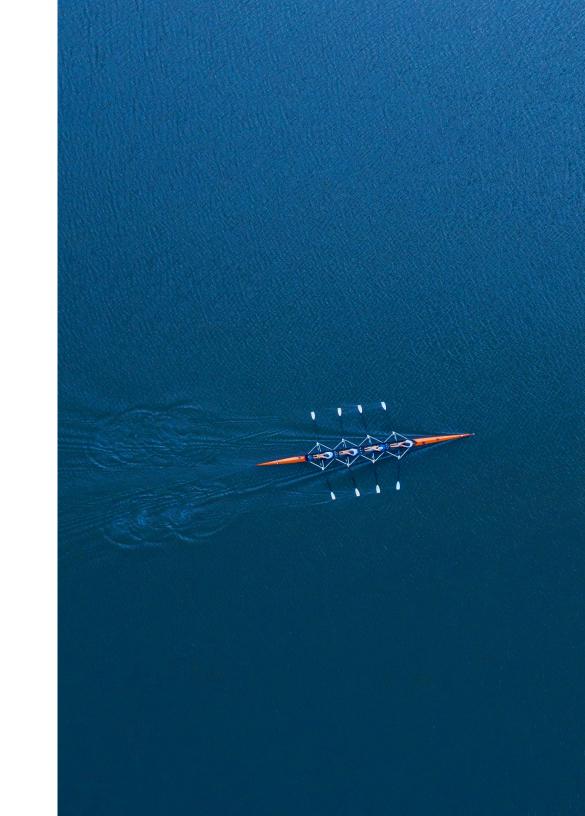


# California State University Foundation

Portfolio Review - December 31, 2023 Delivered On - February 13, 2024



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# Capital Markets Overview

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

As of December 31, 2023

	Quarter To Date	YTD	Trailing 12 Months	Trailing 3 Years	Trailing 5 Years	Trailing 10 Years
Public Equity						
Global Equities						
MSCI All Country World Index	11.03	22.20	22.20	5.75	11.72	7.92
<b>Domestic Equities</b>						
Russell 3000 Index	12.07	25.96	25.96	8.54	15.16	11.48
S&P 500 Index	11.69	26.29	26.29	10.00	15.69	12.03
Russell 2000 Index	14.03	16.93	16.93	2.22	9.97	7.16
International Equities						
MSCI ACWI ex-US Index	9.75	15.62	15.62	1.55	7.08	3.83
MSCI EAFE Index	10.42	18.24	18.24	4.02	8.16	4.28
MSCI Emerging Markets Index	7.93	10.27	10.27	-4.71	4.07	3.05
Fixed Income						
BC Long Treasury Index	12.70	3.06	3.06	-11.41	-1.24	2.28
BC US Aggregate Bond Index	6.82	5.53	5.53	-3.31	1.10	1.81
BC Corporate High Yield Index	7.15	13.44	13.44	1.98	5.35	4.59
Citi World Government Bond Index	8.08	5.18	5.18	-7.18	-1.39	-0.31
Hedge Funds						
HFRI FOF Composite	3.43	6.37	6.37	2.26	5.15	3.25
HFRI Equity Hedge	6.40	11.37	11.37	3.78	8.42	5.30
HFRI Event Driven	5.46	10.42	10.42	5.71	6.77	4.65
HFRI Relative Value	2.58	6.95	6.95	4.55	4.88	4.02
HFRI Macro	-0.82	-0.34	-0.34	5.37	5.60	3.09
Real Assets/Real Return						
FTSE NAREIT All Equity REITS	17.98	11.36	11.36	5.70	7.59	7.95
Bloomberg Commodity Index TR	-4.63	-7.91	-7.91	10.76	7.23	-1.11
MSCI ACWI Commodity Producers	-0.03	3.62	3.62	11.57	6.60	1.47
S&P Global Infrastructure Hedged	8.95	6.82	6.82	8.81	8.69	7.69
BB US Tres Infl PN TIPS	4.71	3.89	3.89	-1.00	3.15	2.42

Returns for periods greater than one year are annualized.

Returns are expressed as percentages.



## Portfolio Review

#### **CSU Foundation**

### **IPS and Allocation Compliance**

Type of Fund: Endowment

Time Horizon: Perpetuity

**Investment Horizon:** 10 Years

**Real Return Target:** CPI + 4%, net of all fund expenses

**Time Horizon Return:** To achieve a rate of return above inflation of 4%, net of all investment

management costs

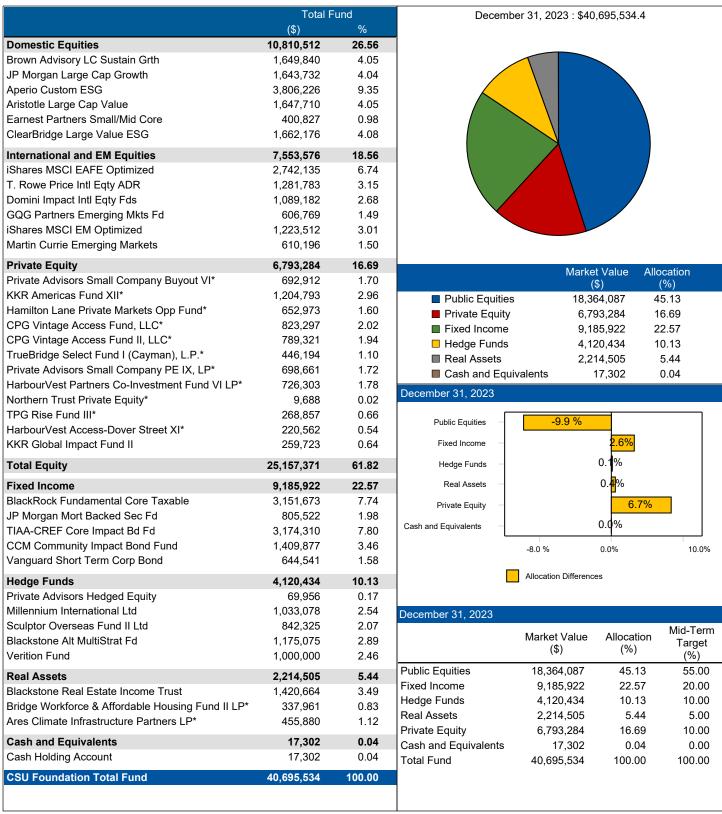
**Spending Policy:** 4% of 3-year moving average of market valuations

Risk Benchmark: 70% MSCI All Country World Index, 30% Barclays Aggregate Bond Index

### **Asset Allocation Summary:**

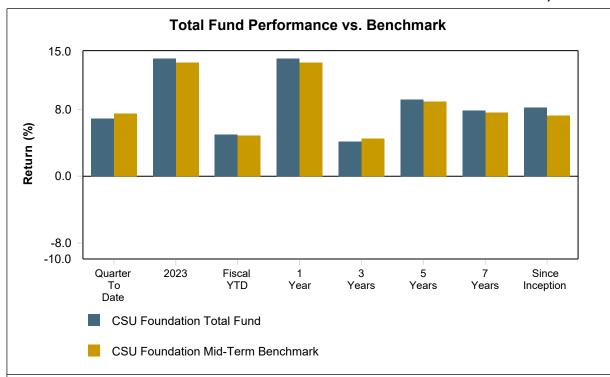
	Current Allocation (%)	Long-term Target (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)
<b>CSU Foundation Total Fund</b>	100.00	100.00	0.00	-	-
Public Equities	45.13	55.00	-9.87	40.00	70.00
Private Equity	16.69	10.00	6.69	0.00	20.00
Fixed Income	22.57	20.00	2.57	10.00	30.00
Hedge Funds	10.13	10.00	0.13	0.00	20.00
Real Assets	5.44	5.00	0.44	0.00	10.00

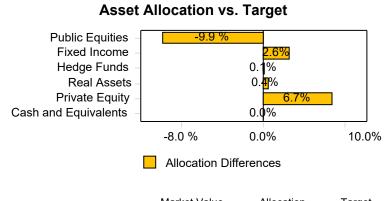
## CSU Foundation Balances and Asset Allocation December 31, 2023



<sup>\*</sup>Value as of 9/30/2023, adjusted for capital calls & distributions through 12/31/2023

### CSU Foundation Executive Summary As of December 31, 2023



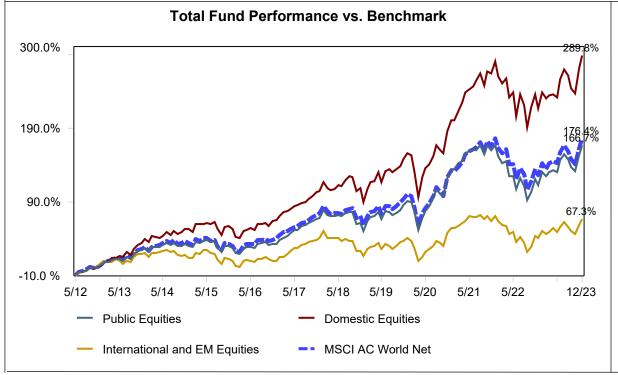


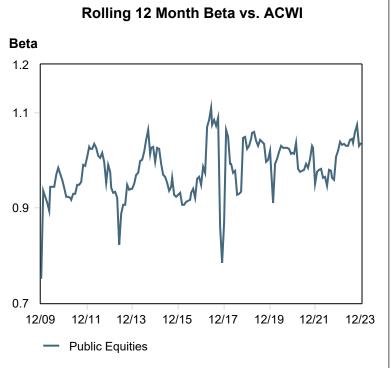
	Market Value (\$)	Allocation (%)	Target (%)
Public Equities	18,364,087	45.13	55.00
Fixed Income	9,185,922	22.57	20.00
Hedge Funds	4,120,434	10.13	10.00
Real Assets	2,214,505	5.44	5.00
Private Equity	6,793,284	16.69	10.00
Cash and Equivalents	17,302	0.04	0.00
Total Fund	40,695,534	100.00	100.00

	Alloca	ition					Performa	ance(%)				
	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	40,695,534	100.00	6.92	14,20	5.08	14.20	4.21	9,22	7.96	6.13	8.30	12/01/2008
CSU Foundation Mid-Term Benchmark	40,033,334	100.00	7.53	13.68	4.88	13.68	4.51	9.04	7.74	5.80	7.37	12/01/2000
CPI (w/est) + 4%			1.61	7.68	3.82	7.68	9.93	8.20	7.55	6.85	6.53	
Public Equities	18,364,087	45.13	12.00	24.93	8.24	24.93	4.27	11.99	10.35	7.59	11.21	02/01/2009
MSCI AC World Net			11.03	22.20	7.26	22.20	5.75	11.72	10.05	7.92	10.93	
Fixed Income	9,185,922	22.57	6.22	5.55	3.45	5.55	-2.49	0.91	1.28	1.36	3.54	02/01/2009
Bloomberg US Aggregate			6.82	5.53	3.37	5.53	-3.31	1.10	1.29	1.81	2.76	
Hedge Funds	4,120,434	10.13	2.40	7.51	3.51	7.51	2.96	5.63	5.77	5.68	5.76	07/01/2010
HFRI Fund of Funds Comp	·		3.43	6.37	3.99	6.37	2.26	5.15	4.15	3.25	3.48	
Real Assets	2,214,505	5.44	-2.43	-0.02	-1.14	-0.02	12.50	7.71	3.69	1.75	2.78	07/01/2010
Real Assets Benchmark			-4.83	-12.02	-6.64	-12.02	4.92	4.67	4.11	3.02	N/A	

# CSU Foundation Executive Summary - Public Equities As of December 31, 2023

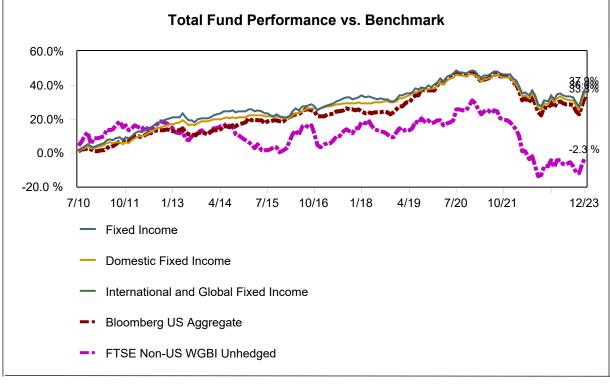
	Alloca	ition					Perform	ance(%)				
	Market Value (\$)	%	Quarter To Date	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Public Equities	18,364,087	100.00	12.00	24.93	8,24	24.93	4.27	11.99	10.35	7.59	11.21	02/01/2009
•	10,304,007	100.00										02/01/2009
MSCI AC World Net			11.03	22.20	7.26	22.20	5.75	11.72	10.05	7.92	10.93	
<b>Domestic Equities</b>	10,810,512	58.87	12.97	22.54	9.17	22.54	9.03	15.49	12.99	10.83	14.11	02/01/2009
Russell 3000			12.07	25.96	8.43	25.96	8.54	15.16	12.81	11.48	14.59	
International and EM Equities	7,553,576	41.13	10.50	18.79	6.78	18.79	2.61	7.59	6.23	3.38	8.31	02/01/2009
MSCI AC World ex US Net			9.75	15.62	5.61	15.62	1.55	7.08	6.33	3.83	7.44	

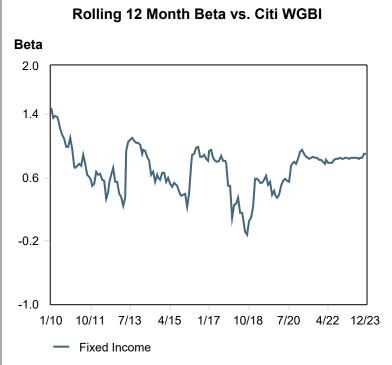




# CSU Foundation Executive Summary - Fixed Income As of December 31, 2023

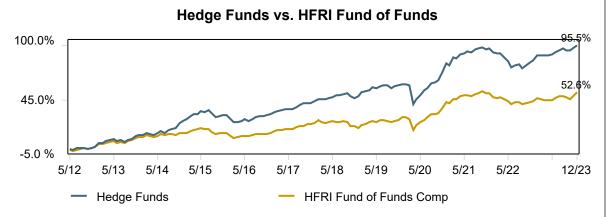
	Alloca	ation		Performance(%)										
	Market Value (\$)	%	Quarter To Date	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date		
Fixed Income	9,185,922	100.00	6.22	5.55	3.45	5.55	-2.49	0.91	1.28	1.36	3.54	02/01/2009		
Bloomberg US Aggregate			6.82	5.53	3.37	5.53	-3.31	1.10	1.29	1.81	2.76			
<b>Domestic Fixed Income</b>	9,185,922	100.00	6.22	5.55	3.45	5.55	-2.49	0.79	1.06	1.38	3.47	02/01/2009		
Bloomberg US Aggregate			6.82	5.53	3.37	5.53	-3.31	1.10	1.29	1.81	2.76			

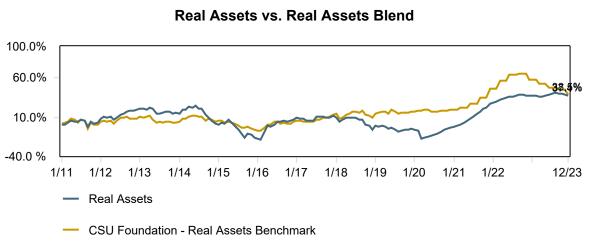


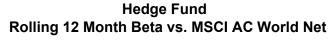


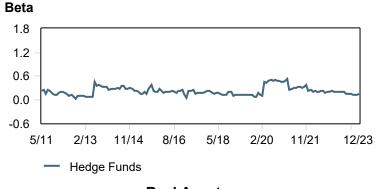
### CSU Foundation Executive Summary - Alternatives As of December 31, 2023

	Alloca	tion	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	4,120,434		2.40	7.51	3.51	7.51	2.96	5.63	5.77	5.68	5.76	07/01/2010
HFRI Fund of Funds Comp			3.43	6.37	3.99	6.37	2.26	5.15	4.15	3.25	3.48	
Real Assets	2,214,505		-2.43	-0.02	-1.14	-0.02	12.50	7.71	3.69	1.75	2.78	07/01/2010
Real Assets Benchmark			-4.83	-12.02	-6.64	-12.02	4.92	4.67	4.11	3.02	N/A	

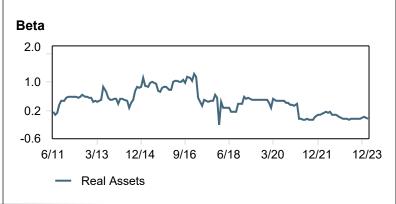








Real Assets
Rolling 12 Month Beta vs. MSCI AC World Net



	Alloca	tion					Perform	ance(%)				
	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	40,695,534	100.00	6.92	14.20	5.08	14.20	4.21	9.22	7.96	6.13	8.30	12/01/2008
CSU Foundation Mid-Term Benchmark			7.53	13.68	4.88	13.68	4.51	9.04	7.74	5.80	7.37	
Difference			-0.61	0.52	0.20	0.52	-0.30	0.18	0.22	0.33	0.93	
CPI (w/est) + 4%			1.61	7.68	3.82	7.68	9.93	8.20	7.55	6.85	6.53	12/01/2008
Public Equities	18,364,087	45.13	12.00	24.93	8.24	24.93	4.27	11.99	10.35	7.59	11.21	02/01/2009
MSCI AC World Net			11.03	22.20	7.26	22.20	5.75	11.72	10.05	7.92	10.93	
Difference			0.97	2.73	0.98	2.73	-1.48	0.27	0.30	-0.33	0.28	
Domestic Equities	10,810,512	26.56	12.97	22.54	9.17	22.54	9.03	15.49	12.99	10.83	14.11	02/01/2009
Russell 3000			12.07	25.96	8.43	25.96	8.54	15.16	12.81	11.48	14.59	
Difference			0.90	-3.42	0.74	-3.42	0.49	0.33	0.18	-0.65	-0.48	
Brown Advisory LC Sustain Grth	1,649,840	4.05	14.71	N/A	11.98	N/A	N/A	N/A	N/A	N/A	11.98	07/01/2023
Russell 1000 Gr			14.16	N/A	10.59	N/A	N/A	N/A	N/A	N/A	10.59	
Difference			0.55	N/A	1.39	N/A	N/A	N/A	N/A	N/A	1.39	
JP Morgan Large Cap Growth	1,643,732	4.04	13.74	N/A	9.76	N/A	N/A	N/A	N/A	N/A	9.76	07/01/2023
Russell 1000 Gr			14.16	N/A	10.59	N/A	N/A	N/A	N/A	N/A	10.59	
Difference			-0.42	N/A	-0.83	N/A	N/A	N/A	N/A	N/A	-0.83	
Aperio Custom ESG	3,806,226	9.35	11.97	25.40	7.67	25.40	9.52	N/A	N/A	N/A	12.50	08/01/2019
S&P 500 Total Return			11.69	26.29	8.03	26.29	10.00	N/A	N/A	N/A	13.11	
Difference			0.28	-0.89	-0.36	-0.89	-0.48	N/A	N/A	N/A	-0.61	
Aristotle Large Cap Value	1,647,710	4.05	14.41	20.46	10.95	20.46	8.37	14.41	11.49	11.18	12.34	07/01/2013
Russell 1000 Value			9.50	11.46	6.03	11.46	8.86	10.91	8.32	8.40	9.36	
Difference			4.91	9.00	4.92	9.00	-0.49	3.50	3.17	2.78	2.98	
ClearBridge Large Value ESG	1,662,176	4.08	12.48	N/A	9.71	N/A	N/A	N/A	N/A	N/A	9.71	07/01/2023
Russell 1000 Value			9.50	N/A	6.03	N/A	N/A	N/A	N/A	N/A	6.03	
Difference			2.98	N/A	3.68	N/A	N/A	N/A	N/A	N/A	3.68	
Earnest Partners Small/Mid Core	400,827	0.98	12.51	15.82	6.12	15.82	N/A	N/A	N/A	N/A	3.44	08/01/2021
Russell Midcap			12.82	17.23	7.54	17.23	N/A	N/A	N/A	N/A	0.59	
Difference			-0.31	-1.41	-1.42	-1.41	N/A	N/A	N/A	N/A	2.85	

See Disclosures for Benchmark Descriptions

	A3 of December 01, 2020											
	Allocat	tion					Performa	ance(%)				
	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	7,553,576	18.56	10.50	18.79	6.78	18.79	2.61	7.59	6.23	3.38	8.31	02/01/2009
MSCI AC World ex US Net			9.75	15.62	5.61	15.62	1.55	7.08	6.33	3.83	7.44	
Difference			0.75	3.17	1.17	3.17	1.06	0.51	-0.10	-0.45	0.87	
iShares MSCI EAFE Optimized	2,742,135	6.74	10.46	18.33	4.68	18.33	3.92	N/A	N/A	N/A	6.96	08/01/2019
MSCI EAFE ESG Focus NR USD			10.14	17.93	5.24	17.93	3.87	N/A	N/A	N/A	6.74	
Difference			0.32	0.40	-0.56	0.40	0.05	N/A	N/A	N/A	0.22	
T. Rowe Price Intl Eqty ADR	1,281,783	3.15	10.06	N/A	5.29	N/A	N/A	N/A	N/A	N/A	5.29	07/01/2023
MSCI EAFE Net			10.42	N/A	5.88	N/A	N/A	N/A	N/A	N/A	5.88	
Difference			-0.36	N/A	-0.59	N/A	N/A	N/A	N/A	N/A	-0.59	
Domini Impact Intl Eqty Fds	1,089,182	2.68	13.89	21.62	9.17	21.62	2.49	N/A	N/A	N/A	4.99	08/01/2019
MSCI EAFE Net			10.42	18.24	5.88	18.24	4.02	N/A	N/A	N/A	6.40	
Difference			3.47	3.38	3.29	3.38	-1.53	N/A	N/A	N/A	-1.41	
GQG Partners Emerging Mkts Fd	606,769	1.49	11.33	28.97	13.02	28.97	N/A	N/A	N/A	N/A	0.56	04/01/2021
MSCI EM Net			7.86	9.83	4.71	9.83	N/A	N/A	N/A	N/A	-6.30	
Difference			3.47	19.14	8.31	19.14	N/A	N/A	N/A	N/A	6.86	
iShares MSCI EM Optimized	1,223,512	3.01	7.94	N/A	3.33	N/A	N/A	N/A	N/A	N/A	7.35	06/01/2023
MSCI EM ESG Focus NR USD			7.97	N/A	4.60	N/A	N/A	N/A	N/A	N/A	8.52	
Difference			-0.03	N/A	-1.27	N/A	N/A	N/A	N/A	N/A	-1.17	
Martin Currie Emerging Markets	610,196	1.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.28	12/01/2023
MSCI EM Net			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.91	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.37	

	A3 01 D000111101 01, 2020												
	Allocat	tion					Perform	ance(%)					
	Market Value (\$)	%	Quarter To Date	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inceptior Date	
Domestic Fixed Income	9,185,922	22.57	6.22	5.55	3.45	5.55	-2.49	0.79	1.06	1.38	3.47	02/01/2009	
Bloomberg US Aggregate			6.82	5.53	3.37	5.53	-3.31	1.10	1.29	1.81	2.76		
Difference			-0.60	0.02	0.08	0.02	0.82	-0.31	-0.23	-0.43	0.71		
BlackRock Fundamental Core Taxable	3,151,673	7.74	6.81	5.52	3.59	5.52	-2.24	N/A	N/A	N/A	-0.31	02/01/2020	
Bloomberg US Aggregate			6.82	5.53	3.37	5.53	-3.31	N/A	N/A	N/A	-1.21		
Difference			-0.01	-0.01	0.22	-0.01	1.07	N/A	N/A	N/A	0.90		
JP Morgan Mort Backed Sec Fd	805,522	1.98	6.34	5.44	3.38	5.44	N/A	N/A	N/A	N/A	5.44	01/01/2023	
BB US Agg Securitized - MBS			7.48	5.05	3.12	5.05	N/A	N/A	N/A	N/A	5.05		
Difference			-1.14	0.39	0.26	0.39	N/A	N/A	N/A	N/A	0.39		
TIAA-CREF Core Impact Bond Fund	3,174,310	7.80	6.61	6.47	3.87	6.47	-3.22	N/A	N/A	N/A	-1.24	02/01/2020	
Bloomberg US Aggregate			6.82	5.53	3.37	5.53	-3.31	N/A	N/A	N/A	-1.21		
Difference			-0.21	0.94	0.50	0.94	0.09	N/A	N/A	N/A	-0.03		
CCM Community Impact Bond Fund	1,409,877	3.46	5.33	4.26	2.99	4.26	-2.35	N/A	N/A	N/A	-0.99	02/01/2020	
Bloomberg US Aggregate			6.82	5.53	3.37	5.53	-3.31	N/A	N/A	N/A	-1.21		
Difference			-1.49	-1.27	-0.38	-1.27	0.96	N/A	N/A	N/A	0.22		
Vanguard Short Term Corp Bond	644,541	1.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.53	12/01/2023	
Bloomberg US Corporate 1-5 Y			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.87		
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.34		

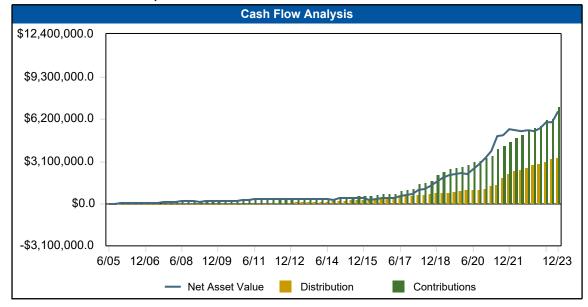
	Allocat	ion					Perform	ance(%)				
	Market Value (\$)	%	Quarter To Date	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Hedge Funds	4,120,434	10.13	2.40	7.51	3.51	7.51	2.96	5.63	5.77	5.68	5.76	07/01/2010
HFRI Fund of Funds Comp			3.43	6.37	3.99	6.37	2.26	5.15	4.15	3.25	3.48	
Difference			-1.03	1.14	-0.48	1.14	0.70	0.48	1.62	2.43	2.28	
Private Advisors Hedged Equity	69,956	0.17	-2.73	-1.14	-3.80	-1.14	-2.52	3.32	5.06	4.03	4.96	08/01/2011
HFRI FOF Diversified			2.92	5.82	3.71	5.82	2.77	5.35	4.29	3.36	3.36	
Difference			-5.65	-6.96	-7.51	-6.96	-5.29	-2.03	0.77	0.67	1.60	
Millennium Intl Ltd	1,033,078	2.54	2.11	9.79	6.85	9.79	11.64	13.94	11.69	N/A	10.74	02/01/2015
HFRI Fund of Funds Comp			3.43	6.37	3.99	6.37	2.26	5.15	4.15	N/A	3.26	
Difference			-1.32	3.42	2.86	3.42	9.38	8.79	7.54	N/A	7.48	
Sculptor Overseas Fund II Ltd	842,325	2.07	1.12	12.86	4.04	12.86	N/A	N/A	N/A	N/A	-0.25	04/01/2022
HFRI Event Driven Total			5.46	10.42	7.78	10.42	N/A	N/A	N/A	N/A	3.68	
Difference			-4.34	2.44	-3.74	2.44	N/A	N/A	N/A	N/A	-3.93	
Blackstone Alt MultiStrat Fd	1,175,075	2.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2024
HFRX Global Hedge Fund			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Verition Fund	1,000,000	2.46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2024
HFRI RV Total			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Real Assets	2,214,505	5.44	-2.43	-0.02	-1.14	-0.02	12.50	7.71	3.69	1.75	2.78	07/01/2010
Real Assets Benchmark			-4.83	-12.02	-6.64	-12.02	4.92	4.67	4.11	3.02	N/A	
Difference			2.40	12.00	5.50	12.00	7.58	3.04	-0.42	-1.27	N/A	
Blackstone Real Estate Income Trust	1,420,664	3.49	-3.72	-0.50	-1.79	-0.50	12.03	10.84	N/A	N/A	10.50	08/01/2018
NCREIF NFI ODCE Value Weighted			-4.83	-12.02	-6.64	-12.02	4.92	4.24	N/A	N/A	4.65	
Difference			1.11	11.52	4.85	11.52	7.11	6.60	N/A	N/A	5.85	

See Disclosures for Benchmark Descriptions

## California State University System Private Equity

As of December 31, 2023

Cash Flor	w Summary
Capital Committed:	\$9,919,000
Capital Invested:	\$6,939,475
Total Contributions:	\$7,127,435
Remaining Capital Commitment:	\$3,251,391
Total Distributions:	\$3,335,040
Market Value:	\$6,793,284
Inception Date:	06/01/2005
Inception IRR:	11.69
TVPI:	1.42



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	9,688	4.56	1.33				
Private Advisors Small Company Buyout VI*	1,000,000	1,142,780	1,387,976	692,912	18.11	1.82				
KKR Americas Fund XII*	1,000,000	999,586	580,209	1,204,793	18.22	1.79				
Hamilton Lane Private Markets Opp Fund*	750,000	715,475	366,347	652,973	10.91	1.42				
CPG Vintage Access Fund, LLC*	750,000	595,361	127,760	823,297	11.56	1.60				
CPG Vintage Access Fund II, LLC*	750,000	663,288	155,910	789,321	13.52	1.43				
TrueBridge Select Fund I (Cayman), L.P.*	700,000	504,000	-	446,194	-6.25	0.89				
Private Advisors Small Company PE IX, LP*	700,000	619,033	185,351	698,661	27.26	1.43				
HarbourVest Partners Co-Investment Fund VI LP*	1,000,000	703,807	-	726,303	4.17	1.03				
TPG Rise Fund III*	1,000,000	307,801	-	268,857	-34.52	0.87				
HarbourVest Access-Dover Street XI*	1,000,000	170,108	-	220,562	76.74	1.30				
KKR Global Impact Fund II	850,000	300,144	-	259,723	-14.28	0.87				
Private Equity	9,919,000	7,127,435	3,335,040	6,793,284	11.69	1.42				

<sup>\*</sup>Value as of 09/30/2023, adjusted for capital calls & distributions through 12/31/2023

### **CSU Foundation**

### Private Equity and Private Real Asset Performance Summary As of December 31, 2023

Partnerships	Capital Commitment (\$)	Drawn Down (\$)	Market Value (\$)	Distributed (\$)	IRR (%)	TVPI Multiple	Commitment Date	% Funded	Remaining Commitment (\$)
Northern Trust Private Equity*	419,000	406,053	9,688	531,489	4.56	1.33	06/01/2005	96.91	12,947
Private Advisors Small Company Buyout VI*	1,000,000	1,142,780	692,912	1,387,976	18.11	1.82	12/01/2014	87.82	121,842
KKR Americas Fund XII*	1,000,000	999,586	1,204,793	580,209	18.22	1.79	12/01/2015	92.24	77,624
Hamilton Lane Private Markets Opp Fund*	750,000	715,475	652,973	366,347	10.91	1.42	12/01/2016	83.53	123,489
CPG Vintage Access Fund, LLC*	750,000	595,361	823,297	127,760	11.56	1.60	01/01/2018	79.00	157,500
CPG Vintage Access Fund II, LLC*	750,000	663,288	789,321	155,910	13.52	1.43	01/01/2019	88.00	90,000
TrueBridge Select Fund I (Cayman), L.P.*	700,000	504,000	446,194	-	-6.25	0.89	01/01/2021	72.00	196,000
Private Advisors Small Company PE IX, LP*	700,000	619,033	698,661	185,351	27.26	1.43	01/01/2021	85.71	100,042
Bridge Workforce & Affordable Housing Fund II LP*	500,000	374,394	337,961	20,478	-2.60	0.95	08/01/2021	75.72	121,400
Ares Climate Infrastructure Partners LP*	500,000	443,407	455,880	42,077	10.23	1.12	07/01/2021	88.68	56,593
HarbourVest Partners Co-Investment Fund VI LP*	1,000,000	703,807	726,303	-	4.17	1.03	09/01/2021	70.00	300,000
TPG Rise Fund III*	1,000,000	307,801	268,857	-	-34.52	0.87	05/01/2023	30.78	692,199
HarbourVest Access-Dover Street XI*	1,000,000	170,108	220,562	-	76.74	1.30	06/01/2023	17.01	829,892
KKR Global Impact Fund II	850,000	300,144	259,723	-	-14.28	0.87	12/01/2023	35.31	549,856

	Quarter To Date	YTD	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date
Northern Trust Private Equity*	0.00	-19.12	-19.12	-21.71	-10.33	-0.97	4.56	06/01/2005
Private Advisors Small Company Buyout VI*	0.00	4.24	4.24	27.12	23.79	21.37	18.11	12/31/2014
KKR Americas Fund XII*	-0.14	19.39	19.39	15.59	19.79	N/A	18.22	06/30/2017
Hamilton Lane Private Markets Opp Fund*	-0.30	0.66	0.66	11.03	10.68	N/A	10.91	04/07/2017
CPG Vintage Access Fund, LLC*	0.00	-3.18	-3.18	14.03	12.75	N/A	11.56	03/08/2018
CPG Vintage Access Fund II, LLC*	0.00	8.96	8.96	14.68	N/A	N/A	13.52	03/06/2019
TrueBridge Select Fund I (Cayman), L.P.*	0.00	-3.16	-3.16	N/A	N/A	N/A	-6.25	04/02/2021
Private Advisors Small Company PE IX, LP*	0.00	5.17	5.17	N/A	N/A	N/A	27.26	05/28/2021
HarbourVest Partners Co-Investment Fund VI LP*	-0.06	6.39	6.39	N/A	N/A	N/A	4.17	04/25/2022
TPG Rise Fund III*	-17.57	N/A	N/A	N/A	N/A	N/A	-34.52	05/26/2023
HarbourVest Access-Dover Street XI*	0.00	N/A	N/A	N/A	N/A	N/A	76.74	06/22/2023
KKR Global Impact Fund II	N/A	N/A	N/A	N/A	N/A	N/A	-14.28	12/22/2023
CSUF Private Equity	-1.09	5.38	5.38	14.76	15.70	15.00	11.69	06/01/2005
Bridge Workforce & Affordable Housing Fund II LP*	-1.22	-5.39	-5.39	N/A	N/A	N/A	-2.60	11/17/2021
Ares Climate Infrastructure Partners LP*	0.00	3.22	3.22	N/A	N/A	N/A	10.23	11/15/2021

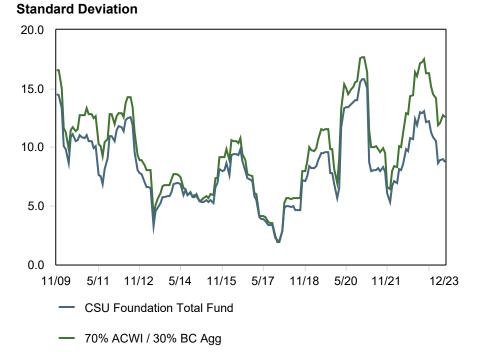


Returns are Dollar Weighted \*Value as of 09/30/2023, adjusted for capital calls & distributions through 12/31/2023

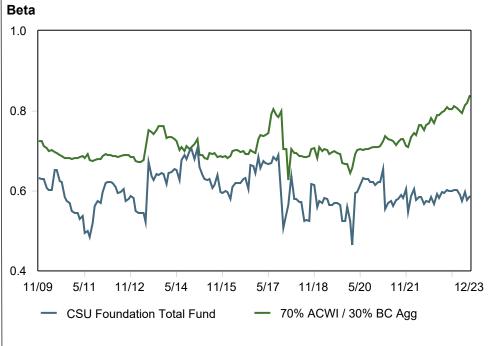
### CSU Foundation Risk Analytics As of December 31, 2023

	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Return	14.20	4.21	9.22	7.96	6.13	8.30	12/01/2008
Standard Deviation	8.81	9.87	11.00	9.90	9.20	9.74	
vs. 70% S&P 500 / 30% BC Aggr	egate						
Alpha	0.09	-0.13	0.51	0.48	-0.83	-0.50	
Beta	0.72	0.70	0.76	0.75	0.77	0.82	
R-Squared	0.97	0.93	0.91	0.89	0.88	0.88	
vs. 70% ACWI / 30% BC Agg							
Alpha	2.23	1.72	2.08	1.73	0.92	1.22	
Beta	0.69	0.74	0.80	0.80	0.82	0.83	
R-Squared	0.99	0.97	0.96	0.95	0.95	0.96	
vs. Mid-Term Benchmark							
Alpha	2.86	0.83	1.21	1.10	0.92	-	
Beta	0.90	0.96	0.99	0.99	1.00	-	
R-Squared	0.99	0.97	0.97	0.96	0.96	-	

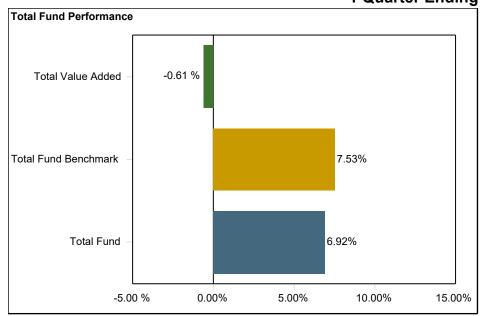
### Rolling 12 Month Standard Deviation

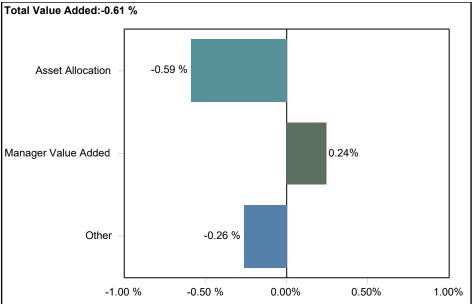


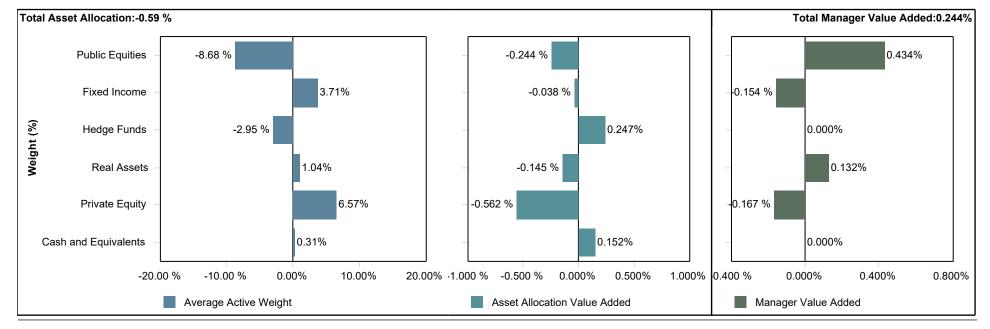
#### Rolling 12 Month Beta vs. Global Equities



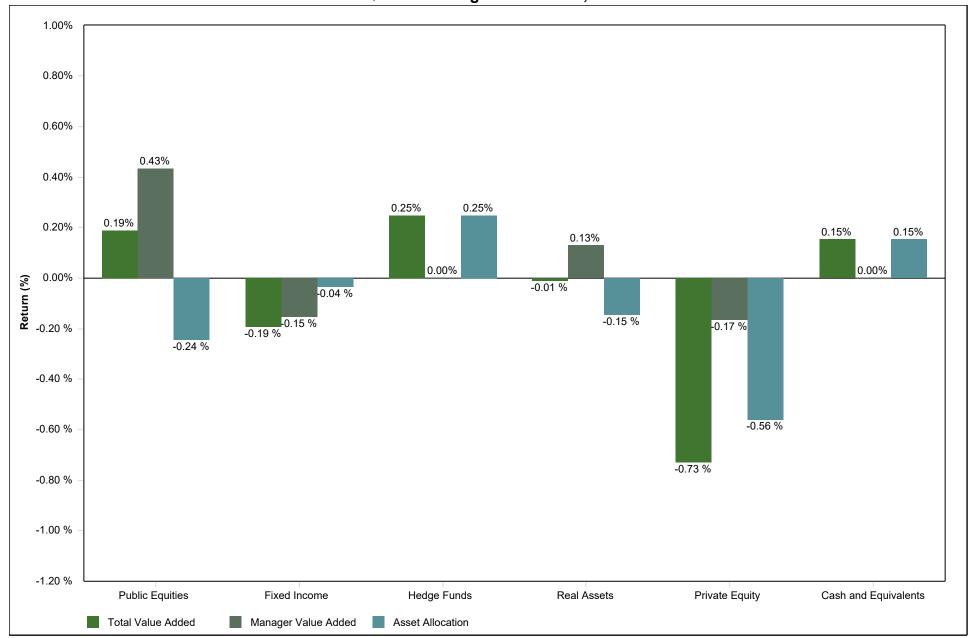
# CSU Foundation Attribution Report 1 Quarter Ending December 31, 2023



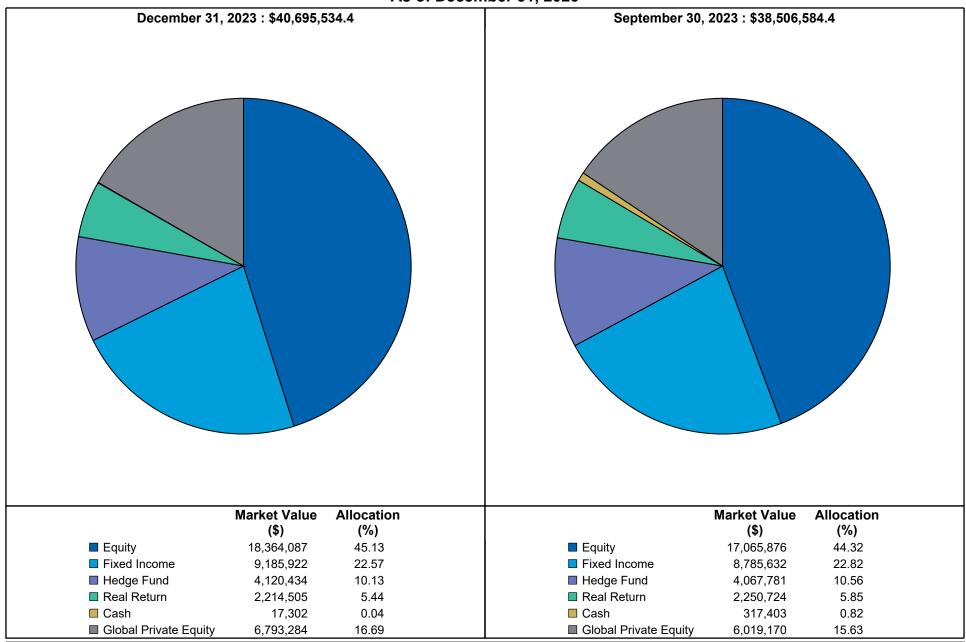




CSU Foundation
Attribution Report
1 Quarter Ending December 31, 2023



# California State University System Asset Allocation by Segment As of December 31, 2023



# California State University System Asset Allocation by Manager As of December 31, 2023

December 31, 2023 : \$40,695,	534.4		September 30, 2023 : \$38,506,584.4						
	Market Value	Allocation (%)		Market Value	Allocation (%)				
■ Brown Advisory LC Sustain Grth	(\$) 1,649,840	4.05	■ Brown Advisory LC Sustain Grth	(\$) 1,200,822	3.12				
JP Morgan Large Cap Growth	1,643,732	4.04	■ JP Morgan Large Cap Growth	1,197,474	3.12				
Aristotle Value Equity	1,647,710	4.05	Aristotle Value Equity	1,959,950	5.09				
Aperio Custom ESG	3,806,226	9.35	Aristolic Value Equity  Apperio Custom ESG	2,616,747	6.80				
☐ ClearBridge Large Value ESG	1,662,176	4.08	☐ ClearBridge Large Value ESG	1,954,636	5.08				
■ Earnest Prnts Small/Mid Core	400,827	0.98	■ Earnest Prnts Small/Mid Core	754,231	1.96				
iShares MSCI EAFE Optimized	2,742,135	6.74	☐ iShares MSCI EAFE Optimized	2,158,792	5.61				
☐ T. Rowe Price Intl Eqty ADR	1,281,783	3.15	☐ T. Rowe Price Intl Eqty ADR	1,093,838	2.84				
Domini Impact Intl Eqty Fds	1,089,182	2.68	Domini Impact Intl Eqty Fds	1,076,849	2.80				
☐ iShares MSCI EM Optimized	1,223,512	3.01	☐ iShares MSCI EM Optimized	1,471,710	3.82				
GQG Partners Emerging Mkts Fd	606,769	1.49	☐ GQG Partners Emerging Mkts Fd	1,580,827	4.11				
Martin Currie Emerging Markets	610,196	1.50	■ Martin Currie Emerging Markets	1,500,021	0.00				
Northern Trust Private Equity	9,688	0.02	■ Northern Trust Private Equity	9,688	0.03				
Private Advisors Small Company Buyout VI	692,912	1.70	Private Advisors Small Company Buyout VI	692,912	1.80				
KKR Americas Fund XII	1,204,793	2.96	KKR Americas Fund XII	1,208,536	3.14				
Hamilton Lane Private Markets Opp Fund	652.973	1.60	■ Hamilton Lane Private Markets Opp Fund	638,010	1.66				
■ CPG Vintage Access Fund, LLC	823,297	2.02	■ CPG Vintage Access Fund, LLC	823,297	2.14				
■ CPG Vintage Access Fund II, LLC	789,321	1.94	■ CPG Vintage Access Fund II, LLC	785,244	2.04				
Private Advisors Small Company PE IX, LP	698,661	1.72	Private Advisors Small Company PE IX, LP	698,661	1.81				
☐ HarbourVest Partners Co-Investment Fund VI LP	726,303	1.78	☐ HarbourVest Partners Co-Investment Fund VI LP	576,303	1.50				
TrueBridge Select Fund I (Cayman), L.P.	446,194	1.10	■ TrueBridge Select Fund I (Cayman), L.P.	411,194	1.07				
■ TPG Rise Fund III	268,857	0.66	TPG Rise Fund III	64,763	0.17				
HarbourVest Access-Dover Street XI	220,562	0.54	HarbourVest Access-Dover Street XI	110,562	0.17				
KKR Global Impact Fund II	259,723	0.64	KKR Global Impact Fund II	110,302	0.23				
■ BlackRock Fundamental Core Taxable	3,151,673	7.74	■ BlackRock Fundamental Core Taxable	3,157,397	8.20				
■ CCM Community Impact Bond Fund	1,409,877	3.46	■ CCM Community Impact Bond Fund	1,498,676	3.89				
■ TIAA-CREF Core Impact Bd Fd	3,174,310	7.80	■ TIAA-CREF Core Impact Bd Fd	2,278,439	5.92				
☐ JP Morgan Mort Backed Sec Fd	805,522	1.98	☐ JP Morgan Mort Backed Sec Fd	714,491	1.86				
□ Vanguard Short Term Corp Bond	644,541	1.58	□ Vanguard Short Term Corp Bond		0.00				
■ Millennium Intl Ltd	1,033,078	2.54	☐ Millennium Intl Ltd	1,011,695	2.63				
Private Advisors Hedged Equity	69,956	0.17	Private Advisors Hedged Equity	2,223,060	5.77				
Sculptor Overseas Fund II Ltd	842,325	2.07	■ Sculptor Overseas Fund II Ltd	833,025	2.16				
■ Blackstone Alt MultiStrat Fd	1,175,075	2.89	■ Blackstone Alt MultiStrat Fd	-	0.00				
Verition Fund	1,000,000	2.46	■ Verition Fund	_	0.00				
■ Blackstone Real Estate Income Trust	1,420,664	3.49	■ Blackstone Real Estate Income Trust	1,475,563	3.83				
■ Bridge Workforce & Affordable Housing Fund II LP	337,961	0.83	■ Bridge Workforce & Affordable Housing Fund II LP	332,366	0.86				
Ares Climate Infrastructure Partners LP	455,880	1.12	Ares Climate Infrastructure Partners LP	442,795	1.15				
Cash Holding Account	17,302	0.04	Cash Holding Account	317,403	0.82				
■ iShares BC 7-10 Yr Treas Bd	- ,	0.00	iShares BC 7-10 Yr Treas Bd	1,136,630	2.95				

## 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	11.97	25.40	25.40	9.52			12.50	08/01/2019
BlackRock Fundamental Core Taxable	6.74	5.27	5.27	-2.48			-0.55	02/01/2020
Blackstone Alt MultiStrat Fd								01/01/2024
Brown Advisory LC Sustain Grth	14.61						11.77	07/01/2023
CCM Community Impact Bond Fund	5.30						4.13	07/01/2023
Cash Holding Account	16.35	130.75	130.75	64.24	96.84	211.89		11/01/2008
ClearBridge Large Value ESG	12.36						9.49	07/01/2023
Domini Impact Intl Eqty Fds	13.87	21.48	21.48	2.38			4.88	08/01/2019
Earnest Prnts Small/Mid Core	12.37	15.33	15.33				3.03	08/01/2021
GQG Partners Emerging Mkts Fd	11.30	28.85	28.85				0.47	04/01/2021
JP Morgan Large Cap Growth	13.64						9.56	07/01/2023
JP Morgan Mort Backed Sec Fd	6.31	5.36	5.36				5.36	01/01/2023
Martin Currie Emerging Markets							4.28	12/01/2023
Millennium Intl Ltd	2.11	9.79	9.79	11.64	13.94		10.74	02/01/2015
Private Advisors Hedged Equity	-2.73	-1.14	-1.14	-2.52	3.32	4.03	4.96	08/01/2011
Sculptor Overseas Fund II Ltd	1.12	12.86	12.86				-0.25	04/01/2022
T. Rowe Price Intl Eqty ADR	9.95						5.08	07/01/2023
TIAA-CREF Core Impact Bd Fd	6.22						3.93	07/01/2023
Vanguard Short Term Corp Bond							1.53	12/01/2023
Verition Fund								01/01/2024
iShares MSCI EAFE Optimized	10.43	18.19	18.19	3.81			6.85	08/01/2019
iShares MSCI EM Optimized	7.91						7.30	06/01/2023

All performance above are Time Weighted(TWR) performance

### **IRR Appendix**

			1	3	5	10	Since	Inception
Account Name	QTD	YTD	Year	Years	Years	Years	Inception	Date
Ares Climate Infrastructure Partners LP	0.00	3.22	3.22				10.23	11/15/2021
Blackstone Real Estate Income Trust	-3.72	-0.50	-0.50	15.68	11.79		11.49	07/25/2018
Bridge Workforce & Affordable Housing Fund II LP	-1.22	-5.39	-5.39				-2.60	11/17/2021

### **IRR Appendix**

Account Name	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
CPG Vintage Access Fund II, LLC	0.00	8.96	8.96	14.68			13.52	03/06/2019
CPG Vintage Access Fund, LLC	0.00	-3.18	-3.18	14.03	12.75		11.56	03/06/2018
Hamilton Lane Private Markets Opp Fund	-0.30	0.66	0.66	11.03	10.68		10.91	04/03/2017
HarbourVest Access-Dover Street XI	0.00						76.74	06/22/2023
HarbourVest Partners Co-Investment Fund VI LP	-0.06	6.39	6.39				4.17	04/25/2022
KKR Americas Fund XII	-0.14	19.39	19.39	15.59	19.79		18.22	12/15/2015
KKR Global Impact Fund II							-14.28	12/19/2023
Northern Trust Private Equity	0.00	-19.12	-19.12	-21.71	-10.33	2.10	4.56	06/01/2005
Private Advisors Small Company Buyout VI	0.00	4.24	4.24	27.12	23.79		18.11	12/30/2014
Private Advisors Small Company PE IX, LP	0.00	5.17	5.17				27.26	05/28/2021
TPG Rise Fund III	-17.57						-34.52	05/26/2023
TrueBridge Select Fund I (Cayman), L.P.	0.00	-3.16	-3.16				-6.25	04/02/2021

All performance above are Dollar Weighted(IRR) performance

#### **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.

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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.

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#### Composites are the aggregate of multiple portfolios within an asset pool.

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".

#### **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.

"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 clients 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.

Your interests in Alternative Investments, which may have been purchased through us, are generally not held here, and are generally not covered by SIPC. The information provided to you: 1) is included as a service to you, valuations for certain products may not be available; 2) is derived from you or another external source for which we are not responsible, and may have been modified to take into consideration capital calls or distributions to the extent applicable; 3) may not reflect actual shares, share prices or values; 4) may include invested or distributed amounts in addition to a fair value estimate; and 5) should not be relied upon for tax reporting purposes. Notwithstanding the foregoing,

1) to the extent this report displays Alternative Investment positions within a Morgan Stanley Individual Retirement Account ("IRA"), such positions are held by Morgan Stanley Smith Barney LLC as the custodian of your Morgan Stanley IRA; and 2) if your Alternative Investment position(s) is held by us and is registered pursuant to the Securities Act of 1933, as amended, your Alternative Investment position(s) is covered by SIPC.

Alternatives may be either traditional alternative investment vehicles or non-traditional alternative strategy vehicles. Traditional alternative investment vehicles may include, but are not limited to, Hedge Funds, Fund of Funds (both registered and unregistered), Exchange Funds, Private Equity Funds, Private Credit Funds, Real Estate Funds, and Managed Futures Funds. Non-traditional alternative strategy vehicles may include, but are not limited to, Open or Closed End Mutual Funds, Exchange-Traded and Closed-End Funds, Unit Investment Trusts, exchange listed Real Estate Investment Trusts (REITs), and Master Limited Partnerships (MLPs). These non-traditional alternative strategy vehicles also seek alternative-like exposure but have significant differences from traditional alternative investment vehicles. Non-traditional alternative strategy vehicles may behave like, have characteristics of, or employ various investment strategies and techniques for both hedging and more speculative purposes such as short-selling, leverage, derivatives, and options, which can increase volatility and the risk of investment loss. Characteristics such as correlation to traditional markets, investment strategy, and market sector exposure can play a role in the classification of a traditional security being classified as alternative.

Traditional alternative investment vehicles are illiquid and usually are not valued daily. The estimated valuation provided will be as of the most recent date available and will be included in summaries of your assets. Such valuation may not be the most recent provided by the fund in which you are invested. No representation is made that the valuation is a market value or that the interest could be liquidated at this value. We are not required to take any action with respect to your investment unless valid instructions are received from you in a timely manner. Some positions reflected herein may not represent interests in the fund, but rather redemption proceeds withheld by the issuer pending final valuations which are not subject to the investment performance of the fund and may or may not accrue interest for the length of the withholding. Morgan Stanley does not engage in an independent valuation of your alternative investment assets. Morgan Stanley provides periodic information to you including the market value of an alternative investment vehicle based on information received from the management entity of the alternative investment vehicle or another service provider.

Traditional alternative investment vehicles often are speculative and include a high degree of risk. . Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to: Loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices: Lack of liquidity in that there may be no secondary market for a

fund; Volatility of returns; Restrictions on transferring interests in a fund; Potential lack of diversification 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.

Alternative investments involve complex tax structures, tax inefficient investing, and delays in distributing important tax information. Individual funds have specific risks related to their investment programs that will vary from fund to fund. Clients should consult their own tax and legal advisors as Morgan Stanley does not provide tax or legal advice. Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Smith Barney LLC and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley or any of its affiliates, (3) are not guaranteed by Morgan Stanley and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Smith Barney LLC is a registered broker-dealer, not a bank

SIPC insurance does not apply to precious metals, other commodities, or traditional alternative investments.

**Indices** are unmanaged and investors cannot directly invest in them. Composite index results are shown for illustrative purposes and do not represent the performance of a specific investment. Diversification does not assure a profit or protect against loss in a declining market. Any performance or related information presented has not been adjusted to reflect the impact of any the additional fees paid to a placement agent by an investor (for Morgan Stanley placement clients, a one-time upfront Placement Fee of up to 3%, and for Morgan Stanley investment advisory clients, an annual advisory fee of up to 2.5%), which would result in a substantial reduction in the returns if such fees were incorporated.

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 or from your Financial Advisor/Private Wealth Advisor.

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