



City of Milwaukee
Employees' Retirement System

Bernard J. Allen
Executive Director

David M. Silber, CFA, CAIA
Chief Investment Officer

Melody Johnson
Deputy Director

August 29, 2025

Mr. Jim Owczarski
City Clerk
Room 205, City Hall

Dear Mr. Owczarski:

Please be advised that an Investment Committee Meeting of the Annuity and Pension Board has been scheduled for **Thursday, September 4, 2025 at 9:00 a.m.** This meeting will be conducted via teleconference.

Special Notice: Instructions for the public on how to observe the meeting will be available on the ERS's website (www.cmers.com) prior to the meeting.


The agenda is as follows:

- I. Callan 2026 Private Equity Commitment Pacing and Reinvestments Presentation.
- II. Approval of 2026 Private Equity Commitment Recommendation.
- III. Neuberger Berman Due Diligence Report.

Please be advised that the Investment Committee may vote to convene in closed session on the following items (IV. and V.), as provided in Section 19.85(1)(e), Wisconsin State Statutes, to deliberate or negotiate the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session. The Investment Committee may then vote to reconvene in open session following the closed session.

- IV. Approval of Neuberger Berman NB Secondary Opportunities Fund VI LP Side Letter for the purpose of investing in Private Equity.
- V. Approval of Callan LLC Investment Consultant Contract.
- VI. Callan Cryptocurrency and Blockchain Education Workshop.
- VII. BlackRock Due Diligence Report.
- VIII. CMERS 2nd Quarter 2025 Performance Update.
- IX. Informational
 - a. Chief Investment Officer Report.
 - b. Preliminary Performance Report and Asset Allocation.
 - c. Adjusted Quarterly Cost Basis of Equity.
 - d. Class Action Income 2025 YTD.
 - e. Callan 2nd Quarter 2025 Performance Report.

Sincerely,


Bernard J. Allen
Executive Director

BJA:jmw



Callan



September 4, 2025

CMERS Private Equity Portfolio

2026 Commitment Pacing and
Reinvestments

Ashley Kahn, CAIA
Private Equity Consulting

Private Equity Discussion Topics

On an annual basis, Callan, in conjunction with CMERS Staff, prepares a commitment pacing analysis, a portfolio review, and reinvestment recommendations for the private equity program. The commitment pacing analysis determines an appropriate commitment amount for the upcoming year for CMERS to maintain its private equity exposure at the targeted level over the long term.

The following slides cover the topics below:

- Private Equity Market Trends
- Private Equity Education: Valuations
- Portfolio Review & Performance Analysis
- Commitment Pacing
- Manager Performance
- Conclusion & Recommendations
- Appendix

Callan

Private Equity Market Trends

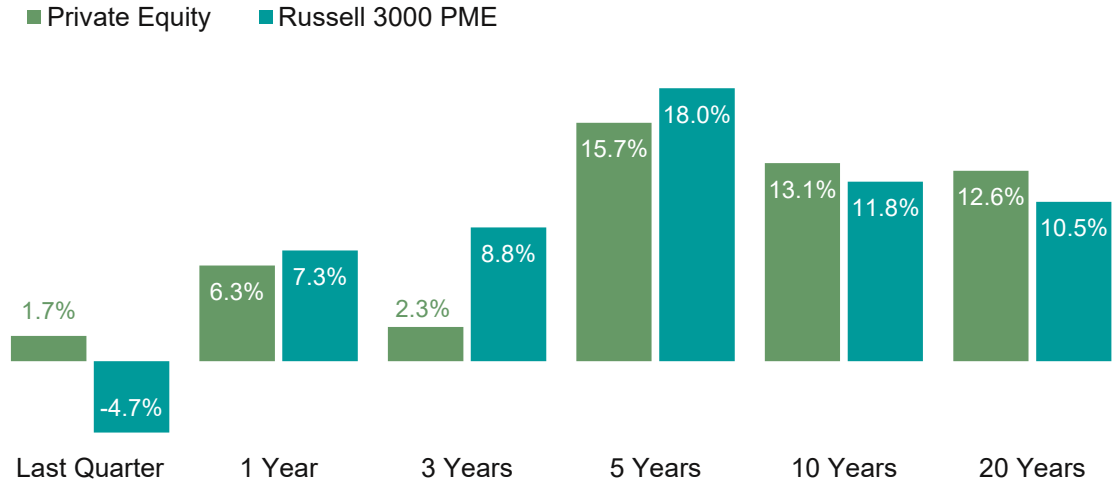
Private Equity Trends

Private equity tops public equity for first time since 2023

Performance

- For the first time in six quarters, private equity outperformed public equity.
- Because private holdings are valued internally by managers, private equity returns are less prone to dramatic rises and falls.
- Private equity tends to underperform when public equity rises quickly, and it likewise does not drop as sharply when public equity drops.
- Over the 10-year and 20-year time horizons, private equity has outperformed by 1%-2%

Net IRRs as of 3/31/25



Net IRRs by Strategy as of 3/31/25

Strategy	Last Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Venture Capital	2.0%	4.8%	-4.6%	15.1%	13.3%	12.2%
Growth Equity	1.6%	7.8%	0.5%	14.8%	13.1%	13.2%
Buyouts	1.8%	6.7%	5.1%	17.0%	14.0%	13.2%
Mezzanine	2.1%	8.4%	8.0%	12.7%	10.7%	11.1%
Credit Opportunities	1.3%	8.1%	6.9%	11.5%	7.9%	9.0%
Control-Oriented Distressed	-0.2%	0.4%	2.2%	15.7%	10.3%	10.4%
Private Equity	1.7%	6.3%	2.3%	15.7%	13.0%	12.6%

Source: LSEG/Cambridge. PME: Public Market Equivalent

Private Equity Trends

Fundraising still at depressed levels, but deal activity shows momentum

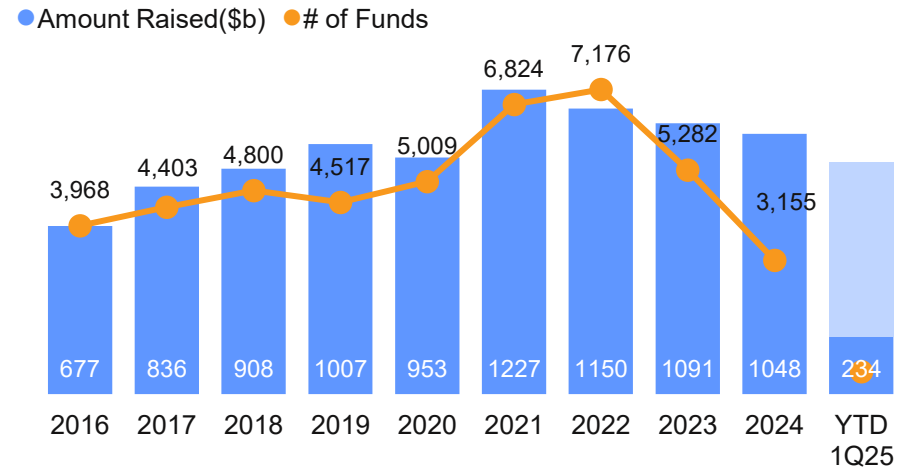
Fundraising

- With the distribution drought of the last three years, 1Q25 fundraising continues at the same depressed levels of the prior year.
- While fundraising volume remains in line with recent quarters, capital has become ever more concentrated in the largest funds (e.g., Blackstone's flagship fund closed at \$21 billion this quarter).
- LPs continue to be selective with commitments, with limited capital available to put back into the asset class.

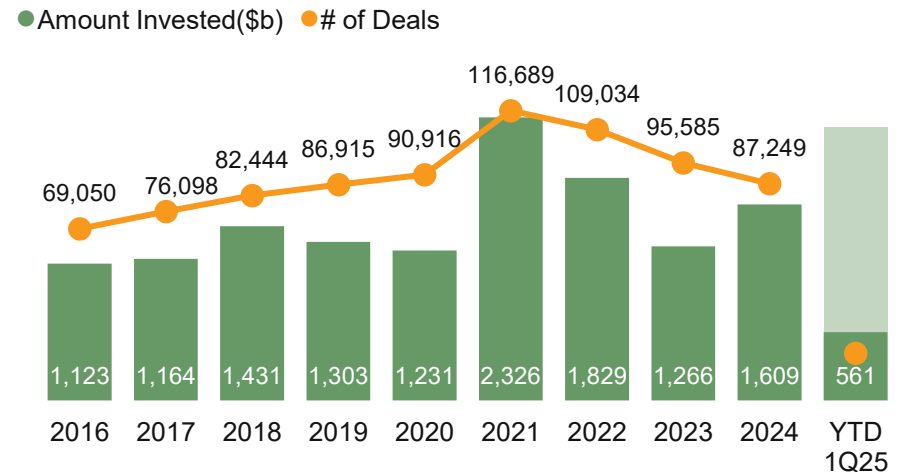
Deal Activity

- 1Q25 deal volume continued the momentum gained in 4Q24, buoyed by expectations for more favorable market conditions under the new administration. This momentum was soon stifled in 2Q25 following Liberation Day and its resulting tariff fluctuations and macroeconomic uncertainty.
- From a longer-term perspective, overall deal activity is still above pre-pandemic levels by about a third, reflecting the broader growth of the asset class.

Annual Fundraising



Annual Deal Activity



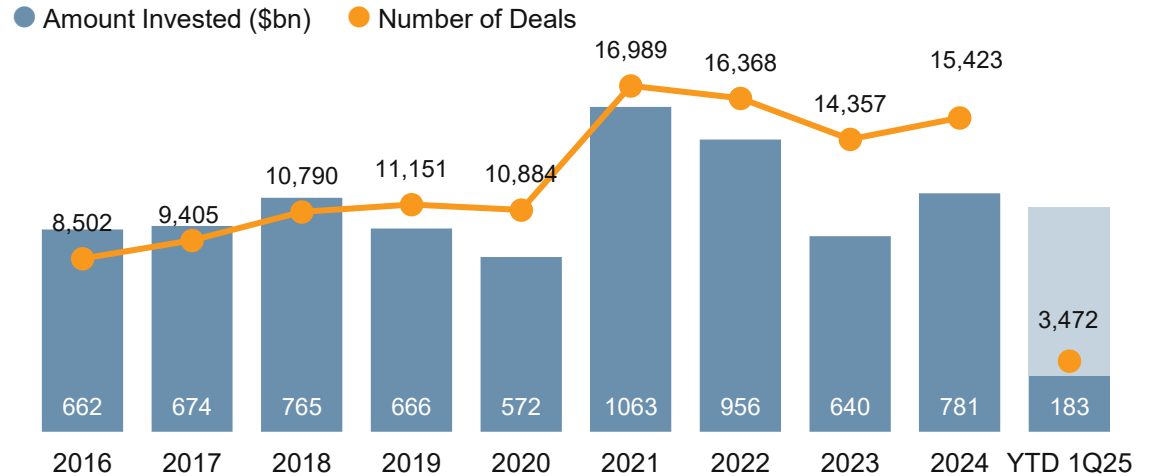
Source: PitchBook

Private Equity Trends

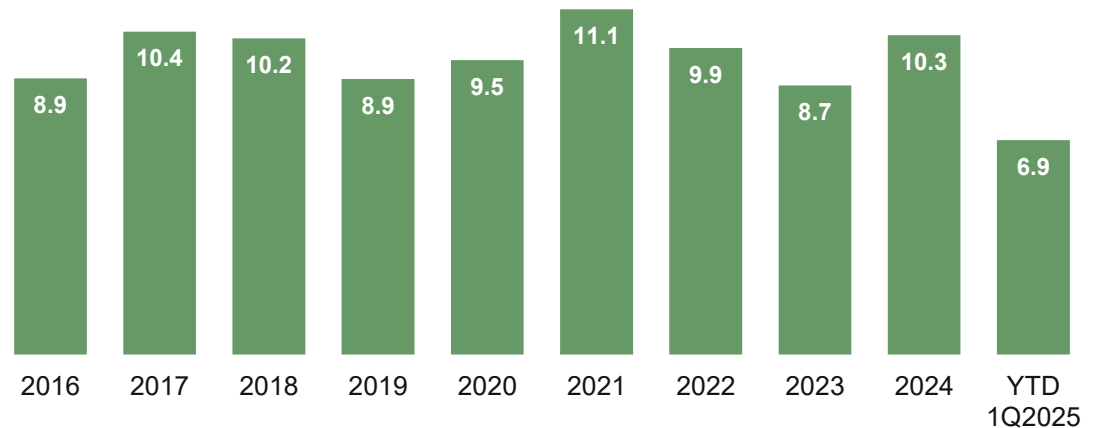
Buyout

- Buyout's renewed momentum in 4Q24 continued into 1Q25, driven by investor optimism for more attractive market conditions under the new administration. Quarterly volume has hovered around its prior 2021 peaks.
- This momentum was soon dampened in 2Q25 following Liberation Day and its resulting tariff fluctuations and macroeconomic uncertainty.
- Buyout valuations have been on a downward decline over the last year, driven by higher interest rates and the narrowing of the bid-ask spread (1Q25's dramatic drop appears to be an outlier – the data may be preliminary).

Buyout Investments



Buyout Valuations (EV/EBITDA Multiples)



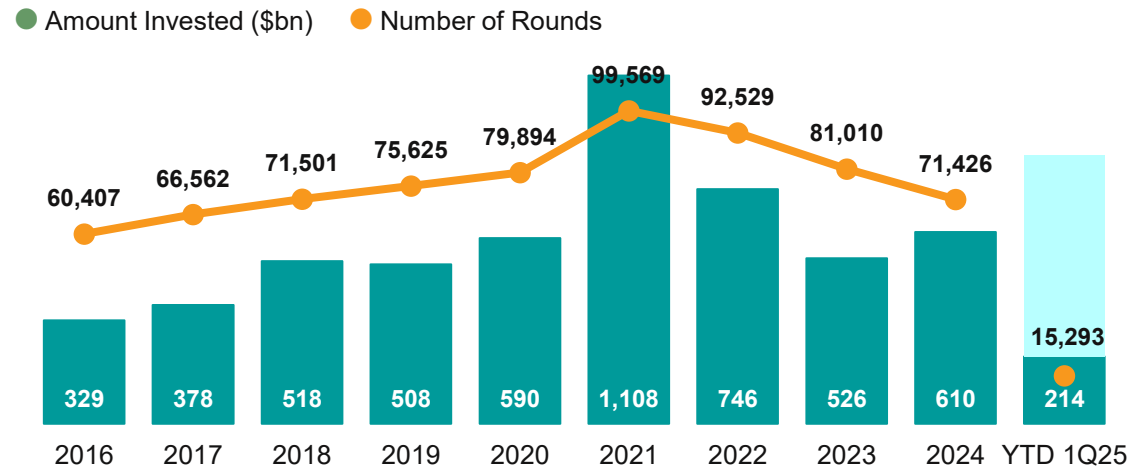
Source: PitchBook.

Private Equity Trends

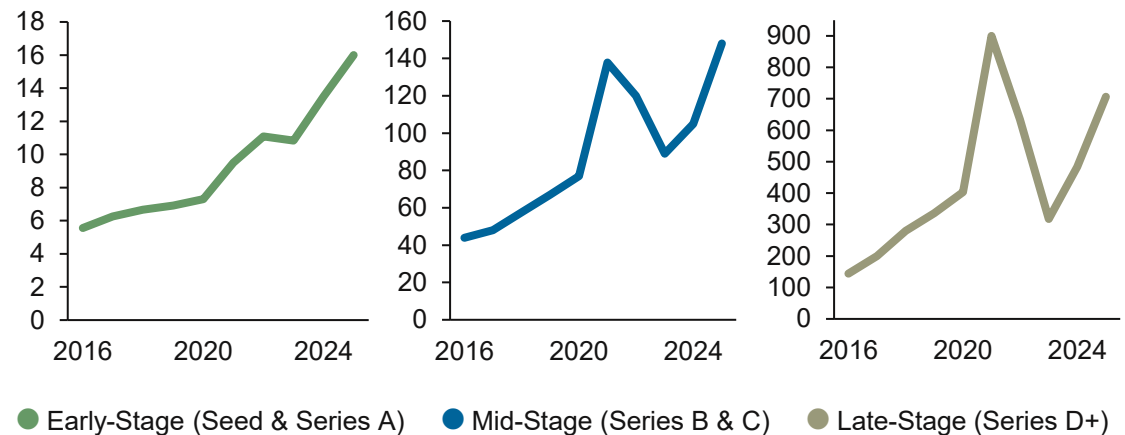
Venture Capital & Growth Equity

- Venture capital and growth equity activity was significantly up in 1Q25 (continuing an upward trend over the last few quarters), driven by large rounds in select late-stage companies (i.e. \$40b round in OpenAI).
- Despite a lack of exits, deal activity continues to gradually increase, as managers plough billions into new AI startups.
- Valuations are up across all stages, with early-stage and mid-stage valuations reaching record highs.
- Late-stage valuations tend to be the most cyclical and are nearing their high-water mark of 2021.

Venture Capital & Growth Equity Investments



Venture Capital & Growth Equity Median Valuations (\$m)



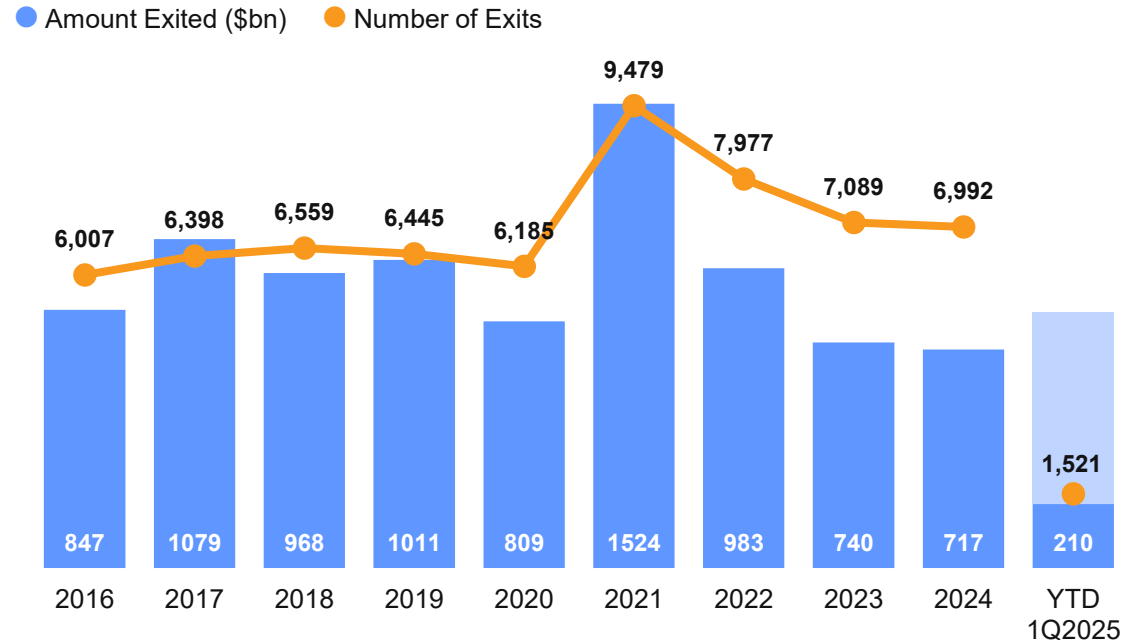
Source: PitchBook.

Private Equity Trends

Exits

- Investors entered 2025 with high hopes for a welcoming exit environment. This cautious momentum that started in 4Q24 continued into 1Q25. While these quarters were more active than the depths of 2023, they are still slightly below pre-pandemic levels.
- Investor hopes were soon dashed following Liberation Day in 2Q25 and its resulting tariff fluctuations and macroeconomic uncertainty. The IPO window remains closed, and caution persists in the M&A markets.

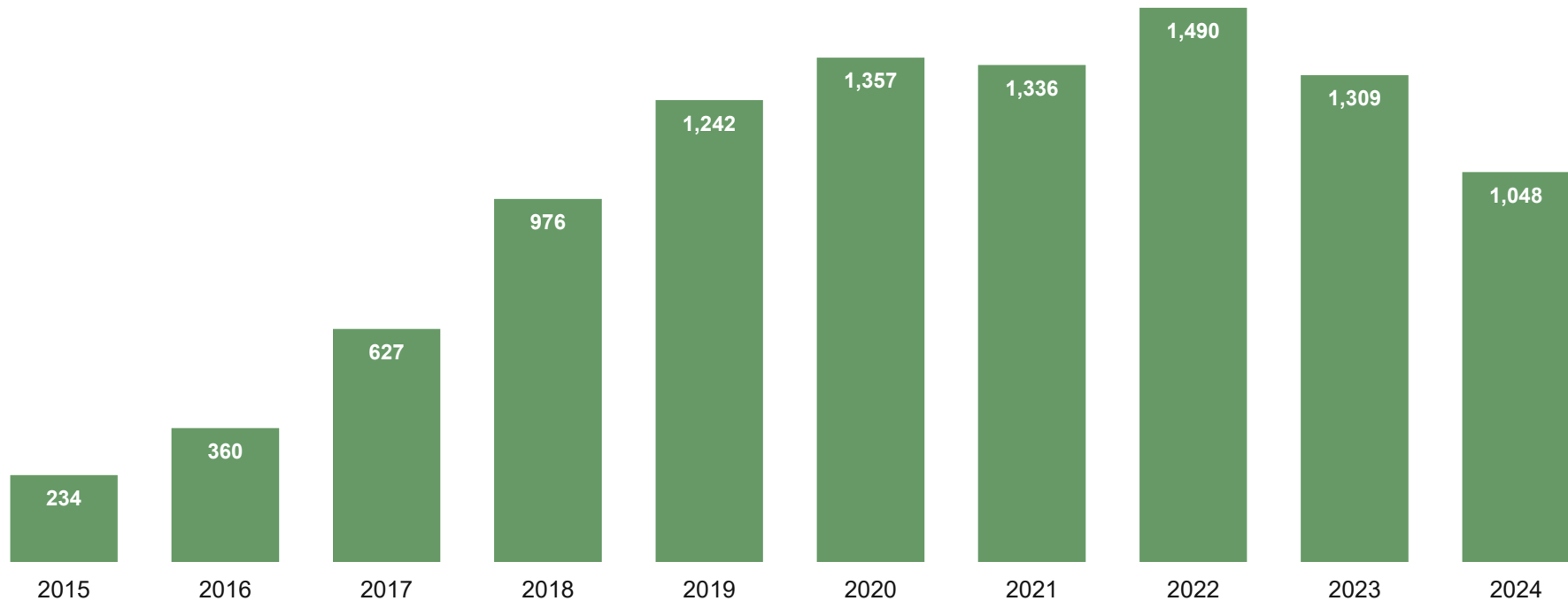
Private Equity Exits



Source: PitchBook.

Private Equity Trends

Private Equity Dry Powder (\$b)



- Dry powder reflects a combination of fundraising and deal-making. Fundraising typically increases dry powder, and deal-making typically reduces dry powder.
- Dry powder peaked in 2022, reflecting the strong fundraising environment of 2021, but a drop in deal-making that year.
- It has declined ever since, reflecting a slower fundraising environment, but faster recoveries in capital deployment (fundraising is typically a lagging indicator and follows capital deployment).

Source: PitchBook.

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Private Equity Education: Valuations

Private Equity Valuations

ASC 820

Valuations of private equity portfolio companies are subject to U.S. GAAP and ASC 820. Under ASC 820, fair value is measured based on an “exit price” (not the transaction price or entry price), defined as “the price that would be received to sell an asset in an orderly transaction between market participants at the measurement date.”

ASC 820 establishes a three-level Fair Value Hierarchy, with private equity categorized as a Level 3:

- ▶ Level 1: Quoted prices in active markets for identical items (most transparent, e.g., public stocks)
- ▶ Level 2: Observable inputs not as direct as Level 1 (e.g., interest rate swaps, yield curves)
- ▶ **Level 3: Unobservable inputs (highly judgmental/ internal estimates, e.g., private companies)**

Level 3 Valuation Methodologies:

- ▶ Valuations of publicly-traded comps (commonly used)
- ▶ Recent transactions of private comps (commonly used)
- ▶ Discounted estimated future cash flows of the company (less commonly used)
- ▶ Replacement cost (rarely used)



Buyouts

- ▶ Typically uses a multiple of EBITDA, with the multiple based on public comps and/or recent transactions of private comps, which is then applied to the company's LTM EBITDA.



Venture Capital

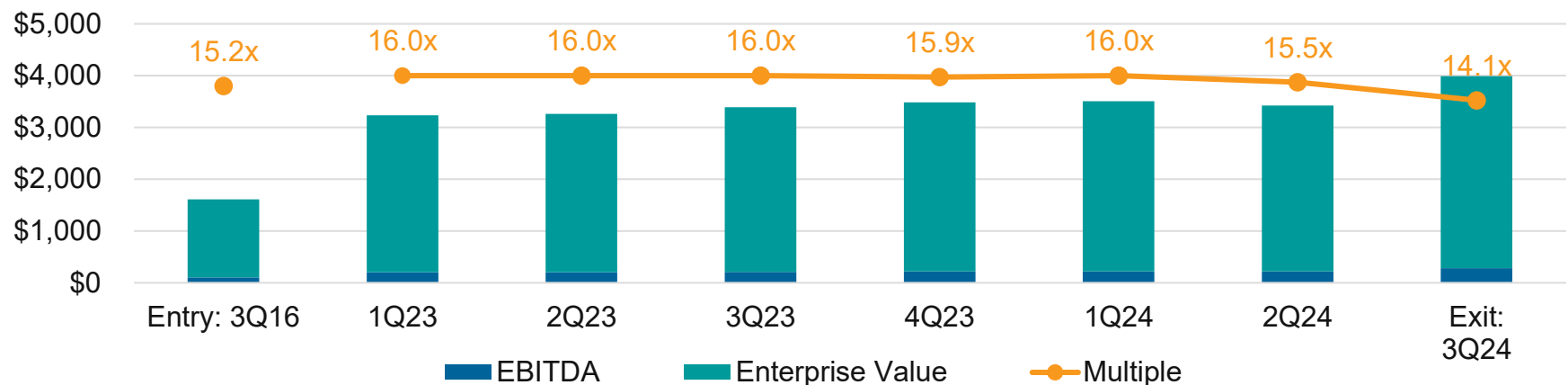
- ▶ Typically marked at the valuation of the last financing round for 12 months.
- ▶ Thereafter, the valuation may be adjusted based on the company's operating performance.

Private Equity Valuations

Sample Buyout Transaction

The exhibit below shows the quarterly valuations of a sample portfolio company, including its entry valuation in 2016 as well as the quarters leading up to its exit in 2024.

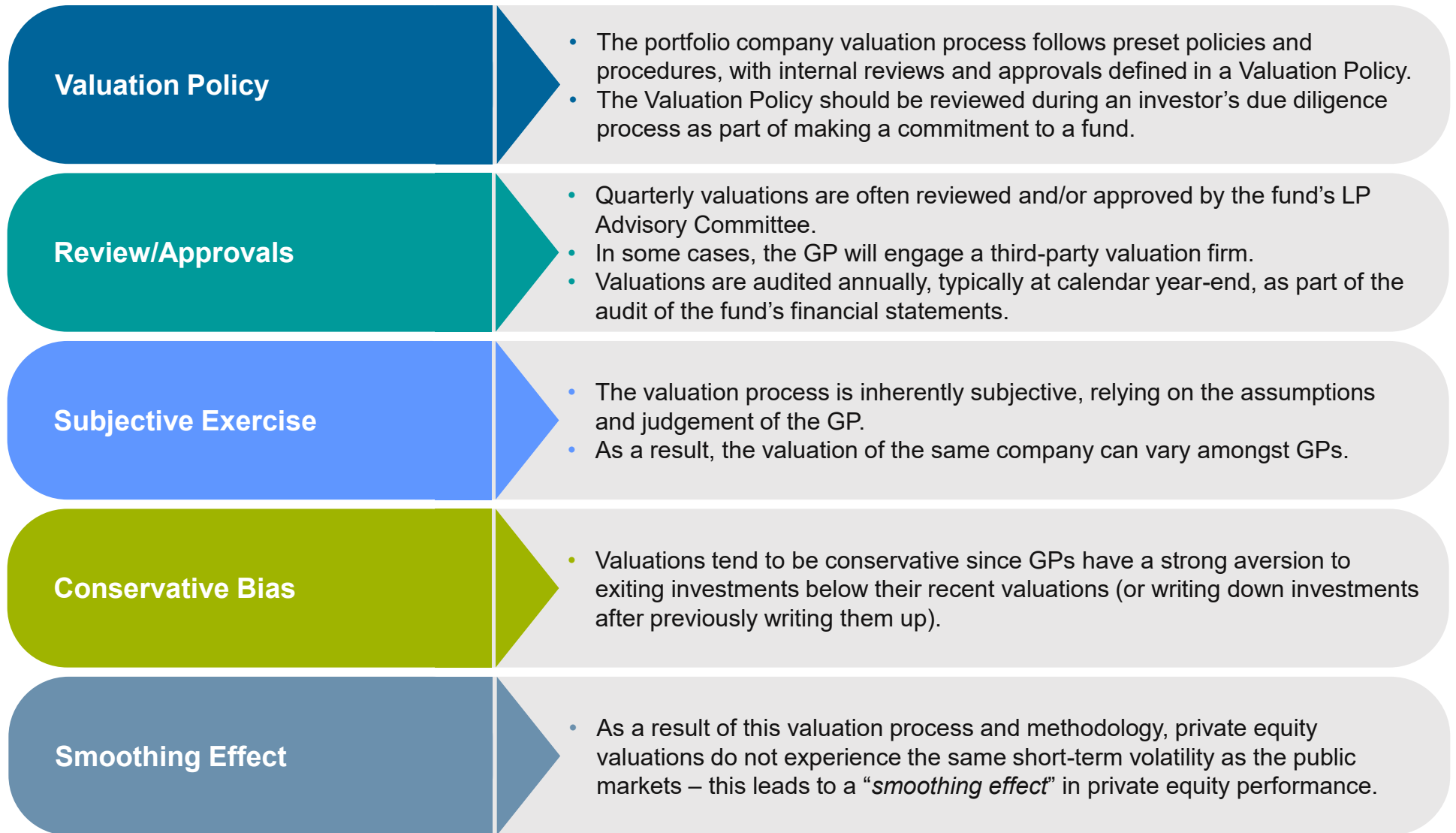
The quarterly valuations used the market approach, taking into account public comps as well as operating performance. The resulting enterprise value was compared for reasonableness against the DCF method.



	Entry: 3Q16	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	Exit: 3Q24
EBITDA (\$mm)	\$106	\$202	\$204	\$212	\$219	\$219	\$221	\$283
EBITDA Multiple	15.2x	16.0x	16.0x	16.0x	15.9x	16.0x	15.5x	14.1x
Enterprise Value (\$b)	\$1.6	\$3.2	\$3.3	\$3.4	\$3.5	\$3.5	\$3.4	\$4.0
Gross TVPI	1.0x	2.4x	2.4x	2.5x	2.7x	2.7x	2.6x	2.7x

Private Equity Valuations

Valuation Process



Private Equity Valuations

Secondaries – Transaction Price vs. Fair Value

Secondaries funds purchase private equity fund interests often at a discount to the reported underlying NAV.

Post the transaction, these interests are typically immediately “marked up” to the fair value of the underlying assets, rather than the discounted purchase price.

This instantaneous uplift may look like a mark up, but it is really the accounting recognition of the value-add from structuring the deal, not underlying company performance. The underlying companies didn’t increase in value overnight — rather, the fund captured value at purchase, and accounting rules require that to be reflected right away.

ASC 820

Under ASC 820, the fair value of the assets must reflect the **exit price** in the market at the measurement date, **not the historical transaction price**.

Sample Secondary Transaction

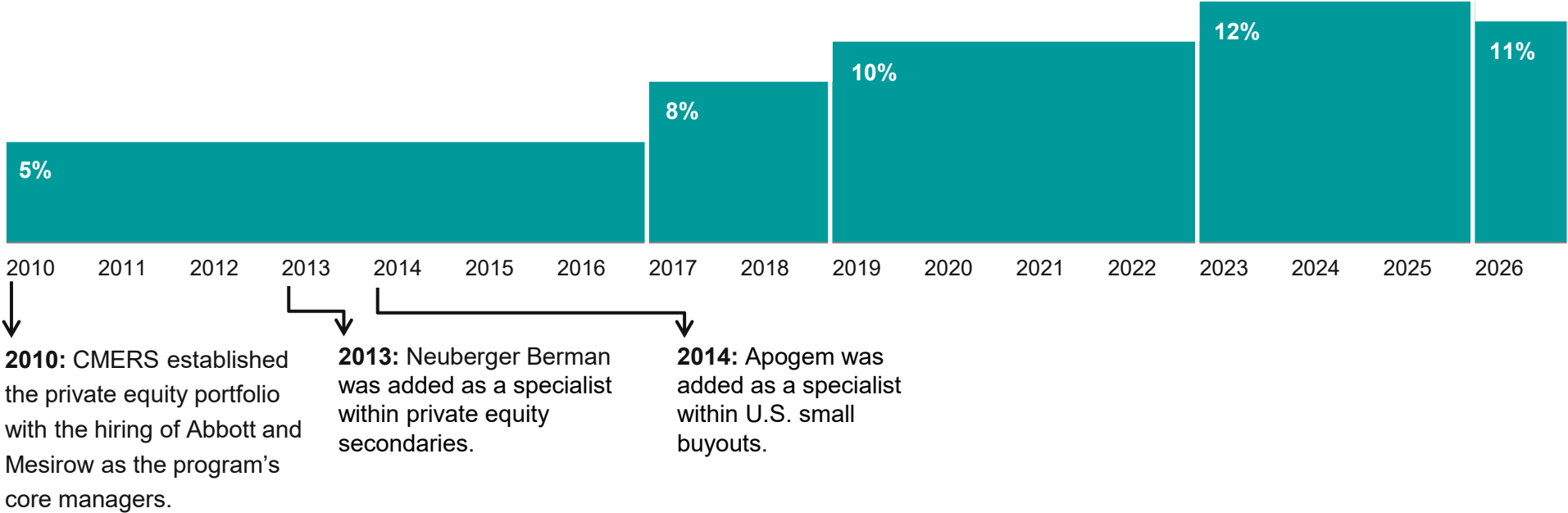


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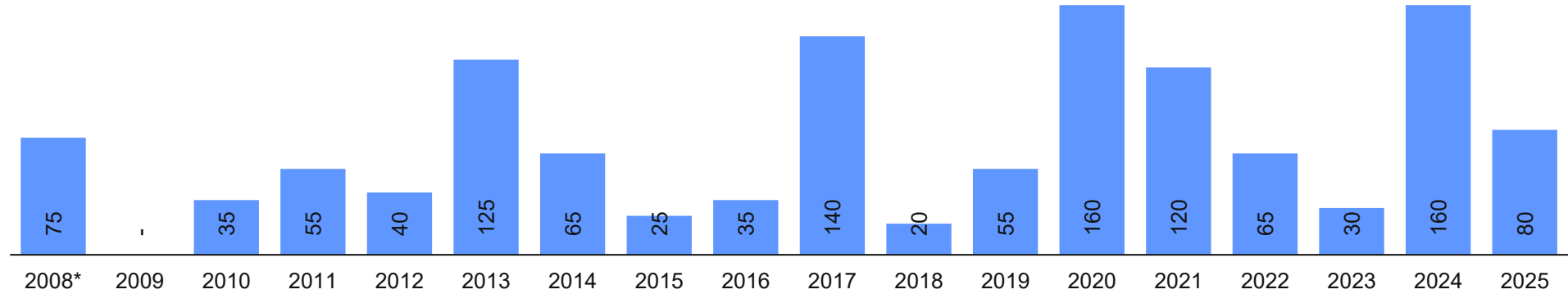
Portfolio Review & Performance Analysis

CMERS Private Equity Program History

CMERS Private Equity % Target



CMERS Private Equity Commitments (\$m)



*Because the selected Mesirow vehicle had initiated investment in 2008, CMERS has vintage year exposure since 2008.

Private Equity Program Overview

Portfolio Slightly Overweight

- CMERS's private equity portfolio is slightly overweight the 12% target (as well as the new 11% target), at 13.5% as of 03/31/2025. It is still well within CMERS' strategic range of 8%-16%.
- In line with CMERS' de-risking glidepath, the private equity allocation is expected to gradually decline over time to meet the lower future targets.

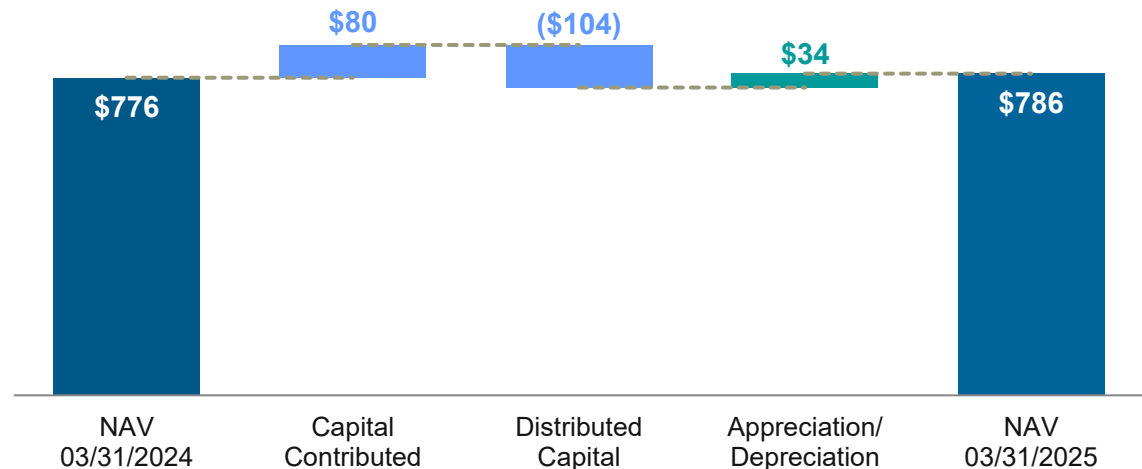
Program is Self-Funding

- The private equity program has been self-funding for multiple years, with consistent levels of cash flows going into and out of the portfolio.

Private Equity Target vs. Actual

% Target (old)	12.0%
% Target (current)	11.0%
% of Plan	13.5%
+/- Current Target	+2.5%

	03/31/2024	% Change	03/31/2025
Commitments	\$1,215	6%	\$1,285
Paid-In Capital	\$803	10%	\$883
% Paid-In	66%	3%	69%
Uncalled Capital	\$456	0%	\$454
Distributed Capital	\$704	15%	\$808
NAV	\$776	1%	\$786
Total Value (NAV + Distributed)	\$1,480	+8%	\$1,594



\$millions, net of fees.

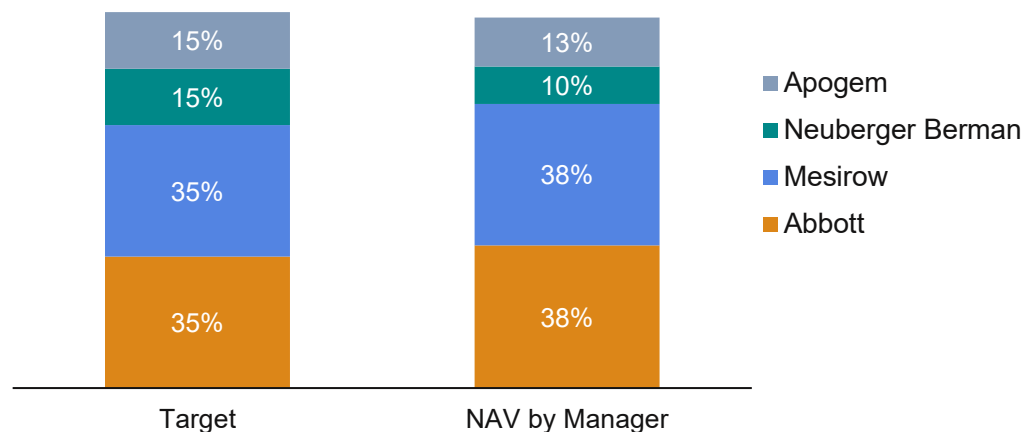
Private Equity Program by Manager

Steady Exposure by Manager

- By NAV, the portfolio is slightly overweight Abbott and Mesirow and slightly underweight Apogem. Neuberger Berman is more significantly underweight at 10%.
- Despite this underweight, Neuberger Berman saw the largest jump in NAV over the past year, growing by 14% as its most recent fund has been deployed.
- As the PE allocation declines over the next 10 years, new commitments may be consolidated amongst fewer managers.

NAV	03/31/2024	% Change	03/31/2025
Abbott	\$308	-3%	\$299
Mesirow	\$292	3%	\$301
Neuberger Berman	\$70	14%	\$80
Apogem	\$107	-1%	\$106
Total Private Equity	\$776	+1%	\$786

NAV by Manager



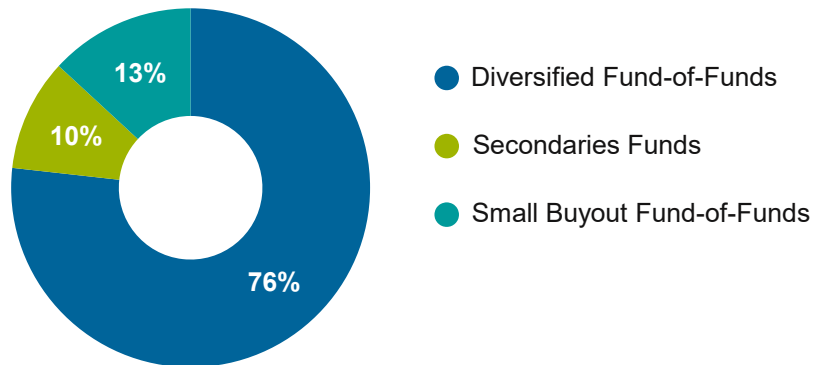
\$millions

Diversification by Strategy

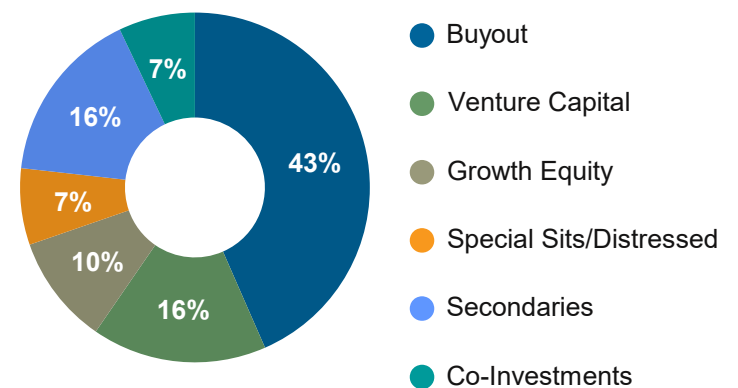
Well-Diversified Portfolio

- The core fund-of-funds exposure (Abbott and Mesirow) represents the majority of the portfolio at 76% of NAV. These fund-of-funds are highly diversified by strategy, investment type, and geography.
- The program has smaller exposures to dedicated secondaries (Neuberger Berman) and small buyouts (Apogem), at 10% and 13% of NAV, respectively. These specialty managers enhance liquidity as well as market-cap breadth.
- In terms of the underlying strategy diversification, the portfolio is also well diversified and generally aligns with Callan's recommended portfolio construction. Buyouts make up the largest exposure at 43%, reflecting a mix of sizes and styles. Venture capital and Secondaries make up the next largest allocations at 16% each. The portfolio also has smaller exposures to Growth Equity (10%), Special situations/Distressed (7%), and Co-investments (7%).

Strategy Diversification, % of NAV



Underlying Strategy Diversification, % of NAV



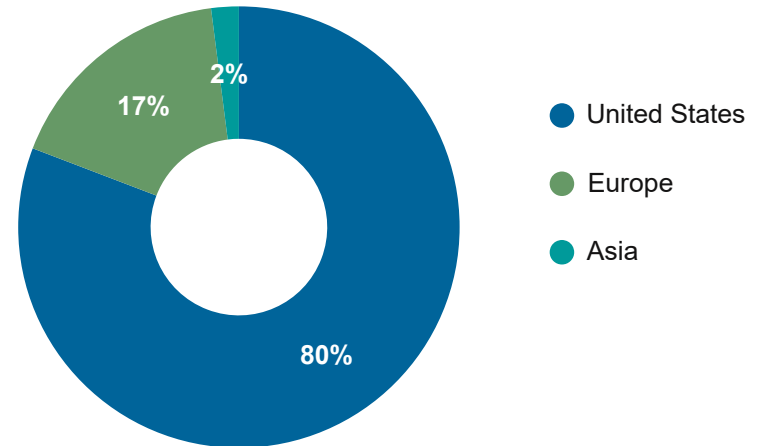
As of 03/31/2025.

Diversification by Geography & Industry

Geography

- By geography, the portfolio generally aligns with Callan's recommended portfolio construction. It is heavily weighted towards U.S. strategies, which make up 80% of the total portfolio.
- Such a high U.S. exposure has likely benefitted performance, given U.S. strategies have outperformed all other regions over the last 10 years.
- International exposure is predominantly European funds, with a small sliver of Asian exposure.

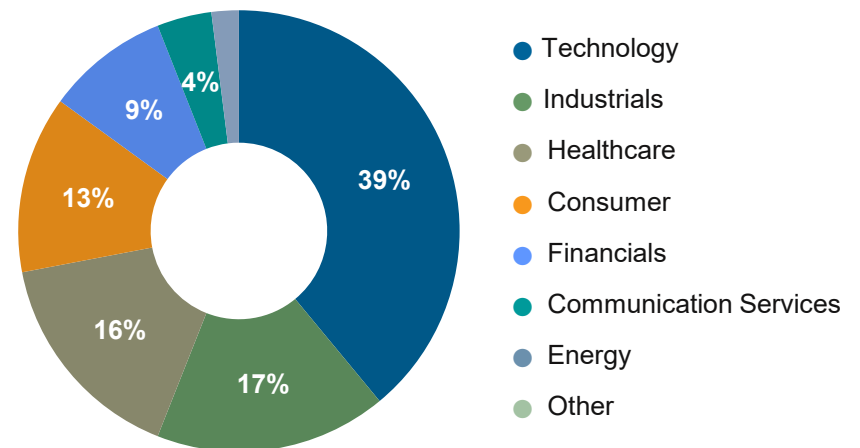
Geographic Diversification



Industry

- The portfolio is well diversified by industry, with a tilt towards Technology. At 39% of the portfolio, the Technology exposure is consistent with other large private equity programs, where 25%-50% exposure is typical.
- After Technology, the portfolio is split between Industrials, Healthcare, Consumer, and Financials.

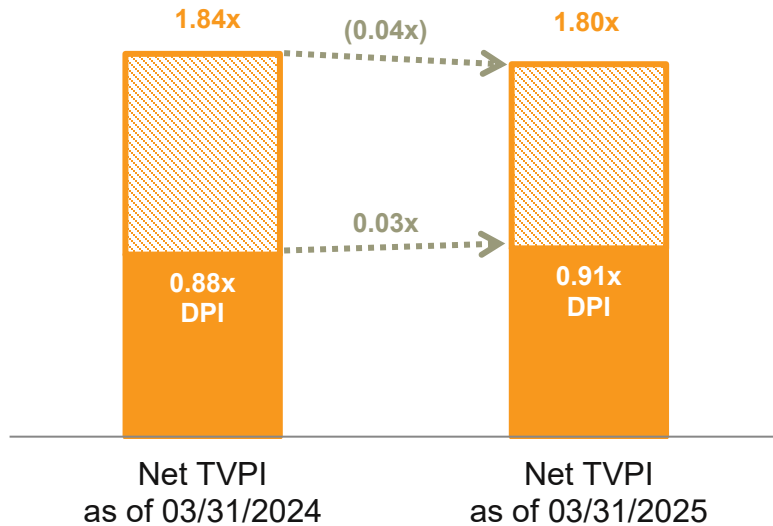
Industry Diversification



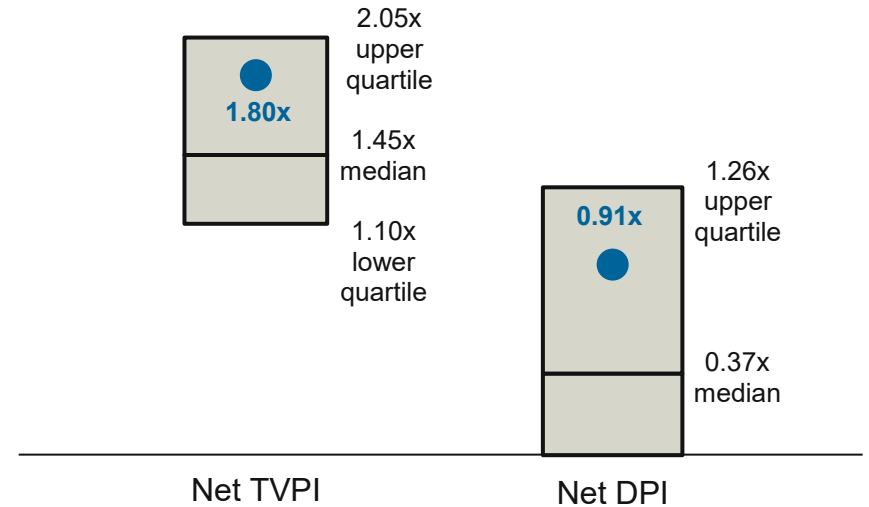
As of 03/31/2025. Geographic diversification based on underlying portfolio companies, shown as a % of NAV.

Aggregate Performance

Net TVPI, Annual Change



Relative Performance



Slight Decline in Net TVPI

- The net TVPI of 1.80x reflects strong performance for a mature, diversified fund-of-funds program.
- Strong distributions this year pushed up the Net DPI.
- The Net TVPI declined, however, given minimal changes to the NAV and relatively larger changes to the % paid-in.

Second Quartile Performance

- The portfolio has generated 2nd quartile performance across both measures, consistent with prior years.
- Given the wide dispersion of private equity returns, 2nd quartile performance is expected, and desired, for a well-diversified, mature portfolio.

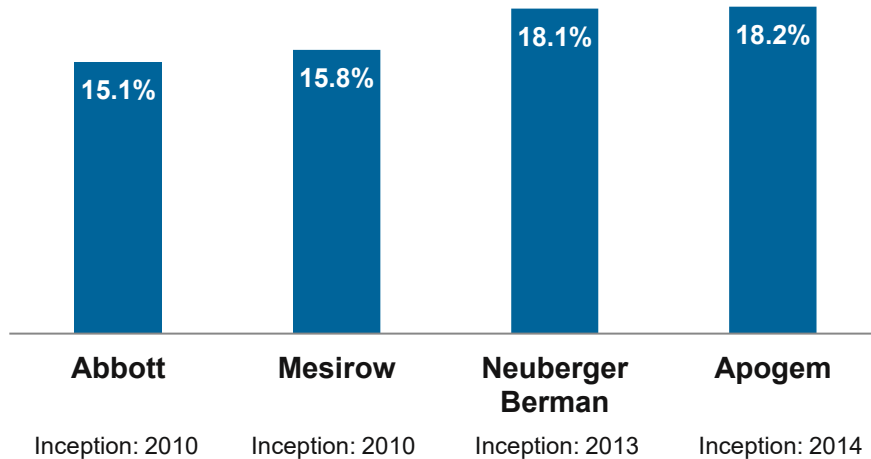
DPI: Distributions divided by Paid-In Capital

TVPI: Total Value (Distributions + NAV) divided by Paid-In Capital

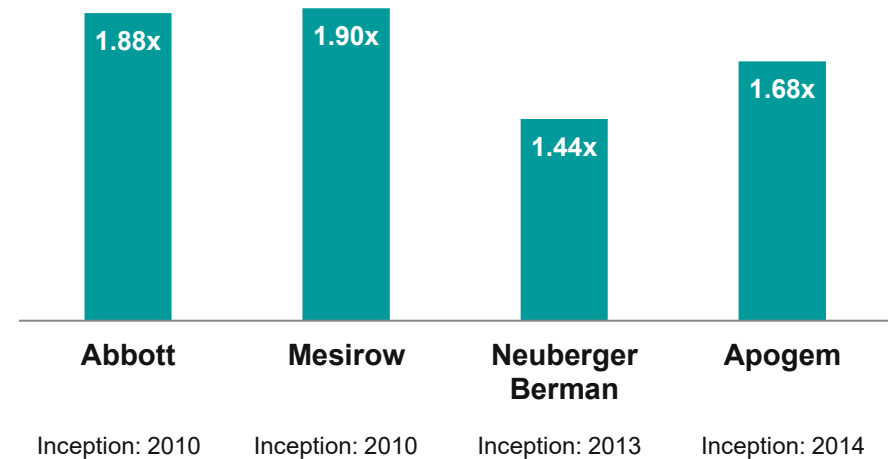
As of 03/31/2025. Quartile Rankings against the Global Private Equity Refinitiv/Cambridge database for vintage years 2008-2025.

Performance by Manager

Net IRR



Net TVPI



Strong Net IRRs by Manager

- All four managers have generated 1st or 2nd quartile performance on a net IRR basis.
- Abbott and Mesirow have returned strong net IRRs at 15%-16%. Mid-to-high teens net IRRs are generally expected for a mature, diversified fund-of-funds.
- Neuberger and Apogem are both generating slightly higher net IRRs at 18%. Both managers reflect slightly younger portfolios where recent performance has been especially strong.

As of 03/31/2025.

Mixed Net TVPIs by Manager

- Strong performance from both Abbott and Mesirow, who, interestingly, have generated very similar track records.
- Neuberger Berman's net TVPI is also second quartile, although it is the weakest of the 4 managers. Secondaries strategies tend to have lower TVPIs (and higher IRRs due to the distribution profile).
- Apogem's portfolio is younger and has been recovering from some initial underperformance, which has pulled its net TVPI into the third quartile.

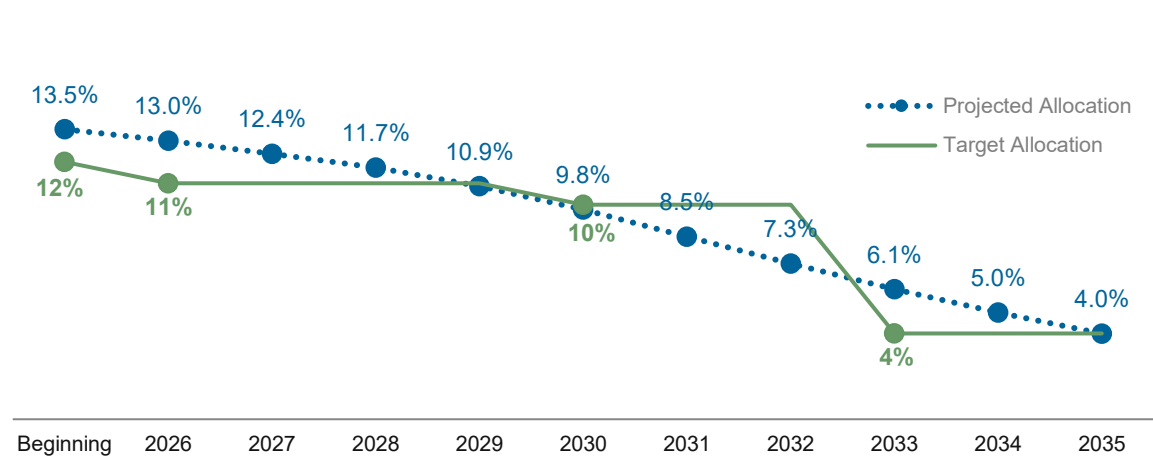
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Commitment Pacing

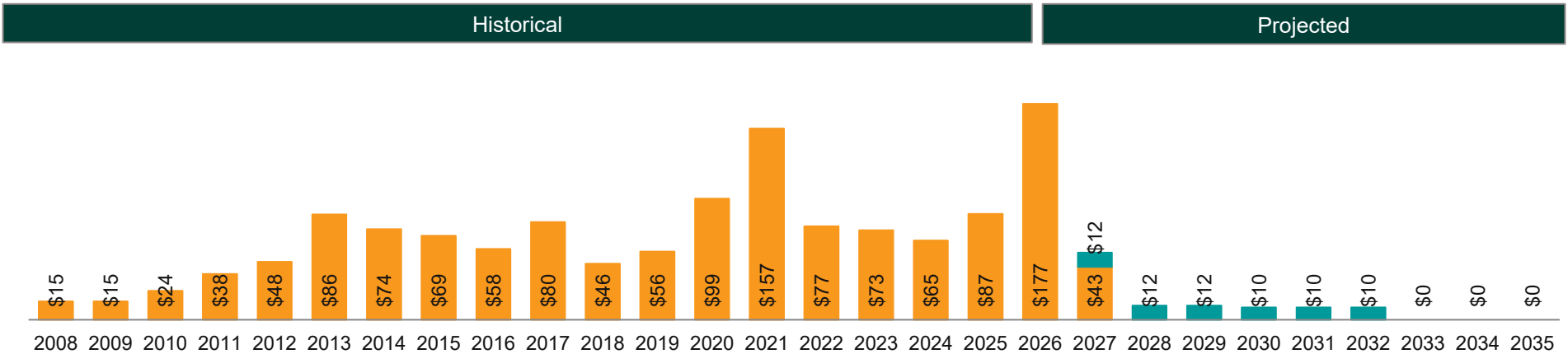
Commitment Pacing

- In accordance with the de-risking glidepath , CMERS’s PE target is projected to drop dramatically over the next 10 years, with a high likelihood of falling to 4% by period end.
- This year’s pacing exercise aims to reach that 4% target by 2035, with the portfolio gradually declining over the next 10 years.
- With each drop in target, it is likely that the PE portfolio will be (temporarily) significantly underweight or overweight.

Projected vs. Target Private Equity Allocation



Private Equity Commitments, by Underlying Vintage Year (\$m)



As of 03/31/2025.

Future Commitments

- The significant reductions in the projected PE target mean that only minimal new commitments are required.
- Instead of annual commitments, we recommend committing every few years. This approach results in larger individual commitment sizes and fewer funds for staff to manage—while still preserving vintage year diversification.
- This year’s model incorporates a \$35 million commitment in 2027 and a \$30 million commitment in 2030, with no new commitments thereafter.
- These commitments have not yet been assigned to a particular manager, and they will be reassessed during next year’s pacing exercise.
- Given how challenging it is to model the drops in the PE target, these commitment amounts need to be carefully assessed and potentially tweaked each year.

Future Commitments (\$mm)

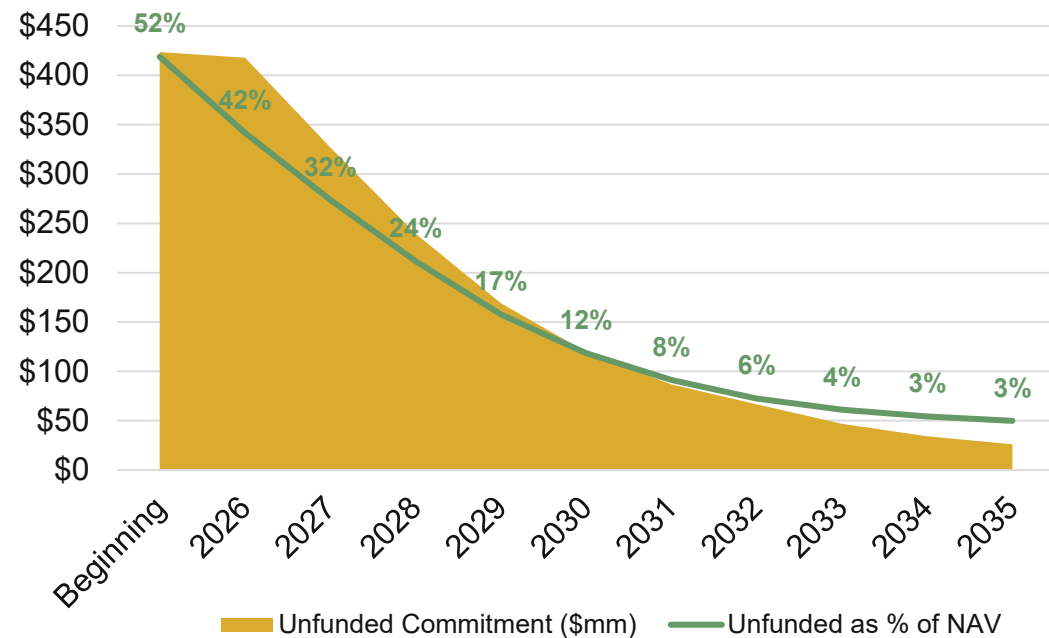
Year	Abbott	Mesirow	Neuberger	Apogem	Total
2026	-	-	-	-	\$0
2027	TBD	TBD	TBD	TBD	\$35
2028	-	-	-	-	\$0
2029	-	-	-	-	\$0
2030	TBD	TBD	TBD	TBD	\$30
2031	-	-	-	-	\$0
2032	-	-	-	-	\$0
2033	-	-	-	-	\$0
2034	-	-	-	-	\$0
2035	-	-	-	-	\$0

As of 03/31/2025.

Unfunded Commitment

- A mature private equity program typically maintains an Unfunded Commitment that is roughly 50% of NAV.
- As of 03/31/2025, CMERS's Unfunded Commitment sits at \$424 million or 52% of NAV.
- Given the significant slowdown in future commitments, the Unfunded Commitment is expected to drop dramatically over the next 10 years. By 2035, the Unfunded Commitment is projected to be negligible.

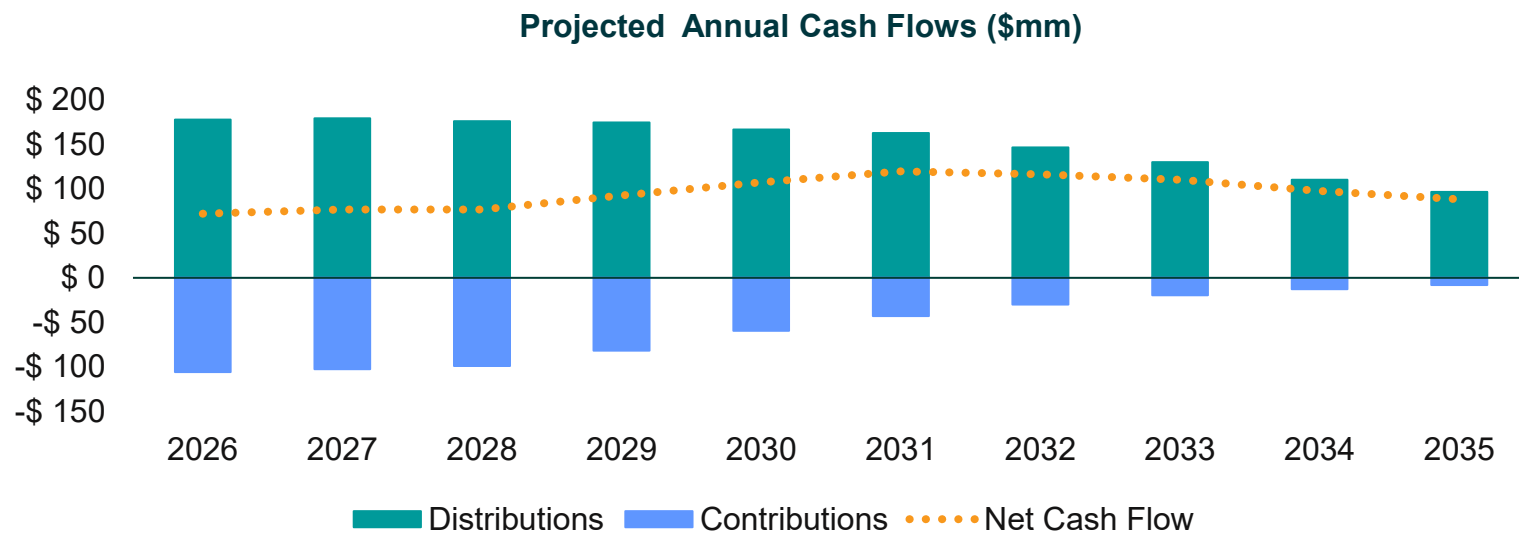
Unfunded Commitment (\$mm)



As of 03/31/2025.

Cash Flow Projections

- As the portfolio ramps down over the next 10 years, distributions are expected to significantly outpace capital calls. Capital is not expected to be reinvested into the asset class.
- Net cash flow is expected to average ~\$100 million per year over the next 10 years, which can be reinvested into other asset classes.



	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
Distributions	178	179	176	175	167	163	146	130	110	96	\$1,520
Contributions	-106	-103	-99	-82	-59	-43	-30	-20	-13	-8	-\$563
Net Cash Flow	72	77	77	93	107	120	116	110	97	88	\$957

As of 03/31/2025.

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Manager Performance

Portfolio Detail

Fund	Vintage Year	Committed	Paid-In	% Paid-In	Uncalled	Distributed	NAV	Net TVPI	Net IRR	Quartile Rank	
										Net TVPI	Net IRR
AP 2010	2010	35	35	99%	-	57	13	2.02x	13.5%	2 nd	2 nd
AP 2011	2011	55	55	100%	0	91	26	2.14x	15.0%	2 nd	2 nd
AP 2012	2012	40	40	99%	0	61	25	2.18x	15.5%	2 nd	2 nd
AP 2013	2013	35	35	99%	0	54	24	2.25x	16.7%	2 nd	2 nd
AP 2014	2014	35	34	98%	1	49	29	2.29x	16.8%	2 nd	2 nd
AP 2015	2015	25	24	98%	1	27	26	2.19x	16.9%	2 nd	2 nd
AP 2016	2016	20	20	98%	0	16	25	2.09x	17.7%	2 nd	2 nd
AP 2018	2018	20	19	97%	1	5	25	1.58x	14.0%	2 nd	2 nd
AP 2019	2019	20	18	91%	2	3	24	1.47x	14.3%	2 nd	1 st
AP 2020	2020	40	31	78%	9	2	36	1.22x	9.0%	2 nd	2 nd
AP 2021	2021	20	12	59%	8	-	13	1.13x	5.7%	2 nd	2 nd
AP 2022	2022	35	15	42%	20	-	15	1.00x	-0.1%	3 rd	3 rd
AP 2023	2023	30	8	26%	22	-	9	1.13x	16.8%	1 st	1 st
AP 2024	2024	40	6	16%	34	-	7	1.09x	21.1%	1 st	1 st
AP 2025	2025	40	2	5%	38	-	2	1.05x	-	1 st	
Abbott		\$490	\$353	72%	\$137	\$366	\$299	1.88x	15.1%	2nd	2nd
MPE V	2008	75	71	95%	4	146	25	2.41x	16.2%	2 nd	2 nd
MPE VI	2013	60	54	90%	6	89	52	2.61x	18.9%	2 nd	2 nd
MPE VII	2017	100	86	86%	14	29	126	1.81x	14.0%	2 nd	2 nd
MPE VIII	2020	120	76	63%	44	-	86	1.13x	5.3%	2 nd	3 rd
MPE IX	2024	120	11	9%	109	-	12	1.06x	95.9%	1 st	1 st
Mesirow		\$475	\$298	63%	\$177	\$264	\$301	1.90x	15.8%	2nd	2nd
NB III	2013	30	32	106%	6	42	7	1.53x	16.1%	2 nd	1 st
NB IV	2017	25	26	105%	5	24	16	1.50x	16.9%	3 rd	2 nd
NB V	2021	100	56	56%	62	18	58	1.35x	26.8%	2 nd	1 st
NB VI	2026	100	-	0%	100	-	-	-	-		
Neuberger Berman		\$255	\$114	73%	\$173	\$84	\$80	1.44x	18.1%	2nd	1st
PA VI	2014	30	34	114%	4	48	18	1.92x	18.3%	3 rd	2 nd
PA VII	2016	15	17	114%	2	19	12	1.77x	16.1%	3 rd	3 rd
PA VIII	2017	15	17	113%	1	13	18	1.84x	19.8%	3 rd	2 nd
PA IX	2019	35	34	98%	5	14	39	1.53x	19.0%	3 rd	2 nd
APEF X	2022	30	17	55%	15	1	19	1.21x	18.0%	2 nd	2 nd
APEF XI	2025	40	0	0%	40	-	1	-	-		
Apogem		\$165	\$119	72%	\$67	\$94	\$106	1.68x	18.2%	3rd	2nd

As of 03/31/2025. Abbott & Mesirow quartile rankings against the Global Private Equity LSEG/Cambridge database, for each vintage year. Neuberger Berman quartile rankings against the Global Secondaries LSEG/Cambridge database, for each vintage year. Apogem quartile rankings against the U.S. Small Buyouts LSEG/Cambridge database, for each vintage year.

Abbott Capital Management

Performance Commentary

- Highly consistent performance since inception, with nearly all funds ranking second quartile. In the aggregate, Abbott has generated a 1.9x net TVPI and 15% net IRR, both of which also rank second quartile.
- Second quartile performance is expected, and desired, for a diversified fund-of-funds program.
- Abbott's less mature funds (AP 2022-2025) have exhibited greater short-term dispersion with a mix of first and third quartile rankings.

Fund	Vintage Year	Committed	Paid-In	% Paid-In	Uncalled	Distributed	NAV	Net TVPI	Net IRR	Quartile Rank	
										Net TVPI	Net IRR
AP 2010	2010	35	35	99%	-	57	13	2.02x	13.5%	2 nd	2 nd
AP 2011	2011	55	55	100%	0	91	26	2.14x	15.0%	2 nd	2 nd
AP 2012	2012	40	40	99%	0	61	25	2.18x	15.5%	2 nd	2 nd
AP 2013	2013	35	35	99%	0	54	24	2.25x	16.7%	2 nd	2 nd
AP 2014	2014	35	34	98%	1	49	29	2.29x	16.8%	2 nd	2 nd
AP 2015	2015	25	24	98%	1	27	26	2.19x	16.9%	2 nd	2 nd
AP 2016	2016	20	20	98%	0	16	25	2.09x	17.7%	2 nd	2 nd
AP 2018	2018	20	19	97%	1	5	25	1.58x	14.0%	2 nd	2 nd
AP 2019	2019	20	18	91%	2	3	24	1.47x	14.3%	2 nd	1 st
AP 2020	2020	40	31	78%	9	2	36	1.22x	9.0%	2 nd	2 nd
AP 2021	2021	20	12	59%	8	-	13	1.13x	5.7%	2 nd	2 nd
AP 2022	2022	35	15	42%	20	-	15	1.00x	-0.1%	3 rd	3 rd
AP 2023	2023	30	8	26%	22	-	9	1.13x	16.8%	1 st	1 st
AP 2024	2024	40	6	16%	34	-	7	1.09x	21.1%	1 st	1 st
AP 2025	2025	40	2	5%	38	-	2	1.05x	-	1 st	
Abbott		\$490	\$353	72%	\$137	\$366	\$299	1.88x	15.1%	2nd	2nd

As of 03/31/2025. Quartile rankings against the Global Private Equity LSEG/Cambridge database, customized for each vintage year.

Mesirow Financial Private Equity Advisors

Performance Commentary

- Mesirow has a similar return profile as Abbott, given both pursue a diversified fund-of-funds strategy.
- Mesirow's performance has also been strong and consistent since inception. In the aggregate, Mesirow has generated a 1.9x net TVPI and 16% net IRR, both of which rank second quartile.
- Mesirow's less mature funds are a mix of first, second, and third quartile, which may fluctuate as the funds mature.

Fund	Vintage Year	Committed	Paid-In	% Paid-In	Uncalled	Distributed	NAV	Net TVPI	Net IRR	Quartile Rank	
										Net TVPI	Net IRR
MPE V	2008	75	71	95%	4	146	25	2.41x	16.2%	2 nd	2 nd
MPE VI	2013	60	54	90%	6	89	52	2.61x	18.9%	2 nd	2 nd
MPE VII	2017	100	86	86%	14	29	126	1.81x	14.0%	2 nd	2 nd
MPE VIII	2020	120	76	63%	44	0	86	1.13x	5.3%	2 nd	3 rd
MPE IX	2024	120	11	9%	109	0	12	1.06x	95.9%	1 st	1 st
Mesirow		\$475	\$298	63%	\$177	\$264	\$301	1.90x	15.8%	2nd	2nd

As of 03/31/2025. Quartile rankings against the Global Private Equity LSEG/Cambridge database, customized for each vintage years.

Neuberger Berman

Performance Commentary

- Neuberger has generated strong performance on a net IRR basis. Its aggregate net IRR of 18% ranks first quartile, and each individual fund ranks first or second quartile.
- The net TVPI performance has also been strong on an aggregate basis, but with more varied performance by fund.
- As a secondary strategy, the IRR is expected to be stronger, given the distribution profile, while the long-term TVPI may be below a diversified fund-of-funds.

Fund	Vintage Year	Committed	Paid-In	% Paid-In	Uncalled	Distributed	NAV	Net TVPI	Net IRR	Quartile Rank	
										Net TVPI	Net IRR
NB III	2013	30	32	106%	6	42	7	1.53x	16.1%	2 nd	1 st
NB IV	2017	25	26	105%	5	24	16	1.50x	16.9%	3 rd	2 nd
NB V	2021	100	56	56%	62	18	58	1.35x	26.8%	2 nd	1 st
NB VI	2026	100	-	0%	100	-	-	-	-		
Neuberger Berman		\$255	\$114	73%	\$173	\$84	\$80	1.44x	18.1%	2nd	1st

As of 03/31/2025. Quartile rankings against the Global Secondaries LSEG/Cambridge database, customized for each vintage year.

Apogem Capital

Performance Commentary

- Apogem's track record has been more mixed, with predominantly third-quartile Net TVPIs and predominantly second-quartile Net IRRs across the funds. In the aggregate, performance has also been a mix of third quartile and second quartile.
- Small buyouts, which are Apogem's focus, tend to be more volatile than diversified strategies, with a higher risk/reward profile.
- Apogem's more recent funds have larger exposures to secondaries and co-investments, which appear to be benefitting performance.

Fund	Vintage Year	Committed	Paid-In	% Paid-In	Uncalled	Distributed	NAV	Net TVPI	Net IRR	Quartile Rank	
										Net TVPI	Net IRR
PA VI	2014	30	34	114%	4	48	18	1.92x	18.3%	3 rd	2 nd
PA VII	2016	15	17	114%	2	19	12	1.77x	16.1%	3 rd	3 rd
PA VIII	2017	15	17	113%	1	13	18	1.84x	19.8%	3 rd	2 nd
PA IX	2019	35	34	98%	5	14	39	1.53x	19.0%	3 rd	2 nd
APEF X	2022	30	17	55%	15	1	19	1.21x	18.0%	2 nd	2 nd
APEF XI	2025	40	0	0%	40	0	1	-	-		
Apogem		\$165	\$119	72%	\$67	\$94	\$106	1.68x	18.2%	3rd	2nd

As of 03/31/2025. Quartile rankings against the U.S. Small Buyouts LSEG/Cambridge database, customized for each vintage year.

Callan

Conclusion & Recommendations

Conclusion & Recommendations

Program Summary

The program captures the institutional private equity opportunity set broadly, across with two core managers (70%) providing diversified exposure and two specialty managers (30%) enhancing liquidity and market-cap breadth

Funding Summary

The program's NAV expected to decline gradually over time as part of CMERS' de-risking glidepath, aiming for a 4% private equity target in 10 years

Performance

Strong, consistent performance, with returns continuing to rank in the second quartile.

Recommendation

No re-investments this year, with a smaller level of commitments budgeted for next year, pending future pacing analyses

Callan

Appendix

Commitment Pacing Model Assumptions

Total Plan Assumptions:

- Market value as of 03/31/2025 (adjusted for actual 1Q private equity values): \$6,042,085,588
- Projected Investment Return: actuarial discount rate of 6.8%, declining to 6.5% in 2033 in accordance with the glidepath projections
- Leverages actuarial cash flow projections over the next 10 years
- The model assumes the step downs in the private equity target occur when there is >60% probability of reaching the funding status milestone. Various other scenarios were also modeled.

	Beginning	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
PE Target	12%	11%	11%	11%	11%	10%	10%	10%	4%	4%	4%

Private Equity Assumptions:

- Private equity values as of 03/31/2025
- Historical cash flows of the Cambridge database are used to project future cash flows of the program. Each existing fund as well as new commitments are modeled individually based on the historical cash flows of its strategy type.
- Model incorporates Callan’s Capital Markets Assumption of 8.5% for private equity.

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Past performance is no guarantee of future results.

Memorandum

To: CMERS Investment Committee
From: Erich Sauer, CFA, CAIA
Date: September 4, 2025
Re: Neuberger Berman Due Diligence Meeting June 16, 2025
Team: Erich Sauer and Tom Courtright

Background

Neuberger Berman (NB) is one of the four managers hired by the Employees' Retirement System (ERS) to invest its Private Equity allocation. The ERS has committed a total of \$155 million to NB's Secondary Opportunity Funds (SOF) - \$30 million to SOF III, \$25 million to SOF IV, and \$100 million to SOF V. ERS is currently considering a \$100 million commitment to SOF VI. The SOF vehicles are dedicated to secondary private equity investments, which involve purchasing another investor's pre-existing investment and/or commitment to a private company, private portfolio, or private fund. As of March 31, 2025, NB SOF III has called \$32.1 million against CMERS' \$30 million commitment, SOF IV has called \$26.0 million against CMERS' \$25 million commitment, and SOF V has called \$55.9 million of CMERS' \$100 million commitment.

Key Takeaways From Most Recent Meeting

- NB has maintained a deep, experienced, and stable investment team that focuses exclusively on secondary market transactions in private equity.
- As more complex GP-Led transactions have become a larger part of the portfolio, NB has hired at the junior, mid, and senior levels to ensure the team is staffed to properly evaluate and execute these more complex transactions.
- Performance for SOF III and SOF IV has been strong, and staff remains confident in NB's abilities as a private equity secondary manager.

Firm Summary

Neuberger Berman Private Equity (NBPE) is the private equity division of Neuberger Berman, LLC, an independent, privately-owned firm, and a registered investment advisor. NB is 100% owned by its employees and related parties. NB has assets under management of \$515 billion, of which the PE platform manages approximately \$107 billion across primary funds, co-investments, secondary investments, and direct strategies. To serve their client base, NBPE employs nearly 200 investment professionals in offices across the globe. The majority of the secondary team is based in the firm's New York headquarters, and has managed nearly \$19 billion in commitments since inception. Investors in the funds are primarily institutional, including public, corporate, and private pensions, endowments, foundations, sovereign wealth funds, and government entities.

NB has invested significantly in the team over the past several years, due to the increasing importance of GP-Led secondaries in the strategy. GP-Led deals require more intensive analysis and take longer to complete than traditional LP secondaries. The Secondary team is now up to ten Managing Directors, nine Principals and Vice Presidents, and 18 Analysts and Associates. As recently as 2018 these categories numbered five, three, and six, respectively.

Tristram Perkins and Ben Perl are the Global Co-Heads of Secondaries, and lead the team. Brian Talbot and Ethan Falkove, who founded the strategy with Mr. Perkins at a predecessor firm, are still involved, although Mr. Talbot moved to the Chairman role in 2022 as part of a long-term glide path toward his eventual retirement. NB added two Managing Directors to the team since our last

visit – Victor Ko, an internal promotion, and Michael Pan, who was previously an MD at Warburg Pincus. NB highlighted Mr. Pan's experience working on Warburg's GP-Led deals as something that will be particularly valuable to the team.

NBPE typically launches a new Secondary Opportunity Fund every four years. SOF V held its final close in August of 2022, for a total fund size of \$4.9 billion. NBPE is currently in the market with SOF VI, which has an initial target size of \$5.0 billion.

Investment Philosophy and Process

NB's investment objective is to construct a portfolio of high quality and seasoned assets primarily from the middle market sector, which they define as transaction sizes ranging from \$1 million to \$300 million. These secondary funds are different from CMERS' other three private equity managers, in that they achieve their private equity exposure mainly by purchasing investments from other investors, as opposed to building their exposure mainly through investing directly with the underlying private equity managers. NB focuses on transactions with minimal competition, which they believe gives them the best chance of making purchases at attractive valuations.

The two main components of return for a secondary investment are the discount to fair value paid for the investment and the future appreciation or depreciation of the investment. As the market has grown more efficient, secondary transactions conducted in a competitive auction process can often trade at par, or even at a slight premium. However, by focusing on transactions sourced on a proprietary or limited competition basis, the SOF vehicles have typically been able to purchase investments at transaction discounts close to 15%. Still, the appreciation of the underlying portfolio companies has historically provided the largest contribution to return throughout the history of the SOF platform. This largely stems from the high-quality assets selected for the portfolio and the ability of the underlying management teams and fund managers to generate and/or realize value in the marketplace.

Discounts for secondary offerings can approach extreme levels during times of market turmoil, distress, or dislocation. Historically, secondary investments have traded at 30-40% discounts during these market environments, most recently in the 2008-2010 timeframe. In 2023, NB noted they were seeing 15-20% discounts on good quality assets, which was the most favorable pricing in the last decade. At this meeting, NB noted that pricing had tightened slightly from 2023 levels, but was still in a range they would consider to be attractive.

The average transaction size for an LP secondary in SOF V is \$43 million. This is likely a competitive advantage given that approximately 75% of all secondary capital in the marketplace is focused on transaction sizes greater than \$100 million. NB feels that focusing on smaller deal sizes provides a more fertile investment backdrop because these deals are often considerably less competitive and are frequently exclusive transactions that are able to be privately negotiated. Historically, the vast majority of the investments on the SOF platform have been purchased in a limited competition situation. As intermediaries have become more involved in the sale process, these deals can be harder to find, but the team remains disciplined, and will pass on deals that do not satisfy the return or quality thresholds for purchase.

Neuberger is able to offset some of the impact of intermediaries by leveraging its reputation with GPs as a highly desirable secondary purchaser. This is due both to the relationships and experience of the secondary team, and also the potential access they can provide GPs to the broader NB private equity platform. GPs typically exert more control over the sale process in the middle market space, which is to Neuberger's benefit.

Although the SOFs emphasize private equity secondaries of leveraged buyout funds, the fund documents provide the team with the ability to invest in credit related, energy, venture capital, infrastructure, real estate funds, fund of funds, as well as portfolios of direct investments, royalties, and co-investments. Historically, these investments have not been a material portion of the portfolio. Although the SOFs have a global mandate, investments have primarily been within the U.S. and Western Europe.

The team will utilize lines of credit to finance working capital needs associated with underlying SOF investments held in the portfolio. As SOF I and II reached the end of their lives, NB was able to sell the remaining portfolios into the secondary market at prices at or above par. They may use this mechanism to opportunistically sell the remainder of SOF III in the next few years, if pricing becomes strong again.

GP-Led Transactions

Beginning with SOF III, the team has been increasingly focused on GP-Led transactions. For the lead investor, which NB typically is, these are more complex than a typical secondary purchase. The earliest GP-Led transactions were typically the purchase of an entire fund near the end of its life to provide liquidity to all LPs. Other types could be the recapitalization of a fund early in its life to provide distributions to LPs and mitigate the J-curve, or the lift-out of a team from an organization such as a bank that might want (or need) to exit the private equity business. As the GP-Led secondary space has matured, single asset transactions have become more common. This involves creating a new vehicle to allow a GP to hold a single company (typically the highest quality, highest conviction company in the portfolio) longer than the life of the original vehicle.

Because fewer secondary managers have the expertise and the capital to be involved in GP-Led, NB is able to find transactions that are not as competitive. As the lead investor in these deals, NB is able to negotiate items such as GP alignment, fees, and preferential terms. In SOF III and IV, it was NB's preference to be the lead investor, but they still participated in certain deals in syndication. Since 2022, NB has only invested in GP-Led deals where it can be the lead investor.

The secondary team also manages a dedicated GP-Led product, Strategic Capital, that invests alongside the SOFs in all GP-Led deals. NB has a strict allocation policy to ensure a fair allocation of deals to each fund. NB views Strategic Capital as a benefit to the SOFs, because the additional capital is what allows NB to solely focus on transactions where it can be the lead, giving more ability to drive terms. NB recently completed the final close on Strategic Capital II, at a fund size of \$4.0 billion.

As GP-Led deals make up approximately 50% of transactions in the secondary market, NB expects GP-Led to be approximately 50% of the SOFs, although this will vary depending on the market environment. Due to the favorable pricing NB encountered for traditional LP secondaries while investing SOF V, GP-Led deals are currently 43% of the fund. The investment strategy will be similarly opportunistic for SOF VI.

Due Diligence

Once a potential investment has been identified, the team conducts a multi-step evaluation that includes both a top-down analysis of the GP as well as a bottom-up analysis of the underlying portfolio. The top-down analysis involves assessing the track record, investment strategy, capabilities, and stability of the GP. This is also the point where NB looks at the competitive dynamic of the sale process and the pricing expectations of the seller.

The bottom-up analysis is a bit more involved, beginning with an in-depth due diligence on the underlying portfolio companies. NB then works with the GP to gain insights into current

performance and future prospects for the underlying investments. The team often has greater access to the GPs than many other secondary buyers, as GPs may view a secondary sale to NB as an introduction to the NB primary funds platform. The team also leverages internal resources across the entire NB organization, as well as third party due diligence resources, to understand things like industry valuations, competition, and growth rates.

Next, the team builds a proprietary investment model by independently valuing each underlying portfolio company, constructing financial performance projections, and evaluating multiple exit scenarios. NB then runs these projections through a discounted cash flow model that takes into account the fees and carried interest of the underlying fund.

NB believes that this rigorous due diligence process is what gives it a competitive advantage in the secondary market, and especially with respect to the GP-Led transactions mentioned above. The very large secondary funds that purchase hundreds of secondary interests at a time through competitive auctions have no need to evaluate the underlying portfolio companies, so they never developed the capability. Some smaller players may have the expertise to do similar valuation work to NB, but they do not have the capital to compete for the same size transactions. This competitive positioning should allow NB to continue to find transaction opportunities that have limited competition or even exclusive access.

The NB Secondary Investment Committee convenes after the team has finished due diligence to review the investment opportunity, due diligence findings, merits, potential risks, and expected returns. Investment Committee approval is required for larger transactions, but transactions smaller than 1.0% of aggregate commitments can be approved with unanimous consent of the key persons (Messrs. Perkins, Perl, and Falkove for SOF VI). The last step in the process relies on the legal team to conduct final negotiations and ultimately close transactions.

Compliance and Reporting

Joseph Bertini is the Chief Compliance Officer for NB's alternatives business. Mr. Bertini is responsible for overseeing the testing and monitoring of compliance issues facing NBPE and reports to Brad Cetron, NB's Global Head of Compliance. Mr. Bertini, along with NBPE's other in-house attorneys, are involved in the day-to-day legal work for the business as well as performing the compliance role. Routine compliance, policy, oversight, and internal audit is implemented by NB's Legal and Compliance Department, which employs 130 individuals tasked with monitoring all NB employees.

NBPE has made a significant commitment to develop and maintain best-in-class reporting capabilities. NBPE takes a proactive approach toward underlying portfolio company valuation so that final audited reports are able to be distributed to NBPE SOF investors within five months of fiscal year-end. This is made possible with close back-office relationships between NBPE and the underlying GPs' back-office departments.

Internal Controls

NB has established an Operating Committee to oversee the daily activities of the firm, as well as an Operational Risk Committee (ORC), which provides oversight of the risk evaluation process focused upon operational issues, solutions, costs, and implementation tracking.

NBPE has a six-person Valuation Committee that meets quarterly to approve and submit its quarterly report to the ORC. This report summarizes the private equity mark-to-market values and highlights any outliers that diverge from the GP reported valuations. The Valuation Committee also ensures that these processes are consistent with stated valuation procedures in the funds' governing documents.

The secondary team continually monitors and records financial and accounting data being distributed from managers. NBPE maintains a staff of financial reporting analysts who read, distill, verify, and record key information. This information is further verified and augmented by participating in conference calls, due diligence, and annual meetings. NB has an industry leading back office that provides accurate administration and execution of all fund related transactions, adhering to detailed procedures and controls for such items as capital calls, cash (stock) distributions, cash receipts, cash disbursements, and sales of private securities.

Only designated members of the in-house legal team are authorized to sign the legal documents for any given transaction. It is important to note that although the legal team works within NBPE, it is independent of NBPE and reports to compliance.

Information Systems & Disaster Recovery

NBPE relies upon NB shared services for Information Technology and Business Continuity implementation. The Business Continuity plan has been designed to protect employees, clients' interests, and to permit the firm to resume operations as quickly as possible in the event of an emergency or business disruption. NB also maintains a contract with a third-party vendor to provide physical recovery work space for all critical NB business functions.

NB employs automated failovers for critical applications in a disaster recovery situation. Data is written to both the primary and secondary data centers simultaneously, in order to ensure no time lag in the event a failover is required. NB conducts a failover test at least annually.

Staff met with Michael Ruane, NB's Head of AI, Cloud, and Technology Business Management, to discuss the firm's AI capabilities. He gave us an overview of NB's proprietary AI platform called NB-GPT, which became available to all firm employees in January of 2024. Employees have found the tool useful, and it now sees an average of 14,000 interactions a day. Use cases involve things like analyzing unstructured data, summarizing documents, and drafting reporting and commentary. The tool has also proven useful to the IT development team in writing code.

Conclusion

ERS Staff has been pleased with NB's capabilities in the secondary private equity market. The secondary team has been stable and the key managing directors have worked well together for over 20 years. Staff is also impressed by NB adding investment professionals, including at the senior level, to ensure that the team is well-resourced enough to remain a leader in executing GP-Led deals. NB's proprietary deal flow sourcing, GP access, middle market focus, and strong due diligence capability should give them an advantage against other players in the space, especially in dealing with more complex transactions.

Performance for CMERS' SOF investments has been strong. As of March 31, 2025, SOF III had a TVPI of 1.5x. The fund has been mostly realized, having distributed 1.3x invested capital. SOF IV had a TVPI of 1.5x, and has distributed 0.9x invested capital. SOF V is still developing, having invested roughly 56% of CMERS' \$100 million commitment, but it is off to a good start, showing a 1.35x TVPI. ERS staff has confidence in NB's ability to successfully implement a secondary private equity fund of funds strategy for our Fund.



September 4, 2025

**City of Milwaukee Employees'
Retirement System**

**Cryptocurrency and Blockchain
Education Workshop**

Bo Abesamis III

Executive Vice President and Manager

Alvaro Vega

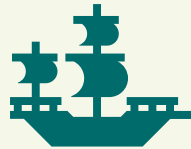
Senior Vice President

Evolution

Evolution of Asset Servicing

Physical Settlement

In the 1700s, the first stock settlements took place between the Amsterdam Stock Exchange and the London Stock Exchange, where shares were cross-listed and traded. The settlement period accounted for the two weeks to complete the voyage.



Asset Servicing 1.0



Asset Servicing 2.0

The *DTCC*, established in 1973, settles transactions between buyers and sellers of securities.

Fedwire Funds Service, a real-time gross settlement system that enables participants to initiate funds transfer that are immediate, final, and irrevocable once processed.

DTCC

Securing Today. Shaping Tomorrow.™

Fedwire
Wired to deliver.

Asset Servicing 3.0

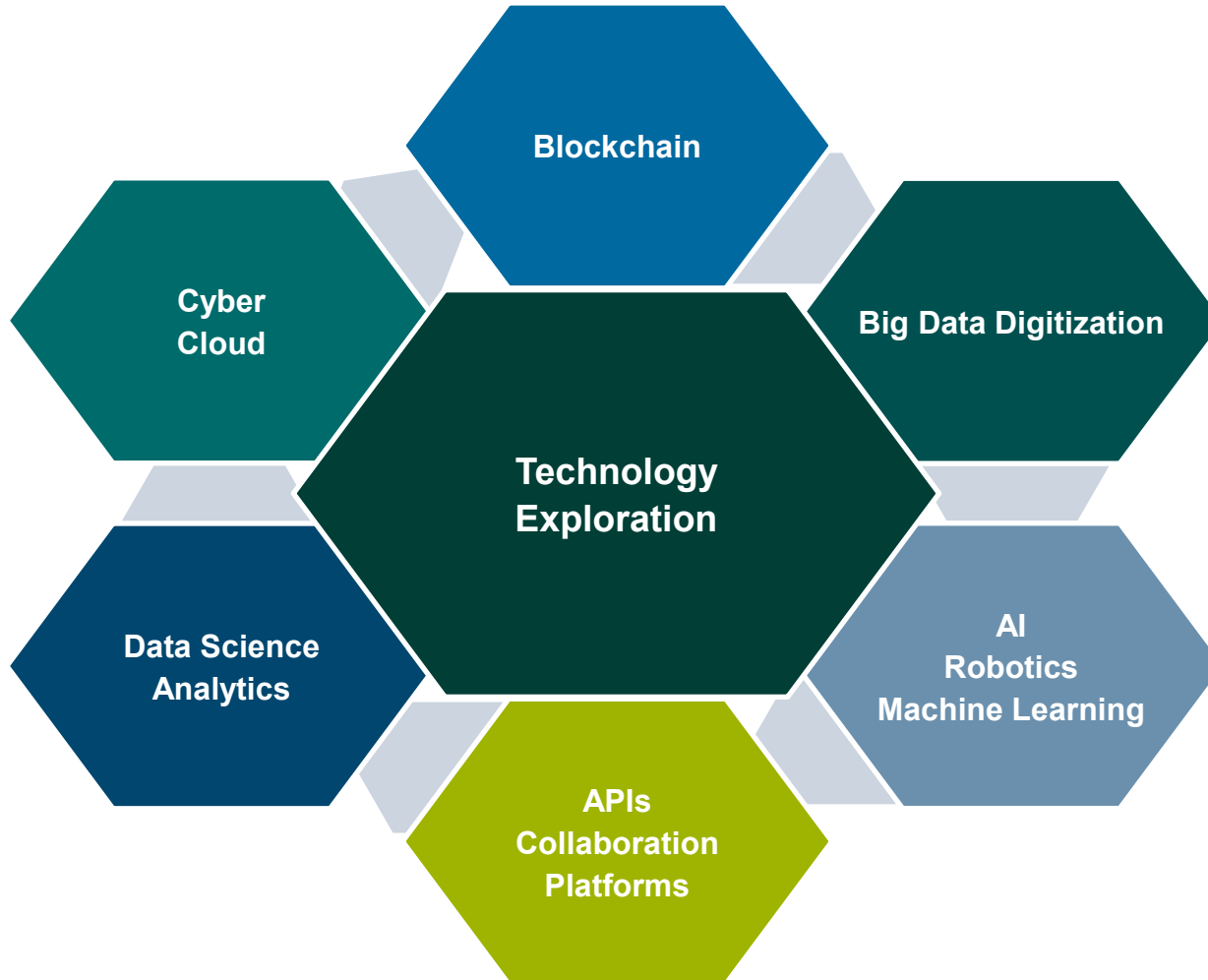
Blockchain, Distributed Ledger, Smart Contract, Atomic Settlement, Data (Single Source of Truth)

Scalability, Flexibility, Capacity



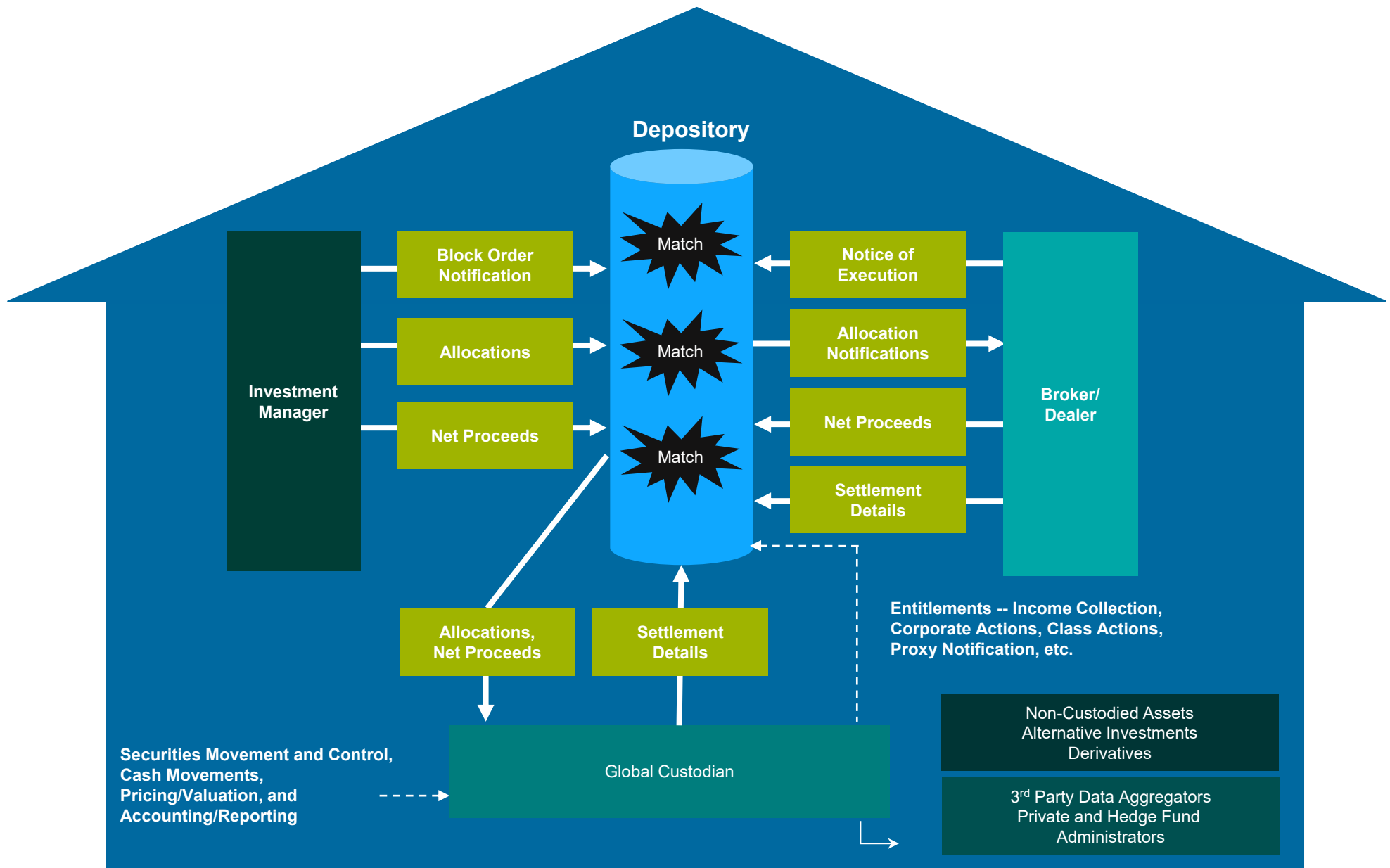
The Future is Now

Alignment of the digital space



Revolution

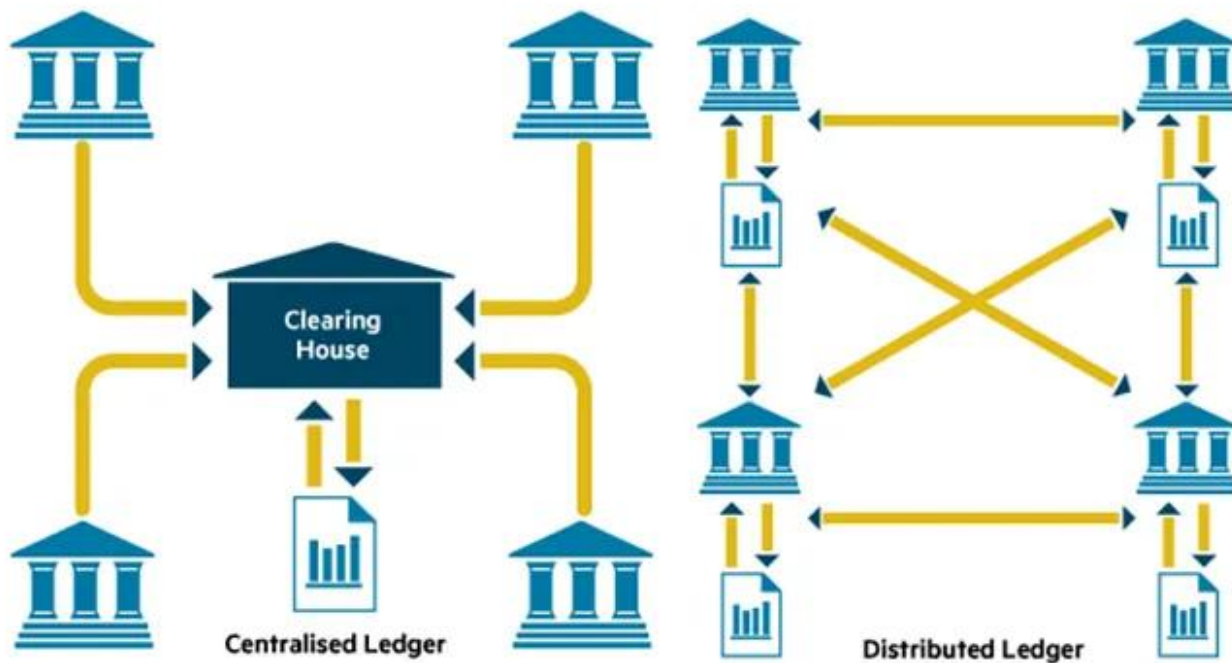
Life of a Trade and Custody



Blockchain and Distributed Ledger Technology

Embedding distributed ledger technology

A distributed ledger is a network that records ownership through a shared registry



In contrast to today's networks, distributed ledgers eliminate the need for central authorities to certify ownership and clear transactions. They can be open, verifying anonymous actors in the network, or they can be closed and require actors in the network to be already identified.

FT Graphic Source: Santander InfoVentures, Olver Wyman & Arthemis Partners

Digital Assets Level Set

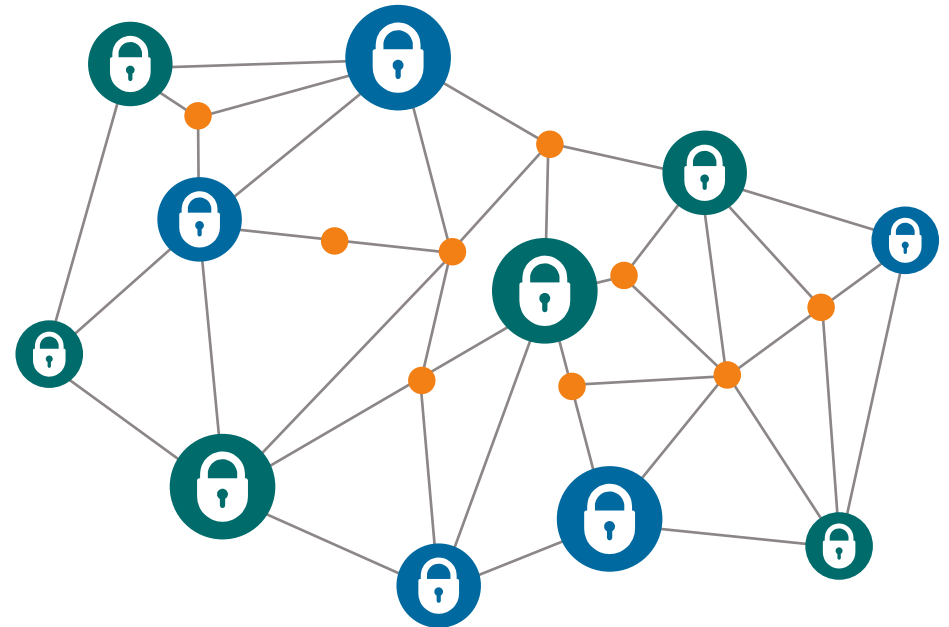
Common ground and nomenclature

Digital Assets – any asset that is purely digital, or is a digital representation of a physical asset.

Satoshi Nakamoto's paper – “Bitcoin: A Peer-to-Peer Electronic Cash System”, October 31, 2008.

Decentralized Finance (DeFi) is the movement that uses open source and distributed networks to transform traditional financial and investment products into reliable and transparent protocol without intermediaries.

Key components that allow for the implementation of Digital Assets, namely: **Blockchain, Distributed Ledgers, Public & Private Keys, Validation Protocols, Smart Contracts, and Tokenization.**



Blockchain

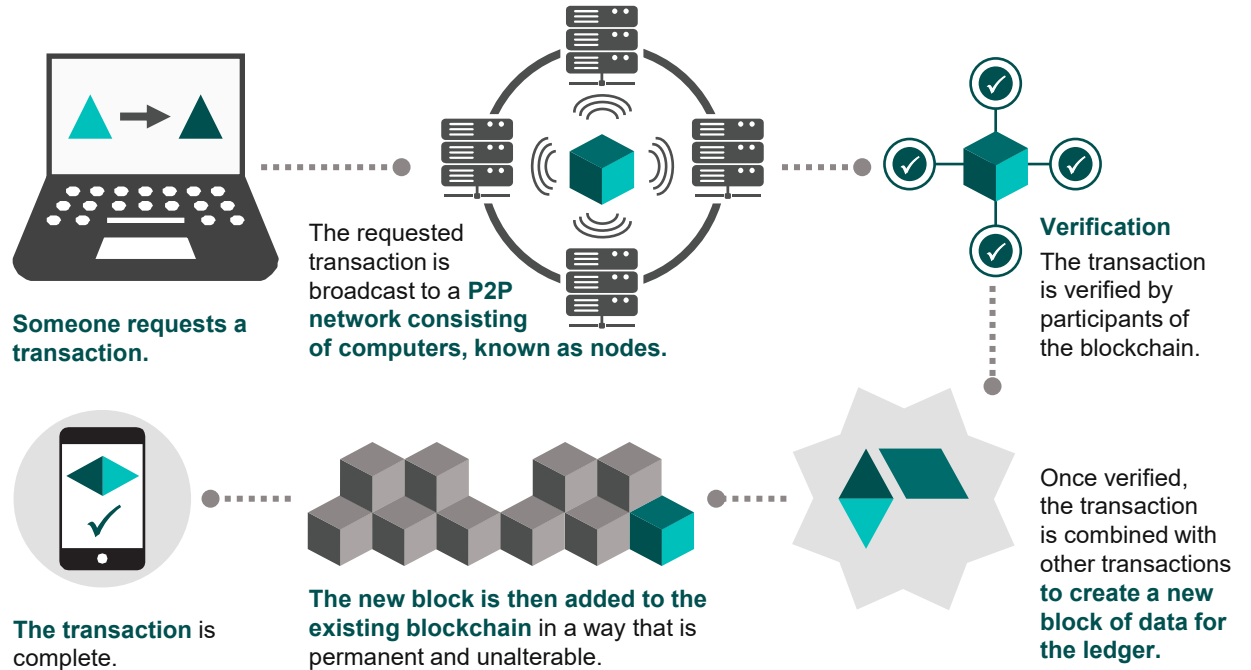
Process

What is it?

The Blockchain is a distributed (decentralized) ledger of all transactions across a peer-to-peer network. Using this process, participants can confirm transactions without the need for a central certifying authority. Potential applications include fund transfers, settling trades, voting, and many other uses.

A distributed ledger is a type of database which spreads across multiple locations; in this context, digitally across nodes on a blockchain network.

How it works:



A peer-to-peer (P2P) network is group of computers, each of which acts as a node for sharing files within the group. Instead of having a central server to act as a shared drive, each computer acts as the server for the files stored upon it.

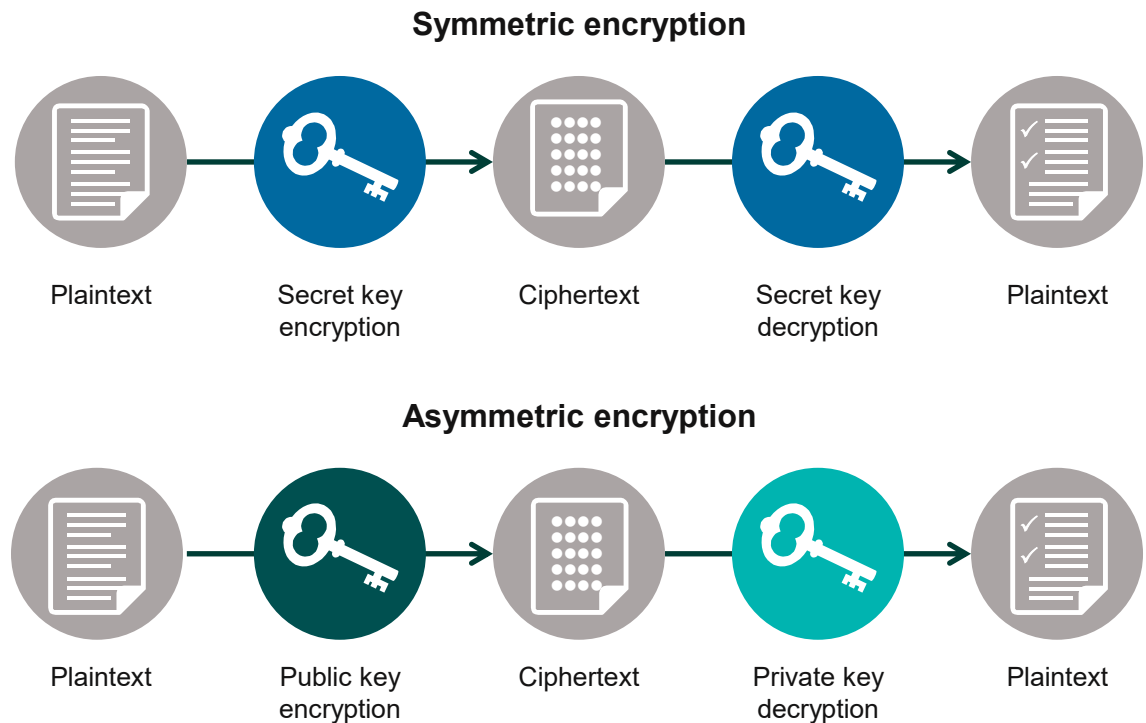
Public & Private Keys

The key(s)

A private key is essentially a randomly generated binary number that is used to encrypt and decrypt information, and is only made available to the originator of the encrypted content. Subsequently, this private key is all that is required to confirm a transaction.

A public key is essentially a long numeric code that is cryptographically derived from a specific private key. The public key is available to many, and is available in an online directory. The public key must be paired with the correct, corresponding private key for a transaction to be executed.

Symmetric vs. Asymmetric Encryption



Source: World Economic Forum, Blockchain Beyond the Hype (April 2018) and Imperial College of London

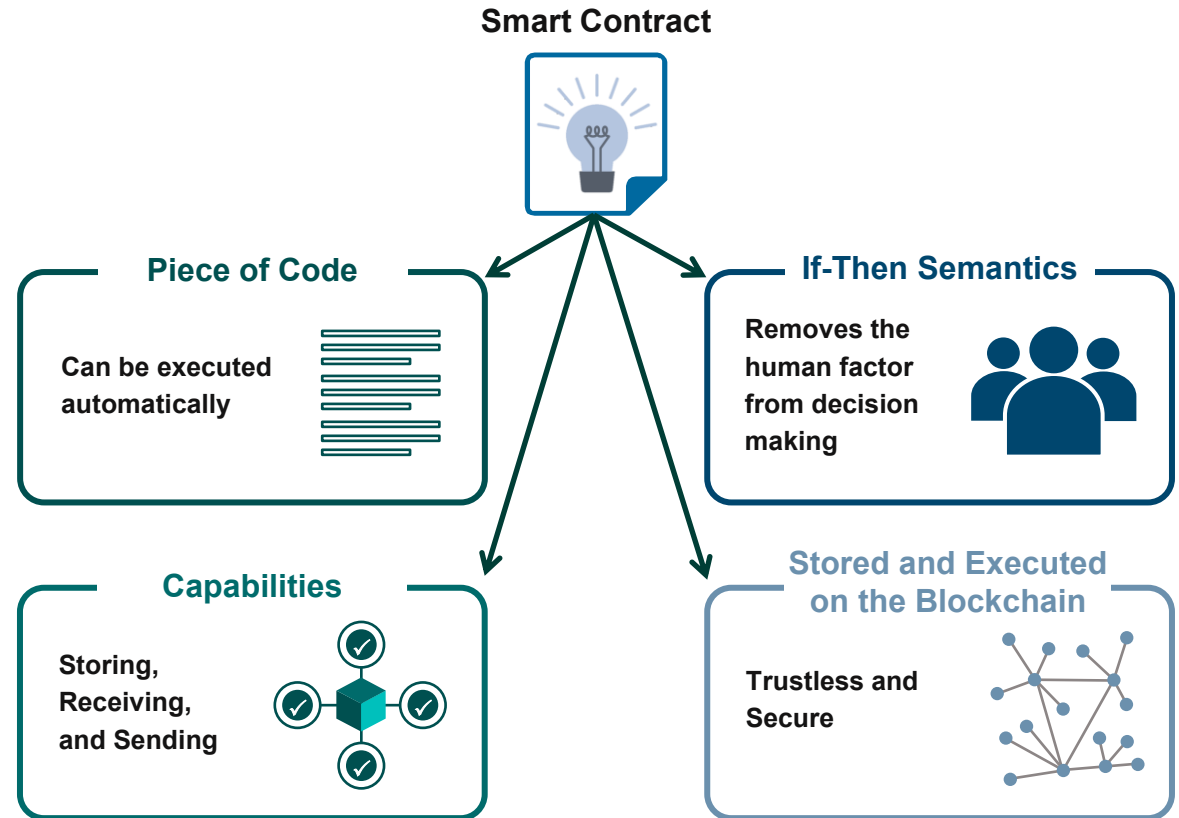
Smart Contracts

Game changers

Smart contracts are programs whose terms are recorded in computer code and allow for automated actions that can be executed once a set of conditions is met. Technically an application layer that makes much of the benefits of blockchain technology a reality.

Components of Smart Contracts embedded within the code:

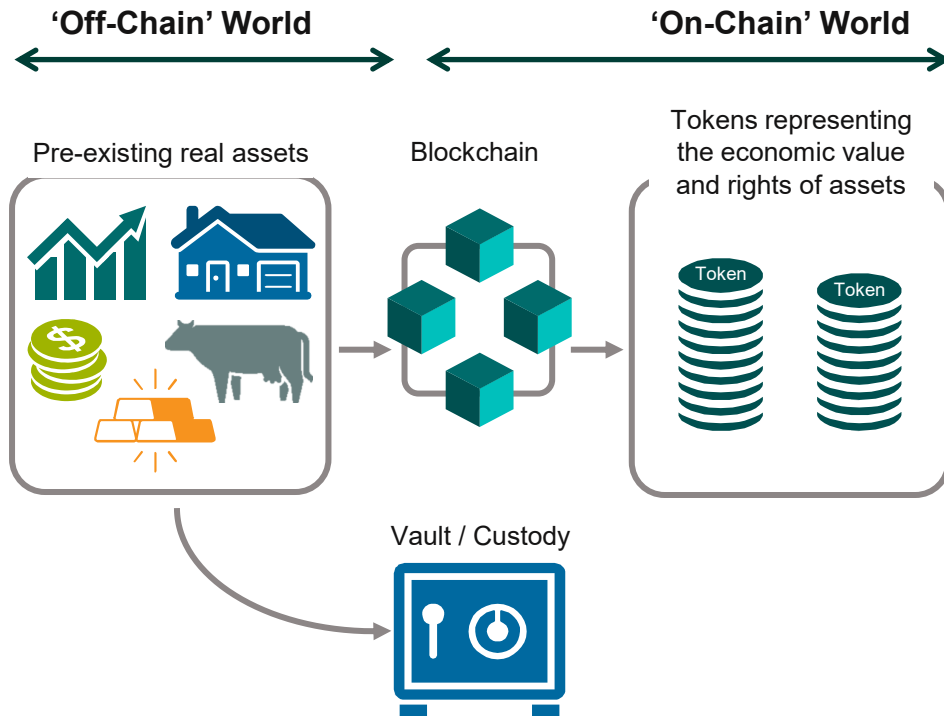
- The contractual arrangement between the parties
- The governance of preconditions necessary for the contractual obligations to take place
- The actual execution of the contract



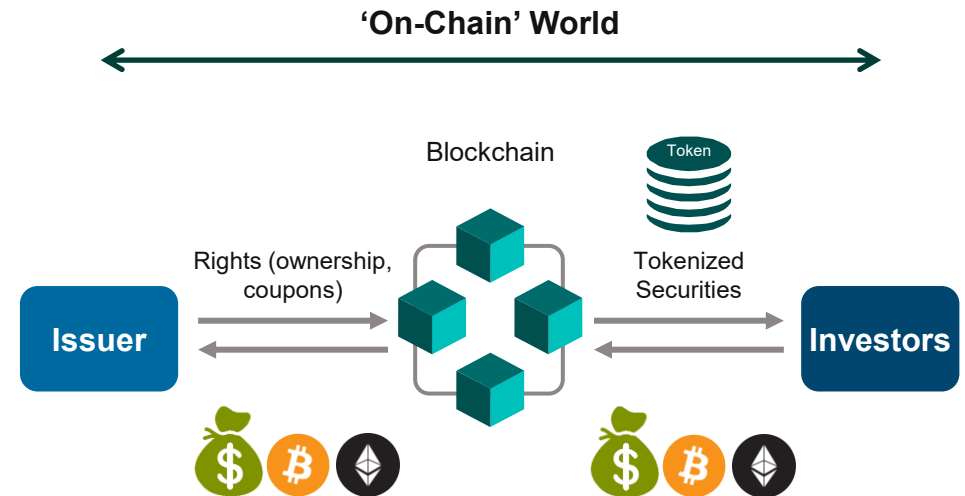
Tokenization

Creation

Tokenization of real assets that exist off-the-chain



Tokenization of assets “native” to the blockchain

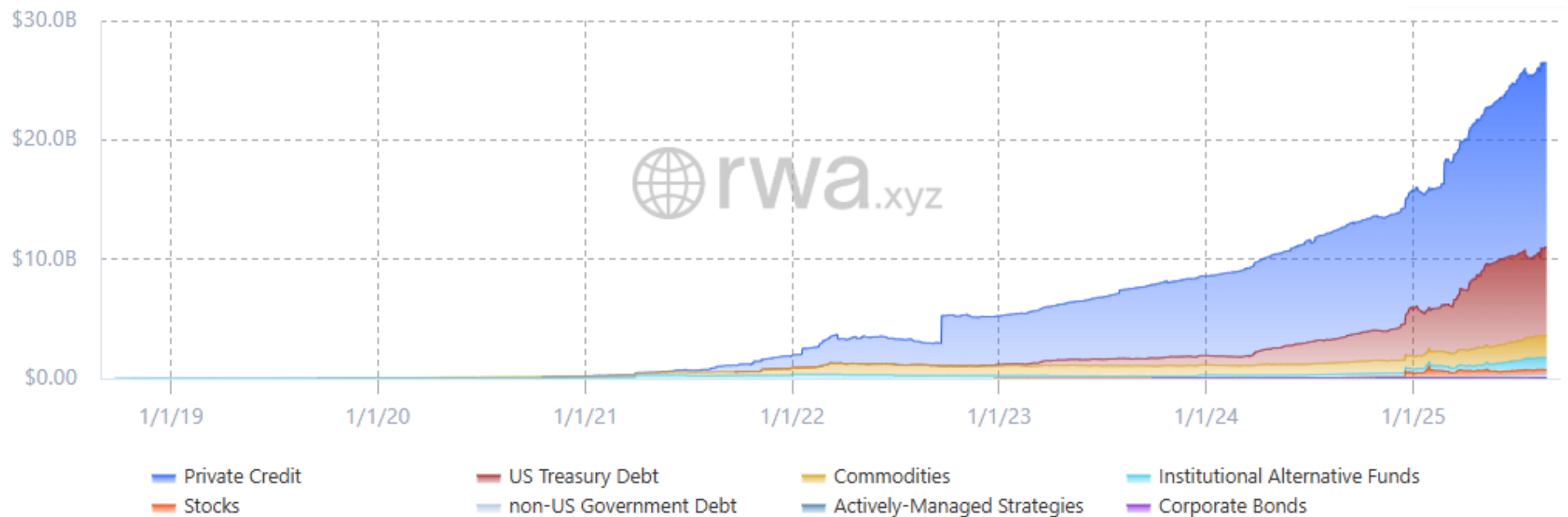


Tokenization

Current Trends

Total Real-World Assets on-chain: \$26.5 billion

- Comprised largely by Private Credit and US Treasury Debt instruments



Source: rwa.xyz – data as of August 25, 2025

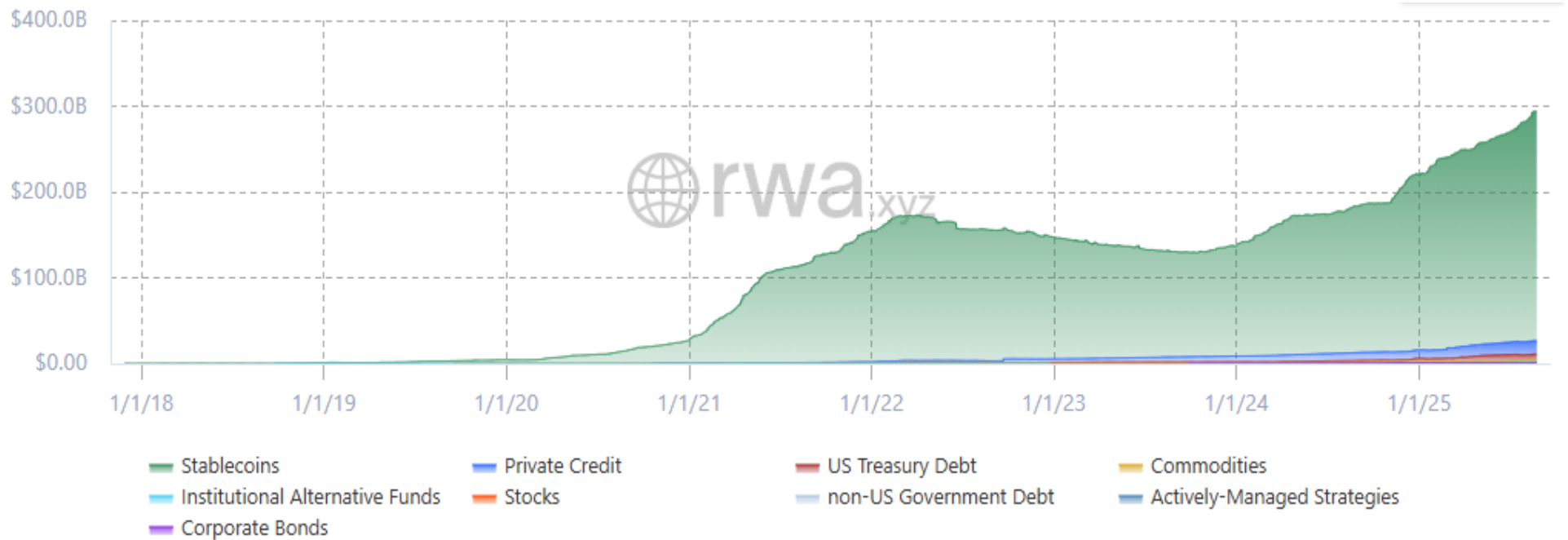
Tokenization

Current Trends

Total Tokenized assets: \$294.1 billion

Total Stablecoin assets: \$267.6 billion

Total Real-World Assets on-chain: \$26.5 billion

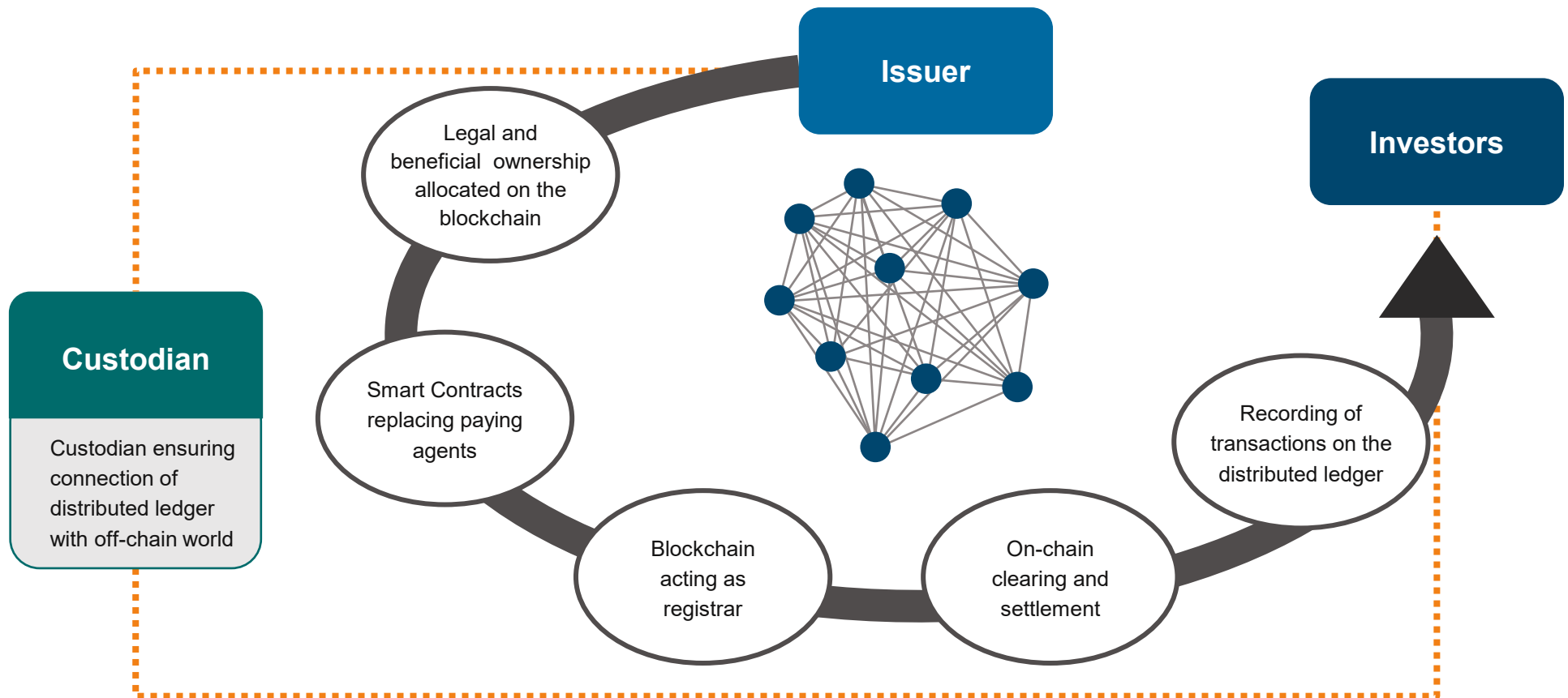


Source: rwa.xyz – data as of August 25, 2025

Structural Changes

Reset

Post Trade in a Distributed Ledger World



Source: OECD, 2020, BIS Innovation Hub 2020

Ecosystem

Current and future

Current Environment – Linear validation predicated on functional steps to proceed.

Duplication of data, processes, and operations

Reconciliation

Latency

Risk

Privacy

Resource intensive (energy)

Future Environment – Shared ledgers and data provide a single source of truth with each party enhancing data in real-time as the transaction passes through the value chain. This results in:

Single pool of golden source data

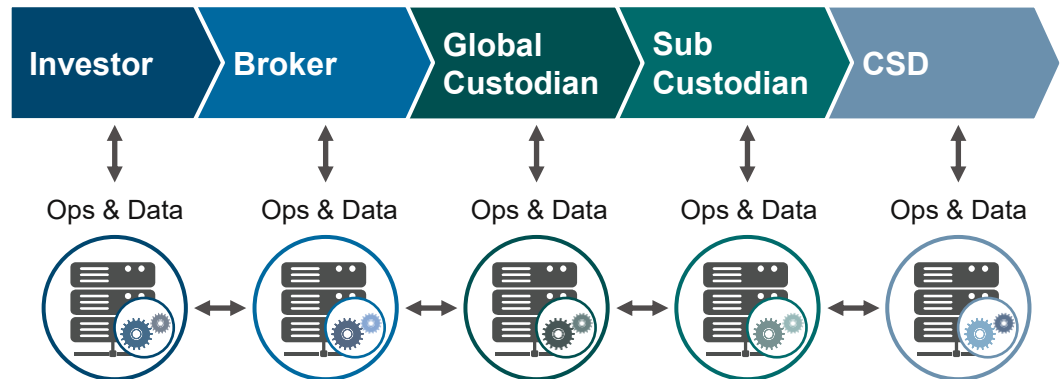
Data shared securely along the value chain in real time

Removes reconciliation

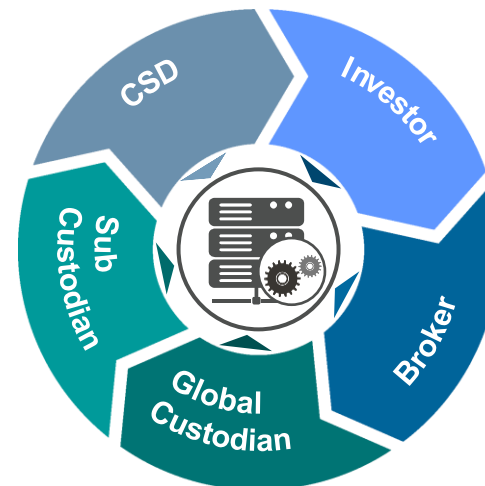
Moves from bilateral to central transaction processing

Synchronization and compression of processes such as trading and settlement

Current Ecosystem Transaction Value Chain



Future Ecosystem Transaction Value Chain



Options for Digital Custody

Not perfect

Custodians safeguard digital assets by ensuring that investors' private keys are maintained securely. This is achieved by either storing the assets online, a method called hot storage, or offline, known as cold storage, or through a multiple approval approach, known as multi-signature and smart contract wallets.

Institutional Custody
Crosscheck:

- Reduced risk and complication
- Increased security
- Recourse for investors
- Safer than exchanges
- Operational efficiency

Self Custody

These may include hardware, software or paper wallets, where the digital asset investor uses software, hardware (e.g. a USB device), or simply a piece of paper to store private keys.

Pros

- Relatively secure
- Greater control

Cons

- Burden of responsibility for asset
- More susceptible to hacking or loss of assets

Exchange Wallets

Solutions where the investor gives control and management of public and private keys to an exchange but maintains access via an online wallet. The exchange holds possession of private keys, and by extension, the digital asset itself.

Pros

- Simple
- Ease of access

Cons

- Counterparty risk
- Commingling

Third Party Custodian

A service provider that stores digital assets on behalf of customers using clearly defined features and controls (smart contracts) to provide certainty over the safekeeping of the asset. Typically, this solution is designed for institutional investors, and will therefore implement institutional grade security and insurance.

Pros

- Clearly defined rules
- Flexibility
- More secure and likely to be insured

Cons

- Cost for retail use
- Regulatory uncertainty

Potential Benefits

Speed and clarity

Atomic settlement

Clearing

Peer to peer (P2P)

Elimination of multiple points of reconciliation

Enhance speed, time of completion

Tighter valuation and closing of financials

Financial reporting turnaround

Efficiency of markets

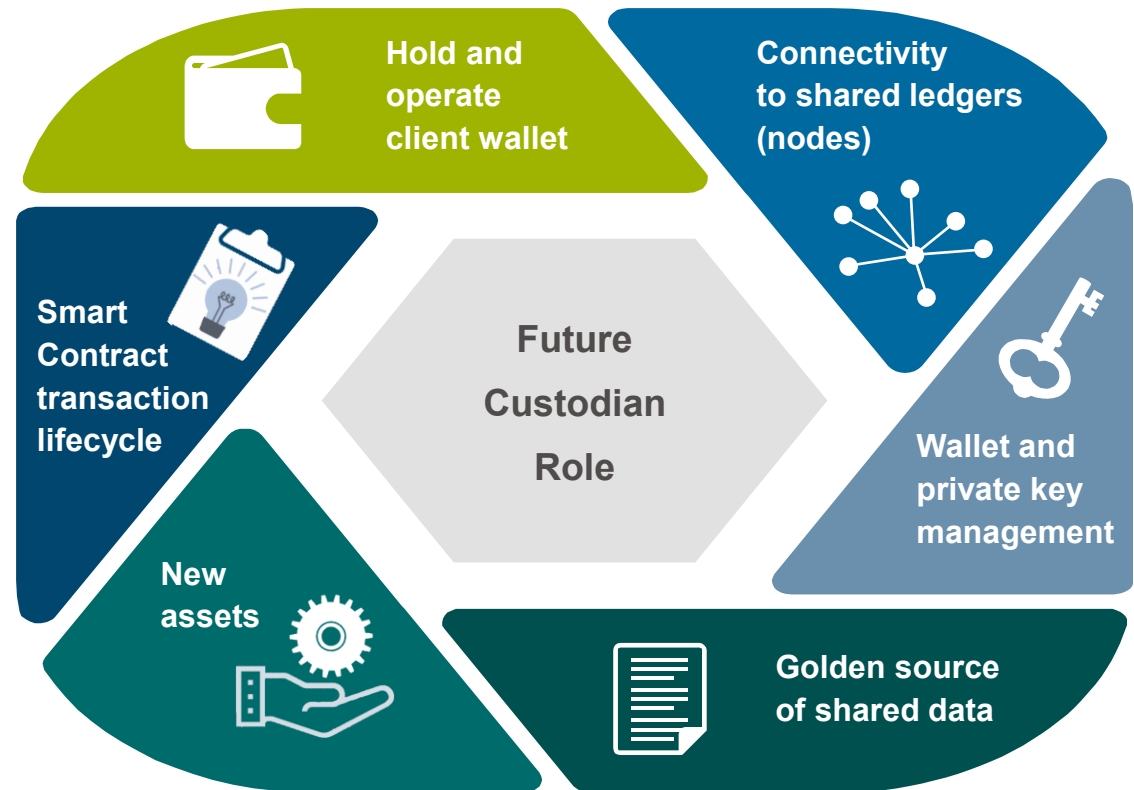
Seeking the perfect hedge

Further synchronization of derivatives and synthetics

Lessen leverage

Public and private investments in the same ledger

Exchange-traded and over-the-counter securities on the same ecosystem



Challenges

Proceed with caution

- ▶ Fragmentation of markets and standards
- ▶ Integration of new with existing markets
- ▶ Deployment of new rapidly evolving technology
- ▶ Adoption of new processes such as immediate / atomic trading & settlement
- ▶ Liquidity solutions to deal with fragmentation
- ▶ Evolving regulatory frameworks
- ▶ Bad actors (state sponsored and cyber criminal elements)



Case Studies

Case Studies

Driverless NAV (Net Asset Value)

- Refers to the concept of real-time or near-real-time NAV calculation using automated workflows. By reducing manual intervention, “driverless” NAV can enhance operational efficiency and transparency in asset valuation and reconciliation.

Digital Asset – The Flavor of the Month “Cryptocurrency”

- Bitcoin, Ether, Solana, Dogecoin... There are thousands of cryptocurrencies, each with unique features and use cases. Their prices can fluctuate based on various macro- and microeconomic factors, regulatory changes, and market sentiment.

Where the Action Is (Private Equity, Credit, Hedge Funds, etc.)

- Investments in Digital Asset Infrastructure (i.e., mining pools, hardware, staking platforms) have attracted interest from alternative asset managers. Such investments allow managers to capitalize on the growth of the digital asset sector without holding the underlying cryptocurrencies directly.

FTX (Alameda Research), Terra/Luna, ByBit, etc.

- High-profile events such as the collapse of FTX and Terra/Luna—as well as the hacks of exchanges like ByBit—have underscored the importance of robust regulatory oversight, segregated asset ownership, fiat-backed stablecoins, and institutional-grade custody solutions.

DAO (Decentralized Autonomous Organization)

- DAOs, which may issue governance or utility tokens, sparked conversations around custody, accounting, and regulatory compliance for digitally native assets. As DAOs gained popularity, the demand for specialized digital asset custody and accounting solutions—virtually non-existent just a few years ago—has grown significantly.

Crypto Philanthropy

- As more endowments and foundations receive cryptocurrency donations from donors, they require secure custodial solutions to handle liquidation into fiat currency (e.g., USD) for capital deployment. These solutions also must address regulatory, accounting, and reporting requirements.

Case Studies Continued

Democratization of Alternative Investments

- The alternative investment space has attracted heightened attention due to tokenization's potential to “fractionalize” illiquid assets (e.g., real estate, private equity). By lowering minimum investment thresholds and creating secondary markets, digital asset technology can increase market access and liquidity for historically esoteric asset classes.

Securities Finance

- In securities finance, blockchain and distributed ledger technology (DLT) can serve as a single source of truth, minimizing reconciliation issues. Smart contracts automate the lifecycle of loans, collateral management, and mark-to-market processes. Tokenization enables more efficient deployment of cash and assets, fostering a streamlined, frictionless ecosystem. This space was one of the first observed to evolve with the deployment of digital asset technology.

Digital Assets

Limited Institutional Structure

Institutional Custody and Ownership is yet to be defined. Full regulatory framework is lacking for proper oversight.

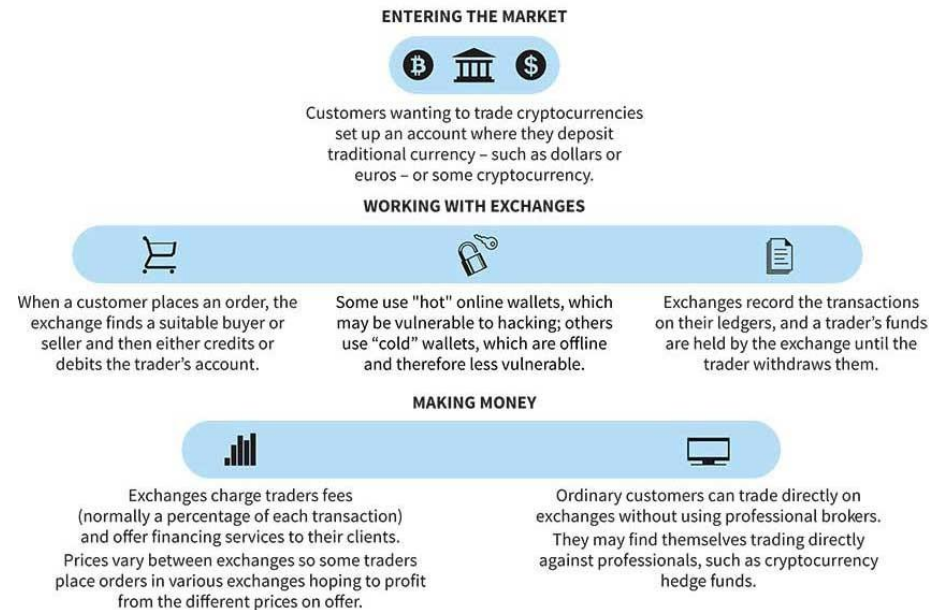
- Repeal of SEC's SAB 121 has allowed for institutional custodians to continue to pursue digital asset custody offering.
- Without institutional custody, one must accept the responsibility to Self-Custody digital assets or rely on custody via an Exchange.

Proponents often argue that it can isolate assets from inflation, but there hasn't been much compelling evidence to back that up.

ETFs that invest in bitcoin (BTC) or ether (ETH), aim to track the underlying cryptocurrency's market price, which can be volatile. While this may be a more regulated way to invest in bitcoin's and ether's price movements, one also need to consider operating expense ratios, which vary by ETF and can eat into profits or add to losses.

Liquidity constraints are real. Liquidity is simply the relative ease or difficulty with which one can buy or sell a certain asset when they want to without moving the price significantly.

Cryptocurrency prices have been driven entirely by demand and unlike other investable assets not tied to the underlying value of a company, commodity, and/or asset type.



Source: Reuters

Tokenization

Current classification and types

Security Tokens

These are tokens of special characteristics that are similar to traditional instruments like shares, debentures or units in a collective investment scheme.

Non-Fungible Tokens (NFT)

An NFT is a type of token that is a unique digital asset and has no equal token. Often thought of as art, collectibles, and even real estate as those types of unique items cannot be replaced by an identical item.

Cryptocurrencies (or exchange tokens)

Cryptocurrencies are the most common type of digital asset, and they use cryptography for security, designed to work as a medium of exchange.

Stablecoins

These are digital assets that attempt to stabilize its volatility by typically pegging themselves to a stable asset such as the US Dollar or gold. They are the bridge between traditional finance and decentralized finance. As such, they have been the dominant tokenized asset class.

Utility tokens

Digital tokens seek to provide value to investors by giving them access to a future product or service. For example, a startup may develop a digital product/service and issue utility tokens to investors. Investors may then use those tokens at some future time, to obtain access to the issuers products/service.

E-Money tokens

These are tokens that are designed to function as a form of electronic money that represent a claim on the issuer, are issued on receipt of funds for the purpose of making payment transactions, and are accepted by a person other than the issuer.

Source: FCA Guidance on Cryptoassets – Feedback and Final Guidance to CP 19/3

Appendix

Artificial Intelligence

Asset servicing and securities services

Artificial intelligence (AI) and machine learning (ML) represent a growing new wave of intelligence-based services in securities post-trade and custody. With multi-step work processes, numerous participants involved in each transaction and high volumes of transaction data, securities post-trade and custody is the kind of complex environment in which AI and ML can excel – helping service providers and clients to improve their product offerings and better manage market and operational risks.

Artificial Intelligence (AI). The simulation of human intelligence in machines to automate, accelerate and increase the complexity of tasks that would usually have to be performed by people.

F1 Score. A measure of an AI model's performance, based on the balance between precision (the proportion of the outputs are correct) and completeness (the proportion of the overall relevant data set that is successfully converted into an output).

Gradient-boosting. A type of algorithm designed to “boost” the accuracy of AI outputs by predicting cases where an existing algorithm will perform poorly.

Hyperplanes. The boundaries established between different classifications of data points. Data points falling on either side of a hyperplane can be attributed to different classes.

Machine Learning (ML). A subset of artificial intelligence where models automatically learn from and adapt to new data without being assisted by humans.

Materiality. The degree of impact of a wrong decision. The greater the impact of a mistake generated via an AI model, the greater the materiality.

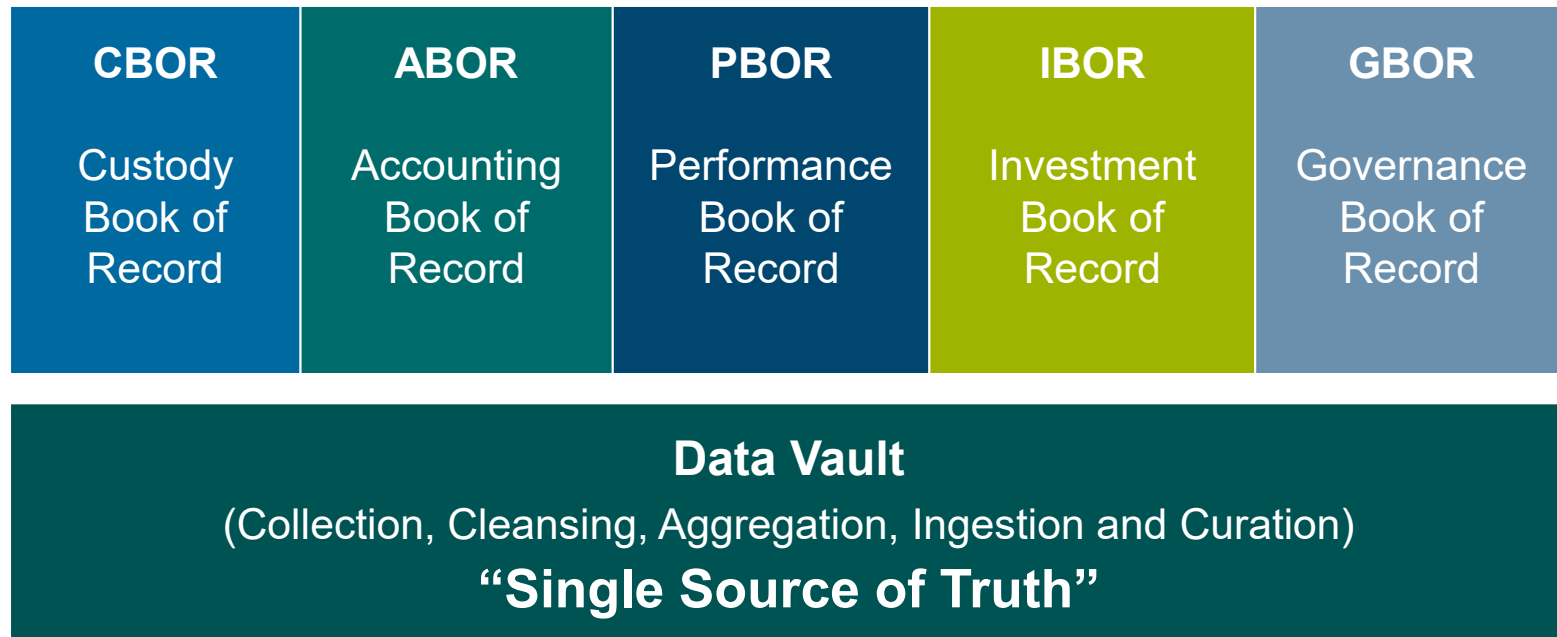
Model or Concept Drift. A phenomenon where the relationship between two variables in the input data of an AI model starts to change, causing irregularities in the output.

Random Forest. A type of classification algorithm that works by combining multiple decision trees with a view to generating a more accurate outcome than relying on just one.

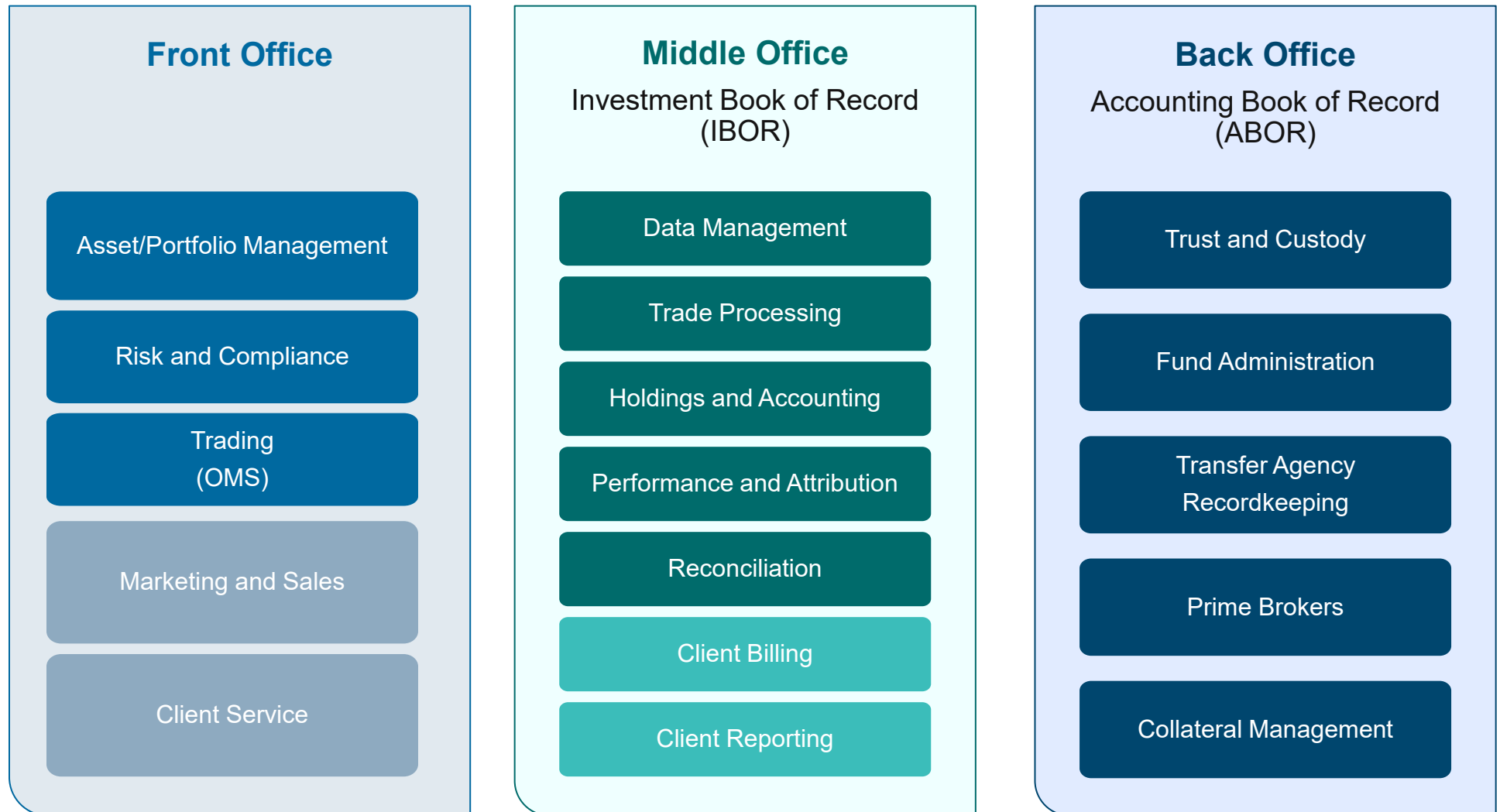
Shapley value. A measure devised by US mathematician and economist Lloyd Shapley and used to explain the predictions of a complex predictive model or “black box”. Shapley values correspond to the contribution of each of a model's features towards pushing the prediction away from the expected value.

Data Perspective

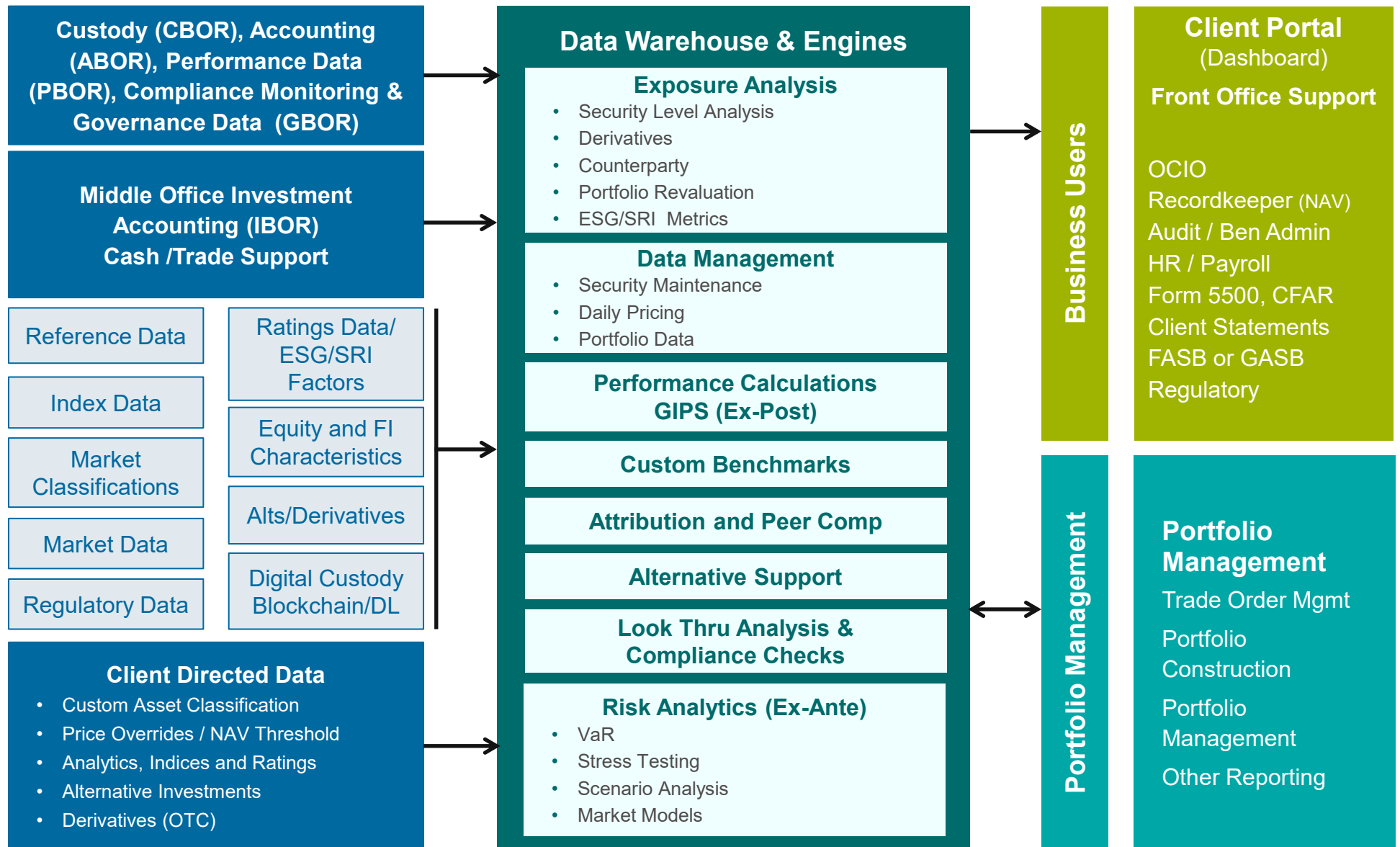
Evolution of the data



Front-, Middle- and Back-Office



Client Operational and Decision Support Ecosystem



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Past performance is no guarantee of future results.

About Callan

Callan was founded as an employee-owned investment consulting firm in 1973. Ever since, we have empowered institutional investor with creative, customized investment solutions backed by proprietary research, exclusive data, and ongoing education. Today, Callan provides advisory services to institutional investor clients with more than \$3 trillion in total assets, which makes it among the largest independently owned investment consulting firms in the U.S. Callan uses a client-focused consulting model to serve pension and defined contribution plan sponsors, endowments, foundations, independent investment advisers, investment managers, and other asset owners. Callan has six offices throughout the U.S. For more information, please visit www.callan.com.



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Memorandum

To: ERS Investment Committee
From: Keith Dickerson, CFA
Date: September 4, 2025
Re: BlackRock Due Diligence Meeting – May 28, 2025
Team: Keith Dickerson

Background

The Employees' Retirement System (ERS) hired BlackRock (formerly Barclays Global Investors) in June 1996, to manage a Russell 1000 Value Alpha Tilts strategy. In May 2002, ERS transitioned from the Russell 1000 Value Alpha Tilts strategy to the Russell 1000 Alpha Tilts strategy. In February 2016, ERS transitioned to the ACWI Alpha Tilts (Global Alpha Tilts) strategy, after an equity structure review. BlackRock began managing a U.S. Intermediate Aggregate Index Fixed Income mandate for the ERS in June 1999. ERS transitioned this to a U.S. Aggregate mandate in June 2016 after a fixed income structure review. A subsequent structure review in November 2021 resulted in a change from the U.S. Aggregate mandate to a U.S. Government Bond Index strategy. ERS also added a Russell 1000 Value Index mandate with BlackRock in March 2017. Blackrock has also managed temporary mandates for ERS at times. ERS added two of these temporary mandates in 2025, the Blackrock U.S. Aggregate Bond Index and Blackrock ACWI Ex U.S. Growth.

BlackRock has previously provided Transition Management services for ERS. These services include managing the movement of securities from one investment manager to another and interim investment management of mandates that had to be removed from managers before replacement managers had been found.

As of July 31, 2025, BlackRock manages approximately \$1.2 billion, or 19.3%, of the ERS' assets as summarized below:

<u>Strategy Mandate</u>	<u>Mandate Size</u>	<u>CMERS Target</u>	<u>Permanent/Temporary</u>
ACWI Alpha Tilts	\$251.2 Million	4.0%	Permanent
Russell 1000 Value Index	\$194.4 Million	3.2%	Permanent
U.S. Government Bond Index	\$469.2 Million	8.0%	Permanent
U.S. Aggregate Bond Index	\$69.2 Million	0.0%	Temporary
ACWI Ex U.S. Growth	\$206.0 Million	3.6%	Temporary

Key Takeaways

- ERS Staff came away from the meetings impressed with the teams supporting each strategy and the firm's ability to implement the strategies successfully. BlackRock has experienced investment teams along with deep resources that afford the firm operational efficiencies and advantages with respect to trading costs across strategies.
- The firm continues to invest in technology and proprietary data sets for the benefit of the Systematic Active Equity (SAE) investment team that manages the Alpha Tilts strategies. The SAE team leverages the firm's investment to refine its alpha model through new research and investment signals.
- The SAE investment process makes extensive use of artificial intelligence, predominantly in the form of machine learning, to test insights and optimize portfolio holdings. Although Staff and Callan are impressed with the cutting-edge tools employed, we will continue to monitor the effectiveness of the alpha model and risk controls applied to the use of these emerging technologies.

- BlackRock has created a Portfolio Management (PM) Architecture team to support its research process for fixed income index investing. The PM Architecture team works alongside the traditional Portfolio Management team to study index rebalancing techniques, provide index surveillance, and offer client advocacy through improving best practices for benchmark rules and methodologies.
- The Equity ETF and Index leadership team has experienced a few personnel changes, which are outlined in this memo. We will continue to monitor any additional action or organizational changes going forward.

Firm Summary

When ERS initially created its fixed income and Alpha Tilts mandates, Barclays Global Investors (BGI) managed the strategies. On December 1, 2009, BlackRock purchased BGI. The investment philosophy and approach remained largely the same after the purchase. The investment teams managing ERS' three mandates are primarily located in San Francisco; however, the company also maintains investment offices in multiple locations across the U.S., Europe, and Asia.

BlackRock is the largest asset manager in the world, managing \$11.6 trillion in assets under management (AUM) as of March 31, 2025. BlackRock positions itself as an Investment Solutions Provider to clients through its wide range of product offerings and risk management services. BlackRock was founded in 1988, is headquartered in New York, NY, employs over 20,000 people, and is publicly traded.

BlackRock manages approximately \$256 billion across its Systematic Active Equity platform, including \$12.7 billion in the Global Alpha Tilts strategy. These AUM levels increased from \$119 billion and \$8.1 billion, respectively, two years ago. BlackRock manages approximately \$1.9 trillion across passive fixed income funds and ETFs, and approximately \$7.8 trillion across passive equity index funds and ETFs.

BlackRock has become associated with the use of environmental, social, and governance (ESG) factors in the investment process. BlackRock defines its ESG philosophy as the practice of incorporating financially material E, S and/or G data or information into firmwide processes with the objective of enhancing risk-adjusted returns of clients' portfolios. BlackRock has a capability which allows clients to express their respective values through the investment process. However, the firm will only incorporate ESG factors into discretionary portfolio decisions to the extent they represent investment risks or opportunities. With respect to proxy voting, the climate and decarbonization investment stewardship program applies only to funds that have climate and decarbonization objectives and that have been explicitly approved for inclusion in the program by the respective governing body. Separately managed account clients may also instruct BlackRock to apply the climate and decarbonization stewardship program to their holdings. The firm maintains that it does not boycott industries or companies within client portfolios based on its own corporate values and recently launched an optional program to allow investors to vote proxy ballots in line with their own priorities.

Investment Process

Global Alpha Tilts

BlackRock uses a proprietary alpha forecasting model that systematically tracks and ranks thousands of developed and emerging market stocks. The model runs at least once daily and seeks the optimal trade-off between return, risk, and cost within the targeted 2% tracking error.

The alpha model evaluates securities across three broad areas: Company Fundamentals, Sentiment, and Macro Themes. Company Fundamentals evaluates fundamental business strength and the current valuation of the stock. SAE differentiates its definition of Fundamentals

by incorporating alternative data into its research and signal development. One example of this is the use of data culled from employee reviews of their employer to glean insights into the company. Sentiment monitors the behavior of other equity market participants to predict share price movements. This includes both monitoring of equity flows and short interest, and sophisticated analyses of unstructured data such as text. Macro Themes are signals that position the portfolio toward certain industries, styles, countries, and markets based on global economic and industry trends.

Underlying the three broad areas are dozens of different signals that the strategy uses to find securities with expected alpha. The weight of a given signal in the model at any time is optimized using machine learning tools capable of analyzing that signal's effectiveness (i.e., its ability to add alpha to the optimal portfolio within risk and cost constraints). Because these signals can lose effectiveness as more and more market participants discover them, the team is constantly researching new sources of alpha. The research process is robust, with many layers of peer review, testing, and senior team member approval before adding a signal to the live model. During times of market dislocation, the investment committee works with the Co-Heads of Investment for SAE to lower the proportion of the portfolio constructed solely by the machine learning tools. This tactical intervention is infrequent, used to mitigate risk in the portfolio in response to rapid changes, and not viewed as a discretionary tool for adding alpha.

Kevin Franklin, Portfolio Manager for Global SAE, described some of the recent work done by the research team. The team develops a Research Agenda each year to refine and improve the research process. Key initiatives for 2025 include further deployment of Generative Artificial Intelligence (GenAI), specifically into the stock selection and macro pillars of the investment process, and scaling up data ingestion, with the intent to increase signal output. This initiative includes an increased focus on information with higher barriers to entry from public sources that is not typically packaged into databases. This provides the team with a unique advantage relative to less technologically enabled competitors.

Portfolio managers review the "optimal portfolio" as determined by the alpha model and communicate buy or sell trade orders to the trading desk accordingly, using BlackRock's proprietary system, Aladdin. The strategy avoids meaningful sector bets and currently has a beta, market capitalization, price/book ratio, and dividend yield that are very similar to the MSCI ACWI. The strategy also seeks to be fully invested at all times and does not allow more than a 2% active weight (+/-) in any individual security or 4% active weight (+/-) in any industry sector or country. Use of artificial intelligence throughout the investment process introduces additional potential for "black box" effects whereby the opaque nature of the investment process makes it difficult to understand fully the risks and efficacy of the model. These risks and challenges are familiar to quantitative managers such as SAE that have historically relied on complex statistical models. The Alpha Tilts investment team demonstrated a robust understanding of the current form of the alpha model and discussed the rigorous monitoring process in place for model performance. Staff will continue to monitor SAE's use and oversight of evolving technologies in the investment process.

U.S. Government Bond Index

CMERS invests in BlackRock's U.S. Government Bond Index Fund, which is a commingled trust benchmarked to the Bloomberg Government Bond Index. BlackRock does not fully replicate the more than 600 issues that constitute the index. They use stratified sampling to divide the index into two subsets, U.S. Treasury and U.S. Agency, and then buy securities that represent the key characteristics of each subgroup. The commingled fund held 286 securities as of April 30, 2025.

BlackRock's assets under management, experienced portfolio managers and traders, and advanced technology give it a distinct advantage in implementing passive fixed income

mandates. Unlike public equities, many fixed income securities are relatively less liquid and minimizing tracking error to an index can be difficult. Over the life of the strategy, annual tracking error for the U.S. Government Bond Index fund has been positive eight basis points. BlackRock attributes this positive tracking error to its active securities lending program and the high demand for borrowing U.S. Treasury securities that comprise the vast majority of this portfolio. This is evidenced by the fact that on average, 80-90% of the fund's holdings could be on loan over the course of a year.

BlackRock has further enhanced its research process for fixed income indexing through the creation of a Portfolio Management Architecture team. The PM Architecture team designs, develops, and implements algorithms used in the investment process. These algorithms are designed to protect client performance, support growing AUM & flows, and cater to increasing fund complexity. A core focus is streamlining and enhancing the primary market activity in Index Fixed Income strategies. The PM Architecture team and Portfolio Management team work closely together to build new algorithms and incorporate them into their Aladdin toolkit and day-to-day management processes.

Russell 1000 Value Index

As equity securities are more liquid than fixed income, BlackRock is able to implement this strategy through full replication, which means, essentially, buying all the securities in the index in their proportionate weights. It sounds simple, but to track the index accurately, the portfolio managers must manage around things like mergers, spinoffs, and changes to the index constituents. Again, this is where BlackRock's deep experience and market reach allow them to achieve superior results. Because BlackRock offers strategies for all Russell indices, they are often able to cross securities internally that move from one index to another, as opposed to having to buy them in the open market.

The Equity ETF and Index leadership team has experienced multiple changes. In January 2024, Salim Ramji departed BlackRock for a new opportunity outside of the firm. With this departure, Samara Cohen has assumed the role of Chief Investment Officer of ETF and Index Investments. Ms. Cohen has served in a leadership capacity at Blackrock since 2015. Paul Whitehead, co-Head of Index Equity along with Jennifer Hsui, has announced his departure from BlackRock effective May 2025. As a result, Ms. Hsui has assumed the role of Global Head of Index Equity Investments. Mr. Whitehead's direct reports will now report into Ms. Hsui. Ms. Hsui has been with BlackRock since 2009, and has served as co-Head of Index Equity since 2022.

Trading

BlackRock has a reputation for having one of the best trading departments among asset managers, and is able to keep transaction costs low by taking advantage of its position as the world's largest asset manager to build favorable relationships with brokers seeking trade flow. These advantages allow BlackRock to achieve very good trading results within the index strategies as well as the Global Alpha Tilts strategy. The firm maintains a dedicated group responsible for monitoring trade execution across all strategies and reporting results to leadership.

BlackRock recently added the ability to use ETFs and modified the types of futures contracts used to equitize cash balances for the Russell 1000 Value strategy. The team indicated that this has helped to reduce the amount of tracking error to the index, relative to the former practice of simply using S&P 500 futures for cash equitization.

For all strategies, BlackRock considers trading costs in the optimization process and only implements trades expected to add value net of all trading costs. BlackRock has organized its traders so that they can support multiple strategies and lowers costs by combining the same

trades from separate strategies when possible. The average turnover ratio between 2022 and 2024 for the Alpha Tilts strategy has been approximately 120%. The turnover rate for Alpha Tilts has materially fallen as compared to the 2019-2021 period, where turnover averaged 238%. This is partially due to reduced market volatility during the 2022-2024 period, but also the result of improvements in BlackRock's technology and trade optimization. Going forward, the expected turnover range for the fund will fall between 100-150%. Average turnover in the Russell 1000 Value and U.S. Government Bond index strategies are in line with the respective benchmark indexes.

Capacity is an important consideration for active strategies such as Global Alpha Tilts. BlackRock SAE assesses capacity thresholds by aggregating the risk budgets for their individual strategies and by monitoring liquidity levels. Given the risk budget and liquidity levels currently evident, the only portion of the strategy that is subject to capacity constraints is emerging market (EM) equities. The investment team noted that the increasing size of Chinese equities within EM benchmarks has contributed to higher capacity thresholds, which is primarily due to extremely high liquidity for those stocks. Overall, the investment team's assessment of the platform's EM risk budget translates to approximately \$30 billion of excess capacity for the Global Alpha Tilts strategy. Although Staff will continue to monitor growth in AUM, this does not currently pose a concern with strategy AUM at \$12.7 billion. BlackRock has closed strategies in the past for capacity concerns and stated they are willing to do again so if circumstances require.

Transition Management

The same advantages that allow BlackRock to minimize trading costs for the strategies discussed above allow the firm to minimize transaction costs when it provides transition services. ERS Staff has been very satisfied with the service we received on prior transitions in 2016, 2017, and again in 2025. In 2024, BlackRock conducted 197 transitions that involved \$576 billion. BlackRock has remained committed to the transition management business while many competitors have exited, and is always forthcoming with its transparent disclosures. These disclosures make clear that the only direct and indirect compensation BlackRock and its affiliates earn from transition services are from the commissions paid or from a flat fee agreed to with a client up front.

In the past, BlackRock provided "Interim Transition Management" services for ACWI Value and ACWI ex-U.S. Growth mandates for the ERS. These services allowed the Fund to maintain desired equity market exposures through these index strategies, until ERS was able to complete its public equity structure review and determine a permanent solution for the assets. This is a valuable service, as it allowed ERS to complete its asset class implementation and keep its desired market beta exposure at the same time.

Portfolio & Firm Compliance

BlackRock has a disciplined approach to risk at both the firm and portfolio level. BlackRock conducts both internal and external audits including annual SSAE 18 (formerly SAS 70) and ISAE 3402 tests on its internal controls that have been performed by Deloitte since 2010. As a publicly listed company, BlackRock complies with Sarbanes-Oxley requirements. From a personnel standpoint, BlackRock has a Code of Business Conduct and Ethics, a Personal Trading Policy, and mandatory compliance training that all employees receive upon hire and on an annual basis thereafter. For portfolio compliance, BlackRock has a highly automated process that monitors portfolio guidelines and trading in real time. BlackRock has a Portfolio Compliance Group that reviews portfolio compliance daily.

Custody Operations

All of the strategies that the ERS invests in participate in securities lending with revenue split evenly between the commingled funds and BlackRock. The firm emphasizes liquidity risk controls in the management of its cash collateral and has taken steps that include reducing credit

exposure, increasing transparency, and conducting increased dialogue with regulators since the financial crisis. BlackRock also actively manages and monitors its counterparty credit risk exposures.

While BlackRock serves as legal custodian for each of the funds CMERS invests in, it does not hold assets and uses an independent third-party agent to provide custody services. BlackRock has used JPMorgan Chase as custody agent for the commingled funds business since 2017. JPMorgan Chase performs reconciliations for all of the funds it administers for BlackRock on a daily basis and reports any exceptions to BlackRock's Fund Administration team. JPMorgan Chase also files all class action claims for the commingled fund strategies.

Proxy Voting

BlackRock's Investment Stewardship team maintains responsibility for proxy voting. The team is globally coordinated and regionally focused, which allows the firm to consider local market factors in the voting process. Analysts in each regional team are responsible for vote analysis, related engagement, and vote determination. The team is also in charge of developing the firm's proxy voting guidelines. BlackRock uses Institutional Shareholder Services (ISS) for vote execution. As mentioned above, the Investment Stewardship team may view sustainable investing as a key differentiator in proxy voting, on a case-by-case basis, and may vote in favor of proposals that are favorable toward sustainable practices.

Disaster Recovery

BlackRock has developed a business continuity plan to ensure that critical operations can continue in the event of a significant business disruption. BlackRock's executive managers oversee the Business Continuity Management (BCM) group, which is responsible for managing the firm's business continuity plan. BlackRock has identified six key elements in the program: 1) Preparedness and Planning, 2) Training and Awareness, 3) Exercises and Testing, 4) Third Party Oversight, 5) Risk Assessment and Site Resilience, and 6) Crisis Management. The program is tested annually and includes, but is not limited to, scenarios such as working from home, working from an office recovery site, and transferring work to another BlackRock office.

BlackRock believes its systems, which include primary and secondary data centers for each critical application, can allow the firm to support its critical functions with "near zero downtime" and "near zero data loss." The firm is in the process of a multi-year migration of key systems, such as Aladdin, to the cloud. The BCM team described the security and resiliency of cloud solutions as a top priority. It plans to use a hybrid approach combining in-house data centers and cloud hosting.

Performance Summary and Conclusion

The tables below show performance as of July 31, 2025 for each of our strategies versus their respective benchmarks. Although the strategies have relatively recent inception dates, ERS has observed and monitored BlackRock's investment teams in similar strategies prior to 2016, which gives ERS Staff additional experience in observing the stability of the investment team and investment process over past market cycles. Each of the strategies have performed well over the longer time periods, with the active Global Alpha Tilts strategy exceeding its benchmark during the most recent 3- and 5-year periods as well as since inception. It is also worth noting that both index funds have matched or slightly outperformed their respective benchmarks in all periods shown back to inception.

ERS Staff and Callan have come away impressed with the investment team's use of technology and proprietary data to develop investment insights. This technology, uniqueness of their data, portfolio diversification, and risk control are key strengths. While BlackRock manages a significant portion of ERS assets, this is mitigated by the fact that a majority of those assets are passive, an

area where BlackRock's implementation capabilities are world class, and by the stability provided by BlackRock's status as the largest asset manager in the world. Staff and Callan are confident that BlackRock has the ability to continue providing the equity, fixed income, and transition management services it currently provides ERS.

	1-year	3-year	5-year	Since Inception (4/1/2017)
BlackRock R1000 Value (net)	8.8%	10.6%	13.2%	9.2%
<i>Russell 1000 Value</i>	8.8%	10.6%	13.2%	9.1%

	1-year	3-year	5-year	Since Inception (3/1/2016)
BlackRock Global Alpha Tilts (net)	14.9%	16.5%	13.4%	12.8%
<i>MSCI ACWI</i>	15.9%	15.3%	12.8%	12.2%

	YTD	1-year	3-year	Since Inception (1/1/2022)
BlackRock U.S. Government (net)	3.4%	2.7%	1.0%	-1.4%
<i>Bloomberg U.S. Government</i>	3.4%	2.7%	0.9%	-1.4%

2nd Quarter 2025 Performance Report

September 4, 2025

Employees' Retirement System

Presentation Agenda

- Fund Overview
- Public Equity
- Fixed Income
- Absolute Return
- Private Equity
- Recent Performance Update
- Appendix: Manager Charts & Statistics

Market Environment

Asset Class	Benchmark	Target Weight	Benchmark Return Q2 2025
Public Equity	MSCI ACWI IMI	39%	11.6%
Fixed Income	Bloomberg U.S. Agg.	29%	1.2%
Real Assets ⁽¹⁾	Blended Benchmark	13%	1.7%
Private Equity ⁽¹⁾	Russell 3000 + 2%	12%	-4.0%
Absolute Return	90-Day T-Bill + 3%	7%	1.8%

	Q2 2025
CMERS Benchmark	4.7%

⁽¹⁾Real Estate and Private Equity benchmark returns are reported on a 1-quarter lag.

Relative Performance Expectations

		Q2 2025		Q2 2025	Q2 2025
Value Equity Bias	Russell 3000 Value	3.8%	Russell 3000 Growth	17.6%	↓↓
Small Cap Equity Bias	Russell 2000	8.5%	Russell 1000	11.1%	↓
Fixed Income Credit	Loomis Sayles (net)	2.8%	Bloomberg US Agg.	1.2%	↑
Private Equity⁽¹⁾⁽²⁾	CMERS PE (net)	2.3%	PE Benchmark	-4.0%	↑↑

	Q2 2025
CMERS Total Fund (net)	4.6%
CMERS Benchmark	4.7%

⁽¹⁾Private Equity benchmark return is reported on a 1-quarter lag.

⁽²⁾All of the Fund's Q4 2024 and Q1 2025 Private Equity Returns are reflected in the April-June time period.

Total Fund Performance

10 Year Rolling Returns – 11/1/1997 to 6/30/2025



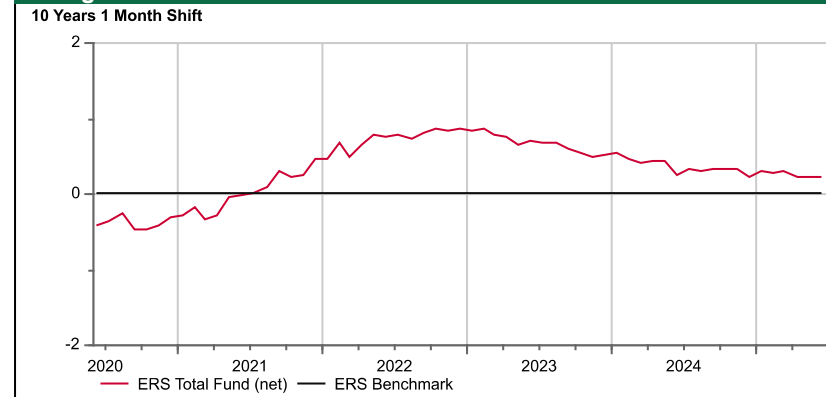
Trailing Returns

	Annualized Return							
	QTR	YTD	1 Year	3 Year	5 Year	7 Year	10 Year	15 Year
ERS Total Fund (net)	4.6	5.9	9.2	7.8	10.1	7.6	7.7	8.8
ERS Benchmark	4.7	5.7	10.2	9.3	8.8	7.6	7.5	8.7

Investment Growth – 7/1/2010 to 6/30/2025



Rolling Excess Returns – 7/1/2010 to 6/30/2025



ERS Fund Attribution – 2nd Quarter 2025

Asset Class	Benchmark	Average Weight %	Policy Weight %	+/-	Portfolio Return	Benchmark Return	+/-	Attribution Effect(%)			
								Broad Category Group Allocation	Manager Selection	Style Bias	Total Active Return
Public Equity	MSCI ACWI IMI NR USD	36.7	39.0	-2.3	9.2	11.6	-2.4	-0.2	-0.3	-0.6	-1.0
Fixed Income	Bbg US Agg Bond TR USD	31.3	29.0	2.3	1.8	1.2	0.6	-0.1	0.2	0.0	0.1
Private Equity ⁽²⁾	Russell 3000 (Qtr Lag) + 200bps ⁽¹⁾	12.7	12.0	0.7	2.1	-4.0	6.1	-0.1	0.8	0.0	0.7
Real Assets ⁽²⁾	Real Assets Benchmark ⁽¹⁾	11.3	13.0	-1.7	1.6	1.7	-0.1	0.1	0.0	0.0	0.0
Absolute Return	90 Day T-Bill +3%	8.1	7.0	1.1	3.2	1.8	1.3	0.0	0.1	0.0	0.1
Total		100.0	100.0	0.0	4.6	4.7	-0.1	-0.3	0.8	-0.6	-0.1

Main Drivers of Q2 2025 Relative Performance

Impact %

Attribution Category

Manager Performance

Private Equity

0.79%

Manager Selection

Style Bias

Primarily US Value

-0.56%

Style Bias

Overall Allocation⁽³⁾

-0.31%

Group Allocation

Underweight Public Equity vs. pre-Glidepath equity target

Overweight Fixed Income vs. pre-Glidepath fixed income target

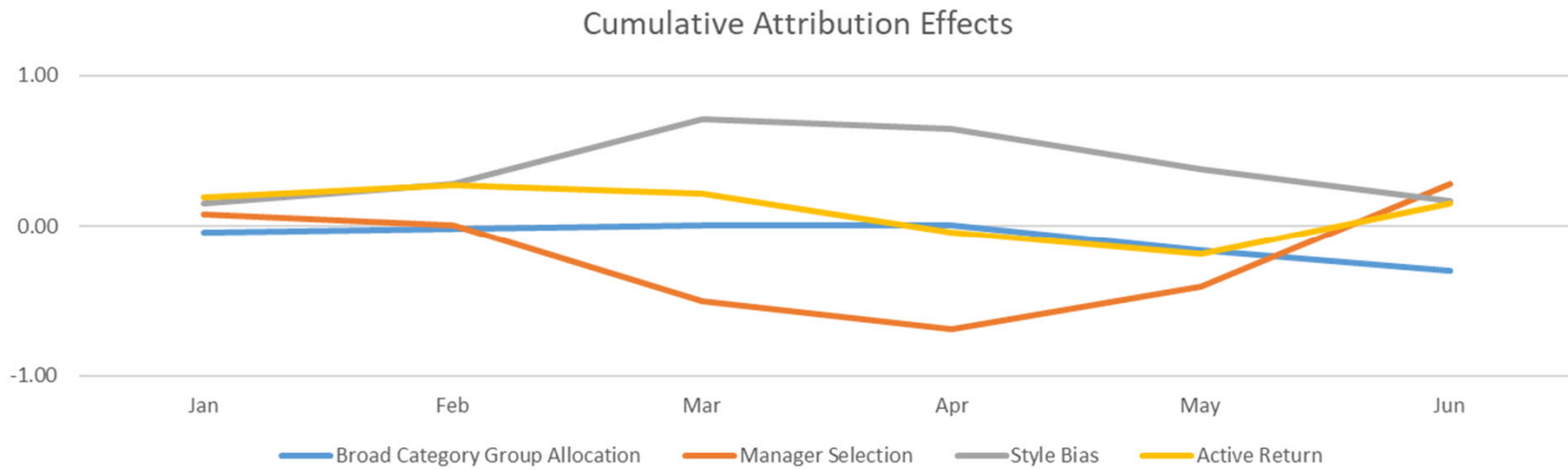
⁽¹⁾Real Estate and Private Equity benchmark returns are reported on a 1-quarter lag.

⁽²⁾All of the Fund's Q4 2024 and Q1 2025 Private Equity returns are reflected in the April-June time period.

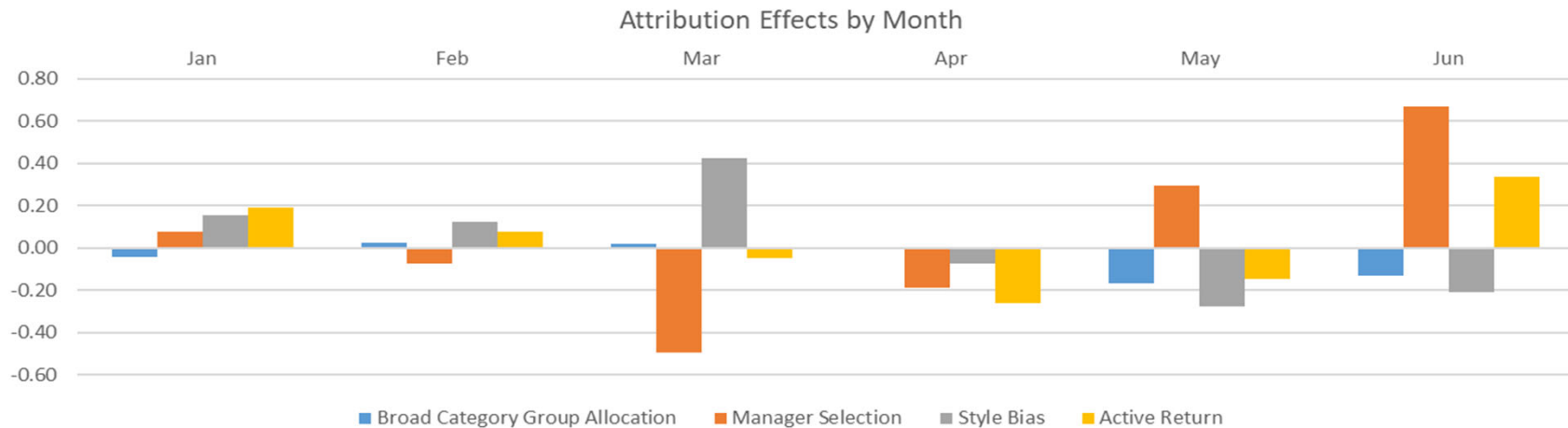
⁽³⁾Glidepath approved in April, 2025, became effective July 1, 2025 for benchmarking purposes.

YTD 2025 Attribution

Cumulative Attribution Effects



Monthly Attribution Effects



ERS Fund Attribution – YTD 2025

Asset Class	Benchmark	Average Weight %	Policy Weight %	+/-	Portfolio Return	Benchmark Return	+/-	Attribution Effect(%)			
								Broad Category Group Allocation	Manager Selection	Style Bias	Total Active Return
Public Equity	MSCI ACWI IMI NR USD	37.5	39.0	-1.5	9.5	9.8	-0.3	-0.2	-0.3	0.2	-0.3
Fixed Income	Bbg US Agg Bond TR USD	30.8	29.0	1.8	4.4	4.0	0.4	-0.1	0.2	-0.1	0.1
Private Equity⁽²⁾	Russell 3000 (Qtr Lag) + 200bps ⁽¹⁾	12.6	12.0	0.6	1.9	-1.1	3.0	-0.1	0.4	0.0	0.3
Real Assets⁽²⁾	Real Assets Benchmark ⁽¹⁾	11.2	13.0	-1.9	3.2	3.6	-0.4	0.0	-0.1	0.0	0.0
Absolute Return	90 Day T-Bill +3%	7.9	7.0	0.9	4.7	3.7	1.0	0.0	0.0	0.0	0.1
Total		100.0	100.0	0.0	5.8	5.7	0.2	-0.3	0.3	0.2	0.2

Main Drivers of YTD 2025 Relative Performance

Impact %

Attribution Category

Manager Performance

Private Equity

0.38%

Manager Selection

Reams

0.10%

Manager Selection

Loomis Sayles

0.10%

Manager Selection

Public Equity

-0.09%

Underperformance from Growth Managers (MFS, Blair, and Polen) partially offset by positive International style bias

Overall Allocation⁽¹⁾

-0.30%

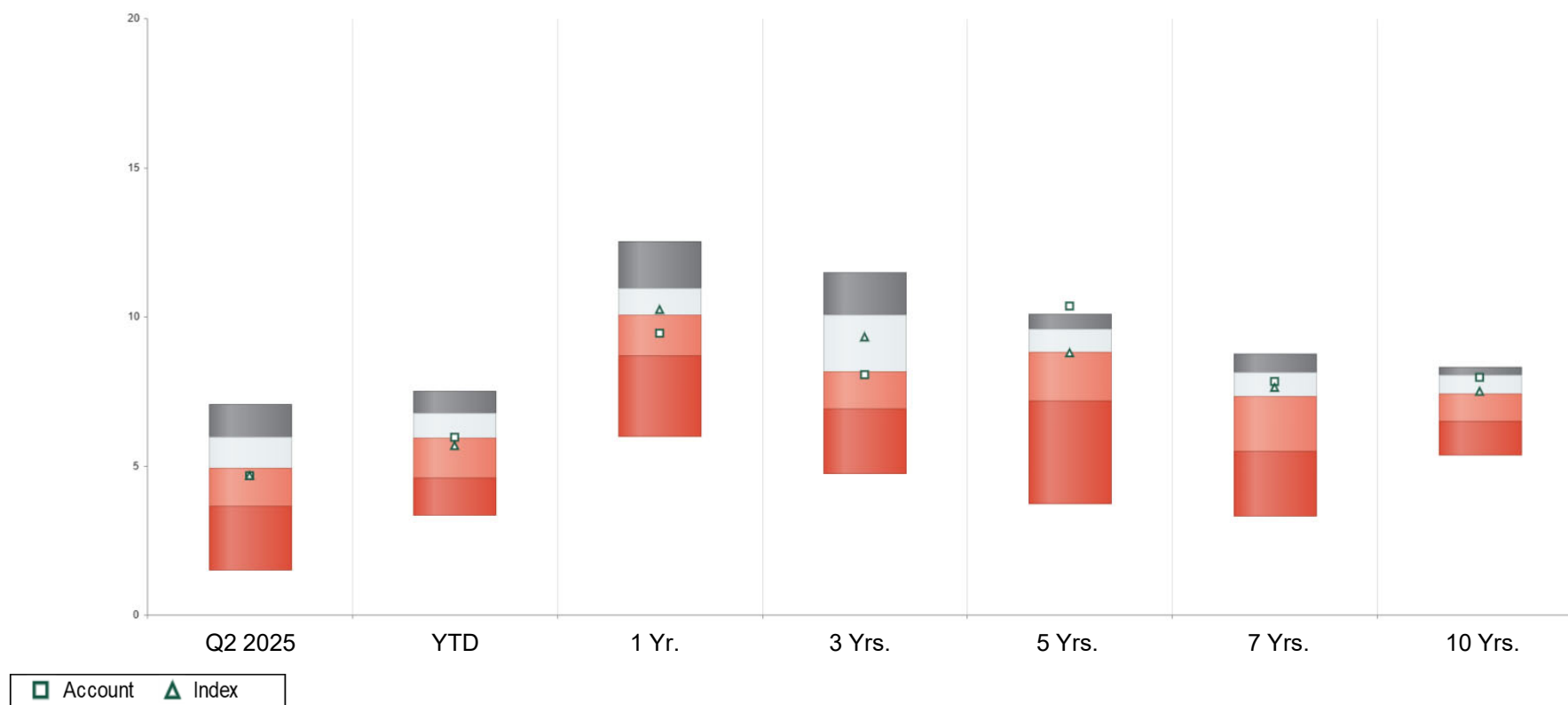
Group Allocation

Underweight Public Equity vs. pre-Glidepath equity target

Overweight Fixed Income vs. pre-Glidepath fixed income target

(1) Glidepath approved in April, 2025, became effective July 1, 2025 for benchmarking purposes.

Total Fund vs Universe



	Q2 2025	YTD	1 Yr.	3 Yrs.	5 Yrs.	7 Yrs.	10 Yrs.
Account Return	4.7	5.9	9.4	8.0	10.4	7.8	8.0
Percentile Rank	60	48	59	53	7	31	29
Index Return	4.7	5.7	10.2	9.3	8.8	7.6	7.5
Percentile Rank	60	60	47	37	52	36	49
1st Quartile	6.0	6.8	11.0	10.0	9.6	8.1	8.0
Median	4.9	5.9	10.1	8.2	8.8	7.3	7.4
3rd Quartile	3.7	4.6	8.7	6.9	7.2	5.5	6.5
Observations	49	49	48	47	46	43	35

Callan Total Fund vs Universe

Investment Philosophy

The Public Fund Sponsor Database consists of public employee pension total funds including both Callan Associates client and surveyed non-client funds. Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 7.0% 3-month Treasury Bill+3.0%, 9.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

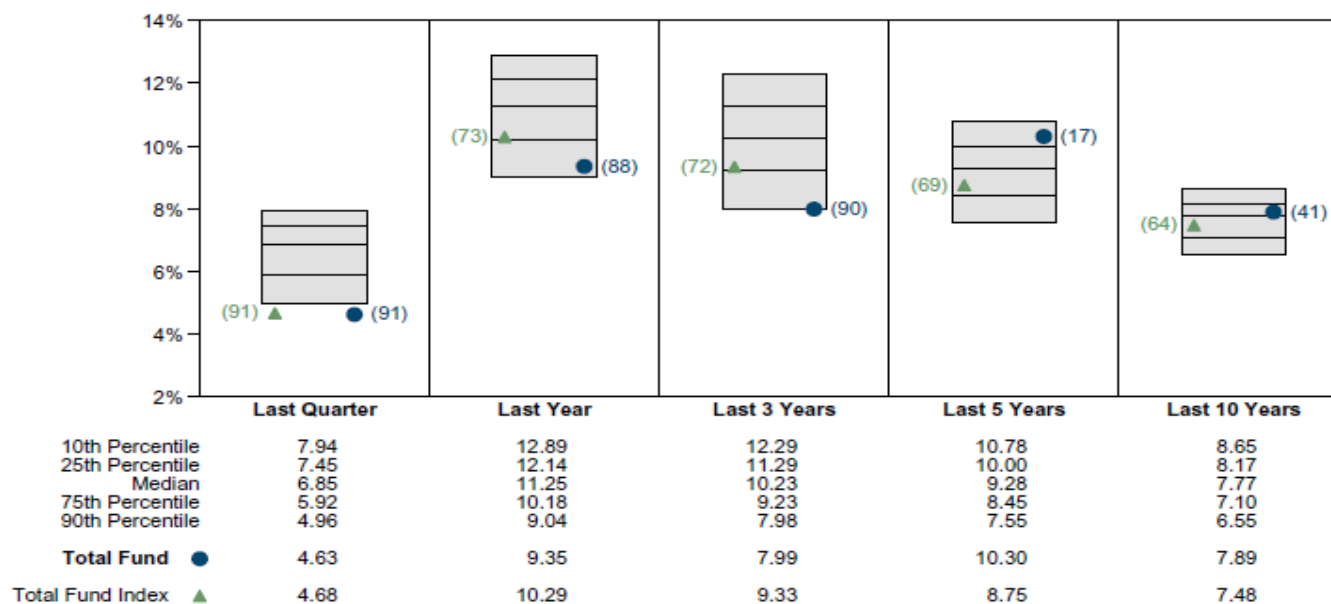
Quarterly Summary and Highlights

- Total Fund's portfolio posted a 4.63% return for the quarter placing it in the 91 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 88 percentile for the last year.
- Total Fund's portfolio underperformed the Total Fund Index by 0.04% for the quarter and underperformed the Total Fund Index for the year by 0.94%.

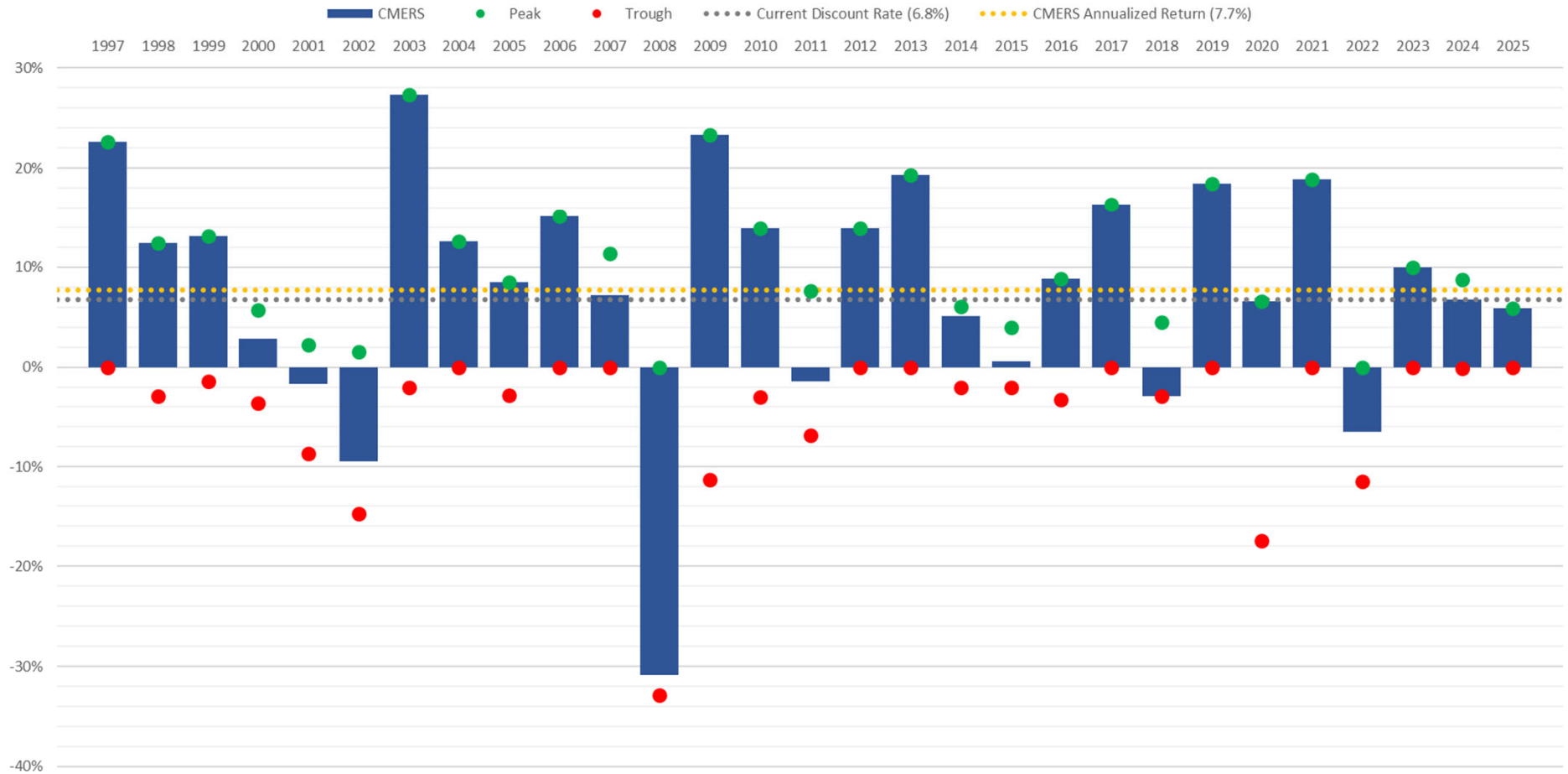
Quarterly Asset Growth

Beginning Market Value	\$6,020,293,798
Net New Investment	\$-117,086,808
Investment Gains/(Losses)	\$274,017,502
Ending Market Value	\$6,177,224,492

Performance vs Callan Public Fund Sponsor Database (Gross)



Annual Returns, Peaks, and Troughs

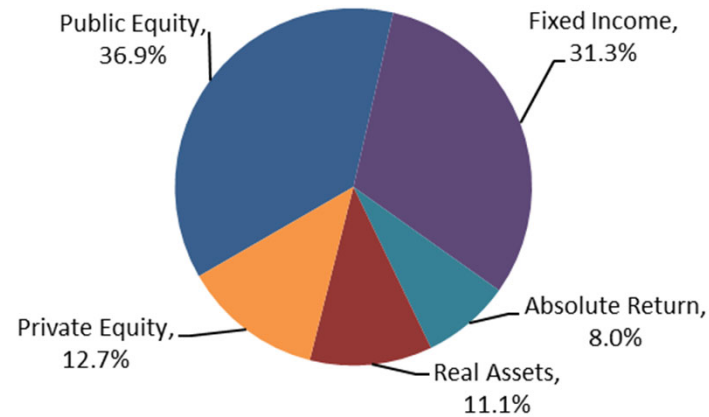


	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	YTD 2025
CMERS	22.7%	12.4%	13.1%	2.8%	-1.7%	-9.4%	27.3%	12.6%	8.5%	15.1%	7.2%	-30.8%	23.3%	13.9%	-1.4%	13.9%	19.3%	5.1%	0.5%	8.8%	16.4%	-2.9%	18.4%	6.6%	18.9%	-6.5%	10.0%	6.8%	5.9%
Peak	22.7%	12.4%	13.1%	5.7%	2.3%	1.5%	27.3%	12.6%	8.5%	15.1%	11.4%	0.0%	23.3%	13.9%	7.6%	13.9%	19.3%	6.0%	4.0%	8.8%	16.4%	4.5%	18.4%	6.6%	18.9%	0.0%	10.0%	8.7%	5.9%
Trough	0.0%	-2.9%	-1.4%	-3.6%	-8.6%	-14.7%	-2.0%	0.0%	-2.9%	0.0%	0.0%	-32.9%	-11.3%	-3.0%	-6.8%	0.0%	0.0%	-2.1%	-2.0%	-3.3%	0.0%	-2.9%	0.0%	-17.5%	0.0%	-11.4%	0.0%	-0.1%	0.0%

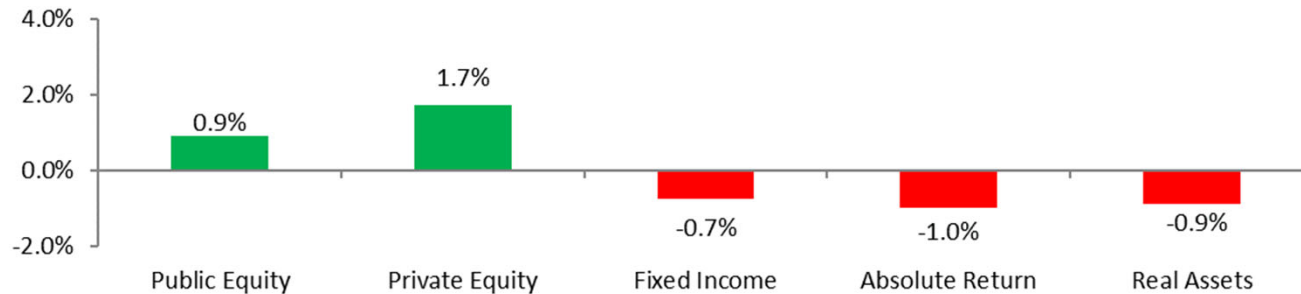
*Net of Fees

Asset Allocation as of June 30, 2025

Actual Asset Allocation*



Actual Asset Allocation vs. Policy Target approved in April, 2025, Effective July 1, 2025



YTD 2025 Market Value Change

December 31, 2024 Market Value including City Reserve & PABF Accounts			\$ 5,946,620,135
Monthly Cash Outflows thru	<u>June 30, 2025</u>		
Retiree Payroll Expense		\$ (244,105,677)	
PABF Payroll Expense		\$ -	
Expenses Paid		\$ (9,323,553)	
GPS Benefit Payments		\$ (2,576,859)	
Sub-Total Monthly Cash Outflows			\$ (256,006,089)
Monthly Cash Inflows thru	<u>June 30, 2025</u>		
Contributions		\$ 227,787,346	
PABF Contribution		\$ -	
Sub-Total Monthly Contributions			\$ 227,787,346
Capital Market Gain/(Loss)			<u>\$ 353,589,463</u>
Value including City Reserve & PABF Accounts as of	<u>June 30, 2025</u>		<u>\$ 6,271,990,856</u>
Less City Reserve Account ¹			\$ 91,819,162
Less PABF Fund ²			\$ 2,519
Net Projected ERS Fund Value as of	<u>June 30, 2025</u>		<u><u>\$ 6,180,169,175</u></u>

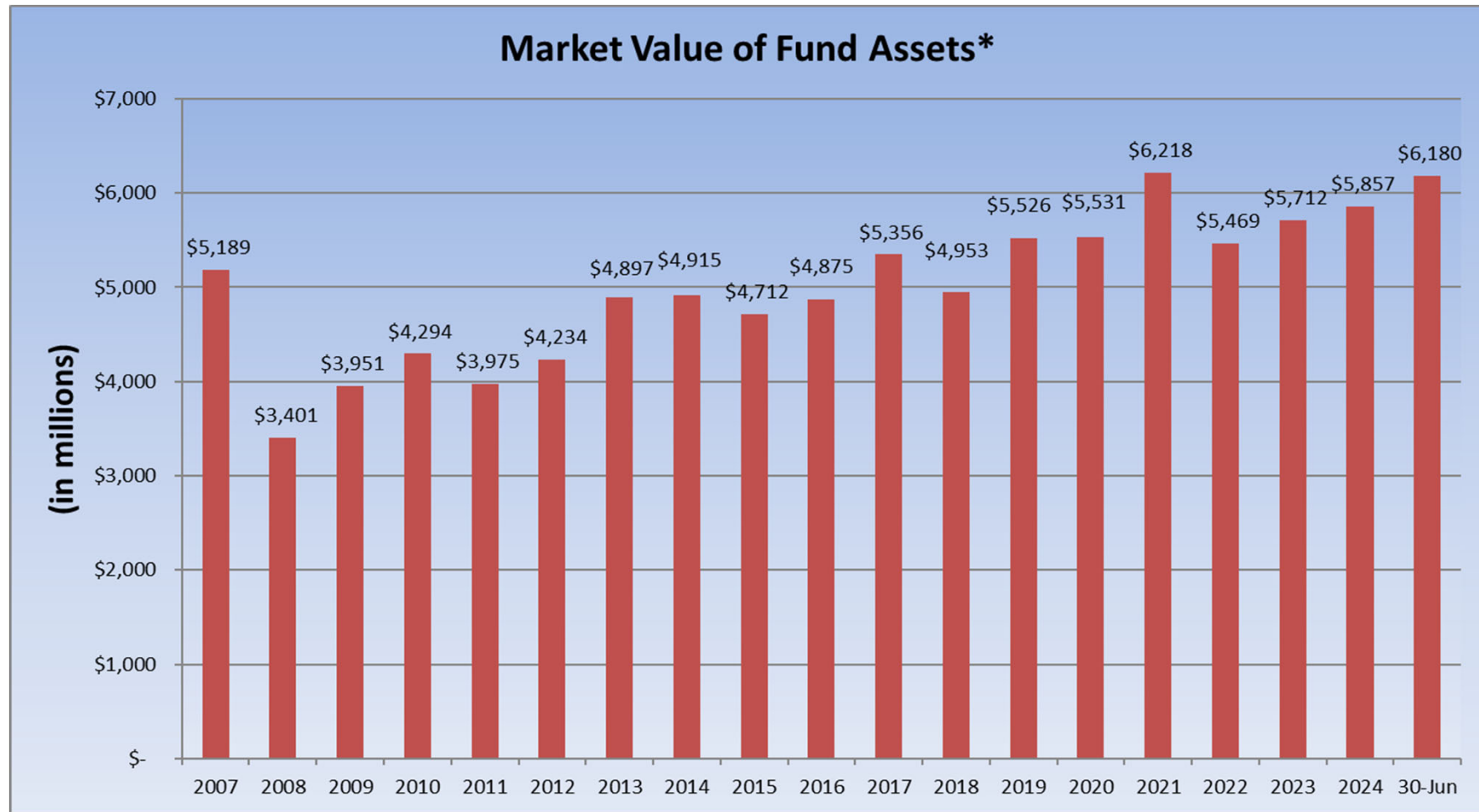
1 The City Reserve Account balance equals the market value currently held in the Baird account.

2 PABF Fund balance equals the market value currently held in the PABF account.

Monthly Cash Outflows, Monthly Cash Inflows, and Capital Market Gain/(Loss) amounts are calculated using estimates of cash flows into and out of the Fund. These amounts are not audited and may not tie to CMERS Financial Statements.

Fund Value of Assets: 2007 – June 30, 2025

(Year Ended Dates Reflect 12/31 Fund Values)



Most recent Actuarial valuation projects benefit payments to total \$5.7 billion in next 10 years.

Benefit Payments	\$6.4 billion
Expenses	\$309 million
Contributions	\$2.1 billion
Investment Gain	\$5.6 billion

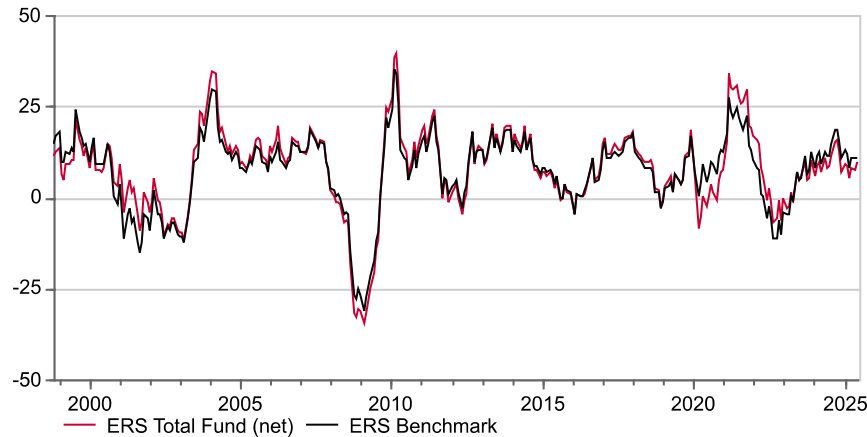
Benefit Payments, Expenses, Contributions, and Investment Gain amounts are calculated using estimates of cash flows into and out of the Fund. These amounts are not audited and may not tie to CMERS Financial Statements.

17 1/2 Year Estimates (1/1/2008 - 6/30/2025)

Total Fund Rolling Returns as of June 30, 2025

1 Year Rolling Returns – 12/1/1997 to 6/30/2025

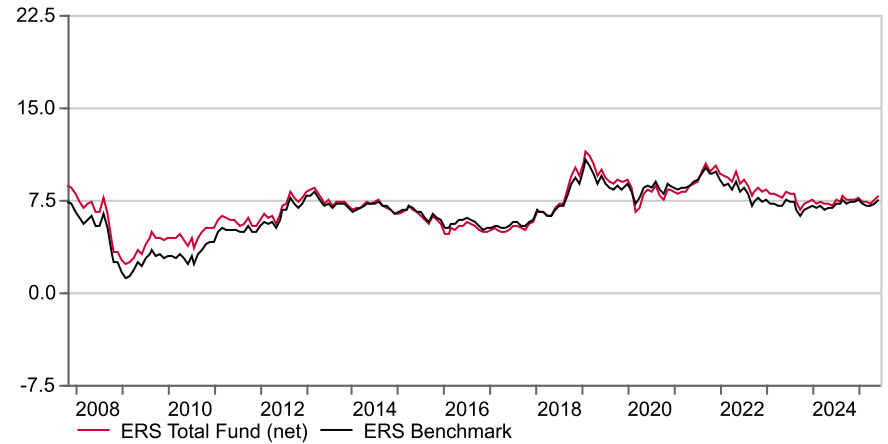
1 Year 1 Month Shift



©FactSet Research Systems

10 Year Rolling Returns – 12/1/1997 to 6/30/2025

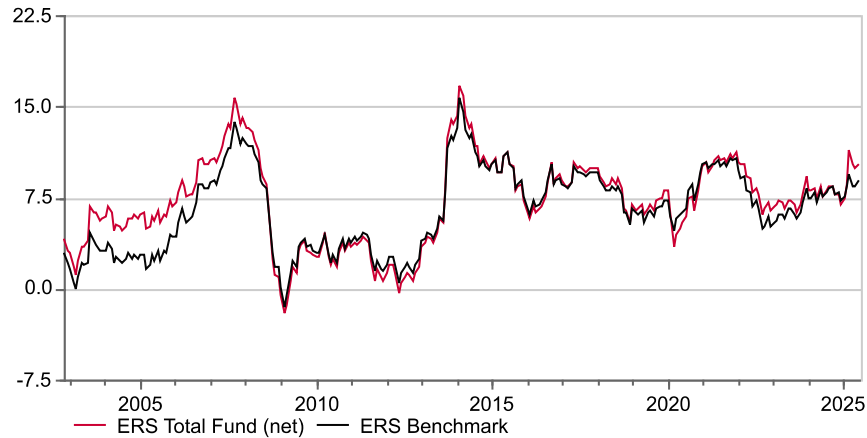
10 Years 1 Month Shift



©FactSet Research Systems

5 Year Rolling Returns – 12/1/1997 to 6/30/2025

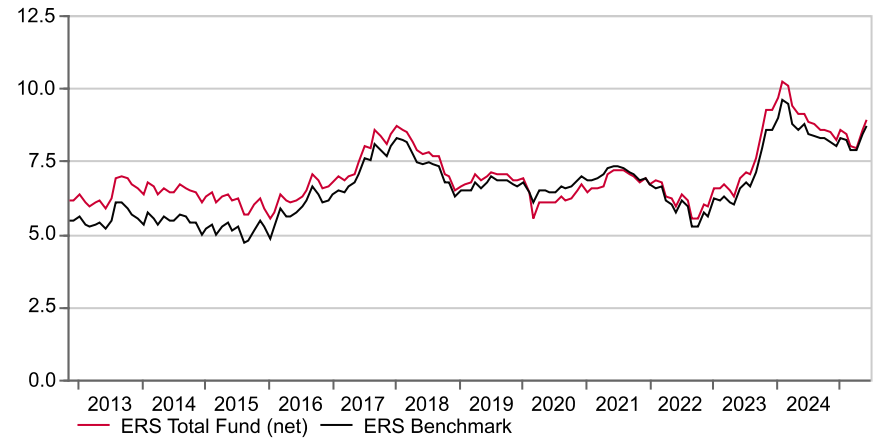
5 Years 1 Month Shift



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15 Year Rolling Returns – 12/1/1997 to 6/30/2025

15 Years 1 Month Shift

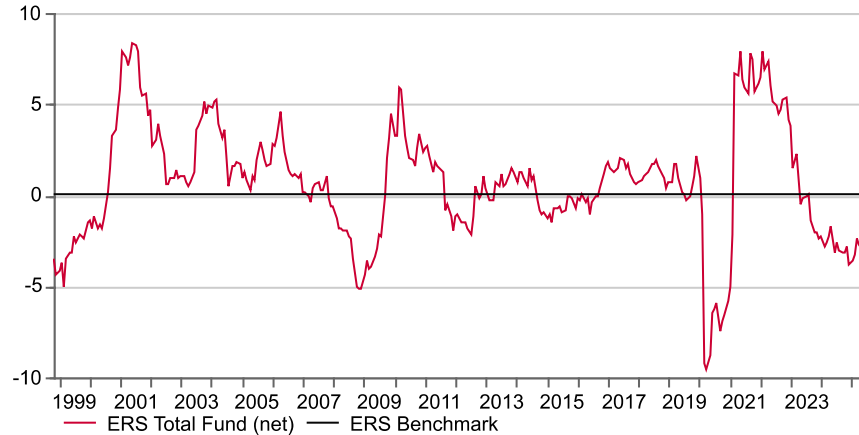


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Total Fund Rolling Excess Returns as of June 30, 2025

1 Year Rolling Excess Returns – 12/1/1997 to 6/30/2025

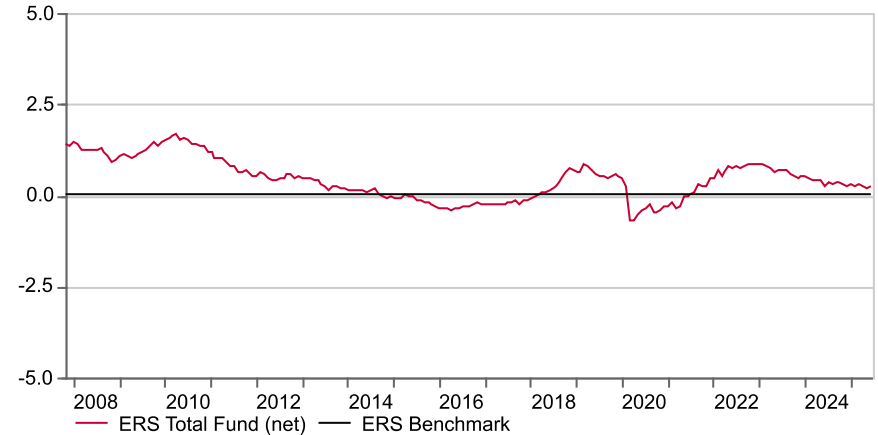
1 Year 1 Month Shift



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10 Year Rolling Excess Returns – 12/1/1997 to 6/30/2025

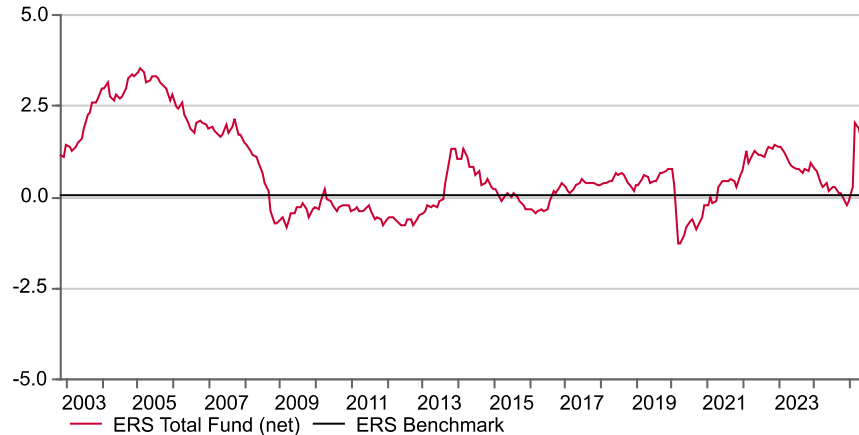
10 Years 1 Month Shift



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5 Year Rolling Excess Returns – 12/1/1997 to 6/30/2025

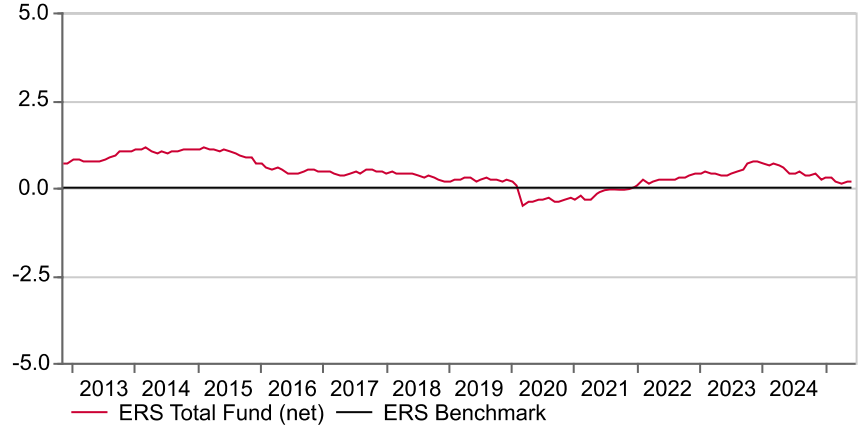
5 Years 1 Month Shift



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15 Year Rolling Excess Returns – 12/1/1997 to 6/30/2025

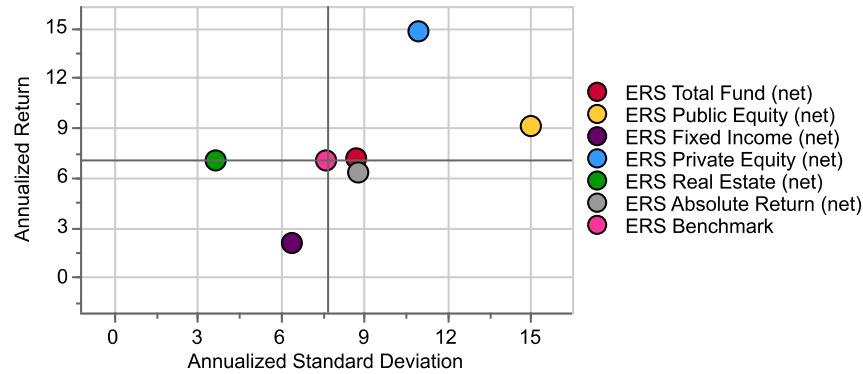
15 Years 1 Month Shift



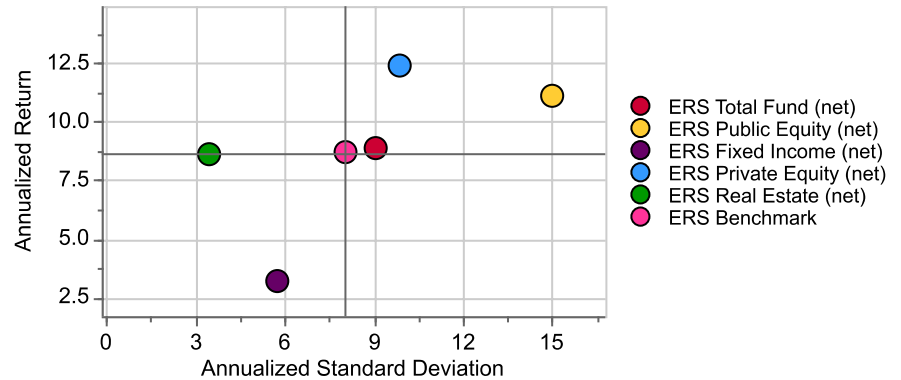
©FactSet Research Systems

Total Fund Statistics

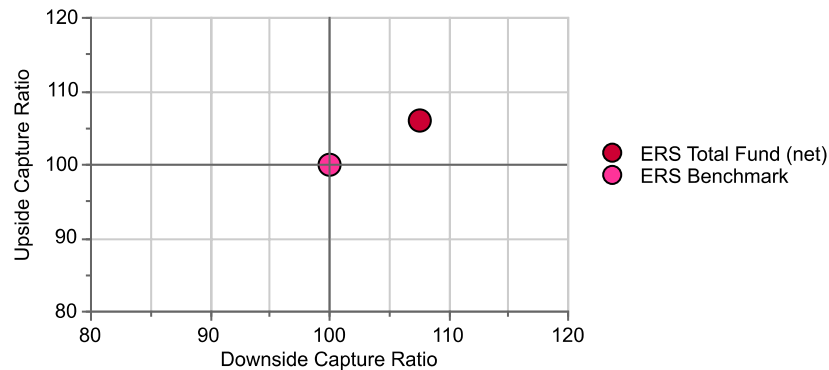
Risk-Reward Since Absolute Return Inception – 7/1/2014 to 6/30/2025



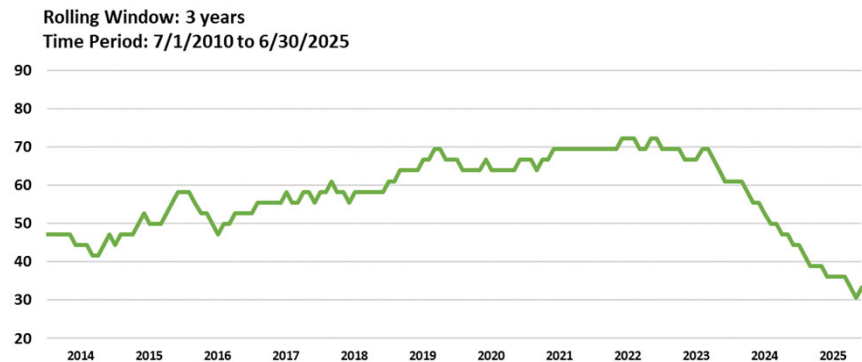
Risk-Reward Since Private Equity Inception – 7/1/2010 to 6/30/2025



Upside-Downside Since Absolute Return Inception – 7/1/2014 to 6/30/2025



Batting Average Since Private Equity Inception – 07/1/2010 to 6/30/2025



Risk Since Absolute Return Inception – 7/1/2014 to 6/30/2025

	Annualized Return	Standard Deviation	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
ERS Total Fund (net)	7.2	8.7	0.0	0.6	0.0	3.0	1.1
ERS Benchmark	7.1	7.6	0.0	0.7	--	--	1.0

Risk Since Private Equity Inception– 7/1/2010 to 6/30/2025

	Annualized Return	Standard Deviation	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
ERS Total Fund (net)	8.8	9.1	0.0	0.8	0.0	2.7	1.1
ERS Benchmark	8.7	8.0	0.0	0.9	--	--	1.0



* Real Estate returns calculated by Northern Trust

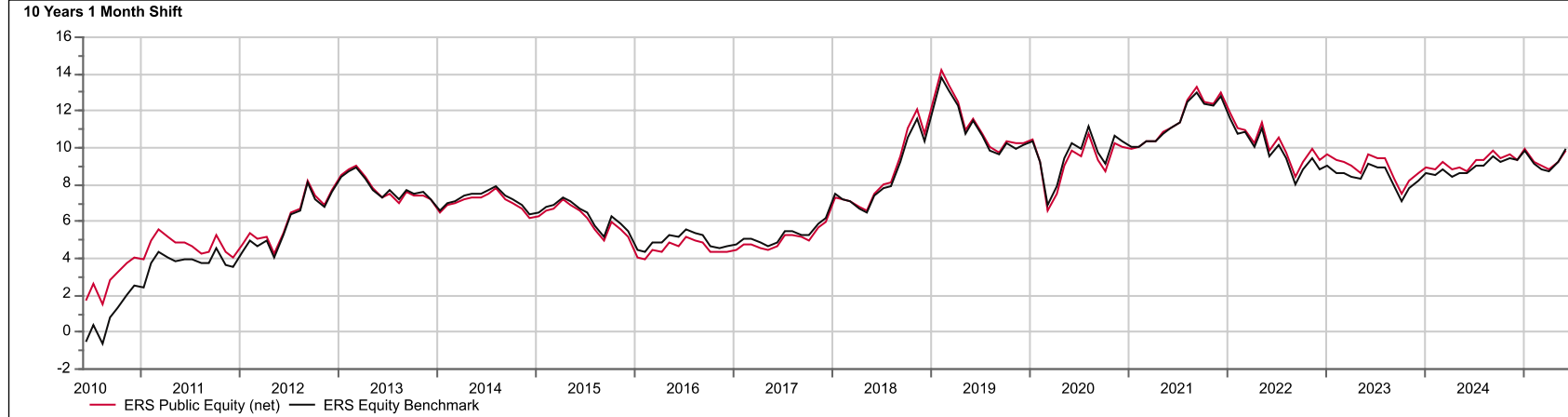
Notable CMERS Manager Events

Manager	Event	Date
Harrison Street	Colliers International, which owns 75% of Harrison Street, announced the rebranding of its investment management division as Harrison Street Asset Management (HSAM). Christopher Merrill, Co-Founder and CEO of Harrison Street, will become the Global CEO of HSAM. There is no change to the team that manages our Harrison Street Core Property Fund investment.	July, 2025
LaSalle	Alfreda Delle, Deputy Portfolio Manager for LaSalle Property Fund (LPF), will be taking an extended leave of absence beginning September 1. Patrick Pelling will join LPF as a Portfolio Manager. Mr. Pelling has been with LaSalle for 18 years, and most recently served as Head of Americas Transactions. LaSalle is also working to hire an additional Deputy Portfolio Manager. Jim Garvey, President and Portfolio Manager, remains in place. No changes are expected to the strategy.	August, 2025

Public Equity

Public Equity Performance

10 Year Rolling Returns – 7/1/2000 to 6/30/2025



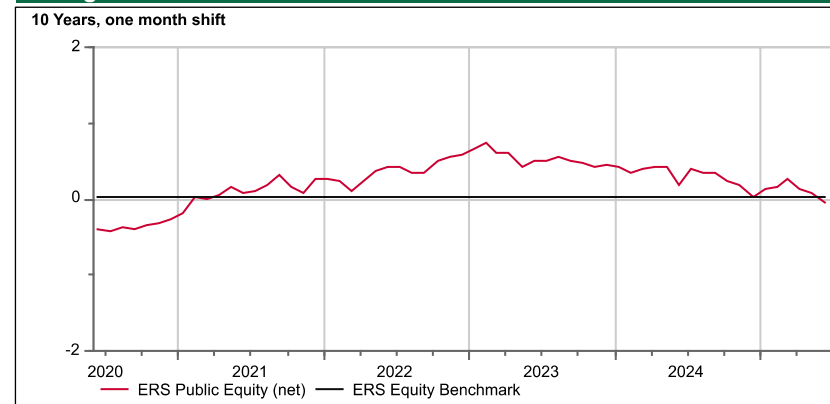
Trailing Returns

	Annualized Return							
	QTR	YTD	1 Year	3 Year	5 Year	7 Year	10 Year	15 Year
ERS Public Equity (Gross)	9.2	9.7	14.3	16.0	14.3	10.3	10.2	11.5
ERS Public Equity (Net)	9.1	9.5	13.9	15.5	13.9	9.9	9.8	11.1
ERS Public Equity Benchmark	11.6	9.8	15.9	16.8	13.4	10.3	9.9	11.2
MSCI AC World IMI	11.6	9.8	15.9	16.8	13.4	10.3	9.7	10.5

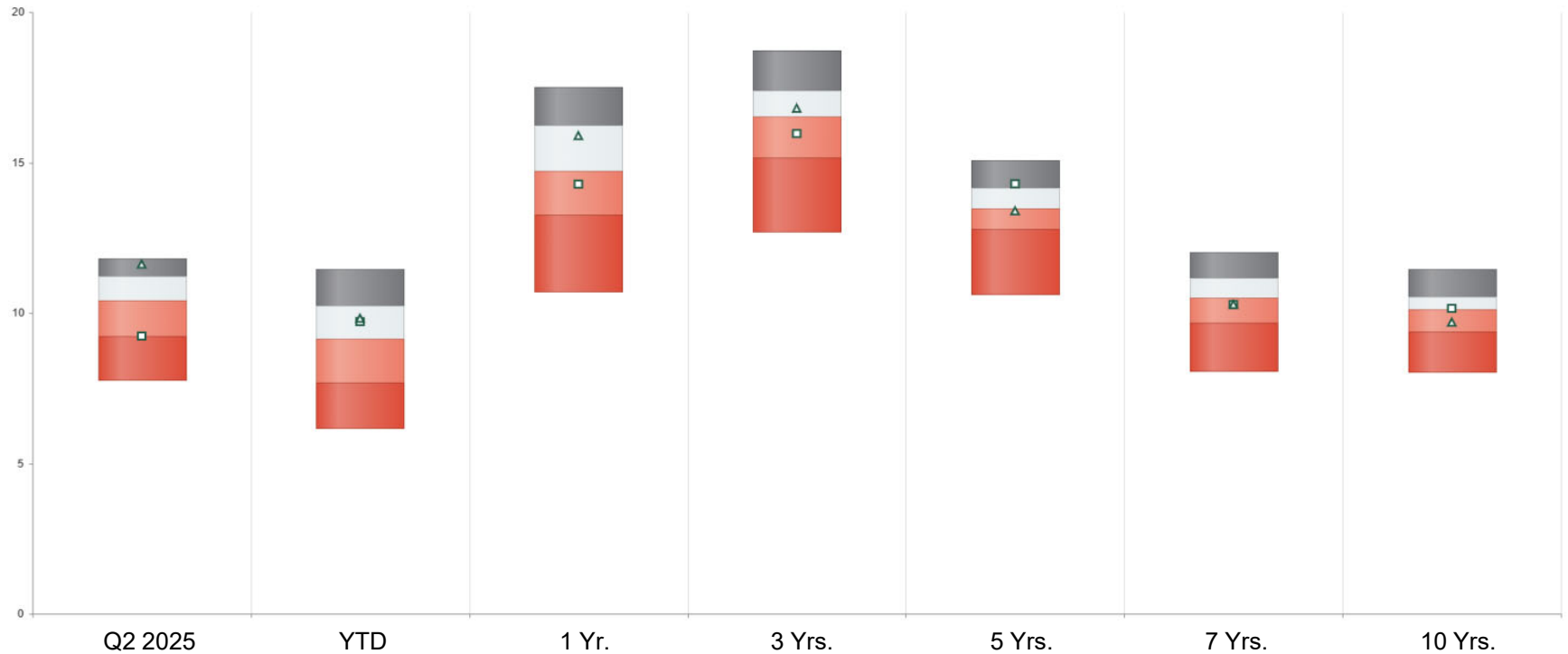
Investment Growth – 7/1/2010 to 6/30/2025



Rolling Excess Returns – 7/1/2010 to 6/30/2025



Public Equity vs Universe

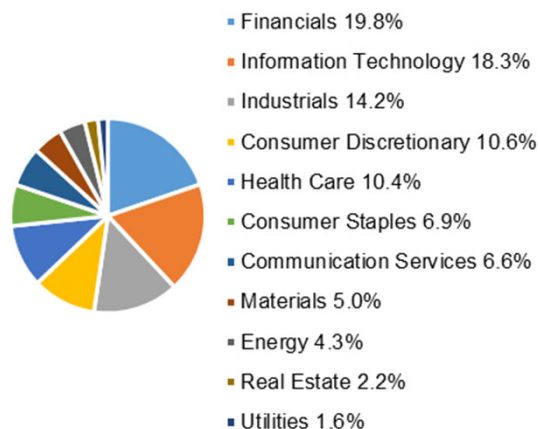


■ Account
 ▲ Index

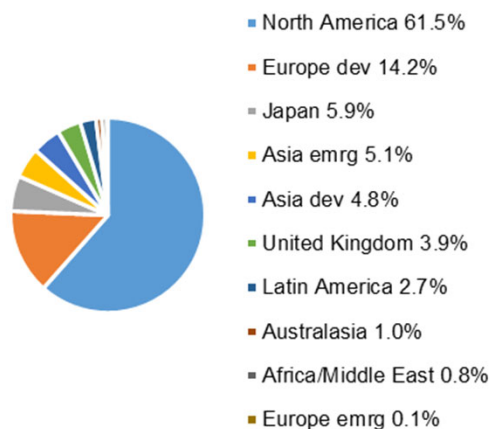
	Q2 2025	YTD	1 Yr.	3 Yrs.	5 Yrs.	7 Yrs.	10 Yrs.
Account Return	9.2	9.7	14.3	16.0	14.3	10.3	10.2
Percentile Rank	76	41	60	62	25	60	44
Index Return	11.6	9.8	15.9	16.8	13.4	10.3	9.9
Percentile Rank	15	38	32	43	56	60	3rd Quartile
1st Quartile	11.2	10.2	16.2	17.4	14.2	11.2	10.5
Median	10.4	9.1	14.7	16.5	13.5	10.5	10.1
3rd Quartile	9.2	7.7	13.3	15.2	12.8	9.7	9.4
Observations	113	118	118	116	116	115	109

Public Equity Portfolio Snapshot

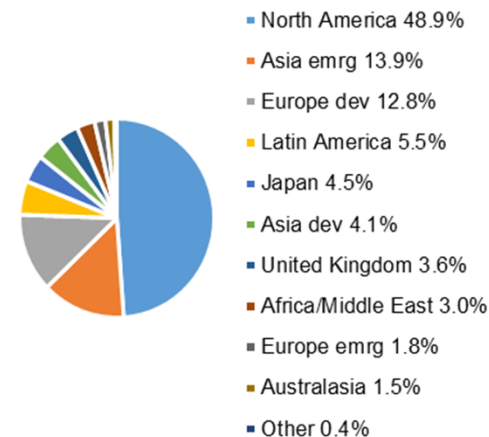
Equity Sector Exposure (GICS)



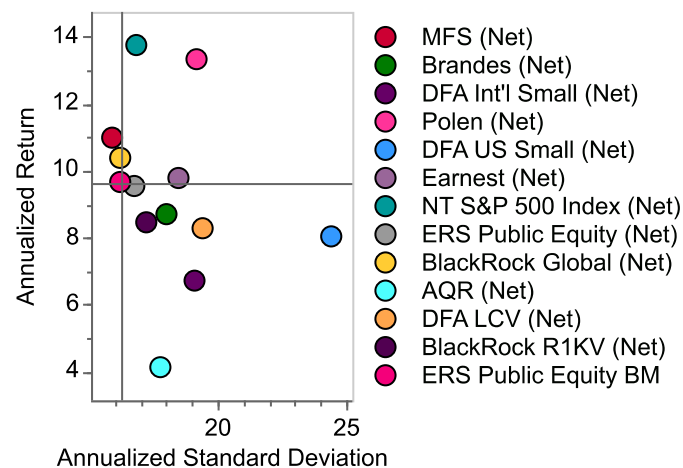
Regional Exposure by Domicile



Regional Exposure by Source of Revenue



Risk – Reward – 12/1/2017 to 6/30/2025



Top 10 Holdings

Portfolio Date 6/30/25	Weight %	Return %
Microsoft Corporation	2.6	32.7
Taiwan Semi Mfg. Co.	1.7	34.2
NVIDIA Corporation	1.7	45.8
Amazon.com, Inc.	1.6	15.3
Apple Inc.	1.4	-7.5
Alphabet Inc.	1.4	13.9
JPMorgan Chase & Co.	1.0	18.5
Visa Inc.	0.9	1.5
Tencent Holdings Limited	0.8	1.2
Samsung Electronics Co.	0.7	14.3

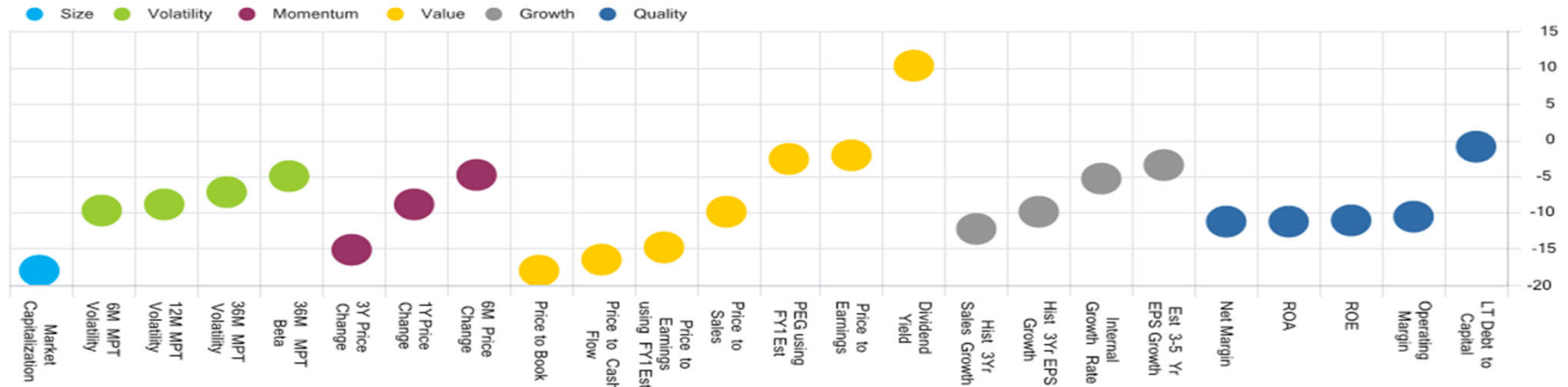
Top 10 Managers

Portfolio Date 6/30/25	Weight %
Brandes Int'l Value	13.4
BlackRock Global Core	11.3
MFS Global Growth	9.2
BlackRock ACWI ex US Growth	9.2
NTQA S&P 500 Index Core	8.9
BlackRock R1000 Value Index	8.5
DFA US Small Cap Value	8.2
Earnest Mid Cap Core	7.8
DFA Int'l Small Cap Value	7.4
DFA US Large Cap Value	6.1

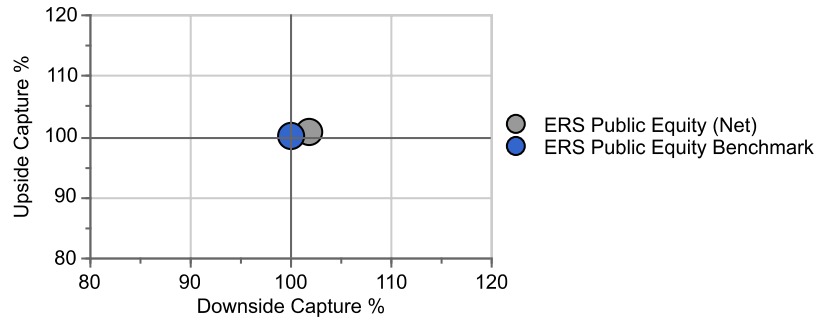
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Public Equity Statistics

Characteristics Tilt vs MSCI ACWI IMI 6/30/2025



15 Year Upside-Downside – 7/1/2010 to 6/30/2025



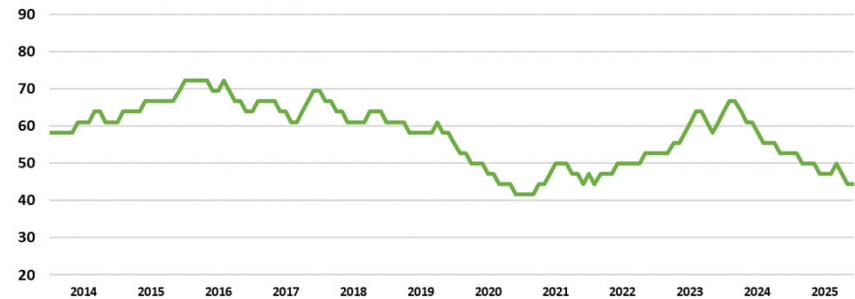
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15 Year Risk – 7/1/2010 to 6/30/2025

	Annualized Return	Standard Deviation	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
ERS Public Equity (Net)	11.1	15.0	0.0	0.7	0.0	1.9	1.0
ERS Public Equity Benchmark	11.2	14.5	0.0	0.7	--	--	1.0

Batting Average

Rolling Window: 3 years
Time Period: 7/1/2010 to 6/30/2025



Risk – 7/1/2013 to 6/30/2025

	Annualized Return	Standard Deviation	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
ERS Public Equity (Net)	10.4	14.7	0.0	0.6	0.0	2.0	1.0
ERS Public Equity Benchmark	10.4	14.3	0.0	0.6	--	--	1.0

Public Equity Valuation Characteristics

As of June 30, 2025

	Price/ Earnings	P/E using FY2 Est	Price/ Book	Price/ CF	Dividend Yield	Est. 3-5 yr. EPS Growth
ERS Public Equity	17.5	13.9	1.8	9.3	2.2	10.1
MSCI AC World IMI	20.0	16.6	2.4	12.1	1.8	11.2

Domestic Managers	Price/ Earnings	P/E using FY2 Est	Price/ Book	Price/ CF	Dividend Yield	Global & International Managers	Price/ Earnings	P/E using FY2 Est	Price/ Book	Price/ CF	Dividend Yield
BlackRock R1000 Value Index	19.8	16.0	2.6	12.1	1.9	AQR Emerging Markets Core	11.8	10.5	1.8	7.0	2.8
DFA Large Value	16.9	13.2	2.2	9.4	2.1	BlackRock Global Core	19.8	16.2	2.5	12.2	1.8
DFA Small Value	12.4	9.7	1.0	5.9	2.0	Brandes Int'l Value	14.2	10.4	1.2	5.8	4.1
Earnest Mid Core	19.2	14.8	2.3	11.5	1.5	DFA Int'l Small Value	11.1	9.6	0.9	5.4	3.7
NT S&P 500 Index	25.3	20.4	3.5	17.1	1.2	MFS Global Growth	28.0	21.0	4.1	18.8	1.3
Polen Large Growth	32.8	26.3	6.8	22.8	0.6	BlackRock ACWI Ex US Growth	18.9	16.0	2.7	11.3	2.1

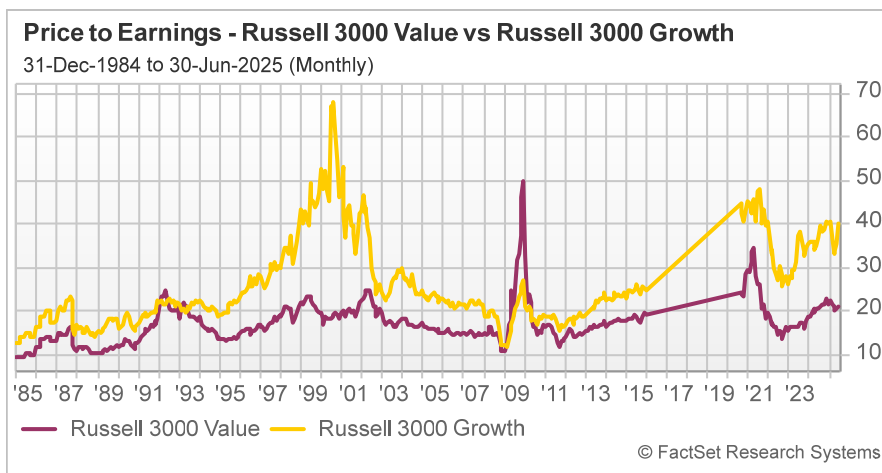
*"Price/Earnings" and "P/E using FY2 Est" values exclude companies with negative earnings from calculations.

P/E Ratio Comparisons in the U.S. Since 1980 - As of June 30, 2025

Value vs. Growth



Large vs. Small



Price to Earnings ratios for Value vs. Growth charts include companies with negative earnings in calculations.

Price to Earnings ratios for Large vs Small: Top chart includes companies with negative earnings in calculations; bottom chart excludes companies with negative earnings from calculation.

Relative Investment Performance – Active Equity Managers as of June 30, 2025

Outperforming Equity Managers

	2nd Qtr	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
AQR <i>MSCI EM</i>	13.0% 1.0%	14.4% 0.9%	9.3% 6.0%	11.1% 1.4%	8.4% 1.6%	5.1% 0.6%	N/A
DFA U.S. Small Value <i>Russell 2000 Value</i>	5.3% 0.3%	-3.3% 0.2%	3.8% 1.7%	11.5% 4.0%	19.0% 6.5%	7.9% 3.1%	8.6% 1.9%
ERS Public Equity <i>ERS Equity Benchmark</i>	9.1% 2.5%	9.5% 0.3%	13.9% 2.0%	15.5% 1.3%	13.9% 0.5%	9.9% 0.4%	9.8% 0.1%

*Returns net of fees

Relative outperformance in blue
Relative underperformance in red

Relative Investment Performance – Active Equity Managers as of June 30, 2025

Underperforming Equity Managers

	2nd Qtr	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
Earnest <i>Russell Midcap</i>	4.3% 4.2%	0.7% 4.1%	5.8% 9.4%	8.8% 5.5%	11.5% 1.6%	10.2% 0.1%	11.0% 1.1%
MFS <i>MSCI ACWI</i>	7.9% 3.6%	4.2% 5.8%	8.1% 8.0%	12.7% 4.6%	11.2% 2.4%	11.2% 0.4%	11.3% 1.3%
Polen <i>S&P 500</i>	9.3% 1.6%	2.9% 3.3%	11.2% 3.9%	16.1% 3.6%	9.1% 7.6%	12.5% 1.9%	13.7% 0.0%
Brandes <i>MSCI EAFE</i>	10.6% 1.2%	21.9% 2.5%	23.9% 6.2%	22.0% 6.1%	17.7% 6.5%	8.9% 1.7%	7.6% 1.1%
DFA U.S. Large Value <i>Russell 1000 Value</i>	2.7% 1.1%	4.8% 1.2%	10.4% 3.3%	13.1% 0.3%	15.0% 1.1%	8.6% 1.0%	N/A
DFA International <i>MSCI EAFE Small Cap</i>	16.0% 0.6%	28.0% 7.1%	29.8% 7.4%	20.3% 7.0%	16.7% 7.4%	7.7% 2.7%	7.6% 1.1%
Blackrock Global Alpha Tilts <i>MSCI ACWI</i>	11.1% 0.4%	9.9% 0.1%	14.7% 1.4%	18.2% 0.9%	14.3% 0.7%	10.9% 0.2%	N/A
ERS Public Equity <i>ERS Equity Benchmark</i>	9.1% 2.5%	9.5% 0.3%	13.9% 2.0%	15.5% 1.3%	13.9% 0.5%	9.9% 0.4%	9.8% 0.1%

Relative outperformance in blue

Relative underperformance in red

*Returns net of fees

Relative Investment Performance – Passive Equity Managers & Other as of June 30, 2025

Passive Equity Managers

	2nd Qtr	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
BlackRock Russell 1000 Value Index <i>Russell 1000 Value</i>	3.8% 0.0%	6.0% 0.0%	13.7% 0.0%	12.8% 0.0%	13.9% 0.0%	9.6% 0.1%	N/A
Northern Trust S&P 500 Index <i>S&P 500</i>	10.9% 0.0%	6.2% 0.0%	15.1% 0.0%	19.7% 0.0%	16.6% 0.0%	14.4% 0.0%	13.7% 0.0%

Real Assets Manager

	2nd Qtr	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
Principal Diversified Real Assets <i>Blended Benchmark</i>	3.8% 0.4%	7.3% 1.8%	9.4% 3.1%	4.2% 1.5%	8.0% 0.4%	4.8% 0.3%	N/A

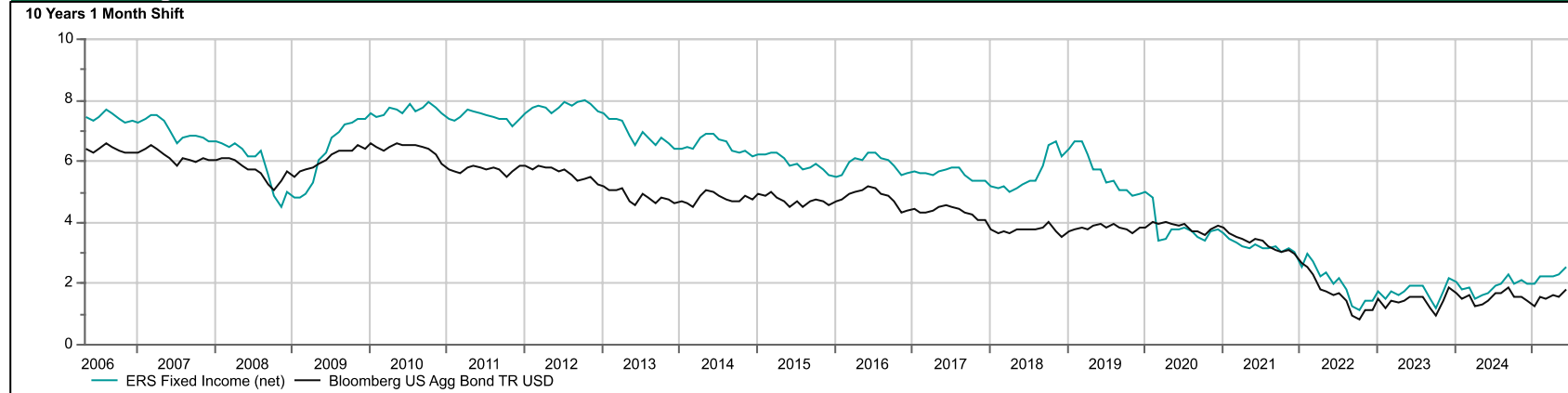
Relative outperformance in blue
Relative underperformance in red

*Returns net of fees

Fixed Income

Fixed Income Performance

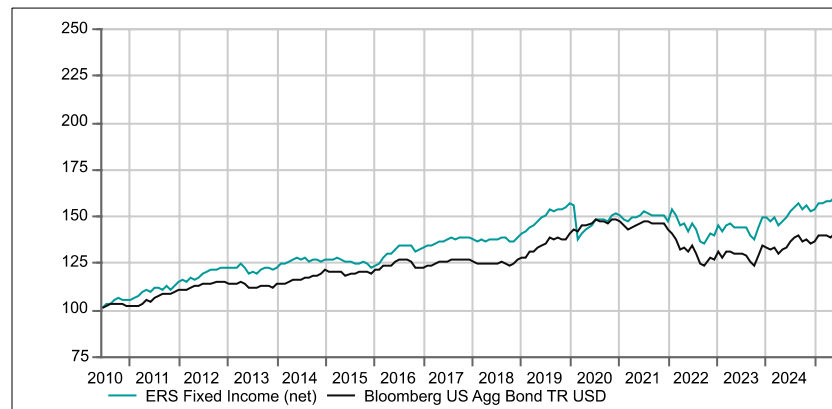
10 Year Rolling Returns – 6/1/1996 to 6/30/2025



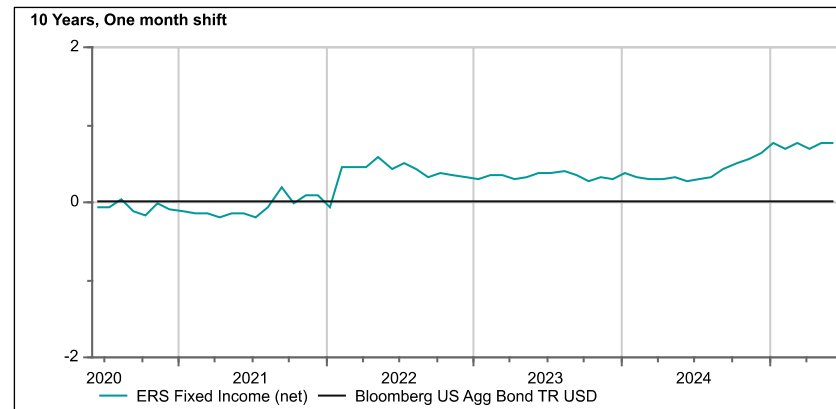
Trailing Returns

	Annualized Return							
	QTR	YTD	1 Year	3 Year	5 Year	7 Year	10 Year	15 Year
Total Fixed Income (Gross)	1.9	4.7	7.4	4.2	2.1	2.3	2.6	3.3
Total Fixed Income (Net)	1.9	4.7	7.3	4.1	2.0	2.2	2.5	3.2
Bloomberg US Aggregate	1.2	4.0	6.1	2.5	-0.7	1.8	1.8	2.3

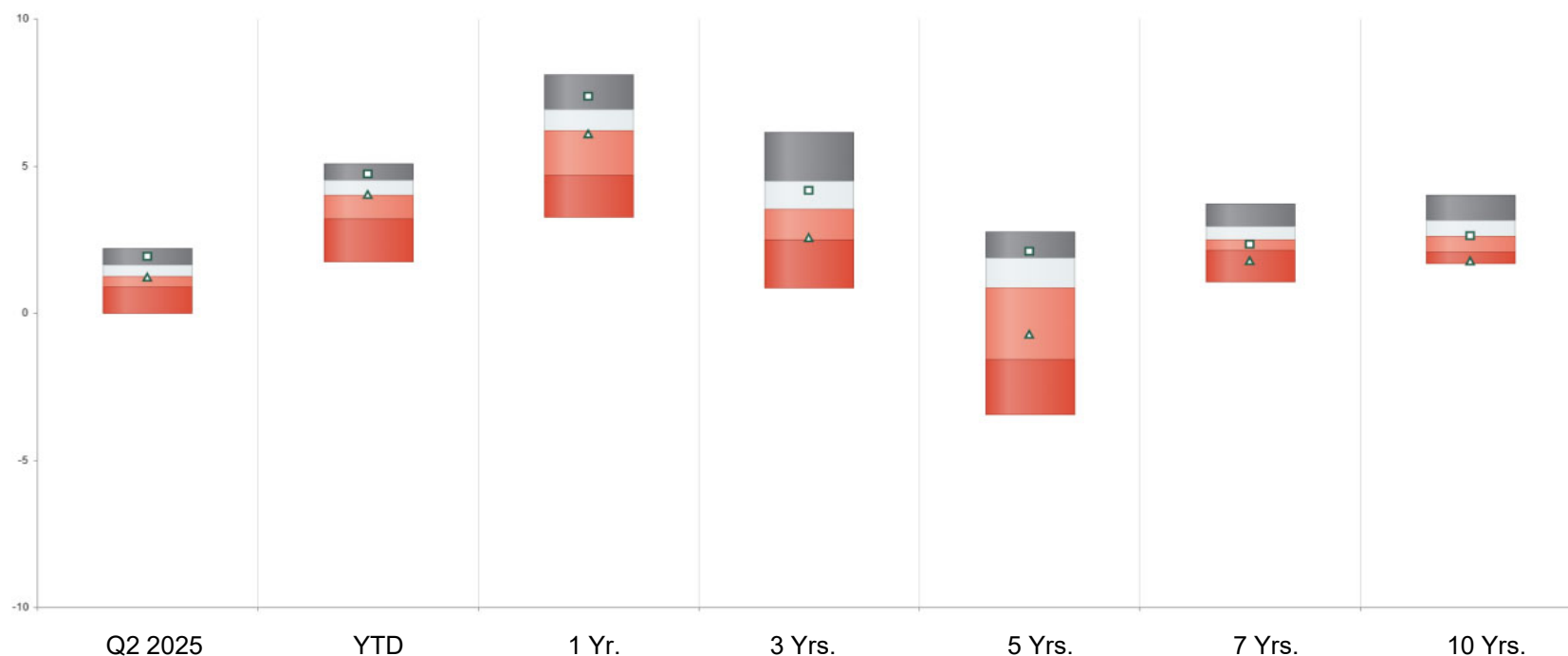
Investment Growth – 7/1/2010 to 6/30/2025



Rolling Excess Return – 7/1/2010 to 6/30/2025



Fixed Income vs Universe



□ Account ▲ Index

	Q2 2025	YTD	1 Yr.	3 Yrs.	5 Yrs.	7 Yrs.	10 Yrs.
Account Return	1.9	4.7	7.4	4.2	2.1	2.3	2.6
Percentile Rank	18	17	14	33	20	64	48
Index Return	1.2	4.0	6.1	2.5	-0.7	1.8	1.8
Percentile Rank	54	46	54	72	72	84	90
1st Quartile	1.6	4.5	6.9	4.5	1.9	2.9	3.2
Median	1.3	4.0	6.2	3.5	0.9	2.5	2.6
3rd Quartile	0.9	3.2	4.7	2.5	-1.6	2.1	2.1
Observations	88	86	88	88	88	88	87

Relative Investment Performance – Fixed Income Managers as of June 30, 2025

	2nd Qtr	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
Loomis Sayles	2.8%	5.2%	9.7%	6.2%	3.1%	3.8%	4.1%
<i>Bloomberg U.S. Agg.</i>	1.6%	1.2%	3.6%	3.6%	3.8%	2.0%	2.3%
Reams	1.8%	4.8%	6.8%	3.9%	0.5%	3.7%	3.3%
<i>Bloomberg U.S. Agg.</i>	0.6%	0.8%	0.8%	1.3%	1.3%	2.0%	1.5%
BlackRock Index	0.9%	3.8%	5.4%	1.6%	N/A	N/A	N/A
<i>Bloomberg U.S. Government</i>	0.0%	0.0%	0.0%	0.1%			
BlackRock US Aggregate Index ⁽¹⁾	2.1%	2.1%	N/A	N/A	N/A	N/A	N/A
<i>Bloomberg U.S. Agg.</i>	0.0%	0.0%					
ERS Fixed Income	1.9%	4.7%	7.3%	4.1%	2.0%	2.2%	2.5%
<i>Bloomberg U.S. Agg.</i>	0.7%	0.7%	1.2%	1.5%	2.7%	0.4%	0.7%

Relative outperformance in blue

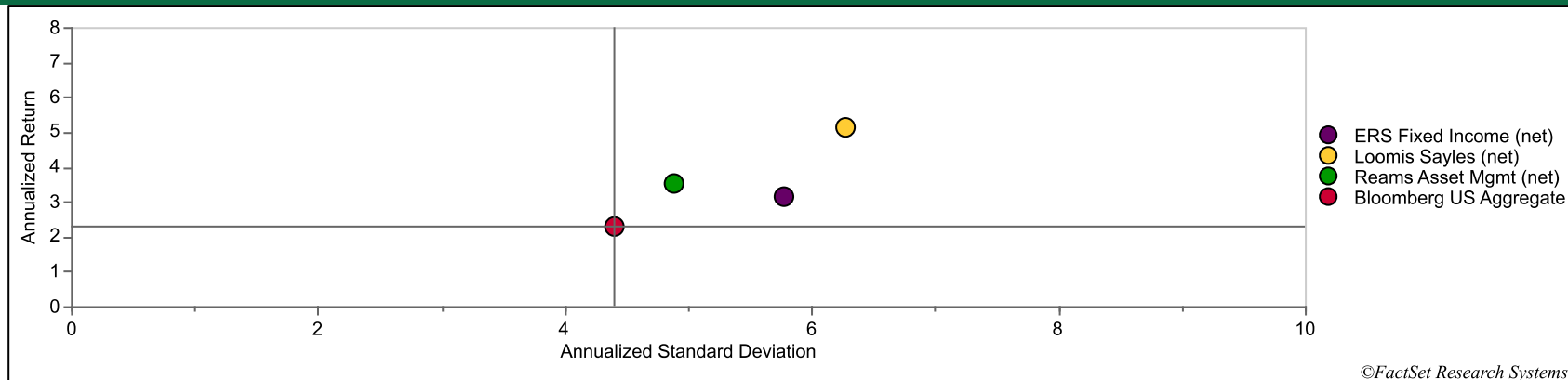
Relative underperformance in red

*Returns net of fees

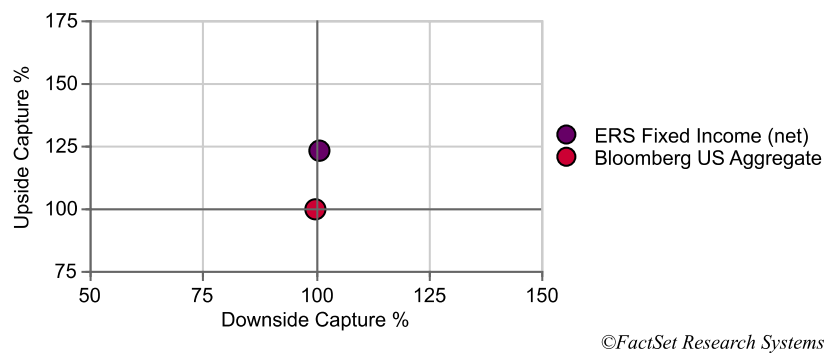
⁽¹⁾ Blackrock US Aggregate Index inception date May 21, 2025

Fixed Income Statistics

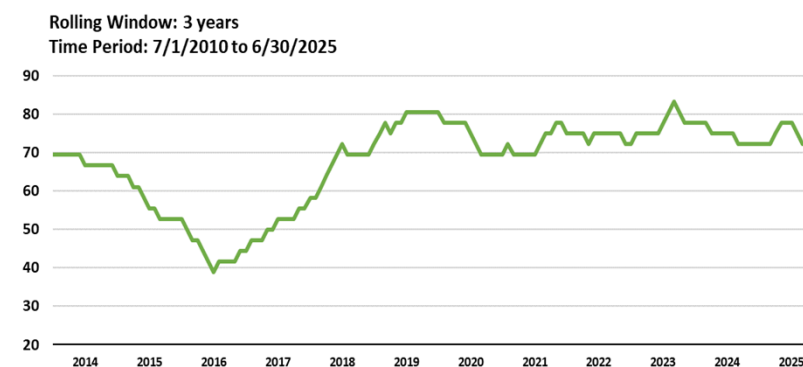
Risk – Reward –7/1/2010 to 6/30/2025



15 Year Upside-Downside – 7/1/2010 to 6/30/2025



Batting Average



15 Year Risk – 7/1/2010 to 6/30/2025

	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error	Beta
Total Fixed Income (Net)	3.2	5.8	0.1	0.3	0.1	3.9
Bloomberg US Aggregate	2.3	4.4	0.0	0.2	--	--

Risk – 7/1/2013 to 6/30/2025

	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error	Beta
Total Fixed Income (Net)	2.5	6.2	0.1	0.1	0.0	4.1
Bloomberg US Aggregate	2.0	4.7	0.0	0.1	--	--

Absolute Return

Relative Investment Performance – Absolute Return Managers as of June 30, 2025

	2nd Qtr	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
Aptitude <i>1 Year Libor / SOFR + 4%</i>	4.4%	4.9%	11.7%	N/A	N/A	N/A	N/A
	2.3%	0.8%	2.9%				
UBS A&Q <i>1 Year Libor / SOFR + 4%</i>	2.3%	4.5%	10.5%	8.7%	9.5%	8.5%	7.0%
	0.3%	0.3%	1.7%	0.1%	2.7%	1.5%	0.4%
ERS Absolute Return <i>3 Month T-Bill + 3%</i>	3.2%	4.7%	11.0%	8.9%	12.8%	6.9%	6.3%
	1.3%	1.0%	3.3%	1.1%	6.8%	1.3%	1.2%

Relative outperformance in blue
Relative underperformance in red

Risk Adjusted Returns (07/1/14 - 6/30/25)

	Return	Std Dev	Sharpe Ratio	Max Drawdown
ERS Public Equity (net)	9.1%	15.1%	0.5	-25.3%
ERS Fixed Income (net)	2.1%	6.4%	0.0	-13.6%
ERS Absolute Return (net)	6.3%	8.8%	0.5	-27.1%

*Returns net of fees

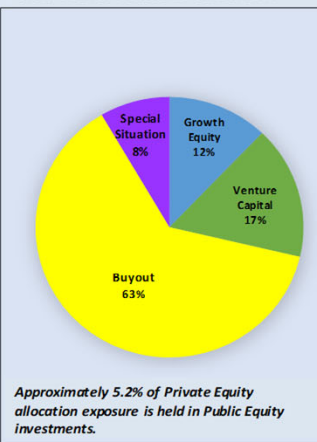
Private Equity

Milwaukee ERS Private Equity Portfolio as of March 31, 2025

PE Summary - Portfolio Capital Calls, Distributions, NAV & Returns

Partnership	Vintage Year	Committed	Invested Capital*	Uncalled Commitments*	Distributions*	NAV	NAV Change	IRR*	TVPI*	DPI*	RVPI*
Abbott 2010	2010	35,000,000	34,650,405	349,595	57,240,376	12,655,967	(195,295)	13.50%	2.02	1.65	0.37
Abbott 2011	2011	55,000,000	54,730,191	269,809	90,553,494	26,352,492	(636,217)	14.95%	2.14	1.65	0.48
Abbott 2012	2012	40,000,000	39,600,000	400,000	61,102,456	25,053,832	(518,888)	15.43%	2.18	1.54	0.63
Abbott 2013	2013	35,000,000	34,650,000	350,000	53,743,168	24,333,429	(310,027)	16.68%	2.25	1.55	0.70
Abbott 2014	2014	35,000,000	34,300,000	700,000	49,310,612	29,215,094	(28,087)	16.76%	2.29	1.44	0.85
Abbott 2015	2015	25,000,000	25,050,000	-	27,843,750	26,287,385	284,978	16.88%	2.16	1.11	1.05
Abbott 2016	2016	20,000,000	19,717,500	282,500	16,567,500	24,518,656	329,492	17.69%	2.08	0.84	1.24
Abbott 2018	2018	20,000,000	19,315,000	685,000	5,190,000	25,319,529	565,796	14.03%	1.58	0.27	1.31
Abbott 2019	2019	20,000,000	18,270,000	1,730,000	3,140,000	23,842,487	629,753	14.26%	1.48	0.17	1.31
Abbott 2020	2020	40,000,000	31,280,000	8,720,000	2,360,000	35,785,625	906,795	9.00%	1.22	0.08	1.14
Abbott 2021	2021	20,000,000	11,739,749	8,260,251	-	13,292,478	296,648	5.65%	1.13	0.00	1.13
Abbott 2022	2022	35,000,000	14,834,140	20,165,890	-	14,819,869	(14,239)	-0.06%	1.00	0.00	1.00
Abbott 2023	2023	30,000,000	7,678,125	22,321,875	-	8,657,825	148,702	16.79%	1.13	0.00	1.13
Abbott 2024	2024	40,000,000	6,225,000	33,775,000	-	6,809,704	167,106	21.07%	1.09	0.00	1.09
Abbott 2025	2025	40,000,000	1,800,000	38,200,000	-	1,886,540	86,540	NMF	1.05	0.00	1.05
Mesirow V	2008	75,000,000	71,846,194	3,153,806	146,248,045	25,393,369	(481,185)	15.97%	2.39	2.04	0.35
Mesirow VI	2013	60,000,000	54,120,000	5,880,000	88,596,748	52,409,833	100,272	18.78%	2.61	1.64	0.97
Mesirow VII	2017	100,000,000	85,714,499	14,285,501	28,698,942	126,080,222	2,411,318	13.92%	1.81	0.33	1.47
Mesirow VIII	2020	120,000,000	75,600,000	44,400,000	-	85,773,337	2,067,953	13.12%	1.13	0.00	1.13
Mesirow IX	2024	120,000,000	11,040,000	108,960,000	-	11,676,166	277,949	NMF	1.06	0.00	1.06
Neuberger Berman III	2013	30,000,000	32,053,561	-	42,360,361	6,569,096	68,077	16.03%	1.53	1.32	0.20
Neuberger Berman IV	2017	25,000,000	25,998,659	-	23,375,028	15,757,983	(252,249)	16.87%	1.51	0.90	0.61
Neuberger Berman V	2021	100,000,000	55,925,000	44,075,000	18,144,470	57,618,812	678,331	26.88%	1.35	0.32	1.03
Private Advisors VI	2014	30,000,000	34,747,823	-	47,913,979	18,336,151	(15,130)	18.17%	1.91	1.38	0.53
Private Advisors VII	2016	15,000,000	18,794,968	-	21,196,676	11,518,777	(131,178)	16.32%	1.74	1.13	0.61
Private Advisors VIII	2018	15,000,000	17,255,573	-	12,882,717	18,037,327	201,200	20.08%	1.79	0.75	1.05
Private Advisors IX	2019	35,000,000	40,101,233	-	19,742,284	38,755,909	89,293	19.36%	1.46	0.49	0.97
Private Advisors X	2022	30,000,000	15,058,372	14,941,628	2,760,803	18,893,407	220,568	17.21%	1.44	0.18	1.25
Private Advisors XI	2024	40,000,000	-	40,000,000	-	769,671	960,401	NMF	0.00	0.00	0.00
% of ERS Fund		1,285,000,000	892,095,963	411,905,855	818,971,409	786,420,972	7,908,677	16.17%	1.80	0.92	0.88
				6.8%			13.0%				

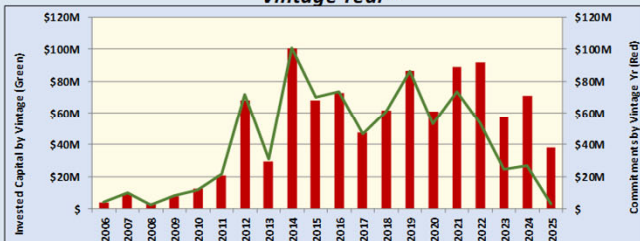
Sub-Asset Class Breakdown



NAV by Vintage Year



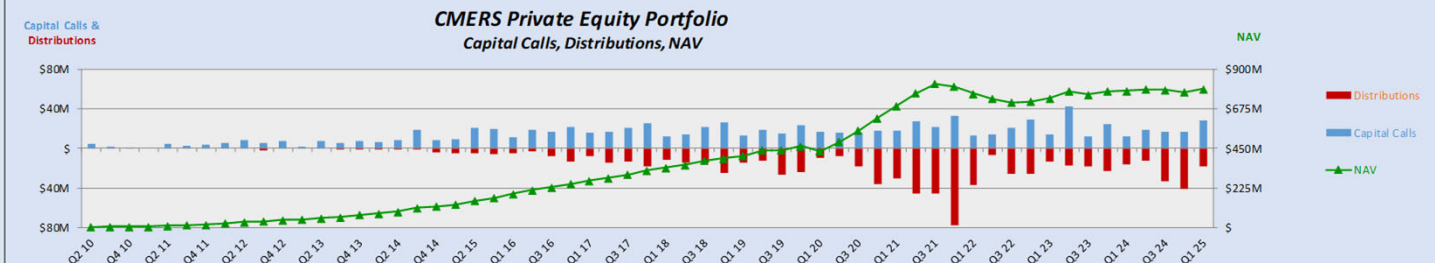
Vintage Year**



Age of Investment***



CMERS Private Equity Portfolio Capital Calls, Distributions, NAV



* Invested capital, uncalled commitments, IRR calculations, and distributions will not necessarily match partnership statement. Estimates reflect best efforts to incorporate actual ERS experience. TVPI stands for "Total Value to Paid in Capital." It is calculated as the sum of NAV & Distributions, divided by Invested Capital. DPI stands for "Distributed to Paid in Capital" (Distributions/Invested Capital). RVPI stands for "Residual Value to Paid in Capital" (NAV/Invested Capital).

** Vintage Year Investments Prior to 2005 are deemed to not be material figures and are not illustrated in above graph. Excludes Neuberger Berman.

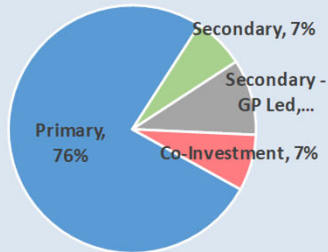
*** Portfolio Companies by Age of Investment figures have not been fully adjusted for overlapping investments. Excludes Neuberger Berman.

Private Equity Continued

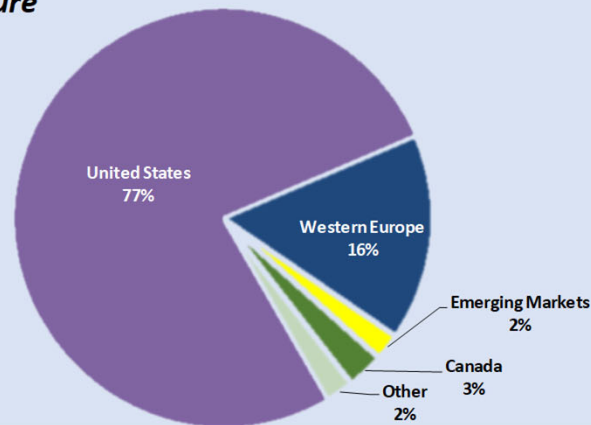
Total Managers	267*
Number of Partnerships	715*
Number of Portfolio Companies	6,655*

*Data in the above table is estimated. Actual data may be slightly different.

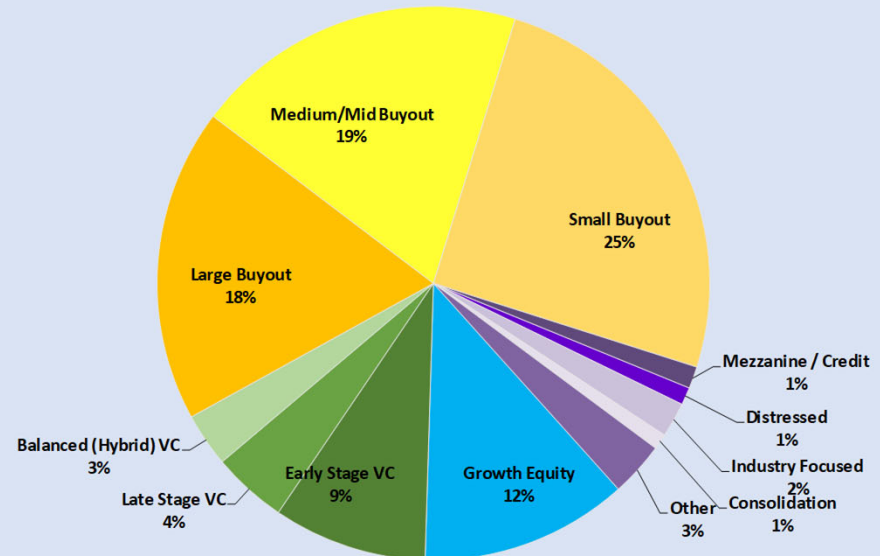
Transaction Type



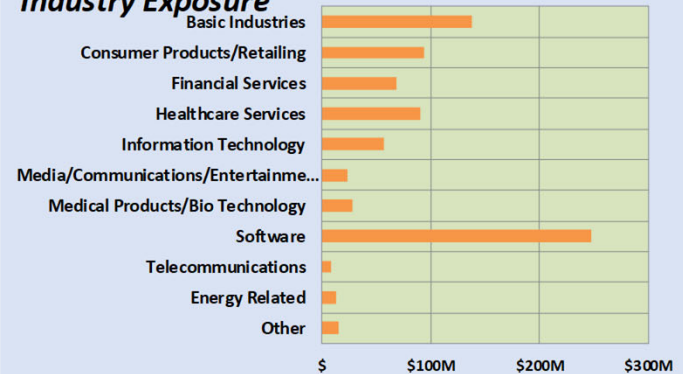
Geographic Exposure



Strategy Exposure



Industry Exposure



Performance Update

Performance Update

Estimated ERS Total Fund Market Value is \$6.24 billion as of August 28, 2025

Period	ERS Fund*	Benchmark
YTD through June 30, 2025	5.9%	5.7%
July	0.3%	0.4%
MTD through August 28, 2025 (Estimate)	1.9%	1.7%
YTD Through August 28, 2025 (Estimate)	8.2%	8.0%

*Returns Net of Fees

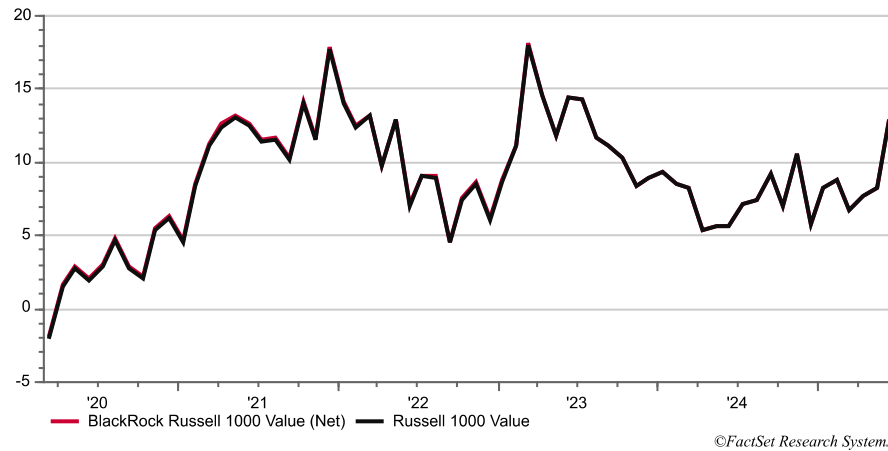
Appendix

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BlackRock Russell 1000 Value Portfolio Snapshot – June 30, 2025

Rolling Returns Since Inception 4/1/2017 (Three Year, One Month Shift)



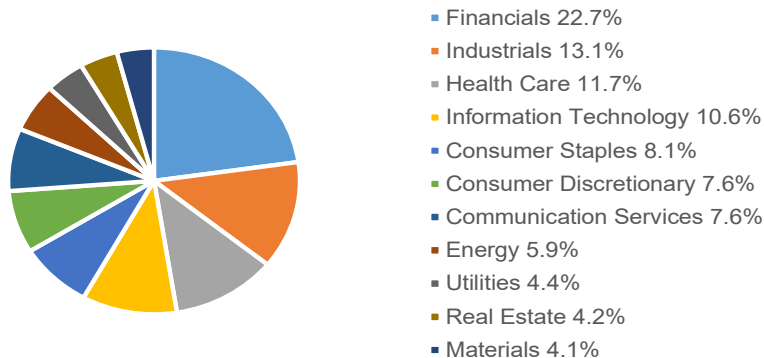
Top 10 Holdings

	Portfolio Weight	Quarterly Return
Berkshire Hathaway Inc.	3.22	-8.79
JPMorgan Chase & Co.	2.90	18.86
Alphabet Inc.	2.38	13.91
Amazon.com, Inc.	2.08	15.31
Exxon Mobil Corporation	1.68	-8.48
Walmart Inc.	1.38	11.64
Procter & Gamble Company	1.35	-5.91
Johnson & Johnson	1.32	-7.12
Bank of America Corporation	1.07	14.02
Meta Platforms, Inc.	1.03	28.15

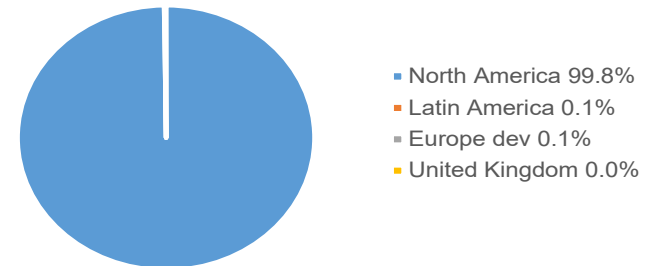
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	Inception 4/1/2017
BlackRock R1000 Value (Net)	3.8	6.0	13.7	12.8	13.9	9.2
Russell 1000 Value	3.8	6.0	13.7	12.8	13.9	9.1

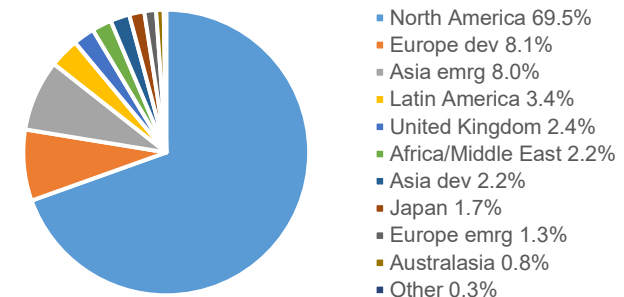
Equity Sector Exposure (GICS)



Regional Exposure by Domicile



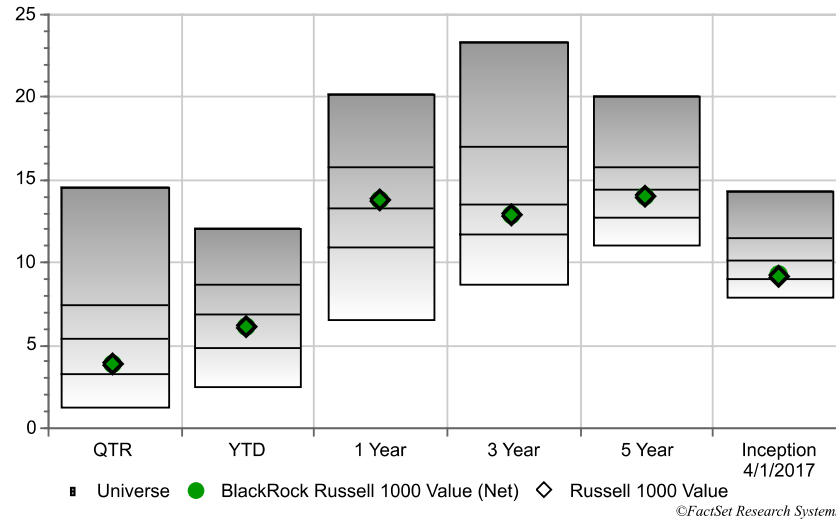
Regional Exposure by Source of Revenue



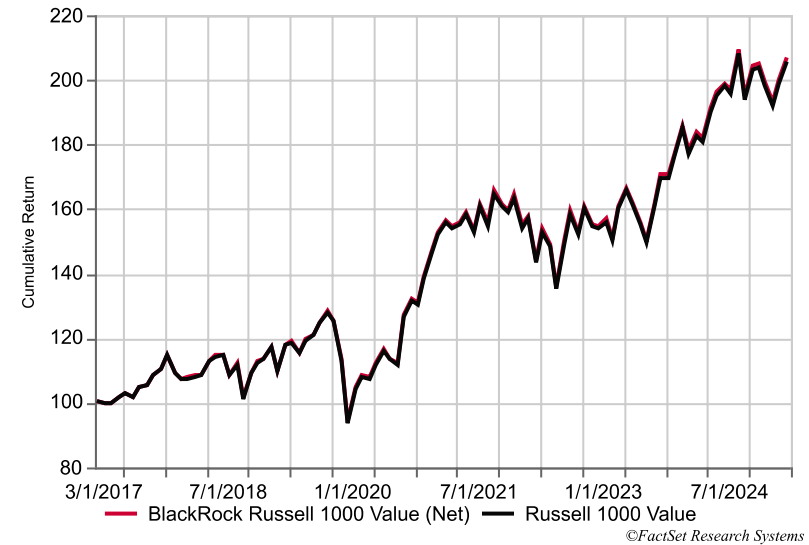
BlackRock Russell 1000 Value vs Universe & Benchmark

Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US:Large-Cap Value

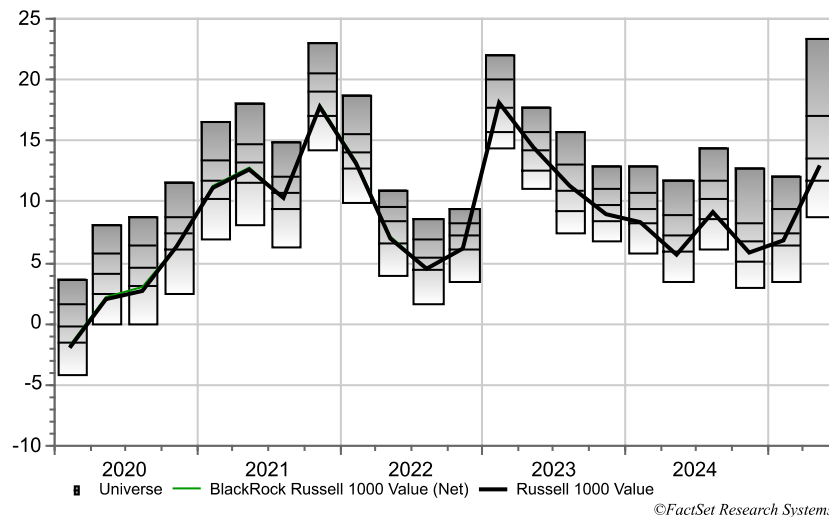


Investment Growth Since Inception 4/1/2017



Rolling Returns 4/1/2017 – 6/30/2025 (3 Year, 3 Month Shift)

Universe: Lipper US:Large-Cap Value

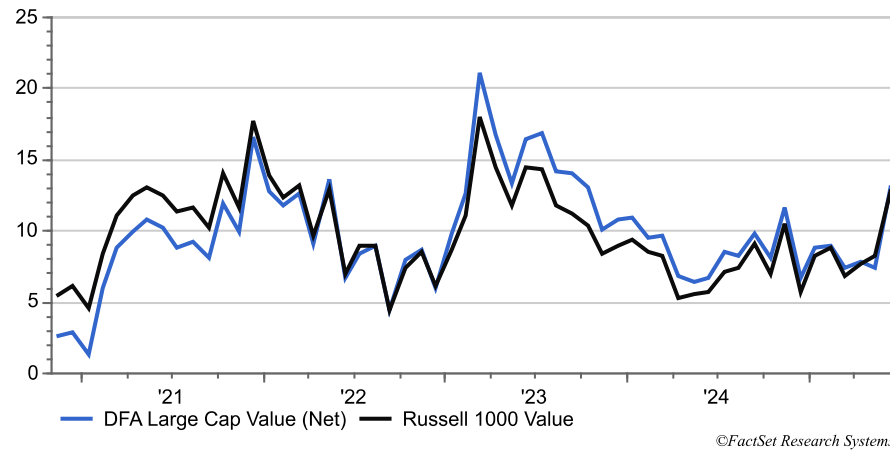


Risk Since Inception 4/1/2017

	Return	Std Dev	Sharpe Ratio	Tracking Error
BlackRock R1000 Value (Net)	9.2	16.4	0.4	0.0
Russell 1000 Value	9.1	16.4	0.4	--

DFA LCV Portfolio Snapshot – June 30, 2025

Rolling Returns Since Inception 12/1/2017 (Three Year, One Month Shift)



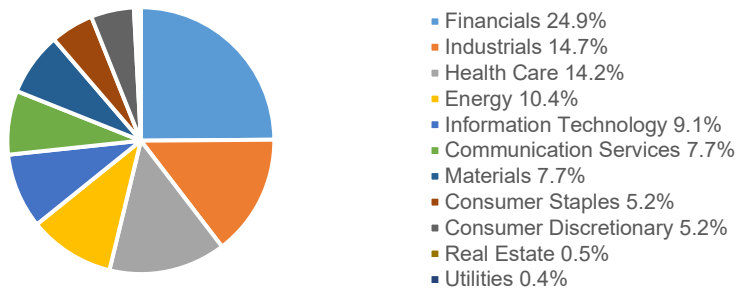
Top 10 Holdings

	Portfolio Weight	Quarterly Return
JPMorgan Chase & Co.	4.90	18.86
Exxon Mobil Corporation	3.01	-8.48
Johnson & Johnson	2.16	-7.12
Berkshire Hathaway Inc.	2.01	-8.79
UnitedHealth Group Incorporated	1.69	-40.01
AT&T Inc.	1.59	3.36
Verizon Communications Inc.	1.34	-3.14
Wells Fargo & Company	1.23	12.20
Cisco Systems, Inc.	1.23	13.23
Linde Plc	1.14	1.08

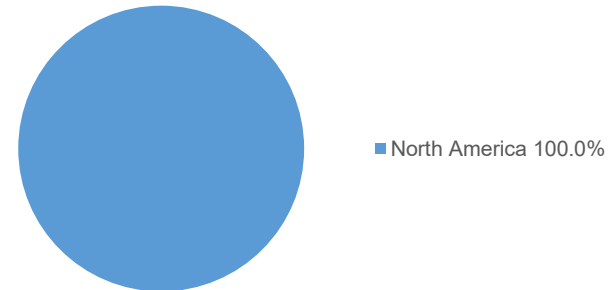
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	Inception 12/1/2017
DFA US Large Value	2.7	4.8	10.4	13.1	15.0	8.1
Russell 1000 Value	3.8	6.0	13.7	12.8	13.9	8.8

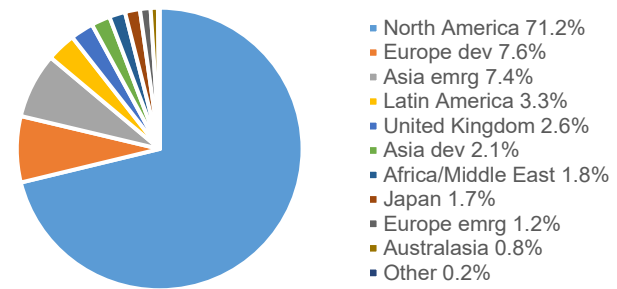
Equity Sector Exposure (GICS)



Regional Exposure by Domicile



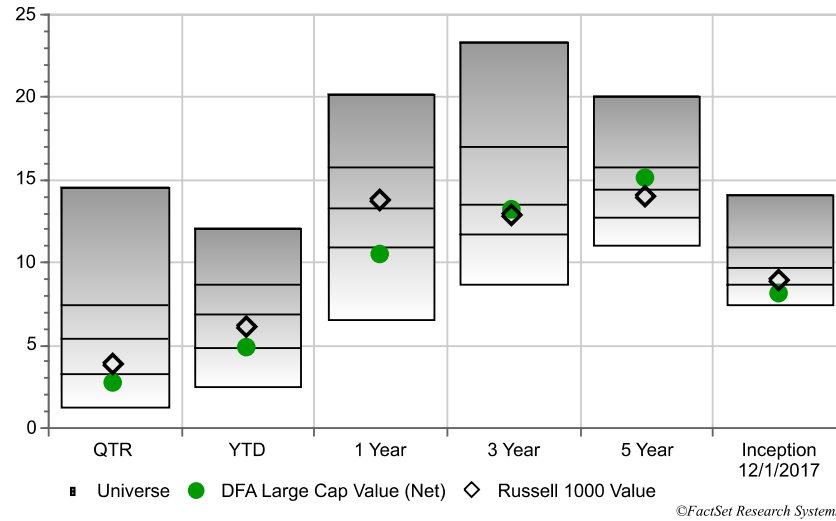
Regional Exposure by Source of Revenue



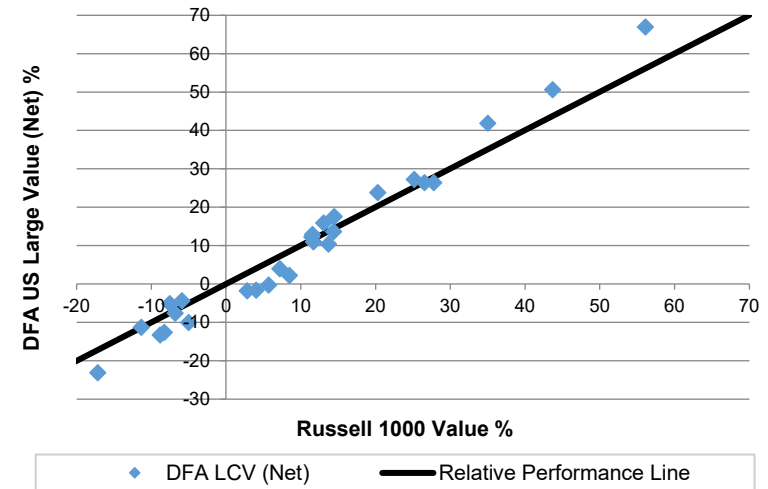
DFA LCV vs Universe & Benchmark

Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US Large Cap Value

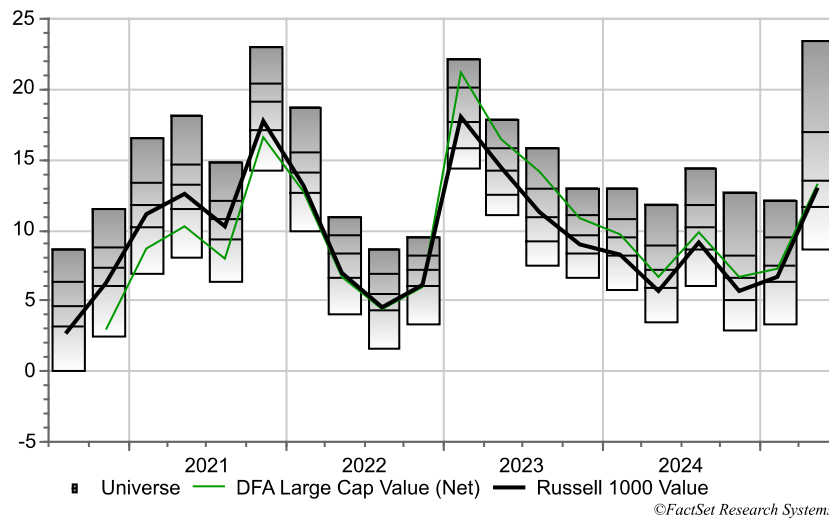


One-Year Rolling Return Versus Benchmark



Rolling Returns 12/1/2017 – 6/30/2025 (3 Year, 3 Month Shift)

Universe: Lipper US Large Cap Value



Over/Under Benchmark Analysis

12	Outperform
15	Underperform
27	# Observations
44%	% Outperform

DFA LCV Attribution Analysis – June 30, 2025

Top 10 Leading Contributors

	Avg. Weights	Relative Weights	Active Return
JPMorgan Chase & Co.	4.65	1.79	0.34
Quanta Services, Inc.	0.63	0.50	0.23
Capital One Financial Corporation	1.03	0.56	0.16
Berkshire Hathaway Inc.	2.38	-1.51	0.14
TE Connectivity Plc	0.66	0.66	0.13
Goldman Sachs Group, Inc.	0.88	0.37	0.11
Micron Technology, Inc.	0.55	0.17	0.10
Vistra Corp.	0.13	0.13	0.08
Flex Ltd.	0.14	0.14	0.07
Morgan Stanley	0.82	0.29	0.06

Top 10 Leading Detractors

	Avg. Weights	Relative Weights	Active Return
UnitedHealth Group Incorporated	2.18	0.75	-0.38
Chevron Corporation	1.85	0.82	-0.22
Exxon Mobil Corporation	3.52	1.57	-0.21
GE Vernova Inc.	0.10	-0.32	-0.20
Walmart Inc.	0.00	-1.67	-0.19
General Electric Company	0.10	-0.64	-0.18
Int'l Business Machines Corporation	0.02	-0.91	-0.17
Philip Morris International Inc.	0.00	-1.07	-0.16
Robinhood Markets, Inc.	0.00	-0.14	-0.14
Constellation Energy Corporation	0.00	-0.26	-0.14

Sector Attribution

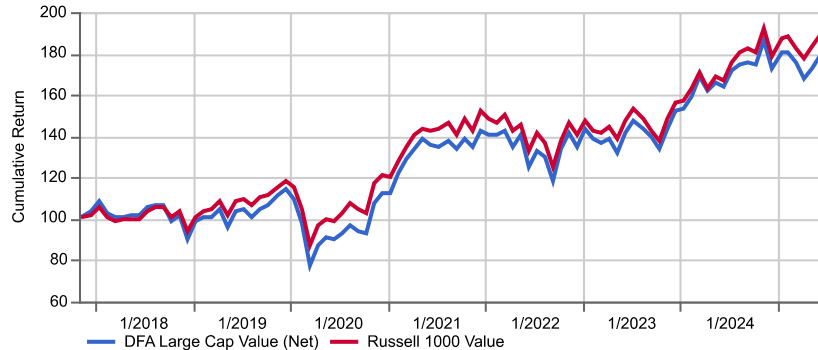
	Average relative weighting (%)	Portfolio returns (%)	Benchmark returns (%)	Sector allocation (%)	Stock selection (%)	Relative contribution (%)
Communication Services	2.5	1.4	4.7	0.0	-0.2	-0.2
Consumer Discretionary	-0.9	7.6	4.7	0.0	0.1	0.1
Consumer Staples	-2.9	-0.8	1.7	0.1	-0.1	-0.1
Energy	4.9	-8.0	-7.8	-0.7	0.0	-0.7
Financials	0.9	8.2	6.8	0.0	0.3	0.4
Health Care	1.3	-11.1	-8.8	-0.2	-0.4	-0.6
Industrials	0.1	11.0	13.6	0.0	-0.4	-0.3
Information Technology	-0.7	16.6	15.8	-0.1	0.1	0.0
Materials	3.2	2.4	3.1	0.0	-0.1	-0.1
Real Estate	-4.3	7.1	-1.3	0.2	0.0	0.3
Utilities	-4.6	66.9	1.0	0.1	0.1	0.3
Cash	0.4	1.1	0.0	0.0	0.0	0.0
Total	0.0	2.8	3.7	-0.5	-0.5	-1.0



Returns are calculated by factset from month-end holdings, and may differ slightly from official returns reported by custodian

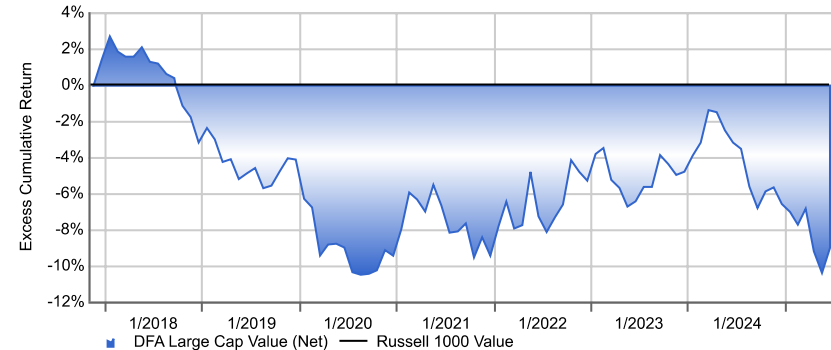
DFA LCV Inception Performance & Statistics

Investment Growth Since Inception 12/1/2017



©FactSet Research Systems

Relative Cumulative Performance Since Inception 12/1/2017

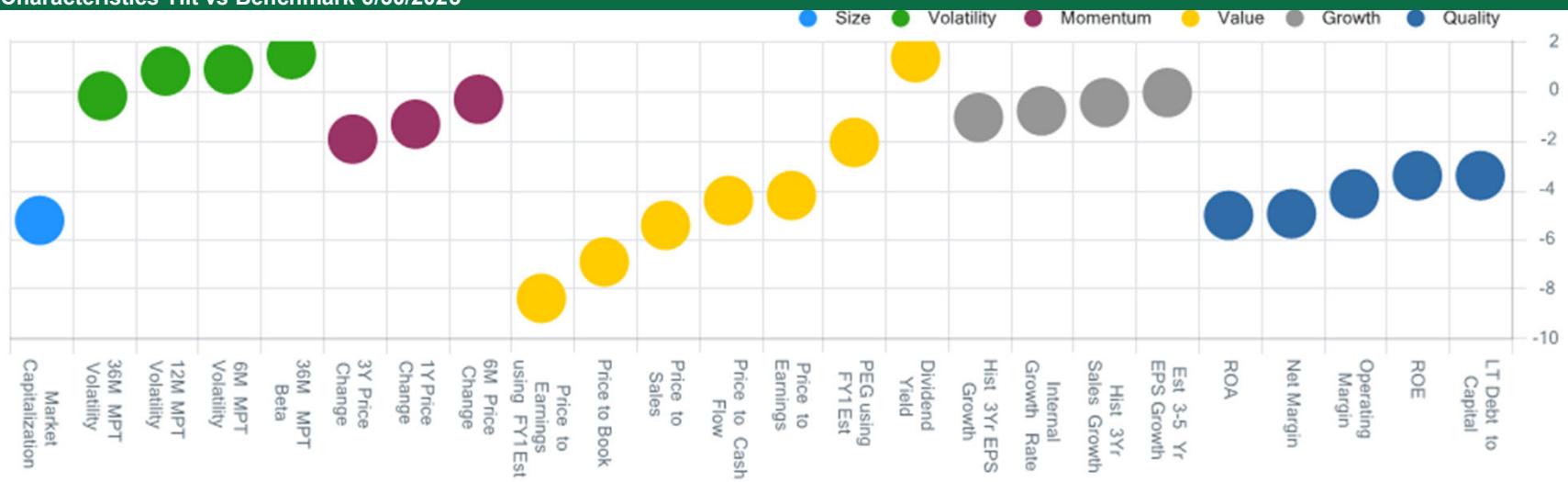


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Risk Since Inception 12/1/2017

	Return	Std Dev	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
DFA US Large Value	8.1	19.4	-1.1	0.3	-0.2	3.6	1.1
Russell 1000 Value	8.8	17.1	--	0.4	--	--	1.0

Characteristics Tilt vs Benchmark 6/30/2025



DFA US SCV Portfolio Snapshot – June 30, 2025

Rolling Returns Since Inception 10/1/1996 (Ten Year, One Month Shift)



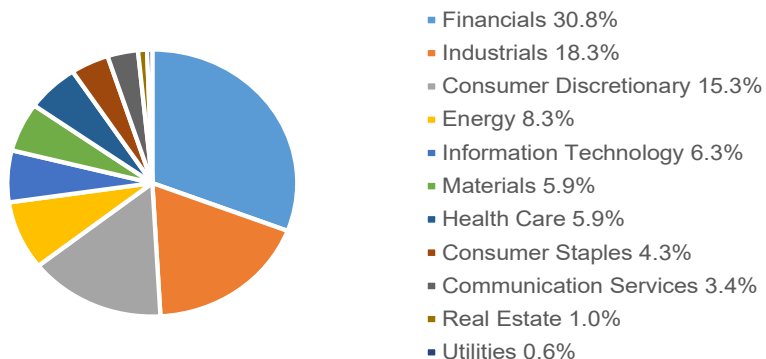
Top 10 Holdings

	Portfolio Weight	Quarterly Return
Jackson Financial Inc.	0.72	6.93
Lithia Motors, Inc.	0.71	15.30
Webster Financial Corporation	0.67	6.81
Air Lease Corporation	0.67	21.53
Taylor Morrison Home Corporation	0.66	2.30
WESCO International, Inc.	0.63	19.55
MGIC Investment Corporation	0.62	12.93
First Horizon Corporation	0.62	9.94
HF Sinclair Corporation	0.61	27.02
Old National Bancorp	0.61	1.37

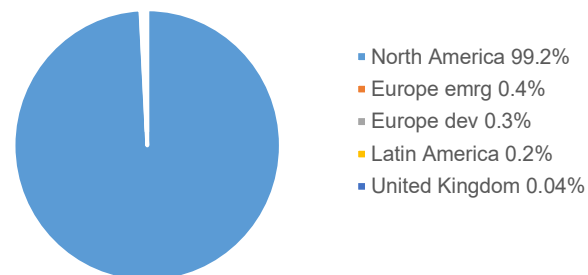
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	10 Year	15 Year
DFA Small Cap Value (Net)	5.3	-3.3	3.8	11.5	19.0	8.6	11.7
Russell 2000 Value	5.0	-3.2	5.5	7.5	12.5	6.7	9.3

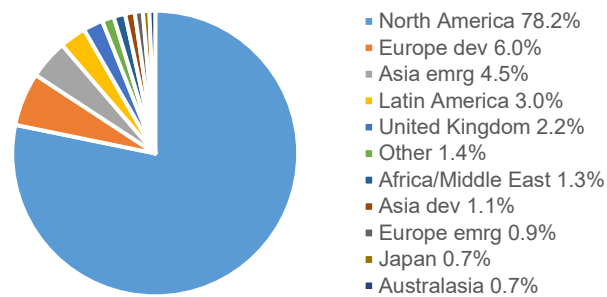
Equity Sector Exposure (GICS)



Regional Exposure by Domicile



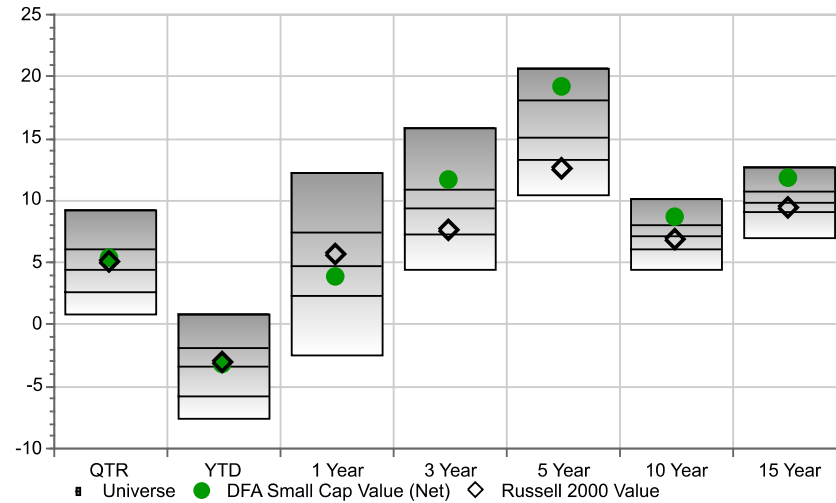
Regional Exposure by Revenue Source



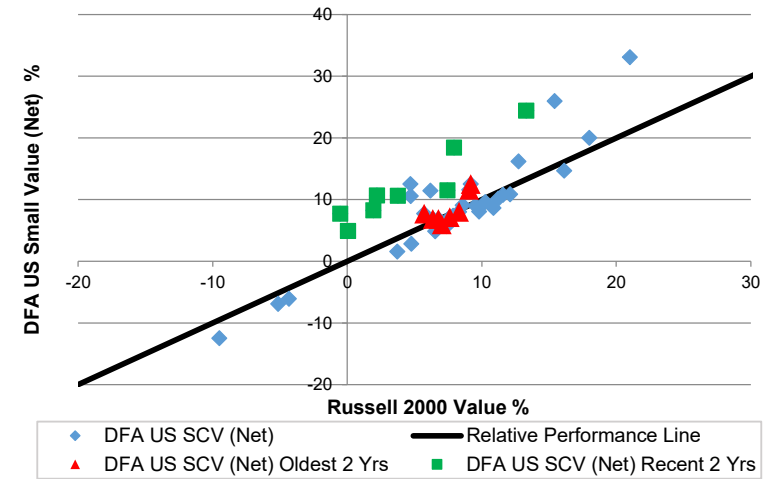
DFA US SCV vs Universe & Benchmark

Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US Small Cap Value

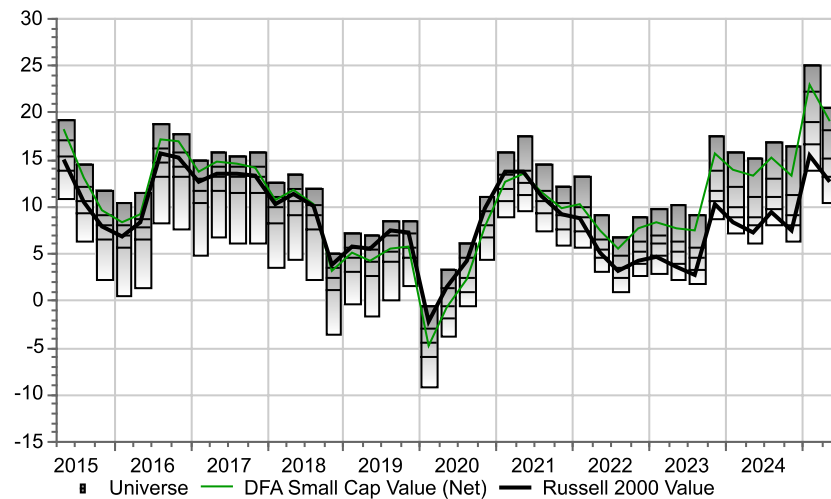


Three-Year Rolling Return Versus Benchmark



Rolling Returns 7/1/2008 – 6/30/2025 (5 Year, 3 Month Shift)

Universe: Lipper US Small Cap Value



Over/Under Benchmark Analysis

21	Outperform
19	Underperform
40	# Observations
53%	% Outperform

DFA US SCV Attribution Analysis – June 30, 2025

Top 10 Leading Contributors

	Avg. Weights	Relative Weights	Active Return
United States Steel Corp.	0.97	0.97	0.29
Mosaic Company	0.64	0.64	0.22
Air Lease Corporation	0.61	0.61	0.13
Elanco Animal Health Incorporated	0.36	0.36	0.13
Gates Industrial Corporation Plc	0.51	0.51	0.13
HF Sinclair Corporation	0.42	0.42	0.11
Comstock Resources, Inc.	0.47	0.30	0.11
Arrow Electronics, Inc.	0.48	0.48	0.11
BorgWarner Inc.	0.56	0.56	0.10
WESCO International, Inc.	0.51	0.51	0.10

Top 10 Leading Detractors

	Avg. Weights	Relative Weights	Active Return
AST Spacemobile, Inc.	0.00	-0.26	-0.27
Coeur Mining, Inc.	0.07	-0.28	-0.13
Kratos Defense & Security Solutions, Inc.	0.00	-0.24	-0.12
Riot Platforms, Inc.	0.00	-0.17	-0.10
Huntsman Corporation	0.23	0.23	-0.09
American Healthcare REIT, Inc.	0.00	-0.42	-0.09
NOV Inc.	0.39	0.39	-0.09
Jazz Pharma Public Ltd. Co.	0.49	0.49	-0.08
Akero Therapeutics, Inc.	0.00	-0.24	-0.07
Rigetti Computing, Inc.	0.00	-0.16	-0.07

Sector Attribution

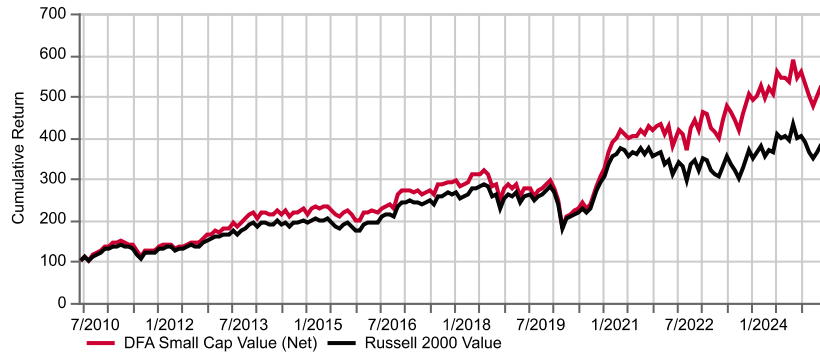
	Average relative weighting (%)	Portfolio returns (%)	Benchmark returns (%)	Sector allocation (%)	Stock selection (%)	Relative contribution (%)
Communication Services	0.6	-1.8	9.3	0.0	-0.4	-0.4
Consumer Discretionary	6.3	7.1	7.7	0.2	-0.1	0.1
Consumer Staples	2.0	0.2	-5.1	-0.2	0.2	0.1
Energy	2.7	-3.1	-4.3	-0.3	0.1	-0.2
Financials	-0.2	5.2	4.5	0.0	0.2	0.2
Health Care	-3.3	-2.1	0.2	0.2	-0.1	0.0
Industrials	4.9	9.7	8.9	0.2	0.1	0.3
Information Technology	-0.5	18.0	25.4	-0.1	-0.4	-0.5
Materials	3.3	5.4	12.6	0.2	-0.5	-0.3
Real Estate	-10.1	-3.0	-1.9	0.7	0.0	0.7
Utilities	-5.7	2.7	-0.8	0.3	0.0	0.3
Total	0.0	5.3	4.9	1.2	-0.9	0.4



Returns are calculated by factset from month-end holdings, and may differ slightly from official returns reported by custodian

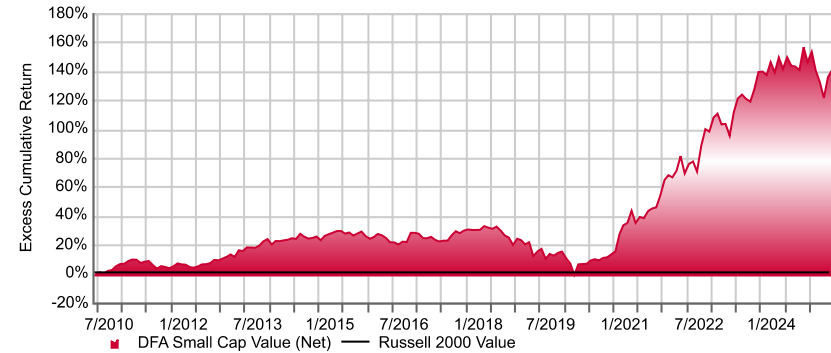
DFA US SCV 15 Year Performance & Statistics

Investment Growth – 15 Years



©FactSet Research Systems

Relative Cumulative Performance – 15 Years

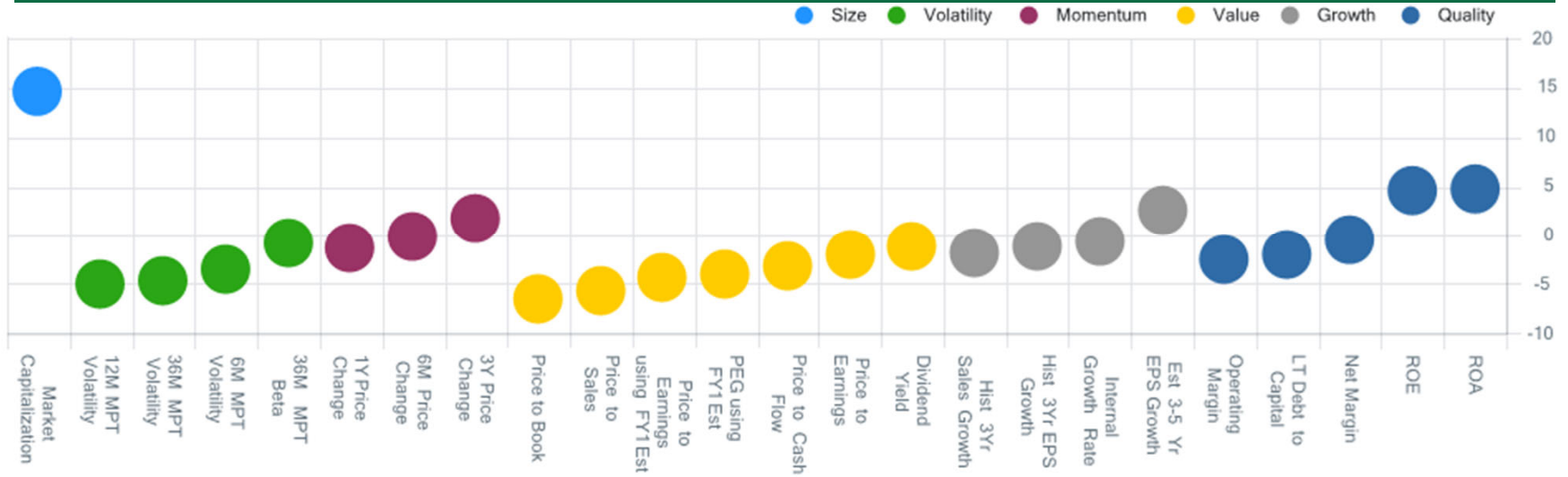


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Risk – 15 Years

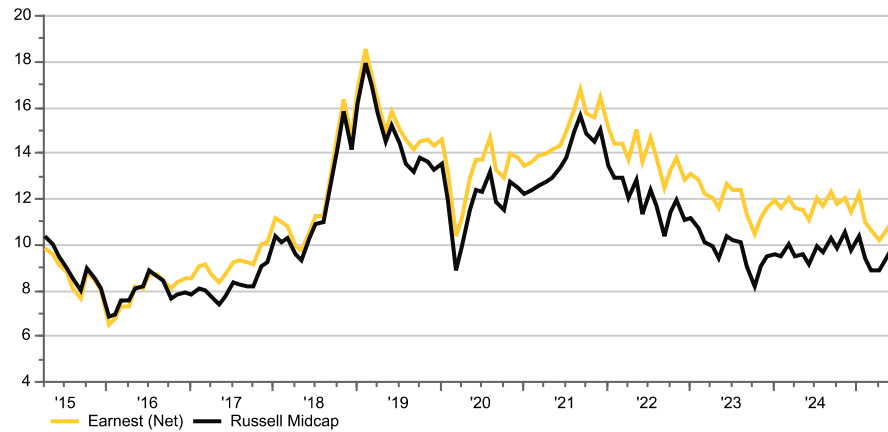
	Return	Std Dev	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
DFA Small Cap Value (Net)	11.7	21.1	1.9	0.5	0.6	3.6	1.1
Russell 2000 Value	9.3	19.8	--	0.4	--	--	1.0

Characteristics Tilt vs Benchmark 6/30/2025



Earnest Portfolio Snapshot – June 30, 2025

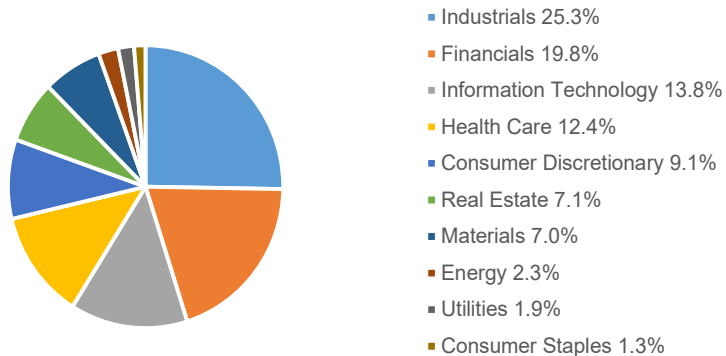
Rolling Returns Since Inception 5/1/2005 (Ten Year, One Month Shift)



Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	10 Year	15 Year
Earnest (Net)	4.3	0.7	5.8	8.8	11.5	11.0	12.9
Russell Midcap	8.5	4.8	15.2	14.3	13.1	9.9	12.6

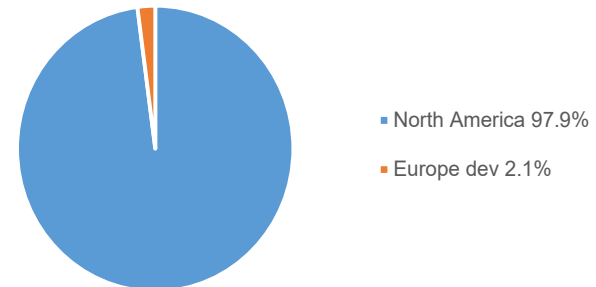
Equity Sector Exposure (GICS)



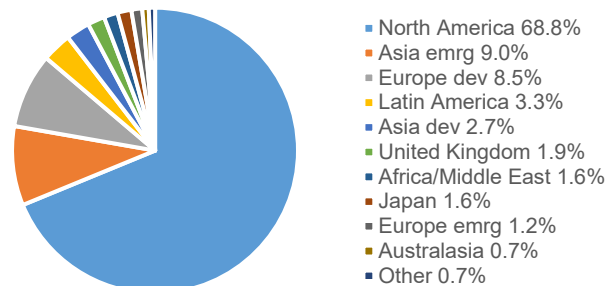
Top 10 Holdings

	Portfolio Weight	Quarterly Return
CBRE Group, Inc.	2.98	7.14
Intercontinental Exchange, Inc.	2.75	6.64
Republic Services, Inc.	2.72	2.07
Woodward, Inc.	2.65	34.48
Raymond James Financial, Inc.	2.55	10.81
Air Lease Corporation	2.51	21.53
Stifel Financial Corp.	2.33	10.59
ANSYS, Inc.	2.31	10.95
Reinsurance Group of America, Inc.	2.27	1.18
Darden Restaurants, Inc.	2.25	5.65

Regional Exposure by Domicile



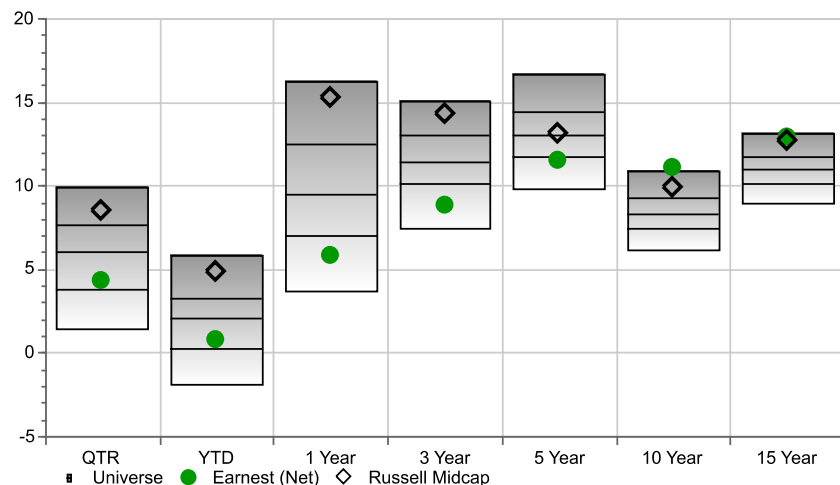
Regional Exposure by Source of Revenue



Earnest vs Universe & Benchmark

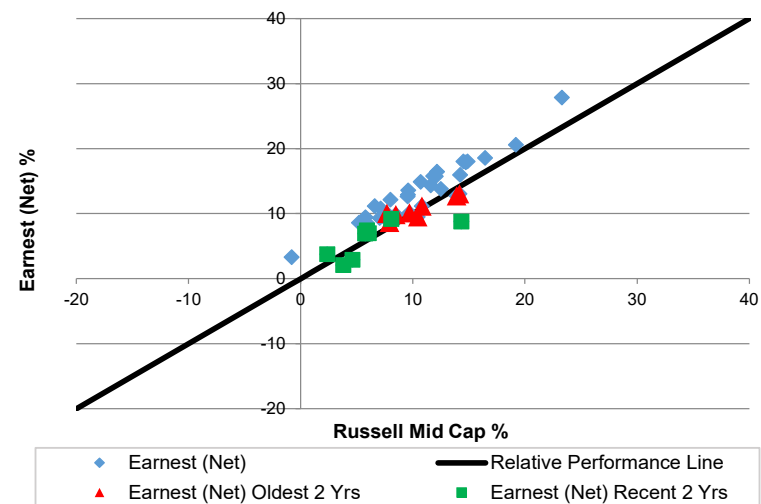
Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US: Mid Cap Core



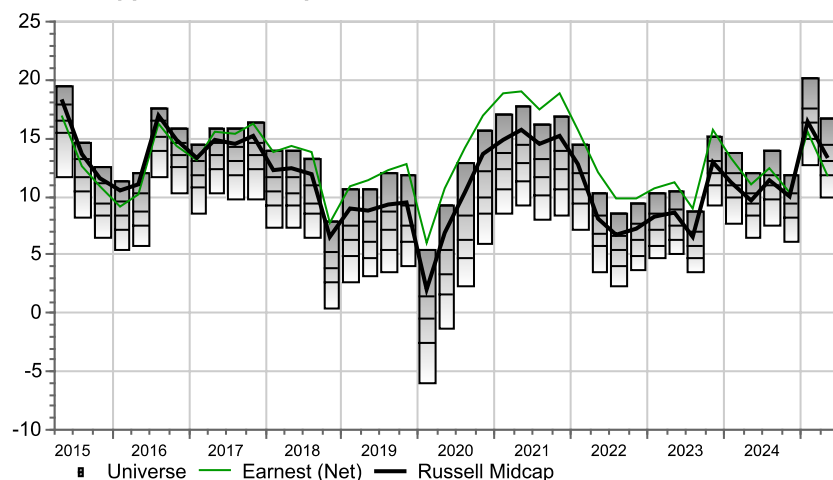
©FactSet Research Systems

Three-Year Rolling Return Versus Benchmark



Rolling Returns 7/1/2008 – 6/30/2025 (5 Year, 3 Month Shift)

Universe: Lipper US: Mid Cap Core



©FactSet Research Systems

Over/Under Benchmark Analysis

34	Outperform
6	Underperform
40	# Observations
85%	% Outperform

Earnest Attribution Analysis – June 30, 2025

Top 10 Leading Contributors

	Avg. Weights	Relative Weights	Active Return
Woodward, Inc.	2.22	2.12	0.70
Air Lease Corporation	2.30	2.25	0.48
Ulta Beauty, Inc.	1.79	1.62	0.43
Synopsys, Inc.	3.33	3.08	0.42
Scotts Miracle-Gro Company	1.53	1.51	0.41
QIAGEN N.V.	1.78	1.70	0.32
Arrow Electronics, Inc.	1.51	1.46	0.32
Skyworks Solutions, Inc.	1.48	1.39	0.26
Sensata Technologies Holding Plc	1.01	0.98	0.25
Raymond James Financial, Inc.	2.46	2.21	0.24

Top 10 Leading Detractors

	Avg. Weights	Relative Weights	Active Return
Palantir Technologies Inc.	0.00	-2.01	-1.02
Americold Realty Trust, Inc.	1.37	1.32	-0.34
Coinbase Global, Inc.	0.00	-0.37	-0.32
Robinhood Markets, Inc.	0.00	-0.31	-0.31
Helmerich & Payne, Inc.	0.52	0.52	-0.30
Strategy Inc	0.00	-0.70	-0.25
Global Payments Inc.	1.27	1.08	-0.25
Vistra Corp.	0.00	-0.40	-0.23
Royal Caribbean Group	0.00	-0.47	-0.23
Cloudflare, Inc.	0.00	-0.35	-0.23

Sector Attribution

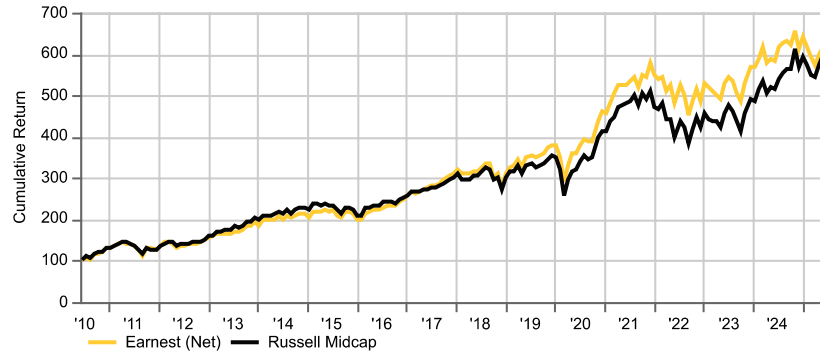
	Average relative weighting (%)	Portfolio returns (%)	Benchmark returns (%)	Sector allocation (%)	Stock selection (%)	Relative contribution (%)
Communication Services	-3.7	0.0	15.9	-0.3	0.0	-0.3
Consumer Discretionary	-1.0	6.8	10.2	0.0	-0.3	-0.3
Consumer Staples	-3.7	1.4	-1.2	0.4	0.0	0.4
Energy	-2.9	-20.0	-5.1	0.4	-0.5	0.0
Financials	3.1	4.7	9.9	0.0	-1.0	-1.0
Health Care	3.0	3.2	4.0	-0.1	-0.1	-0.2
Industrials	7.7	7.2	13.2	0.3	-1.4	-1.1
Information Technology	-1.4	10.4	23.1	-0.2	-1.5	-1.7
Materials	1.7	-1.8	1.7	-0.1	-0.2	-0.3
Real Estate	-0.5	-0.2	-0.4	0.0	0.0	0.0
Utilities	-4.2	-3.8	2.4	0.3	-0.1	0.1
[Cash]	1.7	1.1	0.0	-0.1	0.0	-0.1
Total	0.0	4.2	8.7	0.6	-5.1	-4.5



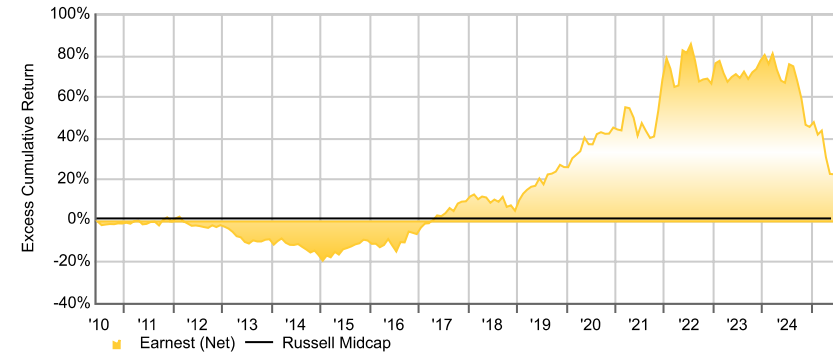
Returns are calculated by factset from month-end holdings, and may differ slightly from official returns reported by custodian

Earnest 15 Year Performance & Statistics

Investment Growth – 15 Years



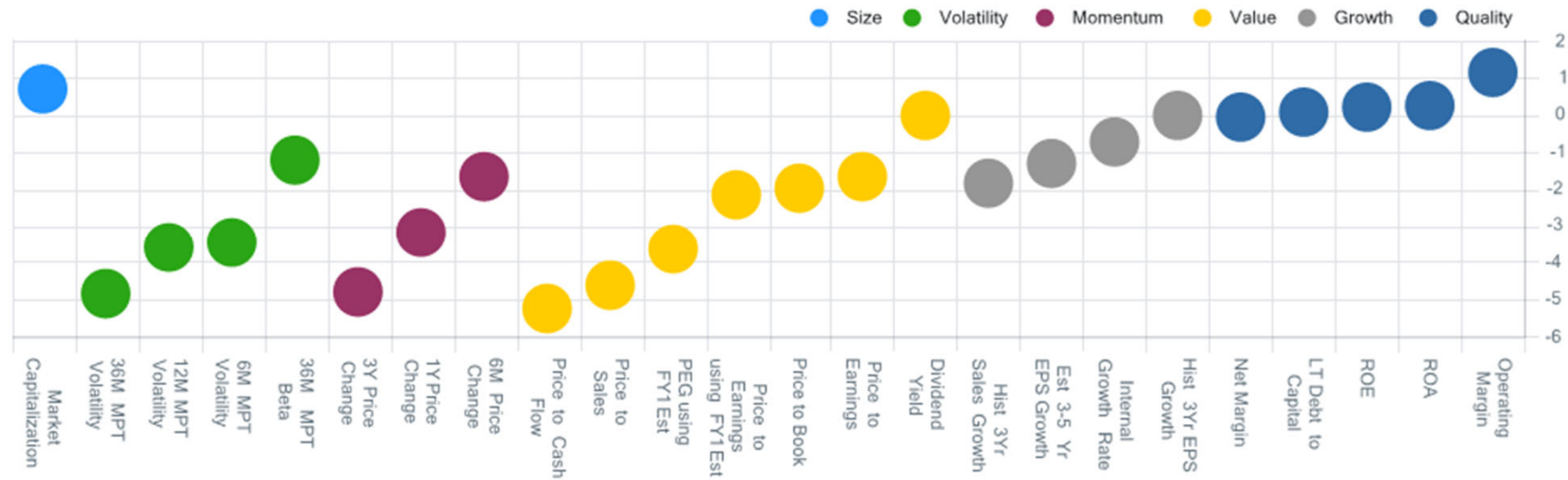
Relative Cumulative Performance – 15 Years



Risk – 15 Years

	Return	Std Dev	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
Earnest (Net)	12.9	16.3	0.6	0.7	0.1	3.6	1.0
Russell Midcap	12.6	16.5	--	0.7	--	--	1.0

Characteristics Tilt vs Benchmark 6/30/2025



Northern Trust S&P 500 Portfolio Snapshot – June 30, 2025

Rolling Returns Since 10/1/1999 (Ten Year, One Month Shift)



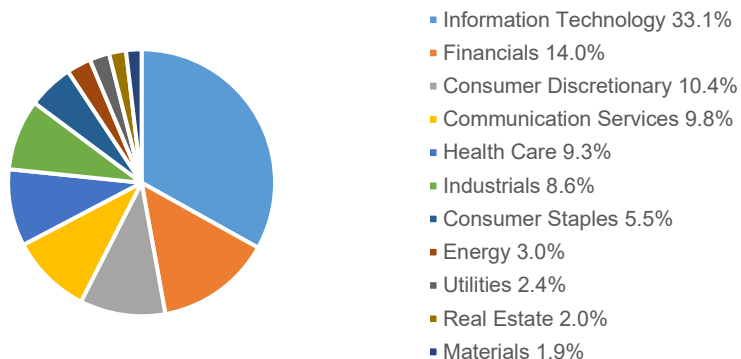
Top 10 Holdings

	Portfolio Weight	Quarterly Return
NVIDIA Corporation	7.31	45.78
Microsoft Corporation	7.01	32.74
Apple Inc.	5.81	-7.52
Amazon.com, Inc.	3.93	15.31
Alphabet Inc.	3.53	13.91
Meta Platforms, Inc.	3.04	28.15
Broadcom Inc.	2.46	64.99
Berkshire Hathaway Inc.	1.69	-8.79
Tesla, Inc.	1.69	22.57
JPMorgan Chase & Co.	1.10	18.86

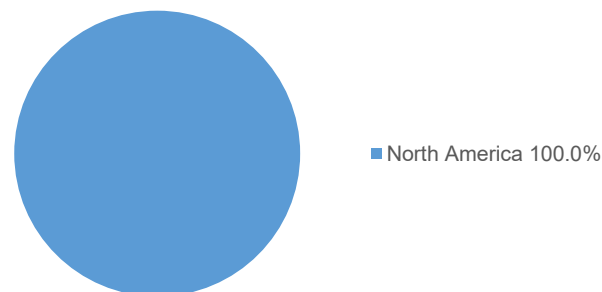
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	10 Year	15 Year
NT S&P 500 Index (Net)	10.9	6.2	15.1	19.7	16.6	13.7	14.9
S&P 500	10.9	6.2	15.2	19.7	16.6	13.6	14.9

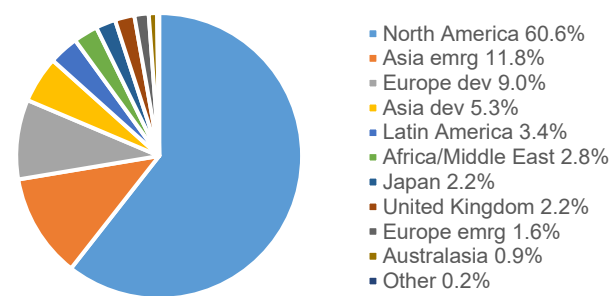
Equity Sector Exposure (GICS)



Regional Exposure by Domicile



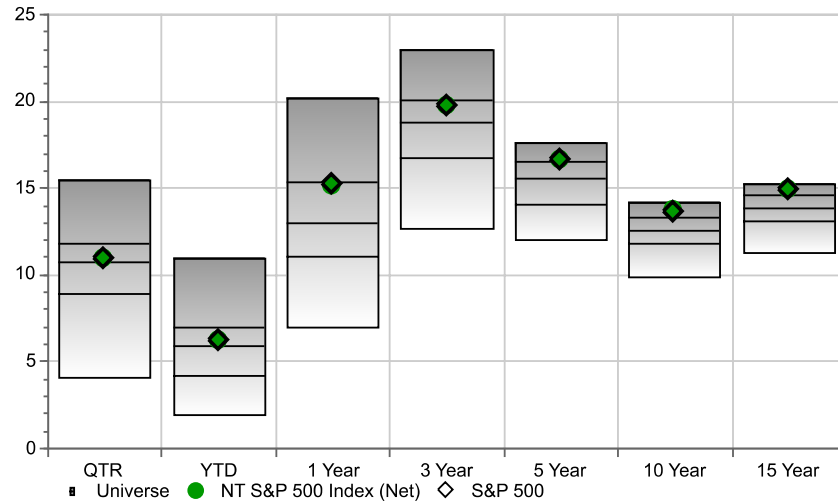
Regional Exposure by Source of Revenue



Northern Trust S&P 500 vs Universe & Benchmark

Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US: Large Cap Core



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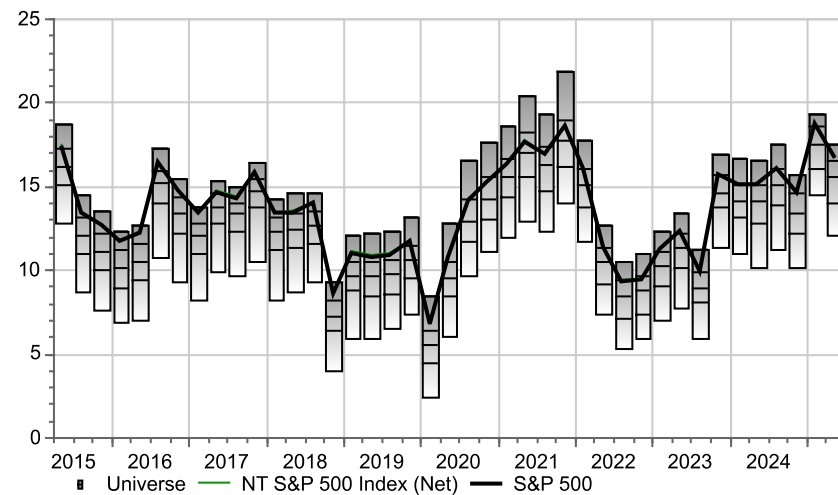
Investment Growth – 15 Years



©FactSet Research Systems

Rolling Returns 7/1/2008 – 6/30/2025 (5 Year, 3 Month Shift)

Universe: Lipper US: Large Cap Core



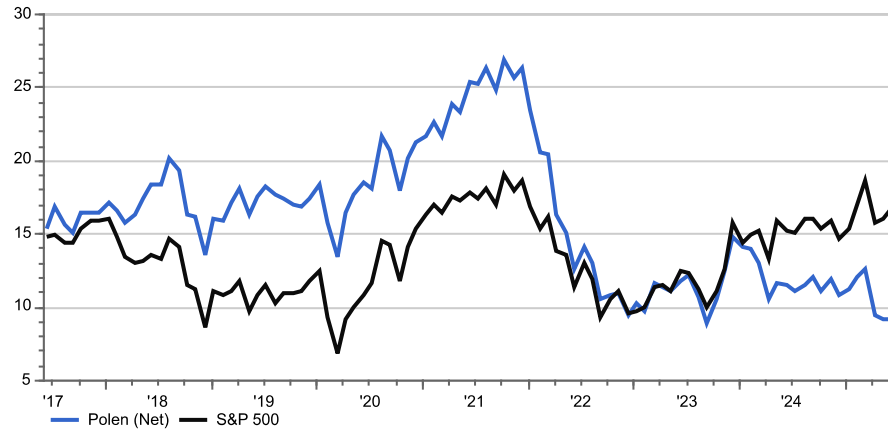
©FactSet Research Systems

Risk – 15 Years

	Return	Std Dev	Sharpe Ratio	Tracking Error
NT S&P 500 Index (Net)	14.9	14.4	0.9	0.0
S&P 500	14.9	14.4	0.9	--

Polen Portfolio Snapshot – June 30, 2025

Rolling Returns Since Inception 7/1/2012 (Five Year, One Month Shift)



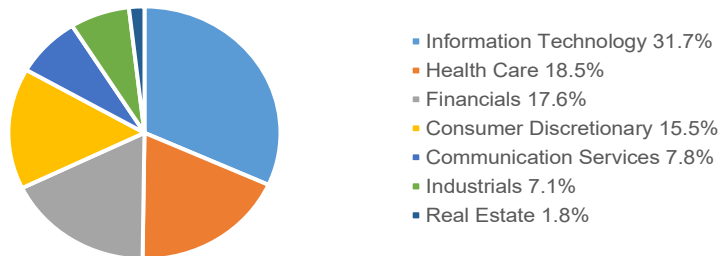
Top 10 Holdings

	Portfolio Weight	Quarterly Return
Amazon.com, Inc.	9.43	15.31
Microsoft Corporation	8.51	32.74
Oracle Corporation	8.19	56.93
Visa Inc.	6.19	1.47
Mastercard Incorporated	5.18	2.66
Shopify Inc.	5.04	20.81
Abbott Laboratories	4.44	3.00
Eli Lilly and Company	4.38	-5.42
Zoetis Inc.	4.09	-4.98
Adobe Inc.	4.06	20.96

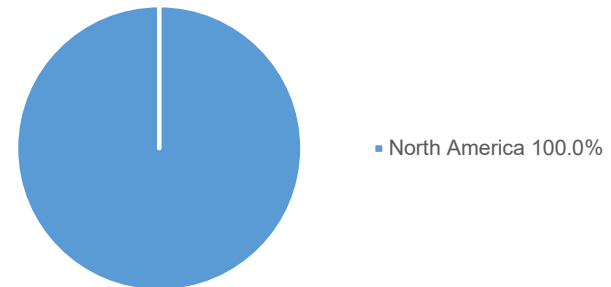
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	10 Year	Inception 7/1/2012
Polen (Net)	9.3	2.9	11.2	16.1	9.1	13.7	14.3
S&P 500	10.9	6.2	15.2	19.7	16.6	13.6	14.5
S&P 500 Growth	18.9	8.9	19.9	23.4	17.3	16.0	16.4

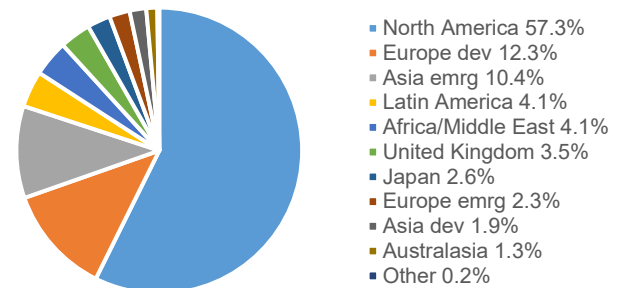
Equity Sector Exposure (GICS)



Regional Exposure by Domicile



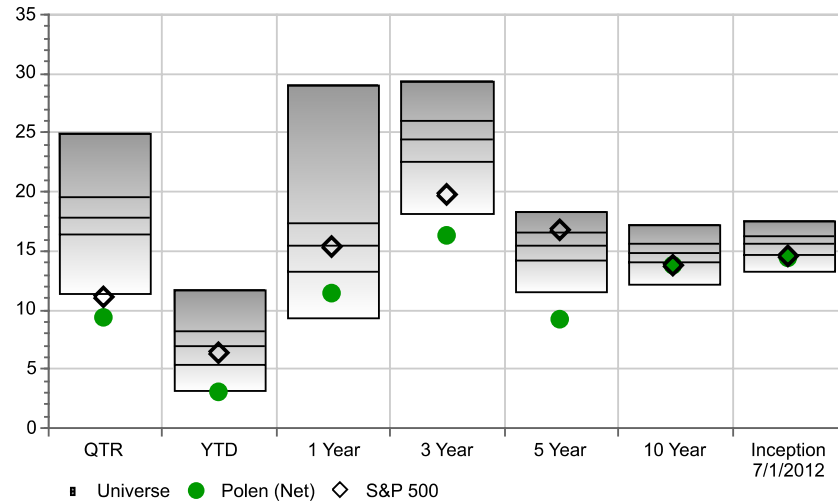
Regional Exposure by Source of Revenue



Polen vs Universe & Benchmark

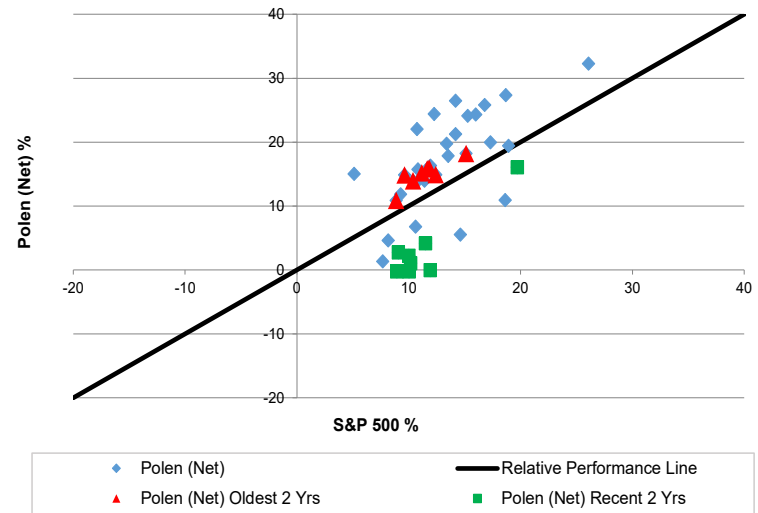
Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US Large Cap Growth



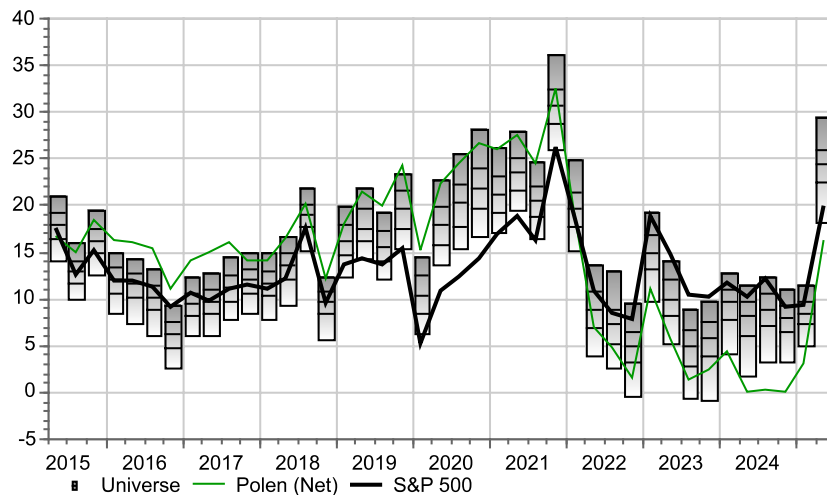
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Three-Year Rolling Return Versus Benchmark



Rolling Returns 7/1/2012 – 6/30/2025 (3 Year, 3 Month Shift)

Universe: Lipper US Large Cap Growth



©FactSet Research Systems

Over/Under Benchmark Analysis

27	Outperform
13	Underperform
40	# Observations
68%	% Outperform

Polen Attribution Analysis – June 30, 2025

Top 10 Leading Contributors

	Avg. Weights	Relative Weights	Active Return
Oracle Corporation	5.92	5.42	2.89
Shopify Inc.	4.70	4.70	0.96
Netflix, Inc.	3.23	2.27	0.89
Amazon.com, Inc.	8.73	4.97	0.75
ServiceNow, Inc.	3.49	3.10	0.73
IDEXX Laboratories, Inc.	1.49	1.42	0.49
Apple Inc.	0.69	-5.89	0.49
Microsoft Corporation	7.58	1.29	0.37
Airbnb, Inc.	3.04	2.93	0.32
Paycom Software, Inc.	2.11	2.09	0.16

Top 10 Leading Detractors

	Avg. Weights	Relative Weights	Active Return
NVIDIA Corporation	0.00	-5.93	-2.57
Broadcom Inc.	0.00	-1.94	-1.11
Meta Platforms, Inc.	0.00	-2.67	-0.74
Thermo Fisher Scientific Inc.	3.40	3.05	-0.70
UnitedHealth Group Incorporated	1.51	0.72	-0.40
Tesla, Inc.	0.00	-1.71	-0.39
Aon Plc	3.03	2.86	-0.35
JPMorgan Chase & Co.	0.00	-1.45	-0.27
Palantir Technologies Inc.	0.00	-0.47	-0.24
Zoetis Inc.	4.60	4.45	-0.22

Sector Attribution

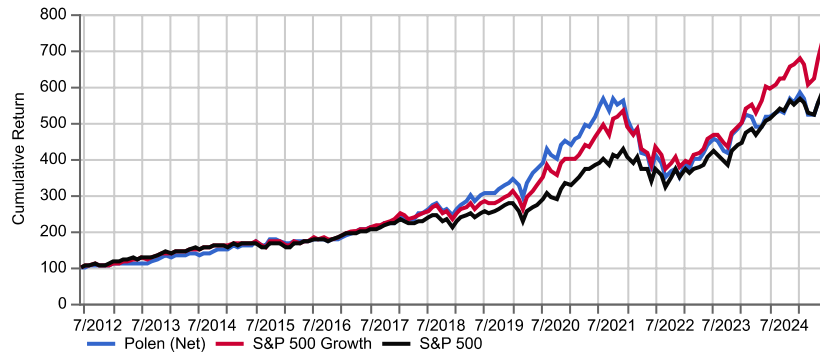
	Average relative weighting (%)	Portfolio returns (%)	Benchmark returns (%)	Sector allocation (%)	Stock selection (%)	Relative contribution (%)
Communication Services	-2.1	26.0	18.5	-0.2	0.5	0.3
Consumer Discretionary	3.8	11.3	11.5	0.0	0.0	0.0
Consumer Staples	-6.0	0.0	1.1	0.6	0.0	0.6
Energy	-3.3	0.0	-8.6	0.7	0.0	0.7
Financials	4.3	-0.1	5.6	-0.2	-1.1	-1.3
Health Care	10.1	-6.5	-7.2	-2.0	0.2	-1.8
Industrials	-1.7	16.3	13.0	0.0	0.2	0.2
Information Technology	-2.2	22.8	23.7	-0.3	-0.3	-0.5
Materials	-2.0	0.0	3.1	0.2	0.0	0.2
Real Estate	-0.5	1.5	-0.1	0.0	0.0	0.1
Utilities	-2.5	0.0	4.3	0.2	0.0	0.2
[Cash]	2.2	1.1	1.1	-0.1	0.0	-0.1
Total	0.0	9.4	10.9	-1.1	-0.4	-1.5



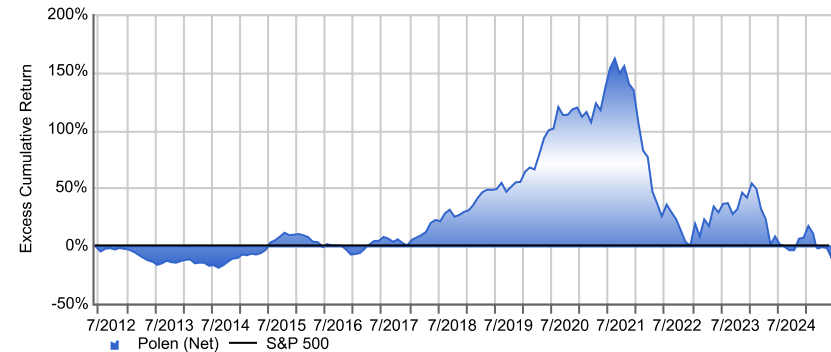
Returns are calculated by factset from month-end holdings, and may differ slightly from official returns reported by custodian

Polen Inception Performance & Statistics

Investment Growth Since Inception 7/1/2012



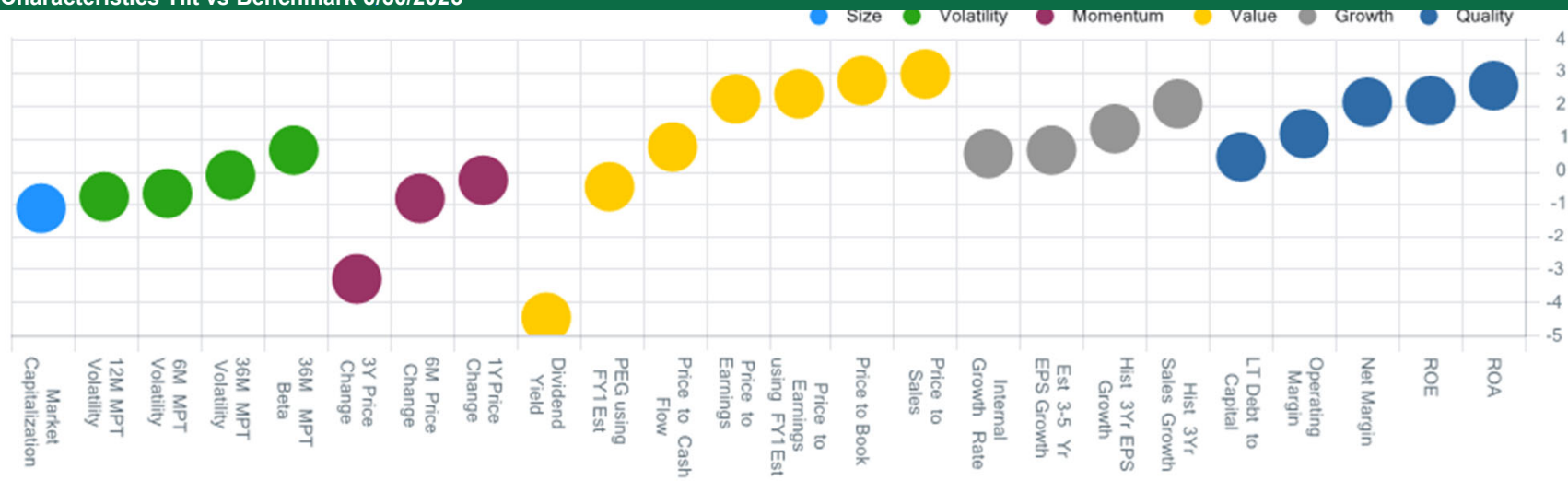
Relative Cumulative Performance Since Inception 7/1/2012



Risk Since Inception 7/1/2012

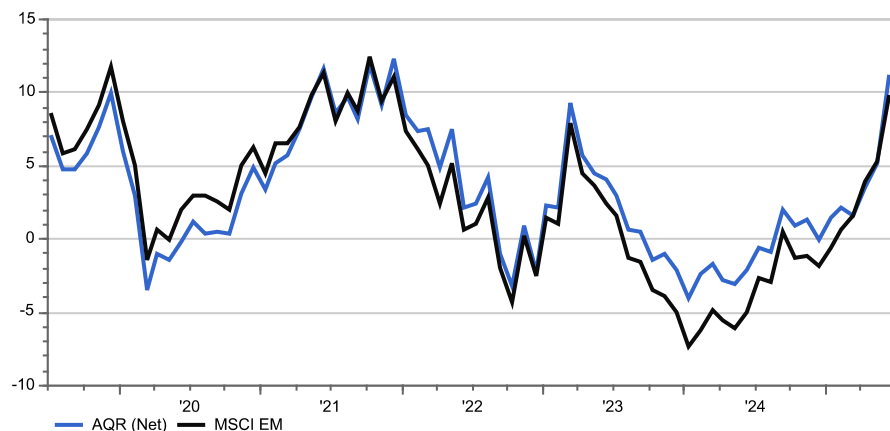
	Return	Std Dev	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
Polen (Net)	14.3	16.0	-0.3	0.8	0.0	6.6	1.0
S&P 500	14.5	14.1	--	0.9	--	--	1.0
S&P 500 Growth	16.4	15.5	--	1.0	--	--	1.1

Characteristics Tilt vs Benchmark 6/30/2025



AQR Portfolio Snapshot – June 30, 2025

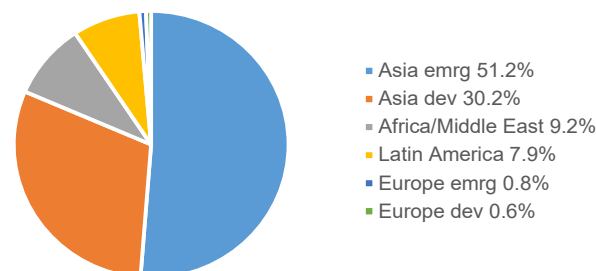
Rolling Returns Since Inception 8/1/2016 (Three Year, One Month Shift)



Top 10 Holdings

	Portfolio Weight	Quarterly Return
Taiwan Semi Mfg. Co. Ltd.	9.90	16.97
Tencent Holdings Limited	3.27	-2.84
Alibaba Group Holding Limited	1.86	-9.72
Infosys Limited	1.72	-1.27
Xiaomi Corporation	1.71	19.79
Samsung Electronics Co., Ltd.	1.51	8.87
TATA Consultancy Services Limited	1.46	-3.19
China Construction Bank Corporation	1.44	8.72
MediaTek Inc.	1.40	2.63
Banco Bradesco S.A.	1.35	42.15

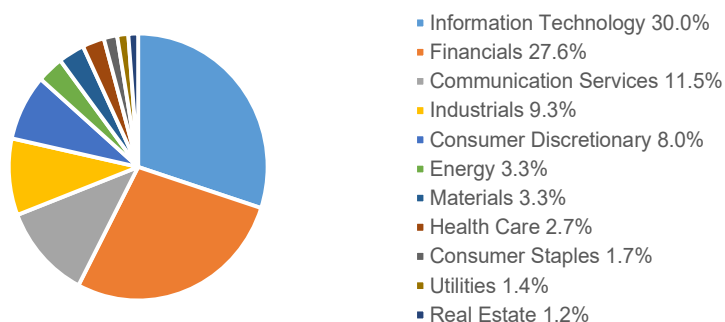
Regional Exposure by Domicile



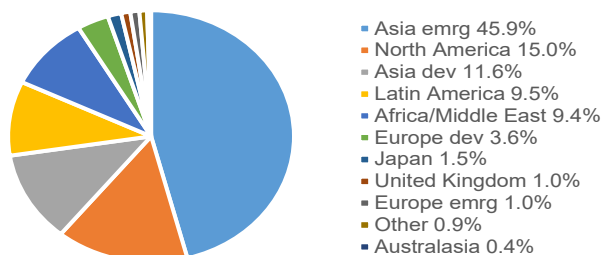
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	Inception 8/1/16
AQR (Net)	13.0	14.4	9.3	11.1	8.4	6.9
MSCI EM	12.0	15.3	15.3	9.7	6.8	6.4

Equity Sector Exposure (GICS)



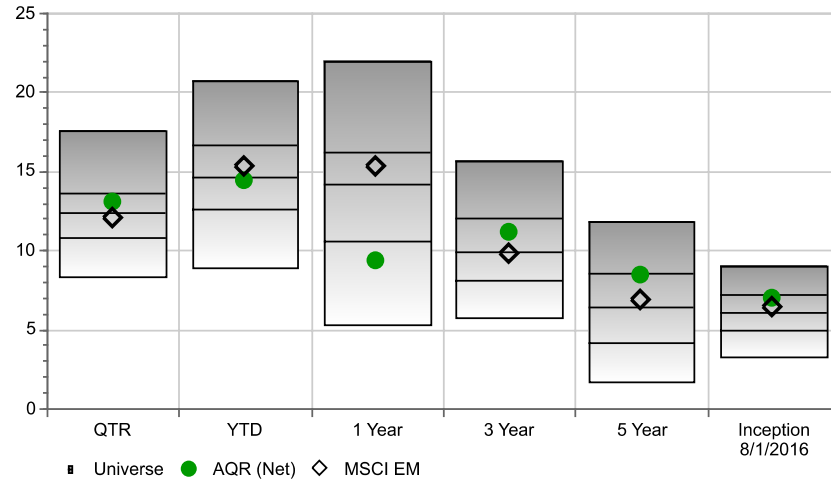
Regional Exposure by Source of Revenue



AQR vs Universe & Benchmark

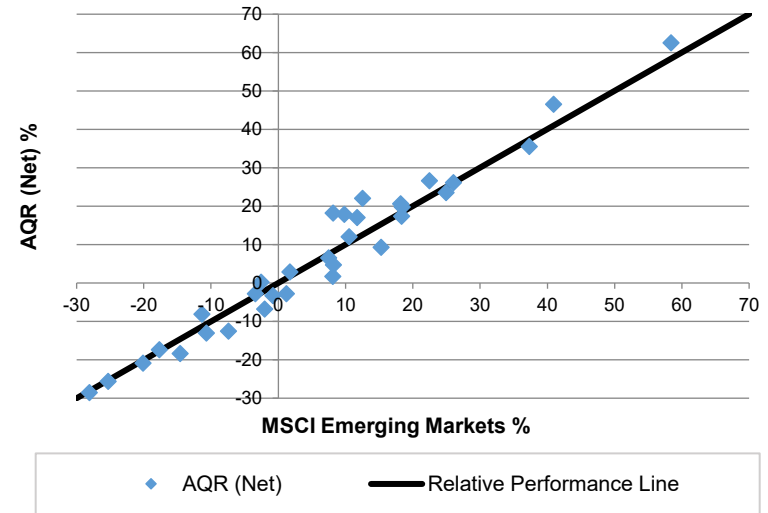
Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US Emerging Markets



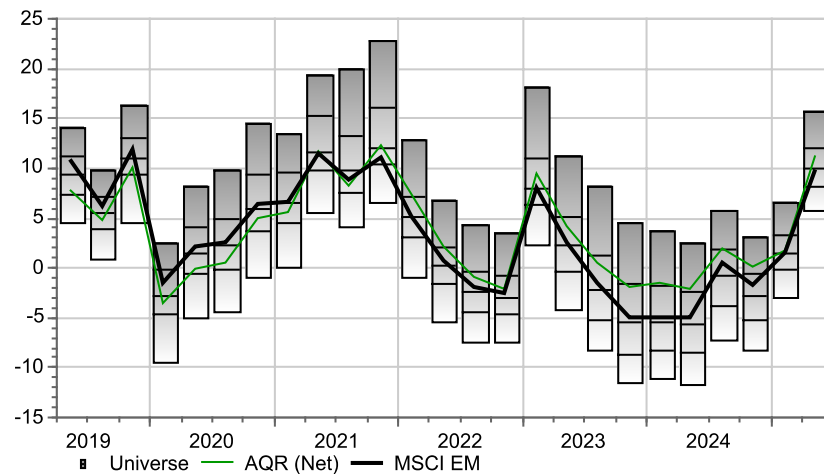
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One-Year Rolling Return Versus Benchmark



Rolling Returns 8/1/2016 – 6/30/2025 (3 Year, 3 Month Shift)

Universe: Lipper US Emerging Markets



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Over/Under Benchmark Analysis

16	Outperform
16	Underperform
32	# Observations
50%	% Outperform

AQR Attribution Analysis – June 30, 2025

Top 10 Leading Contributors

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Top 10 Leading Detractors

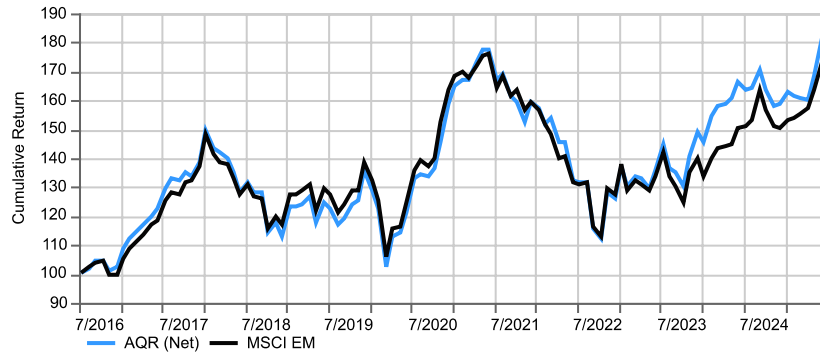
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Sector Attribution

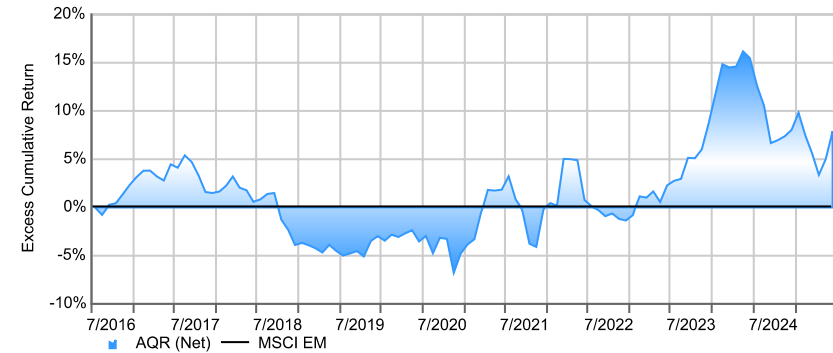
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AQR Inception Performance & Statistics

Investment Growth Since Inception 8/1/2016



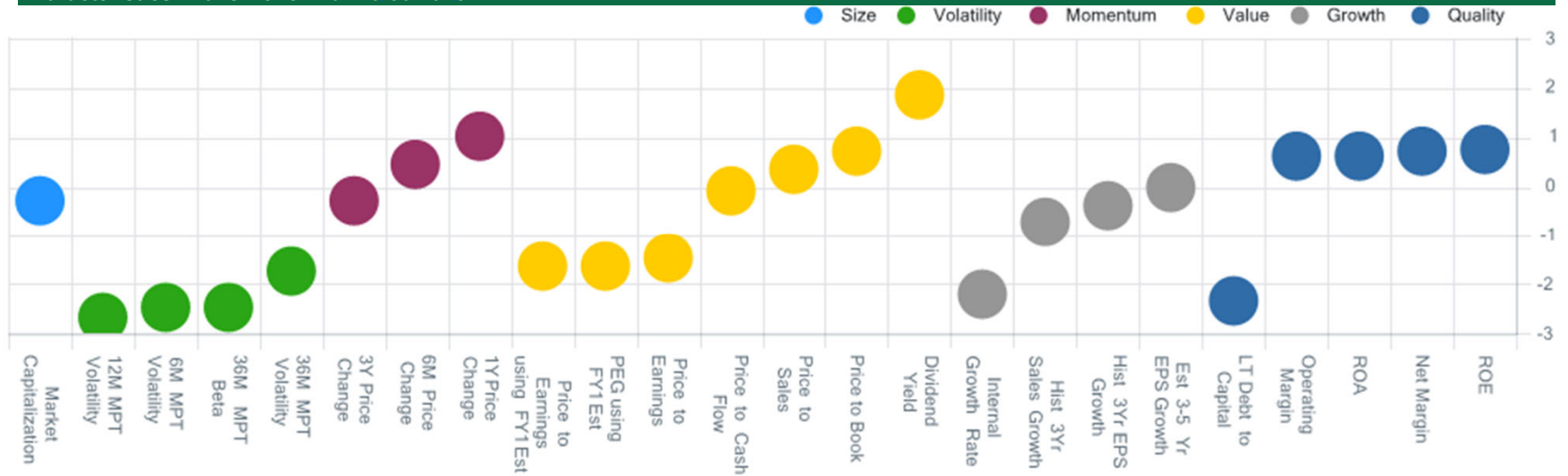
Relative Cumulative Performance Since Inception 8/1/2016



Risk Since Inception 8/1/2016

	Return	Std Dev	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
AQR (Net)	6.9	16.8	0.6	0.3	0.1	3.7	1.0
MSCI EM	6.4	16.3	--	0.3	--	--	1.0

Characteristics Tilt vs Benchmark 6/30/2025



Brandes Portfolio Snapshot – June 30, 2025

Rolling Returns Since Inception 2/1/1998 (Ten Year, One Month Shift)



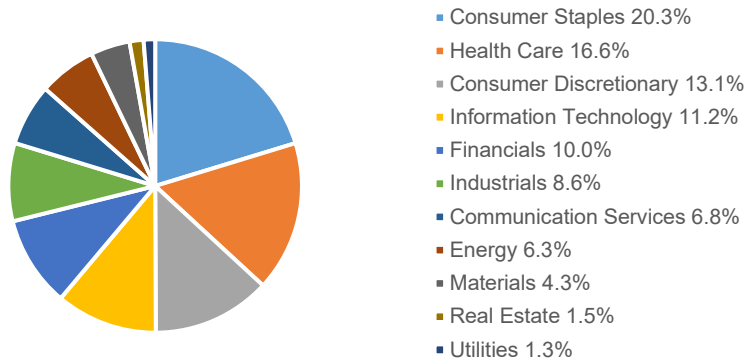
Top 10 Holdings

	Portfolio Weight	Quarterly Return
Takeda Pharmaceutical Company Limited	2.98	3.81
Samsung Electronics Co., Ltd.	2.64	15.27
GSK Plc	2.52	2.01
Heineken Holding N.V.	2.47	4.49
Sanofi	2.45	-8.42
Alibaba Group Holding Limited	2.42	-13.46
Swatch Group AG	2.23	0.74
Petroleo Brasileiro S.A.	2.14	-6.54
STMicroelectronics N.V.	2.08	41.34
Henkel AG & Co. KGaA	2.01	3.69

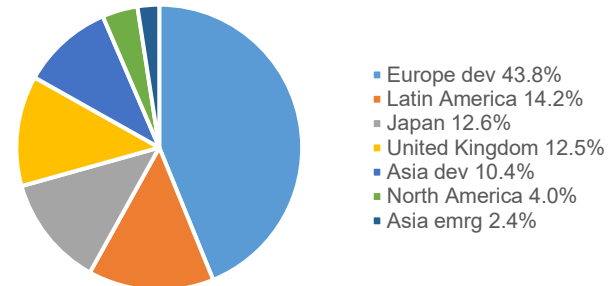
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	10 Year	15 Year
Brandes (Net)	10.6	21.9	23.9	22.0	17.7	7.6	8.3
MSCI EAFE	11.8	19.4	17.7	16.0	11.2	6.5	7.5
MSCI EAFE Value	10.1	22.8	24.2	18.4	14.3	6.1	7.0

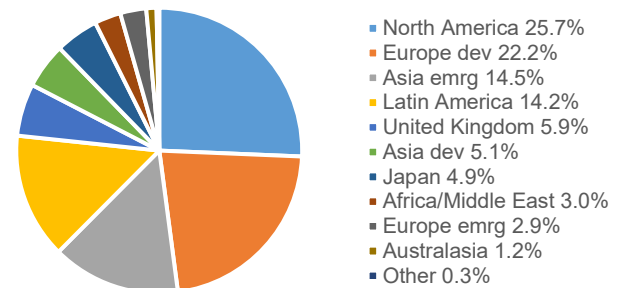
Equity Sector Exposure (GICS)



Regional Exposure by Domicile



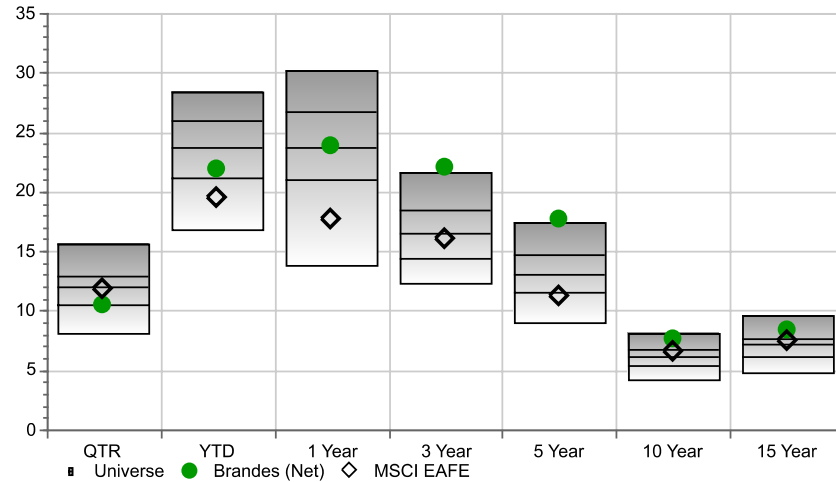
Regional Exposure by Source of Revenue



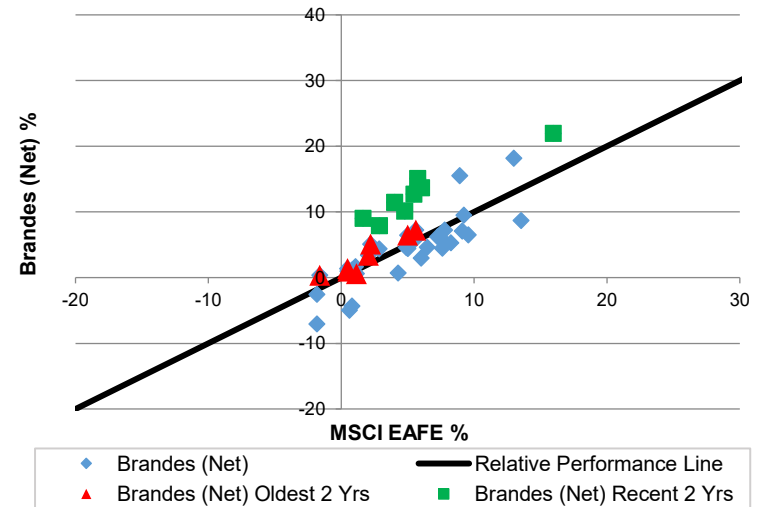
Brades vs Universe & Benchmark

Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US Int'l Multi-Cap Value

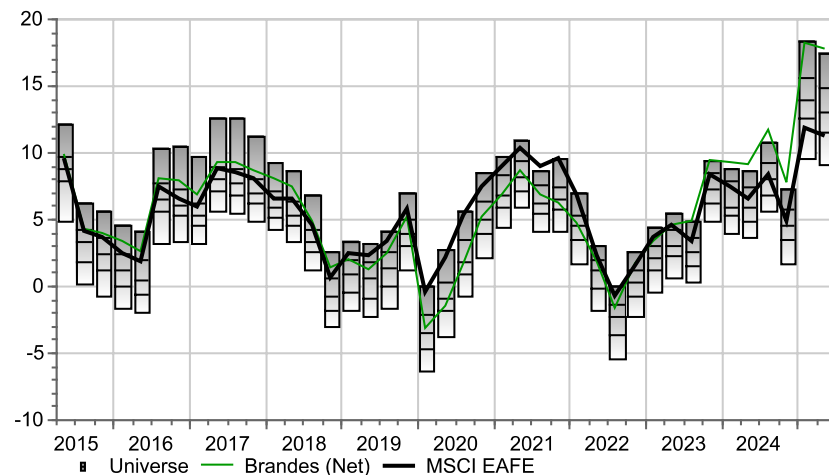


Three-Year Rolling Return Versus Benchmark



Rolling Returns 7/1/2008 – 6/30/2025 (5 Year, 3 Month Shift)

Universe: Lipper US Int'l Multi Cap Value



Over/Under Benchmark Analysis

22	Outperform
18	Underperform
40	# Observations
55%	% Outperform

Brandes Attribution Analysis – June 30, 2025

Top 10 Leading Contributors

	Avg. Weights	Relative Weights	Active Return
STMicroelectronics N.V.	1.90	1.81	0.72
J Sainsbury Plc	1.36	1.33	0.43
Grifols, S.A.	1.55	1.53	0.40
America Movil, S.A.B. de C.V	1.67	1.67	0.39
Embraer S.A.	1.71	1.71	0.38
Taiwan Semi Mfg. Co. Ltd.	1.08	1.08	0.38
Hana Financial Group Inc.	0.71	0.71	0.38
Samsung Electronics Co., Ltd.	2.36	2.36	0.35
CEMEX, S.A.B. de C.V.	1.62	1.62	0.34
Fibra Uno Administracion SA de CV	1.74	1.74	0.33

Top 10 Leading Detractors

	Avg. Weights	Relative Weights	Active Return
Alibaba Group Holding Limited	2.55	2.55	-0.39
ASML Holding NV	0.00	-1.53	-0.32
Commonwealth Bank of Australia	0.00	-0.99	-0.27
Siemens Energy AG	0.00	-0.28	-0.21
Anheuser-Busch InBev SA/NV	3.31	2.97	-0.21
Spotify Technology S.A.	0.00	-0.53	-0.19
Nintendo Co., Ltd.	0.00	-0.48	-0.19
Rheinmetall AG	0.00	-0.43	-0.18
Sanofi	2.51	1.82	-0.16
Hitachi Ltd.	0.00	-0.66	-0.16

Sector Attribution

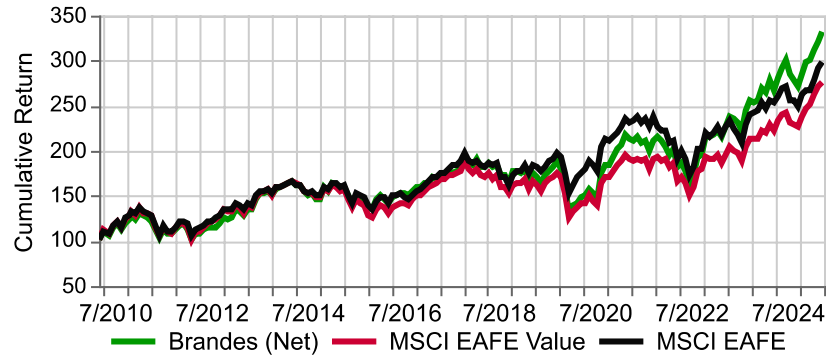
	Average relative weighting (%)	Portfolio returns (%)	Benchmark returns (%)	Sector allocation (%)	Stock selection (%)	Relative contribution (%)
Communication Services	1.6	17.6	20.5	0.2	-0.4	0.0
Consumer Discretionary	2.8	4.4	5.5	-0.2	-0.1	-0.3
Consumer Staples	12.7	8.0	7.7	-0.5	0.2	-0.4
Energy	2.4	-2.5	-1.7	-0.3	-0.1	-0.3
Financials	-13.4	16.3	13.7	-0.3	0.2	0.0
Health Care	4.2	3.8	2.8	-0.4	0.4	-0.2
Industrials	-9.6	10.7	17.7	-0.6	-0.5	-1.1
Information Technology	1.6	23.9	19.1	0.2	0.3	0.6
Materials	-1.2	23.4	8.3	0.0	0.7	0.7
Real Estate	-0.2	19.2	16.8	0.0	0.0	0.0
Utilities	-2.2	27.7	16.7	-0.1	0.1	0.0
[Cash]	1.2	1.1	0.0	0.0	0.0	-0.1
Total	0.0	10.6	11.8	-2.0	0.7	-1.2



Returns are calculated by factset from month-end holdings, and may differ slightly from official returns reported by custodian

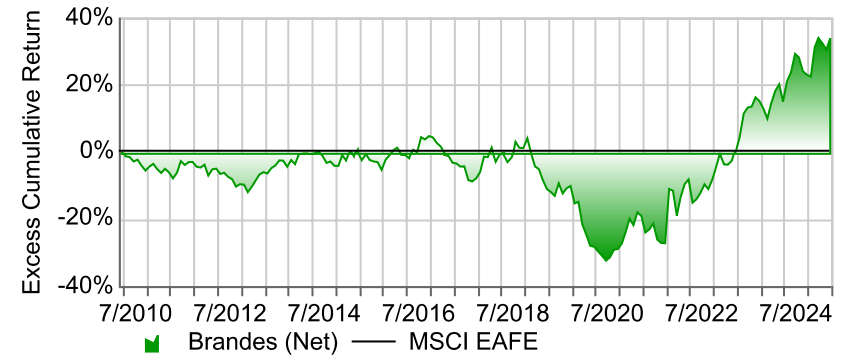
Brandes 15 Year Performance & Statistics

Investment Growth – 15 Years



©FactSet Research Systems

Relative Cumulative Performance – 15 Years

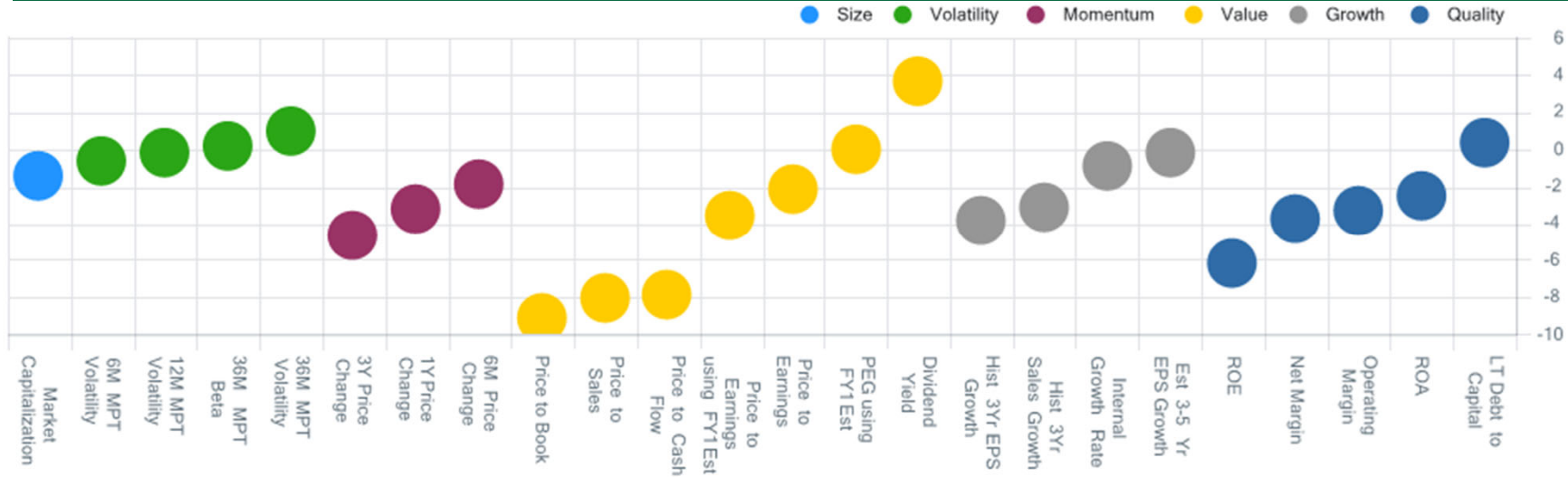


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Risk – 15 Years

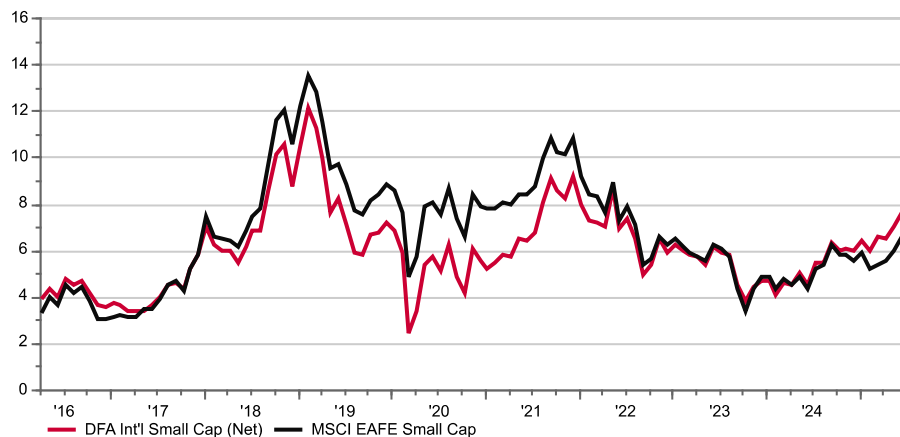
	Return	Std Dev	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
Brandes (Net)	8.3	16.4	0.8	0.4	0.1	5.3	1.0
MSCI EAFE	7.5	15.3	--	0.4	--	--	1.0
MSCI EAFE Value	7.0	16.3	--	0.3	--	--	1.0

Characteristics Tilt vs Benchmark 6/30/2025



DFA International Portfolio Snapshot – June 30, 2025

Rolling Returns Since Inception 5/1/2006 (Ten Year, One Month Shift)



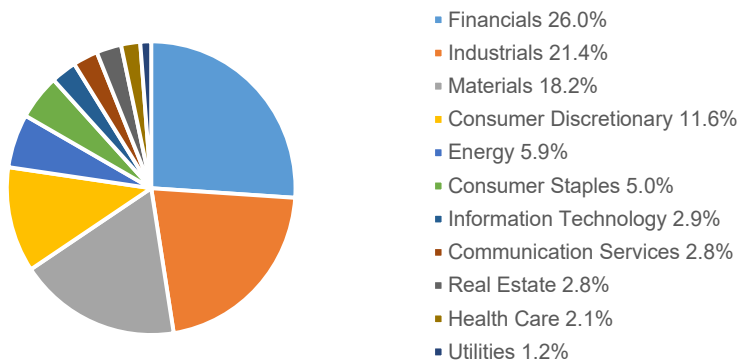
Top 10 Holdings

	Portfolio Weight	Quarterly Return
Banco de Sabadell, S.A.	2.27	13.17
BPER Banca S.p.A.	1.13	25.37
Whitecap Resources Inc.	0.91	6.85
Banca Popolare di Sondrio SPA	0.91	23.11
Sydbank A/S	0.87	18.24
Bankinter SA	0.86	19.80
Banca Monte dei Paschi di Siena SpA	0.86	18.97
Jyske Bank A/S	0.84	26.28
Unipol Assicurazioni S.p.A.	0.84	30.32
Bellway p.l.c.	0.69	29.53

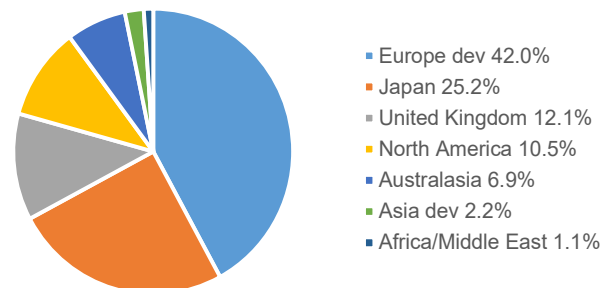
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	10 Year	15 Year
DFA Int'l Small Cap (Net)	16.0	28.0	29.8	20.3	16.7	7.6	9.2
MSCI EAFE Small Cap	16.6	20.9	22.5	13.3	9.3	6.5	8.4
MSCI World ex US Small Cap Value	14.7	21.4	23.7	14.6	12.5	6.5	7.8

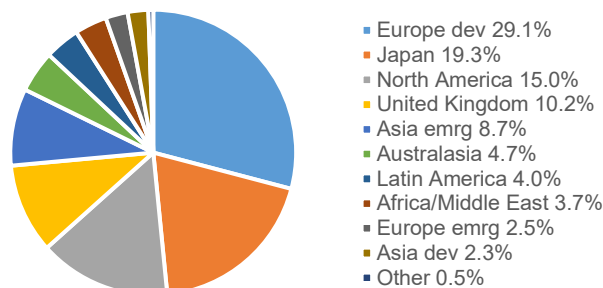
Equity Sector Exposure (GICS)



Regional Exposure by Domicile



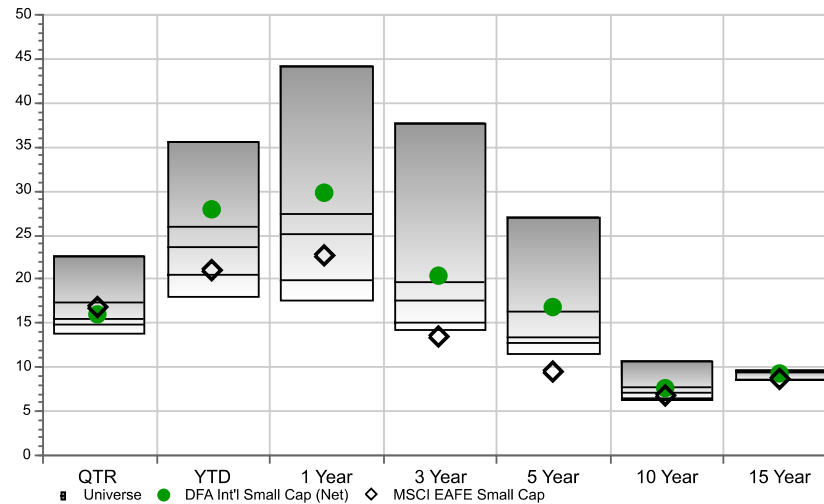
Regional Exposure by Revenue Source



DFA International vs Universe & Benchmark

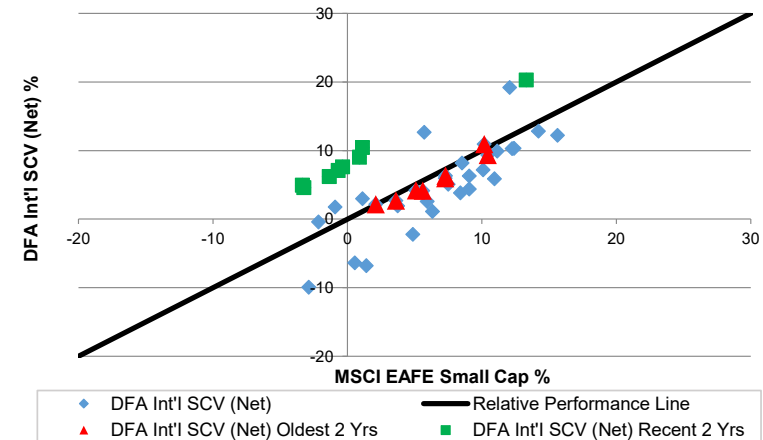
Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US: Int'l Sm/Mid Cap Value



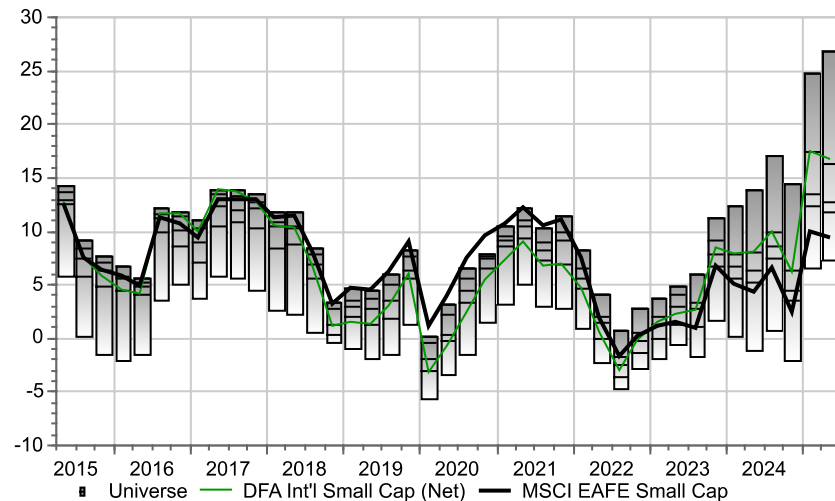
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Three-Year Rolling Return Versus Benchmark



Rolling Returns 7/1/2008 – 6/30/2025 (5 Year, 3 Month Shift)

Universe: Lipper US: Int'l Sm/Mid Cap Value



©FactSet Research Systems

Over/Under Benchmark Analysis

15	Outperform
25	Underperform
40	# Observations
38%	% Outperform

DFA International Attribution Analysis – June 30, 2025

Top 10 Leading Contributors

	Avg. Weights	Relative Weights	Active Return
BPER Banca S.p.A.	2.02	1.86	0.41
Banco de Sabadell, S.A.	2.29	2.29	0.32
Unipol Assicurazioni S.p.A.	0.82	0.82	0.23
Paragon Banking Group Plc	0.60	0.52	0.18
Lion Finance Group Plc	0.57	0.47	0.17
Jyske Bank A/S	0.77	0.64	0.16
Telecom Italia S.p.A.	0.38	0.38	0.16
Swiss Prime Site AG	0.60	0.60	0.16
Banco Comercial Portugues, S.A.	0.60	0.46	0.15
OceanaGold Corporation	0.38	0.38	0.14

Top 10 Leading Detractors

	Avg. Weights	Relative Weights	Active Return
IHI Corporation	0.00	-0.39	-0.20
Ryohin Keikaku Co., Ltd.	0.00	-0.29	-0.19
BELIMO Holding AG	0.00	-0.27	-0.15
HENSOLDT AG	0.00	-0.18	-0.11
Seibu Holdings, Inc.	0.00	-0.19	-0.11
Technology One Limited	0.00	-0.21	-0.10
Accelleron Industries AG	0.00	-0.17	-0.09
Phoenix Financial Ltd.	0.00	-0.16	-0.09
Diploma PLC	0.00	-0.25	-0.08
Kawasaki Heavy Industries Ltd.	0.00	-0.33	-0.08

Sector Attribution

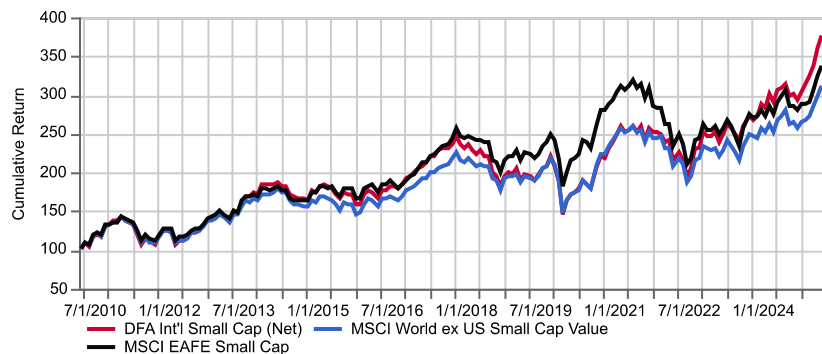
	Average relative weighting (%)	Portfolio returns (%)	Benchmark returns (%)	Sector allocation (%)	Stock selection (%)	Relative contribution (%)
Communication Services	-1.9	24.3	19.2	0.0	0.1	0.1
Consumer Discretionary	-1.5	15.8	16.2	0.0	-0.1	0.0
Consumer Staples	-0.6	11.4	9.5	0.0	0.1	0.1
Energy	3.0	11.7	19.3	0.0	-0.4	-0.4
Financials	13.3	18.1	18.3	0.1	-0.3	0.2
Health Care	-3.6	7.0	11.7	0.2	-0.1	0.1
Industrials	-2.1	20.5	19.2	-0.1	0.2	0.2
Information Technology	-5.7	14.9	21.6	-0.3	-0.2	-0.5
Materials	8.9	11.3	11.0	-0.5	0.2	-0.4
Real Estate	-8.4	16.8	15.1	0.1	0.0	0.2
Utilities	-1.5	19.0	16.7	0.0	0.0	0.0
Total	0.0	16.1	16.6	-0.3	-0.5	-0.4



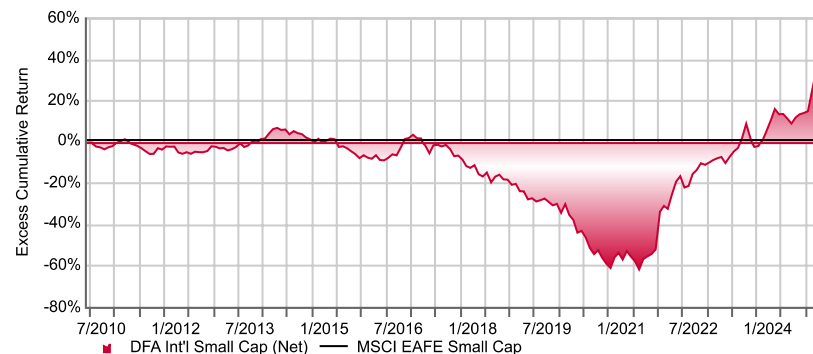
Returns are calculated by factset from month-end holdings, and may differ slightly from official returns reported by custodian

DFA International Inception Performance & Statistics

Investment Growth – 15 Years



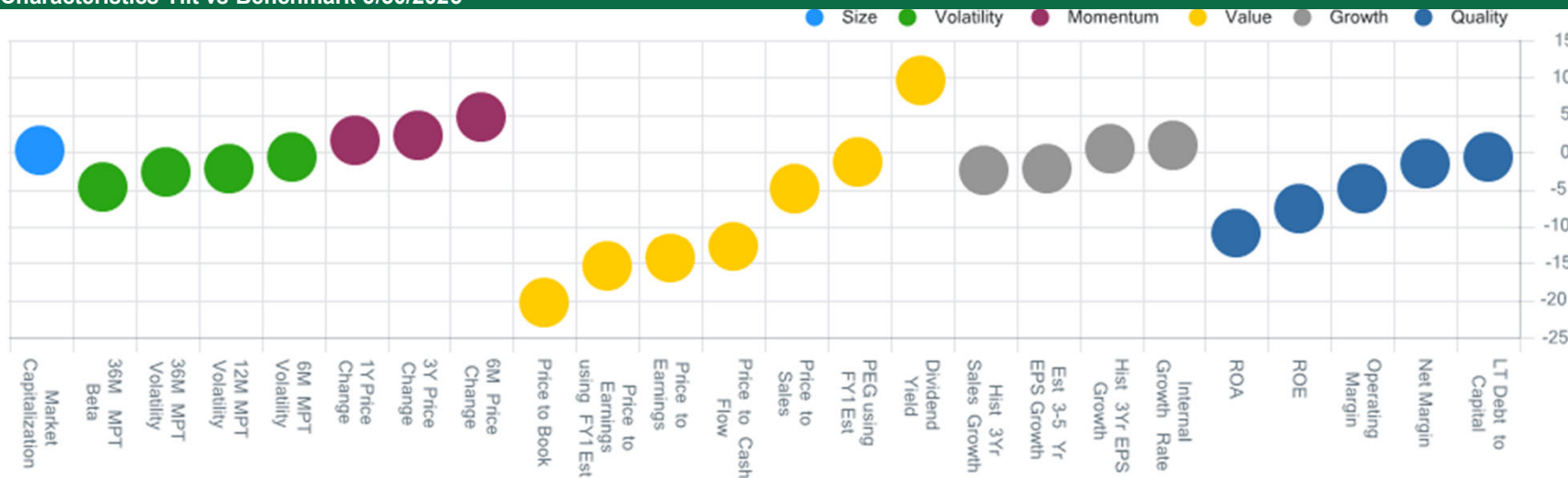
Relative Cumulative Performance – 15 Years



Risk – 15 Years

	Return	Std Dev	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
DFA Int'l Small Cap (Net)	9.2	17.5	0.7	0.4	0.2	4.6	1.0
MSCI EAFE Small Cap	8.4	16.5	--	0.4	--	--	1.0
MSCI World ex US Small Cap Value	7.8	16.8	--	0.4	--	--	1.0

Characteristics Tilt vs Benchmark 6/30/2025



BlackRock Global Portfolio Snapshot – June 30, 2025

Rolling Returns Since Inception 3/1/2016 (Three Year, One Month Shift)



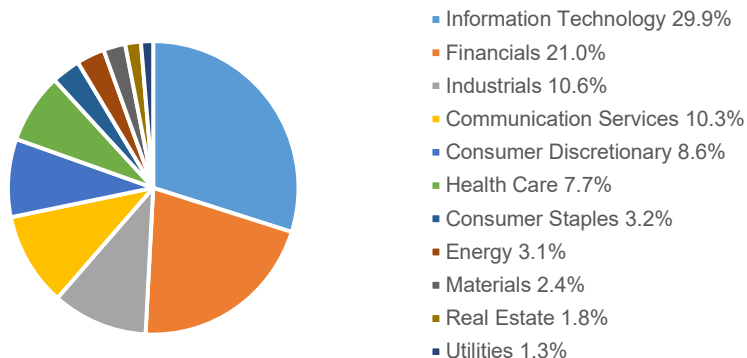
Top 10 Holdings

	Portfolio Weight	Quarterly Return
NVIDIA Corporation	4.62	45.78
Apple Inc.	4.25	-7.52
Microsoft Corporation	3.97	32.74
Alphabet Inc.	2.62	13.93
Amazon.com, Inc.	2.61	15.31
JPMorgan Chase & Co.	1.46	18.86
Bank of America Corporation	1.35	14.02
Taiwan Semi Mfg. Co. Ltd.	1.33	32.96
Salesforce, Inc.	1.30	1.93
S&P Global Inc.	1.27	3.97

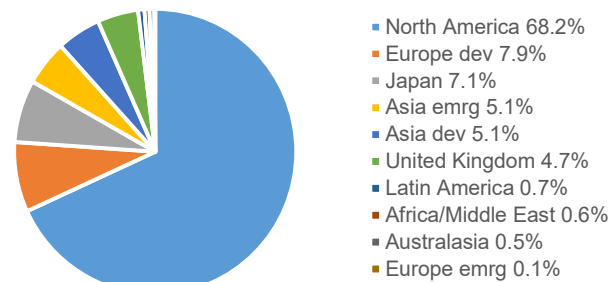
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	Inception 3/1/2016
BlackRock Global Alpha Tilts (Net)	11.1	9.9	14.7	18.2	14.3	12.8
MSCI ACWI	11.5	10.0	16.2	17.3	13.7	12.2

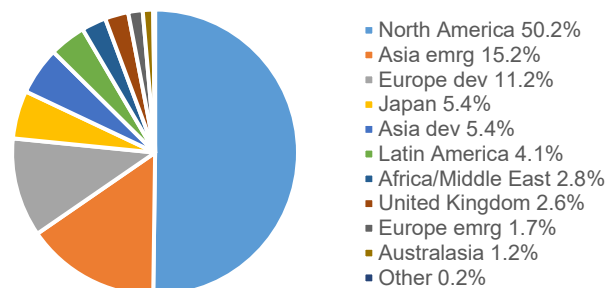
Equity Sector Exposure (GICS)



Regional Exposure by Domicile



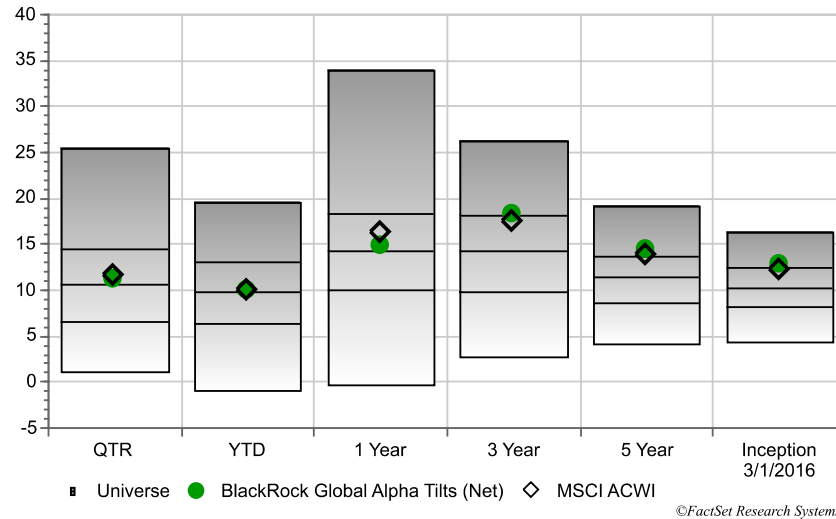
Regional Exposure by Source of Revenue



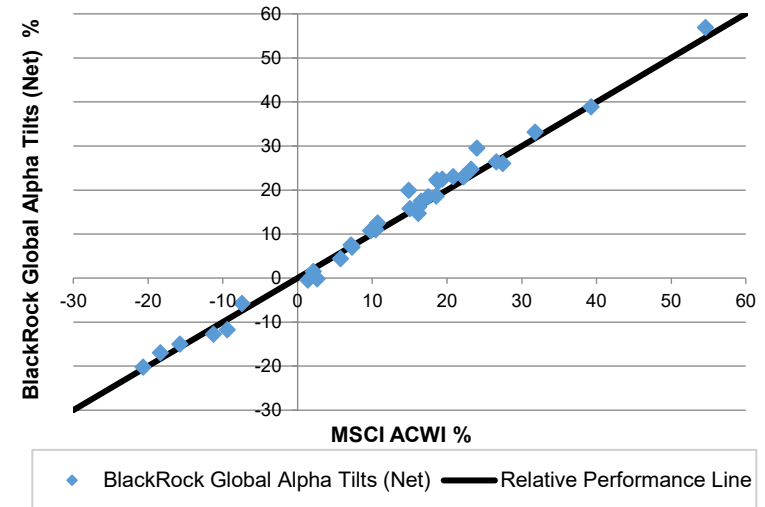
BlackRock Global vs Universe & Benchmark

Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US:Global

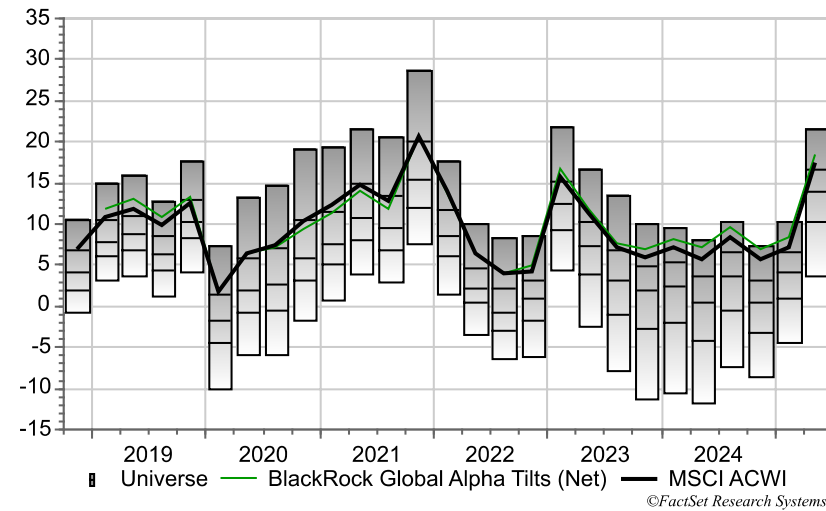


One-Year Rolling Return Versus Benchmark



Rolling Returns 3/1/2016 – 6/30/2025 (3 Year, 3 Month Shift)

Universe: Lipper US Global Equity



Over/Under Benchmark Analysis

23	Outperform
11	Underperform
34	# Observations
68%	% Outperform

BlackRock Global Attribution Analysis – June 30, 2025

Top 10 Leading Contributors

	Avg. Weights	Relative Weights	Active Return
Booking Holdings Inc.	1.37	1.15	0.29
Trane Technologies Plc	0.73	0.61	0.23
Tesco Plc	0.59	0.55	0.18
BAE Systems Plc	0.63	0.54	0.17
ABB Ltd.	1.14	1.03	0.17
Morgan Stanley	0.96	0.77	0.16
ENGIE SA.	0.62	0.57	0.16
MasTec, Inc.	0.37	0.37	0.15
Bank of America Corporation	1.49	1.12	0.15
Int'l Consolidated Airlines Grp., S.A.	0.33	0.33	0.13

Top 10 Leading Detractors

	Avg. Weights	Relative Weights	Active Return
Netflix, Inc.	0.05	-0.55	-0.22
UnitedHealth Group Incorporated	0.87	0.38	-0.22
Oracle Corporation	0.00	-0.33	-0.17
Broadcom Inc.	0.85	-0.29	-0.16
Palantir Technologies Inc.	0.04	-0.26	-0.14
Tesla, Inc.	0.66	-0.44	-0.11
GE Vernova Inc.	0.00	-0.14	-0.08
General Electric Company	0.00	-0.30	-0.08
ASML Holding NV	0.00	-0.35	-0.07
Goldman Sachs Group, Inc.	0.00	-0.23	-0.07

Sector Attribution

	Average relative weighting (%)	Portfolio returns (%)	Benchmark returns (%)	Sector allocation (%)	Stock selection (%)	Relative contribution (%)
Communication Services	1.2	10.8	17.8	0.1	-0.7	-0.6
Consumer Discretionary	-0.6	11.4	8.7	0.0	0.3	0.3
Consumer Staples	-1.1	7.6	3.6	0.1	0.3	0.3
Energy	-0.4	-0.6	-3.6	0.1	0.1	0.2
Financials	1.5	10.7	10.5	0.0	0.2	0.0
Health Care	0.3	-3.6	-3.6	-0.1	-0.1	-0.1
Industrials	-0.7	17.9	15.3	0.0	0.2	0.2
Information Technology	2.9	17.7	23.4	0.3	-1.5	-1.1
Materials	-1.1	9.6	6.5	0.1	0.1	0.1
Real Estate	-0.7	-0.5	3.8	0.0	-0.1	0.0
Utilities	-1.4	17.5	8.2	0.0	0.0	0.1
Total	0.0	11.1	11.6	0.6	-1.2	-0.5



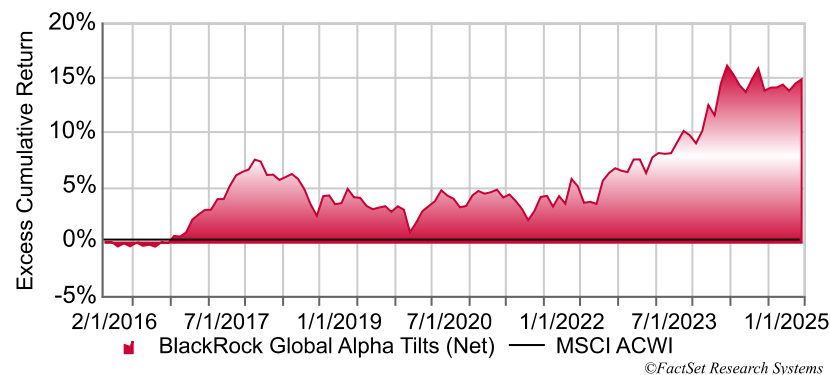
Returns are calculated by factset from month-end holdings, and may differ slightly from official returns reported by custodian

BlackRock Global Inception Performance & Statistics

Investment Growth Since Inception 3/1/2016



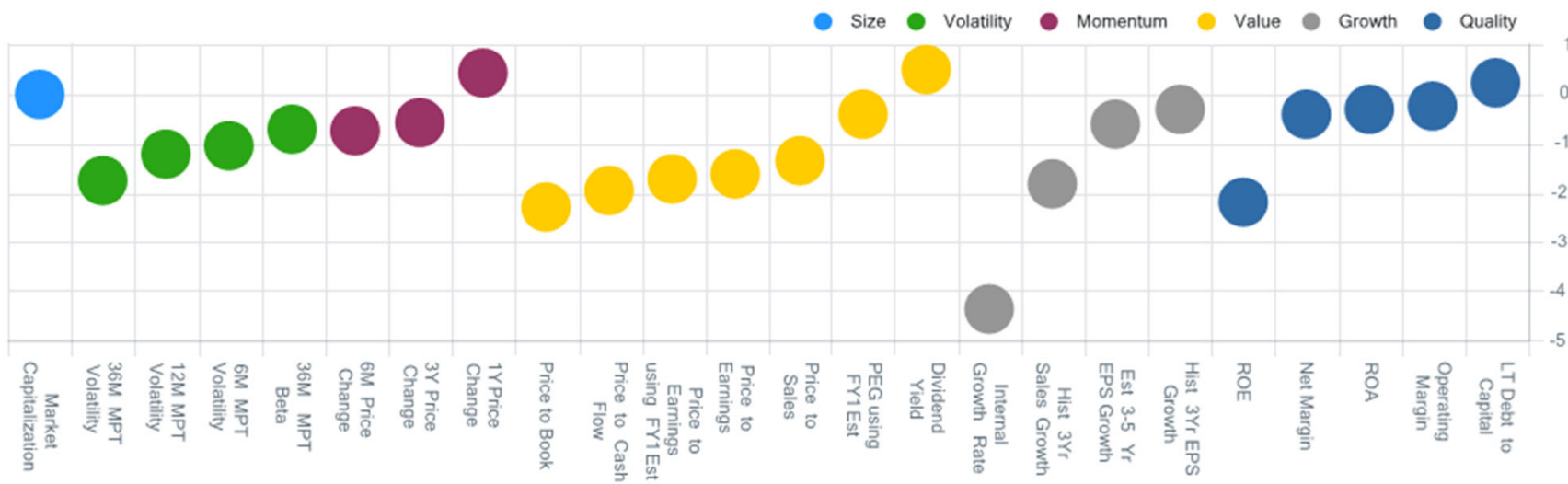
Relative Cumulative Performance Since Inception 3/1/2016



Risk Since Inception 3/1/2016

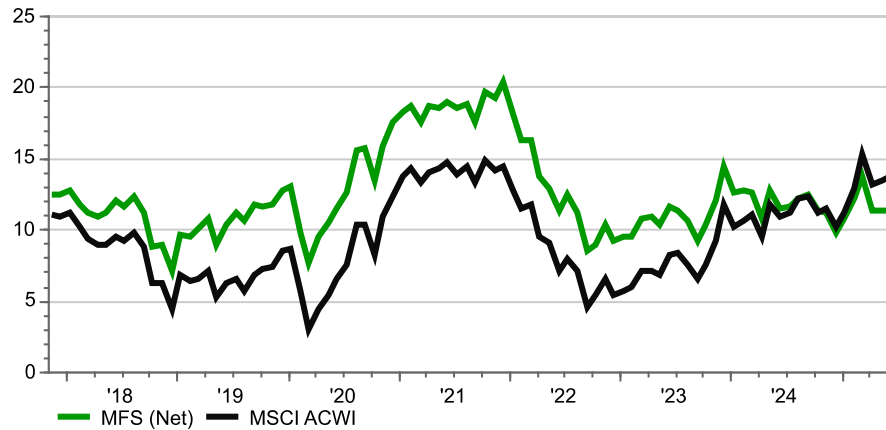
	Return	Std Dev	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
BlackRock Global Alpha Tilts (Net)	12.8	14.9	0.4	0.7	0.4	1.6	1.0
MSCI ACWI	12.2	14.7	--	0.7	--	--	1.0

Characteristics Tilt vs Benchmark 6/30/2025



MFS Portfolio Snapshot – June 30, 2025

Rolling Returns Since Inception 12/1/2012 (Five Year, One Month Shift)



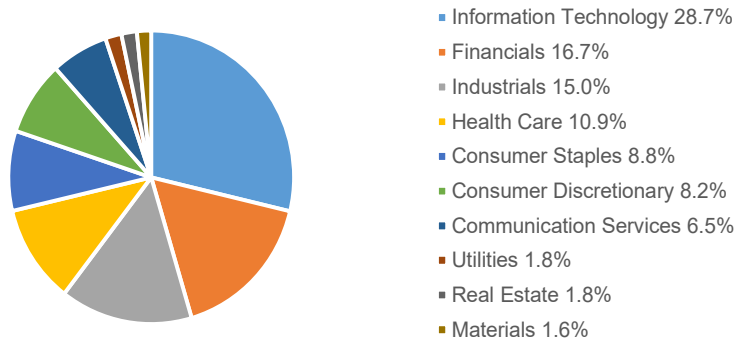
Top 10 Holdings

	Portfolio Weight	Quarterly Return
Microsoft Corporation	7.20	32.74
Taiwan Semi Mfg. Co. Ltd.	3.57	32.96
Visa Inc.	3.39	1.47
NVIDIA Corporation	2.82	45.78
Tencent Holdings Limited	2.63	1.21
HDFC Bank Limited	2.45	10.25
Accenture Plc	2.30	-3.74
Salesforce, Inc.	2.23	1.93
STERIS plc	2.16	6.24
TransUnion	2.12	6.18

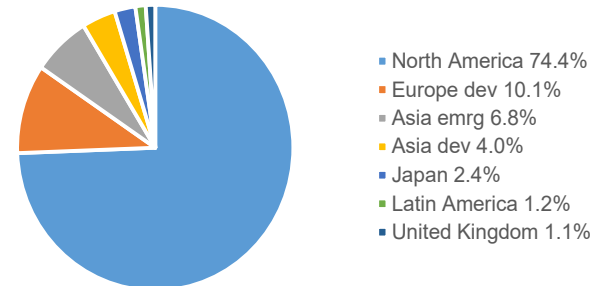
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	10 Year	Inception 12/1/2012
MFS (Net)	7.9	4.2	8.1	12.7	11.2	11.3	11.6
MSCI ACWI	11.5	10.0	16.2	17.3	13.7	10.0	10.4
MSCI ACWI Growth	17.3	9.3	16.7	21.4	13.9	12.3	12.5

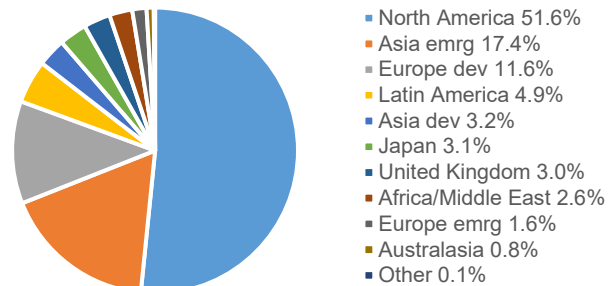
Equity Sector Exposure (GICS)



Regional Exposure by Domicile



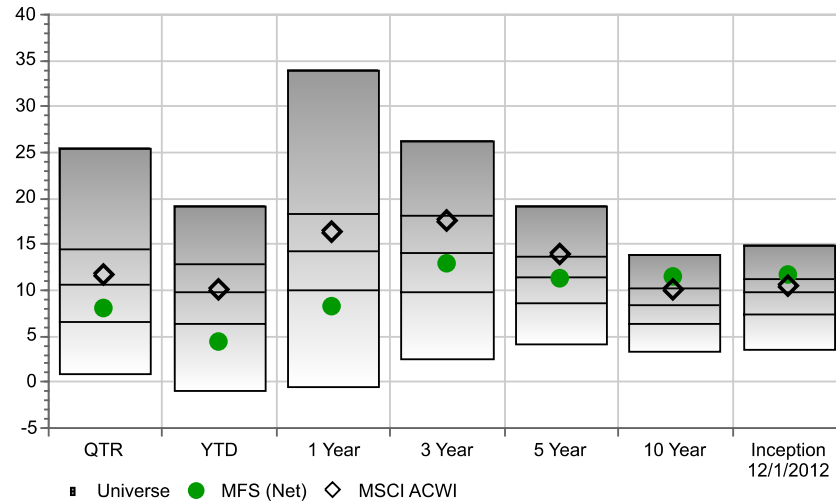
Regional Exposure by Source of Revenue



MFS vs Universe & Benchmark

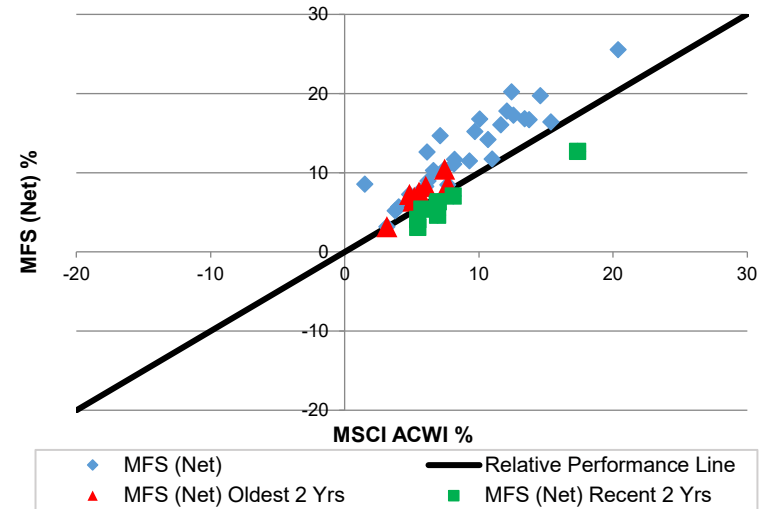
Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US:Global



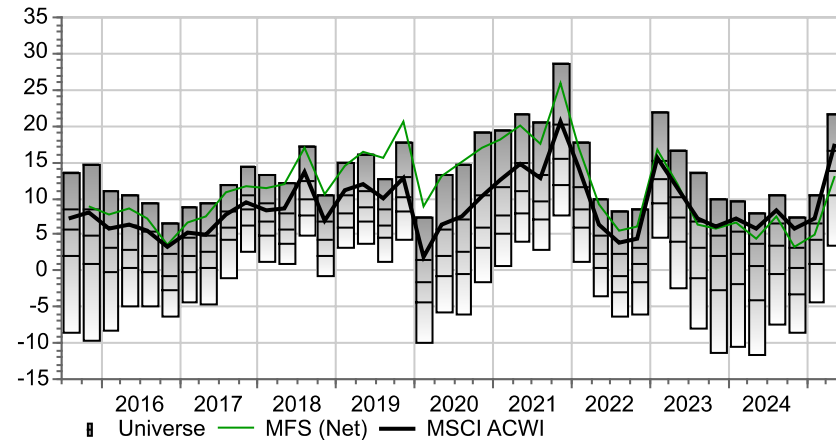
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Three-Year Rolling Return Versus Benchmark



Rolling Returns 12/1/2012 – 6/30/2025 (3 Year, 3 Month Shift)

Universe: Lipper US Global Equity



©FactSet Research Systems

Over/Under Benchmark Analysis

31	Outperform
8	Underperform
39	# Observations
79%	% Outperform

MFS Attribution Analysis – June 30, 2025

Top 10 Leading Contributors

	Avg. Weights	Relative Weights	Active Return
Microsoft Corporation	6.29	2.57	0.77
Amphenol Corporation	1.64	1.52	0.70
Taiwan Semi Mfg. Co. Ltd.	2.93	2.00	0.62
Eaton Corporation plc	1.71	1.56	0.46
Hubbell Incorporated	1.59	1.57	0.35
Credicorp Ltd.	1.26	1.25	0.33
OBIC Co., Ltd.	1.02	1.00	0.32
Schneider Electric SE	1.76	1.60	0.28
Canadian Pacific Kansas City Limited	1.96	1.87	0.28
Walt Disney Company	1.17	0.94	0.24

Top 10 Leading Detractors

	Avg. Weights	Relative Weights	Active Return
Broadcom Inc.	0.00	-1.15	-0.65
NVIDIA Corporation	2.22	-1.47	-0.64
Meta Platforms, Inc.	0.00	-1.66	-0.45
Becton, Dickinson and Company	1.45	1.37	-0.37
Fiserv, Inc.	1.43	1.29	-0.36
Amazon.com, Inc.	0.00	-2.35	-0.35
Church & Dwight Co., Inc.	2.04	2.01	-0.29
Aon Plc	2.02	1.93	-0.26
Tesla, Inc.	0.00	-1.10	-0.25
Netflix, Inc.	0.00	-0.60	-0.24

Sector Attribution

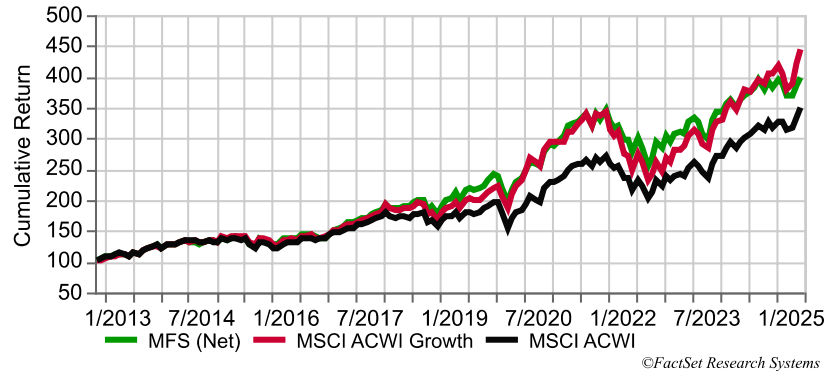
	Average relative weighting (%)	Portfolio returns (%)	Benchmark returns (%)	Sector allocation (%)	Stock selection (%)	Relative contribution (%)
Communication Services	-1.9	11.7	17.8	-0.1	-0.4	-0.5
Consumer Discretionary	-2.0	3.2	8.7	0.1	-0.5	-0.4
Consumer Staples	2.6	-5.1	3.6	-0.2	-0.8	-1.1
Energy	-3.8	0.0	-3.6	0.6	0.0	0.6
Financials	-0.7	2.0	10.5	0.0	-1.1	-1.5
Health Care	1.2	-1.5	-3.6	-0.2	0.5	0.1
Industrials	3.7	12.0	15.3	0.1	-0.4	-0.3
Information Technology	2.4	20.6	23.4	0.3	-1.0	-0.4
Materials	-1.9	3.7	6.5	0.1	-0.1	0.1
Real Estate	-0.3	2.7	3.8	0.0	0.0	0.0
Utilities	-0.7	-7.3	8.2	0.0	-0.3	-0.3
[Cash]	1.5	1.1	0.0	-0.1	0.0	-0.2
Total	0.0	7.6	11.6	0.6	-4.1	-4.0



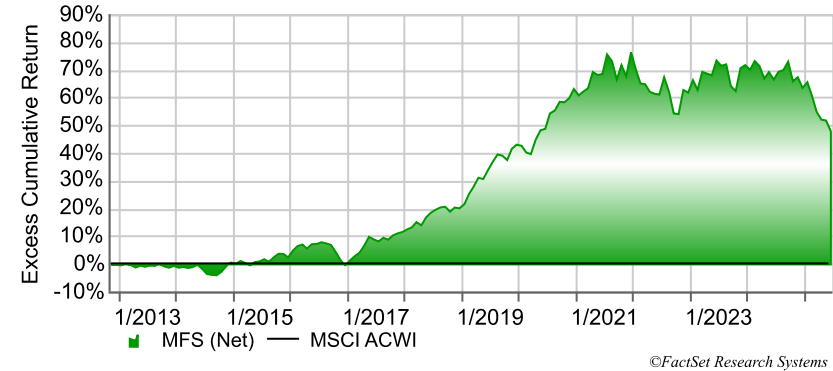
Returns are calculated by factset from month-end holdings, and may differ slightly from official returns reported by custodian

MFS Inception Performance & Statistics

Investment Growth Since Inception 12/1/2012



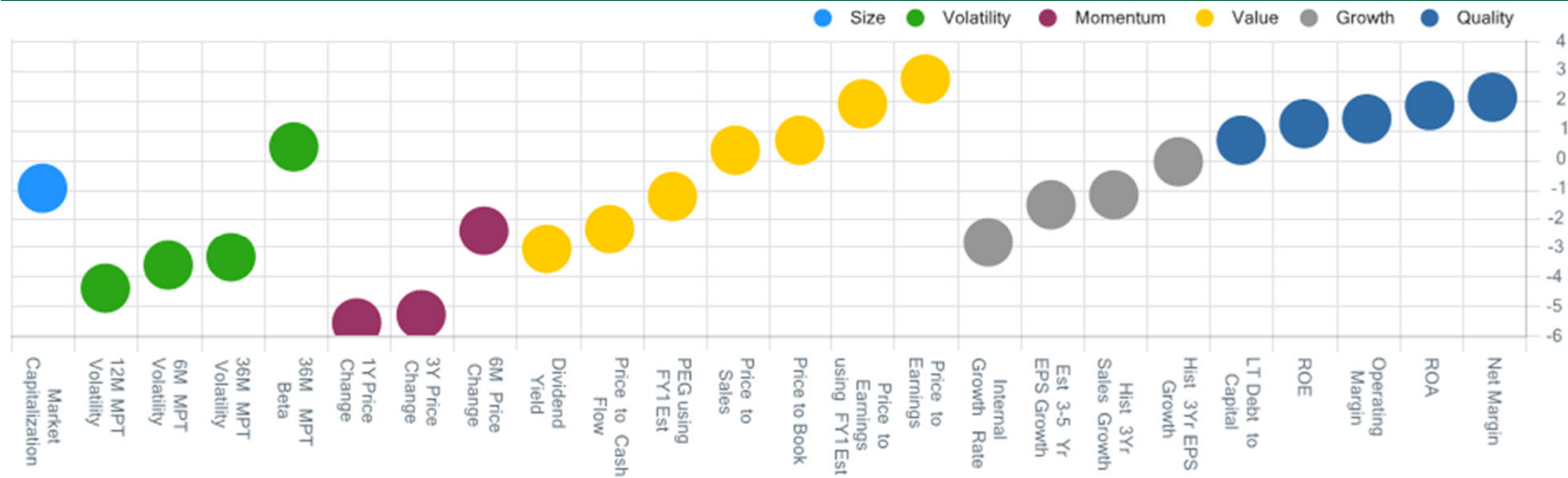
Relative Cumulative Performance Since Inception 12/1/2012



Risk Since Inception 12/1/2012

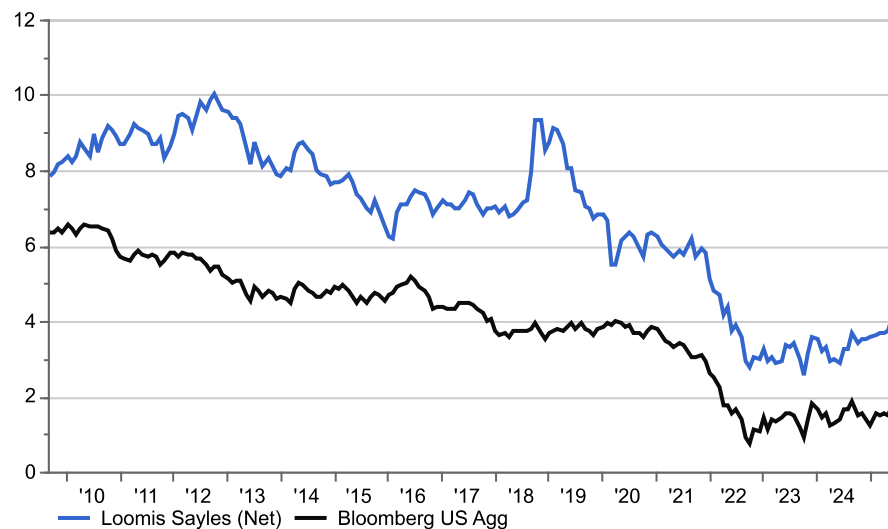
	Return	Std Dev	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
MFS (Net)	11.6	14.0	1.2	0.7	0.4	3.2	1.0
MSCI ACWI	10.4	13.9	--	0.6	--	--	1.0
MSCI ACWI Growth	12.5	15.2	--	0.7	--	--	1.0

Characteristics Tilt vs Benchmark 6/30/2025

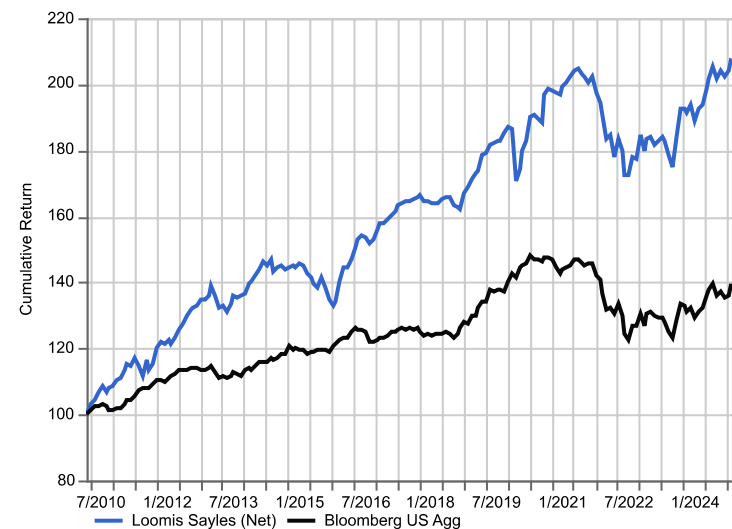


Loomis Sayles Portfolio Snapshot – June 30, 2025

Rolling Returns Since 10/1/1999 (Ten Year, One Month Shift)



Investment Growth – 15 Years



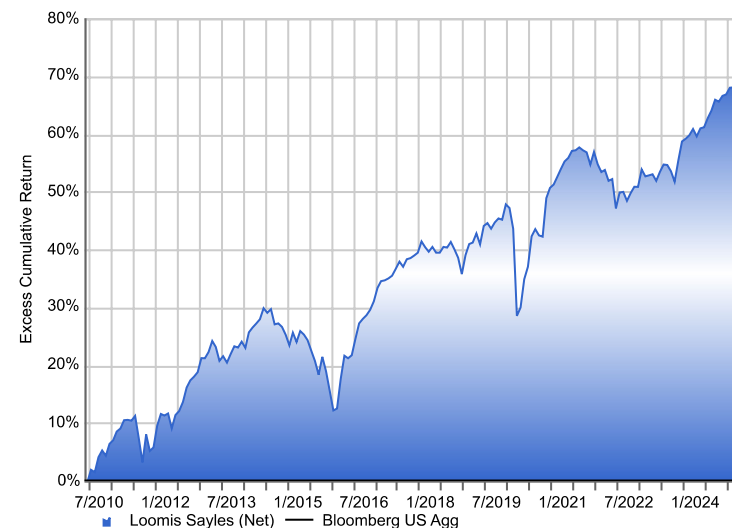
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	10 Year	15 Year
Loomis Sayles (Net)	2.8	5.2	9.7	6.2	3.1	4.1	5.1
Bloomberg US Aggregate	1.2	4.0	6.1	2.5	-0.7	1.8	2.3

Risk – 15 Years

	Return	Std Dev	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
Loomis Sayles (Net)	5.1	6.3	2.9	0.6	0.6	4.7	0.9
Bloomberg US Aggregate	2.3	4.4	--	0.2	--	--	1.0

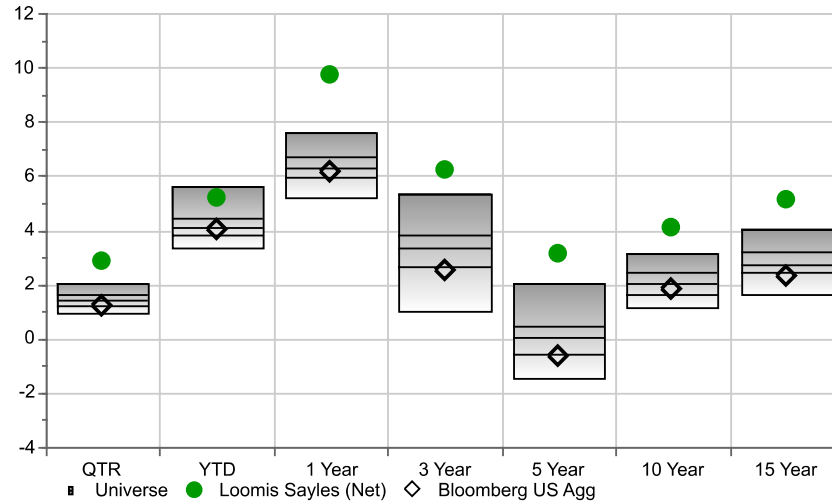
Relative Cumulative Performance – 15 Years



Loomis Sayles vs Universe & Benchmark

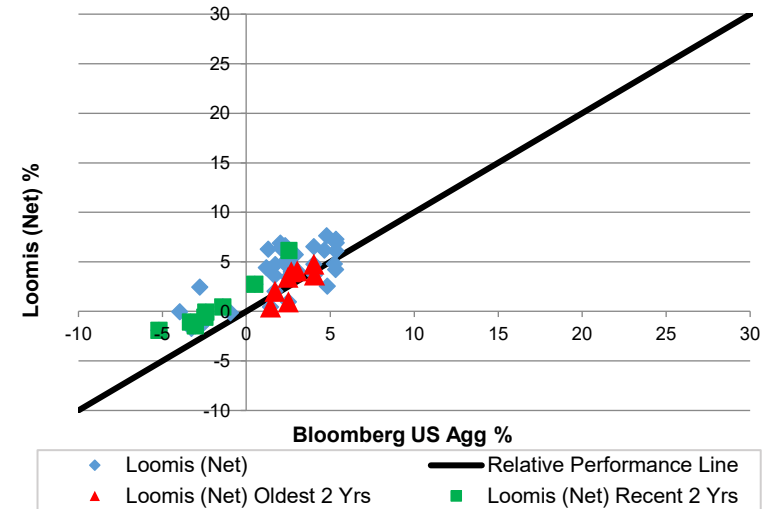
Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US Core Plus Bond



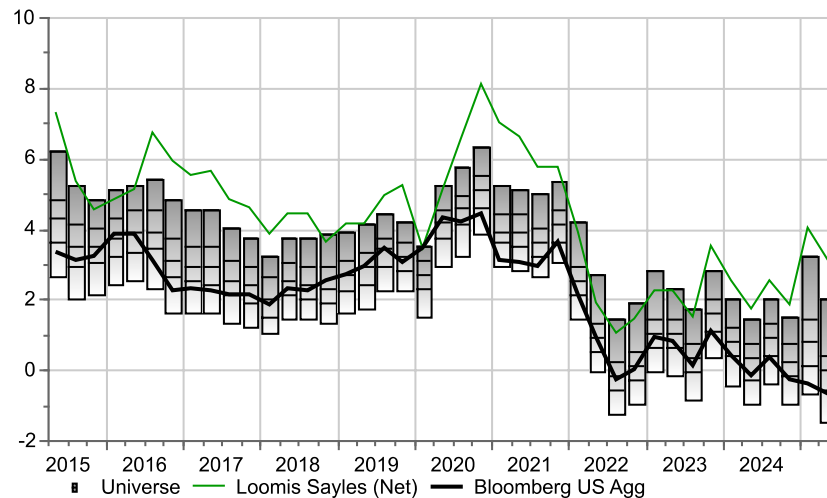
©FactSet Research Systems

Three-Year Rolling Return Versus Benchmark



Rolling Returns 7/1/2008 – 6/30/2025 (5 Year, 3 Month Shift)

Universe: Lipper US:Core Plus Bond



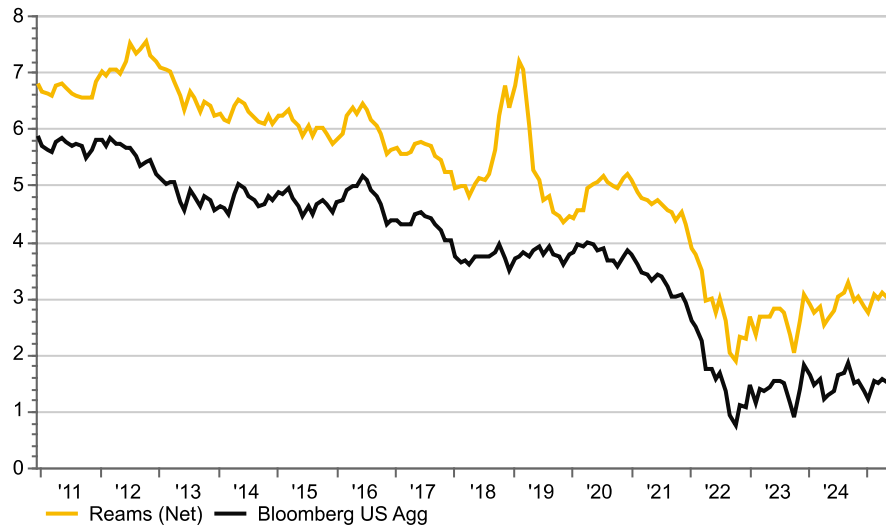
©FactSet Research Systems

Over/Under Benchmark Analysis

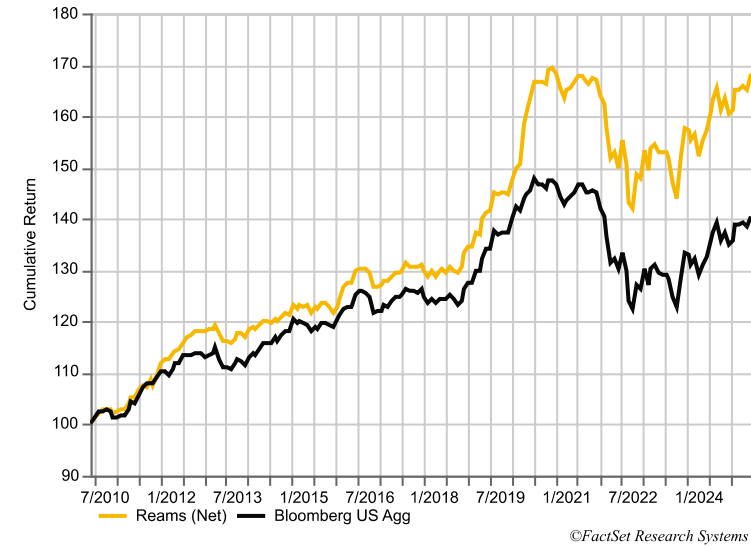
34	Outperform
6	Underperform
40	# Observations
85%	% Outperform

Reams Portfolio Snapshot – June 30, 2025

Rolling Returns Since Inception 1/1/2001 (Ten Year, One Month Shift)



Investment Growth – 15 Years



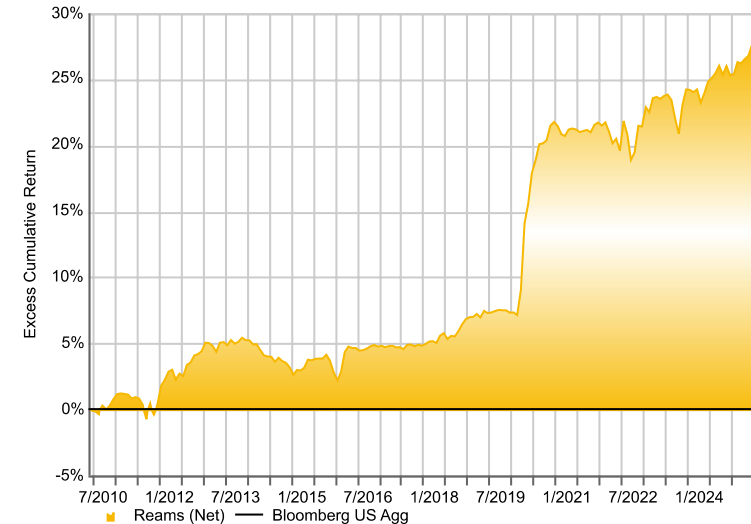
Trailing Returns

	QTR	YTD	1 Year	3 Year	5 Year	10 Year	15 Year
Reams (Net)	1.8	4.8	6.8	3.9	0.5	3.3	3.5
Bloomberg US Aggregate	1.2	4.0	6.1	2.5	-0.7	1.8	2.3

Risk – 15 Years

	Return	Std Dev	Alpha	Sharpe Ratio	Information Ratio	Tracking Error	Beta
Reams (Net)	3.5	4.9	1.2	0.4	0.8	1.5	1.1
Bloomberg US Aggregate	2.3	4.4	--	0.2	--	--	1.0

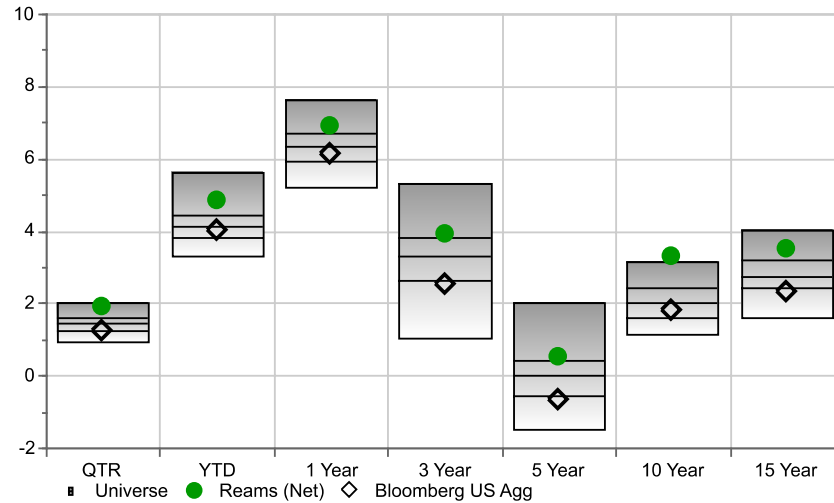
Relative Cumulative Performance – 15 Years



Reams vs Universe & Benchmark

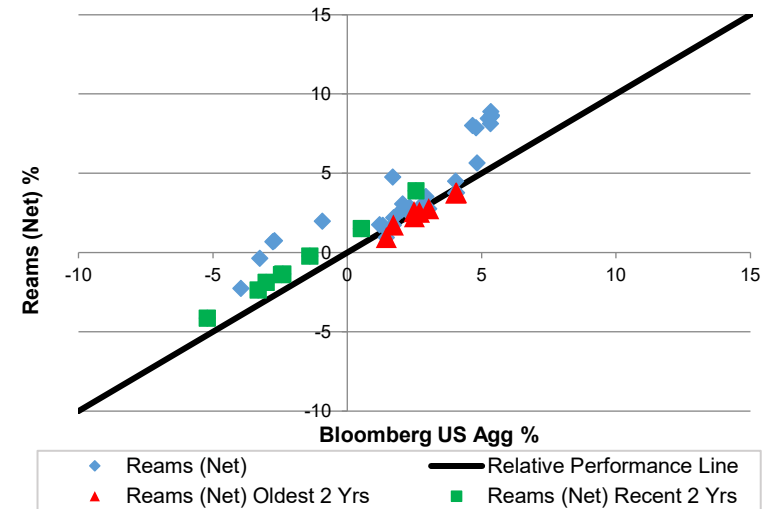
Performance Relative to Peer Group as of 6/30/2025

Universe: Lipper US Core Plus Bond



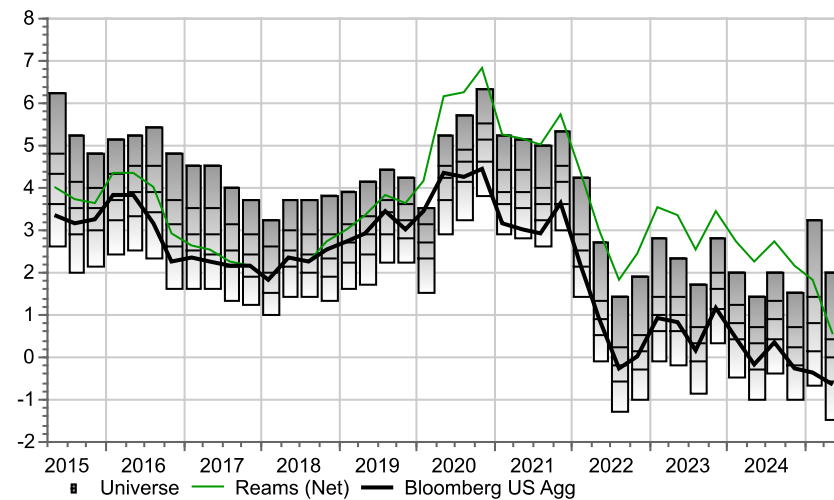
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Three-Year Rolling Return Versus Benchmark



Rolling Returns 7/1/2008 – 6/30/2025 (5 Year, 3 Month Shift)

Universe: Lipper US Core Plus Bond



©FactSet Research Systems

Over/Under Benchmark Analysis

34	Outperform
6	Underperform
40	# Observations
85%	% Outperform

Milwaukee Employees' Retirement System - July 2025 Performance

Fund as of July 31, 2025

***Fund value of \$6.16b.**

***Fund return of 0.3% in July, net of fees, underperformed by 15bp.**

***Primary Relative Perf. Drivers:**

Public Equity Style Bias -21bps
Primarily US Large Value and International

***Fund has underperformed the benchmark in the 1-year period, and is in line or outperforming in other time periods shown.**

August Update (as of 8/28/25)

***Fund return 1.9% MTD**

***Fund return 8.2% YTD**

***Fund value \$6.24b**

***7 out of 14 active mandates outperforming YTD.**

***Fixed Income and Absolute Return asset classes are outperforming their respective benchmarks YTD, net of fees.**

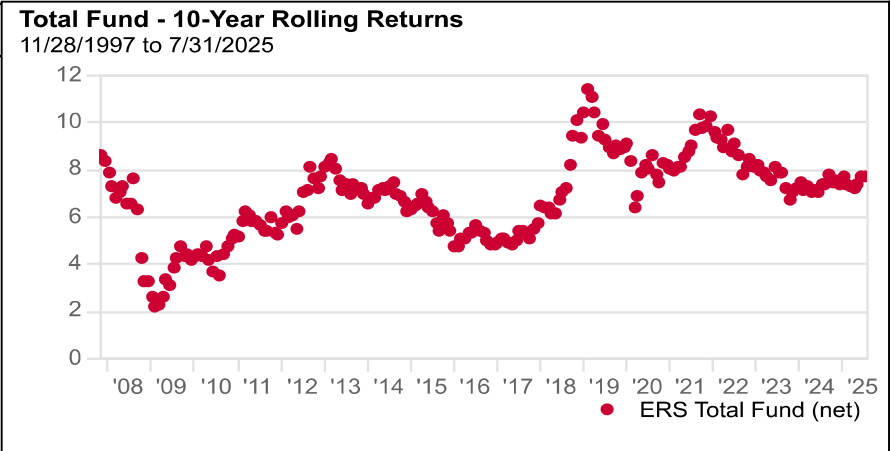
***Investment Change: \$488.4m**

***Contributions: 237.3m**

***Benefits & Expenses: 341.0m**

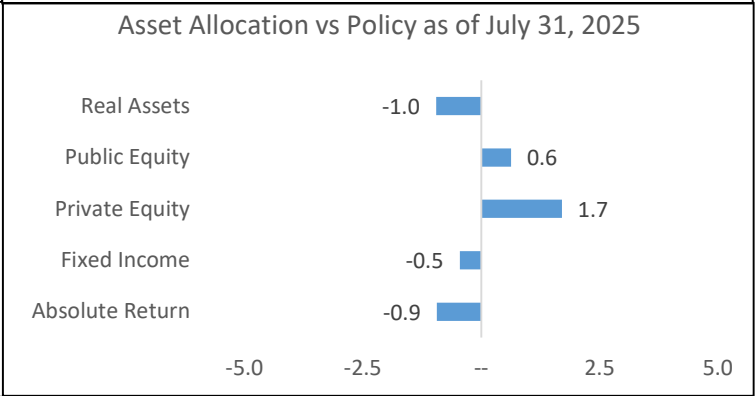
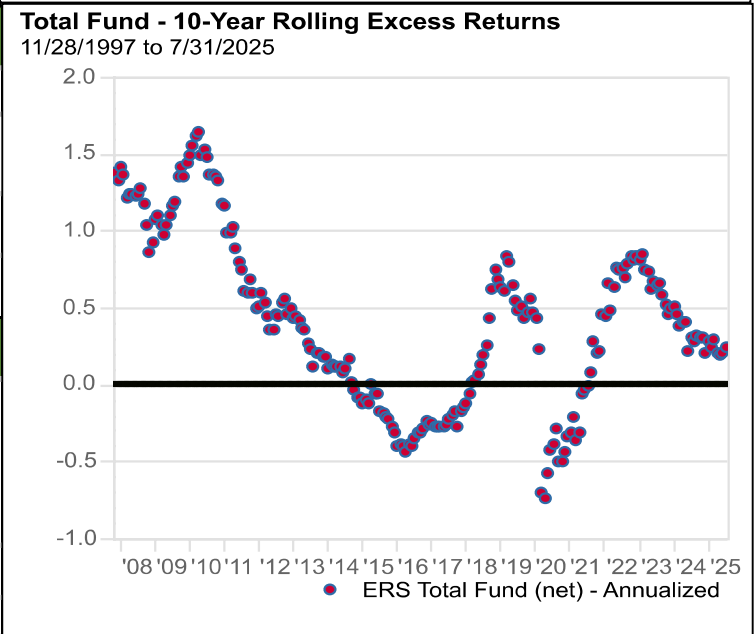
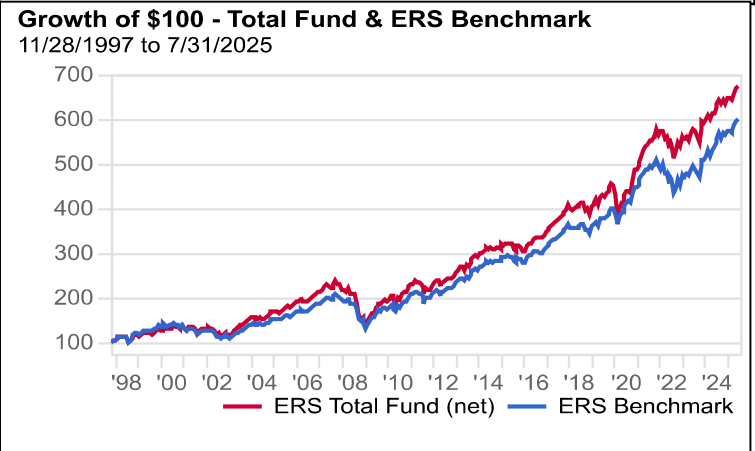
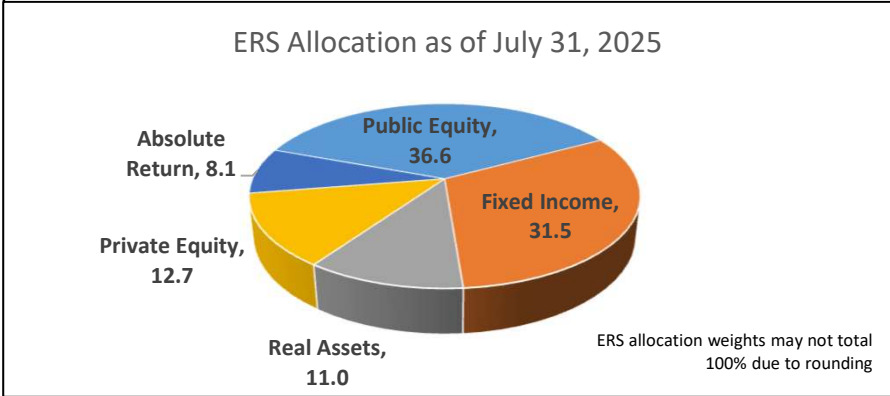
Monthly Withdrawals:

Brandes \$10.8m, NT S&P 500 \$7.2m, DFA US SCV \$6.9m, BlkRck Gbl Tilts \$6.2m, DFA Int'l SCV \$6.0m, BlkRck R1KV \$5.0m, Earnest \$4.6m, AQR \$3.8m, DFA US LCV \$3.6m, Polen \$2.8m



Return Data							
Source Data: Monthly Return							
	1 Month	YTD	1 Year	5 Year	10 Year	15 Year	20 Year
Total Fund (net)	0.3	6.2	7.2	9.5	7.7	8.5	6.9
ERS Benchmark	0.4	6.1	9.0	8.3	7.4	8.3	6.9

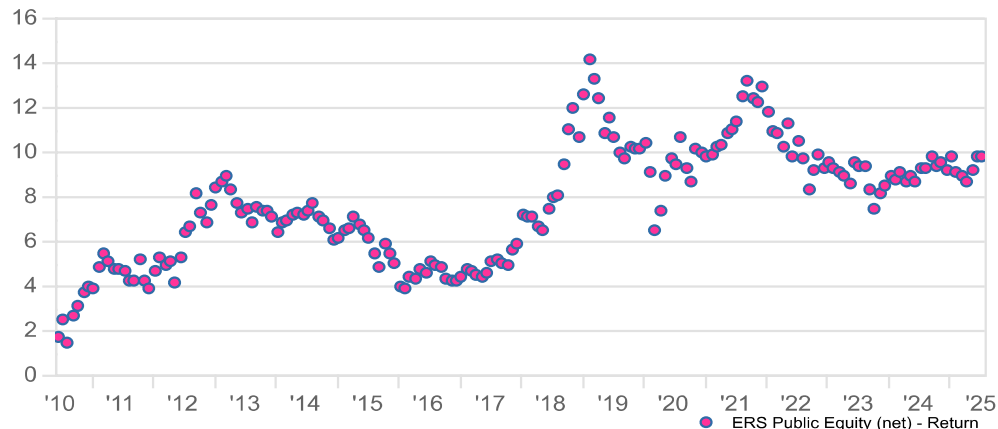
Total Fund - 20-Year Risk & Return Data							
	Return	Std Dev	Tracking Error	Info Ratio (arith)	Sharpe Ratio	Alpha	Beta
Total Fund (net)	6.9	10.2	2.5	0.0	0.5	-0.5	1.1
ERS Benchmark	6.9	9.1	--	--	0.6	0.0	1.0



Milwaukee Employees' Retirement System - July 2025 Performance

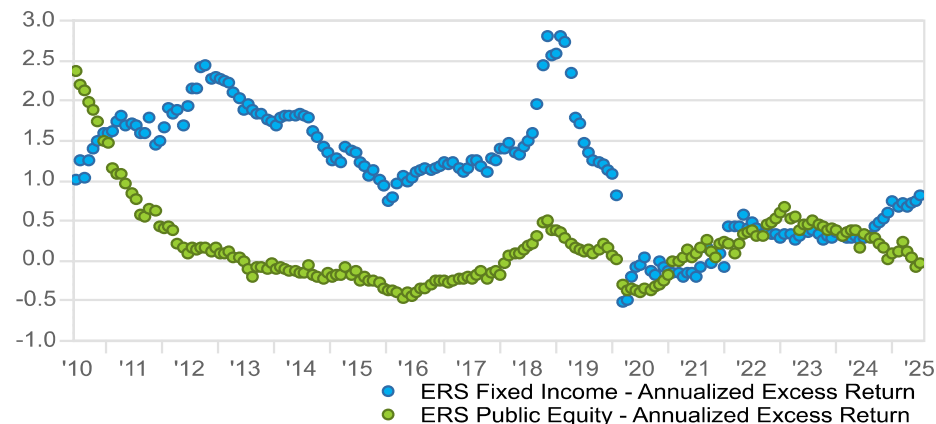
Public Equity - 10-Year Rolling Returns

06/30/2000 to 7/31/2025



Asset Class - 10-Year Rolling Excess Returns

06/30/2000 to 7/31/2025

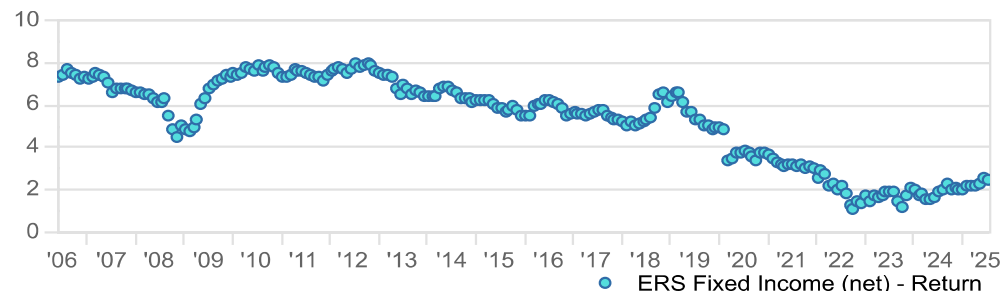


Return Data

	1 Month	YTD	1 Year	5 Year	10 Year	15 Year	20 Year
Public Equity	0.8	10.6	11.2	13.4	10.2	11.0	8.3
Public Equity (net)	0.8	10.4	10.8	13.0	9.8	10.6	7.9
Public Equity Benchmark	1.3	11.3	15.1	12.5	9.8	10.8	8.1
MSCI ACWI IMI NR USD	1.3	11.3	15.1	12.5	9.8	10.0	8.0

Fixed Income - 10-Year Rolling Returns

06/28/1996 to 7/31/2025



Return Data

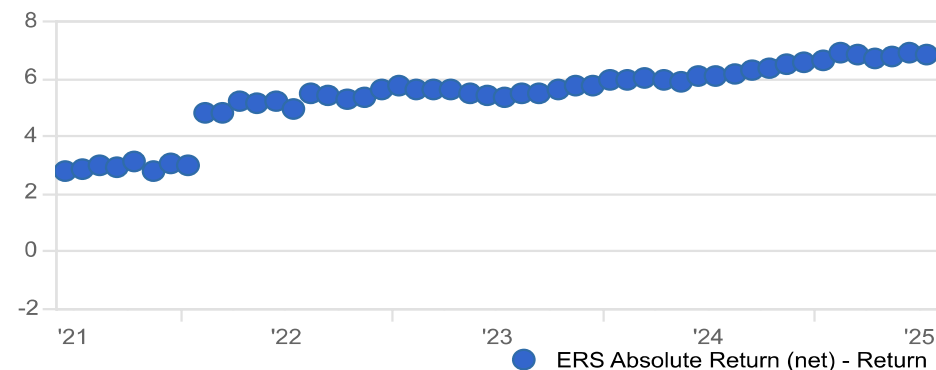
	1 Month	YTD	1 Year	5 Year	10 Year	15 Year	20 Year
Fixed Income	-0.2	4.6	4.9	1.6	2.6	3.1	4.3
Fixed Income (net)	-0.2	4.5	4.8	1.5	2.5	3.0	4.2
Bbg US Agg Bond TR USD	-0.3	3.7	3.4	-1.1	1.7	2.2	3.1

Risk Adjusted Returns (6/30/14 - 7/31/25)*

	Return	Std Dev	Sharpe Ratio	Max Drawdown
Public Equity (net)	9.1	15.0	0.5	-25.3
Fixed Income (net)	2.1	6.4	0.0	-13.6
Absolute Return (net)	6.3	8.8	0.5	-27.1

Absolute Return - 7-Year Rolling Returns

06/30/2014 to 7/31/2025



Return Data

	1 Month	YTD	1 Year	5 Year	10 Year	Inception*
Absolute Return (net)	0.3	4.9	10.8	12.3	6.2	6.3
90-Day T-Bill + 3%	0.6	4.3	7.6	6.0	5.1	4.9

*Absolute Return inception date is June 30, 2014

MERS PERFORMANCE ESTIMATES

July 31, 2025

Account	2024 Return	1st Quarter 2025	2nd Quarter 2025	Jul 2025	YTD Thru 7/31/2025
Northern Trust S&P 500 Index	25.00%	-4.27%	10.94%	2.24%	8.58%
S&P 500	<u>25.02%</u>	<u>-4.27%</u>	<u>10.94%</u>	<u>2.24%</u>	<u>8.59%</u>
Difference	-0.02%	0.00%	-0.01%	0.00%	-0.01%
BlackRock Russell 1000 Value Index	14.38%	2.14%	3.79%	0.58%	6.62%
Russell 1000 Value	<u>14.37%</u>	<u>2.14%</u>	<u>3.79%</u>	<u>0.57%</u>	<u>6.61%</u>
Difference	0.01%	0.00%	0.00%	0.00%	0.00%
DFA US Large Cap Value	13.84%	2.11%	2.75%	0.82%	5.77%
Russell 1000 Value	<u>14.37%</u>	<u>2.14%</u>	<u>3.79%</u>	<u>0.57%</u>	<u>6.61%</u>
Difference	-0.53%	-0.02%	-1.04%	0.24%	-0.84%
Polen	16.07%	-5.80%	9.45%	1.15%	4.29%
S&P 500	<u>25.02%</u>	<u>-4.27%</u>	<u>10.94%</u>	<u>2.24%</u>	<u>8.59%</u>
Difference	-8.95%	-1.53%	-1.49%	-1.09%	-4.30%
Earnest	8.19%	-3.31%	4.45%	1.43%	2.44%
Russell MidCap	<u>15.34%</u>	<u>-3.40%</u>	<u>8.53%</u>	<u>1.86%</u>	<u>6.78%</u>
Difference	-7.15%	0.09%	-4.08%	-0.42%	-4.34%
DFA US Small Cap Value	7.87%	-8.03%	5.46%	1.33%	-1.72%
Russell 2000 Value	<u>8.05%</u>	<u>-7.74%</u>	<u>4.97%</u>	<u>1.77%</u>	<u>-1.45%</u>
Difference	-0.19%	-0.28%	0.49%	-0.44%	-0.27%
Brandes	7.09%	10.38%	10.67%	1.03%	23.42%
MSCI EAFE	<u>3.82%</u>	<u>6.86%</u>	<u>11.78%</u>	<u>-1.40%</u>	<u>17.77%</u>
Difference	3.27%	3.52%	-1.10%	2.43%	5.65%
William Blair*	3.44%	0.00%	10.90%		10.90%
MSCI ACWI ex US	<u>6.09%</u>	<u>5.36%</u>	<u>8.83%</u>		<u>14.67%</u>
Difference	-2.65%	-5.36%	2.07%		-3.77%
DFA Int'l Small Cap Value	7.89%	10.35%	15.98%	0.11%	28.13%
MSCI EAFE Small Cap	<u>1.82%</u>	<u>3.69%</u>	<u>16.59%</u>	<u>-0.08%</u>	<u>20.79%</u>
Difference	6.07%	6.67%	-0.61%	0.19%	7.34%
AQR	6.62%	1.25%	13.00%	0.14%	14.57%
MSCI EM	<u>7.50%</u>	<u>2.93%</u>	<u>11.99%</u>	<u>1.95%</u>	<u>17.51%</u>
Difference	-0.89%	-1.68%	1.01%	-1.81%	-2.94%
BlackRock ACWI Ex US Growth*			1.05%	-1.23%	-0.20%
MSCI ACWI ex US Growth			<u>1.15%</u>	<u>-1.22%</u>	<u>-0.08%</u>
Difference			-0.10%	-0.02%	-0.12%
BlackRock Global Alpha Tilts	18.98%	-0.95%	11.19%	1.39%	11.66%
MSCI ACWI	<u>17.49%</u>	<u>-1.32%</u>	<u>11.53%</u>	<u>1.36%</u>	<u>11.54%</u>
Difference	1.49%	0.37%	-0.34%	0.03%	0.12%
MFS	11.87%	-3.28%	7.99%	0.79%	5.28%
MSCI ACWI	<u>17.49%</u>	<u>-1.32%</u>	<u>11.53%</u>	<u>1.36%</u>	<u>11.54%</u>
Difference	-5.62%	-1.95%	-3.53%	-0.57%	-6.26%
BlackRock Gov't Bond Index	0.79%	2.91%	0.86%	-0.38%	3.40%
Bloomberg Gov't Bond	<u>0.62%</u>	<u>2.91%</u>	<u>0.85%</u>	<u>-0.39%</u>	<u>3.38%</u>
Difference	0.16%	0.00%	0.01%	0.01%	0.02%
BlackRock Aggregate Bond Index*			2.14%	-0.25%	1.89%
Bloomberg US Aggregate			<u>2.13%</u>	<u>-0.26%</u>	<u>1.87%</u>
Difference			0.00%	0.02%	0.02%
Reams	1.76%	2.91%	1.83%	-0.17%	4.62%
Bloomberg US Aggregate	<u>1.25%</u>	<u>2.78%</u>	<u>1.21%</u>	<u>-0.26%</u>	<u>3.75%</u>
Difference	0.51%	0.13%	0.62%	0.09%	0.87%
Loomis Sayles	5.26%	2.35%	2.83%	0.07%	5.33%
Bloomberg US Aggregate	<u>1.25%</u>	<u>2.78%</u>	<u>1.21%</u>	<u>-0.26%</u>	<u>3.75%</u>
Difference	4.01%	-0.43%	1.62%	0.34%	1.58%
UBS	10.57%	2.12%	2.31%	-0.02%	4.47%
SOFR + 4%	<u>9.31%</u>	<u>2.06%</u>	<u>2.04%</u>	<u>0.68%</u>	<u>4.85%</u>
Difference	1.26%	0.06%	0.27%	-0.70%	-0.38%
Aptitude	13.15%	0.51%	4.37%	0.69%	5.63%
SOFR + 4%	<u>9.31%</u>	<u>2.06%</u>	<u>2.04%</u>	<u>0.68%</u>	<u>4.85%</u>
Difference	3.84%	-1.55%	2.33%	0.01%	0.78%
Principal	3.28%	3.39%	3.82%	-0.46%	6.85%
Blended Benchmark	<u>4.21%</u>	<u>4.73%</u>	<u>4.19%</u>	<u>-0.20%</u>	<u>8.90%</u>
Difference	-0.93%	-1.34%	-0.36%	-0.26%	-2.05%
Baird	5.16%	1.37%	1.26%	0.18%	2.83%
Bloomberg Govt/Credit 1-3 Year	<u>4.36%</u>	<u>1.63%</u>	<u>1.27%</u>	<u>-0.02%</u>	<u>2.90%</u>
Difference	0.80%	-0.25%	-0.01%	0.20%	-0.07%
Total MERS	6.85%	1.18%	4.62%	0.30%	6.17%

The calculation for the Fund's total rate of return is based on the Modified Dietz method. Although periodic cash flows (i.e., contributions, redemptions) are not time weighted, they are accounted for in the Fund's total rate of return. Therefore, this estimated rate of return may vary slightly from the rate of return reported by the custodian.

The returns shown are gross of fees (except Total MERS, DFA International Small Cap Value, William Blair International Growth, AQR, Principal, UBS, and Aptitude).

Inception date for the BlackRock US Aggregate Index is May 21, 2025

William Blair performance runs through May 29, 2025.

Inception date for the BlackRock ACWI Ex US Growth Index is June 12, 2025

ACTUAL ALLOCATIONS

July 31, 2025

		Target	Market Value	Allocation
EQUITY				
Public Equity				
Domestic				
Passive Large Cap Equity	Northern Trust (S&P 500)	3.19%	\$ 200,576,496	3.25%
	BlackRock (Russell 1000 Value)	3.19%	\$ 194,445,228	3.15%
	Sub-Total Passive Large Cap Equity	6.37%	\$ 395,021,723	6.41%
Active Large Cap Equity	Polen (S&P 500)	1.79%	\$ 113,514,851	1.84%
	DFA (Russell 1000 Value)	2.28%	\$ 140,874,058	2.29%
	Sub-Total Active Large Cap Equity	4.06%	\$ 254,388,909	4.13%
Active Mid/Small Cap Equity	Earnest Partners (Russell MidCap)	2.95%	\$ 179,950,047	2.92%
	DFA (Russell 2000 Value)	2.81%	\$ 188,743,469	3.06%
	Sub-Total Active Mid/Small Cap Equity	5.76%	\$ 368,693,516	5.98%
Total Domestic		16.20%	\$ 1,018,104,148	16.52%
International				
Active International Equity	Brandes (MSCI EAFE)	4.74%	\$ 299,495,414	4.86%
	William Blair* (MSCI ACWI ex US)	0.00%	\$ 1,320,314	0.02%
	DFA (MSCI EAFE Small Cap)	2.62%	\$ 163,842,529	2.66%
	AQR (MSCI EM)	1.63%	\$ 106,862,005	1.73%
	Sub-Total Active International Equity	8.99%	\$ 571,520,262	9.27%
Passive International Equity	BlackRock (MSCI ACWI ex US Growth)	3.61%	\$ 206,034,383	3.34%
Total International		12.60%	\$ 777,554,645	12.62%
Global				
Active Global Equity	BlackRock (MSCI ACWI)	3.96%	\$ 251,210,492	4.08%
	MFS (MSCI ACWI)	3.24%	\$ 210,951,683	3.42%
Total Global		7.20%	\$ 462,162,175	7.50%
Total Public Equity		36.00%	\$ 2,257,820,968	36.63%
Private Equity				
	Abbott Capital (Russell 3000 Quarter Lag + 2%)	3.85%	\$ 300,113,509	4.87%
	Mesirow (Russell 3000 Quarter Lag + 2%)	3.85%	\$ 297,337,927	4.82%
	Neuberger Berman (Russell 3000 Quarter Lag + 2%)	1.65%	\$ 81,935,438	1.33%
	Apogem (Russell 3000 Quarter Lag + 2%)	1.65%	\$ 103,748,418	1.68%
Total Private Equity		11.00%	\$ 783,135,292	12.71%
TOTAL EQUITY (Public Equity + Private Equity)		47.00%	\$ 3,040,956,260	49.34%
FIXED INCOME & ABSOLUTE RETURN				
Fixed Income				
Cash		1.00%	\$ 82,530,839	1.34%
Passive Fixed Income	BlackRock (Bloomberg US Government)	8.00%	\$ 469,227,969	7.61%
	BlackRock (Bloomberg US Aggregate)	0.00%	\$ 69,171,707	1.12%
	Sub-Total Passive Fixed Income	8.00%	\$ 538,399,676	8.74%
Active Fixed Income	Reams (Bloomberg US Aggregate)	14.20%	\$ 806,046,911	13.08%
	Loomis Sayles (Bloomberg US Aggregate)	8.81%	\$ 517,444,399	8.40%
	Sub-Total Active Fixed Income	23.00%	\$ 1,323,491,309	21.47%
Total Fixed Income		32.00%	\$ 1,944,421,824	31.55%
Absolute Return				
	Aptitude (SOFR + 4%)	3.86%	\$ 205,502,118	3.33%
	UBS (SOFR + 4%)	5.14%	\$ 291,466,423	4.73%
Total Absolute Return		9.00%	\$ 496,968,541	8.06%
TOTAL FIXED INCOME & ABSOLUTE RETURN		41.00%	\$ 2,441,390,365	39.61%
REAL ASSETS				
Private Real Estate - Core	JP Morgan (NFI-ODCE)	2.24%	\$ 90,015,402	1.46%
	Morgan Stanley (NFI-ODCE)	2.42%	\$ 147,388,974	2.39%
	LaSalle (NFI-ODCE)	2.06%	\$ 109,004,567	1.77%
	Prologis (NFI-ODCE)	1.17%	\$ 82,493,429	1.34%
	Harrison Street (NFI-ODCE)	0.81%	\$ 49,691,590	0.81%
	Sub-Total Private Real Estate - Core	8.70%	\$ 478,593,962	7.77%
Private Real Estate - Non-Core	Non-Core Real Estate (NFI-ODCE)	0.00%	\$ 8,580,322	0.14%
Public Real Assets	Principal (Blended Benchmark)	3.30%	\$ 193,775,791	3.14%
TOTAL REAL ASSETS		12.00%	\$ 680,950,075	11.05%
TOTAL ERS			\$ 6,163,296,701	100.00%
Total City Reserve Fund			R. W. Baird	91,980,430

*Remaining value in this account is primarily recoverable taxes

PROJECTED TARGET ALLOCATIONS

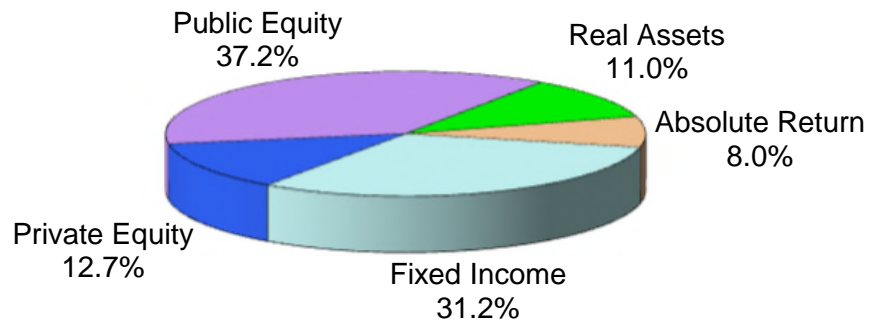
Aug 28, 2025

		Target	Market Value	Allocation
EQUITY				
Public Equity				
Domestic				
Passive Large Cap Equity	Northern Trust (S&P 500)	3.19%	\$ 198,684,179	3.18%
	BlackRock (Russell 1000 Value)	3.19%	\$ 200,691,088	3.22%
	Sub-Total Passive Large Cap Equity	6.37%	\$ 399,375,267	6.40%
Active Large Cap Equity	Polen (S&P 500)	1.79%	\$ 114,566,891	1.84%
	DFA (Russell 1000 Value)	2.28%	\$ 146,862,790	2.35%
	Sub-Total Active Large Cap Equity	4.06%	\$ 261,429,681	4.19%
Active Mid/Small Cap Equity	Earnest Partners (Russell MidCap)	2.95%	\$ 186,430,498	2.99%
	DFA (Russell 2000 Value)	2.81%	\$ 205,055,924	3.29%
	Sub-Total Active Mid/Small Cap Equity	5.76%	\$ 391,486,422	6.28%
Total Domestic		16.20%	\$ 1,052,291,370	16.87%
International				
Active International Equity	Brandes (MSCI EAFE)	4.74%	\$ 310,543,575	4.98%
	William Blair* (MSCI ACWI ex US)	0.00%	\$ 1,319,108	0.02%
	DFA (MSCI EAFE Small Cap)	2.62%	\$ 168,875,669	2.71%
	AQR (MSCI EM)	1.63%	\$ 108,472,942	1.74%
	Sub-Total Active International Equity	8.99%	\$ 589,211,295	9.44%
Passive International Equity	BlackRock (MSCI ACWI ex US Growth)	3.61%	\$ 212,009,803	3.40%
Total International		12.60%	\$ 801,221,098	12.84%
Global				
Active Global Equity	BlackRock (MSCI ACWI)	3.96%	\$ 251,242,297	4.03%
	MFS (MSCI ACWI)	3.24%	\$ 212,954,438	3.41%
Total Global		7.20%	\$ 464,196,735	7.44%
Total Public Equity		36.00%	\$ 2,317,709,203	37.15%
Private Equity				
	Abbott Capital (Russell 3000 Quarter Lag + 2%)	3.85%	\$ 296,812,649	4.76%
	Mesirow (Russell 3000 Quarter Lag + 2%)	3.85%	\$ 305,857,927	4.90%
	Neuberger Berman (Russell 3000 Quarter Lag + 2%)	1.65%	\$ 82,563,419	1.32%
	Apogem (Russell 3000 Quarter Lag + 2%)	1.65%	\$ 104,111,715	1.67%
Total Private Equity		11.00%	\$ 789,345,710	12.65%
TOTAL EQUITY (Public Equity + Private Equity)		47.00%	\$ 3,107,054,914	49.80%
FIXED INCOME & ABSOLUTE RETURN				
Fixed Income				
Cash				
		1.00%	\$ 59,219,418	0.95%
Passive Fixed Income	BlackRock (Bloomberg US Government)	8.00%	\$ 474,567,479	7.61%
	BlackRock (Bloomberg US Aggregate)	0.00%	\$ 70,083,823	1.12%
	Sub-Total Passive Fixed Income	8.00%	\$ 544,651,302	8.73%
Active Fixed Income	Reams (Bloomberg US Aggregate)	14.20%	\$ 817,500,687	13.10%
	Loomis Sayles (Bloomberg US Aggregate)	8.81%	\$ 526,837,212	8.44%
	Sub-Total Active Fixed Income	23.00%	\$ 1,344,337,899	21.55%
Total Fixed Income		32.00%	\$ 1,948,208,618	31.23%
Absolute Return				
	Aptitude (SOFR + 4%)	3.86%	\$ 205,502,118	3.29%
	UBS (SOFR + 4%)	5.14%	\$ 291,466,423	4.67%
Total Absolute Return		9.00%	\$ 496,968,541	7.97%
TOTAL FIXED INCOME & ABSOLUTE RETURN		41.00%	\$ 2,445,177,160	39.19%
REAL ASSETS				
Private Real Estate - Core	JP Morgan (NFI-ODCE)	2.24%	\$ 90,015,402	1.44%
	Morgan Stanley (NFI-ODCE)	2.42%	\$ 147,388,974	2.36%
	LaSalle (NFI-ODCE)	2.06%	\$ 109,004,859	1.75%
	Prologis (NFI-ODCE)	1.17%	\$ 82,493,429	1.32%
	Harrison Street (NFI-ODCE)	0.81%	\$ 49,691,590	0.80%
	Sub-Total Private Real Estate - Core	8.70%	\$ 478,594,254	7.67%
Private Real Estate - Non-Core	Non-Core Real Estate (NFI-ODCE)	0.00%	\$ 8,634,520	0.14%
Public Real Assets	Principal (Blended Benchmark)	3.30%	\$ 199,279,331	3.19%
TOTAL REAL ASSETS		12.00%	\$ 686,508,105	11.00%
TOTAL ERS			\$ 6,238,740,178	100.00%
Total City Reserve Fund			R. W. Baird	92,574,322

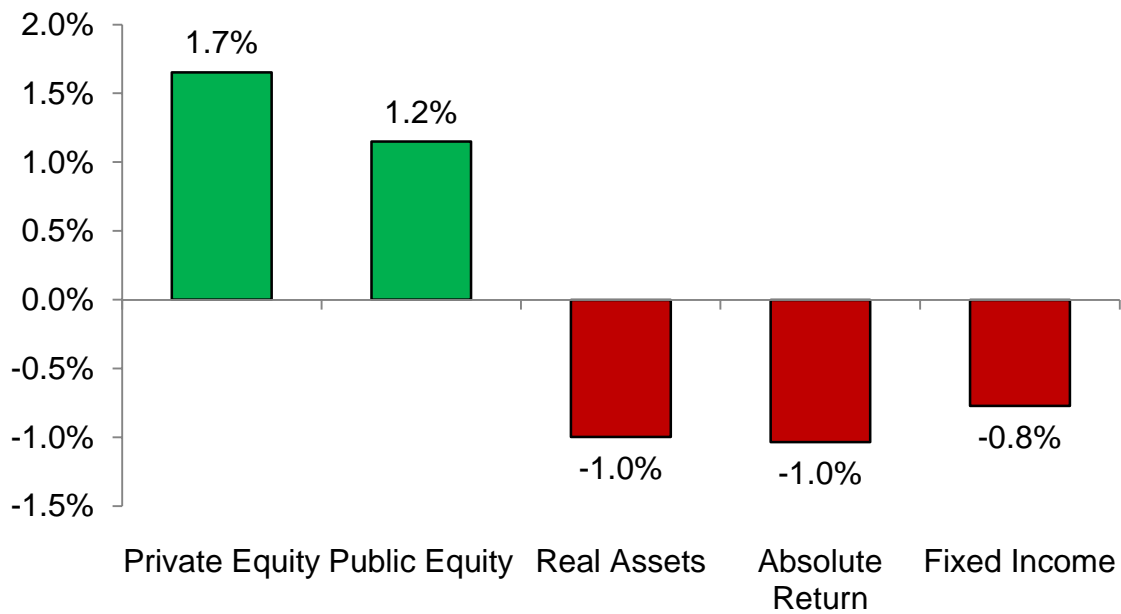
*Remaining value in this account is primarily recoverable taxes

PROJECTED VERSUS POLICY ALLOCATIONS

Asset Mix Using Projected Balances



Asset Allocation vs. Current Policy Benchmark



YTD Market Value Change

December 31, 2024 Market Value including City Reserve & PABF Accounts			\$ 5,946,620,135
Monthly Cash Outflows thru	<u>August 28, 2025</u>		
Retiree Payroll Expense		\$ (325,684,688)	
PABF Payroll Expense		\$ -	
Expenses Paid		\$ (11,766,553)	
GPS Benefit Payments		\$ (3,559,841)	
Sub-Total Monthly Cash Outflows			\$ (341,011,083)
Monthly Cash Inflows thru	<u>August 28, 2025</u>		
Contributions		\$ 237,335,291	
PABF Contribution		\$ -	
Sub-Total Monthly Contributions			\$ 237,335,291
Capital Market Gain/(Loss)			<u>\$ 488,370,157</u>
Value including City Reserve & PABF Accounts as of	<u>August 28, 2025</u>		<u>\$ 6,331,314,500</u>
Less City Reserve Account ¹			\$ 92,574,322
Less PABF Fund ²			\$ 2,536
Net Projected ERS Fund Value as of	<u>August 28, 2025</u>		<u><u>\$ 6,238,737,642</u></u>

1 The City Reserve Account balance equals the market value currently held in the Baird account.

2 PABF Fund balance equals the market value currently held in the PABF account.

2025 ESTIMATED MONTHLY CASH FLOWS

Revised 8/29/2025

(in 000's)

	12/31/2024	1/31/2025	2/28/2025	3/31/2025	4/30/2025	5/31/2025	6/30/2025	7/31/2025	8/31/2025	9/30/2025	10/31/2025	11/30/2025	
<u>Beginning Cash Account Balance</u>													
Townsend Cash Account	-	-	-	-	-	-	-	-					
Cash Contribution Account	-	-	-	-	-	-	-	-					
Milwaukee Cash Account	34,353	195,240	158,015	139,991	81,748	62,220	65,729	81,752					
Total Cash Available	34,353	195,240	158,015	139,991	81,748	62,220	65,729	81,752					
Less: Estimated Cash Needs for non-Investment Outflows	41,500	41,500	41,500	41,500	41,500	41,500	41,500	41,500					
Cash Available for Other Outflows	(7,147)	153,740	116,515	98,491	40,248	20,720	24,229	40,252					
<u>For Monthly Cash Outflows of:</u>													
Retiree Payroll Expense	(40,813)	(40,842)	(41,260)	(41,092)	(40,778)	(41,898)	(41,501)	(42,021)	(41,936)	(42,039)	(42,143)	(42,247)	(498,571)
Normal Retirement Payroll	(40,298)	(40,408)	(40,619)	(40,804)	(40,334)	(41,643)	(41,207)	(41,332)	(41,436)	(41,539)	(41,643)	(41,747)	(493,011)
Retiree Lump Sum Payments	(516)	(434)	(641)	(288)	(444)	(255)	(294)	(689)	(500)	(500)	(500)	(500)	(5,560)
Real Estate Capital Calls	(12,520)	-	-	-	-	-	-	-	-	-	-	-	(12,520)
Private Equity Capital Calls	(8,340)	(15,113)	(4,839)	(849)	(5,140)	(17,398)	(927)	(12,787)	(3,150)	-	-	-	(68,541)
Expenses Paid through City	(2,044)	(700)	(1,907)	(986)	(1,896)	(1,791)	(845)	(1,598)	(2,044)	(2,044)	(2,044)	(2,044)	(19,943)
PABF Payroll	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total Monthly Cash Outflows	(63,717)	(56,655)	(48,005)	(42,927)	(47,814)	(61,086)	(43,273)	(56,406)	(47,130)	(44,083)	(44,187)	(44,291)	(599,574)
<u>For Monthly Cash Inflows:</u>													
Sponsoring Agency and Employee Contribution	3,917	2,634	2,602	2,595	2,570	3,159	3,307	2,590	2,596	2,603	2,609	2,616	33,799
Real Estate Distributions	5,561	-	61	5,841	158	143	5,565	110	-	-	-	-	17,440
Private Equity Distributions	4,384	4,931	8,995	2,632	7,311	11,950	4,009	7,290	-	-	-	-	51,503
Miscellaneous Income	219	865	616	615	447	409	276	378	400	400	400	400	5,424
Security Lending Transfer	920	-	-	-	-	-	-	-	-	-	-	-	920
City and Agency Required Contribution	209,603	-	706	-	-	-	3,903	-	-	-	-	-	214,212
PABF Inflow	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total Monthly Cash Inflows	224,603	8,430	12,980	11,684	10,486	15,661	17,061	10,367	2,996	3,003	3,009	3,016	323,298
Net Monthly Cash Inflows/(Outflows) Before Withdrawals	160,887	(48,225)	(35,025)	(31,243)	(37,328)	(45,425)	(26,212)	(46,038)	(44,134)	(41,081)	(41,178)	(41,276)	(276,277)
Net Monthly Cash Surplus (Need)	153,740	105,515	81,491	67,248	2,920	(24,705)	(1,983)	(5,786)	(44,134)	(41,081)	(41,178)	(41,276)	210,772
<u>Monthly Cash Withdrawals (Additions)</u>													
AQR					5,500	3,800		3,800					
BlackRock Global Alpha Tilts					18,100	10,000	8,900	6,200					
BlackRock Russell 1000 Value Index					13,800			5,000					
BlackRock US Government Bond Index				(38,000)									
Blackrock US Aggregate Index Fund					(68,000)								
Brandes		11,000	11,000	13,000			10,900	10,800					
Dimensional Fund Advisors US Large Cap					9,900			3,600					
Dimensional Fund Advisors International			6,000	10,000	15,800		6,000	6,000					
Dimensional Fund Advisors US Small Cap					6,200			6,900					
Earnest								4,600					
Loomis Sayles					(11,000)								
MFS					7,100								
Northern Trust S&P 500 Index					14,100		7,200	7,200					
Polen					8,200		4,100	2,800					
Principal													
Reams				(30,000)									
Transition Account						25,103	142	(0)					
UBS A&Q													
Goldman/Aptitude													
William Blair				18,000		232	93	25					
Sub-Total Monthly Cash Withdrawals	-	11,000	17,000	(27,000)	41,400	39,134	37,335	56,925					
<u>Estimated Month-End Cash Balance</u>													
Cash Available	153,740	116,515	98,491	40,248	44,320	14,429	35,352	51,139					
Estimated Cash Needs for non-Investment Outflows	41,500	41,500	41,500	41,500	41,500	41,500	41,500	41,500					
Total Cash Estimated on Hand For Next Month	195,240	158,015	139,991	81,748	85,820	55,929	76,852	92,639					


Adjusted Quarterly Cost Basis of Equity June 30, 2025

Date	Market Value of Total Fund	Equity as Percent of Portfolio on a Market Value Basis %	Cost Value of Total Fund	Equity as Percent of Portfolio on Cost Basis %
Jun-18	5,364,526,404	52.8%	4,508,052,439	47.2%
Sep-18	5,416,752,057	53.2%	4,475,388,278	47.5%
Dec-18	4,952,685,618	50.7%	4,457,976,536	48.9%
Mar-19	5,287,164,709	52.5%	4,458,818,165	48.5%
Jun-19	5,368,388,543	52.2%	4,439,503,880	48.5%
Sep-19	5,336,312,140	51.6%	4,409,684,126	48.6%
Dec-19	5,525,553,595	53.1%	4,370,713,537	48.7%
Mar-20	4,532,932,039	47.6%	4,421,955,418	47.5%
Jun-20	4,904,369,177	52.6%	4,216,408,115	50.3%
Sep-20	5,077,501,527	52.0%	4,228,679,409	49.0%
Dec-20	5,531,306,606	53.5%	4,270,905,026	47.9%
Mar-21	5,693,916,321	53.5%	4,338,199,305	46.1%
Jun-21	6,012,966,775	52.3%	4,337,113,221	45.0%
Sep-21	6,026,295,778	48.4%	4,378,190,704	42.2%
Dec-21	6,218,053,813	47.6%	4,473,429,725	41.0%
Mar-22	6,156,069,941	46.5%	4,642,000,891	41.1%
Jun-22	5,633,734,690	44.6%	4,548,655,130	43.9%
Sep-22	5,276,131,314	43.7%	4,538,899,040	44.8%
Dec-22	5,469,372,844	46.0%	4,476,020,934	44.5%
Mar-23	5,644,257,058	47.6%	4,501,213,423	44.4%
Jun-23	5,654,571,235	43.9%	4,551,510,198	39.4%
Sep-23	5,471,790,350	40.0%	4,563,372,935	35.9%
Dec-23	5,712,163,552	42.7%	4,524,515,830	36.6%
Mar-24	5,968,654,087	42.9%	4,668,405,133	35.6%
Jun-24	5,895,564,025	42.3%	4,634,369,429	35.6%
Sep-24	6,063,026,517	42.4%	4,630,995,120	34.7%
Dec-24	5,857,172,026	41.8%	4,603,392,549	35.3%
Mar-25	6,023,115,111	40.5%	4,762,571,210	34.2%
Jun-25	6,180,171,693	39.7%	4,811,461,076	32.7%

Class Action Income 2025 YTD

Asset Description	Date(s)	Amount
McKesson Corp.	1/10/2025 \$	15,220
Tactile Systems Technology, Inc.	1/21/2025 \$	1,576
General Motors Company	1/28/2025 \$	355
Fifth Third Bancorp	2/5/2025 \$	13,004
Valeant Pharmaceuticals Int'l	2/6/2025 \$	20,849
Mohawk Industries, Inc.	2/21/2025 \$	6,948
Fluor Corp.	3/24/2025 \$	283
Viacom, Inc.	3/27/2025 \$	1,943
American Realty Capital	4/2/2025 \$	201
LIBOR-Based Financial Instruments	4/11/2025 \$	70
Petroleo Brasileiro SA	4/28/2025 \$	4,950
Santander Consumer	4/29/2025 \$	14,601
Boston Scientific Corp.	5/2/2025 \$	4,493
Kraft Heinz Co.	5/19/2025 \$	7,102
Benefitfocus, Inc.	6/3/2025 \$	75
Nissan Motor Co.	6/5/2025 \$	2,287
Magnachip Semiconductor Corp.	7/1/2025 \$	14,976
Foreign Exchange Qualified Settlement Fund	7/10/2025 \$	507
Cardinal Health, Inc.	7/16/2025 \$	935
Bank of America Corp.	7/22/2025 \$	413
Wells Fargo & Company	7/24/2025 \$	262
Total Class Action Income Received in 2025 YTD	\$	111,049

June 30, 2025



City of Milwaukee Employees' Retirement System

**Investment Measurement Service
Quarterly Review**

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June 30, 2025

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Little Impact So Far From Tariff Rollout

ECONOMY

2 The data for 2Q (and revised data for 1Q) shows little evidence of the impact of the Trump administration's tariff policy. That's not surprising, given the constant revisions to its policy, but not likely to remain true as the scope of them is finalized.

Agg Up 1.2% as the Fed Holds Steady

FIXED INCOME

8 Despite the rise in long-term rates, the Bloomberg US Aggregate Bond Index rose 1.2%, supported by the rate declines between one- and seven-year maturities. Corporate credit spreads widened sharply. Global hedged bonds also rose.

Asset Class Tops Fixed Income Again

PRIVATE CREDIT

12 Private credit delivered another quarter of strong performance, extending its long-term track record of outpacing public credit markets. Yet the asset class continues to face competition from broadly syndicated loans, especially for larger deals, as well as fundraising headwinds.

Investor Types Gain; Still Lag Benchmark

INSTITUTIONAL INVESTORS

4 Almost all investor types came close to matching a 60% stocks/40% bonds benchmark in 2Q25, but stellar U.S. and global ex-U.S. stock returns made that challenging. The administration's tariff policy was the top macroeconomic issue for institutional investors this quarter—by far.

Real Estate Sectors Start to Stabilize

REAL ESTATE/REAL ASSETS

10 Private real estate saw gains in 2Q25, but REITs struggled compared to equities. Transaction activity ticked higher, and dry power exceeds \$230 billion in North America. But debt markets for real estate are challenging and the Office sector continues to struggle.

Equity Hedge Strategies Lead

HEDGE FUNDS/MACs

13 Hedge funds ended 2Q25 higher, as equity hedge strategies drove performance, with gains coming from sector-focused strategies in Technology and Industrials. The median manager in the Callan Institutional Hedge Fund Peer Group rose 2.1%.

U.S. Stocks Reverse Losses of 1Q25

EQUITY

6 The S&P 500 gained 10.9% in 2Q25, with large cap performing best. Growth topped value across the market cap spectrum, reversing the 1Q25 pattern. Global ex-U.S. markets saw a modest edge over U.S. markets in 2Q. Growth also topped value as markets favored risk.

Activity Perks Up in 1Q25, but Risks Loom

PRIVATE EQUITY

11 Private equity returns in 1Q25 outperformed public equity for the first time in six quarters. The quarter was fueled by greater investor optimism in anticipation of a more favorable deal and exit environment in 2025. This enthusiasm was soon stifled by macroeconomic uncertainty.

DC Index Starts Year With a 1.5% Loss

DEFINED CONTRIBUTION

15 The Callan DC Index™ lost 1.5% in 1Q25, which brought the Index's trailing one-year return to 5.6%. Balances fell by 1.9% after a decline in the previous quarter. Turnover (i.e., net transfer activity levels within DC plans) increased to 0.27% from the previous quarter's 0.11%.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000

11.0%

Global ex-U.S. Equity
MSCI ACWI ex USA

12.0%

U.S. Fixed Income
Bloomberg Agg

1.2%

Global ex-U.S. Fixed Income
Bloomberg Global Agg ex US

7.3%

Sources: Bloomberg, FTSE Russell, MSCI

Wait for It ... Little Impact So Far From Tariffs

ECONOMY | Jay Kloepfer

2Q25 was certainly eventful from a policy and capital markets perspective, but the U.S. economy continued to sail on with strong growth, notching a gain of 3% (annual rate), 1% higher than consensus. As we pore over the data for 2Q (and revised data for 1Q), we are hard-pressed to find evidence of the impact of the Trump administration's tariff policy.

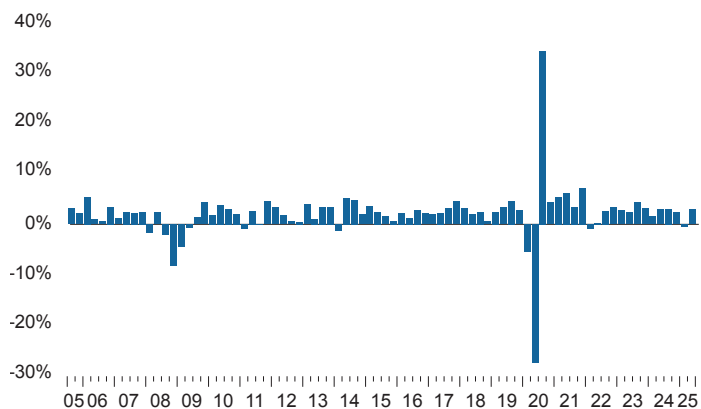
Given the constant revisions to tariff rates, to the sectors and countries to which they will be applied, and to their timing, that is not surprising. Investor and consumer sentiment has been both hammered and elated, sometimes within the same week, even the same day, and we saw tremendous volatility in the public stock and bond markets as the second quarter evolved. The stock market legged down in 1Q and the bottom dropped out the first weeks of April, as investors feared a trade war and recession. Intensifying war in Gaza and Ukraine added to the anxiety. The bond market exercised its muscle in response to the policy announcements, with a sell-off and rising interest rates. The power of the bond market to penalize what it perceives to be adverse government policy should not be underestimated. Countless presidents and members of Congress have learned this lesson the hard way over post-WWII history.

By the end of June, the S&P 500 had rebounded from its 4.3% loss in 1Q to show a 10.9% 2Q gain. Investors have indicated that while they are ultimately sensitive to tariff policy, they are willing to look past the variable implementation of 2Q, and their behavior may indicate a belief that trade accommodations will be reached eventually. The global ex-U.S. equity markets showed their long-dormant potential to diversify U.S. equities in 2025, with the MSCI ACWI ex-USA Index posting a gain of 5.2% in 1Q and 12% in 2Q. The challenge for investors is how tariff policy, economic growth, and inflation will interact, and how the Federal Reserve will respond via interest rate policy.

Fed Chairman Jerome Powell has stated the Fed would likely have cut interest rates by June this year if not for the uncertainty of

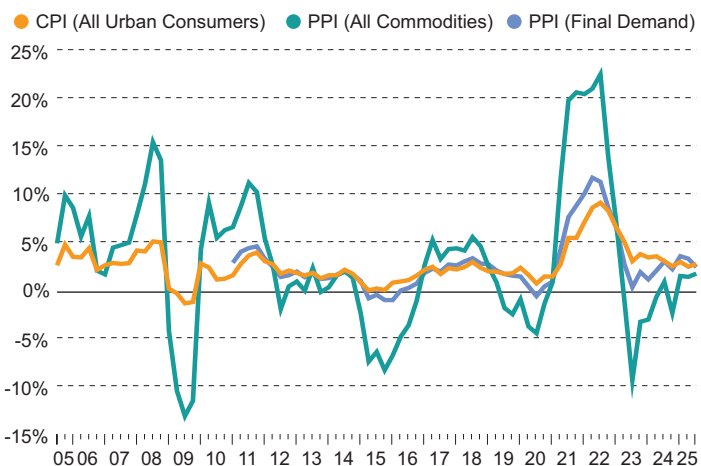
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

tariff policy. Inflation came in at 2.9% in June, an uptick from 2.7% in March, but evidence of tariffs on prices is hard to discern at this point. Shelter costs dominate in the upward pressure on prices, while energy has been a strong downward influence over the past year. New auto prices showed a 5% uptick, and select industrial machinery and electronics showed annual price gains in the 3% to 10% range, but none of these stand out as substantial drivers. The changes in the timing and rates for tariffs may have delayed the impact, but the tariff agreements announced since the end of

2Q will soon push up prices for these imported goods; consumers' response to higher prices will determine the real impact as they reduce purchases or substitute away from the tariffed goods.

The strength in the U.S. economy through June surprised nearly everyone and seems to counter the case for lower interest rates, even with the tariff uncertainty. Consumption, which makes up 70% of GDP, dipped to a growth rate of 0.4% in 1Q, but climbed back to 1.4% in 2Q. Companies built inventories like mad in 4Q24 and 1Q25, which gave a boost to GDP, while inventories were drawn down in 2Q, reducing both potential production and measured GDP. Consumer confidence has rebounded after a drop in March and April and has been supported by a continuing low unemployment rate (4.1%), real wage growth (inflationary but good for household incomes), and no signs yet of a feared spike in inflation.

Businesses and investors, however, loathe uncertainty, especially when it comes to capital investment. At the moment, there is great value to sitting tight and waiting for policy to unfold rather than moving forward and stranding assets with the wrong call on tariffs (either rates, countries, or sectors), or on inflation. Sitting tight will eventually weigh on economic growth.

One continuing point of confusion is the role of imports in GDP. The common misconception is that imports are a negative in the calculation of GDP, and that a reduction in imports reduces a negative number and therefore contributes to GDP growth. Imports do *not* contribute to GDP. Gross *Domestic* Product measures the collective production within a country. Imported goods and services are not produced with the domestic economy and cannot add to GDP directly.

Recent Quarterly Economic Indicators

	2Q25	1Q25	4Q24	3Q24	2Q24	1Q24
Employment Cost: Total Compensation Growth	3.6%	3.6%	3.8%	3.9%	4.1%	4.2%
Nonfarm Business: Productivity Growth	2.4%	-1.8%	1.7%	2.9%	2.1%	1.6%
GDP Growth	3.0%	-0.5%	2.4%	3.1%	3.0%	1.6%
Manufacturing Capacity Utilization	76.8%	76.6%	76.2%	76.7%	77.1%	77.1%
Consumer Sentiment Index (1966=100)	55.0	64.5	72.1	68.1	71.1	78.4

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

The Long-Term View

Index	2Q25	Periods Ended 6/30/25			
		1 Yr	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	11.0	15.3	16.0	13.0	8.0
S&P 500	10.9	15.2	16.6	13.6	8.0
Russell 2000	8.5	7.7	10.0	7.1	7.3
Global ex-U.S. Equity					
MSCI EAFE	11.8	17.7	11.2	6.5	4.5
MSCI ACWI ex USA	12.0	17.7	10.1	6.1	--
MSCI Emerging Markets	12.0	15.3	6.8	4.8	--
MSCI ACWI ex USA Small Cap	16.9	18.3	10.7	6.5	7.0
Fixed Income					
Bloomberg Agg	1.2	6.1	-0.7	1.8	3.9
90-Day T-Bill	1.0	4.7	2.8	2.0	1.9
Bloomberg Long G/C	-0.2	3.3	-4.9	1.8	5.2
Bloomberg GI Agg ex US	7.3	11.2	-1.6	0.6	2.9
Real Estate					
NCREIF Property	1.2	4.2	3.7	5.2	7.5
FTSE Nareit Equity	-1.2	8.6	8.6	6.3	9.3
Alternatives					
Cambridge PE*	1.7	6.3	15.7	13.1	10.4
Cambridge Senior Debt*	2.7	6.1	8.7	7.7	4.6
HFRI Fund Weighted	4.3	8.4	8.6	5.4	5.5
Bloomberg Commodity	-3.1	5.8	12.7	2.0	1.7
Inflation – CPI-U	0.9	2.7	4.6	3.1	2.5

*Data for most recent period lags. Data as of 1Q25.

Sources: Bloomberg, Bureau of Economic Analysis, FTSE Russell, Hedge Fund Research, MSCI, NCREIF, Refinitiv/Cambridge, S&P Dow Jones Indices

Imports can and do affect GDP indirectly, which is what tariff policy is intended to address. The choice to import a car does not contribute to GDP in the quarter of purchase. But the choice to import likely means that a domestic car was not purchased, so the import indirectly led to a decline in GDP.

Investor Types Show Gains but Still Lag Benchmark

INSTITUTIONAL INVESTORS

Investor Performance

- Almost all investor types came close to matching a 60% stocks/40% bonds benchmark in 2Q25, but stellar U.S. and global ex-U.S. equity returns made that challenging.
- Corporate defined benefit (DB) plans were the laggard, not surprising given their heavy allocations to fixed income.
- Over the 3, 5, 10, and 20 years ending 6/30/25, the divergence between investor performance and the benchmark widens, with the stocks/bonds benchmark approximately 1 percentage point higher over the last 20 years.
- The Callan Age 45 TDF performed better, consistently topping the benchmark except over the last 10 years.

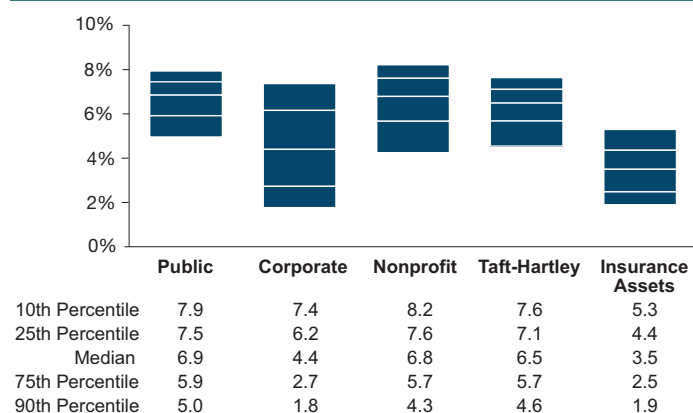
Macroeconomic Issues

Elevated volatility follows “Liberation Day”

- President Trump’s tariffs, first announced in early April, have been started and stopped and started
- Immediate market reaction was negative, but stocks and bonds have both rebounded.
- From April 4 through April 12 the S&P 500 index moved at least 4.9% each intra-day (longest since COVID).
- The S&P 500 was down ~8% through April 15.
- The market is up over 20% from the April 21 trough.

Quarterly Returns, Callan Database Groups

(6/30/25)



Source: Callan

The Fed held rates steady at 4.25%—again

- Signaled a cautious approach—again
- The Fed’s decision to maintain the status quo in 2Q25 sets the stage for potential policy adjustments in the latter half of the year, as more clarity emerges regarding the economic outlook and the impact of tariffs.

Modest move in the yield curve

- Short end unchanged
- Belly of the curve down 10 – 20 bps
- Long end up ~20 bps

Callan Database Median and Index Returns* for Periods Ended 6/30/25

Database Group	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Public Database	6.9	11.3	10.2	9.3	7.8	7.2
Corporate Database	4.4	8.8	6.8	4.7	5.8	6.4
Nonprofit Database	6.8	11.4	10.7	9.4	7.4	7.1
Taft-Hartley Database	6.5	10.5	9.4	8.9	7.4	7.0
Insurance Assets Database	3.5	8.4	6.6	4.2	4.3	4.6
All Institutional Investors	6.3	10.8	9.7	8.7	7.2	7.0
Large (>\$1 billion)	5.7	10.3	8.9	9.1	7.5	7.2
Medium (\$100mm - \$1bn)	6.6	10.8	9.8	8.8	7.3	7.1
Small (<\$100 million)	6.7	11.0	10.4	8.6	7.1	6.7
60% S&P 500/40% Bloomberg Agg	7.1	11.7	12.7	9.6	9.1	8.0

*Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, insurance assets, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

- 10-year yield of 4.23% and 30-day yield of 4.22% essentially the same
- Is there a point to taking 10 years' worth of risk to earn what you can over the next month?

Equity and fixed income performance up in 2Q25

- S&P 500: +10.9% for 2Q25, +6.2% YTD
- Bloomberg Aggregate: +1.2% for 2Q, +4.0% YTD

Other key issues included:

- China, including ex-China strategies
- The end of American exceptionalism?

Our exclusive Callan Consultant Survey polls our clients for their ranking of topical issues. This quarter we found:

- Geopolitical uncertainty led the list, not surprising given the backdrop of issues facing the world.
- Firm culture after COVID was last, possibly a function of the pandemic's impact diminishing even as the financial industry wrestles with return-to-office mandates.
- The Federal Reserve and its future became of greater concern than it was in 4Q24.
- AI interest has bounced up and down over the last several quarters.

Public DB Plans

Significant new issues for public DB plans included:

- Portfolio resilience and 2025 returns
- Tariffs and their implications
- Private markets and the lack of distributions

Corporate DB Plans

Significant new issues for corporate DB plans included:

- Managing funded status
- De-risking and even re-risking

DC Plans

Sponsors are trying to address managed accounts and have put a renewed emphasis on their fiduciary process. Other key issues included:

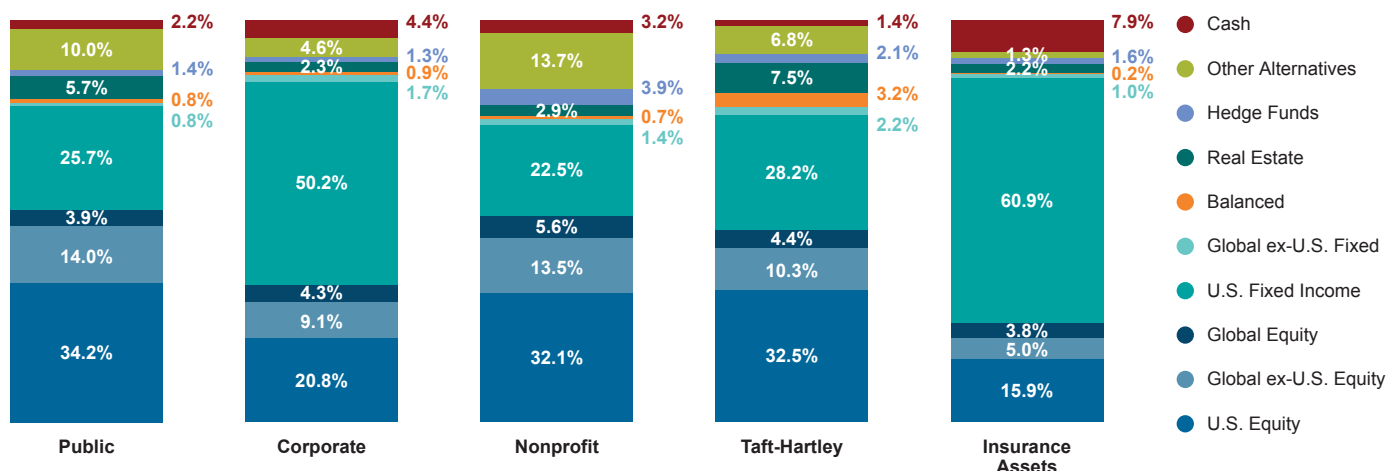
- Alternatives in target date funds
- The fiduciary process
- Managed accounts
- And, as always, fees

Nonprofits

Nonprofits focused on these significant new issues:

- The new administration's focus on DEI
- Increasing yield in the operating portfolio
- Issues with custodians
- Number of investment professionals (enough? too many?)
- Market volatility impact on projected returns

Average Asset Allocation, Callan Database Groups



Note: Charts may not sum to 100% due to rounding. Other alternatives include but is not limited to: diversified multi-asset, private credit, private equity, and real assets.
Source: Callan

Equity

U.S. Equities

Reversal of fortune leads to gains

- The U.S. equity market reversed 1Q25 losses in 2Q25 as the S&P 500 Index gained 10.9%, driven by a pause in tariff implementation, continued earnings growth, and stronger than expected economic indicators.
- Technology, Communication Services, Consumer Discretionary, and Industrials all gained over 10% during the quarter; Energy and Health Care performed the worst.
- Market cap performance was monotonic, with large cap performing best followed by mid-cap and then small cap.
- Growth outperformed value across the market cap spectrum, reversing the 1Q25 pattern and returning to the long-term trend of growth outperformance.
- Strong results in 2Q25 offset poor results in 1Q25, leading to gains of 6.2% YTD for the S&P 500.

Small cap weight in Russell 3000 at 25-year low

- NVIDIA's market cap (~\$3.8 trillion) equals 126% of the entire Russell 2000.
- Only ~28% of Russell 2000 stocks are outperforming the S&P 500 aggregate return YTD (lowest since 1998).

Large cap and growth trading at ever-larger premiums

- Russell 2000 Index trading at meaningful forward P/E discount (17.8x) vs. large caps (22.3x for S&P 500) even when negative and non-earners are screened out.
- Russell 1000 Growth trades at 30.1x forward P/E vs. 17.2x for Russell 1000 Value; the -57% discount for value is nearly 2x the -30% long-term average

Market multiples elevated

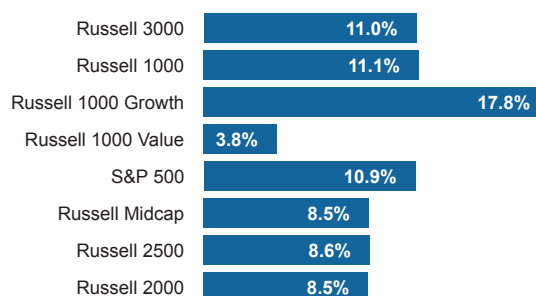
- Wide valuation dispersion persists across size and style segments.
- Equal-weighted and mid- and small cap indices trade near long-term relative lows.

Global Equities

Modest edge for global ex-U.S. markets

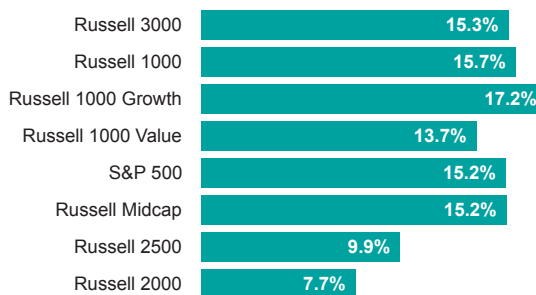
U.S. Equity: Quarterly Returns

(6/30/25)



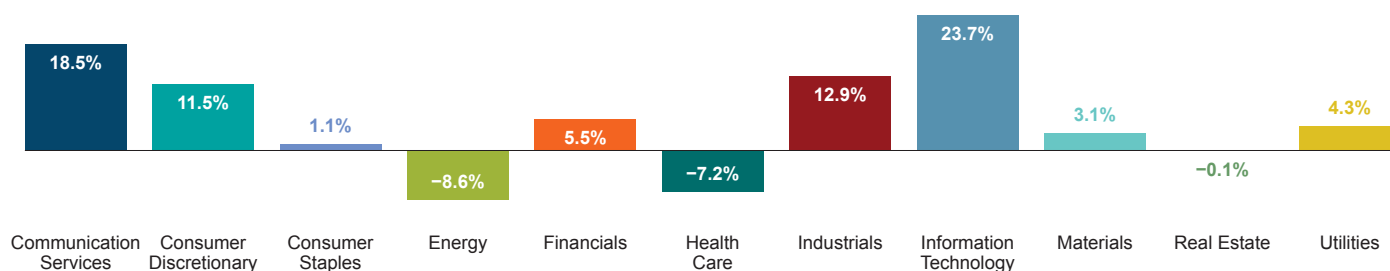
U.S. Equity: One-Year Returns

(6/30/25)



Sources: FTSE Russell and S&P Dow Jones Indices

Quarterly Performance of Industry Sectors (6/30/25)



Source: S&P Dow Jones Indices

Broad market

- Global ex-U.S. equities outperformed the U.S. Both had strong absolute results as tariff concerns subsided and Technology stocks led the market rally.

Emerging markets

- Emerging markets rose 12%, supported by a weaker U.S. dollar and strong gains in Tech and Industrials; year-to-date returns (MSCI Emerging Markets: +15.3%) are more than double those of the S&P 500.
- India gained 9%, though investor caution is rising due to high valuations and slowing earnings after a multi-year rally.
- China underperformed, up only 2%, with modest gains offset by weakness in Consumer Discretionary stocks.

Growth vs. value

- Growth outperformed value as markets favored risk, with high-volatility stocks leading the way. Technology was a standout, while quality lagged and Energy declined due to lower oil prices.

U.S. dollar

- The U.S. dollar posted one of its worst starts to a year since 1973, falling about 10% year to date amid trade tensions, Fed policy-easing expectations, fiscal concerns, and global efforts to reduce dollar reliance.

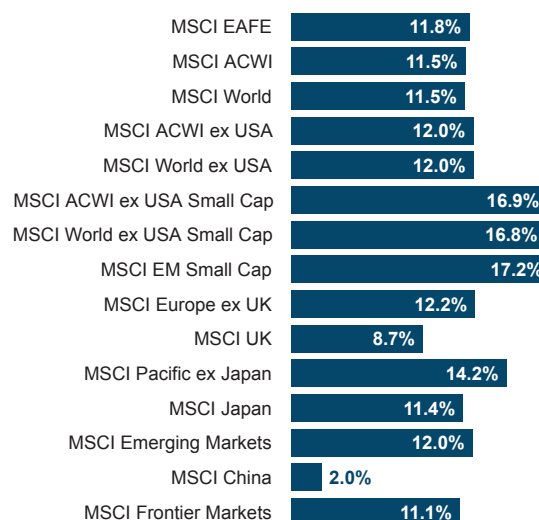
U.S. dollar trends

- The U.S. dollar has historically moved in long bull and bear cycles, with the most recent complete bear cycle occurring from 2002-08.
- Since 1970, bear cycles have averaged 6.4 years while declining 40.8%.
- After a long cycle of dollar strength and U.S equity dominance, a sustained weakening of the dollar could provide global ex-U.S equities with a tailwind toward relative outperformance vs. U.S. equities.

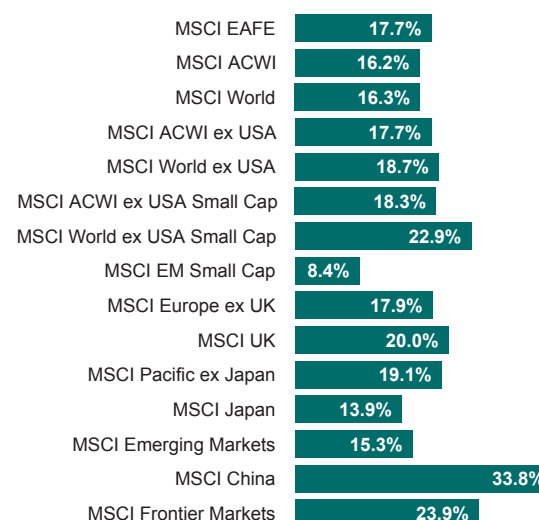
Factor volatility has increased

- Since 2020, volatility among factors has increased dramatically.
- Value has generally outperformed growth while quality exposure has been a headwind.
- The momentum factor has performed strongly in recent years as high beta growth stocks and deep value stocks have taken turns leading the market.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar, 6/30/25)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar, 6/30/25)



Source: MSCI

Fixed Income

U.S. Fixed Income

With Fed on hold, yield curve steepens

- The Fed held rates steady at both meetings during the quarter, citing persistent inflation and economic uncertainty.
- U.S. Treasury yields were mixed, with intermediate rates declining while yields at the long end moved higher.
- The yield curve steepened, with the 2s/10s spread-widening as much as 67 bps—the steepest level since the curve first inverted in 2022—before ending at 52 bps.

Performance and drivers

- Despite the rise in long-term rates, the Bloomberg US Aggregate Bond Index rose 1.2%, supported by the rate declines between one- and seven-year maturities.
- IG corporates outperformed Treasuries on a duration-adjusted basis amid modestly tighter spreads; securitized also outperformed, though by a smaller margin.
- HY and bank loans delivered the strongest returns as non-investment grade spreads tightened, though dispersion across quality tiers was relatively modest.

Valuations

- Corporate credit spreads widened sharply following Liberation Day but retraced in the second half, ending below 1Q levels.
- New issuance slowed from 1Q, but volumes remained healthy with \$396 billion in IG and \$73 billion in HY, contributing to strong YTD totals.

Municipal Bonds

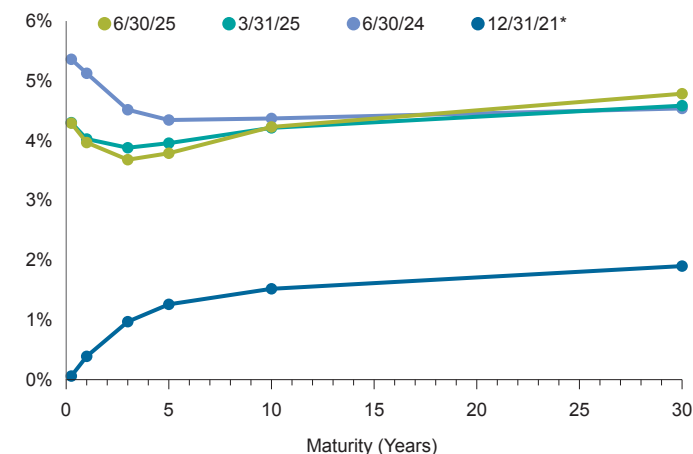
Muni yield curves steepened meaningfully

- Short yields fell up to 20 bps and the long end rose 25-30 bps within the AAA muni yield curve.
- The spread between AAA 2-year bonds and 10-year bonds widened to 191 bps from 161 bps as of 1Q25.

Sustained heavy issuance

- YTD issuance totaled \$281 billion, on pace to beat 2024, which was a record year.

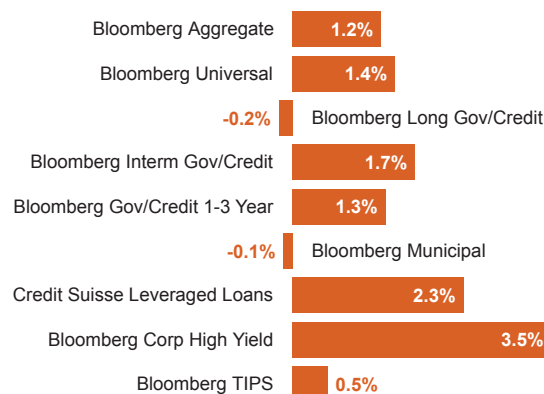
U.S. Treasury Yield Curves



Source: Bloomberg
* Last non-inverted yield curve.

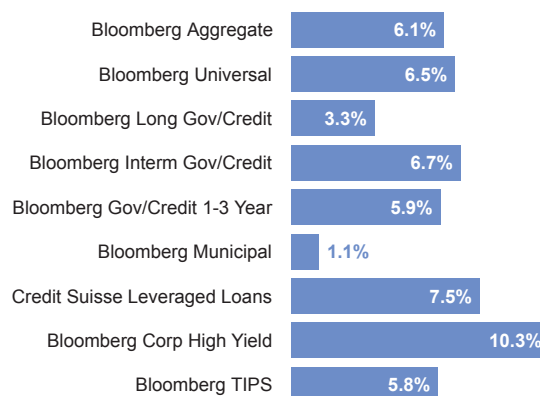
U.S. Fixed Income: Quarterly Returns

(6/30/25)



U.S. Fixed Income: One-Year Returns

(6/30/25)



Sources: Bloomberg and Credit Suisse

Municipal-to-Treasury ratios reflecting better valuations

- Ratios ended 2Q near or above historical averages, suggesting better relative value for tax-exempt buyers compared to Treasuries.
- Longer maturities were the cheapest portion of the market as the 30-year Muni/Treasury ratio ended at roughly 95%.

Global Fixed Income

U.S. dollar continues to weaken amid tariff uncertainty

Macro environment

- Global rates declined as growth expectations moved lower, while renewed U.S. tariff threats added to uncertainty.
- The ECB and BOE both cut rates, citing moderating inflation, slowing economic growth, and trade policy uncertainty as drivers of the decisions.

U.S. dollar weakened

- Major currencies strengthened against the U.S. dollar for a second consecutive quarter as the ICE U.S. Dollar Index fell 10.7% in 1H25—its worst first-half performance since a 14.8% decline in 1973.
- The Bloomberg Global Aggregate ex US Hedged Index was positive for the quarter, but the dollar weakness resulted in substantially higher returns for the Unhedged Index.

Emerging market debt delivers another strong quarter

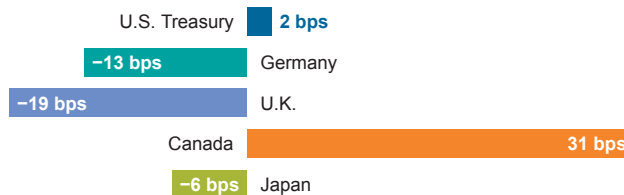
- The dollar's decline also supported emerging market debt, with the local currency-denominated JPM GBI-EM Global Diversified Index gaining 7.6%, outperforming the USD-denominated JPM EMBI Global Diversified Index.
- Sovereign spreads initially widened on tariff concerns but tightened into quarter-end, with lower-quality debt outperforming higher-quality.

Markets shrug off geopolitical noise

- Fixed income markets were resilient despite geopolitical and macro headlines, including tariffs, Moody's downgrade of the U.S., and tensions in the Middle East.
- Elevated MOVE Index volatility was short-lived, ending the quarter near multi-year lows.
- The yield curve steepened with 2s/10s moving 18 bps higher, continuing the two-year trend into more positive territory.

Change in 10-Year Global Government Bond Yields

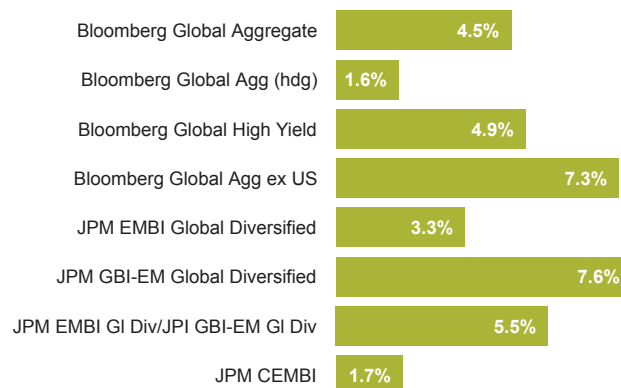
1Q25 to 2Q25



Source: Bloomberg

Global Fixed Income: Quarterly Returns

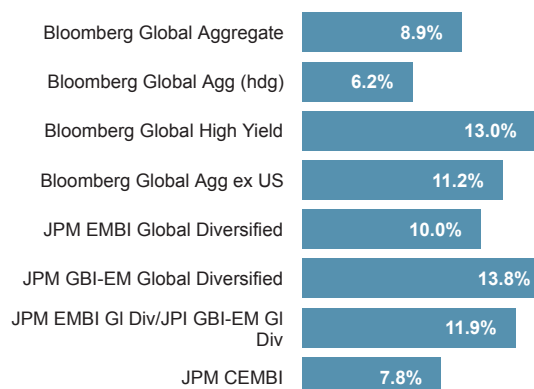
(6/30/25)



Sources: Bloomberg and JPMorgan Chase

Global Fixed Income: One-Year Returns

(6/30/25)



Sources: Bloomberg and JPMorgan Chase

Real Estate Sectors Start to Stabilize

REAL ESTATE/REAL ASSETS | Munir Iman

U.S. private real estate showed signs of early-stage recovery in 2Q25, as most property types saw appreciation returns—apart from Office and Hotel. Income returns were positive across regions and sectors, and signs of improvement in valuations and transactions hint at a market that may be emerging from a multi-year repricing cycle.

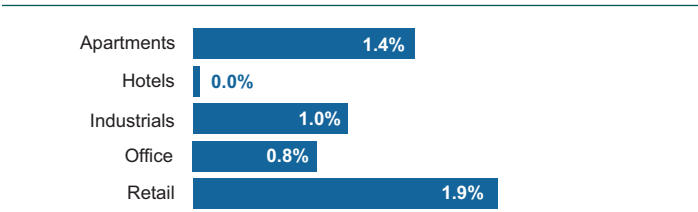
Private Real Estate | Valuations Stabilize, Activity Picks Up
The NCREIF Open-End Diversified Core Equity (ODCE) Index turned in a modestly positive quarter, and the NCREIF Property Index saw slightly higher gains, buoyed by sector appreciation outside of Office and Hotel. West region performance lagged, driven by continued repricing of industrial properties in Southern California.

Transaction activity ticked higher on a rolling four-quarter basis and showed signs of momentum despite dipping slightly quarter-over-quarter.

Redemption queues in the ODCE Index have also eased significantly. After peaking at 19.3% of NAV in 1Q24, queues declined to an average of 12.0% of NAV in 2Q25.

Dry powder for private real estate investment remains sizable, exceeding \$230 billion in North America.

Sector Quarterly Returns by Property Type (6/30/25)



Source: NCREIF

Capital Markets | Credit Headwinds Persist
Debt markets for commercial real estate remain tight. While bank issuance has increased, many borrowers face challenges securing new financing.

REITs | U.S. REITs Slip, Global REITs Lag Equities
Publicly traded real estate investment trusts (REITs) underperformed global equities in 2Q25. U.S. REITs declined 1.2% during the quarter, trailing the S&P 500 Index's 10.9% gain. Global REITs rose 4.4%, but that too lagged the broader MSCI World Index, which advanced 11.5%.

Infrastructure | Deal Activity Stable, Fundraising Slows
Global infrastructure deal value closed 2024 at \$1.1 trillion, a 15% increase year-over-year, with strong contributions from refinancing activity. Digital infrastructure and transport led the way, while the battery storage sector benefited from several large-scale projects.

Callan Database Median and Index Returns* for Periods Ended 6/30/25

Private Real Assets	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	20 Years
Real Estate ODCE Style	1.2	2.0	3.0	-5.9	3.0	4.9	5.0
NFI-ODCE (value-weighted, net)	0.8	1.7	2.7	-6.2	2.5	4.4	5.1
NCREIF Property	1.2	2.5	4.2	-2.8	3.7	5.2	6.7
NCREIF Farmland	0.3	0.4	-1.2	3.1	4.8	5.6	10.9
NCREIF Timberland	1.4	2.3	5.3	8.7	8.2	5.4	6.7
Public Real Estate							
Global Real Estate Style	4.8	6.7	11.7	5.0	6.1	5.3	6.0
FTSE EPRA Nareit Developed	3.8	9.8	18.6	6.3	8.2	6.8	--
Global ex-U.S. Real Estate Style	14.9	17.9	12.9	4.8	4.2	4.3	--
FTSE EPRA Nareit Dev ex US	15.7	19.5	18.3	3.4	2.4	1.5	--
U.S. REIT Style	-0.7	0.8	9.7	5.2	8.5	7.2	7.5
FTSE EPRA Nareit Equity REITs	-1.2	-0.3	8.6	5.3	8.6	6.3	6.7

*Returns less than one year are not annualized. Sources: Callan, FTSE Russell, NCREIF

Private Equity Activity Perks Up in 1Q25, but Risks Loom

PRIVATE EQUITY | Ashley Kahn

Fundraising ► The drought that began in 2022 has persisted into 2025. Commitments in 1Q25 remained on par with the prior year's subdued pace, and limited partners (LPs) continued to show caution in recommitting capital to the asset class.

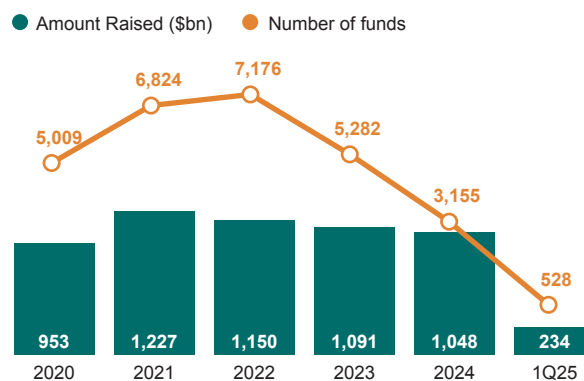
Deal Activity ► Deal volume showed momentum in 1Q25, fueled by growing optimism around potential macroeconomic policy shifts and more favorable market conditions under the new administration. This followed a similar uptick in 4Q24, suggesting a cautiously constructive tone heading into the year. However, this momentum was short-lived. In early 2Q25, the markets were roiled by Liberation Day and the resulting tariff fluctuations and uncertainty around global trade. From a longer-term perspective, overall deal activity is still above pre-pandemic levels by about a third, reflecting the broader growth of the asset class.

Buyouts ► Activity mirrored broader market trends, carrying forward late-2024 investor optimism into 1Q25. Quarterly buyout volume was pushed to a pace last seen in 2021. Valuations, however, continued to fall, with a more disciplined pricing environment driven by higher interest rates and tighter bid-ask spreads.

Venture Capital and Growth Equity ► Venture capital (VC) and growth equity deal activity surged in 1Q25, continuing an upward trend supported by investor excitement around artificial intelligence (AI).

Annual Fundraising

(3/31/25)



Source: Pitchbook

Exits ► The exit market showed tentative signs of improvement in 1Q25. Building on the nascent recovery in 4Q24, investors entered the year with hopes of a more open IPO window and active M&A environment. While conditions were better than the lows of 2023, from a longer-term perspective, exit activity remains below pre-pandemic levels. 1Q25's progress on exits soon stalled in April following tariff announcements and increased economic uncertainty.

Returns ► Private equity returns outperformed public equity in 1Q25, breaking a six-quarter stretch of underperformance. Over longer horizons, private equity continues to justify its illiquidity and risk profile; 10- and 20-year returns exceeded public equity benchmarks by roughly 1 to 2 percentage points.

Private Equity Performance (%) (Pooled Horizon IRRs through 3/31/25*)

Strategy	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
All Venture	2.0	4.8	-4.6	15.1	13.3	12.2
Growth Equity	1.6	7.8	0.5	14.8	13.1	13.2
All Buyouts	1.8	6.7	5.1	17.0	14.0	13.2
Mezzanine	2.1	8.4	8.0	12.7	10.7	11.1
Credit Opportunities	1.3	8.1	6.9	11.5	7.9	9.0
Control Distressed	-0.2	0.4	2.2	15.7	10.3	10.4
All Private Equity	1.7	6.3	2.3	15.7	13.0	12.6

Note: Private equity returns are net of fees. Sources: LSEG/Cambridge and S&P Dow Jones Indices

*Most recent data available at time of publication

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of the *Capital Markets Review* and other Callan publications.

Private Credit Holds Ground Despite Competition

PRIVATE CREDIT | Daniel Brown

Performance ► Private credit continued to outperform leveraged loans and high yield bonds over 1Q25 and across longer horizons. For the 10 years ended March 31, 2025, the asset class delivered a net internal rate of return (IRR) of 8.4%.

Spreads ► Average spreads for M&A-related institutional loans rose notably in 1Q25, climbing to 372 basis points over SOFR by March—up from 324 bps in January. Original issue discounts also widened, pushing new-issue yields on these loans to 8.6%, compared to 7.9% just two months prior. Despite this increase, overall spreads for riskier borrowers remained historically tight. Loans to B and B- rated issuers averaged spreads of 330 and 370 bps over SOFR, respectively—levels not seen since before the Global Financial Crisis.

Fundraising ► 1Q25 saw the lowest number of fund closes for any first quarter in the last seven years. Still, demand from institutional investors remained solid. Direct lending dominated new fundraises, followed by mezzanine debt.

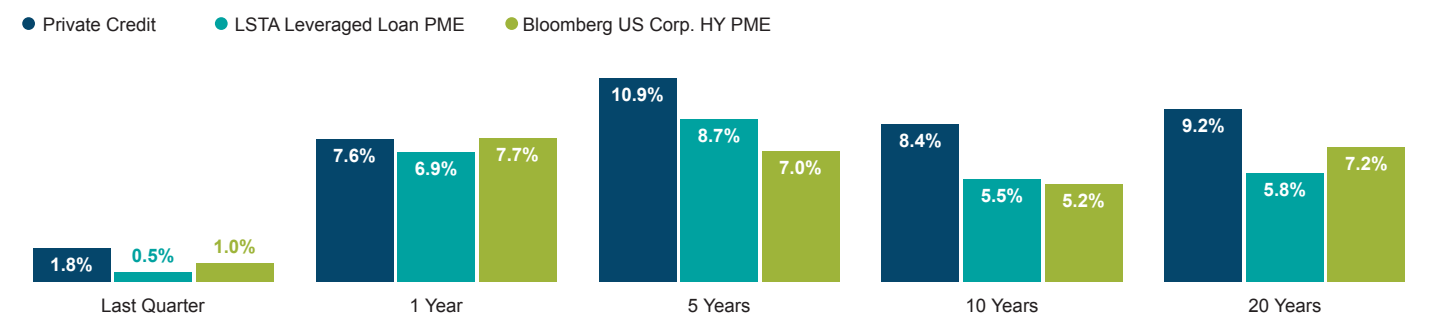
Refinancing ► The quarter saw \$8.8 billion of direct lending debt refinanced via broadly syndicated loans, the second-highest

quarterly volume in at least four years. Borrowers realized average spread savings of 260 bps in the process—an attractive tradeoff in a volatile environment. This dynamic underscores a growing challenge for private lenders. As large syndicated markets re-open and offer lower-cost capital, some borrowers are opting for public loan solutions.

Loan Volume ► Institutional loan issuance related to mergers and acquisitions reached \$52 billion in 1Q25, the highest total since early 2022. Leveraged buyouts (LBOs) comprised nearly half that total, supported by a resurgence in private equity activity.

Yields ► U.S. sub-investment grade corporate yields rose dramatically at the beginning of 2022, with yields peaking in September, due to a combination of higher interest rates due to tighter Fed policy and a widening of high yield spreads. Effective yields dropped in 2024 but then increased to start 2025. Spreads contracted in 2024, a continuation from late 2023, due to stronger credit conditions as the U.S. economic outlook improved. However, by the end of March 2025 high yield effective yields spiked.

Private Credit Performance (%) (Pooled Horizon IRRs through 3/31/25*)



Private Credit Performance (%) (Pooled Horizon IRRs by Strategy through 3/31/25*)

Strategy	Quarter	1 Year	5 Years	10 Years	20 Years
Senior Debt	2.7	6.1	8.5	7.6	7.5
Subordinated	2.1	8.4	12.7	10.7	11.0
Credit Opportunities	1.3	8.1	11.5	7.9	9.0
Total Private Credit	1.8	7.6	10.9	8.4	9.2

Source: LSEG/Cambridge
*Most recent data available at time of publication

Equity Hedge Strategies Lead Performance

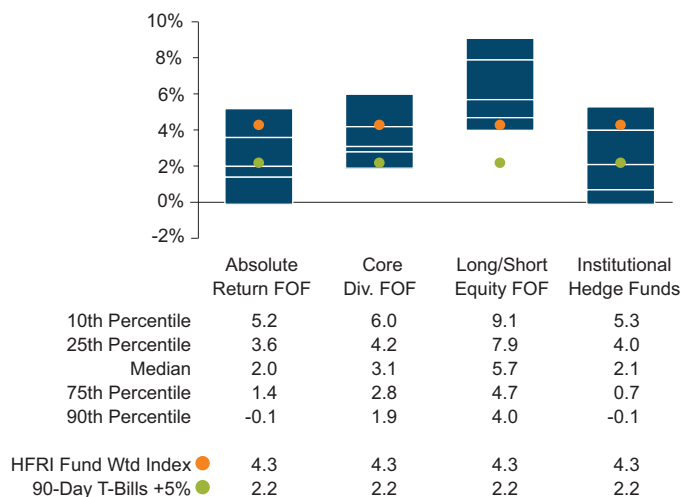
HEDGE FUNDS/MACs | Joe McGuane

U.S. equity market performance was marked by a sharp risk-on reversal following a steep early-April sell-off tied to the rollout of Liberation Day tariffs, which triggered widespread market volatility. Equity markets subsequently staged a remarkably strong recovery driven by the pause in tariff implementation, solid macroeconomic data, and healthy corporate earnings, especially in the Technology sector. The Federal Reserve kept policy rates steady, but U.S. Treasury yields were volatile, particularly among longer-dated bonds, influenced by mounting fiscal concerns, supply/demand dynamics, and the potential for tariffs to be inflationary. During the quarter, the 10-year Treasury yield rose by 3 basis points to 4.23%.

S&P 500 performance was driven by high-beta sectors, led by Technology, Communication Services, and Industrials. Gains in these cyclical areas more than offset weakness in Energy and Health Care, which had been among the best-performing sectors in 1Q25 but lagged in 2Q amid falling commodity prices and a rotation away from defensive companies. Corporate earnings grew during the quarter, driven by investments in AI infrastructure and productivity enhancements.

Hedge Fund Style Group Returns

(6/30/25)



Sources: Callan, Credit Suisse, Federal Reserve

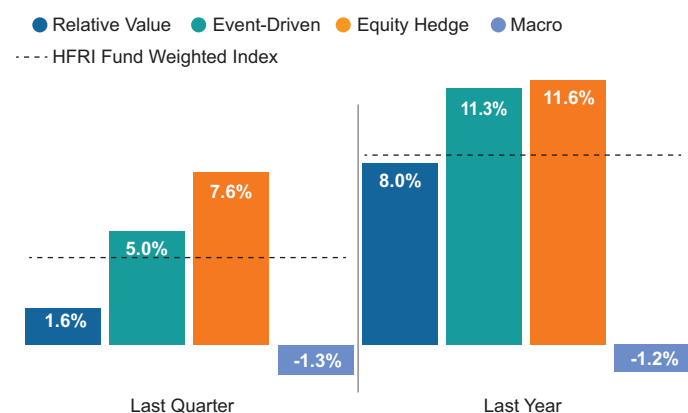
Hedge funds ended the quarter higher, as equity hedge strategies drove performance, with gains coming from sector-focused strategies in Technology and Industrials. Event-driven strategies gained momentum throughout the quarter, on speculation around M&A situations. Relative value strategies also

Callan Peer Group Median and Index Returns* for Periods Ended 6/30/25

Hedge Fund Universe	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years
Callan Institutional Hedge Fund Peer Group	2.1	8.3	7.9	8.1	6.9	7.0
Callan Fund-of-Funds Peer Group	3.2	9.9	8.3	7.5	4.9	5.4
Callan Absolute Return FOF Style	2.0	9.4	7.3	7.8	4.7	4.9
Callan Core Diversified FOF Style	3.1	9.9	8.3	7.6	5.0	5.4
Callan Long/Short Equity FOF Style	5.7	11.0	10.1	7.5	5.6	6.0
HFRI Fund Weighted Index	4.3	8.4	7.8	8.6	5.4	5.3
HFRI Fixed Convertible Arbitrage	0.8	9.4	8.1	8.0	5.8	5.6
HFRI Distressed/Restructuring	1.9	9.4	7.1	9.5	5.6	5.6
HFRI Emerging Markets	5.4	12.5	8.2	7.0	4.7	4.1
HFRI Equity Market Neutral	3.2	9.2	7.7	6.5	4.0	3.7
HFRI Event-Driven	5.3	11.6	9.2	9.6	5.7	5.8
HFRI Relative Value	1.6	8.0	6.8	6.8	4.6	5.1
HFRI Macro	-1.4	-1.3	1.4	5.2	3.0	2.6
HFRI Equity Hedge	7.6	11.6	10.4	10.1	6.5	6.4
HFRI Multi-Strategy	7.5	18.7	10.5	8.4	4.7	4.8
HFRI Merger Arbitrage	4.3	10.3	6.8	8.2	5.2	4.7
90-Day T-Bill + 5%	2.2	9.7	9.6	7.8	7.0	6.3

*Net of fees. Sources: Callan, Credit Suisse, Hedge Fund Research

HFRI Hedge Fund-Weighted Strategy Returns (6/30/25)



Source: HFRI

had a positive quarter, as they were able to profit from volatility around credit and equity positions. Macro strategies ended slightly lower, as some managers had difficulty trading around interest rate volatility, while commodity trading offset some of those losses.

Serving as a proxy for large, broadly diversified hedge funds with low-beta exposure to equity markets, the median manager in the Callan Institutional Hedge Fund Peer Group rose 2.1%. Within this style group of 50 managers, the average hedged equity-focused manager gained 5.1%, as growth-oriented companies drove performance. The average hedged rates-focused manager rose 3.0%, as managers were able to navigate interest rate volatility during the quarter successfully. Meanwhile, the average hedged credit-focused manager moved 1.7% higher, as managers were able to profit off both long and short credit positions. Following a difficult start to the quarter, cross-asset multi-strategy funds added 1.2% in a generally risk-on environment.

Within the HFRI indices, the best-performing strategy was equity hedge, up 7.6%, as managers focused on higher beta names saw strong performance.

Across the Callan Hedge FOF database, the median Callan Long/Short Equity FOF ended up 5.7%, as managers with exposure to higher beta stocks drove performance. The Callan Diversified FOF gained 3.1%, driven by exposure to relative value and equity hedge managers. The Callan Absolute Return

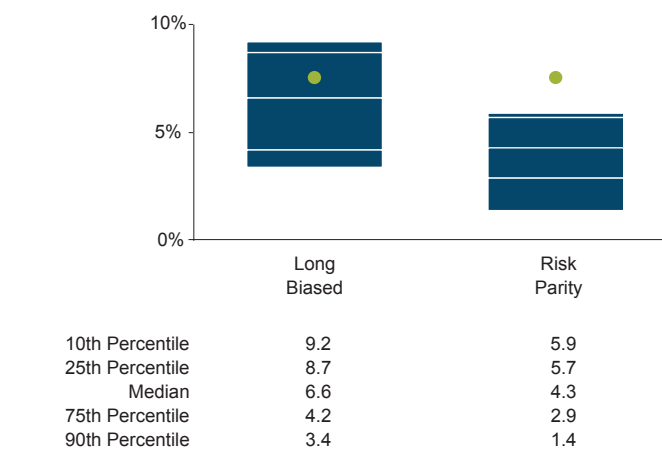
FOF rose 2.0%; macro managers were a slight drag on performance while equity and relative value managers aided gains.

Since the Global Financial Crisis, liquid alternatives to hedge funds have become popular among investors for their attractive risk-adjusted returns that are similarly uncorrelated with traditional stock and bond investments but offered at a lower cost. Much of that interest is focused on rules-based, long-short strategies that isolate known risk premia such as value, momentum, and carry found across the various capital markets. These alternative risk premia are often embedded, to varying degrees, in hedge funds as well as other actively managed investment products.

Within Callan's database of liquid alternative solutions, the median manager in the Callan MAC Long Biased Peer Group rose 6.6%, as weakness from the U.S. dollar and commodity trading was a slight drag on performance. The Callan MAC Risk Parity Peer Group gained 4.3%, as fixed income and equities drove gains while weakness in the U.S. dollar slightly offset some of that performance.

Callan continues to believe that hedge fund managers that are able to opportunistically adjust their portfolios in real time to changing market environments will be best positioned to profit from broad market moves.

MAC Style Group Returns (6/30/25)



60% ACWI / 40% Bloomberg Agg ● 7.3 7.3

Sources: Bloomberg, Callan, Eurekahedge, S&P Dow Jones Indices

DC Index Starts Year With a Loss

DEFINED CONTRIBUTION | **Scotty Lee**

Performance: Index Starts 2025 with a Loss

- The Callan DC Index™ lost 1.5% in 1Q25, which brought the Index's trailing one-year return to 5.6%. The Age 45 Target Date Fund (analogous to the 2045 vintage) had a higher quarterly return (-0.4%) and a higher trailing one-year return (+6.1%).

Growth Sources: Balances Fall Due to Investment Losses

- Balances within the DC Index fell by 1.9% after a 0.8% decrease in the previous quarter. Investment losses (-1.5%) were the primary cause as net flows (-0.4%) fell less.

Turnover: Increase for Second Straight Quarter

- Turnover (i.e., net transfer activity levels within DC plans) increased to 0.27% from the previous quarter's 0.11%. The Index's historical average (+0.52%) remained steady.

Net Cash Flow Analysis: U.S. Equity Falls Sharply

- Target date funds earned 44.9% of quarterly net flows. Money market and U.S. fixed income funds also received a large portion of inflows, (23.5%) and (20.4%) respectively. Notably, within equities, investors withdrew assets from U.S. large cap equity (-46.5%) and U.S. small/mid-cap equity (-20.3%), similar to the large outflows of the previous quarter.

Equity Allocation: Exposure Falls

- The Index's overall allocation to equity (73.8%) fell slightly from the previous quarter's level (74.4%). The current equity allocation continues to sit above the Index's historical average (68.9%).

Asset Allocation: Target Date Funds Gain

- Target date funds (36.5%), global ex-U.S. equity (5.0%), and U.S. fixed income (5.2%) were among the asset classes with the largest percentage increases in allocation. U.S. large cap equity (28%) and U.S. small/mid cap equity (6.5%) had the largest decreases in allocation from the previous quarter.

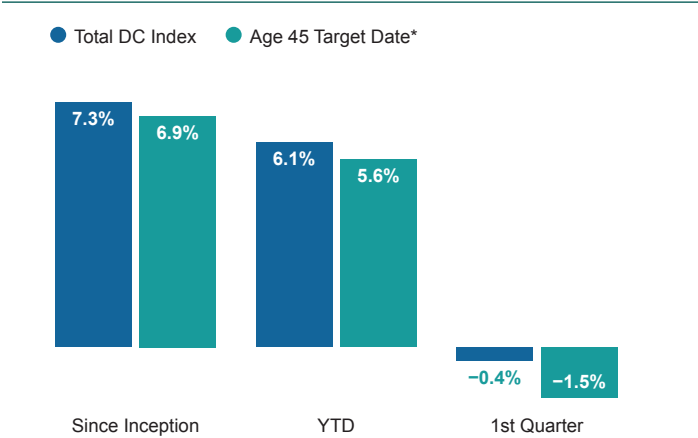
Prevalence of Asset Class: Brokerage Windows Fall

- The prevalence of brokerage windows (43.4%) fell by 0.8 percentage points.

Underlying fund performance, asset allocation, and cash flows of more than 100 large defined contribution plans representing approximately \$400 billion in assets are tracked in the Callan DC Index.

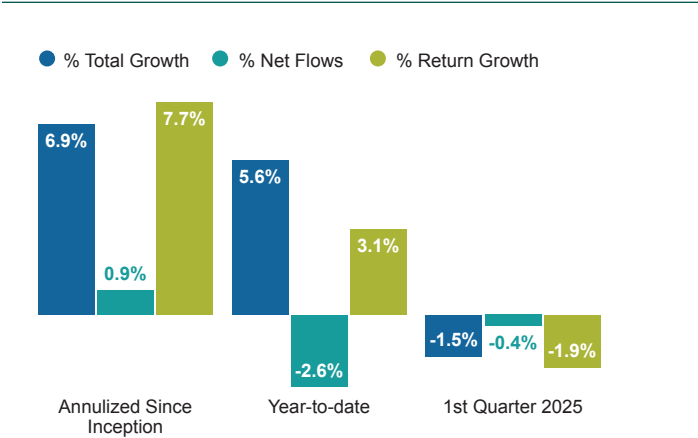
Investment Performance

(3/31/25)



Growth Sources

(3/31/25)



Net Cash Flow Analysis 1Q25

(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	44.9%
Money Market	23.5%
U.S. Smid Cap	-20.3%
U.S. Large Cap	-46.5%
Total Turnover**	0.3%

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

* The Age 45 Fund transitioned from the average 2040 TDF to the 2045 TDF in June 2023.

** Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2025, with the distribution as of March 31, 2025.

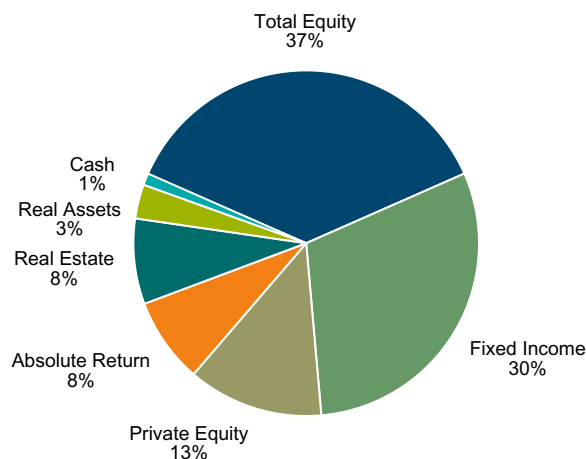
Asset Distribution Across Investment Managers

	June 30, 2025		March 31, 2025	
	Market Value	Weight	Market Value	Weight
Total Domestic Equity	\$1,016,343,196	16.45%	\$1,010,775,492	16.79%
BlackRock Russell 1000 Value	193,331,464	3.13%	200,295,501	3.33%
DFA Large Cap Value	139,734,027	2.26%	146,253,890	2.43%
Northern Trust Global	203,287,338	3.29%	196,996,113	3.27%
Polen Capital Management	116,317,534	1.88%	114,342,059	1.90%
Earnest Partners LLC	177,406,384	2.87%	169,845,178	2.82%
DFA Small Cap Value	186,266,449	3.02%	183,042,753	3.04%
Total Global Equity	\$467,080,229	7.56%	\$449,665,656	7.47%
BlackRock Global Alpha Tilts	257,777,895	4.17%	248,848,705	4.13%
MFS Investment Management	209,302,334	3.39%	200,816,951	3.34%
Total International Equity	\$794,709,991	12.87%	\$806,660,402	13.40%
AQR Emerging Markets	110,514,400	1.79%	103,038,658	1.71%
Brandes Investment Partners	304,556,092	4.93%	308,777,888	5.13%
William Blair & Company	1,445,974	0.02%	223,624,681	3.71%
DFA International Small Cap	169,582,959	2.75%	171,219,175	2.84%
BlackRock ACWI ex US Growth	208,610,565	3.38%	-	-
Total Fixed Income	\$1,864,858,884	30.19%	\$1,683,226,406	27.96%
BlackRock US Agg	69,341,752	1.12%	-	-
BlackRock US Govt Bond	471,029,146	7.63%	428,793,373	7.12%
Reams Asset Management	807,420,707	13.07%	762,560,371	12.67%
Loomis, Sayles & Company, L.P.	517,067,279	8.37%	491,872,662	8.17%
Total Private Equity	\$786,322,020	12.73%	\$767,450,496	12.75%
Abbott Capital Management 2010	11,706,064	0.19%	13,075,663	0.22%
Abbott Capital Management 2011	24,427,492	0.40%	27,446,594	0.46%
Abbott Capital Management 2012	23,653,832	0.38%	25,811,606	0.43%
Abbott Capital Management 2013	23,808,429	0.39%	25,139,299	0.42%
Abbott Capital Management 2014	28,165,094	0.46%	29,615,215	0.49%
Abbott Capital Management 2015	25,299,885	0.41%	26,033,328	0.43%
Abbott Capital Management 2016	23,903,656	0.39%	24,131,756	0.40%
Abbott Capital Management 2018	25,319,529	0.41%	24,625,037	0.41%
Abbott Capital Management 2019	23,842,487	0.39%	23,121,181	0.38%
Abbott Capital Management 2020	37,525,625	0.61%	34,348,332	0.57%
Abbott Capital Management 2021	14,082,478	0.23%	12,841,803	0.21%
Abbott Capital Management 2022	16,342,369	0.26%	14,757,546	0.25%
Abbott Capital Management 2023	8,657,825	0.14%	7,923,375	0.13%
Abbott Capital Management 2024	9,069,704	0.15%	6,333,509	0.11%
Abbott Capital Management 2025	3,486,540	0.06%	1,800,000	0.03%
Mesirow V	23,518,369	0.38%	25,218,804	0.42%
Mesirow VI	48,029,833	0.78%	51,779,175	0.86%
Mesirow VII	123,980,222	2.01%	122,181,180	2.03%
Mesirow VIII	93,573,337	1.51%	81,496,820	1.35%
Mesirow IX	11,676,166	0.19%	11,040,000	0.18%
NB Secondary Opp Fund III	6,462,631	0.10%	6,448,429	0.11%
NB Secondary Opp Fund IV	15,056,548	0.24%	15,938,434	0.26%
NB Secondary Opp Fund V	60,733,983	0.98%	55,119,983	0.92%
Private Advisors VI	17,885,194	0.29%	17,159,795	0.29%
Private Advisors VII	11,106,377	0.18%	11,320,221	0.19%
Private Advisors VIII	17,359,035	0.28%	17,426,402	0.29%
Private Advisors IX	38,755,909	0.63%	37,428,410	0.62%
Apogem Capital X	18,893,407	0.31%	17,888,599	0.30%
Absolute Return	\$495,604,877	8.02%	\$480,458,497	7.98%
Aptitude	204,087,218	3.30%	195,532,932	3.25%
UBS A & Q	291,517,659	4.72%	284,925,565	4.73%
Real Assets	\$194,671,716	3.15%	\$187,504,316	3.11%
Principal DRA	194,671,716	3.15%	187,504,316	3.11%
Total Real Estate	\$491,290,312	7.95%	\$493,777,728	8.20%
Real Estate	491,290,312	7.95%	493,777,728	8.20%
Total Cash	\$66,343,265	1.07%	\$140,774,804	2.34%
Cash	66,343,265	1.07%	140,774,804	2.34%
Total Fund	\$6,177,224,492	100.0%	\$6,020,293,798	100.0%

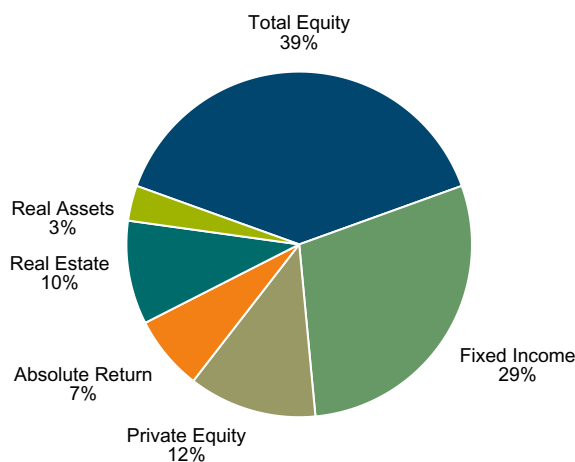
Actual vs Target Asset Allocation As of June 30, 2025

The first chart below shows the Fund's asset allocation as of June 30, 2025. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



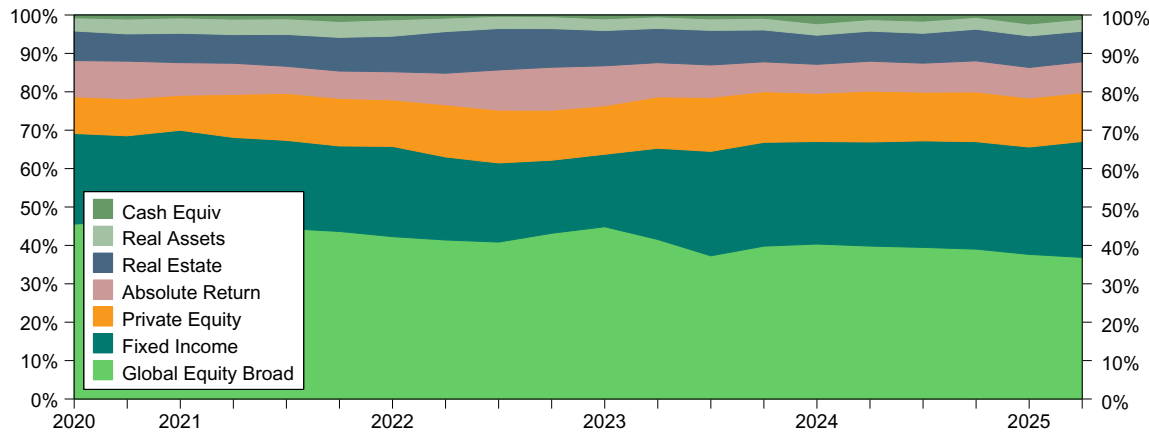
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Total Equity	2,278,133	36.9%	39.0%	(2.1%)	(130,984)
Fixed Income	1,864,859	30.2%	29.0%	1.2%	73,464
Private Equity	786,322	12.7%	12.0%	0.7%	45,055
Absolute Return	495,605	8.0%	7.0%	1.0%	63,199
Real Estate	491,290	8.0%	9.7%	(1.7%)	(107,900)
Real Assets	194,672	3.2%	3.3%	(0.1%)	(9,177)
Cash	66,343	1.1%	0.0%	1.1%	66,343
Total	6,177,224	100.0%	100.0%		

* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

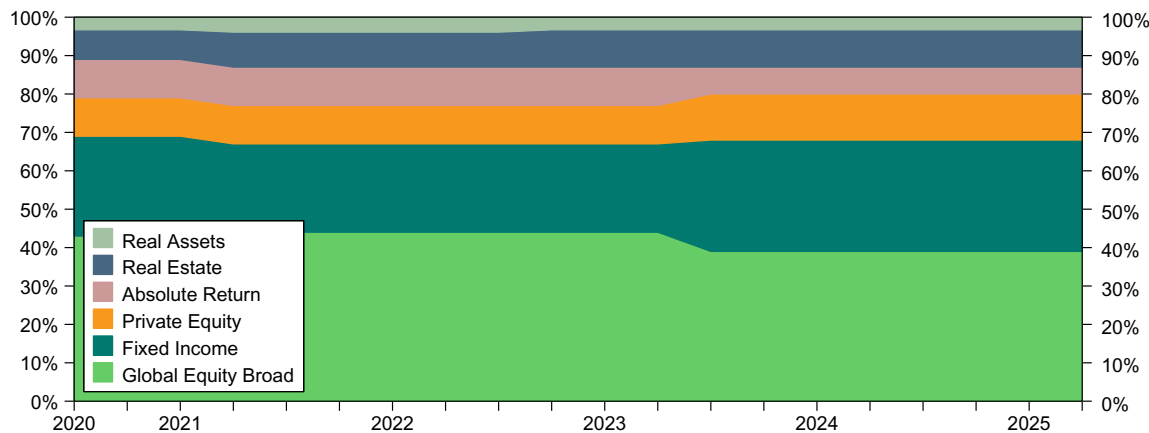
Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

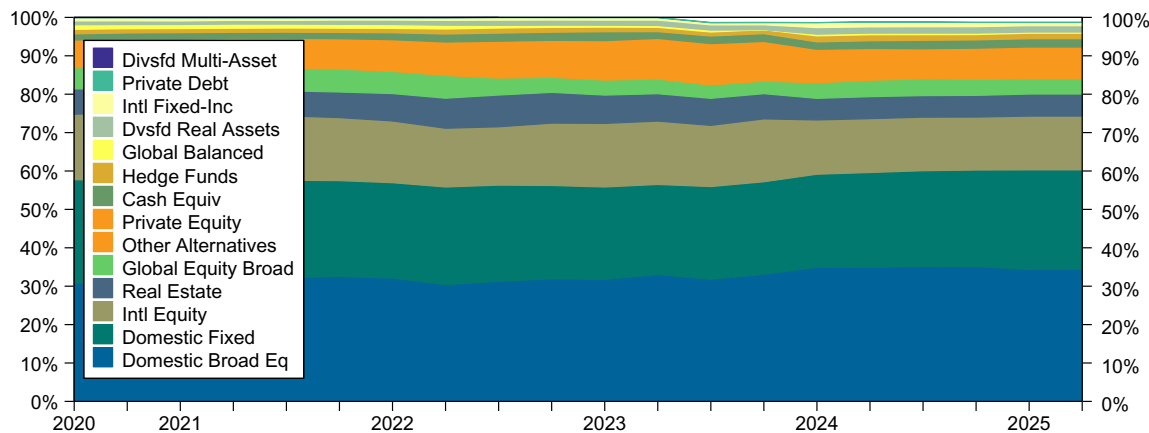
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation



* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

Total Fund Period Ended June 30, 2025

Investment Philosophy

The Public Fund Sponsor Database consists of public employee pension total funds including both Callan Associates client and surveyed non-client funds. Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 7.0% 3-month Treasury Bill+3.0%, 9.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

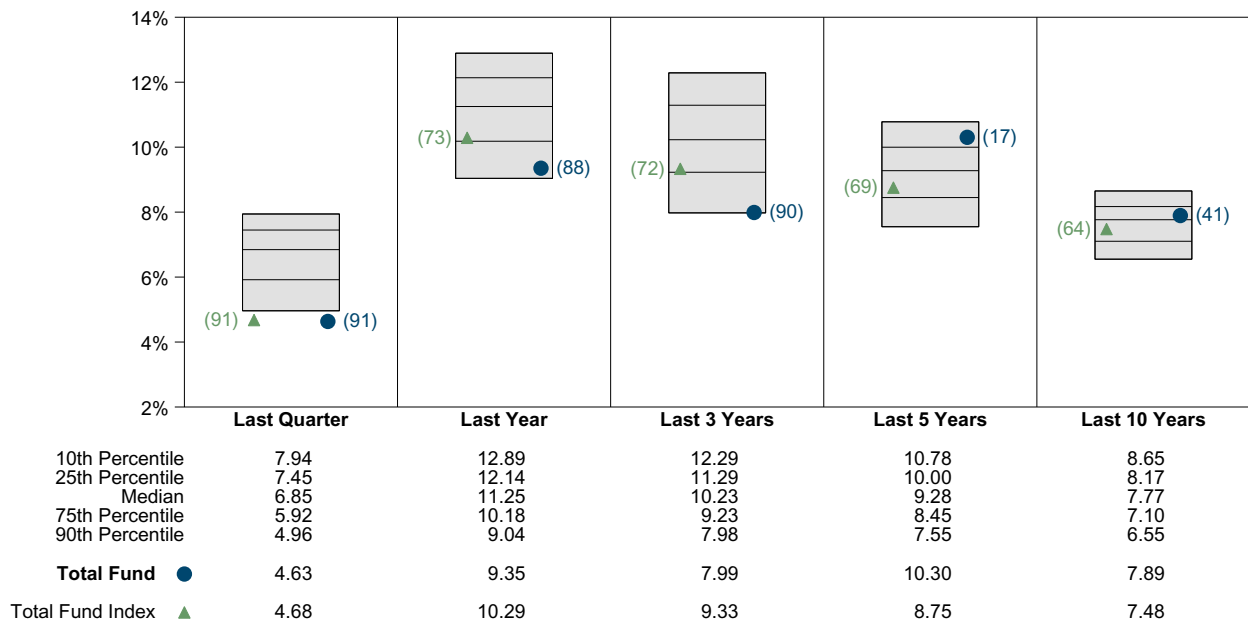
Quarterly Summary and Highlights

- Total Fund's portfolio posted a 4.63% return for the quarter placing it in the 91 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 88 percentile for the last year.
- Total Fund's portfolio underperformed the Total Fund Index by 0.04% for the quarter and underperformed the Total Fund Index for the year by 0.94%.

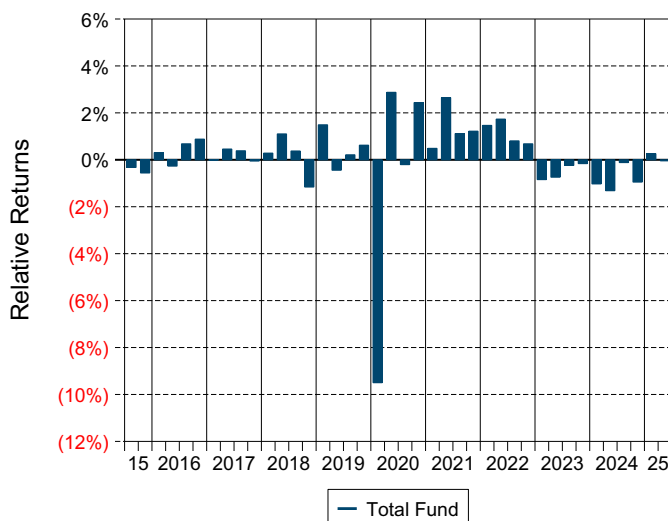
Quarterly Asset Growth

Beginning Market Value	\$6,020,293,798
Net New Investment	\$-117,086,808
Investment Gains/(Losses)	\$274,017,502
Ending Market Value	\$6,177,224,492

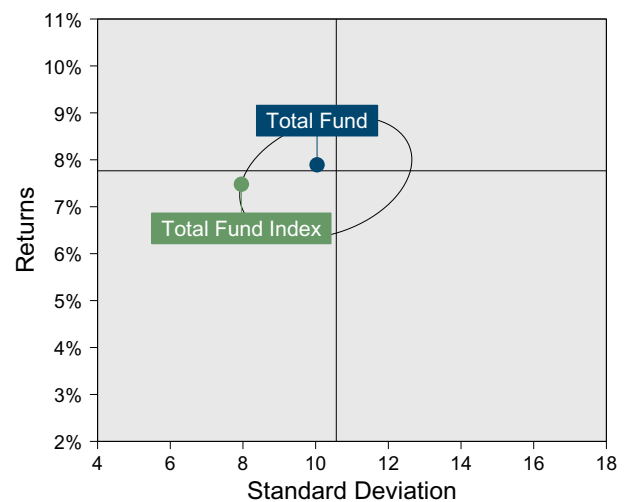
Performance vs Callan Public Fund Sponsor Database (Gross)



Relative Return vs Total Fund Index



Callan Public Fund Sponsor Database (Gross) Annualized Ten Year Risk vs Return

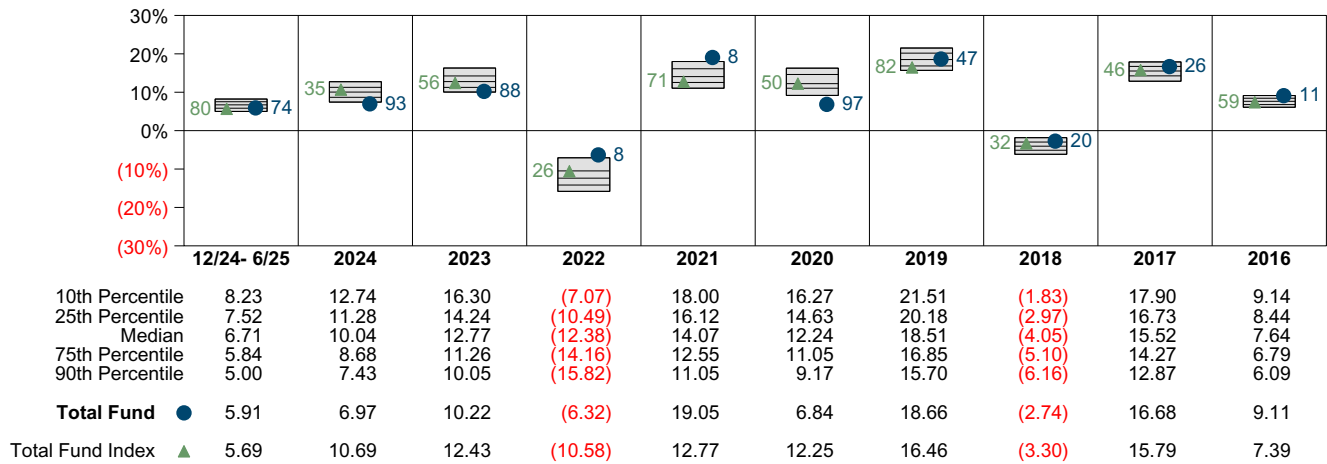


Total Fund Return Analysis Summary

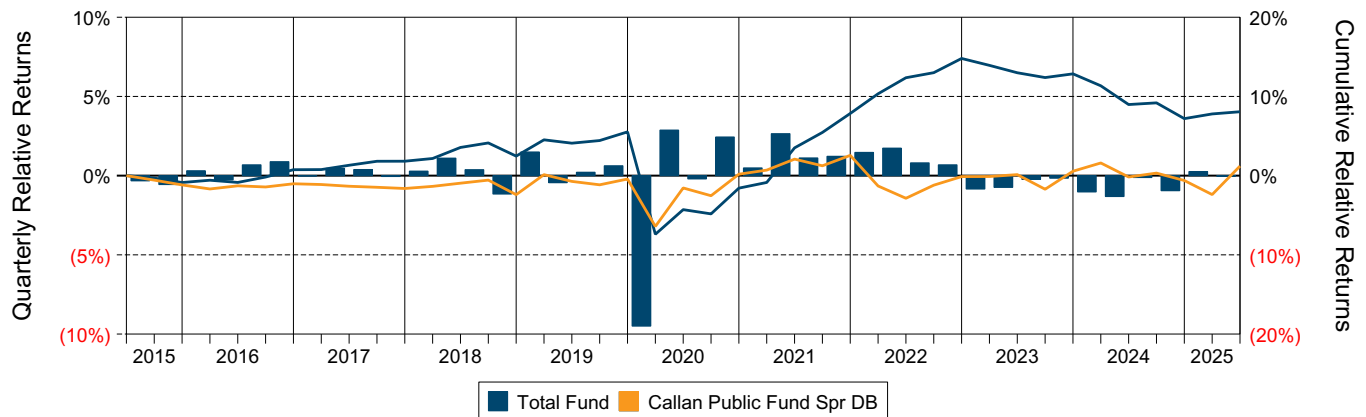
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

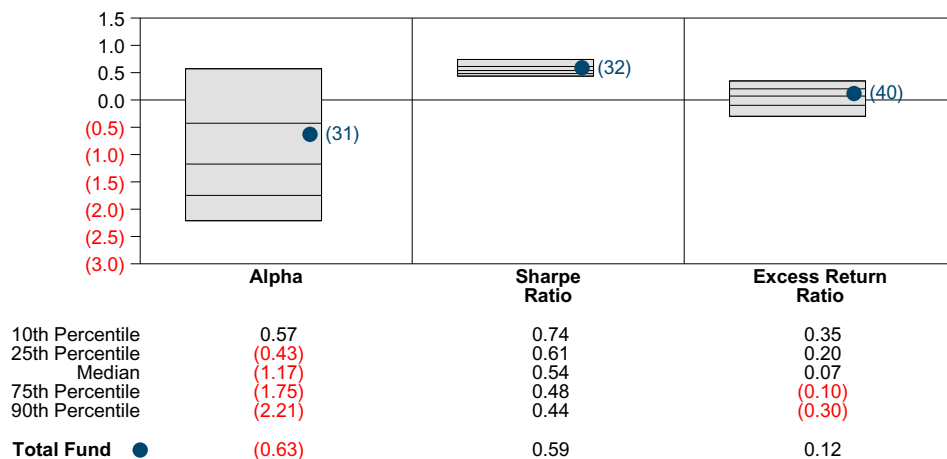
Performance vs Callan Public Fund Sponsor Database (Gross)



Cumulative and Quarterly Relative Returns vs Total Fund Index



Risk Adjusted Return Measures vs Total Fund Index Rankings Against Callan Public Fund Sponsor Database (Gross) Ten Years Ended June 30, 2025



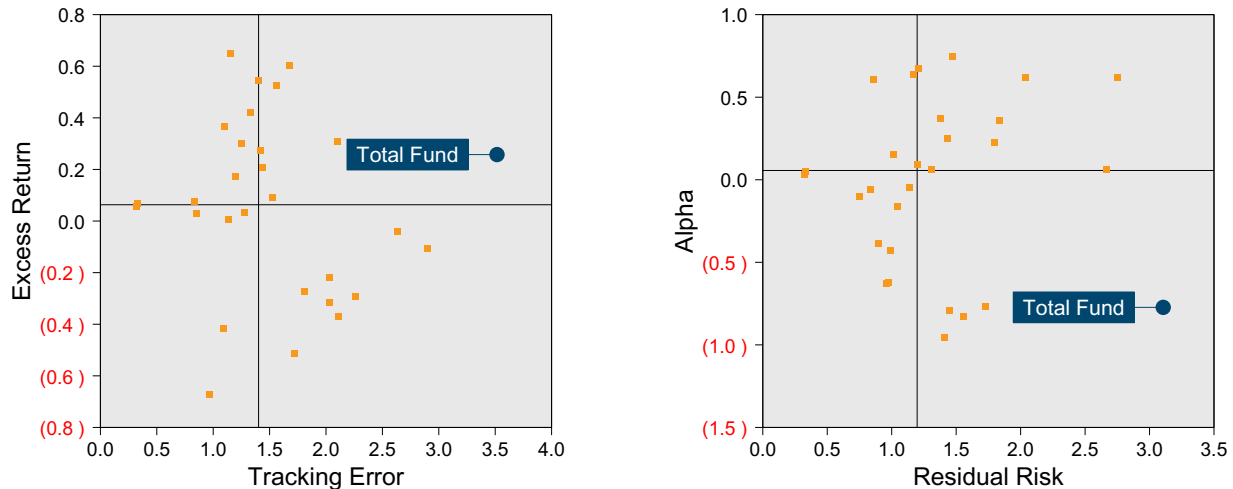
Total Fund

Total Fund vs Target Risk Analysis

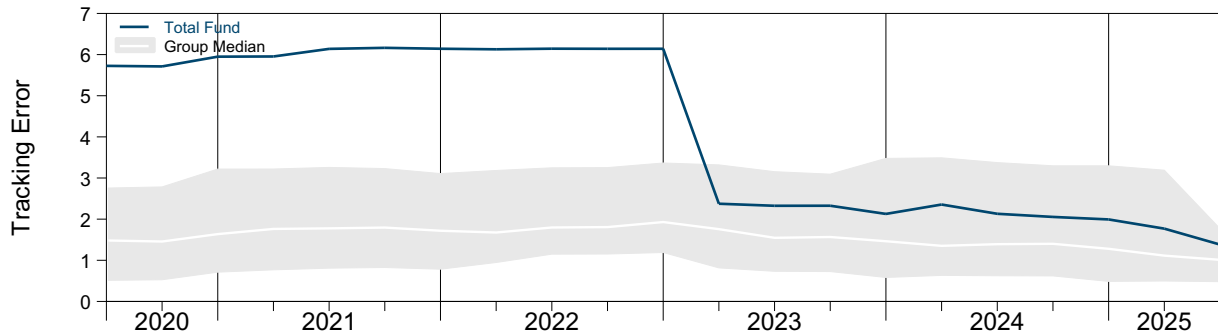
Risk Analysis

The graphs below analyze the performance and risk of the fund relative to the appropriate target mix. This relative performance is compared to a peer group of funds wherein each member fund is measured against its own target mix. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the target. The second scatter chart displays the relationship, sometimes called Information Ratio, between alpha (market-risk or "beta" adjusted return) and residual risk (non-market or "unsystematic" risk). The third chart shows tracking error patterns over time compared to the range of tracking error patterns for the peer group. The last two charts show the ranking of the fund's risk statistics versus the peer group.

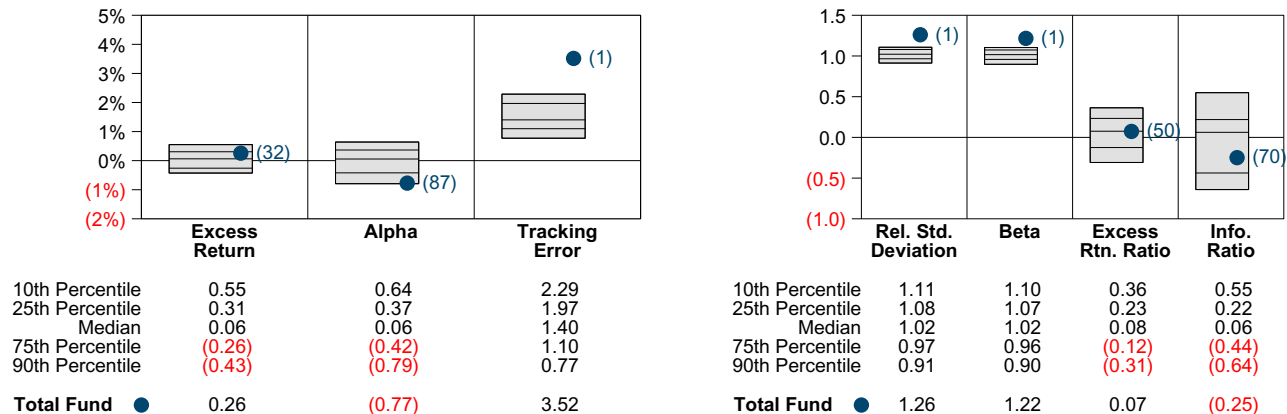
Risk Analysis vs Callan Public Fund Sponsor Database Ten Years Ended June 30, 2025



Rolling 12 Quarter Tracking Error vs Targets Compared to Callan Public Fund Sponsor Database



Risk Statistics Rankings vs Targets Rankings Against Callan Public Fund Sponsor Database Ten Years Ended June 30, 2025



Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended June 30, 2025. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns and Rankings for Periods Ended June 30, 2025

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Public Equity	9.37%		14.29%		15.94%		14.20%		11.17%	(1/16)
MSCI ACWI IMI	11.62%		15.89%		16.80%		13.39%		10.84%	(1/16)
Total Domestic Equity	6.07%	99	10.26%	98	13.85%	95	14.40%	77	8.29%	(7/98)
Russell 3000 Index	10.99%	14	15.30%	14	19.08%	15	15.96%	22	8.53%	(7/98)
Pub Pln- Dom Equity	10.18%		13.98%		17.61%		15.34%		-	
BlackRock Russell 1000 Value	3.79%	63	13.72%	40	12.78%	64	13.96%	78	9.24%	(4/17)
Russell 1000 Value Index	3.79%	63	13.70%	40	12.76%	65	13.93%	79	9.12%	(4/17)
Callan Large Cap Value	4.32%		13.15%		13.89%		15.84%		-	
DFA Large Cap Value	2.75%	83	10.60%	80	13.21%	60	15.18%	63	8.75%	(11/17)
Russell 1000 Value Index	3.79%	63	13.70%	40	12.76%	65	13.93%	79	9.11%	(11/17)
Callan Large Cap Value	4.32%		13.15%		13.89%		15.84%		-	
Northern Trust Global	10.94%	58	15.15%	26	19.72%	40	16.64%	46	11.19%	(8/88)
S&P 500 Index	10.94%	58	15.16%	26	19.71%	40	16.64%	46	11.14%	(8/88)
Callan Large Cap Core	11.17%		13.18%		19.39%		16.44%		-	
Polen Capital Management	9.45%	92	11.67%	79	16.39%	93	9.37%	98	14.75%	(7/12)
S&P 500 Index	10.94%	89	15.16%	59	19.71%	85	16.64%	31	14.48%	(7/12)
Callan Large Cap Growth	17.17%		15.95%		24.78%		15.87%		-	
Earnest Partners LLC	4.45%	65	6.41%	83	9.31%	83	12.04%	59	10.89%	(5/05)
Russell MidCap Index	8.53%	41	15.21%	31	14.33%	39	13.11%	45	9.96%	(5/05)
Callan Mid Capitalization	7.08%		11.57%		13.25%		12.86%		-	
DFA Small Cap Value	5.46%	36	4.47%	62	12.20%	17	19.56%	6	11.51%	(11/96)
Russell 2000 Value Index	4.97%	39	5.54%	52	7.45%	77	12.47%	81	8.72%	(11/96)
Callan Small Cap Value	4.26%		5.86%		9.70%		15.37%		-	
Total Global Equity	9.73%	68	12.16%	73	16.12%	51	13.24%	52	10.04%	(4/10)
MSCI World	11.47%	50	16.26%	42	18.31%	39	14.55%	31	10.28%	(4/10)
Callan Global Equity	11.50%		15.32%		16.20%		13.29%		-	
BlackRock Global Alpha Tilts	11.12%	53	15.13%	51	18.56%	37	14.54%	32	13.08%	(3/16)
MSCI ACWI Gross	11.69%	49	16.69%	39	17.91%	41	14.18%	36	12.74%	(3/16)
Callan Global Equity	11.50%		15.32%		16.20%		13.29%		-	
MFS Investment Management	8.00%	84	8.58%	87	13.08%	82	11.64%	72	12.04%	(12/12)
MSCI ACWI Gross	11.69%	49	16.69%	39	17.91%	41	14.18%	36	10.98%	(12/12)
Callan Global Equity	11.50%		15.32%		16.20%		13.29%		-	
Total International Equity	13.37%	11	20.66%	13	18.23%	1	14.19%	3	7.62%	(5/96)
MSCI EAFE	11.78%	76	17.73%	55	15.97%	21	11.16%	33	5.28%	(5/96)
Pub Pln- Intl Equity	12.12%		17.98%		14.54%		10.59%		-	
AQR Emerging Markets	13.21%	43	10.11%	88	11.90%	43	9.21%	37	7.46%	(8/16)
MSCI EM Gross	12.20%	67	15.97%	44	10.23%	61	7.26%	58	6.78%	(8/16)
Callan Emerging Broad	12.98%		15.51%		11.05%		7.94%		-	
Brandes Investment Partners	10.74%	78	24.52%	19	22.52%	1	18.18%	1	8.67%	(2/98)
MSCI EAFE	11.78%	57	17.73%	63	15.97%	53	11.16%	57	5.38%	(2/98)
Callan NonUS Eq	12.06%		19.59%		16.08%		11.57%		-	
DFA International Small Cap	16.10%	88	30.39%	13	20.80%	6	17.20%	1	6.53%	(5/06)
MSCI EAFE Small	16.59%	80	22.46%	65	13.30%	65	9.28%	56	5.02%	(5/06)
Callan Intl Small Cap	17.78%		23.85%		15.00%		10.67%		-	

Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended June 30, 2025. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns and Rankings for Periods Ended June 30, 2025

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Fixed Income	1.84%	18	7.27%	21	4.09%	35	2.08%	13	6.52%	(12/87)
Bimbg Aggregate	1.21%	74	6.08%	69	2.55%	85	(0.73%)	94	5.38%	(12/87)
Pub Pln- Dom Fixed	1.41%		6.48%		3.67%		0.57%		-	
BlackRock US Govt Bond	0.86%	100	5.36%	100	1.63%	100	-		(1.37%)	(12/21)
Bimbg Government	0.85%	100	5.31%	100	1.57%	100	(1.53%)	100	(1.47%)	(12/21)
Callan Core Bond FI	1.29%		6.43%		3.13%		(0.15%)		-	
Reams Asset Management	1.83%	15	6.81%	64	3.97%	45	0.62%	53	4.98%	(1/01)
Bimbg Aggregate	1.21%	98	6.08%	97	2.55%	97	(0.73%)	98	3.72%	(1/01)
Callan Core Plus FI	1.57%		6.96%		3.89%		0.65%		-	
Loomis, Sayles & Company, L.P.	2.83%	1	9.82%	1	6.35%	1	3.23%	1	8.08%	(12/87)
Bimbg Aggregate	1.21%	98	6.08%	97	2.55%	97	(0.73%)	98	5.38%	(12/87)
Callan Core Plus FI	1.57%		6.96%		3.89%		0.65%		-	
Total Private Equity	2.26%		4.41%		1.27%		17.39%		11.90%	(6/10)
Private Equity Benchmark (3)	(4.09%)		9.42%		10.63%		20.57%		-	
Abbott Capital Management 2010	(3.23%)		(6.38%)		(9.24%)		9.39%		0.38%	(6/10)
Abbott Capital Management 2011	(4.01%)		(5.92%)		(9.86%)		10.73%		3.17%	(6/11)
Abbott Capital Management 2012	(2.96%)		(4.82%)		(7.34%)		12.55%		9.29%	(7/12)
Abbott Capital Management 2013	(3.21%)		(4.20%)		(6.25%)		12.99%		9.93%	(5/13)
Abbott Capital Management 2014	(1.35%)		(2.85%)		(5.42%)		14.07%		9.40%	(4/14)
Abbott Capital Management 2015	0.99%		2.68%		1.20%		17.62%		12.25%	(4/15)
Abbott Capital Management 2016	1.61%		5.19%		3.78%		19.53%		12.04%	(3/16)
Abbott Capital Management 2018	2.82%		8.00%		4.18%		16.41%		12.87%	(7/18)
Abbott Capital Management 2019	3.12%		7.64%		4.29%		19.33%		14.99%	(1/20)
Abbott Capital Management 2020	3.98%		6.98%		3.44%		-		15.31%	(1/21)
Abbott Capital Management 2021	3.26%		6.01%		2.83%		-		5.38%	(2/21)
Abbott Capital Management 2022	0.10%		0.04%		(0.75%)		-		(0.97%)	(2/22)
Abbott Capital Management 2023	9.27%		8.08%		-		-		7.16%	(7/23)
Abbott Capital Management 2024	6.66%		8.35%		-		-		7.68%	(6/24)
Abbott Capital Management 2025	4.09%		-		-		-		4.09%	(4/25)
Mesirow V	0.70%		(0.68%)		(3.85%)		13.38%		12.98%	(6/10)
Mesirow VI	1.26%		2.76%		(2.52%)		17.01%		11.92%	(7/13)
Mesirow VII	3.21%		6.87%		4.05%		17.48%		4.40%	(6/17)
Mesirow VIII	5.06%		7.81%		2.24%		-		1.08%	(9/20)
Mesirow IX	5.76%		-		-		-		5.76%	(3/25)
NB Secondary Opp Fund III	1.68%		5.09%		6.79%		14.39%		11.31%	(12/13)
NB Secondary Opp Fund IV	(1.95%)		(2.12%)		1.08%		14.54%		16.07%	(4/17)
NB Secondary Opp Fund V	3.57%		8.69%		6.03%		-		44.98%	(3/22)
Private Advisors VI	6.68%		8.89%		7.74%		24.05%		13.59%	(4/15)
Private Advisors VII	1.82%		6.58%		9.04%		19.19%		13.55%	(1/17)
Private Advisors VIII	3.58%		10.74%		14.86%		22.65%		17.60%	(8/18)
Private Advisors IX	3.55%		8.38%		14.97%		17.76%		20.04%	(2/20)
Apogem Capital X	5.62%		8.11%		-		-		17.70%	(5/23)
Absolute Return	3.15%		10.96%		8.78%		13.28%		6.60%	(6/14)
90 Day T-Bill + 3%	1.76%		7.68%		7.56%		5.76%		4.78%	(6/14)
Aptitude	4.37%	13	11.66%	16	-		-		9.26%	(9/22)
30-Day Average SOFR +4%	2.05%	47	8.92%	62	8.66%	24	-		8.85%	(9/22)
Callan Abs Rtn Hedge FoF	2.00%		9.43%		7.30%		7.77%		-	
UBS A & Q	2.31%	44	10.49%	26	8.57%	24	9.38%	39	6.90%	(12/14)
(Libor thru 2/22) SOFR +4%	2.05%	47	8.92%	62	8.66%	24	6.83%	66	5.97%	(12/14)
Callan Abs Rtn Hedge FoF	2.00%		9.43%		7.30%		7.77%		-	
Real Assets	3.98%		10.10%		4.92%		8.63%		5.85%	(1/16)
Principal DRA	3.98%	14	10.10%	31	4.92%	50	8.63%	58	5.74%	(1/16)
Principal DRA Blend Index (1)	4.19%	12	12.51%	22	5.70%	40	8.34%	61	5.56%	(1/16)
Callan Alternative Inv DB	1.23%		7.01%		4.86%		10.29%		-	
Total Real Estate	0.81%		3.37%		(4.09%)		5.00%		6.37%	(7/86)
Real Estate	0.81%	67	3.37%	52	(4.09%)	55	5.00%	39	6.37%	(7/86)
Blended Benchmark (2)	0.84%	65	0.78%	79	(5.24%)	66	2.26%	72	-	
Callan Tot Real Est DB	1.08%		3.60%		(3.27%)		3.87%		-	
Total Fund	4.63%	91	9.35%	88	7.99%	90	10.30%	17	-	
Total Fund Index*	4.68%	91	10.29%	73	9.33%	72	8.75%	69	-	
Callan Public Fund Spr DB	6.85%		11.25%		10.23%		9.28%		-	

* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Bimbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

(1) Current Principal DRA Blend Index = 15% Bloomberg US TIPS Idx, 15% Bloomberg Commodity Idx, 30% S&P Global Infrastructure Idx, 15% S&P Global Natural Resources Idx and 25% FTSE EPRA/NAREIT Developed Market Idx.

(2) Blended Benchmark = NCREIF (NPI) through 6/30/06, NCREIF (NPI 1 Qtr Arrears) through 12/31/13 and NFI-ODCE (1 Qtr Arrears) thereafter.

(3) Private Equity Benchmark = Russell 3000 Index lagged 3 months+3.0% through 12/31/19, Russell 3000 Index lagged 3 months+2.0% thereafter.

Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	12/2024- 6/2025		2024		2023		2022		2021	
Total Public Equity	9.84%		12.05%		21.40%		(15.78%)		20.92%	
MSCI ACWI IMI	9.82%		16.37%		21.58%		(18.40%)		18.22%	
Total Domestic Equity	2.98%	98	14.70%	97	19.73%	90	(15.68%)	13	28.12%	16
Russell 3000 Index	5.75%	27	23.81%	12	25.96%	17	(19.21%)	79	25.66%	53
Pub Pln- Dom Equity	5.03%		21.50%		23.72%		(17.91%)		25.77%	
BlackRock Russell 1000 Value	6.01%	49	14.39%	57	11.47%	63	(7.54%)	80	25.18%	79
Russell 1000 Value Index	6.00%	49	14.37%	57	11.46%	63	(7.54%)	80	25.16%	79
Callan Large Cap Value	5.98%		15.56%		12.85%		(4.93%)		28.35%	
DFA Large Cap Value	4.92%	69	13.84%	59	12.33%	53	(4.95%)	50	27.52%	64
Russell 1000 Value Index	6.00%	49	14.37%	57	11.46%	63	(7.54%)	80	25.16%	79
Callan Large Cap Value	5.98%		15.56%		12.85%		(4.93%)		28.35%	
Northern Trust Global	6.20%	37	25.00%	47	26.30%	48	(18.08%)	58	28.69%	54
S&P 500 Index	6.20%	37	25.02%	47	26.29%	48	(18.11%)	59	28.71%	54
Callan Large Cap Core	5.62%		24.81%		26.16%		(17.42%)		29.05%	
Polen Capital Management	3.10%	95	16.07%	90	38.20%	61	(37.72%)	89	24.84%	44
S&P 500 Index	6.20%	64	25.02%	70	26.29%	89	(18.11%)	6	28.71%	21
Callan Large Cap Growth	7.00%		30.20%		40.56%		(30.21%)		24.35%	
Earnest Partners LLC	0.99%	75	8.20%	86	17.57%	52	(15.13%)	52	26.09%	48
Russell MidCap Index	4.84%	33	15.34%	36	17.23%	53	(17.32%)	58	22.58%	58
Callan Mid Capitalization	2.73%		13.31%		17.82%		(14.34%)		25.38%	
DFA Small Cap Value	(3.01%)	59	7.87%	64	21.85%	13	(1.69%)	10	40.61%	16
Russell 2000 Value Index	(3.16%)	61	8.05%	63	14.65%	65	(14.48%)	84	28.27%	64
Callan Small Cap Value	(2.45%)		9.03%		16.41%		(10.51%)		31.82%	
Total Global Equity	7.53%	82	15.82%	45	22.29%	47	(17.35%)	47	19.03%	53
MSCI World	9.47%	65	18.67%	35	23.79%	35	(18.14%)	52	21.82%	28
Callan Global Equity	10.75%		14.47%		21.74%		(17.81%)		19.42%	
BlackRock Global Alpha Tilts	10.07%	59	19.03%	32	23.27%	40	(16.80%)	43	18.73%	56
MSCI ACWI Gross	10.33%	56	18.02%	37	22.81%	43	(17.96%)	51	19.04%	53
Callan Global Equity	10.75%		14.47%		21.74%		(17.81%)		19.42%	
MFS Investment Management	4.46%	94	11.87%	60	21.00%	52	(18.14%)	52	19.56%	49
MSCI ACWI Gross	10.33%	56	18.02%	37	22.81%	43	(17.96%)	51	19.04%	53
Callan Global Equity	10.75%		14.47%		21.74%		(17.81%)		19.42%	
Total International Equity	20.51%	10	6.58%	36	22.82%	2	(15.36%)	22	13.08%	10
MSCI EAFE	19.45%	18	3.82%	83	18.24%	18	(14.45%)	17	11.26%	18
Pub Pln- Intl Equity	17.86%		5.48%		16.54%		(16.84%)		8.30%	
AQR Emerging Markets	14.84%	63	7.37%	54	18.78%	12	(20.29%)	38	1.23%	36
MSCI EM Gross	15.57%	57	8.05%	46	10.27%	59	(19.74%)	35	(2.22%)	55
Callan Emerging Broad	15.96%		7.71%		11.91%		(21.94%)		(0.59%)	
Brandes Investment Partners	22.28%	26	7.12%	37	31.34%	1	(6.79%)	5	14.42%	18
MSCI EAFE	19.45%	57	3.82%	69	18.24%	47	(14.45%)	43	11.26%	54
Callan NonUS Eq	20.06%		5.93%		18.11%		(15.20%)		11.56%	
DFA International Small Cap	28.26%	1	8.35%	25	18.04%	22	(9.42%)	5	16.47%	14
MSCI EAFE Small	20.89%	66	1.82%	59	13.16%	66	(21.39%)	52	10.10%	72
Callan Intl Small Cap	23.45%		2.90%		15.18%		(20.63%)		12.78%	

Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	12/2024- 6/2025		2024		2023		2022		2021	
Total Fixed Income	4.64%	13	2.49%	52	6.63%	44	(6.83%)	8	(0.36%)	41
Blmbg Aggregate	4.02%	58	1.25%	86	5.53%	81	(13.01%)	70	(1.54%)	89
Pub Plin- Dom Fixed	4.09%		2.53%		6.40%		(12.24%)		(0.71%)	
BlackRock US Govt Bond	3.79%	97	0.79%	98	4.24%	100	(12.43%)	22	-	
Blmbg Government	3.79%	97	0.62%	98	4.09%	100	(12.32%)	16	(2.28%)	100
Callan Core Bond FI	4.16%		1.93%		6.17%		(12.91%)		(1.03%)	
Reams Asset Management	4.79%	17	1.76%	86	6.76%	57	(11.39%)	13	(1.23%)	91
Blmbg Aggregate	4.02%	94	1.25%	95	5.53%	96	(13.01%)	41	(1.54%)	97
Callan Core Plus FI	4.44%		2.74%		6.90%		(13.27%)		(0.27%)	
Loomis, Sayles & Company, L.P.	5.25%	4	5.26%	1	8.56%	2	(12.12%)	18	2.13%	5
Blmbg Aggregate	4.02%	94	1.25%	95	5.53%	96	(13.01%)	41	(1.54%)	97
Callan Core Plus FI	4.44%		2.74%		6.90%		(13.27%)		(0.27%)	
Total Private Equity	2.12%		5.67%		2.89%		(4.88%)		67.66%	
Private Equity Benchmark (3)	(1.08%)		37.37%		22.76%		(15.10%)		34.08%	
Abbott Capital Management 2010	(3.23%)		(4.74%)		(6.70%)		(16.87%)		65.55%	
Abbott Capital Management 2011	(4.01%)		(3.37%)		(7.55%)		(18.97%)		76.29%	
Abbott Capital Management 2012	(2.96%)		(3.47%)		(3.85%)		(13.14%)		72.85%	
Abbott Capital Management 2013	(3.21%)		(1.99%)		(2.85%)		(12.51%)		70.21%	
Abbott Capital Management 2014	(1.35%)		(2.66%)		(3.96%)		(9.41%)		75.52%	
Abbott Capital Management 2015	0.99%		4.16%		3.60%		(0.79%)		75.81%	
Abbott Capital Management 2016	1.61%		8.60%		5.24%		2.90%		71.04%	
Abbott Capital Management 2018	2.82%		7.54%		3.96%		7.44%		47.06%	
Abbott Capital Management 2019	3.12%		8.63%		3.43%		7.54%		57.22%	
Abbott Capital Management 2020	3.82%		7.88%		1.70%		0.81%		65.36%	
Abbott Capital Management 2021	3.06%		5.84%		2.00%		1.72%		-	
Abbott Capital Management 2022	(0.21%)		(0.81%)		4.87%		-		-	
Abbott Capital Management 2023	8.84%		5.80%		-		-		-	
Abbott Capital Management 2024	6.16%		-		-		-		-	
Mesirow V	0.70%		2.53%		(0.80%)		(19.60%)		78.52%	
Mesirow VI	1.26%		4.28%		(0.52%)		(13.41%)		88.26%	
Mesirow VII	3.21%		7.72%		5.78%		(0.68%)		60.27%	
Mesirow VIII	5.06%		6.43%		0.22%		(2.15%)		10.14%	
NB Secondary Opp Fund III	0.89%		7.67%		17.34%		(2.34%)		30.34%	
NB Secondary Opp Fund IV	(3.06%)		7.46%		4.64%		0.29%		48.73%	
NB Secondary Opp Fund V	2.46%		19.22%		21.41%		-		-	
Private Advisors VI	6.22%		11.63%		4.68%		9.97%		83.78%	
Private Advisors VII	1.82%		9.22%		7.32%		21.61%		52.55%	
Private Advisors VIII	3.58%		13.69%		9.80%		27.61%		47.25%	
Private Advisors IX	3.55%		8.98%		13.33%		24.00%		37.25%	
Apogem Capital X	5.35%		4.59%		-		-		-	
Absolute Return	4.66%		11.53%		6.09%		26.46%		8.87%	
90 Day T-Bill + 3%	3.53%		8.25%		8.01%		4.46%		3.05%	
Aptitude	4.91%	28	13.13%	20	5.24%	59	-		-	
30-Day Average SOFR +4%	4.15%	46	9.44%	52	9.09%	1	-		-	
Callan Abs Rtn Hedge FoF	4.11%		9.58%		5.87%		3.34%		6.76%	
UBS A & Q	4.48%	42	10.48%	40	6.48%	30	8.85%	13	8.08%	45
(Libor thru 2/22) SOFR +4%	4.15%	46	9.44%	52	9.09%	1	5.32%	25	4.11%	77
Callan Abs Rtn Hedge FoF	4.11%		9.58%		5.87%		3.34%		6.76%	
Real Assets	7.66%		3.92%		3.95%		(5.29%)		18.24%	
Principal DRA	7.66%	21	3.92%	82	3.95%	50	(5.29%)	85	18.24%	43
Principal DRA Blend Index (1)	9.11%	13	4.21%	80	4.31%	49	(5.07%)	85	15.87%	46
Callan Alternative Inv DB	5.27%		7.08%		3.92%		8.68%		13.64%	
Total Real Estate	1.88%		(2.35%)		(10.23%)		13.88%		23.85%	
Real Estate	1.88%	57	(2.35%)	70	(10.23%)	71	13.88%	30	23.85%	
Blended Benchmark (2)	1.69%	64	(8.44%)	87	(13.08%)	79	21.68%	20	14.83%	
Callan Tot Real Est DB	2.14%		0.52%		(2.62%)		8.61%		-	
Total Fund	5.91%	74	6.97%	93	10.22%	88	(6.32%)	8	19.05%	8
Total Fund Index*	5.69%	80	10.69%	35	12.43%	56	(10.58%)	26	12.77%	71
Callan Public Fund Spr DB	6.71%		10.04%		12.77%		(12.38%)		14.07%	

* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

(1) Current Principal DRA Blend Index = 15% Bloomberg US TIPS Idx, 15% Bloomberg Commodity Idx, 30% S&P Global Infrastructure Idx, 15% S&P Global Natural Resources Idx and 25% FTSE EPRA/NAREIT Developed Market Idx.
(2) Blended Benchmark = NCREIF (NPI) through 6/30/06, NCREIF (NPI 1 Qtr Arrears) through 12/31/13 and NFI-ODCE (1 Qtr Arrears) thereafter.

(3) Private Equity Benchmark = Russell 3000 Index lagged 3 months+3.0% through 12/31/19, Russell 3000 Index lagged 3 months+2.0% thereafter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2025. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended June 30, 2025

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 6-1/4 Years
Net of Fee Returns					
Total Domestic Equity	6.00%	9.95%	13.54%	14.11%	11.56%
Russell 3000 Index	10.99%	15.30%	19.08%	15.96%	14.46%
BlackRock Russell 1000 Value	3.79%	13.71%	12.76%	13.95%	10.13%
Russell 1000 Value Index	3.79%	13.70%	12.76%	13.93%	10.03%
DFA Large Cap Value	2.70%	10.40%	13.00%	14.98%	9.89%
Russell 1000 Value Index	3.79%	13.70%	12.76%	13.93%	10.03%
Northern Trust Global	10.93%	15.14%	19.70%	16.63%	15.19%
S&P 500 Index	10.94%	15.16%	19.71%	16.64%	15.20%
Polen Capital Management	9.34%	11.22%	15.95%	8.95%	11.82%
S&P 500 Index	10.94%	15.16%	19.71%	16.64%	15.20%
Earnest Partners LLC	4.31%	5.84%	8.73%	11.48%	10.50%
Russell MidCap Index	8.53%	15.21%	14.33%	13.11%	10.67%
DFA Small Cap Value	5.30%	3.82%	11.54%	19.02%	10.92%
Russell 2000 Value Index	4.97%	5.54%	7.45%	12.47%	6.77%
Total Global Equity	9.63%	11.70%	15.70%	12.90%	11.81%
MSCI World	11.47%	16.26%	18.31%	14.55%	12.69%
BlackRock Global Alpha Tilts	11.03%	14.68%	18.19%	14.30%	12.25%
MSCI ACWI Gross	11.69%	16.69%	17.91%	14.18%	12.32%
MFS Investment Management	7.88%	8.13%	12.60%	11.17%	11.41%
MSCI ACWI Gross	11.69%	16.69%	17.91%	14.18%	12.32%
Total International Equity	13.23%	20.10%	17.69%	13.66%	9.93%
MSCI EAFE Index	11.78%	17.73%	15.97%	11.16%	8.55%
AQR Emerging Markets	13.01%	9.31%	11.08%	8.41%	6.27%
MSCI EM Gross	12.20%	15.97%	10.23%	7.26%	5.37%
Brandes Investment Partners	10.63%	24.04%	22.04%	17.73%	10.93%
MSCI EAFE Index	11.78%	17.73%	15.97%	11.16%	8.55%
DFA International Small Cap	15.98%	29.83%	20.29%	16.66%	10.86%
MSCI EAFE Small	16.59%	22.46%	13.30%	9.28%	7.04%

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2025. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended June 30, 2025

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 6-1/4 Years
Net of Fee Returns					
Total Fixed Income	1.83%	7.22%	4.00%	1.98%	1.68%
Bimbg Aggregate	1.21%	6.08%	2.55%	(0.73%)	1.25%
BlackRock US Govt Bond	0.85%	5.34%	1.61%	-	-
Bimbg Government	0.85%	5.31%	1.57%	(1.53%)	0.81%
Reams Asset Management	1.83%	6.81%	3.88%	0.52%	3.29%
Bimbg Aggregate	1.21%	6.08%	2.55%	(0.73%)	1.25%
Loomis, Sayles & Company, L.P.	2.80%	9.67%	6.19%	3.07%	3.51%
Bimbg Aggregate	1.21%	6.08%	2.55%	(0.73%)	1.25%
Total Private Equity	2.26%	4.41%	1.27%	17.39%	15.98%
Private Equity Benchmark	(4.09%)	9.42%	10.63%	20.57%	17.53%
Abbott Capital Management 2010	(3.23%)	(6.38%)	(9.24%)	9.39%	9.02%
Abbott Capital Management 2011	(4.01%)	(5.92%)	(9.86%)	10.73%	10.74%
Abbott Capital Management 2012	(2.96%)	(4.82%)	(7.34%)	12.55%	12.24%
Abbott Capital Management 2013	(3.21%)	(4.20%)	(6.25%)	12.99%	12.93%
Abbott Capital Management 2014	(1.35%)	(2.85%)	(5.42%)	14.07%	13.62%
Abbott Capital Management 2015	0.99%	2.68%	1.20%	17.62%	16.17%
Abbott Capital Management 2016	1.61%	5.19%	3.78%	19.53%	17.12%
Abbott Capital Management 2018	2.82%	8.00%	4.18%	16.41%	15.08%
Abbott Capital Management 2019	3.12%	7.64%	4.29%	19.33%	-
Abbott Capital Management 2020	3.98%	6.98%	3.44%	-	-
Abbott Capital Management 2021	3.26%	6.01%	2.83%	-	-
Abbott Capital Management 2022	0.10%	0.04%	(0.75%)	-	-
Abbott Capital Management 2023	9.27%	8.08%	-	-	-
Abbott Capital Management 2024	6.66%	8.35%	-	-	-
Abbott Capital Management 2025	4.09%	-	-	-	-
Mesirow V	0.70%	(0.68%)	(3.85%)	13.38%	12.39%
Mesirow IV	1.26%	2.76%	(2.52%)	17.01%	17.39%
Mesirow VII	3.21%	6.87%	4.05%	17.48%	14.05%
Mesirow VIII	5.06%	7.81%	2.24%	-	-
Mesirow IX	5.76%	-	-	-	-
NB Secondary Opp Fund III	1.68%	5.09%	6.79%	14.39%	10.79%
NB Secondary Opp Fund IV	(1.95%)	(2.12%)	1.08%	14.54%	13.49%
NB Secondary Opp Fund V	3.57%	8.69%	6.03%	-	-
Private Advisors VI	6.68%	8.89%	7.74%	24.05%	21.91%
Private Advisors VII	1.82%	6.58%	9.04%	19.19%	16.23%
Private Advisors VIII	3.58%	10.74%	14.86%	22.65%	17.21%
Private Advisors IX	3.55%	8.38%	14.97%	17.76%	-
Apogem Capital X	5.62%	8.11%	-	-	-
Absolute Return	3.15%	10.96%	8.78%	13.24%	7.59%
90 Day T-Bill + 3%	1.76%	7.68%	7.56%	5.76%	5.57%
Aptitude	4.37%	11.66%	-	-	-
30-Day Average SOFR +4%	2.05%	8.92%	8.66%	-	-
UBS A & Q	2.31%	10.49%	8.57%	9.38%	9.28%
(Libor thru 2/22) SOFR +4%	2.05%	8.92%	8.66%	6.83%	6.62%
Real Assets	3.82%	9.42%	4.27%	7.95%	5.44%
Principal DRA	3.82%	9.42%	4.27%	7.95%	5.44%
Principal DRA Blend Index	4.19%	12.51%	5.70%	8.34%	5.62%
Total Real Estate	0.75%	3.09%	(4.39%)	4.67%	4.37%
Real Estate	0.75%	3.09%	(4.39%)	4.67%	4.37%
Blended Benchmark	0.84%	0.78%	(5.24%)	2.26%	2.75%
Total Fund	4.59%	9.14%	7.76%	10.07%	8.03%
Total Fund Index	4.68%	10.29%	9.33%	8.75%	8.21%

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	12/2024- 6/2025	2024	2023	2022	2021
Net of Fee Returns					
Total Domestic Equity	2.83%	14.38%	19.38%	(15.89%)	27.88%
Russell 3000 Index	5.75%	23.81%	25.96%	(19.21%)	25.66%
BlackRock Russell 1000 Value	6.00%	14.37%	11.46%	(7.55%)	25.17%
Russell 1000 Value Index	6.00%	14.37%	11.46%	(7.54%)	25.16%
DFA Large Cap Value	4.82%	13.64%	12.12%	(5.12%)	27.35%
Russell 1000 Value Index	6.00%	14.37%	11.46%	(7.54%)	25.16%
Northern Trust Global	6.19%	24.99%	26.29%	(18.09%)	28.68%
S&P 500 Index	6.20%	25.02%	26.29%	(18.11%)	28.71%
Polen Capital Management	2.90%	15.61%	37.75%	(37.97%)	24.34%
S&P 500 Index	6.20%	25.02%	26.29%	(18.11%)	28.71%
Earnest Partners LLC	0.72%	7.62%	16.95%	(15.58%)	25.59%
Russell MidCap Index	4.84%	15.34%	17.23%	(17.32%)	22.58%
DFA Small Cap Value	(3.31%)	7.19%	21.04%	(2.12%)	40.38%
Russell 2000 Value Index	(3.16%)	8.05%	14.65%	(14.48%)	28.27%
Total Global Equity	7.32%	15.34%	21.88%	(17.55%)	18.80%
MSCI World	9.47%	18.67%	23.79%	(18.14%)	21.82%
BlackRock Global Alpha Tilts	9.86%	18.55%	22.93%	(16.89%)	18.67%
MSCI ACWI Gross	10.33%	18.02%	22.81%	(17.96%)	19.04%
MFS Investment Management	4.24%	11.41%	20.50%	(18.50%)	19.05%
MSCI ACWI Gross	10.33%	18.02%	22.81%	(17.96%)	19.04%
Total International Equity	20.23%	6.09%	22.25%	(15.75%)	12.57%
MSCI EAFE Index	19.45%	3.82%	18.24%	(14.45%)	11.26%
AQR Emerging Markets	14.43%	6.62%	17.92%	(20.93%)	0.47%
MSCI EM Gross	15.57%	8.05%	10.27%	(19.74%)	(2.22%)
Brandes Investment Partners	22.05%	6.70%	30.84%	(7.15%)	14.00%
MSCI EAFE Index	19.45%	3.82%	18.24%	(14.45%)	11.26%
DFA International Small Cap	27.99%	7.89%	17.52%	(9.80%)	15.89%
MSCI EAFE Small	20.89%	1.82%	13.16%	(21.39%)	10.10%

Investment Manager Returns

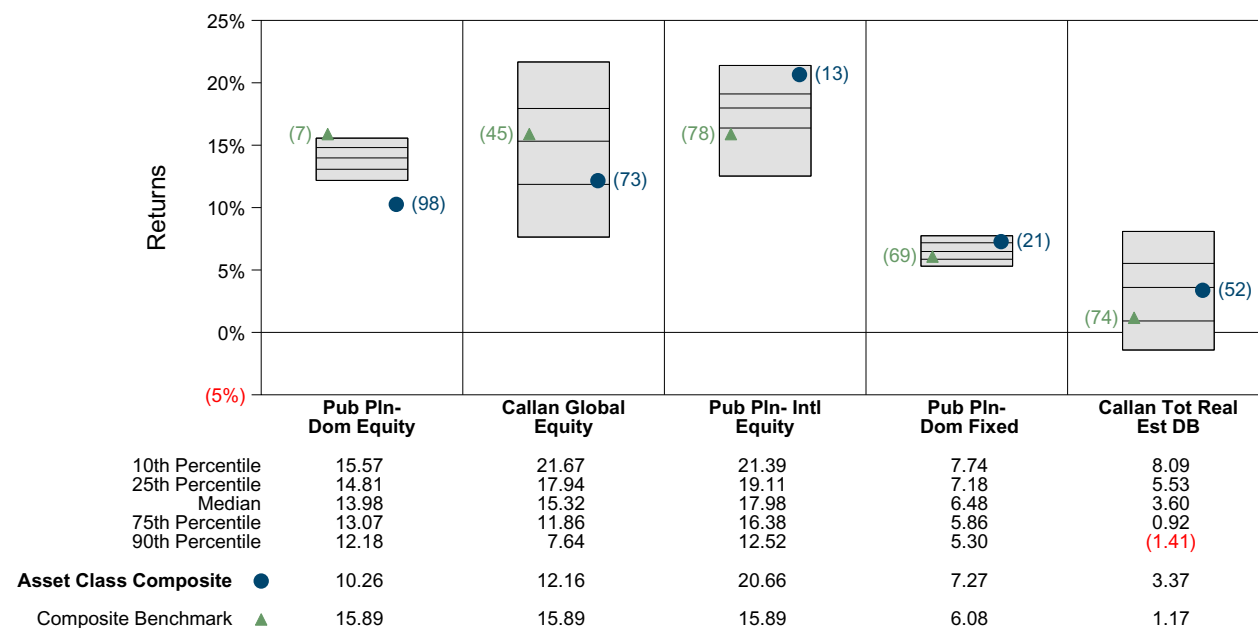
The table below details the rates of return for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	12/2024- 6/2025	2024	2023	2022	2021
Net of Fee Returns					
Total Fixed Income	4.61%	2.42%	6.52%	(6.93%)	(0.45%)
Bimbg Aggregate	4.02%	1.25%	5.53%	(13.01%)	(1.54%)
BlackRock US Govt Bond	3.78%	0.77%	4.22%	(12.44%)	-
Bimbg Government	3.79%	0.62%	4.09%	(12.32%)	(2.28%)
Reams Asset Management	4.79%	1.70%	6.62%	(11.50%)	(1.36%)
Bimbg Aggregate	4.02%	1.25%	5.53%	(13.01%)	(1.54%)
Loomis, Sayles & Company, L.P.	5.17%	5.10%	8.41%	(12.26%)	1.98%
Bimbg Aggregate	4.02%	1.25%	5.53%	(13.01%)	(1.54%)
Total Private Equity	2.12%	5.67%	2.89%	(4.88%)	67.66%
Private Equity Benchmark	(1.08%)	37.37%	22.76%	(15.10%)	34.08%
Abbott Capital Management 2010	(3.23%)	(4.74%)	(6.70%)	(16.87%)	65.55%
Abbott Capital Management 2011	(4.01%)	(3.37%)	(7.55%)	(18.97%)	76.29%
Abbott Capital Management 2012	(2.96%)	(3.47%)	(3.85%)	(13.14%)	72.85%
Abbott Capital Management 2013	(3.21%)	(1.99%)	(2.85%)	(12.51%)	70.21%
Abbott Capital Management 2014	(1.35%)	(2.66%)	(3.96%)	(9.41%)	75.52%
Abbott Capital Management 2015	0.99%	4.16%	3.60%	(0.79%)	75.81%
Abbott Capital Management 2016	1.61%	8.60%	5.24%	2.90%	71.04%
Abbott Capital Management 2018	2.82%	7.54%	3.96%	7.44%	47.06%
Abbott Capital Management 2019	3.12%	8.63%	3.43%	7.54%	57.22%
Abbott Capital Management 2020	3.82%	7.88%	1.70%	0.81%	65.36%
Abbott Capital Management 2021	3.06%	5.84%	2.00%	1.72%	-
Abbott Capital Management 2022	(0.21%)	(0.81%)	4.87%	-	-
Abbott Capital Management 2023	8.84%	5.80%	-	-	-
Abbott Capital Management 2024	6.16%	-	-	-	-
Mesirow V	0.70%	2.53%	(0.80%)	(19.60%)	78.52%
Mesirow IV	1.26%	4.28%	(0.52%)	(13.41%)	88.26%
Mesirow VII	3.21%	7.72%	5.78%	(0.68%)	60.27%
Mesirow VIII	5.06%	6.43%	0.22%	(2.15%)	10.14%
NB Secondary Opp Fund III	0.89%	7.67%	17.34%	(2.34%)	30.34%
NB Secondary Opp Fund IV	(3.06%)	7.46%	4.64%	0.29%	48.73%
NB Secondary Opp Fund V	2.46%	19.22%	21.41%	-	-
Private Advisors VI	6.22%	11.63%	4.68%	9.97%	83.78%
Private Advisors VII	1.82%	9.22%	7.32%	21.61%	52.55%
Private Advisors VIII	3.58%	13.69%	9.80%	27.61%	47.25%
Private Advisors IX	3.55%	8.98%	13.33%	24.00%	37.25%
Apogem Capital X	5.35%	4.59%	-	-	-
Absolute Return	4.66%	11.53%	6.09%	26.46%	8.77%
90 Day T-Bill + 3%	3.53%	8.25%	8.01%	4.46%	3.05%
Aptitude	4.91%	13.13%	5.24%	-	-
30-Day Average SOFR +4%	4.15%	9.44%	9.09%	-	-
UBS A & Q	4.48%	10.48%	6.48%	8.85%	8.08%
(Libor thru 2/22) SOFR +4%	4.15%	9.44%	9.09%	5.32%	4.11%
Real Assets	7.34%	3.28%	3.31%	(5.91%)	17.51%
Principal DRA	7.34%	3.28%	3.31%	(5.91%)	17.51%
Principal DRA Blend Index	9.11%	4.21%	4.31%	(5.07%)	15.87%
Total Real Estate	1.73%	(2.67%)	(10.54%)	13.58%	23.45%
Real Estate	1.73%	(2.67%)	(10.54%)	13.58%	23.45%
Blended Benchmark	1.69%	(8.44%)	(13.08%)	21.68%	14.83%
Total Fund	5.81%	6.74%	9.97%	(6.51%)	18.80%
Total Fund Index	5.69%	10.69%	12.43%	(10.58%)	12.77%

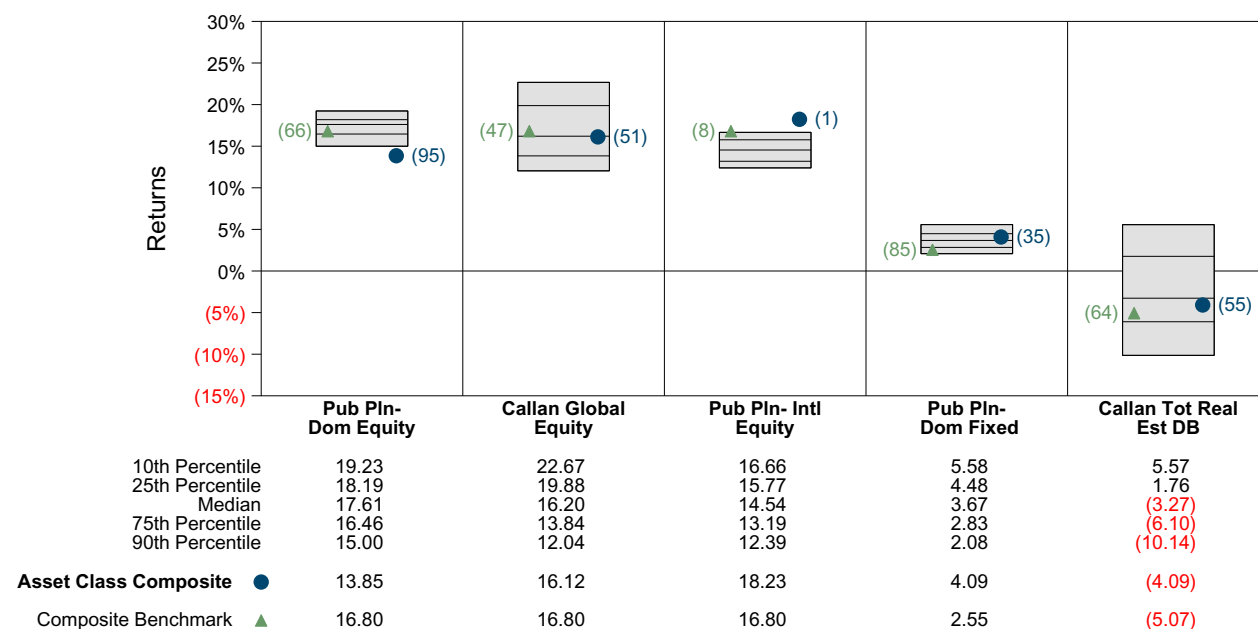
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases.

Total Asset Class Performance One Year Ended June 30, 2025



Total Asset Class Performance Three Years Ended June 30, 2025

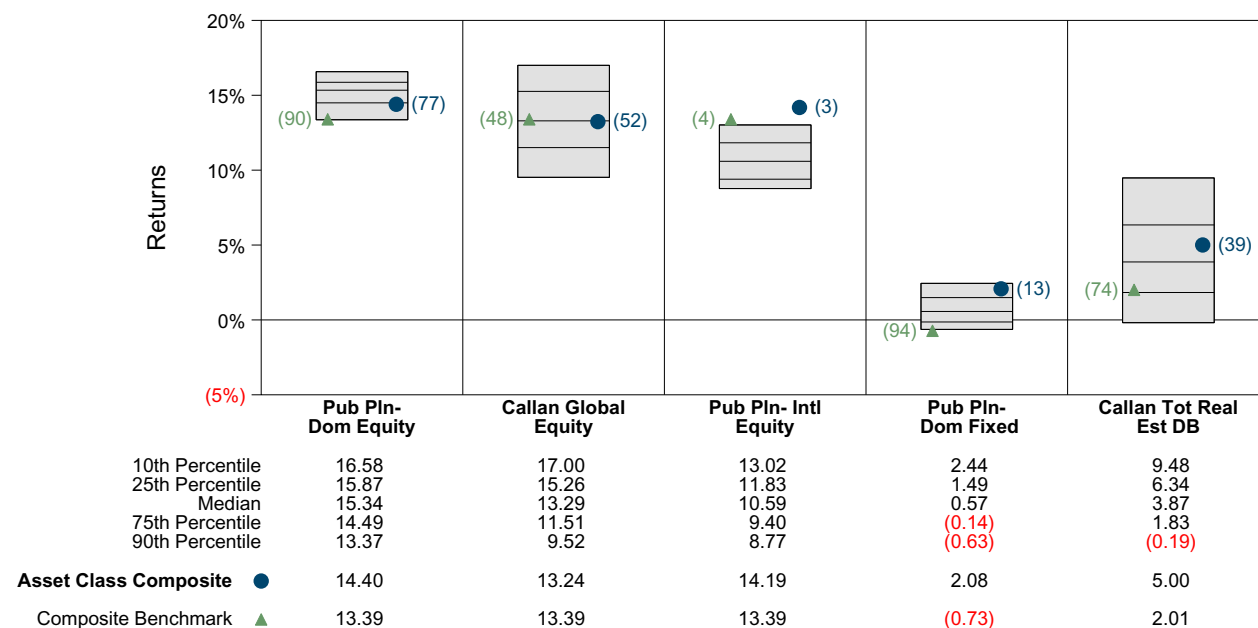


* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

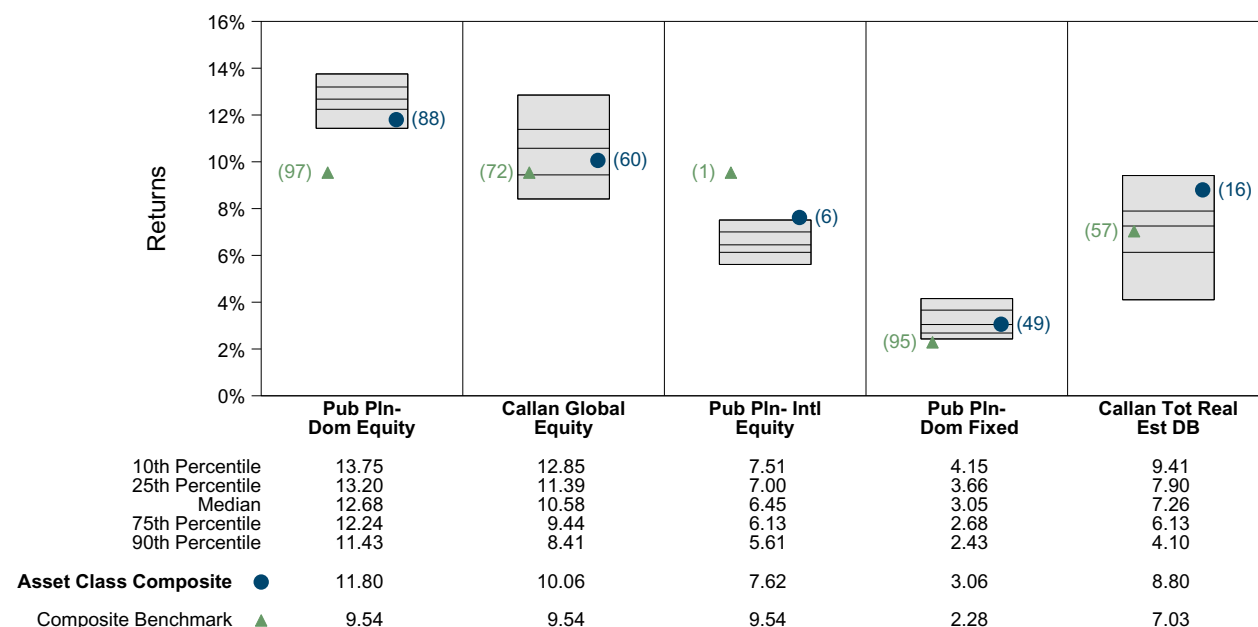
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases.

Total Asset Class Performance Five Years Ended June 30, 2025



Total Asset Class Performance Fourteen and One-Half Years Ended June 30, 2025

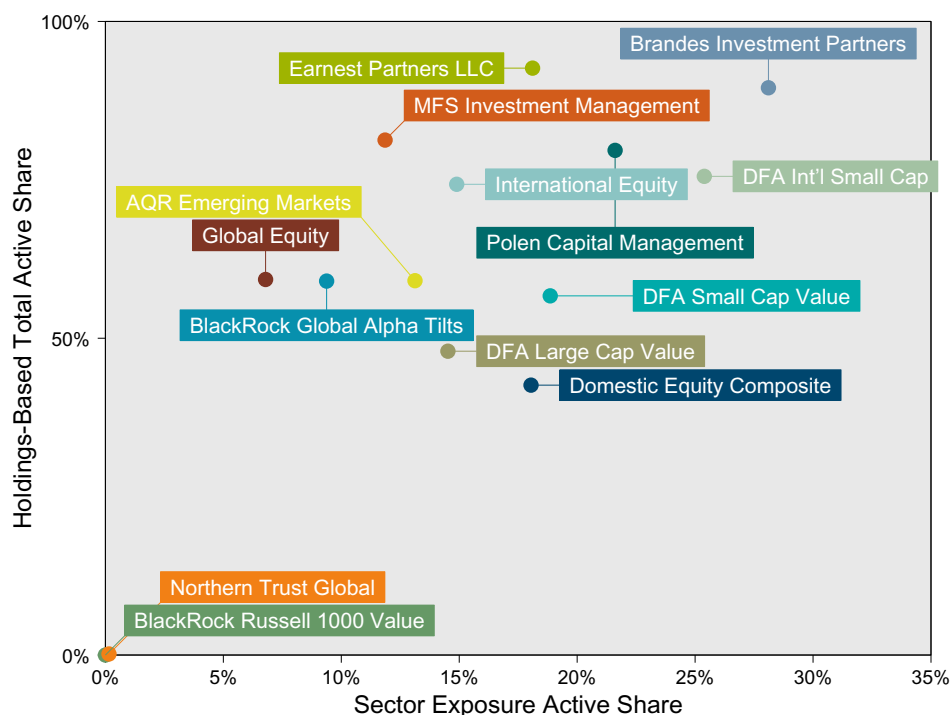


* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

Active Share Structure Analysis For One Quarter Ended June 30, 2025

This analysis compares multiple portfolios and composites in an active share context, illustrating the varying degrees of active risk taken by individual portfolios, and how they combine into active risk profiles for composites and the equity structure. Two sources of active share (active risk) are shown: 1) Total Holdings-Based Active Share based on individual position comparisons to the index (and the subcomponent from holding non-index securities), and 2) Sector Exposure Active Share that quantifies the more macro-level sector differences from the index.

Active Share Analysis Ended June 30, 2025

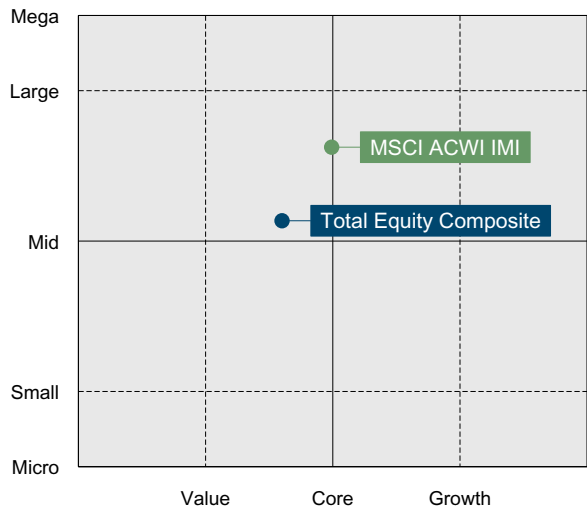


	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities	Security Diverse
Domestic Equity Composite	Russell 3000	42.60%	0.82%	18.04%	1764	94.67
BlackRock Russell 1000 Value	Russell 1000 Value	0.00%	0.00%	0.00%	874	66.08
DFA Large Cap Value	Russell 1000 Value	47.95%	1.01%	14.52%	347	53.77
Northern Trust Global	S&P 500	0.17%	0.00%	0.15%	503	25.75
Polen Capital Management	S&P 500	79.65%	2.56%	21.61%	24	7.49
Earnest Partners LLC	Russell MidCap	92.63%	8.51%	18.11%	59	22.09
DFA Small Cap Value	Russell 2000 Value	56.69%	22.10%	18.86%	948	118.65
Global Equity	MSCI World	59.27%	6.64%	6.79%	396	44.86
BlackRock Global Alpha Tilts	MSCI ACWI GD	59.02%	4.10%	9.38%	341	35.71
MFS Investment Management	MSCI ACWI GD	81.27%	1.61%	11.86%	73	20.07
International Equity	MSCI EAFE	74.30%	28.25%	14.89%	3132	83.76
AQR Emerging Markets	MSCI EM GD	59.08%	3.00%	13.12%	317	36.96
Brandes Investment Partners	MSCI EAFE	89.53%	18.31%	28.11%	65	24.12
DFA Int'l Small Cap	MSCI EAFE Small	75.55%	17.55%	25.39%	1823	137.46

Current Holdings Based Style Analysis
Total Equity Composite
As of June 30, 2025

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

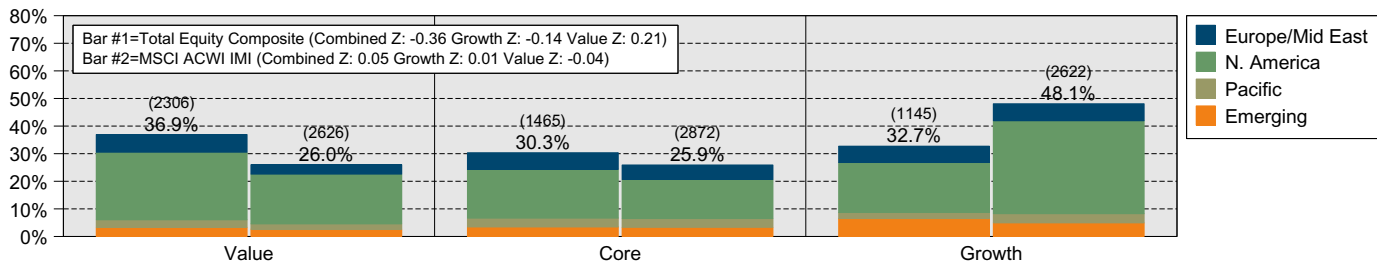
Style Map vs Callan Public Fund Spr DB
Holdings as of June 30, 2025



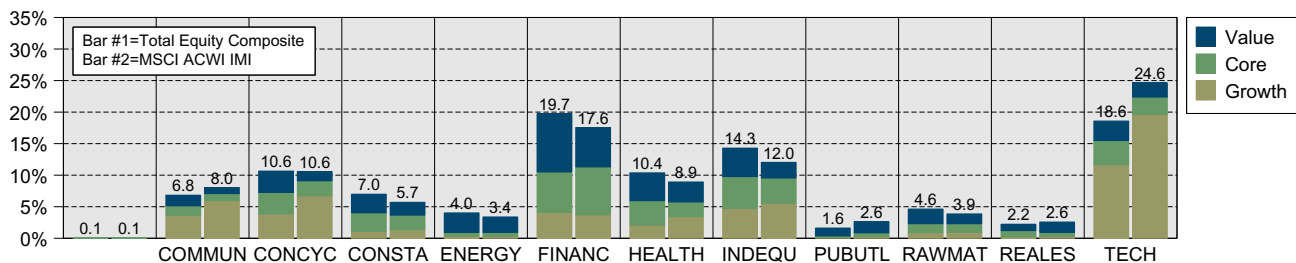
Style Exposure Matrix
Holdings as of June 30, 2025

Europe/ Mid East	6.4% (395)	6.0% (314)	5.9% (213)	18.3% (922)
	3.4% (398)	5.2% (461)	6.2% (459)	14.8% (1318)
N. America	24.5% (1020)	17.7% (556)	18.1% (324)	60.3% (1900)
	18.0% (876)	14.2% (870)	33.7% (673)	65.9% (2419)
Pacific	2.7% (741)	3.2% (309)	2.2% (157)	8.1% (1207)
	1.9% (435)	3.2% (496)	3.3% (426)	8.4% (1357)
Emerging	3.3% (150)	3.4% (286)	6.5% (451)	13.2% (887)
	2.7% (917)	3.3% (1045)	4.9% (1064)	10.9% (3026)
Total	36.9% (2306)	30.3% (1465)	32.7% (1145)	100.0% (4916)
	26.0% (2626)	25.9% (2872)	48.1% (2622)	100.0% (8120)
	Value	Core	Growth	Total

Combined Z-Score Style Distribution
Holdings as of June 30, 2025



Sector Weights Distribution
Holdings as of June 30, 2025

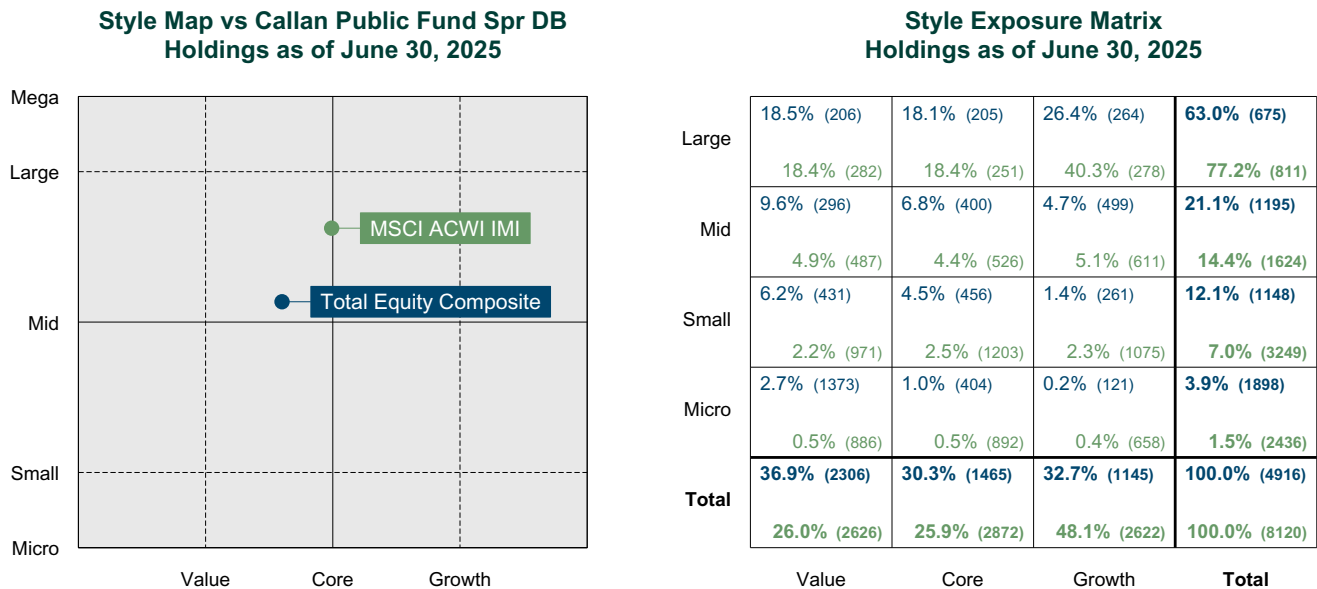


Current Holdings Based Style Analysis

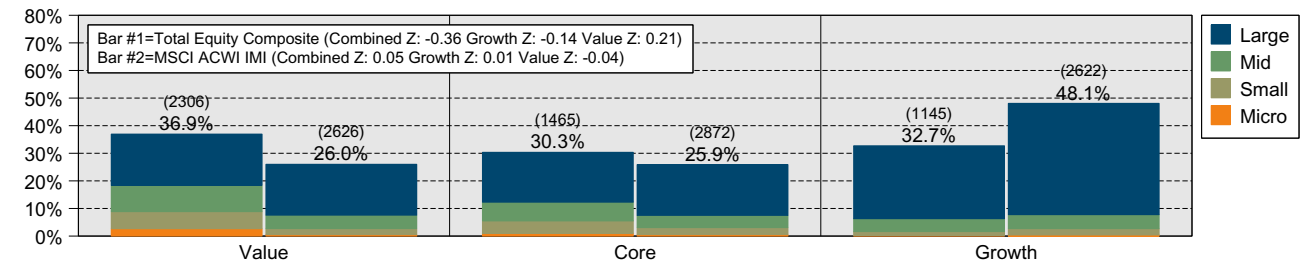
Total Equity Composite

As of June 30, 2025

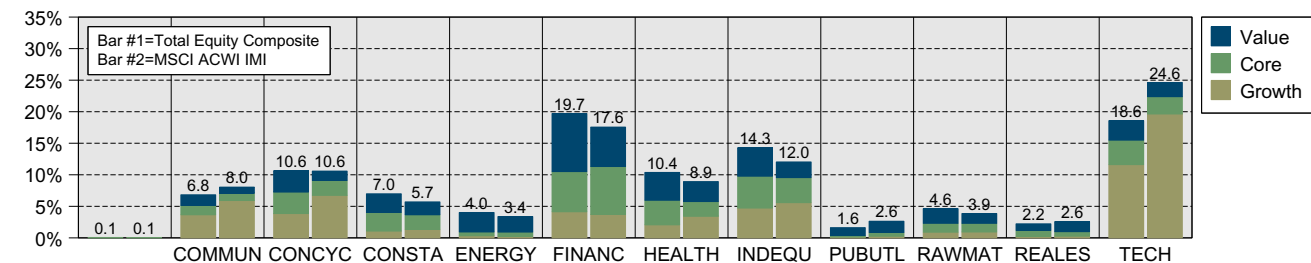
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.



Combined Z-Score Style Distribution Holdings as of June 30, 2025



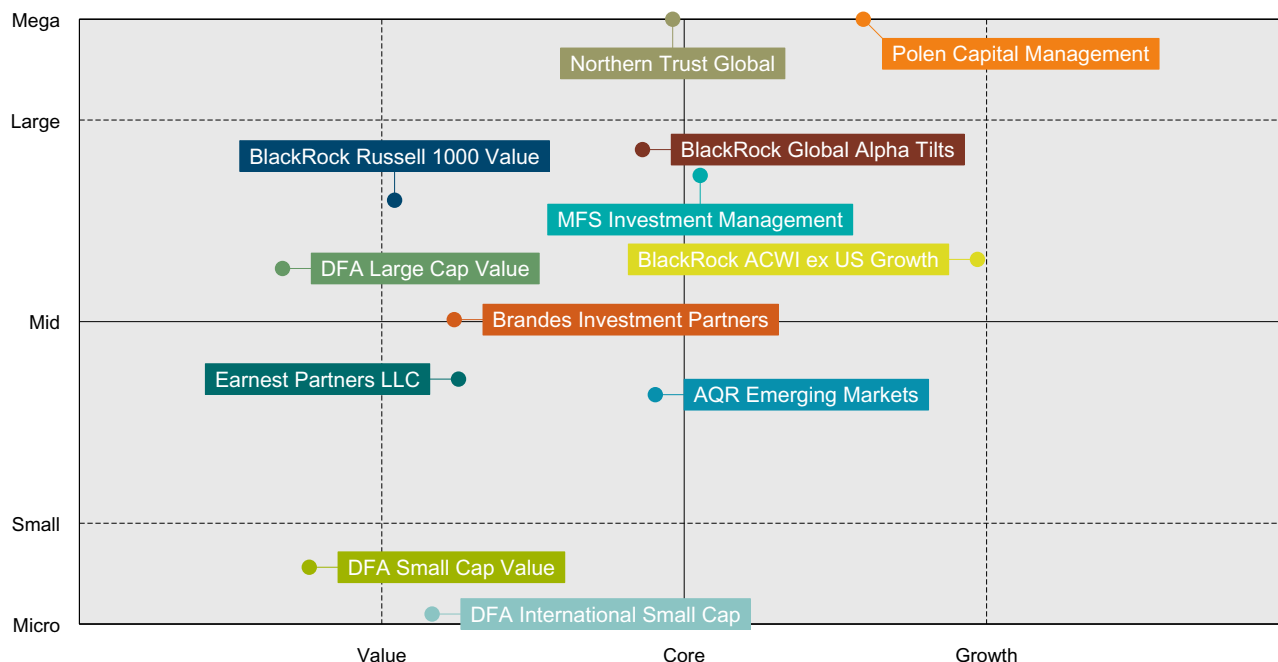
Sector Weights Distribution Holdings as of June 30, 2025



Global Holdings Based Style Analysis For One Quarter Ended June 30, 2025

This page analyzes and compares the investment styles of multiple portfolios using a detailed holdings-based style analysis methodology. The size component of style is measured by the weighted median market capitalization of the holdings. The value/core/growth style dimension is captured by the "Combined Z-Score" of the portfolio. This score is based on eight fundamental factors used in the MSCI stock style scoring system. The table below gives a more detailed breakdown of several relevant style metrics on the portfolios.

Style Map Holdings for One Quarter Ended June 30, 2025



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities	Security Diversification
BlackRock Russell 1000 Value	8.49%	105.53	(0.94)	(0.43)	0.51	874	66.08
DFA Large Cap Value	6.14%	61.88	(1.33)	(0.46)	0.87	347	53.77
Northern Trust Global	8.93%	305.40	0.02	(0.00)	(0.02)	503	25.75
Polen Capital Management	5.11%	511.47	0.63	0.16	(0.47)	24	7.49
Earnest Partners LLC	7.79%	21.26	(0.72)	(0.34)	0.38	59	22.09
DFA Small Cap Value	8.18%	3.63	(1.24)	(0.34)	0.89	948	118.65
MFS Investment Management	9.19%	121.39	0.11	(0.12)	(0.23)	73	20.07
BlackRock Global Alpha Tilts	11.32%	137.91	(0.08)	(0.08)	0.00	341	35.71
AQR Emerging Markets	4.85%	19.47	(0.04)	0.06	0.10	317	36.96
Brandes Investment Partners	13.38%	29.16	(0.73)	(0.23)	0.50	65	24.12
DFA International Small Cap	7.45%	2.55	(0.81)	(0.20)	0.61	1823	137.46
BlackRock ACWI ex US Growth	9.16%	67.69	0.98	0.34	(0.65)	1083	65.31

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Adams Street Partners, LLC
Aegon Asset Management
AEW Capital Management, L.P.
AllianceBernstein
Allspring Global Investments, LLC
Altrinsic Global Advisors, LLC
American Century Investments
Antares Capital LP
Apollo Global Management, Inc.
AQR Capital Management
Ares Management LLC
ARGA Investment Management, LP
Ariel Investments, LLC
Aristotle Capital Management, LLC
Atlanta Capital Management Co., LLC

Manager Name

Baillie Gifford International, LLC
Baird Advisors
Barings LLC
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
Black Creek Investment Management Inc.
BlackRock
Blackstone Group (The)
Blue Owl Capital, Inc.
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
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Brown Investment Advisory & Trust Company
Capital Group

Manager Name

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Centerbridge Partners, L.P.

Cercano Management LLC

CIBC Asset Management

CIM Group, LP

ClearBridge Investments, LLC

Cohen & Steers Capital Management, Inc.

Columbia Threadneedle Investments

Comgest

Comvest Partners

Crescent Capital Group LP

Dana Investment Advisors, Inc.

DePrince, Race & Zollo, Inc.

Dimensional Fund Advisors L.P.

DoubleLine

DWS

EARNEST Partners, LLC

Fayez Sarofim & Company

Federated Hermes, Inc.

Fengate Asset Management

Fidelity Institutional Asset Management

Fiera Capital Corporation

First Eagle Investment Management, LLC

First Hawaiian Bank Wealth Management Division

Fisher Investments

Fortress Investment Group

Franklin Templeton

Fred Alger Management, LLC

GAMCO Investors, Inc.

GlobeFlex Capital, L.P.

Goldman Sachs

Golub Capital

GW&K Investment Management

Harbor Capital Group Trust

Hardman Johnston Global Advisors LLC

Heitman LLC

Hotchkis & Wiley Capital Management, LLC

HPS Investment Partners, LLC

IFM Investors

Impax Asset Management LLC

Manager Name

Income Research + Management

Insight Investment

Invesco

I Squared Capital Advisors (US) LLC

J.P. Morgan

Janus

Jennison Associates LLC

Jobs Peak Advisors

Kayne Anderson Capital Advisors LP

Kayne Anderson Rudnick Investment Management, LLC

King Street Capital Management, L.P.

Lazard Asset Management

LGIM America

Lincoln National Corporation

Longview Partners

Loomis, Sayles & Company, L.P.

Lord, Abnett & Co.

LSV Asset Management

MacKay Shields LLC

Mackenzie Investments

Macquarie Asset Management

Man Group

Manulife Investment Management

Marathon Asset Management, L.P.

Mawer Investment Management Ltd.

MetLife Investment Management

MFS Investment Management

Mondrian Investment Partners Limited

Montag & Caldwell, LLC

Morgan Stanley Investment Management

MUFG Bank, Ltd.

Natixis Investment Managers

Neuberger Berman

Newton Investment Management

New York Life Investment Management LLC (NYLIM)

Ninety One North America, Inc.

Nomura Capital Management, LLC

Northern Trust Asset Management

Nuveen

Oak Hill Advisors, L.P.

Manager Name

Oaktree Capital Management, L.P.

ORIX Corporation USA

P/E Investments

Pacific Investment Management Company

Pantheon Ventures

Parametric Portfolio Associates LLC

Partners Group (USA) Inc.

Pathway Capital Management, LP

Peavine Capital

Peregrine Capital Management, LLC

PGIM DC Solutions

PGIM Fixed Income

PGIM Quantitative Solutions LLC

Pictet Asset Management

PineBridge Investments

Polen Capital Management, LLC

PPM America, Inc.

Pretium Partners, LLC

Principal Asset Management

Raymond James Investment Management

RBC Global Asset Management

Regions Financial Corporation

Robeco Institutional Asset Management, US Inc.

Sands Capital Management

Schroder Investment Management North America Inc.

Segall Bryant & Hamill

Manager Name

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SLC Management

Star Mountain Capital, LLC

State Street Investments Managers

Strategic Global Advisors, LLC

TD Global Investment Solutions – TD Epoch

T. Rowe Price Associates, Inc.

The Carlyle Group

The D.E. Shaw Group

The TCW Group, Inc.

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TPG Angelo Gordon

VanEck

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Virtus Investment Partners, Inc.

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Voya

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Wasatch Global Investors

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