funds	■	-	-	⚐	-	✔	-	✔	-	-
Brevan Howard Fund	Hedge Funds	■	-	-	✔	-	✔	-	✔	-	-
D.E. Shaw Composite Fund	Hedge Funds	■	-	-	✔	-	✔	-	✔	-	-
HBK Fund II	Hedge Funds	■	-	-	⚐	-	✔	-	⚐	-	-
Hudson Bay Cap Structure Arbitrage Enhanced Fund	Hedge Funds	■	-	-	✔	-	✔	-	✔	-	-
Indus Pacific Opportunities Fund	Hedge Funds	■	-	-	⚐	-	✔	-	⚐	-	-
Magnetar Structured Credit Fund	Hedge Funds	■	-	-	⚐	-	✔	-	✔	-	-
PIMCO Commodity Alpha Fund	Hedge Funds	■	✔	⚐	⚐	⚐	⚐	✔	✔	-	-
River Birch International	Opportunistic	■	-	-	✔	-	⚐	-	⚐	-	-
Sculptor Domestic Partners II LP	Hedge Funds	■	-	-	⚐	-	⚐	-	-	-	-
Harvest Midstream	Midstream	■	⚐	✔	✔	-	-	-	-	-	-
PIMCO Midstream	Midstream	■	✔	✔	⚐	-	-	-	-	-	-
ASB Allegiance Real Estate Fund	Core Real Estate	■	-	-	✔	-	⚐	-	⚐	-	-
JPMCB Strategic Property Fund	Core Real Estate	■	-	-	⚐	-	⚐	-	⚐	-	-
Invesco Real Estate Value-Add Fund IV	Private Real Estate	■	-	-	⚐	-	⚐	-	⚐	-	-
Landmark Real Estate Partners VIII	Private Real Estate	■	-	-	-	-	-	-	-	-	⚐
DB Investors Fund IV	Opportunistic	■	-	-	⚐	-	⚐	-	-	-	-
Sixth Street TAO Partners (D)	Opportunistic	■	-	-	⚐	-	-	-	-	-	-
Aristeia Select Opportunities II	Opportunistic	■	-	-	⚐	-	-	-	-	-	-

Legend For Overall Status

No Issues	■ (green)
Watch	■ (yellow)
Terminate	■ (red)

Legend for Standards

Pass	✔
Fail	⚐

Legend for Concern

Provisional	P
Restricted	R
No Issues	--

	2022 Q4	2022 Q3	2022 Q2	2022 Q1	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4	2020 Q3	2020 Q2	2020 Q1
Total Fund	**4.4**	**-3.3**	**-7.5**	**-0.8**	**3.6**	**0.5**	**5.5**	**3.5**	**8.8**	**4.4**	**10.7**	**-11.3**
Policy Index	*5.4*	*-3.8*	*-8.9*	*-1.3*	*3.3*	*0.7*	*5.7*	*3.3*	*8.8*	*4.5*	*10.1*	*-11.1*

	2019 Q4	2019 Q3	2019 Q2	2019 Q1	2018 Q4	2018 Q3	2018 Q2	2018 Q1	2017 Q4	2017 Q3	2017 Q2	2017 Q1
Total Fund	**4.6**	**0.2**	**3.1**	**6.8**	**-6.4**	**2.3**	**0.3**	**-0.1**	**3.0**	**3.2**	**2.7**	**4.2**
Policy Index	*4.6*	*0.8*	*3.0*	*7.0*	*-5.5*	*2.2*	*0.7*	*-0.1*	*3.2*	*3.1*	*2.8*	*3.5*

	2016 Q4	2016 Q3	2016 Q2	2016 Q1	2015 Q4	2015 Q3	2015 Q2	2015 Q1	2014 Q4	2014 Q3	2014 Q2	2014 Q1
Total Fund	**0.8**	**3.5**	**1.9**	**1.1**	**2.2**	**-5.4**	**0.7**	**2.4**	**0.8**	**-1.5**	**3.6**	**2.1**
Policy Index	*0.5*	*2.9*	*2.2*	*1.8*	*1.4*	*-4.9*	*0.4*	*2.0*	*0.4*	*-1.4*	*3.4*	*2.4*

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

Investment Fund or Strategy	Fund Incepted	Data Source
AB Emerging Markets Strategic Core	11/3/2016	Northern Trust
AB US Small Cap Value Equity	7/7/2015	Northern Trust
Abbott Capital PE IV	7/13/2001	Abbott Capital
Abbott Capital PE V	5/25/2005	Abbott Capital
Abbott Capital PE VI	3/31/2008	Abbott Capital
American Century Non-US Small Cap	12/15/2020	American Century
Aristeia International Limited	5/1/2014	Northern Trust
ASB Real Estate	9/30/2013	ASB
Barclays Capital Aggregate Rebalancing Overlay	6/15/2022	Parametric
BlackRock Short Duration Fund	9/8/2021	BlackRock
Blue Torch Credit Opportunities	7/24/2020	Blue Torch
Brevan Howard	11/1/2013	Northern Trust
Brighton Private Equity	3/28/2021	Brighton
Brookfield Real Estate Finance Fund V	12/18/2017	Northern Trust
Cevian Capital II	12/30/2014	Northern Trust
DC Value Recovery fund IV	12/28/2015	Colony
Covenant Apartment Fund X	10/29/2020	Covenant
DB Investors Fund IV	1/29/2020	DB
D.E. Shaw	6/30/2013	Northern Trust
DFA Emerging Markets Value I	3/7/2014	Northern Trust
Fortress Credit Opportunities	12/17/2020	Fortress
Fortress Lending Fund II	3/15/2021	Fortress
Garda Fixed Income Relative Value Opp	9/30/2021	Garda
Geneva Capital Small Cap Growth	7/22/2015	Geneva
Gresham MTAP Commodity	9/3/2013	Gresham
Harvest Midstream	9/28/2020	Harvest Midstream
HBK Fund II	11/1/2013	Northern Trust
Henderson Smallcap Growth	7/22/2015	Northern Trust
H.I.G Bayside Loan Opportunities Fund V	7/24/2019	H.I.G. Capital
Hudson Bay	6/7/2019	Northern Trust
Indus Pacific Opportunities	6/30/2014	Northern Trust
Invesco Real Estate III	6/30/2013	Invesco
Invesco Real Estate IV	12/18/2015	Invesco
J.P. Morgan Strategic Property	7/2/2014	J.P. Morgan
Landmark Real Estate Partners VIII	4/29/2018	Landmark
LBA Logistics Value Fund IX, L.P.	2/22/2022	LBA
Level Equity Growth Partners V	11/1/2021	Level Equity
Level Equity Opportunities Fund 2021	11/1/2021	Level Equity
LGT Crown	2/1/2021	LGT
Linden Capital Partners V LP	7/19/2022	Linden
Long Wharf Real Estate	6/27/2019	Long Wharf
Magnetar Constellation	11/14/2018	Magnetar
Magnetar Structured Credit	5/1/2014	Magnetar
Mellon Aggregate Bond Index Fund	1/14/2011	Mellon
Mellon EB DV Stock Index	10/18/2017	Mellon
Mellon EB DV World ex-US Index	8/1/2018	Mellon
Myriad Opportunities Offshore	5/19/2016	Northern Trust
OrbiMed Royalty & Credit Opportunities	9/12/2022	OrbiMed
Pantheon Global III		Pantheon
Pantheon USA III		Pantheon
Pantheon USA V		Pantheon
Pantheon USA VI		Pantheon
Pantheon USA VII		Pantheon
Parametric Overlay/ Cap Efficiency Program	7/31/2020	Parametric
Peak Rock Capital Fund III	7/13/2021	Peak Rock
PIMCO Commodity Alpha	5/4/2016	PIMCO
PIMCO Core Plus	1/21/2011	Northern Trust
PIMCO EMD		Northern Trust
PIMCO Midstream	10/9/2020	PIMCO
PIMCO StocksPLUS	7/14/2003	PIMCO
Fidelity Non-US Small Cap Equity	6/10/2008	Northern Trust
River Birch	8/3/2015	Northern Trust
Rubicon Technology Partners IV LP	11/30/2022	Rubicon
Singerman Real Estate Opportunity Fund IV	10/27/2021	Singerman
Sculptor Enhanced Domestic Partners	3/26/2019	Sculptor
Short Term Cash Account		Northern Trust
Short Term Investment Funds		Northern Trust
Stone Harbor Emerging Markets Debt	8/8/2012	Stone Harbor
TAO Contingent	4/16/2020	TPG Sixth Street
TCW Securitized Opportunities	2/3/2016	TCW
Transition Equity		Northern Trust
Transition Fixed Income		Northern Trust
TSSP Adjacent Opportunities Partners	11/17/2017	TPG Sixth Street
Vista Equity Partners	7/24/2020	Vista Equity
Warren Equity	4/1/2021	Warren
Wellington Commodities	9/10/2013	Wellington
Western Asset Core Plus	5/31/2004	Northern Trust
Western Asset High Yield Fixed income	5/31/2005	Northern Trust

Policy & Custom Index Composition	
Policy Index: 4/1/2022-Present	37% MSCI ACWI IMI (Net), 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 Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill.
Policy Index: 7/1/2021-4/1/2022	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, 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*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 1/1/2021-6/30/2021	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*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
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 Aggregate
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.

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: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - 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: Portfolio Excess Return / 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.

Disclaimer

This report contains confidential and proprietary information and is subject to the terms and conditions of the Consulting Agreement. It is being provided for use solely by the customer. The report may not be sold or otherwise provided, in whole or in part, to any other person or entity without written permission from Verus Advisory, Inc., (hereinafter Verus) or as required by law or any regulatory authority. The information presented does not constitute a recommendation by Verus and cannot be used for advertising or sales promotion purposes. This does not constitute an offer or a solicitation of an offer to buy or sell securities, commodities or any other financial instruments or products.

The information presented has been prepared using data from third party sources that Verus believes to be reliable. While Verus exercised reasonable professional care in preparing the report, it cannot guarantee the accuracy of the information provided by third party sources. Therefore, Verus makes no representations or warranties as to the accuracy of the information presented. Verus takes no responsibility or liability (including damages) for any error, omission, or inaccuracy in the data supplied by any third party. Nothing contained herein is, or should be relied on as a promise, representation, or guarantee as to future performance or a particular outcome. Even with portfolio diversification, asset allocation, and a long-term approach, investing involves risk of loss that the investor should be prepared to bear.

The information presented may be deemed to contain forward-looking information. Examples of forward looking information include, but are not limited to, (a) projections of or statements regarding return on investment, future earnings, interest income, other income, growth prospects, capital structure and other financial terms, (b) statements of plans or objectives of management, (c) statements of future economic performance, and (d) statements of assumptions, such as economic conditions underlying other statements. Such forward-looking information can be identified by the use of forward looking terminology such as believes, expects, may, will, should, anticipates, or the negative of any of the foregoing or other variations thereon comparable terminology, or by discussion of strategy. No assurance can be given that the future results described by the forward-looking information will be achieved. Such statements are subject to risks, uncertainties, and other factors which could cause the actual results to differ materially from future results expressed or implied by such forward looking information. The findings, rankings, and opinions expressed herein are the intellectual property of Verus and are subject to change without notice. The information presented does not claim to be all-inclusive, nor does it contain all information that clients may desire for their purposes. The information presented should be read in conjunction with any other material provided by Verus, investment managers, and custodians.

Verus will make every reasonable effort to obtain and include accurate market values. However, if managers or custodians are unable to provide the reporting period's market values prior to the report issuance, Verus may use the last reported market value or make estimates based on the manager's stated or estimated returns and other information available at the time. These estimates may differ materially from the actual value. Hedge fund market values presented in this report are provided by the fund manager or custodian. Market values presented for private equity investments reflect the last reported NAV by the custodian or manager net of capital calls and distributions as of the end of the reporting period. These values are estimates and may differ materially from the investments actual value. Private equity managers report performance using an internal rate of return (IRR), which differs from the time-weighted rate of return (TWRR) calculation done by Verus. It is inappropriate to compare IRR and TWRR to each other. IRR figures reported in the illiquid alternative pages are provided by the respective managers, and Verus has not made any attempts to verify these returns. Until a partnership is liquidated (typically over 10-12 years), the IRR is only an interim estimated return. The actual IRR performance of any LP is not known until the final liquidation.

Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.