

Wilshire

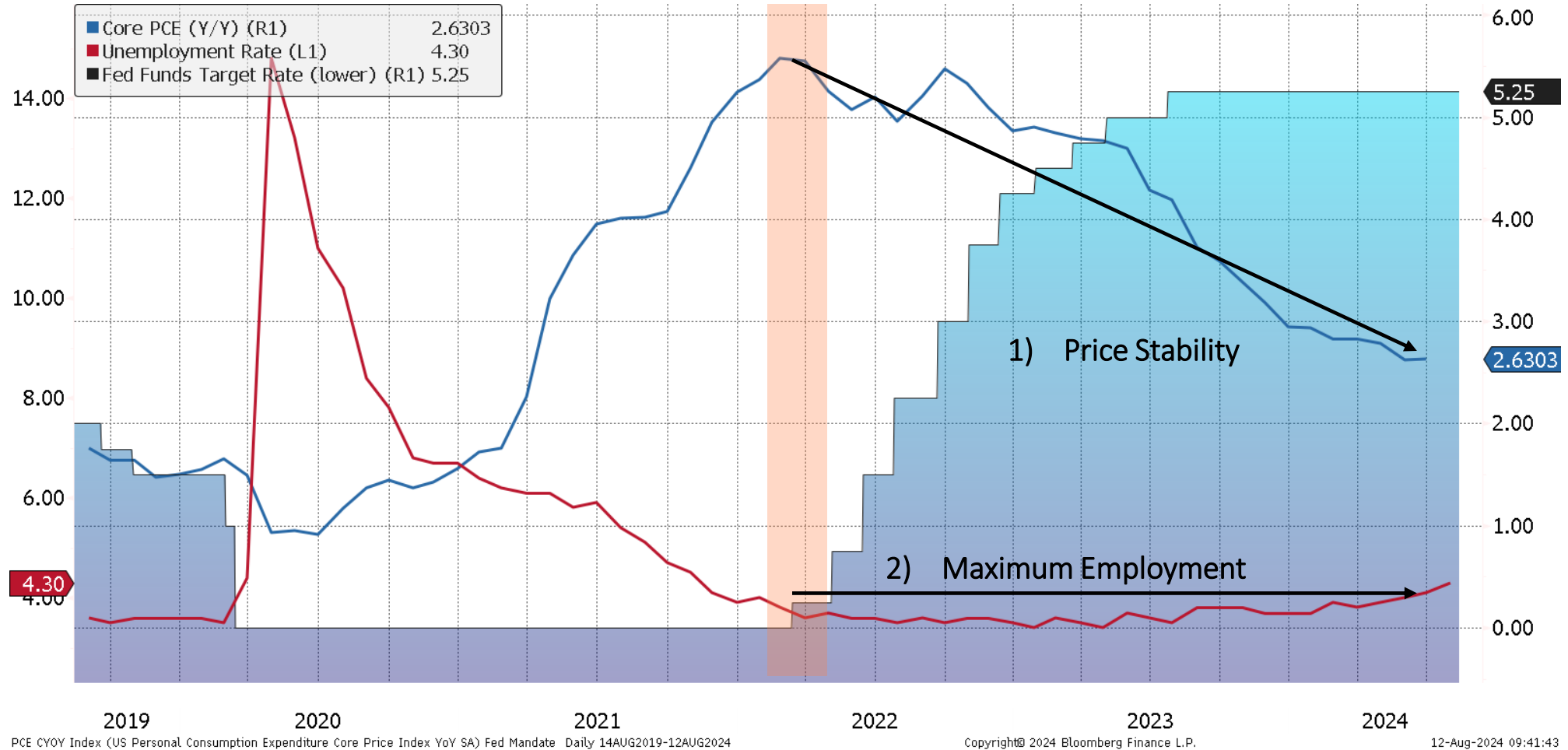
California Public Employees' Retirement System

Performance Review

Second Quarter 2024

Economic Review/Market Activity

Keeping It Simple: Progress on the Fed's Dual Mandate



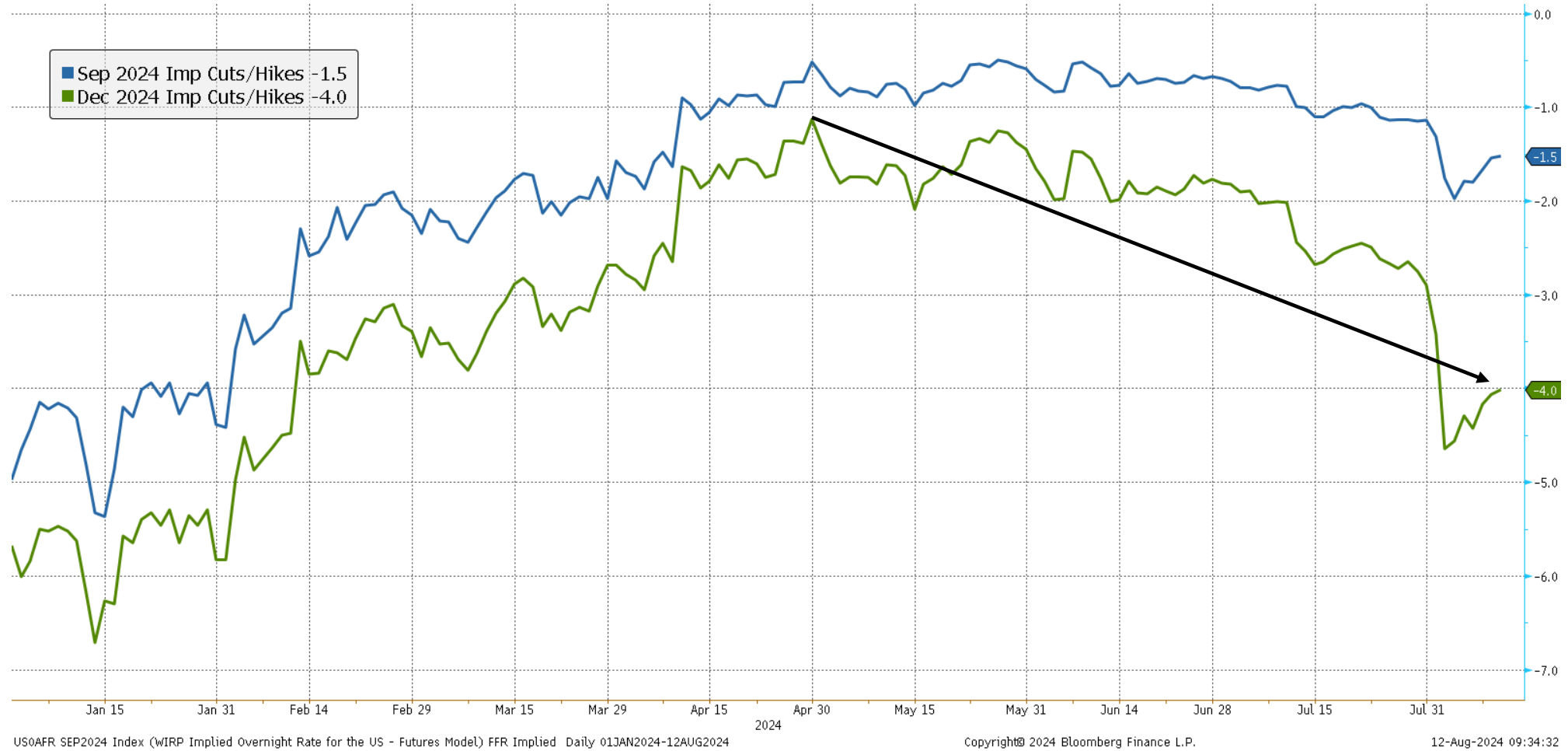
Data Source: Bloomberg

The Rate Environment



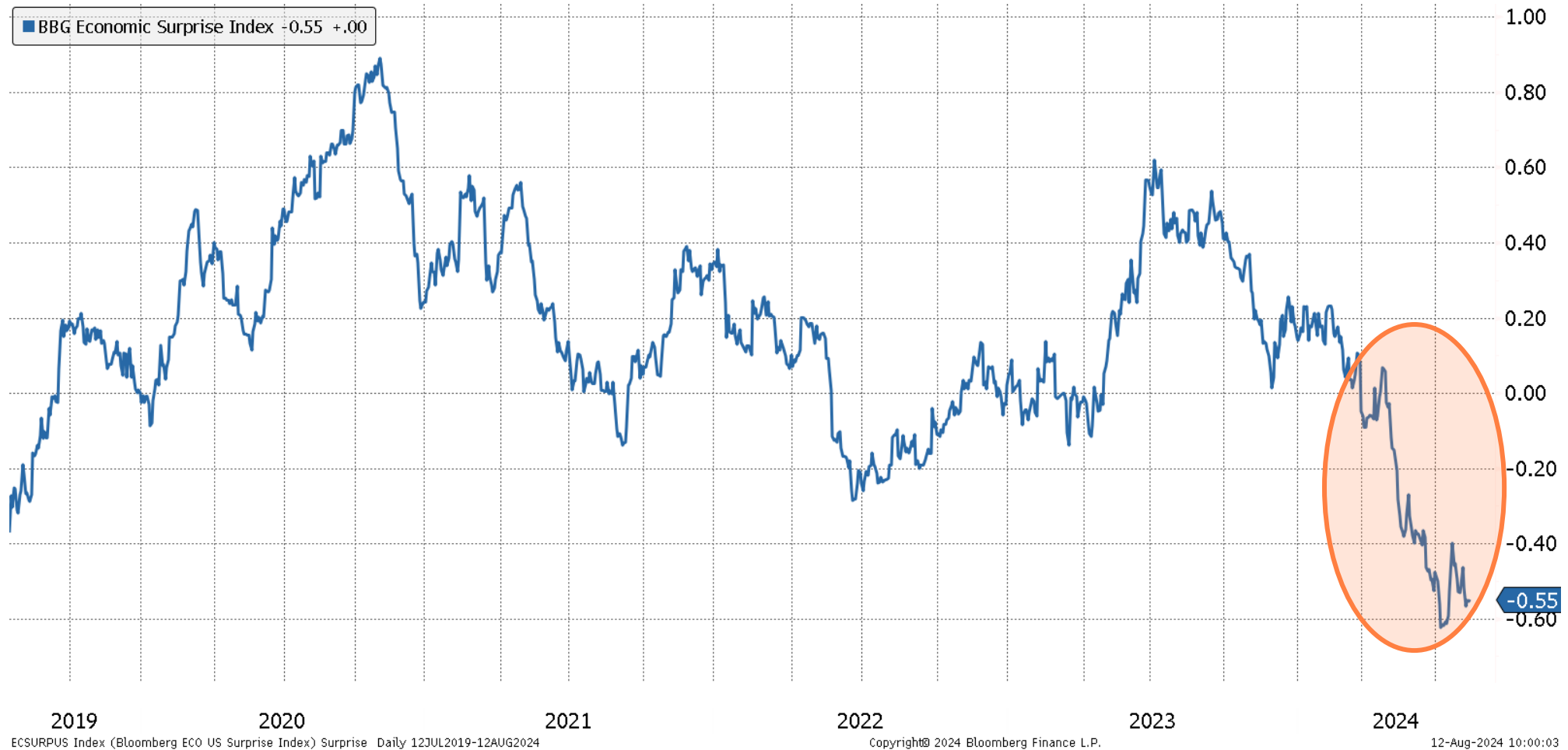
Data Source: Bloomberg

Fed Funds Rate: Market Expectations



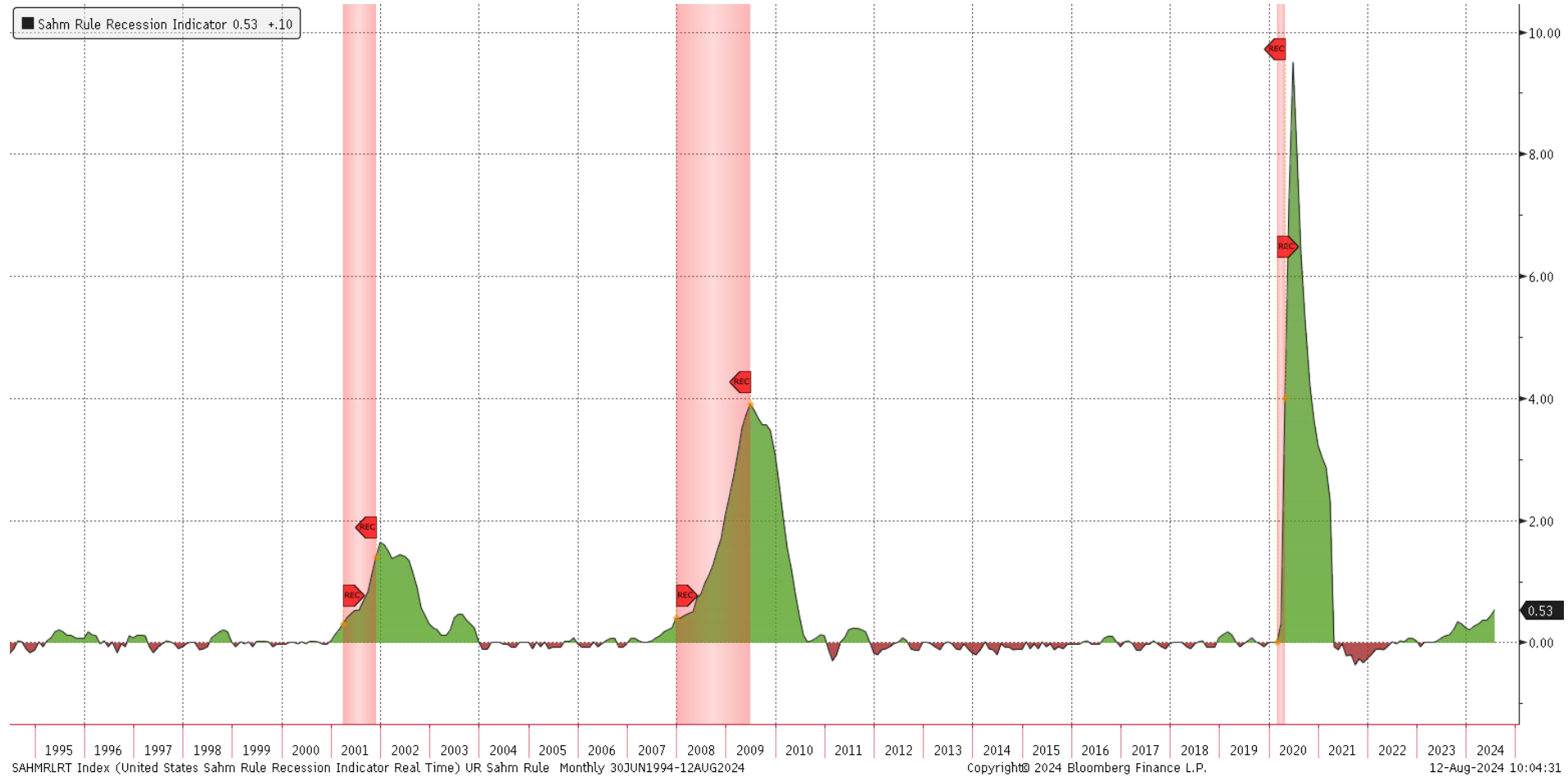
Data Source: Bloomberg

Economic Surprises: Releases Falling Short of Expectations



Data Source: Bloomberg

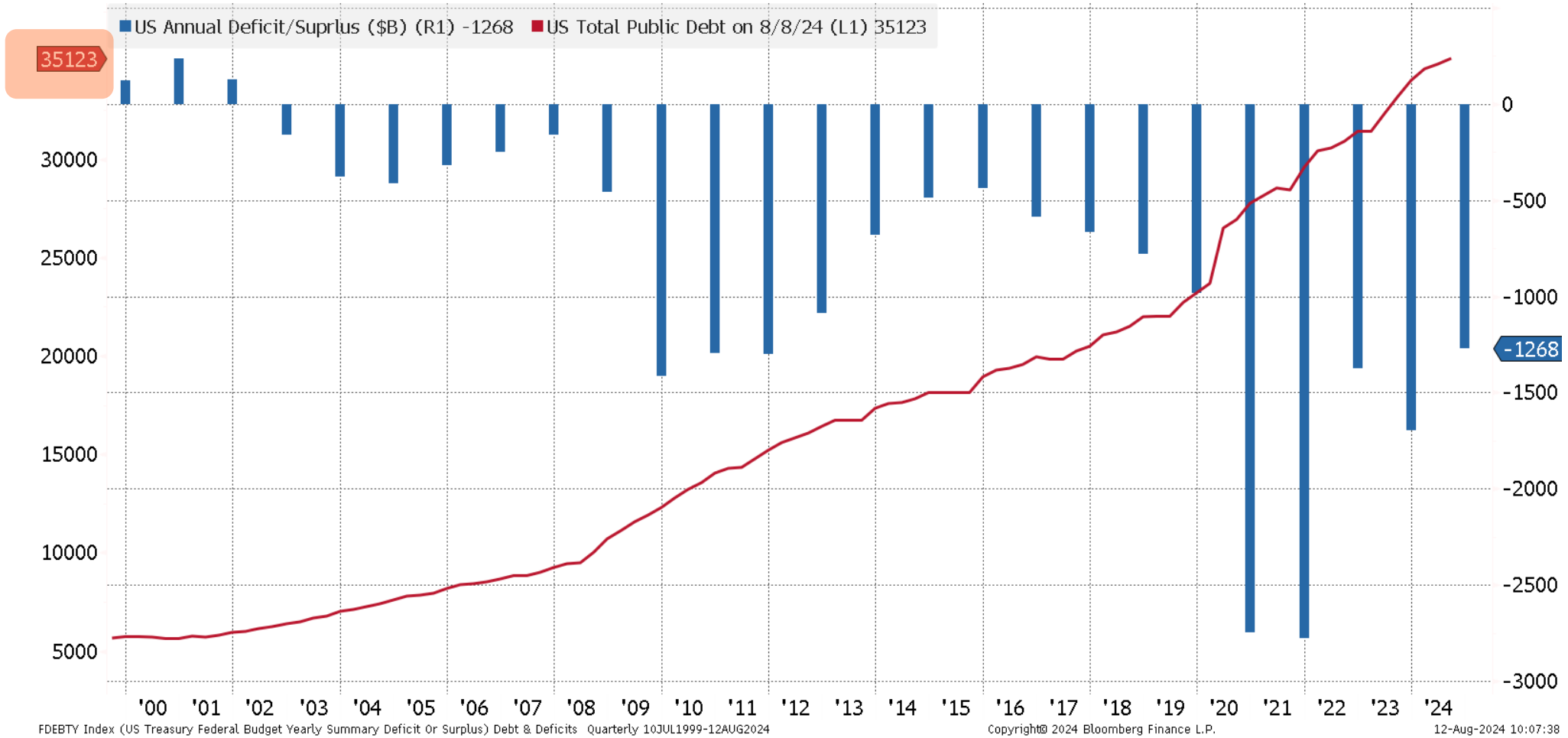
Unemployment: “Not Broken, Just Bent”¹



Data Source: Bloomberg

¹Pink, “Just Give Me a Reason,” The Truth About Love (2012)

Deficits & Debt on an Unsustainable Pace



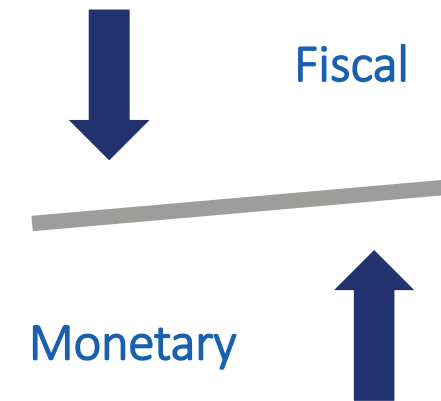
Data Source: Bloomberg

Fiscal Dominance: Complicating Monetary Policy

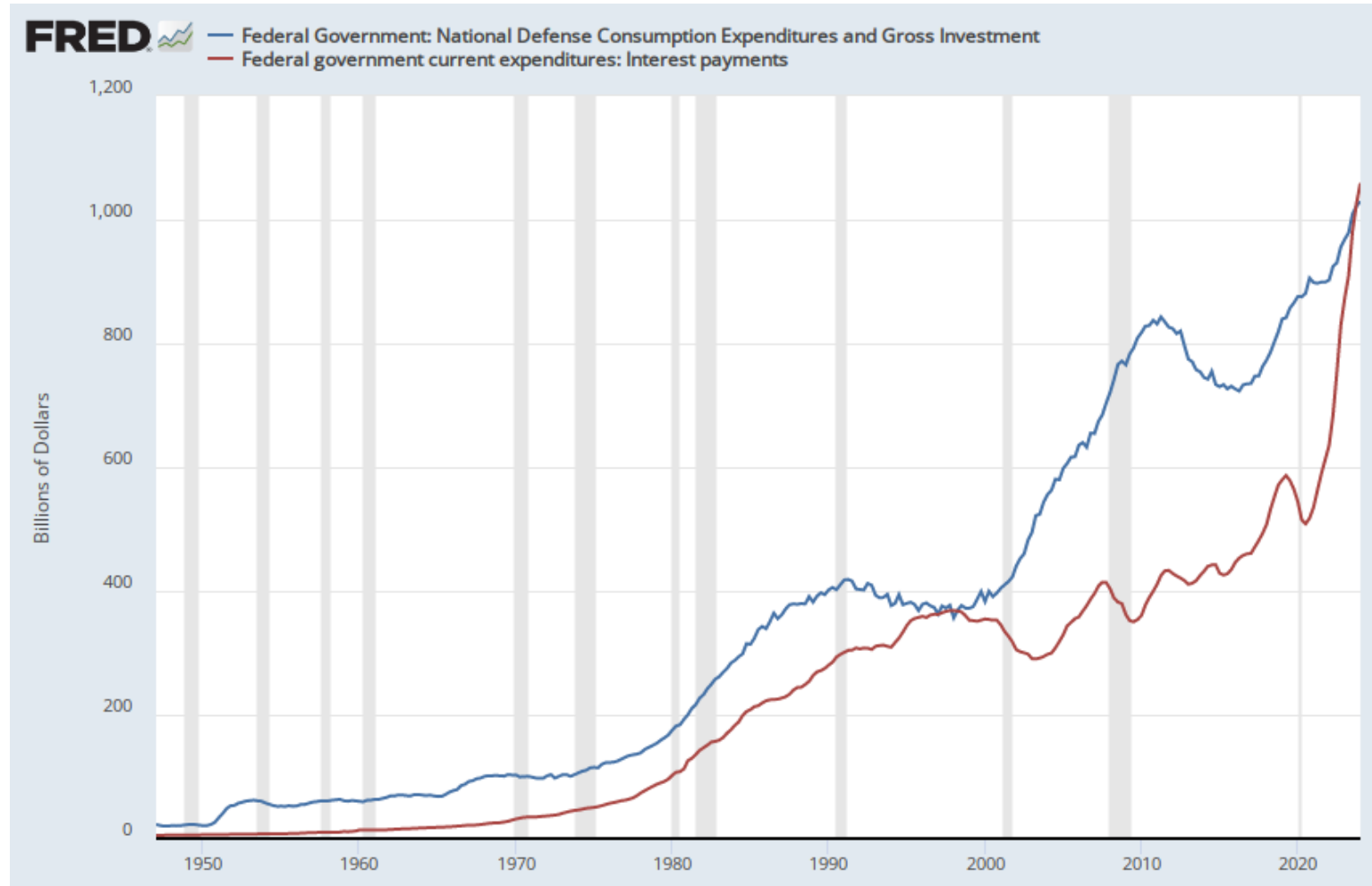
Fiscal Dominance: when a government's debt is sufficiently high to undermine the central bank's influence on inflation

Long-term Risks/Implications

- **Higher Inflation Rates:** potential for higher future inflation rates (as unsustainable debt levels leads to money printing)
- **Higher Interest Rates:** should central bankers be required to battle sustained inflation rates
- **Currency Depreciation:** as investors lose faith in a government's ability to control inflation
- **Budgeting Conflicts/Tradeoffs:** as interest payments required to meet rising debt levels crowds out other spending/investing priorities



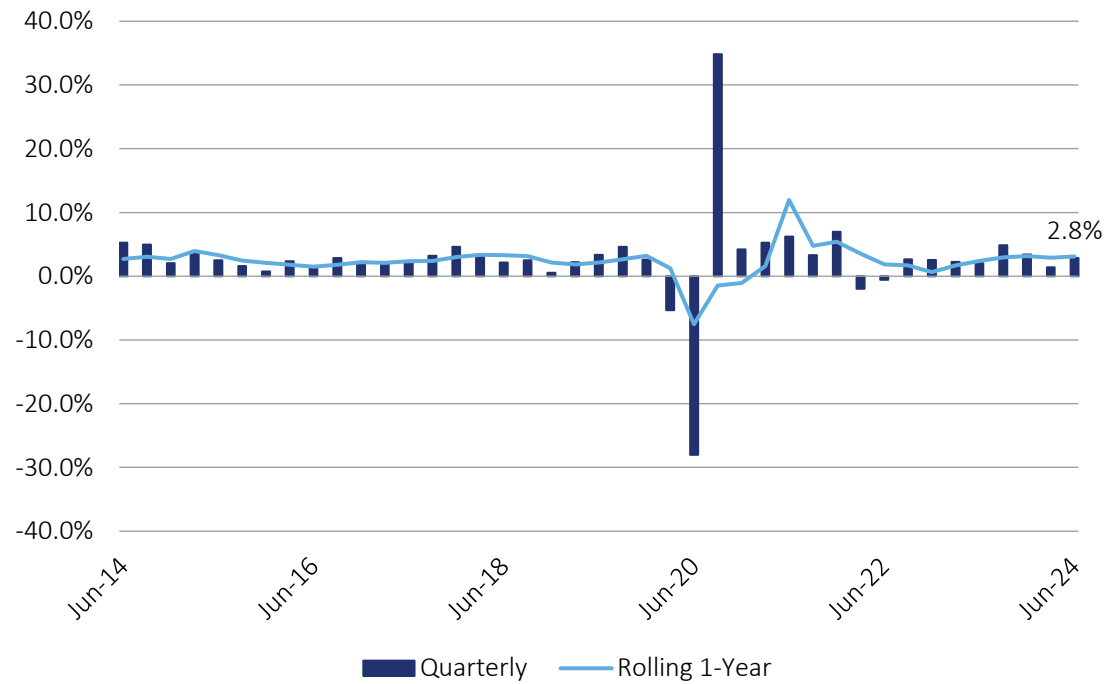
Fiscal Dominance in a Chart



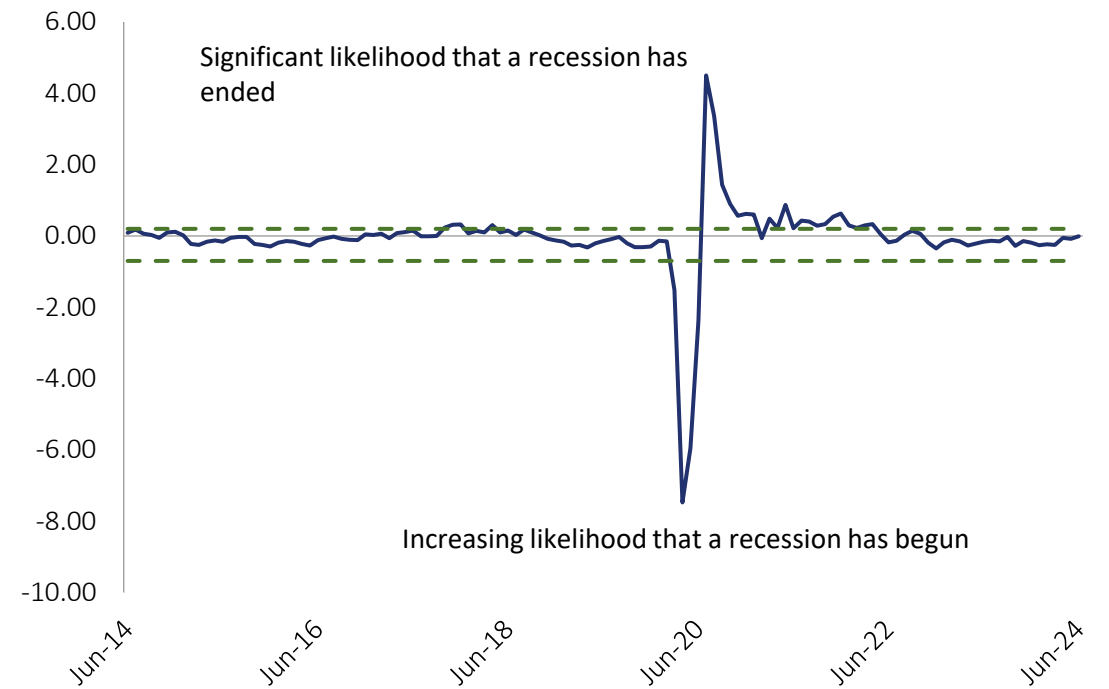
Data Source: U.S. Bureau of Economic Analysis

Economic Growth

Real GDP Growth

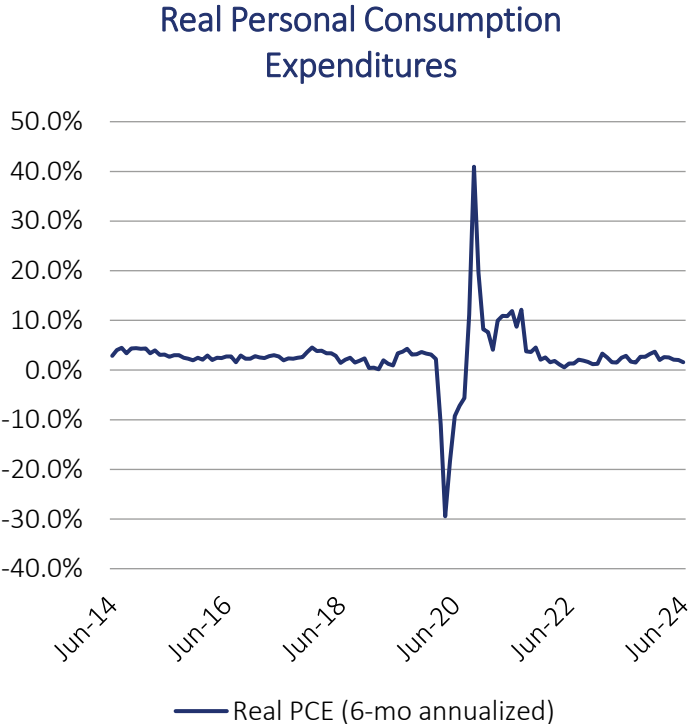
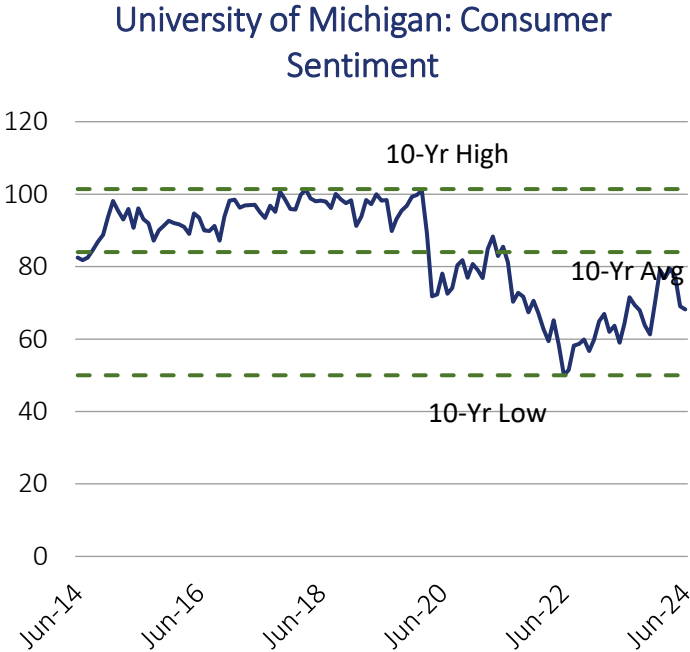


Chicago Fed. National Activity Index (3M MA)



Data Source: Bloomberg

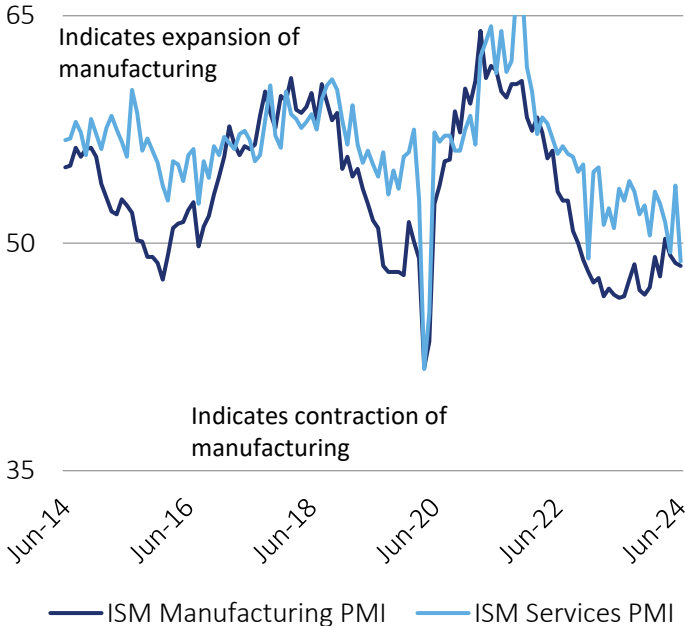
Consumer Activity



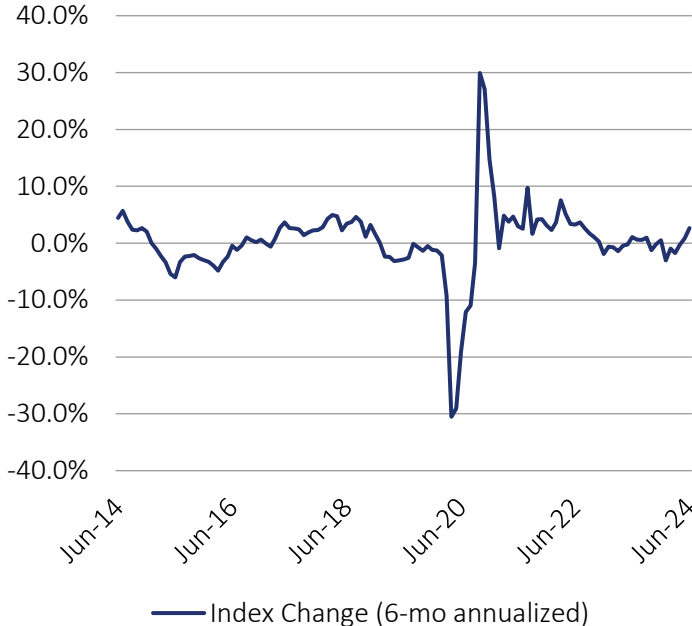
Data Source: Bloomberg

Business Activity

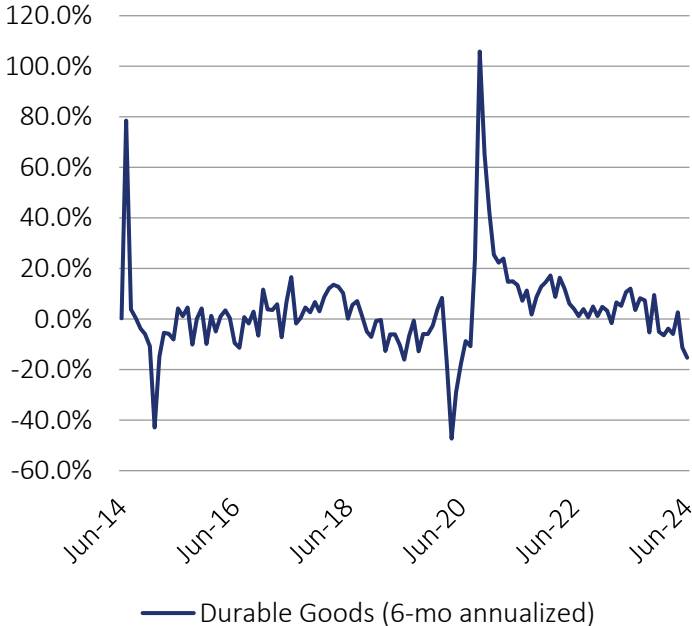
ISM Report on Business



Industrial Production Index



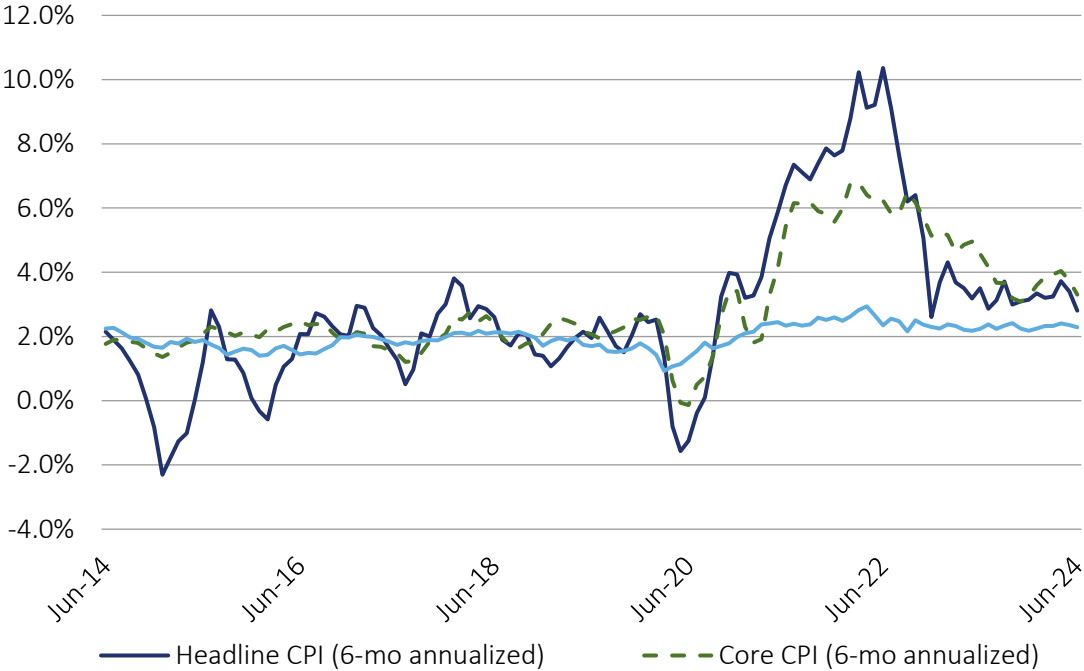
Durable Goods New Orders



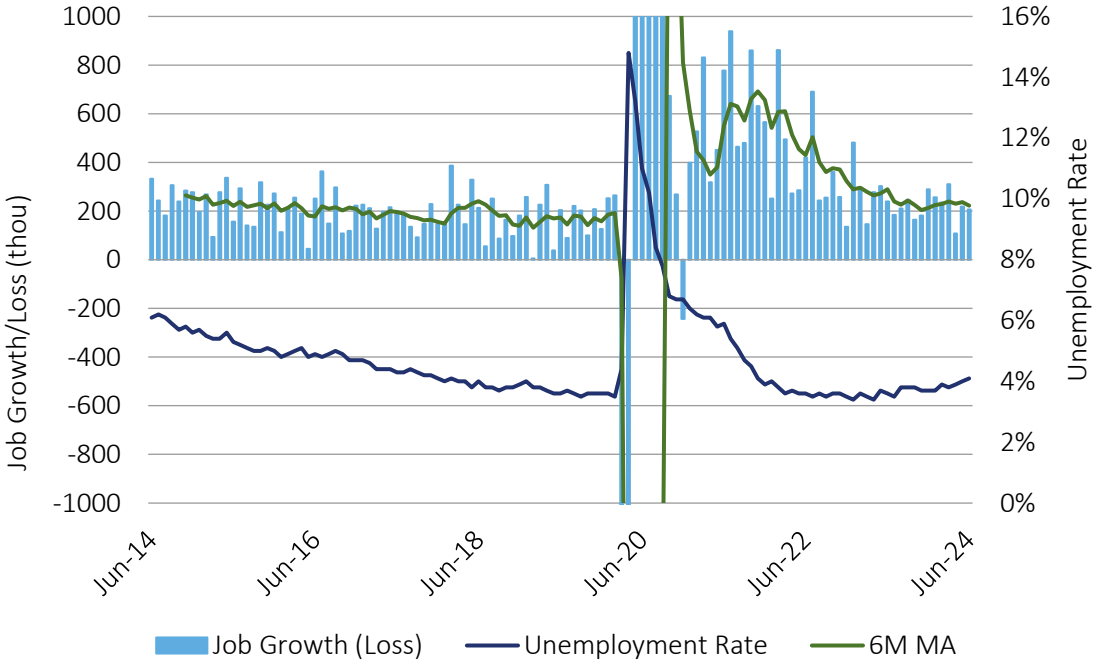
Data Source: Bloomberg

Inflation and Employment

Inflation: Actual & Expected



Employment Gains/Losses



Data Source: Bloomberg

June 2024 Asset Class Assumptions

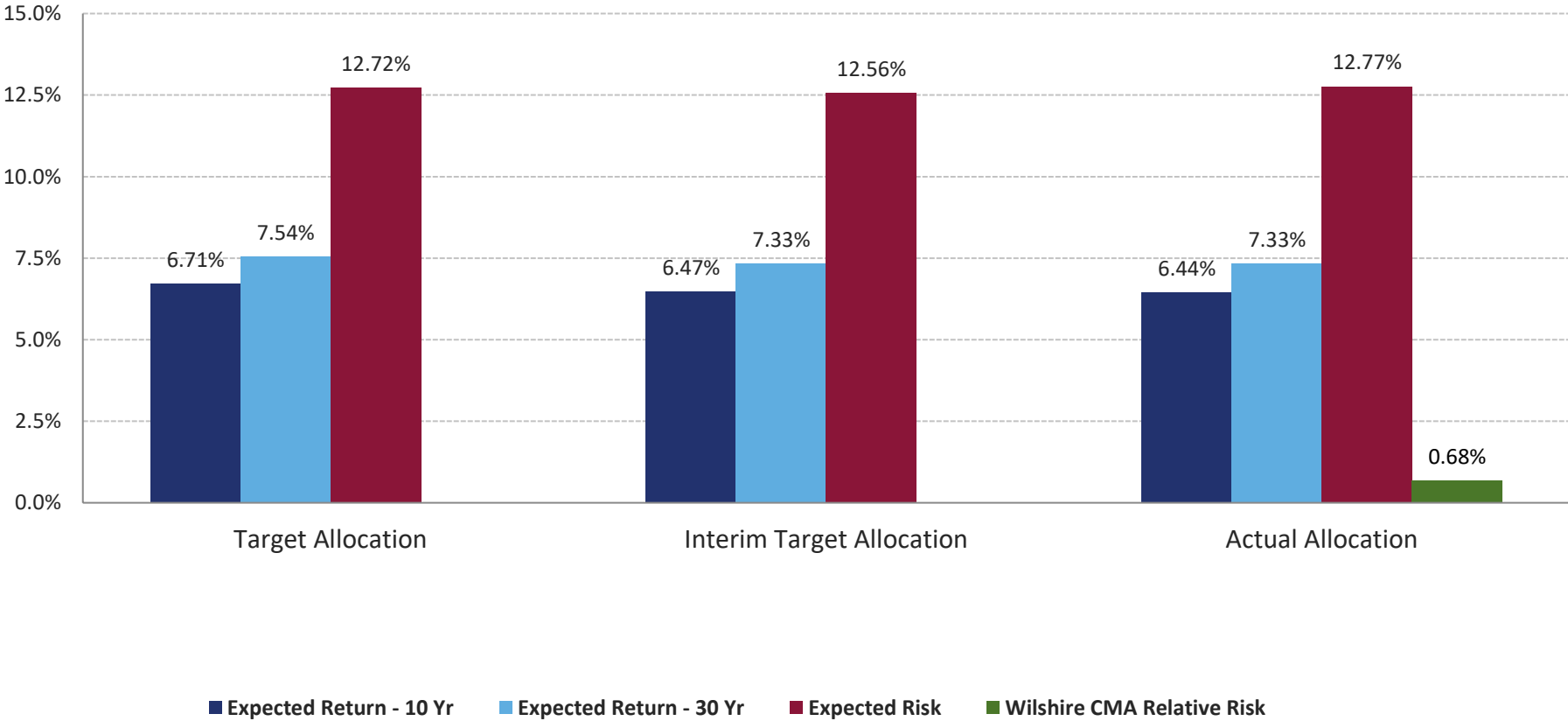
	Equity						Fixed Income						Real Assets						
	U.S. Stock	Dev ex-U.S. Stock	Emg Stock	Global ex-U.S. Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Private Credit	Dev ex-U.S. Bond (Hdg)	U.S. RES	Global RES	Private RE	Cmdty	Real Assets	U.S. CPI
Compound Return (%)	4.50	5.50	5.75	5.85	5.10	7.45	4.00	5.25	5.20	4.60	6.50	8.20	3.20	5.85	6.00	6.25	6.30	7.00	2.30
Arithmetic Return (%)	5.85	7.00	8.75	7.50	6.45	11.20	4.00	5.35	5.65	4.75	6.95	8.95	3.30	7.25	7.25	7.15	7.45	7.75	2.30
Risk (%)	17.00	18.00	26.00	19.00	17.05	29.65	0.75	4.70	9.85	6.00	10.00	12.75	4.00	17.50	16.45	13.90	16.00	12.60	1.75
Yield (%)	1.35	3.00	2.35	2.80	1.90	0.00	4.00	5.65	5.70	4.85	9.90	5.10	4.10	4.15	4.15	2.70	4.00	3.70	0.00
Growth Factor Exposure	8.00	8.00	8.00	8.00	8.00	14.00	0.00	-0.90	-2.40	-3.00	4.00	5.10	-1.00	6.00	6.00	3.50	0.00	2.70	0.00
Inflation Factor Exposure	-3.00	-1.00	3.00	0.10	-1.85	-4.25	0.00	-2.55	-6.85	2.50	-1.00	-1.50	-3.00	1.00	1.80	1.00	12.00	5.25	1.00

Correlations

U.S. Stock	1.00																			
Dev ex-U.S. Stock (USD)	0.81	1.00																		
Emerging Mkt Stock	0.74	0.74	1.00																	
Global ex-U.S. Stock	0.84	0.95	0.89	1.00																
Global Stock	0.95	0.91	0.84	0.94	1.00															
Private Equity	0.72	0.63	0.61	0.67	0.73	1.00														
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.06	0.00	1.00													
Core Bond	0.28	0.13	0.00	0.08	0.20	0.30	0.18	1.00												
LT Core Bond	0.31	0.15	0.01	0.11	0.24	0.31	0.11	0.94	1.00											
TIPS	-0.05	0.00	0.15	0.06	-0.01	-0.03	0.20	0.60	0.48	1.00										
High Yield Bond	0.54	0.39	0.49	0.46	0.53	0.31	-0.10	0.24	0.32	0.05	1.00									
Private Credit	0.67	0.55	0.57	0.59	0.67	0.44	0.00	0.24	0.30	0.00	0.75	1.00								
Dev ex-U.S. Bond (Hdg)	0.16	0.25	-0.01	0.16	0.17	0.26	0.10	0.67	0.65	0.39	0.26	0.22	1.00							
U.S. RE Securities	0.57	0.47	0.44	0.49	0.56	0.49	-0.05	0.17	0.22	0.10	0.56	0.61	0.05	1.00						
Global RE Securities	0.63	0.56	0.54	0.59	0.64	0.55	-0.05	0.17	0.21	0.11	0.60	0.67	0.04	0.97	1.00					
Private Real Estate	0.55	0.45	0.45	0.49	0.54	0.50	-0.05	0.19	0.25	0.09	0.57	0.62	0.05	0.78	0.77	1.00				
Commodities	0.25	0.34	0.39	0.38	0.32	0.28	0.00	-0.03	-0.03	0.25	0.29	0.29	-0.10	0.25	0.28	0.25	1.00			
Real Assets	0.61	0.62	0.66	0.68	0.66	0.56	-0.03	0.24	0.26	0.32	0.64	0.69	0.05	0.78	0.83	0.76	0.62	1.00		
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.13	-0.10	0.10	-0.12	-0.12	0.15	-0.08	0.00	-0.08	0.05	0.04	0.05	0.44	0.21	1.00	

CalPERS PERF Expected Return and Risk Estimates

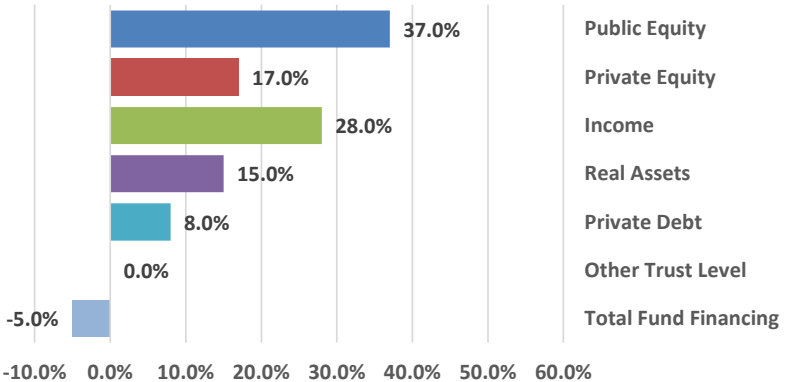
As of June 30, 2024



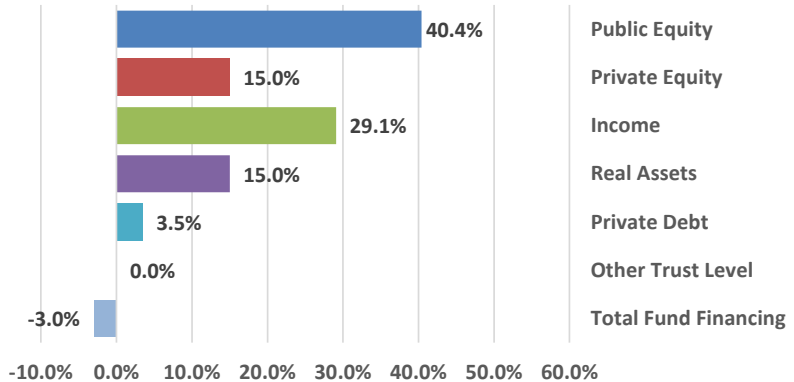
CalPERS PERF Assets and Risk Allocation

As of June 30, 2024

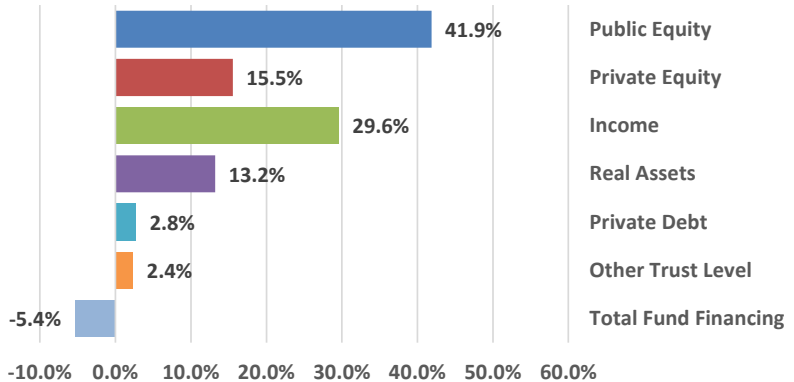
Target Asset Allocation



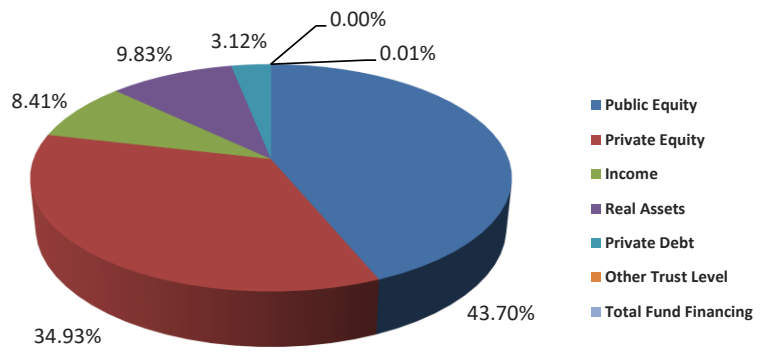
Interim Target Asset Allocation



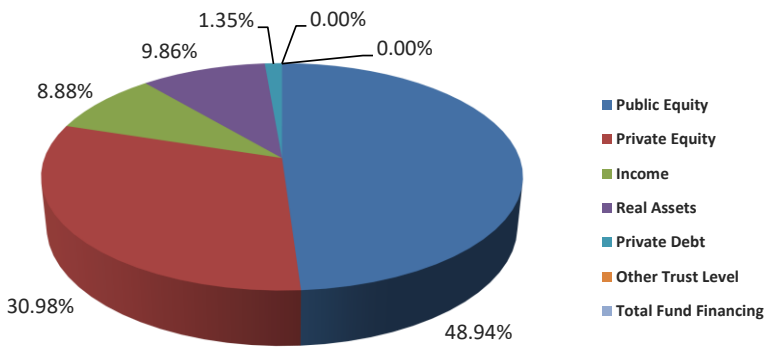
Actual Asset Allocation



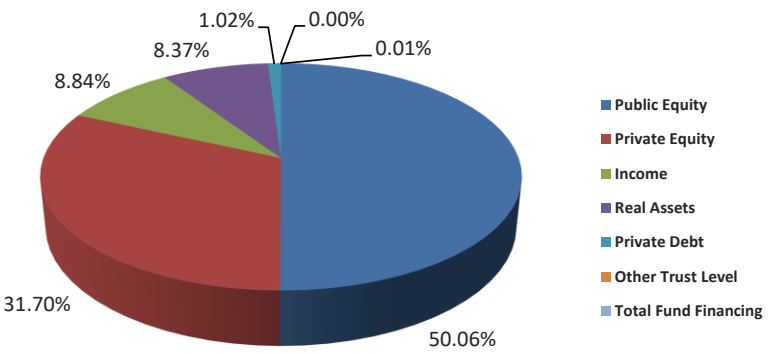
Contribution to Total Risk - Target Allocation



Contribution to Total Risk - Interim Target



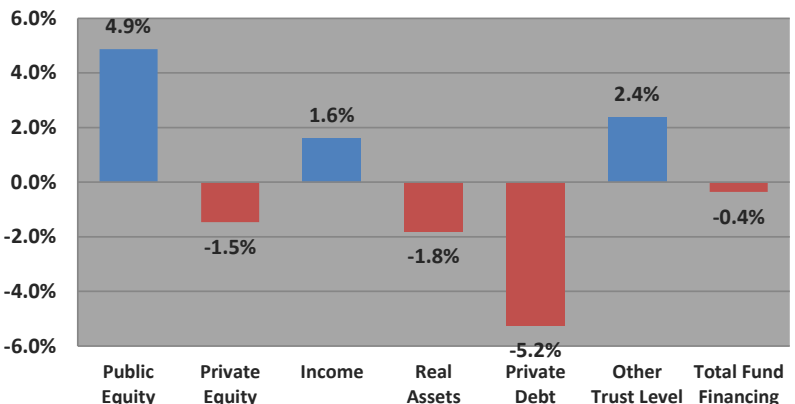
Contribution to Total Risk - Actual Allocation



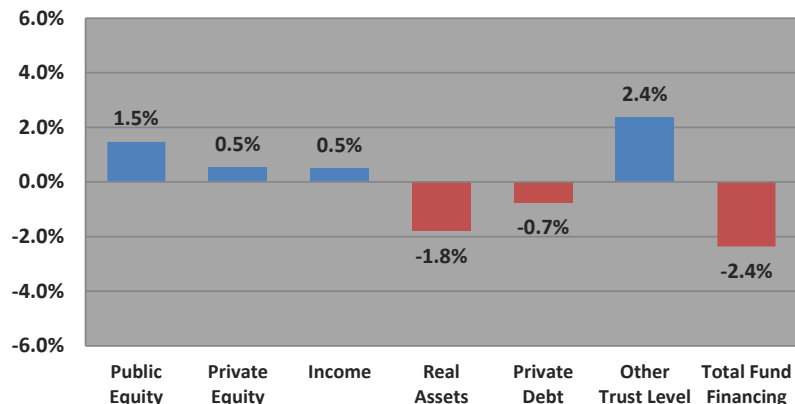
CalPERS PERF Drivers of Expected Excess Risk

As of June 30, 2024

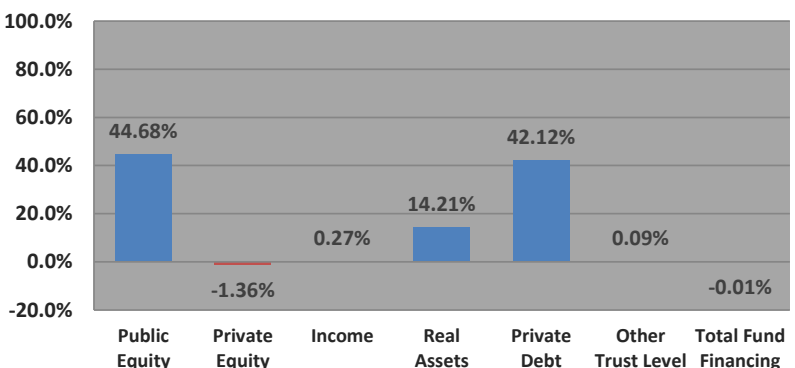
Allocation vs. Long-Term Strategic Targets



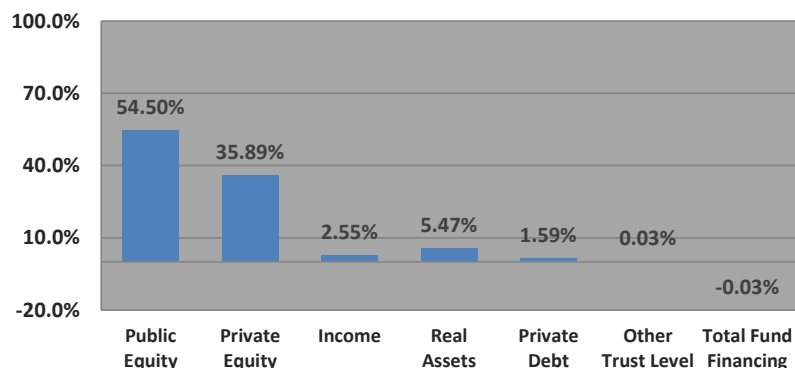
Allocation vs. Interim Targets



Contribution to Tracking Error vs. Long-Term Strategic Targets



Contribution to Tracking Error vs. Interim Targets



- This excess risk forecast is based on asset allocation variance only.
- Other sources of risk (structural within asset classes, manager/program specific source of tracking error, covariance, etc.) are not considered here.

CalPERS Total Fund Performance

CalPERS PERF – Performance

As of June 30, 2024

	Asset Value						VaR	5 Year Ratios	
	(\$Billion)	Quarter	1 Year	3 Year	5 Year	10 Year		(\$Billion)	Sharpe
CALPERS PERF	\$ 502.9	1.4%	9.3%	2.8%	6.6%	6.2%	\$ 69.9	0.5	0.0
<i>CalPERS PERF Policy Benchmark</i>		1.8%	10.3%	2.7%	6.6%	6.3%		0.4	0.0
<i>Actuarial Rate</i>		1.7%	6.8%	6.8%	6.9%	7.2%			
PUBLIC EQUITY*	\$ 210.6	2.2%	17.5%	5.2%	9.8%	8.2%	\$ 44.3	0.5	1.0
<i>Public Equity Policy Benchmark</i>		2.0%	17.1%	5.1%	9.6%	8.2%		0.4	0.0
PRIVATE EQUITY	\$ 78.2	3.5%	10.9%	9.5%	12.4%	11.0%	\$ 32.3	1.2	0.0
<i>Private Equity Policy Benchmark</i>		8.5%	25.4%	8.5%	12.9%	11.6%		0.6	0.0
INCOME*	\$ 148.9	-0.1%	3.7%	-3.9%	-0.1%	2.0%	\$ 8.0	-0.2	0.8
<i>Income Blended Benchmark</i>		-0.2%	3.6%	-3.9%	-0.2%	1.6%		-0.3	0.0
REAL ASSETS	\$ 66.4	-0.8%	-7.1%	3.7%	3.7%	5.6%	\$ 9.4	0.3	0.2
<i>Real Assets Policy Benchmark</i>		-2.5%	-11.9%	2.5%	2.5%	5.5%		0.0	0.0
PRIVATE DEBT	\$ 13.9	5.2%	17.0%	-.%	-.%	-.%	\$ 1.1	N/A	N/A
<i>Private Debt Policy Benchmark</i>		2.3%	13.5%	-.%	-.%	-.%		N/A	N/A
OTHER TRUST LEVEL	\$ 11.9							N/A	N/A
TOTAL FUND FINANCING	\$ (27.0)							N/A	N/A
TERMINATED AGENCY POOL	\$ 0.2	-0.2%	-0.8%	-5.5%	-0.1%	1.8%		N/A	N/A
CalPERS PERF PLUS TAP	\$ 503.1	1.4%	9.3%	2.8%	6.6%	6.2%		N/A	N/A

* The CalPERS PERF asset values shown include derivative exposure.

CalPERS PERF – Attribution (Quarter)

As of June 30, 2024

Asset Class	Actual (%)		Benchmark (%)		Difference (%)		Total Fund Return Contribution (%)		
	Weight *	Return	Weight *	Return	Weight	Return	Actual Allocation	Active Management	Total
Public Equity	43.93	2.19	43.93	2.03	0.00	0.16	0.00	0.07	0.07
Public Equity - Cap Weighted	32.47	2.70	32.47	2.53	0.00	0.17	0.00	0.06	0.06
Public Equity - Factor Weighted	11.46	0.73	11.46	0.62	0.00	0.11	0.00	0.01	0.01
Private Equity	15.15	3.52	15.15	8.12	0.00	-4.61	0.00	-0.77	-0.77
Income	27.03	-0.15	27.03	-0.19	0.00	0.04	0.00	0.01	0.01
Treasury	5.68	-1.27	5.68	-1.27	0.00	0.00	0.00	0.00	0.00
Mortgage-Backed Securities	5.08	0.28	5.08	0.12	0.00	0.16	0.00	0.01	0.01
Investment Grade Credit	6.36	-1.14	6.36	-1.12	0.00	-0.02	0.00	0.00	0.00
High Yield	4.79	1.32	4.79	1.24	0.00	0.08	0.00	0.00	0.00
EM Sovereign	5.13	0.37	5.13	0.35	0.00	0.01	0.00	0.00	0.00
Real Assets	13.54	-0.84	13.54	-2.52	0.00	1.68	0.00	0.22	0.22
Private Debt	2.62	5.24	2.62	2.30	0.00	2.94	0.00	0.08	0.08
Other Trust Level	2.90	-	0.00	-	2.90	-	0.00	0.01	0.01
LLER	2.20	1.94	0.00	1.38	2.20	0.56	0.00	0.01	0.01
Opportunistic Strategies	0.05	1.19	0.00	1.72	0.05	-0.53	0.00	0.00	0.00
Tactical Fixed Income	0.37	1.91	0.00	1.45	0.37	0.46	0.01	0.00	0.01
Other PERF	0.03	-	0.00	-	0.03	-	0.00	0.00	0.00
TLPM	0.25	-	0.00	-	0.25	-	0.00	0.00	0.00
Total Fund Financing	-5.18	-	-2.28	-	-2.90	-	0.00	0.00	0.00
Monthly Linked Return	100.00	1.44	100.00	1.82		-0.38	-0.01	-0.37	-0.38
Residual		-0.03		-0.01		-0.02			-0.02
Total PERF		1.41		1.81		-0.40			-0.40

* Average period weight displayed.

CalPERS PERF – Attribution (Fiscal YTD)

As of June 30, 2024

Asset Class	Actual (%)		Benchmark (%)		Difference (%)		Total Fund Return Contribution (%)		
	Weight *	Return	Weight *	Return	Weight	Return	Actual Allocation	Active Management	Total
Public Equity	44.38	17.54	44.28	17.08	0.10	0.46	0.02	0.19	0.21
Public Equity - Cap Weighted	32.46	19.87	32.37	19.30	0.09	0.57	0.02	0.17	0.19
Public Equity - Factor Weighted	11.92	11.43	11.91	11.25	0.01	0.18	0.00	0.02	0.02
Private Equity	14.17	10.86	14.19	23.60	-0.02	-12.74	-0.03	-2.10	-2.13
Income	26.63	3.73	26.73	3.62	-0.11	0.11	0.00	0.03	0.03
Treasury	5.09	-3.62	5.23	-3.62	-0.14	0.00	0.05	0.00	0.05
Mortgage-Backed Securities	5.10	2.68	5.12	2.38	-0.02	0.30	0.00	0.02	0.02
Investment Grade Credit	6.58	3.06	6.61	3.20	-0.03	-0.14	0.00	-0.01	-0.01
High Yield	4.61	9.87	4.63	9.92	-0.02	-0.05	0.00	0.00	0.00
EM Sovereign	5.13	7.55	5.15	6.98	-0.02	0.57	0.00	0.03	0.03
Real Assets	14.42	-7.13	14.40	-11.86	0.02	4.73	-0.02	0.73	0.71
Private Debt	2.47	16.97	2.47	13.52	0.00	3.45	0.00	0.08	0.08
Other Trust Level	3.22	-	0.00	-	3.22	-	-0.17	0.10	-0.07
LLER	2.53	8.75	0.00	5.57	2.53	3.18	-0.09	0.09	-0.01
Opportunistic Strategies	0.05	11.14	0.00	6.97	0.05	4.17	0.00	0.00	0.00
Tactical Fixed Income	0.35	6.52	0.00	5.47	0.35	1.05	-0.04	0.01	-0.03
Other PERF	0.03	-	0.00	-	0.03	-	0.00	0.00	0.00
TLPM	0.26	-	0.00	-	0.26	-	-0.03	0.00	-0.03
Total Fund Financing	-5.28	-	-2.07	-	-3.21	-	0.15	-0.11	0.04
Monthly Linked Return	100.00	9.24	100.00	10.36		-1.12	-0.05	-1.08	-1.12
Residual		0.05		-0.03		0.07			0.07
Total PERF		9.28		10.34		-1.05			-1.05

* Average period weight displayed.

CalPERS PERF – Attribution (Calendar YTD)

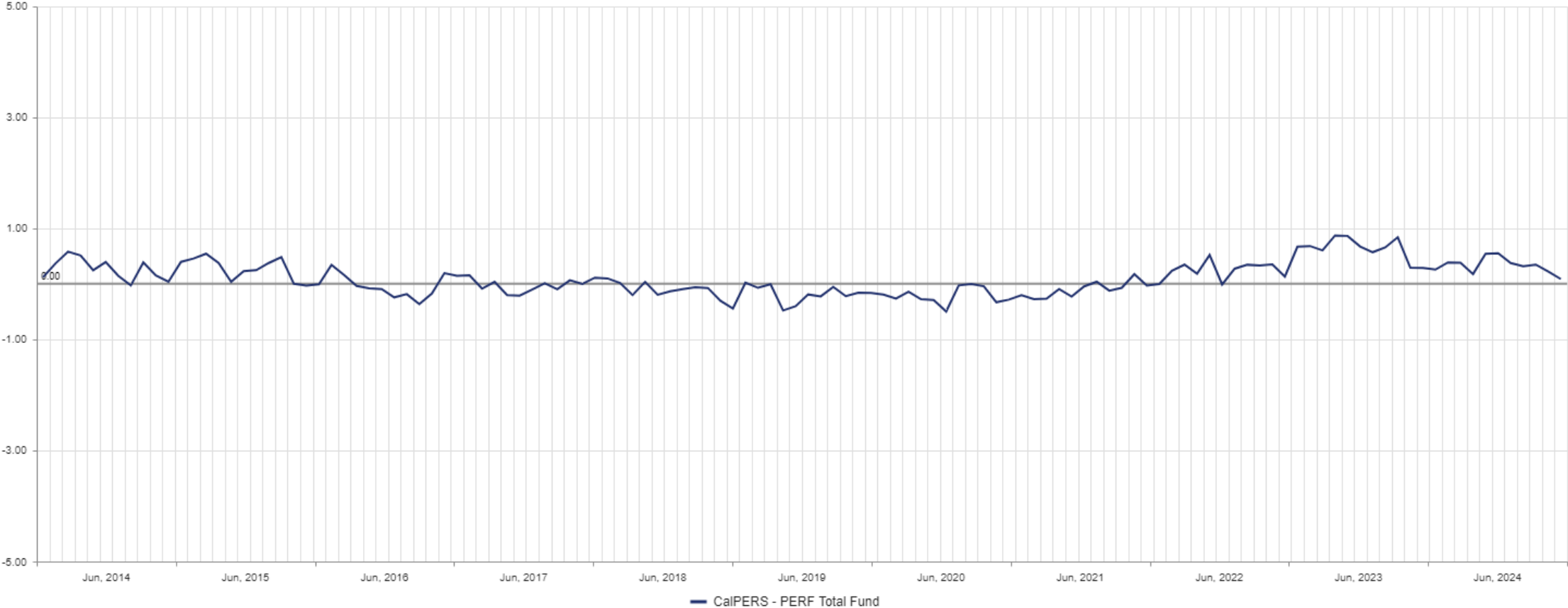
As of June 30, 2024

Asset Class	Actual (%)		Benchmark (%)		Difference (%)		Total Fund Return Contribution (%)		
	Weight *	Return	Weight *	Return	Weight	Return	Actual Allocation	Active Management	Total
Public Equity	44.39	9.99	44.36	9.62	0.03	0.37	0.01	0.16	0.17
Public Equity - Cap Weighted	32.58	11.35	32.58	10.86	0.00	0.49	0.01	0.15	0.16
Public Equity - Factor Weighted	11.81	6.27	11.78	6.22	0.03	0.05	0.00	0.01	0.01
Private Equity	14.67	5.90	14.73	20.26	-0.06	-14.36	-0.03	-2.15	-2.18
Income	26.81	-0.80	26.77	-0.91	0.04	0.12	0.00	0.03	0.03
Treasury	5.37	-3.87	5.37	-3.87	0.00	0.00	0.00	0.00	0.00
Mortgage-Backed Securities	5.10	-0.50	5.10	-0.79	0.00	0.29	0.00	0.02	0.01
Investment Grade Credit	6.55	-2.41	6.51	-2.41	0.03	0.00	0.00	0.00	0.00
High Yield	4.67	2.49	4.67	2.53	0.00	-0.04	0.00	0.00	0.00
EM Sovereign	5.13	1.12	5.12	0.76	0.00	0.35	0.00	0.02	0.02
Real Assets	13.73	-3.08	13.69	-7.36	0.04	4.28	-0.02	0.60	0.58
Private Debt	2.58	7.95	2.58	5.92	0.00	2.03	0.00	0.05	0.05
Other Trust Level	3.07	-	0.00	-	3.07	-	-0.10	0.03	-0.06
LLER	2.29	3.90	0.00	2.75	2.29	1.15	-0.07	0.03	-0.04
Opportunistic Strategies	0.05	6.84	0.00	3.42	0.05	3.42	0.00	0.00	0.00
Tactical Fixed Income	0.45	3.67	0.00	2.89	0.45	0.78	-0.01	0.00	-0.01
Other PERF	0.03	-	0.00	-	0.03	-	0.00	0.00	0.00
TLPM	0.25	-	0.00	-	0.25	-	-0.02	0.00	-0.02
Total Fund Financing	-5.25	-	-2.13	-	-3.11	-	0.09	0.00	0.09
Monthly Linked Return	100.00	4.75	100.00	6.08		-1.33	-0.06	-1.27	-1.32
Residual		-0.04		-0.01		-0.03			-0.03
Total PERF		4.72		6.07		-1.35			-1.35

* Average period weight displayed.

CalPERS PERF – Rolling Excess Return

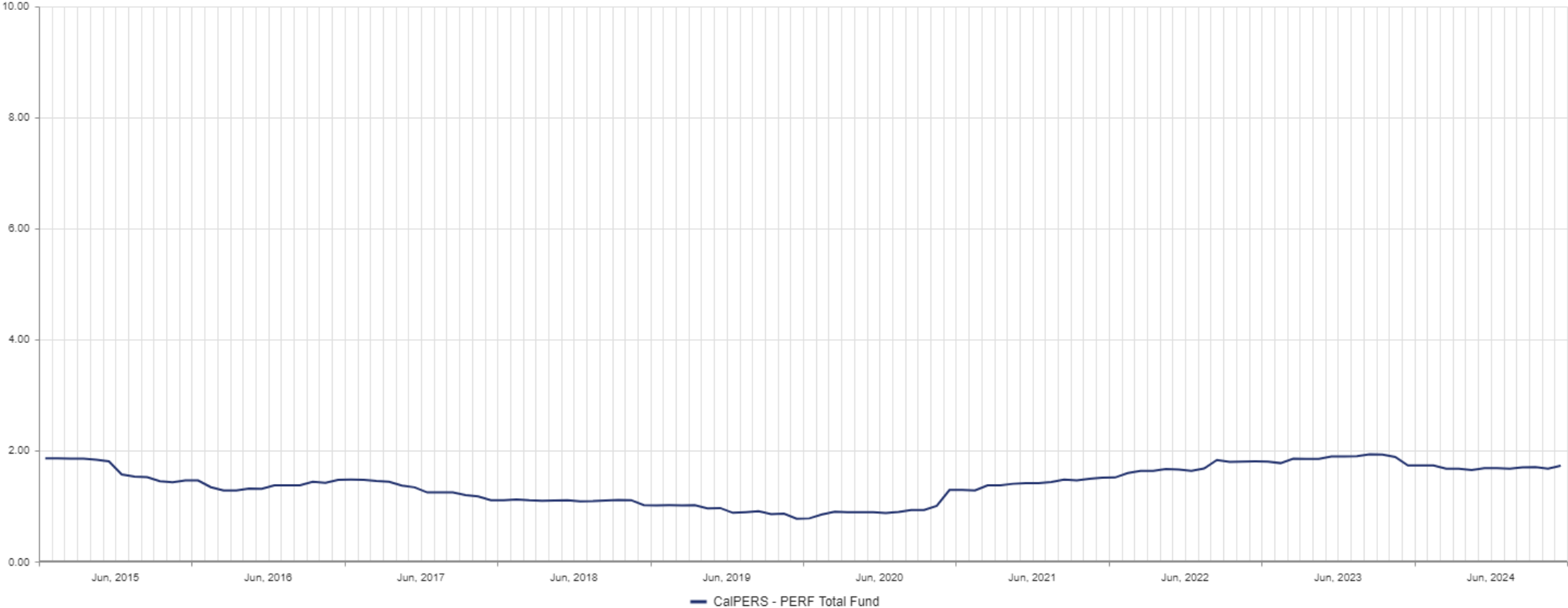
CalPERS - PERF Total Fund
36-Month Rolling Geometric Excess Return: April 30, 2014 - June 30, 2024
Benchmark: PERF Total Fund Policy Benchmark



* Monthly data; Net of Investment Management Fees

CalPERS PERF – Rolling Tracking Error

CalPERS - PERF Total Fund
36-Month Rolling Geometric Excess Standard Deviation of Return: June 30, 2014 - June 30, 2024
Benchmark: PERF Total Fund Policy Benchmark



* Monthly data; Net of Investment Management Fees

CalPERS Affiliate Investment Programs – Performance

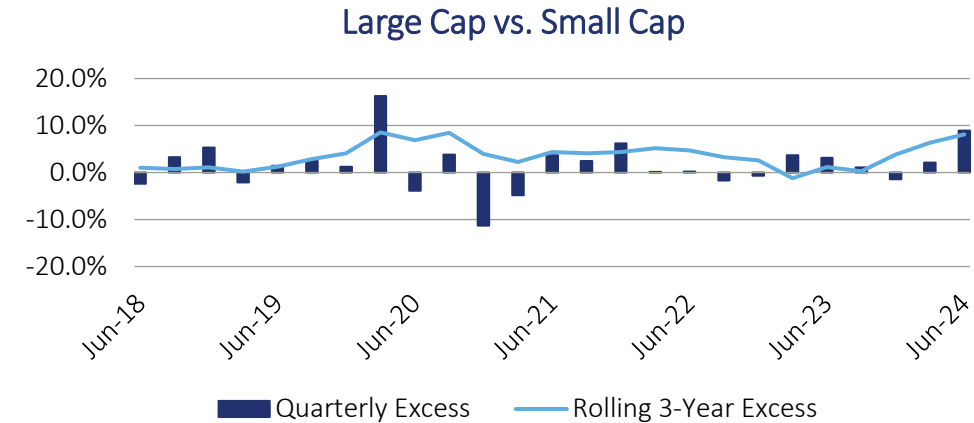
As of June 30, 2024

	Asset Value (\$Million)	Quarter	1 Year	3 Year	5 Year	10 Year
Judges I	\$ 52.7	1.4%	5.7%	3.3%	2.3%	1.7%
91-Day Treasury Bill		1.3%	5.4%	3.0%	2.2%	1.5%
Judges II	\$ 2,623.8	0.8%	11.4%	1.1%	6.1%	5.6%
Weighted Policy Benchmark		0.7%	11.1%	0.9%	5.8%	5.3%
Legislators' Retirement System	\$ 92.5	0.1%	5.5%	-1.7%	2.8%	3.4%
Weighted Policy Benchmark		0.1%	5.5%	-1.8%	2.7%	3.3%
Long-Term Care ("LTC")	\$ 4,355.6	0.8%	8.9%	-0.8%	2.9%	3.2%
Weighted Policy Benchmark		0.7%	9.1%	-0.8%	2.9%	3.1%
CERBT Strategy 1	\$ 18,167.7	0.7%	11.0%	0.8%	6.2%	5.6%
CERBT Strategy 1 Policy Benchmark		0.6%	10.8%	0.6%	6.0%	5.3%
CERBT Strategy 2	\$ 2,013.1	0.4%	8.2%	-0.7%	4.3%	4.4%
CERBT Strategy 2 Policy Benchmark		0.3%	8.1%	-0.8%	4.2%	4.2%
CERBT Strategy 3	\$ 782.9	0.1%	6.3%	-1.2%	3.1%	3.5%
CERBT Strategy 3 Policy Benchmark		0.1%	6.2%	-1.3%	3.0%	3.3%
CEPPT Strategy 1	\$ 205.2	0.6%	8.7%	0.0%	-.%	-.%
CEPPT Strategy 1 Policy Benchmark		0.6%	8.6%	-0.1%	-.%	-.%
CEPPT Strategy 2	\$ 57.5	0.4%	6.1%	-1.1%	-.%	-.%
CEPPT Strategy 2 Policy Benchmark		0.4%	6.1%	-1.1%	-.%	-.%
Health Care Fund	\$ 73.4	0.1%	2.5%	-3.1%	-0.3%	1.4%
Bloomberg U.S. Aggregate Bond Index		0.1%	2.6%	-3.0%	-0.2%	1.3%
Supplemental Contribution Plan	\$ 114.3	NM	NM	NM	NM	NM
457 Program	\$ 2,438.3	NM	NM	NM	NM	NM

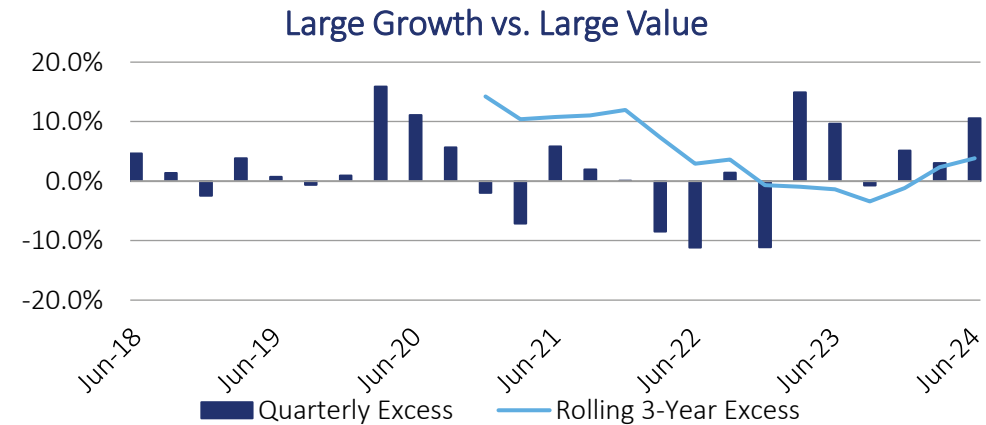
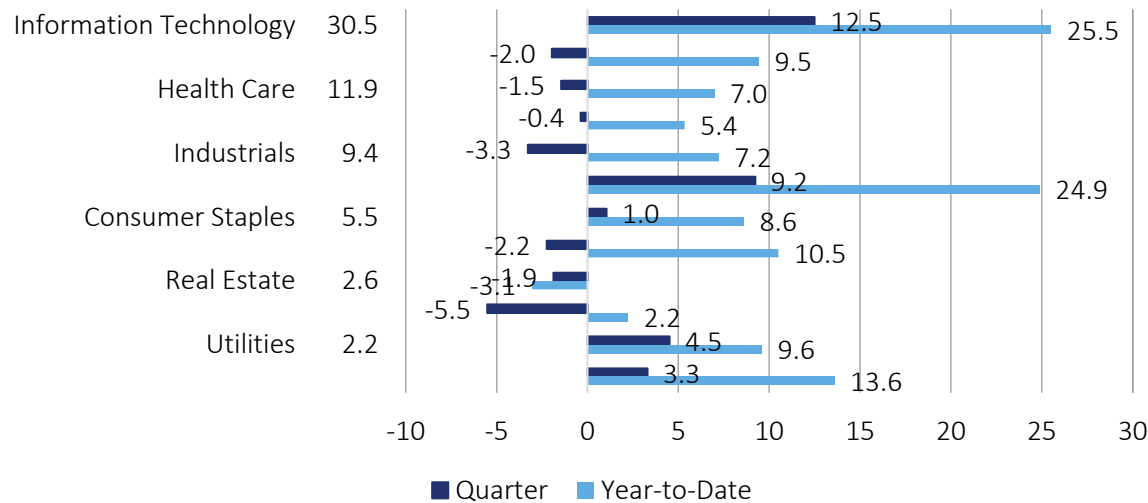
Appendix:
Asset Class Performance Detail

U.S. Equity Market

As of 6/30/2024	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	3.3	13.6	23.2	8.4	14.4	12.4
FT Wilshire U.S. Large Cap	4.4	15.1	24.8	9.6	15.2	12.9
FT Wilshire U.S. Small Cap	-4.1	3.5	12.6	1.4	8.9	8.4
FT Wilshire U.S. Large Growth	9.7	22.7	35.8	11.4	19.5	n/a
FT Wilshire U.S. Large Value	-0.8	7.7	14.3	7.3	10.6	n/a
FT Wilshire U.S. Small Growth	-3.9	4.0	11.3	-1.4	8.0	n/a
FT Wilshire U.S. Small Value	-4.4	3.1	14.0	4.0	9.4	n/a
Wilshire REIT Index	-0.2	-0.3	8.6	0.3	4.0	5.9
MSCI USA Min. Vol. Index	0.8	8.5	14.6	6.2	8.3	10.7
FTSE RAFI U.S. 1000 Index	-0.8	9.1	18.6	8.2	12.9	10.6



U.S. Sector Weight and Return (%)

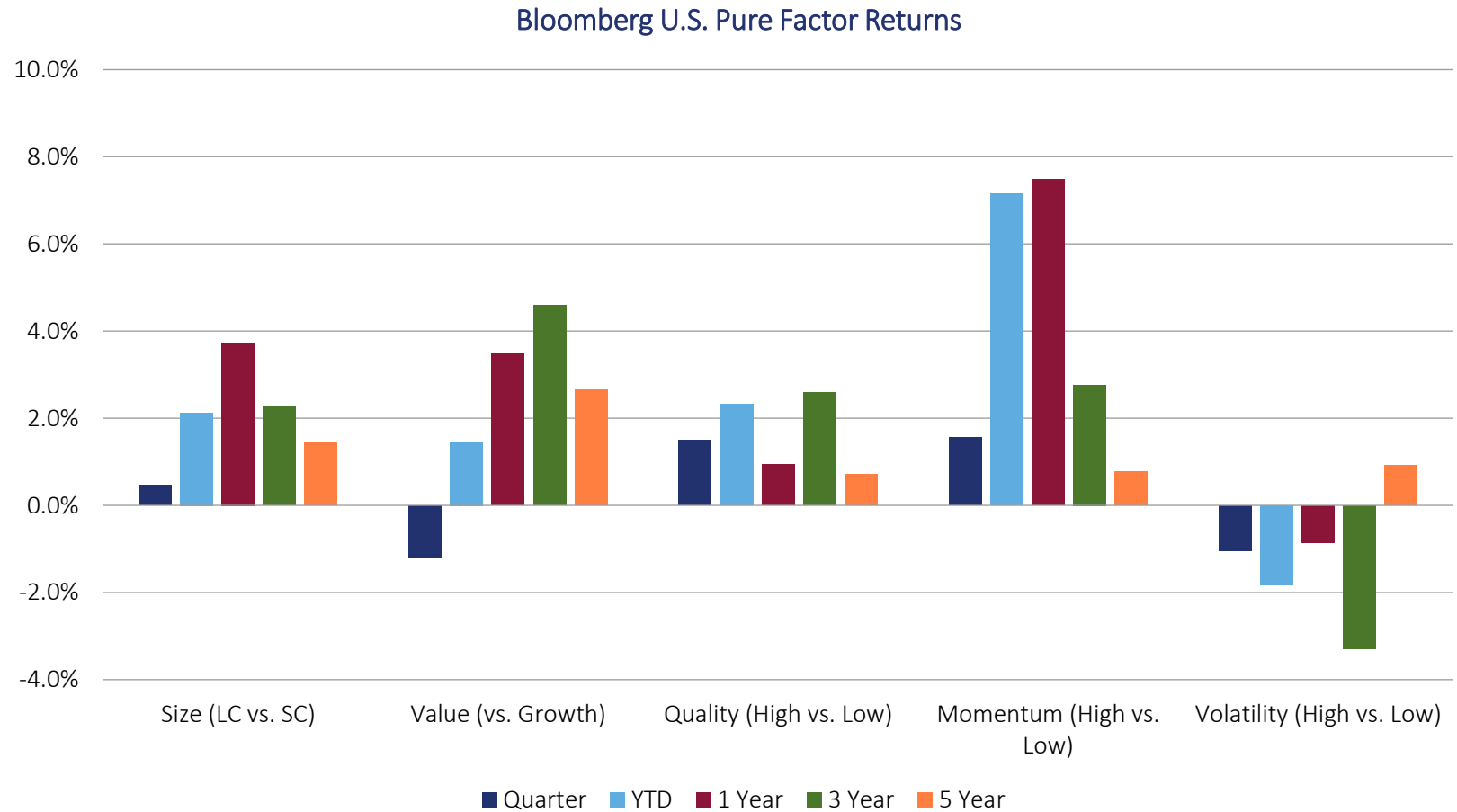


Data Sources: Bloomberg, Wilshire Atlas

U.S. Factor Returns

Factor returns represent the contribution from large cap, value, etc. stocks within Bloomberg's Portfolio & Risk Analytics module

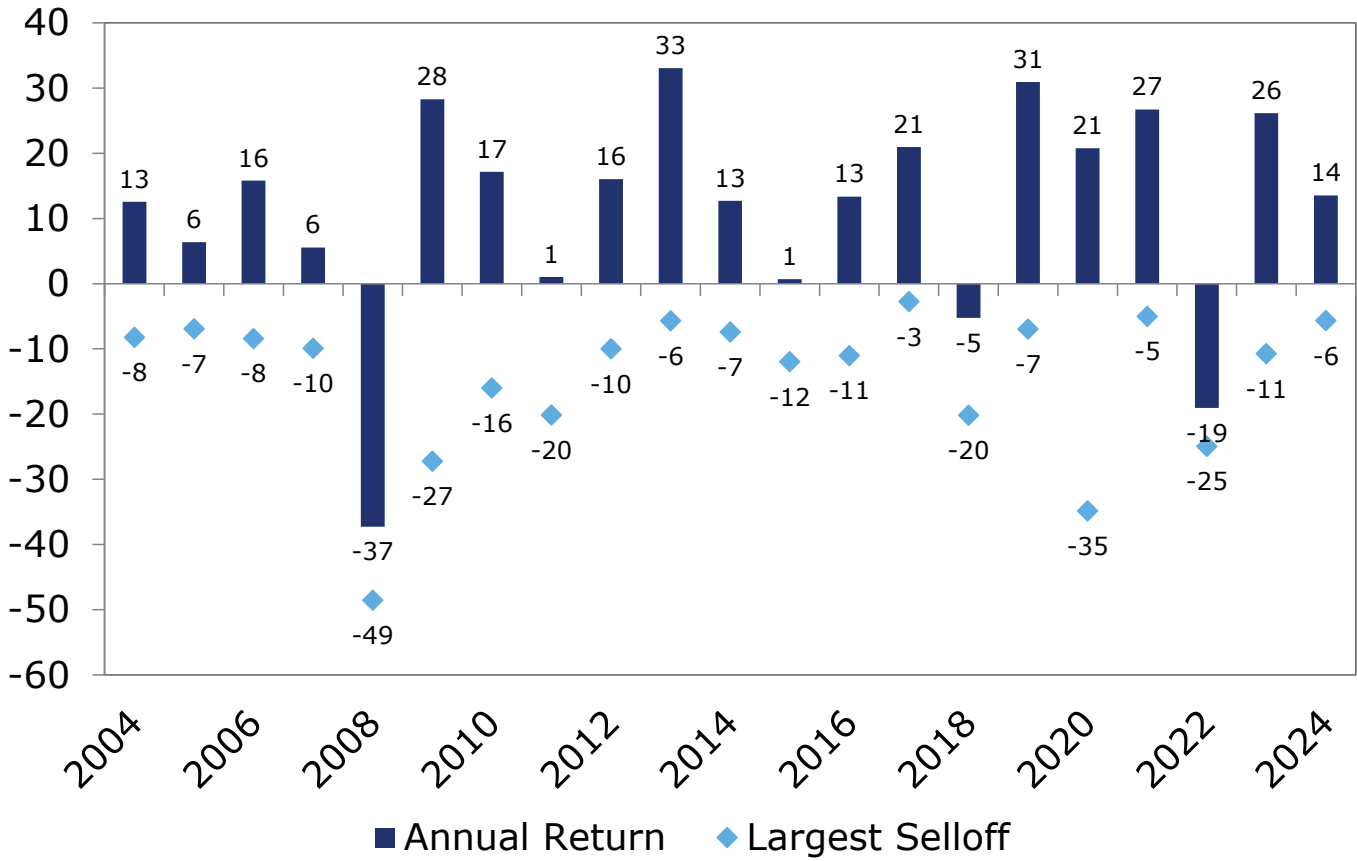
Momentum had a strong quarter while high volatility detracted



Data Source: Bloomberg

Annual Equity Market Selloffs

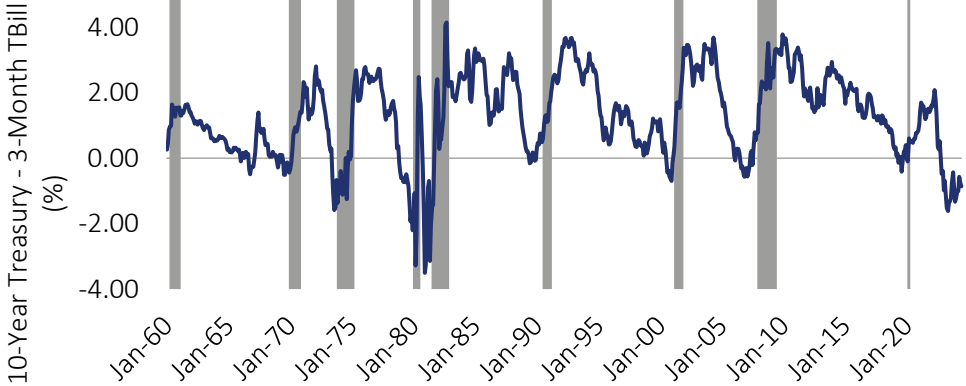
U.S. equity has been fairly tame, so far, during 2024 except for a modest sell-off in April



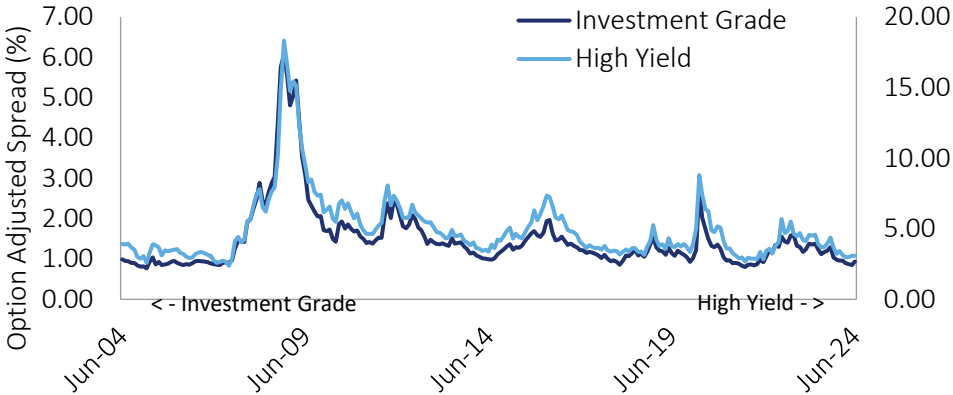
Data Sources: Wilshire Web, Bloomberg

Risk Monitor

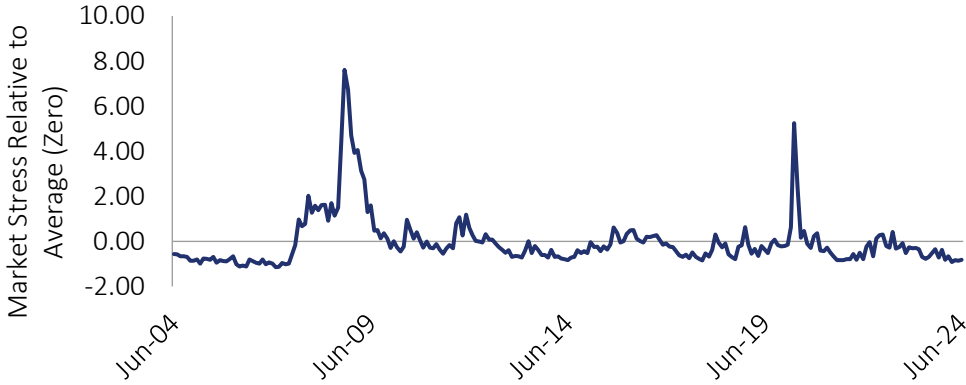
Yield Curve Slope vs Recessions (IN GRAY)



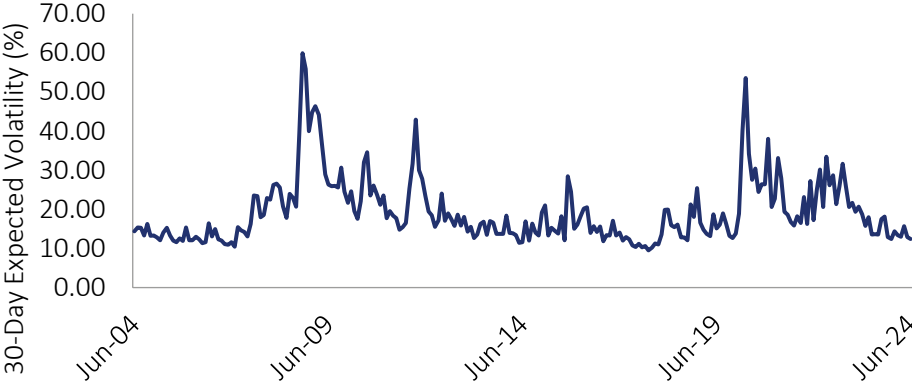
Bloomberg Credit Indexes



St. Louis Fed. Financial Stress Index



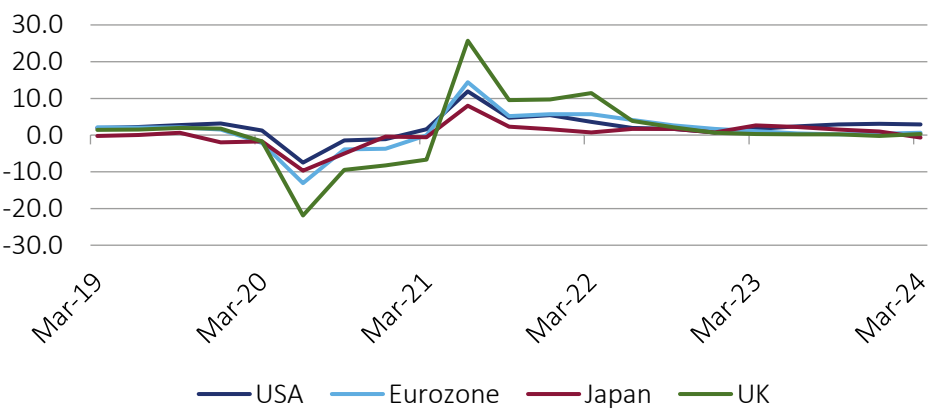
CBOE Volatility Index



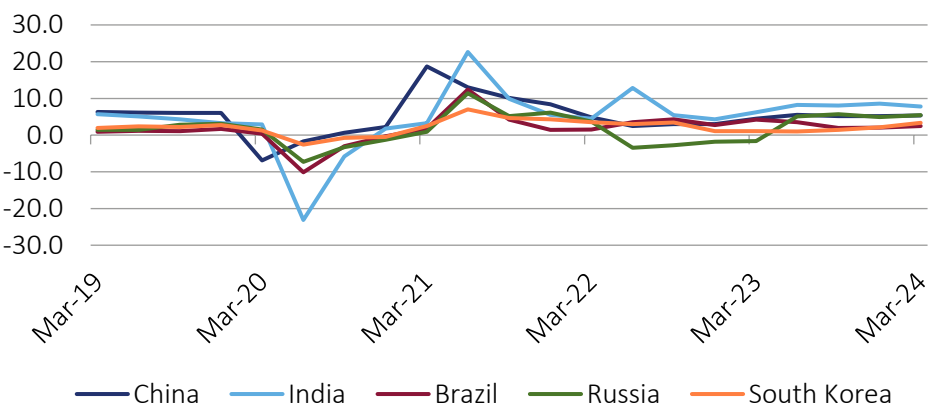
Data Source: Bloomberg

Non-U.S. Growth and Inflation

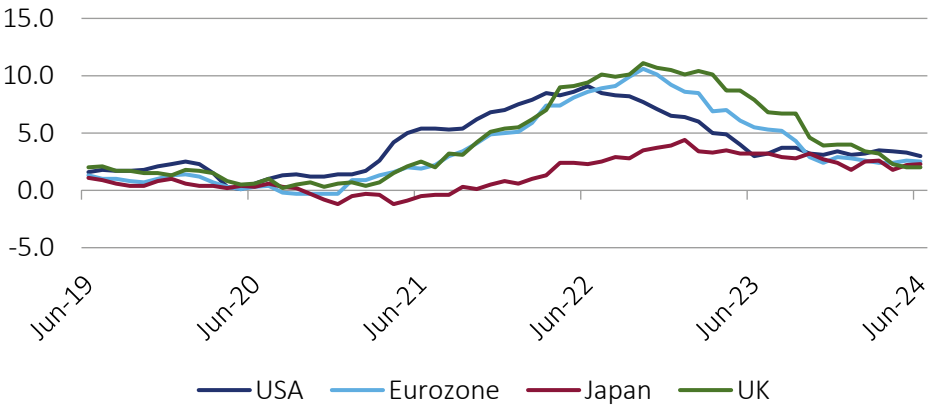
Developed Markets Real GDP Growth YoY (%)



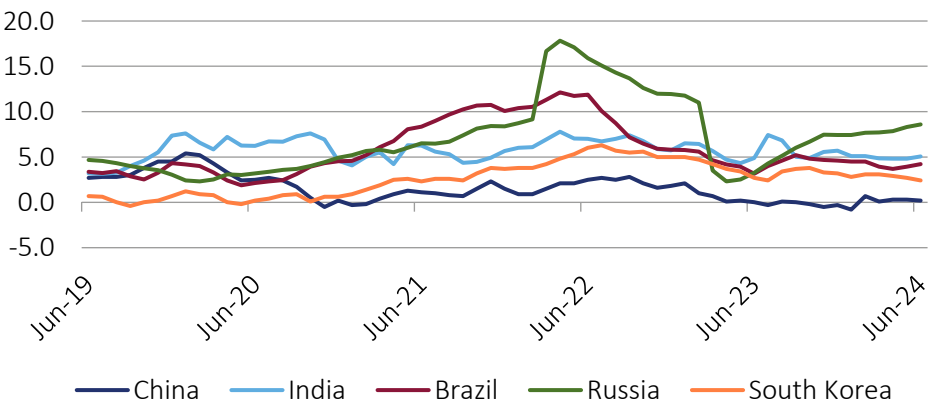
Emerging Markets Real GDP Growth YoY (%)



Developed Markets CPI Growth YoY (%)



Emerging Markets CPI Growth YoY (%)



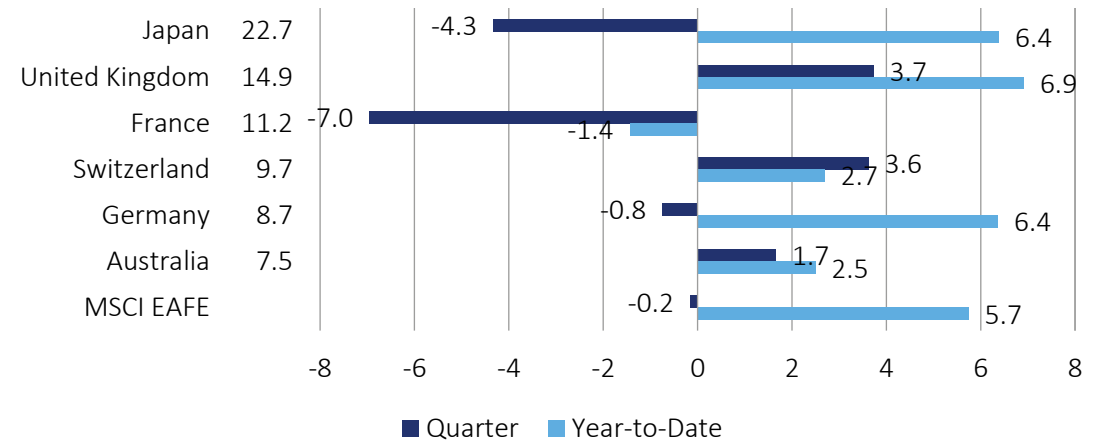
Data Source: Bloomberg

Non-U.S. Equity Market

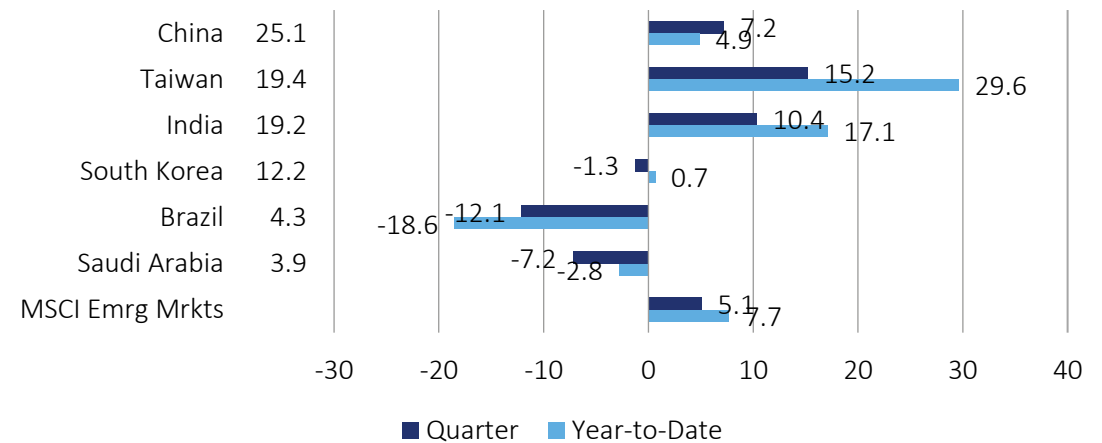
As of 6/30/2024	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US (\$G)	1.2	6.0	12.2	1.0	6.1	4.3
MSCI EAFE (\$G)	-0.2	5.7	12.1	3.4	7.0	4.8
MSCI Emerging Markets (\$G)	5.1	7.7	13.0	-4.7	3.5	3.2
MSCI Frontier Markets (\$G)	-1.9	3.7	11.3	-0.2	-0.5	-0.5
MSCI ACWI ex-US Growth (\$G)	0.9	6.9	10.2	-2.3	5.8	5.1
MSCI ACWI ex-US Value (\$G)	1.5	5.0	14.3	4.0	6.1	3.6
MSCI ACWI ex-US Small (\$G)	0.8	3.1	11.8	-1.0	6.6	4.9
MSCI ACWI Minimum Volatility	0.5	5.4	9.7	3.2	5.3	7.4
MSCI EAFE Minimum Volatility	-0.2	2.2	6.7	0.3	2.3	4.0
FTSE RAFI Developed ex-US	-0.8	4.8	13.0	4.8	7.6	4.3
MSCI EAFE LC (G)	1.3	11.5	15.7	8.7	9.5	7.9
MSCI Emerging Markets LC (G)	6.3	11.2	16.0	-1.2	6.0	6.2

Data Source: Bloomberg

Developed Markets Weight and Return (%)



Emerging Markets Weight and Return (%)



CalPERS PERF Public Equity – Performance

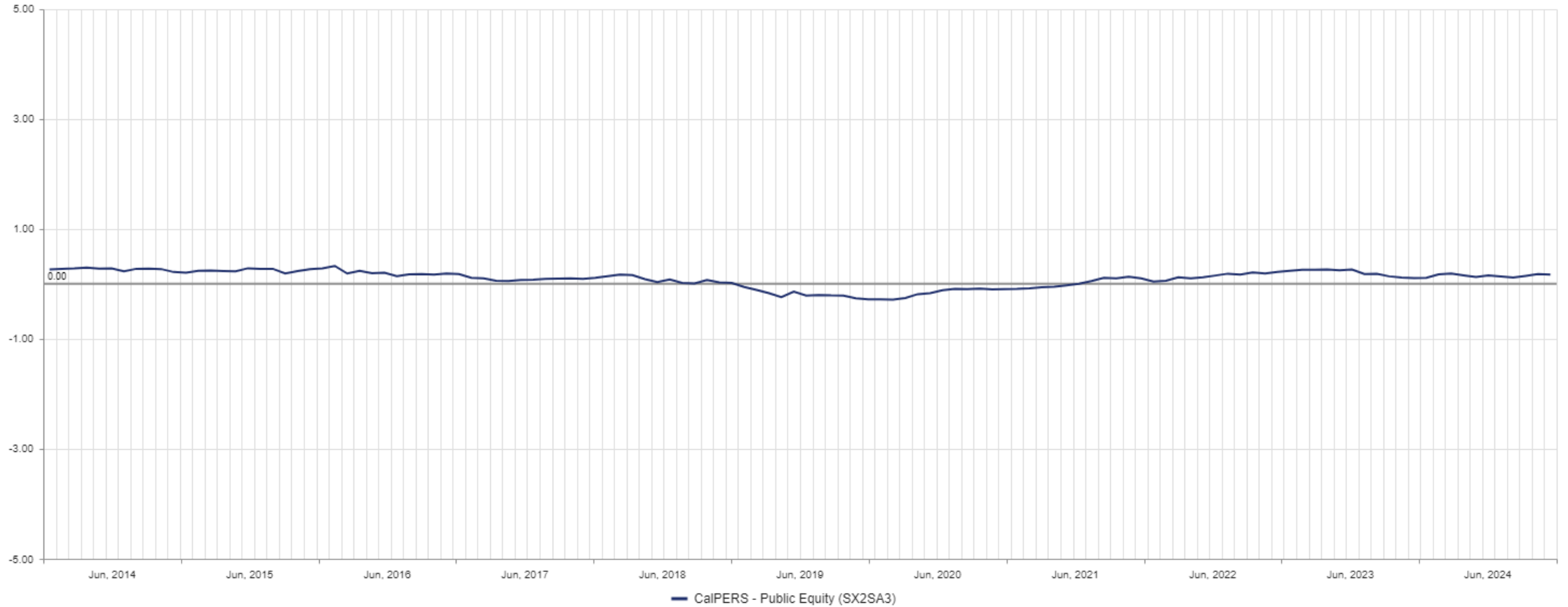
As of June 30, 2024

	Asset Value (\$Billion)	Quarter	1 Year	3 Year	5 Year	10 Year	VaR (\$Billion)	5 Year Ratios Sharpe	Info
PUBLIC EQUITY*	\$ 210.6	2.2%	17.5%	5.2%	9.8%	8.2%	\$ 44.3	0.5	1.0
<i>Public Equity Policy Benchmark</i>		2.0%	17.1%	5.1%	9.6%	8.2%		0.4	0.0
Public Equity - Cap Weighted*	\$ 160.2	2.7%	19.9%	5.6%	11.2%	8.8%	\$ 36.8	0.5	0.9
<i>CalPERS Custom FTSE Global Benchmark</i>		2.5%	19.3%	5.4%	11.0%	8.7%		0.5	0.0
Public Equity - Factor Weighted	\$ 50.4	0.7%	11.4%	3.7%	5.9%	-.%	\$ 8.5	0.3	0.5
<i>CalPERS FTSE Factor Wtd Blend Benchmark</i>		0.6%	11.3%	3.7%	5.8%	-.%		0.3	0.0

* The CalPERS asset values shown include derivative exposure.

CalPERS PERF Public Equity – Rolling Excess Return

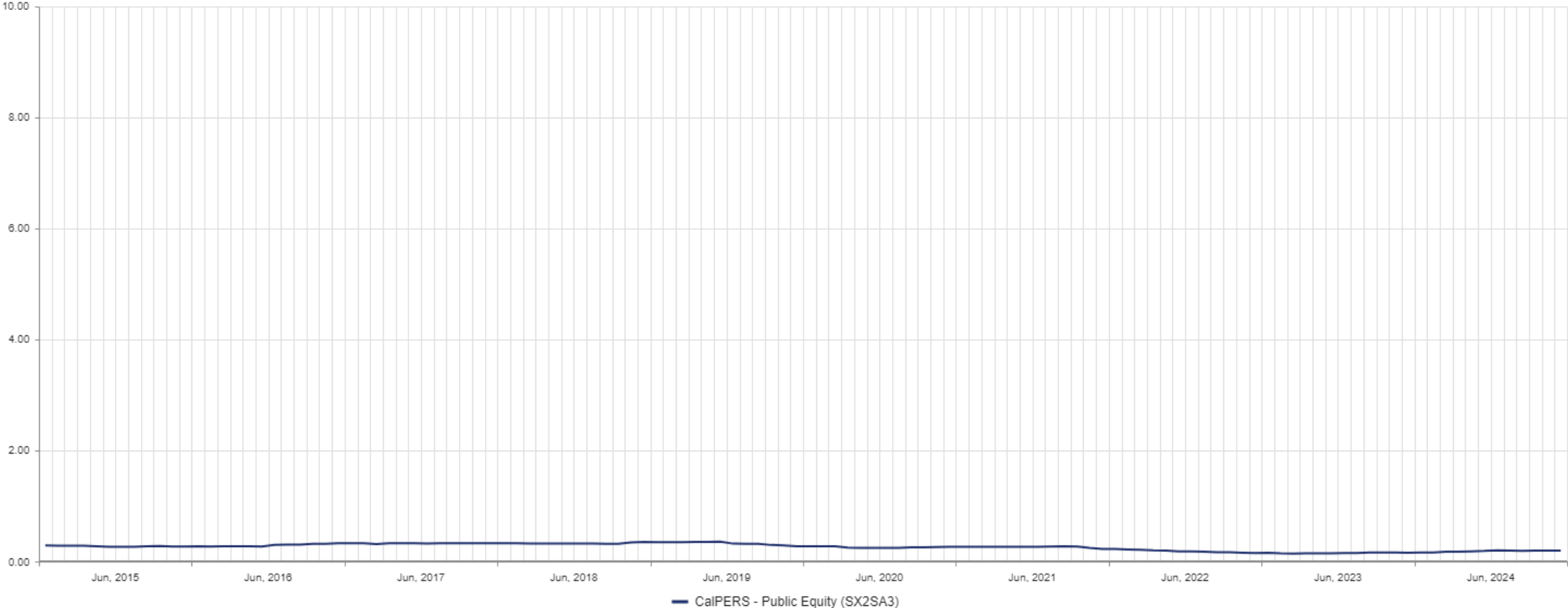
CalPERS - Public Equity (SX2SA3)
36-Month Rolling Geometric Excess Return: April 30, 2014 - June 30, 2024
Benchmark: Public Equity Policy Benchmark



* Monthly data; Net of Investment Management Fees

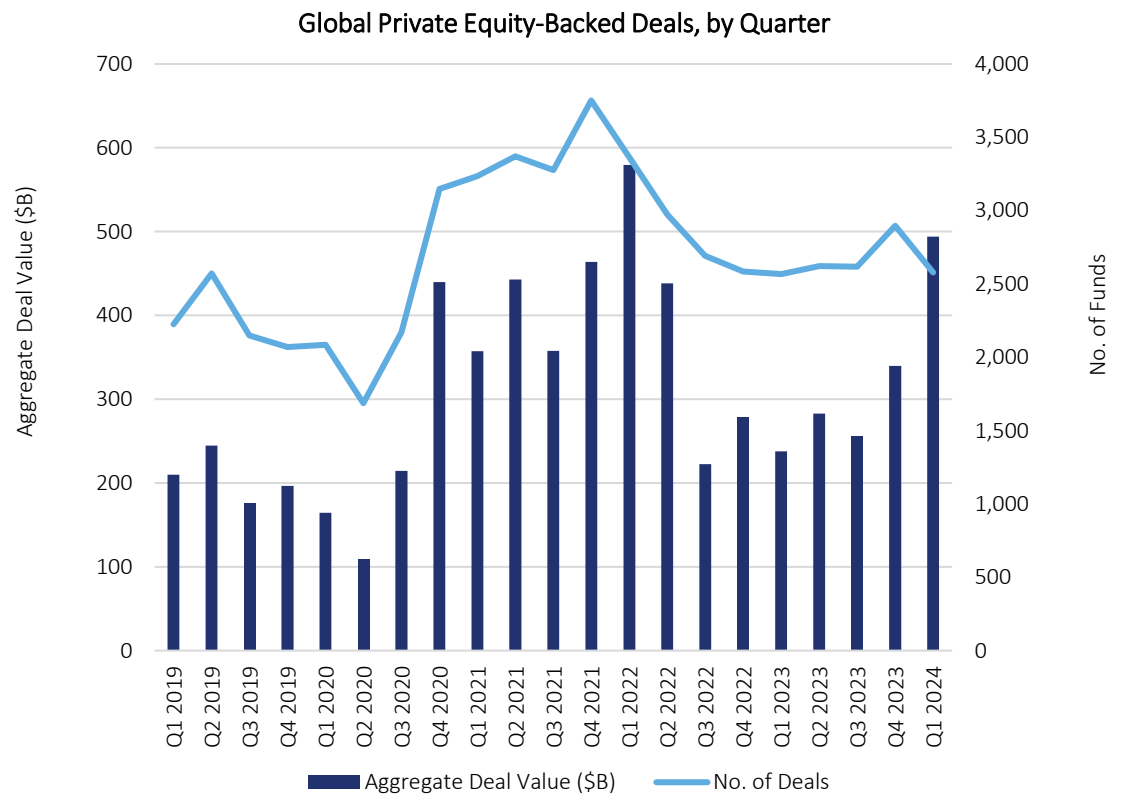
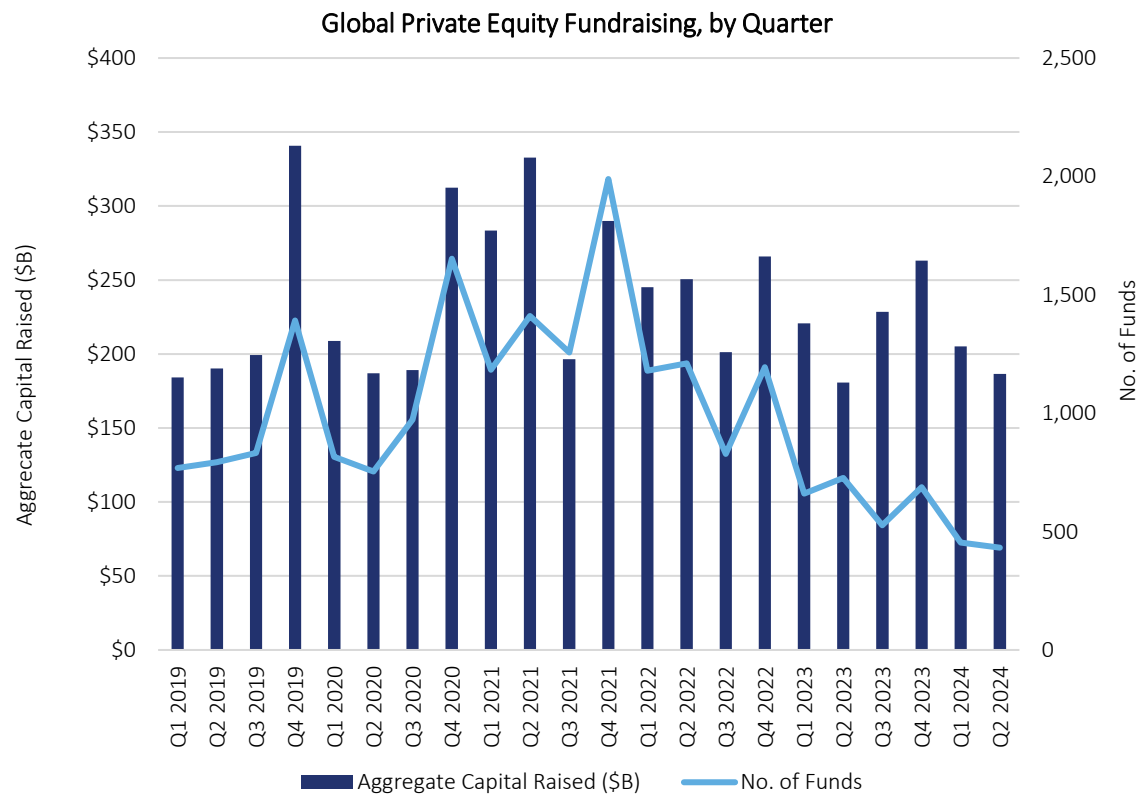
CalPERS PERF Public Equity – Rolling Tracking Error

CalPERS - Public Equity (SX2SA3)
36-Month Rolling Geometric Excess Standard Deviation of Return: June 30, 2014 - June 30, 2024
Benchmark: Public Equity Policy Benchmark



* Monthly data; Net of Investment Management Fees

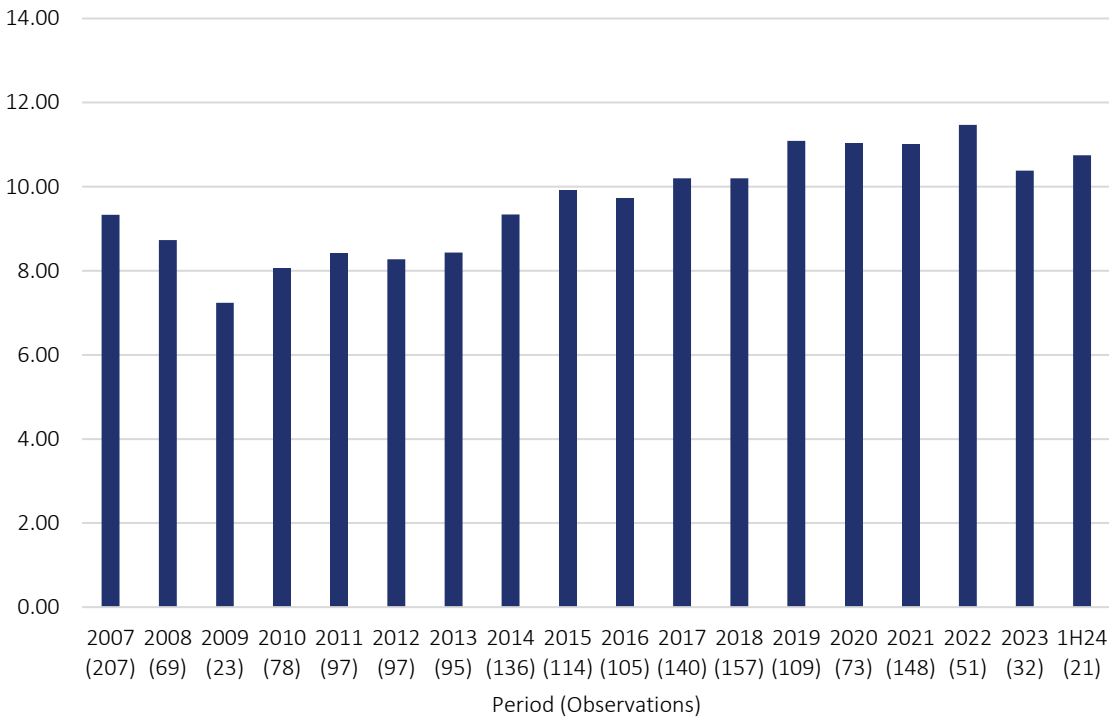
Private Equity – Fundraising & Investment Activity



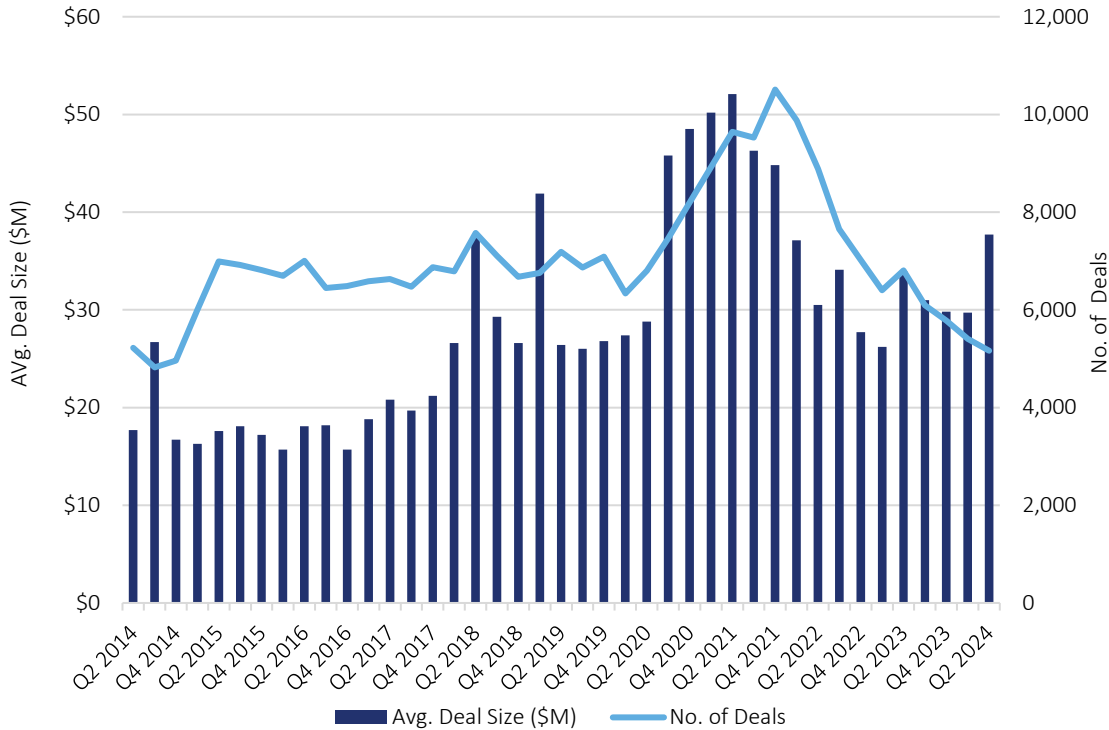
Source: Preqin as of July 24, 2024.

Private Equity – Pricing & Valuations

LBO Purchase Price Multiples



Global Venture Capital Deals, by Quarter

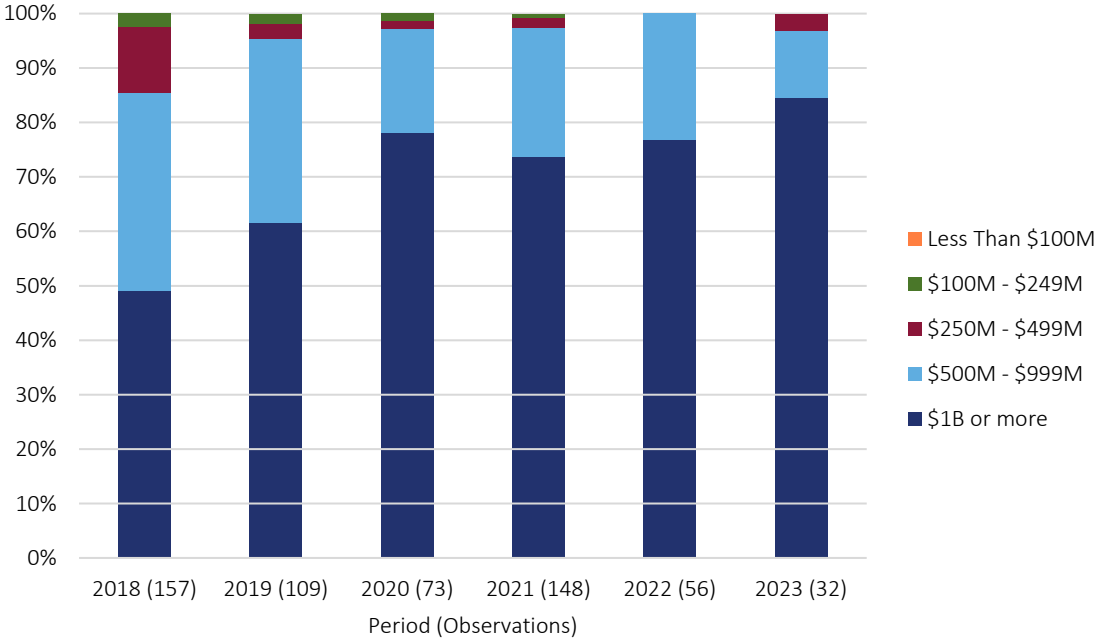


Source: S&P LCD Q2 2024 Report; Preqin as of July 24, 2024.

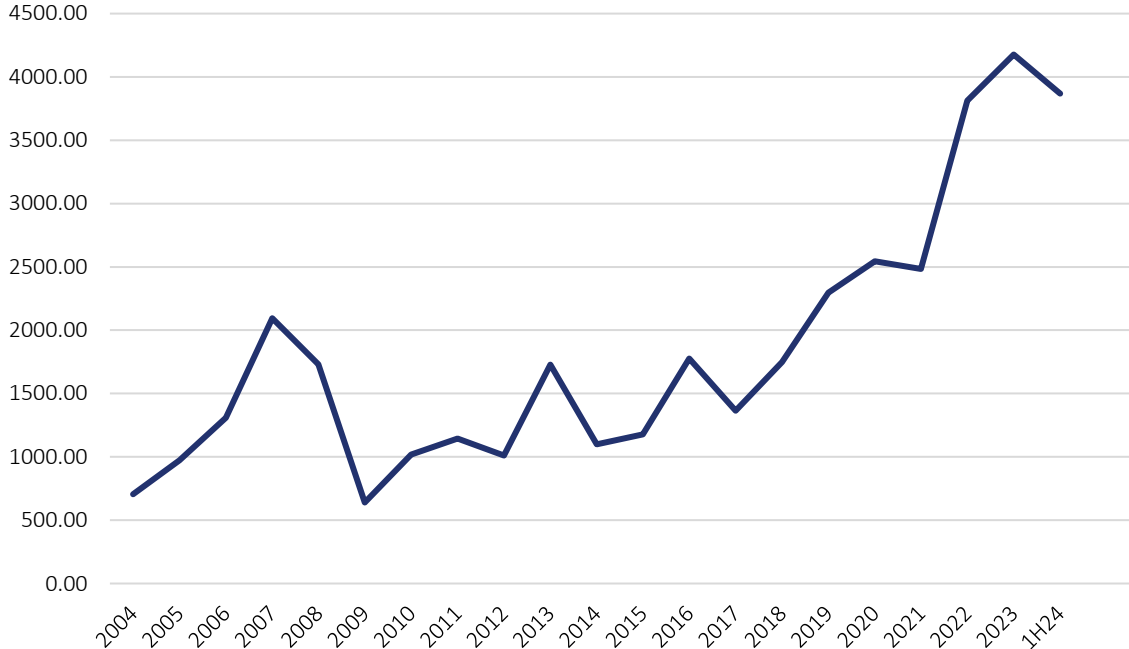
U.S. Investment Activity by Deal Size

- Deal volume has increased in H1 2024 compared to H1 2023 though a majority of deals stay in the upper, large cap market.
- Average LBO transaction size decreased in H1 2024 with an increase in the number of LBO transactions in the middle market.

Distribution of U.S. LBO Transactions, by Deal Size



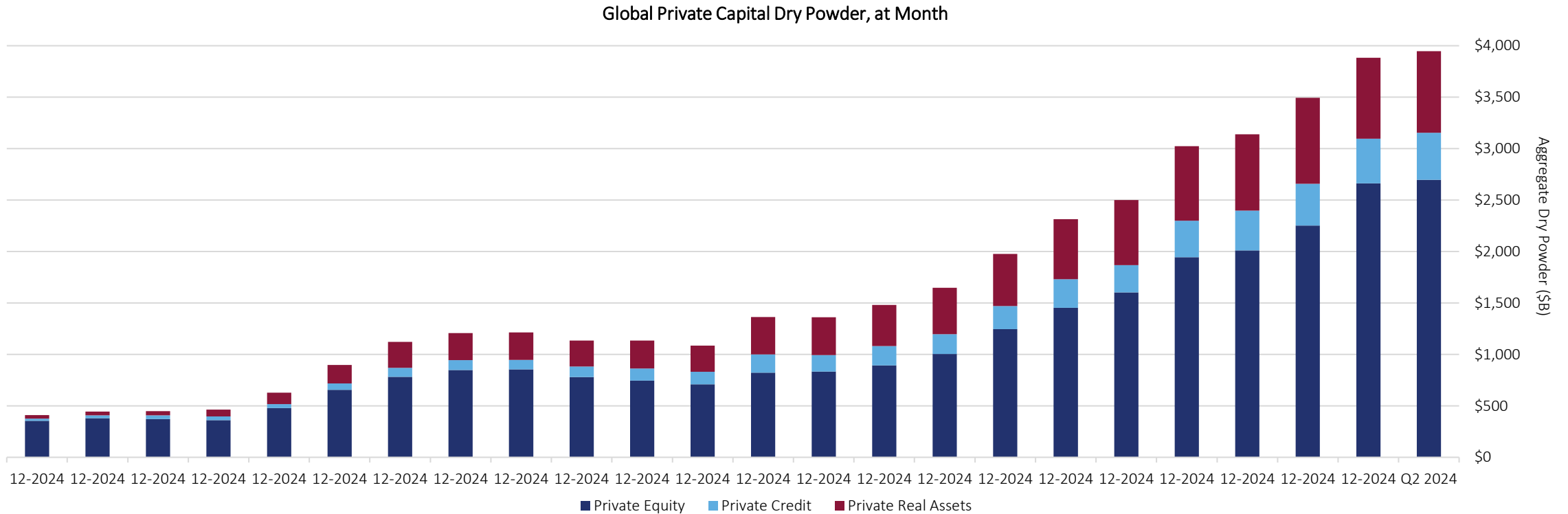
Average Transaction Size of U.S. LBOs



Source: S&P LCD Q2 2024 Report.

Private Capital Dry Powder

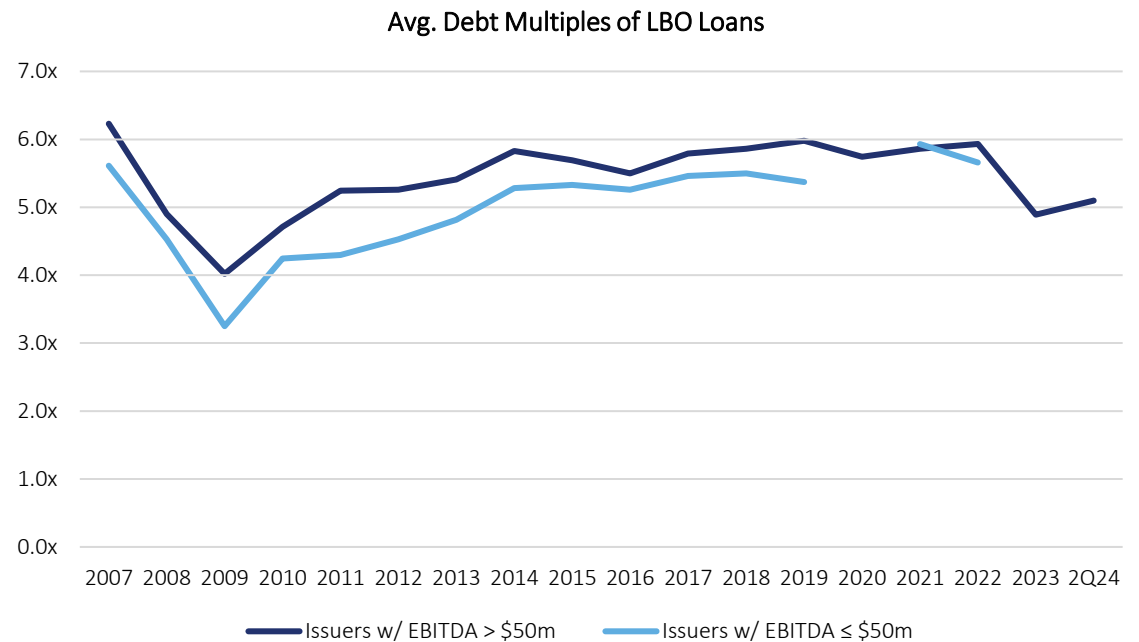
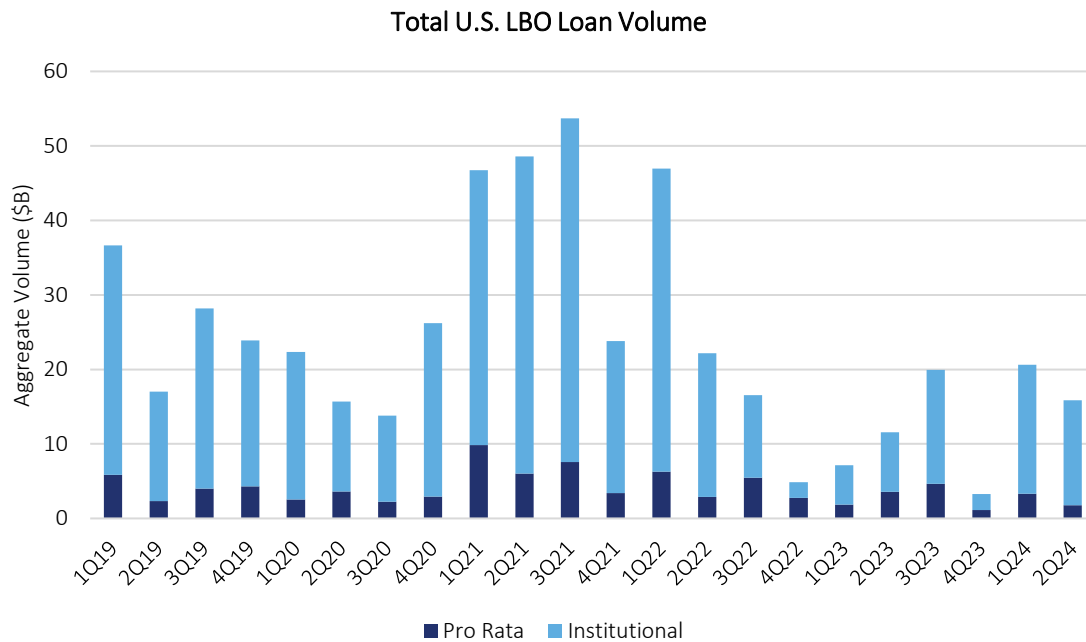
- Global private capital dry powder remains elevated, with all asset classes near record high levels of dry powder.
- Private equity comprises approximately 70% of total dry powder as of June 30, 2024, and continues to drive heightened levels of dry powder.



Source: Preqin as of July 24, 2024.

Private Equity – U.S. Debt Markets

- Q1 2024 saw ~\$15 billion in supporting loan issuance, continuing the rebound since record low levels in 2023.
- Debt multiples of sponsor-backed, large corporate loans stay approximately the same as 2023 at ~5.0x but has increased slightly, but lower than recent years with debt multiples just under 6.0x.

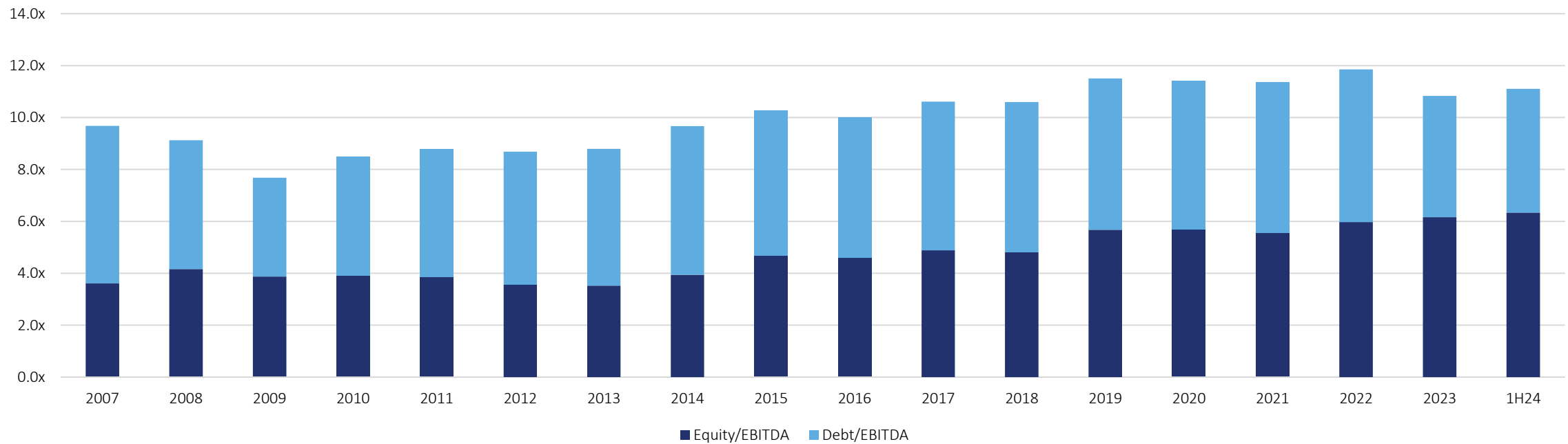


Source: S&P LCD Q2 2024 Report.

Private Equity – U.S. LBO Purchase Price Multiples

- H1 2024 all in purchase price multiples are consistent with 2023 purchase price multiples, with equity continuing to contribute a majority of capital.
- Debt contributions in Q1 2024 are 43% of purchase price multiples.

LBO Purchase Price Multiples



Source: S&P LCD Q2 2024 Report.

CalPERS PERF Private Equity – Performance

As of June 30, 2024

	Asset Value		Performance				VaR	5 Year Ratios	
	(\$Billion)	Quarter	1 Year	3 Year	5 Year	10 Year	(\$Billion)	Sharpe	Info
PRIVATE EQUITY	\$ 78.2	3.5%	10.9%	9.5%	12.4%	11.0%	\$ 32.3	1.2	0.0
<i>Private Equity Policy Benchmark</i>		8.5%	25.4%	8.5%	12.9%	11.6%		0.6	0.0
Private Equity Partnership Investments	\$ 78.1	3.5%	10.9%	9.6%	12.5%	11.0%		N/A	N/A
Private Equity Distribution Stock	\$ 0.0	12.3%	-18.5%	-37.1%	-31.8%	-19.7%		N/A	N/A

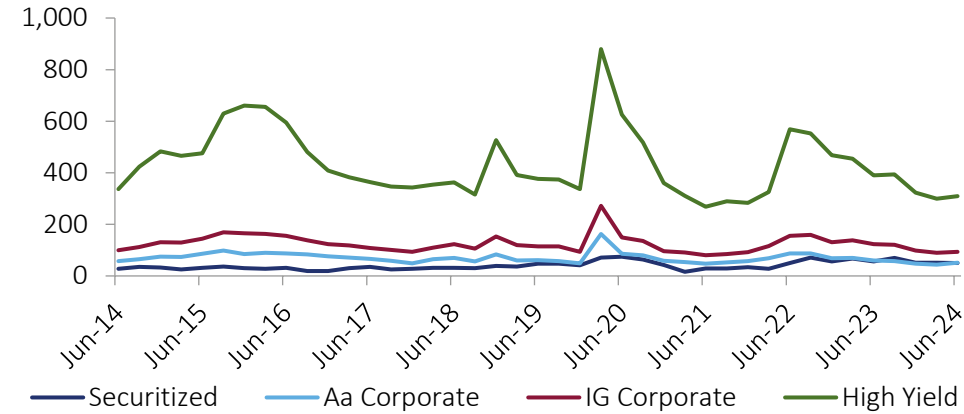
U.S. Fixed Income

As of 6/30/2024	YTW	Dur.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	5.0	6.1	0.1	0.1	2.6	-3.0	-0.2	1.3
Bloomberg Treasury	4.6	5.9	0.1	0.1	1.5	-3.3	-0.7	0.9
Bloomberg Gov't-Rel.	5.1	5.2	0.3	0.3	3.3	-2.1	0.2	1.5
Bloomberg Securitized	5.2	5.9	0.1	0.1	2.4	-2.8	-0.6	1.0
Bloomberg Corporate	5.5	6.9	-0.1	-0.1	4.6	-3.0	0.6	2.3
Bloomberg LT Gov't/Credit	5.2	13.8	-1.7	-1.7	-1.6	-8.5	-2.2	1.6
Bloomberg LT Treasury	4.6	15.1	-1.8	-1.8	-5.6	-10.5	-4.3	0.6
Bloomberg LT Gov't-Rel.	5.7	11.5	-1.1	-1.1	0.7	-6.0	-1.4	2.0
Bloomberg LT Corporate	5.7	12.7	-1.7	-1.7	2.2	-6.9	-0.8	2.5
Bloomberg U.S. TIPS*	4.4	7.2	0.8	0.8	2.7	-1.3	2.1	1.9
Bloomberg High Yield	7.9	3.1	1.1	1.1	10.4	1.6	3.9	4.3
S&P/LSTA Leveraged Loan	9.2	0.3	1.9	1.9	11.1	6.1	5.5	4.6
Treasury Bills	5.3	0.3	1.3	1.3	5.5	3.0	2.2	1.5

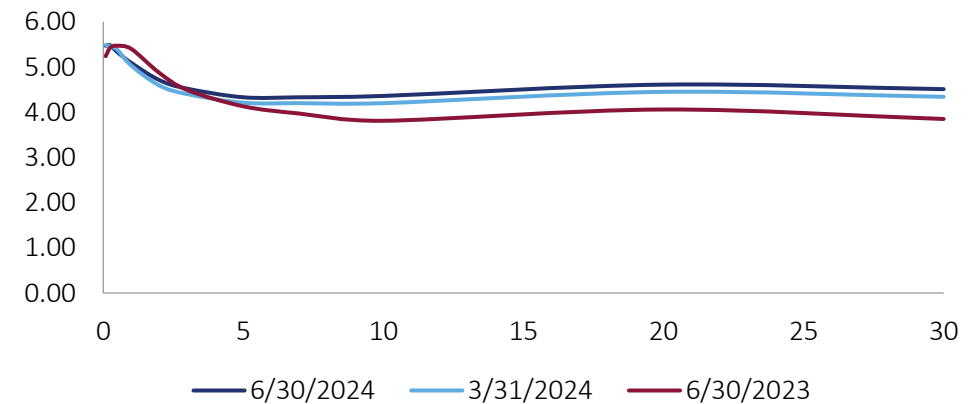
*Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 7-10 Year Index.

Data Source: Bloomberg

Fixed Income Option Adjusted Spread (bps)



Treasury Yield Curve (%)



Federal Reserve

The Federal Open Market Committee has left their overnight rate unchanged since July of 2023

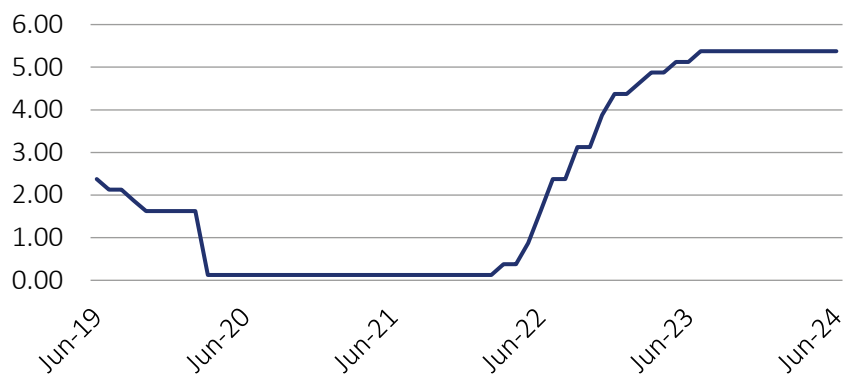
QE4 was larger than the 3 phases of quantitative easing – combined – following the global financial crisis

The Fed’s balance sheet has begun to shrink again during the past year

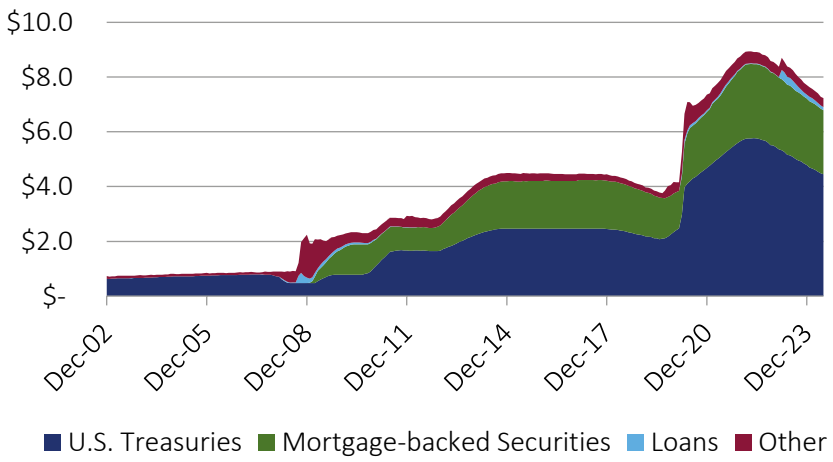
	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	\$1,403
QE2	11/3/2010	6/29/2012	\$568
QE3	9/13/2012	10/29/2014	\$1,674
QE4	3/23/2020	3/15/2022	\$4,779

Data Source: Bloomberg

Federal Funds Rate (Mid %)



Federal Reserve Balance Sheet (\$T)



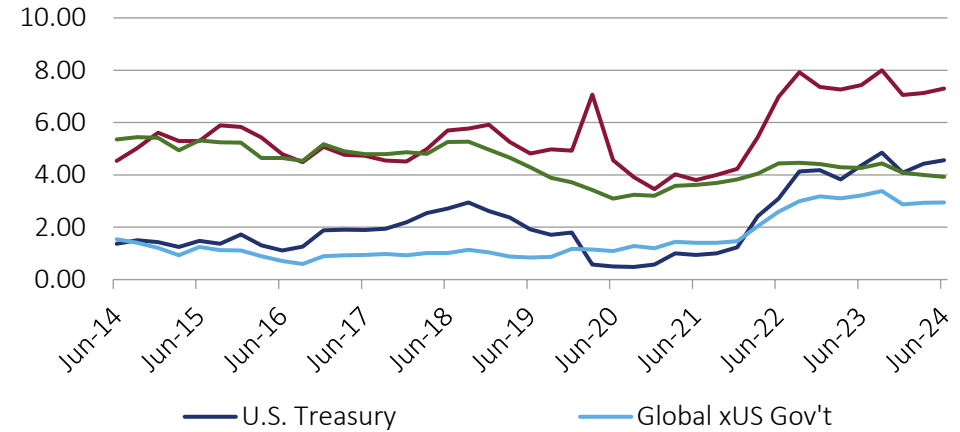
Non-U.S. Fixed Income

As of 6/30/2024	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Developed Markets						
Bloomberg Global Aggregate xUS	-2.1	-5.3	-0.7	-7.5	-3.6	-1.9
Bloomberg Global Aggregate xUS*	0.1	0.7	5.3	-0.5	0.5	2.5
Bloomberg Global Inflation Linked xUS	-2.2	-5.4	-1.6	-9.7	-3.7	-1.5
Bloomberg Global Inflation Linked xUS*	-1.4	-2.3	1.4	-4.9	-1.5	2.5
Emerging Markets (Hard Currency)						
Bloomberg EM USD Aggregate	0.7	2.2	8.0	-2.2	0.5	2.5
Emerging Markets (Foreign Currency)						
Bloomberg EM Local Currency Gov't	-0.2	-1.2	3.8	-1.3	0.7	0.5
Bloomberg EM Local Currency Gov't*	1.8	3.7	8.0	3.0	2.9	3.1
Euro vs. Dollar	-0.7	-3.0	-1.8	-3.3	-1.2	-2.4
Yen vs. Dollar	-5.9	-12.3	-10.3	-11.6	-7.7	-4.5
Pound vs. Dollar	0.2	-0.7	-0.5	-2.9	-0.1	-3.0

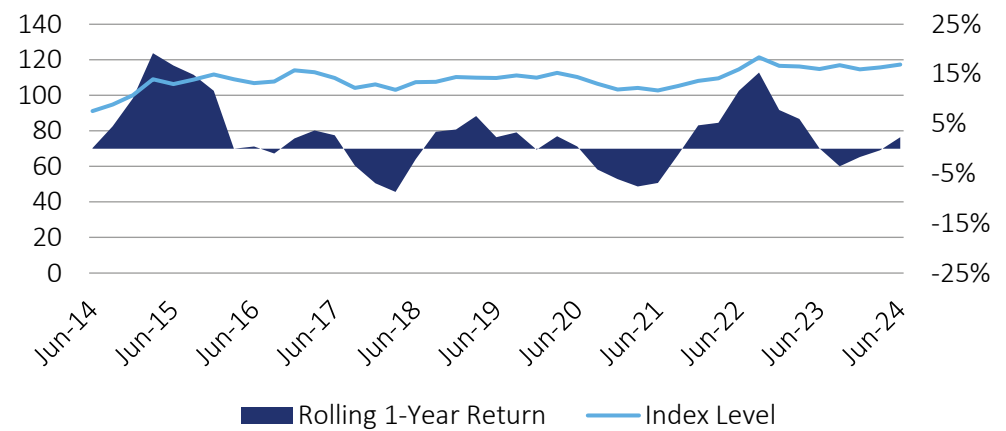
*Returns are reported in terms of local market investors, which removes currency effects.

Data Source: Bloomberg

Global Fixed Income Yield to Worst (%)

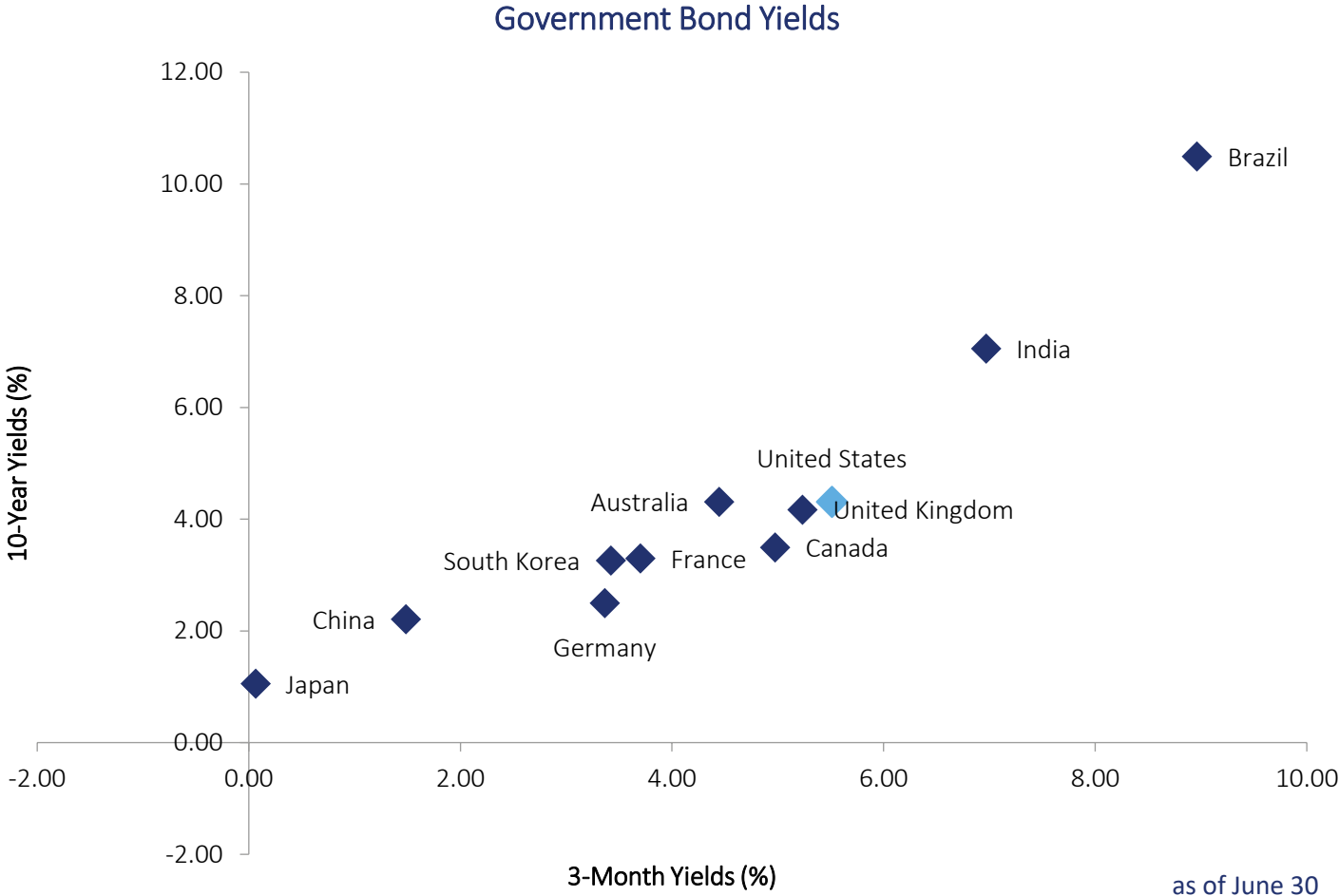


U.S. Dollar Index: Advanced Economies



Global Interest Rates

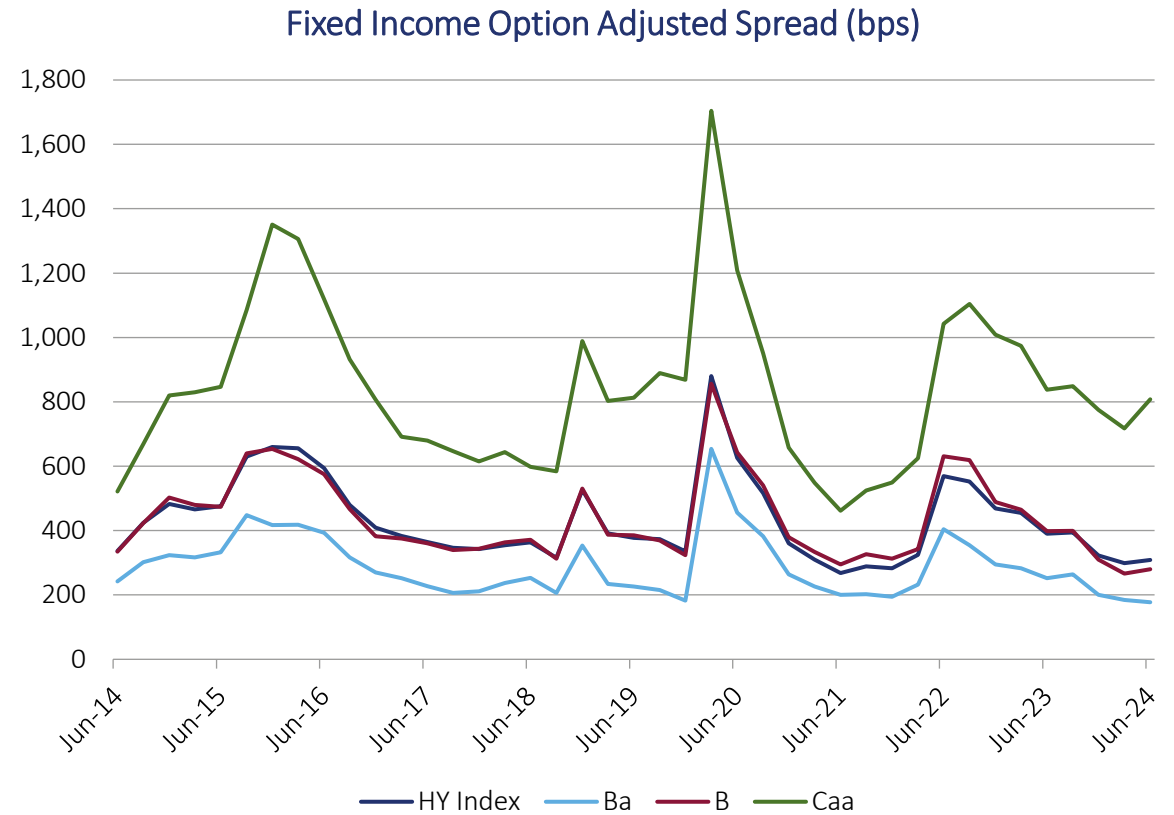
Short-term rates have turned positive in most larger countries; longer-term rates near 4.0% in the U.K. and Australia



Data Source: Bloomberg

High Yield Bond Market

As of 6/30/2024	Weight	YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield		7.9	1.1	2.6	10.4	1.6	3.9	4.3
S&P LSTA Leveraged Loan		9.2	2.1	4.1	10.8	5.9	5.2	4.2
High Yield Quality Distribution								
Ba U.S. High Yield	50.6%	6.6	1.3	2.5	9.6	1.3	4.2	4.7
B U.S. High Yield	36.6%	7.7	1.0	2.4	10.5	2.0	3.6	4.0
Caa U.S. High Yield	11.3%	12.8	0.0	2.1	11.9	1.2	3.0	3.6
Ca to D U.S. High Yield	1.5%	22.0	4.7	18.5	28.3	2.6	4.3	-2.1



Data Source: Bloomberg

CalPERS PERF Income – Performance

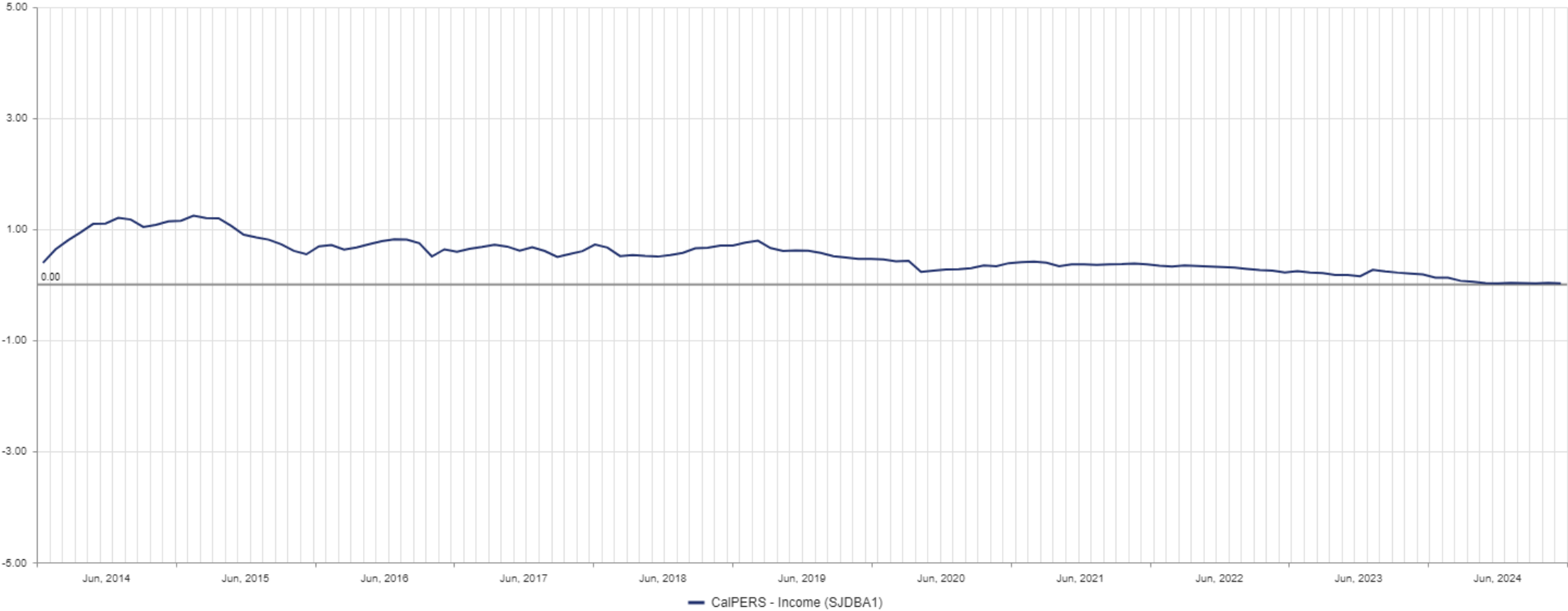
As of June 30, 2024

	Asset Value						VaR	5 Year Ratios	
	(\$Billion)	Quarter	1 Year	3 Year	5 Year	10 Year	(\$Billion)	Sharpe	Info
INCOME*	\$ 148.9	-0.1%	3.7%	-3.9%	-0.1%	2.0%	\$ 8.0	-0.2	0.8
<i>Income Policy Benchmark</i>		-0.2%	3.6%	-3.9%	-0.2%	1.6%		-0.3	0.0
Treasury*	\$ 36.6	-1.3%	-3.6%	-8.6%	-3.5%	0.3%	\$ 4.9	-0.4	-0.2
<i>Custom Bloomberg Government</i>		-1.3%	-3.6%	-8.6%	-3.4%	0.3%		-0.4	0.0
Mortgage-Backed Securities	\$ 26.7	0.3%	2.7%	-2.7%	-0.4%	1.6%	\$ 0.0	-0.4	0.6
<i>Custom Bloomberg Mortgage</i>		0.1%	2.4%	-2.8%	-0.6%	1.0%		-0.4	0.0
Investment Grade Credit	\$ 32.1	-1.1%	3.1%	-5.8%	-0.1%	2.7%	\$ 3.2	-0.2	0.5
<i>Custom Bloomberg Corp ex Sov</i>		-1.1%	3.2%	-5.6%	-0.3%	2.4%		-0.2	0.0
High Yield	\$ 26.9	1.3%	9.9%	1.8%	3.5%	--%	\$ 2.7	0.1	0.1
<i>Custom Bloomberg High Yield</i>		1.2%	9.9%	1.8%	3.5%	--%		0.1	0.0
EM Sovereign	\$ 26.7	0.4%	7.5%	--%	--%	--%	\$ 1.4	N/A	N/A
<i>Custom JPM EMBIG Diversified</i>		0.4%	7.0%	--%	--%	--%		N/A	N/A

* The CalPERS asset values shown include derivative exposure.

CalPERS PERF Income – Rolling Excess Return

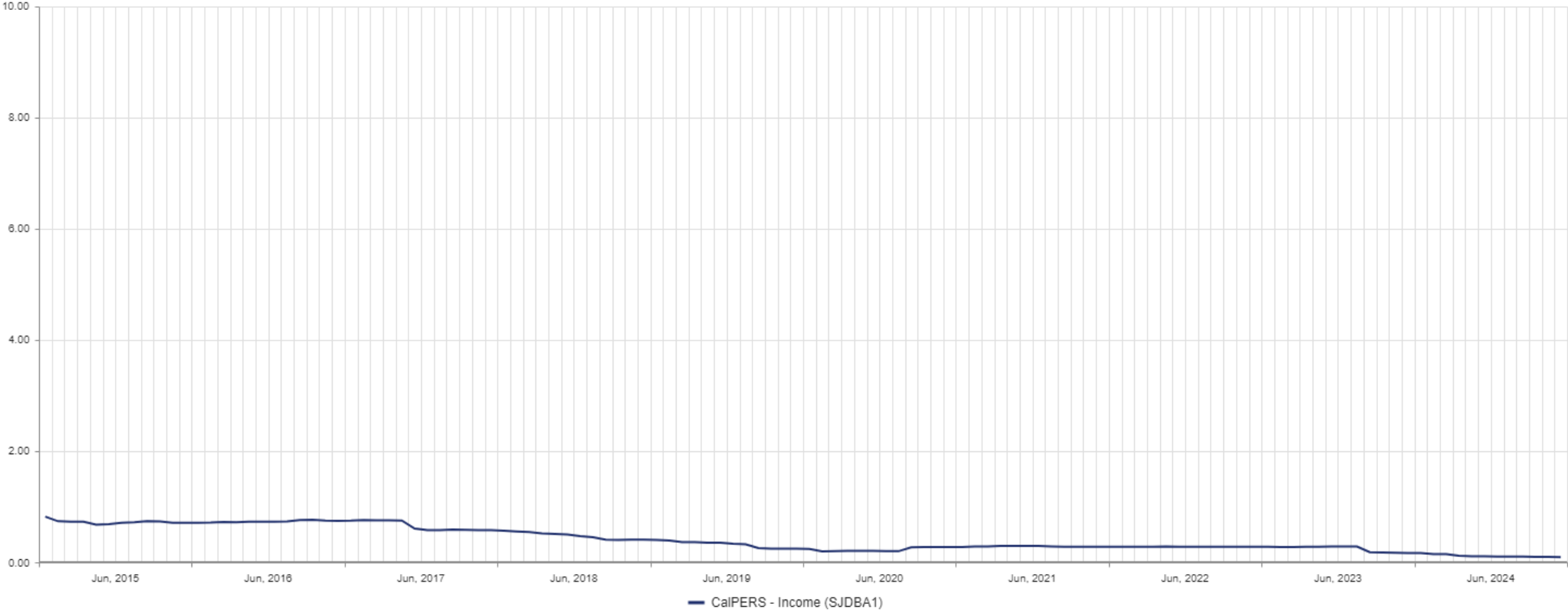
CalPERS - Income (SJDBA1)
36-Month Rolling Geometric Excess Return: April 30, 2014 - June 30, 2024
Benchmark: Income Policy Benchmark



* Monthly data; Net of Investment Management Fees

CalPERS PERF Income – Rolling Tracking Error

CalPERS - Income (SJDBA1)
36-Month Rolling Geometric Excess Standard Deviation of Return: June 30, 2014 - June 30, 2024
Benchmark: Income Policy Benchmark



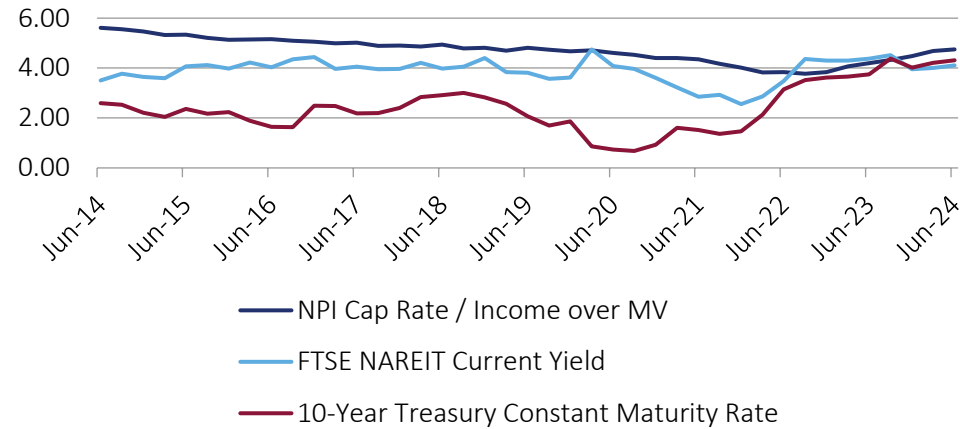
* Monthly data; Net of Investment Management Fees

Real Assets

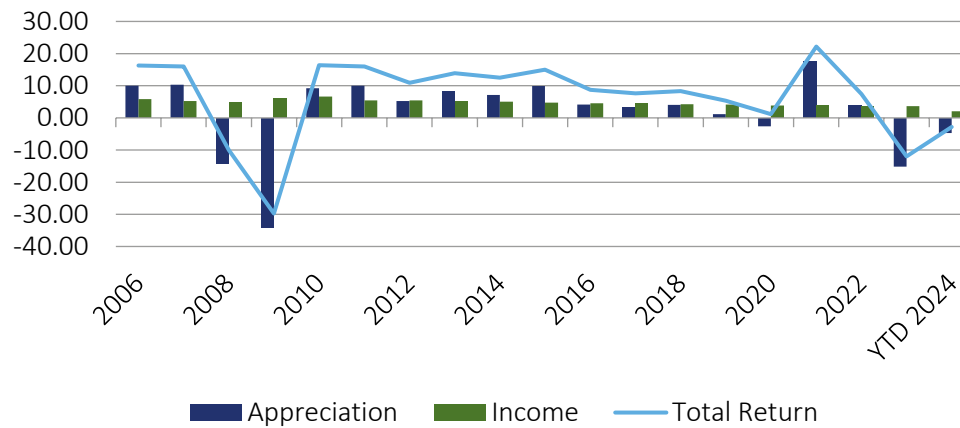
As of 6/30/2024	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg U.S. TIPS	0.8	0.7	2.7	-1.3	2.1	1.9
Bloomberg Commodity Index	2.9	5.1	5.0	5.7	7.2	-1.3
Bloomberg Gold Index	4.9	12.7	20.6	9.1	9.4	5.0
Wilshire Global RESI Index	-1.2	-1.3	8.7	-1.1	2.1	4.3
NCREIF ODCE Fund Index	-0.4	-2.8	-9.3	1.9	3.2	6.4
NCREIF Timberland Index	1.7	3.9	9.9	11.0	7.2	5.9
FTSE Global Core Infrastructure	1.0	2.8	5.3	3.0	3.9	5.6
Alerian Midstream Energy	5.4	16.1	26.7	16.5	11.3	3.7
Bitcoin	-12.6	45.6	103.7	21.4	40.3	57.8

Data Sources: Bloomberg, National Council of Real Estate Investment Fiduciaries

Real Estate Valuation (%)

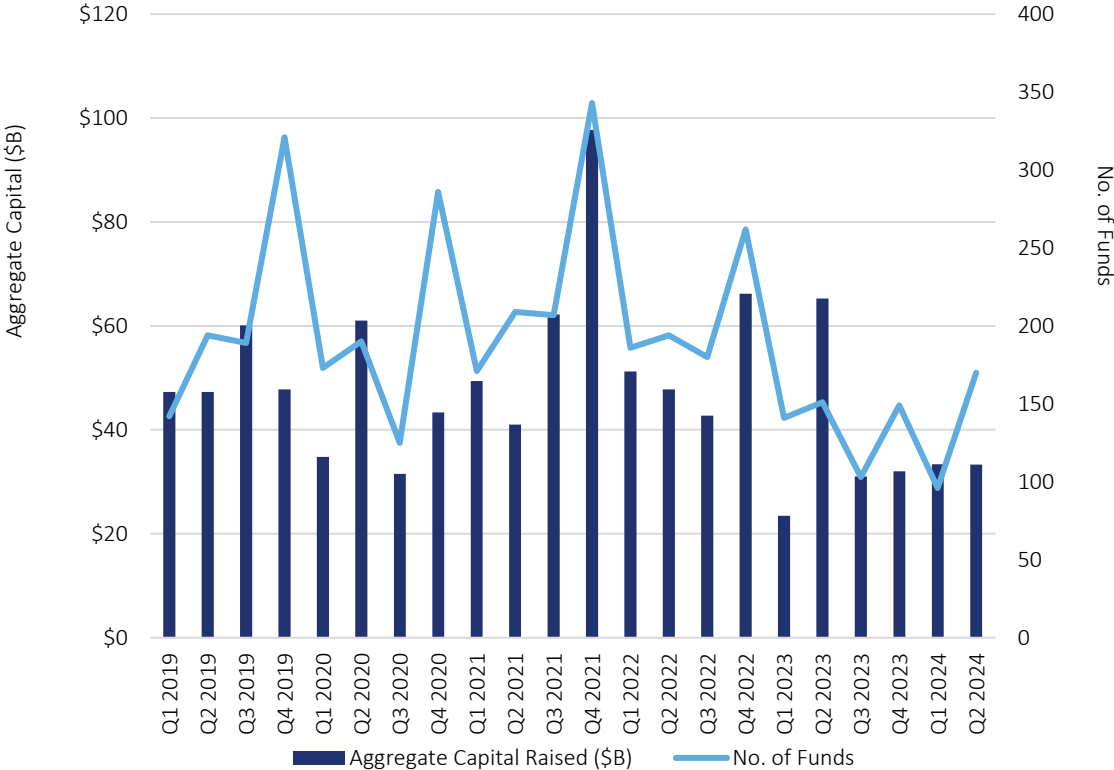


NCREIF ODCE Fund Index Return (%)

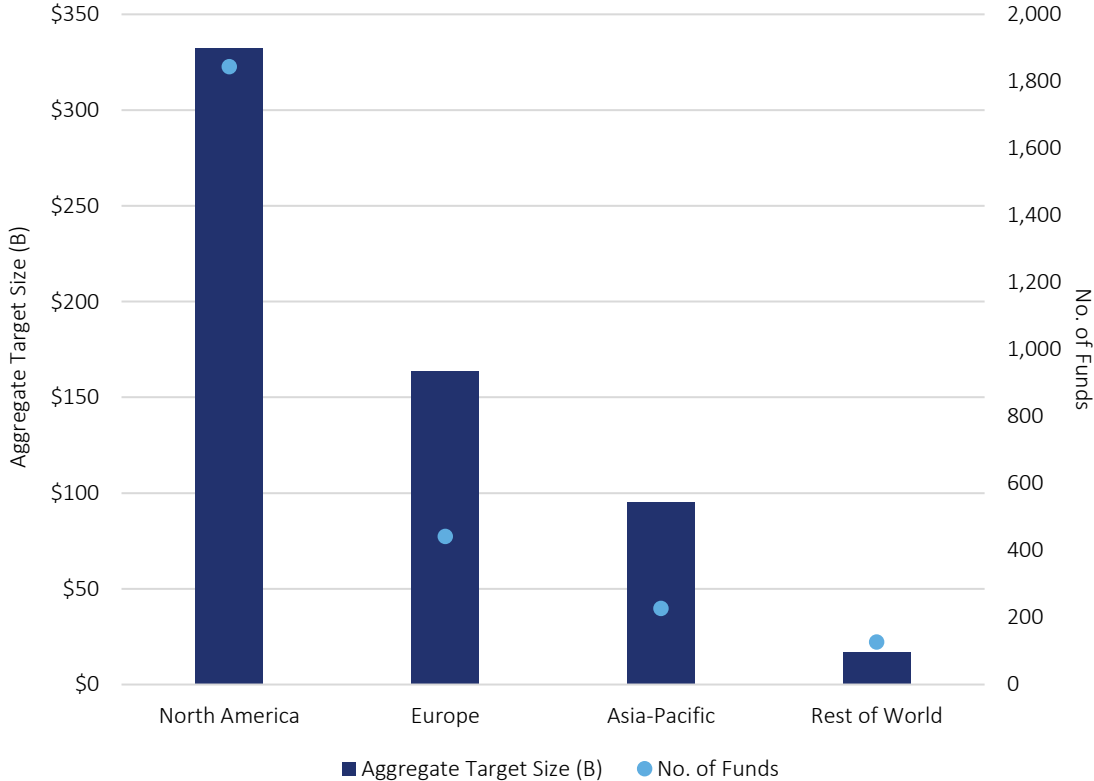


Private Real Assets – Real Estate Fundraising Activity

Global Real Estate Fundraising

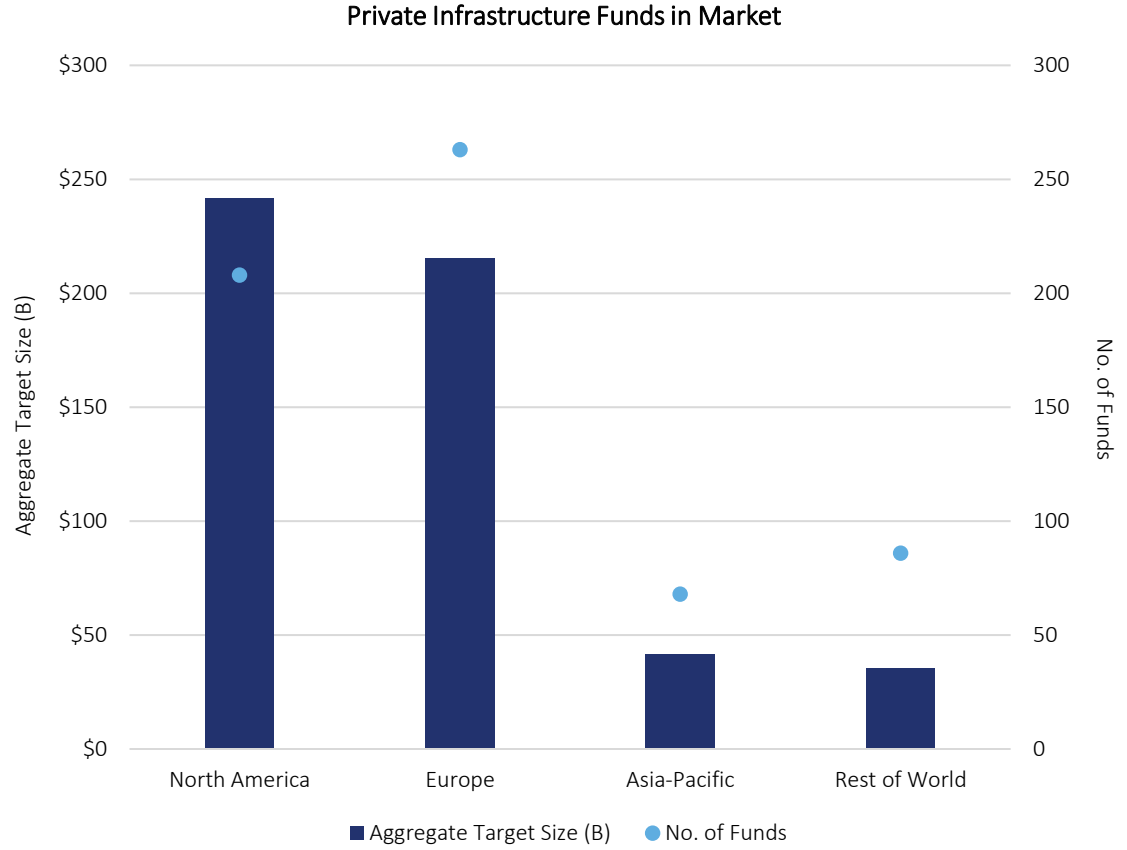
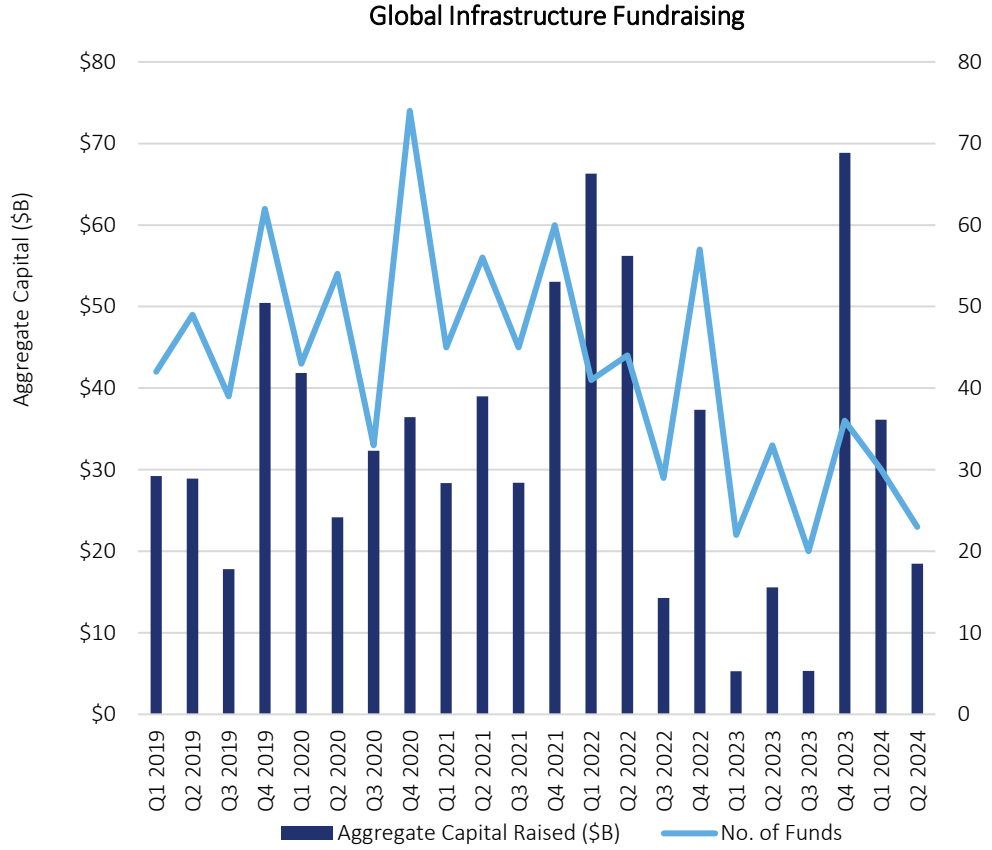


Private Real Estate Funds in Market



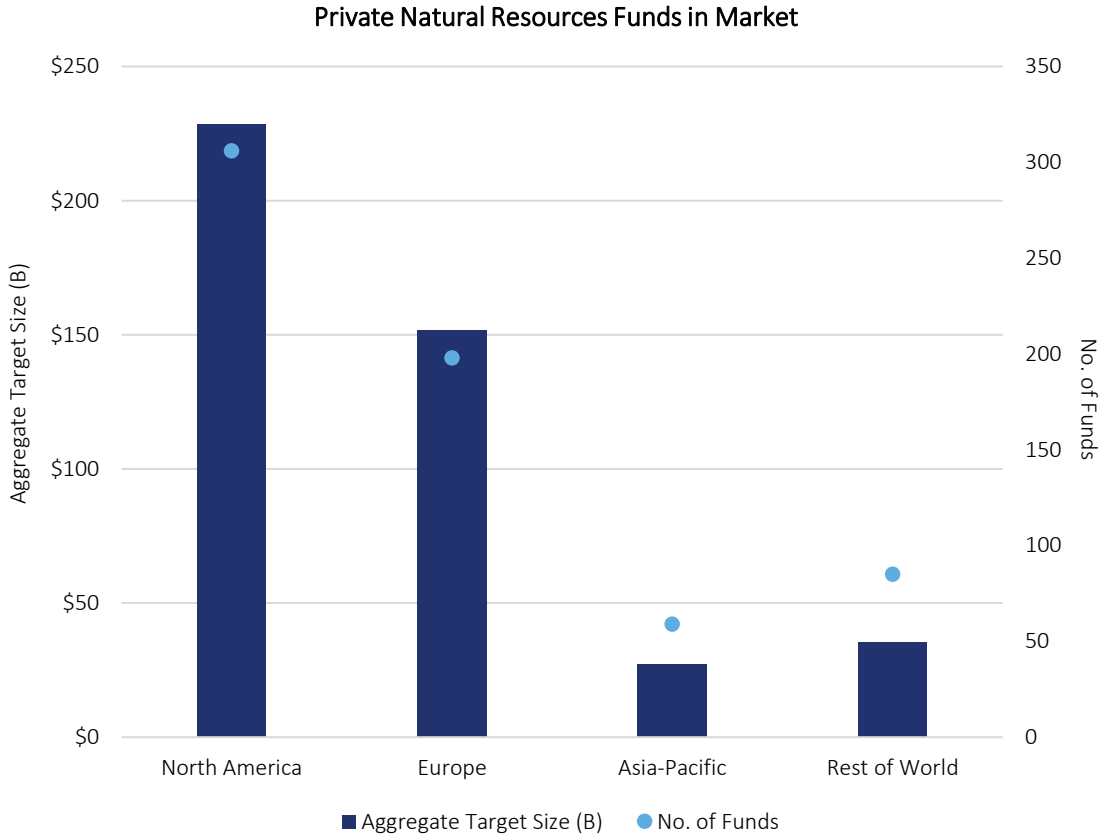
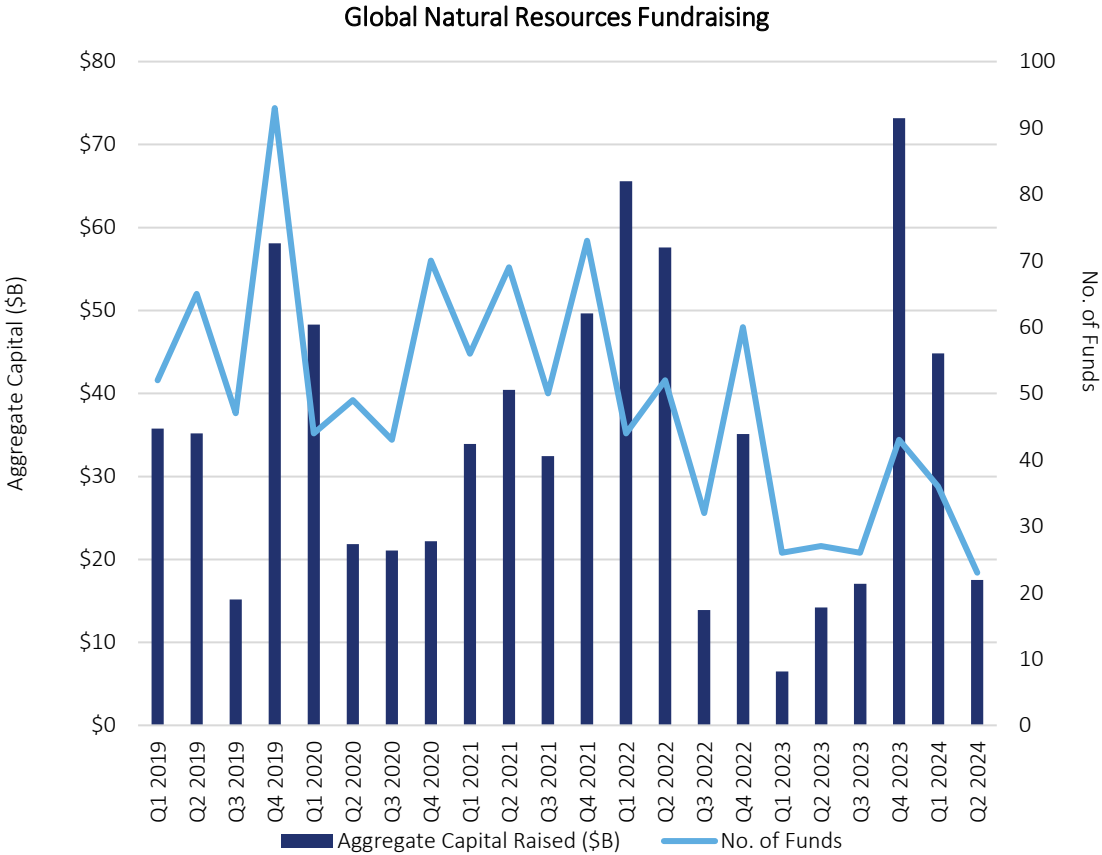
Source: Preqin as of July 24, 2024.

Private Real Assets – Infrastructure Fundraising



Source: Preqin as of July 24, 2024.

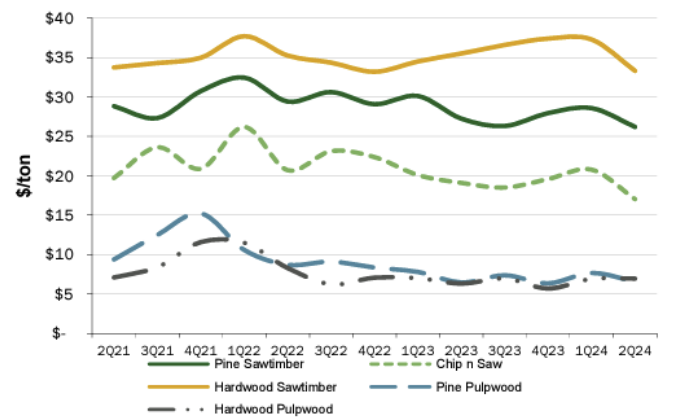
Private Real Assets – Natural Resources Fundraising



Source: Preqin as of July 24, 2024.

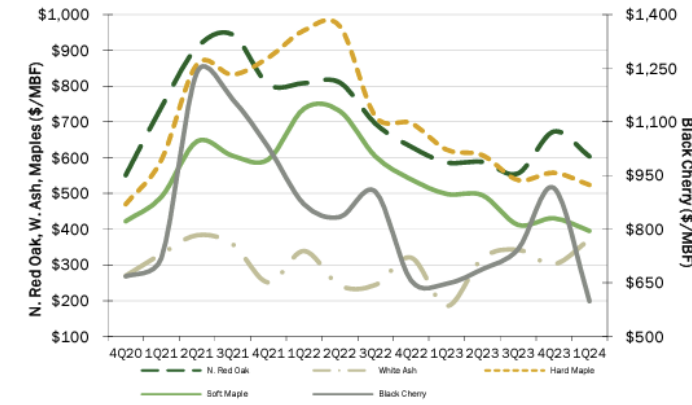
Timber Investments

Southeastern Timber Prices



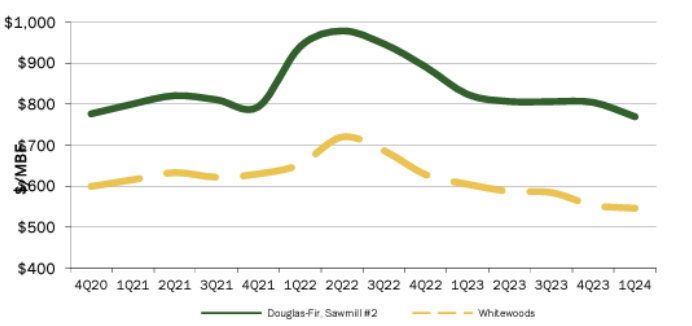
Source: Forest2Market®

Northeastern Hardwood Timber Prices



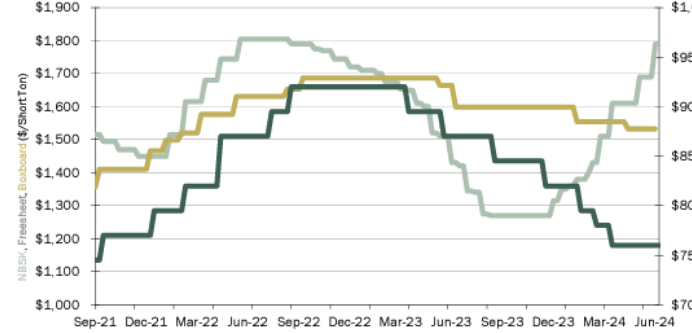
Source: Pennsylvania Woodlands Timber Market Report - Northwest Region

Pacific Northwest Timber Prices



Source: Fastmarkets RISI - Log Lines®

Pulp and Paper



Source: Fastmarkets RISI

Data Sources: Forest Investment Associates

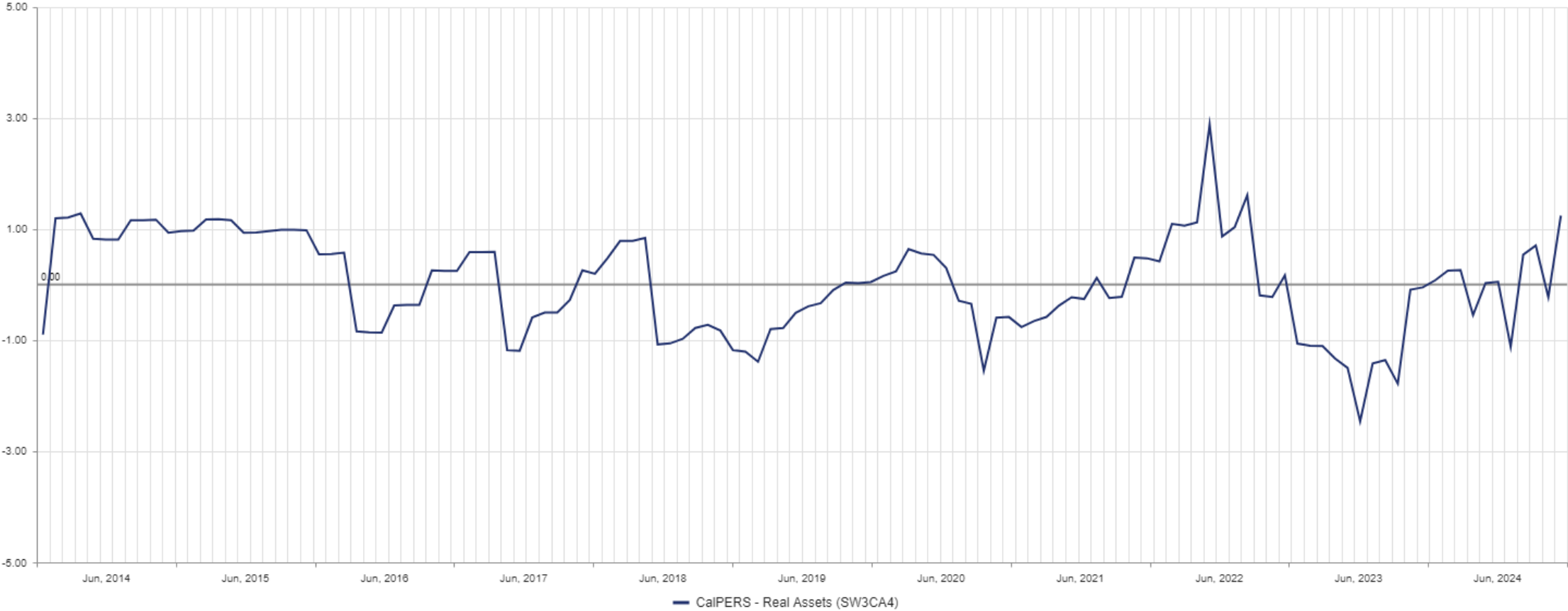
CalPERS PERF Real Assets – Performance

As of June 30, 2024

	Asset Value						VaR	5 Year Ratios	
	(\$Billion)	Quarter	1 Year	3 Year	5 Year	10 Year	(\$Billion)	Sharpe	Info
REAL ASSETS	\$ 66.4	-0.8%	-7.1%	3.7%	3.7%	5.6%	\$ 9.4	0.3	0.2
<i>Real Assets Policy Benchmark</i>		-2.5%	-11.9%	2.5%	2.5%	5.5%		0.0	0.0
Real Estate	\$ 49.6	-1.9%	-10.8%	2.3%	2.9%	5.2%	\$ 7.0	0.1	0.0
<i>CalPERS Custom Real Estate Benchmark</i>		-2.5%	-11.9%	2.5%	2.5%	5.8%		0.1	0.0
Infrastructure	\$ 16.5	2.6%	6.1%	8.4%	6.5%	9.5%	\$ 2.3	0.8	0.4
<i>CalPERS Custom Infrastructure Benchmark</i>		-2.5%	-11.9%	2.5%	2.5%	4.1%		0.1	0.0
Forestland	\$ 0.3	-0.5%	2.0%	6.1%	3.9%	0.0%	\$ 0.0	0.3	0.2
<i>CalPERS Custom Forestland Benchmark</i>		-2.5%	-11.9%	2.5%	2.5%	4.0%		0.1	0.0

CalPERS PERF Real Assets – Rolling Excess Return

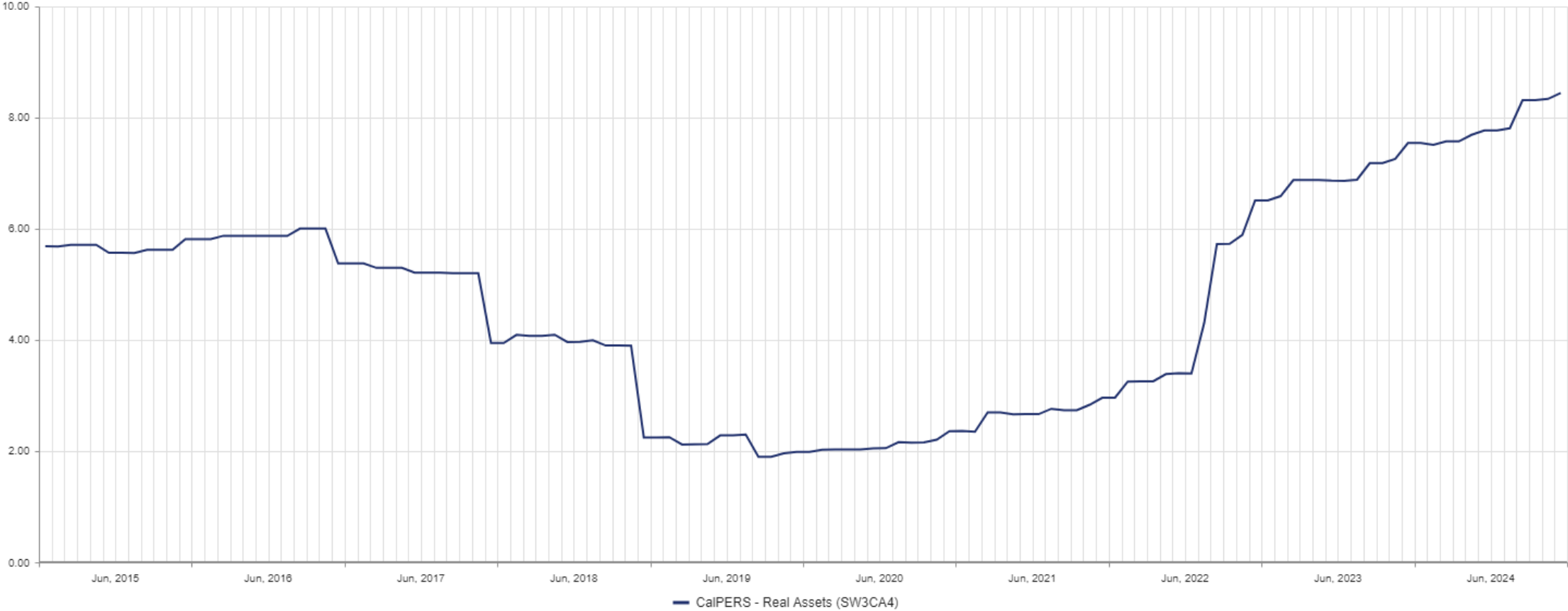
CalPERS - Real Assets (SW3CA4)
36-Month Rolling Geometric Excess Return: April 30, 2014 - June 30, 2024
Benchmark: Real Assets Policy Benchmark



* Monthly data; Net of Investment Management Fees

CalPERS PERF Real Assets – Rolling Tracking Error

CalPERS - Real Assets (SW3CA4)
36-Month Rolling Geometric Excess Standard Deviation of Return: June 30, 2014 - June 30, 2024
Benchmark: Real Assets Policy Benchmark



* Monthly data; Net of Investment Management Fees

CalPERS PERF Private Debt, Other Trust Level – Performance

As of June 30, 2024

	Asset Value (\$Billion)	Quarter	1 Year	3 Year	5 Year	10 Year	VaR (\$Billion)	5 Year Ratios	
								Sharpe	Info
PRIVATE DEBT	\$ 13.9	5.2%	17.0%	-.-%	-.-%	-.-%		N/A	N/A
<i>Private Debt Policy Benchmark</i>				-.%	-.%	-.%		N/A	N/A
OTHER TRUST LEVEL									
	\$ 11.9								
LLER	\$ 10.6	1.9%	8.7%	4.6%	3.8%	-.-%	\$ 0.0	0.5	0.5
<i>Custom LLER Benchmark</i>		1.4%	5.6%	3.3%	2.3%	-.-%		0.2	0.0
Opportunistic Strategies	\$ 0.2	1.2%	11.1%	5.8%	-.-%	-.-%	\$ 0.0	N/A	N/A
<i>Custom Opportunistic Strategies Benchmark</i>		1.7%	7.0%	7.0%	-.-%	-.-%		N/A	N/A
Tactical Fixed Income	\$ 0.8	1.9%	4.5%	-6.2%	-.-%	-.-%	\$ 0.1	N/A	N/A
<i>Custom Tactical Fixed Income Benchmark</i>		1.4%	3.7%	-6.3%	-.-%	-.-%		N/A	N/A
Trust Level Portfolio Management	\$ 0.1	NM	NM	NM	NM	NM		N/A	N/A
Other Perf	\$ 0.2	NM	NM	NM	NM	NM		N/A	N/A

CalPERS PERF Total Fund Financing – Performance

As of June 30, 2024

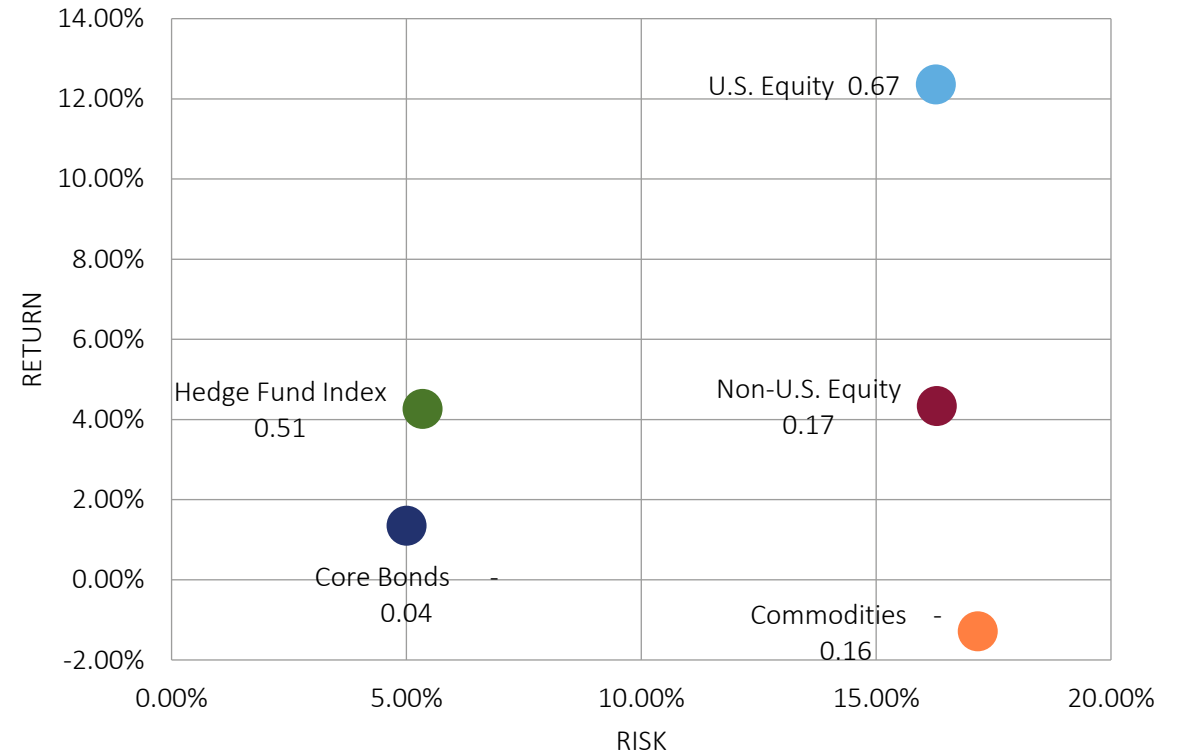
	Asset Value							VaR	5 Year Ratios	
	(\$Billion)	Quarter	1 Year	3 Year	5 Year	10 Year	(\$Billion)	Sharpe	Info	
TOTAL FUND FINANCING	\$ (27.0)	--%	--%	--%	--%	--%		N/A	N/A	
Strategic	\$ (15.0)	--%	--%	--%	--%	--%		N/A	N/A	
Active	\$ (11.9)	--%	--%	--%	--%	--%		N/A	N/A	

Hedge Fund Performance

As of 6/30/2024	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Credit Suisse Hedge Fund Index	1.5	6.9	11.0	5.3	6.2	4.3
Event Driven	1.5	5.8	11.0	3.4	5.6	2.9
Global Macro	-2.4	3.9	5.0	5.6	6.5	4.8
Long/Short Equity	3.5	10.5	15.5	5.9	7.3	5.3
Multi-Strategy	2.4	6.8	13.4	6.2	6.1	5.3
FT Wilshire 5000	3.3	13.6	23.2	8.4	14.4	12.4
MSCI ACWI ex-US (\$G)	1.2	6.0	12.2	1.0	6.1	4.3
Bloomberg Aggregate	0.1	-0.7	2.6	-3.0	-0.2	1.3
Bloomberg Commodity Index	2.9	5.1	5.0	5.7	7.2	-1.3

Data Sources: Bloomberg

10-Year Risk/Return



Note: Sharpe Ratio is included for each market segment

Asset Class Performance

Asset Class Returns - Best to Worst

2019	2020	2021	2022	2023	2024 YTD	Annualized 5-Year as of 6/24
U.S. Equity 31.0%	U.S. Equity 20.8%	REITs 46.2%	Commodities 16.1%	U.S. Equity 26.1%	U.S. Equity 13.6%	U.S. Equity 14.4%
REITs 25.8%	Emrg Mrkts 18.7%	Commodities 27.1%	T-Bills 1.3%	Developed 18.9%	Emrg Mrkts 7.7%	Developed 7.0%
Developed 22.7%	U.S. TIPS 11.0%	U.S. Equity 26.7%	High Yield -11.2%	REITs 16.1%	Developed 5.7%	Commodities 6.4%
Emrg Mrkts 18.9%	Developed 8.3%	Developed 11.8%	U.S. TIPS -11.8%	High Yield 13.4%	T-Bills 1.3%	REITs 4.0%
High Yield 14.3%	Core Bond 7.5%	U.S. TIPS 6.0%	Core Bond -13.0%	Emrg Mrkts 10.3%	High Yield 1.1%	High Yield 3.9%
Core Bond 8.7%	High Yield 7.1%	High Yield 5.3%	Developed -14.0%	Core Bond 5.5%	U.S. TIPS 0.8%	Emrg Mrkts 3.5%
U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	U.S. Equity -19.0%	T-Bills 5.1%	Core Bond 0.1%	T-Bills 2.2%
Commodities 7.7%	Commodities -3.1%	Core Bond -1.5%	Emrg Mrkts -19.7%	U.S. TIPS 3.9%	REITs -0.3%	U.S. TIPS 2.1%
T-Bills 2.3%	REITs -7.9%	Emrg Mrkts -2.2%	REITs -26.8%	Commodities -1.3%	Commodities -2.5%	Core Bond -0.2%

Data Sources: Bloomberg

Note: Developed asset class is developed equity markets ex-U.S., ex-Canada

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