



# Investment Performance Measurement



San Bernardino County Employees' Retirement Association

March 2026

# Agenda

March 2026

Today we will explore:

- Performance Monitoring
- Asset allocation
- Performance Measurement and Methods of Calculating Performance
- Benchmarking and Excess Returns
- Performance Attribution



Performance monitoring is a critical input into the due diligence process which drives investment decisions

# Performance Monitoring



Setting Asset Allocation Policy,  
Investment Objectives and  
Guidelines



Performance Measurement

- What was achieved?



Performance Comparisons

- How did we do compared to our peers?
- How does my return compare to my benchmark?



Performance Evaluation

- Where did these returns come from?
- Why did my portfolio over/under perform its benchmark?
- How much risk did we take to get these results?

# Asset Allocation

Monthly Performance Fund SBCERA Period DEC - 2025 Hierarchy Standard Performance Return Type Net Mgr

Performance Summary Custom

Name	Ending Market Value	% of Total Assets	1 Month	3 Month	Fiscal YTD	1 Year	3 Year	5 Year	10 Year	Since Incept
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>F TOTAL PLAN PLUS OVERLAY PROGRAM                             <ul style="list-style-type: none"> <li>SBCERA TOTAL PLAN INDEX</li> </ul> </li> <li>F TOTAL PLAN PLUS BETA OVERLAY                             <ul style="list-style-type: none"> <li>TOTAL PLAN INDEX II</li> </ul> </li> </ul> </li> <li>F TOTAL PLAN                     <ul style="list-style-type: none"> <li>SBCERA TOTAL PLAN INDEX</li> </ul> </li> <li>&gt; F TOTAL EQUITY                     <ul style="list-style-type: none"> <li>TOTAL EQUITY BENCHMARK</li> </ul> </li> <li>&gt; F TOTAL FIXED INCOME                     <ul style="list-style-type: none"> <li>TOTAL FIXED INCOME BENCHMARK</li> </ul> </li> <li>&gt; F TOTAL REAL ESTATE                     <ul style="list-style-type: none"> <li>NCREIF PROPERTY INDEX 1 QTR LAG</li> </ul> </li> <li>&gt; F TOTAL VENTURE CAPITAL &amp; PRIVATE EQUITY                     <ul style="list-style-type: none"> <li>TOTAL VC &amp; PVT EQUITY BM</li> </ul> </li> <li>&gt; F TOTAL REAL ASSETS                     <ul style="list-style-type: none"> <li>TOTAL REAL ASSETS BENCHMARK</li> </ul> </li> <li>&gt; F ALPHA POOL                     <ul style="list-style-type: none"> <li>BBG BARC Agg Bd</li> </ul> </li> <li>&gt; F TOTAL CASH/LIQUIDITY                     <ul style="list-style-type: none"> <li>ICE BofA US 3-Month Treasury Bill</li> </ul> </li> <li>&gt; F OVERLAY PORTFOLIO                     <ul style="list-style-type: none"> <li>SBCERA - TOTAL PLAN INDEX</li> </ul> </li> <li>F RUSSELL - IR HEDGING                     <ul style="list-style-type: none"> <li>BBG BARC Agg Bd</li> </ul> </li> </ul>	17,232,930,747.72	100.00%	0.410	1.542	4.796	9.745	9.220	8.148	8.395	8.788
			0.496	1.781	6.159	13.945	11.700	5.438	7.059	
	17,204,445,386.74	99.83%	0.416	1.627	4.936	9.703	9.380	8.369	8.778	6.372
	16,381,789,985.49	95.06%	0.523	1.707	5.149	9.942	9.657	8.742	8.157	8.651
			0.496	1.781	6.159	13.945	11.700	5.438	7.059	
	3,615,627,806.18	20.98%	0.759	3.417	10.300	20.550	17.551	8.848	9.478	8.655
			1.286	3.499	12.174	23.890	20.161	10.162	11.587	
	4,150,487,972.87	24.08%	0.722	1.361	4.886	8.600	10.344	8.442	7.096	8.570
			0.414	1.037						
	670,908,972.20	3.89%	(2.118)	(1.271)						68
			1.189	1.189						38
	3,458,185,914.37	20.07%	1.205	2.490						166
			(0.020)	2.403						740
	928,071,485.84	5.39%	(0.793)	(0.790)						77
			(0.336)	0.693						
	2,387,285,142.96	13.85%	0.223	0.888						79
			(0.148)	1.100						
	1,145,707,277.12	6.65%	0.013	0.557						59
			0.349	0.974						
	851,140,762.17	4.94%	(1.731)	(1.548)						07
			0.496	1.781						
	25,515,413.94	0.15%	12.880	14.953	(9.817)	(20.177)	(9.298)	(38.818)	(2.785)	(10.165)
			(0.148)	1.100	3.153	7.301	4.662	(0.364)	2.008	

Strategic Asset Allocation sets the long-term target weights to broad asset classes (equities, fixed income, alternatives, cash) based on capital market assumptions (expected returns, volatilities, correlations) designed to meet objectives across market cycles.

Asset allocations shift over time due to gains and losses on investments, plan contributions and distributions, and rebalancing of investments within the plan.

# Performance Measurement: Purpose and Context

Performance Measurement is one of the first steps in the Performance Evaluation process. It helps clients answer questions as to how well an investment portfolio does and how skillful the portfolio manager is.



**Transparency and Objective Evaluation:** Performance measurement provides a clear framework to distinguish market effects from manager-driven results, enhancing transparency.



**Consistent Comparison Across Strategies:** It enables consistent analysis of results across mandates and timeframes, reducing bias from cash-flow patterns or market conditions.



**Support for Governance and Decision Making:** Performance metrics assist boards in oversight, risk assessment, and alignment with long-term policy and fiduciary goals.



**Accountability and Common Language:** Consistent measurement fosters accountability by creating a shared language among staff, managers, and trustees.

# What Does Performance Measurement Tell Us?

How well investment portfolios did & will do?

1

What were the consequences of investment decisions?

2

How did the investment portfolio produce its observed performance?

3

What progress has been made toward achieving clients' investment goals?

4

How skillful is a portfolio manager?

5

# Basic Requirements For Accurate Performance Reporting



Knowledge of Methodology to be applied



Timely availability of accurate input data



Availability of Benchmark data/returns



Availability of Market Data

# Performance Measurement: Rate of Return

## Rate of Return

The main indicator of portfolio performance and can be calculated using different methodologies. There are various industry-standard methodologies, across all asset types with full drill-down from the aggregate to the security level.

# Portfolio Return

Portfolio return refers to the gain or loss realized by an investment portfolio containing multiple investments.



The aim is to deliver returns based on the stated objectives of the investment strategy, as well as the risk tolerance targeted by the portfolio



The primary driver in returns are gains and losses from change in security prices along with income (dividends and interest) generated from each investment in the portfolio



Expenses for managing the investment strategy have a negative impact on the return, it is common to see performance reporting gross and net of fees



Returns are presented in percentage terms and are annualized for all periods greater than one year

The convergence of private and public markets have driven a need for consistency and transparency while balancing asset class specific approaches

# Time-weighted vs. Money-weighted Returns

The two main types of performance returns are time-weighted and money-weighted. Both approaches use the same **Return Methodologies** underlying valuations and transactions but have different purposes when evaluating investment performance.

# Time-weighted Returns (TWR): Use Cases



**Isolating Manager Performance:** TWR isolate manager skill by removing the effects of investor cash flows, ensuring fair performance evaluation.



**Ensuring Comparability:** TWR enables fair comparison of managers with different portfolio cash flow patterns, such as contributions versus withdrawals.



**Governance and Reporting:** Boards and committees use TWR for evaluation, benchmarking, and transparent public reporting in investment oversight.



**Suitability for Liquid Strategies:** TWR is essential for daily liquid strategies like equities and fixed income to avoid distortions from frequent cash flows.

# Money-weighted Returns (MWR): Use Cases



**Measures Investor Return:** MWR incorporates the timing and amount of cash flows, reflecting actual economic outcomes sensitive to funding decisions. Some cash flows are investor controlled; others are not.



**Applications in Private Markets:** MWR is relevant for private equity and real estate, capturing capital calls, distributions, and market timing effects.



**Investor Outcome and Governance Use:** Governance bodies use MWR to evaluate strategic allocations and total fund results over long horizons.



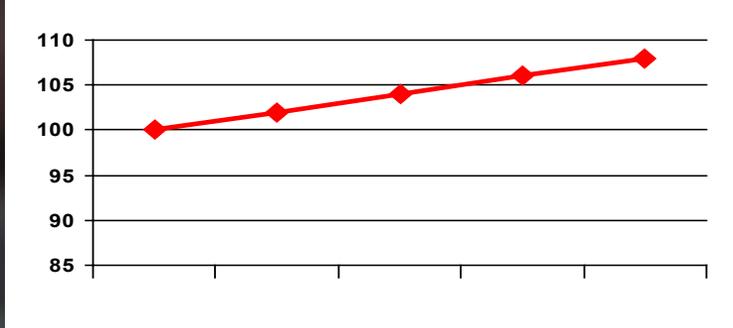
**Total Fund Performance Assessment:** MWR incorporates all cash flows for holistic total fund evaluation and comparison to actuarial assumptions.

# Impact of Cash flow in Steadily Rising (or Falling) Market

Size and timing of cash flows have minimal effect on Money-Weighted Return Also, minimal effect in a flat market

<u>TWR</u>			
	May 31	Market Value	\$100,000
4.0%	Jun 15	Market Value	104,000
		<u>Contribution</u>	<u>10,000</u>
		Total Mkt Val	114,000
3.8%	Jun 30	Market Value	\$118,385
8.0%		Money-Wgt Rtn	8.0%

<u>TWR</u>			
	May 31	Market Value	\$122,000
-5.7%	Jun 10	Market Value	115,000
		<u>Contribution</u>	<u>10,000</u>
		Total Mkt Val	125,000
-5.6%	Jun 30	Market Value	\$118,000
-11.0%		Money-Wgt Rtr	-10.9%



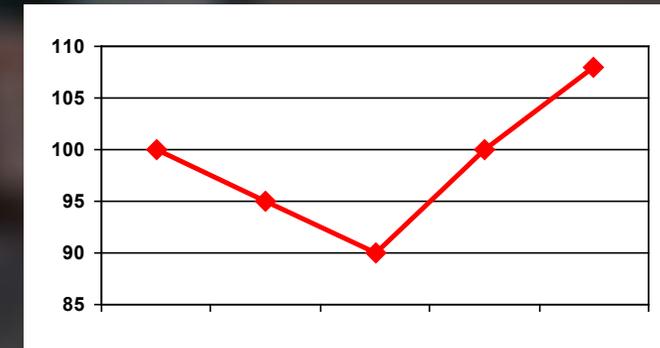
# Impact of Cash Flow in Volatile Market

Large cash flows may have significant effect on Money-Weighted Return

Minimal impact from small cash flows

TWR	Date	Market Value	Value
	May 31	Market Value	\$100,000
-10.0%	Jun 15	Market Value	90,000
		<u>Contribution</u>	<u>10,000</u>
		Total Mkt Val	100,000
20.0%	Jun 30	Market Value	\$120,000
8.0%		<b>Money-Wgt Rtr</b>	<b>9.5%</b>

TWR	Date	Market Value	Value
	May 31	Market Value	\$100,000
15.0%	Jun 20	Market Value	115,000
		<u>Contribution</u>	<u>10,000</u>
		Total Mkt Val	125,000
-4.0%	Jun 30	Market Value	\$120,000
10.4%		<b>Money-Wgt Rtr</b>	<b>9.7%</b>

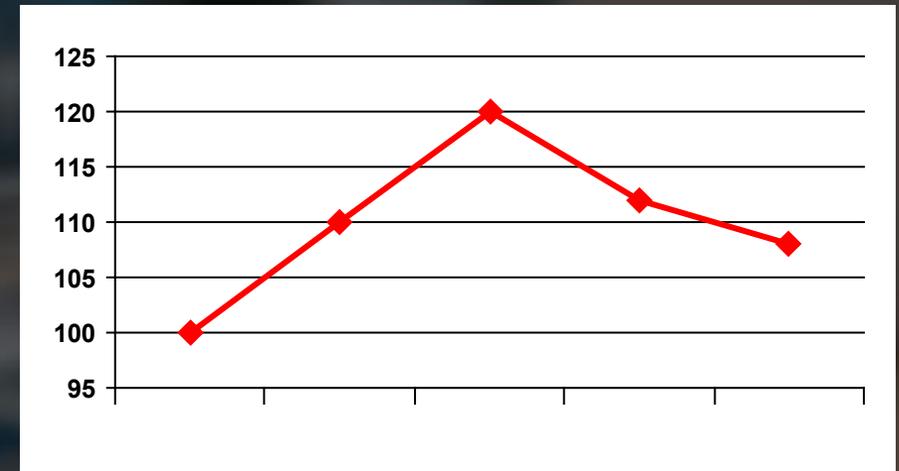


# Example of Money-Weighted vs. Time-Weighted

## New Participants in 401K Plan

- Told that fund was up 8% for year
  - BUT they lost money!

	<u>TWR</u>			<u>New Participant</u>	<u>Existing Participant</u>
1st Half	20.0%	Dec 31	Market Value	\$100	\$10,000
		Jun 30	Market Value	120	12,000
			<u>Contribution</u>	<u>100</u>	<u>100</u>
			<u>Total Mkt Val</u>	<u>220</u>	<u>12,100</u>
2nd Half	-10.0%	Dec 31	Market Value	\$198	\$10,890
Year	8.0%		<u>Money-Wgt Rtn</u>	<u>-1.3%</u>	<u>7.9%</u>



# Time Weighted or Money Weighted... The case for both

Money Weighted vs. the Time Weighted Return is a tie for private markets' performance as each has its uses based on audience and type of funds.



## Benefits and uses of Money Weighted

- Preferred method for private equity and other close-ended funds where the manager controls cash flow timing
- Accommodates less frequent valuations
- Preferred method for comparison to actuarial assumptions (GASB 67)



## Benefits and uses of Time Weighted

- Aligns with the methodology of public markets and provides a holistic consistent methodology
- Preferred measure for open-ended real estate funds since investors influence cash flow timing
- Reflects the manager's ability to execute on a strategy, resulting in better comparability across managers regardless of client instructed cash flows
- Well known real estate benchmarks (NCREIF) use this methodology

# SBCERA Performance

Monthly Performance Fund SBCERA Period DEC - 2025 Hierarchy Standard Performance Return Type Net Mgr

Performance Summary Custom

Name	Ending Market Value	% of Total Assets	1 Month	3 Month	Fiscal Yr						
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>F TOTAL PLAN PLUS OVERLAY PROGRAM                             <ul style="list-style-type: none"> <li>SBCERA TOTAL PLAN INDEX</li> </ul> </li> <li>F TOTAL PLAN PLUS BETA OVERLAY                             <ul style="list-style-type: none"> <li>TOTAL PLAN INDEX II</li> </ul> </li> <li>F TOTAL PLAN                             <ul style="list-style-type: none"> <li>SBCERA TOTAL PLAN INDEX</li> <li>TOTAL EQUITY                                     <ul style="list-style-type: none"> <li>TOTAL EQUITY BENCHMARK</li> </ul> </li> <li>TOTAL FIXED INCOME                                     <ul style="list-style-type: none"> <li>TOTAL FIXED INCOME BENCHMARK</li> </ul> </li> <li>TOTAL REAL ESTATE                                     <ul style="list-style-type: none"> <li>NCREIF PROPERTY INDEX 1 QTR LAG</li> </ul> </li> <li>TOTAL VENTURE CAPITAL &amp; PRIVATE EQUITY                                     <ul style="list-style-type: none"> <li>TOTAL VC &amp; PVT EQUITY BM</li> </ul> </li> <li>TOTAL REAL ASSETS                                     <ul style="list-style-type: none"> <li>TOTAL REAL ASSETS BENCHMARK</li> </ul> </li> <li>ALPHA POOL                                     <ul style="list-style-type: none"> <li>BBG BARC Agg Bd</li> </ul> </li> <li>TOTAL CASH/LIQUIDITY                                     <ul style="list-style-type: none"> <li>ICE BofA US 3-Month Treasury Bill</li> </ul> </li> <li>OVERLAY PORTFOLIO                                     <ul style="list-style-type: none"> <li>SBCERA - TOTAL PLAN INDEX</li> </ul> </li> <li>RUSSELL - IR HEDGING                                     <ul style="list-style-type: none"> <li>BBG BARC Agg Bd</li> </ul> </li> </ul> </li> </ul> </li> </ul>	17,232,930,747.72	100.00%	0.410	1.542	4.796	9.745	9.220	8.148	8.395	8.788	
			0.496	1.781	6.159	13.945	11.700	5.438	7.059		
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			0.496	1.781	6.159	13.945	11.700	5.438	7.059		
	3,615,627,806.18	20.98%	0.759	3.417	10.300	20.550	17.551	8.848	9.478	8.655	
			1.286	3.499	12.174	23.890	20.161	10.162	11.587		
	4,150,487,972.87	24.08%	0.722	1.361	4.886	8.600	10.344	8.442	7.096	8.570	
			0.414	1.037	2.829	9.122	6.653	0.422	3.258		
	670,908,972.20	3.89%	[2.118]	[1.271]	[0.704]	0.485	[3.409]	3.443	5.059	3.668	
			1.189	1.189	2.407	4.648	[2.553]	3.793	5.028	7.338	
	3,458,185,914.37	20.07%	1.205	2.490	5.845	12.441	7.828	13.653	13.657	11.166	
			[0.020]	2.403	10.776	17.145	22.245	13.150	13.714	12.740	
	928,071,485.84	5.39%	[0.793]	[0.790]	0.822	[0.434]	6.444	10.514	7.323		
			[0.336]	0.693	4.153	7.241	4.194	6.858	5.243		
	2,387,285,142.96	13.85%	0.223	0.888	2.396	4.341	8.438	6.116	5.993	4.877	
			[0.148]	1.100	3.153	7.301	4.662	[0.364]	2.008		
	1,145,707,277.12	6.65%	0.013	0.557	1.676	4.526	5.092	3.290	2.059	2.059	
			0.349	0.974	2.061	4.178	4.814	3.169	2.179	2.179	
	851,140,762.17	4.94%	[1.731]	[1.548]	[1.619]	6.017	1.683	[0.223]	10.760	6.307	
			0.496	1.781	6.159	13.945	11.700	5.438	7.059		
	25,515,413.94	0.15%	12.880	14.953	15.817	20.177	5.293	38.818	[2.764]	[10.165]	
			[0.148]	1.100	3.153	7.301	4.662	[0.364]	2.008		

Official performance is calculated using time-weighted returns, net of management fees, across all asset classes which rollup to total plan

# Performance Measurement: Private Markets Spotlight

Why multiple metrics are needed in private markets



**Complex Cash Flow Patterns:** Private markets have irregular cashflows with capital calls and distributions over several years, complicating performance measurement.



**Money-Weighted Returns:** Metrics like IRR capture timing and size of cash flows, helping evaluate capital deployment efficiency across strategies and vintages.



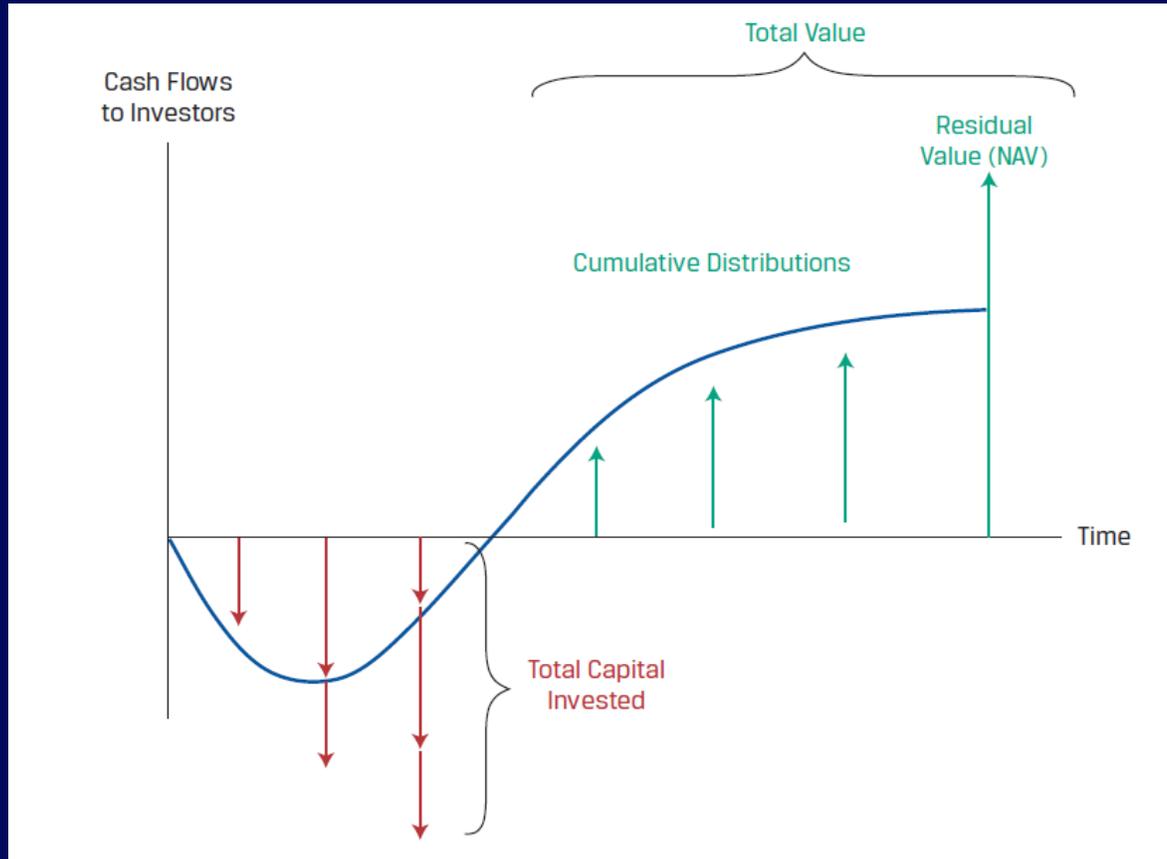
**Investment Multiples:** Multiples such as TVPI, DPI, and RVPI separate realized returns from remaining potential for clearer value insight.



**Comparing to Public Benchmarks:** Time-weighted and PME measures compare private market returns to public benchmarks, assessing illiquidity and complexity premiums.

# Private Markets Performance: J-Curve and Investment Lifecycle

Investments involve a commitment at the inception of the fund, then a period of investment where capital is deployed, followed by a value creation phase, then a period of harvesting and returning distributions. This is often referred to as the J-Curve.



Source: CFA® Institute, 2025 CFA® Program Level III Refresher Reading

# Private Markets Performance: Understanding Investment Multiples

Money-weighted returns can be distorted by early distributions and may not reflect true value creation. Complementary metrics help investors gain an accurate understanding of investment performance.

## Overview of Multiples

**Definition and Stability:** Multiples measure value creation by comparing returns to invested capital, unaffected by cash flow timing, ensuring stability.

**Assessment Across Private Markets:** Multiples provide essential insights across private equity, venture capital, credit, infrastructure, etc.

**Monitoring Performance and Transitions:** Boards use multiples to track distributions, proper asset marking, and shifts from value creation to realization phases.

# Private Markets Performance: Understanding Investment Multiples

Investment multiples offer more detail than the simple return on investment measure over the entire investment life cycle .

## TVPI: Total Value Paid-In Capital

TVPI measures total fund value combining realized returns (distributions) and net asset value as a percentage of invested capital (contributions).

## DPI: Distribution to Paid-In Capital

DPI tracks realized distributions as a percentage of contributions, important for liquidity monitoring.

## RVPI: Residual Value to Paid-In Capital

RVPI reflects net asset value as a percentage of contributions, indicating future return potential and fund maturation dynamics.

## Linkage Across Multiples

$$\text{TVPI} = \text{DPI} + \text{RVPI}$$

# Private Markets Performance: Understanding Public Market Equivalents

Public Market Equivalents (PME) metrics help evaluate if private market investments outperform comparable public markets by simulating public index cash flows.

## Overview of Public Market Equivalents

**PME Methodologies:** Several methods like Kaplan-Schoar, Long-Nickels, and Direct Alpha provide diverse analytical approaches for performance comparison.

**Governance and Insights:** PME reveals if returns derive from manager skill or market beta, addressing key governance questions.

**Interpretation Considerations:** PME results require careful interpretation due to sensitivity to benchmarks, valuation methods, and cash flow timing.

# Private Markets Performance: SBCERA Report

## SBCERA

### Performance Summary by Investment Sub-Strategy in Base Currency

Market Value Basis: Best Available

For the Period Ending: 06/30/2025

Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Exposure	Total Gain/Loss	Investment Multiple	ITD IRR
Investments by Sub-Strategy	9,612,235,473.93	7,991,093,888.23	7,447,478,238.11	2,280,464,316.37	4,502,561,437.21	6,783,025,753.57	3,652,516,900.08	1.50	0.08
Core & Credit Strategies	150,000,000.00	140,000,000.00	96,872,538.76	0.00	89,797,725.00	89,797,725.00	46,670,263.76	1.33	0.12
Alpha Pool Credit	625,000,000.00	166,272,446.05	46,813,696.87	393,917,747.43	353,380,529.82	747,298,277.25	74,326,249.47	2.41	0.12
International Credit	150,000,000.00	4,545,454.55	0.00	145,454,545.45	4,931,867.20	150,386,412.65	386,412.65	1.09	0.09
Credit/ Distressed/ Opportunistic/ Special Situations	804,531,029.97	802,747,254.93	899,654,602.75	162,044,521.32	152,671,791.97	314,716,313.29	249,579,139.79	1.31	0.08
Direct Lending	241,250,000.00	167,867,792.54	87,661,714.15	123,165,445.75	119,907,270.07	243,072,715.82	39,701,191.68	1.24	0.08
Buyout	370,161,608.27	263,358,311.50	262,965,989.75	104,104,067.83	203,943,152.27	308,047,220.11	203,550,830.53	1.77	0.17
Buyouts - Small	34,000,000.00	5,046,169.00	919.00	28,953,831.00	4,569,095.60	33,522,926.60	(476,154.40)	0.91	(0.16)
Co-inv Direct Buyout	37,200,000.00	29,846,536.14	0.00	7,499,601.55	33,190,721.00	40,690,322.55	3,344,184.86	1.11	0.16
Direct	108,299,050.31	74,265,994.89	4,948,397.35	28,868,645.87	101,132,087.13	130,000,733.00	31,814,489.59	1.43	0.40
Direct Infra Equity	39,614,306.82	19,587,033.46	0.00	19,972,824.89	19,648,034.74	39,620,859.63	61,001.28	1.00	0.01
Diversified	3,395,432,294.63	3,349,613,985.63	3,445,262,517.42	462,271,121.00	0.00	0.00	0.00	0.00	0.10
Energy	25,000,000.00	20,000,000.00	0.00	5,000,000.00	0.00	0.00	0.00	0.00	(0.00)
Primary Buyout	19,140,000.00	1,920,277.00	0.00	15,759,723.00	0.00	0.00	0.00	0.00	0.15
Private Infrastructure - Secondary	31,114,987.17	16,719,538.46	0.00	13,622,925.00	0.00	0.00	0.00	0.00	0.75
Secondary Buyout	8,000,000.00	5,900,339.22	226,993.44	533,283.00	0.00	0.00	0.00	0.00	0.41
Secondary Funds	440,430,967.09	344,601,948.23	451,170,477.02	121,060,616.00	0.00	0.00	0.00	0.00	0.10
Sector Specific	30,000,000.00	27,179,317.37	29,059,339.40	18,797,675.00	0.00	0.00	0.00	0.00	0.04
Special Situations	22,740,722.48	2,094,481.05	0.00	20,617,004.00	0.00	0.00	0.00	0.00	(0.29)
Venture	705,500,000.00	454,055,449.99	226,200,331.48	244,283,469.00	0.00	0.00	0.00	0.00	0.16
Commodities	46,417,093.00	42,501,887.68	46,817,598.93	280,357.00	0.00	0.00	0.00	0.00	0.03
Infrastructure	333,846,289.00	312,279,125.08	351,666,714.51	7,052,013.00	15,114,545.00	22,166,558.00	54,502,134.43	1.17	0.05
Timber	210,000,000.00	210,001,067.00	220,775,216.84	0.00	2,442,111.00	2,442,111.00	13,216,260.84	1.06	0.01
Core Real Estate	902,680,929.69	921,257,521.36	867,081,647.33	35,689,250.21	306,221,459.24	341,910,709.45	252,045,585.22	1.27	0.04
High Return	225,000,000.00	60,150,000.00	1,266,886.00	164,850,000.00	62,579,488.00	227,429,488.00	3,696,374.00	1.06	0.10
Non-Core Real Estate	481,876,195.50	456,587,702.01	388,865,604.23	58,755,847.38	207,348,088.01	266,103,935.39	139,625,990.23	1.31	0.06
Value Add	50,000,000.00	40,884,255.10	17,003,373.87	21,556,117.86	34,514,963.00	56,071,080.86	10,634,081.77	1.26	0.12
Credit	125,000,000.00	51,810,000.00	3,163,679.00	76,353,679.00	166,807,135.00	243,160,814.00	18,160,814.00	3.28	0.07

Private Markets Performance is reported quarterly at a lag once most valuations are available.

Primary focus is on cash flows, valuations, investment multiples (TVPI) and Inception to Date IRR (MWR)

# Benchmark Return

**Benchmark Return is the return on the comparison benchmark portfolio of investments for the period of study. A benchmark can be a market index (i.e., S&P 500, MSCI All World, Bloomberg US Aggregate Bond Index) or any other return that is used as a target in managing a portfolio**

**The SAMURAI acronym represents seven critical criteria for evaluating the quality of an investment benchmark, ensuring it is a valid, fair, and reliable point of comparison:**

- **Specified in advance:** The benchmark is chosen before the performance period begins.
- **Appropriate:** Consistent with the manager's investment style or mandate.
- **Measurable:** The return can be readily and frequently calculated.
- **Unambiguous:** The securities and weights are clearly defined and identifiable.
- **Reflective:** The manager has current investment views and expertise in the benchmark's constituents.
- **Accountable:** The manager accepts responsibility for the performance relative to the benchmark.
- **Investable:** It is possible to replicate or directly invest in the benchmark.

# Benchmarking — Market based vs. Universe based

## Market-based

Public, broad-market index, with or without an illiquidity premium expected from an alternative asset

**Strengths:**

- Investable
- Long term strategy alignment
- Timeliness
- Accuracy and representativeness

**Weaknesses:**

- May not represent the alternative strategy it is being measured against.

**Alternatives: Proxy benchmark**

## Universe-based/Peer group

Uses a group of similar alternative investments to provide a peer comparison for the asset type

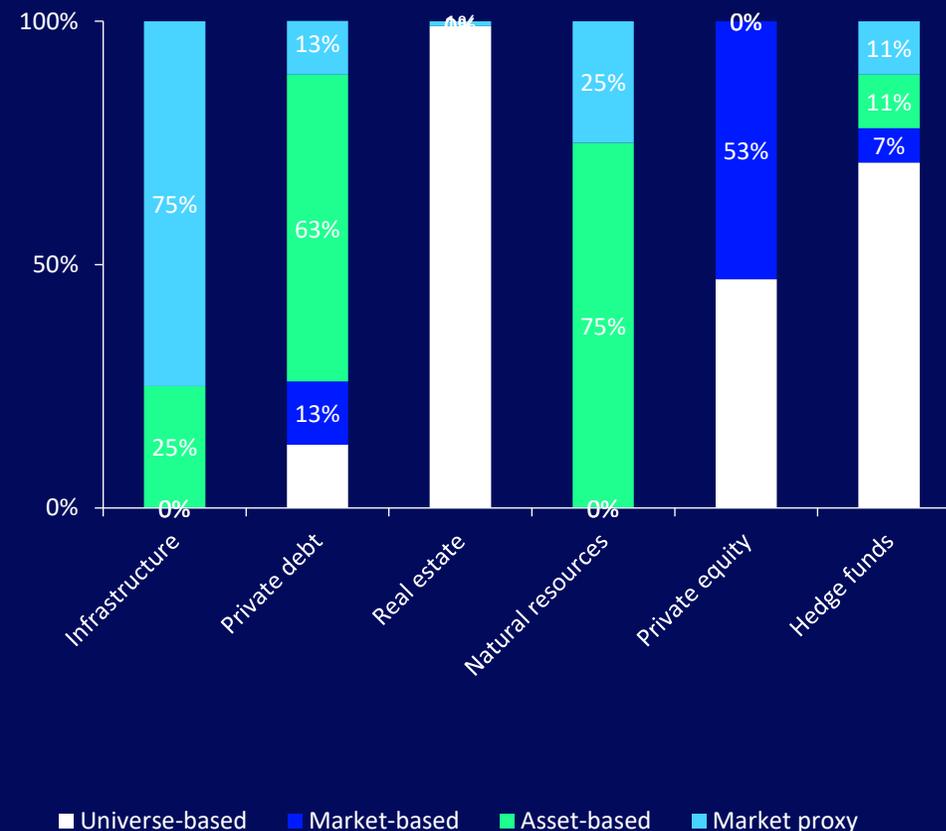
**Strengths:**

- Consistency with manager’s style
- Better comparative analysis insights
- Alignment with the manager’s risk profile
- Confidence in the index vendor

**Weaknesses:**

- Potential biases: selection bias, survivorship and reporting bias, backfill bias.

**Alternatives: Asset based**



Source: State Street Asset Owner Benchmark uses survey

# Excess /Active Return

**Excess Return (or Active Return, Value Added) is the difference between a portfolio's return and its benchmark's return. The excess return is the component of a portfolio's performance that arises from the fact that the portfolio is actively managed.**



Positive excess return = portfolio outperforms its benchmark



Negative excess return = portfolio underperforms its benchmark

It is an important metric that helps an investor to gauge performance in comparison to other investments.

# Performance Evaluation: Performance Attribution

Attribution Analysis helps to answer the question:

How did the investment portfolio produce its observed performance?

If Fund A underperforms the benchmark by 1.09 percentage points, Attribution helps us understand that this happened because of poor sector selection from Sector B and offsetting allocation and selection from Sector C.

# Performance Attribution: Why it Matters



**Explains why returns differ from benchmarks**



**Separates market effects from active decisions**



**Supports accountability and informed oversight linking outcomes to investment decisions**

# Performance Measurement & Attribution Reporting

Attribution tries to explain the 'Excess' or 'Active' return of a portfolio



## Top-down Approach

A top-down approach focused on asset allocation decisions can explain plan allocation and results relative to policy, such as the impact of manager allocation and selection decisions.



## Bottoms-up Approach

A bottoms-up approach focused on security or manager decisions can explain portfolio investment results relative to the benchmark, in terms of allocation, security selection, currency and hedging effects.

Thank you,  
any questions?



# Important Information

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