

California State University Foundation

Portfolio Review - December 31, 2022
Delivered On - February 9, 2023



Graystone Consulting - Santa Rosa, California

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Capital Market Benchmarks
Current Quarter, Y-T-D, Trailing 1,3,5 & 10 Year periods

As of December 31, 2022

	Quarter To Date	YTD	Trailing 12 Months	Trailing 3 Years	Trailing 5 Years	Trailing 10 Years
Public Equity						
Global Equities						
Global All Cap	J 21	11.1%	11.1%	12.3%	13.1%	11.1%
Domestic Equities						
US Large Cap	J 21	12.5%	12.5%	13.8%	14.6%	12.5%
US Mid Cap	J 21	11.1%	11.1%	12.3%	13.1%	11.1%
US Small Cap	J 21	10.0%	10.0%	11.2%	12.0%	10.0%
International Equities						
Global Excl. US	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Europe	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Asia	J 21	11.1%	11.1%	12.3%	13.1%	11.1%
Fixed Income						
US Gov	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
US Corp	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
US High Yield	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
US Muni	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Hedge Funds						
Global Macro	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Global Dist	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Global Equ	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Global Bond	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Global Com	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Real Assets/Real Return						
Global REIT	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Global Infrastructure	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Global Commod	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Global Private	F 18	11.1%	11.1%	12.3%	13.1%	11.1%
Global Real Estate	F 18	11.1%	11.1%	12.3%	13.1%	11.1%

Returns for periods greater than one year are annualized.
Returns are expressed as percentages.

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CSU Foundation IPS and Allocation Compliance

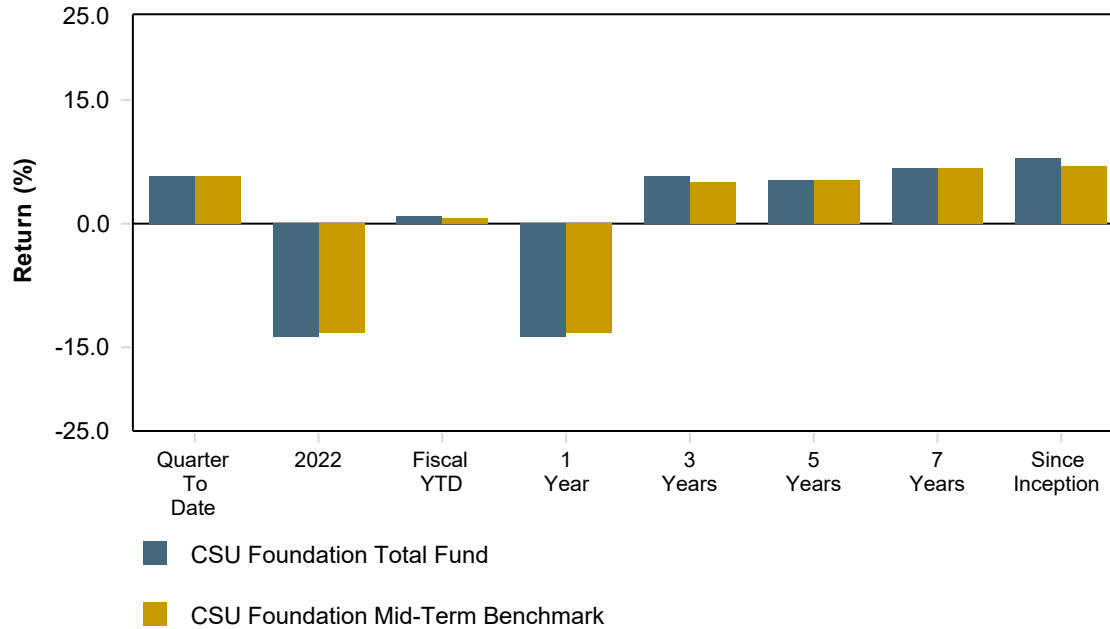
Type of Fund:	Ö} à[, { ^} c
Time Horizon:	Ú^!] ^č ž
Investment Horizon:	F€Ä^æ•
Real Return Target:	ÔÚÉÁ Ñ Ê^ dĀ -ĀĀ } āÁ d] ^} •^•
Time Horizon Return:	V[Á&@ ç^ ÁĀæ Ā -Ā^č !} ÁĀ[ç^ ÁĀ -ĀĀ } Ā -Ā Ñ Ê^ dĀ -ĀĀ } ç^ d Ā } c { æ æ ^{ ^} dĀ } ••
Spending Policy:	I Ā Ā -Ā E^æĀ [çā * ÁĀ^!æ^Ā -Ā æ\^oĀæĀ } •
Risk Benchmark:	ï €Ā Á ÚÔÓĀĀ[Ô[~} d^ Á [! āQ ā^čĀĒĀ ÁÓ&æ•ÁE*!^*æ^Ó[] āQ ā^č

Asset Allocation Summary:

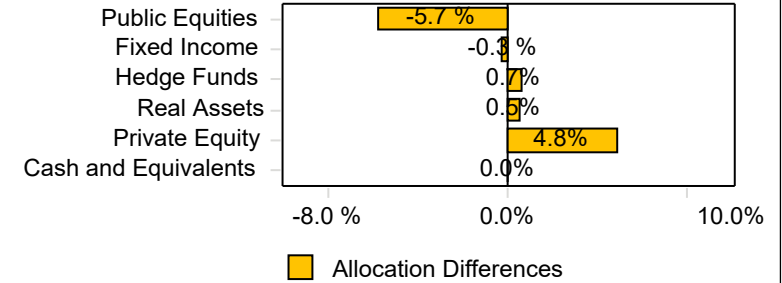
	Current Allocation (%)	Long-term Target (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)
CSU Foundation Total Fund	100.00	100.00	0.00	-	-
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**CSU Foundation
Executive Summary
As of December 31, 2022**

Total Fund Performance vs. Benchmark



Asset Allocation vs. Target



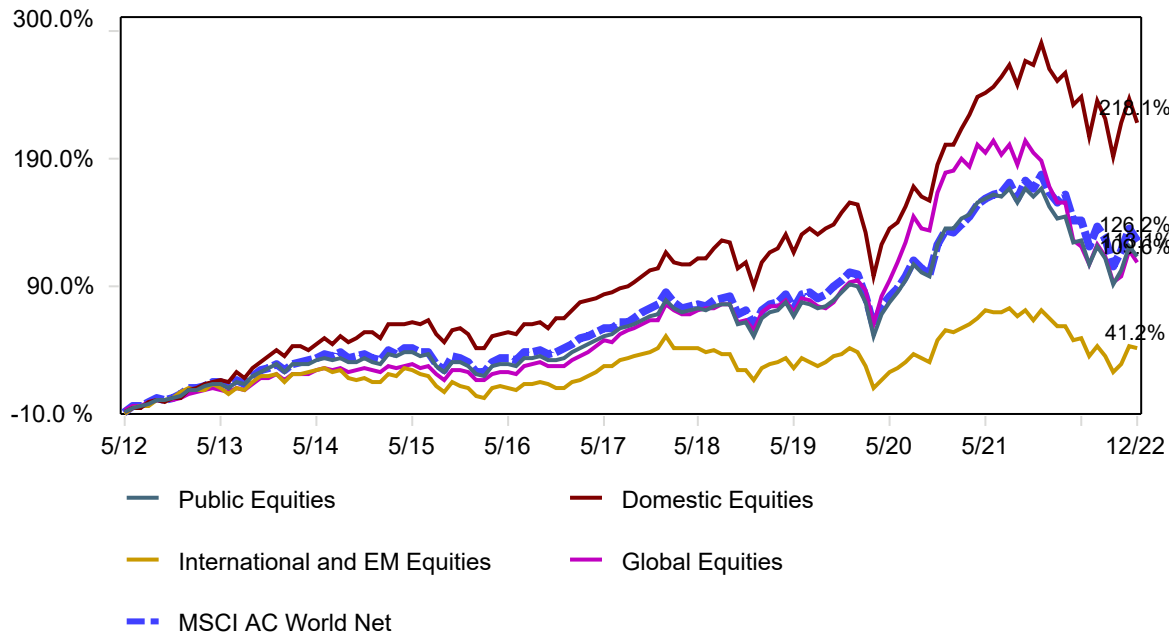
	Market Value (\$)	Allocation (%)	Target (%)
Public Equities	17,899,439	49.25	55.00
Fixed Income	7,162,899	19.71	20.00
Hedge Funds	3,874,623	10.66	10.00
Real Assets	1,999,137	5.50	5.00
Private Equity	5,395,737	14.85	10.00
Cash and Equivalents	10,106	0.03	0.00
Total Fund	36,341,941	100.00	100.00

	Allocation		Performance(%)									
	Market Value (\$)	%	Quarter To Date	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
CSU Foundation Total Fund	36,341,941	100.00	5.88	-13.72	0.92	-13.72	5.67	5.20	6.83	6.01	7.90	12/01/2008
CSU Foundation Mid-Term Benchmark			5.68	-13.15	0.77	-13.15	5.14	5.23	6.69	5.60	6.95	
CPI (w/est) + 4%			1.26	10.44	2.75	10.44	8.95	7.77	7.27	6.60	6.42	
Public Equities	17,899,439	49.25	10.84	-20.16	2.92	-20.16	3.50	4.79	7.54	7.41	10.27	02/01/2009
MSCI AC World Net			9.76	-18.36	2.28	-18.36	4.00	5.23	8.10	7.98	10.16	
Fixed Income	7,162,899	19.71	1.32	-10.77	-2.72	-10.77	-2.37	-0.31	1.09	0.80	3.40	02/01/2009
Barclays Aggregate			1.87	-13.01	-2.97	-13.01	-2.71	0.02	0.89	1.06	2.56	
Hedge Funds	3,874,623	10.66	4.15	-5.61	4.01	-5.61	4.50	4.86	4.84	5.97	5.62	07/01/2010
HFRI Fund of Funds Comp			1.67	-5.36	1.31	-5.36	3.67	3.00	3.30	3.50	3.25	
Real Assets	1,999,137	5.50	0.15	9.34	1.94	9.34	13.38	4.41	7.30	1.44	3.08	07/01/2010
Real Assets Benchmark			-4.97	7.45	-4.48	7.45	10.44	6.68	7.62	3.77	N/A	

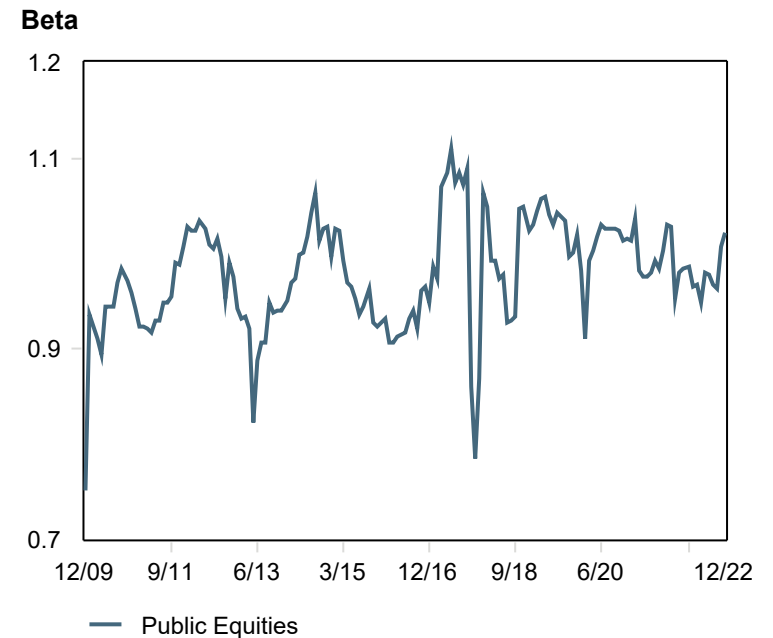
CSU Foundation Executive Summary - Public Equities As of December 31, 2022

	Allocation		Performance(%)									
	Market Value (\$)	%	Quarter To Date	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Public Equities	17,899,439	100.00	10.84	-20.16	2.92	-20.16	3.50	4.79	7.54	7.41	10.27	02/01/2009
MSCI AC World Net			9.76	-18.36	2.28	-18.36	4.00	5.23	8.10	7.98	10.16	
Domestic Equities	6,182,585	34.54	8.95	-16.44	3.55	-16.44	7.48	9.19	11.01	11.92	13.53	02/01/2009
Russell 3000			7.18	-19.21	2.40	-19.21	7.07	8.79	11.04	12.13	13.81	
International and EM Equities	6,270,834	35.03	15.17	-17.38	4.01	-17.38	-0.08	0.16	3.75	2.92	7.61	02/01/2009
MSCI AC World ex US Net			14.28	-16.00	2.96	-16.00	0.07	0.88	4.80	3.80	6.88	
Global Equities	5,446,020	30.43	8.27	-27.19	0.91	-27.19	3.06	5.38	8.24	7.69	7.90	07/01/2010
MSCI AC World Net			9.76	-18.36	2.28	-18.36	4.00	5.23	8.10	7.98	8.83	

Total Fund Performance vs. Benchmark



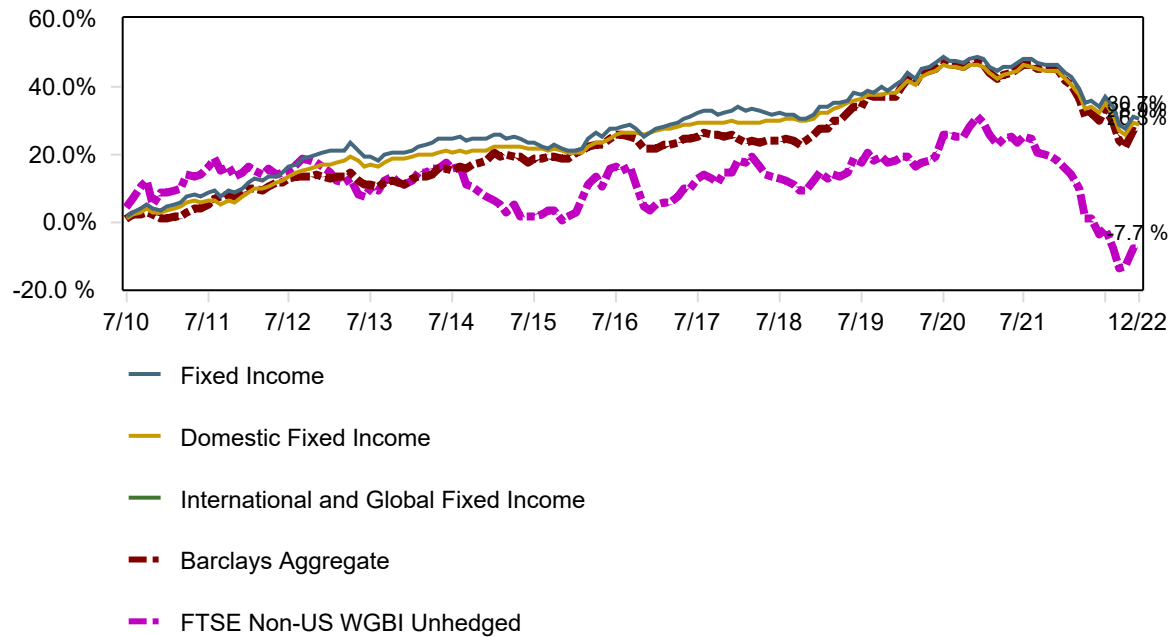
Rolling 12 Month Beta vs. ACWI



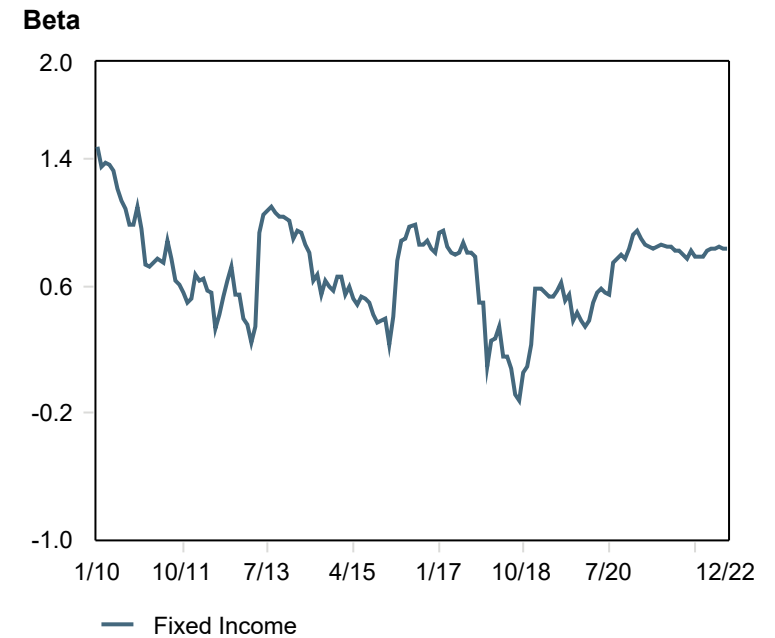
CSU Foundation Executive Summary - Fixed Income As of December 31, 2022

	Allocation		Performance(%)									
	Market Value (\$)	%	Quarter To Date	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Fixed Income	7,162,899	100.00	1.32	-10.77	-2.72	-10.77	-2.37	-0.31	1.09	0.80	3.40	02/01/2009
Barclays Aggregate			1.87	-13.01	-2.97	-13.01	-2.71	0.02	0.89	1.06	2.56	
Domestic Fixed Income	7,162,899	100.00	1.32	-10.77	-2.72	-10.77	-2.30	-0.14	0.97	0.97	3.32	02/01/2009
Barclays Aggregate			1.87	-13.01	-2.97	-13.01	-2.71	0.02	0.89	1.06	2.56	

Total Fund Performance vs. Benchmark



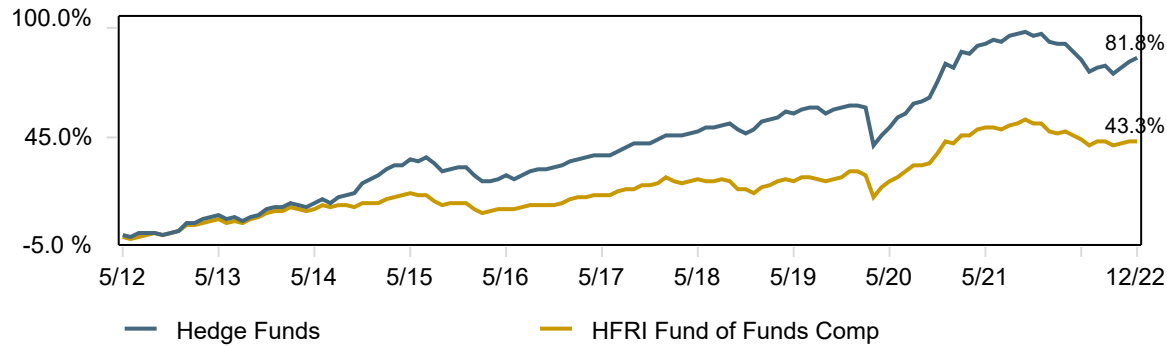
Rolling 12 Month Beta vs. Citi WGBI



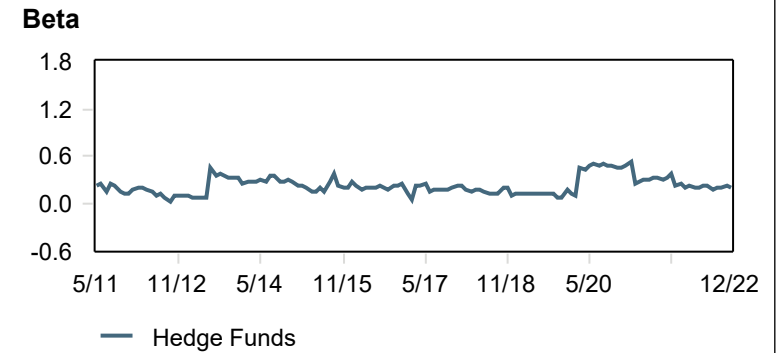
**CSU Foundation
Executive Summary - Alternatives
As of December 31, 2022**

	Allocation		Performance(%)									
	Market Value (\$)	%	Quarter To Date	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Hedge Funds	3,874,623		4.15	-5.61	4.01	-5.61	4.50	4.86	4.84	5.97	5.62	07/01/2010
HFRI Fund of Funds Comp			1.67	-5.36	1.31	-5.36	3.67	3.00	3.30	3.50	3.25	
Real Assets	1,999,137		0.15	9.34	1.94	9.34	13.38	4.41	7.30	1.44	3.08	07/01/2010
Real Assets Benchmark			-4.97	7.45	-4.48	7.45	10.44	6.68	7.62	3.77	N/A	

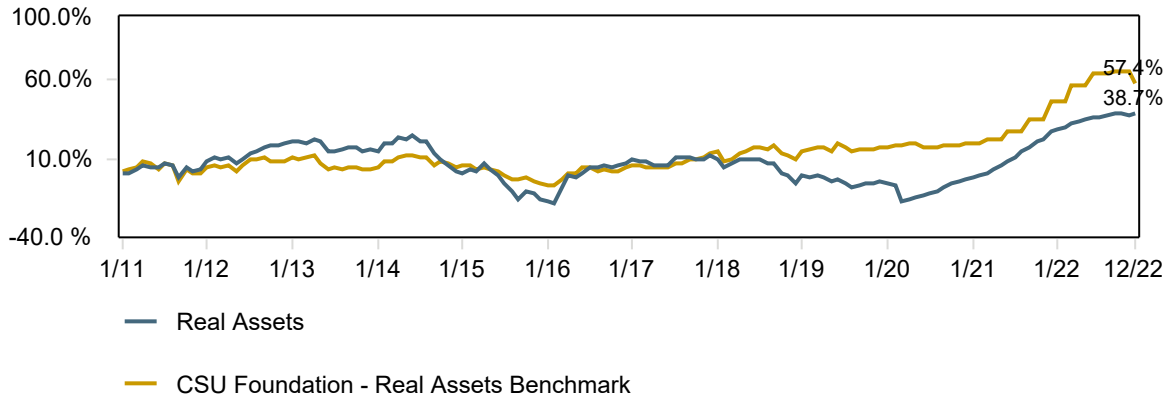
Hedge Funds vs. HFRI Fund of Funds



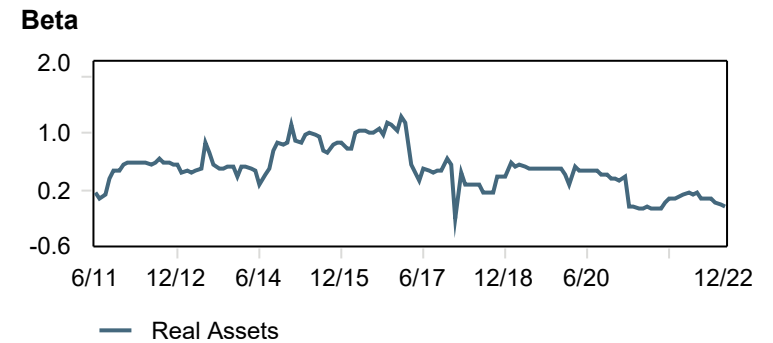
**Hedge Fund
Rolling 12 Month Beta vs. MSCI AC World Net**



Real Assets vs. Real Assets Blend



**Real Assets
Rolling 12 Month Beta vs. MSCI AC World Net**



CSU Foundation
Asset Allocation & Performance
As of December 31, 2022

	Allocation		Performance(%)									
	Market Value (\$)	%	Quarter To Date	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
CSU Foundation Total Fund	36,341,941	100.00	5.88	-13.72	0.92	-13.72	5.67	5.20	6.83	6.01	7.90	12/01/2008
CSU Foundation Mid-Term Benchmark			5.68	-13.15	0.77	-13.15	5.14	5.23	6.69	5.60	6.95	
Difference			0.20	-0.57	0.15	-0.57	0.53	-0.03	0.14	0.41	0.95	
CPI (w/est) + 4%			1.26	10.44	2.75	10.44	8.95	7.77	7.27	6.60	6.42	12/01/2008
Public Equities	17,899,439	49.25	10.84	-20.16	2.92	-20.16	3.50	4.79	7.54	7.41	10.27	02/01/2009
MSCI AC World Net			9.76	-18.36	2.28	-18.36	4.00	5.23	8.10	7.98	10.16	
Difference			1.08	-1.80	0.64	-1.80	-0.50	-0.44	-0.56	-0.57	0.11	
Domestic Equities	6,182,585	17.01	8.95	-16.44	3.55	-16.44	7.48	9.19	11.01	11.92	13.53	02/01/2009
Russell 3000			7.18	-19.21	2.40	-19.21	7.07	8.79	11.04	12.13	13.81	
Difference			1.77	2.77	1.15	2.77	0.41	0.40	-0.03	-0.21	-0.28	
Aperio Custom ESG	2,560,916	7.05	7.67	-18.14	2.74	-18.14	7.00	N/A	N/A	N/A	8.98	08/01/2019
S&P 500 Total Return			7.56	-18.11	2.31	-18.11	7.66	N/A	N/A	N/A	9.52	
Difference			0.11	-0.03	0.43	-0.03	-0.66	N/A	N/A	N/A	-0.54	
Aristotle Large Cap Value	2,543,168	7.00	10.61	-15.83	4.21	-15.83	7.15	8.13	11.10	N/A	11.52	07/01/2013
Russell 1000 Value			12.42	-7.54	6.10	-7.54	5.96	6.67	9.12	N/A	9.14	
Difference			-1.81	-8.29	-1.89	-8.29	1.19	1.46	1.98	N/A	2.38	
Earnest Partners Small/Mid Core	1,078,501	2.97	8.21	-13.39	4.20	-13.39	N/A	N/A	N/A	N/A	-4.49	08/01/2021
Russell Midcap			9.18	-17.31	5.43	-17.31	N/A	N/A	N/A	N/A	-9.70	
Difference			-0.97	3.92	-1.23	3.92	N/A	N/A	N/A	N/A	5.21	

See Disclosures for Benchmark Descriptions

CSU Foundation
Asset Allocation & Performance
As of December 31, 2022

	Allocation		Performance(%)									
	Market Value (\$)	%	Quarter To Date	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
International and EM Equities	6,270,834	17.26	15.17	-17.38	4.01	-17.38	-0.08	0.16	3.75	2.92	7.61	02/01/2009
MSCI AC World ex US Net			14.28	-16.00	2.96	-16.00	0.07	0.88	4.80	3.80	6.88	
Difference			0.89	-1.38	1.05	-1.38	-0.15	-0.72	-1.05	-0.88	0.73	
iShares MSCI EAFE Optimized	3,540,888	9.74	17.56	-15.04	5.11	-15.04	1.19	N/A	N/A	N/A	3.84	08/01/2019
MSCI EAFE ESG Focus NR USD			17.24	-14.93	6.26	-14.93	1.17	N/A	N/A	N/A	3.67	
Difference			0.32	-0.11	-1.15	-0.11	0.02	N/A	N/A	N/A	0.17	
Domini Impact Intl Eqty Fds	1,970,457	5.42	15.86	-20.45	5.11	-20.45	-1.68	N/A	N/A	N/A	0.56	08/01/2019
MSCI EAFE Net			17.34	-14.45	6.36	-14.45	0.87	N/A	N/A	N/A	3.16	
Difference			-1.48	-6.00	-1.25	-6.00	-2.55	N/A	N/A	N/A	-2.60	
GQG Partners Emerging Mkts Fd	759,489	2.09	3.13	-20.50	-3.79	-20.50	N/A	N/A	N/A	N/A	-12.76	04/01/2021
MSCI EM Net			9.70	-20.09	-2.99	-20.09	N/A	N/A	N/A	N/A	-14.42	
Difference			-6.57	-0.41	-0.80	-0.41	N/A	N/A	N/A	N/A	1.66	
Global Equities	5,446,020	14.99	8.27	-27.19	0.91	-27.19	3.06	5.38	8.24	7.69	7.90	07/01/2010
MSCI AC World Net			9.76	-18.36	2.28	-18.36	4.00	5.23	8.10	7.98	8.83	
Difference			-1.49	-8.83	-1.37	-8.83	-0.94	0.15	0.14	-0.29	-0.93	
Davis Global ADR	2,756,392	7.58	13.63	-14.33	3.09	-14.33	0.85	N/A	N/A	N/A	3.49	08/01/2019
MSCI AC World Net			9.76	-18.36	2.28	-18.36	4.00	N/A	N/A	N/A	6.03	
Difference			3.87	4.03	0.81	4.03	-3.15	N/A	N/A	N/A	-2.54	
Jennison Global Opportunities	2,689,628	7.40	3.03	-38.85	-1.46	-38.85	4.43	7.68	N/A	N/A	12.79	12/01/2016
MSCI AC World Net			9.76	-18.36	2.28	-18.36	4.00	5.23	N/A	N/A	8.40	
Difference			-6.73	-20.49	-3.74	-20.49	0.43	2.45	N/A	N/A	4.39	

See Disclosures for Benchmark Descriptions

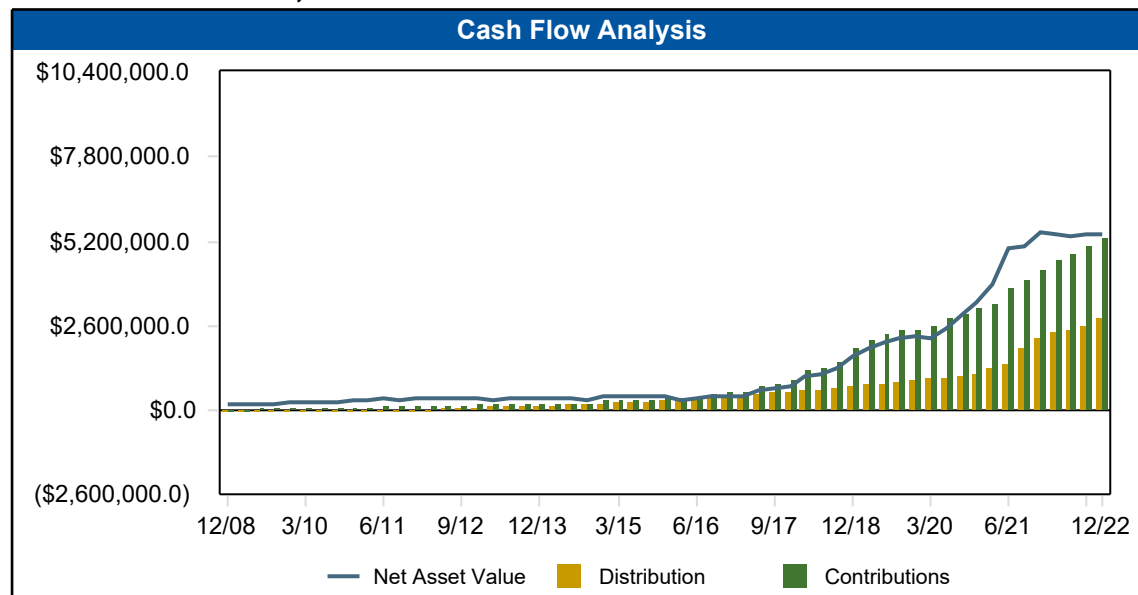
CSU Foundation
Asset Allocation & Performance
As of December 31, 2022

	Allocation		Performance(%)									
	Market Value (\$)	%	Quarter To Date	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Domestic Fixed Income	7,162,899	19.71	1.32	-10.77	-2.72	-10.77	-2.30	-0.14	0.97	0.97	3.32	02/01/2009
Barclays Aggregate			1.87	-13.01	-2.97	-13.01	-2.71	0.02	0.89	1.06	2.56	
Difference			-0.55	2.24	0.25	2.24	0.41	-0.16	0.08	-0.09	0.76	
BlackRock Fundamental Core Taxable	3,627,890	9.98	1.61	-9.73	-2.33	-9.73	N/A	N/A	N/A	N/A	-2.24	02/01/2020
Barclays Aggregate			1.87	-13.01	-2.97	-13.01	N/A	N/A	N/A	N/A	-3.43	
Difference			-0.26	3.28	0.64	3.28	N/A	N/A	N/A	N/A	1.19	
CCM Community Impact Bond Fund	1,765,319	4.86	0.83	-9.52	-2.86	-9.52	N/A	N/A	N/A	N/A	-2.73	02/01/2020
BC Agg Intermediate TR			1.72	-9.51	-2.19	-9.51	N/A	N/A	N/A	N/A	-2.38	
Difference			-0.89	-0.01	-0.67	-0.01	N/A	N/A	N/A	N/A	-0.35	
TIAA-CREF Core Impact Bond Fund	1,769,690	4.87	1.20	-13.99	-3.29	-13.99	N/A	N/A	N/A	N/A	-3.75	02/01/2020
Barclays Aggregate			1.87	-13.01	-2.97	-13.01	N/A	N/A	N/A	N/A	-3.43	
Difference			-0.67	-0.98	-0.32	-0.98	N/A	N/A	N/A	N/A	-0.32	
Hedge Funds	3,874,623	10.66	4.15	-5.61	4.01	-5.61	4.50	4.86	4.84	5.97	5.62	07/01/2010
HFRI Fund of Funds Comp			1.67	-5.36	1.31	-5.36	3.67	3.00	3.30	3.50	3.25	
Difference			2.48	-0.25	2.70	-0.25	0.83	1.86	1.54	2.47	2.37	
Private Advisors Hedged Equity	2,187,270	6.02	5.90	-9.43	4.73	-9.43	3.80	5.10	5.28	5.54	5.51	08/01/2011
HFRI FOF Diversified			1.32	-3.09	1.63	-3.09	4.33	3.49	3.53	3.68	3.15	
Difference			4.58	-6.34	3.10	-6.34	-0.53	1.61	1.75	1.86	2.36	
Millennium Intl Ltd	940,986	2.59	2.56	11.73	5.88	11.73	16.93	12.94	10.74	N/A	10.86	02/01/2015
HFRI Fund of Funds Comp			1.67	-5.36	1.31	-5.36	3.67	3.00	3.30	N/A	2.86	
Difference			0.89	17.09	4.57	17.09	13.26	9.94	7.44	N/A	8.00	
Sculptor Overseas Fund II Ltd	746,367	2.05	1.13	N/A	-0.33	N/A	N/A	N/A	N/A	N/A	-11.77	04/01/2022
HFRI Event Driven Total			3.14	N/A	2.74	N/A	N/A	N/A	N/A	N/A	-3.53	
Difference			-2.01	N/A	-3.07	N/A	N/A	N/A	N/A	N/A	-8.24	
Real Assets	1,999,137	5.50	0.15	9.34	1.94	9.34	13.38	4.41	7.30	1.44	3.08	07/01/2010
Real Assets Benchmark			-4.97	7.45	-4.48	7.45	10.44	6.68	7.62	3.77	N/A	
Difference			5.12	1.89	6.42	1.89	2.94	-2.27	-0.32	-2.33	N/A	
Blackstone Real Estate Income Trust	1,427,846	3.93	-0.18	8.89	1.54	8.89	14.52	N/A	N/A	N/A	13.16	08/01/2018
NCREIF NFI ODCE Value Weighted			-4.97	7.45	-4.48	7.45	9.92	N/A	N/A	N/A	8.84	
Difference			4.79	1.44	6.02	1.44	4.60	N/A	N/A	N/A	4.32	

See Disclosures for Benchmark Descriptions

**California State University System
Private Equity
As of December 31, 2022**

Cash Flow Summary	
Capital Committed:	\$7,069,000
Capital Invested:	\$5,446,520
Total Contributions:	\$5,532,275
Remaining Capital Commitment:	\$1,975,715
Total Distributions:	\$2,831,704
Market Value:	\$5,395,737
Inception Date:	11/01/2008
Inception IRR:	13.67
TVPI:	1.49



Private Equity Portfolio						
Partnerships	Capital Committed (\$)	Total Contribution (\$)	Total Distribution (\$)	Market Value (\$)	IRR (%)	TVPI Multiple
Northern Trust Private Equity*	419,000	406,053	531,489	14,848	4.68	1.35
Private Advisors Small Company Buyout VI*	1,000,000	1,094,880	1,290,775	710,960	19.15	1.83
KKR Americas Fund XII*	1,000,000	990,948	378,030	1,228,332	19.07	1.62
Hamilton Lane Private Markets Opp Fund*	750,000	663,977	300,470	643,454	12.42	1.42
CPG Vintage Access Fund, LLC*	750,000	595,361	78,527	905,132	15.60	1.65
CPG Vintage Access Fund II, LLC*	750,000	610,788	122,487	700,197	14.95	1.35
TrueBridge Select Fund I (Cayman), L.P.*	700,000	455,000	-	441,550	-2.72	0.97
Private Advisors Small Company PE IX, LP*	700,000	464,009	129,927	521,924	40.15	1.41
HarbourVest Partners Co-Investment Fund VI LP*	1,000,000	251,259	-	229,340	-15.96	0.91
Private Equity	7,069,000	5,532,275	2,831,704	5,395,737	13.67	1.49

*Value as of 09/30/2022, adjusted for capital calls & distributions through 12/31/2022

CSU Foundation
Private Equity and Private Real Asset Performance Summary
As of December 31, 2022

Partnerships	Capital Commitment (\$)	Drawn Down (\$)	Market Value (\$)	Distributed (\$)	IRR (%)	TVPI Multiple	Commitment Date	% Funded	Remaining Commitment (\$)
Northern Trust Private Equity*	419,000	406,053	14,848	531,489	4.68	1.35	06/01/2005	96.91	12,947
Private Advisors Small Company Buyout VI*	1,000,000	1,094,880	710,960	1,290,775	19.62	1.83	12/01/2014	83.03	169,741
KKR Americas Fund XII*	1,000,000	990,948	1,228,332	378,030	19.07	1.62	12/01/2015	92.24	77,648
Hamilton Lane Private Markets Opp Fund*	750,000	663,977	643,454	300,470	12.45	1.42	12/01/2016	77.91	165,697
CPG Vintage Access Fund, LLC*	750,000	595,361	905,132	78,527	15.60	1.65	01/01/2018	79.00	157,500
CPG Vintage Access Fund II, LLC*	750,000	610,788	700,197	122,487	14.95	1.35	01/01/2019	81.00	142,500
TrueBridge Select Fund I (Cayman), L.P.*	700,000	455,000	441,550	-	-2.72	0.97	01/01/2021	65.00	245,000
Private Advisors Small Company PE IX, LP*	700,000	464,009	521,924	129,927	40.15	1.41	01/01/2021	63.62	254,682
Bridge Workforce & Affordable Housing Fund II LP*	500,000	271,953	281,817	11,235	6.73	1.06	08/01/2021	55.23	223,841
Ares Climate Infrastructure Partners LP*	500,000	267,695	289,474	18,667	22.49	1.15	07/01/2021	53.54	232,305
HarbourVest Partners Co-Investment Fund VI LP*	1,000,000	251,259	229,340	-	-15.96	0.91	09/01/2021	25.00	750,000

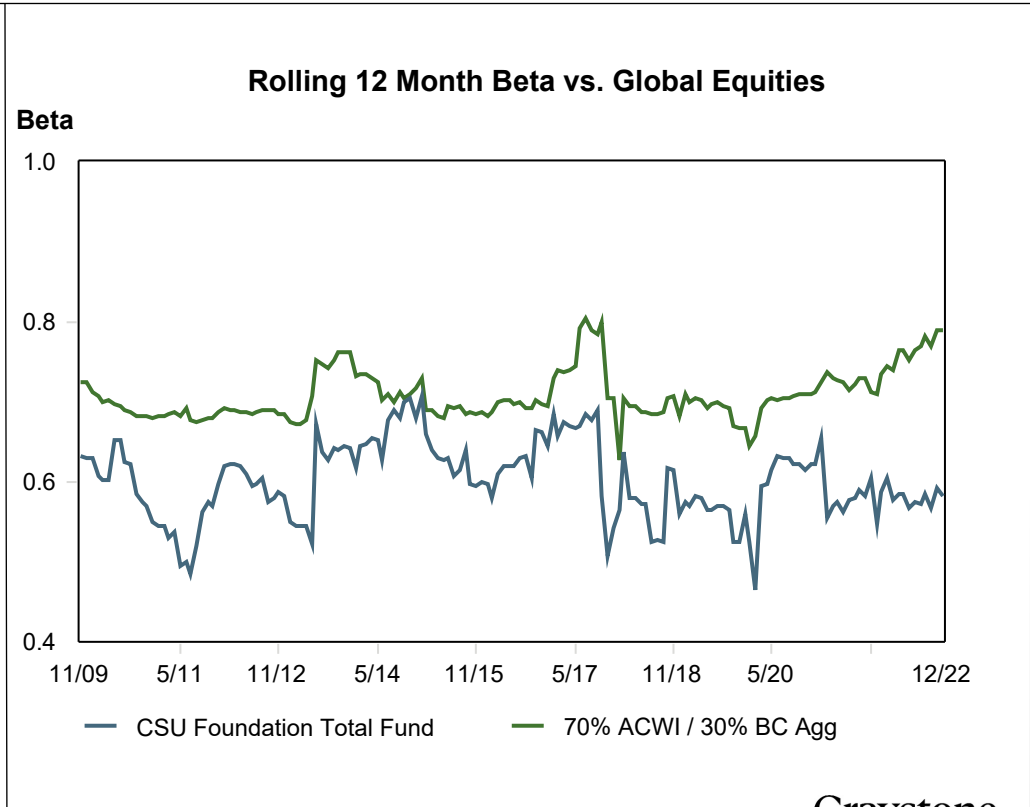
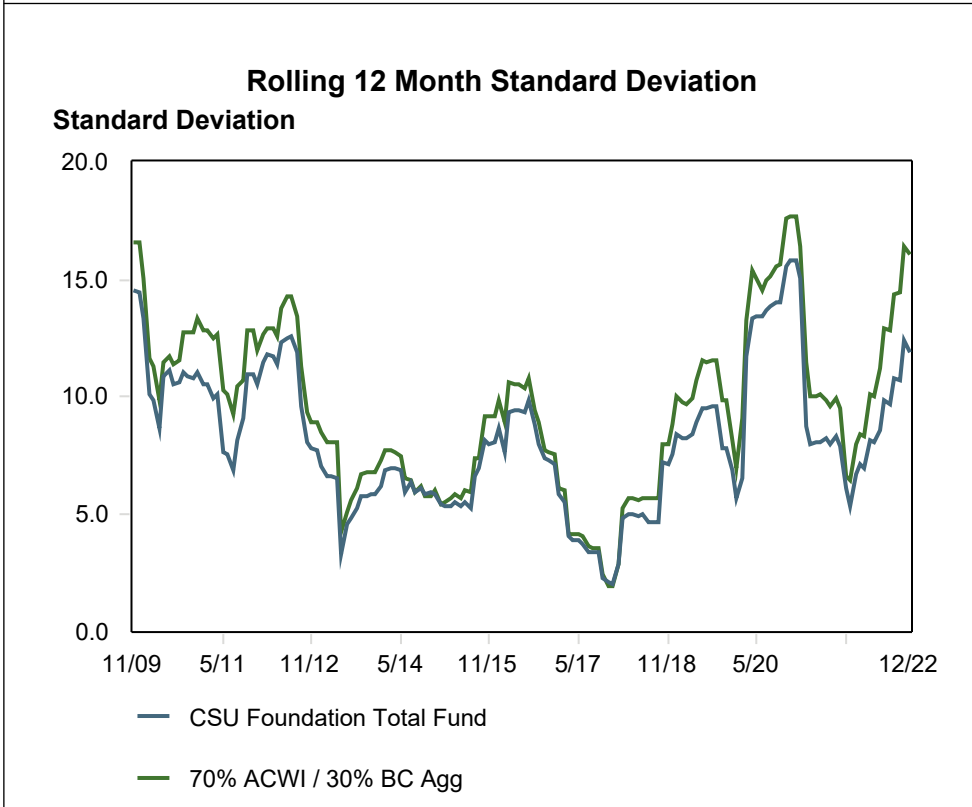
	Quarter To Date	YTD	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date
Northern Trust Private Equity*	0.00	-21.57	-21.57	-2.97	-4.93	-0.88	4.68	06/01/2005
Private Advisors Small Company Buyout VI*	0.05	0.78	0.78	30.64	24.18	21.52	19.62	12/31/2014
KKR Americas Fund XII*	-0.18	-25.91	-25.91	23.64	19.69	19.07	19.07	06/30/2017
Hamilton Lane Private Markets Opp Fund*	-0.41	-7.62	-7.62	12.45	12.48	N/A	12.45	04/30/2017
CPG Vintage Access Fund, LLC*	0.00	1.77	1.77	20.63	N/A	N/A	15.60	03/08/2018
CPG Vintage Access Fund II, LLC*	0.00	2.16	2.16	18.19	N/A	N/A	14.95	03/06/2019
TrueBridge Select Fund I (Cayman), L.P.*	0.00	-10.65	-10.65	N/A	N/A	N/A	-2.72	04/02/2021
Private Advisors Small Company PE IX, LP*	0.00	20.73	20.73	N/A	N/A	N/A	40.15	05/28/2021
Bridge Workforce & Affordable Housing Fund II LP*	1.05	0.06	0.06	N/A	N/A	N/A	6.73	11/17/2021
Ares Climate Infrastructure Partners LP*	0.00	21.11	21.11	N/A	N/A	N/A	22.49	11/15/2021
HarbourVest Partners Co-Investment Fund VI LP*	-0.20	N/A	N/A	N/A	N/A	N/A	-15.96	04/25/2022
CSUF Private Equity	-0.09	-7.83	-7.83	21.23	17.89	16.76	12.62	06/01/2005

Returns are Dollar Weighted

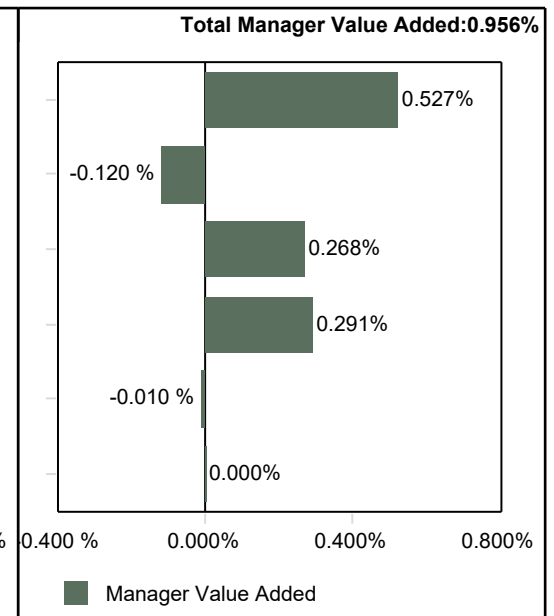
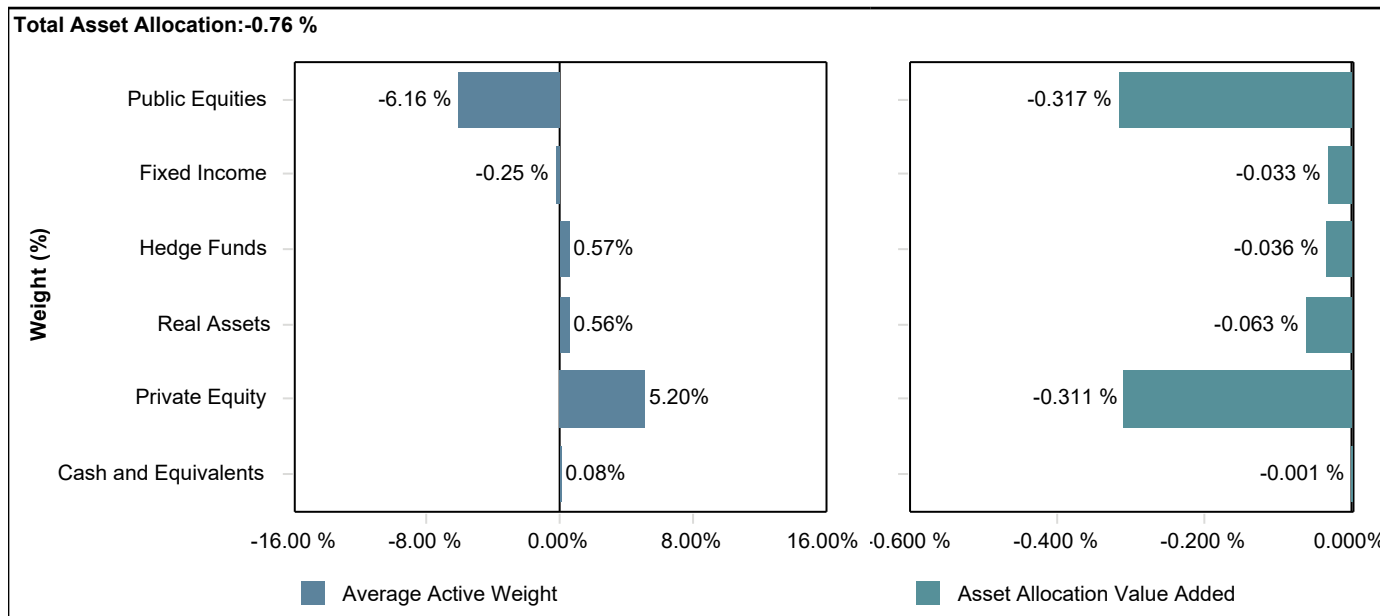
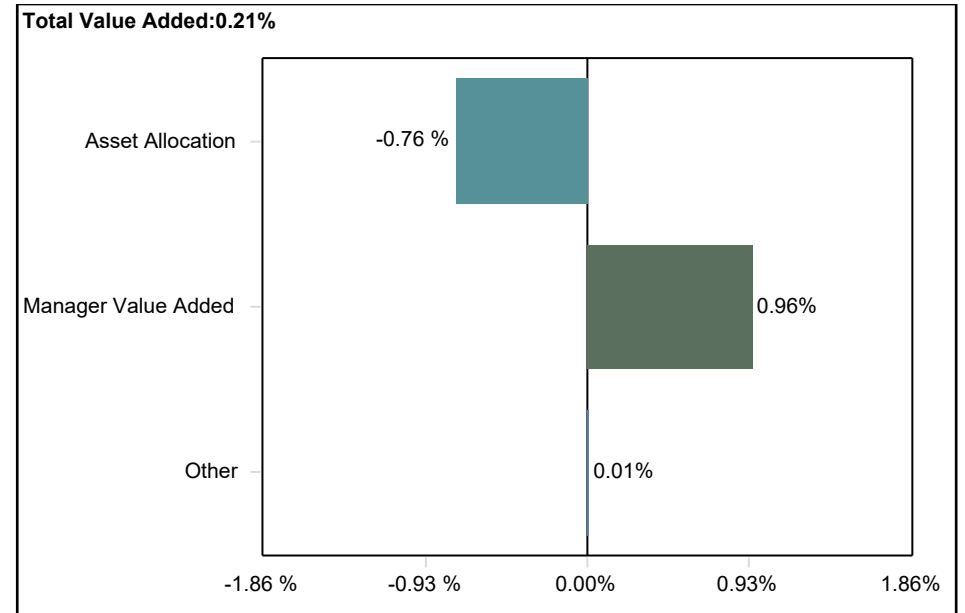
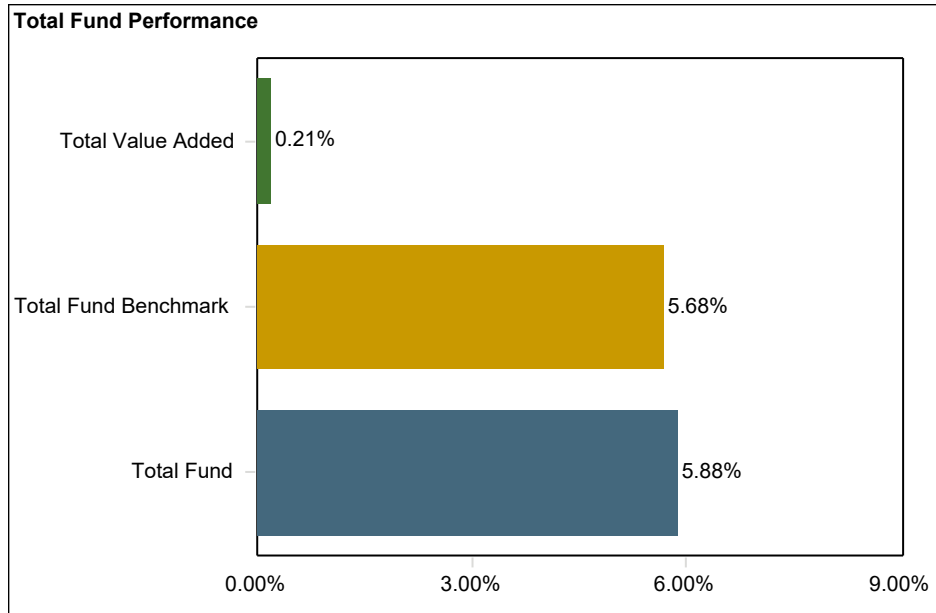
*Value as of 9/30/2022, adjusted for capital calls & distributions through 12/31/2022

**CSU Foundation
Risk Analytics
As of December 31, 2022**

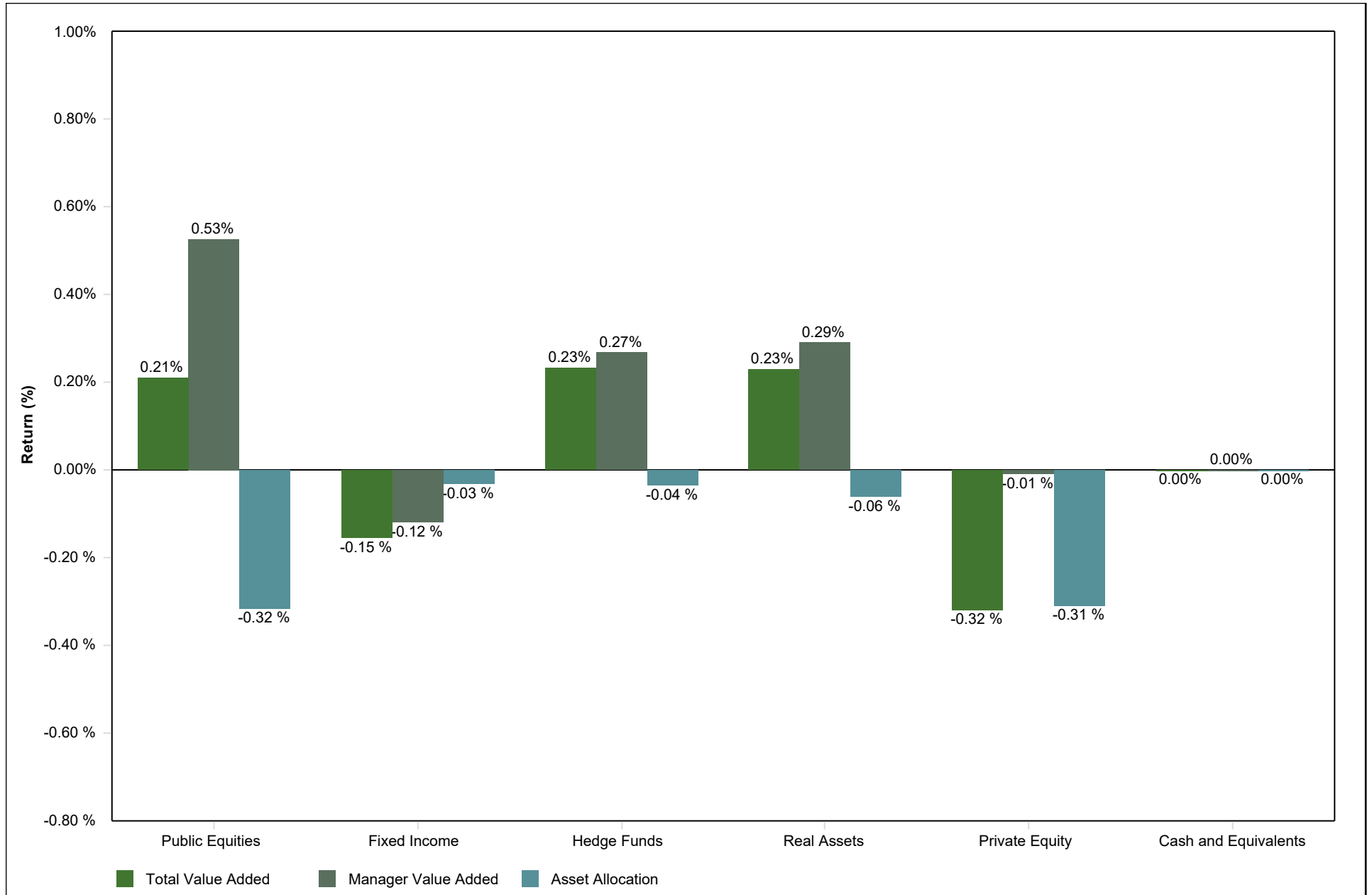
	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Return	-13.72	5.67	5.20	6.83	6.01	7.90	12/01/2008
Standard Deviation	11.95	12.57	10.91	9.68	8.95	9.79	
vs. 70% S&P 500 / 30% BC Aggregate							
Alpha	-2.92	1.78	-0.06	0.32	-1.08	-0.49	
Beta	0.68	0.77	0.76	0.76	0.78	0.83	
R-Squared	0.94	0.90	0.89	0.87	0.86	0.87	
vs. 70% ACWI / 30% BC Agg							
Alpha	-1.55	3.59	1.82	1.62	0.86	1.21	
Beta	0.74	0.83	0.82	0.83	0.84	0.85	
R-Squared	0.99	0.96	0.95	0.95	0.95	0.96	
vs. Mid-Term Benchmark							
Alpha	-2.12	1.93	0.92	0.78	0.84	-	
Beta	0.96	1.03	1.00	1.01	1.01	-	
R-Squared	0.97	0.97	0.96	0.96	0.96	-	



CSU Foundation Attribution Report 1 Quarter Ending December 31, 2022



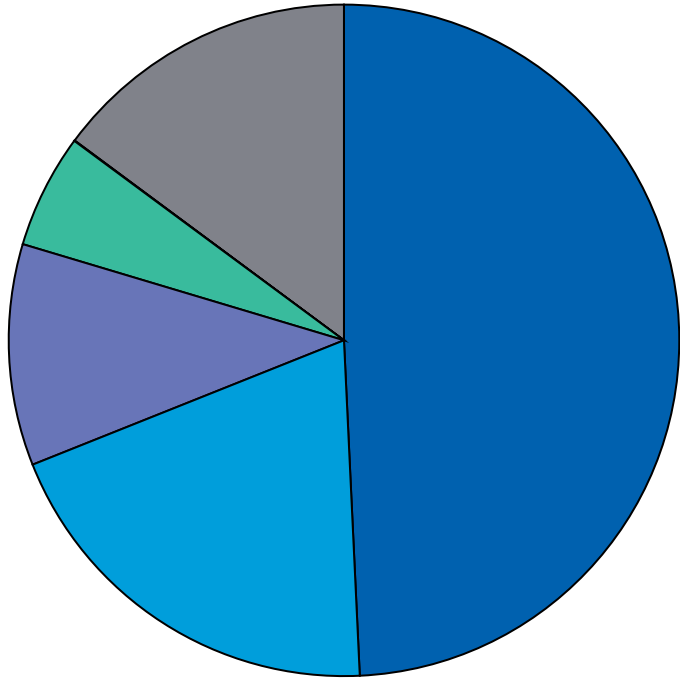
CSU Foundation Attribution Report 1 Quarter Ending December 31, 2022



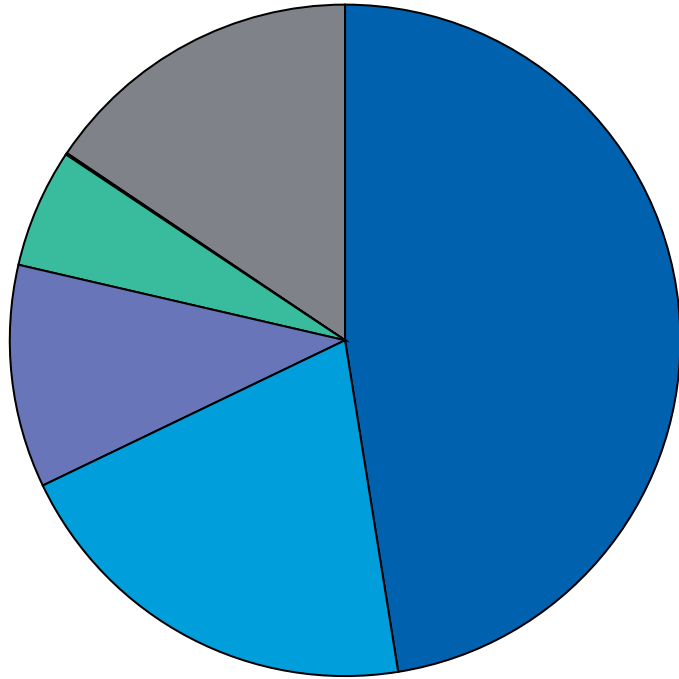
California State University System

As of December 31, 2022

December 31, 2022 : \$36,341,941



September 30, 2022 : \$34,652,689



Market Value
(\$) **Allocation**
(%)

- Equity
- Fixed Income
- Hedge Fund
- Real Return
- Cash
- Global Private Equity

Equity	17,899,439	49.25
Fixed Income	7,162,899	19.71
Hedge Fund	3,874,623	10.66
Real Return	1,999,137	5.50
Cash	10,106	0.03
Global Private Equity	5,395,737	14.85

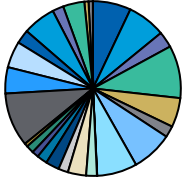
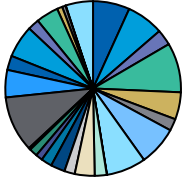
























































Market Value
(\$) **Allocation**
(%)

- Equity
- Fixed Income
- Hedge Fund
- Real Return
- Cash
- Global Private Equity

Equity	16,450,060	47.47
Fixed Income	7,072,595	20.41
Hedge Fund	3,720,156	10.74
Real Return	1,982,206	5.72
Cash	28,843	0.08
Global Private Equity	5,398,829	15.58

California State University System

As of December 31, 2022

December 31, 2022 : \$36,341,941			September 30, 2022 : \$34,652,689		
					
	Market Value (\$)	Allocation (%)		Market Value (\$)	Allocation (%)
 Aristotle Value Equity	2,543,168	7.00	 Aristotle Value Equity	2,333,469	6.73
 Aperio Custom ESG	2,560,916	7.05	 Aperio Custom ESG	2,378,573	6.86
 Earnest Prnts Small/Mid Core	1,078,501	2.97	 Earnest Prnts Small/Mid Core	1,017,959	2.94
 iShares MSCI EAFE Optimized	3,540,888	9.74	 iShares MSCI EAFE Optimized	3,169,512	9.15
 Domini Impact Intl Eqty Fds	1,970,457	5.42	 Domini Impact Intl Eqty Fds	1,748,871	5.05
 GQG Partners Emerging Mkts Fd	759,489	2.09	 GQG Partners Emerging Mkts Fd	759,869	2.19
 Davis Global ADR	2,756,392	7.58	 Davis Global ADR	2,517,440	7.26
 Jennison Gbl Opportunities	2,689,628	7.40	 Jennison Gbl Opportunities	2,524,366	7.28
 Northern Trust Private Equity	14,848	0.04	 Northern Trust Private Equity	14,848	0.04
 Private Advisors Small Company Buyout VI	710,960	1.96	 Private Advisors Small Company Buyout VI	761,574	2.20
 KKR Americas Fund XII	1,228,332	3.38	 KKR Americas Fund XII	1,265,541	3.65
 Hamilton Lane Private Markets Opp Fund	643,454	1.77	 Hamilton Lane Private Markets Opp Fund	664,815	1.92
 CPG Vintage Access Fund, LLC	905,132	2.49	 CPG Vintage Access Fund, LLC	905,132	2.61
 CPG Vintage Access Fund II, LLC	700,197	1.93	 CPG Vintage Access Fund II, LLC	694,105	2.00
 TrueBridge Select Fund I (Cayman), L.P.	441,550	1.21	 TrueBridge Select Fund I (Cayman), L.P.	441,550	1.27
 Private Advisors Small Company PE IX, LP	521,924	1.44	 Private Advisors Small Company PE IX, LP	521,924	1.51
 HarbourVest Partners Co-Investment Fund VI LP	229,340	0.63	 HarbourVest Partners Co-Investment Fund VI LP	129,340	0.37
 BlackRock Fundamental Core Taxable	3,627,890	9.98	 BlackRock Fundamental Core Taxable	3,572,543	10.31
 CCM Community Impact Bond Fund	1,765,319	4.86	 CCM Community Impact Bond Fund	1,755,031	5.06
 TIAA-CREF Core Impact Bd Fd	1,769,690	4.87	 TIAA-CREF Core Impact Bd Fd	-	0.00
 Millennium Intl Ltd	940,986	2.59	 Millennium Intl Ltd	917,511	2.65
 Private Advisors Hedged Equity	2,187,270	6.02	 Private Advisors Hedged Equity	2,065,488	5.96
 Sculptor Overseas Fund II Ltd	746,367	2.05	 Sculptor Overseas Fund II Ltd	737,157	2.13
 Blackstone Real Estate Income Trust	1,427,846	3.93	 Blackstone Real Estate Income Trust	1,430,396	4.13
 Bridge Workforce & Affordable Housing Fund II LP	281,817	0.78	 Bridge Workforce & Affordable Housing Fund II LP	334,036	0.96
 Ares Climate Infrastructure Partners LP	289,474	0.80	 Ares Climate Infrastructure Partners LP	217,774	0.63
 Cash Holding Account	10,106	0.03	 Cash Holding Account	28,843	0.08
 TIAA-CREF Core Impact Bond Fund	-	0.00	 TIAA-CREF Core Impact Bond Fund	1,745,022	5.04

Disclosures

CSU Foundation Benchmark Descriptions

Mid-Term Benchmark

*12/2008 - 05/2010: 70% S&P 500 Total Return, 30% Barclays Aggregate

*06/2010 - 11/2013: 52% MSCI AC World Net, 23% BC Aggregate, 15% HFRI Fund of Funds Composite, 10% Bloomberg Commodity

*12/2013 - 09/2016: 52% MSCI AC World Net, 20% BC Aggregate, 18% HFRI Fund of Funds Composite, 10% Bloomberg Commodity

*10/2016 - 05/2018: 50% MSCI AC World Net, 20% BC Aggregate, 18% HFRI Fund of Funds Composite, 10% Real Assets Benchmark, 2% Cambridge Private Equity

*06/2018 - 11/2018: 48% MSCI AC World Net, 20% BC Aggregate, 18% HFRI Fund of Funds Composite, 10% Real Assets Benchmark, 4% Cambridge Private Equity

*12/2018 - 04/2020: 46% MSCI AC World Net, 20% BC Aggregate, 18% HFRI Fund of Funds Composite, 10% Real Assets Benchmark, 6% Cambridge Private Equity

*05/2020 - 07/2020: 53% MSCI AC World Net, 20% BC Aggregate, 14% HFRI Fund of Funds Composite, 8% Cambridge Private Equity, 5% Real Assets Benchmark

*08/2020 - 05/2021: 56.5% MSCI AC World Net, 20% BC Aggregate, 10% HFRI Fund of Funds Composite, 8.5% Cambridge Private Equity, 5% Real Assets Benchmark

*06/2021 - Present: 55% MSCI AC World Net, 20% BC Aggregate, 10% HFRI Fund of Funds Composite, 10% Cambridge Private Equity, 5% Real Assets Benchmark

Real Assets Benchmark

*01/2011 - 09/2016: 40% Bloomberg Commodity, 30% BC TIPS, 30% FTSE NAREIT US REITS

*10/2016 - 07/2018: 40% MSCI ACWI Commodity Producers, 30% BC TIPS, 30% FTSE NAREIT US REITS

*08/2018 - 08/2019: 40% MSCI ACWI Commodity Producers, 30% BC TIPS, 30% NCREIF NFI ODCE

*09/2019 - 04/2020: 60% NCREIF NFI ODCE, 40% BC TIPS

*05/2020 - Present: 100% NCREIF NFI ODCE

Northern Trust Blend

*06/2005 - 05/2010: 100% Venture Economics All Private Equity

*06/2010 - 03/2012: Cambridge Associates US PE Index

*04/2012 - Present: 100% Absolute Return of 0%

Performance Appendix

Performance Data below is net of fees. Please see the Morgan Stanley Smith Barney LLC Form ADV Part 2 Brochure for advisory accounts and/or any applicable brokerage account trade confirmation statements for a full disclosure of the applicable charges, fees and expenses. Your Financial Advisor will provide those documents to you upon request.

Account Name	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Aperio Custom ESG	7.67	-18.14	-18.14	7.00	--	--	8.98	08/01/2019
BlackRock Fundamental Core Taxable	1.55	-9.96	-9.96	--	--	--	-2.48	02/01/2020
CCM Community Impact Bond Fund	0.80	-9.61	-9.61	--	--	--	-2.82	02/01/2020
Cash Holding Account	8.44	59.65	59.65	65.20	94.23	--	--	11/01/2008
Davis Global ADR	13.51	-14.70	-14.70	0.42	--	--	3.06	08/01/2019
Domini Impact Intl Eqty Fds	15.83	-20.53	-20.53	-1.78	--	--	0.47	08/01/2019
Earnest Prnts Small/Mid Core	8.11	-13.74	-13.74	--	--	--	-4.86	08/01/2021
GQG Partners Emerging Mkts Fd	3.10	-20.58	-20.58	--	--	--	-12.85	04/01/2021
Millennium Intl Ltd	2.56	11.73	11.73	16.93	12.94	--	10.86	02/01/2015
Private Advisors Hedged Equity	5.90	-9.43	-9.43	3.80	5.10	5.54	5.51	08/01/2011
Sculptor Overseas Fund II Ltd	1.13	--	--	--	--	--	-11.77	04/01/2022
iShares MSCI EAFE Optimized	17.53	-15.13	-15.13	1.09	--	--	3.74	08/01/2019

All performance above are Time Weighted(TWR) performance

IRR Appendix

Account Name	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Ares Climate Infrastructure Partners LP	0.00	21.11	21.11	--	--	--	22.49	11/15/2021
Blackstone Real Estate Income Trust	-0.18	10.02	10.02	14.43	--	--	13.36	07/25/2018
Bridge Workforce & Affordable Housing Fund II LP	1.05	0.06	0.06	--	--	--	6.73	11/17/2021
CPG Vintage Access Fund II, LLC	0.00	2.16	2.16	18.19	--	--	14.95	03/06/2019
CPG Vintage Access Fund, LLC	0.00	1.77	1.77	20.63	--	--	15.60	03/06/2018
Hamilton Lane Private Markets Opp Fund	-0.41	-7.62	-7.62	12.45	12.48	--	12.42	04/03/2017
HarbourVest Partners Co-Investment Fund VI LP	-0.20	--	--	--	--	--	-15.96	04/25/2022
KKR Americas Fund XII	-0.18	-25.91	-25.91	23.64	19.69	--	19.07	12/15/2015
Northern Trust Private Equity	0.00	-21.57	-21.57	-2.97	-4.93	6.46	4.68	06/01/2005
Private Advisors Small Company Buyout VI	0.05	0.78	0.78	30.64	24.18	--	19.15	12/30/2014
Private Advisors Small Company PE IX, LP	0.00	20.73	20.73	--	--	--	40.15	05/28/2021
TrueBridge Select Fund I (Cayman), L.P.	0.00	-10.65	-10.65	--	--	--	-2.72	04/02/2021

All performance above are Dollar Weighted(IRR) performance

Glossary of Terms

Active Contribution Return: The gain or loss percentage of an investment relative to the performance of the investment benchmark.

Active Exposure: The percentage difference in weight of the portfolio compared to its policy benchmark.

Active Return: Arithmetic difference between the manager's return and the benchmark's return over a specified time period.

Actual Correlation: A measure of the correlation (linear dependence) between two variables X and Y, with a value between +1 and -1 inclusive. This is also referred to as coefficient of correlation.

Alpha: A measure of a portfolio's time weighted return in excess of the market's return, both adjusted for risk. A positive alpha indicates that the portfolio outperformed the market on a risk-adjusted basis, and a negative alpha indicates the portfolio did worse than the market.

Best Quarter: The highest quarterly return for a certain time period.

Beta: A measure of the sensitivity of a portfolio's time weighted return (net of fees) against that of the market. A beta greater than 1.00 indicates volatility greater than the market.

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.

Core: Refers to an investment strategy mandate that is blend of growth and value styles without a pronounced tilt toward either style.

Cumulative Selection Return (*Cumulative Return*): Cumulative investment performance over a specified period of time.

Distribution Rate: The most recent distribution paid, annualized, and then divided by the current market price. Distribution rate may consist of investment income, short-term capital gains, long-term capital gains, and/or return of capital.

Down Market Capture: The ratio of average portfolio returns over the benchmark during periods of negative benchmark return. Lower values indicate better product performance.

Downside Risk: A measure similar to standard deviation, but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the value, the more risk the product has.

Downside Semi Deviation: A statistical calculation that measures the volatility of returns below a minimum acceptable return. This return measure isolates the negative portion of volatility: the larger the number, the greater the volatility.

Drawdown: A drawdown is the peak-to-trough decline during a specific period of an investment, fund or commodity.

Excess over Benchmark: The percentage gain or loss of an investment relative to the investment's benchmark.

Excess Return: Arithmetic difference between the manager's return and the risk-free return over a specified time period.

Growth: A diversified investment strategy which includes investment selections that have capital appreciation as the primary goal, with little or no dividend payouts. These strategies can include reinvestment in expansion, acquisitions, and/or research and development opportunities.

Growth of Dollar: The aggregate amount an investment has gained or lost over a certain time period, also referred to as Cumulative Return, stated in terms of the amount to which an initial dollar investment would have grown over the given time period.

Investment Decision Process (IDP): A model for structuring the investment process and implementing the correct attribution methodologies. The IDP includes every decision made concerning the division of the assets under management over the various asset categories. To analyze each decision's contribution to the total return, a modeling approach must measure the marginal value of every individual decision. In this respect, the hierarchy of the decisions becomes very important. We therefore use the IDP model, which serves as a proper foundation for registering the decisions and relating them to each other.

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.

Jensen's Alpha: The Jensen's alpha measure is a risk-adjusted performance measure that represents the average return on a portfolio or investment above or below that predicted by the capital asset pricing model (CAPM) given the portfolio's or investment's beta and the average market return. This metric is also commonly referred to as alpha.

Kurtosis: A statistical measure that is used to describe the distribution, or skewness, of observed data around the mean, sometimes referred to as the volatility of volatility.

Maximum Drawdown: The drawdown is defined as the percent retrenchment from a fund's peak to the fund's trough value. It is in effect from the time the fund's retrenchment begins until a new fund high is reached. The maximum drawdown encompasses both the period from the fund's peak to the fund's valley (length), and the time from the fund's valley to a new fund high (recovery). It measures the largest percentage drawdown that has occurred in any fund's data record.

Modern Portfolio Theory (MPT): An investment analysis theory on how risk-averse investors can construct portfolios to optimize or maximize expected return based on a given level of market risk, emphasizing that risk is an inherent part of higher reward.

Mutual Fund (MF): An investment program funded by shareholders that trade in diversified holdings and is professionally managed.

Peer Group: A combination of funds that share the same investment style combined as a group for comparison purposes.

Peer/ Plan Sponsor Universe: A combination of asset pools of total plan investments by specific sponsor and plan types for comparison purposes.

Performance Ineligible Assets: Performance returns are not calculated for certain assets because accurate valuations and transaction data for these assets are not processed or maintained by us. Common examples of

these include life insurance, some annuities and some assets held externally.

Performance Statistics: A generic term for various measures of investment performance measurement terms.

Portfolio Characteristics: A generic term for various measures of investment portfolio characteristics.

Preferred Return: A term used in the private equity (PE) world, and also referred to as a “Hurdle Rate.” It refers to the threshold return that the limited partners of a private equity fund must receive, prior to the PE firm receiving its carried interest or "carry."

Ratio of Cumulative Wealth: A defined ratio of the Cumulative Return of the portfolio divided by the Cumulative Return of the benchmark for a certain time period.

Regression Based Analysis: A statistical process for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables

Residual Correlation: Within returns-based style analysis, residual correlation refers to the portion of a strategy’s return pattern that cannot be explained by its correlation to the asset-class benchmarks to which it is being compared.

Return: A rate of investment performance for the specified period.

Rolling Percentile Ranking: A measure of an investment portfolio’s ranking versus a peer group for a specific rolling time period (i.e. Last 3 Years, Last 5 years, etc.).

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.

SA/CF (Separate Account/Comingled Fund): Represents an acronym for Separate Account and Comingled Fund investment vehicles.

Sector Benchmark: A market index that serves as a proxy for a sector within an asset class.

Sharpe Ratio: Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. 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 results in.

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.

Total Fund Benchmark: The policy benchmark for a complete asset pool that could consist of multiple investment mandates.

Total Fund Composite: The aggregate of multiple portfolios within an asset pool or household.

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

Treynor Ratio: A ratio that divides the excess return (above the risk free rate) by the portfolio’s beta to arrive at a unified measure of risk adjusted return. It is generally used to rank portfolios, funds and benchmarks. A higher ratio is indicative of higher returns per unit of market risk. This measurement can help determine if the portfolio is reaching its goal of increasing returns while managing market risk.

Up Market Capture: The ratio of average portfolio returns over the benchmark during periods of positive benchmark return. Higher values indicate better product performance.

Upside Semi Deviation: A statistical calculation that measures the volatility of returns above an acceptable return. This return measure isolates the positive portion of volatility: the larger the number, the greater the volatility.

Value: A diversified investment strategy that includes investment selections which tend to trade at a lower price relative to its dividends, earnings, and sales. Common attributes are stocks that include high dividend, low price-to-book ratio, and/or low price-to-earnings ratio.

Worst Quarter: The lowest rolling quarterly return for a certain time period.

Information Disclosures

Performance results are annualized for time periods greater than one year and include all cash and cash equivalents, realized and unrealized capital gains and losses, and dividends, interest and income. The investment results depicted herein represent historical performance. As a result of recent market activity, current performance may vary from the figures shown. Past performance is not a guarantee of future results.

Please see the Morgan Stanley Smith Barney LLC Form ADV Part 2 Brochure for advisory accounts and/or any applicable brokerage account trade confirmation statements for a full disclosure of the applicable charges, fees and expenses. Your Financial Advisor will provide those documents to you upon request.

Benchmark indices and blends included in this material are for informational purposes only, are provided solely as a comparison tool and may not reflect the underlying composition and/or investment objective(s) associated with the account(s). Indices are unmanaged and not available for direct investment. Index returns do not take into account fees or other charges. Such fees and charges would reduce performance.

The performance data shown reflects past performance, which does not guarantee future results. Investment return and principal will fluctuate so that an investor’s shares when redeemed may be worth more or less than original cost. Please note, current performance may be higher or lower than the performance data shown. For up to date month-end performance information, please contact your Financial Advisor or visit the funds’ company website.

Investors should carefully consider the fund’s investment objectives, risks, charges and expenses before investing. The prospectus and, if available the summary prospectus, contains this and other information that should be read carefully before investing. Investors should review the information in the prospectus carefully. To obtain a prospectus, please contact your Financial Advisor or visit the funds’ company website.

Past performance is no guarantee of future results.

Investing involves market risk, including possible loss of principal. **Growth investing** does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations. **Value investing** involves the risk that the market may not recognize that securities are undervalued and they may not appreciate as anticipated. **Small and mid-capitalization companies** may lack the financial resources, product diversification and competitive strengths of larger

companies. The securities of small capitalization companies may not trade as readily as, and be subject to higher volatility than those of larger, more established companies. **Bond funds** and bond holdings have the same interest rate, inflation and credit risks that are associated with the underlying bonds owned by the funds. The return of principal in bond funds, and in funds with significant bond holdings, is not guaranteed. **International securities'** prices may carry additional risks, including foreign economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes and differences in financial and accounting standards. International investing may not be for everyone. These risks may be magnified in emerging markets. **Alternative investments**, including private equity funds, real estate funds, hedge funds, managed futures funds, and funds of hedge funds, private equity, and managed futures funds, are speculative and entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in a fund, potential lack of diversification, absence and/or delay of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and risks associated with the operations, personnel and processes of the advisor. **Master Limited Partnerships (MLPs)** are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk; and MLP interests in the real estate sector are subject to special risks, including interest rate and property value fluctuations, as well as risks related to general and economic conditions. Because of their narrow focus, MLPs maintain exposure to price volatility of commodities and/or underlying assets and tend to be more volatile than investments that diversify across many sectors and companies. MLPs are also subject to additional risks including: investors having limited control and rights to vote on matters affecting the MLP, limited access to capital, cash flow risk, lack of liquidity, dilution risk, conflict of interests, and limited call rights related to acquisitions.

Mortgage backed securities also involve prepayment risk, in that faster or slower prepayments than expected on underlying mortgage loans can dramatically alter the yield-to-maturity of a mortgage-backed security and prepayment risk includes the possibility that a fund may invest the proceeds at generally lower interest rates.

Tax managed funds may not meet their objective of being tax-efficient.

Real estate investments are subject to special risks, including interest rate and property value fluctuations, as well as risks related to general and economic conditions. **High yield** fixed income securities, also known as "junk bonds", are considered speculative, involve greater risk of default and tend to be more volatile than investment grade fixed income securities.

Credit quality is a measure of a bond issuer's creditworthiness, or ability to repay interest and principal to bondholders in a timely manner. The credit ratings shown are based on security rating as provided by Standard & Poor's, Moody's and/or Fitch, as applicable. Credit ratings are issued by the rating agencies for the underlying securities in the fund and not the fund itself, and the credit quality of the securities in the fund does not represent the stability or safety of the fund. Credit ratings shown range from AAA, being the highest, to D, being the lowest based on S&P and Fitch's classification (the equivalent of Aaa and C, respectively, by Moody's). Ratings of BBB or higher by S&P and Fitch (Baa or higher by Moody's) are considered to be investment grade-quality securities. If two or more of the agencies have assigned different ratings to a security, the highest rating is applied. Securities that are not rated by all three agencies are listed as "NR".

"**Alpha tilt strategies** comprise a core holding of stocks that mimic a benchmark type index such as the

S&P 500 to which additional securities are added to help tilt the fund toward potentially outperforming the market in an effort to enhance overall investment returns. Tilt strategies are subject to significant timing risk and could potentially expose investors to extended periods of underperformance."

Custom Account Index: The Custom Account Index is an investment benchmark based on your historical target allocations and/or manager selection that you may use to evaluate the performance of your account. The Custom Account index does take into consideration certain changes that may have occurred in your portfolio since the inception of your account, i.e., asset class and/or manager changes. However, in some circumstances, it may not be an appropriate benchmark for use with your specific account composition. For detailed report of the historical composition of this blend please contact your Financial Advisor.

Peer Groups

Peer Groups are a collection of similar investment strategies that essentially group investment products that share the same investment approach. Peer Groups are used for comparison purposes to compare and illustrate a client's investment portfolio versus its peer across various quantitative metrics like performance and risk. Peer Group comparison is conceptually another form of benchmark comparison whereby the actual investment can be ranked versus its peer across various quantitative metrics.

All Peer Group data are provided by Investment Metrics, LLC.

The URL below provides all the definitions and methodology about the various Peer Groups

<https://www.invmetrics.com/style-peer-groups>

Peer Group Ranking Methodology

A percentile rank denotes the value of a product in which a certain percent of observations fall within a peer group. The range of percentile rankings is between 1 and 100, where 1 represents a high statistical value and 100 represents a low statistical value.

The 30th percentile, for example, is the value in which 30% of the highest observations may be found, the 65th percentile is the value in which 65% of the highest observations may be found, and so on.

Percentile rankings are calculated based on a normalized distribution ranging from 1 to 100 for all products in each peer group, where a ranking of 1 denotes a high statistical value and a ranking of 100 denotes a low statistical value. It is important to note that the same ranking methodology applies to all statistics, implying that a ranking of 1 will always mean highest value across all statistics.

For example, consider a risk/return assessment using standard deviation as a measure of risk. A percentile ranking equal to 1 for return denotes highest return, whereas a percentile ranking of 1 for standard deviation denotes highest risk among peers.

In addition, values may be used to demonstrate quartile rankings. For example, the third quartile is also known as the 75th percentile, and the median is the 50th percentile.

Alternatives

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and resulting higher risk due to concentration of trading authority when a single advisor is utilized; • Absence of information regarding valuations and pricing; • Complex tax structures and delays in tax reporting; • Less regulation and higher fees than mutual funds; and • Risks associated with the operations, personnel, and processes of the manager. As a diversified global financial services firm, Morgan Stanley Wealth Management engages in a broad spectrum of activities including financial advisory services, investment management activities, sponsoring and managing private investment funds, engaging in broker-dealer transactions and principal securities, commodities and foreign exchange transactions, research publication, and other activities. In the ordinary course of its business, Morgan Stanley Wealth Management therefore engages in activities where Morgan Stanley Wealth Management's interests may conflict with the interests of its clients, including the private investment funds it manages. Morgan Stanley Wealth Management can give no assurance that conflicts of interest will be resolved in favor of its clients or any such fund.

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For most investment advisory clients, the program account will be charged an asset-based wrap fee every quarter ("the Fee"). In general, the Fee covers investment advisory services and reporting. In addition to the Fee, clients will pay the fees and expenses of any funds in which their account is invested. Fund fees and expenses are charged directly to the pool of assets the fund invests in and impact the valuations. Clients must understand that these fees and expenses are an additional cost and will not be included in the Fee amount in the account statements.

As fees are deducted quarterly, the compounding effect will be to increase the impact of the fees by an amount directly related to the gross account performance. For example, for an account with an initial value of \$100,000 and a 2.5% annual fee, if the gross performance is 5% per year over a three year period, the compounding effect of the fees will result in a net annual compound rate of return of approximately 2.40% per year over a three year period, and the total value of the client's portfolio at the end of the three year period would be approximately \$115,762.50 without the fees and \$107,372.63 with the fees. Please see the applicable Morgan Stanley Smith Barney LLC Form ADV Part 2A for more information including a description of the fee schedule. It is available at www.morganstanley.com/ADV <<http://www.morganstanley.com/ADV>> or from your Financial Advisor/Private Wealth Advisor.

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Money Market Funds

You could lose money in Money Market Funds. Although MMFs classified as government funds (i.e.,

MMFs that invest 99.5% of total assets in cash and/or securities backed by the U.S government) and retail funds (i.e., MMFs open to natural person investors only) seek to preserve value at \$1.00 per share, they cannot guarantee they will do so. The price of other MMFs will fluctuate and when you sell shares they may be worth more or less than originally paid. MMFs may impose a fee upon sale or temporarily suspend sales if liquidity falls below required minimums. During suspensions, shares would not be available for purchases, withdrawals, check writing or ATM debits. A MMF investment is not insured or guaranteed by the Federal Deposit Insurance Corporation or other government agency.