



Monthly Investment Performance Analysis

Santa Barbara County Employees' Retirement System

Period Ended: December 31, 2022

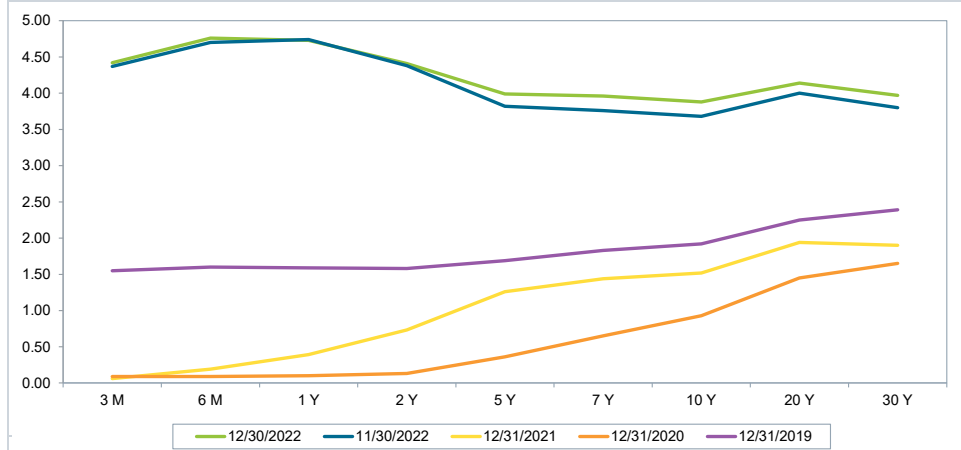


General Market Commentary

- US equity markets declined in December, with most US equity indices posting mid-single digit losses during the month. Developed international equity markets finished the month relatively flat, although emerging markets lagged developed international markets and finished slightly negative.
- Equity markets pulled back primarily due to recession fears and declining economic forecasts, with most experts predicting muted GDP growth in Q4 2022 extending into 2023. Persistent high inflation and geopolitical tension also contributed to the poor equity performance in December.
- At the December 2022 meeting, the Federal Reserve raised interest rates 50 basis point rate to combat the heightened inflation, although the magnitude of this increase was less than the prior four consecutive increases of 75 basis points. The Fed signaled that they expect to keep rates high through 2023 with additional rate hikes, and interest rate reductions are not expected to occur until 2024.
- Equity markets posted mixed returns in December as the S&P 500 (Cap Wtd) Index returned -5.76% and the MSCI EAFE (Net) Index returned 0.08%. Emerging markets returned -1.41%, as measured by the MSCI EM (Net) Index.
- The Bloomberg US Aggregate Bond Index returned -0.45% in December, underperforming the -0.24% return by the Bloomberg US Treasury Intermediate Term Index. International fixed income markets returned 0.25%, as measured by the FTSE Non-US World Gov't Bond Index.
- Public real estate returned -5.14% in December and 3.68% over the trailing five-year period, as measured by the FTSE NAREIT Eq REITs Index (TR).
- The Cambridge US Private Equity Index returned 8.53% for the trailing one-year period and 17.99% for the trailing five-year period ending June 2022.
- Absolute return strategies returned 0.93% for the month and -4.65% over the trailing one-year period, as measured by the HFRI FOF Comp Index.
- Crude oil's price fell by 0.36% during the month but has increased by 6.71% YoY.

Economic Indicators	Dec-22	Nov-22	Dec-21	10 Yr	20 Yr
Federal Funds Rate (%)	4.33 ▲	3.83	0.07	0.78	1.30
Breakeven Inflation - 5 Year (%)	2.38 ▼	2.48	2.91	1.88	1.92
Breakeven Inflation - 10 Year (%)	2.30 ▼	2.37	2.59	1.98	2.08
Breakeven Inflation - 30 Year (%)	2.35 ▼	2.42	2.38	2.04	2.26
Bloomberg US Agg Bond Index - Yield (%)	4.68 ▲	4.56	1.75	2.40	3.22
Bloomberg US Agg Bond Index - OAS (%)	0.51 ▼	0.53	0.36	0.47	0.59
Bloomberg US Agg Credit Index - OAS (%)	1.21 ▼	1.24	0.87	1.18	1.38
Bloomberg US Corp: HY Index - OAS (%)	4.69 ▲	4.48	2.83	4.29	5.03
Capacity Utilization (%)	N/A	79.66	78.74	77.21	77.00
Unemployment Rate (%)	3.50 ▼	3.60	3.90	5.28	6.02
PMI - Manufacturing (%)	48.40 ▼	49.00	58.80	54.61	53.69
Baltic Dry Index - Shipping	1,383 ▲	1,355	2,251	1,349	2,425
Consumer Conf (Conf Board)	108.30 ▲	101.40	115.20	105.47	91.16
CPI YoY (Headline) (%)	7.10 —	7.10	7.00	2.45	2.47
CPI YoY (Core) (%)	6.00 —	6.00	5.50	2.49	2.19
PPI YoY (%)	N/A	10.60	12.30	2.66	3.06
M2 YoY (%)	N/A	0.00	12.40	8.17	7.11
US Dollar Total Weighted Index	122.33 ▼	123.65	115.37	110.21	103.33
WTI Crude Oil per Barrel (\$)	80 ▼	81	75	66	68
Gold Spot per Oz (\$)	1,824 ▲	1,769	1,829	1,438	1,160

Treasury Yield Curve (%)



Treasury Yield Curve (%)	Dec-22	Nov-22	Dec-21	Dec-20	Dec-19
3 Month	4.42	4.37	0.06	0.09	1.55
6 Month	4.76	4.70	0.19	0.09	1.60
1 Year	4.73	4.74	0.39	0.10	1.59
2 Year	4.41	4.38	0.73	0.13	1.58
5 Year	3.99	3.82	1.26	0.36	1.69
7 Year	3.96	3.76	1.44	0.65	1.83
10 Year	3.88	3.68	1.52	0.93	1.92
20 Year	4.14	4.00	1.94	1.45	2.25
30 Year	3.97	3.80	1.90	1.65	2.39

Market Performance (%)	MTD	QTD	CYTD	1 Yr	3 Yr	5 Yr	7 Yr	10 Yr
S&P 500 (Cap Wtd)	-5.76	7.56	-18.11	-18.11	7.66	9.42	11.48	12.56
Russell 2000	-6.49	6.23	-20.44	-20.44	3.10	4.13	7.90	9.01
MSCI EAFE (Net)	0.08	17.34	-14.45	-14.45	0.87	1.54	4.53	4.67
MSCI EAFE SC (Net)	1.07	15.79	-21.39	-21.39	-0.93	-0.05	4.45	6.21
MSCI EM (Net)	-1.41	9.70	-20.09	-20.09	-2.69	-1.40	5.17	1.44
Bloomberg US Agg Bond	-0.45	1.87	-13.01	-13.01	-2.71	0.02	0.89	1.06
ICE BofAML 3 Mo US T-Bill	0.36	0.84	1.46	1.46	0.72	1.26	1.07	0.76
NCREIF ODCE (Gross)	N/A	N/A	13.08	13.08	11.81	9.79	9.33	10.66
FTSE NAREIT Eq REITs Index (TR)	-5.14	5.24	-24.37	-24.37	-0.11	3.68	4.58	6.53
HFRI FOF Comp Index	0.93	2.43	-4.65	-4.65	3.93	3.15	3.42	3.58
Bloomberg Cmtdy Index (TR)	-2.45	2.22	16.09	16.09	12.65	6.44	6.49	-1.29

NCREIF performance is reported quarterly; MTD and QTD returns are shown as "N/A" on interim-quarter months and until available. Data shown is as of most recent quarter-end. Treasury data courtesy of the US Department of the Treasury. Economic data courtesy of Bloomberg Professional Service. The previous month's CPI YoY is used as a proxy for the current YoY return until it becomes available.



Monthly Portfolio Highlights	
<p>The Total Fund returned -1.08% for the month of December, net of fees, outperforming the Policy Benchmark by 100 basis points. Equity markets pulled back primarily due to recession fears and declining economic forecasts, with most experts predicting muted GDP growth in Q4 2022 extending into 2023. Persistent high inflation and geopolitical tension also contributed to the poor equity performance in December.</p>	
Market Trend	Portfolio Effect
U.S. Equity	
<p>US equity markets declined in December, with most US equity indices posting mid-single digit losses during the month. Style and capitalization leadership was mixed for the month of December.</p>	<p>The Composite returned -5.35% and outperformed the Russell 3000 Index by 51 basis points. Relative outperformance was driven by the BNY HEDI which returned -4.85%, outpacing the Russell 1000 Index by 96 basis points for the month.</p>
Developed Market Non-U.S. Equity	
<p>Developed international equity markets outpaced both US and Emerging Markets in December, with the MSCI EAFE Index returning 0.08% for the month.</p>	<p>The Composite delivered a negative return of -0.24%, and underperformed the MSCI EAFE Index by 32 basis points. Artisan was the lowest absolute performer, returning -1.85%.</p>
Emerging Market Equity	
<p>Emerging Markets trailed their Developed counterparts with a return of -1.41% as represented by the MSCI EM Index.</p>	<p>The Composite finished with a return -2.02%, underperforming the MSCI Emg Index by 61 basis points. Both DFA and RBC detracted from relative performance, trailing the benchmark by 80 and 41 basis points, respectively.</p>
Core Fixed Income	
<p>At the December 2022 meeting, the Federal Reserve raised interest rates 50 basis point rate to combat the heightened inflation. The Fed signaled that they expect to keep rates high through 2023 with additional rate hikes, and interest rate reductions are not expected to occur until 2024.</p>	<p>The Composite posted a return on -0.29%, outperforming the Bloomberg US Agg Bond Index by 16 basis points. PGIM was the largest contributor to relative performance, outperforming the benchmark by 37 basis points.</p>
Non-Core Fixed Income	
<p>Investment grade and government bonds outpaced high yield bonds in December.</p>	<p>The Composite returned 0.71%, outperforming the Custom Non-Core Fixed Income Benchmark by 6 basis points. Among public non-core fixed income managers, Wellington was the best absolute performer with a return of 1.00%, but underperformed its custom benchmark by 24 basis points.</p>
Real Return	
<p>The price of gold continued to rebound in December. Crude oil's price fell by 0.36% during the month but has increased by 6.71% YoY.</p>	<p>The Composite had a return of -0.35%, underperforming the CPI+4% by 37 basis points but outperforming the Custom Real Return Benchmark by 7 basis points. Private Infrastructure was the best absolute performer with a return of 0.24%.</p>

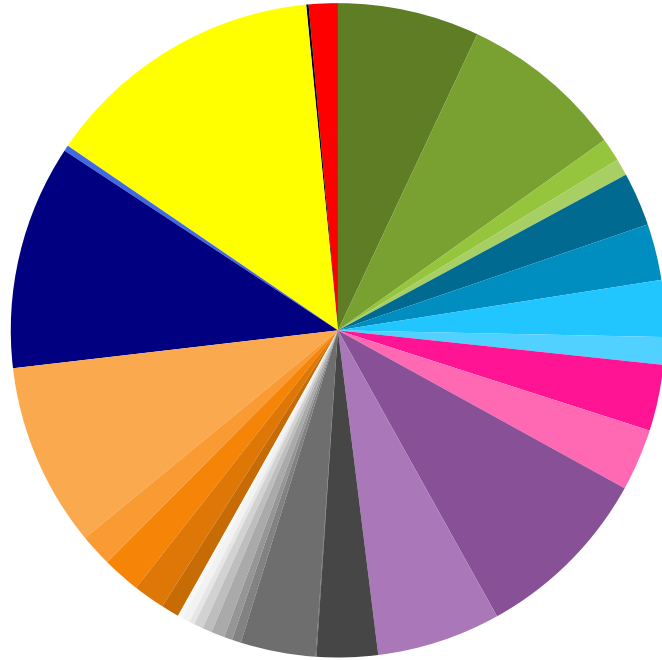
Total Fund performance excludes 130 RHR and Treasury Cash.



Santa Barbara County Employees' Retirement System
 Asset Allocation By Manager and Schedule of Investable Assets

As of December 31, 2022

December 31, 2022 : \$3,911,620,340



	Market Value (\$)	Allocation (%)
BNY Mellon HEDI (SA)	273,574,267	6.99
BNY Mellon R1000 Index - NL (CF)	318,138,526	8.13
Dimensional U.S. Small Cap Value (CF)	45,013,268	1.15
RHJ Small Cap Opportunities (SA)	32,608,819	0.83
First Eagle International Value Equity (SA)	103,498,292	2.65
PanAgora Dynamic International Equity (SA)	108,618,207	2.78
Artisan Non-U.S. Growth (SA)	109,385,000	2.80
Acadian Non-US Small Cap Equity (CF)	53,014,153	1.36
DFA Emg Mkts Value;I (DFEVX)	127,992,977	3.27
RBC Emerging Markets Equity (CF)	119,802,754	3.06
Garcia Hamilton Core Fixed Income (SA)	348,417,010	8.91
PGIM Core Plus Fixed Income (CF)	239,010,283	6.11
Wellington Blended Opportunistic EMD (CF)	118,060,920	3.02
Hotchkis & Wiley High Yield (SA)	1,540,213	0.04
Beach Point Leveraged Loan (CF)	144,960,633	3.71
AG Direct Lending Fund III, LP	17,372,779	0.44
First Eagle Direct Lending Fund IV	16,069,383	0.41
PIMCO Private Income Fund, LLC	25,839,287	0.66
Deerpath Capital V, LP	18,171,509	0.46
AG Direct Lending Fund IV, LP	17,738,840	0.45
First Eagle Direct Lending Fund V-B	10,274,299	0.26
Deerpath Capital VI, LP	15,181,821	0.39
AG Direct Lending Evergreen Fund, LP	9,500,000	0.24
BNY Mellon TIPS - NL (CF)	35,024,237	0.90
Cohen & Steers Real Assets Fund (CIT)	60,948,614	1.56
Nuveen Real Asset Income Fund (SA)	73,395,359	1.88
Private Natural Resources	62,723,150	1.60
Private Infrastructure	355,477,837	9.09
ORG Real Estate	434,180,309	11.10
130 Robin Hill Rd	11,246,244	0.29
Private Equity Composite	544,164,366	13.91
Transition Account	4,529,667	0.12
Cash Composite	56,127,798	1.43

Schedule of Investable Assets Ex Treasury Cash

Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return
FYTD	3,859,132,211	-20,445,785	39,408,323	3,878,094,749	1.04

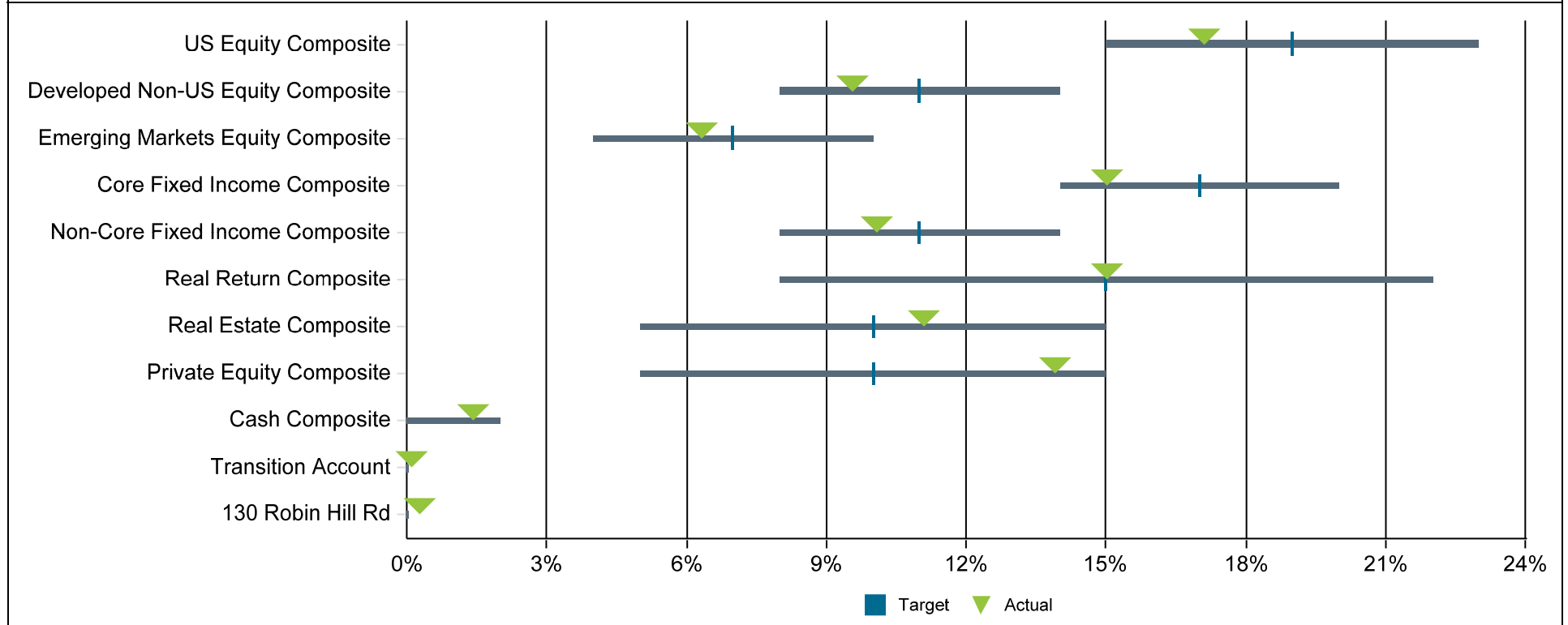
Market values shown are preliminary and subject to change. Performance shown is net of fees and provided by BNY Mellon. Allocations shown may not sum up to 100% exactly due to rounding. Schedule of Investable Assets excludes Treasury Cash. The fiscal year ends 06/30. The cash account contains \$10.11 of settlement fees gained from Lord Abbett. Market value for Hotchkis & Wiley represents residual assets from liquidation. Total fund market value includes residual assets from liquidated managers.



Santa Barbara County Employees' Retirement System
Asset Allocation vs Target Allocation

As of December 31, 2022

	Market Value (\$)	Allocation (%)	Lower Range (%)	Target (%)	Upper Range (%)
Total Fund Composite	3,911,620,340	100.0	-	100.0	-
US Equity Composite	669,334,880	17.1	15.0	19.0	23.0
Developed Non-US Equity Composite	374,551,042	9.6	8.0	11.0	14.0
Emerging Markets Equity Composite	247,795,731	6.3	4.0	7.0	10.0
Core Fixed Income Composite	587,411,422	15.0	14.0	17.0	20.0
Non-Core Fixed Income Composite	394,709,683	10.1	8.0	11.0	14.0
Real Return Composite	587,569,197	15.0	8.0	15.0	22.0
Real Estate Composite	434,180,309	11.1	5.0	10.0	15.0
Private Equity Composite	544,164,366	13.9	5.0	10.0	15.0
Cash Composite	56,127,798	1.4	0.0	0.0	2.0
Transition Account	4,529,667	0.1	0.0	0.0	0.0
130 Robin Hill Rd	11,246,244	0.3	0.0	0.0	0.0



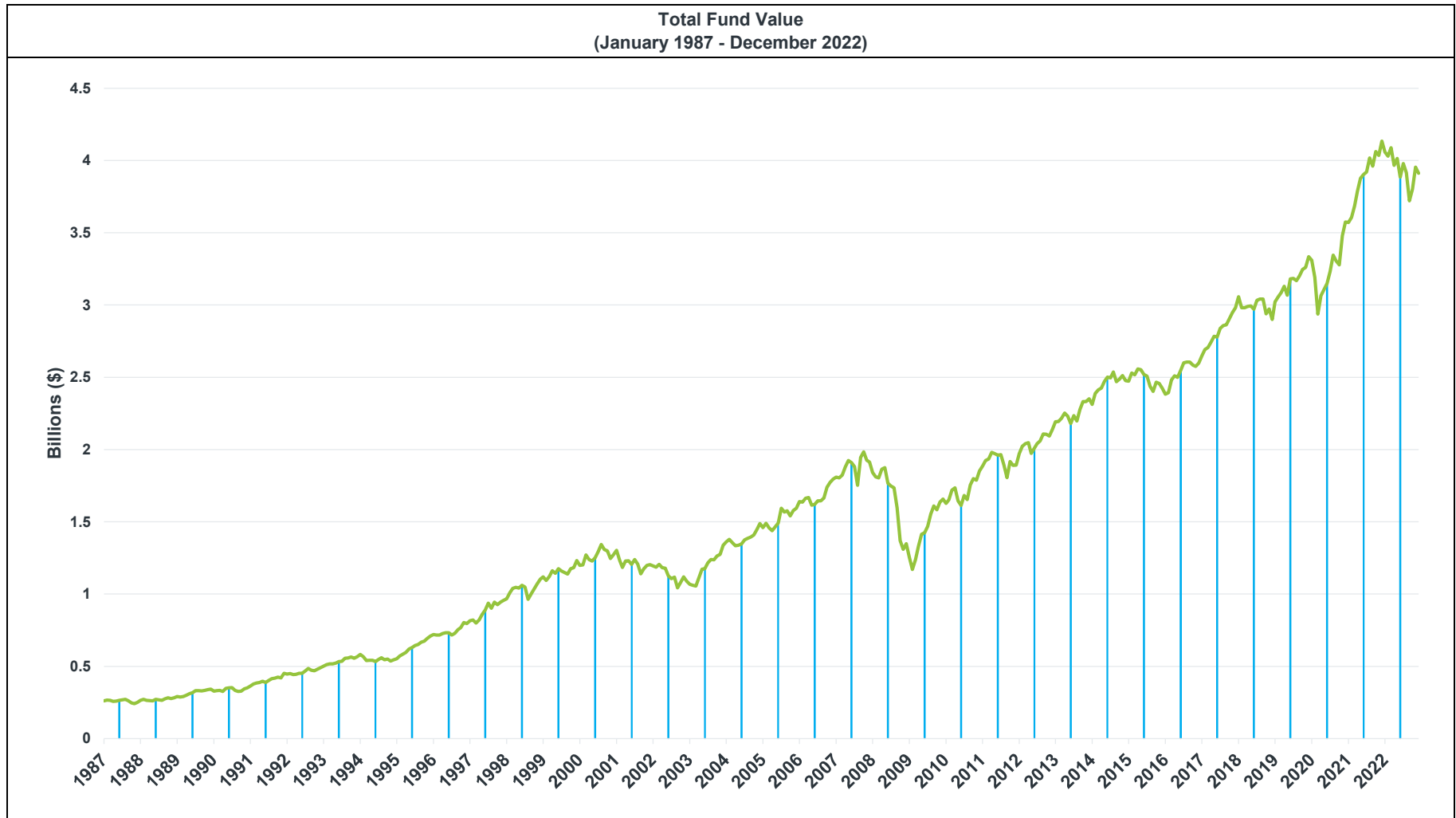
Market values shown are preliminary and subject to change. Allocations shown may not sum up to 100% exactly due to rounding. Market value for the Transition Account represents residual assets from portfolio restructuring. Composite market values include residual assets from liquidated managers.



Santa Barbara County Employees' Retirement System
Plan Asset Overview

As of December 31, 2022

	Market Value (\$)	Performance (%)											
		FYTD	FY 2022	FY 2021	FY 2020	FY 2019	FY 2018	FY 2017	FY 2016	FY 2015	FY 2014	FY 2013	Since Incep.
Total Fund	3,911,620,340	1.04	0.28	25.20	-0.10	7.74	7.80	10.49	1.37	0.42	15.25	8.10	8.13



Market values and performance shown are preliminary and subject to change. Performance shown is net of fees and is annualized for periods greater than one year. The fiscal year for Santa Barbara County Employees' Retirement System ends 06/30. Inception date for the Total Fund is 01/01/1987. Total Fund performance excludes Treasury Cash.



Santa Barbara County Employees' Retirement System
Asset Allocation & Performance

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	MTD	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Total Fund Composite	3,911,620,340	100.00	-1.08	4.83	1.04	-4.82	-4.82	6.35	6.51	6.86	8.13	01/01/1987
Total Fund Composite Ex 130 Robin Hill Rd	3,900,374,096	99.71	-1.08	4.86	1.10	-4.70	-4.70	6.43	6.57	6.88	8.13	01/01/1987
SBCERS Policy Benchmark			-2.08	4.66	-0.04	-7.42	-7.42	5.04	5.81	6.77	N/A	
Difference			1.00	0.20	1.14	2.72	2.72	1.39	0.76	0.11	N/A	
SBCERS Dynamic Policy Benchmark			-2.43	4.03	-1.35	-9.02	-9.02	4.23	5.03	6.20	N/A	
Difference			1.35	0.83	2.45	4.32	4.32	2.20	1.54	0.68	N/A	
US Equity Composite	669,334,880	17.11	-5.35	8.05	3.19	-16.83	-16.83	7.73	9.54	12.14	10.53	01/01/1987
Russell 3000 Index			-5.86	7.18	2.40	-19.21	-19.21	7.07	8.79	12.13	10.25	
Difference			0.51	0.87	0.79	2.38	2.38	0.66	0.75	0.01	0.28	
US Large Cap Equity Composite	591,712,793	15.13	-5.37	7.87	2.92	-17.33	-17.33	7.69	9.95	N/A	11.81	06/01/2016
Russell 1000 Index			-5.81	7.24	2.30	-19.13	-19.13	7.35	9.13	12.37	11.43	
Difference			0.44	0.63	0.62	1.80	1.80	0.34	0.82	N/A	0.38	
US Small Cap Equity Composite	77,622,087	1.98	-5.23	9.45	5.26	-12.85	-12.85	7.76	5.57	N/A	9.25	06/01/2016
Russell 2000 Index			-6.49	6.23	3.91	-20.44	-20.44	3.10	4.13	9.01	8.05	
Difference			1.26	3.22	1.35	7.59	7.59	4.66	1.44	N/A	1.20	
Developed Non-US Equity Composite	374,551,042	9.58	-0.24	15.17	5.34	-14.48	-14.48	0.05	1.06	4.93	5.97	07/01/2012
MSCI EAFE Index (USD) (Net)			0.08	17.34	6.36	-14.45	-14.45	0.87	1.54	4.67	5.75	
Difference			-0.32	-2.17	-1.02	-0.03	-0.03	-0.82	-0.48	0.26	0.22	
Emerging Markets Equity Composite	247,795,731	6.33	-2.02	11.85	-0.03	-12.26	-12.26	-0.09	0.27	2.17	3.24	07/01/2012
MSCI Emg Mkts Index (USD) (Net)			-1.41	9.70	-2.99	-20.09	-20.09	-2.69	-1.40	1.44	2.62	
Difference			-0.61	2.15	2.96	7.83	7.83	2.60	1.67	0.73	0.62	
Core Fixed Income Composite	587,411,422	15.02	-0.29	2.15	-3.08	-12.98	-12.98	-2.40	0.47	N/A	0.73	07/01/2017
Bloomberg US Agg Bond Index			-0.45	1.87	-2.97	-13.01	-13.01	-2.71	0.02	1.06	0.24	
Difference			0.16	0.28	-0.11	0.03	0.03	0.31	0.45	N/A	0.49	
Non-Core Fixed Income Composite	394,709,683	10.09	0.71	4.17	3.47	-3.32	-3.32	0.81	1.65	N/A	2.00	07/01/2017
Custom Non-Core Fixed Income Benchmark			0.65	4.32	3.52	-5.69	-5.69	0.09	1.99	2.95	2.34	
Difference			0.06	-0.15	-0.05	2.37	2.37	0.72	-0.34	N/A	-0.34	

Performance shown is net of fees and provided by BNY or the manager. Performance shown is preliminary and subject to change. Performance is annualized for periods greater than one year. Total Fund performance excludes Tres. Cash. Indices show N/A for since inception returns when the fund contains more history than the corresponding benchmark. The fiscal year ends 06/30. Composite market values include residual assets from liquidated managers.



Santa Barbara County Employees' Retirement System
Asset Allocation & Performance

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	MTD	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Real Return Composite	587,569,197	15.02	-0.35	3.09	1.59	6.70	6.70	7.91	6.79	N/A	6.96	07/01/2017
Consumer Price Index+4%			0.02	0.98	2.15	10.71	10.71	9.12	7.93	6.70	7.69	
Difference			-0.37	2.11	-0.56	-4.01	-4.01	-1.21	-1.14	N/A	-0.73	
Custom Real Return Benchmark			-0.42	2.48	1.01	1.84	1.84	5.51	5.10	N/A	5.59	
Difference			0.07	0.61	0.58	4.86	4.86	2.40	1.69	N/A	1.37	
Real Estate Composite	434,180,309	11.10	0.53	1.46	3.46	20.73	20.73	15.92	13.45	12.48	7.94	04/01/2006
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)			0.31	0.31	4.87	20.96	20.96	11.38	9.26	9.91	6.82	
Difference			0.22	1.15	-1.41	-0.23	-0.23	4.54	4.19	2.57	1.12	
Private Equity Composite	544,164,366	13.91	0.05	0.25	-2.99	3.60	3.60	21.54	18.29	16.21	11.52	06/01/2006
Russell 3000+3% Index (1 Qtr Lag)			-9.05	-3.76	-19.24	-15.16	-15.16	10.93	11.87	14.73	11.66	
Difference			9.10	4.01	16.25	18.76	18.76	10.61	6.42	1.48	-0.14	

Performance for the NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag) is available quarterly; interim months assume a 0.00% return.



Santa Barbara County Employees' Retirement System
Asset Allocation & Performance

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	MTD	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Total Fund Composite	3,911,620,340	100.00	-1.08	4.83	1.04	-4.82	-4.82	6.35	6.51	6.86	8.13	01/01/1987
Total Fund Composite Ex 130 Robin Hill Rd	3,900,374,096	99.71	-1.08	4.86	1.10	-4.70	-4.70	6.43	6.57	6.88	8.13	01/01/1987
SBCERS Policy Benchmark			-2.08	4.66	-0.04	-7.42	-7.42	5.04	5.81	6.77	N/A	
Difference			1.00	0.20	1.14	2.72	2.72	1.39	0.76	0.11	N/A	
SBCERS Dynamic Policy Benchmark			-2.43	4.03	-1.35	-9.02	-9.02	4.23	5.03	6.20	N/A	
Difference			1.35	0.83	2.45	4.32	4.32	2.20	1.54	0.68	N/A	
US Equity Composite	669,334,880	17.11	-5.35	8.05	3.19	-16.83	-16.83	7.73	9.54	12.14	10.53	01/01/1987
Russell 3000 Index			-5.86	7.18	2.40	-19.21	-19.21	7.07	8.79	12.13	10.25	
Difference			0.51	0.87	0.79	2.38	2.38	0.66	0.75	0.01	0.28	
US Large Cap Equity Composite	591,712,793	15.13	-5.37	7.87	2.92	-17.33	-17.33	7.69	9.95	N/A	11.81	06/01/2016
Russell 1000 Index			-5.81	7.24	2.30	-19.13	-19.13	7.35	9.13	12.37	11.43	
Difference			0.44	0.63	0.62	1.80	1.80	0.34	0.82	N/A	0.38	
BNY Mellon HEDI (SA)	273,574,267	6.99	-4.85	8.61	3.68	-15.11	-15.11	8.04	10.79	N/A	9.86	05/01/2019
Russell 1000 Index			-5.81	7.24	2.30	-19.13	-19.13	7.35	9.13	12.37	8.98	
Difference			0.96	1.37	1.38	4.02	4.02	0.69	1.66	N/A	0.88	
BNY Mellon R1000 Index - NL (CF)	318,138,526	8.13	-5.82	7.24	2.29	-19.15	-19.15	7.48	9.27	12.44	9.10	05/01/2019
Russell 1000 Index			-5.81	7.24	2.30	-19.13	-19.13	7.35	9.13	12.37	8.98	
Difference			-0.01	0.00	-0.01	-0.02	-0.02	0.13	0.14	0.07	0.12	
US Small Cap Equity Composite	77,622,087	1.98	-5.23	9.45	5.26	-12.85	-12.85	7.76	5.57	N/A	9.25	06/01/2016
Russell 2000 Index			-6.49	6.23	3.91	-20.44	-20.44	3.10	4.13	9.01	8.05	
Difference			1.26	3.22	1.35	7.59	7.59	4.66	1.44	N/A	1.20	
Dimensional U.S. Small Cap Value (CF)	45,013,268	1.15	-5.27	14.55	10.76	-1.86	-1.86	12.29	7.32	10.52	8.57	04/01/2005
Russell 2000 Index			-6.49	6.23	3.91	-20.44	-20.44	3.10	4.13	9.01	7.54	
Difference			1.22	8.32	6.85	18.58	18.58	9.19	3.19	1.51	1.03	
Russell 2000 Val Index			-6.56	8.42	3.42	-14.48	-14.48	4.70	4.13	8.48	6.89	
Difference			1.29	6.13	7.34	12.62	12.62	7.59	3.19	2.04	1.68	
RHJ Small Cap Opportunities (SA)	32,608,819	0.83	-5.16	3.13	-1.48	-24.49	-24.49	2.53	3.39	N/A	8.16	06/01/2016
Russell 2000 Index			-6.49	6.23	3.91	-20.44	-20.44	3.10	4.13	9.01	8.05	
Difference			1.33	-3.10	-5.39	-4.05	-4.05	-0.57	-0.74	N/A	0.11	
Russell 2000 Grth Index			-6.42	4.13	4.38	-26.36	-26.36	0.65	3.51	9.20	7.75	
Difference			1.26	-1.00	-5.86	1.87	1.87	1.88	-0.12	N/A	0.41	

Performance shown is net of fees and provided by BNY Mellon or the manager. Performance shown is preliminary and subject to change. Performance is annualized for periods greater than one year. Total Fund performance excludes Treasury Cash. Indices show N/A for since inception returns when the fund contains more history than the corresponding benchmark. The fiscal year ends 06/30. Composite market values include residual assets from liquidated managers.



Santa Barbara County Employees' Retirement System
Asset Allocation & Performance

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	MTD	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Developed Non-US Equity Composite	374,551,042	9.58	-0.24	15.17	5.34	-14.48	-14.48	0.05	1.06	4.93	5.97	07/01/2012
MSCI EAFE Index (USD) (Net)			0.08	17.34	6.36	-14.45	-14.45	0.87	1.54	4.67	5.75	
Difference			-0.32	-2.17	-1.02	-0.03	-0.03	-0.82	-0.48	0.26	0.22	
First Eagle International Value Equity (SA)	103,498,292	2.65	0.22	11.84	2.90	-7.13	-7.13	1.47	2.14	N/A	3.19	06/01/2014
MSCI EAFE Index (USD) (Net)			0.08	17.34	6.36	-14.45	-14.45	0.87	1.54	4.67	2.53	
Difference			0.14	-5.50	-3.46	7.32	7.32	0.60	0.60	N/A	0.66	
PanAgora Dynamic International Equity (SA)	108,618,207	2.78	0.74	17.62	6.44	-13.36	-13.36	1.51	0.70	5.07	7.36	05/01/2009
MSCI EAFE Index (USD) (Net)			0.08	17.34	6.36	-14.45	-14.45	0.87	1.54	4.67	6.55	
Difference			0.66	0.28	0.08	1.09	1.09	0.64	-0.84	0.40	0.81	
Artisan Non-U.S. Growth (SA)	109,385,000	2.80	-1.85	15.85	6.66	-19.38	-19.38	-2.08	1.76	N/A	3.37	02/01/2014
MSCI EAFE Index (USD) (Net)			0.08	17.34	6.36	-14.45	-14.45	0.87	1.54	4.67	3.33	
Difference			-1.93	-1.49	0.30	-4.93	-4.93	-2.95	0.22	N/A	0.04	
Acadian Non-US Small Cap Equity (CF)	53,014,153	1.36	0.22	15.47	5.25	-19.05	-19.05	N/A	N/A	N/A	2.07	12/01/2020
MSCI EAFE Sm Cap Index (USD) (Net)			1.07	15.79	4.41	-21.39	-21.39	-0.93	-0.05	6.21	-3.69	
Difference			-0.85	-0.32	0.84	2.34	2.34	N/A	N/A	N/A	5.76	
Emerging Markets Equity Composite	247,795,731	6.33	-2.02	11.85	-0.03	-12.26	-12.26	-0.09	0.27	2.17	3.24	07/01/2012
MSCI Emg Mkts Index (USD) (Net)			-1.41	9.70	-2.99	-20.09	-20.09	-2.69	-1.40	1.44	2.62	
Difference			-0.61	2.15	2.96	7.83	7.83	2.60	1.67	0.73	0.62	
DFA Emg Mkts Value;l (DFEVX)	127,992,977	3.27	-2.21	10.27	-0.54	-10.73	-10.73	1.02	-0.05	N/A	1.86	05/01/2013
MSCI Emg Mkts Index (USD) (Net)			-1.41	9.70	-2.99	-20.09	-20.09	-2.69	-1.40	1.44	1.58	
Difference			-0.80	0.57	2.45	9.36	9.36	3.71	1.35	N/A	0.28	
MSCI Emg Mkts Val Index (USD) (Net)			-1.52	9.77	-2.26	-15.83	-15.83	-2.62	-1.59	0.06	0.31	
Difference			-0.69	0.50	1.72	5.10	5.10	3.64	1.54	N/A	1.55	
RBC Emerging Markets Equity (CF)	119,802,754	3.06	-1.82	13.58	0.53	-13.82	-13.82	-1.25	0.46	N/A	4.19	09/01/2016
MSCI Emg Mkts Index (USD) (Net)			-1.41	9.70	-2.99	-20.09	-20.09	-2.69	-1.40	1.44	3.48	
Difference			-0.41	3.88	3.52	6.27	6.27	1.44	1.86	N/A	0.71	
MSCI Emg Mkts Grth Index (USD) (Net)			-1.30	9.64	-3.65	-23.96	-23.96	-2.93	-1.33	2.68	4.21	
Difference			-0.52	3.94	4.18	10.14	10.14	1.68	1.79	N/A	-0.02	

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Santa Barbara County Employees' Retirement System
Asset Allocation & Performance

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	MTD	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Core Fixed Income Composite	587,411,422	15.02	-0.29	2.15	-3.08	-12.98	-12.98	-2.40	0.47	N/A	0.73	07/01/2017
Bloomberg US Agg Bond Index			-0.45	1.87	-2.97	-13.01	-13.01	-2.71	0.02	1.06	0.24	
Difference			0.16	0.28	-0.11	0.03	0.03	0.31	0.45	N/A	0.49	
Garcia Hamilton Core Fixed Income (SA)	348,417,010	8.91	-0.44	2.06	-3.51	-11.41	-11.41	-2.11	0.31	N/A	0.39	09/01/2017
Bloomberg US Agg Bond Index			-0.45	1.87	-2.97	-13.01	-13.01	-2.71	0.02	1.06	0.00	
Difference			0.01	0.19	-0.54	1.60	1.60	0.60	0.29	N/A	0.39	
PGIM Core Plus Fixed Income (CF)	239,010,283	6.11	-0.08	2.29	-2.33	-14.52	-14.52	-2.55	N/A	N/A	0.96	06/01/2018
Bloomberg US Agg Bond Index			-0.45	1.87	-2.97	-13.01	-13.01	-2.71	0.02	1.06	0.35	
Difference			0.37	0.42	0.64	-1.51	-1.51	0.16	N/A	N/A	0.61	
Non-Core Fixed Income Composite	394,709,683	10.09	0.71	4.17	3.47	-3.32	-3.32	0.81	1.65	N/A	2.00	07/01/2017
Custom Non-Core Fixed Income Benchmark			0.65	4.32	3.52	-5.69	-5.69	0.09	1.99	2.95	2.34	
Difference			0.06	-0.15	-0.05	2.37	2.37	0.72	-0.34	N/A	-0.34	
Wellington Blended Opportunistic EMD (CF)	118,060,920	3.02	1.00	8.47	4.07	-13.94	-13.94	N/A	N/A	N/A	-4.52	03/01/2020
Wellington Blended Benchmark			1.24	8.29	3.27	-14.75	-14.75	-5.66	-1.86	-0.18	-5.29	
Difference			-0.24	0.18	0.80	0.81	0.81	N/A	N/A	N/A	0.77	
Beach Point Leveraged Loan (CF)	144,960,633	3.71	0.38	3.20	3.83	-1.74	-1.74	1.63	2.64	3.33	3.46	10/01/2012
Credit Suisse Lvg'd Loan Index			0.36	2.33	3.55	-1.06	-1.06	2.34	3.24	3.78	3.84	
Difference			0.02	0.87	0.28	-0.68	-0.68	-0.71	-0.60	-0.45	-0.38	
AG Direct Lending Fund III, LP	17,372,779	0.44										11/01/2018
First Eagle Direct Lending Fund IV	16,069,383	0.41										06/01/2019
PIMCO Private Income Fund, LLC	25,839,287	0.66										11/01/2019
AG Direct Lending Fund IV, LP	17,738,840	0.45										06/01/2021
Deerpath Capital V, LP	18,171,509	0.46										11/01/2020
Deerpath Capital VI, LP	15,181,821	0.39										11/01/2021
First Eagle Direct Lending Fund V-B	10,274,299	0.26										06/01/2021
AG Direct Lending Evergreen Fund, LP	9,500,000	0.24										09/01/2022

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Santa Barbara County Employees' Retirement System
Asset Allocation & Performance

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	MTD	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Real Return Composite	587,569,197	15.02	-0.35	3.09	1.59	6.70	6.70	7.91	6.79	N/A	6.96	07/01/2017
Consumer Price Index+4%			0.02	0.98	2.15	10.71	10.71	9.12	7.93	6.70	7.69	
Difference			-0.37	2.11	-0.56	-4.01	-4.01	-1.21	-1.14	N/A	-0.73	
Custom Real Return Benchmark			-0.42	2.48	1.01	1.84	1.84	5.51	5.10	N/A	5.59	
Difference			0.07	0.61	0.58	4.86	4.86	2.40	1.69	N/A	1.37	
Public Real Return Composite	169,368,210	4.33	-1.71	4.88	-2.04	-8.07	-8.07	2.34	3.46	N/A	3.99	07/01/2017
BNY Mellon TIPS - NL (CF)	35,024,237	0.90	-1.13	1.82	-3.43	-12.02	-12.02	1.14	2.06	1.08	2.21	05/01/2019
Bloomberg US Trsy US TIPS Index			-1.02	2.04	-3.21	-11.85	-11.85	1.21	2.11	1.12	2.27	
Difference			-0.11	-0.22	-0.22	-0.17	-0.17	-0.07	-0.05	-0.04	-0.06	
Cohen & Steers Real Assets Fund (CIT)	60,948,614	1.56	-2.58	6.92	-1.04	-2.00	-2.00	6.42	5.42	N/A	5.80	09/01/2017
Cohen & Steers Real Assets Custom Index			-2.19	7.19	-0.49	-3.04	-3.04	4.73	4.33	2.46	4.77	
Difference			-0.39	-0.27	-0.55	1.04	1.04	1.69	1.09	N/A	1.03	
Nuveen Real Asset Income Fund (SA)	73,395,359	1.88	-1.25	4.80	-2.10	-11.98	-11.98	-1.43	2.08	N/A	2.29	09/01/2017
Nuveen Real Asset Income Blend Index			-1.57	4.74	-1.91	-14.24	-14.24	-1.30	1.51	4.14	1.72	
Difference			0.32	0.06	-0.19	2.26	2.26	-0.13	0.57	N/A	0.57	
Private Real Return Composite	418,200,987	10.69	0.20	2.19	3.82	19.27	19.27	13.40	10.62	N/A	9.90	07/01/2017
Private Natural Resources	62,723,150	1.60	0.00	-0.55	-0.48	6.40	6.40	5.55	4.97	N/A	4.79	10/01/2013
Consumer Price Index+4% (1 Qtr Lag)			0.54	1.15	5.28	12.53	12.53	9.15	7.91	6.62	6.73	
Difference			-0.54	-1.70	-5.76	-6.13	-6.13	-3.60	-2.94	N/A	-1.94	
Private Infrastructure	355,477,837	9.09	0.24	2.68	4.60	21.81	21.81	15.19	11.96	N/A	-2.26	01/01/2014
Consumer Price Index+4%			0.02	0.98	2.15	10.71	10.71	9.12	7.93	6.70	6.83	
Difference			0.22	1.70	2.45	11.10	11.10	6.07	4.03	N/A	-9.09	

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**Santa Barbara County Employees' Retirement System
Asset Allocation & Performance**

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	MTD	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Real Estate Composite	434,180,309	11.10	0.53	1.46	3.46	20.73	20.73	15.92	13.45	12.48	7.94	04/01/2006
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)			0.31	0.31	4.87	20.96	20.96	11.38	9.26	9.91	6.82	
Difference			0.22	1.15	-1.41	-0.23	-0.23	4.54	4.19	2.57	1.12	
ORG Real Estate	434,180,309	11.10	0.53	1.46	3.46	20.73	20.73	15.92	13.45	12.60	7.94	04/01/2006
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)			0.31	0.31	4.87	20.96	20.96	11.38	9.26	9.91	6.82	
Difference			0.22	1.15	-1.41	-0.23	-0.23	4.54	4.19	2.69	1.12	
Private Equity Composite	544,164,366	13.91	0.05	0.25	-2.99	3.60	3.60	21.54	18.29	16.21	11.52	06/01/2006
Russell 3000+3% Index (1 Qtr Lag)			-9.05	-3.76	-19.24	-15.16	-15.16	10.93	11.87	14.73	11.66	
Difference			9.10	4.01	16.25	18.76	18.76	10.61	6.42	1.48	-0.14	

Performance for the NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag) is available quarterly; interim months assume a 0.00% return.

Performance shown is net of fees and provided by BNY Mellon or the manager. Performance shown is preliminary and subject to change. Performance is annualized for periods greater than one year. Total Fund performance excludes Treasury Cash. Indices show N/A for since inception returns when the fund contains more history than the corresponding benchmark. The fiscal year ends 06/30. Composite market values include residual assets from liquidated managers.



Santa Barbara County Employees' Retirement System
Alternative Investment Private Credit Fund Performance Listing

As of September 30, 2022

Fund Name	Vintage	Asset Class	Commitment (\$)	Paid In Capital (\$)	Distributions (\$)	Valuation (\$)	Fund IRR (%)	Index IRR (%)	Fund Multiple
AG Direct Lending Fund III, LP	2018	Private Credit - Direct Lending	25,000,000	23,035,117	12,225,748	18,650,684	10.44	3.66	1.34
First Eagle Direct Lending Fund IV	2019	Private Credit - Direct Lending	20,000,000	35,832,505	22,884,338	15,717,755	6.43	3.19	1.08
PIMCO Private Income Fund Onshore Feeder LLC	2019	Private Credit - Direct Lending	20,000,000	20,000,000	0	25,839,287	10.65	4.55	1.29
AG Direct Lending Fund IV, LP	2020	Private Credit - Direct Lending	20,000,000	17,129,726	1,085,994	18,568,118	15.71	-1.99	1.15
Deerpath Capital V, LP	2020	Private Credit - Direct Lending	20,000,000	18,338,462	1,887,825	18,815,018	7.99	1.55	1.13
Deerpath Capital VI, LP	2021	Private Credit - Direct Lending	20,000,000	15,166,503	609,126	15,458,814	N/M	N/M	1.06
First Eagle Direct Lending Fund V-B	2021	Private Credit - Direct Lending	20,000,000	13,184,027	3,518,493	10,697,586	9.08	-3.48	1.08
AG Direct Lending Evergreen Fund LP	2022	Private Credit - Direct Lending	20,000,000	7,000,000	0	6,970,004	N/M	N/M	1.00
			165,000,000	149,686,340	42,211,525	130,717,266	9.62	2.42	1.16

Certain valuations (marked with a ***) are preliminary estimates of valuation as of the date of reporting and reflect the estimated impact of subsequent net cash contributions/distributions. These figures may be used in calculations contained in this report. Index IRR represents the dollar-weighted returns calculated using the CS Lvg'd Loan Index assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Fund IRR is the annualized since-inception net internal rate for the indicated fund or composite. Fund Multiple is the since inception sum of distributions and valuation divided by paid in capital.



Performance Related Comments

- RVK, Inc. began monitoring the assets of the Santa Barbara County Employees' Retirement System in 06/2016. Prior historical data was provided by the previous investment consultant.
- Inception dates shown represent the first full month following initial funding.
- Performance is annualized for periods greater than one year.
- Total Fund performance excludes Treasury Cash.
- Performance shown is net of fees and provided by BNY Mellon or the manager.
- Market values and performance shown are preliminary and subject to change.
- Historical performance prior to 04/11/2019 for BNY Mellon HEDI (SA), BNY Mellon R1000 Index - NL (CF), and BNY Mellon TIPS - NL (CF) is represented by RhumbLine HEDI (SA), SSgA Russell 1000 Index - NL (CF), and BlackRock TIPS (CF), respectively.

Custom Index Comments

- RVK began calculating the SBCERS Policy Benchmark on 04/01/2016. Historical performance was provided by the previous consultant. The passive **Policy Benchmark** currently consists of 19% Russell 3000 Index, 11% MSCI EAFE Index (USD) (Net), 7% MSCI Emg Mkts Index (USD) (Net), 17% Bloomberg US Agg Bond Index, 11% Custom Non-Core Fixed Income Benchmark, 15% Consumer Price Index+4%, 10% NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag), and 10% Russell 3000 Index+3% (1 Qtr Lag).
- The active **SBCERS Dynamic Policy Benchmark** is calculated monthly using beginning of month manager weights applied to each corresponding primary benchmark return.
- The passive **Custom Non-Core Fixed Income Benchmark** currently consists of 33.3% Wellington Blended Benchmark, and 66.6% CS Lvg'd Loan Index. Prior to 12/01/2020 the benchmark consisted of 33.3% Bloomberg US Corp Hi Yld Index, 33.3% Wellington Blended Benchmark, and 33.3% CS Lvg'd Loan Index.
- The passive **Wellington Blended Benchmark** currently consists of 50% JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged) and 50% JPM Emg Mkts Bond Gbl Dvf'd Index (TR).
- The active **Custom Real Return Benchmark** is calculated monthly using beginning of month manager weights within the Real Return Composite applied to each corresponding primary benchmark return.
- The passive **Cohen & Steers Real Assets Custom Index** is a custom benchmark created by the manager and currently consists of 27.5% FTSE EPRA/NAREIT Dvld Index (USD) (Net), 27.5% Bloomberg Cmdty Index (TR), 15% S&P Gbl Natural Res Sect Index (TR), 15% DJ Brookfield Gbl Infrastructure Index, 10% ICE BofAML 1-3 Yr US Corp Index, and 5% Gold Spot Per Ounce Index. Prior to 9/30/2013 benchmark consisted of 30% FTSE EPRA/NAREIT Dvld Index (USD) (Net), 30% Bloomberg Cmdty Index (TR), 20% S&P Gbl Natural Res Sect Index (TR), 12.5% ICE BofAML 1-3 Yr Corp Index, and 7.5% Gold Spot Per Ounce Index.
- The passive **Nuveen Real Asset Income Blend Index** is a custom benchmark created by the manager and currently consists of 22% S&P Global Infrastructure Index (Net), 25% FTSE EPRA/NAREIT Devl'd Index (USD) (Net), 20% Bloomberg US Corp Hi Yld Index, 13% FTSE NAREIT Preferred Stock Index, and 20% ICE Hybrid & Preferred Infrastructure 7% Issuer Constrained Custom Index. Prior to 4/01/2021 benchmark consisted of 28% S&P Gbl Infrastructure Index, 21% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), 18% Wells Fargo Hybrid & Preferred Securities REIT Index, 15% Bloomberg Global Capital Securities Index and 18% Bloomberg US Corp Hi Yld Index.
- Performance for the NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag) is available quarterly; interim months assume a 0.00% return.

**Santa Barbara County Employees' Retirement System
Fee Schedule for Public Investment Managers**

As of December 31, 2022

	Fee Schedule	Market Value As of 12/31/2022 (\$)	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Total Fund Public Assets		2,373,680,516	7,824,316	0.33
U.S. Equity Composite				
BNY Mellon HEDI (SA)	0.02 % of Assets	273,574,267	54,715	0.02
BNY Mellon R1000 Index - NL (CF)	0.01 % of Assets	318,138,526	31,814	0.01
Dimensional U.S. Small Cap Value (CF)	0.36 % of Assets	45,013,268	162,048	0.36
RHJ Small Cap Opportunities (SA)	0.80 % of First \$50 M 0.60 % Thereafter	32,608,819	260,871	0.80
Dev'd Mkt. Non-U.S. Equity Composite				
First Eagle International Value Equity (SA)	0.75 % of Assets	103,498,292	776,237	0.75
PanAgora Dynamic International Equity (SA)	0.33 % of First \$100 M 0.30 % of Next \$100 M 0.25 % Thereafter	108,618,207	355,855	0.33
Artisan Non-U.S. Growth (SA)	0.80 % of First \$50 M 0.60 % Thereafter	109,385,000	756,310	0.69
Acadian Non-US Small Cap Equity (CF)	0.75 % of Assets	53,014,153	397,606	0.75
Emerging Mkt. Equity Composite				
DFA Emg Mkts Value;I (DFEVX)	0.45 % of Assets	127,992,977	575,968	0.45
RBC Emerging Markets Equity (CF)	0.50 % of Assets	119,802,754	599,014	0.50
Core Fixed Income Composite				
Garcia Hamilton Core Fixed Income (SA)	0.30 % of First \$10 M 0.25 % Thereafter	348,417,010	876,043	0.25
PGIM Core Plus Fixed Income (CF)	0.26 % of Assets	239,010,283	621,427	0.26



**Santa Barbara County Employees' Retirement System
Fee Schedule for Public Investment Managers**

As of December 31, 2022

	Fee Schedule	Market Value As of 12/31/2022 (\$)	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Non-Core Fixed Income Composite				
Wellington Blended Opportunistic EMD (CF)	0.55 % of Assets	118,060,920	649,335	0.55
Beach Point Leveraged Loan (CF)	0.50 % of Assets	144,960,633	724,803	0.50
Public Real Return Composite				
BNY Mellon TIPS - NL (CF)	0.01 % of Assets	35,024,237	3,502	0.01
Cohen & Steers Real Assets Fund (CIT)	0.65 % of Assets	60,948,614	396,166	0.65
Nuveen Real Asset Income Fund (SA)	0.80 % of First \$50 M 0.75 % of Next \$50 M 0.65 % Thereafter	73,395,359	575,465	0.78

- Mutual fund fees are sourced from Morningstar and/or the investment manager.

Overview of RVK Performance Reports

	Monthly Investment Performance Analysis	Quarterly Investment Performance Analysis
Frequency	Typically available by the 15th business day following month end	Typically available 30-45 calendar days following quarter end
Analytics Included		
Capital Markets Review (abbreviated)	✓	
Capital Markets Review (with full asset class detail)		✓
Monthly Portfolio Highlights or Executive Summary	✓	✓
Manager Monitoring/Investment Manager Updates/Watch List		✓
Asset Allocation By Manager and Schedule of Investable Assets	✓	✓
Asset Allocation vs. Target Allocation	✓	✓
Plan Asset Overview	✓	✓
Total Fund Asset Allocation & Ranks vs. Peers		✓
Trailing Performance	✓	
Trailing & Fiscal Year Performance (including ranks)		✓
Total Fund IDP Attribution		✓
Composite Profile Pages (including ranks)		✓
Private Credit AltInvest Report	✓	✓
Investment Manager Profile Pages (including ranks)		✓
Fee Schedule for Public Investment Managers	✓	✓
Underlying Indices of SBCERS Policy Index		✓
Work Plan		✓

Glossary

Active Return - The difference between the investment manager/composite performance relative to the performance of an appropriate market benchmark.

Active Share - Measures the degree to which the holdings of a fund differ from the holdings of the benchmark. Active share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the fund versus the weight of each holding in the benchmark and dividing by two.

Alpha - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market or a portfolio's non-systematic return.

Alpha Ratio - A measure of a portfolio's non-systematic return per unit of downside risk. It is measured by dividing the alpha of a portfolio by the downside risk. The non-systematic return is a measure of a portfolio's historical performance not explained by movements of the market.

Average Quality - Bond quality ratings are reported using the investment managers' and the index providers' preferred rating agency. *Average Quality for managers unable to provide this statistic is instead provided by Morningstar; if unavailable on Morningstar, it has been estimated using a credit quality distribution provided by the manager.* There are two primary rating agencies in the US. *Moody's* assigns ratings on a system that employs up to four symbols (consisting of letters and numbers), such as, Aaa, Aa2, etc., with Aaa being the highest or safest rating. *Standard & Poor's (S&P)* employs a system that uses + and - along with letters, such as AAA, AA+, etc. The two rating agencies' systems are summarized below:

<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>	<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>
Higher Credit Quality – Investment Grade			Lower Credit Quality – Below Investment Grade		
AAA	Aaa	Prime/Highest credit quality	BB+	Ba1	Speculative/Low credit quality
AA+	Aa1	High credit quality	BB	Ba2	
AA	Aa2		BB-	Ba3	
AA-	Aa3		B+	B1	Highly speculative
A+	A1	Upper-medium credit quality	B	B2	
A	A2		B-	B3	
A-	A3		CCC+	Caa1	Substantial credit/default risk
BBB+	Baa1	Lower-medium credit quality	CCC	Caa2	Extremely speculative
BBB	Baa2		CCC-	Caa3	
BBB-	Baa3		CC	Ca	Vulnerable to default
			C	Ca	
			D	C	In default

Benchmark Effect - The difference between the blended return of each respective managers' benchmark within a composite and the composite's benchmark return.

Beta - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

Box Plots - A graphical representation of the distribution of observations. From top to bottom, the four boxes represent the spread between the maximum value and the minimum value in each quartile. A quartile represents the values that divide the observations into four quarters (i.e., 1st quartile, 2nd quartile, 3rd quartile, and 4th quartile). The median observation is where the 2nd quartile and 3rd quartile meet.

Buy and Hold Attribution - At the beginning of the time period under analysis, the manager and benchmark portfolios are broken down into segments (i.e., styles, sectors, countries, and regions) based on the desired type of attribution. The formula assumes zero turn-over to the manager and benchmark portfolios throughout the period and calculates the segment returns ("buy and hold returns") to arrive at performance attribution. Due to portfolio turnover, buy and hold attribution may not accurately represent quarterly performance relative to the benchmark. Country, region, sector, and style allocations are as of the date one quarter prior to the reporting date, and the returns shown are for those segments throughout the quarter reported. Due to disclosure guidelines set by each investment manager, equity characteristics shown are as of the most recent date available. The following is the methodology for segment classification:

Sector - Attribution is calculated using the Global Industry Classification Standard (GICS) which is a detailed and comprehensive structure for sector and industry analysis. Stocks are classified by their primary sector, as defined by S&P Capital IQ data.

Country/Region - Attribution is calculated using the Morgan Stanley Capital International (MSCI) region standards. Stocks are classified by their domicile country/region, as defined by S&P Capital IQ data, and thus may differ from the classification of the investment manager and/or index provider.

Style - Stocks are classified into the following style boxes: large/mid/small vs. growth/neutral/value. Stocks are classified along large/mid/small categories at the time of the Russell index rebalancing, using the index market cap boundaries as cutoff points. Stocks are classified along growth/neutral/value categories at the time of the Russell index rebalancing, using the price/book ratio as supplied by S&P Capital IQ. Stocks in the Russell 3000 Index portfolio are sorted by price/book ratio; names with the highest price/book ratio that make up 1/3 of the total market capitalization are assigned to the growth category, and names that make up the subsequent 1/3 of the total market capitalization are assigned to the neutral category, while the balance of the names are assigned to the value category. Stocks are unclassified when there is not enough data to determine a size and style metric.

Portfolio Characteristics and Buy and Hold Attribution reports utilize product-specific data for all mutual funds and commingled funds.

Capital Markets Review -

Breakeven Inflation - Measures the expected inflation rate at each stated maturity by taking the difference between the real yield of the inflation-linked maturity curve and the yield of the closest nominal Treasury maturity.

Consumer Confidence - Measures domestic consumer confidence as defined by the degree of optimism on the state of the economy that consumers express through saving and spending.

Consumer Price Index (CPI) - Measures the change in the price level of consumer goods and services.

Federal Funds Rate - The interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. It is one of the most influential interest rates in the US economy, since it affects monetary and financial conditions, which in turn have a bearing on key aspects of the broad economy including employment, growth and inflation.



Glossary

- Option-Adjusted Spread** - Measures the flat spread of an index or bond to the Treasury yield curve after removing the effect of any embedded options.
- Purchasing Managers Index (PMI)** - Measures economic activity by surveying purchasing managers on a monthly basis as to whether business conditions have improved, worsened, or stayed the same.
- Real Gross Domestic Product (Real GDP)** - An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year.
- US Dollar Total Weighted Index** - Measures the value of the US Dollar relative to a basket of other world currencies. It is calculated as the weighted geometric mean of the dollar's value versus the EUR, GBP, CAD, SEK, CHF, and JPY.
- Unemployment Rate** - The percentage of the total labor force that is unemployed but actively seeking employment.
- VIX** - Measures the implied volatility of S&P 500 Index options by looking at the market's expectation of the S&P 500 Index volatility over the next 30 day period. Commonly referred to as the "fear index" or the "fear gauge."
- Cash Flow Effect** – The composite's active return minus the sum of each managers' active return minus the benchmark effect.
- Consistency** - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.
- Convexity** - A measure of the shape of the curve that describes the relationship between bond prices and bond yields.
- Correlation** - A statistical measure of the relationship between asset class returns. A value of 1.00 is a perfect correlation; that is, the asset classes always move in the same direction. A value of -1.00 indicates a perfect negative correlation, in which the asset classes always move in opposite directions of each other. A value of 0 indicates there is no relationship between the direction of returns of the two asset classes. Correlation calculations only consider the direction of changes relative to two variables and not the magnitude of those changes.
- Coupon Rate** - The percentage rate of interest paid on a bond or fixed income security; it is typically paid twice per year.
- Current Yield** - The annual income of a security divided by the security's current price.
- Down Market Capture** - Down market by definition is negative benchmark return and down market capture represents the ratio in % terms of the average portfolios return over the benchmark during the down market period. The lower the value of the down market capture the better the product's performance.
- Downside Risk** - A measure similar to standard deviation that focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative returns for the selected periodicity. The higher the factor, the riskier the product.
- Earnings Per Share** - It is backward looking, calculated using the one year current EPS divided by the one year EPS five years ago.
- Effective Duration** - The approximate percentage change in a bond's price for a 100 basis point change in yield.
- Excess Return vs. Market** - Average of the monthly arithmetic difference between the manager's return and the benchmark return over a specified time period, shown on an annualized basis.
- Excess Return vs. Risk Free** - Average of the monthly arithmetic difference between the manager's return and the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) over a specified time period, shown on an annualized basis.
- Excess Risk** - A measure of the standard deviation of a portfolio's performance relative to the risk-free return.
- Expense Ratios** - Morningstar is the source for mutual fund expense ratios.
- Gain/Loss** - The net increase or decrease in the market value of a portfolio excluding its Net Cash Flow for a given period.
- Indices** - All indices and related information are considered intellectual property and are licensed by each index provider. The indices may not be copied, used, or distributed without the index provider's prior written approval. Index providers make no warranties and bear no liability with respect to the indices, any related data, their quality, accuracy, suitability, and/or completeness.
- Information Ratio** - Measured by dividing the active rate of return by the tracking error. The higher the information ratio, the more value-added contribution by the manager.
- Liability Driven Investing (LDI)** - A method to optimally structure asset investments relative to liabilities. The change in liabilities is estimated by the Ryan Labs Generic PPA Index of appropriate duration for that Plan. This benchmark is based on generic data and is therefore an approximation. RVK is not an actuarial firm, and does not have actuarial expertise.
- Estimated Funded Status** - The estimated ratio of a Plan's assets relative to its future liabilities. This is calculated by dividing the Plan's asset market value by the estimated present value of its liabilities. The higher the estimated funded status, the better the Plan's ability to cover its projected benefit obligations. An estimated funded status of 100% indicates a Plan that is fully funded.
- Estimated PV of Liabilities** - An estimate of a Plan's future liabilities in present value terms. The beginning of the period liability is provided by the Plan's actuary. The period-end present value liability estimate provided in this report is derived by applying the estimated percentage change generated using the Ryan Labs Generic PPA Index with duration similar to that reported on the most recent actuarial valuation report.
- Duration of Liabilities** - The sensitivity of the value of a Plan's liabilities to changes in interest rates, as calculated by the Plan's actuary.
- Duration of Assets** - The dollar-weighted average duration of all the individual Plan assets.
- Estimated Plan Hedge Ratio** - The estimate of how well a Plan's investment portfolio is hedged against changes in interest rates - a primary driver of funded status movements. This is calculated by dividing the dollar-weighted values of both the Plan asset duration by the liability duration and multiplying by the estimated funded status. An estimated plan hedge ratio of zero indicates that the Plan's liabilities have not been hedged, whereas a value of one indicates fully hedged.

Glossary

Modified Duration - The approximate percentage change in a bond's price for a 100 basis point change in yield, assuming the bonds' expected cash flows do not change.

Mutual Fund Performance - Whenever possible, manager performance is extended for any share class that does not have 10 years of history. Using Morningstar's methodology, a single ticker within the same fund family (often the oldest share class) is chosen to append historical performance.

Net Cash Flow - The sum, in dollars, of a portfolio's contributions and withdrawals. This includes all management fees and expenses only when performance shown is gross of fees.

Peer Groups -

Plan Sponsor Peer Groups - RVK utilizes the Mellon Analytical Solutions Trust Universe along with the Investment Metrics Plan Sponsor Universe. The combined Mellon Analytical Solutions Trust Universe and Investment Metrics Plan Sponsor Universe is used for comparison of total fund composite results and utilizes actual client performance compiled from consultant and custodian data. The Plan Sponsor Peer Group database includes performance and other quantitative data for over 2,100 plans which include corporate, endowment, foundation, public, and Taft Hartley plans. Plan Sponsor Peer Groups are gross of fees.

Investment Manager Peer Groups - RVK utilizes Investment Metrics' Peer Groups for investment manager peer comparison and ranking. The Investment Metrics Peer Group database includes performance and other quantitative data for over 840 investment management firms and 29,000 investments products, across more than 160 standard peer groups. Mutual Fund Peer Groups are net of fees.

Percentile Rankings - Percentile rank compares an individual fund's performance with those of other funds within a defined peer group of managers possessing a similar investment style. Percentile rank identifies the percentage of a fund's peer group that has a higher return (or other comparative measurement) than the fund being ranked. Conversely, 100 minus the individual fund's ranking will identify the percentage of funds within the peer group that have a lower return than the fund being ranked.

1 - Highest Statistical Value

100 - Lowest Statistical Value

Example: American Funds AMCP;R-4 (RAFEX) is ranked in the 4th percentile within the IM US Equity Large-Cap Growth Funds (MF) Peer Group for the Sharpe Ratio. Within the IM US Equity Large-Cap Growth Funds peer group, 4% of the other funds performed better than American Funds AMCP;R-4 (RAFEX), while 96% of the funds performed worse.

Performance Methodology - RVK calculates performance for investment managers and composites using different methodologies.

Investment Managers - Performance is calculated for interim periods between all large external cash flows for a given month and geometrically linked to calculate period returns. An external cash flow is defined as cash, securities, or assets that enter or exit a portfolio. RVK defines a "large cash flow" as a net aggregate cash flow of $\geq 10\%$ of the beginning-period portfolio market value or any cash flow that causes RVK calculated performance to deviate from manager/custodian reported performance in excess of 5 basis points for a given month.

Composites - The Modified Dietz methodology is utilized to calculate asset class, sub-asset class, and total fund composite performance. The Modified Dietz method calculates a time-weighted total rate of return that considers the timing of external cash flows; however, it does not utilize interim period performance to mitigate the impact of significant cash in- and outflows to the composite.

RVK calculates performance beginning with the first full month following inception. Since inception performance may vary from manager reported performance due to RVK using the first full month of returns as the inception date. Performance for both managers and composites is annualized for periods greater than one year.

Portfolio Characteristics - Due to disclosure guidelines set by each investment manager, portfolio characteristics shown are as of the most recent date available.

Price to Earnings Ratio - The ratio valuing a company's current share price relative to its trailing 12-month per-share earnings (EPS).

Private Equity Quartile Ranks - Private Equity quartile ranks are generated using vintage year peer group data provided by Thomson Reuters, and are based on each fund's annualized, since inception internal rate of return (IRR). Three Private Equity peer groups are available via Thomson Reuters: Buyout, Venture, and All Private Equity. Ranks are available quarterly, at a one-quarter lag.

Return - Compounded rate of return for the period.

% Return - The time-weighted rate of return of a portfolio for a given period.

R-Squared - The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

Risk Free Benchmark - ICE BofAML 3 Mo US T-Bill Index unless specified otherwise.



Glossary

RVK Liquidity Rating - A qualitative method for determining the relative amount of liquidity in a portfolio. The characteristics considered when determining relative liquidity include trading volume, gates for redemption, leverage, nature of transactions, and pricing mechanisms. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating.

<u>Asset Class</u>	<u>RVK Liquidity Rating</u>	<u>Asset Class</u>	<u>RVK Liquidity Rating</u>
<u>Liquid Investments</u>		<u>Less Liquid Investments</u>	
T-Bills and Treasuries	100	Fixed Income Plus Sector	50
Cash Equivalents	98	Bank Loans	50
TIPS	95	Stable Value (Plan Sponsor Directed)	50
US Large Cap Equity	95	Absolute Return Strategies	35
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Non-US Large Cap Equity	90	<u>Not Liquid Investments</u>	
Global Tactical Asset Allocation	88	Core Real Estate	25
US Small Cap Equity	85	Core Plus Real Estate	15
REITS	85	Non-Core Real Estate	5
Non-US Small Cap Equity	85	Private Equity Funds of Funds	5
Emerging Markets Equity	85		
Core Fixed Income	85		
Core Plus Fixed Income	80		

Sector Allocation - Negative fixed income sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps.

Sharpe Ratio - Represents the excess rate of return over the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise), divided by the standard deviation of the excess return to the risk free asset. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.

Simple Alpha - The difference between the manager's return and the benchmark's return.

Spread Duration - The approximate percentage change in a bond's price for a 100 basis point change in its spread over a Treasury of the same maturity.

Standard Deviation - A statistical measure of the range of a portfolio's performance. The variability of a return around its average return over a specified time period.

Thematic Classification - Represents dedicated manager allocations; as such, thematic allocations are approximations. RVK categorizes the following asset classes as Alpha, Capital Appreciation, Capital Preservation, and Inflation:

<u>Alpha</u>	<u>Capital Appreciation</u>	<u>Capital Preservation</u>	<u>Inflation</u>
Absolute Return Strategies	Public Equity	Core Fixed Income	TIPS
Currency Overlay	Private Equity	CMBS Fixed Income	Bank Loans
	Preferred Securities	Asset Backed Fixed Income	Core Real Estate
	High Yield	Domestic Core Plus Fixed Income	Real Return
	Convertible Fixed Income	Mortgage Backed Fixed Income	Inflation Hedges
	TALF Funds	International Developed Fixed Income	REITS
	Distressed Debt	Cash Equivalents	Commodities
	Emerging Market Fixed Income	Stable Value	
	Value Added Real Estate		
	Opportunistic Real Estate		

Time Period Abbreviations - **QTD** - Quarter-to-Date. **CYTD** - Calendar Year-to-Date. **FYTD** - Fiscal Year-to-Date. **YOY** - Year Over Year.

Total Fund Attribution - The Investment Decision Process (IDP) model provides an approach to evaluating investment performance that applies to all asset classes and investment styles. The IDP model is based on a top-down hierarchy framework of investment decisions, with each decision contributing to the overall profit or loss. The IDP approach starts from the strategic asset allocation and follows the flow of the investments down to the manager's skill.

Strategic Asset Allocation (SAA) - The percentage return gained or lost from the long-term strategic asset allocation decision, the most significant determinant of long-term performance. SAA is the product of the target asset allocation multiplied by the corresponding benchmark returns.

Tactical Asset Allocation (TAA) - The percentage return gained or lost from not having been precisely allocated at the target asset allocation mix, whether by deviations that are tactical in nature or a by-product of moving towards the target mix. TAA is the product of the actual asset allocation multiplied by the broad asset class benchmarks, less the SAA.

Style Selection (SS) - The percentage return gained or lost from intentional style biases within each asset class (e.g. value rather than core or overweight to emerging markets relative to benchmark). SS is the product of the actual manager allocation within each asset class multiplied by their specific benchmark, less TAA.

Manager's Skill (MS) - The percentage return gained or lost from manager value added relative to their specific benchmark. MS is the product of the actual manager allocation multiplied by their achieved excess return.

Total Fund Beta - Total Fund Beta is calculated using the S&P 500 as the benchmark. It represents a measure of the sensitivity of the total fund to movements in the S&P 500 and is a measure of the Total Fund's non-diversifiable or systematic risk.

Tracking Error - A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.



Glossary

Treynor Ratio - Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Treynor ratio represents the excess rate of return over the risk-free rate (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better historical risk-adjusted performance.

Unit Value - The dollar value of a portfolio, assuming an initial nominal investment of \$100, growing at the compounded rate of %Return for a given period.

Up Market Capture - Up market by definition is positive benchmark return and up market capture represents the ratio in % terms of the average portfolios return over the benchmark during the up market period. The higher the value of the up market capture the better the product's performance.

Yield to Maturity - The rate of return achieved on a bond or other fixed income security assuming the security is bought and held to maturity and that the coupon interest paid over the life of the bond will be reinvested at the same rate of return. The 30-Day SEC Yield is similar to the Yield to Maturity and is reported for mutual funds.

Yield to Worst - The bond yield calculated by using the worst possible yield taking into consideration all call, put, and optional sink dates.

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