

**New Hampshire Retirement System (NHRS)
Investment Committee Meeting**

(Certain portions of the meeting may be held in Non-Public Session)

**Agenda
Tuesday, December 10, 2024**

- 12:30 pm Call to Order
- 12:30 pm Approve Minutes [Tab 1]
- October 8, 2024, Public Meeting Minutes *(Action Expected)*
- 12:35 pm Comments from the Chief Investment Officer [Tab 2]
- Portfolio: Performance & Manager Update(s)
 - Rebalancing Update
 - Holdings Update
 - Work Plan
 - Proposed 2025 Investment Committee Meeting Schedule *(Action Expected)*
 - Global Equities and Fixed Income Implementation Plans Update
- 1:00 pm Top Tier Capital Partners Presentation (Private Equity) [Tab 3] (Action Expected)
- 1:45 pm Blackstone Presentation (Private Credit) [Tab 4] (Action Expected)
- 2:30 pm Causeway Presentation (Public Equity) [Tab 5] (Action Expected)
- 3:15 pm Artisan Presentation (Public Equity) [Tab 6] (Action Expected)
- 4:00 pm DRAFT Comprehensive Annual Investment Report [Tab 7] (Action Expected)
- 4:15 pm Adjournment

Informational Materials [Tab 8]

- Callan Monthly Review – October 31, 2024
- Callan Monthly Review – June 30, 2024 (Final)
- Asset Allocation Update
- Private Debt & Equity Summary
- Callan Quarterly Review for Period Ending September 30, 2024
- Callan Quarterly Private Markets Review for the Period Ending June 30, 2024
- Quarterly Real Estate Report for the Period Ending June 30, 2024

Next Meeting: Tuesday, January 14, 2025

NOTE: The draft of these minutes from the October 8, 2024, Independent Investment Committee meeting is subject to approval and execution at a subsequent meeting.

**Independent Investment Committee Meeting
October 8, 2024
DRAFT Public Minutes**

**New Hampshire Retirement System
54 Regional Drive
Concord, NH 03301**

Committee Members:

- Christine Clinton, CFA, *Chair*
- Brian Bickford, CFA, CFP®, *Member*
- Maureen Kelliher, CFA, *Member*
- Mike McMahon, *Non-Voting Member*
- Paul Provost, CFP®, *Member*

Staff:

- Jan Goodwin, *Executive Director*
- Raynald Leveque, *Chief Investment Officer*
- Gregory Richard, CAIA, CFA, CTP, *Senior Investment Officer*
- Shana Biletch, CFP®, *Investment Officer*
- Jonathan Diaz, *Investment Officer*
- Jesse Pasierb, *Investment Operations Analyst*
- Mark Cavanaugh, *Associate Counsel, and Compliance Officer (by video conference)*
- Tim Crutchfield, *Deputy Director, and Chief Legal Counsel (by video conference)*
- Heather Hoffacker, *Internal Auditor (by video conference)*
- Marty Karlon, *Director of Communications and Legislative Affairs (by video conference)*

Guests:

- Angel Haddad, *Senior Vice President, Callan LLC*
- Pete Keliuotis, CFA, *Executive Vice President, Callan LLC (by video conference)*
- Jay Kloepfer, *Executive Vice President, Callan LLC (by video conference)*
- Kevin Machiz, CFA, FRM, *Senior Vice President, Callan LLC (by video conference)*
- Britton Murdoch, *Senior Vice President, Callan LLC (by video conference)*

Chair Clinton called the meeting to order at 12:30 PM.

On a motion by Ms. Kelliher, seconded by Mr. Bickford, the Independent Investment Committee (Committee) unanimously approved the public minutes of the August 13th, 2024, Investment Committee meeting as presented.

Mr. Leveque reviewed investment returns through recent periods and referred to the Callan Monthly Review for the period ending August 31, 2024. He shared an update on holdings within the NHRS portfolio, total plan liquidity, and Russian holdings and discussed the Work Plan.

On a motion by Mr. Bickford, seconded by Ms. Kelliher, the Committee unanimously approved the work plan as presented.

Next, Mr. Leveque introduced the Global Fixed Income Strategy and reviewed the new Strategic Asset Allocation. The Committee discussed approaches to addressing risk within the fixed income portfolio. Ms. Bilech provided an update on recent private credit commitments and the overall risk profile of the fixed income portfolio. Mr. Machiz reviewed key characteristics of the current fixed income portfolio.

Following the fixed income discussion, Mr. Leveque introduced the Global Equity Strategy with an overview of the current portfolio positioning and recent performance, highlighting planned adjustments to align with the Strategic Asset Allocation. The Committee discussed the proposed strategy, with Mr. Richard addressing their questions. Mr. Haddad and Mr. Kloepfer then provided insights into structural changes in equity markets that have contributed to the underperformance of small caps and international equities.

On a motion by Ms. Kelliher, seconded by Mr. Bickford, the Committee unanimously voted to approve the asset class rebalancing ranges as presented. The Committee directed staff to submit the rebalancing ranges recommendation to the Board of Trustees at its upcoming meeting, with a formal recommendation from the Investment Committee for the Board's approval.

On a motion by Mr. Bickford, seconded by Ms. Kelliher, the Committee unanimously voted to approve the MSCI All Country World IMI benchmark for the global equity asset class as presented. The Committee directed staff to submit the benchmark recommendation to the Board of Trustees at its upcoming meeting, with a formal recommendation from the Investment Committee for the Board's approval.

Mr. Leveque then introduced the proposed guidelines for the Infrastructure Investment Asset Class, providing an overview of staff's perspective on the asset class.

On a motion by Ms. Kelliher, seconded by Mr. Bickford, the Committee unanimously voted to approve the proposed guidelines for the infrastructure asset class, as presented. In addition, the Committee directed staff to submit the infrastructure benchmark recommendation (CPI + 4%) to the Board of Trustees at its upcoming meeting, with a formal recommendation from the Investment Committee for the Board's approval.

On a motion by Ms. Kelliher, seconded by Mr. Provost, the Committee unanimously voted to adjourn the meeting, by roll call vote.

The meeting adjourned at 2:25pm.

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Market Environment

As of October 31, 2024

Index	Last Month	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell 3000	(0.73)	6.23	37.86	7.64	14.60	12.44
S&P 500	(0.91)	5.89	38.02	9.08	15.27	13.00
Russell 2000	(1.44)	9.27	34.07	(0.05)	8.50	7.94
MSCI ACWI ex USA	(4.91)	8.06	24.33	1.60	5.78	4.79
MSCI Emerging Markets	(4.45)	8.72	25.32	(1.43)	3.93	3.43
Bloomberg Aggregate	(2.48)	5.20	10.55	(2.20)	(0.23)	1.49
NCREIF NFI-ODCE	0.01	0.02	(6.44)	(1.85)	1.97	5.05
Bloomberg Commodity Price	(2.24)	(0.64)	(6.23)	(1.73)	4.36	(1.81)

Both equities and fixed income posted negative returns in October. The macroeconomic data released during the month was solid, with GDP and the jobs market remaining strong. CPI data declined but fell short of expectations. Market performance was driven by anticipation of the presidential election results, interest rate trajectories, and mixed third-quarter earnings. Large cap stocks outpaced small caps, and growth stocks outperformed value. U.S. equities outpaced global ex-U.S. equities, with emerging markets outperforming developed markets. Within fixed income, bond prices fell, given rising rates. A large sell-off in Treasuries occurred in the month. The 2- and 10-year Treasury yield rose amid uncertainty around potential rate cuts.

Real, annualized U.S. GDP increased 2.8% in 3Q24, according to the advance estimate. GDP in 2Q24 increased 3.0%. The advance estimate reflects a deceleration in private inventory investment and residential fixed investment, which was partially offset by an increase in consumer spending, exports, and federal government spending. Imports increased, which is subtracted in the calculation of GDP.

The employment situation in the U.S. was relatively unchanged in October. The U.S. economy added about 12,000 jobs. In September, 254,000 jobs were added. Sectors experiencing employment growth included health care and government, while temporary help services and manufacturing employment declined. The seasonally adjusted unemployment rate for October was 4.1%, unchanged from September. The labor force participation rate slightly decreased from 62.7% to 62.6%.

The headline Consumer Price Index (CPI) rose 2.6% year-over-year in October, an increase from the September reading of 2.4%. A gain in the shelter index accounted for over half of the increase in the all items index. The food index also went up. The energy index was unchanged. Price levels rose 0.2% month-over-month in October, unchanged from September. Core CPI, which excludes food and energy prices, gained 3.3%, unchanged from September. The core monthly increase was 0.3% in October.

*Due to a lag in the reporting of NCREIF NFI-ODCE Index returns, the monthly return shown is deduced from the most recent quarterly return.

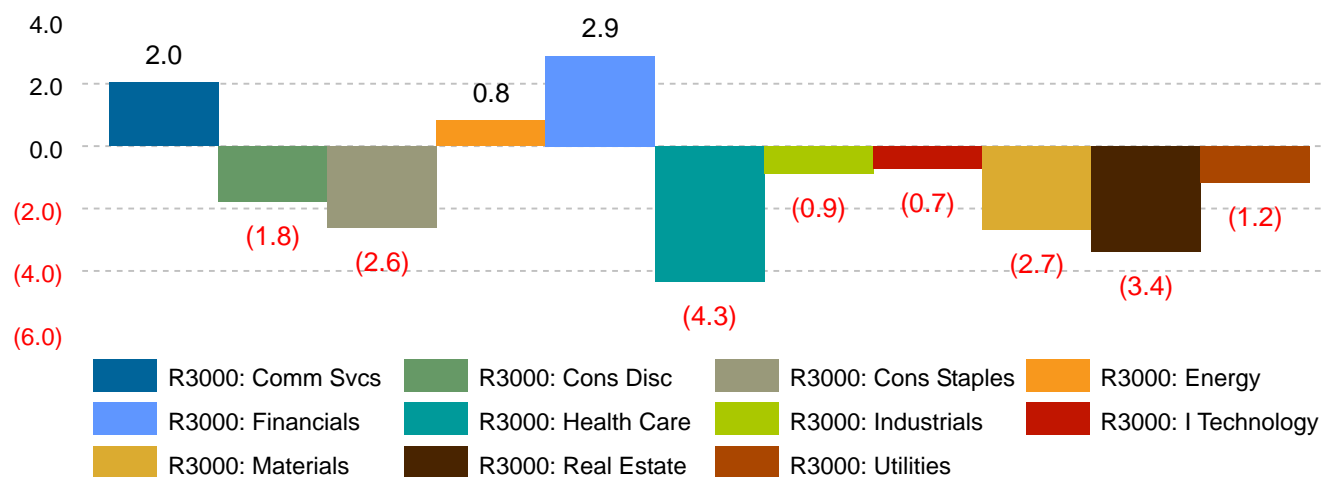
U.S. Equity Overview As of October 31, 2024

Index	Last Month	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell 3000	(0.73)	6.23	37.86	7.64	14.60	12.44
Russell 1000	(0.70)	6.08	38.07	8.12	15.00	12.75
Russell 1000 Growth	(0.33)	3.19	43.77	8.84	19.00	16.18
Russell 1000 Value	(1.10)	9.43	30.98	6.85	10.14	8.87
Russell Midcap	(0.54)	9.21	35.39	3.55	10.94	9.80
Russell 2000	(1.44)	9.27	34.07	(0.05)	8.50	7.94
Russell 2000 Growth	(1.33)	8.41	36.49	(2.30)	7.92	8.15
Russell 2000 Value	(1.56)	10.15	31.77	1.95	8.42	7.33

U.S. equities fell 0.7% in October (Russell 3000 Index). Jobs and GDP data underscored a resilient economic backdrop. However, the September CPI report came in higher than anticipated, raising questions about the Fed's next rate cut move. Disappointing quarterly earnings from major corporations further weighed on market performance. Large cap stocks outperformed small caps (Russell 1000 Index: -0.7% vs. Russell 2000 Index: -1.4%). In both the large and small cap spaces, growth stocks outperformed value (Russell 1000 Growth Index: -0.3% vs. Russell 1000 Value Index: -1.1%; Russell 2000 Growth Index: -1.3% vs. Russell 2000 Value Index: -1.6%).

Sector performance was negative overall in October, with 8 of the 11 sectors that comprise the Russell 3000 posting losses. Sectors that posted positive returns were Financials (+2.9%), Communication Services (+2.0%), and Energy (+0.8%). The sectors with the lowest performance were Health Care (-4.3%), Real Estate (-3.4%), Materials (-2.7%), Consumer Staples (-2.6%), and Consumer Discretionary (-1.8%).

Russell 3000 Index 1 Month Sector Returns



Global ex-U.S. Equity Overview

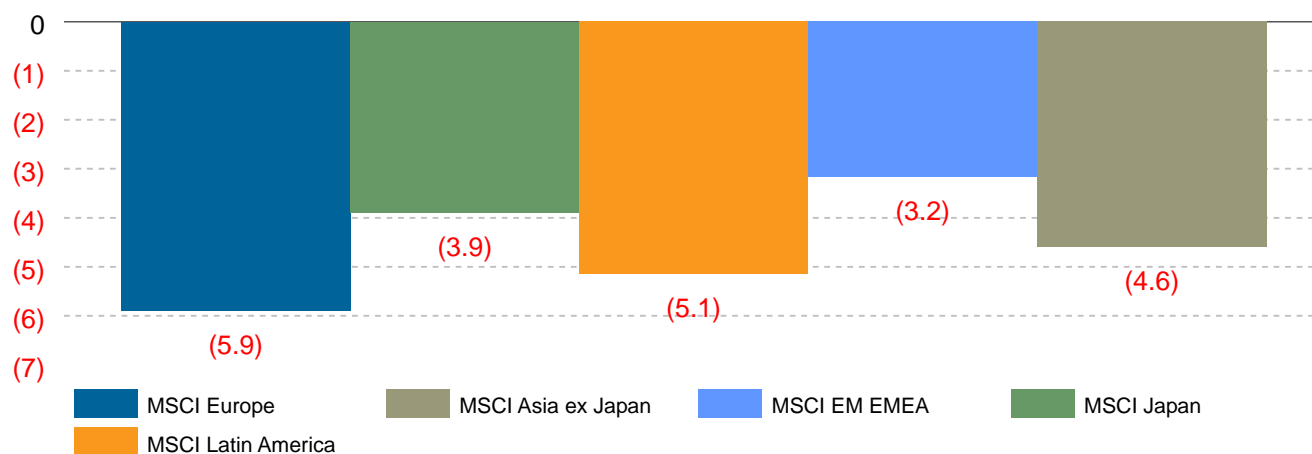
As of October 31, 2024

Index	Last Month	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
MSCI ACWI ex USA	(4.91)	8.06	24.33	1.60	5.78	4.79
MSCI EAFE	(5.44)	7.26	22.97	2.70	6.24	5.27
MSCI EAFE Hedged	(1.26)	1.47	23.17	9.51	10.37	9.04
MSCI Emerging Markets	(4.45)	8.72	25.32	(1.43)	3.93	3.43
MSCI ACWI ex USA Small Cap	(5.23)	8.90	23.73	(0.92)	6.21	5.76

Global ex-U.S. equities posted losses in October. The MSCI ACWI ex-USA Index fell 4.9%, with growth stocks underperforming value (MSCI ACWI ex-USA Growth Index: -5.1% vs. MSCI ACWI ex-USA Value Index: -4.7%) and large cap stocks outperforming small cap (MSCI ACWI ex-USA Large Cap Index: -1.8% vs. MSCI ACWI ex-USA Small Cap Index: -5.2%). The euro zone economy grew quarter over quarter in October. The European Central Bank announced its third rate cut, bringing the deposit rate down to 3.25%. However, a slight rise in inflation and increase in economic growth could prompt a pause in further cuts. In the U.K., equities declined as the new budget raised concerns about the long-term economic and interest rate outlook. Japanese markets saw volatility throughout the month. Yen weakness supported exporters, and financial stocks performed well. However, political uncertainty was the primary driver of market performance. The Bank of Japan made no policy changes at its October meetings. The U.S. dollar strengthened over the month against a basket of developed market currencies (MSCI EAFE Index: -5.4% vs. MSCI EAFE Hedged Index: -1.3%).

Emerging markets marginally outperformed developed markets in October, falling 4.5% (MSCI Emerging Markets Index). Emerging market equities declined as investors sought to reduce risk ahead of the upcoming U.S. presidential election. Turkey, Greece, and Poland were among the worst-performing countries. Taiwan stood out, posting positive returns, driven by the strong performance of its Technology sector. The MSCI Asia ex-Japan Index dropped by 4.6%, led by a correction in Indian markets and ongoing issues in China. Indian equities faced pressure as concerns grew surrounding conflicts in the Middle East disrupting oil supplies. China's performance struggled due to persistent issues in its real estate sector and high youth unemployment. Emerging Europe, the Middle East, and Africa saw negative returns (MSCI EM EMEA: -3.2%), as well as Latin American markets (MSCI Emerging Markets Latin America Index: -5.1%).

MSCI Regional 1 Month Returns

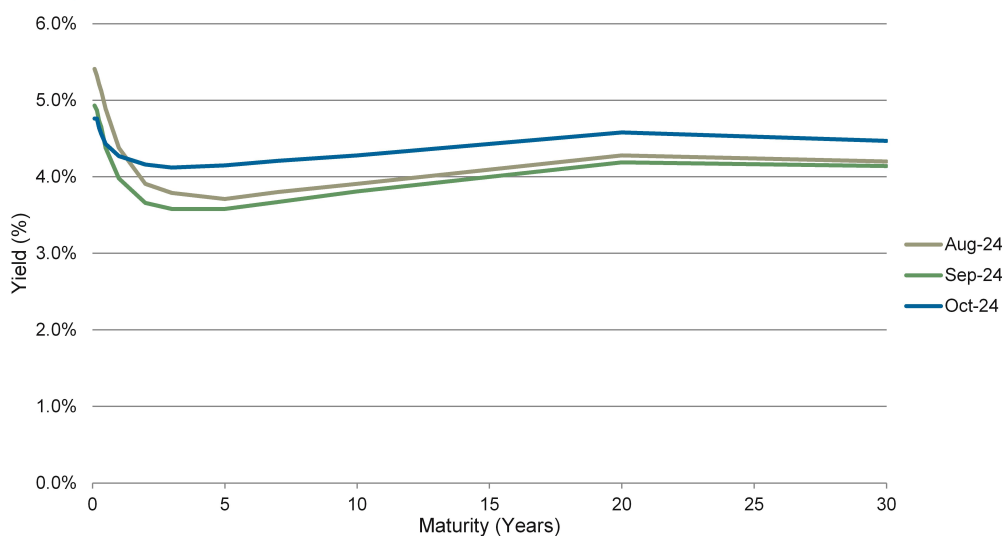


Fixed Income Overview

As of October 31, 2024

Index	Last Month	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Bloomberg Aggregate	(2.48)	5.20	10.55	(2.20)	(0.23)	1.49
Bloomberg Long Gov/Credit	(4.69)	7.96	17.01	(8.16)	(2.90)	1.61
Bloomberg Treasury	(2.38)	4.74	8.41	(2.55)	(0.70)	1.00
Bloomberg Credit	(2.41)	5.71	13.07	(1.99)	0.46	2.43
Bloomberg Mortgage	(2.83)	5.53	11.44	(2.08)	(0.60)	1.02
Bloomberg TIPS	(1.79)	4.12	8.61	(1.54)	2.20	2.26
Bloomberg Corp High Yield	(0.54)	5.28	16.47	2.97	4.55	4.86
Credit Suisse Leveraged Loans	0.85	2.08	10.55	6.51	5.89	4.91
90-day T-bill	0.38	1.37	5.39	3.63	2.36	1.69

Treasury Yield Curve



Bond returns were negative in October (Bloomberg US Aggregate Bond Index). Treasury yields rose across the curve as generally positive economic data shifted investor expectations for rate cuts. Markets are now pricing in fewer cuts-25 basis points less for 2024 and 50 basis points less for 2025. Additionally, a large sell-off in Treasuries occurred over the month, as expectations of a Republican victory raised concerns about inflationary policies, further reducing the likelihood of future rate cuts. In anticipation of election-related volatility, municipal bond issuance surged to a 2024 high of \$65 billion in October, which was met with strong demand.

Investment grade issuance was \$95 billion in October, in line with expectations. Yields rose 44 bps to 5.16%. High yield bonds experienced significant activity in the primary market. High yield issuers priced \$24 billion, and spreads ended the month at 282 bps, 13 bps tighter than September. Yields increased 34 bps to 7.33%. The 90-day T-bill yield decreased 9 bps from 4.73% to 4.64%, the 2-year rose 50 bps to 4.16%, the 10-year increased 47 bps to 4.28%, and the 30-year increased 33 bps to 4.47%. The 2-10 Year Treasury Yield spread tightened from 15 bps to 12 bps.

The Bloomberg US Aggregate Bond Index fell 2.5%. The Bloomberg Credit Index and the Bloomberg High Yield Corporate Index fell 2.4% and 0.5%, respectively. Long bonds (Bloomberg Long Gov/Credit Index) declined 4.7% this month. TIPS (Bloomberg US TIPS Index: -1.8%) outperformed nominal Treasuries (Bloomberg Treasury Index: -2.4%). The 10-year breakeven inflation rate increased from 2.18% to 2.33%.

The table below details the rates of return for the fund’s asset classes over various time periods ended October 31, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended October 31, 2024									
Composite	Total Fund Weighting As of 10/31/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Domestic Equity	33.32%	-1.03%	2.21%	6.08%	17.01%	35.51%	6.45%	12.97%	11.13%
<i>Domestic Equity Benchmark(1)</i>		-0.73%	3.52%	5.45%	19.75%	37.86%	7.64%	14.15%	12.53%
<i>Excess Return</i>		-0.30%	-1.31%	0.63%	-2.74%	-2.34%	-1.20%	-1.18%	-1.39%
Total Non US Equity	19.03%	-3.90%	0.28%	3.07%	9.02%	24.42%	2.13%	6.09%	5.48%
<i>Non US Equity Benchmark(2)</i>		-4.91%	0.44%	2.76%	8.61%	24.33%	1.60%	5.78%	4.79%
<i>Excess Return</i>		1.01%	-0.16%	0.31%	0.41%	0.09%	0.53%	0.31%	0.68%
Total Fixed Income	19.15%	-2.43%	0.60%	2.84%	2.25%	11.28%	-1.24%	1.17%	2.18%
<i>Bloomberg Capital Universe Bond Index</i>		-2.27%	0.53%	2.81%	2.52%	11.20%	-1.78%	0.18%	1.82%
<i>Excess Return</i>		-0.16%	0.07%	0.03%	-0.27%	0.08%	0.53%	0.99%	0.36%
Total Cash	1.70%	0.42%	1.29%	1.73%	4.43%	5.41%	3.73%	2.42%	1.77%
<i>3-Month Treasury Bill</i>		0.38%	1.30%	1.75%	4.43%	5.39%	3.63%	2.36%	1.69%
<i>Excess Return</i>		0.04%	-0.01%	-0.02%	0.00%	0.02%	0.10%	0.06%	0.08%
Total Real Estate (Q2)*	8.97%	-0.14%	0.04%	0.03%	-5.37%	-6.93%	3.69%	5.97%	8.32%
<i>Real Estate Benchmark(3)</i>		0.01%	-0.43%	-0.65%	-8.05%	-9.35%	0.33%	2.20%	5.41%
<i>Excess Return</i>		-0.15%	0.48%	0.68%	2.69%	2.42%	3.36%	3.78%	2.91%
Total Private Equity (Q2)*	13.35%	-0.02%	-0.01%	0.02%	3.70%	5.10%	5.72%	13.02%	11.71%
<i>Private Equity Benchmark(4)</i>		1.99%	10.35%	5.79%	31.38%	23.33%	11.63%	17.68%	16.30%
<i>Excess Return</i>		-2.01%	-10.36%	-5.77%	-27.69%	-18.22%	-5.91%	-4.65%	-4.59%
Total Private Debt (Q2)*	4.49%	-0.02%	-0.30%	0.00%	3.90%	5.68%	6.36%	5.54%	5.83%
<i>Private Debt Benchmark(5)</i>		1.43%	3.38%	3.27%	11.00%	11.79%	5.89%	5.00%	5.32%
<i>Excess Return</i>		-1.45%	-3.68%	-3.28%	-7.10%	-6.11%	0.47%	0.55%	0.51%
Total Fund Composite	100.00%	-1.58%	0.90%	3.13%	7.62%	17.37%	3.76%	8.00%	7.41%
<i>Total Fund Benchmark(6)</i>		-1.50%	2.43%	3.61%	10.82%	20.47%	4.05%	8.06%	7.71%
<i>Excess Return</i>		-0.08%	-1.52%	-0.48%	-3.20%	-3.10%	-0.29%	-0.06%	-0.30%

(1) The Domestic Equity Benchmark is the Russell 3000 Index as of 7/1/2021.

(2) The Non US Equity Index is the MSCI ACWI ex US Index as of 7/1/2003. Prior to 7/1/2003 it was the MSCI EAFE Index.

(3) The Real Estate Benchmark is the NCREIF NFI-ODCE Value Weight Net Index lagged 1 quarter as of 7/1/2015.

(4) The Private Equity Benchmark is the Russell 3000 Index + 2% lagged 1 quarter as of 7/1/2022.

(5) The Private Debt Benchmark is (50% MStar LSTA Leveraged Loan 100 Idx + 50% Bloomberg High Yield Index) + 1% lagged 1 quarter as of 7/1/2022.

(6) Current Month Target = 30.0% Russell 3000 Index, 25.0% Bloomberg Universal, 20.0% MSCI ACWI ex-US, 10.0% NCREIF NFI-ODCE Value Weight Net lagged 3 months, 10.0% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg High Yield Corp lagged 3 months+1.0% and 2.5% MStar LSTA Lev Loan 100 lagged 3 months +1.0%.

(7) For the trailing 25 year period ended 10/31/24, the Total Fund has returned 6.50% versus the Total Fund Custom Benchmark return of 6.60%.

*Real Estate and Alternatives market values reflect current custodian valuations, which are typically lagged approximately 1 quarter.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of October 31, 2024, with the distribution as of September 30, 2024. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

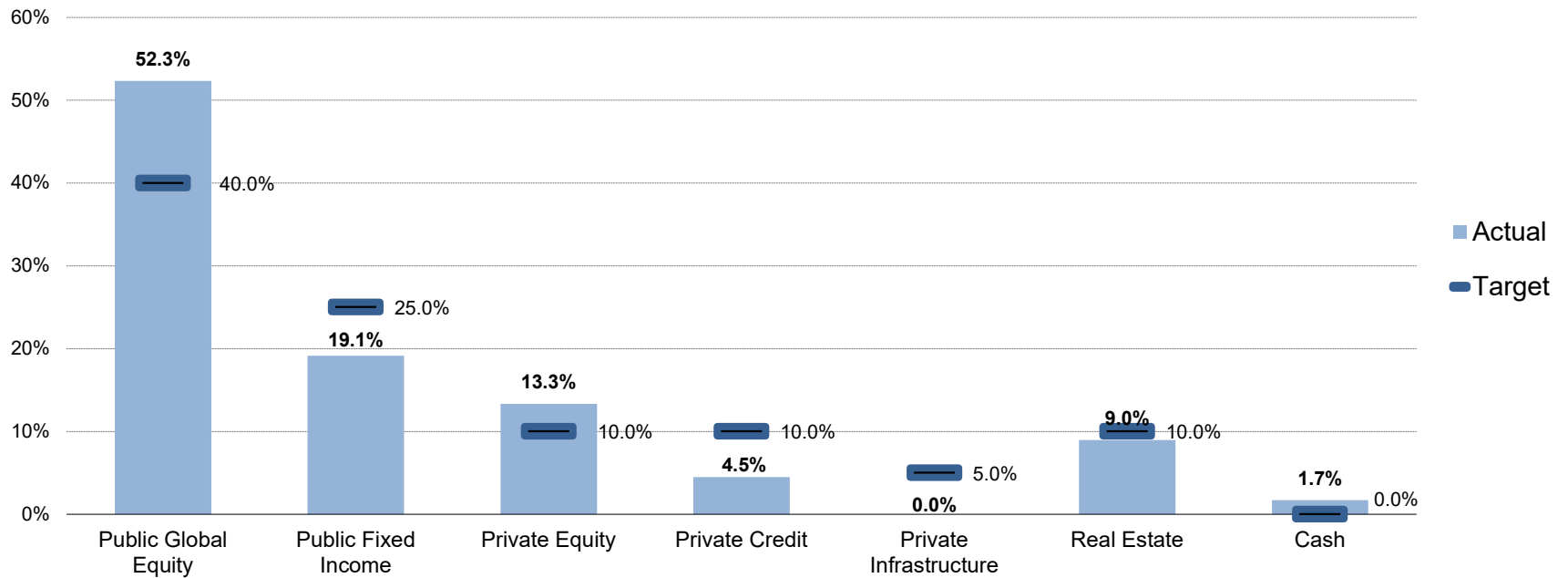
	October 31, 2024		Net New Inv.	Inv. Return	September 30, 2024	
	Market Value	Weight			Market Value	Weight
Total Domestic Equity	\$4,184,452,478	33.32%	\$0	\$(42,581,779)	\$4,227,034,257	33.13%
Large Cap Domestic Equity	\$2,418,902,854	19.26%	\$0	\$(22,127,240)	\$2,441,030,094	19.13%
Blackrock S&P 500	2,418,902,854	19.26%	0	(22,127,240)	2,441,030,094	19.13%
SMid Cap Domestic Equity	\$750,051,040	5.97%	\$0	\$(12,100,389)	\$762,151,429	5.97%
AllianceBernstein	475,271,654	3.78%	0	(7,193,712)	482,465,366	3.78%
TSW	274,779,386	2.19%	0	(4,906,678)	279,686,063	2.19%
Small Cap Domestic Equity	\$1,015,498,583	8.09%	\$0	\$(8,354,150)	\$1,023,852,733	8.02%
Boston Trust	257,490,506	2.05%	0	(3,695,718)	261,186,224	2.05%
Segall Bryant & Hamill	274,779,526	2.19%	0	(3,420,850)	278,200,376	2.18%
Wellington	483,228,551	3.85%	0	(1,237,582)	484,466,133	3.80%
Total Non US Equity	\$2,389,736,719	19.03%	\$0	\$(95,679,902)	\$2,485,416,621	19.48%
Core Non US Equity (1)	\$1,450,462,647	11.55%	\$0	\$(66,103,615)	\$1,516,566,261	11.89%
Aristotle	187,406,891	1.49%	0	(10,058,003)	197,464,893	1.55%
Artisan Partners	423,455,805	3.37%	0	(8,556,637)	432,012,442	3.39%
BlackRock Superfund	204,698,978	1.63%	0	(10,612,931)	215,311,909	1.69%
Causeway Capital	465,920,861	3.71%	0	(26,432,756)	492,353,617	3.86%
Lazard	168,468,181	1.34%	0	(10,428,944)	178,897,125	1.40%
Emerging Markets	\$190,972,366	1.52%	\$0	\$(7,559,885)	\$198,532,252	1.56%
Wellington Emerging Markets	190,972,366	1.52%	0	(7,559,885)	198,532,252	1.56%
Non US Small Cap	\$142,249,428	1.13%	\$0	\$(8,857,819)	\$151,107,247	1.18%
Wellington Int'l Small Cap Research	142,249,428	1.13%	0	(8,857,819)	151,107,247	1.18%
Global Equity	\$606,052,278	4.83%	\$0	\$(13,158,583)	\$619,210,861	4.85%
Walter Scott Global Equity	606,052,278	4.83%	0	(13,158,583)	619,210,861	4.85%
Total Fixed Income	\$2,404,655,664	19.15%	\$0	\$(59,420,115)	\$2,464,075,780	19.31%
BlackRock SIO Bond Fund	278,334,124	2.22%	0	(4,134,344)	282,468,468	2.21%
Brandywine Asset Mgmt	227,992,403	1.82%	0	(13,482,959)	241,475,361	1.89%
FIAM (Fidelity) Tactical Bond	386,935,490	3.08%	0	(8,771,206)	395,706,696	3.10%
Income Research & Management	805,934,113	6.42%	0	(18,417,618)	824,351,731	6.46%
Loomis Sayles	300,908,308	2.40%	0	(5,366,773)	306,275,081	2.40%
Manulife Strategic Fixed Income	222,066,388	1.77%	0	(4,598,000)	226,664,388	1.78%
Mellon US Agg Bond Index	182,484,838	1.45%	0	(4,649,216)	187,134,054	1.47%
Total Cash	\$213,366,759	1.70%	\$11,270,340	\$847,705	\$201,248,714	1.58%
Total Marketable Assets	\$9,192,211,620	73.19%	\$11,270,340	\$(196,834,092)	\$9,377,775,372	73.50%
Total Real Estate	\$1,126,377,869	8.97%	\$(18,450,764)	\$(1,642,685)	\$1,146,471,318	8.99%
Strategic Core Real Estate	636,850,976	5.07%	(15,848,796)	(0)	652,699,773	5.12%
Tactical Non-Core Real Estate	489,526,892	3.90%	(2,601,967)	(1,642,685)	493,771,544	3.87%
Total Alternative Assets	\$2,240,680,900	17.84%	\$6,199,971	\$(366,013)	\$2,234,846,942	17.52%
Private Equity	1,676,560,094	13.35%	3,711,420	(279,998)	1,673,128,673	13.11%
Private Debt	564,120,805	4.49%	2,488,551	(86,015)	561,718,269	4.40%
Total Fund Composite	\$12,559,270,389	100.0%	\$(980,452)	\$(198,842,790)	\$12,759,093,632	100.0%

-Alternatives market values reflect current custodian valuations, which may not be up to date.

(1) Includes \$511,932 in legacy assets that are not actively managed and in liquidation following the termination of Fisher Investments.

Current Status

Class Targets vs. Actual Allocation as of October 31, 2024 (Preliminary)



Figures in bold represent actual allocation amount.

Source: NHRS

Asset Class Allocations Relative to Policy Targets and Ranges



As of October 31, 2024 (preliminary)

Asset Class	Range ¹	Allocation			Objective	Comments
		Target	Actual	Variance		
Public Markets						
Global Equity	TBD	40.0%	52.3%	12.3%	Action	Actual allocation to be reduced over subsequent periods to fund new infrastructure allocation and increase to private credit.
Fixed Income ²	20 - 30%	25.0%	19.1%	-5.9%	Action	Below target allocation but within approved allocation range when cash is included. Rebalancing of portfolio took place on 12/05/2024, actual allocation estimated to be approximately 21% post the rebalance.
Private Markets						
Equity ³	5 - 15%	10.0%	13.3%	3.3%	Monitor	No immediate action needed.
Credit ³	TBD	10.0%	4.5%	-5.5%	Action	To be scaled up incrementally over subsequent periods as part of SAA implementation.
Infrastructure	TBD	5.0%	0.0%	-5.0%	Action	To be scaled up incrementally over subsequent periods as part of SAA implementation.
Real Estate (RE) ³	5 - 20%	10.0%	9.0%	-1.0%	Monitor	No immediate action needed.
Cash Equivalents	NA	0.0%	1.7%	1.7%	No Action	Minimal cash balance to provide liquidity, as needed, for annuities, capital calls and other plan needs.
		100.0%	100.0%	0.0%		

¹New allocation ranges will be established as part of the implementation plan for the updated Strategic Asset Allocation.

²The investment team will adjust the allocation within the target ranges at the conclusion of the ongoing implementation plan for Global Fixed Income

³As reported on the October 31, 2024 Callan Monthly Review.

Source: NHRS



NHRS

New Hampshire Retirement System

To: Investment Committee
From: Raynald Leveque, Chief Investment Officer
Date: December 10, 2024
Re: **Work Plan / Recap of October Investment Committee Meeting**
Item: Action: Discussion: Informational:

The attached six-month Work Plan summarizes the high-level tasks and projects being addressed by the Investment Committee and Staff.

A recap of the October Investment Committee (IC) meeting is as follows:

- Staff presented an update on the monthly performance of the public market asset classes of the NHRS, reviewed total plan holdings and discussed rebalancing activities.
- Investment Staff presented the investment strategy for the NHRS Global Equity and Global Fixed Income asset classes and proposed draft guidelines for the Infrastructure asset class.
- The IC unanimously voted to approve the Rebalancing Ranges for Global Equity, Global Fixed Income, Cash Equivalents and Private Credit.
- The IC unanimously voted for the approval of the MSCI All Country World IMI benchmark for the Global Equity asset class.
- The IC unanimously voted for the approval of the proposed guidelines and benchmark for the Infrastructure Asset Class, for recommendation to the Board of Trustees.



To: Investment Committee
From: Raynald Leveque, Chief Investment Officer
Date: December 10, 2024
Re: **Six-Month Investment Work Plan**
Item: Action: Discussion: Informational:

As time progresses, the Work Plan will be updated to reflect tasks and initiatives associated with the current and subsequent quarter. Items completed over the fiscal year will also be included.

Presentations are displayed using the following format:
IC meeting date – Pertinent details

Updates from the prior month are highlighted in **bold**.

2nd Quarter FY 2025: October – December 2024

Investment Program

- October / November – SAA Implementation Plan:
Global Equity, Global Fixed Income, Infrastructure
- October - 2025 Investment Committee meeting schedule
- Total Plan Rebalancing for Global Equity and Global Fixed Income
- December - FY 2024 Comprehensive Annual Investment Report

Marketable Investments

- Schedule presentations of current investment managers
- **December – Causeway, Artisan, Global Equity Contract Renewals**
- Monitor and execute structure of marketable assets portfolio

Alternative Investments

- Continue implementation of the 2024 Private Debt & Equity Investment Plan
December – Top Tier, Venture Velocity Fund V, Private Equity
December – Blackstone, Blackstone Multi Asset Credit, Private Credit

Real Estate

- Continue implementation of Calendar Year 2024 Real Estate Investment Plan

3rd Quarter FY 2025: January – March 2025

Investment Program

- Continue implementation of Strategic Asset Allocation
- Discuss macroeconomic investment themes that may impact the portfolio
- **January - Review of Investment Manual**
- **January – Annual Update on Commission Sharing Agreements**

Marketable Investments

- Schedule contract renewal presentations of current investment managers
- Monitor marketable assets portfolio

Alternative Investments

- **January – Callan, Semi-Annual Review of Private Debt & Private Equity Investment Plan**
Approve 2025 Pacing Plan for Private Debt, Private Equity & Infrastructure

Real Estate

- **January – Townsend review of the CY 2024 Investment Plan and approve proposed CY 2025 Plan**

Vendors

- No action

Completed Items – Fiscal Year 2025

1st Quarter FY 2025: July – September 2024

Investment Program

- Discuss macroeconomic investment themes that may impact the portfolio
July – NHRS Investment Office Strategic Plan Presentation
July – Funston Advisory Service Review of Investment Office Strategic Plan

Marketable Investments

- Schedule presentations of current investment managers
- Monitor and execute structure of marketable assets portfolio

Alternative Investments

- Continue implementation of 2024 Private Debt & Equity Strategic Plan
August – Oak Hill Advisors, Senior Private Lending Fund (OLEND), Private Debt, unanimous approval of \$100 million commitment
August – HarbourVest, HIPEP X, Private Equity, unanimous approval of \$75 million commitment

Real Estate

- Continue implementation of 2024 Real Estate Investment Plan



To: Independent Investment Committee
From: Raynald Leveque, Chief Investment Officer
Date: October 8, 2024
Re: **Proposed 2025 Investment Committee Meeting Schedule**
Item: Action: Discussion: Informational:

Recommendation

NHRS staff recommends that the Investment Committee consider meeting in 2025 on a less-than-monthly basis, aligned with the recent approval of the Board of Trustees meeting frequency. Investment Committee meetings require significant time for members to prepare for, travel to, and attend. The NHRS Investment Team spends much time each month preparing, coordinating, and running each meeting.

The following proposed meeting frequency for consideration is a minimum of eight meetings per year. Should NHRS Staff require additional meetings for investment action, those meetings can be scheduled on an ad-hoc basis.

Additionally, the proposed meeting dates below are on the second Tuesday of the month per our usual schedule. However, the Committee can recommend adjusting these dates to a day later in the month to allow for more timely performance discussions following the completion of reporting.

Proposed Schedule for 2025 (no meetings scheduled for March, May, July and September)

January 14, 2025

February 11, 2025

April 8, 2025

June 10, 2025

August 12, 2025

October 14, 2025

November 18, 2025

December 9, 2025



To: Independent Investment Committee
From: Raynald Leveque, Chief Investment Officer
Date: December 10, 2024
Re: **Implementation Plan for Global Equity**
Item: Action: Discussion: Informational:

Overview

In the October 2024 Independent Investment Committee (IC) meeting, the Investment Team presented its views for the Global Equity asset class strategy following the recent Strategic Asset Allocation (SAA) Update. Callan, our fund's general consultant, also presented their views of the asset class in support of the Investment Team's recommendations to the IC. Through our discussion, the IC expressed its opinions about the strategy of the Global Equity asset class and necessary points of view regarding risk, active management and passive management.

This memorandum to the IC formalizes the specific implementation activities by the Investment Team in implementation of the Global Equity asset class.

Summary of Portfolio Implementation Changes

This is a summary of the implementation changes for the Global Equity portfolio, which the Investment Team will seek to implement over 2025:

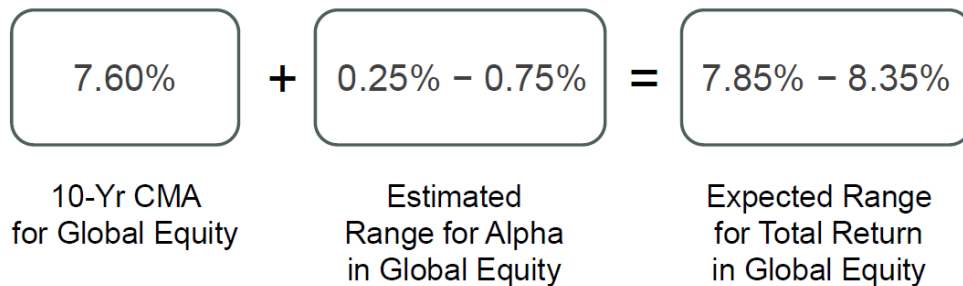
1. Consolidate both Domestic Equity and Non-US Equity asset classes into a single Global Equity asset class that will be benchmarked against the MSCI All Country World Investable Market Index (MSCI ACWI IMI) benchmark
2. Evaluate continued implementation of passive strategies and consideration of enhanced indexing mandates in large and mid-capitalization segments of the US Equity portfolio
3. Continue to utilize active management in the small capitalization segment of the US equity portfolio as well as in the international segment of the Global Equity portfolio. Adjust manager allocations to minimize tracking error and misfit risk relative to the Global Equity benchmark
4. Revisit manager allocations in the international (Non-US) segment of the developed and emerging markets. The investment team will rebalance the managers' lineup, taking into account the recommendation of new managers, termination of underperforming managers, and possible upsizing of existing manager mandates that meet our overall SAA goals
5. Investment exposure and performance reports currently generated by our custodian bank, BNY, and general investment consultant, Callan, will be adjusted to the new portfolio structure going forward

Our Mission: To provide secure retirement benefits and superior service.

Global Equity Asset Class Characteristics

Global Equity will continue to serve as the main growth exposure for the NHRS total plan over the long-term horizon.

The Investment Team will target a long-term risk and return profile close to the Callan Capital Markets Assumptions (CMAs) for Global Equity asset class at the 10-year+ horizon of 7.6% return with a 18.35% standard deviation, with a target to achieve both the beta assumptions plus alpha estimate based on manager selection.



Source: NHRS, Callan

Implementation of the Global Equity asset class will be diversified to represent the full opportunity-set across developed and emerging markets, accounting for regional, capitalization size, sectors, and style segments of the Global Equity markets.

Timeline

The Investment Team will look to implement the rebalancing of manager mandates over 2025 beginning in the second quarter, with the assistance of Callan. As with the private markets, the Investment Team will perform the search and underwriting of mandates for the portfolio, and partner with Callan to evaluate managers and assist with performance evaluation.

Prioritization will focus on underperforming investment managers, followed by recommendation of new partners to assist in execution of portfolio goals and objectives. Where possible, the Investment Team will seek to determine the optimal number of strategies necessary to achieve the risk/return goals.



To: Independent Investment Committee
From: Raynald Leveque, Chief Investment Officer
Date: December 10, 2024
Re: **Implementation Plan for Global Fixed Income**
Item: Action: Discussion: Informational:

Overview

In the October 2024 Independent Investment Committee (IC) meeting, the Investment Team presented its views for the Global Fixed Income asset class strategy following the recent Strategic Asset Allocation (SAA) Update. Callan, our fund's general consultant, also presented their views of the asset class in support of the Investment Team's recommendations. Through our discussion, the IC expressed its opinions about the strategy of the Global Fixed Income asset class and necessary points of view regarding risk, active management and passive management.

This memorandum to the IC formalizes the specific implementation activities by the Investment Team in implementation of the Global Equity asset class.

Summary of Portfolio Implementation Changes

This is a summary of the implementation changes for the Global Fixed Income portfolio, which the Investment Team will seek to implement over 2025:

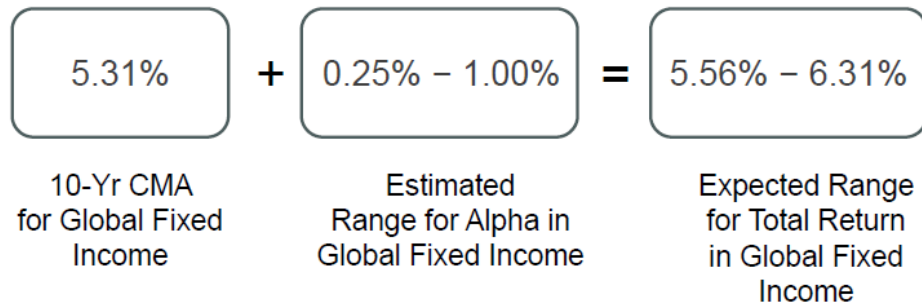
1. Reduce the risk level for the Global Fixed Income asset class, favoring more Core exposure that seeks to preserve capital while improving returns through income generation. Examples of these exposures include the following:
 - Investments that are typically representative of the broader debt market, tracking the Bloomberg US Aggregate Index
 - Higher quality investment grade securities which exhibit a low risk of default, as well as debt securities with a more liquid profile (e.g., US Treasuries)
2. Limit the use of foreign exchange strategies in manager mandates that will serve to reduce the overall volatility of the Global Fixed Income asset class
3. Continue to utilize active management with Core oriented managers to outperform the passive unmanaged benchmark, while minimizing fees

Global Fixed Income Asset Class Characteristics

Global Fixed Income has recently served as a growth-themed exposure for the NHRS Total Plan, where the portfolio is oriented toward non-core fixed income managers who invest in credit sensitive securities (high yield bonds, structured products, emerging market debt, bank loans) and strategies that focus primarily on capital appreciation.

Going forward with the new strategic asset allocation, the Investment Team will look to move the Global Fixed Income portfolio towards a capital preservation-themed exposure, which prioritizes income producing exposures (short duration securities, cash equivalents), and rate-oriented exposures (both short and long-duration Treasury securities, and floating rate securities).

The Investment Team will target a long-term risk and return profile close to the Callan Capital Markets Assumptions (CMAs) for Global Fixed Income asset class at the 10-year+ horizon of 5.3% return with a 6.4% standard deviation, with a target to achieve both the beta assumptions plus alpha estimate based on manager selection.



Source: NHRS, Callan

Implementation of the Global Fixed Income asset class will be oriented toward Core and Core Plus Fixed Income investment managers who will invest in both US and global markets.

Timeline

The Investment Team will look to implement manager rebalancing over 2025 beginning in the first quarter, with the assistance of Callan. The Investment Team will target increasing our exposure to Core managers while reducing our allocation to Non-Core mandates over time. As with the private markets, the Investment Team will perform the search and underwriting of mandates for the portfolio, and partner with Callan to evaluate target managers and assist with performance evaluation of potential candidates.

Prioritization will focus on underperforming investment managers, followed by recommendation of new investment managers to assist in execution of portfolio goals and objectives. Where possible, the Investment Team will seek to reduce the number of investment managers necessary to achieve the specific risk and return objectives for the Global Fixed Income asset class.



To: Independent Investment Committee
From: Raynald Leveque, Chief Investment Officer
Gregory Richard, CAIA, CFA - Senior Investment Officer
Date: December 10, 2024
Re: **Recommendation: Top Tier Venture Velocity Fund 5**
Item: Action: Discussion: Informational:

Recommendation

Based on the strategic fit within the New Hampshire Retirement System (NHRS) portfolio, as well as the due diligence conducted by the NHRS Investment Team (Staff) and the Callan Private Markets Team, **Staff recommends the Independent Investment Committee (IIC) approve a commitment up to \$25 million to the Top Tier Venture Velocity Fund 5 (VVF5).**

Top Tier Capital Partners (Top Tier) is a venture capital specialist with nearly 25 years of experience. Headquartered in San Francisco, California, Top Tier was established in 2011 a result of a spin out from its predecessor firm Paul Capital with roots back to 1999. **NHRS has maintained a long relationship with Top Tier since 2014** and has invested in Venture Velocity Funds 1 through 4.

The recommended fund commitment will build upon NHRS's venture capital private equity exposure with one of the most experienced General Partners (GPs).

Our investment consultant, Callan, conducted independent due diligence, and their attached report supports Staff's recommendation to commit to VVF5. This memorandum will provide a high-level overview of the opportunity. Additional details can be found in Callan's due diligence report.

The staff's diligence process included a review of documentation from Top Tier as well as several meetings with Top Tier which included key decision makers of the VVF5 team. Key factors assessed in the due diligence process included the strength of the firm, investment philosophy, and management of Top Tier, its fit within the NHRS portfolio, as well as the performance history of prior vintages of the VVF strategy. The Investment Staff also collaborated with Callan to assess their independent diligence of VVF5.

General Partner

Top Tier is independent, and 100% employee owned. The firm makes primary and secondary investments in venture capital funds. With a history dating back to 1999 (including its predecessor firm Paul Capital), Top Tier has more than \$8.0 billion of capital commitments. In 2011, Top Tier's management spun out of Paul Capital and rebranded as Top Tier Capital Partners. The firm is a SEC-registered investment adviser headquartered in San Francisco, with additional offices in Boston and London.

Top Tier's General Partners include David York, Jessica Archibald, Garth Timoll, Eric Fitzgerald, and Sean Engel. These General Partners are responsible for the management of the Fund and serve as members of the Fund's Investment Committee.



**DAVID
YORK**

General Partner,
San Francisco



**JESSICA
ARCHIBALD**

General Partner,
San Francisco



**GARTH
TIMOLL, SR.**

General Partner,
San Francisco



**ERIC
FITZGERALD**

General Partner,
Boston



**SEAN
ENGEL**

General Partner,
San Francisco

Top Tier has approximately 50 employees, with 19 employees on the Investment Team. Most of the senior management has worked together for nearly 20 years which has allowed the firm to evolve its business and position itself for the next 20 years.

VVF Team

The VVF investment team is composed of individuals of various backgrounds and experiences that play complementary roles in sourcing, evaluating, and executing velocity deals. The team, led by Garth Timoll and Sean Engel, takes a team approach on sourcing, execution, closing, and monitoring investments, while leveraging the broader investment team. The senior members of the VVF team have been at Top Tier since the inception of the strategy in 2010 and have been responsible for most of the deal execution and realizations over the last 14 years.

Investment Strategy

VVF5 will utilize a similar strategy established with all the prior VV Funds: to invest up to 60% of the Fund via investments into secondary positions in mature venture capital fund partnerships, or mature, fast-growing venture-backed operating companies via the secondary market. The remaining balance will be in mid and late-stage venture capital backed growth companies alongside longstanding partners as a co-investor.

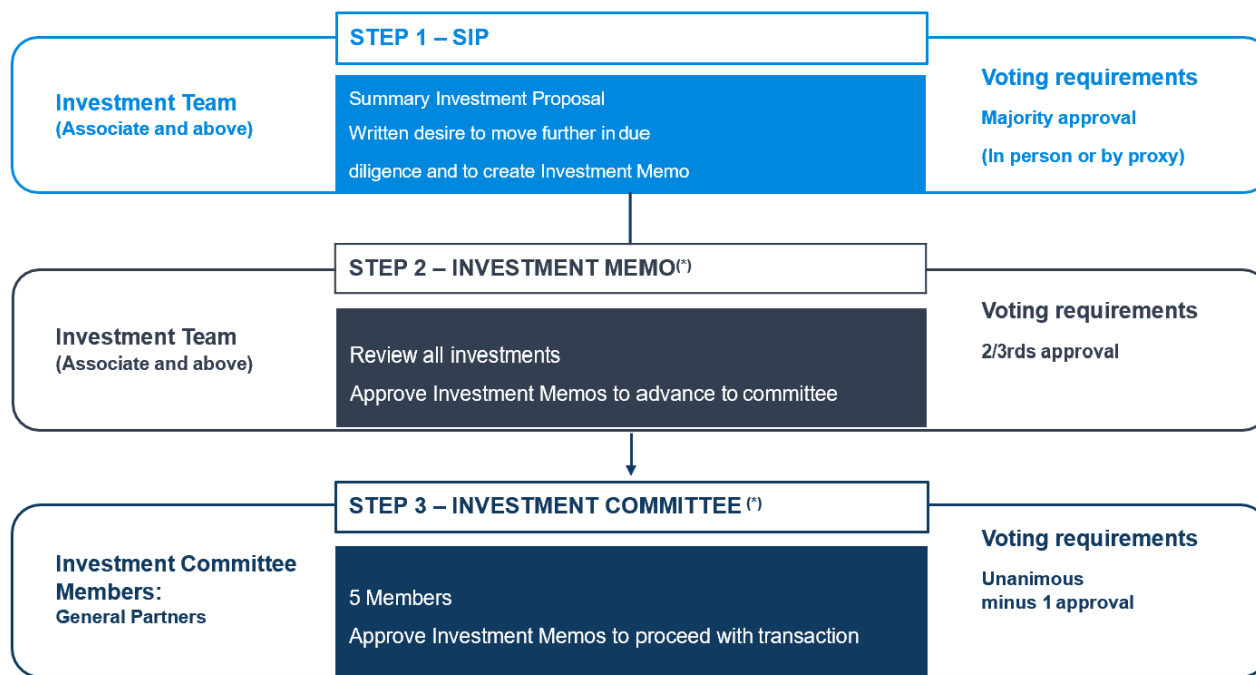
Our Mission: To provide secure retirement benefits and superior service.

VVF5 will build upon Top Tier’s existing venture secondary and co-investment strategy, with the objective of driving strong performance and liquidity that is quicker than typically found in venture investing. This strategy seeks to target investments in known portfolios and companies, of which Top Tier has data, and focuses on assets with near- or medium-term liquidity potential. The investment team will draw on the Firm’s experience and deep relationships in the venture community to source and analyze secondary and co-investment opportunities to develop conviction around specific companies. Top Tier believes the investment acumen of the team, the venture relationships, and proprietary database (“The Mine”) of 12,000 companies provides a competitive advantage to identify valuable assets early, to produce targeted returns and liquidity for investors. Like the prior VV Funds, the investment team will underwrite secondaries with the goals of exceeding a 2x net multiple and 20%+ net IRR, with a focus on a return of cost in the first two to three years, while the co-investments will target a net multiple of 3x - 5x in three to five years.

Investment Process

Top Tier takes each prospective investment through a rigorous, multi-step evaluation process. The complete due diligence process results in the elimination of most prospective investments. VVF5 will seek to commit capital only to the most attractive venture secondary portfolios and co-investments with a select group of managers, in each case focused generally on areas where Top Tier has a pre-existing relationship and data. The investment team uses this data and other information to model exit value and timing on a company-by-company basis.

Illustration of investment process:



(*) These steps are frequently combined

Step 1 – Summary of Investment Proposal (SIP)

In this phase of evaluation, prospective investment candidates are subjected to increasing levels of review and due diligence with an emphasis on gathering, assimilating, confirming, and analyzing the facts, as well as completing a bottom-up financial model used to determine pricing for secondaries and co-investments. The majority of the investment team must approve an SIP for the deal to proceed.

Step 2 – Investment Memo

SIPs that are approved by the investment team are then returned to the deal team to complete the remaining due diligence and other recommended steps, frequently incorporating points for further review arising from SIP deliberations.

A two-thirds vote by the investment team is required for a deal to proceed to the Investment Committee.

Step 3 – Investment Committee

The opportunity is then formally voted on by the Investment Committee. The required vote for approval of an investment by the Investment Committee is a **unanimous minus one vote**.

Track Record & Performance

The NHRS Investment Team and Callan reviewed the performance of the prior VVF funds. Note that VVF4 is a 2021 vintage and performance metrics are not as meaningful as the older funds.

Performance

	Venture Velocity 1	Venture Velocity 2	Venture Velocity 3	Venture Velocity 4
Net Performance				
Net TVPI	1.74x	2.54x	1.02x	1.04x
Quartile Ranking	2 nd / 4 th	1 st / 2 nd	4 th / 4 th	4 th / 2 nd
Net IRR	13.70%	34.86%	0.60%	3.04%
Quartile Ranking	3 rd / 3 rd	1 st / 1 st	4 th / 4 th	4 th / 2 nd
Net DPI	1.18x	1.53x	0.25x	0.01x
Quartile Ranking	4 th / 2 nd	1 st / 1 st	3 rd / 1 st	3 rd / 1 st

Source: Callan (as of June 30, 2024)

VVF1: Performance has been satisfactory with significant unrealized value/potential upside

VVF2: Strong performance on all metrics; exceeded expectations

VVF3: Fund has underperformed to date after a slow start and a frozen venture capital market post 2021. Top Tier has projected significant liquidity over next two to five years with potential to generate a 2x TVPI with an estimated downside case of 1.5x TVPI.

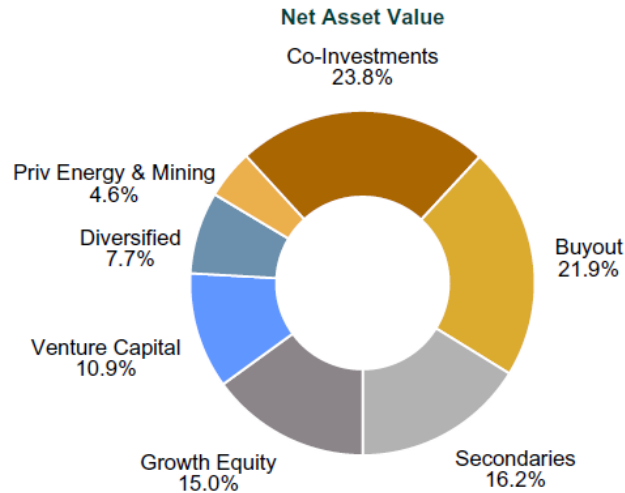
VVF4: Immature portfolio with only 60% called; metrics not meaningful

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NHRS Strategic Allocation

VVF5 will be categorized as a venture capital allocation of the NHRS Private Equity asset class within the portfolio's Alternative Investments. The actual Private Equity allocation is approximately 14% as of June 30, 2024, versus the target of 10%.

As of June 30, 2024, venture strategies represent approximately 11% of the overall Net Asset Value.



Source: Callan

The IIC approved the Private Equity pacing allocation of \$200 million to be allocated in calendar year 2024. This commitment is in line with the System's plan and represents the third allocation to Private Equity in 2024 as \$100 million was committed to H.I.G. in February and \$75 million committed to HIPEP X in August.

Furthermore, it will increase our exposure to a top-performing Private Equity General Partner and continue the productive relationship with Top Tier.

Strengths & Rationale

While Top Tier has several strengths that make them an ideal General Partner for the NHRS, these are some of the critical factors.

VVF Platform/Team

Top Tier manages a broad fund-of-funds platform across primaries, secondaries and co-investments. The VVF Team, led by Garth Timoll and Sean Engel, is experienced and has developed deep relationships within the venture ecosystem which allows deeper insight into potential investments via their platform and database.

Sector Expertise

The strategy requires specific expertise as the larger funds do not focus on venture capital resulting in a space that has less competition. Top Tier has decades of experience and data, approximately 450 funds and 12,000 companies, to take advantage of these opportunities.

Key Risks & Mitigants

Volatility of Venture Capital

The venture capital strategy has one of the widest return dispersions within private equity. Top Tier attempts to mitigate this volatility and has been successful with loss ratios within expectations for venture capital. While VVF3 is projected to significantly improve returns over the next several years, there is no guarantee, however a commitment to VVF5 will provide additional vintage year diversification through the market cycle and offer favorable opportunities given continued growth of the technology sector.

Fees

The fund-of-funds vehicle has a double layer of fees which can be a drag on performance. Top Tier minimizes management fees on secondaries by investing later in the fund's life to capture fee reductions. For the co-investment sleeve, most are executed on a zero-fee basis.

November 4, 2024



New Hampshire Retirement System

Top Tier Venture Velocity 5

The investment manager organizations contained herein have submitted information to Callan regarding their investment management capabilities, for which information Callan has not necessarily verified the accuracy or completeness of or updated. The information provided to Callan has been summarized in this report for your consideration. Unless otherwise noted, performance figures reflect a commingled fund or a composite of discretionary accounts. All written comments in this report are based on Callan's standard evaluation procedures which are designed to provide objective comments based upon facts provided to Callan. The appropriateness of the candidate investment vehicle(s) discussed herein is based on Callan's understanding of the client's portfolio as of the date hereof. Certain operational topics may be addressed in this investment evaluation for information purposes. Unless Callan has been specifically engaged to do so, Callan has not conducted due diligence of the operations of the candidate or investment vehicle(s), as may be typically performed in an operational due diligence evaluation assignment. The investment evaluation and any related due diligence questionnaire completed by the candidate may contain highly confidential information that is covered by a non-disclosure or other related agreement with the candidate which must be respected by the client and its representatives. The client agrees to adhere to the conditions of any applicable confidentiality or non-disclosure agreement. Important Disclosures regarding the use of this document are included at the end of this document. These disclosures are an integral part of this document and should be considered by the user.

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Top Tier Venture Velocity Fund 5

Strategy		Target Investment Size			
Asset Class	Private Equity	Equity Check (\$M)	<u>Secondaries: \$5 - \$50</u> <u>Co-Investments: \$5 - \$25</u>		
Strategy Type	Venture Capital Secondaries & Co-Investments	EBITDA (\$M)	-		
Currency	USD	Revenue (\$M)	<u>Co-Investments: \$5 - \$30+</u>		
Control Rights	Non-Control	Enterprise Value (\$M)	-		
Targeted # of Investments	25-50	Fundraising			
Industry/Sector	Information Technology	Target (\$M)	\$500		
Geography	United States	Hard Cap (\$M)	TBD		
Target IRR (Gross/Net)	<u>Secondaries: 20% net</u> <u>Co-Investments: not defined</u>	First Close	July 2024		
Target TVPI (Gross/Net)	<u>Secondaries: 2x net</u> <u>Co-Investments: 3x-5x net</u>	Final Close	TBD		
		Fund Status	Fund 4 is 49% paid-in as of 1Q24.		
Terms		Fees			
Investment Period (Yrs.)	3	Management Fee Investment Period	Year 1-3	1.00%	on Committed Capital
Term (Yrs.)	8		Year 4	1.00%	
Minimum Commitment (\$M)	Not defined		Year 5	1.00%	
GP Commitment	1.0%	Management Fee Post Investment Period	Year 6	0.90%	on Committed Capital
Domicile	Delaware		Year 7	0.81%	
Auditor	Ernst & Young LLP		Year 8	0.73%	
		Management Fee Offset	100%		
		Waterfall	European		
		Preferred Return	6% - IRR - Compounded		
		Carried Interest	15% (increases to 20% if the fund achieves a 3x net DPI)		
		GP Catch-Up	100%		
Manager					
General Partner	Top Tier Capital Partners				
Headquarters	San Francisco, CA				
Leadership	David York (General Partner), Jessica Archibald (General Partner), Garth Timoll (General Partner)				
Supervising Regulatory Body	SEC				
DWDO Ownership	No				

Executive Summary

Based on the findings from Callan's evaluation process and the private equity investment objectives of the New Hampshire Retirement System (NHRS), Callan recommends a commitment of \$25 million to Top Tier Venture Velocity Fund 5 ("Venture Velocity 5", "Fund 5", or the "Fund"). This commitment would represent NHRS' fifth commitment to Top Tier, having previously committed an aggregate \$95 million across Venture Velocity 1-4. A commitment to Venture Velocity 5 is expected to continue to benefit from the following characteristics of Top Tier's strategy:

- Top Tier's comprehensive platform across primaries, secondaries and co-investments;
- The team's expertise and broad skillset within secondaries and co-investments;
- Strong performance in Fund 2 and a demonstrated ability to identify successful transactions; and,
- Broad diversification and exposure to venture capital through a fund-of-funds structure.

Top Tier Capital Partners ("Top Tier" or the "Firm") was founded in 1999 as the venture capital fund-of-funds arm of Paul Capital Partners, a private equity secondaries firm. In 2011, the Top Tier business spun out of Paul Capital Partners and was rebranded as Top Tier Capital Partners. Founder David York continues to manage the Firm today alongside four additional General Partners. Top Tier has a total of 41 employees, including 20 investment professionals. The Firm is headquartered in San Francisco, with additional offices in Boston and London. Top Tier manages \$7.1 billion in AUM across six products. In addition to the flagship venture capital fund-of-funds, the Firm manages the Venture Velocity funds, an emerging manager program, a European fund-of-funds, the Venture Velocity Growth fund, and the Venture Velocity Prime fund.

Per Callan's due diligence process, Callan reviewed documentation (fund related, financials, investment, operational and the LPA) from a variety of sources believed to be reliable, and held virtual meetings and calls with members of the investment team and investor relations team, to better assess the nature of the investment, the investment process, performance, reporting and valuation guidelines, and any material litigation/regulatory oversight issues. These key risks and their mitigants have been discussed through both oral and written communications with NHRS and Top Tier Capital Partners. In the event that further issues are identified, Callan suggests that their materiality be assessed to determine whether legal counsel should advise NHRS as to whether these or any other such issues could be addressed as part of making an investment in VVF 5.

A commitment to Venture Velocity 5 should benefit NHRS's private equity program, providing the potential for strong returns, greater liquidity, and venture capital exposure to further diversify the portfolio.

Recommendation

Pending the completion of the NHRS's successful legal review of the Fund, a \$25 million commitment to Venture Velocity 5 is recommended based on portfolio fit and the overall partnership merits as reviewed in the body of this report.

Summary of Key Findings

Merits

- **Comprehensive Platform across Primaries, Secondaries and Co-investments:** Top Tier manages a broad fund-of-funds platform across primary partnerships, secondaries, and co-investments through multiple products, including its flagship venture capital fund-of-funds, the Venture Velocity funds, a European venture fund-of-funds, and an emerging manager program. The primary partnerships platform provides the Venture Velocity team with access to deal flow, enhanced due diligence on underlying general partners, and information tracking on underlying companies. The broader platform also positions the Venture Velocity funds as a more attractive buyer than a secondaries-only firm, as Top Tier's flagship fund-of-funds may be an existing or future investor with the underlying general partner. Similarly, it positions the Venture Velocity funds as an attractive co-investor, as in most cases, Top Tier is already an existing investor in a company through a fund and is viewed as a non-competing source of capital.
- **Expertise and Broad Skillset within Secondaries and Co-Investments:** Venture capital secondaries and co-investments require specific investment expertise, as they are not well-addressed by larger secondary and co-investment fund-of-funds, resulting in Top Tier having information advantages and less competition in the space.

The Venture Velocity team addresses the full spectrum of secondary transaction types, including traditional LP purchases in various forms (fee simple purchases, structured economics that meet specific seller needs, staple transactions, etc.), direct secondary purchases (purchasing private stock directly from founders, employees, and other shareholders), as well as participating in the GP-led marketplace (fund restructurings, asset carve-outs, etc.). The Venture Velocity team can also respond quickly to venture capital co-investment opportunities, generally having tracked and analyzed the subject companies for multiple years, with an understanding of industry nuances and sensitivities, and usually having talked with the general partners and management teams prior to the financing round.

- **Performance – Fund 2:** Top Tier has generated strong performance in Fund 2, which returned a 2.5x net TVPI and 35% net IRR as of 03/31/2024. The fund ranks predominantly first quartile against the Global Secondaries and Global Venture Capital benchmarks, in addition to outperforming the public technology markets on a PME basis. Fund 2 demonstrates Top Tier's ability to successfully transact in the venture capital secondary and co-investment market. Of the fund's 34 investments, 11 are generating above 3x gross TVPIs, including a number of exceptional performers such as: [REDACTED] These strong performers are offset by a higher loss ratio than Fund 1, indicating Top Tier pursued a higher risk/return profile with Fund 2. The performance of the other funds is reviewed below.
- **Diversification Through a Fund-of-Funds Structure:** A fund-of-funds structure can serve as a “plug and play” approach for an investor's venture capital portfolio. It provides immediate diversification in a space that can be otherwise difficult to access, especially for larger investors. Fund 5 is expected to have exposure to ~300 underlying companies, providing ample diversification within a highly risky space.

Selected Considerations

- **Mediocre Venture Velocity Track Record:** With the exception of Fund 2, which is reviewed above, Top Tier has generated mediocre performance across Fund 1, Fund 3, and Fund 4. Further detail on each fund is listed below:
 - Fund 1, a 2014 vintage, generated meaningful performance and liquidity early in its life, but it has not kept up with peers in recent years. The fund still has a substantial unrealized value, which has pulled down its IRR, and its net DPI has fallen below median relative to the Global Secondaries benchmark. While the loss ratio is only 6%, the fund did not have enough outsized performers to drive overall fund returns. Despite underperformance relative to peers, the fund is still outperforming the public technology markets on a PME basis.
 - Similarly, Fund 3, a 2019 vintage, also generated meaningful performance and liquidity early in its life, but the portfolio declined significantly thereafter as the tech market broadly declined. It now ranks in the bottom quartile relative to both the Global Secondaries and Global Venture Capital benchmarks. The fund has a higher loss ratio of 16% and it does not yet have any strong underlying performers (defined as gross TVPI in excess of 3x). It has also underperformed the public technology markets on a PME basis.
 - Fund 4, a 2021 vintage, is immature and still largely marked at cost. Its early performance is lagging the Global Secondaries benchmark, however, and it is underperforming the public technology markets on a PME basis. The fund is performing in line with the broader venture capital industry, as it ranks second quartile against the Global Venture Capital benchmark.

Mitigants

- Top Tier is in the process of doing a secondary sale to clean up the smaller remaining positions in Fund 1, in addition to proactively working with the underlying managers to unwind their fund positions. Top Tier is aiming to ultimately reach a 2x net TVPI for the fund and indicates there is still significant remaining value in multiple underlying company positions.
 - Fund 3 and Fund 4 are both early in their fund lives, with substantial time remaining for performance to improve.
- **Volatile Return Profile:** The return profile of the strategy can be volatile, both at the underlying partnership level and the company level. Given that Top Tier focuses on venture capital investments, there is a high level of dispersion in the returns between the top and bottom quartile managers. Each Venture Velocity fund relies on a few underlying investments to drive aggregate performance and offset the poorly performing positions. Additionally, within the underlying secondaries positions, there is a second layer of volatility at the company level. Each underlying fund relies on a few winners to drive their fund-level returns. While Top Tier spreads this risk across many underlying positions, the strategy is still reliant on a few winning companies to drive their returns (and it may be possible that the same company drives performance for multiple underlying positions).

Mitigants

- Overall losses at the fund level have been within expectations for a venture capital secondaries/co-investments strategy, with loss ratios between 6% and 16% across the mature funds in the series.
- **Double Layer of Fees:** There is a double layer of fees associated with any fund-of-funds investment; LPs must pay fees to the fund-of-funds manager and the underlying managers. Additionally, Top Tier's carried interest of 15% (which increases to 20% if the fund achieves a 3x net DPI) is at the upper end of the carry range for most secondaries and co-investment funds, which typically charge 10%-15%.

Mitigants

- Top Tier's management fees are in line with other venture capital secondaries fund-of-funds, with a 1% management fee during the investment period and a step-down after year 5.
- Top Tier targets secondary interests in funds that are more than 7 years old in order to capture management fee reductions at the underlying fund level. In addition, the underlying co-investments are typically on a no fee or carried interest basis, further reducing the fees of the underlying positions.

Performance

	Venture Velocity 1	Venture Velocity 2	Venture Velocity 3	Venture Velocity 4
Vintage Year	2014	2017	2019	2021
Fund Size	\$190	\$283	\$300	\$504
# Investments	30	34	26	22
LP Capital				
Invested Capital	\$193	\$279	\$293	\$255
% Paid-In	99%	99%	98%	49%
Realized	\$228	\$426	\$74	\$3
Unrealized Value	\$108	\$285	\$221	\$252
Total Value	\$336	\$711	\$297	\$255
Gross Performance				
Gross TVPI	2.00x	2.80x	1.10x	1.12x
Gross IRR	17.40%	37.51%	4.63%	NM
Net Performance				
Net TVPI	1.74x	2.54x	1.02x	1.04x
Quartile Ranking	2 nd / 4 th	1 st / 2 nd	4 th / 4 th	4 th / 2 nd
Net IRR	13.70%	34.86%	0.60%	3.04%
Quartile Ranking	3 rd / 3 rd	1 st / 1 st	4 th / 4 th	4 th / 2 nd
Net DPI	1.18x	1.53x	0.25x	0.01x
Quartile Ranking	4 th / 2 nd	1 st / 1 st	3 rd / 1 st	3 rd / 1 st
Losses (at the secondary/co-investment transaction level, not underlying company level)				
#	8	6	10	5
Loss Ratio	6%	10%	16%	5%

\$ Millions

As of 03/31/2024

Quartile ranking against the Global Secondary Funds / Global Venture Capital Refinitiv/Cambridge database.

Performance Commentary

Venture Velocity I made 30 investments, representing 18 secondaries and 12 co-investments. While the majority of the fund has been realized, a large portion remains outstanding, spread across 19 unrealized positions. The fund is generating mediocre performance with most metrics ranking third and fourth quartile against both the Global Secondaries benchmark and the Global Venture Capital benchmark as of 03/31/2024. The net IRR of 14% has been pulled down by prolonged holding periods in addition to two-thirds of the portfolio generating below 2x gross TVPIs. While the loss ratio (at the secondary/co-investment transaction level) is only 6%, eight of 30 positions represent losses and another 12 are generating between 1x-2x gross TVPIs. These investments are offset by seven positions that have generated above 3x gross TVPIs, including the fund's top three investments: [REDACTED]

Venture Velocity 2 made 34 investments, representing 16 secondaries and 18 co-investments. Venture Velocity 2 represents Top Tier's best-performing Venture Velocity fund, with a 2.5x net TVPI and 35% net IRR as of 03/31/2024. It ranks predominantly first quartile against both the Global Secondaries benchmark and the Global Venture Capital benchmark. 11 of the fund's 34 investments are generating above 3x gross TVPIs, including a number of exceptional performers such as: [REDACTED] These strong performers are offset by a higher loss ratio than Fund I, indicating Top Tier pursued a higher risk/return profile with Fund 2. The loss ratio totaled 10% and included a full write-off of a large co-investment in [REDACTED]

Venture Velocity 3 made 26 investments, representing 10 secondaries and 16 co-investments. The fund is generating poor performance on a net IRR and net TVPI basis as of 03/31/2024, ranking fourth quartile against both the Global Secondaries and Global Venture Capital benchmarks. Top Tier indicated that the portfolio was marked up in 2021, and it was able to generate early liquidity then, leading to a strong net DPI of 0.3x. However, the portfolio declined significantly thereafter as the tech market broadly declined. As a result, the fund has a higher loss ratio of 16% today, driven by 10 investments; Top Tier expects the fund's loss ratio to remain elevated, even if some positions recover. None of the fund's investments are marked above a 3x gross TVPI, but Top Tier indicates the fund's top performers are expected to be: [REDACTED]

[REDACTED] An additional nine investments are currently marked at or near cost.

Venture Velocity 4 has made 22 investments to date, including nine secondaries and 13 co-investments. The fund is 49% paid-in as of 03/31/2024 and still in its investment period. Given the portfolio is currently overweight co-investments, Top Tier expects to focus on LP secondaries for the remainder of the investment period. In terms of performance, the fund is still immature, with the majority of the portfolio still marked at cost. Six of the fund's investments have been marked up, although no investments are yet above a 3x gross TVPI. Five investments have been marked down, resulting in a 5% loss ratio.

Organization and Team

Top Tier Capital Partners (“Top Tier” or the “Firm”) was founded in 1999 as the venture capital fund-of-funds arm of Paul Capital Partners, a private equity secondaries firm. Paul Capital Partners was founded in 1991 by Phil Paul, who was a renowned venture capitalist in the 1970s-1980s. Top Tier initially managed a separate account on behalf of the Government of Singapore Investment Corporation (“GIC”), who was looking for venture capital exposure. Following the successful deployment of the \$300 million account, Paul Capital Partners hired David York in 2000 to manage it and raise subsequent commingled fund-of-funds.

In 2011, the Top Tier business spun out of Paul Capital Partners and was rebranded as Top Tier Capital Partners. To facilitate the spin out, Top Tier engaged two family offices as capital partners, including the investment arm of J.F. Shea Co. (a construction and real estate company) and the investment office of the Hambrecht family (of former investment bank Hambrecht & Quist). They continue to own passive minority stakes in the management company, as detailed below under *Ownership*.

David York continues to manage Top Tier today alongside two additional General Partners, Jessica Archibald and Garth Timoll. Together, these three professionals make up the management committee. The Firm’s senior leadership also includes two additional General Partners and one Partner. In 2023, Top Tier transitioned the titles of these professionals from Managing Director to General Partner, although there were no changes in responsibilities. The Firm felt the term “General Partner” better communicated their professional hierarchy externally. Top Tier has grown to 41 employees in total, including 20 investment professionals. The Firm is headquartered in San Francisco, with additional offices in Boston and London.

As of March 31, 2024, Top Tier manages \$7.1 billion in AUM across six products. The Firm continues to manage its flagship venture capital fund-of-funds, alongside the Venture Velocity funds, which are a secondaries and co-investment product that was launched in 2014. In 2017, Top Tier launched an emerging manager program, and in 2019, a European fund-of-funds product. In 2022, Top Tier launched the Venture Velocity Growth and Venture Velocity Prime funds, which are structured as overage vehicles for the Venture Velocity strategy.

Ownership

The management company is owned by the five General Partners, in addition to small minority stakes from two retired employees and two external family offices. These General Partners include: Jessica Archibald, Sean Engel, Eric Fitzgerald, Garth Timoll, and David York. The two retired employees include Lisa Edgar (Co-Founder and Managing Director) who retired in 2020 and Sean Warren (Managing Director, Operations) who retired in 2019. As part of their retirements, their shares have been gradually repurchased over the five years following their departure. Both ownership percentages have dropped to the single digits, and Sean Warren is expected to be fully bought out by the end of 2024.

The two external family offices include Shea Ventures, the investment arm of construction and real estate company J.F. Shea Co., as well as the investment office of the Hambrecht family, of former investment bank Hambrecht & Quist. They own passive stakes in the company and do not have any control over the management of the business or investment decisions.

No significant ownership changes are expected. Top Tier may offer equity ownership to other professionals over time, as a form of compensation.

Additional Products

Alongside the Venture Velocity funds, which are reviewed in this report, Top Tier manages five additional products:

- Top Tier Venture Capital Funds: The Top Tier Venture Capital Funds represent the Firm's flagship venture capital fund-of-funds strategy. It invests in primary funds, with up to 20% in secondaries and co-investments. The Firm is currently raising Fund XI with a \$550 million target. The flagship funds are managed by a dedicated team of eight professionals, referred to as the Funds team.
- Top Tier Alpha: In 2014, Top Tier launched its emerging manager program, which targets funds below \$250 million in commitments. The Firm is currently investing out of Top Tier Alpha 2, which was raised in 2017 with \$57 million in commitments. The fund is managed by David York.
- Top Tier European Venture Funds: In 2019, the Firm launched its first European venture capital fund-of-funds. It pursues the same strategy as the flagship funds, but with a focus on European investments. Top Tier is currently raising its second fund with a target of €250 million in commitments. It is managed by the Funds investment team, which includes two professionals in Top Tier's London office (with help from a third investment professional in London on the Venture Velocity team).
- Venture Velocity Growth: In 2022, Top Tier initiated its newest product, Venture Velocity Growth, although Top Tier indicated that this may be a one-time fund. The fund has not yet closed, and Top Tier expects to raise around \$100 million in commitments. It serves as an overflow fund for co-investments from Venture Velocity where Top Tier has historically declined its full pro rata allocation due to portfolio construction and diversification considerations. The fund is managed by the eight-person Venture Velocity team.
- Venture Velocity Prime: Similar to Venture Velocity Growth, Venture Velocity Prime represents a new product intended to serve as an overflow fund for secondaries investments from the Venture Velocity funds. This may also be a one-time fund, and Top Tier expects to raise \$50 million in commitments. The fund is managed by the eight-person Venture Velocity team.

Investment Team

Top Tier has a total of 20 investment professionals, who are split into two investment teams: Funds and Velocity. The Funds team consists of eight dedicated professionals led by Jessica Archibald and Eric Fitzgerald. The Velocity team also consists of eight professionals, who are led by Garth Timoll and Sean Engel. Top Tier also maintains two investment professionals in London, who are responsible for European investments.

As heads of the Velocity team, Garth Timoll and Sean Engel have been with the Firm for 15 and 14 years, respectively. Prior to joining Top Tier in 2009, Garth Timoll worked for two other private equity fund-of-funds, including Portfolio Advisors and Fairview Capital Partners. Sean Engel originally joined Top Tier as an Associate in 2010, and rose up through the firm to become a General Partner today. In addition to these two General Partners, the Velocity team consists of two Vice Presidents, three Associates, and one Head of Platform. As Head of Platform, Marcus Detry serves as an operating partner for Top Tier's co-investments and portfolio companies.

Key Professionals

Professional	Title	Role	Years w/ Firm
David York	General Partner	Founder of Top Tier, Head of Corporate Development	18
Garth Timoll	General Partner	Co-Lead of the Velocity team	15
Sean Engel	General Partner	Co-Lead of the Velocity team	14
Jessica Archibald	General Partner	Co-Lead of the Funds team	18
Eric Fitzgerald	General Partner	Co-Lead of the Funds team	7
Jonathan Biggs	Partner	Head of the London Office	1

Source: Top Tier and Callan analysis

Investment Team Turnover

Over the last five years, Top Tier has experienced minimal turnover on the investment team, with one retirement and one departure at the Partner level and above. Further detail is included below:

- In 2020, Lisa Edgar retired from the General Partner role and transitioned to a Partner Emeritus role after 22 years with the Firm. She continues to own a small piece of the management company, but she is gradually being bought out by the current General Partners.
- In June 2024, Michelle Ashworth departed after five years with the Firm. She originally joined as a Venture Partner in 2019 before transitioning to an investing Partner in 2023. She decided to depart the Firm for personal health reasons.

Succession Planning

Over the last 10 years, Top Tier has organically expanded the Firm's leadership team and equity ownership. For many years, David York led the Firm as CEO and owned a majority of the management company. The Firm gradually evolved into a flatter partnership structure with five General Partners. David York is in his early 60s and expects to remain involved with the Firm for the foreseeable future, but he may transition to an Executive Chairman role over the next few years. He is no longer involved in making new investments for the funds, with the exception of Top Tier Alpha, the Firm's emerging manager program. The Firm has intentionally built a multi-generational leadership team, ensuring long-term continuity in the management of the Firm. In addition, Top Tier maintains two co-leads of both investment teams (Funds and Velocity), which ensures further continuity in the execution of the investment strategies.

Compensation

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]



Investment Strategy

Top Tier's Venture Velocity strategy pursues venture capital secondaries and co-investments. Secondaries, which include a mix of LP secondaries, GP-led secondaries, and direct company secondaries, are expected to make up 60% of the portfolio, with co-investments representing 40%. Through this portfolio construction approach, Top Tier aims to generate liquidity faster than traditional venture capital investing. The LP and GP-led secondaries provide early liquidity, with longer-term performance driven by the company secondaries and co-investments. By sector and industry, the Venture Velocity funds are principally focused on technology companies and partnerships that are based in the U.S. Fund 5 is expected to have 25-50 positions, representing roughly 300 underlying companies. Unlike other secondaries funds, Top Tier does not employ fund-level leverage outside of a line of credit to facilitate capital calls (which cannot exceed 25% of commitments).

The Venture Velocity funds are principally doubling down on Top Tier's existing general partner relationships from the Firm's flagship fund-of-funds, which have represented over 90% of the strategy's deal flow. The Venture Velocity strategy transacts on the secondary and co-investment deal flow from those relationships, in addition to sourcing the occasional transaction outside of the portfolio. While some of these GPs are well-known "brand names" in the venture capital industry, Top Tier generally seeks to back "hidden gems", or venture capital firms that are smaller and less well-known that they think have higher performance potential.

Further detail on the strategy's secondaries and co-investments sleeves is included below:

- **Secondaries:** Secondaries represent ~60% of the Venture Velocity funds and include a mix of LP secondaries, GP-led secondaries, and direct company secondaries. Depending on the transaction type, transaction sizes are expected to range from \$5 million up to \$50 million. Top Tier underwrites their secondaries transactions to a 2x net TVPI and 20% net IRR, aiming to return cost within two to three years. For the LP and GP-led secondaries, Top Tier targets mature partnership interests, specifically funds that are at least seven years old where the portfolios are fully invested, management fees have dropped, and there is the potential for near-term liquidity. Top Tier looks for funds that have four to five strong underlying companies that can drive future value, as opposed more concentrated or single-asset funds. Although Top Tier includes some GP-led secondaries within each fund, the bulk of the secondaries exposure is expected to come through buying LP interests. Top Tier also invests in individual company secondaries, where they provide liquidity to founders/employees or other shareholders. The profile of these investments looks more similar to the co-investments described below, where Top Tier looks for companies at growth inflection points that are near liquidity.
- **Co-Investments:** Co-investments typically represent 40% of the Venture Velocity funds and can take the form of direct company investments or pooled SPVs. Top Tier's co-investments focus on venture-backed companies primarily alongside the Firm's existing GP relationships. Transaction sizes are typically smaller than the secondaries investments given the higher risk/return profile, targeting \$5-25 million per co-investment. Top Tier underwrites each co-investment to a 3x-5x net TVPI over a three- to five-year holding period. Top Tier pursues co-investments at both the mid-stage (Series B and C) and the late-stage (pre-IPO). At the mid-stage, Top Tier targets companies with \$5-15 million in recurring revenue with 50%-100%+ growth rates and limited technology risk. The late-stage investments have typically reached \$30 million of recurring revenue and are growing 30%+ annually.

Transaction Type

The Venture Velocity funds target 60% secondaries (representing a mix of LP secondaries, GP-led secondaries, and direct company secondaries) and 40% co-investments. The last three funds, however, have been more evenly split and have actually tilted slightly towards co-investments. Across Funds 2-4, co-investments have represented 55%-56% of invested capital, although Top Tier does expect to add more secondaries in Fund 4.

Within the secondaries sleeve, Top Tier expects LP secondaries to make up the majority of the portfolio for Fund 5, followed by GP-led secondaries and direct company secondaries. Although past funds had larger allocation to GP-led secondaries, Top Tier indicated that these transactions are less of a focus today given the greater competition within the space.

In terms of performance, the secondaries sleeve has outperformed the co-investments within each fund. Both LP secondaries and GP-led secondaries have contributed the most to overall performance, with each generating over a 2x gross TVPI in the aggregate. The co-investments have exhibited more muted performance, with a 1.5x gross TVPI in the aggregate.

Attribution by Transaction Type, as of 03/31/2024

	VVF 1		VVF 2		VVF 3		VVF 4		Total	
	% Invested	Gross TVPI	% Invested	Gross TVPI	% Invested	Gross TVPI	% Invested	Gross TVPI	% Invested	Gross TVPI
Secondaries	65%	2.31x	45%	3.32x	44%	1.24x	44%	1.26x	48%	2.05x
LP Secondary	54%	2.45x	22%	3.14x	14%	0.90x	26%	1.45x	27%	2.12x
GP Secondary	0%	4.11x	8%	3.51x	14%	1.93x	8%	1.05x	8%	2.18x
Company Secondary	11%	1.63x	14%	3.49x	15%	0.91x	10%	0.92x	13%	1.82x
Co-Investments	35%	1.42x	55%	2.37x	56%	0.98x	56%	1.01x	52%	1.45x

Source: Top Tier Capital Partners and Callan analysis.

Sector Focus

The Venture Velocity funds tend to be technology focused, with past funds only having small exposures, if any, to healthcare and consumer. Like these predecessor funds, Fund 5 is expected to be invested principally in technology, with software making up the majority of the portfolio.

Attribution by Sector, as of 03/31/2024

	VVF 1		VVF 2		VVF 3		VVF 4		Total	
	% Invested	Gross TVPI	% Invested	Gross TVPI	% Invested	Gross TVPI	% Invested	Gross TVPI	% Invested	Gross TVPI
Technology	62%	1.79x	77%	2.99x	77%	1.07x	100%	1.12x	80%	1.70x
HC & Tech	13%	3.15x	8%	2.81x	19%	1.22x	-	-	10%	2.05x
Healthcare	17%	2.31x	11%	1.81x	-	-	-	-	6%	2.06x
Consumer	8%	1.10x	-	-	-	-	-	-	1%	1.10x
Other	-	-	4%	1.75x	4%	1.00x	-	-	2%	1.38x

Source: Top Tier and Callan analysis.

Country/Regional Focus

The Venture Velocity funds pursue a U.S.-focused strategy, with the vast majority of each fund invested in U.S. partnerships and companies. The funds may have smaller exposures to international investments across Europe, Asia, and the Middle East. In the aggregate across Funds 1-4, international investments have represented roughly a quarter of invested capital, most of which has been in Europe, followed by Asia, Australia, and the Middle East.

Attribution by Geography, as of 03/31/2024

	VVF 1		VVF 2		VVF 3		VVF 4		Total	
	% Invested	Gross TVPI	% Invested	Gross TVPI	% Invested	Gross TVPI	% Invested	Gross TVPI	% Invested	Gross TVPI
North America	67%	2.02x	74%	2.79x	66%	1.21x	83%	1.15x	73%	1.78x
Europe	3%	0.95x	8%	4.76x	17%	0.82x	13%	0.87x	11%	1.62x
N. America/Eur	10%	3.22x	13%	2.61x	-	-	-	-	5%	2.82x
Asia	11%	1.72x	2%	0.05x	-	-	-	-	3%	1.41x
Australia	4%	0.29x	3%	0.00x	-	-	-	-	2%	0.15x
Israel	-	-	-	-	3%	1.01x	-	-	1%	1.01x
Global/Other	4%	1.86x	1%	2.62x	14%	0.90x	4%	1.32x	6%	1.20x

Source: Top Tier Capital Partners and Callan analysis.

Value Creation

Given the Venture Velocity funds pursue a secondaries and co-investments strategy, Top Tier is generally a more passive investor with limited involvement with the underlying portfolio companies. For their co-investments, they will seek a board observer seat as well as information rights to facilitate proactive monitoring of the company. They can also help companies with their funding rounds and make introductions to potential investors, leveraging the Firm's broad network of venture capital firms.

With their underlying general partners, Top Tier seeks to be an additive partner, providing guidance on best practices in managing venture capital partnerships. They can also employ “The Mine”, their proprietary database, to provide competitive analyses of certain companies or GPs. In addition, they can help with introductions to prospective limited partners and other venture capitalists.

Case Studies

- [Redacted]
- [Redacted]

Portfolio Construction (\$m), as of 06/30/02024

Fund	# of Investments	Commitment/Investment Size			
		Total	Average	Max	Min
VVF 1	30	186	6	21	1
VVF 2	34	280	8	21	1
VVF 3	26	283	11	40	2
VVF 4	22	257	12	31	2

Source: Top Tier Capital Partners and Callan analysis

Investment Process

Sourcing

In venture capital, personal relationships with key individual venture capitalists and their firms are paramount. The most successful venture capital firms, generally driven by the success of individual general partners, are highly sought after and difficult to access. Being able to develop access and maintain collegial relationships with these firms and individuals can compound competitive advantages over time, resulting in admission to syndicates of successful companies. Accessing top funds also provides access to successful entrepreneurs and key executives who are influential in financing decisions, selecting investors, and providing industry knowledge and contacts.

Over the past two decades, Top Tier has developed a strong network of established GPs, in addition to the skillset needed to identify up-and-coming individuals and firms that will comprise the next generation of successful venture capitalists. Most investments are proactively identified and sourced by Top Tier, who seeks to be a “first-call” partner to its GPs and companies when a capital need arises. Co-investments are generally sourced through a network-based endeavor, often through Top Tier’s existing GPs. Most secondary investments involve an intermediary, although Top Tier indicates its relationships are still crucial to gaining access to the top funds.

Top Tier’s sourcing efforts rely on its proprietary database, called the “Mine”. The Mine tracks over 450 funds and 12,000 companies. For companies, it includes key financial metrics such as revenues, growth rates, valuations, transaction multiples, sector/stage/location data, financial history, investor information, projected exit timing, and industry competitor metrics. Through the Mine, Top Tier looks to identify attractive investments, analyzing companies over time and searching for growth signals and financing needs. Companies are also rated based on a defined set of characteristics. For funds, the Mine can filter funds based on age, deployment, number of companies, and specific investment profiles. The Mine’s results produce targeted lists of prospective investments that Top Tier uses to guide their outreach efforts. Top Tier looks to develop relationships ahead of financing needs to better understand future developments and the individuals involved, prior to investing.

Due Diligence Process

The Velocity team meets on a weekly basis to screen potential new transactions, review the deal log, assign resources for new prospective investments, review work in progress, and discuss any portfolio monitoring items. Once an investment passes the initial screening process, a deal team is assigned, with a lead senior professional and a junior professional as a back-up. The deal team collaborates with the relevant set of professionals on the Funds team, leveraging any of their insights on the GP(s).

Once Top Tier decides to move forward with an investment, the deal team puts together a Summary Investment Proposal (“SIP”). The SIP provides a brief overview of the assets and transaction, including initial merits and considerations. These are reviewed by the investment team, the majority of whom must agree to move forward with further diligence. For co-investments, a more detailed financial model is then assembled, as well as industry research, competitive positioning, comparables analysis, current valuation assessment, and exit analysis. For funds, the timeline and lifecycle of the fund as well as fees and expenses are modeled. Due diligence coalesces into an Investment Memorandum, which is reviewed by the broader investment team and requires a two-thirds vote before moving to the Investment Committee.

The Investment Committee is made up of the five General Partners, including: Jessica Archibald, Sean Engel, Eric Fitzgerald, Garth Timoll, and David York. Investment approval requires four out of five votes, although, in reality, most investments are approved by consensus. By the time an investment comes to a vote, it has generally been reviewed three to four times during the Firm's weekly meetings, with questions and concerns typically addressed then.

Monitoring & Exits

The deal team remains involved throughout the life of each investment, where they take on formal monitoring responsibilities. Each senior professional is responsible for 17-19 investments and each junior professional typically covers 11-12. The Velocity team reviews any updates on investments during its weekly meetings, in addition to a formal portfolio review meeting each month.

For direct company investments, Top Tier seeks board observer rights as well as information rights. On a quarterly basis, if not more frequently, the deal team reviews company financial statements and quarterly fund reports, all of which gets loaded into the Mine. In addition to attending board meetings and LPAC meetings, as appropriate, the senior investment professionals maintain active dialogue with their GPs on a more informal basis, helping to track the progress of funds and companies.

For exits, Top Tier generally does not have discretion over the timing of its exits, either from funds or co-investments. Top Tier is not a control investor, and its co-investments tend to be passive stakes. Given the strategy's focus on venture capital, an IPO is typically the sought-after exit, although Top Tier's underlying companies may also exit through a strategic or financial sale.

Operational Due Diligence

Accounting/Finance

Chief Financial Officer

Promit Bhattacharya (Partner, COO & CFO)

Overview of the accounting and finance team

Promit Bhattacharya (Partner, COO & CFO) oversees Top Tier's 10-person finance team. The finance team consists of seven accounting associates, two accounting managers, and one assistant controller. They leverage Standish Management as the fund administrator, who is also responsible for all fund accounting and the official books and records. The finance team also uses Addepar for performance reporting and Ipreo for valuation calculations.

Fund Administrator

Standish Management

Custodian/Bank

Pacific Western Bank (Banc of California)

Fund Auditor

Ernst & Young LLP

Overview of cash movements

Top Tier will call capital for fund investments and fees/expenses with a minimum of 10 business days' notice. After the investment period has ended, additional capital may be called from investors to fund existing commitments and pay fees/expenses.

Top Tier anticipates distributions will be made in cash as soon as reasonably practicable, but no later than 120 days from the date of receipt by the fund. The fund may, at the discretion of the GP, distribute in-kind securities, but only with the approval of the LPAC or in other limited circumstances.

Valuation Policy/Process

Does the Firm have a Valuation Policy?

Yes

Overview of the valuation process

Top Tier updates its valuations on a quarterly basis, which must be approved by the Investment Committee. Its underlying funds are valued based on the values provided by the underlying GPs in their fund financial statements.

For co-investments, Top Tier's finance team values the companies on an annual basis, unless material changes occurred during the other three quarters of the year. The finance team holds quarterly meetings with the investment team to review material changes to portfolio companies. If no material changes occurred, the finance team will keep the valuation the same as the prior quarter.

Valuations for both the fund investments and co-investments are presented to the Investment Committee on a quarterly basis for review and approval.

Valuation Committee	No, but investments are approved by the Investment Committee, which consists of Jessica Archibald, Sean Engel, Eric Fitzgerald, Garth Timoll, and David York.
Frequency of valuations	Quarterly
Are valuations audited annually?	Yes
Is a third-party valuation firm ever used?	No
Are valuations in accordance with U.S. GAAP and ASC 820?	Yes

Allocation of Investment Opportunities

Does the Firm have an Allocation Policy?	Yes
Overview of investment allocation across funds/products	The Investment Committee has discretion over the allocation of investments. The Venture Velocity funds have priority over all secondaries and co-investments. The flagship fund-of-funds and European fund-of-funds also maintain a ~20% sleeve of secondaries and co-investments. They have second priority in those transactions. While most secondaries and co-investments are split between the products based on the amount of capital available, there are some instances where smaller investments will be fully allocated to the Venture Velocity Funds.
If the Firm has a debt product, can it invest alongside the equity product(s)?	No If yes, please elaborate: N/A
Approval process for cross-fund investments	In an effort to fully invest the funds, two funds may invest in the same transaction at the same time and on the same terms. Top Tier has done this in multiple instances. One fund is not expected to exit to another fund, however.
Overview of the allocation of co-investments	Top Tier may offer co-investments in its sole discretion to one or more limited partners. In allocating co-investment opportunities, Top Tier indicates it takes the following considerations into account: the co-investors ability to transact quickly; any strategic advantages; capital commitment to the partnerships; and likelihood of the co-investor investing in a future fund.

LP Reporting

Quarterly/annual reporting package	<input checked="" type="checkbox"/> Capital account statements <input checked="" type="checkbox"/> Quarterly unaudited fund financial statements <input checked="" type="checkbox"/> Annual audited fund financial statements <input type="checkbox"/> Quarterly LP letters/updates <input type="checkbox"/> Other Please specify:
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Are the ILPA reporting templates utilized?	No
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Legal/Compliance

Is the Firm a Registered Investment Advisor or an Exempt Reporting Advisor?	Registered Investment Advisor
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Chief Compliance Officer	Brian Dillon (Vigilant Compliance employee)
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External compliance consultant	Vigilant Compliance
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Compliance Manual	Yes
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Code of Ethics	Yes
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Legal Counsel	Proskauer Rose LLP
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Is the Firm or any key professional subject to any current material litigation proceedings?	No If yes, please specify: N/A
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Environmental, Social & Governance (ESG) and Diversity, Equity & Inclusion (DEI)

Environmental, Social, & Governance (ESG)

Firmwide ESG, SRI, sustainability, and/or responsible investment policy	Yes
Brief Description of Policy:	Top Tier's ESG policy is a three-page document that outlines how the Firm incorporates ESG considerations into its investment process as well as its ESG reporting efforts and various roles/responsibilities within the Firm. Top Tier leverages the UNPRI's ESG considerations as part of their due diligence process.
Year Policy put in place:	2021
Publish a quarterly or annual sustainability or responsible investing report	Yes
Employ full-time dedicated ESG professionals	No
Number of dedicated ESG professionals:	-
Dedicated oversight ESG functions (i.e. ESG Committee) at firm	No – The Chief Compliance Officer oversees the Firm's ESG functions.
ESG Considerations integrated into investment process	Yes – Top Tier incorporates the UNPRI's ESG considerations into its investment process.
UNPRI Signatory	Yes
Signatory to responsible investment bodies or standards other than PRI	No If yes, please specify: N/A

Diversity, Equity, & Inclusion (DEI)

Diverse-, Women-, or Disabled-Owned (DWDO) Ownership > 50%	No
DWDO Ownership Type	-
Formal Diversity & Inclusion Policy	Yes
Oversees diversity & inclusion efforts:	<input type="checkbox"/> Chief Diversity Officer <input checked="" type="checkbox"/> CCO <input type="checkbox"/> COO <input type="checkbox"/> CEO <input type="checkbox"/> Head of HR <input type="checkbox"/> Board <input type="checkbox"/> Other

Please specify:

Recruitment initiatives focused on women, people of color and/or other under-represented candidates Yes

Additional Performance Metrics

PME Analysis, as of 03/31/2024

Fund	VY	Net IRR	Net TVPI	Russell 3000 Index			XLK: Technology Sector ETF		
				LN PME IRR	LN PME TVPI	KS PME	LN PME IRR	LN PME TVPI	KS PME
Fund 1	2014	13.70%	1.74x	12.42%	1.62x	1.04	8.97%	1.36x	1.12
Fund 2	2017	34.86%	2.54x	14.62%	1.24x	1.65	24.14%	1.66x	1.28
Fund 3	2019	0.60%	1.02x	10.89%	1.29x	0.81	18.23%	1.55x	0.69
Fund 4	2021	3.04%	1.04x	17.50%	1.22x	0.85	25.74%	1.33x	0.78

LN: Long Nickels PME methodology
KS: Kaplan-Scholar PME methodology

Peer Comparables Review

As of 3/31/2024 or the most recently available date
Grouped by Vintage Year and sorted by Net TVPI

Fund	Vintage Year	Fund Size (\$m)	Net IRR	Net TVPI
Weathergage Venture Capital III	2014	\$156	NA	3.97x
Spur Ventures IV	2014	\$55	20.60%	3.68x
Greenspring Global Partners VI	2014	\$399	NA	3.64x
Industry Ventures Partnership Holdings III	2013	\$170	22.47%	3.26x
TrueBridge Capital Fund IV	2015	\$400	24.90%	3.31x
Accolade Partners V	2015	\$200	22.00%	3.13x
StepStone Tactical Growth Fund	2015	\$131	20.90%	2.81x
Horsley Bridge XI Venture	2015	\$1,153	18.12%	2.85x
Top Tier Venture Velocity Fund I	2014	\$190	13.70%	1.74x
Industry Ventures Secondary Fund VII	2013	\$431	16.38%	1.46x
Greenspring Global Partners VII	2015	\$430	-2.18%	0.98x
Top Tier Venture Velocity Fund 2	2017	\$283	34.86%	2.54x
Weathergage Venture Capital IV	2016	\$195	16.61%	2.45x
Industry Ventures Partnership Holdings IV	2016	\$400	19.60%	2.31x
TrueBridge Capital Partners Fund V	2017	\$460	22.30%	2.30x
Accolade Partners VI	2017	\$235	21.60%	2.27x
Horsley Bridge XII Venture	2017	\$1,440	18.20%	2.04x
Industry Ventures Partnership Holdings V	2018	\$335	27.50%	2.01x
Industry Ventures Secondary VIII	2016	\$500	23.95%	1.96x
StepStone Capital Partners IV	2018	\$447	23.36%	1.96x
Greenspring Global Partners VIII	2017	\$595	18.05%	1.91x

Spur Ventures V	2016	\$103	14.60%	1.86x
StepStone Capital Partners III	2016	\$295	16.39%	1.76x
Fairview Private Markets Fund IV	2016	\$100	14.40%	1.68x
StepStone Secondary Opportunities Fund III	2017	\$950	13.80%	1.57x
Spur Ventures VI	2018	\$153	8.10%	1.20x
Accolade Partners VII	2019	\$300	20.50%	1.58x
Greenspring Global Partners IX	2019	\$999	12.27%	1.54x
Stepstone VC Global Partners IX	2019	\$57	12.35%	1.54x
Stepstone Secondaries Fund IV	2020	\$800	13.55%	1.46x
Horsley Bridge XIII Venture	2019	\$1,730	12.74%	1.43x
TrueBridge Capital Partners Fund VI	2019	\$600	8.50%	1.20x
Fairview Private Markets Fund V	2020	\$24	5.63%	1.16x
Top Tier Venture Velocity Fund 3	2019	\$300	0.60%	1.02x
StepStone Secondary Opportunities Fund V	2022	\$3,626	12.70%	1.72x
Industry Ventures Partnership Holdings VI	2021	\$575	10.80%	1.30x
Industry Ventures Secondary IX	2021	\$850	12.18%	1.26x
StepStone Secondary Opportunities Fund IV	2021	\$2,400	3.50%	1.23x
StepStone Tactical Growth Fund III	2021	\$690	19.90%	1.22x
StepStone Capital Partners V	2022	\$2,360	NA	1.05x
Top Tier Venture Velocity Fund 4	2021	\$504	3.04%	1.04x
Accolade Partners VIII	2022	\$425	2.50%	1.04x
StepStone VC Secondaries Fund V	2021	\$2,600	1.93%	1.03x
Greenspring Global Partners X	2021	\$160	-0.26%	0.99x
Stepstone Diversity Fund I	2021	\$32	-2.43%	0.96x
TrueBridge Capital Partners Fund VII	2022	\$750	-7.90%	0.92x
Horsley Bridge Venture 14	2021	NA	-11.64%	0.89x
Spur Ventures VII	2022	\$74	-10.60%	0.88x

Source: Top Tier Capital Partners, Pitchbook and Callan analysis

Summary of Key Terms

	Fund Terms – per the LPA	ILPA Principles 3.0
Fund Term	<ul style="list-style-type: none"> ● Investment Period - 3 years ● Term - 8 years ● Extensions – Three one-year extensions per the GP’s discretion, and thereafter with the approval of the LPAC <p><i>Comments: The fund has a shorter investment period and term at 3 years and 8 years, respectively, but the term can be extended for multiple years.</i></p>	<ul style="list-style-type: none"> ● Extensions should be in 1-year increments and limited to max of 2 extensions ● Extensions should be approved by LPAC and then a majority in interest of LPs
GP Commitment	<ul style="list-style-type: none"> ● GP Commitment – 1%, up to \$5 million ● Fee Waiver Percentage – 100% cash ● Firm Balance Sheet Commitment – N/A <p><i>Comments: None.</i></p>	<ul style="list-style-type: none"> ● GP should have substantial equity interest in the fund, through cash rather than fee waivers ● No cherry picking of individual deals
Management Fee	<ul style="list-style-type: none"> ● Investment period - 1.00% on committed capital (Years 1-5) ● Post Investment Period – Year 6 – 0.90%, Year 7 – 0.81%, Year 8 – 0.73%, on committed capital ● Post Fund Term – Management fee paid through any extensions, as follows: Year 9 – 0.66%, Year 10 – 0.59%, Year 11 – 0.53% ● Management Fee Offset - 100% <p><i>Comments: Top Tier altered its management fee structure for Venture Velocity 5. The fee is paid on committed capital throughout the life of the fund as opposed to dropped to investing capital after Year 5. With this new structure, the fee percentage now steps down incrementally each year after Year 5.</i></p> <p><i>Top Tier indicated that this structural change was at the request of some of their larger LPs, who prefer the simplicity and transparency of paying on committed capital as opposed to invested capital. The fee structure of the Venture Velocity funds now matches Top Tier’s flagship funds, making it also more efficient and simpler for the Firm to</i></p>	<ul style="list-style-type: none"> ● Management fee should be reasonable based on normal operating costs of the fund. It should cover overhead costs, salaries of employees & advisors, travel and other costs ● Mgmt. fees should significantly step down upon the formation of a successor fund or at the end of the investment period ● Fees should not be charged post the term

administer. Top Tier indicated that the dollar amount of fees paid should be similar to the prior fee structure, and they aimed to have it be nearly identical.

Waterfall	<ul style="list-style-type: none">● Waterfall Type - European● Carried Interest - 15%; increases to 20% if the fund achieves a 3x net DPI● Preferred Return - 6% Type - Compounded● GP Catch-Up - 100% <p><i>Comments: High carried interest structure compared to other secondaries strategies. Most secondaries/co-investment funds charge 10% carried interest, as opposed to 15%-20%.</i></p>	<ul style="list-style-type: none">● European waterfall is best practice● Carry should be calculated on net profits, factoring in fund-level expenses, and on an after tax basis● Preferred return should be calculated based on the date the bridge facility is drawn
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GP Clawback	<ul style="list-style-type: none">● GP Clawback – Yes, upon liquidation. <p><i>Comments: None.</i></p>	<ul style="list-style-type: none">● Accrued carried interest should be held in escrow and disclosed annually● Clawback amounts should be gross of tax● Joint and several liability of individual GPs is best practice
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Key Person	<ul style="list-style-type: none">● Key Persons – Suspension of the investment activities if two key persons cease to devote substantially all their business time to the affairs of the partnerships.● <u>Key persons</u>: Jessica Archibald, Sean Engel, Eric Fitzgerald, Garth Timoll, and David York <p><i>Comments: None.</i></p>	<ul style="list-style-type: none">● Key persons should be individuals that determine investment outcomes – not just the founders● Key persons should devote substantially all of business time to the fund● Key person event should automatically trigger suspension of investment period and an interim clawback
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Governance Rights	<ul style="list-style-type: none">● For Cause Provisions:<ul style="list-style-type: none">○ <u>For Cause Suspension of Investment Period</u>: automatic suspension of the investment period upon a key person event○ <u>For Cause GP Removal</u>: the GP will be removed after a cause event and upon a vote of at least 66 2/3% in interest of LPs● No Fault Provisions:<ul style="list-style-type: none">○ <u>No Fault Suspension of Investment Period</u>: investment period will be suspended upon a vote of 66 2/3% in interest of LPs	<ul style="list-style-type: none">● For cause suspension or termination of the investment period upon vote of majority in interest of LPs● For cause removal of GP or fund dissolution upon vote of majority in interest of LPs● No fault removal of GP or fund dissolution upon vote of 2/3 in interest of LPs
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- No Fault Fund Termination: the fund will be terminated upon a vote of at least 75% in interest of LPs
- No Fault GP Removal: the GP can be removed at any time and for any or no reason upon a vote of 85% in interest of LPs

Comments: Voting thresholds for governance provisions are slightly higher than ILPA's recommendations.

Investment Restrictions	<ul style="list-style-type: none"> ● Blind Pool Investments – N/A ● Single Company Concentration – Not to exceed 20% of aggregate commitments ● Restrictions on Public Securities – Not specified ● Companies Outside North America – investments outside of U.S. venture capital are not to exceed 30% of aggregate commitments 	<ul style="list-style-type: none"> ● Fund should have appropriate limits on investment concentration ● Other types of restrictions not discussed in Guidelines
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Comments: None.

Bridge Facility & Borrowing	<ul style="list-style-type: none"> ● Bridge/Subscription Financing – Not to exceed 25% of aggregate commitments <p><i>Comments: No time period specified.</i></p>	<ul style="list-style-type: none"> ● Bridge facility should be used to ease fund administration, rather than enhance the IRR ● Bridge facility should be outstanding no more than 180 days and capped at a certain percentage of commitments
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Recycling/Recallable Capital	<ul style="list-style-type: none"> ● Recycling Cap – Not specified ● Time Limit - N/A <p><i>Comments: LPA does not include language on recycling.</i></p>	<ul style="list-style-type: none"> ● The amount of capital available for recycling should be capped ● Recycling provisions should expire at the end of the investment period
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Investment Team Biographies

Senior Investment Professional Biographies

Jessica Archibald
General Partner

Jessica is a General Partner and is a member of the Firm's Investment Committee and management committee. She leads the capital formation efforts for the Firm. She was the driving force behind establishing the Investment Team's database, The Mine, and the Firm's data analytics team. It was Jessica's analytical vision to leverage data to enhance the risk-adjusted returns for Top Tier's investors. Her focus on data has helped the Investment Team balance the promise frontier technologies offer, with the financial returns limited partners' desire. Jessica joined Top Tier's predecessor firm Paul Capital in 2005. Prior to joining Top Tier, she was part of the Investment Team at Care Capital LLC, a venture capital firm specializing in biotechnology. Before that, she spent five years at Salomon Smith Barney. Jessica graduated from Connecticut College with a B.A. in mathematics and economics. She also earned an MBA from New York University's Stern School of Business. Jessica is an active competitive rower and was previously a varsity crew member at Connecticut College, and a member of the New York Athletic Club, where she was a nine-time national champion.

Sean Engel
General Partner

Sean is a General Partner and is a member of the Firm's Investment Committee. He co-leads the Velocity Team at Top Tier. He joined Top Tier's predecessor firm, Paul Capital, in 2010 as a member of the inaugural analyst program. Beginning in 2012, Sean played an early role in the formation and execution of the velocity strategy at Top Tier. In 2014, when Top Tier raised the inaugural velocity fund, he transitioned his dominant focus to the velocity investment program. Sean is a board observer on several of Top Tier's co-investment portfolio companies. Sean graduated from the University of California at Berkeley with a B.A. in political science. While at Berkeley, he was an Academic All Pac-10 varsity crew member, varsity eight IRA National Champion in 2010, and a member of the Under-23 National Rowing Team in 2009. Currently, Sean sits on the board of the Friends of Cal Crew.

Eric Fitzgerald
General Partner

Eric is a General Partner and is a member of the Firm's Investment Committee. He co-leads the Funds Team, focusing on manager selection, due diligence, and investment monitoring of Top Tier's primary investments. Eric has 30 years of experience in the financial services industry, and has been involved in the private equity investment community for the past 21 years. Most recently at MetLife, Eric served as the head of domestic private equity, a program representing \$6 billion in U.S. private equity exposure, including \$1 billion to venture capital as of Q1 2017. He has additional fund investing experience as a partner with Thomas Weisel Global Growth Partners and the Private Equity Markets Group at Liberty Mutual. Eric has an MBA from the Olin Graduate School of Business at Babson College and a B.S. in economics from Union College.

Garth Timoll
General Partner

Garth is a General Partner and is a member of the Firm's Investment Committee and management committee. He co-leads the Velocity Team at Top Tier. He is currently a board member or board observer for several of Top Tier's co-investment portfolio companies. Prior to joining Top Tier's predecessor firm Paul Capital in 2009, Garth was a vice president at Portfolio Advisors, where he focused on primary investments in venture capital, leveraged buyout, and special situation funds. Before that, he was at Fairview Capital Partners and Rogerscasey. Garth graduated from Bates College as a Benjamin E. Mays Scholar with a B.A. in psychology and a

minor in economics, and was captain of the varsity basketball team. Garth is a current member of the Bates College Board of Trustees. He also received his MBA from the Johnson Graduate School of Management at Cornell University as a Robert A. Toigo Fellow and a Christopher T. Emmet Scholar.

David York
General Partner

David is a General Partner and is a member of the Firm's Investment Committee and management committee. His 30-plus years of industry knowledge and networking uniquely equips him to be a liaison and international ambassador not only for Top Tier's brand, but also the broader venture community. In 2000, David joined Phil Paul to lead the fund of Funds Team at Paul Capital, which spun out in 2011 to form Top Tier. Over the past three decades in Silicon Valley and during his tenure on different trading desks on Wall Street, including posts at Chase H&Q, Volpe Welty & Co., Drexel Burnham Lambert, and Paine Webber, David has developed an extensive network among private equity managers, particularly venture capitalists. David graduated from the University of Southern California with a B.S. in industrial and systems engineering.

Jonathan Biggs
Partner

Jonathan (Jon) is a Partner in London and is a member of the Firm's Investment Committee for the European Venture Capital Funds. Prior to TTCP, Jon was a Managing Partner of SVB Capital for 20 months where the plan was to build a FoF focused on early stage European venture capital. Prior to SVB Capital, Jon worked for 20 years at Accel London as Chief Operating Officer. He was one of the first hires in 2001, and saw the firm through 6 fund raises before finally leaving in 2021. Prior to Accel, Jon worked at AXA Investment Managers, and before that worked at Deutsche Bank and Mirabaud & Cie in London. He qualified as a Chartered Accountant at PWC in London having graduated from the University of Bristol. Jon is an advisor to Chrysalis Investments, a UK publicly quoted growth fund and is a patron of Tusk Trust, a charity focused on African wildlife conservation.

Source: Top Tier.

Important Information and Disclosures

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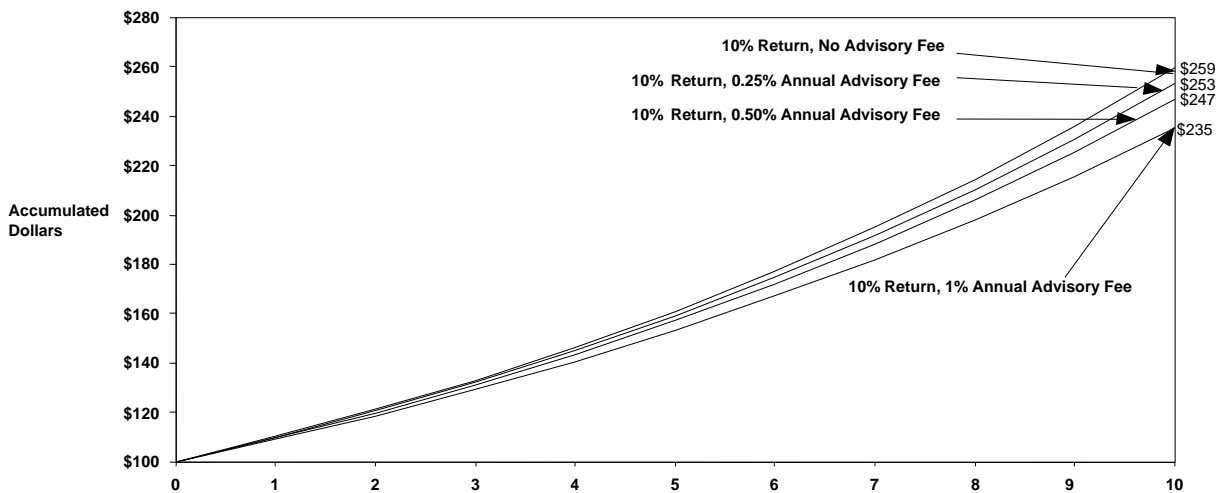
Disclosure

The preceding report has been prepared for the exclusive use of the client. Unless otherwise noted, performance returns contained in this report do not reflect the deduction of investment advisory fees. The returns in this report will be reduced by the advisory fees and any other expenses incurred in the management of an investment account. The investment advisory fees applicable to the advisors listed in this report are described in Part II of each advisor’s form ADV.

The following graphical and tabular example illustrates the cumulative effect of investment advisory fees on a \$100 investment growing at 10% over ten years. Fees are assumed to be paid monthly.

In addition to asset-based investment advisory fees, some strategies may include performance-based fees (“carry”) that may further lower the returns realized by investors. These performance-based fees can be substantial, are most prevalent in “Alternative” strategies like hedge funds and many types of private markets, but can occur elsewhere. The effect of performance-based fees are dependent on investment outcomes and are not included in the example below.

The Cumulative Effect of Advisory Fees



Accumulated Dollars at End of Years

	1	2	3	4	5	6	7	8	9	10
No Fee	110.0	121.0	133.1	146.4	161.1	177.2	194.9	214.4	235.8	259.4
25 Basis Points	109.7	120.4	132.1	145.0	159.1	174.5	191.5	210.1	230.6	253.0
50 Basis Points	109.5	119.8	131.1	143.5	157.1	172.0	188.2	206.0	225.5	246.8
100 Basis Points	108.9	118.6	129.2	140.7	153.3	166.9	181.8	198.0	215.6	234.9

10% Annual Return Compounded Monthly, Annual Fees Paid Monthly.

Disclosure

As indicated below, one or more of the candidates listed in this report may, itself, be a client of Callan as of the date of the most recent quarter end. These clients pay Callan for educational, software, database and/or reporting products and services. Given the complex corporate and organizational ownership structures of investment management firms and/or trust/custody or securities lending firms, the parent and affiliate firm relationships are not listed here.

The client list below may include names of parent companies who allow their affiliates to use some of the services included in their client contract (e.g., educational services including published research and attendance at conferences and workshops). Affiliates will not be listed if they don't separately contract with Callan. Parent company ownership of the firms included in this report and any relationship with Callan can be provided at your request. Because Callan's clients list of investment managers changes periodically, the above information may not reflect recent changes. Clients are welcome to request a complete list of Callan's investment manager clients at any time.

As a matter of policy, Callan follows strict procedures so that investment manager client relationships do not affect the outcome or process by which Callan's searches or evaluations are conducted.

Firm	Is an Investment Manager Client of Callan*	Is Not an Investment Manager Client of Callan*
Top Tier Capital Partners		X

*Based upon Callan manager clients as of the most recent quarter end.

TopTier Capital Partners Biographies

Jessica Archibald, General Partner

Jessica's analytical vision is to leverage data to optimize portfolio construction, enhancing risk-adjusted returns for Top Tier's investors. Her focus on data has helped the Investment Team balance the promise that frontier technologies offer with the financial returns LPs desire. Jessica joined Top Tier's predecessor firm Paul Capital in 2005. Prior to joining Top Tier, Jessica was part of the investment team at Care Capital LLC, a venture capital firm specializing in biotechnology. Before that, she spent five years at Salomon Smith Barney.

Jessica holds a B.A. in mathematics and economics from Connecticut College. She earned an M.B.A. from New York University's Stern School of Business. Jessica is also a member of the Connecticut College Board of Trustees. Jessica is a competitive rower and was previously a Varsity Crew member at Connecticut College and member of the New York Athletic Club, where she was a nine-time national champion. In her spare time, Jessica enjoys rowing, travel, and photography. She actively supports Team IMPACT and Connecticut College Rowing.

Sean Engel, General Partner

Sean has over 12 years of LP secondary and direct investment experience, strong ties with VCs and entrepreneurs, and is a board observer on several of Top Tier's co-investment portfolio companies. He joined Top Tier's predecessor firm Paul Capital in 2010.

Sean holds a B.A. in political science from the University of California at Berkeley. While at Berkeley, he was an Academic All-Pac-10 Varsity Crew member, Varsity 8+ IRA National Champion in 2010, and a member of the Under-23 National Rowing Team in 2009. Currently, Sean sits on the board of the Friends of Cal Crew. He and his wife (Carly) love spoiling their dog (Rafi) on a regular basis. In addition, he enjoys spending time with friends, playing golf, and working out in his spare time. Sean also supports Team Impact – an organization helping young children with chronic illnesses.

Chuck Tedeschi, Director

Before joining Top Tier, Chuck spent the past 8 years as a Managing Director in Pacific Western Bank's Fund Finance Group specializing in providing financial services to the venture capital community. Prior to PacWest, (while at NEPC) Chuck conducted manager research and due diligence across multiple private equity strategies with a focus on venture. Prior to joining NEPC in 2011, Chuck was the Director of Investor Relations at NewSpring Capital. In his role at NewSpring, Chuck was responsible for client and consultant relations across NewSpring Capital's private equity strategies. Chuck also worked at SVB Capital for over nine years in the firm's Funds Management Group. Chuck began his professional career with Morgan Stanley.

In his free time, Chuck loves to spend time with his two teenage children, wife, and 1 year old Cavapoo named Tiger. He also enjoys coaching wrestling, playing guitar, hiking, and golfing.



Top Tier Capital Partners



A Leading Investor in Global Venture Capital

EXPERIENCE

25
Years

AUM

\$7.1B
Regulatory AUM

TEAM

22
Investment
Professionals

NET DPI

1.0x
to LPs



RAUM as of 12/31/2023. Net DPI represents ITD Distributed to Paid-In Capital to LPs from all TTCP entities as of 6/30/2024. References to years of investing experience include TTCP's predecessor firm, Paul Capital; current members of TTCP were part of the Paul Capital investment team. Investment Professionals count as of 10/15/2024. For information regarding TTCP's current regulatory assets under management and predecessor firm, please review TTCP's ADV Brochure. See Notes to Investment Performance at the end of this presentation for more information. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.

Leadership Team

<p>SF</p>  <p>David York</p> <p>28 years of experience Joined in 2000</p> 	<p>SF, BOS</p>  <p>Jessica Archibald</p> <p>21 years of experience Joined in 2005</p> 	<p>SF</p>  <p>Garth Timoll, Sr.</p> <p>22 years of experience Joined in 2009</p> 	<p>SF</p>  <p>Sean Engel</p> <p>13 years of experience Joined in 2010</p> 
<p>BOS</p>  <p>Eric Fitzgerald</p> <p>27 years of experience Joined in 2018</p> 	<p>LON</p>  <p>Jonathan Biggs</p> <p>22 years of experience Joined in 2023</p> 	<p>SF</p>  <p>Promit Bhattacharya</p> <p>16 years of experience Joined in 2020</p> 	

**Decades of
Investing
Together in
Venture Capital**

References to years of investing experience include TTCP's predecessor firm, Paul Capital, of which current members of TTCP were part of the investment team. For information, please review TTCP's ADV Brochure. As of 6/30/2024. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End. All logos are property of their respective owners.

Our Four Pillars of Differentiation



Venture Specialists

- **Solely focused on Venture**
- **Extensive, long-standing networks and reputation**
- **Unique vantage point as a sought-after primary, secondary and direct investor**



Team & Location

- **Multi-generational team**
- **Local to key innovation hubs across US & Europe**
- **Stable and diverse investment team with 46% women/minority**



Data Analytics

- **+10 years honing our proprietary database, The Mine**
- **Optimize portfolio construction to capture trends**
- **Quantitative manager diligence & value add**



Portfolio Management

- **Active relationship management**
- **Distinct ability to triangulate information**
- **Thoughtful use of secondaries and co-investments**

Investment team women and minority statistic as of 6/30/2024.

See Notes to Investment Performance at the end of this presentation for more information. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.



Velocity Program

Shorter Duration, Higher Velocity of Distributions

Delivering venture exposure in less time and faster returns

60% Secondaries

~95% existing TTCP managers

Mix of LP, GP, direct secondaries

Underwrite to 2x MOIC, 1x DPI in ~3 Years

\$500M

Target

2x+

Net Fund Target

40% Co-Investments

~95% alongside TTCP manager

Typically >\$10M revenue, 30% growth rates

Underwrite to 3x+

20+ year relationships includes tenure with TTCP's predecessor firm Paul Capital Partners. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.

Relationships Are Foundational to Velocity's Strategy

Decade-long relationships complemented by emerging brands

Deals with
unique TTCP GPs

58

Total Capital Deployed
Alongside a TTCP GP

93%

Co-Investments with 2+
TTCP GPs

33

Secondary Deals
Sourced From GPs/LPs

86%

Select Mature Relationships

 Madrona

Headline

SCALE

boldstart>

Select Emerging Relationships

 crv

eniac

 BALLISTIC VENTURES

a_capital

Relationships and Process Enable Proprietary Access

Tactical engagement across relationships sets Velocity apart

LP/GP Secondaries
Building exposure



 **Project River**

VVF4



 **Project Limelight**

VVF4, VVP

Direct Secondaries
Unique access



 **Hugging Face**

VVF4, VGF





VVF4, TT X

Co-Investment
Adaptable investing





VVF4

CRAFT **Headline**

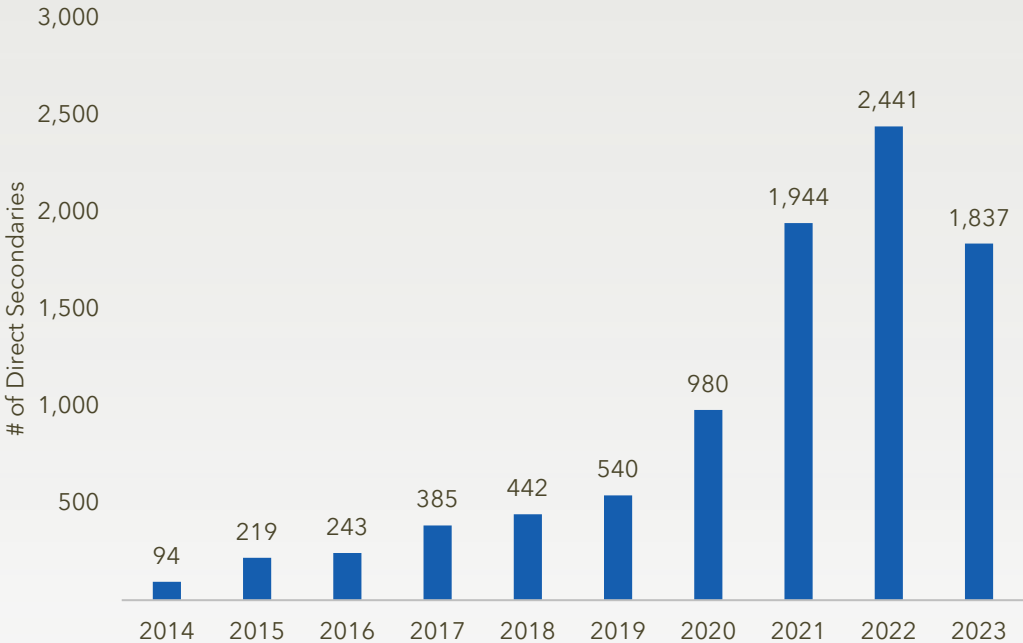


VVF4

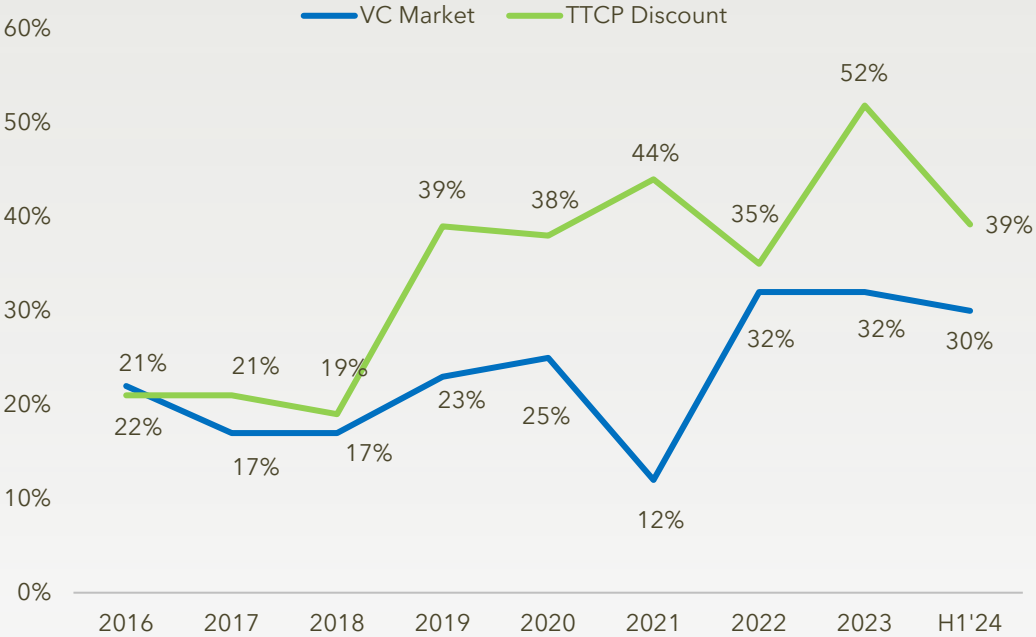
Market Opportunity

Market trends provide opportunity across deal types

Direct secondary tenders have grown in popularity



TTCP beats average LP/GP secondary discounts



Reasons to Sell

Personal liquidity

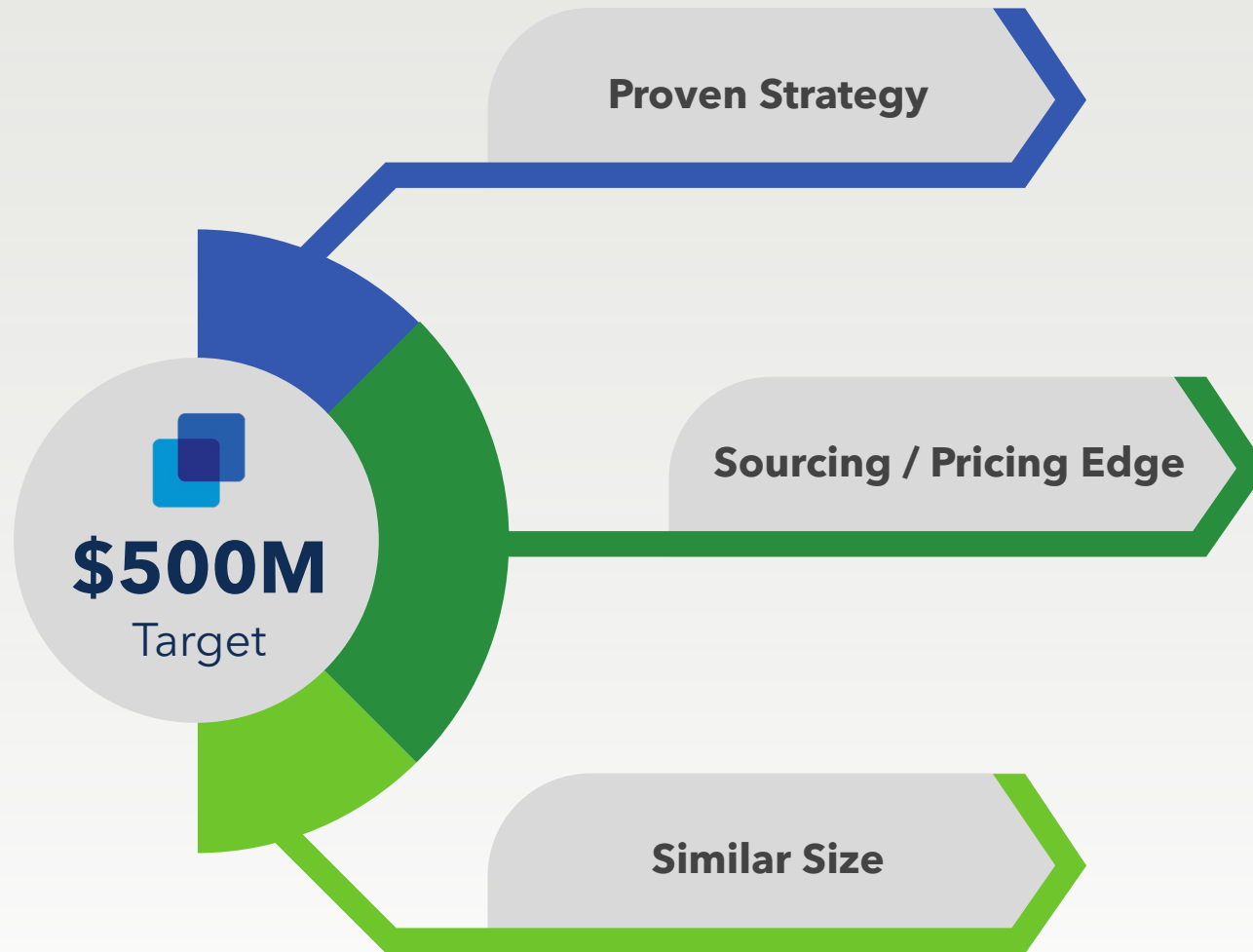
Locking in gains

Portfolio management

Other investment opportunities

LP distributions

Consistency for 5th Venture Velocity Fund



~60% secondaries

- LP interests, GP stakes, direct secondaries

~40% co-investments

- Alongside trusted TTCP managers

Data aggregation and triangulation from FoF

Proprietary database with 15 years of development

Long-term relationships

Able to pursue opportunistic transactions

Concentration to high-conviction investments

Not competing with larger platforms

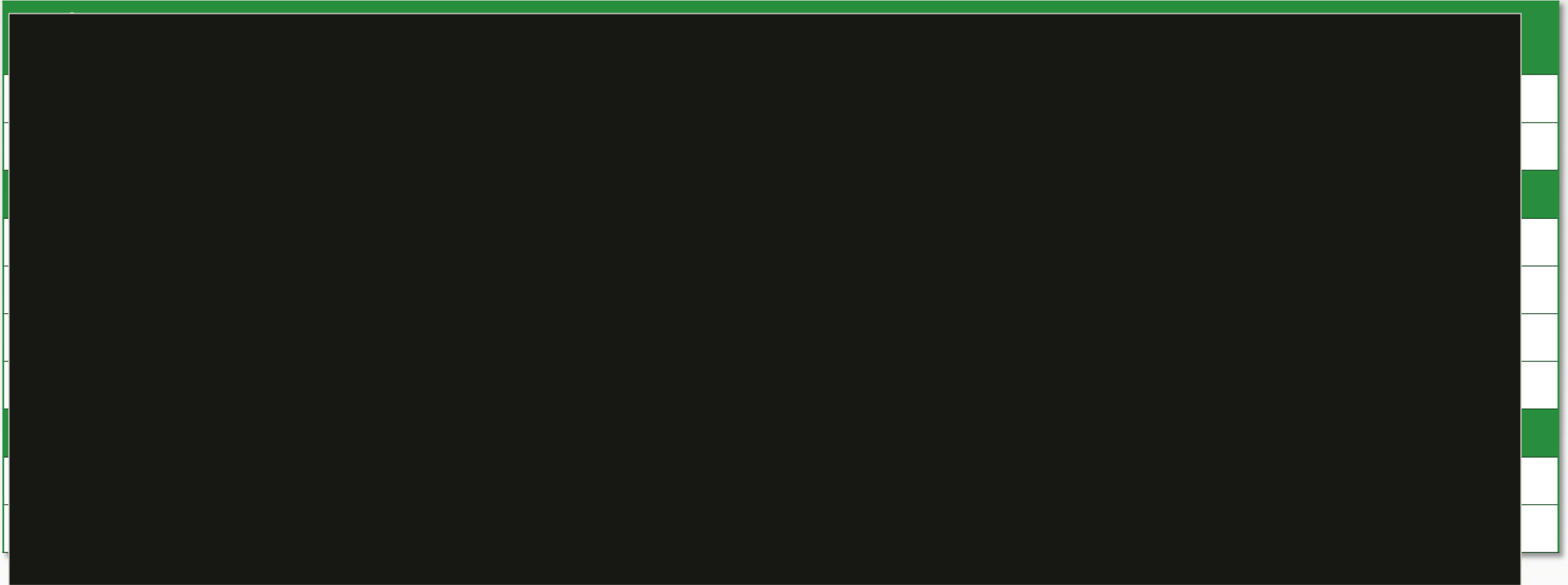
The targeted investment allocations presented herein (the "Targets") have been established based on several assumptions that may vary depending on the type of investment. There is no guarantee that the conditions on which such assumptions are based will materialize as anticipated and will be applicable to Top Tier Funds' portfolio investments. Actual transaction conditions may differ from the assumptions used to establish the Targets and such differences could be material. A broad range of risks could cause Top Tier Funds to fail to meet its investment objectives and Targets, including changes in the economic and business environment, tax rates, financing costs and the availability of financing, regulatory changes and any other unforeseen expenses or issues. Additional details are available to investors upon request. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.



NHRS Velocity Commitments

Performance Across Core Velocity Funds

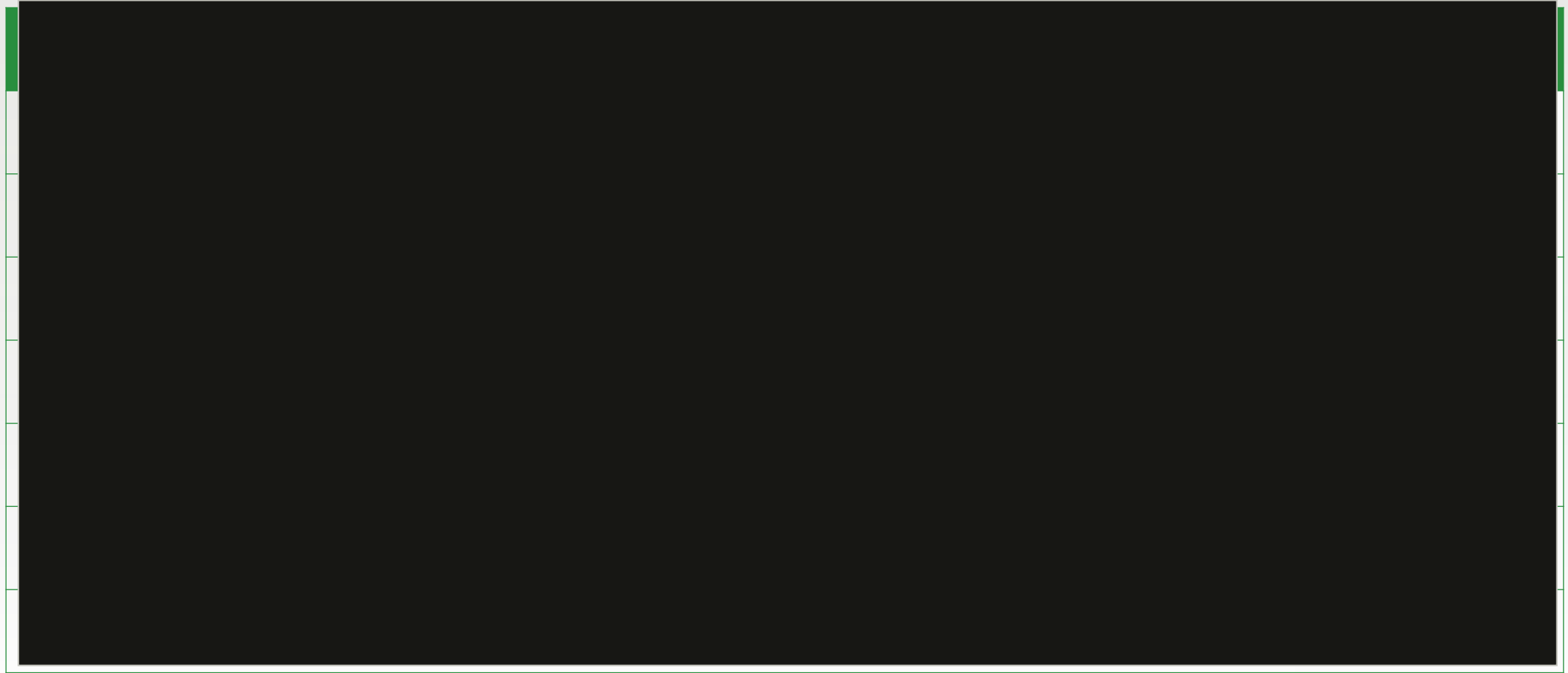
All core funds are competitive with public, time-weighted benchmarks



Performance data as of 6/30/2024. Table excludes SMAs, VGF, VVP, and all FoF products. NM denotes not meaningful as funds are within three years of their first closing. PME+ methodology matches the approach used by Capital Dynamics and aggregates cash flows occurring during a year. PME stands for public market equivalent and applies fund cash flows to a public benchmark. Yahoo Finance was used to pull historical prices for the above indexes across the shown TTCP funds' ITD lifetimes. See Notes to Investment Performance at the end of this presentation for more information. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.

NHRS Performance

Q2 2024



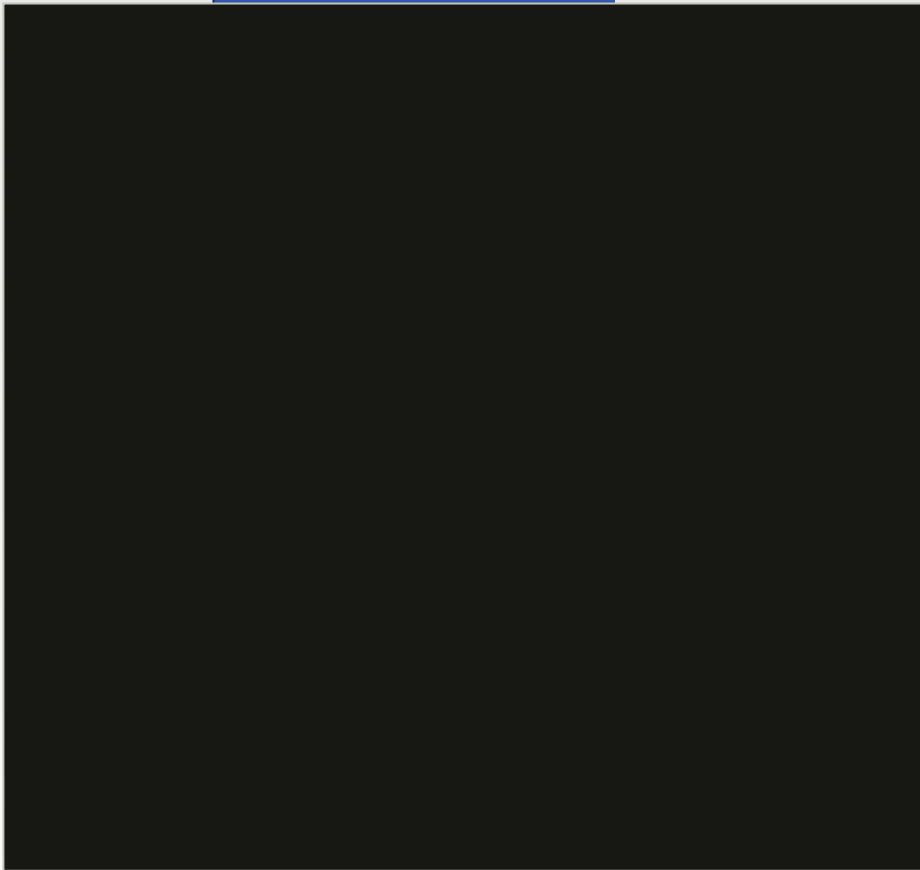
Active quarters excludes the inaugural quarter when the first close occurred. LP Performance data as of 6/30/24; IRRs in the table above are rounded to the nearest whole percent. N/M indicates not meaningful as the time period is too short. Aggregate performance represents the total performance across the fund commitments shown above. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.

VVF Distribution Timeline Projections

Projected Fully
Realized / Fully
Realized

TTCP anticipates concentrated positions will exit in 12-36 months

Top Contributors



 Project Vine  Project Vicarage  SRS ACQUIOM  Project Wildcat  Project Cart

 BOLT THREADS  Project Bedrock  Project Serena  Project Kaiser  Project Wildcat

 Project Vine  Project Vicarage  Project Dominion  Project Kicker  MOO  SRS ACQUIOM  DATASTAX
 Qumulo  optoro  Project Granite  Project Cannon

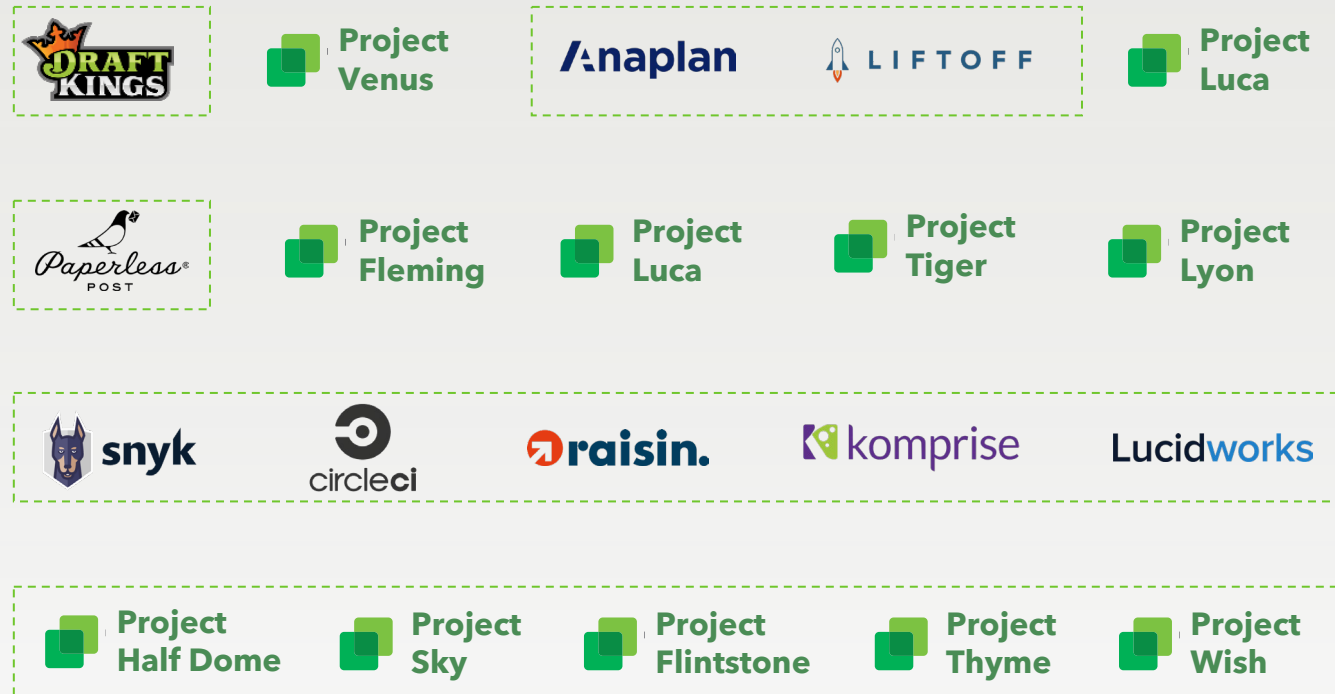
Distribution projections are as of 6/30/2024. The above analysis is calculated based on a combination of proprietary secondary models and exit outcome assumptions for direct holdings. These models and assumptions may prove to be inaccurate, causing the above analysis to misrepresent future potential. Estimates are net of projected fees and carried interest. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End. All logos are property of their respective owners.

VVF2 Distribution Timeline Projections

Projected Fully
Realized / Fully
Realized

TTCP anticipates concentrated positions will exit in 18-36 months

Top Contributors

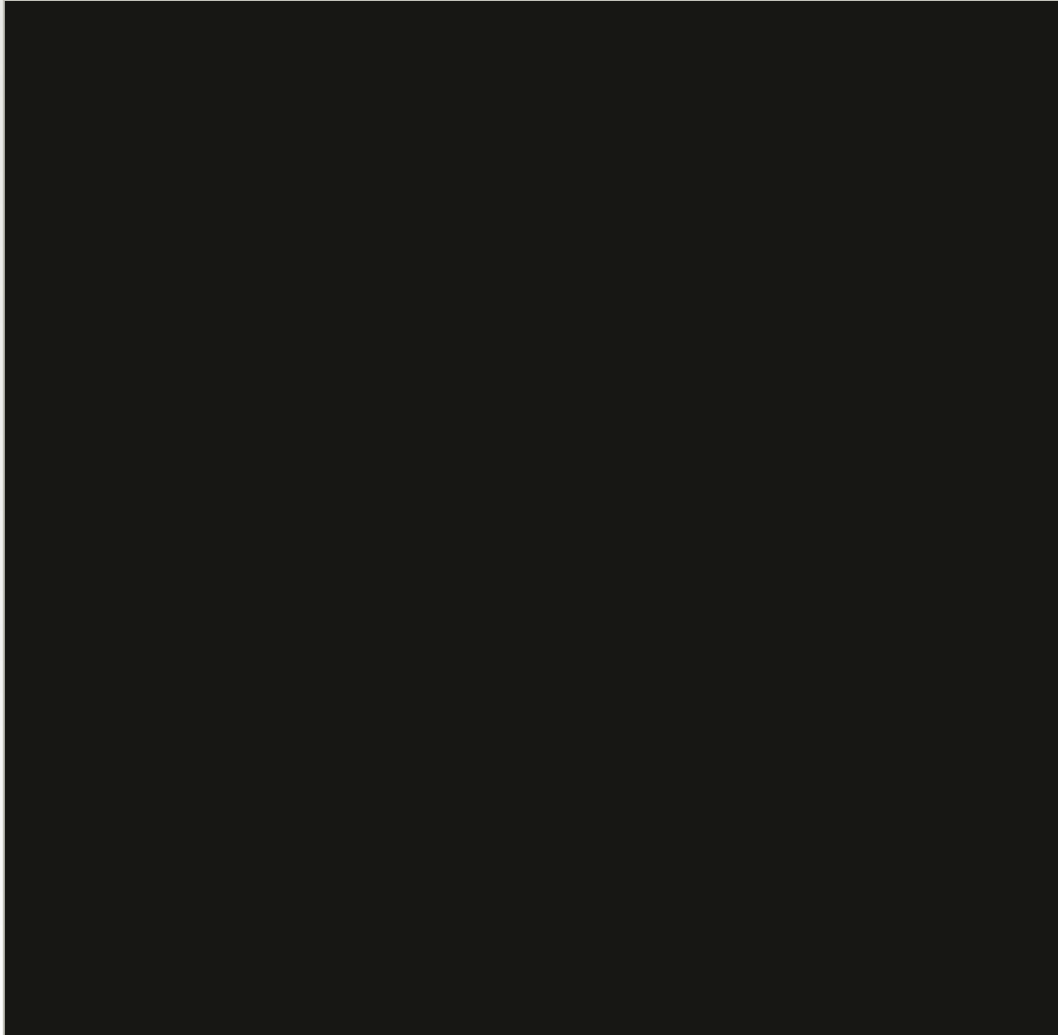


Distribution projections are as of 6/30/2024. The above analysis is calculated based on a combination of proprietary secondary models and exit outcome assumptions for direct holdings. These models and assumptions may prove to be inaccurate, causing the above analysis to misrepresent future potential. Estimates are net of projected fees and carried interest. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End. All logos are property of their respective owners.

VVF3 Distribution Timeline Projections

Projected Fully Realized

TTCP anticipates concentrated positions will exit in 18-36+ months



Top Contributors

 Project Kelly	 Project Tempura	 Remitly	 Project Ommer	 Project Half Dome
 Project B DV	 Project Ommer	 Remitly	 Project Tempura	 OctoAI
 Project B DV	 Remitly	 TRADE REPUBLIC	 talkdesk	 GONG
 Clari	 HYPR	 Qumulo	 Project Kelly	 Project Half Dome


Performance estimates are as of 6/30/2024. The above analysis is calculated based on a combination of proprietary secondary models and exit outcome assumptions for direct holdings. These models and assumptions may prove to be inaccurate, causing the above analysis to misrepresent future potential. Estimates are net of projected fees and carried interest. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End. All logos are property of their respective owners.

VVF4: VC With Faster Liquidity and Lower Risk

Performance through 6/30/2024


2024 Activity

Portfolio Highlights




Project Alex
[REDACTED]

3 quarters to first distribution
Largest deal driver, Rippling recently raised an up-round at a \$13.5B valuation



Project Daffodil
[REDACTED]

First distribution in same quarter as investment
Largest deal driver, Stord has more than doubled revenue since VVF4's investment




SPOTNANIA
[REDACTED]

Announced a strategic partnership with Direct Travel (Q1 2024 investment) in April
Increased exposure via co-investment following a direct secondary investment


Co-investments

Secondaries




SPOTNANIA

Invested: \$11.0M
(Follow-on)




Direct Travel

Invested: \$11.0M




auradine

Invested: \$5.0M




Undisclosed

Invested: \$5.1M




Project Limelight

Committed: \$6.0M




Project River

Committed: \$17.7M



LucidLink

Invested: \$8.1M
(Follow-on)



Hugging Face

Invested: \$12.0M

Performance data as of 6/30/2024. NM denotes not meaningful as funds are within three years of their first closing. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End. All logos are property of their respective owners.

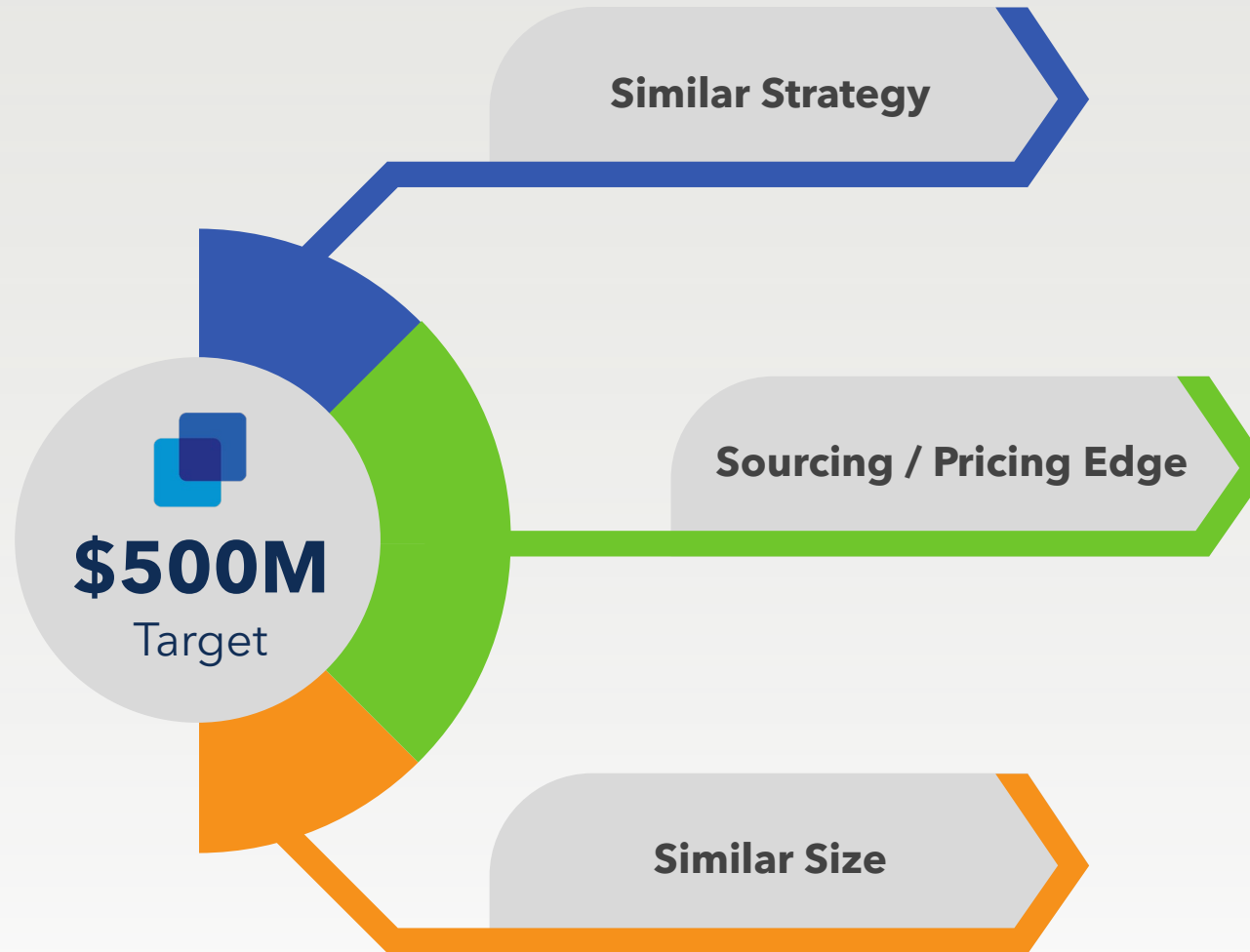
Illustrative Key Terms

Venture Velocity Fund 5

Legal Entity	Venture Velocity Fund 5, L.P. (Delaware Limited Partnership)
Target Fund Size	\$500 million
GP Commitment	1% of aggregate capital commitments up to \$5.0 million
Fund Term	Eight years from the Final Closing plus three one-year extensions (with the approval of the Advisory Committee)
Management Fee	Investment period: 1% on LP commitments. Thereafter, step down 10% per year until 50% of the original amount on a per LP basis.
Carried Interest	15% after 6% compound preferred return, 20% over a 3x
Key Persons	Any two of Jessica Archibald, Sean Engel, Eric Fitzgerald, Garth A. L. Timoll Sr., David York*

*Commitment Period is suspended if at any time any two of the above people cease to (i) be actively engaged in the management of the Fund or (ii) devote substantially all of their business time to the Top Tier funds. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.

VVF5: More of the Same



The targeted investment allocations presented herein (the "Targets") have been established based on several assumptions that may vary depending on the type of investment. There is no guarantee that the conditions on which such assumptions are based will materialize as anticipated and will be applicable to Top Tier Funds' portfolio investments. Actual transaction conditions may differ from the assumptions used to establish the Targets and such differences could be material. A broad range of risks could cause Top Tier Funds to fail to meet its investment objectives and Targets, including changes in the economic and business environment, tax rates, financing costs and the availability of financing, regulatory changes and any other unforeseen expenses or issues. Additional details are available to investors upon request. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.



Thank you!

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Sean Engel
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Garth Timoll, Sr.
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David York
dyork@ttcp.com



Appendix

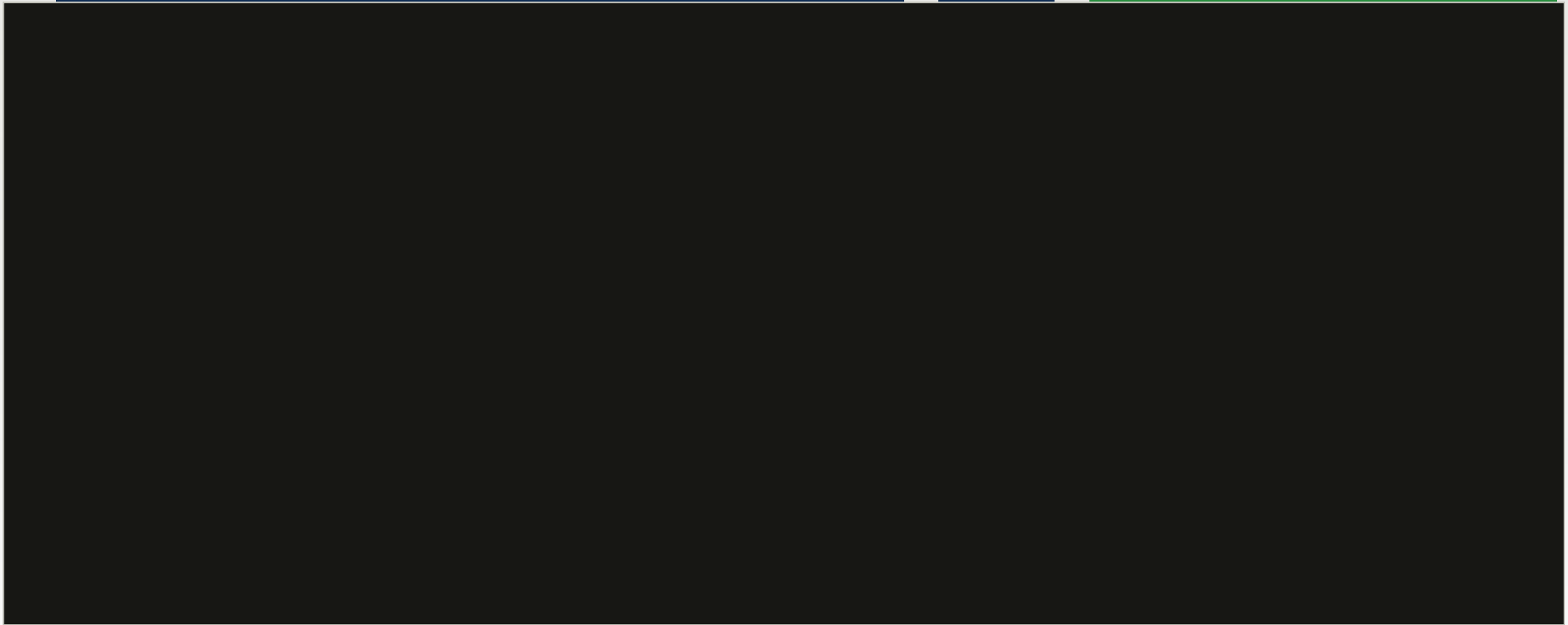
Global Firm Focused Exclusively on Venture Capital

45+ team members covering key tech hubs and ecosystems



Top Tier Active Funds Performance

Track Record



**Velocity Strategy investments comprise secondary investments in mature venture capital funds, and investments in fast-growing venture-backed operating companies.*

*Performance data as of 6/30/2024. NM denotes not meaningful as funds are within three years of their first closing. Please refer to the end of this document for a more complete list of fund performance. *EVCF and TT X are in their investment periods and targeting 20% velocity investments; these target levels are noted above rather than current actual levels. IRRs in the table above are rounded to the nearest whole percent. Data for Top Tier II, III, IV, SOF, Alpha 2, and SMAs are not included as they have a differing strategy to the funds above and/or are no longer active. Data for these funds is available upon request. See Notes to Investment Performance at the end of this presentation for more information. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.*

Top Tier Way

Defined as deep partnership, consistency, and kindness

3 Pillars of the Top Tier Way



Partnership

Build **long-term** relationships

Collaborative and **adaptable**

Strong focus on **alignment**



Consistency

Above and **beyond** attitude

Outperform the competition

Proactive engagement



Kindness

Be **thoughtful**

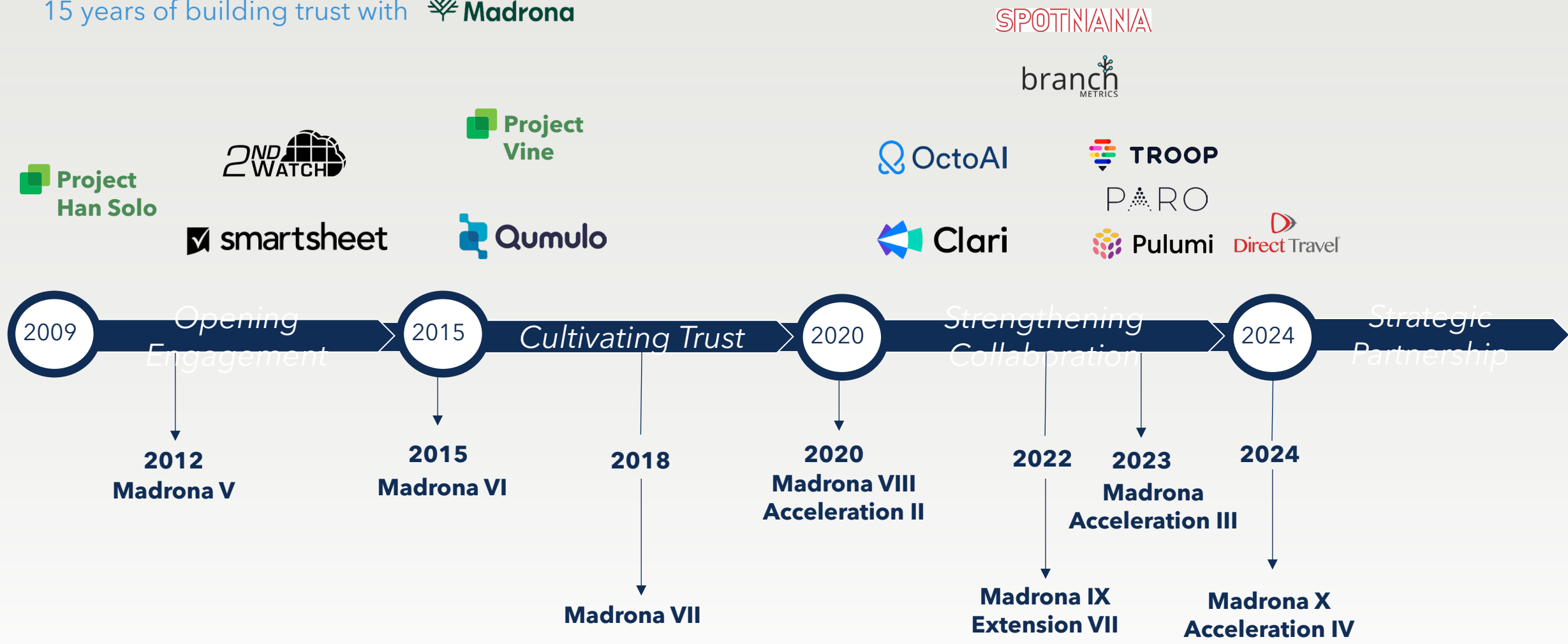
Personal and **professional** support

Help others **selflessly**

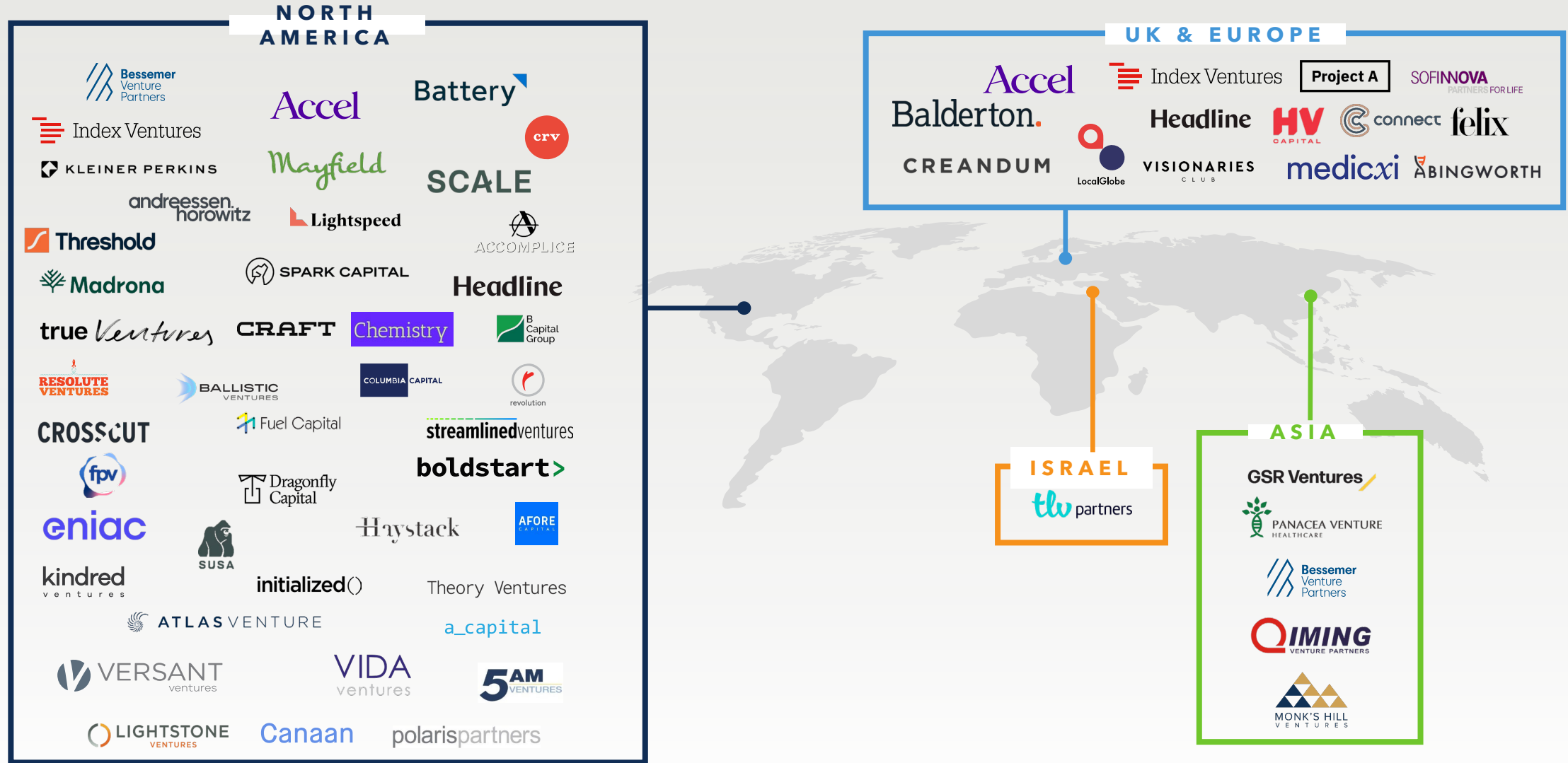
No task is **too small**

Top Tier Way Exemplified

15 years of building trust with  Madrona



Access to Many of the World's Top VCs



Seeking to Balance Risk / Return Potential Across Fund Sizes

Primary commitments since 2017 vintage funds

PLATFORM



AVG FUND SIZE
\$1.2B

% PLATFORM EXPOSURE
(on \$ Committed)
24%

n = 9 Firms

CORE



AVG FUND SIZE
\$398M

% CORE EXPOSURE
(on \$ Committed)
54%

n = 28 Firms

ALPHA



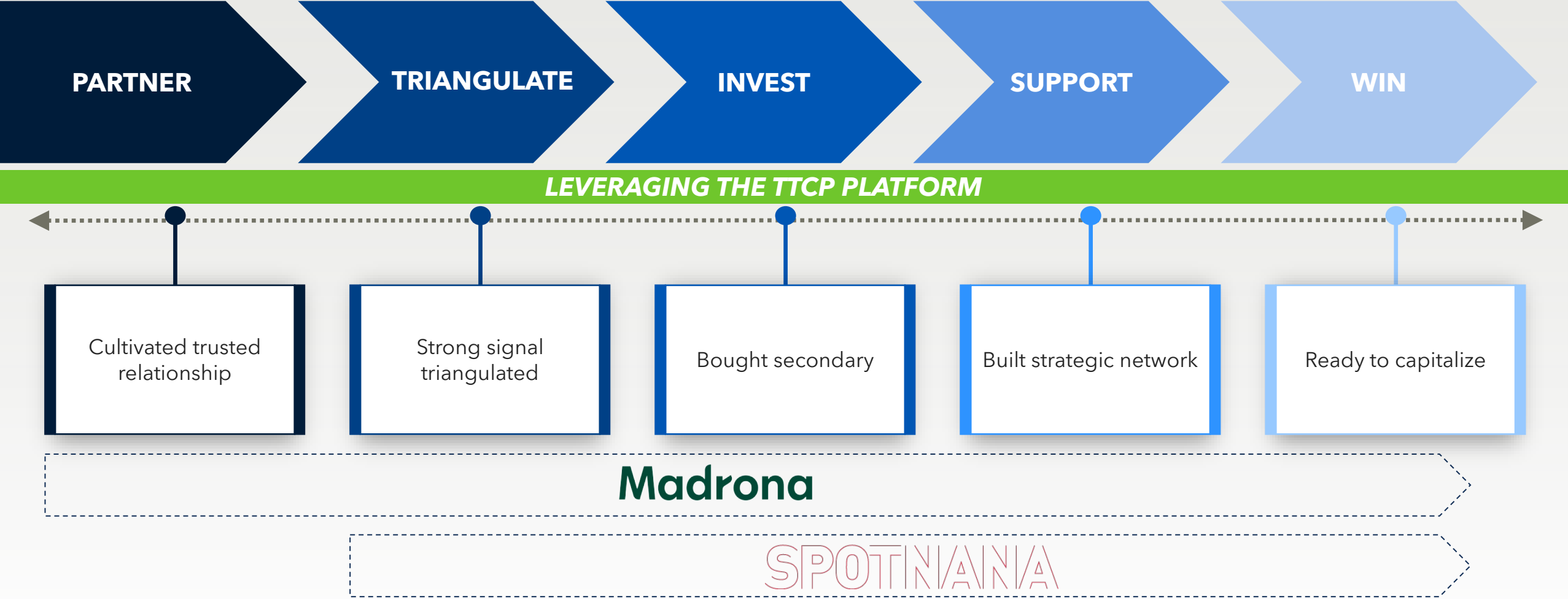
AVG FUND SIZE
\$180M

% ALPHA EXPOSURE
(on \$ Committed)
23%

n = 24 Firms

Hard-to-Access Deals Through Strong Relationships

Illustrative Velocity Deal Flow



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TTCP Follows a Bottoms-up Underwriting Approach

Historical comparison of secondary pricing

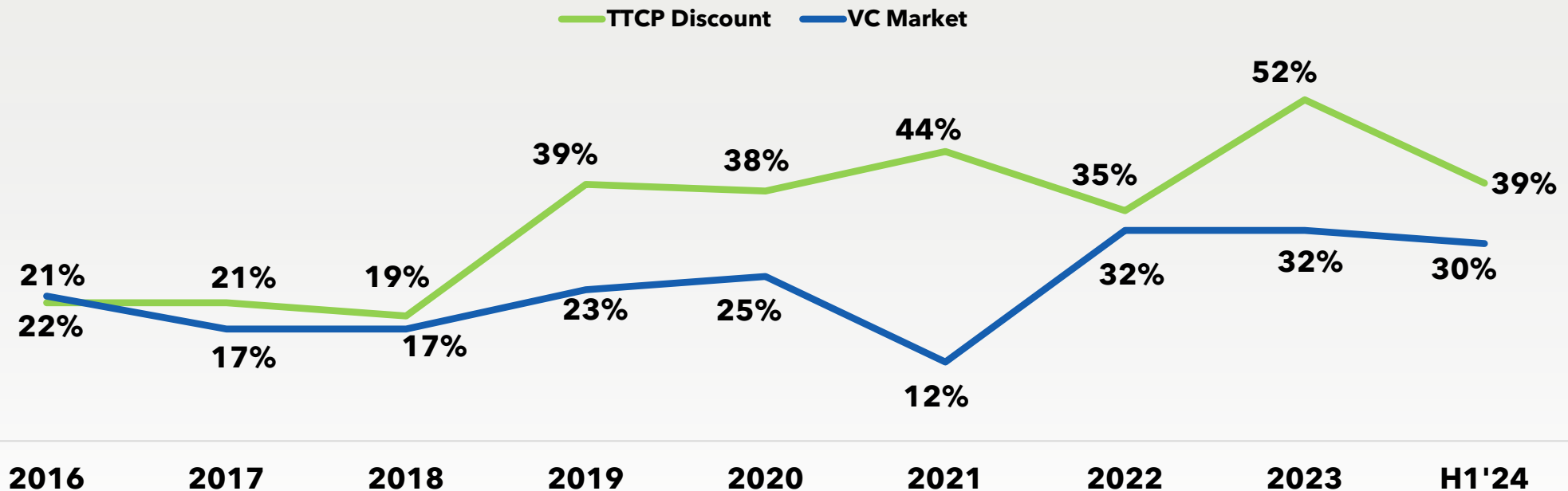
Inflated
Company Valuations

Delayed Exits & Slowing
Distributions

Higher Underwriting Due
to Economic Outlook

Increased
Buyer Selectivity

Average LP/GP Secondary Discounts



Source: VC Market data from Jefferies Global Secondary Market Review, July 2024. TTCP secondary discount data as of 6/30/2024. TTCP's performance shown in Average LP Secondary Discounts represents actual closing discounts for TTCP transactions and is not weighted by transaction size. Does not include direct secondary investments of any kind. TTCP is not responsible for the accuracy of the 3rd party data. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.

Consistent Strategies for Current Offerings



TT XI
\$550M
Target

- Best In Class VCs
- Diversifying Strategies & Concentrated Portfolios



EVCF II
€250M
Target



VVF5
\$500M
Target

- Mix of Secondaries & Co-Investments
- Focused on Distribution Velocity

Venture Market Opportunity

Opportune Market for TTCP's Seasoned Team to Capitalize on

Target fund size represents estimated fund size and there is no guarantee this will be the final fund size. Furthermore, there is no guarantee the products illustrated above will be raised or that they'll be raised according to the above timeline. There is no guarantee that the conditions on which such assumptions are based will materialize as anticipated and will be applicable to Top Tier Funds' portfolio investments. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.

TTCP Performance

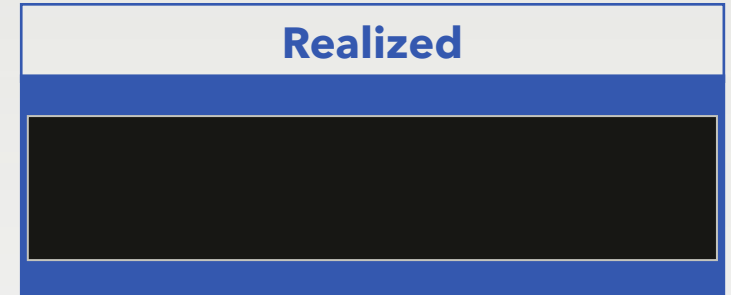
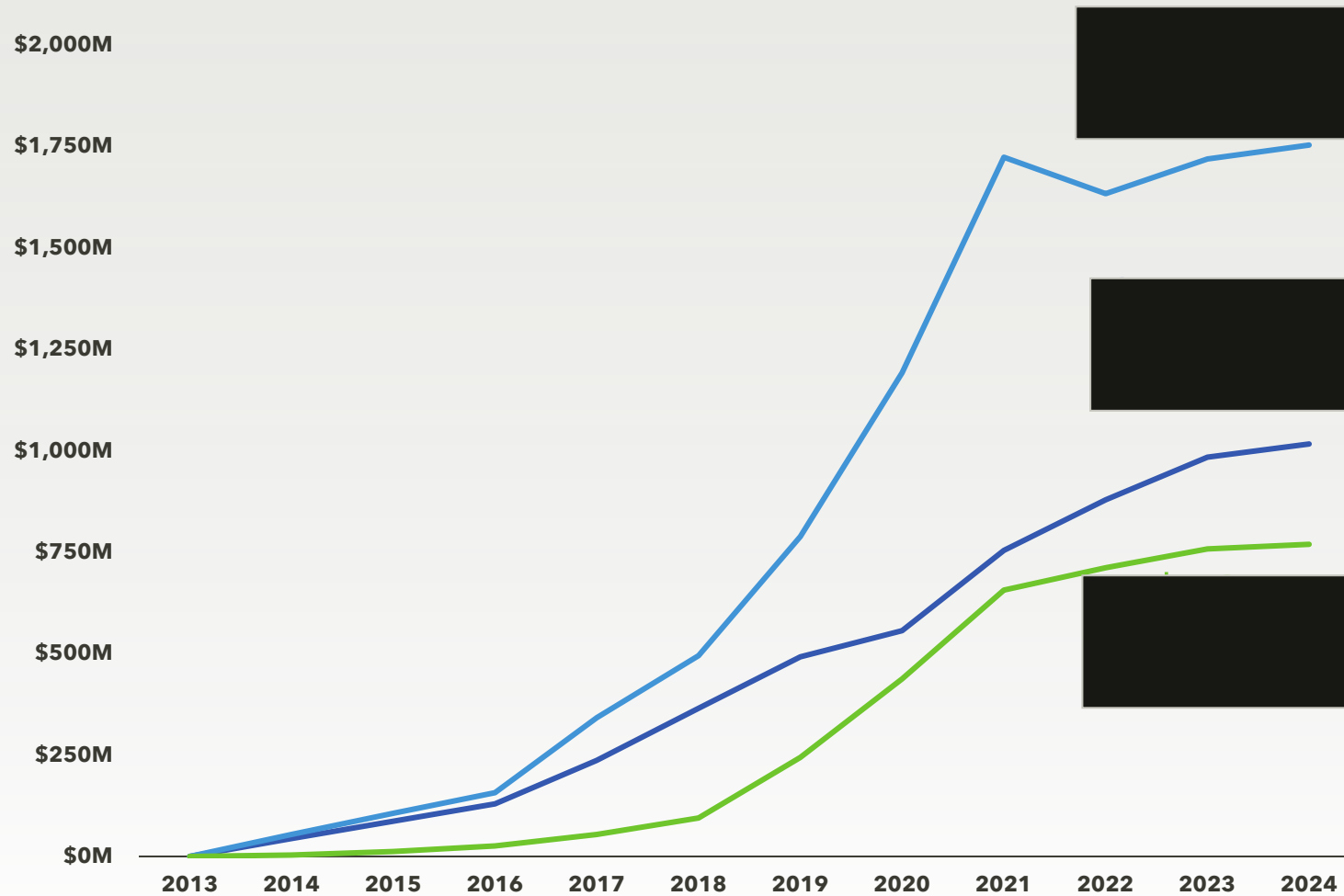
Track Record



*Performance data as of 6/30/2024. NM denotes not meaningful as funds are within three years of their first closing. TT II is no longer active, and data is as of 12/31/2019. TT III is no longer active, and data is as of 9/30/2021. TT IV is no longer active, and data is as of 3/31/2024. IRRs in the table above are rounded to the nearest whole percent. *EVCF and TT X are in their investment periods and targeting 20% velocity investments. Furthermore, there is no guarantee the products illustrated above will be raised according to the above timeline. Data for Top Tier SOF, Alpha 2, and SMAs are not included as they have a differing strategy than the funds above. Data for these funds is available upon request. See Notes to Investment Performance at the end of this presentation for more information. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.*

Velocity Platform Growth

Consistent, repeatable strategy positions Velocity to excel



Core Tenets of Investment Approach

Velocity was designed with a long-term approach for repeatable success

Relationships

Relationships spanning decades

Consistent investment deployment alongside TTCP GPs

Expansion into Europe and supporting new managers leads to relationship expansion

Process

Systematic tracking of underlying FoF exposure

Leverage quantitative and qualitative insights

Prepared view on which opportunities to pursue

Access

Unique and proprietary access

Differentiated and trusted partners

Support











Board positions where there is value add potential

Portfolio support leading to expanded sourcing of deal opportunities

Expanded platform team in recent years

Nearing the end of its term with incremental upside remaining

Fund Level	
-------------------	--

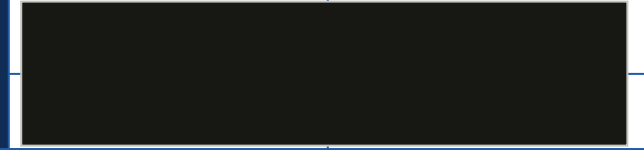
	Gross TVPI	Net TVPI	Representative Investments		
Realized			 ZUORA	 ENDGAME.	 Project Blacksmith N = 15
Positive			 SRSACQUIOM	 Project Vicarage	 Project Dominion N = 5
Neutral			 Qumulo	 DATASTAX	 Project Granite N = 9
Negative			 BOLT THREADS		N = 1












Performance as of 6/30/2024. Net performance is calculated by applying the full fund gross-net spread to that fund's underlying investments. The above analysis is calculated based on a combination of proprietary secondary models and exit outcome assumptions for direct holdings. These models and assumptions may prove to be inaccurate, causing the above analysis to misrepresent future potential. Estimates are net of projected fees and carried interest. Representative investments discretionarily selected by TTCP as best representations in their respective categories. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End. All logos are property of their respective owners.

VVF2

Strong performing fund with incremental upside remaining

Fund Level



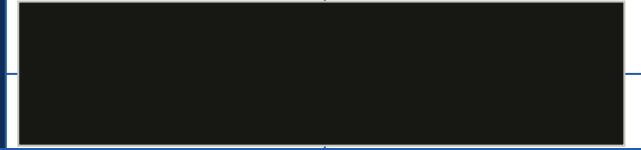
	Gross TVPI	Net TVPI	Representative Investments		
Realized	[REDACTED]	[REDACTED]	 DRAFT KINGS	 Project Venus	 Anaplan N = 13
Positive			 circleci	 snyk	 Project Vine N = 10
Neutral			Lucidworks	 Project Half Dome	 komprise N = 7
Negative			 Project Glam	 Project Wish	 evidation N = 3

Performance as of 6/30/2024. Net performance is calculated by applying the full fund gross-net spread to that fund's underlying investments. The above analysis is calculated based on a combination of proprietary secondary models and exit outcome assumptions for direct holdings. These models and assumptions may prove to be inaccurate, causing the above analysis to misrepresent future potential. Estimates are net of projected fees and carried interest. Private and Confidential. Representative investments discretionarily selected by TTCP as best representations in their respective categories. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End. All logos are property of their respective owners.

VVF3

Majority of holdings are unrealized and have yet to indicate their return potential

Fund Level

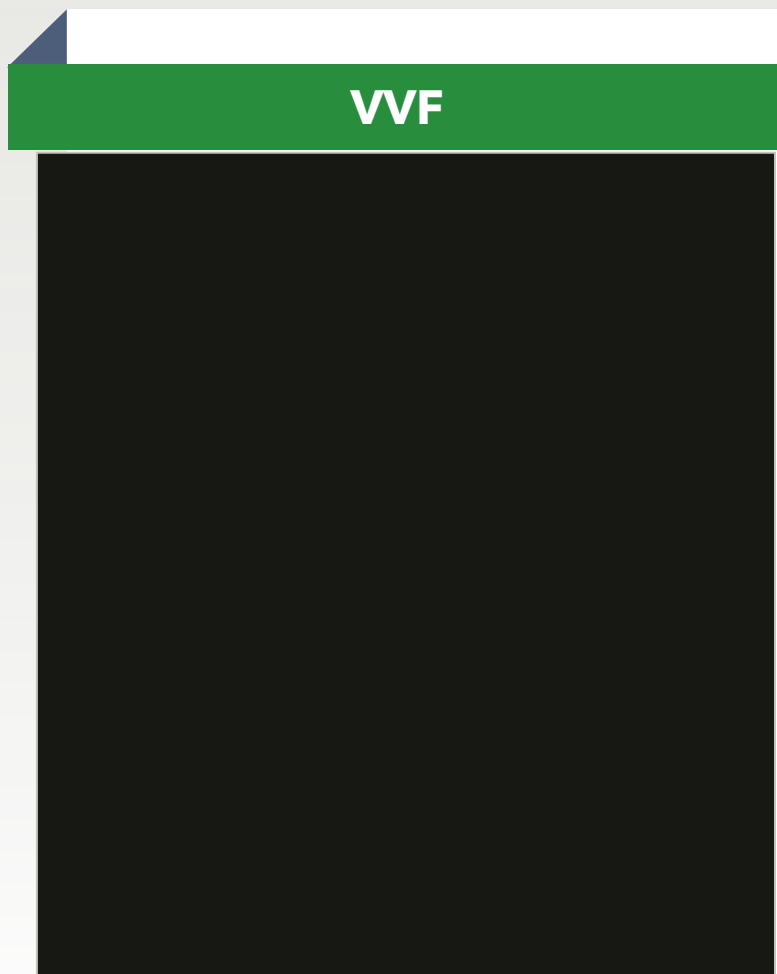












	Gross TVPI	Net TVPI	Representative Investments			
Realized	[REDACTED]	[REDACTED]				N = 1
Positive						N = 6
Neutral						N = 14
Negative						N = 4

Performance as of 6/30/2024. Net performance is calculated by applying the full fund gross-net spread to that fund's underlying investments. The above analysis is calculated based on a combination of proprietary secondary models and exit outcome assumptions for direct holdings. These models and assumptions may prove to be inaccurate, causing the above analysis to misrepresent future potential. Estimates are net of projected fees and carried interest. Representative investments discretionarily selected by TTCF as best representations in their respective categories. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End. All logos are property of their respective owners.

VVF – Nearing the End of its Term

Performance through 6/30/2024










Company	Investment	NAV (\$M)	% NAV
 workhuman*	Projects Vicarage, Dominion and Kicker	\$26.7	22%
 Qumulo	Direct and Project Vine	\$16.3	13%
 BOLT THREADS	Direct and Project Bedrock	\$12.1	10%
 SRSACQUIOM	Direct	\$11.8	10%
 optoro	Direct	\$5.7	5%
 MOO	Direct	\$4.3	3%
 OLLION	Direct and Project Vine	\$4.1	3%
 HIGHSPOT	Project Vine	\$3.7	3%
 DATASTAX	Project Monterey	\$2.6	2%
 Amperity &	Projects Vine and Bedrock	\$2.4	2%
Total Top 10 Companies		\$89.7	73%
Other Assets		\$33.9	27%
Total		\$123.7	100%

Performance data as of 6/30/2024. % Called as of 6/30/2024. Projected TVPI ranges are calculated based on a combination of proprietary secondary models and exit outcome assumptions for direct holdings. Investment NAV for individual investments are gross of fees and carried interest. Companies shown are the top ten based on fund NAV as of 6/30/2024. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.

VVF2 – Peak Liquidity Period

Performance through 6/30/2024

VVF2










Company	Investment	NAV (\$M)	% NAV
 circleci	Direct	\$70.7	22%
 snyk	Direct	\$68.6	21%
 raisin.	Direct and Projects Luca, Tiger and Lyon	\$30.1	9%
 Lucidworks	Direct and Project Half Dome	\$20.1	6%
LB Spectrum Holdings, LLC	Project Fleming	\$17.2	5%
 komprise	Direct	\$16.9	5%
 Paperless POST	Direct and Project Thyme	\$11.3	4%
 hopper	Projects Sky and Flintstone	\$6.4	2%
 IAS Integral Ad Science	Projects Sky and Flintstone	\$6.0	2%
 DRAFT KINGS	Projects Sky and Flintstone	\$5.4	2%
Total Top 10 Companies		\$252.8	79%
Other Assets		\$68.8	21%
Total		\$321.6	100%

Performance data as of 6/30/2024. % Called as of 6/30/2024. Projected TVPI ranges are calculated based on a combination of proprietary secondary models and exit outcome assumptions for direct holdings. Investment NAV for individual investments are gross of fees and carried interest. Companies shown are the top ten based on fund NAV as of 6/30/2024. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.

VVF3 – Building Portfolio Value

Performance through 6/30/2024


VVF3
















Company	Investment	NAV (\$M)	% NAV
 talkdesk®	Direct	\$21.3	10%
 Clari	Project Sage	\$15.7	8%
 TRADE REPUBLIC	Direct and Project B DV	\$14.3	7%
 Orchard	Direct	\$10.8	5%
 Qumulo	Project Qumulo	\$10.5	5%
 LaunchDarkly →	Direct	\$9.5	5%
 HYPR	Direct	\$8.6	4%
 zumper	Direct	\$8.4	4%
High Band Holdings, LLC	Direct	\$8.2	4%
 GONG	Project Cymbal	\$7.8	4%
Total Top 10 Companies		\$115.1	56%
Other Holdings		\$91.3	44%
Total		\$206.5	100%

Performance data as of 6/30/2024. % Called as of 6/30/2024. Projected TVPI ranges are calculated based on a combination of proprietary secondary models and exit outcome assumptions for direct holdings. Investment NAV for individual investments are gross of fees and carried interest. Companies shown are the top ten based on fund NAV as of 6/30/2024. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.

VVF4: Portfolio Construction

\$504M Fund Size

Co-Investments		
 CAREER KARMA.	\$8M	Q4 '21
 Kaptyn + (follow-ons)	\$12M + \$11M	Q1 '24
 Typeform	\$2M	Q1 '22
 hu.ma.ne. + (follow-on)	\$8M + \$5M	Q2 '23
 PLUS ONE ROBOTICS	\$9M	Q1 '23
 PARO + (follow-on)	\$12M + \$1M	Q2 '23
 trellis	\$10M	Q3 '23
 center	\$11M	Q4 '23
 TROOP	\$4M	Q4 '23
 auradine + (follow-on)	\$5M + \$1M	Q1 '24
 DIRECT TRAVEL	\$11M	Q1 '24
 SPOTNIANA (follow-on for Project Barton)	\$11M	Q1 '24
Undisclosed	\$5M	Q1 '24
 CONCENTRIC AI	\$12M	Q3 '24

Secondaries		
 Project Baker	\$19M	Q4 '21
 CAREER KARMA.	\$9M	Q4 '21
 Typeform	\$12M	Q1 '22
 Project FKA	\$20M	Q2 '22
 branch METRICS Project Navigator	\$13M	Q2 '22
 Project Daffodil	\$10M	Q3 '22
 Project Sparky	\$7M	Q3 '22
 SPOTNIANA Project Barton	\$5M	Q4 '22
 kubecost Project Kube	\$3M	Q4 '22
 Project Alex	\$31M	Q2 '23
 Pulumi Project Code	\$5M	Q4 '23
 LucidLink Project Streaming + (follow-on)	\$10M	Q1 '24
 Hugging Face Project Emoji	\$12M	Q1 '24
 Project River	\$18M	Q1 '24
 Project Limelight	\$6M	Q3 '24

Closed, Approved, and Committed investments as of 10/15/2024. It should not be assumed that investments made in the future will be profitable or will equal the performance of the investments on these slides. Commitment amounts are in USD and are rounded to the nearest million. The close dates refer to the most recent commitment to the manager. Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End. Logos shown are property of their respective owners.

VVF4 – Actively Deploying Capital

Performance through 6/30/2024

VVF4

Company	Investment	NAV (\$M)	% NAV
Kaptyn	Direct	\$29.4	9%
 SPOTNANIA	Direct and Project Barton	\$16.0	5%
 Typeform	Direct	\$14.3	4%
 CAREER KARMA	Direct	\$13.2	4%
 RIPPLING	Project Alex	\$12.3	4%
 Hugging Face	Project Emoji	\$12.0	4%
 PARO	Direct	\$11.6	3%
 LucidLink	Project Streaming	\$11.3	3%
 humane	Direct	\$11.0	3%
 Direct Travel	Direct	\$11.0	3%
Total Top 10 Companies		\$142.1	42%
Other Assets		\$195.8	58%
Total NAV		\$338.0	100%

Performance data as of 6/30/2024. % Called as of 6/30/2024. Projected TVPI ranges are calculated based on a combination of proprietary secondary models and exit outcome assumptions for direct holdings. Investment NAV for individual investments are gross of fees and carried interest. Companies shown are the top ten based on fund NAV as of 6/30/2024. Active co-investment count does not include Aurascap (Auradine spin-out). Private and Confidential. Not Approved for Further Distribution or Use with the General Public. See Important Disclosures at End.

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Important Disclosures

Notes on Fund-Level Performance Data

The historical performance achieved by any prior investments made by the Top Tier Funds is not a prediction of future performance or a guaranty of future results, and there can be no assurance that comparable future performance will be achieved in any fund.

The model distributions and cash flows as shown are based on TTCP assumptions, including the assumption that investments made by the Fund perform within the minimum projected returns planned for underwriting. There can be no assurance that TTCP will be able to identify a portfolio of investments that meet the underwriting minimums or that the investments made will perform as well as projected at the time of investment. Additional details regarding the assumptions used is available upon request.

Different funds may have different fee structures and different investors may pay different levels of fees, and thus an investor's actual results may vary from reported results.

Percent Paid-in is calculated by dividing the total amount paid in by investors by the total investor commitments to the fund.

Net Distributed to Paid-in (or "DPI") for a fund is calculated by dividing the total amount paid to investors by the total amount paid in by investors to the fund (including TTCP management fees). Accordingly, this value reflects the deduction of portfolio fund managers' fees, expenses and carried interest, as well as Top Tier Fund-level expenses and TTCP actual management fees and carried interest.

Net Residual Value for a fund reflects the investors' distributive share of the fair market value of unrealized investments of such fund with deduction of TTCP's carried interest, if any.

Net Residual Value, Net TVPI and Net IRR reflect the fair market value of unrealized investments held. Although TTCP believes the fair market value of unrealized investments used to calculate Net Residual Value, Net TVPI and Net IRR are reasonable and appropriate for these types of investments, there can be no assurance that proceeds will actually be realized on these investments or that, if and when realized, the proceeds will be equal to the amounts estimated.

Net Total Value for a fund includes total amounts distributed to investors by such fund and the Net Residual Value for such fund.

Net Total Value to Paid-in (or "TVPI") for a fund is calculated by dividing Net Total Value for such fund by the total amount paid-in by investors to the fund (including TTCP management fees). Accordingly, this value reflects the deduction of portfolio fund managers' fees, expenses and carried interest, as well as Top Tier Fund-level expenses and TTCP actual management fees, expenses and carried interest, if any.

Net IRR for a fund is calculated based on cash flows to (i.e., investor contributions, including payments of TTCP management fees) and from (distributions to investors, including, for this purpose, the Net Residual Value) the applicable fund. Accordingly, net IRRs reflect the deduction of portfolio fund managers' fees, expenses and carried interest as well as Top Tier Fund-level expenses and TTCP actual management fees, carried interest, if any. IRRs are rounded to the nearest whole percent.

The J-Curve represents the tendency for private equity funds to post negative returns in the initial years and then post increasing returns in later years when investments mature.

The data in this document may represent a small percentage of the portfolio funds and underlying portfolio companies in which the Top Tier Funds have invested. Additional detail regarding the portfolios of the Top Tier Funds and their respective performance is available upon request.

Important Disclosures

Notes on Velocity Investment (Secondary and/or Co-Investment) Performance Data

Contributions for secondaries and co-investments reflect the total amount paid or contributed by the applicable Top Tier Fund in connection with such investment, including the purchase price paid for any interests acquired and any additional contributions made with respect to such interests.

Distributions for secondaries and co-investments reflect the total amount received by the applicable Top Tier Fund from such investments, whether as distributions, dividends, sales proceeds or otherwise.

Residual Value for secondaries and co-investments reflects the fair market value of any unrealized portion of such investments held by the applicable Top Tier Fund.

Gross DVPI for secondaries and co-investments is calculated by dividing Distributions for such investments by Contributions for such investments.

Gross RVPI for secondaries and co-investments is calculated by dividing Residual Value for such investments by Contributions for such investments.

Gross TVPI for secondaries and co-investments is calculated by dividing (x) the sum of Distributions and Residual Value for such investments, by (y) Contributions for such investments.

Gross IRR for secondaries and co-investments is calculated based on cash flows from the applicable Top Tier Fund (i.e., Contributions associated with such investments) and to the applicable Top Tier Fund (i.e., Distributions associated with such investments, including, for this purpose, the Residual Value for such investments).

Distributions, Contributions, Residual Value, Gross DVPI, Gross RVPI, Gross IRR and Gross TVPI for secondaries and co-investments are calculated at the investment level without deduction of TTCP's management fees, expenses and carried interest. An investment in TTX will be subject to TTCP management fees, expenses and carried interest.

Net TVPI and Net IRR for the Velocity Investment (secondaries and/or co-investments) portfolio of a fund are calculated net of any applicable portfolio fund managers' fees, expenses and carried interest and net of velocity-related deal costs and the estimated portion of Top Tier Fund-level expenses, management fees and carried interest, if any, applicable to such portfolio. IRRs are rounded to the nearest whole percent. Additionally, different funds may have different fee structures and different investors may pay different levels of fees, and thus an investor's actual results may vary from reported results.

Targets

The targeted investment allocations, internal rate of return, multiples and return of costs presented herein (the "Targets") have been established based on several assumptions that may vary depending on the type of investment. There is no guarantee that the conditions on which such assumptions are based will materialize as anticipated and will be applicable to Top Tier Funds' portfolio investments. Actual transaction conditions may differ from the assumptions used to establish the Targets and such differences could be material. A broad range of risks could cause Top Tier Funds to fail to meet its investment objectives and Targets, including changes in the economic and business environment, tax rates, financing costs and the availability of financing, regulatory changes and any other unforeseen expenses or issues. In addition, it is not possible to predict the outcome of legislation and/or enforcement initiatives in response to the economic crisis, and there can be no assurance that they will not result in changes that adversely affect the Funds. Unless noted otherwise, the Target returns shown are gross of TTCP management fee, expenses and carry. Such fees will reduce the returns an investor in the funds will receive. Additional details about underlying assumptions, fees and expenses are available to investors upon request.

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To: Independent Investment Committee
From: Raynald Leveque, Chief Investment Officer
Shana Bilech, CFP®, Investment Officer
Date: December 10, 2024
Re: **Recommendation: Blackstone Multi-Asset Credit Fund**
Item: Action: Discussion: Informational:

Recommendation

Based on the strategic fit within the New Hampshire Retirement System (NHRS) portfolio, as well as the due diligence conducted by the NHRS Investment Team (Investment Staff) and the Callan Private Markets Team, Staff recommends the Independent Investment Committee (IIC) approve a **commitment of up to \$75 million to the Blackstone Multi-Asset Credit Fund (BMAC)**.

Blackstone is the world's largest alternative assets manager, with \$1.1 trillion assets under management and \$430 billion across liquid and private credit. They have managed multi-asset credit strategies for over a decade and have implemented \$150 billion towards this investment approach. Their BMAC strategy builds upon this experience in allocating to attractive credit opportunities in liquid and private markets.

The recommended commitment will complement NHRS's fixed income and credit allocation by providing returns comparable to the private market portfolio, with greater liquidity and less volatility. Additionally, NHRS will benefit from establishing a relationship with a premier General Partner (GP).

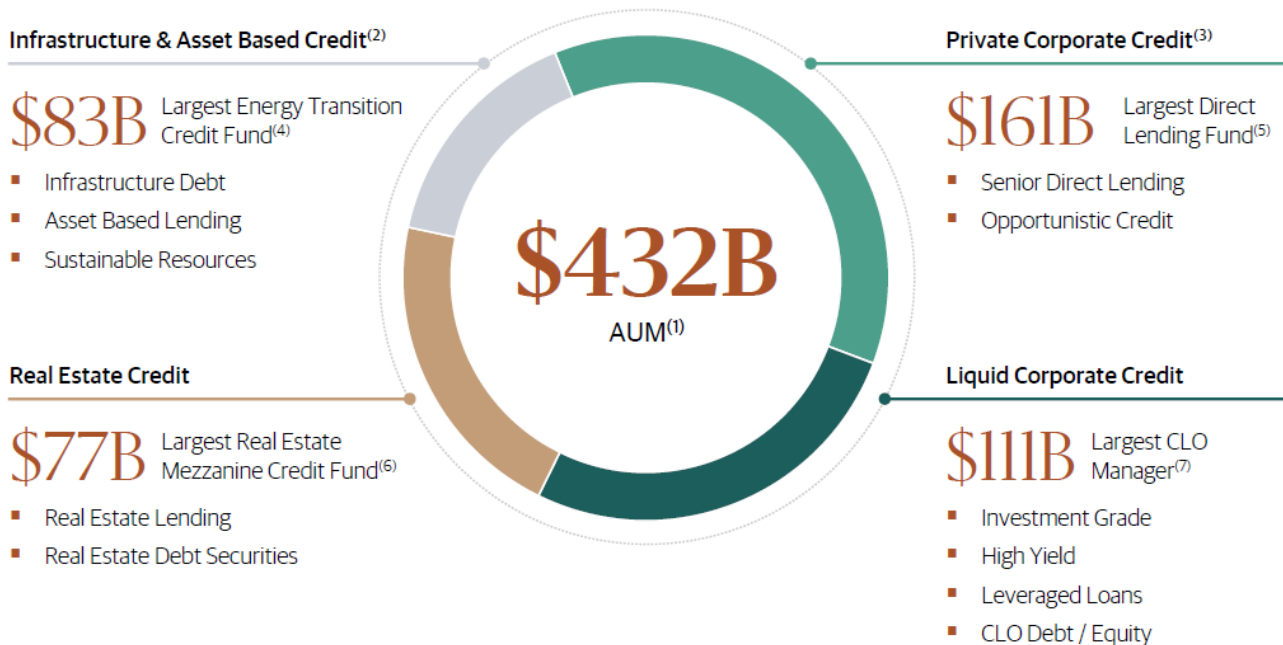
Our investment consultant, Callan, conducted independent due diligence, and their attached report supports the Staff's recommendation to commit to BMAC. This memorandum will provide a high-level overview of the opportunity. Additional details can be found in Callan's due diligence report.

The Investment Staff's diligence process included a review of documentation from Blackstone, in-person and virtual meetings with Blackstone, as well as an on-site meeting with key decision makers of the BMAC team. Staff also conducted a reference meeting with an existing BMAC investor. Important factors assessed in the due diligence process included the firm's strength, Blackstone's investment philosophy, approach to managing BMAC, its fit within the NHRS portfolio, and the performance history of the firm's BMAC fund and that of the underlying investment sleeves. The Investment Staff also collaborated with our Investment Consultant, Callan, to assess their independent diligence on Blackstone and BMAC.

General Partner

Blackstone is a publicly traded company that was founded in 1985 and headquartered in New York City. Stephen Schwarzman, one of its co-founders, serves as its CEO and Jon Gray serves as President and COO. Blackstone has a leading market position in each of the underlying credit strategies in which BMAC invests.

Blackstone's Credit and Insurance (BXCI) platform has \$430 billion AUM and is comprised of private corporate credit, liquid corporate credit, real estate credit and infrastructure and asset-based credit. The 500 credit professionals within BXCI cover over 4,750 issuers. Blackstone's scale, proprietary deal flow and data management capabilities place them at an advantage relative to peers in being able to identify attractive opportunities in their investable universe.



Source: Blackstone

Blackstone's BMAC Team

The chart below outlines the key professionals of the BMAC Fund. The strategy's lead portfolio managers include Michael Zawadzki, Dan Oneglia and Dan McMullen. They hold decision-making authority on portfolio construction and asset allocation decisions. These individuals participate in investment committees across the firm, providing them with insight on credit trends and security-level research.

The asset allocation team is comprised of Dave Watters, Paul Harrison and Eugene Lee. They manage a proprietary quantitative signals model that supports asset allocation decisions.

Asset class leads include Adam Dwinells, Mike Wiebolt, Brad Marshall, Mike Sobol, Michael Carruthers, Rob Horn, Robert Petrini, Valerie Kritsberg and Victoria Chant. These individuals draw

Our Mission: To provide secure retirement benefits and superior service.

upon their expertise in managing successful stand-alone strategies within Blackstone to select attractive credits for the BMAC portfolio.

The BMAC team is also supported by a Capital Markets and Trading team that seeks best execution on trading, and the Office of the CIO and the Risk Management team of over 100 professionals that proactively identify catalysts for outperformance and underperformance in the fund.

The BMAC portfolio managers, asset allocation team and asset class leads meet monthly for the strategy's Credit Market Forum (CMF) to discuss macroeconomic trends, technical data on markets and the asset allocation team's relative value work. These discussions serve as the foundation for BMAC decisions as well as the firm's other multi-asset credit products.

BMAC Portfolio Managers

Ultimate decision authority for BMAC portfolio construction and asset allocation

Michael Zawadzki CIO of BXCI	Dan Oneglia CIO of Liquid Credit Strategies	Dan McMullen Head of Loan Strategies
----------------------------------------	-------------------------------------------------------	------------------------------------------------

Asset Allocation Team

Manage inputs for MAC quantitative and qualitative relative value framework

Paul Harrison Senior Managing Director	David Watters Senior Managing Director	Eugene Lee Managing Director
--------------------------------------------------	--------------------------------------------------	----------------------------------------

Asset Class Leads

Source and underwrite individual credits for MAC portfolio inclusion

Adam Dwinells High Yield and IG Bonds	Mike Wiebolt Real Estate Debt	Brad Marshall Senior Direct Lending
Mike Sobol CLO Securities	Michael Carruthers European Private Credit	Rob Horn Asset Based Finance
Robert Petrini Junior Direct Lending	Valerie Kritsberg Capital Markets & Trading	Victoria Chant Capital Formation

Structured Information Flow

Portfolio Manager Execution

Daily

- Manage deployment, liquidity, and leverage
- Evaluate allocation decisions
- Optimize trade execution

Asset Allocation Committee

Weekly

- Allocate risk to highest-quality alpha sources
- Ensure portfolio diversification
- Identify trends early and adapt quickly

Credit Markets Forum

Monthly

- Integrate macro, sector, and credit insights
- Review asset sensitivities and signals

Portfolio Reviews

Quarterly

- Deep-dive into relative value framework
- Credit watchlist review
- Industry sector reviews

Source: Blackstone

Notably, Rob Zable, former Global Head of Credit, departed Blackstone in September. Dan Leiter had joined earlier in 2024 as the Head of International Credit and assumed greater responsibility as Head of Liquid Credit when Zable departed. Zable participated in underlying strategy asset allocation committees including high yield and leveraged loans, but did not serve as a portfolio manager on BMAC.

Given the platform's size, including number of professionals involved in BMAC, Staff expects that the firm is resourced to generate strong performance. Furthermore, the overall number of investment professionals impacting the BMAC strategy increased by 80% the past three years.

Investment Strategy

BMAC is an open-end fund that aims to deliver high levels of income in a diversified portfolio of liquid and private credits. The Blackstone team dynamically allocates across more than ten investment strategies to manage volatility and enhance returns. The BMAC fund invests primarily in the United States.

Staff believes that BMAC is an attractive investment opportunity for the following reasons;

BMAC Investment Process

Blackstone's scale in each of the underlying BMAC strategies provides a strong foundation for screening potential investments.

The BMAC portfolio managers leverage monthly asset class discussions as part of the CMF to determine portfolio positioning relative to the strategic asset allocation weights outlined in the Investment Strategy section. Prior to the meeting, each asset class lead votes on their beliefs of highest and lowest conviction opportunities. The team also discusses proprietary, quantitative modeling to assess forward-looking expectations and qualitative factors that may be overlooked by the models. Decisions on portfolio weights require a majority vote among the BMAC portfolio managers. Asset class leads then source the individual credits that meet the portfolio's target returns and risk parameters. BMAC portfolio managers approve the individual securities included in the portfolio by majority vote.

At the asset class level, weekly and monthly meetings are held to evaluate potential changes within investments. These meetings are overseen by the independent Office of the CIO within Blackstone. This group manages risk within the portfolio by identifying sources of outperformance and underperformance and adds securities to watchlists when needed. Quarterly portfolio reviews are also held to review individual securities within BMAC and monthly watchlist meetings are conducted.

BMAC has a broader investment approach than many multi-sector funds and invests in a greater array of underlying strategies. It's also notable that BMAC dynamically allocates across asset classes to take advantage of market opportunities by shifting asset class weights relative to the fund's SAA.

Track Record & Performance

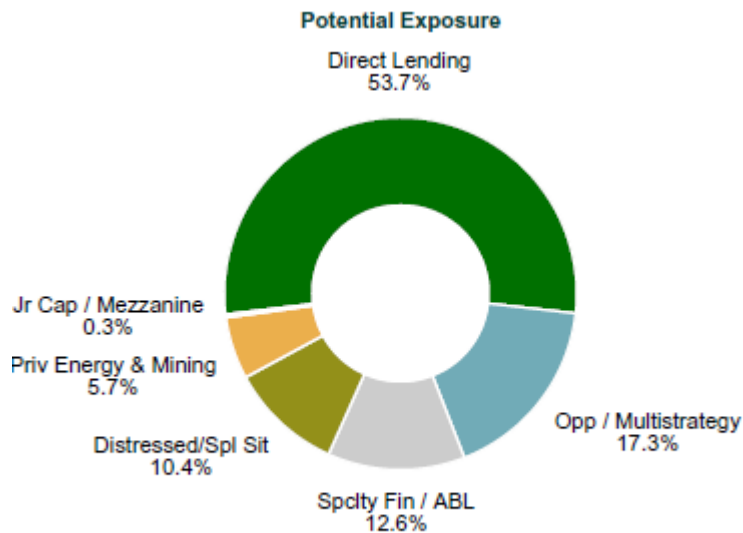
The NHRS Investment Team and Callan reviewed the performance of the BMAC strategy and that of the underlying strategies.

The track records for the underlying sleeves represent the performance history of the asset class leads that source individual strategies for BMAC.

NHRS Strategic Allocation

BMAC will be categorized as an Opportunistic / Multi-Strategy allocation of the NHRS Private Credit asset class within the portfolio's Alternative Investments. The Private Credit actual allocation is 4.8% as of June 30, 2024. In December 2023, the NHRS IIC and BoT voted to approve an increase in the System's target private credit allocation from 5% to 10%. The change will take effect over a multiyear timeframe.

As of June 30th, Opportunistic and Multi-Strategy funds represented approximately 17% of the overall Net Asset Value plus unfunded commitments within Private Credit.



Source: Callan

The IIC approved the Private Credit pacing allocation of \$400 million to be allocated in calendar year 2024. Approximately \$200 million has been approved in 2024 to Ares Senior Direct Lending Fund III and Oak Hill Advisors OLEND. If the Blackstone BMAC allocation is approved, a total of \$275 million, or approximately 70% of the 2024 pacing plan will have been completed by calendar year-end. This commitment aligns with the System's goal to increase exposure to attractive multi-strategy investments and reduce risk in the traditional public markets investments. Furthermore, it will mark the beginning of a new relationship with Blackstone and provide NHRS with access to a top-tier GP.

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Strengths & Rationale

While Blackstone has several strengths that make it an ideal Partner for the NHRS, critical factors evaluated included the following:

Positive View on Blackstone and the BMAC Team

Blackstone manages \$430 billion in credit and fixed income strategies and possesses the scale and successful framework to find attractive opportunities in liquid and private investments. BMAC is a flagship strategy for Blackstone, underlining their commitment to delivering strong performance. The lead portfolio managers have significant industry experience and are supported by large teams that source investments for BMAC's underlying strategies. The Office of the CIO serves as an additional layer of risk management and oversight for the strategy.

Attractive Investment Structure

Performance Track Record

Diversification of Investments

The fund allocates to more than ten underlying liquid and private strategies and can allocate to additional areas in time. The team's tactical tilts enable them to deliver potential alpha. Staff expects the strategy will deliver strong performance across different market environments.

Key Risks & Mitigants

Fit within the NHRS Investment Policy Structure

Limited Track Record as a Multi-Asset fund

Turnover within BXCI

The BXCI investment teams have experienced turnover in recent years, including Global Head of Credit Rob Zable. Given the platform's size and average partner tenure of 10 years, Staff expects that the platform has the ability to drive strong performance results. Furthermore, the overall number of investment professionals impacting the BMAC strategy increased by 80% the past three years.

December 4, 2024



New Hampshire Retirement System

**Blackstone Multi-Asset Credit
("BMAC")**

The investment manager organizations contained herein have submitted information to Callan regarding their investment management capabilities, for which information Callan has not necessarily verified the accuracy or completeness of or updated. The information provided to Callan has been summarized in this report for your consideration. Unless otherwise noted, performance figures reflect a commingled fund or a composite of discretionary accounts. All written comments in this report are based on Callan's standard evaluation procedures which are designed to provide objective comments based upon facts provided to Callan. The appropriateness of the candidate investment vehicle(s) discussed herein is based on Callan's understanding of the client's portfolio as of the date hereof. Certain operational topics may be addressed in this investment evaluation for information purposes. Unless Callan has been specifically engaged to do so, Callan has not conducted due diligence of the operations of the candidate or investment vehicle(s), as may be typically performed in an operational due diligence evaluation assignment. The investment evaluation and any related due diligence questionnaire completed by the candidate may contain highly confidential information that is covered by a non-disclosure or other related agreement with the candidate which must be respected by the client and its representatives. The client agrees to adhere to the conditions of any applicable confidentiality or non-disclosure agreement. Important Disclosures regarding the use of this document are included at the end of this document. These disclosures are an integral part of this document and should be considered by the user.

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Blackstone Multi-Asset Credit (“BMAC”) – Overview of Offering

Strategy

Asset Class	Hybrid (Public/Private Credit)
Strategy Type	Multi-Asset Credit
Currency	USD
Geography	US focus
Target Performance	10+% Yield 500bp+ spread over UST +200 bps outperformance vs high yield and leveraged loans
Fund Leverage	0.25x (up to)
Target Asset Classes	High yield and investment grade corporate bonds, leveraged loans, CLO debt, ABS, direct lending, real estate lending, infrastructure debt

Terms

Fees

Inception Date	Dec. 1, 2023	Founders Fee: First \$100mm: 65 bps Next \$150mm: 55 bps Thereafter: 45 bps 2 yr hard lock	
Term	Evergreen		
Subscriptions/Redemptions	Subs: monthly Withdrawals: Quarterly, subject to 25% quarterly investor limit	Standard Fee w/ Lockup: First \$100mm: 75 bps Next \$150mm: 65 bps Thereafter: 55 bps 2 yr hard lock	
Auditor	Deloitte	Standard Fee: First \$100mm: 85 bps Next \$150mm: 75 bps Thereafter: 65 bps 1 yr soft lock (3%)	
		*Total organizational and opex is capped at 40 bps, opex stands at 23 bps. In the first 60 months, org expenses incurred were 11 bps.	
		Waterfall	N/A
		Carried Interest	None

Manager

General Partner	Blackstone Liquid Credit Strategies LLC
Headquarters	New York, NY
Leadership	Steve Schwarzman- CEO, Jon Gray – President and COO, Gilles Dellaert – Global Head BXCI, Michael Zawadzki – CIO BCXI Dan Oneglia – CIO Liquid Credit, Dan McMullen – Head of Loan Strategies

Executive Summary

Callan believes that an allocation of up to \$75 million by the New Hampshire Retirement System into the Blackstone Multi-Asset Credit (BMAC) Fund is warranted. Blackstone is viewed as a strong manager across the many facets of credit which are underlying components of the BMAC strategy. These include, but are not limited to leveraged loans, high yield bonds, structured credit such as CLOs and asset-backed securities, direct lending, real estate lending, and infrastructure debt.

The investment teams across Blackstone's platforms are deep and are led by seasoned investment professionals with substantial experience not only at Blackstone but at other asset managers and sell-side institutions.

Blackstone enjoys substantial scale across credit markets, which enables them to be viewed as a preferred lender across areas of credit. Of note, Blackstone maintains the industry's largest direct lending fund, and they are one of the industry's largest CLO managers, both of which play a role in the BMAC strategy. Certain underlying sub-asset class teams such as the high yield bond team also engage in a differentiated approach to investing in their sectors. The assets under management for the major underlying sleeves in which BMAC invests are as follows:

- Leveraged Loans - \$60 billion in AUM
- HY/IG Corporate Bonds - \$31 billion in AUM
- CLO Securities - \$16 billion in AUM
- Real Asset Securities - \$37 billion in AUM
- Senior Direct Lending - \$119 billion in AUM
- Asset Based Finance and Infrastructure Debt - \$65 billion in AUM
- Real Estate Lending - \$41 billion in AUM

Blackstone's risk management, middle, and back-office functions are also robust, as would be expected from a manager of Blackstone's size and scale.

As part of the due diligence process, Callan's research team reviewed quantitative data such as sector exposures and performance, as well as qualitative data supplied by Blackstone. The team also conducted multiple meetings covering both the top-level strategy and sub-asset class component strategies. Prior to reviewing BMAC, the Callan research team also possessed knowledge of Blackstone Credit and met with various Blackstone teams in the normal course of business.

Summary of Key Findings

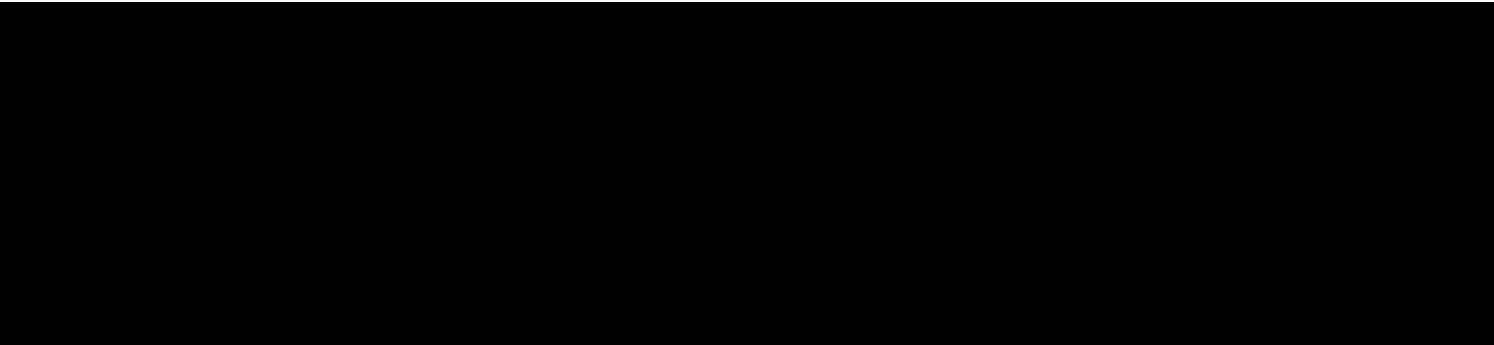
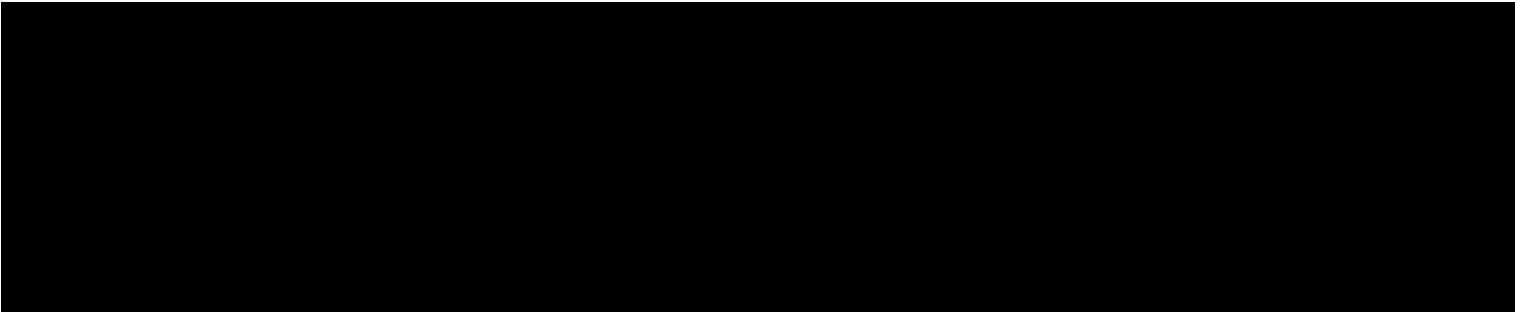
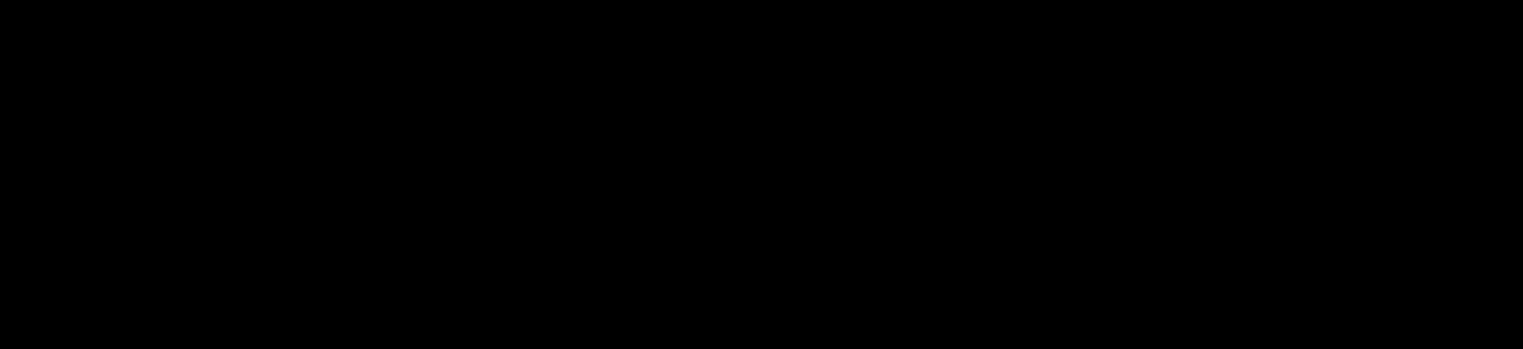
Merits

- **Scale** – Blackstone Credit & Insurance (BXCI) maintains large platforms for each of the underlying sleeves in which BMAC invests. This includes substantial AUM across leveraged loans, high yield, structured credit, and private credit. The track records for each underlying sleeve have substantial histories. The breadth of asset classes across BXCI’s platform allows for a robust view of relative value across credit markets.
- **Fund Terms and Fees** – BMAC is offered with a management fee-only structure, and fees are competitive relative to peer strategies and other areas of leveraged credit. After the lock-up period expires, BMAC offers exposure to private asset classes with quarterly liquidity.
- **Team** – The team at the helm of BMAC has substantial experience in credit markets. This includes BXCI CIO Michael Zawadzki, Head of Liquid Strategies Dan Oneglia, and Head of Loan Strategies Dan McMullen. Zawadzki joined BXCI in 2006 and has prior experience at Citigroup and Soloman Smith Barney. Oneglia joined Blackstone in 2019, having previously spent 20 years with the Special Situations Group at Goldman Sachs. McMullen joined in 2002 and holds important leadership roles in liquid credit across the firm, including sitting on several investment committees.
- **Investment Process** – The BMAC investment process is robust at both the asset allocation and security selection levels. BMAC’s asset allocation is established and monitored through a weekly committee meeting and is coupled by the monthly Credit Markets Forum which helps marry fundamental credit views with macro and sector perspectives. On a quarterly basis, portfolio managers review relative value, industry views, and the team’s credit watchlist.

Considerations

- **Track record** – While the underlying sleeves of BMAC have substantial track records, the strategy itself was inceptioned in December 2023. Therefore, the asset allocation effect, both on a strategic and tactical level, is relatively untested. However, Blackstone does have experience managing bespoke multi-asset credit strategies on a separate account basis. As a result of the recent launch of the BMAC strategy, the fund has not been ramped to its target asset allocation.
- **Turnover** – At the BXCI leadership level, Dan Leiter took over the role of Global Head of Liquid Credit in September 2024, in conjunction with the departure of Rob Zable. Leiter is a recent external hire, joining Blackstone in April 2024 from Morgan Stanley. Zable did not have day-to-day portfolio management responsibilities on BMAC, nor does Leiter. However, Leiter will sit on several investment committees that contribute to the strategy, as did Zable. Furthermore, over the last three years, there has been turnover at the underlying investment team level across each of the sleeves. However, net headcount overall has increased, and turnover such as this is not uncommon on platforms of BXCI’s size.

Performance Overview (Gross-of-Fees)



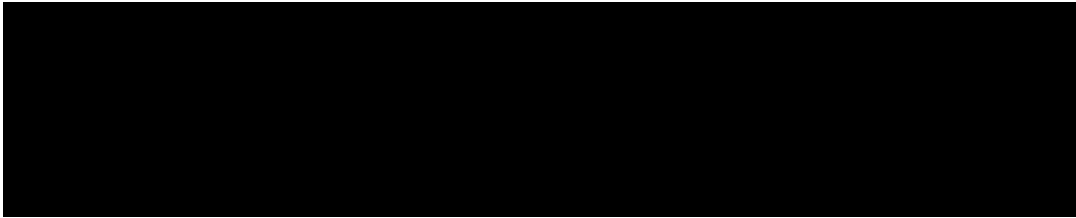
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**As of December 31, 2023. Note that these figures are unlevered to reflect the unlevered nature of BMAC.*

Given the track record for BMAC is short (incepted December 2023), the performance shown represents the standalone strategies in which Blackstone invests.

The Blackstone US Loan strategy is run by a team led by PM Dan McMullen, who is also a PM on BMAC. The team invests in loans both in separate account form for clients and on behalf of Blackstone's CLO issuance platform. 



The high yield strategy employs a systematic approach and is led by Paul Harrison and Adam Dwinells. The process was developed at DCI, a firm that was acquired by Blackstone in 2020. 

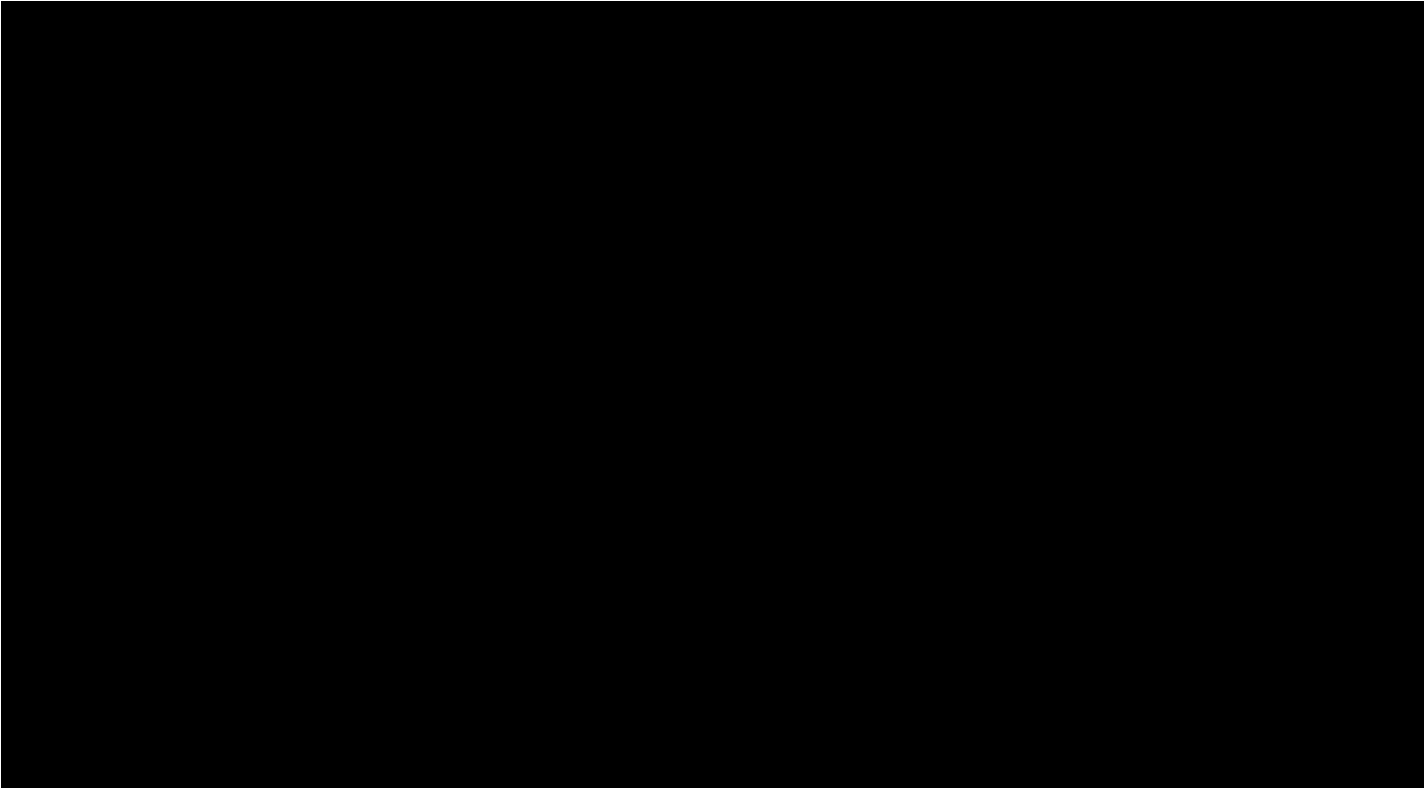
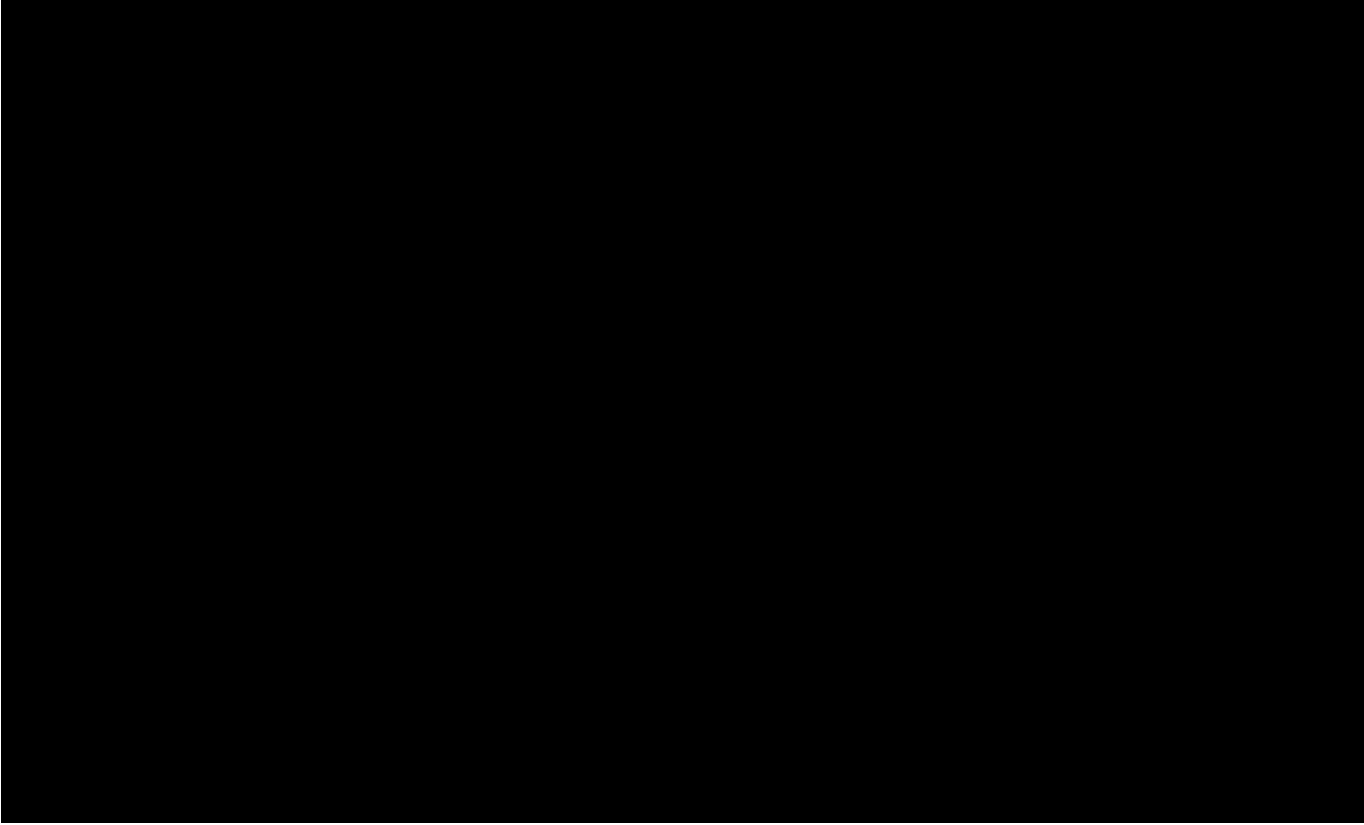


The CLO Debt strategy is led by Mike Sobol. The strategy invests in other managers CLO debt tranches. 

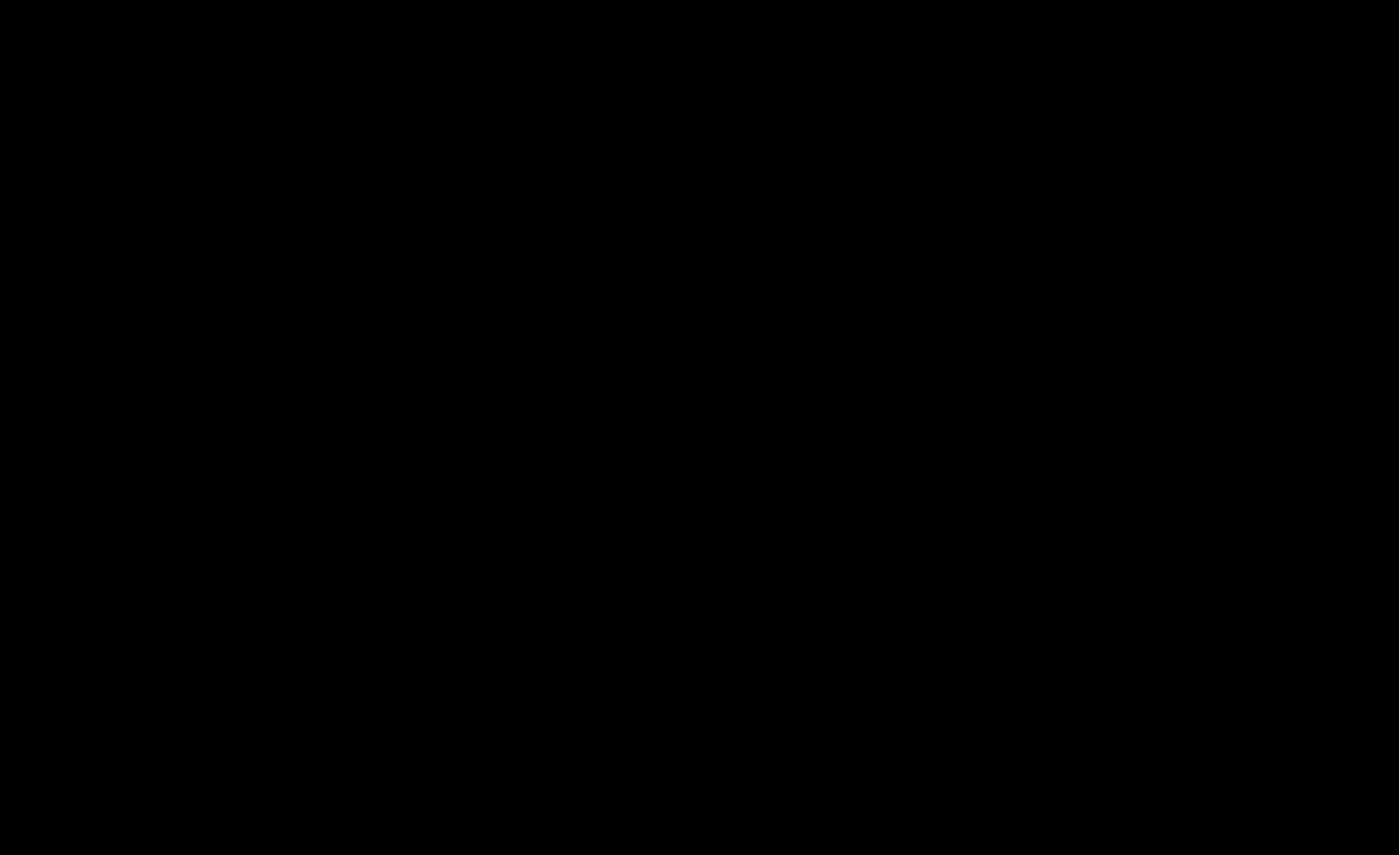


The real estate debt, senior direct lending, junior direct lending, and infrastructure debt strategies all have track records dating back at least 10 years. However, it is important to note that BMAC invests on a deal by deal basis within these areas, so deals held in the standalone strategies may not be held within BMAC.

Risk and Return vs. Current Managers



Risk and Return vs. Current Managers



[Redacted text block]

Portfolio Attribution (Private Credit)

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Organization and Team

Firm Overview

Blackstone Inc. is a global investment firm that manages capital for both institutions and individuals. The firm was founded in 1985 by Stephen A. Schwarzman, the current Chairman and CEO, and the late Peter G. Peterson. Jonathan Gray serves as President and COO. Headquartered in New York, the firm has more than 4,700 employees across 28 offices worldwide.

Blackstone manages over \$1 trillion in assets, focusing on investment strategies across credit, real estate, private equity, infrastructure, life sciences, growth equity, real assets, secondaries, and hedge funds.

Blackstone Credit & Insurance (BXCI) was founded in 2005 and became one of the world's largest credit managers after acquiring a controlling stake in GSO Capital Partners in 2008. In 2023, Blackstone consolidated its credit, insurance, and asset-based finance businesses into BXCI, aiming to generate attractive risk-adjusted returns by investing across the credit market, including corporate and non-corporate public and private credit.

Blackstone is a publicly traded company incorporated in Delaware. Its ownership is split between public investors who hold common stock (NYSE: BX) and Blackstone insiders, including current and former Senior Managing Directors, who own "Holdings Units" in its subsidiaries.

Blackstone also has two classes of preferred stock, Series I and Series II, both of which have no economic value. The only share of Series I preferred stock is controlled by Stephen A. Schwarzman through Blackstone Partners LLC. Similarly, the sole share of Series II preferred stock, which has exclusive voting rights for electing directors, is held by Blackstone Group Management LLC, also controlled by Schwarzman. Common stockholders do not typically have voting rights but vote together on certain issues, with the Series I preferred stock as a single class.

Compensation

Blackstone's compensation structure includes a base salary and discretionary bonus. Certain professionals in Blackstone business units may also be eligible for carried interest. All employees' carried interest percentages, like cash compensation, are subject to change on an annual basis. Blackstone and its professionals are also offered the opportunity to invest in certain Blackstone funds each year. An additional aspect to compensation is the grant, subject to vesting, of Blackstone common stock.

Leadership

Blackstone Inc. is led by Chairman and CEO Steve Schwarzman, alongside President and COO Jon Gray. Schwarzman co-founded the firm in 1985, while Jon Gray joined the firm in 1992 and served as Global Head of Real Estate from 2005-2018.

Gilles Dellaert, formerly Global Head of Blackstone Insurance Solutions, serves as Global Head of BXCI, and leads business operations. Dwight Scott, formerly Global Head of Blackstone Credit (BXC), now serves as Chairman of BXCI. Dellaert joined Blackstone in 2020 and previously worked at Global Atlantic Financial Group, Goldman Sachs, and J.P. Morgan. Scott joined Blackstone in 2005 after having served as CFO of El Paso Corporation.

In September 2024, it was announced that Dan Leiter, who joined Blackstone in April 2024 as Head of International, took on an expanded role as Global Head of Liquid Credit. At that time, it was also announced that former Global Head of Credit Rob Zable would be departing Blackstone. Leiter joined the firm from Morgan Stanley, where he served as Global Head of Securitized Trading and Alternative Financing.

Investment Team Overview

The BMAC investment team is comprised of the following key members:

- Portfolio Managers: Michael Zawadzki, Dan Oneglia, and Dan McMullen make up the portfolio management team for BMAC. Zawadzki also serves as CIO for BXCI, Oneglia serves as CIO of Liquid Credit Strategies, and McMullen serves as Head of Loan Strategies. Together, these individuals have ultimate decision-making authority for asset allocation and portfolio construction. They also lead the weekly Credit Asset Allocation (CAA) meetings and the monthly Credit Markets Forum (CMF).
- Paul Harrison, David Waters, and Eugene Lee comprise the Asset Allocation Team, which manages the quantitative and qualitative relative framework that informs top level asset allocation. Harrison, based in San Francisco, is a member of the Blackstone Systematic Strategies team and previously was CIO at DCI, a systematic credit manager acquired by Blackstone in 2020. David Watters, based in New York, serves as Head of Asset Allocation for insurance and multi-asset investment grade. He joined Blackstone in 2021 and has prior experience at HC2 Holdings and in credit investing roles. Prior to joining Blackstone in 2020, Lee spent a decade in the special situations group at Goldman Sachs, where he worked alongside Oneglia.
- The BMAC portfolio managers and Asset Allocation team leverage the expertise of 11 asset class leads, each of which is responsible for sourcing and underwriting individual credits for inclusion in BMAC:
 - o Adam Dwinells – HY/IG corporate bonds
 - o Mike Sobol – CLO securities
 - o Alex Leonard – European Loans
 - o Valerie Kritsberg – Capital Markets and Trading
 - o Mike Wiebolt – Real Estate Debt Securities
 - o Tim Johnson – Real Estate Lending
 - o Rob Horn – Asset Based Finance
 - o Victoria Chant – Capital Formation

- Brad Marshall – Senior Direct Lending
- Michael Carruthers – European Direct Lending
- Robert Petrini – Junior Direct Lending

The BMAC investment team has substantial experience in the industry; however, several members are recent additions to Blackstone.

As a whole, BXCI has a robust operations function, with over 300 professionals across Institutional Client Solutions, Legal & Compliance, Operations and Finance. Key leaders within this division include:

- Marisa Beeney – General Counsel, Credit
- Toula Bougiamas – CCO – Credit
- Will Skinner – CFO BXCI

Beeney began her career at the law firm Latham & Watkins and worked at DLA Piper prior to joining Blackstone in 2007. Bougiamas joined Blackstone in 2019 after 19 years with the SEC, while Skinner joined the firm in 2013 from Goldman Sachs.

Finance, Legal and Operations Team

	# of Operations Professionals	Years of experience in industry	Years of experience at Blackstone
By Level:			
CCO	1	32	32
CFO	1	18	11
Investor Relations	1	35	1
Legal, Governance & Compliance	45	*	~3
HR & Technology	64	*	~2
Finance	76	*	~7 across three heads
Operations & Fund Management	76	Head of BXCI Investment Operations: 29 years Head of Insurance Operations: 26 years Head of BX Investment Operations: 31 years	~7 across three heads
Support (Tax and Valuations)	31	*	~4

*Industry experience statistics are not tracked by BXCI for all professionals in this category.

Over the last three years, the number of investment professionals with responsibilities on BMAC has increased by 23 individuals, with private corporate credit and infrastructure/asset based seeing the greatest net additions. Real estate credit and liquid corporate credit have seen net reductions in headcount, though both platforms have shown the ability to replace those departures, with headcount remaining sufficient. One key driver on the liquid credit side was a restructuring of the analyst team in 2022. This resulted in multiple analysts departing on mutual terms.

By Investment Team (last 36 months)

Joiners	#	Leavers	#
Private Corporate Credit	22	Private Corporate Credit	14
Real Estate Credit	12	Real Estate Credit	18
Liquid Corporate Credit	10	Liquid Corporate Credit	14
Infrastructure/Asset Based	22	Infrastructure/Asset Based	12
International	1	International	0
Insurance	2	Insurance	0
Office of CIO	19	Office of CIO	7
Total	88	Total	65

Assets

BXCI maintains a highly institutional client base, with over 70% of their approximately \$330 billion in AUM coming from institutional investors. Of the roughly \$153,463 billion in Multi-Asset Credit AUM, the majority is institutional.

Investor Composition (Multi-Asset Credit, Fund and SMA)

Client Type	AUM \$(millions)
Corporate	495
Public Fund	1,216
Insurance	147,024
Sub-Advised	1,124
Commingled (Inclusive of BMAC)	853
Sov Wealth	751
Total	153,463

Investment Strategy & Process

Overview

BMAC is a hybrid multi-asset class strategy that invests across both liquid and private credit. The investment opportunity set and target allocations for BMAC are as follows:

- Corporate Credit – 45%
 - o Leveraged Loans
 - o High Yield
 - o Investment Grade
- Liquid Opportunistic Credit – 15%
- Structured Credit - 20%
 - o CLO Securities
 - o Real Estate Debt Securities
 - o Asset Backed Securities
- Private Credit 20%
 - o Senior Direct Lending
 - o Junior Debt
 - o Asset Based Lending
 - o Real Estate Lending
 - o Infrastructure Debt

The resulting target portfolio is approximately 80% liquid vs. 20% private, and 70% corporate vs. 30% non-corporate. It is important to note that BMAC is not a fund-of-funds strategy; rather, each security is purchased or sold directly on behalf of the strategy. While the track record of BMAC is short, having been inceptioned in December 2023, BXCI has a history of managing standalone mandates across each sub-asset class:

- Leveraged Loans - \$60 billion in AUM, 26 yr track record, one of the largest CLO managers globally
- HY/IG Corporate Bonds - \$31 billion in AUM, 18 yr track record
- CLO Securities - \$16 billion in AUM, 15 yr track record
- Real Asset Securities - \$37 billion in AUM, 14 yr track record
- Senior Direct Lending - \$119 billion in AUM, 18 yr track record
- Asset Based Finance and Infrastructure Debt - \$65 billion in AUM, 10 yr track record
- Real Estate Lending - \$41 billion in AUM, 14 yr track record

BMAC's portfolio is shaped by both strategic asset allocation (SAA) and tactical asset allocation (TAA). The SAA aims to broaden the range of investments beyond traditional fixed income by utilizing Blackstone's credit expertise, focusing on long-term risk and return expectations as well as improving diversification. TAA involves adjusting the portfolio based on factors like relative value, market conditions, and macroeconomic trends. Once the portfolio strategy is set, asset class portfolio managers actively oversee their credit investments.

During weekly meetings, the lead portfolio managers review changes in spreads, yields, and performance, comparing them to BMAC's current allocations relative to the target weights established by the monthly Credit Markets Forum, which integrates macroeconomic data with bottom-up credit views. This allows the team to compare the current credit exposures to forward-looking views and establish a use case for each exposure. In addition, as part of the Credit Markets Forum, each asset class portfolio manager provides an update on their sector of expertise, including current market pricing and fundamental outlooks. When taking into account current market pricing, the team uses proprietary modeling with forward-looking expectations to understand the portfolio's return potential under various conditions. Qualitative judgement from such asset class professionals is also taken into account.

On a daily basis, the lead portfolio managers oversee the deployment of capital, liquidity, and leverage. On a quarterly basis, the team also engages in a full-scale portfolio review, which encompasses industry sector analyses and a review of the credit watchlist.

Risk management is also embedded within the monthly Credit Markets Forum. More than 100 professionals comprise the "Office of the CIO". These are independent professionals who are responsible for identifying sources of over- or underperformance in the fund's underlying investments.

BXCI's approach to credit selection is rooted in six principles across all sub-asset classes:

- "Good neighborhoods" – i.e., less cyclical sectors or those with strong tailwinds;
- High free cashflow generation;
- Scale market leaders;
- Recurring revenue;
- Attractive margin profile; and
- Significant enterprise value cushion

Within leveraged loans, meetings typically take place at least once a day, and sometimes more frequently, depending on investment opportunities and the new issue pipeline. Both the U.S. and European Syndicated Credit Investment Committees join the meetings based on the location of the investment opportunity. Each research analyst is responsible for a portfolio of credits within a specific industry, monitoring them and providing quarterly earnings updates to the relevant investment committee. Analysts must also alert the committee to any significant changes in the credit. All core credit investment recommendations require unanimous approval from the Investment Committee members present. The overall style of the leveraged loans portfolio is downside protection-oriented and tends to underweight CCC's relative to the market. The research team is comprised of 40 analysts led by Dan Oneglia. The team is organized into sector pods, each

of which is led by a senior analyst. The analyst coverage model has gone through several enhancements in recent years, most notably by creating more crossover coverage to limit research gaps in the event of departures.

The high yield and investment grade corporate bond portions of BMAC employ a systematic investment approach developed by DCI, a San Francisco based firm acquired by Blackstone in 2020. The team applies a proprietary default probability model that incorporates real-time fundamental balance sheet data, as well as equity and options market information, leveraging a database of over 30,000 historical defaults. The fundamental-based, systematic investment process seeks to narrow the wide universe of high yield securities to those with attractive risk-return profiles and low probability of default.

The CLO securities portion of BMAC invests in third-party CLO tranches. The global structured credit investment committee establishes the criteria that approved CLO securities across managers must meet, which are placed into tiers based on quantitative and qualitative metrics. By tiering securities, the team can move quickly when market opportunities arise. BCXI's status as one of the largest CLO managers globally also provides them insight into the structure and management style intricacies of CLO tranches and managers.

The Opportunistic Credit sleeve within BMAC is designed to take advantage of dislocations in any of the other BMAC asset classes by providing dry powder for a "tilt" expression. The Opportunistic Credit sleeve also picks up certain products outside of the purview of the other asset classes (e.g., hung syndications, secondary market dislocations, special situations, SRTs).

Within private credit, the investment committee uses a consensus-driven approach. Other professionals who participate in the Investment Committee process include the members of the investment team responsible for sourcing, analyzing, and conducting due diligence on the investment, as well as other senior members of BXCI. For transactions above certain size parameters, Jon Gray, President & COO of Blackstone, and Michael Chae, CFO of Blackstone, also participate in the IC process. The process begins with an initial "Heads-Up" review, led by a senior managing director and the investment team. During this stage, a brief memo is prepared, highlighting key areas like business fundamentals, expected return potential, investment size, key risks, and a plan for further diligence. Based on this review, the IC decides whether the investment team should move forward with more in-depth analysis on the opportunity.

The real estate allocation is two-pronged between real estate lending and real estate debt securities. The real estate lending portion is comprised of direct loans to borrowers and falls within BMAC's private credit bucket. Real estate debt securities is a strategy oriented towards publicly traded CMBS and RMBS. Due to the size of Blackstone's real estate business, portfolio managers and analysts have extensive analytics at their disposal when analyzing properties and markets underlying such securities.

BXCI has substantial scale across its credit platform, which aids in deal sourcing for BMAC. Such scale provides the team with access to investment banks, finance companies, P.E. sponsors, and real estate operators. BXCI believes this supports speed of execution and helps them be viewed by the marketplace as a preferred lender across asset classes.

Private Credit Portfolio

The Private Credit portfolio allocation is generally expected to range around 20%. Since BMAC is an open-ended, evergreen fund with quarterly withdrawal options, BXCI aims to keep private credit allocation at not much more than 20%.

This strategy helps preserve flexibility for tactical asset allocation and effective portfolio management while meeting investor liquidity needs. BMAC Portfolio Managers, Micael Zawadzki and Dan Oneglia, serve on the Blackstone Credit & Insurance Investment Committee, giving them comprehensive visibility into deal flow and underwriting processes. Although the dedicated strategy team manages individual deal underwriting, the decision to include assets in BMAC rests with the Portfolio Managers, ensuring alignment with target allocations. Tactical strategy allocation builds on the Strategic Asset Allocation (SAA), allowing Portfolio Managers to adjust tactical allocation based on the relative value of assets across all strategies BMAC invests. [REDACTED]

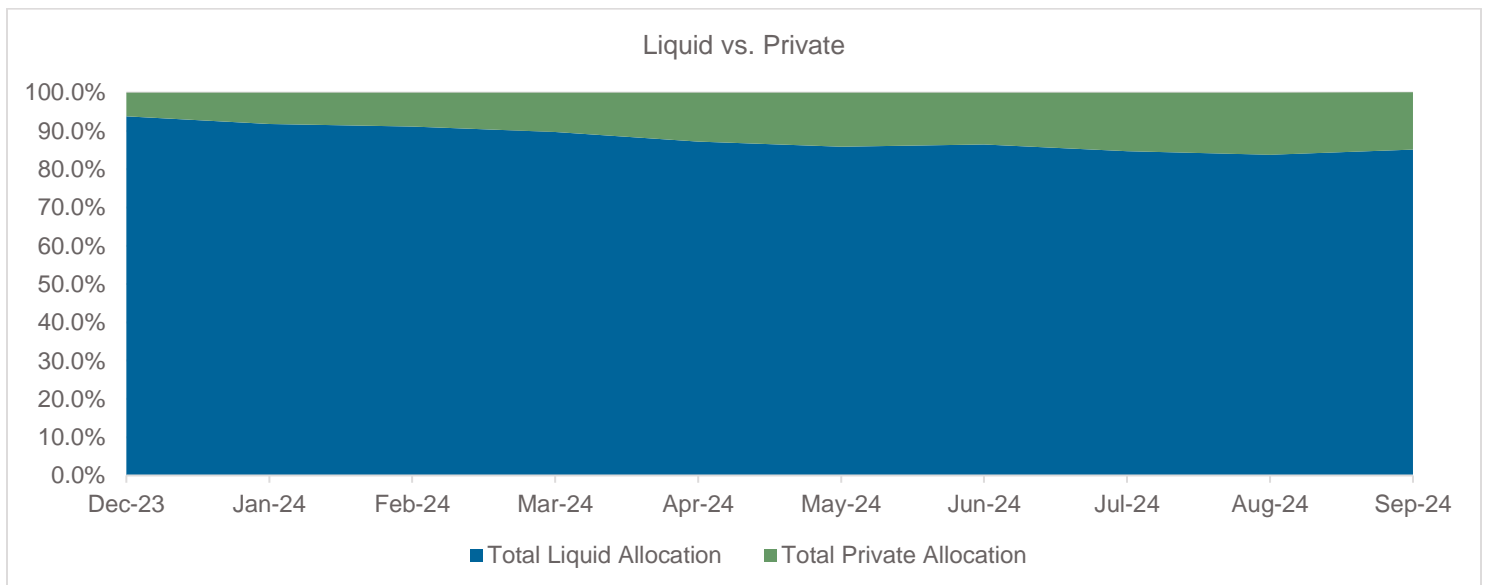
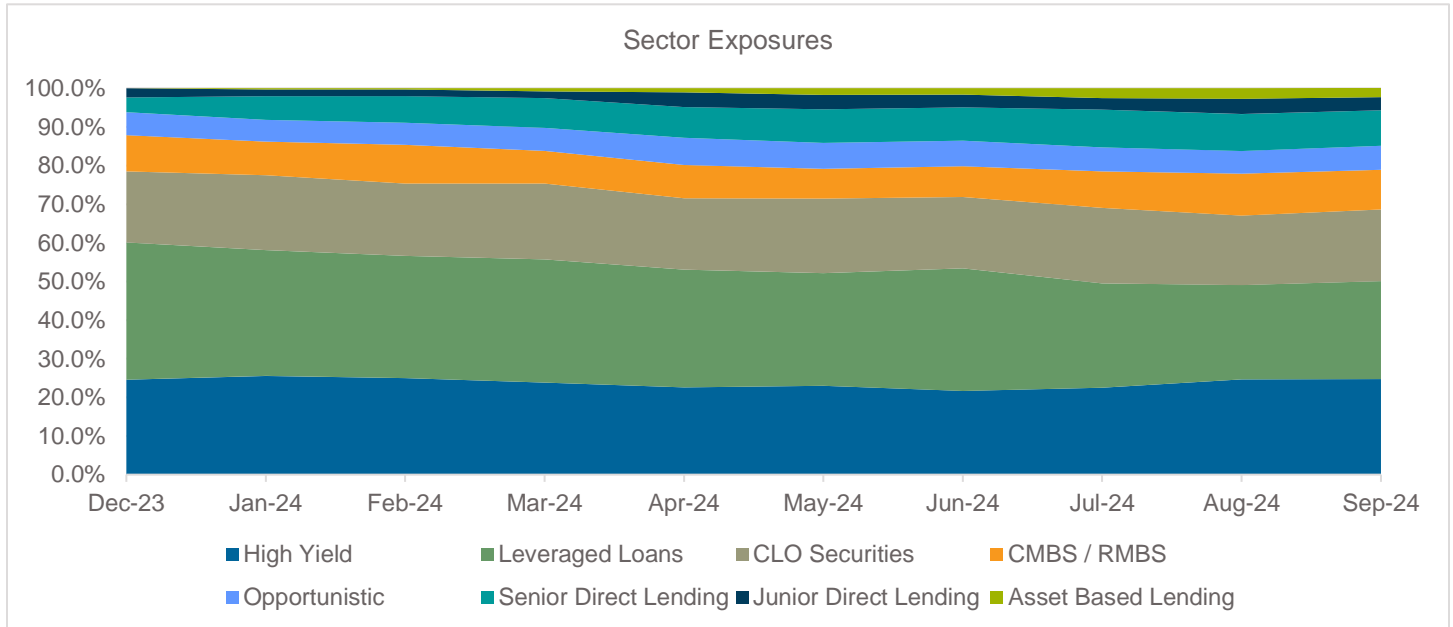
List of Strategies Under Private Credit Bucket, as of 10/31/24

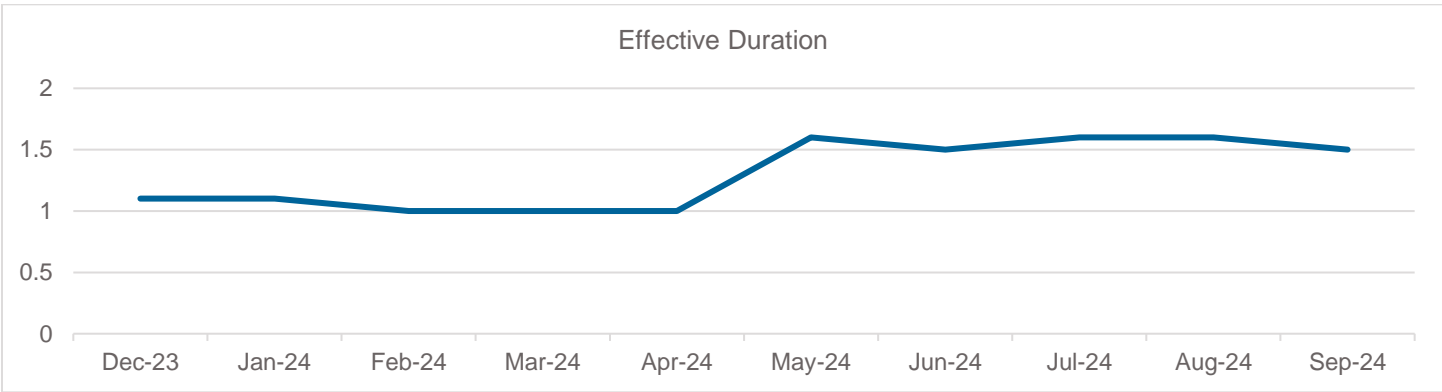
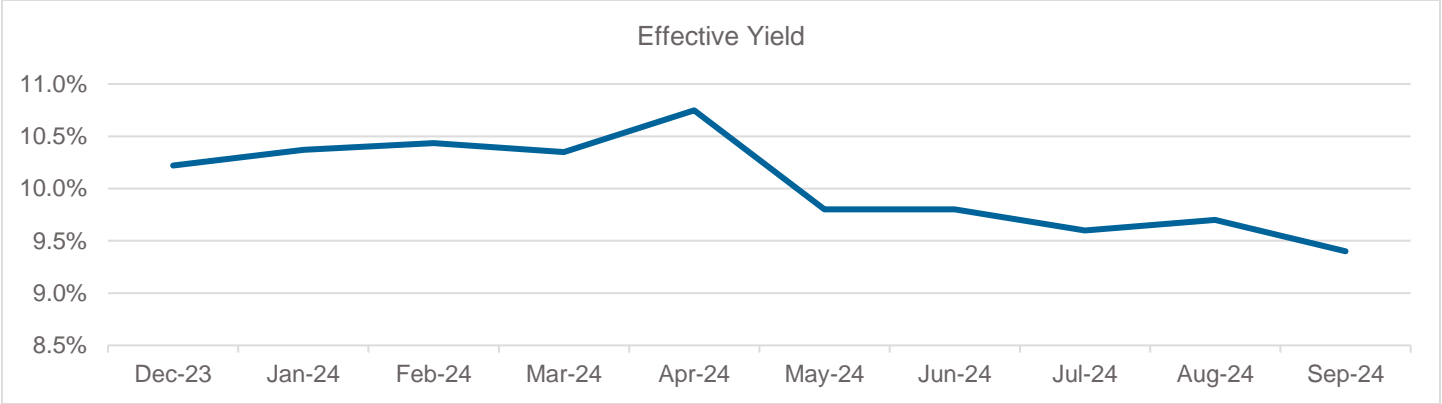
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Portfolio Characteristics



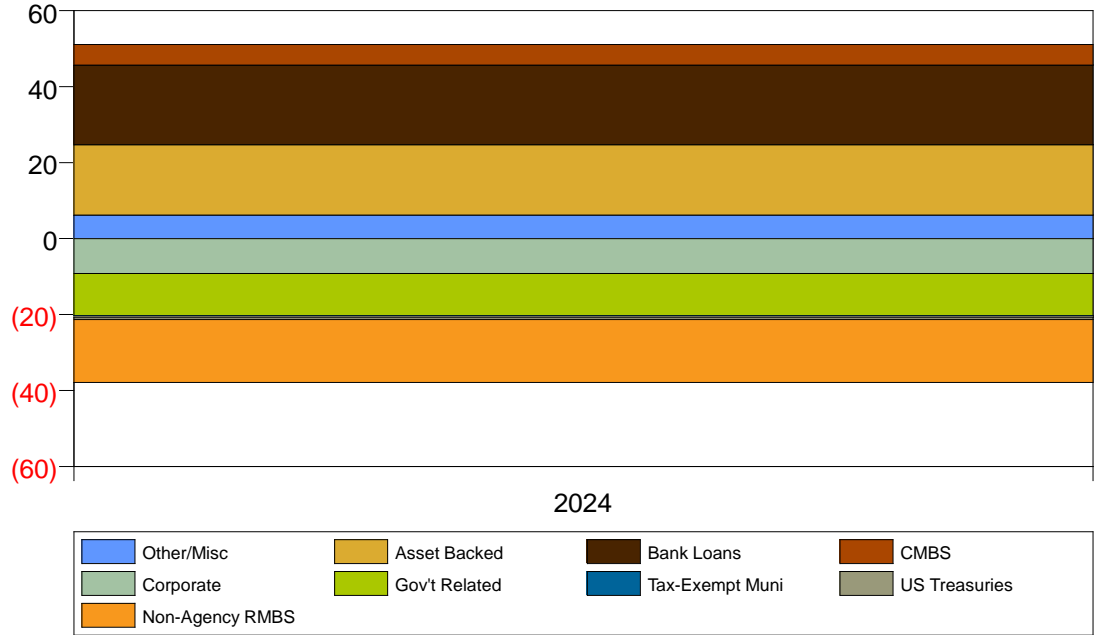


	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24
Avg Quality	BB-	BB-	BB-	BB-	BB-	BB	B+	BB-	B+	B+

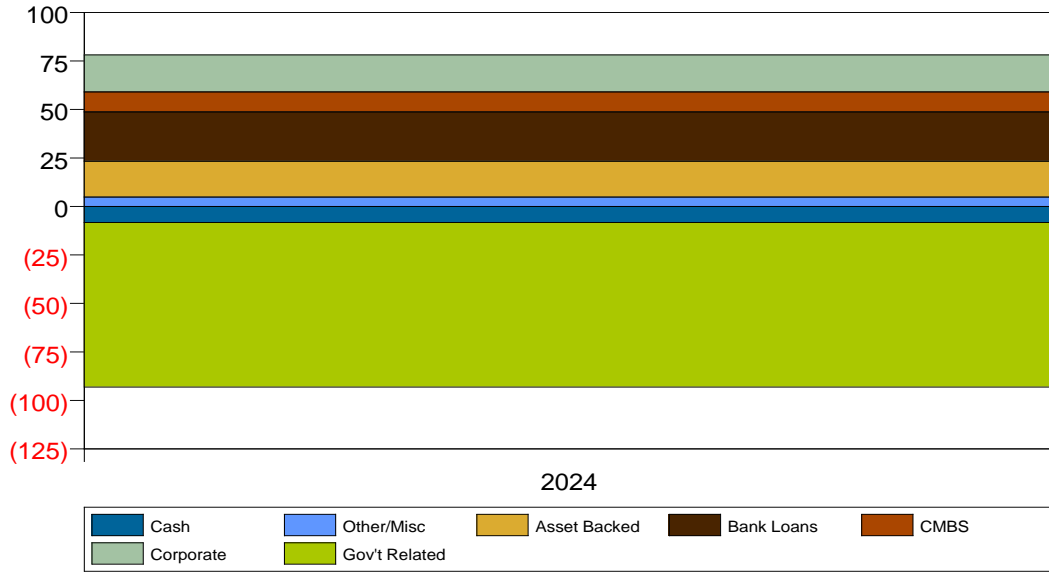
Portfolio Characteristics (vs. Current Managers)

The characteristics shown below are representative of the liquid credit portions of BMAC, relative to the exposures of NHRS's current public fixed income managers.

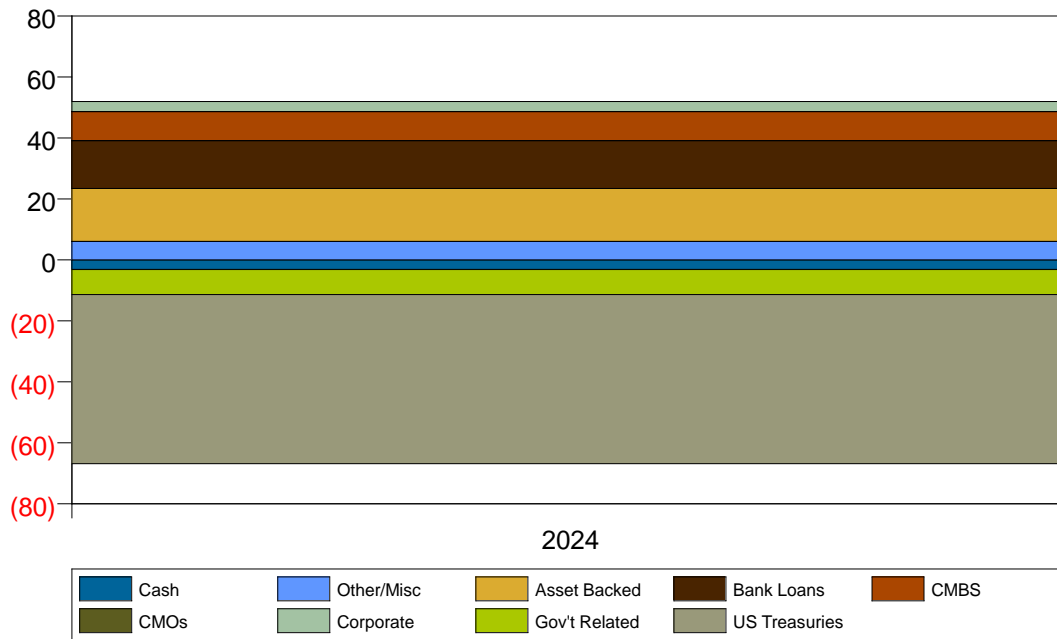
Fixed Income Sector Exposure relative to BlkRck:SIO Composite
for 1 Quarter Ended September 30, 2024
Portfolio: BMAC



Fixed Income Sector Exposure relative to Brandy:Global Opport FI
 for 1 Quarter Ended September 30, 2024
 Portfolio: BMAC

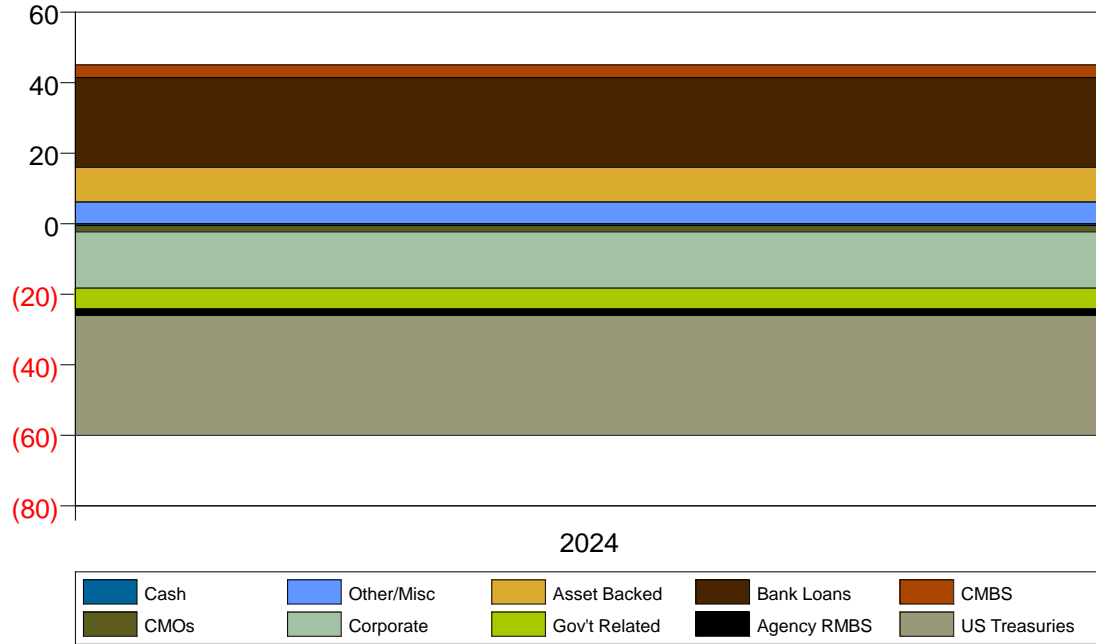


Fixed Income Sector Exposure relative to Fidelity:Tactical Bond-Pool
 for 1 Quarter Ended September 30, 2024
 Portfolio: BMAC



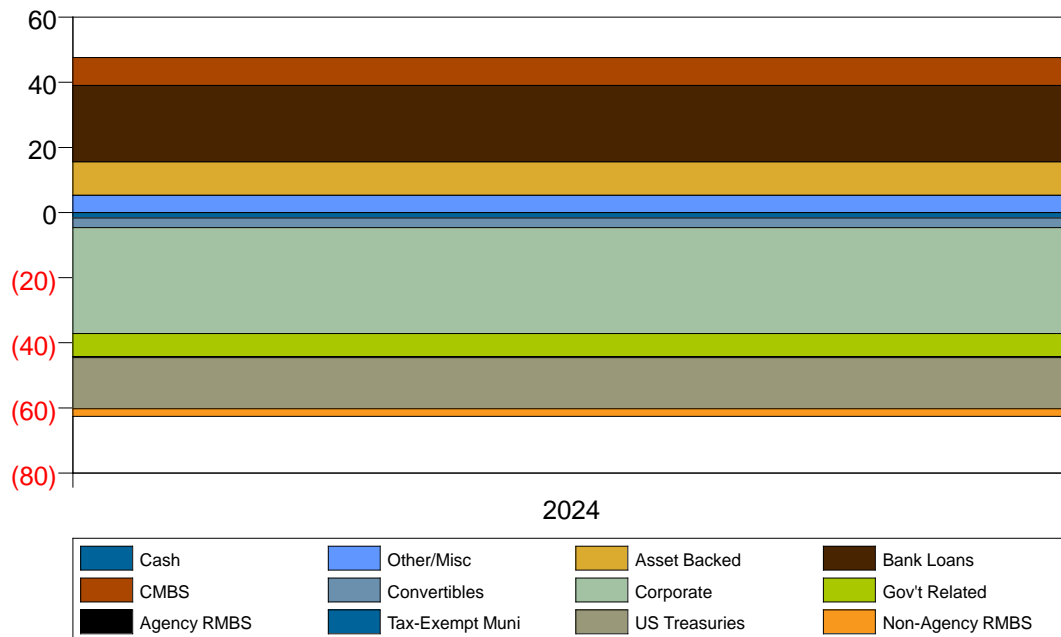
Fixed Income Sector Exposure relative to IncomeR&M:Govt/Credit
for 1 Quarter Ended September 30, 2024

Portfolio: BMAC



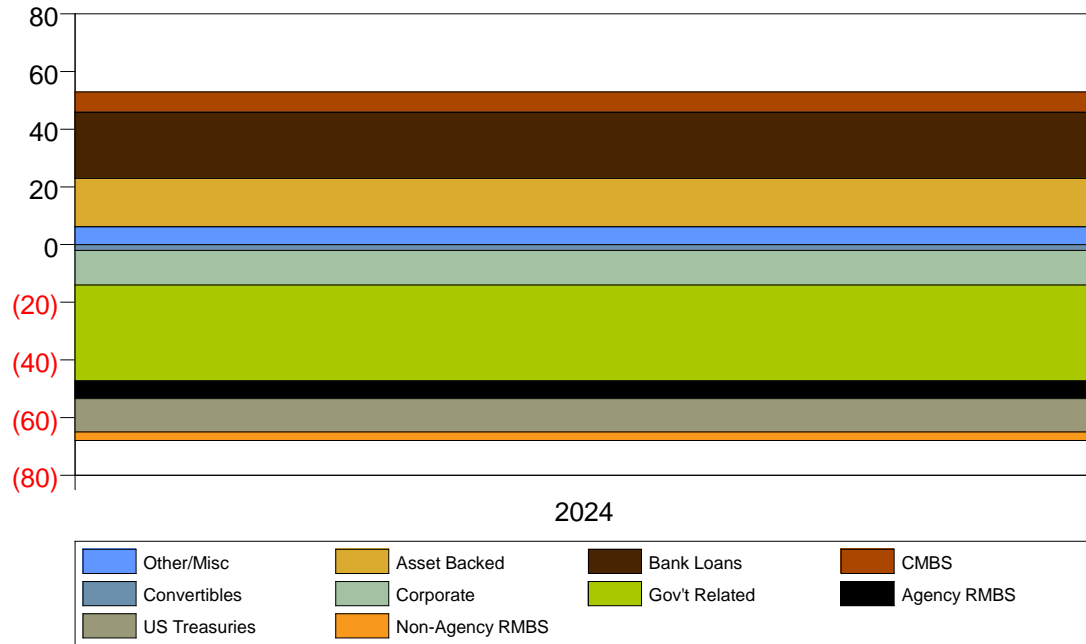
Fixed Income Sector Exposure relative to Loomis:Multi Sector F Dis
for 1 Quarter Ended September 30, 2024

Portfolio: BMAC



Fixed Income Sector Exposure relative to Manulife:Strategic Fixed Income
for 1 Quarter Ended September 30, 2024

Portfolio: BMAC



Case Studies (Private Debt, Asset Based Lending)

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Case Studies (Private Debt, Direct Lending)

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Comparable Firms and Strategies

Blackstone BMAC

The fund comparables reviewed in the evaluation of Blackstone BMAC are firms/funds that Callan has met with and that have strategies similar to BMAC's.

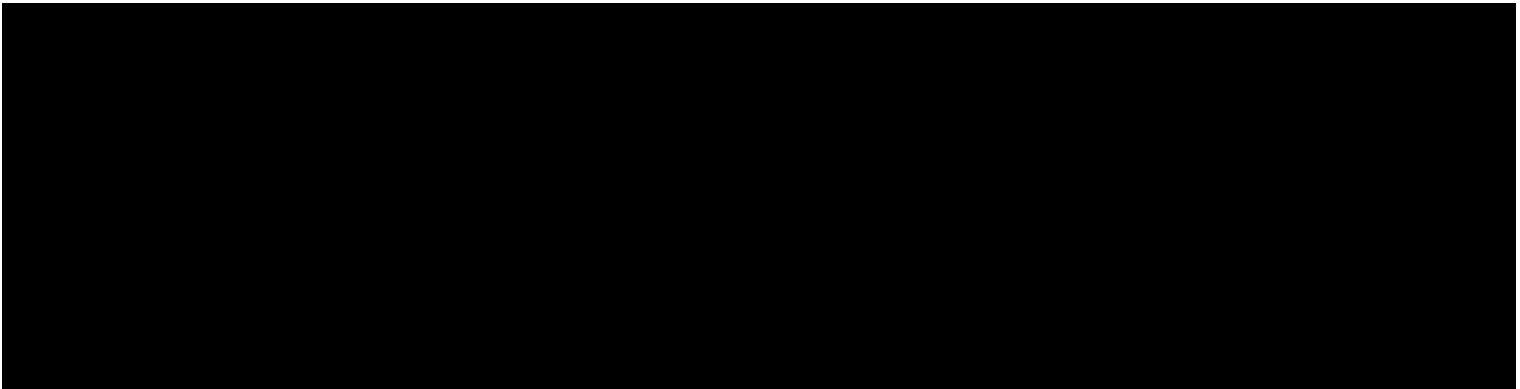
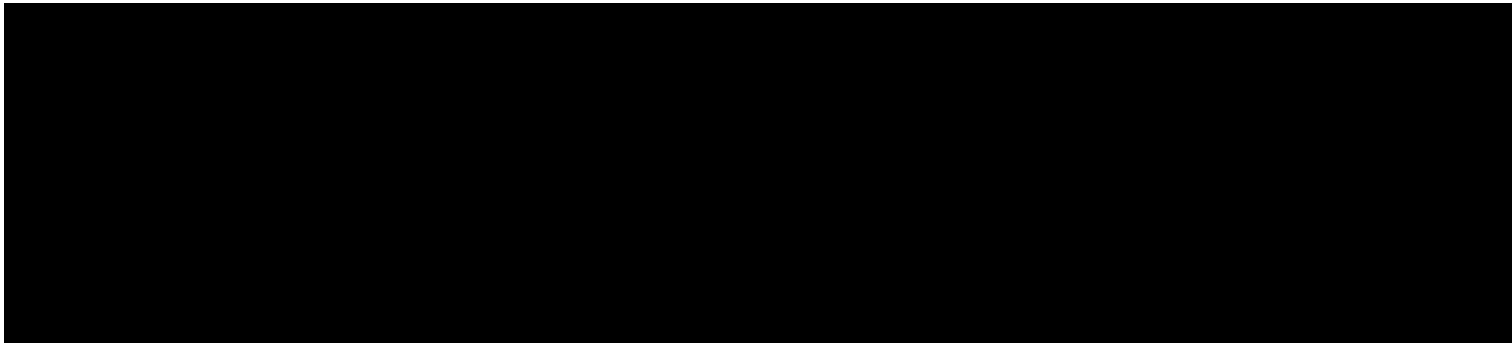
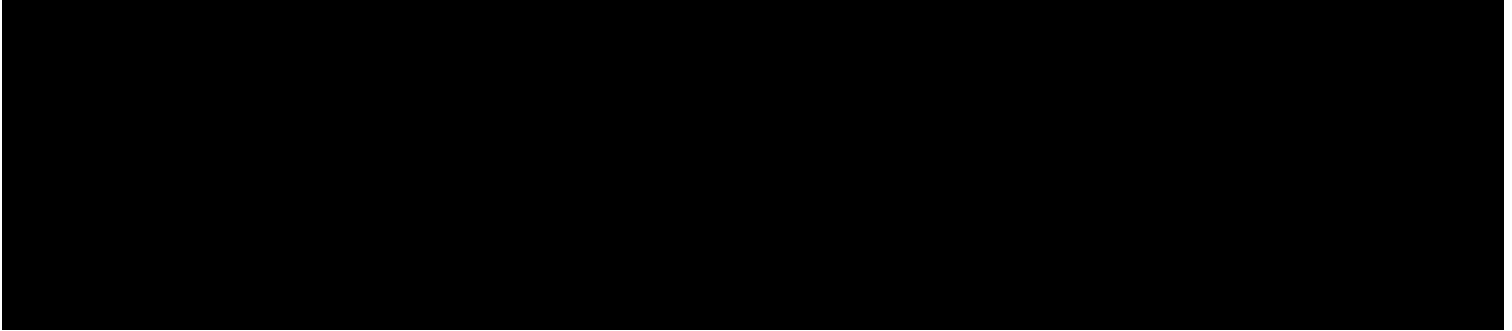
Fund	Status	Fund Size/ Target	Team Background	Strategy	Fund Term
Apollo Total Return Fund	Open	Evergreen	Led by Head of Liquid Credit Joe Moroney utilizing underlying sector teams.	Hybrid public/private credit strategy with an approximate 70%/30% split.	Evergreen
Bain Total Return Credit	Open	Evergreen	Led by senior Bain Credit leaders Jon Lavine, Andy Carlino, and John Wright using underlying sector teams.	Hybrid public/private credit strategy with an emphasis on structured credit and direct lending. Illiquid/semi-illiquid allocation has greater latitude than peers.	Evergreen
Beach Point Select Fund	Open	Evergreen	Team is led by co-CEOs Carl Goldsmith and Scott Klein	Hybrid public/private credit strategy with an emphasis on event driven/distressed opportunities. Illiquid allocation has been higher than peers.	Evergreen

Fee Comparison

Fund	Fees
Blackstone BMAC	Founders Fee: First \$100mm: 65 bps Next \$150mm: 55 bps Thereafter: 45 bps 2 yr hard lock
	Standard Fee w/ Lockup: First \$100mm: 75 bps Next \$150mm: 65 bps Thereafter: 55 bps 2 yr hard lock
	Standard Fee: First \$100mm: 85 bps Next \$150mm: 75 bps Thereafter: 65 bps 1-year soft lock (3%)
Apollo Total Return Fund	Standard Fee w/ Soft Lock First \$100mm: 90 bps Next \$100mm: 85 bps Thereafter: 80 bps 1-year soft lock w/ redemption fee
	Standard Fee w/ Hard Lock First \$100mm: 80 bps Next \$100mm: 75 bps Thereafter: 70 bps 2-year hard lock
Bain Total Return Credit	Founders Fee: 65 bps on all assets 1-year hard lock
	Standard Fee: 95 bps on all assets 1-year hard lock
Beach Point Select Fund	Standard fee: 150 bps w/ 20% incentive 1-yr hard lock

Source: GP provided data

Peer Comparables Review



The above strategies can be considered reasonable alternatives to BMAC. The Apollo strategy invests across public and private debt, with a target 70/30 public/private allocation. The strategy invests across a wide range of sectors and has a global footprint with the inclusion of emerging markets debt. There is also an emphasis on asset based lending and structured products, both of which are key parts of Apollo's platform.

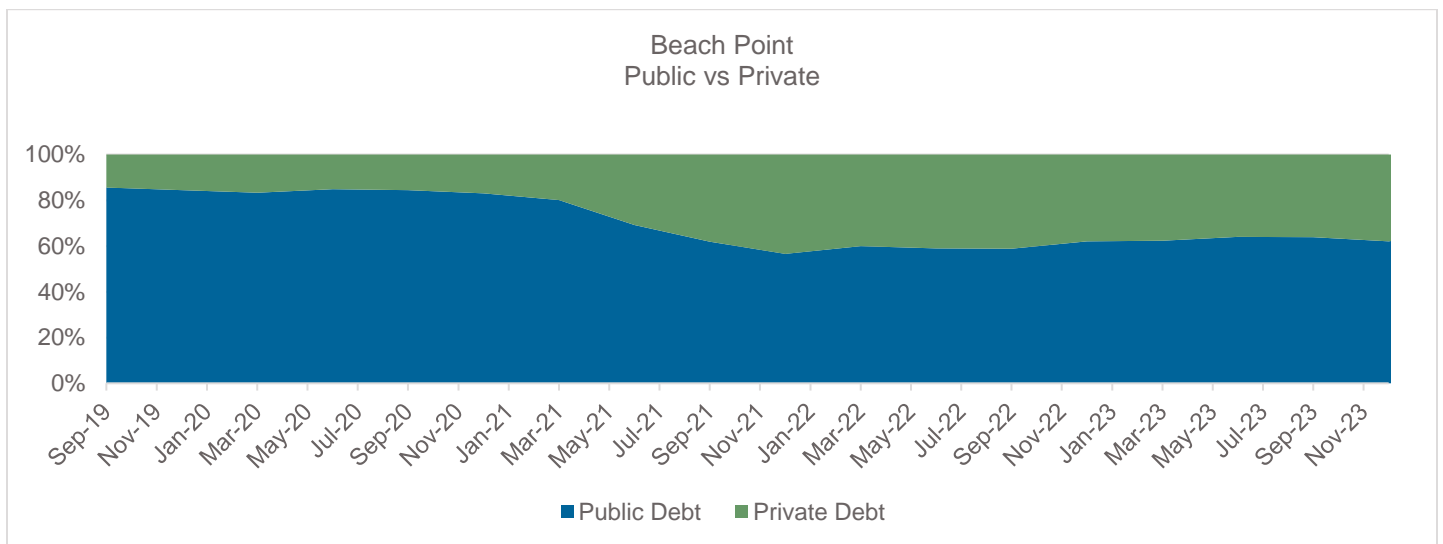
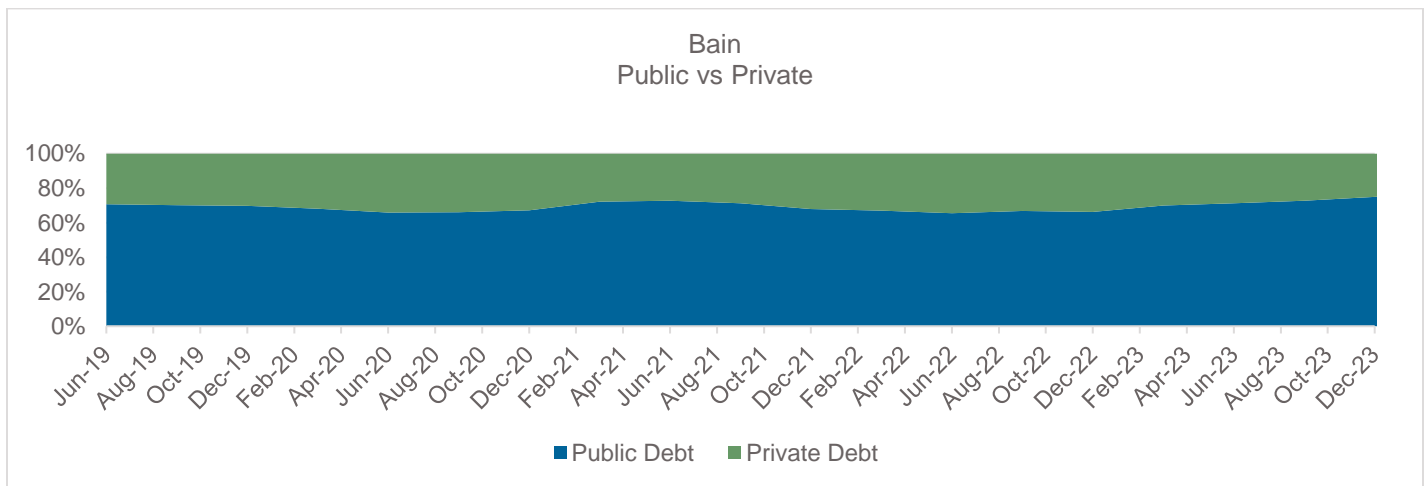
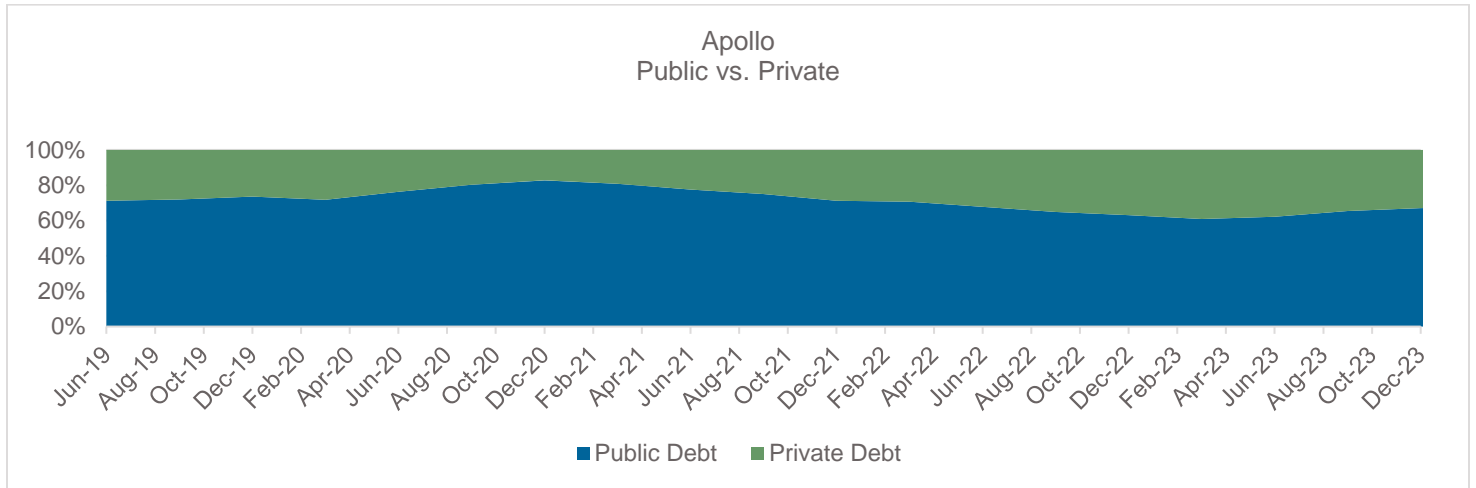
The Bain strategy has historically reached approximately 40% in private debt, the majority of which is senior direct lending. The liquid portion carries a substantial allocation to CLO debt and equity tranches. The strategy carries a lower average quality rating than that of BMAC.

Beach Point places an emphasis on distressed/opportunistic and event-driven investing, which is consistent with many products across their platform. The strategy has reached a private allocation of over 40% at times.

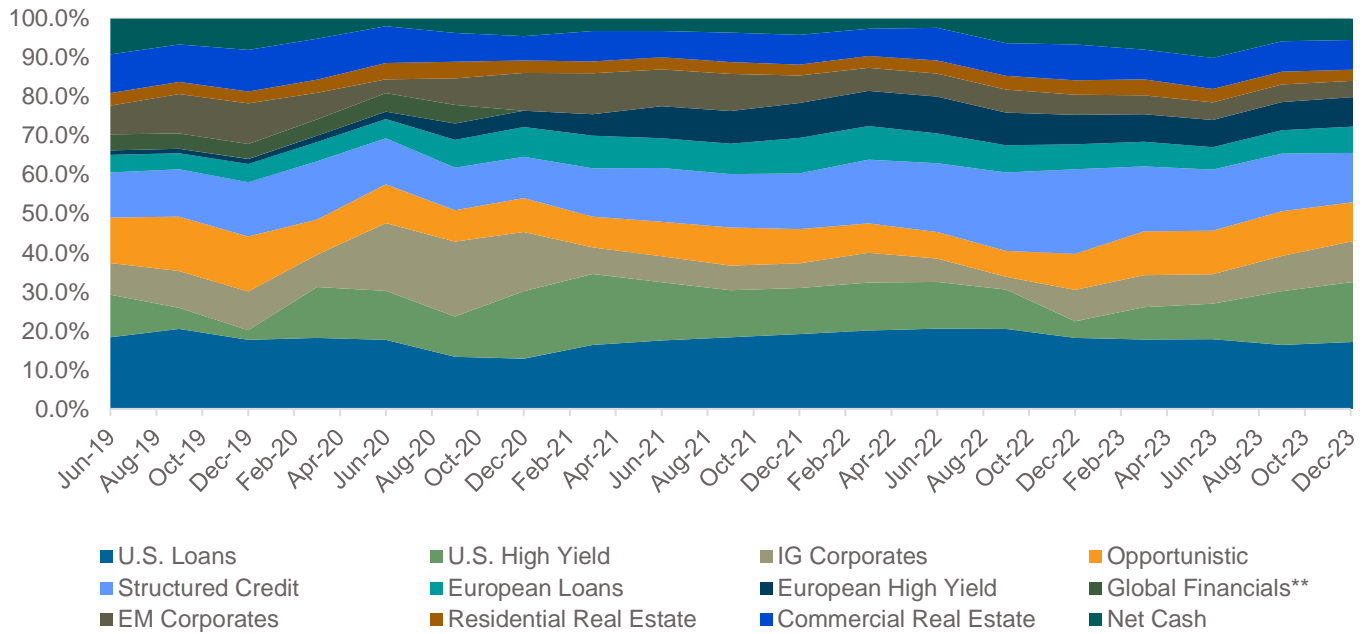
These strategies have competitive long-term track records relative to the Callan Multi-Sector peer group. However, it is important to note that the majority of strategies in this peer group do not invest in private credit.

Source: CallanDNA

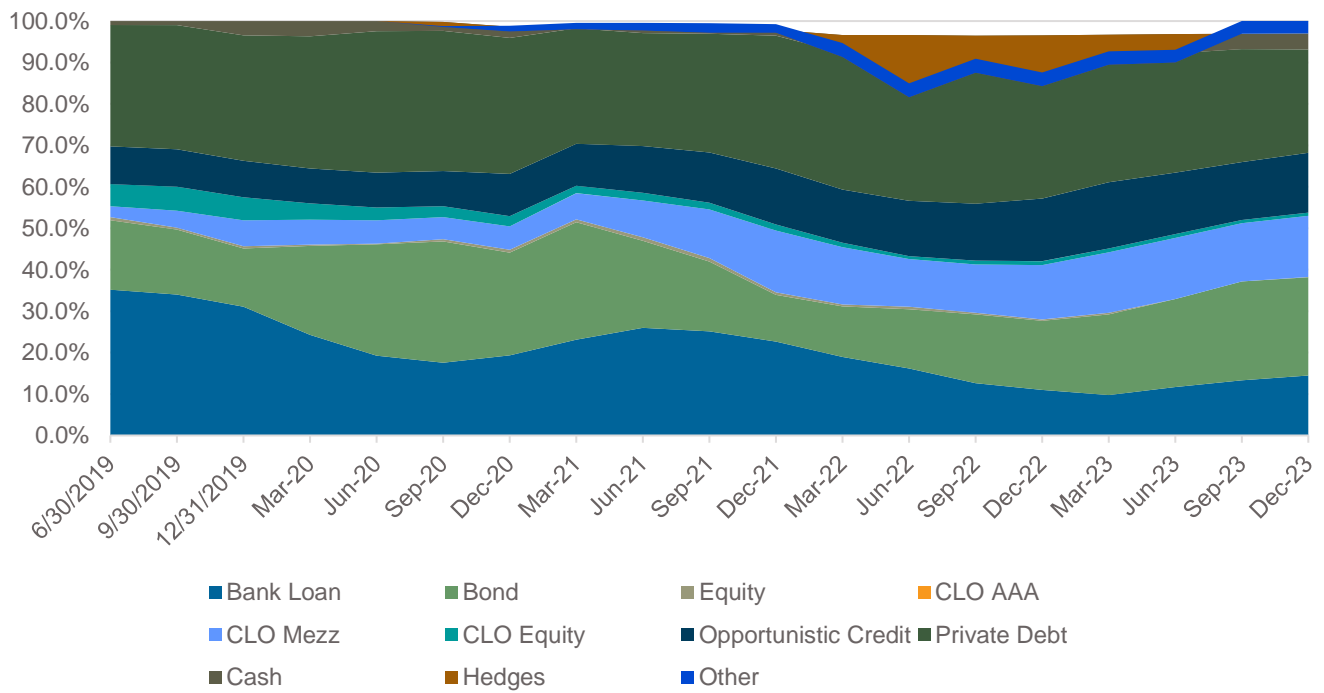
Portfolio Characteristics (Comparable Strategies)



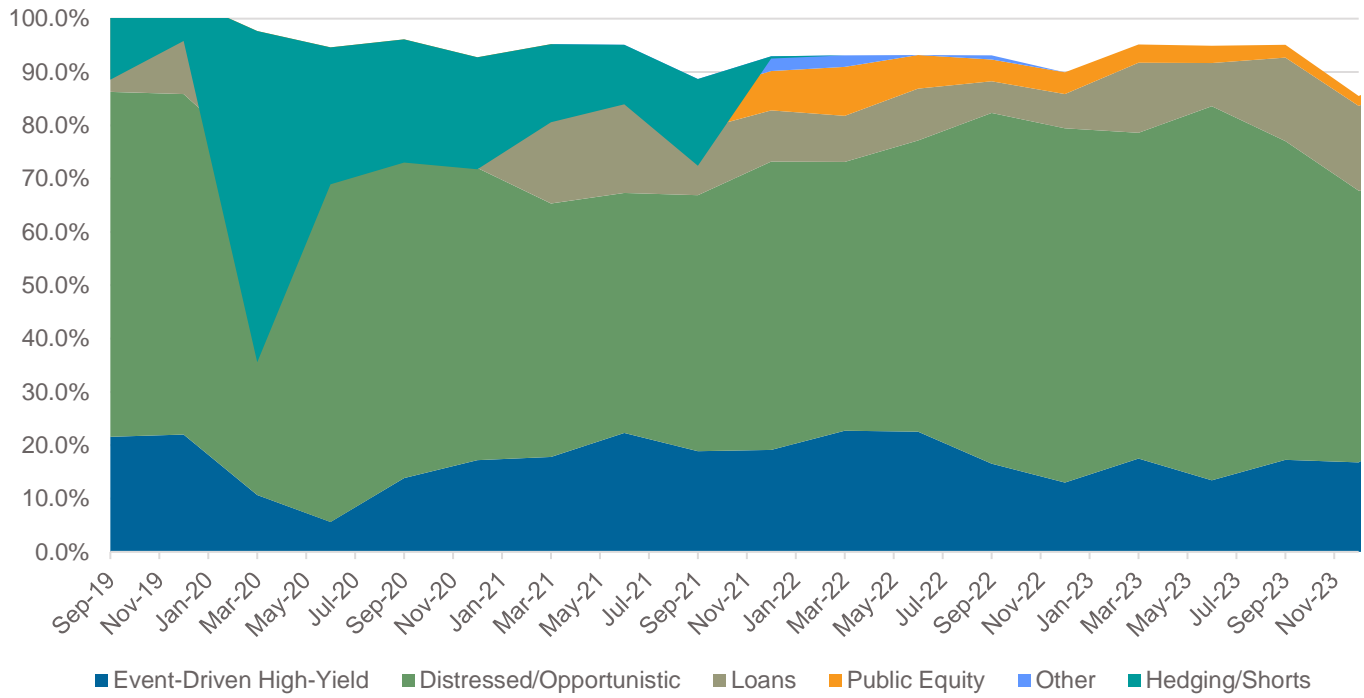
Apollo Sector Exposures

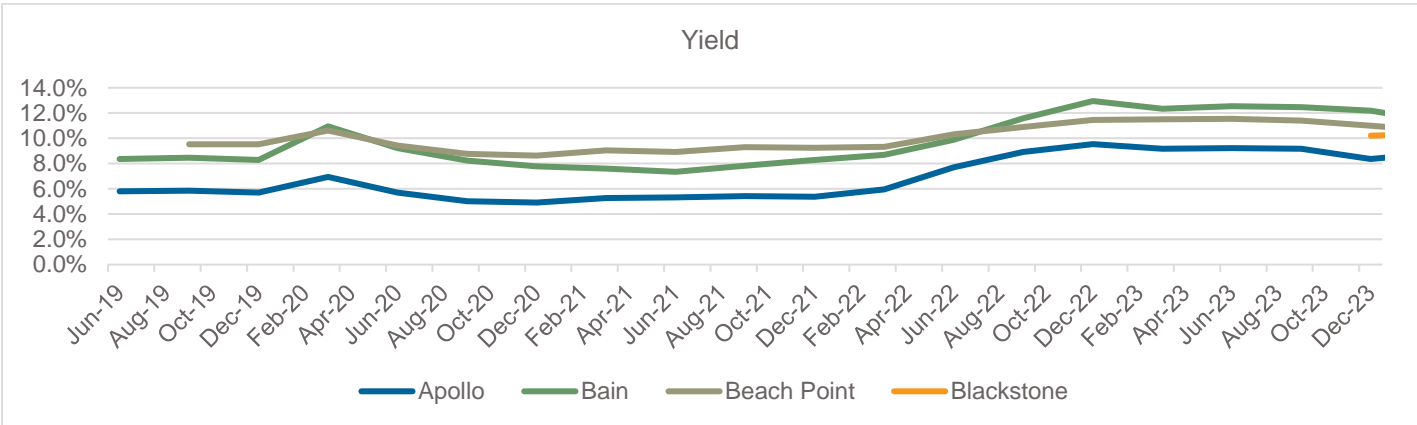
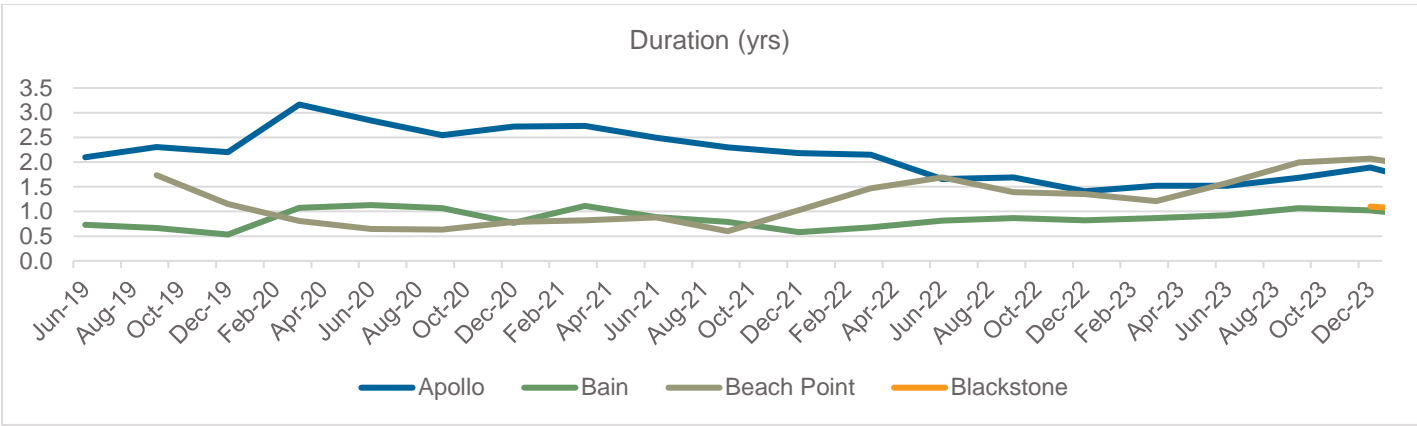


Bain Sector Exposures



Beach Point Sector Exposures





Avg Quality	Dec-19	Dec-20	Dec-21	Dec-23
Apollo	BB+	BB+	BB	BB-
Bain	B	B	B-	B
Beach Point	B-	CCC+	B-	B-
Blackstone	-	-	-	BB-

Operational Due Diligence

Service Providers and Systems

Service	Firm
Auditor	Deloitte
Legal Counsel	Kirkland & Ellis LLP
Compliance Consultant	In House
Administrator	Citco Fund Services (Cayman Islands) Limited
Fund Accounting	Aexeo
Valuation Services	IDC, Bloomberg, Markit, broker quotes, VRC, Kroll, Lincoln, StoneCastle, Houlihan Lokey
Accounting and portfolio management	Multiple systems used
Portfolio monitoring system	Axiom Data
IT System Administration	In House
HR Support	In House HR Team
Cyber Security	Cyber Security is retained in-house and is the responsibility of the Blackstone Technology and Innovations group (BXTI). Blackstone also retains cybersecurity insurance.
Custodian	The Bank of New York Mellon
Portfolio Management and Monitoring	In-house team

Accounting/Finance

Chief Financial Officer	Will Skinner
Overview of the accounting and finance team	Will Skinner
Fund Administrator	Citco Fund Services (Cayman Islands) Limited
Custodian/Bank	The Bank of New York Mellon 240 Greenwich Street New York, New York 10286 United States of America
Fund Auditor	Deloitte
Overview of cash movements	Treasury and Capital Formations Professionals

Valuation Policy/Process

Does the Firm have a Valuation Policy?	Yes
Overview of the valuation process	<p>For actively traded securities in the portfolio, an independent pricing service feed from IDC, Bloomberg, or another source is used daily to price securities. Markit Partner's pricing service, or another service, is used for loans and credit derivatives. When security prices are unavailable from these sources, two or more broker quotes are solicited, and the average is used. For privately originated positions without readily available independent pricing or broker quotes, external firms such as Valuation Research Corporation, Lincoln International, Kroll, Houlihan Lokey, StoneCastle, or IHS Markit provide independent valuations to support internal assessments. Blackstone Credit & Insurance's private assets are marked at least quarterly, with valuations based on a full bottoms-up approach considering collateral performance and market spreads. The primary valuation methods are performance multiple methodology, using comparable companies, and discounted cash flow, based on estimated cash flows discounted by market yield. The final mark must fall within the range provided by third-party valuation firms.</p> <p>On an annual basis, Deloitte performs an audit of the valuation procedures, including a review of Blackstone Credit & Insurance valuation analyses (which includes testing of inputs), the independent valuation firms' analyses as well as meeting with the Blackstone Credit & Insurance valuation team and the independent valuation firms.</p>
Valuation Committee	<p>Yes</p> <p>Committee Members Roles:</p> <ul style="list-style-type: none">- CFO- General Counsels- Head of BXCI Investment Operations- LCS COO- Head of Finance- Head of Asset Servicing- Head of Valuation- BDC Chief Accounting Officer- Head Of Portfolio Insights- BDC CFO
Frequency of valuations	Daily (liquid credit), Quarterly (private credit)
Are valuations audited annually?	Yes
Is a third-party valuation firm ever used?	Yes

Are valuations in accordance with U.S. GAAP and ASC 820?	Yes
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LP Reporting

Quarterly/annual reporting package	Fact Sheet – Monthly, T+20 Capital Account Statement – Monthly, T+ 30 Performance Estimate – Monthly, T+15 Financial Statements – Annual, T+90 K-1 – Annually, EO July Contract Note – At time of subscription
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Are the ILPA reporting templates utilized?	No
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Legal/Compliance

Is the Firm a Registered Investment Advisor or an Exempt Reporting Advisor?	Registered Investment Advisor
-----------------------------------------------------------------------------	-------------------------------

Chief Compliance Officer	Toula Bougiamas
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External compliance consultant	N/A
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Compliance Manual	Yes
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Code of Ethics	Yes
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Legal Counsel	Marisa Beeney
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Is the Firm or any key professional subject to any current material litigation proceedings?	No If yes, please specify: N/A
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Environmental, Social, and Governance (ESG) and Diversity, Equity, and Inclusion (DEI)

Diversity, Equity & Inclusion

Does the firm have a policy or initiative regarding diverse hiring practices? Yes

Diverse-, Women-, or Disabled-Owned (DWDO) Ownership > 50% No

DWDO Ownership Type Publicly traded

Environmental, Social & Governance

Does the firm maintain a firm-wide ESG, SRI, sustainability, and/or responsible investment policy? Yes. Blackstone believes that a key aspect of being a responsible investor is an evaluation of certain environmental, social, and governance components of their investments, and recognize the value such evaluation can provide. To that end, subject to the limitations set forth in BXCI's ESG Investing Policy (the "BXCI ESG Policy") and Blackstone's firmwide ESG policy, during the due diligence phase of an investment, investment teams within BXCI aim to consider material ESG factors that may impact investment performance to drive value.

Is the firm a signatory to UNPRI or other responsible investment bodies or standards? Yes, Blackstone is UN PRI signatory. Blackstone/BXCI also partners with the following organizations.

- Blackstone published its inaugural report aligned with the TCFD recommendations in 2023.
- BXCI is a member of the Executive Committee of the ESG Integrated Disclosure Project ("ESG IDP").
- BXCI is a member of ELFA
- The LSTA has a working group that includes members from Blackstone who focus on ESG considerations as part of the investment process. The LSTA ESG working group convenes regularly to discuss loan market improvements and challenges in the industry.

Does the firm employ full-time dedicated ESG professionals? Yes, led by Chair of ESG Jean Rogers and BXCI's Global Head of ESG Rita Mangalick. The Corporate ESG Team is overseen by Christine Anderson, Global Head of Corporate Affairs, and Matt Bucci, Managing Director and COO of Corporate Affairs

Who is responsible for the administering the ESG policy? BXCI's Global Head of ESG Rita Mangalick oversees ESG policy integration, reporting, engagement, and value creation initiatives within BXCI. The investment teams remain responsible for identifying ESG criteria in specific investments.

Does the Firm have an ESG committee? BXCI's Global Head of ESG, Rita Mangalick, leads ESG policy integration, reporting, engagement, and value creation. She is supported by a dedicated ESG team and an ESG Working Group that discusses topics like investments, investor requests, market trends, and

regulations. ESG decisions are made through internal communication and team consensus.

To what degree are ESG considerations a focus of the investment strategy?

BXCI aims to consider material ESG risks and opportunities during the diligence process, within the limits of BXCI's and Blackstone's ESG policies. The goal is to enhance the sustainability profile of investments to improve returns and drive value, when aligned with the investment strategy. ESG principles are integrated into the investment process, with approaches tailored to different strategies.

In Private Credit Strategies (PCS), where BXCI is often the sole or primary lender, the investment team considers material ESG factors during due diligence, using publicly available and borrower-provided information. Additional data or third-party consultants may be requested based on access. ESG findings are included in investment decisions.

For Liquid Credit Strategies (LCS), ESG analysis relies on public information due to tighter timelines and limited access to issuers. ESG considerations are documented by analysts, and an ESG scorecard is completed for each investment. BXCI also includes ESG language in CLOs and collects ESG data from CLO managers, planning to survey them annually.

Does the strategy utilize proprietary or external ESG analytical tools to guide investment decisions?

Blackstone calculates a proprietary ESG score. For private investments, they rely on publicly available information and information provided by the sponsor.

For public investment, Blackstone uses a third party data provider RepRisk as applicable as well as industry standard ESG questionnaires.

What methods does the strategy use to achieve ESG/Impact considerations?

In Private Credit Strategies (PCS), where BXCI is often the sole or primary lender, the investment team considers material ESG factors during due diligence, using publicly available and borrower-provided information. Additional data or third-party consultants may be requested based on access. ESG findings are included in investment decisions.

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Does the strategy define track ESG or impact KPIs for investments?

The Investment Committee may review documented ESG analysis and provide feedback or request further due diligence. If material ESG concerns arise, BXCI may take steps such as engaging specialist advisors, facilitating discussions with company management, or choosing not to invest. During the investment holding period, the team monitors ESG factors and updates the Investment Committee as needed. In Private Credit

Strategies (PCS), BXCI offers ESG-related expertise and guidance to portfolio companies. For Liquid Credit Strategies (LCS), ESG engagement is more limited due to tight timelines, with efforts focused on companies exposed to material ESG risks. BXCI also participates in industry associations to improve ESG disclosure.

Does the strategy provide reporting to investors that highlights ESG metrics of investments?

BXCI's ESG report provides updates regarding their ESG program firm-wide, and they provide ESG updates on their website.

Appendix A: Summary of Key Terms

Fund Summary

Fund Name:	Blackstone Multi-Asset Credit Fund LP
Partnership Domicile	Delaware
Fund Counsel	Kirkland & Ellis LLP
Auditor	Deloitte
Reporting Currency	USD

Strategy Summary

Strategy Description

BMAC is an open-end multi-asset credit fund that seeks to consistently deliver high income while sourcing relative value to deliver total return through credit selection, broad asset class capabilities, and asset allocation alpha.

The fund invests across both liquid and private credit, with target allocations of approximately 80% liquid and 20% private, with 70% corporates and 30% non-corporates. The average credit quality is expected to be BB-/B+.

The investment opportunity set and target allocations for BMAC are as follows:

- Corporate Credit – 45%
 - o Leveraged Loans
 - o High Yield
 - o Investment Grade
- Liquid Opportunistic Credit – 15%
- Structured Credit - 20%
 - o CLO Securities
 - o Real Estate Debt Securities
 - o Asset Backed Securities
- Private Credit 20%
 - o Senior Direct Lending
 - o Junior Debt
 - o Asset Based Lending
 - o Real Estate Lending
 - o Infrastructure Debt

BMAC retains flexibility in the Strategic Asset Allocation which may shift over time, Absent a major dislocation, the fund expects each asset class to fall within the following ranges:

- Liquid Credit: 15-35%
- Structured Credit: 10-30%
- Private Credit: 0-20%
- Opportunistic Credit: 5-25%

The fund seeks to outperform a 50/50 blended benchmark of high yield and leveraged loans by 200 bps while providing 10+% in unlevered yield.

The strategy aims to generate alpha primarily from its strategic asset allocation, tactical asset allocation, and security selection within each sector.

The three-portfolio manager team is responsible for portfolio construction and asset allocation with input from the Asset Allocation Team. Asset Class Leads then drive credit selection within their respective sectors of expertise.

Geography (% by region)	BMAC primarily invests within the United States.
Sector/Industry Focus	Agnostic within the broader asset allocation guardrails of the strategy.
Public/Private	Approximately 80% public / 20% private upon full ramp.
Target Return	+200 bps over 50%/50% High Yield/Leveraged Loans
Distributions	Current income available quarterly upon election.
Fund Leverage	BMAC will not utilize leverage to enhance returns but will retain flexibility to borrow as a portfolio management tool on a temporary basis (capped at 25% of NAV), including cash management, funding of investments and other operational needs.
Subscription Line (\$mm, provider, tenor)	Wells Fargo, 24-month facility term, \$100mm commitment size.
Target Fund Size /Hard Cap:	No target. BXCI believes that BMAC can continue to scale without negatively impacting the ability to achieve the strategy's target performance expectations, given the size and broad spectrum of the liquid, private, and structured credit markets across which BMAC invests.
Target Fundraise Timing	N/A
GP Commit	Across the strategies in which BMAC invests, Blackstone has committed substantial capital to senior direct lending (lesser of 2% or \$100 million to BXD), junior debt (at least 2% of aggregate capital commitments to COF IV), real estate debt (minimum of \$50 million to BREDS V), infrastructure debt (lesser of 2% or \$130 million to BGREEN III), and opportunistic credit (at least 2% of aggregate capital commitments to COCA II / CSF III).

General Partner Summary

Firm/Headquarters:	Blackstone Credit & Insurance, subsidiary of Blackstone, Inc. / New York, NY
General Partner	Blackstone Liquid Credit Strategies LLC
Firm Ownership	Publicly traded
Firm/Team Leadership	<p>Blackstone Inc. is led day-to-day by Chairman and CEO Steve Schwarzman, alongside President and COO Jon Gray. Schwarzman co-founded the firm in 1985, while Jon Gray joined the firm in 1992 and served as Global Head of Real Estate from 2005-2018.</p> <p>Gilles Dellaert, formerly Global Head of Blackstone Insurance Solutions, serves as Global Head of BXCI, and leads business' operations. Dwight Scott, formerly Global Head of Blackstone Credit (BXC), serves as Chairman of BXCI. Dellaert joined Blackstone in 2020, and previously worked at Global Atlantic Financial Group, Goldman Sachs, and J.P. Morgan. Scott joined Blackstone in 2005 and prior served as CFO of El Paso Corporation.</p> <p>Key BMAC decision makers include:</p> <ul style="list-style-type: none">- Michael Zawadzki – CIO BXCI- Dan Oneglia – CIO Liquid Credit- Dan McMullen – Head of Loan Strategies
Registered w/ US SEC	Blackstone is a public company listed on the New York Stock Exchange and as such is subject to the Securities Exchange Act of 1934, as amended, and accordingly files periodic reports with the SEC. Blackstone is also subject to the Sarbanes-Oxley Act of 2002. Additionally, investment advisers controlled by Blackstone are registered with the SEC under the Investment Advisers Act of 1940.
Regulatory/Legal (any audits; outstanding litigation)	Blackstone Credit & Insurance may from time to time be involved in litigation and investigations relating to the conduct of its business. Blackstone Credit & Insurance is also subject to extensive regulation, which, from time to time, may result in regulatory requests for information as well as informal or formal investigations by the SEC and other regulatory authorities, with which Blackstone routinely cooperates. Blackstone Credit & Insurance is not currently subject to any pending judicial, administrative, regulatory, or arbitration matters that are expected to have a material impact on Blackstone Credit & Insurance.
Fees	
Fund Term	Evergreen
Subscriptions/Withdrawals	Subscriptions: Monthly Withdrawals: Quarterly, subject to 25% quarterly investor limit
Management Fee (tiered pricing)	Founders Fee: First \$100mm: 65 bps

Next \$150mm: 55 bps

Thereafter: 45 bps

2 yr hard lock

Standard Fee w/ Lockup:

First \$100mm: 75 bps

Next \$150mm: 65 bps

Thereafter: 55 bps

2 yr hard lock

Standard Fee:

First \$100mm: 85 bps

Next \$150mm: 75 bps

Thereafter: 65 bps

1 yr soft lock (3%)

Appendix B: Key Biographies

Senior Investment Professional Biographies

Michael Zawadzki <i>Senior Managing Director CIO of BXCI</i>	Michael Zawadzki is the Global Chief Investment Officer for Blackstone Credit and Insurance (BXCI) based in New York. Mr. Zawadzki serves as a Portfolio Manager for the Blackstone Private Credit Fund (BCRED), Blackstone Senior Direct Lending Fund (BXD), Blackstone Green Private Credit Fund III (BGREEN III), and Blackstone Multi-Asset Credit Fund (BMAC). Prior to joining Blackstone in 2006, Mr. Zawadzki was with Citigroup Private Equity. Before that, he worked in the investment banking division of Salomon Smith Barney.
Dan Oneglia <i>Senior Managing Director CIO of Liquid Credit Strategies</i>	Daniel Oneglia is a Senior Managing Director, the Global CIO of Liquid Credit Strategies, and leads liquid asset allocation for Blackstone Credit Insurance (BXCI) based in New York. Before joining Blackstone, in 2019, he spent 20 years at Goldman Sachs where he was a partner and led the Americas Multi-Strategy Investment (MSI) team within the Special Situations Group (SSG).
Dan McMullen <i>Head of Loan Strategies</i>	Daniel McMullen is a Senior Managing Director and the Head of Loan Strategies for Liquid Credit Strategies in Blackstone Credit and Insurance (BXCI) based in New York. Mr. McMullen is also Senior Portfolio Manager for multi-strategy separately managed accounts, commingled funds, and exchanged traded funds. Mr. McMullen sits on the Global Syndicated Credit and Global Structured Credit & CLO Origination Investment Committees. Prior to joining Blackstone in 2002, Mr. McMullen worked at CIBC World Markets, most recently as a Director and Senior Investment Analyst for the structured investment vehicles managed by Trimaran Advisors, L.L.C. Prior to that, Mr. McMullen was a Director in the Investment Banking Group at CIBC, specializing in the aerospace and defense industries. Before joining CIBC in 1996, Mr. McMullen was employed at The Chase Manhattan Bank where he worked in the Corporate Finance Healthcare Group.
Paul Harrison <i>Senior Managing Director</i>	Paul Harrison is a Senior Managing Director in Blackstone Credit and Insurance (BXCI) based in San Francisco. Mr. Harrison is involved in investment strategy and the assessment of credit risk of Corporate Bond Strategies' (BCBS) portfolios. Prior to Blackstone's acquisition of DCI in 2020, Mr. Harrison was the Chief Investment Officer for DCI. Prior to that Mr. Harrison was a Managing Director at BlackRock, Inc., a position he formerly held at Barclays Global Investors before its acquisition by Blackrock in 2009. At Blackrock, he served as the Chief Investment Officer and Head of Research for the firm's systematic Global Macro team and held a variety of firm-wide leadership roles. Prior to BlackRock, Mr. Harrison ran the Capital Markets research team at the Board of Governors of the Federal Reserve System, where he helped lead the analysis and communication of market and financial conditions to the Board.
David Watters <i>Senior Managing Director</i>	David Watters is a Senior Managing Director and leads insurance and multi-asset investment grade asset allocation for Blackstone Credit and Insurance (BXCI) based in New York. Prior to joining Blackstone in January 2021, Mr. Watters was a Managing Director at HC2 Holdings, Inc., a diversified holding company. He was responsible for overall investment strategy while investing across multiple asset classes for HC2's insurance subsidiary. He previously worked at BTG Pactual Asset Management, HRG Group, Inc., and Harbinger Capital Partners in credit investing roles.
Eugene Lee <i>Managing Director</i>	Eugene Lee is a Managing Director in Blackstone Credit and Insurance (BXCI) based in New York. Mr. Lee leads portfolio management and asset allocation for BXCI's multi-asset credit strategies. Before joining Blackstone, Mr. Lee worked at Goldman Sachs within the Special Situations Group as a member of the Multi-Strategy and Alternative Energy Investing teams. In this capacity, Mr. Lee invested opportunistically across a diverse set of asset classes and industries within North and South America.
Adam Dwinells <i>Senior Managing Director High Yield and IG Bonds</i>	Adam Dwinells is a Senior Managing Director and the Head of Corporate Bond Strategies (BCBS) in Blackstone Credit and Insurance (BXCI) based in San Francisco. BCBS manages high yield and investment grade bond strategies. Mr. Dwinells is also the Head of Portfolio Strategy for Liquid Credit Strategies (LCS) in BXCI. In this role Mr. Dwinells is focused on coordinating portfolio management activity across LCS. Prior to Blackstone's acquisition of DCI in 2020, Mr. Dwinells was Head of Portfolio

Management at DCI where he was involved with portfolio management, strategy execution and investment technology. Prior to that, Mr. Dwinells was a Vice President at J.P. Morgan.

Mike Wiebolt
*Senior Managing Director
Real Estate Debt*

Mike Wiebolt is the Global Co-Chief Investment Officer and Global Head of Securities in Blackstone Real Estate Debt Strategies (“BREDS”), which invests in public and private real estate credit globally on behalf of a variety of institutional, public and insurance capital vehicles. Before joining Blackstone, he worked at Goldman, Sachs & Co where he was most recently responsible for trading high yield CMBS and CRE CDOs.

Brad Marshall
*Senior Managing Director
Senior Direct Lending*

Brad Marshall is the Global Head of Private Credit Strategies, Chairman and Co-CEO of both the Blackstone Private Credit Fund (BCRED) and the Blackstone Secured Lending Fund (BXSL) in Blackstone Credit and Insurance (BXCI) based in New York. Prior to joining Blackstone in 2005, Mr. Marshall worked in various roles at RBC, including fixed income research and business development within RBC’s private equity funds effort. Prior to RBC, Mr. Marshall helped develop a private equity funds business for TAL Global, a Canadian asset management division of CIBC, and prior to that, he co-founded a microchip verification software company where he served as Chief Financial Officer.

Mike Sobol
*Senior Managing Director
CLO Securities*

Michael Sobol is a Senior Managing Director and the Head of CLO Investing for Blackstone Credit and Insurance (BXCI) based in New York. Prior to joining Blackstone in 2018, Mr. Sobol worked at Axonic Capital, most recently as a Portfolio Manager for their hedge fund, long-only and separately accounts. Prior to that, Mr. Sobol was a Managing Director at Cantor Fitzgerald, where he was head of the firm’s CLO trading desk. Before joining Cantor Fitzgerald in 2009, Mr. Sobol was a Vice President at Agamas Capital responsible for CDO/CLO investing, and prior to Agamas Mr. Sobol was a Vice President at Ivy Asset Management.

Michael Carruthers
*Senior Managing Director
European Direct Lending*

Mike Carruthers is a Senior Managing Director and the European Head of Private Credit for Blackstone Credit and Insurance (BXCI) based in London. Mr. Carruthers is involved in the origination, researching, structuring, and managing of investments. Mr. Carruthers re-joined the London team in 2022 after having previously relocated to Toronto, Canada to focus on credit origination efforts in Canada and the Midwest. Mr. Carruthers previously worked in the London office from 2006 – 2019. Prior to joining Blackstone, Mr. Carruthers worked in the investment banking division of Credit Suisse.

Rob Horn
*Senior Managing Director
Asset Based Finance*

Rob Horn is the Global Head of Infrastructure and Asset Based Credit in Blackstone Credit and Insurance (BXCI), which comprises the firm’s activities in infrastructure credit, energy transition, and asset-based finance. Mr. Horn joined Blackstone in 2005. Prior to joining Blackstone, Mr. Horn worked in Credit Suisse’s Global Energy Group, where he advised on high yield financings and merger and acquisition assignments for companies in the power and utilities sector.

Robert Petrini
*Senior Managing Director
Junior Direct Lending*

Robert Petrini is a Senior Managing Director and the Global Chief Investment Officer for Private Credit and Joint Portfolio Manager for the Capital Opportunities strategy for in Blackstone Credit and Insurance (BXCI) based in New York. Before joining Blackstone in 2005, Mr. Petrini was a Principal of DLJ Investment Partners (“DLJIP”), the \$1.6 billion mezzanine fund of CSFB’s Alternative Capital Division. Prior to that, Mr. Petrini was a member of DLJ’s Leveraged Finance Group.

Valerie Kritsberg
*Senior Managing Director
Capital Markets & Trading*

Valerie Kritsberg is a Senior Managing Director and the Global Head of Capital Markets and Trading for Blackstone Credit and Insurance (BXCI) based in New York. Ms. Kritsberg leads BXCI’s capital markets origination and sourcing across both liquid and private strategies. Her team acts as a single point of contact within BXCI for banks, broker dealers and other key market participants. Since joining Blackstone, Ms. Kritsberg has focused on the group’s public and private market investments including distressed and special situation investments across multiple industries. Prior to joining Blackstone in 2005, Ms. Kritsberg worked in Credit Suisse First Boston’s Global Energy Investment Banking Group where she worked on equity, leveraged finance and M&A transactions for a number of corporate and private equity clients.

Victoria Chant
Senior Managing Director

Victoria Chant is a Senior Managing Director and the Global Head of Capital Formation for Blackstone Credit and Insurance (BXCI) based in New York. The Capital Formation team creates structured

<i>Capital Formation</i>	solutions for BXCI. Before joining Blackstone in 2022, Ms. Chant was a Managing Director at Citi in the Financing & Securitization group, responsible for the Credit Financing business. Ms. Chant spent 17 years at Citi, having started on the TRS desk.
Marisa Beeney <i>Senior Managing Director</i> <i>General Counsel</i>	Marisa Beeney is the General Counsel of Blackstone Credit in Blackstone Credit and Insurance (BXCI) based in New York. Ms. Beeney oversees legal and compliance matters relating to credit focused businesses. Ms. Beeney began her career at Latham & Watkins working primarily on project finance and development transactions, as well as other structured credit products.
Will Skinner CFO	Will Skinner is the Chief Financial Officer for Blackstone Credit and Insurance (BXCI) based in New York. Mr. Skinner joined Blackstone in 2013 and previously served as Global Chief Operating Officer of Blackstone Real Estate Debt Strategies. Mr. Skinner has also worked for Blackstone in London where he served as Head of European Capital Markets. Prior to joining Blackstone, Mr. Skinner worked at Goldman Sachs where he was an Associate in the Real Estate Investment Banking Group.

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Information contained in this document may include confidential, trade secret and/or proprietary information of Callan and the client. It is incumbent upon the user to maintain such information in strict confidence. Neither this document nor any specific information contained herein is to be used other than by the intended recipient for its intended purpose.

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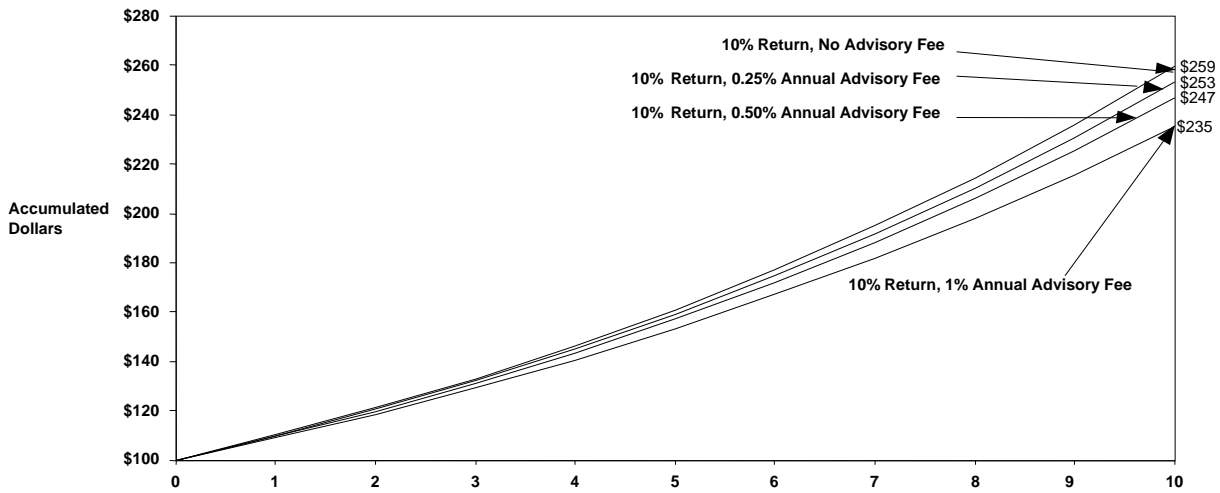
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The preceding report has been prepared for the exclusive use of the client. Unless otherwise noted, performance returns contained in this report do not reflect the deduction of investment advisory fees. The returns in this report will be reduced by the advisory fees and any other expenses incurred in the management of an investment account. The investment advisory fees applicable to the advisors listed in this report are described in Part II of each advisor's form ADV.

The following graphical and tabular example illustrates the cumulative effect of investment advisory fees on a \$100 investment growing at 10% over ten years. Fees are assumed to be paid monthly.

In addition to asset-based investment advisory fees, some strategies may include performance-based fees ("carry") that may further lower the returns realized by investors. These performance-based fees can be substantial, are most prevalent in "Alternative" strategies like hedge funds and many types of private markets, but can occur elsewhere. The effect of performance-based fees are dependent on investment outcomes and are not included in the example below.

The Cumulative Effect of Advisory Fees



Accumulated Dollars at End of Years

	1	2	3	4	5	6	7	8	9	10
No Fee	110.0	121.0	133.1	146.4	161.1	177.2	194.9	214.4	235.8	259.4
25 Basis Points	109.7	120.4	132.1	145.0	159.1	174.5	191.5	210.1	230.6	253.0
50 Basis Points	109.5	119.8	131.1	143.5	157.1	172.0	188.2	206.0	225.5	246.8
100 Basis Points	108.9	118.6	129.2	140.7	153.3	166.9	181.8	198.0	215.6	234.9

10% Annual Return Compounded Monthly, Annual Fees Paid Monthly.

As indicated below, one or more of the candidates listed in this report may, itself, be a client of Callan as of the date of the most recent quarter end. These clients pay Callan for educational, software, database and/or reporting products and services. Given the complex corporate and organizational ownership structures of investment management firms and/or trust/custody or securities lending firms, the parent and affiliate firm relationships are not listed here.

The client list below may include names of parent companies who allow their affiliates to use some of the services included in their client contract (e.g., educational services including published research and attendance at conferences and workshops). Affiliates will not be listed if they don't separately contract with Callan. Parent company ownership of the firms included in this report and any relationship with Callan can be provided at your request. Because Callan's client list of investment managers changes periodically, the above information may not reflect recent changes. Clients are welcome to request a complete list of Callan's investment manager clients at any time.

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Firm	Is an Investment Manager Client of Callan*	Is Not an Investment Manager Client of Callan*
Blackstone	X	

**Based upon Callan manager clients as of the most recent quarter end.*

Speaker**Dan Oneglia**

*Global CIO of Liquid Credit Strategies &
Senior Portfolio Manager, BMAC*

**Bio**

Daniel Oneglia is a Senior Managing Director, the Global CIO of Liquid Credit Strategies, and leads liquid asset allocation for Blackstone Credit Insurance (BXCI) based in New York.

Before joining Blackstone, in 2019, he spent 20 years at Goldman Sachs where he was a partner and led the Americas Multi-Strategy Investment (MSI) team within the Special Situations Group (SSG).

Mr. Oneglia graduated from Princeton University with a B.A. in History and a Certificate in Latin American Studies. Mr. Oneglia serves as the Chair of the Board of Trustees for The New York Foundling.

Eugene Lee

Head of BMAC Asset Allocation



Eugene Lee is a Managing Director in Blackstone Credit and Insurance (BXCI) based in New York. Mr. Lee leads portfolio management and asset allocation for BXCI's multi-asset credit strategies.

Before joining Blackstone, Mr. Lee worked at Goldman Sachs within the Special Situations Group as a member of the Multi-Strategy and Alternative Energy Investing teams. In this capacity, Mr. Lee invested opportunistically across a diverse set of asset classes and industries within North and South America.

Mr. Lee graduated from Harvard University with an AB/SM in Economics and Applied Mathematics and studied violin performance at the New England Conservatory. Mr. Lee serves on the board of directors of Delaware Basin Investment Group and the Harvard-Radcliffe Orchestra Foundation.

Tao Bu

NHRS Senior Relationship Manager



Tao Bu is a Managing Director with Blackstone Credit. Since joining Blackstone Credit, then known as GSO Capital Partners, in 2011, Ms. Bu has focused on marketing and client relations.

Prior to joining Blackstone, Ms. Bu worked as an associate in the Energy Group and subsequently the Investment Banking Executive Team at Lehman Brothers / Barclays Capital.

Ms. Bu received a BBA in Finance and Business Law and a minor in French Studies and graduated with High Distinction from Emory University's Goizueta Business School, where she was also a Woodruff Scholar.

Blackstone



NHRS
New Hampshire Retirement System

HIGHLY CONFIDENTIAL & TRADE SECRET

FOR THE EXCLUSIVE USE OF NHRS

NOT FOR FUTURE DISTRIBUTION

THIS IS A MARKETING COMMUNICATION

Multi-Asset Credit Partnership

DECEMBER 2024

For the exclusive use of New Hampshire Retirement System ("NHRS").

All data is as of September 30, 2024, unless otherwise noted. There can be no assurance that BMAC elects to participate in any or all of the investments that are allocated to the underlying strategies. Please see the "Risk and Reward Disclosure" on slides 21 and 22 for an important summary of the rewards mentioned herein and associated risks of an investment in the Fund.

Blackstone Multi-Asset Credit ("BMAC")

Blackstone is honored to present a multi-asset credit partnership to support NHRS' investment objectives

- BMAC offers NHRS **immediate deployment** across a full spectrum of corporate and real asset private and liquid assets
- Diversified and dynamic strategy enables NHRS to capture the **best relative value opportunities** across credit markets in an unconstrained format

BXCI's Proven Platform


- ✓ \$432B credit platform spanning **liquid, private, and structured credit**⁽¹⁾
- ✓ ~20-year investment history
- ✓ 15 **dedicated strategies** and well-established relative value framework
- ✓ **High-touch partnership** with regular access to BX leadership and insights

Terms are subject to change and qualified in their entirety by reference to the Fund's governing documents, as the same may be amended and/or restated from time to time. (1) AUM is a combined figure inclusive of Blackstone Credit & Insurance "BXCI" and Real Estate Debt businesses. As of September 30, 2024.

BMAC seeks to capitalize on Blackstone’s premier position and the attractive opportunity across credit


- 01

Blackstone Edge
scale is a critical success factor




- 02

Broad Set of Asset Classes
optimize for long-term risk/reward



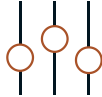
- 03

Credit Selection
outperform within asset classes



- 04

Dynamic Allocation
capitalize on shifting relative value



Note: See important disclosure information. Diversification does not ensure a profit or protect against losses. There can be no assurance that any of the downside control features will be successful. Capital is at risk and investors may not get back the amount originally invested.

World's largest alternative asset manager⁽¹⁾

\$1.1T

assets under management

39yr

investment record

Credit & Insurance

\$355B

One of the largest credit managers⁽²⁾

Private Equity

\$345B

Largest private equity platform⁽³⁾

Real Estate

\$325B

Largest commercial real estate owner⁽⁴⁾

Multi-Asset Investing

\$83B

Largest discretionary allocator to hedge funds⁽⁵⁾

Note: Please refer to Additional Endnotes in the Important Disclosure Information section of this presentation for all explanatory endnotes referenced on this page.

Deep, longstanding capabilities across the credit spectrum

Infrastructure & Asset Based Credit⁽²⁾

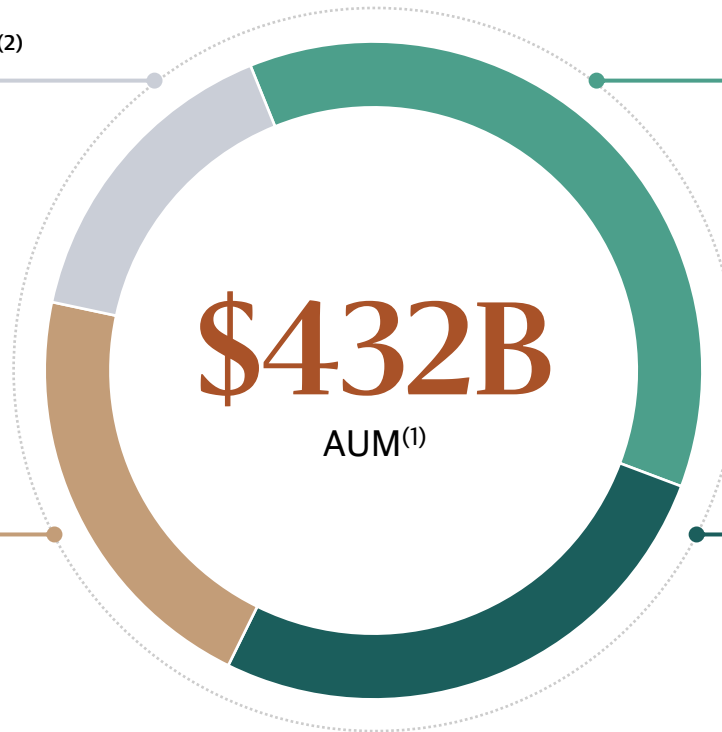
\$83B

- Infrastructure Debt
- Asset Based Lending
- Sustainable Resources

Real Estate Credit

\$77B

- Real Estate Lending
- Real Estate Debt Securities



Private Corporate Credit⁽³⁾

\$161B

- Senior Direct Lending
- Opportunistic Credit

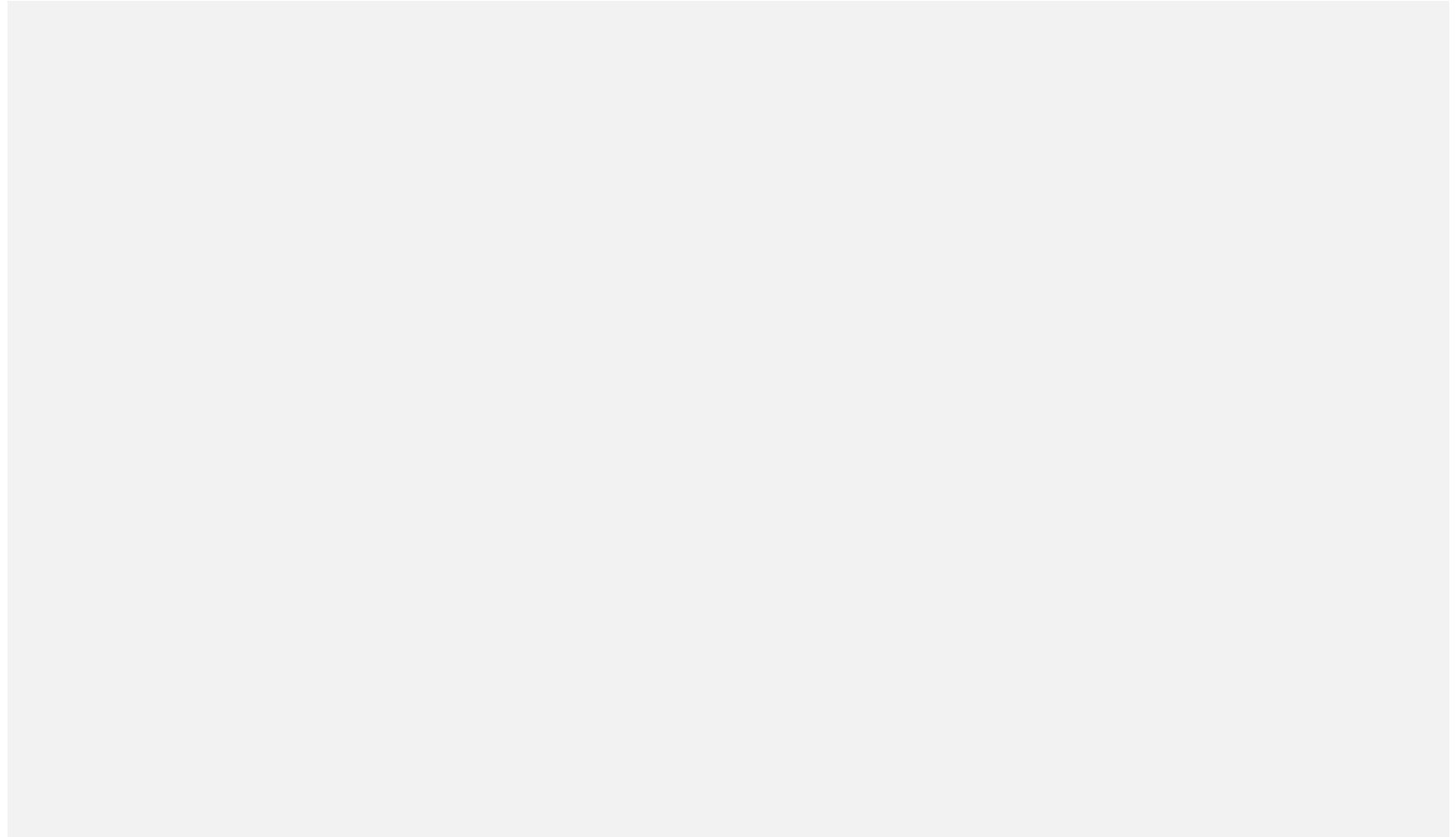
Liquid Corporate Credit

\$111B

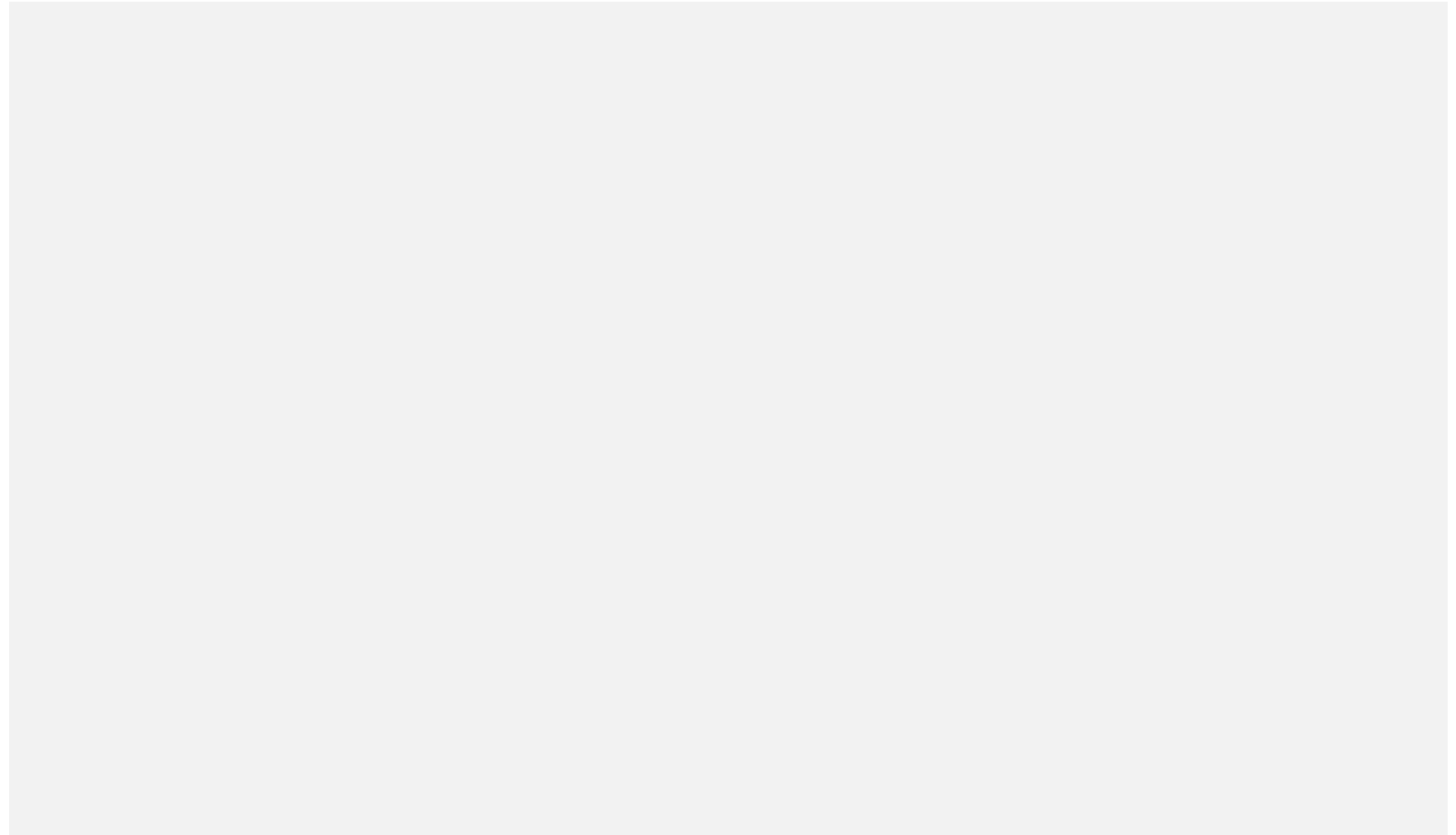
- Investment Grade
- High Yield
- Leveraged Loans
- CLO Debt / Equity

Note: There can be no assurance that any Blackstone fund or investment will achieve its objectives or avoid substantial losses. See "Important Disclosure Information. Please refer to Endnotes in the Important Disclosure Information section for all explanatory endnotes referenced on this page.

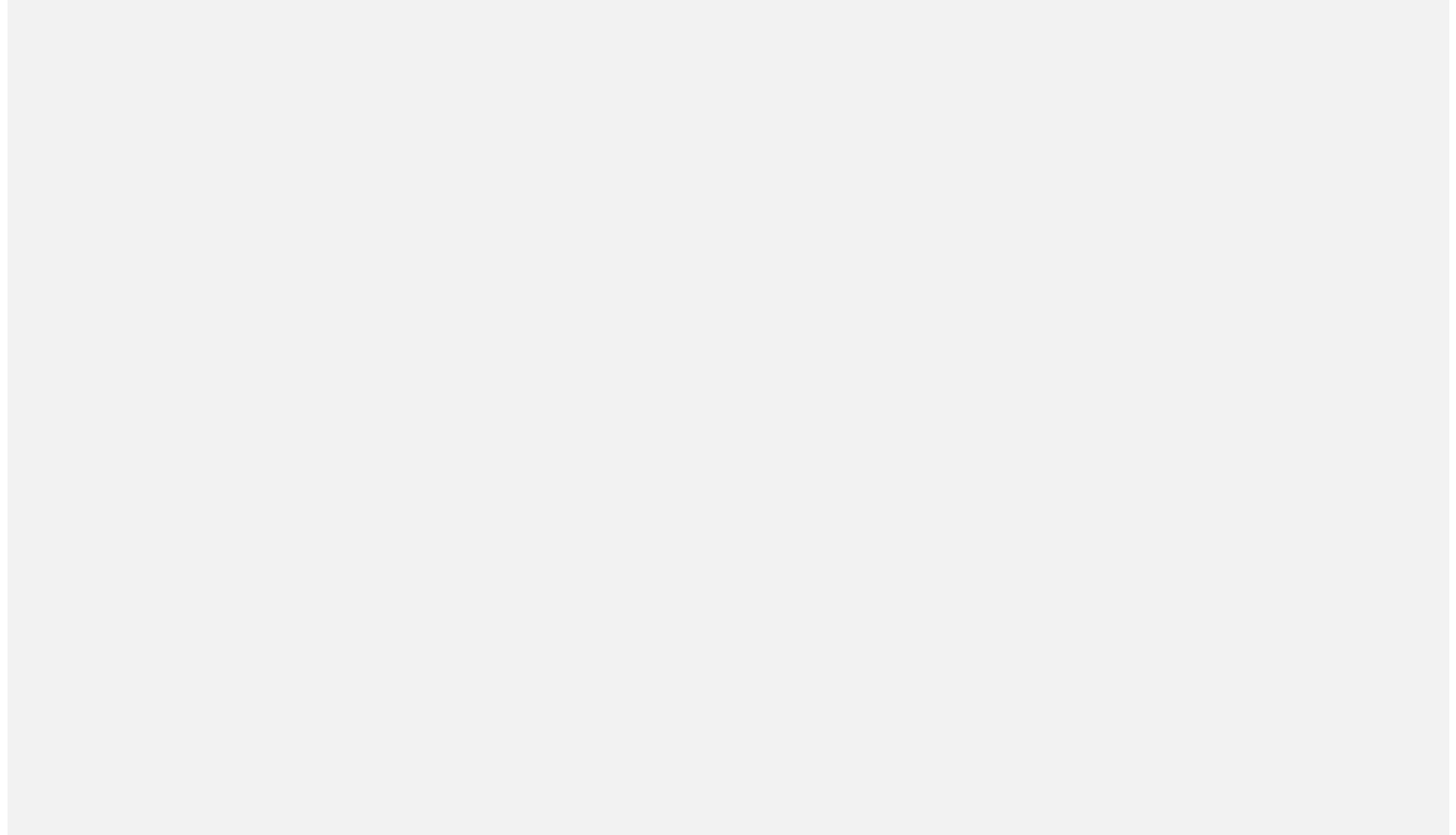
Diversified and dynamic strategy designed to outperform traditional credit



BMAC can enhance returns and lower volatility relative to traditional credit⁽¹⁾

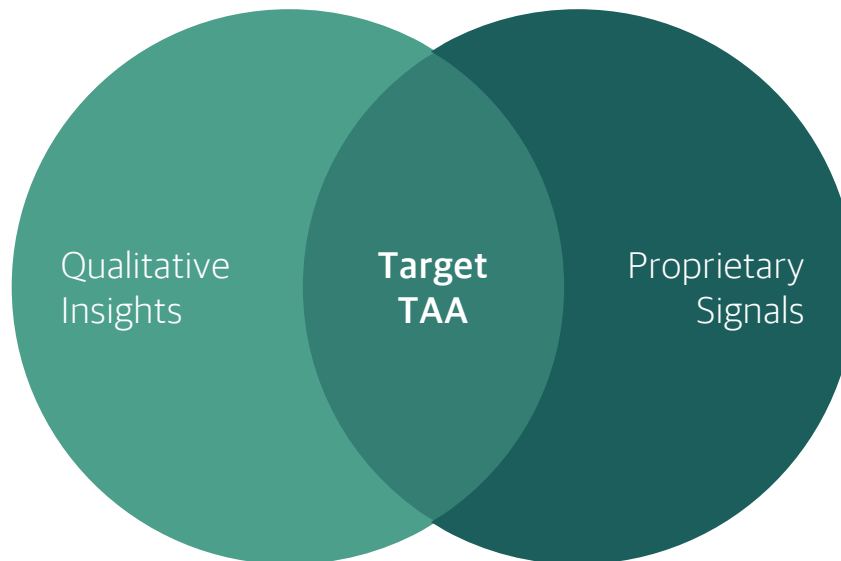


BMAC leverages entire Blackstone Credit & Insurance franchise to deliver diversified portfolio with a history of avoiding loss



Proprietary signals and real-time insights inform tactical “tilts” relative to SAA baseline

Real-time macro / market views of BX Investment Strategists and Asset Class Leads via monthly Credit Markets Forum⁽¹⁾



1. Relative Value

- Evaluates current opportunity relative to historical performance within each asset class
- Compares variances from norm across asset classes to “force rank” opportunities

2. Market Technicals

- Evaluates asset class supply / demand conditions that may drive spread movements
- Factors include new issue supply, fund flows, and trading dynamics

3. Macro

- Proprietary leading indicators we believe drive spread direction across asset classes
- Key indicators include business activity, consumer activity, housing, and rates

Note: See “Important Disclosure Information”, including “Opinions” and “Trends”.

(1) Subject to Blackstone’s policies and procedures regarding information walls and the management of conflicts of interest.

Active focus on monitoring and mitigating risks, supported by cross-platform tools, enhances portfolio management

Daily Focus Areas



Liquidity Management



Mitigation of Credit Risk



Duration Management

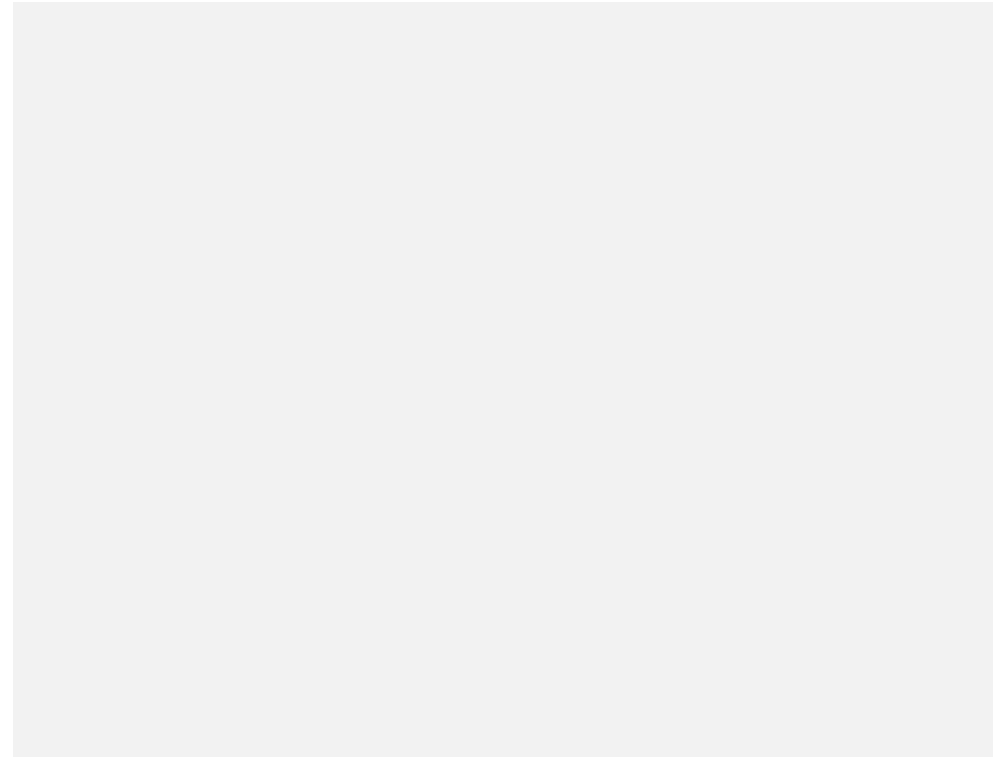


Portfolio Diversification



Risk Analytics

PM Dashboard provides **real-time, detailed** view of fund risk metrics...



...allowing the team to seek to prioritize return targets and actively manage exposure

Note: For illustrative purposes only. See "Diversification" and "Risk management and portfolio optimization" on slide 21.

Deep bench of investment expertise and knowledge integration

BMAC Portfolio Managers

Ultimate decision authority for BMAC portfolio construction and asset allocation



Michael Zawadzki
CIO, BXCI



Dan Oneglia
CIO, Liquid Credit Strategies



Dan McMullen
Head of Loan Strategies



Eugene Lee
Head of BMAC AA



Tao Bu
Senior Relationship Manager

Asset Allocation Lead Relationship Lead

Asset Allocation Team

Manage inputs for MAC quantitative and qualitative relative value framework

Paul Harrison
Senior Managing Director

David Watters
Senior Managing Director

Asset Class Leads

Source and underwrite individual credits for MAC portfolio inclusion

Adam Dwinells
High Yield and Investment Grade Bonds

Mike Wiebolt
Real Estate Debt

Brad Marshall
Senior Direct Lending

Mike Sobol
CLO Securities

Michael Carruthers
European Direct Lending

Rob Horn
Asset Based Finance

Robert Petrini
Mezzanine Direct Lending

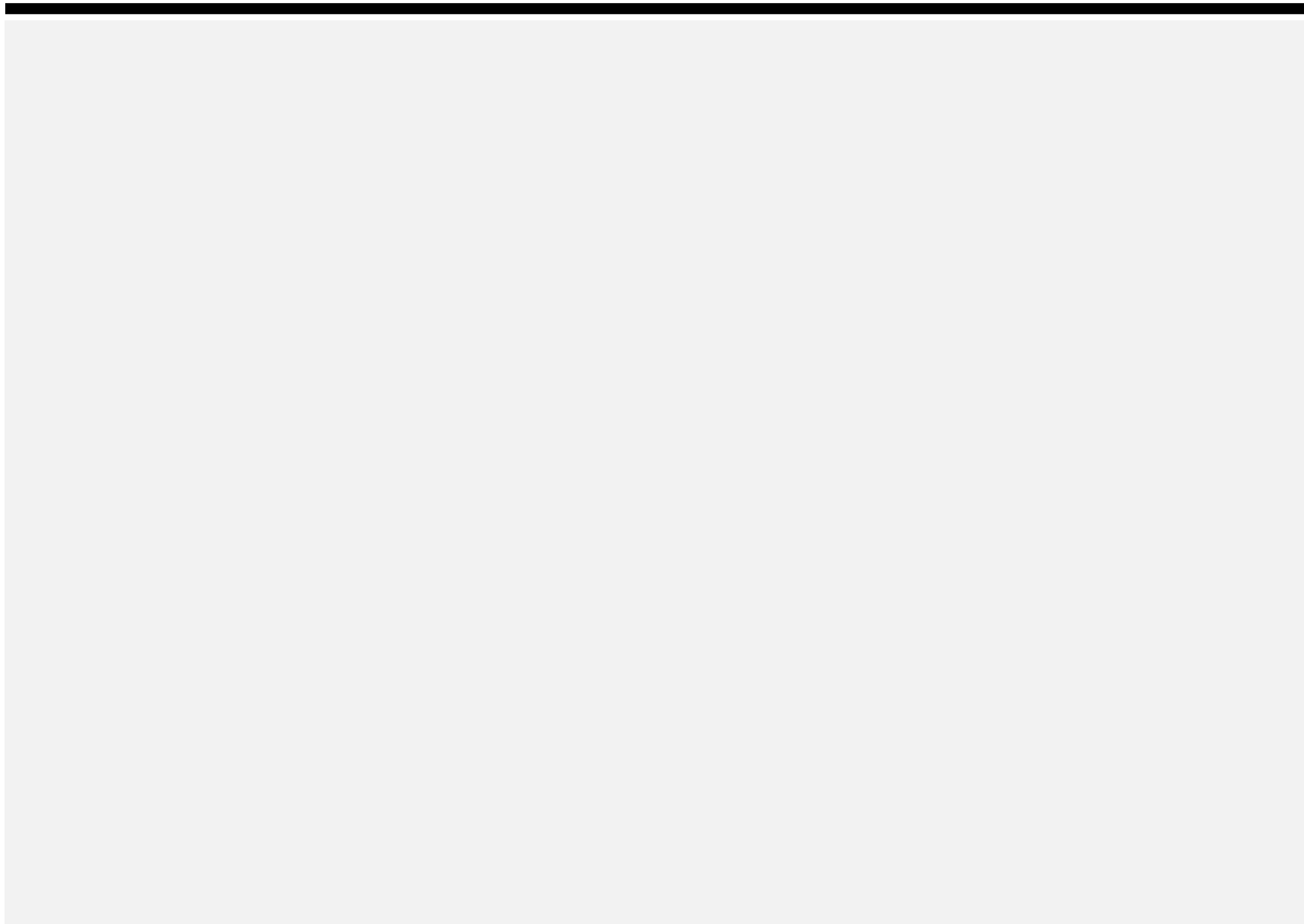
Valerie Kritsberg
Capital Markets & Trading

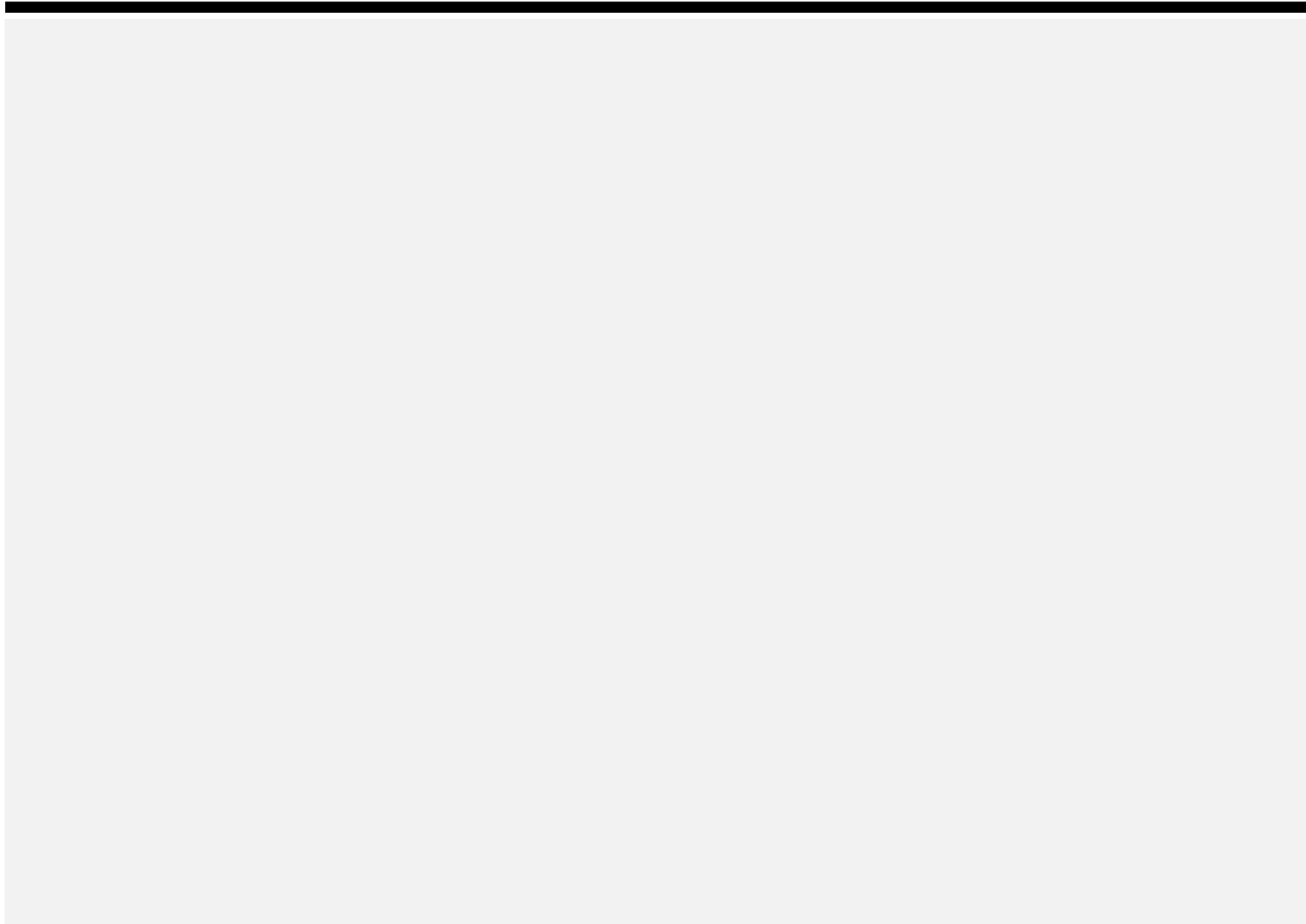
Victoria Chant
Capital Formation

50+ Blackstone Partners contribute to BMAC's success & have worked together for an average of ~10 years

Appendix

I. Performance and Portfolio Characteristics





II. Premier Liquid and Private Credit Franchises

BMAC benefits from Blackstone's scale and long history of outperformance in liquid credit

Leveraged Loans

\$60B
AUM

26yr
track record

CLO Securities

\$16B
AUM

15yr
track record

HY / IG Corporate Bonds

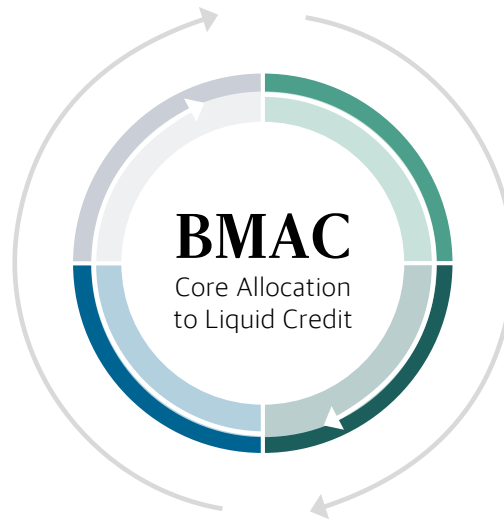
\$31B
AUM

18yr
track record

Real Asset Securities

\$38B
AUM

14yr
track record



Note: **Past performance does not predict future returns.** There can be no assurance that any Blackstone fund or investment will achieve its objectives or avoid substantial losses. See Endnotes and "Important Disclosure Information," including "Opinions" and "Performance Calculations".

BMAC benefits from BX's access to large, privately originated opportunities, brand reputation, and market incumbency

Senior Direct Lending

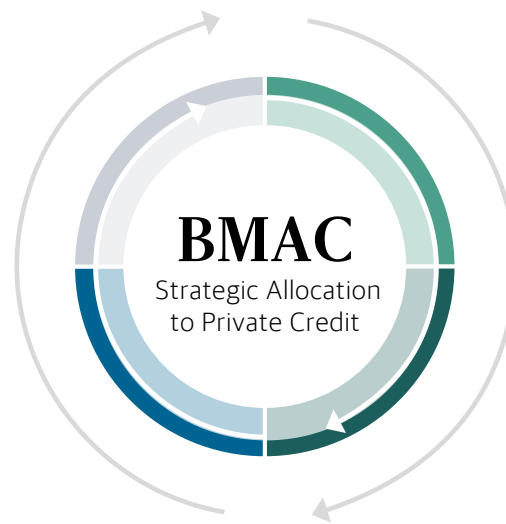
\$124B
AUM

18yr
track record

Junior Direct Lending

\$15B
AUM⁽¹⁾

17yr
track record



Asset Based Finance & Infrastructure Debt

\$83B
AUM

10yr
track record

Real Estate Lending

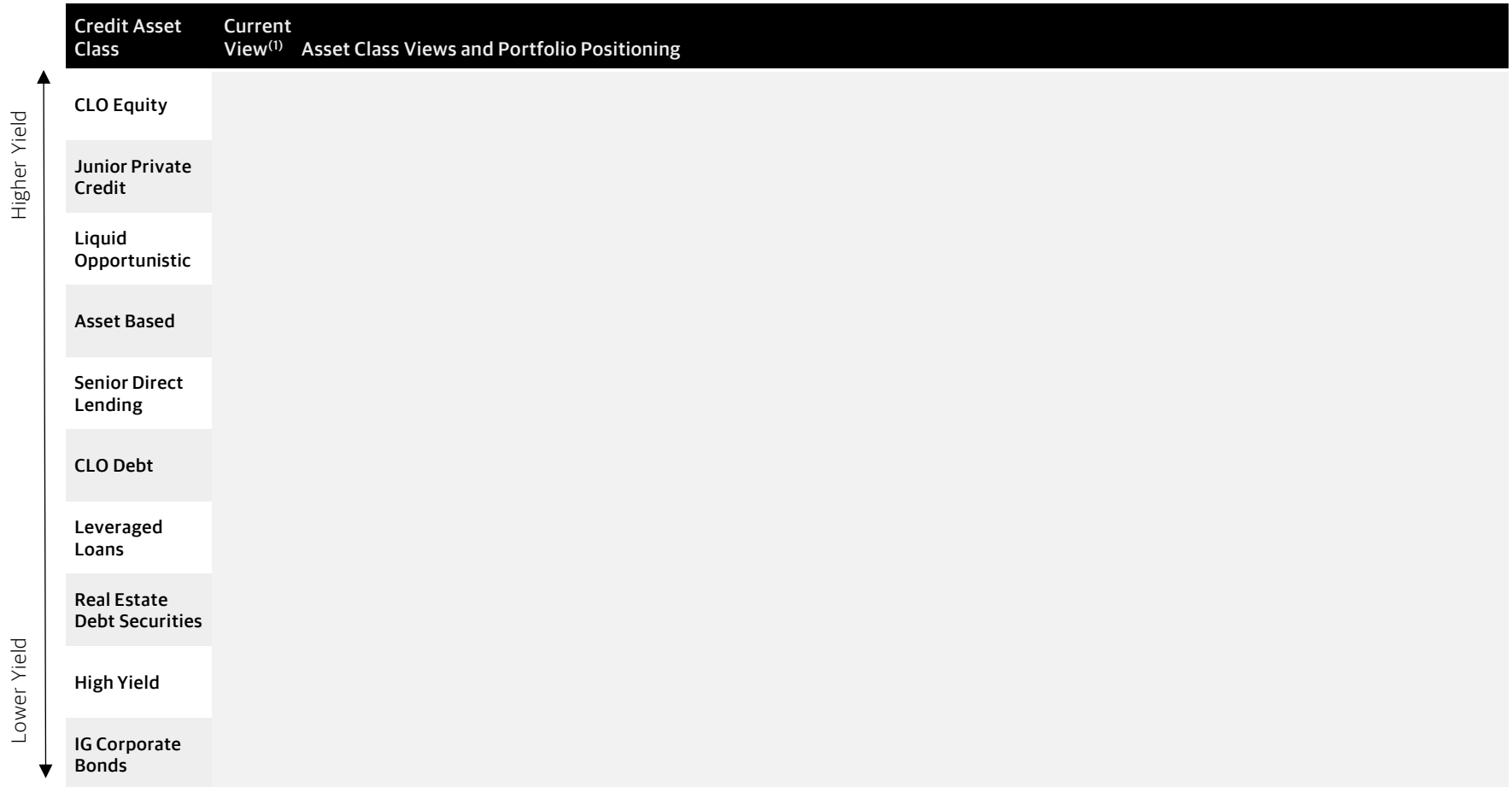
\$41B
AUM⁽²⁾

14yr
track record

Note: **Past Performance does not predict future returns.** There can be no assurance that any Blackstone fund or investment will achieve its objectives or avoid substantial losses. See Endnotes and "Important Disclosure Information," including "Performance Calculations".

III. CMF Takeaways (November)

-  Shallower easing cycle priced in entering 2025
-  Spreads could remain tight with soft landing as base case
-  Excess return available in structured and private credit
-  Large uptick in M&A anticipated



Note: See "Important Disclosure Information", including "Opinions" and "Trends."
 (1) November 2024 CMF view.

IV. Risk Factors, Endnotes and Important Disclosure Information

Set out below is a summary of the rewards and associated risks of an investment in the Fund. This summary does not purport to be a comprehensive statement of all such rewards and risks and investors should refer to the private placement memorandum of the Fund before making a final investment decision. Please see the "Important Disclosure Information" section.

Rewards	Risks
<p>Awards. This document refers to awards and rankings issued to Blackstone, our investments and/or our investment professionals.</p>	<p>Awards. Any awards or rankings referred to are provided solely for informational purposes and should not be construed as or relied upon as an indication of future performance or activity.</p>
<p>Blackstone and BXCI's Scale and Expertise. Blackstone's brand, operational expertise and market positioning coupled with BXCI's powerful networks and deep in-house sector expertise with Multi-Asset Credit strategies means that we can be well positioned as a partner of choice and aim to enhance value for our investors and portfolio companies.</p>	<p>Blackstone and BXCI's Scale and Expertise. There is no assurance that any Blackstone product, investment or portfolio company will achieve their objectives or avoid significant losses. Sharing of expertise is subject to Blackstone's policies and procedures regarding the management of conflicts of interest and information walls. The activity of identifying, completing and realizing attractive investments is highly competitive, and involves a high degree of uncertainty. There can be no assurance that the Fund will be able to locate and consummate investments, or fully invest its committed capital, that satisfy its objectives.</p>
<p>Disciplined Investment Process, Pipeline and Dynamic Allocation. Our portfolio is not dependent on federal or local governments for deal flow, given our focus on a wide product slate covering many European sponsors and advisors. The material refers to indicative investments in the BMAC pipeline, illustrating our outlook on potentially beneficial investment opportunities.</p>	<p>Disciplined Investment Process, Pipeline and Dynamic Allocation. There is no assurance that current expectations for the portfolio will hold, that BMAC or any of its investments will meet their objectives or avoid substantial losses. Pipeline estimations are inherently uncertain and transactions, whether committed or pending, may not successfully close as expected or at all.</p>
<p>Diversification. The Fund is Blackstone's dedicated Multi-Asset Credit platform and its portfolio is diversified primarily across companies in our targeted sectors and geographies.</p>	<p>Diversification. Diversification does not ensure a profit or protect against losses.</p>
<p>Defensive Positioning. We believe the Fund can meet the needs of our investors through market cycles.</p>	<p>Defensive Positioning. There can be no assurance that any of the downside control features will be successful. Capital is at risk and investors may not get back the amount originally invested.</p>
<p>Estimates / Forward-Looking Statements. This material contains certain forward-looking statements and their underlying assumptions and analysis, in order to offer BXCI's expectations for future developments and events.</p>	<p>Estimates / Forward-Looking Statements. Estimates and other forward-looking information are based on assumptions that Blackstone believes to be reasonable as of the date hereof. Future results are inherently uncertain and subject to many important factors.</p>
<p>Key Personnel. We believe that BMAC's dedicated global team's collective experience with European direct lending strategies forms a strong operating intervention platform that we mobilize on an integrated basis to lead, grow, run and defend our business.</p>	<p>Key Personnel. Certain professionals are not dedicated to BMAC and will perform work for other Blackstone business units or are not employed by Blackstone. There is no assurance that such professionals will continue to be associated with the Fund throughout its life.</p>
<p>Leverage. A fund may employ leverage or borrowings to advance investments or other activities. Leverage may at certain stages enhance returns from investments to the extent such returns exceed the costs of borrowings.</p>	<p>Leverage. The use of leverage or borrowings magnifies investment, market and certain other risks and may be significant. Leverage can increase losses or gains and borrowing fees may reduce fund returns.</p>
<p>Returns and Past Performance. BMAC has recently launched and as such has no track record, but we believe that Multi-Asset Credit portfolio can enhance returns while lowering volatility. The Fund has delivered positive net returns since inception.</p>	<p>Returns and Past Performance. Past performance does not predict future returns. There can be no assurance that any Blackstone fund or investment will achieve its objectives or avoid substantial losses, or that any downside control features will be successful. This document may include hypothetical performance, based on assumptions and judgements that Blackstone believes are reasonable, but are subject to significant risks and limitations.</p>
<p>Risk Management and portfolio optimization. The Fund maintains a robust investment process to manage risk and optimize returns for our investors and portfolio companies through credit selection.</p>	<p>Risk Management and portfolio optimization. Risk management seeks to mitigate risk, including inflation risk, but does not reduce or eliminate risk and does not protect against losses. Capital is at risk. There can be no assurance that any downside control features will be successful.</p>
<p>Themes and Trends. For us, recognizing significant market trends and good neighbourhoods supported by secular tailwinds is essential to finding quality investment opportunities and achieving strong performance.</p>	<p>Themes and Trends. There is no assurance that BMAC will find or close on any opportunities relating to themes or current market trends identified herein or that future initiatives will occur as expected or at all. Trends may not continue and may reverse.</p>

A detailed summary of the risks to which the Fund is subject is available in the Fund's Offering Documents. Capitalized terms used herein but not otherwise defined have the meanings set forth in the "Important Disclosure Information" section or in the Fund's Offering Documents.

Conflicts of Interest. There may be occasions when the Fund's general partner and/or the investment advisor, and their affiliates will encounter potential conflicts of interest in connection with the Fund's activities including, without limitation, the allocation of investment opportunities, relationships with Blackstone's and its affiliates' investment banking and advisory clients, and the diverse interests of such Fund's limited partner group.

Exchange Rate. Currency fluctuations may have an adverse effect on the value, price, income or costs of the product which may increase or decrease as a result of changes in exchange rates.

Illiquidity and Variable Valuation. There is no organized secondary market for investors' interests in the Fund nor is there an organized market for which to sell the Fund's underlying investments, and none is expected to develop. Further, the valuation of the Fund's investments will be difficult, may be based on imperfect information, and is subject to inherent uncertainties. The resulting values may differ from values that would have been determined had a ready market existed for such investments, from values placed on such investments by other investors, and from prices at which such investments may ultimately be sold.

Inflation and Supply Chain Risk. Economic activity has continued to accelerate across sectors and regions. Nevertheless, due to global supply chain issues, a rise in energy prices, strong consumer demand as economies continue to reopen and other factors, inflation has accelerated in the U.S. and globally. We believe inflation is likely to continue in the near- to medium-term, particularly in the U.S., with the possibility that monetary policy may tighten in response. Persistent inflationary pressures and supply chain issues could affect our portfolio companies profit margins. In addition, the inflation-adjusted value of the principal on our loan investments could decrease.

Leverage; Borrowings Under a Subscription Facility. The Fund may use leverage, and the Fund may utilize borrowings from Blackstone Inc. or under its subscription-based credit facility in advance of or in lieu of receiving investors' capital contributions. The use of leverage or borrowings magnifies investment, market and certain other risks and may be significant. The Fund's performance may be affected by the availability and terms of any leverage as such leverage will enhance returns from investments to the extent such returns exceed the costs of borrowings by the Fund. The leveraged capital structure of such assets will increase their exposure to certain factors such as rising interest rates, downturns in the economy, or deterioration in the financial condition of such assets or industry. In the event an investment cannot generate adequate cash flow to meet its debt service, the Fund may suffer a partial or total loss of capital invested in the investment, which may adversely affect the returns of the Fund. In the case of borrowings used in advance of or in lieu of receiving investors' capital contributions, such use will result in higher or lower reported returns than if investors' capital had been contributed at the inception of an investment because calculations of returns to investors are based on the payment date of investors' capital contributions. In addition, because a Fund will pay all expenses, including interest, associated with the use of any leverage or borrowings, investors would indirectly bear such costs.

Material, Non-Public Information. In connection with other activities of Blackstone, certain Blackstone personnel may acquire confidential or material non-public information or be restricted from initiating transactions in certain securities, including on a Fund's behalf. As such, a Fund may not be able to initiate a transaction or sell an investment. In addition, policies and procedures maintained by Blackstone to deter the inappropriate sharing of material non-public information may limit the ability of Blackstone personnel to share information with personnel in Blackstone's other business groups, which may ultimately reduce the positive synergies expected to be realized by a Fund as part of the broader Blackstone investment platform.

No Assurance of Investment Return. An investment in a Fund is speculative and involves a high degree of risk. There can be no assurance that a Fund will achieve comparable results, implement its investment strategy, achieve its objectives, or avoid substantial losses, or that any expected returns will be met (or that the returns will be commensurate with the risks of investing in the type of transactions described herein). The portfolio companies in which a Fund may invest (directly or indirectly) are speculative investments and will be subject to significant business and financial risks. A Fund's performance may be volatile. An investment should only be considered by sophisticated investors who can afford to lose all or a substantial amount of their investment. A Fund will incur costs which will impact the return throughout the life of such Fund. Fund costs may include, for example: fund management; fund administration and servicing; legal; compliance; record-keeping; certain kinds of distribution charges; and other operating costs. A Fund's fees and expenses may offset or exceed its profits. A more detailed description of relevant fund costs and expenses is included in a Fund's offering documents.

Recent Market Events Risk. Local, regional, or global events such as war (e.g., Russia/Ukraine), acts of terrorism, public health issues like pandemics or epidemics (e.g., COVID-19), recessions, or other economic, political and global macro factors and events could lead to a substantial economic downturn or recession in the U.S. and global economies and have a significant impact on the Fund and its investments.

No Operating History. Prospective investors should note that BMAC has not yet commenced operations and therefore has no operating history upon which prospective investors may evaluate its performance. Past activities of investment vehicles managed or sponsored by Blackstone provide no assurance of future success. Moreover, the prior investment results of the existing BXCI funds are provided for illustrative purposes only and not to imply that such results will be obtained in the future.

Strength of Blackstone (page 4)

AUM is estimated and unaudited as of September 30, 2024, and includes co-investments and Blackstone's GP and side-by-side commitments, as applicable. Past performance does not predict future returns. There can be no assurance that any Blackstone fund or investment will achieve its objectives or avoid substantial losses.

1. Based on Blackstone analysis of company earnings presentations and calls, as of September 30, 2024 or latest publicly available data.

Powerful Credit Platform (page 5)

AUM is estimated and unaudited as of September 30, 2024. The AUM for Blackstone, Blackstone Credit & Insurance or any specific fund, account or investment strategy presented in this Presentation may differ from any comparable AUM disclosure in other non-public or public sources (including public regulatory filings) due to, among other factors, methods of net asset value and capital commitment reporting, differences in categorizing certain funds and accounts within specific investment strategies and exclusion of certain funds and accounts, or any part of net asset value or capital commitment thereof, from the related AUM calculations. Certain of these differences are in some cases required by applicable regulation. All figures are subject to change.

1. AUM is a combined figure inclusive of Blackstone Credit & Insurance "BXCI" and Real Estate Debt businesses.
2. Reflects assets under management attributable to infrastructure (sustainable resources and energy transition, energy drawdown funds, private placements, and asset-based finance. ESOF I (energy drawdown fund) has an investment program and objective substantially different from the investment program and objective of the Sustainable Resources funds (e.g. ESOF II, BGREEN III). All figures are subject to change.
3. Private Corporate Credit includes funds and products in Capital Solutions and Credit Alpha strategies, and assets managed for certain strategic insurance partnerships, in addition to the strategies listed.

Diversification Benefits (page 7)

1. Morningstar Leveraged Loan Index. The volatility and risk profile of the indices presented is likely to be materially different from that of a Fund. In addition, the indices employ different investment guidelines and criteria than a Fund and do not employ leverage; as a result, the holdings in a Fund and the liquidity of such holdings may differ significantly from the securities that comprise the indices.

Blackstone's Top Tier Liquid Credit Franchise (page 19)

The AUM for Blackstone, Blackstone Credit & Insurance or any specific fund, account or investment strategy presented in this Presentation may differ from any comparable AUM disclosure in other non-public or public sources (including public regulatory filings) due to, among other factors, methods of net asset value and capital commitment reporting, differences in categorizing certain funds and accounts within specific investment strategies and exclusion of certain funds and accounts, or any part of net asset value or capital commitment thereof, from the related AUM calculations. Certain of these differences are in some cases required by applicable regulation. All figures are subject to change. AUM for CLO investing Represents total AUM for investments in CLOs, which is inclusive of CLO debt, CLO equity, and asset-backed securities.

Blackstone's Top-Tier Private Credit Franchise (page 20)

1. Does not include other Private Credit exposure including Opportunistic / Stressed and AUM attributed to Blackstone Insurance strategies.
2. Does not include \$19B of Real Estate dry powder and other available capital yet to be drawn from LPs.

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NHRS

New Hampshire Retirement System

To: Investment Committee
From: Raynald Leveque, Chief Investment Officer
Shana Bilech, CFP®, Investment Officer
Date: December 10, 2024
Re: **Causeway Capital Contract Renewal**
Item: Action: Discussion: Informational:

The NHRS Investment Staff (“Staff”) recommends to the Investment Committee that NHRS renew the Investment Management Agreement (Agreement) for the Causeway Capital (“Causeway”) contract. Callan has provided a recommendation related to the renewal of the Agreement with Causeway.

The existing Investment Management Agreement (“Agreement”) between non-U.S. core equity manager Causeway Capital Management (“Causeway”) and NHRS remains in effect through August 31, 2024.

In accordance with the Investment Committee’s July 2010 decision, Callan provided a recommendation related to the renewal of the Agreement with Causeway. Callan also recommended that NHRS renew the Agreement (copy attached).

Key merits as part of Staff’s recommendation included the strength of the firm and the tenure of the International Value Equity (IVE) team, the strategy’s long-term performance and the strategy’s value exposure that complements core and growth managers within the NHRS global equity portfolio.

Causeway has a fundamental portfolio management team, led by Sarah Ketterer, CEO and Harry Hartford, President, as well as a quantitative portfolio management team, led by Arjun Jayaraman. Eight fundamental portfolio managers cover nine industry sectors and five quantitative portfolio managers including Jayaraman serve on the IVE strategy. These portfolio managers have been at the firm for a minimum of seven years and an average of 20 years. Causeway’s well-resourced team prepares them for succession planning, including the eventual retirement of Hartford and Ketterer.

Causeway’s risk-adjusted approach leads to outperformance versus the MSCI EAFE index and underperformance to the MSCI Value index during periods where value outperforms and conversely outperformance versus the MSCI EAFE Value index and underperformance to the MSCI EAFE index when value is down (see Causeway presentation slide 35). Causeway’s investment approach complements

Our Mission: To provide secure retirement benefits and superior service.

NHRS's broader global equities portfolio, providing diversification and added value. The Causeway mandate has demonstrated strong long-term performance, outperforming its benchmark over the one, three, five and ten-year periods ending October 31, 2024.

Based on our review, given the superior investment performance, strength, firm stability, investment team, and investment process, I recommend that the Investment Management Agreement with Causeway be renewed through December 31, 2029.

As a reminder, NHRS has the ability to terminate the Agreement at any time upon 30 days' written notice to the manager. The Investment Staff and Callan will continue to monitor this mandate to ensure it meets its intended investment objectives.

Memorandum

To: Raynald Leveque, Chief Investment Officer for the NHRS
From: Angel G. Haddad, Britton M. Murdoch
Date: November 22, 2024
Subject: Causeway International Value Equity Strategy Renewal

The New Hampshire Retirement System (NHRS) invests in the Causeway International Value Equity Strategy (“the Strategy”). Consistent with the manager renewal process established by NHRS, continued participation in this strategy is subject to discussion every five years. This Memo provides an independent evaluation of this investment strategy, together with the research and quantitative analysis considered to support our recommendations.

Based on our findings, we recommend that NHRS renew the contract with Causeway. Callan maintains a positive opinion of Causeway and the International Value Equity strategy. The firm is stable and well-resourced. The investment team is tenured and experienced in their dedicated roles. The International Value strategy has been consistently implemented over its long history. The strategy’s characteristics can be categorized as traditional value and performance should be evaluated accordingly. One of the attractive qualities of Causeway’s process is the team’s ability to employ a risk-controlled approach to value investing. The firm’s fundamental research capabilities have substantial depth and breadth to identify value opportunities within an optimal risk/reward framework. This consistently implemented process has served them well over what has been a difficult decade for value investing.

The New Hampshire Causeway International Value Equity account’s short- and long-term net of fee performance is within expectations for a traditional value, EAFE-plus strategy. While the strategy struggled in the first quarter of 2024, it outperformed the MSCI EAFE Value Index in the second and third quarters. Causeway has outperformed both the MSCI EAFE Value and Core benchmarks (net of fees) year to date and over the trailing one-year period ending on September 30, 2024. The strategy has a structural underweight to Japan, which has been a head and tailwind based on market conditions over the last twelve months. Causeway significantly outperformed both indices in 2023.

The strategy outperformed the MSCI EAFE and MSCI EAFE Value indices over the trailing three-, five, seven- and ten-year periods, ranking above median relative to Callan’s core Non-U.S. Equity and Non-US All Country Value peer groups. This strong relative performance can be attributed to strong stock selection. Style has had a predictable impact on relative performance since New Hampshire’s investment. Causeway’s relative value approach results in a strategy that typically exhibits less of a value tilt than Callan’s Non-US All Country Value peer group and more of a value tilt relative to Callan’s Non-U.S. Equity peer group. Consequently, over most periods, the strategy’s relative performance generally falls between the broad market and value index. In addition, during many of the periods in which the MSCI EAFE Value Index experienced significant drawdowns, Causeway’s International Value portfolio held up quite well. Examples of this include calendar years 2011, 2014, 2015, and 2020. Protecting in these environments is a testament to the risk-aware valuation process.

Please refer to Callan’s detailed research update for more information regarding the qualitative and quantitative factors considered in our analysis.

Overview

Causeway is an employee-owned firm founded in 2001 that exclusively manages international, global and emerging market equity mandates with a value philosophy. The International Value strategy is a traditional value, EAFE-plus portfolio. The investment team is institutionally focused and manages the strategy with a conventional total-return focus. The portfolio consists of between 50 and 80 holdings with a 5% maximum stock weighting and 25% maximum industry weighting. The strategy is focused on developed markets, with opportunistic exposure to emerging markets typically less than 15% of the portfolio.

Market Commentary

Global ex-U.S. equities (MSCI ACWI ex USA: +8.1%) had a strong quarter, boosting year-to-date returns to +14.2%. Within developed markets, Value (MSCI World ex-USA Value: +9.7%) outperformed growth (MSCI World ex-USA Growth Index: +5.9%) by a wide margin. Real Estate (MSCI EAFE Real Estate: +17.4%) and Utilities (MSCI EAFE Utilities: +15.6%) were the strongest-performing developed market sectors. Japan (MSCI Japan: +5.7%) was up for the quarter, but Q3 saw unusually high volatility due to the Bank of Japan's action in raising interest rates, and the election of a new prime minister pushing fiscal discipline and being a China hawk. The U.S. dollar weakened in Q3, helping overseas returns. The yen had an especially good quarter, up nearly 13% versus the greenback as the central bank tightened monetary policy.

Cumulative Annualized Returns (NHRS Account - Net of fees)

	3Q24	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years	Since Inception*
NHRS Causeway Int'l Value (Net)	9.33%	24.83%	32.79%	10.98%	17.19%	11.91%	7.30%	6.41%	6.41%
MSCI EAFE Index	7.26%	24.77%	25.21%	5.48%	10.22%	8.20%	6.00%	5.71%	5.71%
MSCI EAFE Value Index	8.89%	23.14%	27.25%	8.94%	14.00%	8.27%	5.02%	4.56%	4.56%

*Since Inception is 10/1/14.

	YTD 2024	2023	2022	2021	2020	2019	2018	2017	2016
NHRS Causeway Int'l Value (Net)	14.02%	27.83%	-7.18%	9.58%	6.31%	20.94%	-18.43%	27.89%	0.36%
MSCI EAFE Index	12.99%	18.24%	-14.45%	11.26%	7.82%	22.01%	-13.79%	25.03%	1.00%
MSCI EAFE Value Index	13.79%	18.95%	-5.58%	10.89%	-2.63%	16.09%	-14.78%	21.44%	5.02%

● Organization

Causeway Capital Management LLC was founded in 2001 by former employees of Hotchkis and Wiley, a former division of Merrill Lynch Investment Managers, where the team was responsible for the international value strategy. The firm is 100% employee-owned and based in Los Angeles, CA. It has an exclusive focus on global equity strategies. Sara Ketterer is CEO and has been with the firm since its inception, and Harry Hartford, as President, heads the investment team.

Both Ketterer and Hartford do not plan to retire in the near future. However, Hartford does believe that his tenure at the firm may be just another five to ten years. Causeway has built a strong next generation to take over from Hartford, and eventually Ketterer, when the time comes.

Assets at the firm have been relatively stable, although not immune to the challenging market environment for value-oriented strategies. Firm assets peaked in 2018 and have since slowly declined. Fortunately, we have seen asset stabilization since 2022, and despite the asset fluctuations over time, the firm maintains robust resources and low investment professional turnover. The product lineup across international, global, and emerging markets equity remains open to new business and is poised for further growth.

Causeway Capital Management LLC assets under management as of September 30, 2024: \$53,794mm.

● People

Causeway utilizes a collaborative team approach to portfolio construction. The portfolio management team is headed by Sarah Ketterer, CEO, Harry Hartford, President, and Arjun Jayaraman, Head of Quantitative Research. The portfolio management team divides its coverage into fundamental and quantitative. The fundamental team covers research for developed markets, and the quantitative team covers emerging markets. Fundamental research is further broken up into nine research clusters (before 2023, there were six clusters). Each cluster represents a sector where the team conducts bottom-up fundamental research. The nine clusters are Financials/Real Estate, Technology/Communication Services, Utilities/Renewables, Industrials/Autos, Consumer Staples, Consumer Discretionary, Health Care, Energy, and Materials.

Causeway's fundamental team comprises eight portfolio managers, 10 senior research analysts, and seven research analysts. The eight portfolio managers responsible for the fundamental research team are as follows:

Sarah Ketterer (CEO)

Harry Hartford (President)

Jonathan Eng (industrials/consumer)

Conor Muldoon, CFA (financials/materials)

Alessandro Valentini, CFA (health care and financials/materials)

Ellen Lee (renewables/consumer)

Steven Nguyen, CFA (energy/utilities)

Brian Cho (technology/communication services)

Fusheng Li was the Director of Research - China until January 2024. Li had been promoted to head of China research in Q2 2018. Following a corporate review, Causeway discontinued its work on building an All-China portfolio. As Causeway had decided to reduce its efforts in China, both Li and Causeway decided to separate. Li had never managed any assets directly on International Value and was not a core investment team member.

<p>● People (cont.)</p>	<p><i>The quantitative research team is supported by five portfolio managers, four senior quantitative research analysts, and one quantitative research analyst. The five portfolio managers responsible for the quantitative research team are as follows:</i></p> <p><i>Arjun Jayaraman, PhD, CFA</i></p> <p><i>Duff Kuhnert, CFA</i></p> <p><i>Joe Gubler, CFA</i></p> <p><i>Ryan Myers</i></p> <p><i>Mozaffar Khan, PhD (Quantitative, Director of ESG Research)</i></p> <p><i>The experienced team has been largely stable over the history of the firm. All investment research is team-driven with deliberate redundancies among analysts and portfolio managers to mitigate key person risk.</i></p> <p><i>Over the last five years, just two portfolio managers have departed the firm: Foster Corwith (2019) and James Doyle (2020). Corwith was a portfolio manager on the industrials cluster, and his responsibilities were absorbed by others on the team, including Lee and Eng. Doyle departed the firm in June 2020. He had been with Causeway since its inception and was the firm's third most important investor behind Ketterer and Hartford. However, Doyle retired from the firm and the industry for personal reasons. Fortunately, Causeway has built a strong base of investors over time, and Cho was identified to replace Doyle. Cho has been with Causeway since 2013 and has worked closely with Doyle over that time frame. As a result, although disappointing, Doyle's departure was successfully managed and should not negatively impact the team long-term.</i></p> <p><i>Three research analysts, are employees of Causeway (Shanghai) Information Consulting Co. Ltd, a wholly foreign owned subsidiary of Causeway. This group supports Causeway's research in China.</i></p>
<p>● Philosophy and Process</p>	<p><i>The investment process starts with an investable universe of about 2,000 non-U.S. stocks across developed and emerging markets with capitalizations greater than \$1 billion. The universe is then screened by industry (EPS revisions, enterprise value/EBITDA), country (earnings yield, payout yield), and research cluster, generating a list of about 400 securities.</i></p> <p><i>Next, these 400 securities are analyzed based on industry dynamics, financial strength, and competition, narrowing the list to around 250. From this list of about 250 securities, portfolio managers and research analysts conduct company-specific fundamental analysis. This process includes on- and off-site meetings, competitor analysis, internal and external research, and proprietary quantitative valuations. A valuation estimate is then formed based on a two-year price target.</i></p> <p><i>Once a security has passed the initial screening and undergone fundamental research, it is evaluated based on its marginal contribution to risk (MCTR). This term, as defined by Causeway, refers to the expected change in portfolio volatility resulting from a 1% increase in position weight from cash. This unique evaluation method allows the firm to assign rankings to the securities, with 1 representing the highest MCTR and 150 the lowest.</i></p> <p><i>The ranked list provides an opportunity set from which Ketterer, Hartford and the Cluster Heads construct a model portfolio.</i></p>

<p>● Product Dynamics</p>	<p><i>Causeway's International Value strategy invests in 50-80 holdings with typically less than 50% annual turnover. The portfolio is primarily allocated to developed market companies; however, the team can opportunistically invest in emerging markets. In the last 10 years, emerging market investments have ranged from slightly below 5% to nearly 15% and averaged approximately 9%. Other constraints include a maximum 5% stock weighting and 25% industry weighting.</i></p> <p><i>The market capitalization of the portfolio is similar to that of the MSCI EAFE Index, although, at times, it can vary. The style characteristics of the portfolio are consistently value. However, the magnitude of value exposure can vary depending on the market environment. The team will invest more heavily into these undervalued companies as the securities' valuation in their universe becomes more attractive. This kind of variation is consistent with value-oriented peers. In the last five years, Causeway's portfolio has become less value-oriented relative to the Callan NonUS Developed Value universe. Nonetheless, the portfolio's composition has historically not been overweight deep or contrarian value securities for extended periods, and we expect this to remain consistent. Over the long-term, Causeway's approach is traditional value.</i></p> <p><i>International Value's tracking error has averaged 6% over the life of the strategy. Since 2020, tracking error has increased alongside increased volatility in the marketplace. As the team has allocated to more value-oriented securities, given the relative attractiveness, the tracking error versus the broad benchmark, MSCI EAFE, has increased accordingly. This is consistent with previous periods in which value was disproportionately out of favor, such as in the early 2000s. Short-term, the higher tracking error is something to be mindful of, but over time, it remains within range of value-oriented peers.</i></p> <p><i>Causeway's International Value strategy accounts for approximately 45% of the firm's total asset base. It has a reasonably diversified client base by type and vehicle. This variation has served them well through challenging environments for value-oriented portfolios. While strategy assets haven't returned to their peak in 2018 (\$28 billion), they have remained relatively stable. Finally, as the firm has built capabilities, including Emerging Markets, International Small Cap, and ADR portfolios, the reliance on International Value's asset base has softened.</i></p> <p><i>Strategy assets under management as of September 30, 2024: \$27,670mm.</i></p>
<p>● Short Term Performance</p>	<p><i>Causeway International Value outperformed the MSCI EAFE core and value benchmarks in 2023 and outperformed the core benchmark in 2022. Causeway's approach to investing is more risk-controlled than many of the deep-value, cyclical companies within the EAFE Value Index. In periods when the EAFE Value Index significantly outperforms, it is often due to these deeper-value securities that Causeway underweights. This was true in 2022 and 2020.</i></p> <p><i>While the strategy struggled in the first quarter of 2024, it beat the MSCI EAFE Value Index in the second and third quarters, resulting in a strong trailing 12 months ending on September 30, 2024, and a year-to-date performance above both the Value and Core benchmarks. The strategy has a structural underweight to Japan, which has been a head and tailwind based on market conditions over the last twelve months.</i></p> <p><i>Stock selection has been the most prominent area of outperformance, accounting for around 70% of the excess return in the first three quarters of 2024 against the core benchmark. In the third quarter, an overweight in Rolls-Royce was offset by an overweight in Samsung Electronics, but these two accounted for the largest stock contributor/detractor for the period. Rolls-Royce rallied on strong financial results and updated guidance, while Samsung was hit by increased scrutiny around restrictions on sales of advanced semiconductor equipment to the Chinese market.</i></p> <p><i>Short-term performance is within expectations for a traditional value, EAFE-plus strategy.</i></p>

<p>● Long Term Performance</p>	<p><i>The strategy's long-term performance is within expectations for a traditional value, EAFE-plus strategy.</i></p> <p><i>Style has a predictable impact on relative performance over this time frame. Causeways relative value approach results in a strategy that typically exhibits less of a value tilt than Callans Non-US All Country Value peer group and more of a value tilt relative to Callans Non-U.S. Equity peer group. Consequently, over most periods, the strategy's relative performance generally falls between the broad market and value index. One of the attractive qualities of Causeway's process is the team's ability to employ a risk-controlled approach to value investing. The firm's fundamental research capabilities have substantial depth and breadth to identify value opportunities but within an optimal risk/reward framework. This consistently implemented process has served them well over what has been a tough decade for value investing. Many of the periods in which the MSCI EAFE Value Index experienced significant drawdowns, Causeway's International Value portfolio held up quite well. Examples of this include calendar years 2011, 2014, 2015, and 2020. Protecting in these environments is a testament to the risk-aware valuation process.</i></p> <p><i>The New Hampshire portfolio has beaten the MSCI EAFE and EAFE Value indexes over the trailing 3, 5, 7, and 10 year periods. This can be attributed to strong stock selection in many years, as the strategy is concentrated, although the value-oriented style has been a tailwind in 2022 and 2023.</i></p>
<p>● Overall Status</p>	<p><i>Causeway is a stable, well resourced organization. The investment team is tenured and experienced in their dedicated roles. While Ketterer and Hartford have not indicated an intention to retire, the firm is well resourced and prepared for this inevitable event. The International Value strategy has been consistently implemented over its long history. The strategy's characteristics can be categorized as traditional value and performance should be evaluated accordingly. It is best suited in a multi-manager allocation with a complementary growth manager.</i></p>

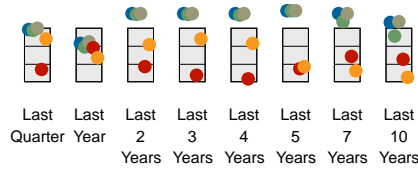
● Within expectations

● Notable

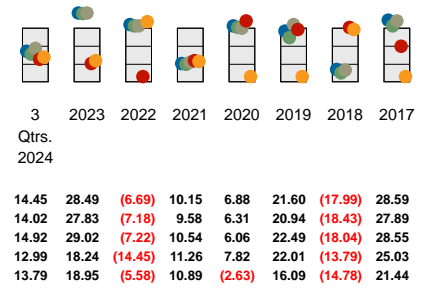
● Cautionary

● Under Review

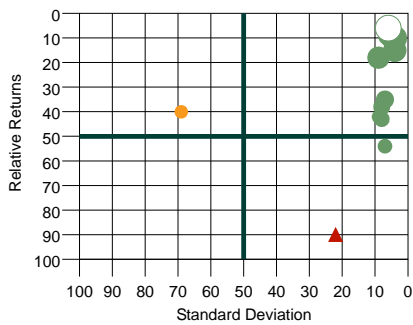
Returns



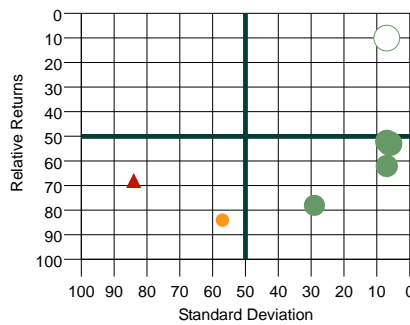
Calendar Year Returns



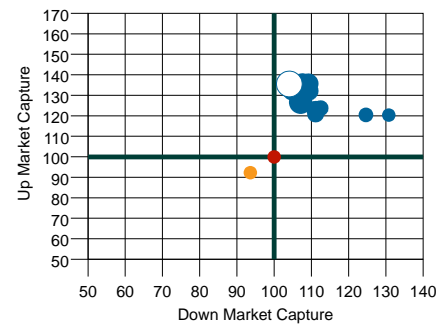
Relative Return vs. Risk vs. Group Rolling 3 Year



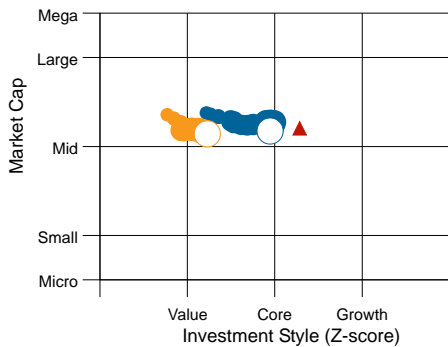
Relative Return vs. Risk vs. Group Rolling 5 Year



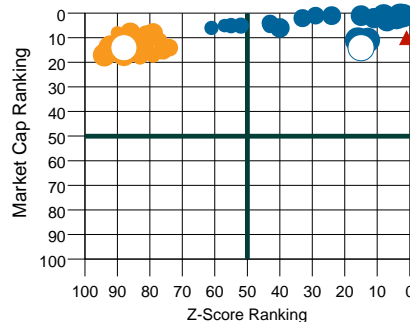
Upside/Downside Capture vs. Group Rolling 5 Year



Holdings Based Style Map Rolling 1 Year



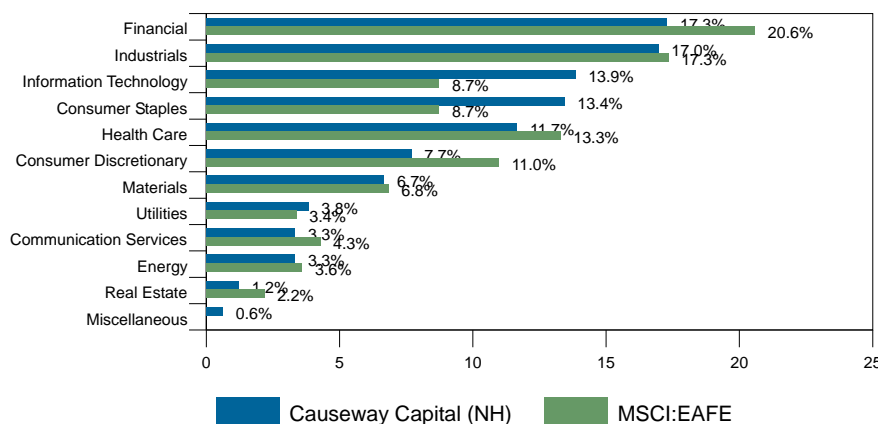
Style Map Ranking vs. Group* Rolling 1 Year



Portfolio Characteristics

	Causeway Capital (NH)	MSCI:EAFE	MSCI:EAFE Value
Number of Holdings	65	732	460
Issue Diversification	18.0	84.8	55.0
Growth Z Score	(0.1)	0.0	(0.3)
Value Z Score	0.1	(0.1)	0.5
Combined Z Score	(0.2)	0.1	(0.8)
Wtd. Median Market Cap.	43.8	53.6	43.9
Forecasted P/E (exc neg)	11.9	14.2	10.5
Price/Book Value	1.4	1.9	1.3
Forecasted Gr. in Earnings	8.8	11.1	8.0
Return on Equity	13.5	18.2	14.1
Dividend Yield	2.8	2.9	4.1

Equity Sector Exposure vs MSCI:EAFE



Region Exposures

	Causeway Capital (NH)	MSCI:EAFE	MSCI:EAFE Value
Emerging Markets	6.0%	0.0%	0.0%
Europe	77.9%	66.2%	67.2%
Japan	11.6%	22.3%	21.7%
North America	2.9%	0.0%	0.0%
Pacific Rim	1.5%	11.4%	11.0%

Important Disclosures

Information contained in this document may include confidential, trade secret and/or proprietary information of Callan and the client. It is incumbent upon the user to maintain such information in strict confidence. Neither this document nor any specific information contained herein is to be used other than by the intended recipient for its intended purpose.

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Certain information herein has been compiled by Callan from a variety of sources believed to be reliable but for which Callan has not necessarily verified for accuracy or completeness. Information contained herein may not be current. Callan has no obligation to bring current the information contained herein.

Callan's performance, market value, and, if applicable, liability calculations are inherently estimates based on data available at the time each calculation is performed and may later be determined to be incorrect or require subsequent material adjustment due to many variables including, but not limited to, reliance on third party data, differences in calculation methodology, presence of illiquid assets, the timing and magnitude of unrecognized cash flows, and other data/assumptions needed to prepare such estimated calculations. In no event should the performance measurement and reporting services provided by Callan be used in the calculation, deliberation, policy determination, or any other action of the client as it pertains to determining amounts, timing or activity of contribution levels or funding amounts, rebalancing activity, benefit payments, distribution amounts, and/or performance-based fee amounts, unless the client understands and accepts the inherent limitations of Callan's estimated performance, market value, and liability calculations.

Callan's performance measurement service reports estimated returns for a portfolio and compares them against relevant benchmarks and peer groups, as appropriate; such service may also report on historical portfolio holdings, comparing them to holdings of relevant benchmarks and peer groups, as appropriate ("portfolio holdings analysis"). To the extent that Callan's reports include a portfolio holdings analysis, Callan relies entirely on holdings, pricing, characteristics, and risk data provided by third parties including custodian banks, record keepers, pricing services, index providers, and investment managers. Callan reports the performance and holdings data as received and does not attempt to audit or verify the holdings data. Callan is not responsible for the accuracy or completeness of the performance or holdings data received from third parties and such data may not have been verified for accuracy or completeness.

Callan's performance measurement service may report on illiquid asset classes, including, but not limited to, private real estate, private equity, private credit, hedge funds and infrastructure. The final valuation reports, which Callan receives from third parties, for of these types of asset classes may not be available at the time a Callan performance report is issued. As a result, the estimated returns and market values reported for these illiquid asset classes, as well as for any composites including these illiquid asset classes, including any total fund composite prepared, may not reflect final data, and therefore may be subject to revision in future quarters.

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The information contained herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties. Actual results may vary, perhaps materially, from the future results projected in this document. Undue reliance should not be placed on forward-looking statements.

Callan is not responsible for reviewing the risks of individual securities or the compliance/non-compliance of individual security holdings with a client's investment policy guidelines.

This document should not be construed as legal or tax advice on any matter. You should consult with legal and tax advisers before applying any of this information to your particular situation.

Reference to, or inclusion in this document of, any product, service or entity should not necessarily be construed as recommendation, approval, or endorsement or such product, service or entity by Callan. This document is provided in connection with Callan's consulting services and should not be viewed as an advertisement of Callan, or of the strategies or products discussed or referenced herein.

The issues considered and risks highlighted herein are not comprehensive and other risks may exist that the user of this document may deem material regarding the enclosed information. Please see any applicable full performance report or annual communication for other important disclosures.

Important Disclosures (Continued)

Unless Callan has been specifically engaged to do so, Callan does not conduct background checks or in-depth due diligence of the operations of any investment manager search candidate or investment vehicle, as may be typically performed in an operational due diligence evaluation assignment and in no event does Callan conduct due diligence beyond what is described in its report to the client.

Any decision made on the basis of this document is sole responsibility of the client, as the intended recipient, and it is incumbent upon the client to make an independent determination of the suitability and consequences of such a decision.

Callan undertakes no obligation to update the information contained herein except as specifically requested by the client.

Past performance is no guarantee of future results.

The investment manager organizations contained herein have submitted information to Callan regarding their investment management capabilities, for which information Callan has not necessarily verified the accuracy or completeness of or updated. The information provided to Callan has been summarized in this report for your consideration. Unless otherwise noted, performance figures reflect a commingled fund or a composite of discretionary accounts. All written comments in this report are based on Callan's standard evaluation procedures which are designed to provide objective comments based upon facts provided to Callan. The appropriateness of the candidate investment vehicle(s) discussed herein is based on Callan's understanding of the client's portfolio as of the date hereof. Certain operational topics may be addressed in this investment evaluation for information purposes. The investment evaluation and any related due diligence questionnaire completed by the candidate may contain highly confidential information that is covered by a non-disclosure or other related agreement with the candidate which must be respected by the client and its representatives. The client agrees to adhere to the conditions of any applicable confidentiality or non-disclosure agreement.

Biographies

Conor Muldoon, CFA, Fundamental Portfolio Manager

Mr. Muldoon is a director and fundamental portfolio manager at Causeway and is responsible for investment research in the global financials, materials, and real estate sectors. He joined the firm in August 2003 and has been a portfolio manager since September 2010. He is also a member of the operating committee. From 1995 to 2003, Mr. Muldoon was an investment consultant for Fidelity Investments where he served as a liaison between institutional clients and investment managers within Fidelity. He was responsible for communicating current information on the financial markets, the economy and investment performance. Mr. Muldoon earned a BSc and an MA from the University of Dublin, Trinity College and an MBA, with high honors, from the University of Chicago. Mr. Muldoon was inducted into the Beta Gamma Sigma honors society and is also a CFA charterholder.

Taylor Alan-Lee, CFA, Senior Relationship Manager

Mr. Alan-Lee is a senior relationship manager at Causeway. He joined the firm in January 2018 and his responsibilities include servicing institutional clients in the United States and Canada. Mr. Alan-Lee also works closely with the portfolio management team to develop client communications and investment content. Prior to joining Causeway, Mr. Alan-Lee was a vice president account manager at PIMCO, responsible for servicing institutional client relationships. Mr. Alan-Lee began his career in the financial services industry in 2008 as an analyst in PIMCO's account management group. Mr. Alan-Lee earned a BA in economics from Dartmouth College and an MBA from The Wharton School at the University of Pennsylvania. Mr. Alan-Lee is a CFA charterholder.



Causeway

New Hampshire Retirement System
International Value Equity
Client Presentation
December 10, 2024

Los Angeles, CA

Dallas, TX Bryn Mawr, PA Melbourne, Australia Shanghai, China (Subsidiary)

www.causewaycap.com

Solely for the use of institutional investors and professional advisers.

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Committed to Clients



Our Firm

Manages global equities and exposures exclusively



Wholly owned by current and former employees, broadly distributed across investment team



Has an experienced investment team



Integrates fundamental and quantitative research



For Clients

Focuses resources

Aligns interests with clients and promotes organizational stability

Results in collaborative, informed decision making

Goal is to deliver superior risk-adjusted returns over full market cycles

Business Update - as of October 2024

Assets under management are approximately \$51 billion

Fundamental + Quantitative Convergence Strategies Include:

- > International Value Equity - \$38bn
 - International Value - \$26bn*
 - Select- \$6bn*
 - ADR- \$6bn*
- > Global Value Equity – \$3bn
 - Global Value – \$3bn*
 - ADR - \$185mn*
 - Concentrated - \$2mn*
- > Emerging Markets Equity - \$5bn
- > International Opportunities - \$3bn
- > International Small Cap - \$751mn
- > Global Small Cap - \$4mn
- > Global Systematic Equity - \$4mn
- > Global Sustainable - \$3mn
- > China Equity - \$4mn

Total staff is 110 employees, including 30 fundamental and 10 quantitative research professionals*
Causeway is 100% owned by current and former employees, currently 29 members

**Includes employees of both Causeway Capital Management LLC and its affiliate, Causeway (Shanghai) Information Consulting Co, Ltd.*

Serving Clients Worldwide

(Clients for more than 10 years noted in blue)

SUB-ADVISED	PUBLIC (GOVERNMENT)	MODEL/SMA PROGRAMS
<p>American Beacon Funds: American Beacon Intl Equity Fund Christian Brothers Investment Services, Inc.: Catholic Responsible Investments Intl Equity Fund Columbia Funds Series Trust I: Multi-Manager Intl Equity Morgan Stanley Pathway Funds Jackson National Asset Mgmt/CCM Intl Value Select Fund JNL Multi-Manager International Small Cap Fund Northern Trust Active M International Equity Fund Principal/Causeway International Value CIT Principal Funds, Inc.: Overseas Fund SEI Investments Canada Company: International Equity Fund SEI Institutional Investments Trust: International Equity Fund SEI Institutional Investments Trust: EM Equity Fund Trust for Professional Managers: ActivePassive Intl Equity ETF 14 Confidential Sub-Advised</p>	<p>City of Philadelphia Public Employees Retirement System City of Tucson Supplemental Retirement System Fire & Police Employees' Retirement System City of Baltimore Insurance Commission of Western Australia LA County Deferred Compensation and Thrift Plan New York State Common Retirement Fund Ohio Police & Fire Pension Fund Public School Retirement System of The City of St. Louis Trust for Retiree Medical, Dental and Life Insurance Plan of the Army and Air and Air Force Exchange Service Retirement Annuity Plan for Employees of the Army & Air Force Exchange Svc. State Board of Administration of Florida Teachers Retirement System of Oklahoma The Winnipeg Civic Employees' Pension Plan Winnipeg Police Pension Plan 11 Confidential Public (Government)</p>	<p>CIBC Asset Management Inc. Fidelity Instl Wealth Adviser LLC FolioDx Fulton Bank, N. A. Kovitz Investment Group Partners, LLC Merrill Lynch Investment Advisory Program Natixis Advisors, L.P./Callan LLC Natixis Advisors, L.P./Cambridge Pathstone Family Office, LLC Raymond James & Associates, Inc. Sawtooth Solutions, LLC SEI: SMAP/IMAP Managed Acct Program Smartleaf, Inc. SMArtX Advisory Solutions, LLC Strategic Advisers LLC SYSTM Wealth Solutions LLC Vestmark Advisory Solutions, Inc 22 Confidential Model/SMA Programs</p>
CORPORATE	UNION/MULTI-EMPLOYER	SUPERANNUATION
<p>Ameren Master Retirement Trust American Airlines, Inc., Master Fixed Benefit Pension Plan Covenant Health, Inc. Danaher Corporation Retirement Plans' Master Trust Rockwell Automation United Corporations Limited Unisys Master Trust US Steel and Carnegie Pension Fund: Retirement Plan Trust 15 Confidential Corporate</p>	<p>1199 Health Care Employees Pension Fund Amalgamated Bank Burroughs Wellcome Fund Elevator Constructors Union Local No. 1 Annuity and 401(k) Plan Healthcare Employees' Pension Plan - Manitoba Ironworks Local 580 Pension Fund Steamfitters Local Union No. 420 Pension Fund 4 Confidential Union/Multi-Employer</p>	<p>1 Confidential Superannuation</p>
CIT	FOUNDATION/ENDOWMENT/CHARITABLE	HEALTH CARE
<p>Causeway Emerging Markets Equity CIT Causeway International Value Equity CIT</p>	<p>John S. and James L. Knight Foundation The Healthcare Foundation of New Jersey The Pittsburgh Foundation PeaceHealth W. Clement & Jessie V. Stone Foundation Western Pennsylvania Conservancy 11 Confidential Foundation</p>	<p>Mercy Health, Inc. Mercy Health Retirement Trust</p>
UCITS	SOVEREIGN WEALTH FUND	HIGH NET WORTH
<p>Causeway Emerging Markets UCITS Fund</p>	<p>1 Confidential Sovereign Wealth Fund</p>	<p>19 Confidential High Net Worth</p>
		DEFINED CONTRIBUTION
		<p>1 Confidential Defined Contribution</p>
		MUTUAL FUND
		<p>Causeway Emerging Markets Fund Causeway Global Value Fund Causeway International Opportunities Fund Causeway International Small Cap Fund Causeway International Value Fund</p>

All separate account clients as well as all Causeway group trust and private fund investors included. It is not known whether the listed clients and investors approve or disapprove of Causeway or its investment advisory services. Clients may have multiple accounts, which are separately represented above.



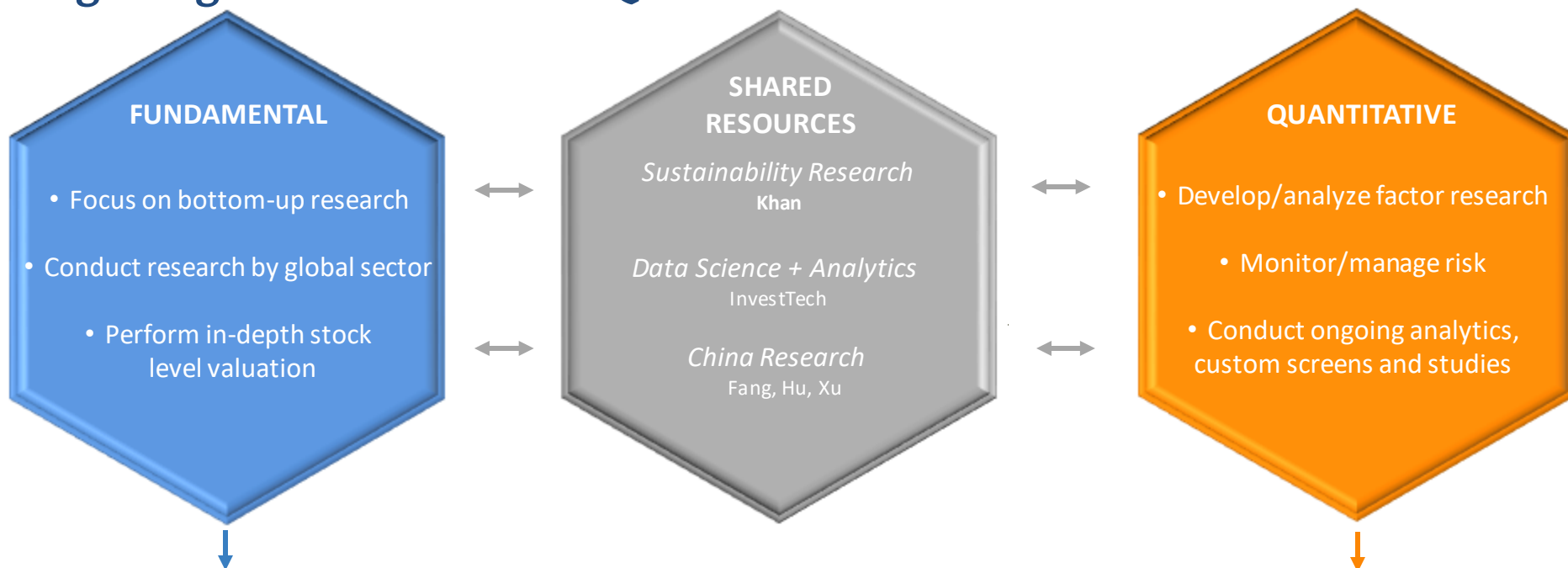
Research Experience, Depth and Continuity

Name	Portfolio Manager	Yrs w/ Team	Investment Experience
Sarah Ketterer	Fundamental	34	38
Harry Hartford	Fundamental	30	40
Jonathan Eng	Fundamental	28	32
Duff Kuhnert, CFA	Quantitative	28	29
Conor Muldoon, CFA	Fundamental	21	29
Joe Gubler, CFA	Quantitative	19	19
Arjun Jayaraman, PhD, CFA	Quantitative	18	26
Alessandro Valentini, CFA	Fundamental	18	23
Ellen Lee	Fundamental	17	21
Steven Nguyen, CFA	Fundamental	12	21
Ryan Myers	Quantitative	11	19
Brian Woonhyung Cho	Fundamental	11	19
Mozaffar Khan, PhD	Quantitative, Director of Sustainability Research	7	19
		Mean # of years:	26
Associate Portfolio Manager			
Greg Squires, CFA	Fundamental	10	15
Reid Ross, CFA	Fundamental	6	19
Senior Research Analysts			
Mike Cho, CFA	Fundamental	10	18
Ross Locher, CFA	Fundamental	9	14
Nate Klein, CFA	Fundamental	8	14
Andrew Zhang, CFA	Fundamental	8	11
Andrew Liu, CFA	Quantitative	6	13
Spenser May, CFA	Fundamental	6	12
Tong Lu	Quantitative	5	8
David Khoo, CFA	Fundamental	5	14
Jonny Shea	Fundamental	3	11
Katy Fang, CFA*	Fundamental	4	9
Naveen Bobba	Fundamental	3	24
Gavin Scott	Fundamental	2	10
Bennett Bullock	Quantitative	1	16
Huray Basar, CFA	Quantitative	2	9
Nick Wells, CFA	Fundamental	1	12
Research Analysts			
Claudia Crivello	Fundamental	3	3
Chang Hu, CFA*	Fundamental	3	8
Hailey Xu, CFA*	Fundamental	2	6
Michael Gianatasio	Fundamental	1	3
Kate Byrne-Slepicka	Fundamental	1	4
Ryan Greenwald	Fundamental	1	7
Marshall Dong	Quantitative	1	6
Blake Mielke	Fundamental	1	4
Lynn Giam	Fundamental	0	5
Allison Liegner	Fundamental	0	4



*Katy Fang, Chang Hu, and Hailey Xu are employees of Causeway (Shanghai) Information Consulting Co., Ltd., a wholly foreign owned subsidiary.

Integrating Fundamental and Quantitative Research



	<i>FINANCIALS REAL ESTATE</i>	<i>TECHNOLOGY COMM. SERVICES</i>	<i>UTILITIES/ RENEWABLES</i>	<i>INDUSTRIALS/ AUTOS</i>	<i>CONSUMER STAPLES</i>	<i>CONSUMER DISC.</i>	<i>HEALTH CARE</i>	<i>ENERGY</i>	<i>MATERIALS</i>	Strategy Alpha Research Analytics Risk Modeling and Reporting		
<i>Portfolio Manager</i>	Muldoon Valentini	B. Cho	Nguyen Lee	Eng Nguyen	Lee	Eng Lee	Valentini Nguyen	Eng	Muldoon Eng	Jayaraman	Kuhnert Myers	Gubler Khan
<i>Associate PM</i>				Ross					Squires			
<i>Sr. Analyst</i>	May Zhang Khoo	M. Cho Zhang Bobba Shea Khoo		M. Cho Locher	Klein Wells	Wells	Klein Scott	Locher	Locher May		Liu Bullock	T. Lu Basar
<i>Analyst</i>	Byrne-Slepicka	Mielke	Greenwald	Gianatasio Giam	Crivello	Crivello		Gianatasio Giam	Liegner		Dong	

Group/Fundamental Heads in bold

Analyzing Ideas Fundamentally, Managing Risk Quantitatively

Fundamental value manager

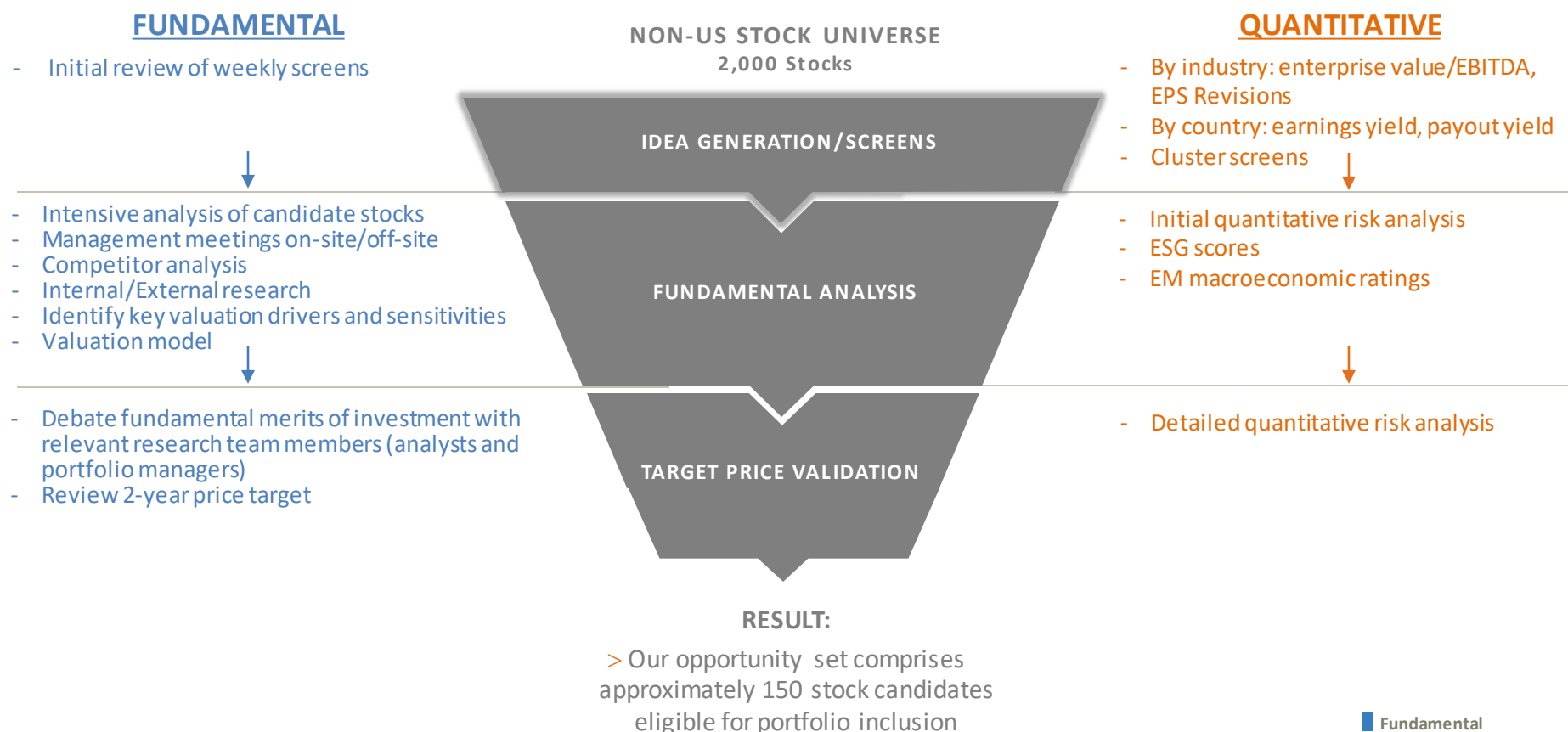
- > Apply active, bottom-up stock selection to capture alpha potential
- > Conduct in depth fundamental research to gain risk/reward insights

Focus on managing risk

- > Exploit volatility of returns
- > Employ proprietary quantitative tools to manage risk

Team approach

- > Achieve continuity of the investment process



Constructing and Managing Client Portfolios

- > Portfolio management and fundamental research committee meetings determine portfolio weights
 - Risk-adjusted ranking of our opportunity set guides portfolio construction
 - Parameters: 5% maximum stock weighting | 25% maximum industry weighting | 50-80 stocks

SAMPLE RANKINGS

FUNDAMENTAL				QUANTITATIVE	PORTFOLIO
Company	Country	Valuation Method	2 Year Annualized Expected Total Return	Marginal Contribution to Risk	Risk-Adjusted Return Ranking
Alstom	France	Blend FCF, EV/EBIT	37.2%	0.30	High
Barclays	United Kingdom	P/TB	22.8%	0.24	Mid
Roche	Switzerland	DCF	17.6%	0.14	Mid
Alimentation Couche-Tard	Canada	EV/EBITDA	4.9%	0.13	Low

FCF = Free Cash Flow; EV/EBIT = Enterprise Value to Earnings Before Interest & Taxes; P/TB = Price to Tangible Book; DCF = Discounted Cash Flow; EV/EBITDA = Enterprise Value to Earnings Before Interest, Taxes, Depreciation & Amortization. For illustration only. Not intended to be relied on for investment advice. Portfolios are actively managed and may not hold any referenced securities. The figure shows a projected 2-year expected return forecast and a calculation of Marginal Contribution to Risk ("MCTR") for several securities. MCTR is defined as the expected change in portfolio volatility due to a 1% increase in the position weight from cash. The investment team ranks each stock based on its risk-adjusted, liquidity-adjusted, expected return. Expected return is used internally and is not a projection of the future performance of a stock or a portfolio, and there is no assurance that price targets will be achieved or that referenced securities will be held for the duration of the period. The securities identified and described do not represent all of the securities purchased, sold or recommended for client accounts. The reader should not assume that an investment in the securities identified were or will be profitable. For performance of the overall portfolio, see elsewhere in this report.

- Fundamental
- Quantitative
- Portfolio Management

Portfolio Snapshot

as of October 31, 2024

ASSETS

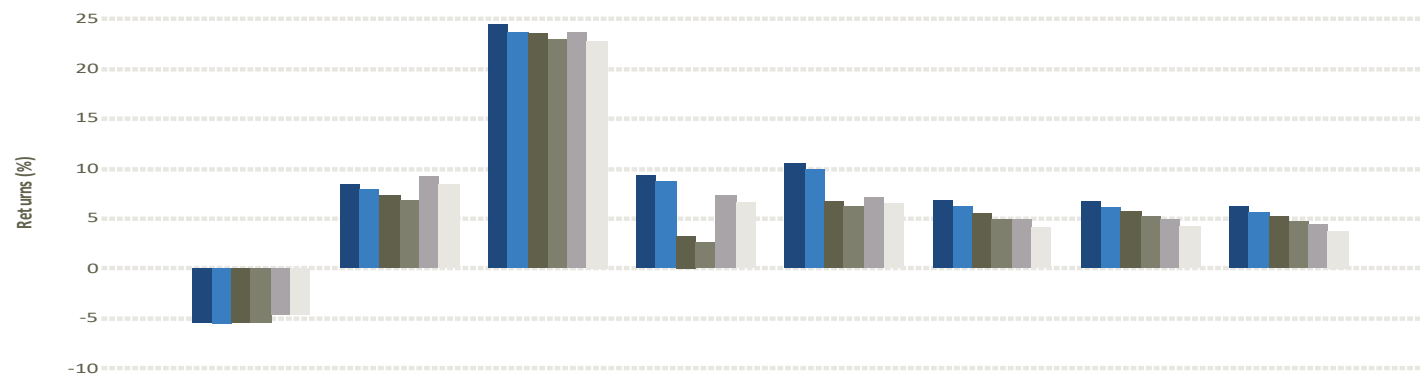
Total Assets (USD)	462,408,386
Equity	98.20%
Cash	1.60%
Accrued Income	0.19%

CHARACTERISTICS

	New Hampshire	MSCI EAFE	MSCI EAFE Value
No. of Holdings	70	731	460
Wtd Avg Mkt Cap (Mn)	64,937	77,733	64,365
FY2 P/E	11.5x	13.5x	10.3x
P/B Value	1.5x	1.9x	1.3x
Dividend Yield	3.1%	3.1%	4.4%
Return on Equity	13.1%	12.2%	11.2%

Performance

RETURNS for the periods ended October 31, 2024



	Month	Year to Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception
New Hampshire (Gross)	-5.40	8.42	24.36	9.29	10.51	6.87	6.74	6.19
New Hampshire (Net)	-5.44	7.96	23.71	8.72	9.93	6.30	6.17	5.62
MSCI EAFE (Gross)	-5.42	7.34	23.58	3.22	6.76	5.44	5.78	5.30
MSCI EAFE (Net)	-5.44	6.85	22.97	2.70	6.24	4.93	5.27	4.79
MSCI EAFE Value (Gross)	-4.68	9.16	23.62	7.38	7.17	4.86	4.92	4.39
MSCI EAFE Value (Net)	-4.70	8.44	22.75	6.64	6.47	4.19	4.28	3.75

Inception Date: 09/17/2014

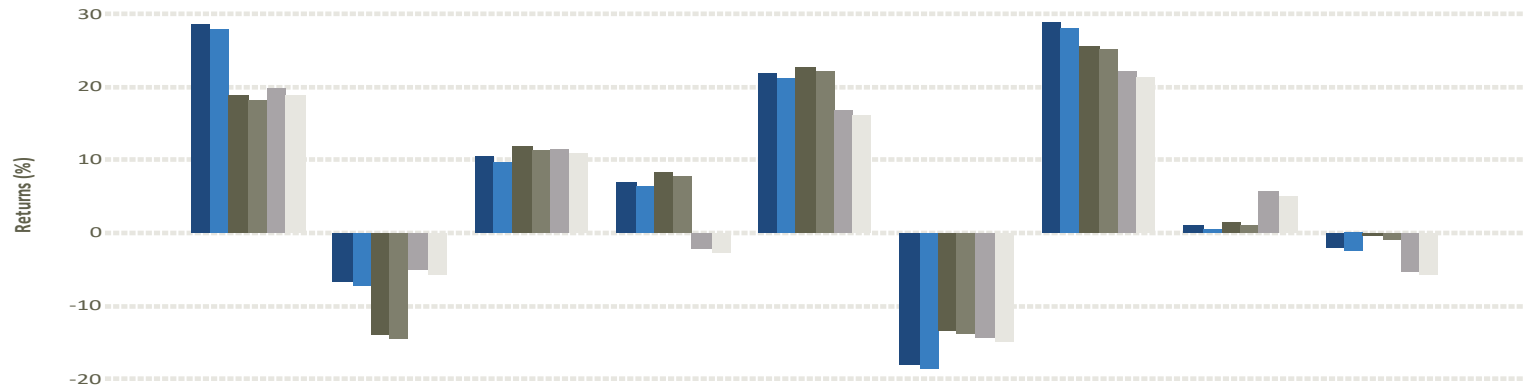
The gross performance presented is before management and custody fees but after trading expenses. Net account performance is presented after the deduction of actual management fees, performance-based fees, and all trading expenses, but before custody fees. Net benchmark performance, if shown, is presented net of dividend withholding tax.

Account returns are calculated daily. Monthly account returns are calculated by geometrically linking the daily returns. Returns are calculated monthly by weighting monthly account returns by the beginning market value. Returns include the reinvestment of interest, dividends and any capital gains. Returns are calculated gross of withholding taxes on dividends, interest and capital gains. Returns greater than one year, if any, are annualized. Past performance does not guarantee future results.



Calendar Year Performance

RETURNS



	2023	2022	2021	2020	2019	2018	2017	2016	2015
New Hampshire (Gross)	28.63	-6.64	10.37	6.88	21.85	-18.04	28.74	1.06	-1.91
New Hampshire (Net)	27.96	-7.13	9.79	6.31	21.19	-18.48	28.06	0.50	-2.44
MSCI EAFE (Gross)	18.85	-14.01	11.78	8.28	22.66	-13.36	25.62	1.51	-0.39
MSCI EAFE (Net)	18.24	-14.45	11.26	7.82	22.01	-13.79	25.03	1.00	-0.81
MSCI EAFE Value (Gross)	19.79	-4.95	11.58	-2.10	16.83	-14.26	22.12	5.68	-5.22
MSCI EAFE Value (Net)	18.95	-5.58	10.89	-2.63	16.09	-14.78	21.44	5.02	-5.68

Inception Date: 09/17/2014

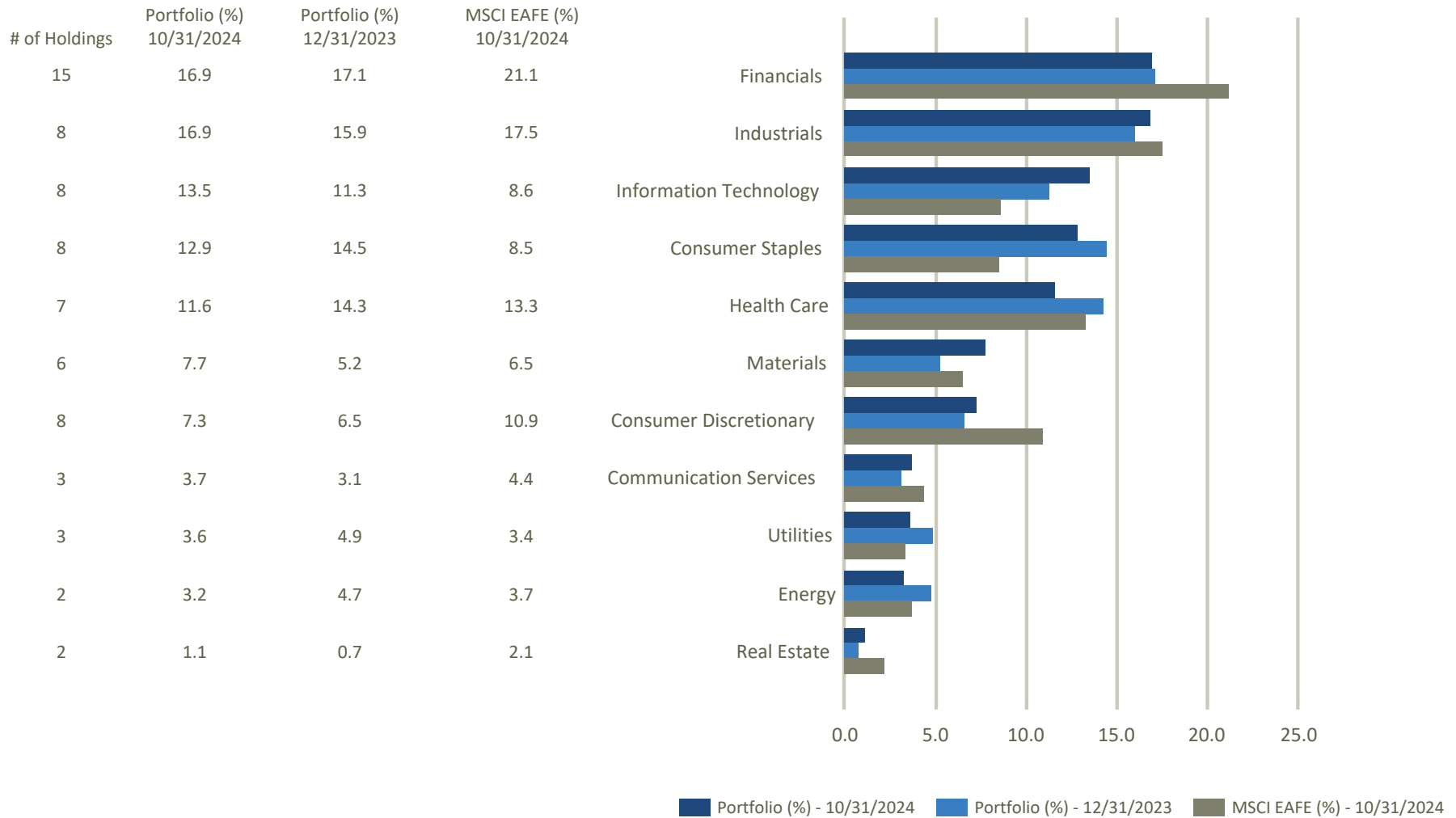
The gross performance presented is before management and custody fees but after trading expenses. Net account performance is presented after the deduction of actual management fees, performance-based fees, and all trading expenses, but before custody fees. Net benchmark performance, if shown, is presented net of dividend withholding tax.

Account returns are calculated daily. Monthly account returns are calculated by geometrically linking the daily returns. Returns are calculated monthly by weighting monthly account returns by the beginning market value. Returns include the reinvestment of interest, dividends and any capital gains. Returns are calculated gross of withholding taxes on dividends, interest and capital gains. The gross performance presented is before management and custody fees but after trading expenses. Net account performance, if shown, is presented after the deduction of actual management fees, performance-based fees, and all trading expenses, but before custody fees. Net benchmark performance, if shown, is presented net of dividend withholding tax. Returns greater than one year, if any, are annualized. Past performance does not guarantee future results.



Sector Allocation

WEIGHTS as of October 31, 2024



Industry Group Exposure and Index Performance

for the year to date through October 31, 2024 (as a result of bottom-up stock selection)

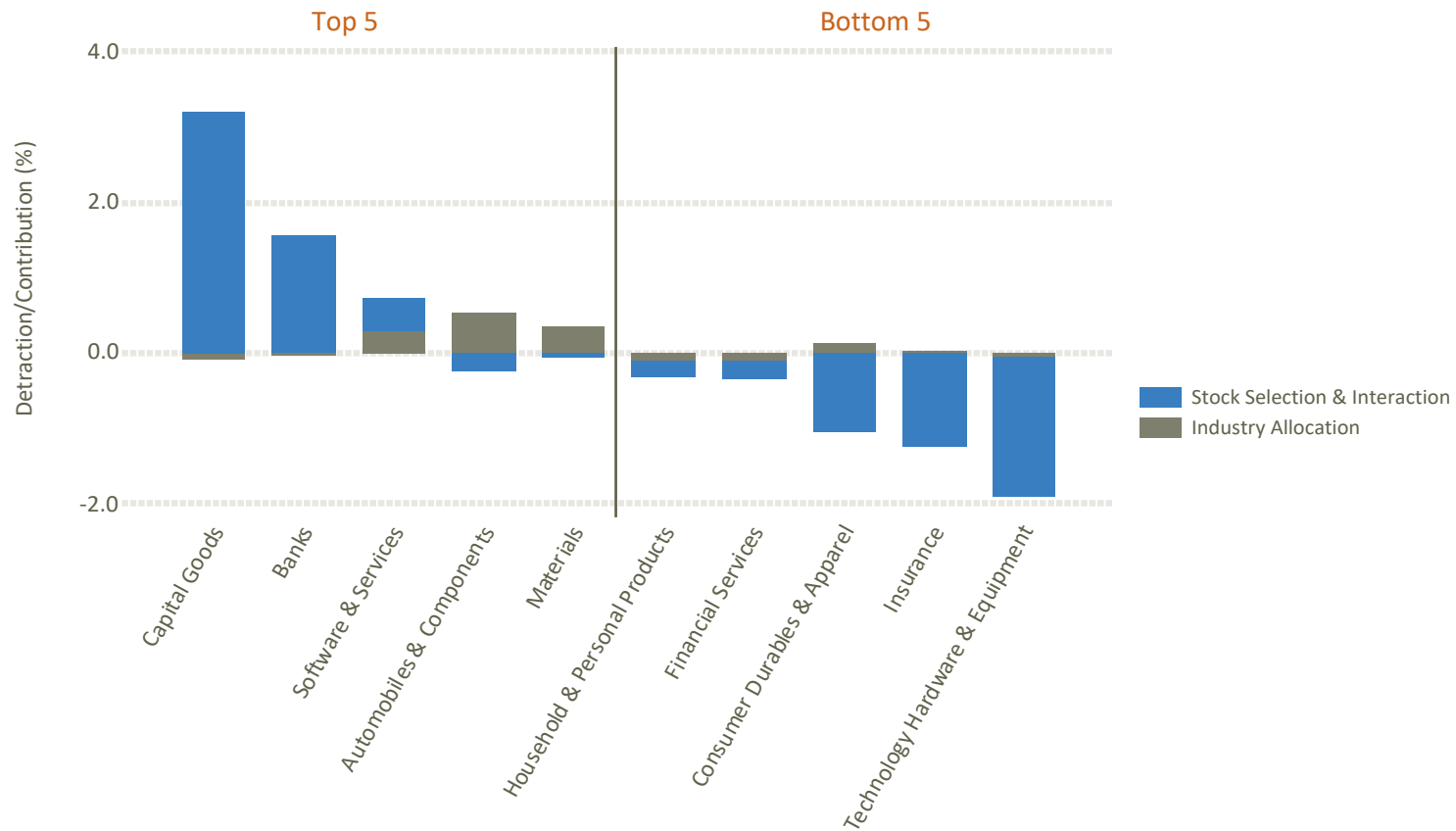
	Portfolio Weights (%)	MSCI EAFE Weights (%)	vs Index Weights (%)	Index Returns (%)
Media & Entertainment	1.7	1.6	0.2	16.7
Telecommunication Services	2.0	2.9	-0.9	12.7
Communication Services	3.7	4.4	-0.7	14.0
Automobiles & Components	0.0	3.5	-3.5	-4.7
Consumer Discretionary Distribution & Retail	1.9	1.9	0.0	24.0
Consumer Durables & Apparel	4.2	3.9	0.3	-7.0
Consumer Services	1.2	1.6	-0.4	4.0
Consumer Discretionary	7.3	10.9	-3.6	-0.4
Consumer Staples Distribution & Retail	2.0	1.1	0.9	2.0
Food Beverage & Tobacco	7.8	4.9	2.9	-5.1
Household & Personal Products	3.0	2.5	0.5	1.6
Consumer Staples	12.9	8.5	4.3	-2.3
Energy	3.2	3.7	-0.5	-5.2
Energy	3.2	3.7	-0.5	-5.2
Banks	10.7	11.3	-0.6	26.3
Financial Services	1.4	4.2	-2.9	11.4
Insurance	4.9	5.6	-0.7	18.2
Financials	16.9	21.1	-4.2	20.9
Health Care Equipment & Services	2.5	2.5	0.0	7.3
Pharmaceuticals & Biotechnology	9.1	10.8	-1.7	9.3
Health Care	11.6	13.3	-1.7	8.9
Capital Goods	13.7	13.4	0.3	13.9
Commercial & Professional Services	1.0	2.4	-1.4	19.2
Transportation	2.2	1.8	0.4	-4.4
Industrials	16.9	17.5	-0.7	12.2
Semiconductors & Semi Equipment	4.4	3.4	1.1	-10.8
Software & Services	4.7	3.1	1.6	24.3
Technology Hardware & Equipment	4.3	2.1	2.2	5.7
Information Technology	13.5	8.6	4.9	3.7
Materials	7.7	6.5	1.2	-4.1
Materials	7.7	6.5	1.2	-4.1
Equity Real Estate Investment Trusts (REITs)	1.1	1.0	0.1	4.3
Real Estate Management & Development	0.0	1.1	-1.1	2.4
Real Estate	1.1	2.1	-1.0	3.3
Utilities	3.6	3.4	0.3	3.4
Utilities	3.6	3.4	0.3	3.4
EQUITY	98.4	100.0	-	-
CASH	1.6	0.0	-	-
TOTAL	100.0	100.0	-	7.3



Index returns are in base currency. Index Source: MSCI. Relative weight defined as Portfolio weight minus Index weight.

Industry Group Attribution

PORTFOLIO vs. MSCI EAFE (Gross) for the year to date through October 31, 2024



Stock Selection & Interaction: Positive - Relative outperformance (1.52%) was due to holdings in capital goods, banks, and food beverage & tobacco; relative underperformance was due to holdings in technology hardware & equipment, insurance, and consumer durables & apparel.

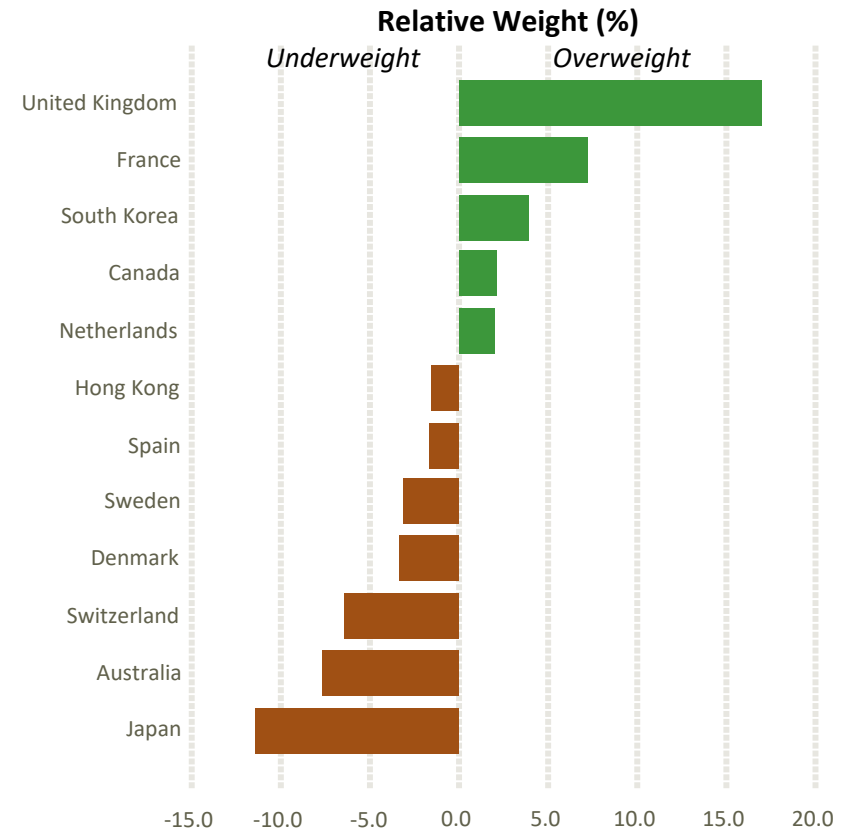
Industry Allocation: Negative - Relative underperformance (-0.44%) resulted from an overweighting in transportation and food beverage & tobacco, as well as an underweighting in semiconductors & semi equipment; relative outperformance resulted from an overweighting in software & services, as well as an underweighting in automobiles & components and materials.

Geographic Exposure and Index Performance

for the year to date through October 31, 2024 (as a result of bottom-up stock selection)

	Portfolio Weights (%)	MSCI EAFE Weights (%)	vs Index Weights (%)	Index Returns (%)
Israel	0.4	0.8	-0.4	22.9
Africa / Mideast	0.4	0.8	-0.4	-
Austria	0.0	0.2	-0.2	17.5
Belgium	1.7	1.0	0.7	14.4
Finland	0.0	1.0	-1.0	2.4
France	18.5	11.3	7.2	-0.6
Germany	8.9	9.1	-0.2	12.4
Ireland	0.0	0.3	-0.3	21.1
Italy	4.1	2.8	1.3	17.9
Netherlands	6.5	4.5	2.0	3.0
Portugal	0.0	0.2	-0.2	-14.4
Spain	1.2	2.8	-1.6	16.9
Euro	41.0	33.3	7.7	-
Denmark	0.0	3.4	-3.4	4.7
Norway	0.0	0.6	-0.6	0.3
Sweden	0.1	3.2	-3.1	3.2
Switzerland	3.5	9.9	-6.4	5.4
United Kingdom	31.8	14.7	17.0	9.1
Europe - Other	35.4	31.8	3.6	-
Canada	2.1	0.0	2.1	12.0
United States	1.0	0.0	1.0	0.0
North America	3.2	0.0	3.2	-
Australia	0.0	7.6	-7.6	6.3
Hong Kong	0.5	2.0	-1.5	4.4
Japan	11.3	22.7	-11.4	8.3
New Zealand	0.0	0.2	-0.2	-0.8
Singapore	1.0	1.5	-0.5	24.0
Pacific	12.8	34.0	-21.3	-
DEVELOPED SUBTOTAL	92.7	100.0	-	-
EMERGING SUBTOTAL	5.7	0.0	-	-
CASH	1.6	0.0	-	-
TOTAL	100.0	100.0	-	7.3

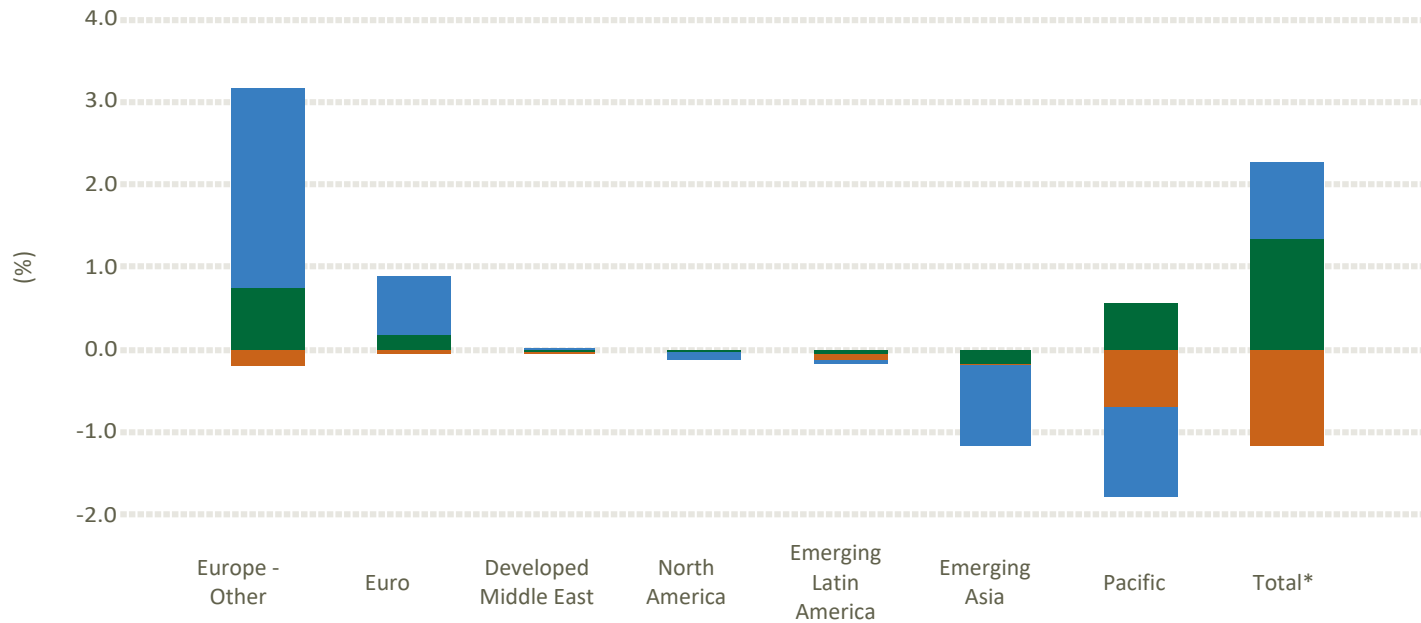
	Portfolio Weights (%)	MSCI EAFE Weights (%)	vs Index Weights (%)	Index Returns (%)
Brazil	0.4	0.0	0.4	0.0
China	1.4	0.0	1.4	21.9
South Korea	3.9	0.0	3.9	-12.0
EMERGING SUBTOTAL	5.7	0.0	-	-



Index returns are in base currency. Index Source: MSCI. Relative weight defined as Portfolio weight minus Index weight.

Regional Attribution

PORTFOLIO vs. MSCI EAFE (Gross) for the year to date through October 31, 2024



	Europe - Other	Euro	Developed Middle East	North America	Emerging Latin America	Emerging Asia	Pacific	Total*
Stock Selection	2.41	0.70	0.02	-0.11	-0.05	-0.96	-1.09	0.92
Country Allocation	-0.18	-0.05	-0.03	0.00	-0.06	-0.04	-0.70	-1.16
Currency	0.76	0.18	-0.02	-0.02	-0.06	-0.17	0.56	1.34
Total	2.99	0.84	-0.03	-0.13	-0.16	-1.16	-1.23	1.10

Stock Selection: Positive - Relative outperformance (0.92%) was due to holdings in the United Kingdom, France, and Italy; relative underperformance was due to holdings in South Korea, Japan, and Ireland.

Country Allocation: Negative - Relative underperformance (-1.16%) resulted from an overweighting in the United Kingdom and France, as well as an underweighting in Japan; relative outperformance resulted from an overweighting in Italy, as well as an underweighting in Hong Kong and Denmark.

Currency: Positive - Relative outperformance (1.34%) resulted from an overweighting in British pound and euro, as well as an underweighting in Japanese yen; relative underperformance resulted from an overweighting in South Korean won and Brazilian real, as well as an underweighting in Swiss franc.

*Total effects include cash

Absolute Significant Contributors and Detractors

for the year to date through October 31, 2024

Largest Absolute Contributors

Company Name	Weight ⁽¹⁾	Portfolio Return	Contribution to Return ⁽²⁾	Country	Industry Group
Rolls-Royce Holdings Plc	4.3%	80.1%	2.98%	United Kingdom	Capital Goods
Alstom SA	4.1%	73.1%	1.70%	France	Capital Goods
Barclays PLC	3.5%	62.2%	1.58%	United Kingdom	Banks
UniCredit S.p.A.	1.8%	70.9%	1.20%	Italy	Banks
SAP SE	2.0%	53.2%	0.93%	Germany	Software & Services
Deutsche Telekom AG	2.0%	30.3%	0.57%	Germany	Telecommunication Services
NatWest Markets Plc	0.6%	78.9%	0.48%	United Kingdom	Banks
Koninklijke Philips NV	2.0%	16.2%	0.45%	Netherlands	Health Care Equipment & Services
Tencent Holdings Ltd.	1.2%	39.7%	0.45%	China	Media & Entertainment
ING Groep NV	1.0%	22.0%	0.41%	Netherlands	Banks

Largest Absolute Detractors

Company Name	Weight ⁽¹⁾	Portfolio Return	Contribution to Return ⁽²⁾	Country	Industry Group
Kering SA	3.2%	-41.4%	-1.35%	France	Consumer Durables & Apparel
Samsung Electronics Co., Ltd.	3.4%	-28.6%	-1.29%	South Korea	Technology Hardware & Equipment
Prudential Plc	2.1%	-25.3%	-0.68%	United Kingdom	Insurance
Renesas Electronics Corp.	2.6%	-21.6%	-0.56%	Japan	Semiconductors & Semi Equipment
Akzo Nobel	2.6%	-20.8%	-0.53%	Netherlands	Materials
BP Plc	2.2%	-15.4%	-0.40%	United Kingdom	Energy
RWE AG	1.0%	-26.8%	-0.34%	Germany	Utilities
Infineon Technologies AG	1.9%	-23.8%	-0.32%	Germany	Semiconductors & Semi Equipment
Diageo Plc	2.0%	-12.8%	-0.30%	United Kingdom	Food Beverage & Tobacco
Reckitt Benckiser Group Plc	3.0%	-9.1%	-0.23%	United Kingdom	Household & Personal Products

(1) Ending period weights

(2) Geometric average using daily returns and weights

Significant Changes

for the year to date through October 31, 2024

Increases	Country	Industry Group	% Beginning Weight	% Ending Weight	Reason*
Renesas Electronics Corp.	Japan	Semiconductors & Semi Equipment	0.0%	2.6%	CD
Compagnie de Saint-Gobain SA	France	Capital Goods	0.0%	1.8%	CD, ER
Fujitsu Ltd.	Japan	Software & Services	0.0%	1.7%	CD
ArcelorMittal SA	France	Materials	0.0%	1.4%	CD, IL
Infineon Technologies AG	Germany	Semiconductors & Semi Equipment	0.6%	1.9%	CD, IL
Standard Chartered Plc	United Kingdom	Banks	0.0%	1.1%	IL
Smurfit WestRock Plc	United States	Materials	0.0%	1.0%	IL
Heineken NV	Netherlands	Food Beverage & Tobacco	0.0%	1.0%	IL
Julius Bär Gruppe AG	Switzerland	Financial Services	0.1%	0.8%	IL
Akzo Nobel	Netherlands	Materials	2.4%	2.6%	CD, IL

Decreases	Country	Industry Group	% Beginning Weight	% Ending Weight	Reason*
Novartis AG	Switzerland	Pharmaceuticals & Biotechnology	1.5%	0.0%	RV
Ryanair Holdings Plc - ADR	Ireland	Transportation	1.4%	0.0%	FR
Shell	United Kingdom	Energy	2.2%	1.0%	RB
Iberdrola SA	Spain	Utilities	1.0%	0.0%	RV
Compagnie Financière Richemont SA	Switzerland	Consumer Durables & Apparel	1.0%	0.0%	RV
Allianz SE	Germany	Insurance	1.7%	0.8%	RV
SK hynix, Inc.	South Korea	Semiconductors & Semi Equipment	0.9%	0.0%	RV
Aena S.M.E. SA	Spain	Transportation	1.4%	0.6%	RV
Danone	France	Food Beverage & Tobacco	2.2%	1.4%	RV
Rolls-Royce Holdings Plc	United Kingdom	Capital Goods	4.5%	4.3%	RB

*Key: CA = Corporate Action CD = Cyclical Discount ER = Earnings Revision FR = Fundamental Review IL = Industry Laggard RB = Rebalance of Security Weightings RV = Relative Value

New Purchases and Full Sells

for the year to date through October 31, 2024

New Purchase	Country	Industry Group	% Beginning Weight	% Ending Weight	Enter Date	Reason*
Renesas Electronics Corp.	Japan	Semiconductors & Semi Equipment	0.0%	2.6%	03/26/2024	CD
Compagnie de Saint-Gobain SA	France	Capital Goods	0.0%	1.8%	03/12/2024	CD, ER
Fujitsu Ltd.	Japan	Software & Services	0.0%	1.7%	04/11/2024	CD
ArcelorMittal SA	France	Materials	0.0%	1.4%	06/10/2024	CD, IL
Standard Chartered Plc	United Kingdom	Banks	0.0%	1.1%	05/02/2024	IL
Smurfit WestRock Plc	United States	Materials	0.0%	1.0%	08/27/2024	IL
Heineken NV	Netherlands	Food Beverage & Tobacco	0.0%	1.0%	02/15/2024	IL
Sodexo SA	France	Consumer Services	0.0%	0.6%	06/13/2024	CD, IL
Nintendo Co., Ltd.	Japan	Media & Entertainment	0.0%	0.5%	10/15/2024	IL
Worldline SA	France	Financial Services	0.0%	0.5%	03/28/2024	IL
Shinhan Financial Group Co., Ltd.	South Korea	Banks	0.0%	0.5%	08/12/2024	ER, RV
Smith & Nephew	United Kingdom	Health Care Equipment & Services	0.0%	0.5%	10/15/2024	IL
Barrick Gold	Canada	Materials	0.0%	0.4%	10/15/2024	CD, ER
Check Point Software Technologies Ltd.	Israel	Software & Services	0.0%	0.4%	06/27/2024	IL
National Grid Plc	United Kingdom	Utilities	0.0%	0.3%	07/05/2024	IL
Li Ning Co., Ltd.	China	Consumer Durables & Apparel	0.0%	0.2%	06/20/2024	CD, IL
Electrolux	Sweden	Consumer Durables & Apparel	0.0%	0.1%	10/28/2024	CD, IL

Full Sale	Country	Industry Group	% Beginning Weight	% Ending Weight	Exit Date	Reason*
Novartis AG	Switzerland	Pharmaceuticals & Biotechnology	1.5%	0.0%	07/25/2024	RV
Ryanair Holdings Plc - ADR	Ireland	Transportation	1.4%	0.0%	08/12/2024	FR
VINCI SA	France	Capital Goods	1.0%	0.0%	07/11/2024	RV
Iberdrola SA	Spain	Utilities	1.0%	0.0%	07/12/2024	RV
Alimentation Couche-Tard	Canada	Consumer Staples Distribution & Retail	1.0%	0.0%	04/18/2024	RV
Compagnie Financière Richemont SA	Switzerland	Consumer Durables & Apparel	1.0%	0.0%	04/12/2024	RV
Unilever Plc	United Kingdom	Household & Personal Products	1.0%	0.0%	03/13/2024	RV
SK hynix, Inc.	South Korea	Semiconductors & Semi Equipment	0.9%	0.0%	08/28/2024	RV
Valeo SE	France	Automobiles & Components	0.8%	0.0%	05/07/2024	FR
Bayer AG	Germany	Pharmaceuticals & Biotechnology	0.6%	0.0%	03/25/2024	FR
Sumitomo Mitsui Financial Group, Inc.	Japan	Banks	0.6%	0.0%	02/21/2024	RV
Assa Abloy AB	Sweden	Capital Goods	0.6%	0.0%	06/27/2024	RV

New Purchases and Full Sells

for the year to date through October 31, 2024

Rio Tinto Plc	United Kingdom	Materials	0.5%	0.0%	04/08/2024	RV
UBS Group AG	Switzerland	Financial Services	0.4%	0.0%	01/22/2024	RV
Croda International Plc	United Kingdom	Materials	0.4%	0.0%	03/15/2024	RV
Kokusai Electric Corp.	Japan	Semiconductors & Semi Equipment	0.1%	0.0%	01/19/2024	RV
Sandvik Aktiebolag	Sweden	Capital Goods	0.1%	0.0%	01/09/2024	RV

*Key: CA = Corporate Action CD = Cyclical Discount ER = Earnings Revision FR = Fundamental Review IL = Industry Laggard RB = Rebalance of Security Weightings RV = Relative Value

Top 10 Holdings

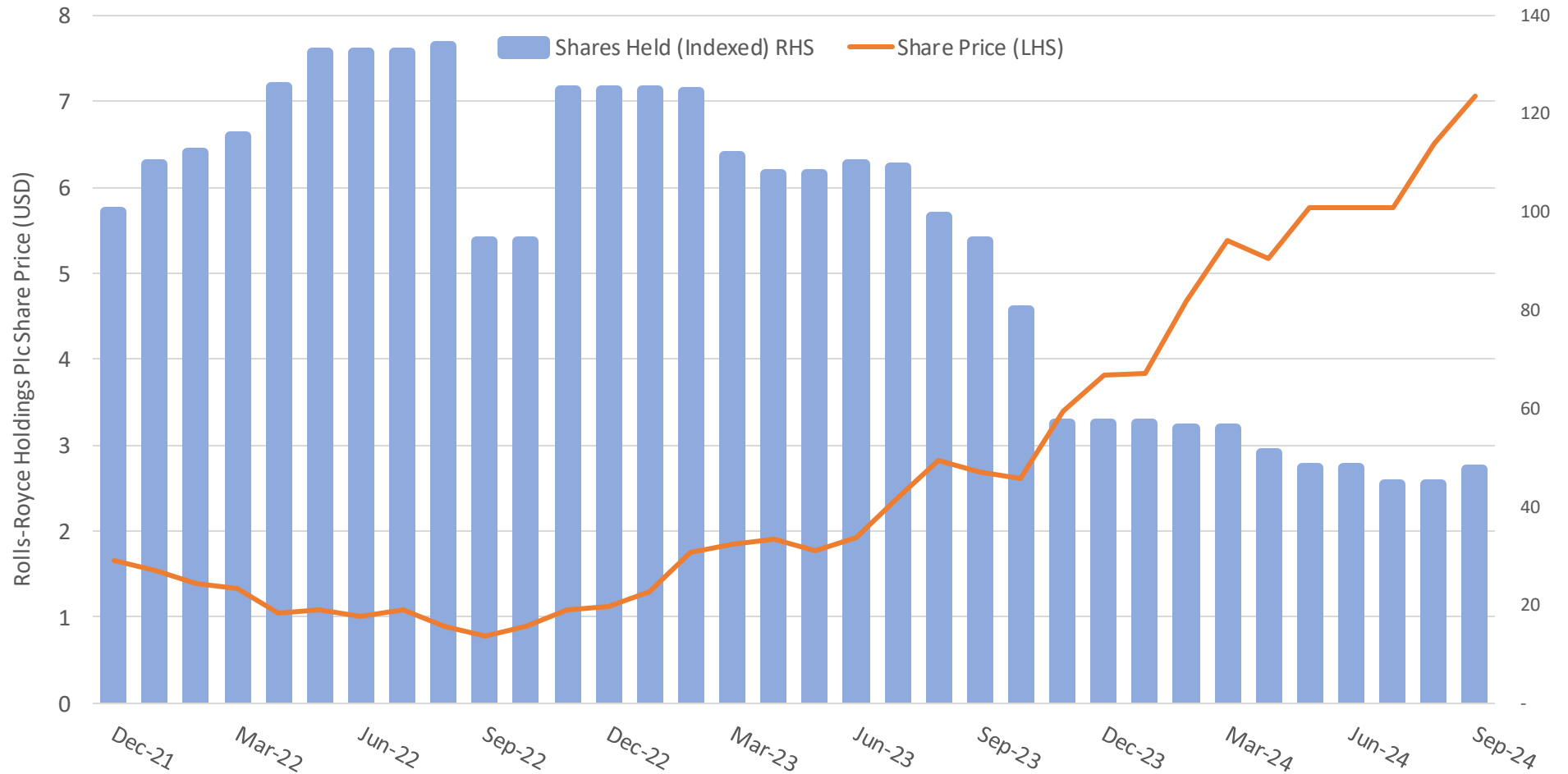
as of October 31, 2024

Aggregate Weight: 31.7%

- | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1. Rolls-Royce Holdings Plc | 4.3% | 6. Reckitt Benckiser Group Plc | 3.0% |
| <i>Capital Goods, United Kingdom</i> | | <i>Household & Personal Products, United Kingdom</i> | |
| Rolls-Royce Holdings plc manufactures aero, marine, and industrial gas turbines for civil and military aircraft. The Company designs, constructs, and installs power generation, transmission, and distribution systems and equipment for the marine propulsion, oil and gas pumping, and defense markets. | | Reckitt Benckiser Group PLC manufactures and distributes a wide range of household, toiletry, health, and food products on a global basis. The Company's products include fabric treatments, disinfectant spray and cleaners, dishwashing detergent, personal care, food, and over the counter drugs. | |
| 2. Alstom SA | 4.1% | 7. Roche Holding AG | 2.6% |
| <i>Capital Goods, France</i> | | <i>Pharmaceuticals & Biotechnology, Switzerland</i> | |
| Alstom develops and markets integrated systems for transportation sector. The Company designs and offers high-speed trains, metros, trams and e-buses to integrated systems, customized services, infrastructure, signaling, and digital mobility solutions. Alstom serves customers worldwide. | | Roche Holding AG develops and manufactures pharmaceutical and diagnostic products. The Company produces prescription drugs in the areas of cardiovascular, infectious, autoimmune, respiratory diseases, dermatology, metabolic disorders, oncology, transplantation, and the central nervous system. Roche Holding serves customers worldwide. | |
| 3. Barclays PLC | 3.5% | 8. Akzo Nobel | 2.6% |
| <i>Banks, United Kingdom</i> | | <i>Materials, Netherlands</i> | |
| Barclays PLC is a global financial services provider engaged in retail banking, credit cards, wholesale banking, investment banking, wealth management, and investment management services. | | Akzo Nobel NV manufactures and sells paints and coatings. The Company offers liquid and powder coatings which are engineered for functional properties servicing diverse end-markets, as well as provides interior and exterior decorative and protective paints products for the professional and DIY markets. Akzo Nobel serves customers worldwide. | |
| 4. Samsung Electronics Co., Ltd. | 3.4% | 9. Renesas Electronics Corp. | 2.6% |
| <i>Technology Hardware & Equipment, South Korea</i> | | <i>Semiconductors & Semi Equipment, Japan</i> | |
| Samsung Electronics Co., Ltd. manufactures a wide range of consumer and industrial electronic equipment and products such as semiconductors, personal computers, peripherals, monitors, televisions, and home appliances including air conditioners and microwave ovens. The Company also produces Internet access network systems and telecommunications equipment including mobile phones. | | Renesas Electronics Corporation researches, develops, designs and manufactures electronic components such as semiconductors and integrated devices. | |
| 5. Kering SA | 3.2% | 10. Enel SpA | 2.3% |
| <i>Consumer Durables & Apparel, France</i> | | <i>Utilities, Italy</i> | |
| Kering designs, manufactures, and markets fashion and leather goods. The Company specializes in ready-to-wear products, sports goods, shoes, jewelry, and watches. Kering serves customers worldwide. | | Enel SpA operates as a multinational power company and an integrated player in the global power, gas, and renewables markets. The Company produces energy and distributes electricity for business and household end users globally. Enel manages wind, solar, geothermal, and hydropower plants in Europe, the Americas, Africa, Asia, and Oceania. | |

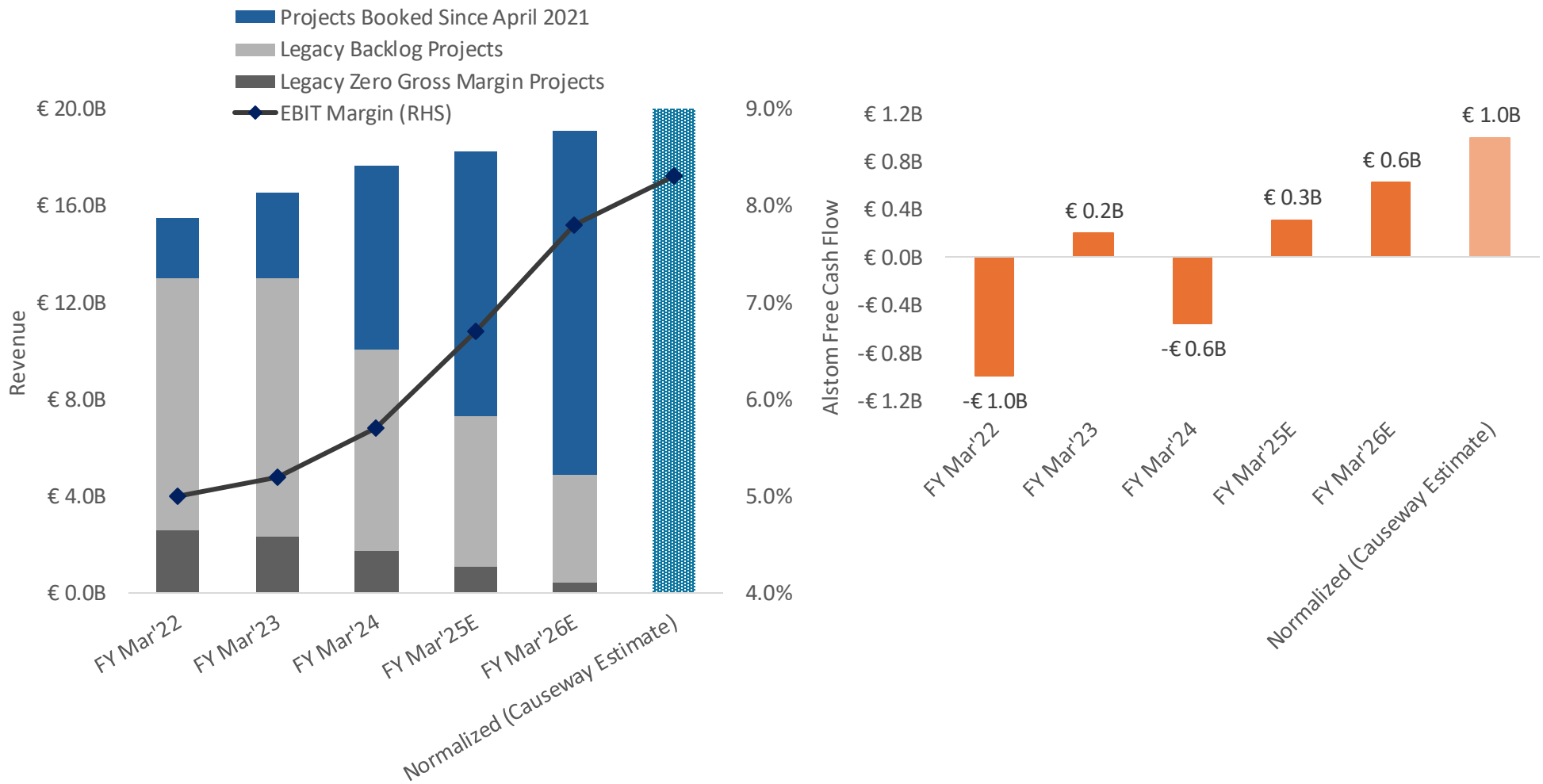
Rolls-Royce: Amid Strong Performance, We Have Sold Shares

WE BELIEVE THE INVESTMENT REMAINS ATTRACTIVE AND WE ANTICIPATE THE COMPANY'S FREE CASH FLOW SHOULD CONTINUE TO IMPROVE



Data as of September 30, 2024. Sources: Causeway analysis, FactSet. Free Cash Flow (FCF) is operating cash flow minus capital expenditures. Transaction data reflects a representative Causeway international value equity account with total shares indexed to a beginning value of 100. This material is solely for client use and may not be reproduced without Causeway's consent. The company is a top four holding in a representative account in the international value strategy. The views herein represent an assessment of a company at a specific time and are subject to change. There is no guarantee that any forecast made will come to pass. This information should not be relied on as investment advice and is not a recommendation to buy or sell any security. The securities identified and described do not represent all of the securities purchased, sold, or recommended for client accounts. Our investment portfolios may or may not hold the securities mentioned. The reader should not assume that an investment in the securities identified was or will be profitable. For performance in your overall portfolio, see elsewhere in the report.

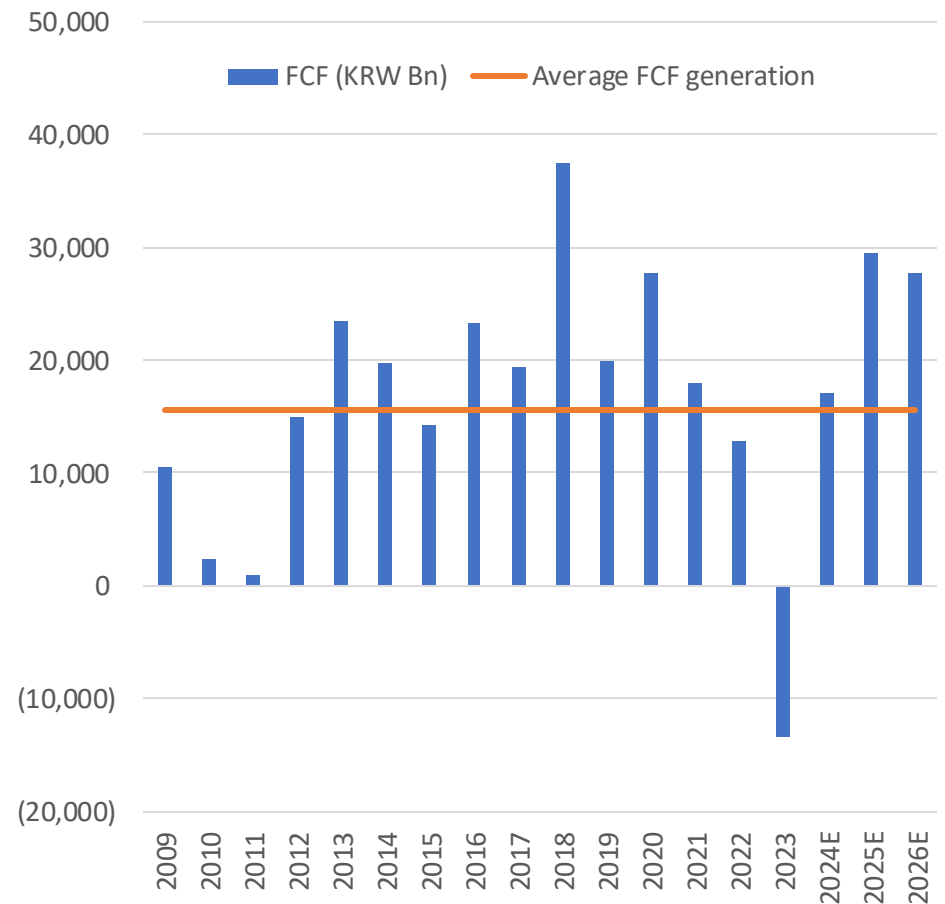
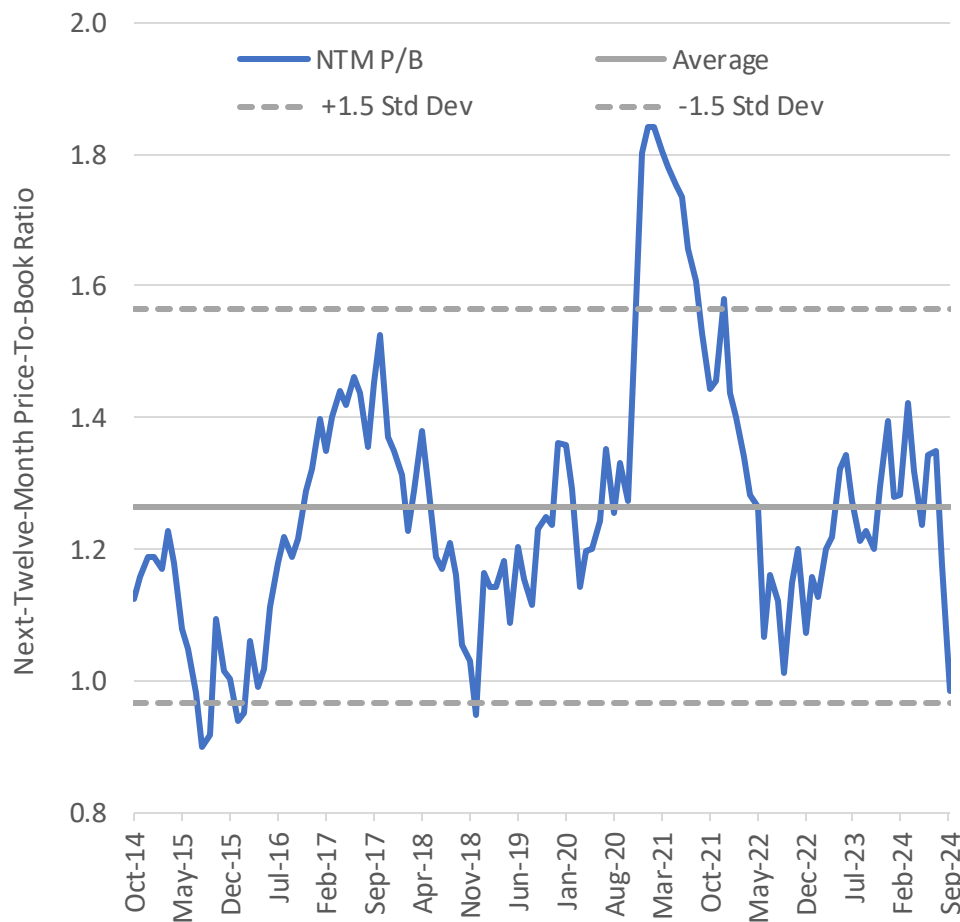
Alstom SA: As The Company Works Through Legacy Projects, The Revenue Mix Should Improve, Supporting Higher Margins and Free Cash Flow



Data as of September 30, 2024. Sources: Company reports, Causeway analysis. "EBIT" reflects Earnings Before Interest and Taxes. Free Cash Flow (FCF) is operating cash flow minus capital expenditures. The company's fiscal year ends in March. The company is a top four holding in a representative account in the international value strategy. The data reflects Causeway research's estimates. The views herein represent an assessment of a company at a specific time and are subject to change. There is no guarantee that any forecast made will come to pass. This information should not be relied on as investment advice and is not a recommendation to buy or sell any security. The securities identified and described do not represent all of the securities purchased, sold, or recommended for client accounts. Our investment portfolios may or may not hold the securities mentioned. The reader should not assume that an investment in the securities identified was or will be profitable. For performance in your overall portfolio, see elsewhere in the report.

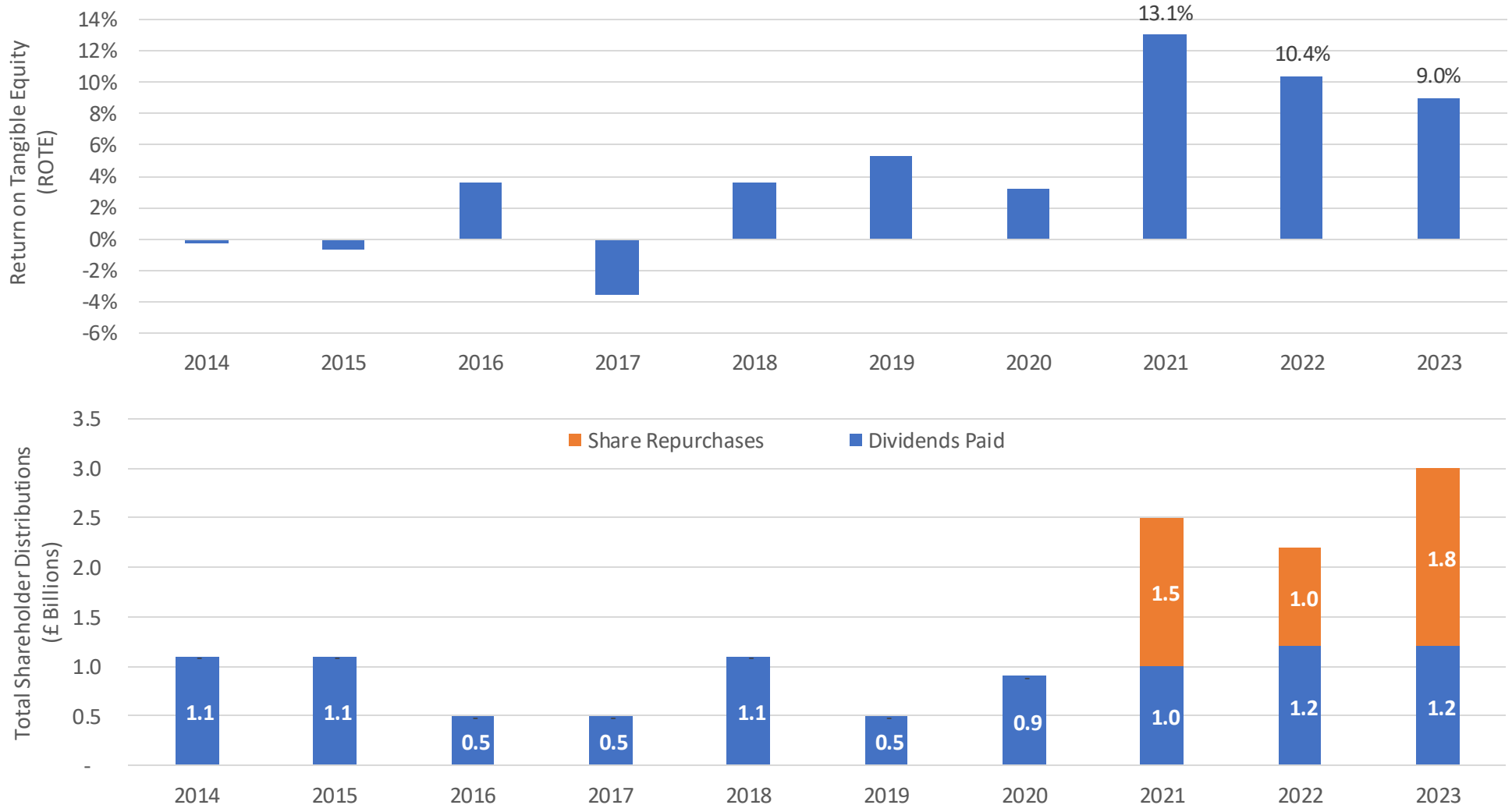
Samsung: Valuations Are Near Historic Lows And Free Cash Flow Appears Poised To Rebound

ARTIFICIAL INTELLIGENCE GROWTH IS DRIVING INCREASED DEMAND FOR SAMSUNG'S MEMORY AND SMARTPHONES



Data as of September 30, 2024. Sources: Company reports, Causeway analysis. Free Cash Flow (FCF) is operating cash flow minus capital expenditures. This material is solely for client use and may not be reproduced without Causeway's consent. The company is a top four holding in a representative account in the international value strategy. The data reflects Causeway research's estimates. The views herein represent an assessment of a company at a specific time and are subject to change. There is no guarantee that any forecast made will come to pass. This information should not be relied on as investment advice and is not a recommendation to buy or sell any security. The securities identified and described do not represent all of the securities purchased, sold, or recommended for client accounts. Our investment portfolios may or may not hold the securities mentioned. The reader should not assume that an investment in the securities identified was or will be profitable. For performance in your overall portfolio, see elsewhere in the report.

Barclays plc: Robust Returns On Equity Have Supported Continued Capital Returns To Shareholders



Data as of September 30, 2024. Sources: Company reports, Causeway analysis, FactSet. This material is solely for client use and may not be reproduced without Causeway's consent. The company is a top four holding in a representative account in the international value strategy. The data reflects Causeway research's estimates. The views herein represent an assessment of a company at a specific time and are subject to change. There is no guarantee that any forecast made will come to pass. This information should not be relied on as investment advice and is not a recommendation to buy or sell any security. The securities identified and described do not represent all of the securities purchased, sold, or recommended for client accounts. Our investment portfolios may or may not hold the securities mentioned. The reader should not assume that an investment in the securities identified was or will be profitable. For performance in your overall portfolio, see elsewhere in the report.

Exposure to Three Phases of AI Investment Opportunities

CAUSEWAY INFORMATION TECHNOLOGY AND COMMUNICATION SERVICES HOLDINGS

Phase 1: Building

The current phase. Focused on semiconductors for computing infrastructure.

Infineon
Renesas
Samsung Electronics
SK Hynix*

Phase Two: Delivery

Involves network infrastructure and end-devices. Cloud service providers and PC & smartphone manufacturers could benefit.

Murata Manufacturing
Samsung Electronics
SK Hynix*

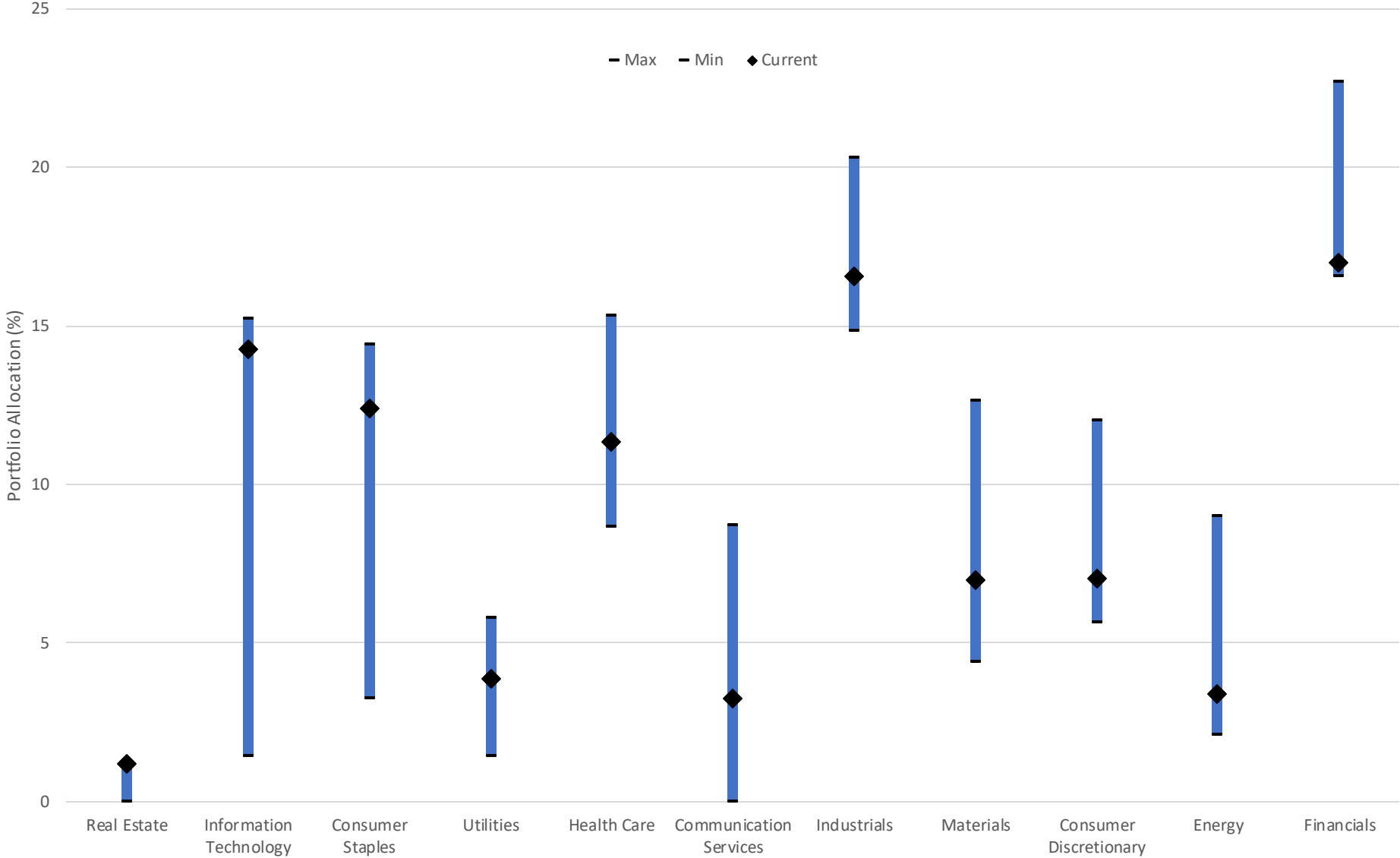
Phase Three: Deployment

Software & services providers expected to drive productivity. IT service providers can lead enterprise AI adoption and market expansion.

Fujitsu
SAP
Tencent

**SK Hynix was held during the quarter but sold prior to quarter-end. Data as of September 2024. Source: Causeway Capital Management LLC. Holdings in the Information Technology and Communication Services sectors not listed above include Deutsche Telekom and Check Point Software. Holdings are from a representative account in the international value strategy. This information should not be relied on as investment advice and is not a recommendation to buy or sell any security. The securities identified and described do not represent all of the securities purchased, sold, or recommended for client accounts. Our investment portfolios may or may not hold the securities mentioned. The reader should not assume that an investment in the securities identified was or will be profitable. For performance in your overall portfolio, see elsewhere in the report.*

10-Year Historical Range And Current Sector Allocation

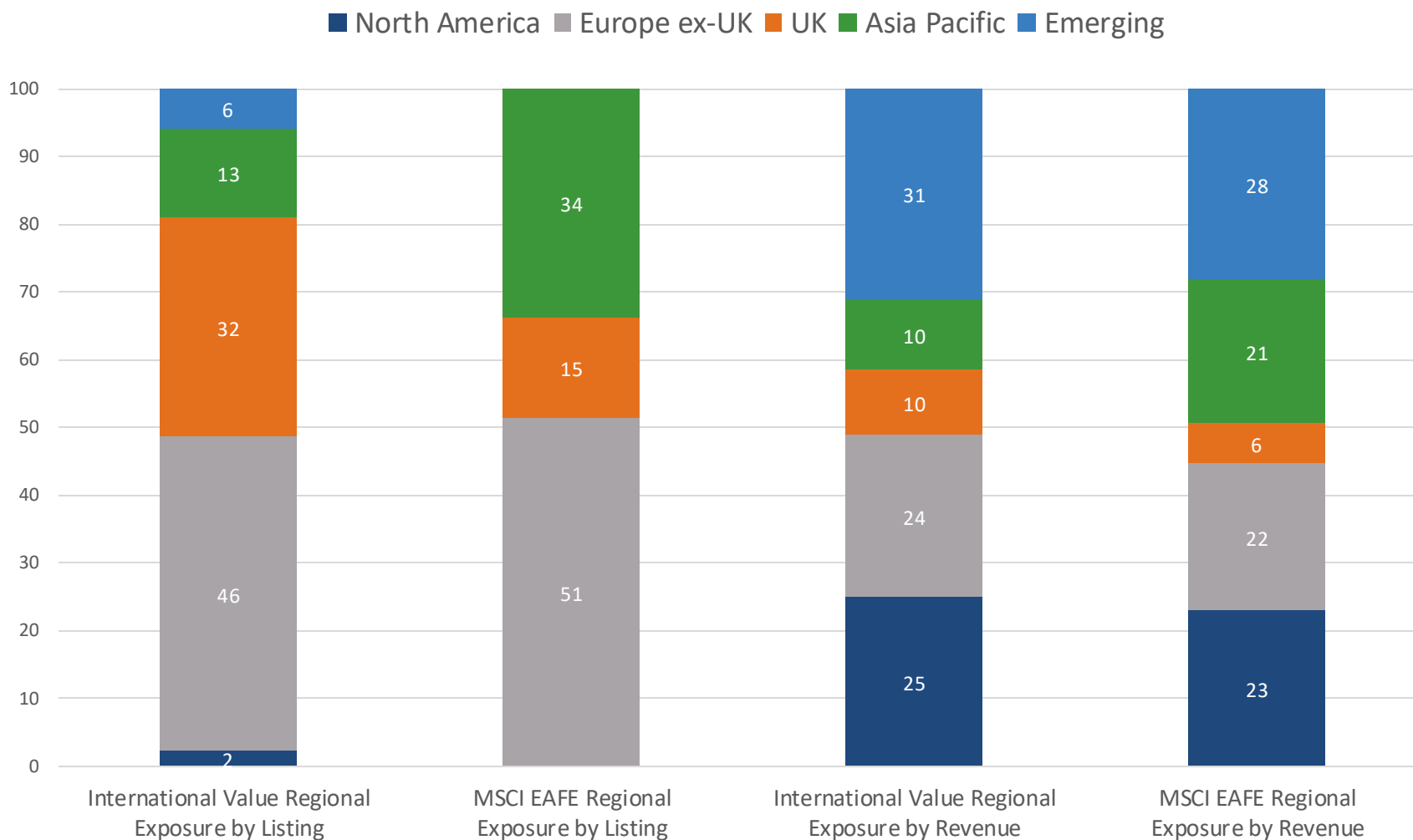


Allocation is shown for companies in each sector as of September 2024, for a representative account following Causeway's International Value Equity strategy. Source: FactSet, Causeway



Geographic Exposure By Company Revenues

REVENUE EXPOSURE VERSUS LISTING EXPOSURE



Exposure By Listing






Exposure By Revenue

Data sources: FactSet, Bloomberg, Causeway Analytics

Causeway estimates are based on latest available revenues reported by companies in a representative account portfolio on 9/30/2024, proportionate to holding weights. Israel is classified as Europe.

Top UK Holdings Are Global Franchises

REVENUE ANALYSIS SUGGESTS GREATER COUNTRY DIVERSIFICATION THAN IMPLIED BY THE LISTING

<i>Company</i>	<i>Sector</i>		<i>Listing Country</i>	<i>% Domestic Revenue</i>
Rolls Royce	Industrials		UK	13.5
Barclays	Financials		UK	52.4
Reckitt Benckiser	Staples		UK	6.1
Prudential plc	Financials		UK	0.0
BP	Energy		UK	19.0

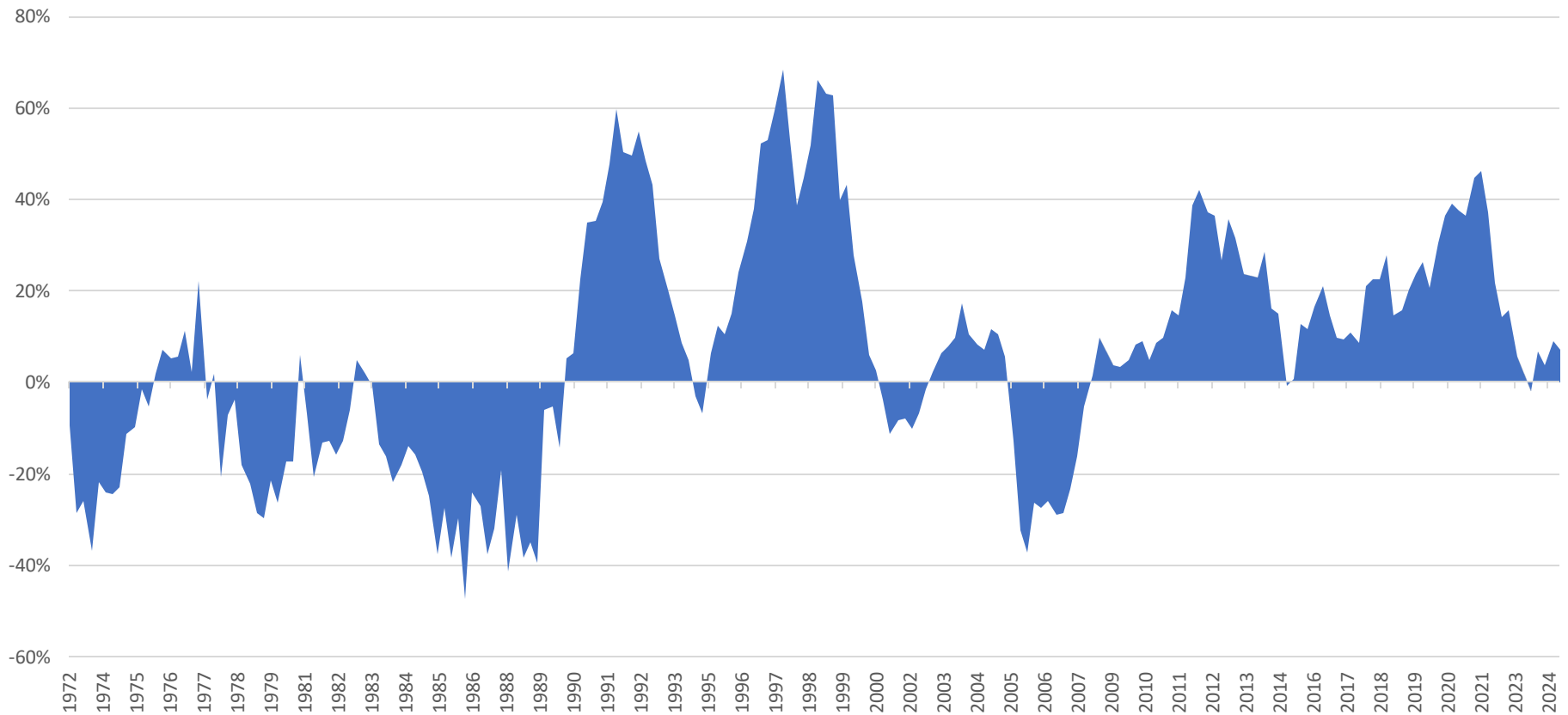
Source: FactSet. This material is solely for client use and may not be reproduced without Causeway's consent. The companies shown are the five largest UK-listed holdings in a representative account following the international value strategy as of September 2024. The securities identified and described do not represent all of the securities purchased, sold, or recommended for client accounts. Our investment portfolios may or may not hold the securities mentioned. The reader should not assume that an investment in the securities identified was or will be profitable. For performance in your overall portfolio, see elsewhere in the report.

US Versus International Stock Performance Moves In Multi-Year Cycles

MSCI USA INDEX MINUS MSCI WORLD EX-USA INDEX (3-YEAR ROLLING RETURNS)

MSCI USA Index - MSCI World ex-USA Index (3-Year Rolling Returns)

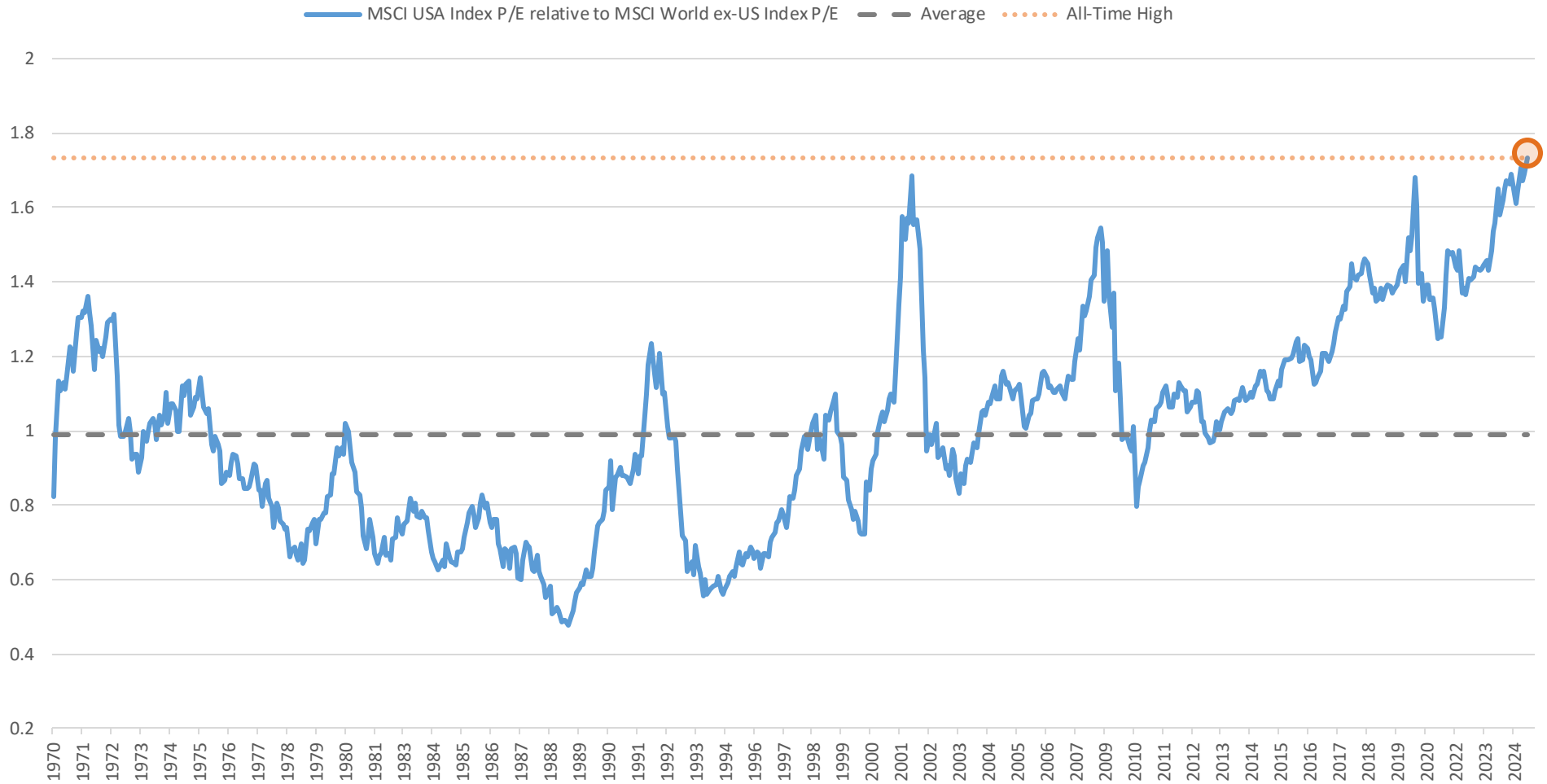
Local Currency Returns



As of September 2024. Source: FactSet, Causeway Analytics

US Stock Valuation Premium Hits New All-Time Highs

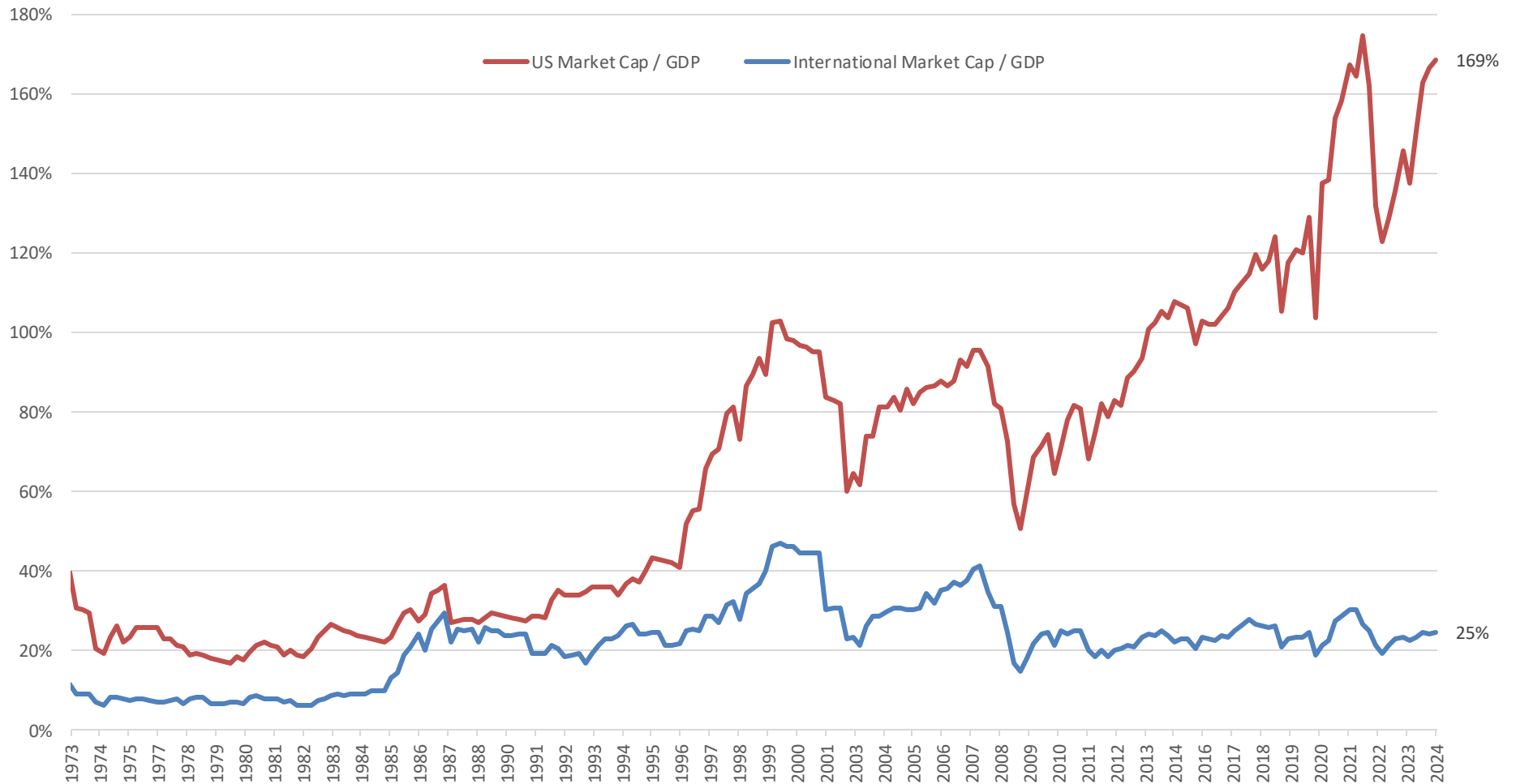
CAN US INVESTORS COUNT ON CONTINUED MULTIPLE EXPANSION TO DRIVE RELATIVE PERFORMANCE?



As of September 2024. P/E calculated using the last twelve months earnings. Source: FactSet

Can US Stocks Continue To Outgrow Their Economy?

THE US REPRESENTS 65% OF THE GLOBAL MARKET CAP, BUT ONLY 25% OF GLOBAL GDP, AND 4% OF THE GLOBAL POPULATION

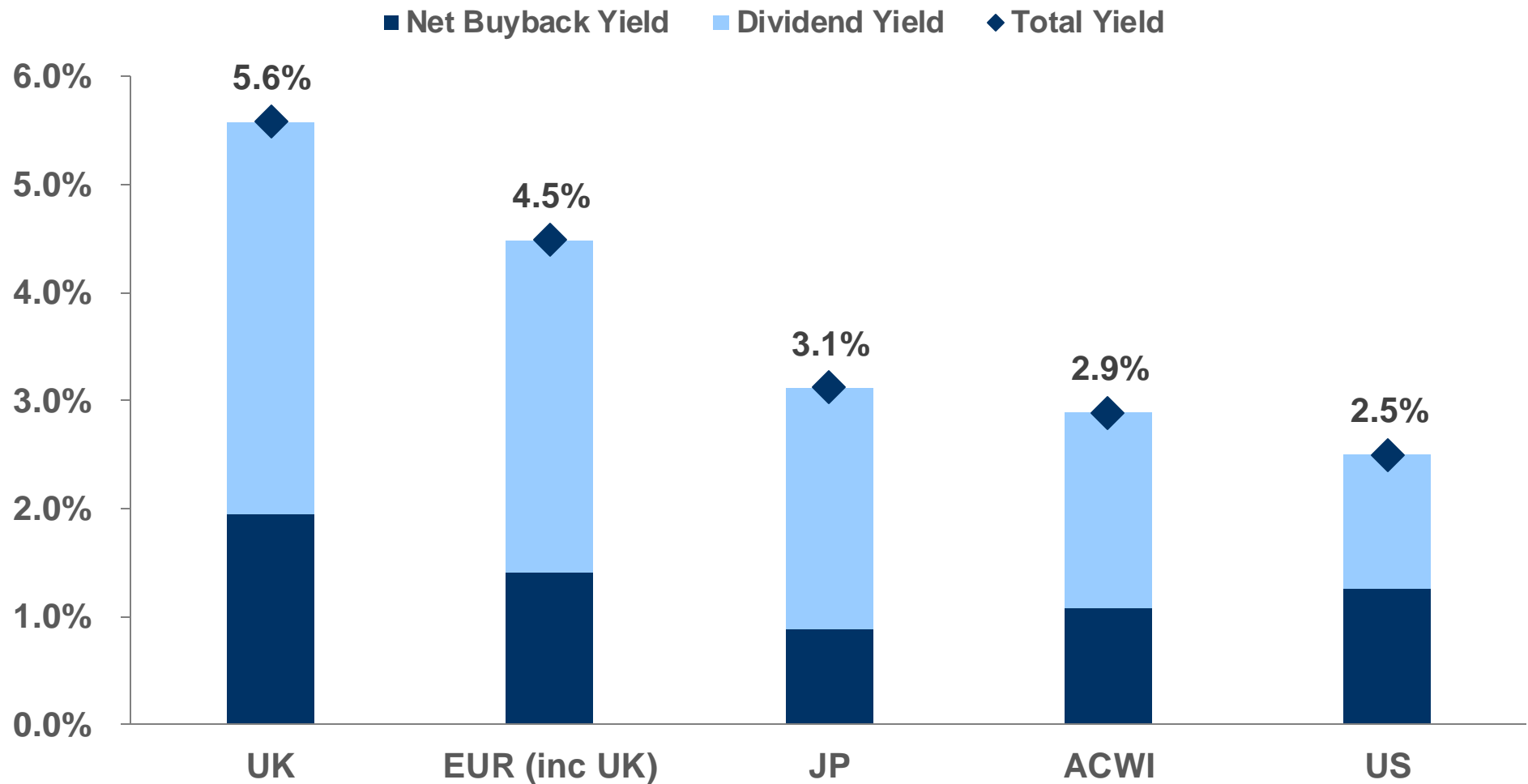


Data as of September 2024.

Sources: Bloomberg, IMF, World Bank. GDP=Gross Domestic Product. US = MSCI USA Index. International = MSCI ACWI ex USA Index (1980-present), MSCI World Ex USA Index (1970-1980)

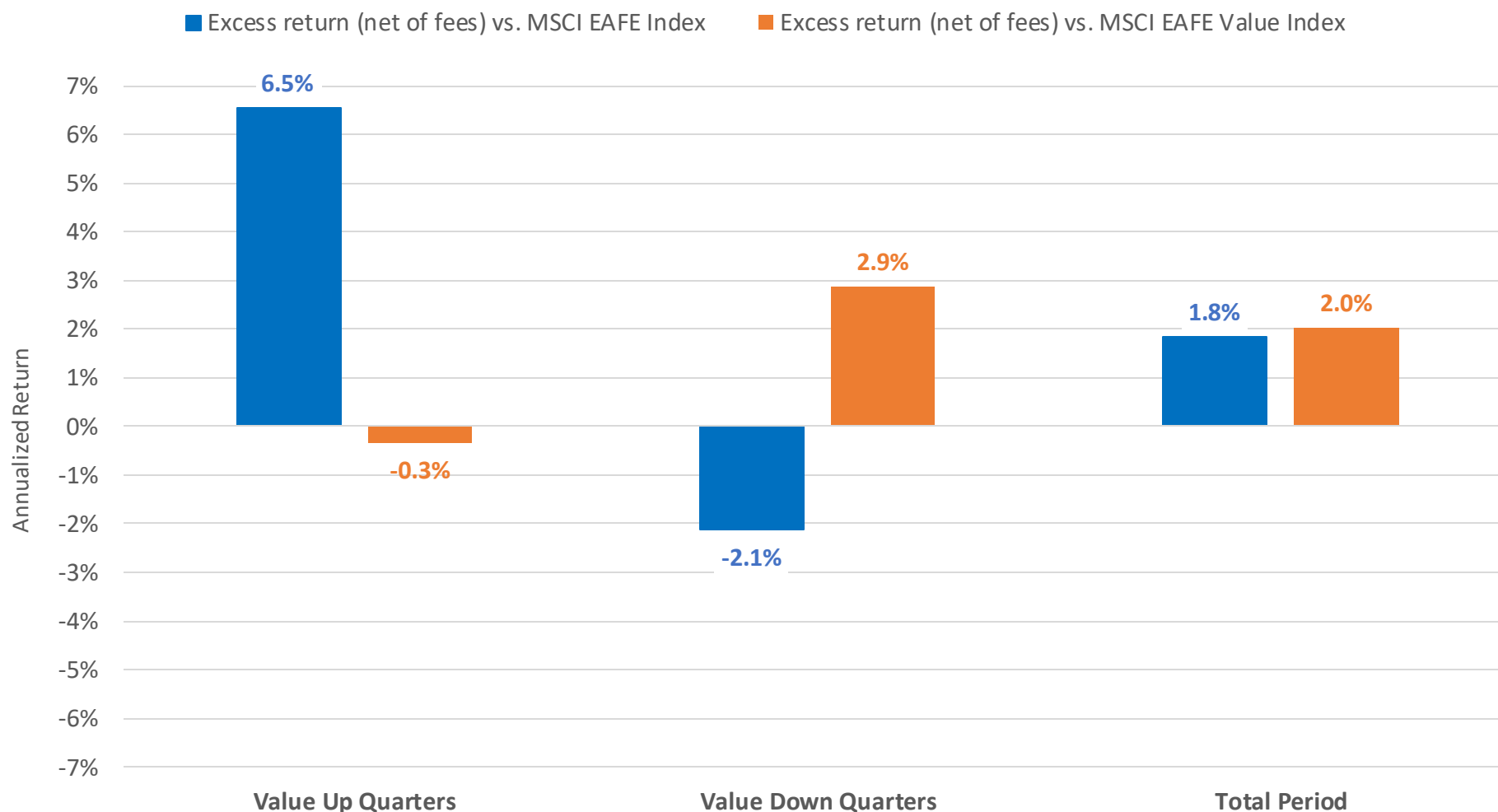
European Regions Currently Offer The Highest Total Yield Globally

UK TOTAL YIELD OFFERS APPROXIMATELY DOUBLE THAT OF THE US



As of September 2024. The buyback yield is the value of all stock buyback announcements by all companies in these countries over the most recent 12 months as a percentage of the total market cap of the indices. Source: FactSet

Causeway International Value Equity Strategy Has Outperformed Core And Value Indices Since Inception



Net of fee performance from inception of Causeway International Value Equity Strategy (July 1, 2001 through September 2024). Returns are annualized. This information supplements the attached composite presentation. Source: FactSet

Disclosures

This presentation is as of September 2024 and should not be relied on as research or investment advice regarding any investment. These views and characteristics are subject to change, and there is no guarantee that any forecasts made will come to pass. Forecasts are subject to numerous assumptions, risks and uncertainties which change over time, and Causeway undertakes no duty to update any such forecasts. Our investment portfolio may or may not hold the securities mentioned, and the securities identified and described do not represent all of the securities purchased, sold or recommended for client accounts. The recipient should not assume that an investment in the securities identified was or will be profitable. Information and data presented has been developed internally and/or obtained from sources believed to be reliable; however, Causeway does not guarantee the accuracy, adequacy or completeness of such information.

Past performance is no guarantee of future performance. In addition to the normal risks associated with investing, international investments may involve risk of capital loss from unfavorable fluctuation in currency values, from differences in generally accepted accounting principles or from economic or political instability in other nations. Emerging markets involve heightened risks related to the same factors as well as increased volatility and lower trading volume. Investments in smaller companies involve additional risks and typically exhibit higher volatility.

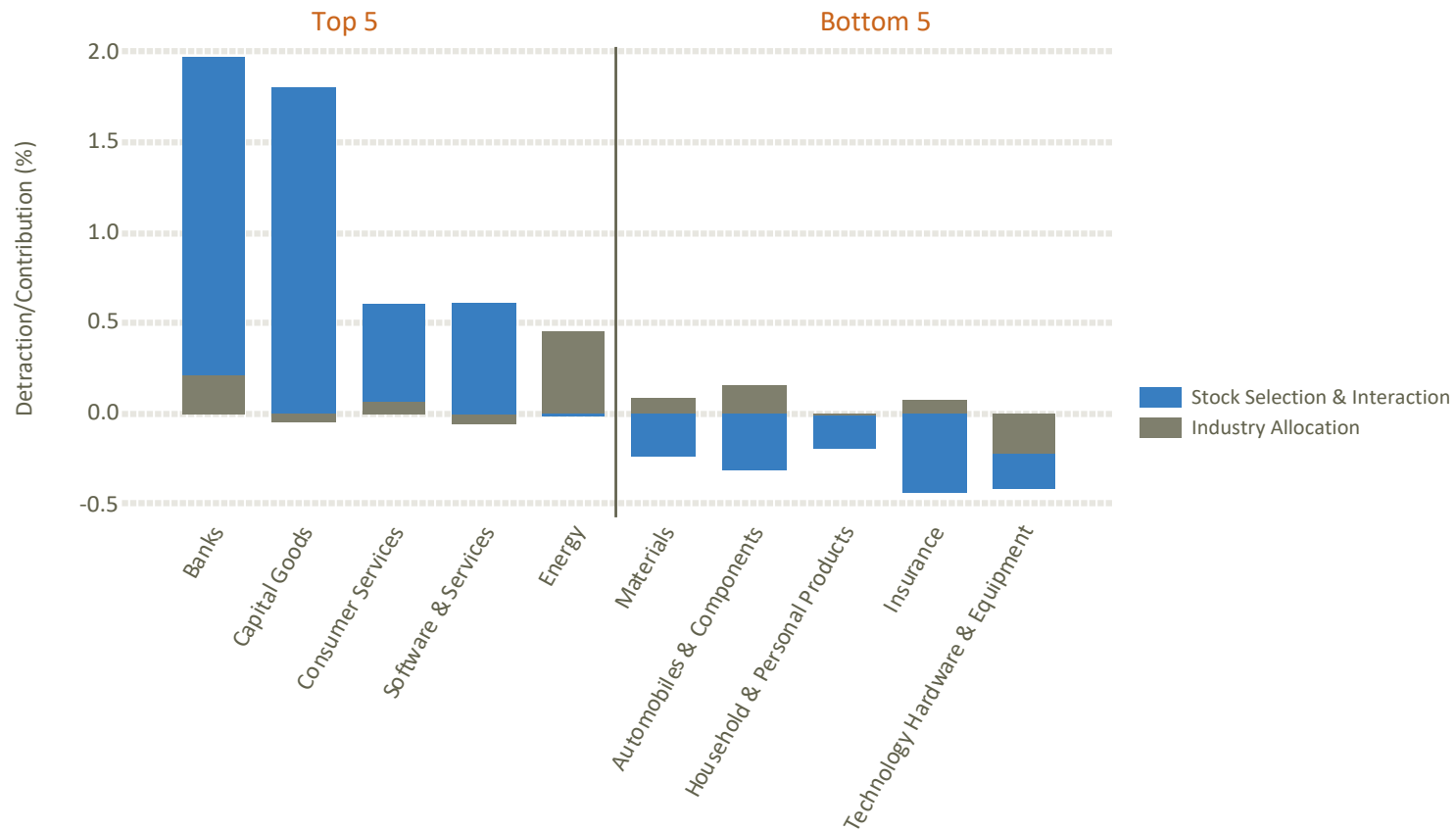
Index definitions: The MSCI EAFE Index is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the U.S. & Canada. The MSCI World Index captures large and mid-cap representation across 23 Developed Markets countries. The MSCI World ex USA Index captures large and mid-cap representation across 22 of 23 Developed Markets countries - excluding the United States. The MSCI Emerging Markets Index captures large and mid cap representation across 24 Emerging Markets (EM) countries. The MSCI Value variations of the indices are a subset of the referenced index, and target 50% coverage of the respective indices, with value investment style characteristics for index construction using three variables: book value to price, 12-month forward earnings to price, and dividend yield. The MSCI Growth variations of the indices are also a subset of the referenced index, and target the remaining 50% coverage of the respective indices. The MSCI Europe Index captures large and mid cap representation across 15 Developed Markets countries in Europe. The MSCI USA Index is designed to measure the performance of the large and mid cap segments of the US market. With 619 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the US. The performance of the indices is gross of withholding taxes, assumes reinvestment of dividends and capital gains, and assumes no management, custody, transaction or other expenses. The MSCI World ex USA Index captures large and mid-cap representation across 22 of 23 Developed Markets countries - excluding the United States. It is not possible to invest directly in an index. MSCI has not approved, reviewed or produced this report, makes no express or implied warranties or representations and is not liable whatsoever for any data in the report. You may not redistribute the MSCI data or use it as a basis for other indices or investment products. Accounts in the strategy may invest in countries not included in the MSCI EAFE Index. The Standard and Poor's 500, or simply the S&P 500, is a stock market index tracking the stock performance of 500 of the largest companies listed on stock exchanges in the United States. Accounts will not be invested in all the constituent securities of their benchmark indices at all times, and may hold securities not included in their benchmark indices.

For further information on the risks regarding investing in Causeway's strategies, please go to: <https://www.causewaycap.com/wp-content/uploads/Risk-Disclosures.pdf>

3-Year Attribution

Industry Group Attribution

PORTFOLIO vs. MSCI EAFE (Gross) for the three years ended October 31, 2024

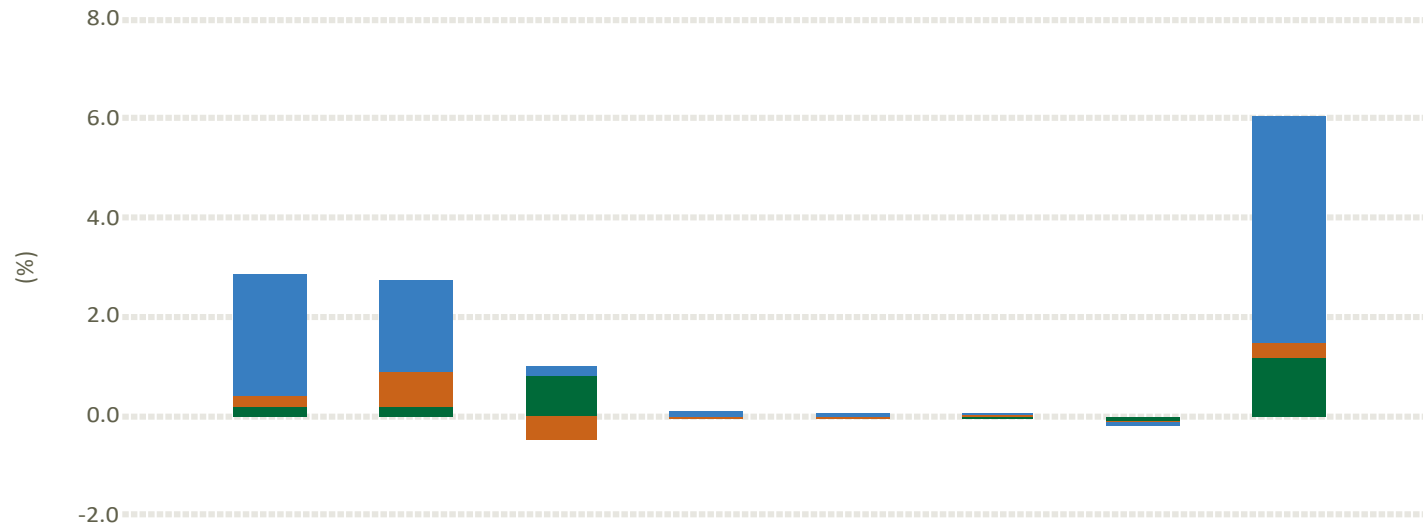


Stock Selection & Interaction: Positive - Relative outperformance (4.79%) was due to holdings in capital goods, banks, and software & services; relative underperformance was due to holdings in insurance, automobiles & components, and consumer durables & apparel.

Industry Allocation: Positive - Relative outperformance (1.26%) resulted from an overweighting in energy and pharmaceuticals & biotechnology, as well as an underweighting in equity real estate investment trusts (REITS); relative underperformance resulted from an overweighting in technology hardware & equipment and food beverage & tobacco, as well as an underweighting in semiconductors & semi equipment.

Regional Attribution

PORTFOLIO vs. MSCI EAFE (Gross) for the three years ended October 31, 2024



	Europe - Other	Euro	Pacific	Emerging Latin America	North America	Developed Middle East	Emerging Asia	Total*
Stock Selection	2.45	1.86	0.19	0.10	0.08	0.01	-0.10	4.59
Country Allocation	0.22	0.71	-0.48	-0.04	-0.01	0.04	-0.03	0.32
Currency	0.18	0.19	0.80	0.00	-0.01	0.00	-0.09	1.17
Total	2.86	2.76	0.51	0.06	0.06	0.04	-0.22	6.08

- Stock Selection:** Positive - Relative outperformance (4.59%) was due to holdings in the United Kingdom, Italy, and Switzerland; relative underperformance was due to holdings in Japan, South Korea, and France.
- Country Allocation:** Positive - Relative outperformance (0.32%) resulted from an overweighting in Italy, as well as an underweighting in Hong Kong and Switzerland; relative underperformance resulted from an underweighting in Japan, Australia, and Denmark.
- Currency:** Positive - Relative outperformance (1.17%) resulted from an overweighting in British pound and euro, as well as an underweighting in Japanese yen; relative underperformance resulted from an overweighting in South Korean won, as well as an underweighting in Swiss franc and Singapore dollar.

*Total effects include cash

Absolute Significant Contributors and Detractors

for the three years ended October 31, 2024

Largest Absolute Contributors

Company Name	Weight ⁽¹⁾	Portfolio Return	Contribution to Return ⁽²⁾	Country	Industry Group
Rolls-Royce Holdings Plc	4.3%	55.9%	2.44%	United Kingdom	Capital Goods
UniCredit S.p.A.	1.8%	56.8%	1.61%	Italy	Banks
Barclays PLC	3.5%	7.6%	0.48%	United Kingdom	Banks
SAP SE	2.0%	19.2%	0.44%	Germany	Software & Services
ING Groep NV	1.0%	12.0%	0.42%	Netherlands	Banks
Deutsche Telekom AG	2.0%	16.2%	0.38%	Germany	Telecommunication Services
AXA SA	1.2%	15.6%	0.31%	France	Insurance
Compagnie Financière Richemont SA	0.0%	32.1%	0.31%	Switzerland	Consumer Durables & Apparel
Industria de Diseño Textil SA	0.0%	22.6%	0.28%	Spain	Consumer Discretionary Distribution & Retail
Novartis AG	0.0%	16.1%	0.28%	Switzerland	Pharmaceuticals & Biotechnology

Largest Absolute Detractors

Company Name	Weight ⁽¹⁾	Portfolio Return	Contribution to Return ⁽²⁾	Country	Industry Group
Kering SA	3.2%	-23.7%	-0.53%	France	Consumer Durables & Apparel
Prudential Plc	2.1%	-25.0%	-0.45%	United Kingdom	Insurance
Samsung Electronics Co., Ltd.	3.4%	-8.6%	-0.27%	South Korea	Technology Hardware & Equipment
FANUC Corp.	2.2%	-9.7%	-0.24%	Japan	Capital Goods
Credit Suisse Group AG	0.0%	-20.1%	-0.22%	Switzerland	Financial Services
Volkswagen AG	0.0%	-12.3%	-0.20%	Germany	Automobiles & Components
Valeo SE	0.0%	-22.0%	-0.20%	France	Automobiles & Components
Diageo Plc	2.0%	-9.6%	-0.20%	United Kingdom	Food Beverage & Tobacco
Renesas Electronics Corp.	2.6%	-7.8%	-0.19%	Japan	Semiconductors & Semi Equipment
Reckitt Benckiser Group Plc	3.0%	-8.8%	-0.19%	United Kingdom	Household & Personal Products

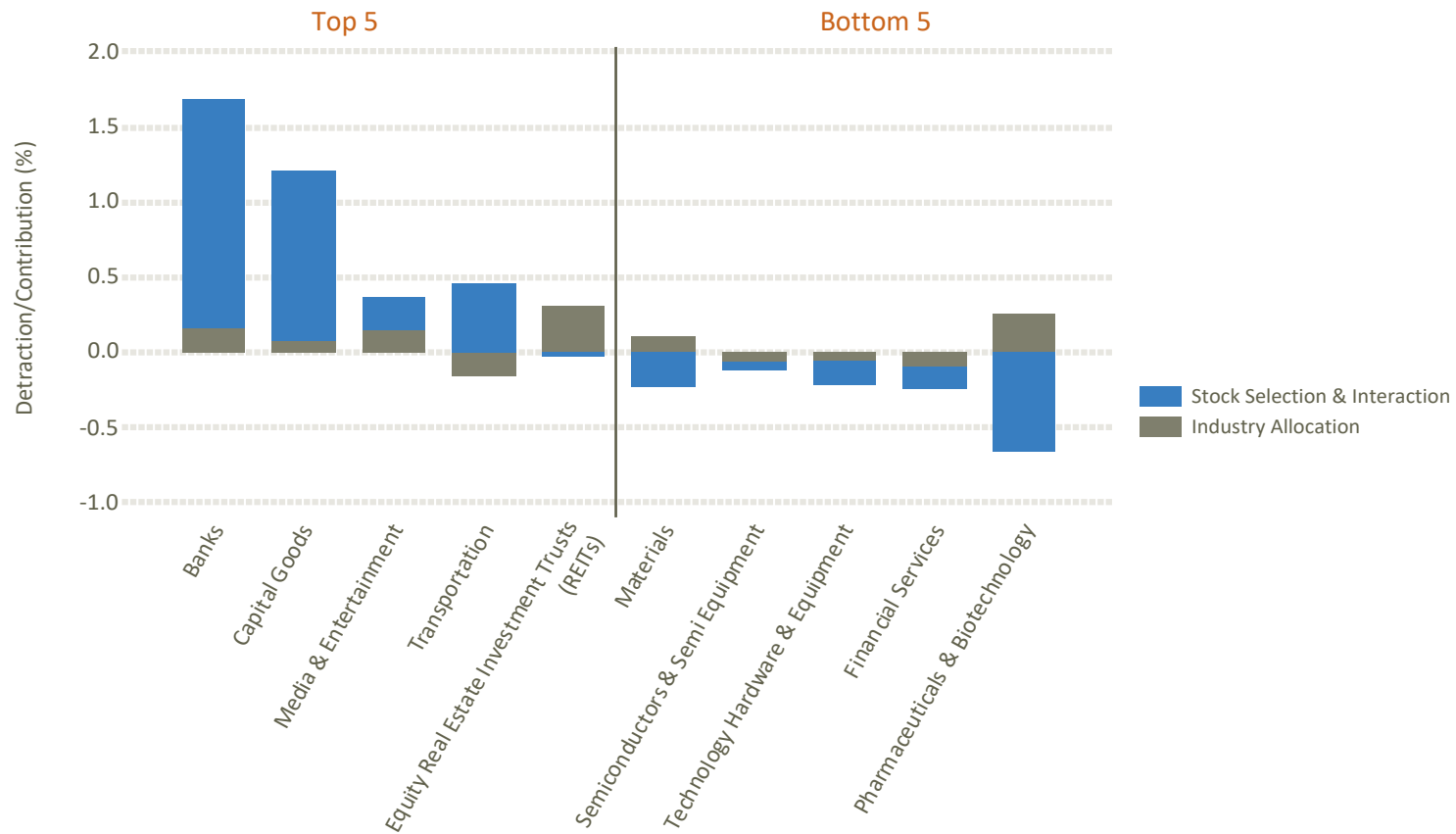
(1) Ending period weights

(2) Geometric average using daily returns and weights

5-Year Attribution

Industry Group Attribution

PORTFOLIO vs. MSCI EAFE (Gross) for the five years ended October 31, 2024

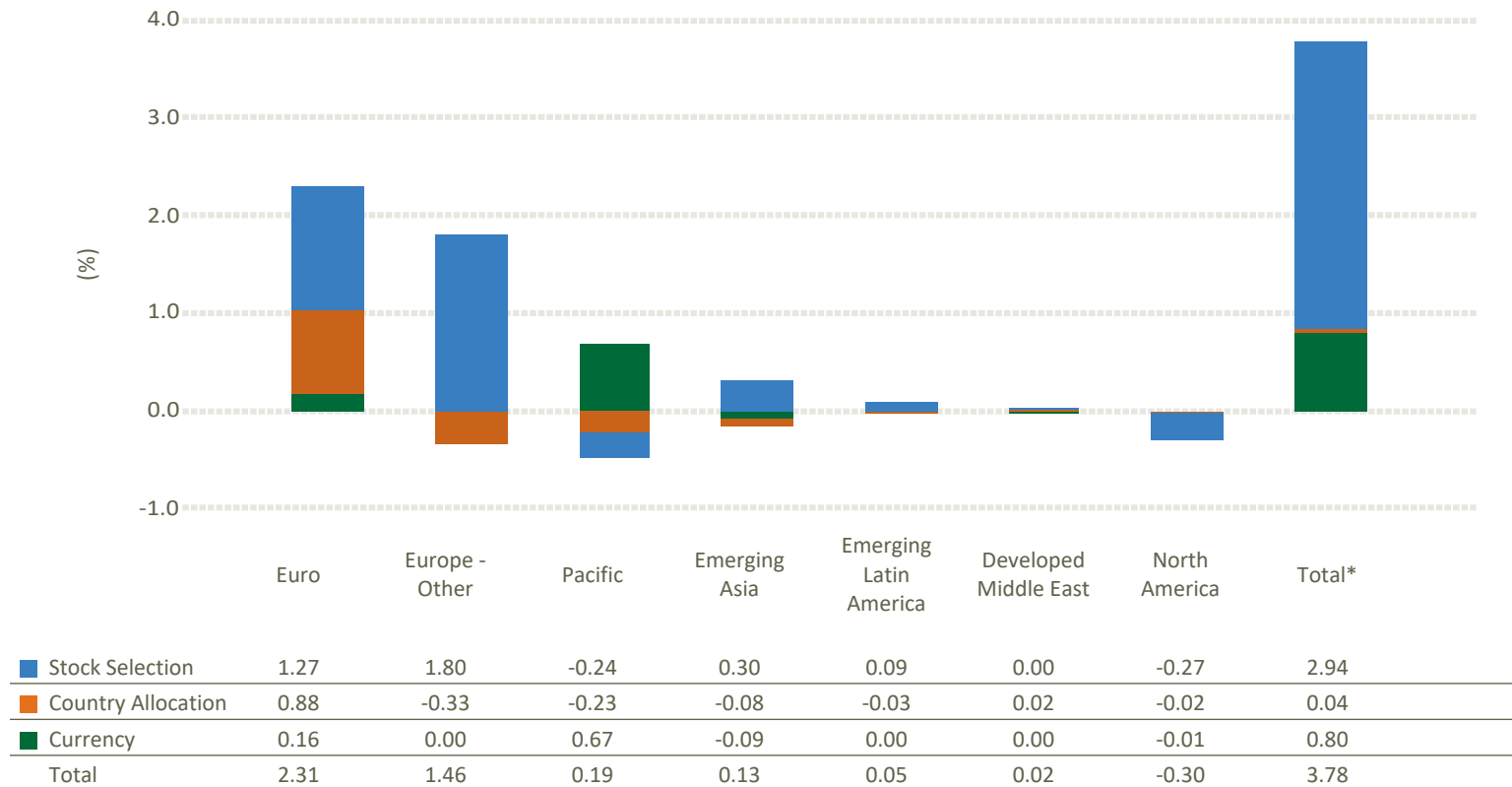


Stock Selection & Interaction: Positive - Relative outperformance (2.37%) was due to holdings in banks, capital goods, and transportation; relative underperformance was due to holdings in pharmaceuticals & biotechnology, energy, and materials.

Industry Allocation: Positive - Relative outperformance (1.38%) resulted from an overweighting in pharmaceuticals & biotechnology and energy, as well as an underweighting in equity real estate investment trusts (REITs); relative underperformance resulted from an overweighting in transportation, as well as an underweighting in financial services and semiconductors & semi equipment.

Regional Attribution

PORTFOLIO vs. MSCI EAFE (Gross) for the five years ended October 31, 2024



Stock Selection: Positive - Relative outperformance (2.94%) was due to holdings in the United Kingdom, Germany, and Italy; relative underperformance was due to holdings in France, Canada, and Japan.

Country Allocation: Neutral - Relative outperformance (0.04%) resulted from an overweighting in Italy and France, as well as an underweighting in Hong Kong; relative underperformance resulted from an overweighting in the United Kingdom, as well as an underweighting in Japan and Denmark.

Currency: Positive - Relative outperformance (0.80%) resulted from an overweighting in euro and British pound, as well as an underweighting in Japanese yen; relative underperformance resulted from an overweighting in South Korean won, as well as an underweighting in Swiss franc and Australian dollar.

*Total effects include cash

Absolute Significant Contributors and Detractors

for the five years ended October 31, 2024

Largest Absolute Contributors

Company Name	Weight ⁽¹⁾	Portfolio Return	Contribution to Return ⁽²⁾	Country	Industry Group
Rolls-Royce Holdings Plc	4.3%	15.9%	1.27%	United Kingdom	Capital Goods
UniCredit S.p.A.	1.8%	32.5%	1.09%	Italy	Banks
ING Groep NV	1.0%	14.6%	0.59%	Netherlands	Banks
Compagnie Financière Richemont SA	0.0%	30.4%	0.44%	Switzerland	Consumer Durables & Apparel
Barclays PLC	3.5%	10.0%	0.41%	United Kingdom	Banks
Siemens AG	0.0%	19.2%	0.41%	Germany	Capital Goods
AXA SA	1.2%	17.4%	0.40%	France	Insurance
SAP SE	2.0%	13.8%	0.38%	Germany	Software & Services
ABB Ltd.	0.0%	13.8%	0.31%	Switzerland	Capital Goods
Airbus SE	0.0%	17.4%	0.30%	France	Capital Goods

Largest Absolute Detractors

Company Name	Weight ⁽¹⁾	Portfolio Return	Contribution to Return ⁽²⁾	Country	Industry Group
Kering SA	3.2%	-15.0%	-0.32%	France	Consumer Durables & Apparel
Shell	0.0%	-12.1%	-0.19%	United Kingdom	Energy
Credit Suisse Group AG	0.0%	-14.8%	-0.18%	Switzerland	Financial Services
Prudential Plc	2.1%	-12.2%	-0.17%	United Kingdom	Insurance
Air France-KLM SA	0.0%	-21.0%	-0.14%	France	Transportation
Bayer AG	0.0%	-15.3%	-0.14%	Germany	Pharmaceuticals & Biotechnology
Micro Focus International Plc	0.0%	-19.1%	-0.14%	United Kingdom	Software & Services
FANUC Corp.	2.2%	-5.9%	-0.12%	Japan	Capital Goods
Diageo Plc	2.0%	-2.8%	-0.11%	United Kingdom	Food Beverage & Tobacco
Renesas Electronics Corp.	2.6%	-4.7%	-0.11%	Japan	Semiconductors & Semi Equipment

(1) Ending period weights

(2) Geometric average using daily returns and weights

Investment Outlook – 4Q 2024

Financial Markets and Economy:

- With the resurgence of Chinese equities starting in late September, global equity markets have maintained their upward trajectory and generally reflect a benign economic forecast. Investor demand for AI-related technology pushed the Taiwan stock exchange, NASDAQ and the S&P 500 ahead of most other markets. Even aggravated conflict in the Middle East and an upturn in energy prices hasn't dampened equity market bullishness thus far.
- Government stimulus announcements sent the Chinese and Hong Kong markets up 23% and 25% respectively, propelling the MSCI Emerging Markets Index ahead by 8% in the third quarter, with a total return of 17% year to date.
- Overall, monetary tightening in many of the world's economies has dampened the rate of price inflation, albeit with long and variable lags.
- The ECB has indicated that it may cut rates again in 4Q this year, while the Fed may wait for data confirming the downtrend in stubborn core services inflation (especially transportation and medical care services).
- Political risks are clouding the outlook for the eurozone economy. Currently, the high likelihood of French President Macron's centrist party losing power to more extreme opponents creates uncertainty for businesses.
- Consumption in China should remain weak for as long as it takes to restructure the domestic property market. Amplified trade sanctions would add to domestic challenges. Even with fiscal stimulus, we expect a very gradual economic recovery in China.

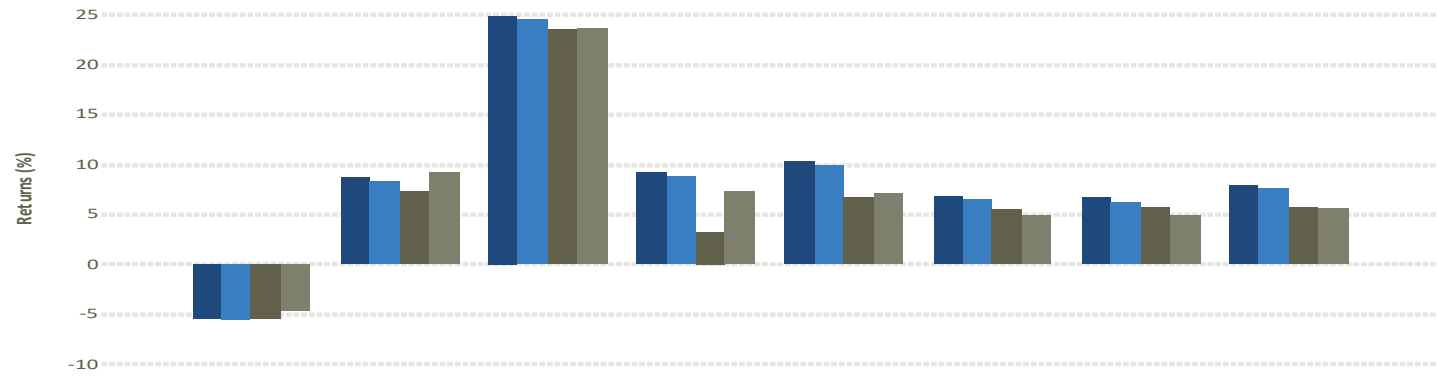
Portfolio Outlook:

- Narrow, momentum-led markets crowd investors into areas that typically look expensive to us.
- Within the technology sector, we have found, in our view, undervalued stocks in all three phases of the generative AI cycle: Building (memory and power management semiconductors), Delivery (network infrastructure and end-devices) and Deployment (AI software and services).
- We also remain focused on the long-term rewards of operational restructuring. In our experience, capable and motivated management teams of underearning companies can – and often do - boost shareholder returns.
- Importantly, we aim to identify and buy these stocks many months before markets perceive positive catalysts.

Please see the end of the presentation for disclosures regarding the risks of investing in Causeway's strategies.

Performance

COMPOSITE PERFORMANCE for the periods ended October 31, 2024



	Month	Year to Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception
International Value (Gross)	-5.42	8.69	24.95	9.24	10.35	6.85	6.71	7.97
International Value (Net)	-5.45	8.38	24.52	8.84	9.93	6.44	6.29	7.54
MSCI EAFE (Gross)	-5.42	7.34	23.58	3.22	6.76	5.44	5.78	5.72
MSCI EAFE Value (Gross)	-4.68	9.16	23.62	7.38	7.17	4.86	4.92	5.57

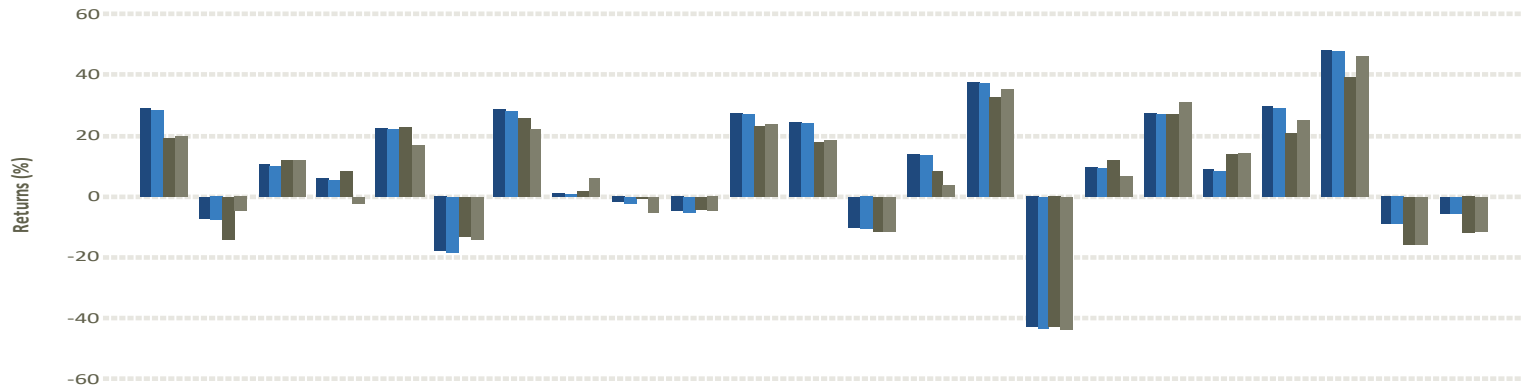
Inception Date: 06/11/2001

Returns are in USD. Index returns are presented gross or net of tax withholdings on income and dividends. The gross composite performance presented is before management and custody fees but after trading expenses. Net composite performance is presented after the deduction of actual management fees, performance-based fees, and all trading expenses, but before custody fees. Composite performance is primarily net of foreign dividend withholdings. Annualized for periods greater than one year. See end of presentation for important disclosures regarding the composite. This information supplements the attached composite presentation. Performance quoted is past performance. Past performance does not guarantee future results



Calendar Year Performance

COMPOSITE PERFORMANCE



	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001
International Value (Gross)	29.02	-7.22	10.54	6.06	22.49	-18.04	28.55	1.12	-1.91	-4.61	27.61	24.58	-10.16	13.91	37.74	-42.97	9.84	27.55	8.98	29.55	48.39	-8.90	-5.39
International Value (Net)	28.52	-7.56	10.13	5.63	21.99	-18.38	28.02	0.70	-2.31	-4.99	27.09	24.07	-10.54	13.42	37.12	-43.22	9.39	27.02	8.49	28.99	47.82	-9.19	-5.45
MSCI EAFE (Gross)	18.85	-14.01	11.78	8.28	22.66	-13.36	25.62	1.51	-0.39	-4.48	23.29	17.90	-11.73	8.21	32.46	-43.06	11.63	26.86	14.02	20.70	39.17	-15.66	-11.78
MSCI EAFE Value (Gross)	19.79	-4.95	11.58	-2.10	16.83	-14.26	22.12	5.68	-5.22	-4.92	23.59	18.43	-11.65	3.81	35.06	-43.68	6.49	31.05	14.39	24.88	45.96	-15.60	-11.61

Inception Date: 06/11/2001

Partial period return for calendar year 2001 (June 11, 2001 - December 31, 2001).

Returns are in USD. Index returns are presented gross or net of tax withholdings on income and dividends. The gross composite performance presented is before management and custody fees but after trading expenses. Net composite performance is presented after the deduction of actual management fees, performance-based fees, and all trading expenses, but before custody fees. Composite performance is primarily net of foreign dividend withholdings. See end of presentation for important disclosures regarding the composite. This information supplements the attached composite presentation. Performance quoted is past performance. Past performance does not guarantee future results.



Portfolio Holdings

as of October 31, 2024

COUNTRY / SECURITY	INDUSTRY GROUP	SHARES	COST (Base)	MARKET VALUE (Base)	ACCRUED INCOME (Base)	WEIGHT
Equity						
Belgium						
Anheuser-Busch InBev SA/NV	Food Beverage & Tobacco	134,384	7,313,837	8,021,227	0	1.73%
Total for Belgium			7,313,837	8,021,227	0	1.73%
Brazil						
Banco Bradesco SA - ADR	Banks	663,819	1,799,970	1,639,633	73,209	0.37%
Total for Brazil			1,799,970	1,639,633	73,209	0.37%
Canada						
Barrick Gold	Materials	103,576	2,091,134	1,999,519	0	0.43%
Canadian Pacific Kansas City Ltd.	Transportation	100,906	8,010,854	7,775,253	0	1.68%
Total for Canada			10,101,988	9,774,772	0	2.11%
China						
Li Ning Co., Ltd.	Consumer Durables & Apparel	494,500	1,001,215	1,008,794	0	0.22%
Tencent Holdings Ltd.	Media & Entertainment	108,800	4,509,806	5,662,235	0	1.22%
Total for China			5,511,021	6,671,029	0	1.44%
France						
BNP Paribas SA	Banks	61,402	3,373,529	4,182,970	0	0.90%
Alstom SA	Capital Goods	868,489	18,763,627	18,914,016	0	4.09%
Compagnie de Saint-Gobain SA	Capital Goods	93,535	7,686,251	8,426,284	0	1.82%
Kering SA	Consumer Durables & Apparel	59,490	22,019,568	14,780,305	0	3.20%
Sodexo SA	Consumer Services	34,457	2,996,750	2,985,169	0	0.65%
Carrefour SA	Consumer Staples Distribution & Retail	249,527	4,639,470	3,937,505	0	0.85%
Worldline SA	Financial Services	338,089	3,305,112	2,356,430	0	0.51%
Danone	Food Beverage & Tobacco	92,052	5,998,984	6,565,792	0	1.42%
AXA SA	Insurance	146,436	3,687,850	5,487,912	0	1.19%
ArcelorMittal SA	Materials	263,338	6,053,545	6,484,031	0	1.40%
AIR Liquide	Materials	25,331	3,826,965	4,528,235	0	0.98%
Sanofi	Pharmaceuticals & Biotechnology	65,894	6,613,679	6,947,016	0	1.50%
Total for France			88,965,330	85,595,664	0	18.51%
Germany						
Allianz SE	Insurance	11,145	2,550,008	3,501,605	0	0.76%

Portfolio Holdings

as of October 31, 2024

COUNTRY / SECURITY	INDUSTRY GROUP	SHARES	COST (Base)	MARKET VALUE (Base)	ACCRUED INCOME (Base)	WEIGHT
Lanxess AG	Materials	205,921	5,816,483	5,942,157	0	1.29%
Infinion Technologies AG	Semiconductors & Semi Equipment	276,527	9,905,470	8,713,613	0	1.88%
SAP SE	Software & Services	38,933	4,392,560	9,079,055	0	1.96%
Deutsche Telekom AG	Telecommunication Services	302,712	6,074,293	9,142,717	0	1.98%
RWE AG	Utilities	148,591	5,620,179	4,802,417	0	1.04%
Total for Germany			34,358,992	41,181,563	0	8.91%
Hong Kong						
Link Real Estate Investment Trust	Equity Real Estate Investment Trusts (REITs)	501,000	2,606,948	2,336,032	0	0.51%
Total for Hong Kong			2,606,948	2,336,032	0	0.51%
Israel						
Check Point Software Technologies Ltd.	Software & Services	10,707	1,844,652	1,854,559	0	0.40%
Total for Israel			1,844,652	1,854,559	0	0.40%
Italy						
UniCredit S.p.A.	Banks	190,816	2,486,236	8,427,218	0	1.82%
Enel SpA	Utilities	1,419,343	10,662,078	10,740,108	0	2.32%
Total for Italy			13,148,314	19,167,326	0	4.15%
Japan						
FANUC Corp.	Capital Goods	373,000	12,110,074	10,081,346	108,992	2.20%
SMC Corporation	Capital Goods	12,800	5,582,543	5,562,843	40,046	1.21%
Seven & i Holdings Co., Ltd.	Consumer Staples Distribution & Retail	377,000	4,831,501	5,442,462	69,207	1.19%
Nintendo Co., Ltd.	Media & Entertainment	45,200	2,416,378	2,416,898	0	0.52%
Takeda Pharmaceutical Co., Ltd.	Pharmaceuticals & Biotechnology	157,500	5,924,504	4,408,863	101,329	0.98%
Renesas Electronics Corp.	Semiconductors & Semi Equipment	855,500	14,374,801	11,850,353	0	2.56%
Fujitsu Ltd.	Software & Services	398,500	6,326,738	7,751,554	43,758	1.69%
Murata Manufacturing Co. Ltd.	Technology Hardware & Equipment	242,900	4,735,502	4,316,628	43,055	0.94%
Total for Japan			56,302,042	51,830,946	406,387	11.30%
Netherlands						
ING Groep NV	Banks	258,645	2,796,036	4,401,213	0	0.95%
Heineken NV	Food Beverage & Tobacco	53,686	4,831,442	4,400,444	0	0.95%
Koninklijke Philips NV	Health Care Equipment & Services	356,682	7,638,586	9,340,003	0	2.02%
Akzo Nobel	Materials	186,101	13,254,523	11,815,295	88,898	2.57%

Portfolio Holdings

as of October 31, 2024

COUNTRY / SECURITY	INDUSTRY GROUP	SHARES	COST (Base)	MARKET VALUE (Base)	ACCRUED INCOME (Base)	WEIGHT
Total for Netherlands			28,520,588	29,956,955	88,898	6.50%
Singapore						
United Overseas Bank Ltd. (Singapore)	Banks	187,200	3,980,596	4,550,875	0	0.98%
Total for Singapore			3,980,596	4,550,875	0	0.98%
South Korea						
Shinhan Financial Group Co., Ltd.	Banks	56,605	2,310,183	2,104,229	19,755	0.46%
Samsung Electronics Co., Ltd.	Technology Hardware & Equipment	363,991	17,184,697	15,614,686	89,960	3.40%
Total for South Korea			19,494,880	17,718,916	109,715	3.86%
Spain						
Amadeus IT Group SA	Software & Services	41,212	2,413,997	2,979,795	0	0.64%
Aena S.M.E. SA	Transportation	11,900	1,684,283	2,622,597	0	0.57%
Total for Spain			4,098,280	5,602,392	0	1.21%
Sweden						
Electrolux	Consumer Durables & Apparel	66,790	564,411	556,789	0	0.12%
Total for Sweden			564,411	556,789	0	0.12%
Switzerland						
Julius Bär Gruppe AG	Financial Services	63,983	3,537,859	3,896,548	0	0.84%
Roche Holding AG	Pharmaceuticals & Biotechnology	39,403	12,096,252	12,207,776	0	2.64%
Total for Switzerland			15,634,112	16,104,323	0	3.48%
United Kingdom						
Barclays PLC	Banks	5,326,937	10,191,493	16,265,300	0	3.52%
Standard Chartered Plc	Banks	427,561	4,053,560	4,949,422	0	1.07%
NatWest Markets Plc	Banks	569,805	1,680,812	2,693,648	0	0.58%
Rolls-Royce Holdings Plc	Capital Goods	2,906,541	4,480,784	20,006,712	0	4.33%
RELX Plc	Commercial & Professional Services	97,703	2,839,685	4,520,743	0	0.98%
WH Smith Plc	Consumer Discretionary Distribution & Retail	290,647	4,456,010	4,932,427	0	1.07%
Kingfisher plc	Consumer Discretionary Distribution & Retail	1,066,769	2,925,016	4,011,596	52,116	0.88%
Berkeley Group Holdings Plc	Consumer Durables & Apparel	50,556	2,375,008	2,876,769	0	0.62%
Compass Group Plc	Consumer Services	73,451	1,479,432	2,374,962	0	0.51%
BP Plc	Energy	2,072,851	11,764,824	10,037,532	0	2.17%

Portfolio Holdings

as of October 31, 2024

COUNTRY / SECURITY	INDUSTRY GROUP	SHARES	COST (Base)	MARKET VALUE (Base)	ACCRUED INCOME (Base)	WEIGHT
Shell	Energy	143,824	4,583,472	4,811,517	0	1.04%
SEGRO PLC	Equity Real Estate Investment Trusts (REITs)	279,352	2,661,009	2,820,025	0	0.61%
Diageo Plc	Food Beverage & Tobacco	302,129	12,192,389	9,318,447	0	2.02%
British American Tobacco plc	Food Beverage & Tobacco	215,062	8,178,667	7,451,494	162,799	1.65%
Smith & Nephew	Health Care Equipment & Services	168,521	2,445,311	2,082,084	0	0.45%
Reckitt Benckiser Group Plc	Household & Personal Products	233,411	16,734,756	14,055,914	0	3.04%
Prudential Plc	Insurance	1,177,596	14,800,741	9,759,049	0	2.11%
Legal & General Group Plc	Insurance	1,446,269	4,055,832	4,036,731	0	0.87%
AstraZeneca PLC	Pharmaceuticals & Biotechnology	65,312	8,313,774	9,271,748	0	2.01%
GSK Plc	Pharmaceuticals & Biotechnology	515,949	10,403,189	9,236,828	0	2.00%
National Grid Plc	Utilities	97,787	1,172,810	1,227,272	0	0.27%
Total for United Kingdom			131,788,573	146,740,220	214,916	31.78%
United States						
Smurfit WestRock Plc	Materials	93,032	4,220,310	4,791,148	0	1.04%
Total for United States			4,220,310	4,791,148	0	1.04%

Portfolio Holdings

as of October 31, 2024

COUNTRY / SECURITY	INDUSTRY GROUP	SHARES	COST (Base)	MARKET VALUE (Base)	ACCRUED INCOME (Base)	WEIGHT
Portfolio Assets						
				Equity Market Value	454,094,370	98.20%
				Equity Accrued Income	893,125	0.19%
Total for Equity			430,254,844	454,987,495		98.40%
Total for Cash & Equivalents			7,420,891	7,420,891		1.60%
Total Portfolio Assets				462,408,386		100.00%

Important Disclosures

CAUSEWAY CAPITAL MANAGEMENT LLC

International Value Equity Composite

SCHEDULE OF INVESTMENT PERFORMANCE RESULTS

FOR THE PERIOD FROM June 11, 2001 (Inception) THROUGH December 31, 2022

COMPOSITE INCEPTION DATE: June 2001 COMPOSITE CREATION DATE: June 2001

Year	Gross-of-Fees Return (%)	Net-of-Fees Return (%)	Benchmark* Return (%) ^a	Number of Portfolios In Composite at end of Period	Composite Dispersion (%)	Composite 3-Yr St Dev (%)	Benchmark* 3-Yr St Dev (%) ^a	Composite Assets at end of Period (\$ millions)	Total Firm Assets at end of Period (\$ millions)	Total Advisory-Only Firm Assets at End of Period (\$ millions)	Percentage of Composite Assets In Bundled Fee Portfolios at End of Period
2001 ^c	(5.39)	(5.45)	11.68	9	N/M	N/A ^b	N/A	996.57	1,278.49	N/A	0.00
2002	(8.90)	(9.19)	(15.66)	14	0.50	N/A ^b	N/A	1,566.29	2,259.30	N/A	13.87
2003	48.38	47.82	39.17	15	0.42	N/A ^b	N/A	2,445.87	5,466.29	N/A	17.22
2004	29.54	28.99	20.70	29	0.65	17.72	15.45	4,509.76	10,823.91	N/A	15.47
2005	8.98	8.49	14.02	41	0.55	12.43	11.39	6,908.47	14,967.46	N/A	13.17
2006	27.55	27.02	26.86	44	0.33	8.84	9.29	8,830.90	18,476.08	N/A	13.15
2007	9.84	9.39	11.63	42	0.42	8.42	9.41	8,371.15	17,599.18	N/A	14.69
2008	(42.97)	(43.22)	(43.06)	36	0.43	19.91	19.26	4,027.87	8,407.24	237.88	15.10
2009	37.74	37.12	32.46	31	0.71	25.21	23.65	4,181.38	9,783.34	408.74	8.01
2010	13.91	13.42	8.21	34	0.57	28.37	26.28	5,402.52	11,690.18	497.39	6.23
2011	(10.16)	(10.54)	(11.73)	35	0.32	24.66	22.45	5,433.67	10,966.08	710.15	6.60
2012	24.58	24.07	17.90	41	0.32	21.13	19.32	7,215.47	15,242.40	947.58	7.48
2013	27.61	27.09	23.29	46	0.38	17.28	16.22	11,590.47	25,749.58	2,038.22	6.94
2014	(4.61)	(4.99)	(4.48)	48	0.32	12.91	12.99	12,190.35	33,630.22	3,436.32	7.76
2015	(1.91)	(2.31)	(0.39)	52	0.22	11.96	12.47	12,712.05	38,585.19	2,630.69	8.83
2016	1.12	0.70	1.51	53	0.30	12.12	12.48	14,236.62	41,731.32	2,322.17	8.22
2017	28.55	28.02	25.62	47	0.26	11.78	11.85	16,306.73	55,606.75	3,065.72	9.28
2018	(18.04)	(18.38)	(13.36)	46	0.25	11.95	11.27	12,657.03	48,462.26	2,723.16	8.72
2019	22.49	21.99	22.66	38	0.70	13.01	10.80	12,740.65	49,889.09	2,958.84	8.41
2020	6.06	5.63	8.28	29	0.97	25.33	17.87	11,778.48	42,093.18	3,073.49	7.15
2021	10.54	10.13	11.78	25	0.64	25.09	16.89	11,208.34	41,024.68	3,896.93	0.00
2022	(7.22)	(7.56)	(14.01)	28	0.83	26.52	19.95	10,092.48	34,674.99	3,807.03	0.00

N/M - Not considered meaningful for 5 portfolios or less for the full year.

a - Not covered by the report of independent accountants.

b - 36 monthly returns are not available.

c - Partial period (June 11, 2001 - December 31, 2001).

*MSCI Europe, Australasia, Far East ("MSCI EAFE") Index



Important Disclosures

Causeway Capital Management LLC (Causeway) claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Causeway has been independently verified for the periods June 11, 2001 through December 31, 2022.

A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. The International Value Equity Composite (International Composite) has had a performance examination for the periods June 11, 2001 through December 31, 2022. The verification and performance examination reports are available upon request.

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The Firm, Causeway, is organized as a Delaware limited liability company and began operations in June 2001. It is registered as an investment adviser with the U.S. Securities and Exchange Commission under the Investment Advisers Act of 1940. Registration does not imply a certain level of skill or training. Causeway manages international, global, and emerging markets equity assets for institutional clients including corporations, pension plans, sovereign wealth funds, superannuation funds, public retirement plans, Taft-Hartley pension plans, endowments and foundations, mutual funds and other collective investment vehicles, charities, private trusts and funds, wrap fee programs, and other institutions. The Firm includes all discretionary and non-discretionary accounts managed by Causeway.

The International Composite includes all U.S. dollar denominated, discretionary accounts in the international value equity strategy which do not apply a minimum market capitalization requirement of \$2.5 billion or higher, permit investments in South Korean companies after October 2003, do not regularly experience daily external cash flows, and are not constrained by socially responsible investment restrictions. The international value equity strategy seeks long-term growth of capital and income through investment primarily in equity securities of companies in developed countries located outside the U.S. New accounts are included in the International Composite after the first full month under management, except as noted below. Terminated accounts are included in the International Composite through the last full month under management. From June 2001 through November 2001, the International Composite included a non-fee-paying account with total assets of approximately \$2 million. This was the sole account in the International Composite from June through September 2001. The account was included in the International Composite at account inception because it was fully invested at inception. A complete list and description of Firm composites is available upon request.

Account returns are calculated daily. Monthly account returns are calculated by geometrically linking the daily returns. The return of the International Composite is calculated monthly by weighting monthly account returns by the beginning market values. Valuations and returns are computed and stated in U.S. dollars. Returns include the reinvestment of interest, dividends and any capital gains. Returns are calculated gross of withholding taxes on dividends, interest income, and capital gains. The Firm's policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request. Past performance is no guarantee of future performance. Composite dispersion, if applicable, is calculated using the equal-weighted standard deviation of all portfolios that were included in the International Composite for the entire year. The three-year annualized ex-post standard deviation quantifies the variability of the composite or benchmark returns over the preceding 36-month period.

The MSCI EAFE Index benchmark is a free float-adjusted market capitalization weighted index, designed to measure developed market equity performance excluding the U.S. and Canada, consisting of stock markets in Europe, Australasia, and the Far East. The Index is gross of withholding taxes, assumes reinvestment of dividends and capital gains, and assumes no management, custody, transaction or other expenses. Accounts in the International Composite may invest in countries not included in the MSCI EAFE Index.

Gross-of-fees returns are presented before management, performance and custody fees but after trading expenses. Net-of-fees returns are presented after the deduction of actual management fees, performance-based fees, and all trading expenses, but before custody fees. For bundled fee portfolios, net-of-fees returns are presented after the deduction of actual management fees, all trading expenses, custody fees, and fund accounting fees. Causeway's basic management fee schedules are described in its Firm brochure pursuant to Part 2 of Form ADV. The basic separate account annual fee schedule for international value equity assets under management is: 0.60% of the first \$200 million and 0.45% thereafter. The highest fee schedule for two series of a private commingled vehicle, which are included in the International Composite, is 0.75% on the first \$10 million, 0.65% on the next \$40 million, and 0.50% thereafter. The highest expense ratio and the highest all-in fee for a collective investment trust (CIT), which is included in the International Composite, is 0.95%. The fee schedule for the CIT is an all-in fee, and represents fees paid to the trustee of the CIT, which covers normal operating fees and expenses of the CIT, and compensation to the trustee and to Causeway as the investment manager. Accounts in the International Composite may have different fee schedules or pay performance-based fees or bundled fees. Bundled fees include management, custody, and fund accounting fees.

MSCI has not approved, reviewed or produced this report, makes no express or implied warranties or representations, and is not liable whatsoever for any data in the report. You may not redistribute the MSCI data or use it as a basis for other indices or investment products.

For further information on the risks regarding investing in Causeway's strategies, please go to <https://www.causewaycap.com/wp-content/uploads/Risk-Disclosures.pdf>



Biographies

Conor Muldoon, CFA, Fundamental Portfolio Manager

Mr. Muldoon is a director and fundamental portfolio manager at Causeway and is responsible for investment research in the global financials, materials, and real estate sectors. He joined the firm in August 2003 and has been a portfolio manager since September 2010. He is also a member of the operating committee. From 1995 to 2003, Mr. Muldoon was an investment consultant for Fidelity Investments where he served as a liaison between institutional clients and investment managers within Fidelity. He was responsible for communicating current information on the financial markets, the economy and investment performance. Mr. Muldoon earned a BSc and an MA from the University of Dublin, Trinity College and an MBA, with high honors, from the University of Chicago. Mr. Muldoon was inducted into the Beta Gamma Sigma honors society and is also a CFA charterholder.

Taylor Alan-Lee, CFA, Senior Relationship Manager

Mr. Alan-Lee is a senior relationship manager at Causeway. He joined the firm in January 2018 and his responsibilities include servicing institutional clients in the United States and Canada. Mr. Alan-Lee also works closely with the portfolio management team to develop client communications and investment content. Prior to joining Causeway, Mr. Alan-Lee was a vice president account manager at PIMCO, responsible for servicing institutional client relationships. Mr. Alan-Lee began his career in the financial services industry in 2008 as an analyst in PIMCO's account management group. Mr. Alan-Lee earned a BA in economics from Dartmouth College and an MBA from The Wharton School at the University of Pennsylvania. Mr. Alan-Lee is a CFA charterholder.



NHRS

New Hampshire Retirement System

To: Investment Committee
From: Raynald Leveque, Chief Investment Officer
Shana Bilech, CFP®, Investment Officer
Date: December 10, 2024
Re: **Artisan Partners Contract Renewal**
Item: Action: Discussion: Informational:

The NHRS Investment Staff (“Staff”) recommends to the Investment Committee that NHRS renew the Investment Management Agreement (Agreement) for the Artisan Partners (“Artisan”) contract. Callan has provided a recommendation related to the renewal of the Agreement with Artisan.

The existing Investment Management Agreement (“Agreement”) between non-U.S. core equity manager Artisan and NHRS remains in effect through September 30, 2024.

In accordance with the Investment Committee’s July 2010 decision, Callan provided a recommendation related to the renewal of the Agreement with Artisan. Callan also recommended that NHRS renew the Agreement (copy attached).

Key merits as part of Staff’s recommendation included the strength of the firm and the tenure of the Non-U.S. Growth portfolio management team, the strategy’s long-term performance and the strategy’s growth exposure that complements core and value managers within the NHRS global equity portfolio. Key considerations included recent short-term periods of challenging performance, including the aftermath of Russia’s invasion of the Ukraine, the outperformance of non-U.S. value to growth, as well as the strategy’s underweight to Information Technology in 2023. Staff also noted declining strategy assets under management, described in further detail below.

The core leadership team of the Non-U.S. Growth strategy has remained stable over time. Lead Portfolio Manager Mark Yockey has managed the fund since its inception in 1996 and Co-Portfolio managers Charles-Henri Hamker and Andrew Eurteig have been with Artisan for 24 years and 19 years. An Associate Portfolio Manager Michael Luciano departed this year. His departure was not a material concern given his short tenure with the firm of two years and his minimal involvement with the strategy. Staff believes that the team is well-resourced for succession planning and the eventual retirement of Mark Yockey.

Our Mission: To provide secure retirement benefits and superior service.

The Artisan team invests in quality companies that meet the team's sustainable growth and valuation metrics. The team takes a thematic and opportunistic approach to portfolio construction and typically has higher tracking error than the MSCI EAFE benchmark. Artisan's investment approach complements NHRS's broader global equities portfolio, providing diversification and added value.

The strategy outperformed over the year-to-date, one-year and seven-year periods ending October 31, 2024 by 589 basis points, 359 basis points and 81 basis points. Strong one-year performance has narrowed underperformance to the MSCI EAFE benchmark over the three- and five-year periods to -1.1% and -0.9%. Three-year underperformance was explained by style headwinds given Artisan's growth orientation and the outperformance of the MSCI EAFE Value index to the MSCI EAFE Growth index by over 7% during this time. Five-year underperformance related to the strategy's write-down of two Russian holdings during the first quarter of 2022. On a positive note, one of the holdings was sold and written back against losses in the third quarter of 2024. The Artisan team outperformed historical periods of style headwinds including 2010 and 2016.

While Artisan experienced net outflows in its Non-U.S. Growth strategy in recent years, the level of outflows has decreased considerably. Investors' move to passive asset classes and de-risking of public equity exposure has impacted Artisan and other large asset managers. Nevertheless, the firm's overall assets continue to grow and the Non-U.S. Growth assets remain at over \$13 billion.

Staff believes that Artisan will continue to generate positive long-term excess returns for the global equity portfolio going forward. Given the strength and stability of the organization, the investment team, and its process, as well as Callan's favorable recommendation, I recommend renewing the Investment Management Agreement with Artisan for up to five years, through December 31, 2029.

As a reminder, NHRS has the ability to terminate the Agreement at any time upon 30 days' written notice to the manager. The Investment Staff and Callan will continue to monitor this mandate to ensure it meets its intended investment objectives.

Our Mission: To provide secure retirement benefits and superior service.

Memorandum

To: Raynald Leveque, Chief Investment Officer for the NHRS
From: Angel G. Haddad, Britton M. Murdoch
Date: November 22, 2024
Subject: Artisan Non-US Growth Strategy Renewal

The New Hampshire Retirement System (NHRS) invests in the Artisan Non-US Growth Strategy (“the Strategy”). Consistent with the manager renewal process established by NHRS, continued participation in this strategy is subject to discussion every five years. This Memo provides an independent evaluation of this investment strategy, together with the research and quantitative analysis considered to support our recommendations.

Based on our findings, we recommend that NHRS renew the contract with Artisan. Callan maintains a positive view of the Artisan Non-U.S. Growth strategy and supports this strategy in client portfolios. The Non-U.S. Growth team is well-resourced and has been under the stable leadership of Portfolio Manager Mark Yockey, since inception in 1996. Yockey is supported by three co-portfolio managers and 9 dedicated analysts. The team employs a tested bottom-up, fundamental process that seeks to identify sustainable growth companies with secular tailwinds to construct portfolios with 50-100 names. Although short-term performance has been volatile, it was disproportionately weighed down by exogenous factors (i.e., the Russia-Ukraine War & style headwinds). The fund’s long-term performance is largely based on the skill of the investment team implementing a flexible and opportunistic investment process rather than being built around a well-defined set of portfolio characteristics. While the investment team has proven capable of adjusting the portfolio through multiple market environments, they have also had extended periods of poor market positioning. Consequently, investors should expect significant performance volatility, frequently out of sync with other growth strategies.

The New Hampshire Artisan Non-US Growth account’s short-term performance is notable due to the magnitude of underperformance in the first quarter of 2022 and its negative impact on the trailing three-year period despite recent improvements. The long-term performance of New Hampshire’s investment in the Artisan Non-US Growth strategy is within expectations.

After outperforming the MSCI EAFE and MSCI EAFE Growth indices for three consecutive years from 2017 to 2019, the portfolio underperformed both indices in 2020 and 2021, and struggled during 2022 as a result of the Russia-Ukraine War. Artisan’s 2.8% combined exposure to two Russian securities detracted approximately 3.1% during the first quarter of 2022. During 2023 the team added to the Environment theme, which was additive to relative results over the period, however, the portfolio’s underweight to Information Technology has created performance headwinds during 2023 and early 2024.

Ultimately, recent performance has been strong. Year to date, the strategy has outperformed the MSCI EAFE and MSCI EAFE Growth benchmarks by 2.1% and 2.8%, net of fees, respectively and ranked in the 27th percentile of peers. The strategy outperformed the MSCI EAFE Index by 1.2% net of fees over the trailing one-year period but trailed by 200 basis points over the three-year period as of September 30, 2024. This reflects an above median ranking over both periods within Callan’s Non-U.S. Broad Growth Equity peer group.

Please refer to Callan's detailed research update for more information regarding the qualitative and quantitative factors considered in our analysis.

Overview

Artisan Partners, founded in 1994, is a publicly traded company with 10 unique investment units headquartered in Milwaukee. The leadership of the strategy has been stable under Portfolio Manager Mark Yockey since its inception in 1996. Yockey is supported by three co-portfolio managers and nine dedicated analysts. The team employs a bottom-up, fundamental process to construct portfolios with growth companies benefiting from secular trends. The strategy typically consists of 50-100 securities with an expected annual turnover of around 40%. The strategy has consistently performed in line with expectations.

Market Commentary

Global ex-U.S. equities (MSCI ACWI ex USA: +8.1%) had a strong quarter, boosting year-to-date returns to +14.2%. Within developed markets, Value (MSCI World ex-USA Value: +9.7%) outperformed growth (MSCI World ex-USA Growth Index: +5.9%) by a wide margin. Real Estate (MSCI EAFE Real Estate: +17.4%) and Utilities (MSCI EAFE Utilities: +15.6%) were the strongest-performing developed market sectors. Japan (MSCI Japan: +5.7%) was up for the quarter, but Q3 saw unusually high volatility due to the Bank of Japan’s action in raising interest rates, and the election of a new prime minister pushing fiscal discipline and being a China hawk. The U.S. dollar weakened in Q3, helping overseas returns. The yen had an especially good quarter, up nearly 13% versus the greenback as the central bank tightened monetary policy.

Cumulative Annualized Returns (NHRS Account - Net of fees)

	3Q24	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	Since Inception*
NHRS Artisan Int’l Growth (Net)	5.96%	25.97%	24.41%	3.48%	6.44%	6.41%	6.27%	5.55%
MSCI EAFE Index	7.26%	24.77%	25.21%	5.48%	10.22%	8.20%	6.00%	5.91%
MSCI EAFE Growth Index	5.68%	26.54%	23.23%	1.92%	6.36%	7.74%	6.66%	6.76%

*Since Inception is 11/1/14.

	YTD 2024	2023	2022	2021	2020	2019	2018	2017
NHRS Artisan Int’l Growth (Net)	15.08%	15.87%	-18.97%	9.57%	7.14%	29.93%	-10.77%	31.80%
MSCI EAFE Index	12.99%	18.24%	-14.45%	11.26%	7.82%	22.01%	-13.79%	25.03%
MSCI EAFE Growth Index	12.26%	17.58%	-22.95%	11.25%	18.29%	27.90%	-12.83%	28.86%

● Organization

Artisan Partners is an investment firm formed in 1994 by Andrew A. Ziegler and Carlene Murphy Ziegler. A group of private investors led by the partners of Hellman & Friedman, a San Francisco investment banking firm, and Sutter Hill Ventures, a West Coast venture capital firm, provided capital resources at inception for a minority interest in the firm. In 2013, Artisan was listed on the New York Stock Exchange under the symbol "APAM." As of March 31, 2024, the company's investment professionals, senior management, and other employees collectively owned approximately 9% of the economic interests in the company, while a Stockholders Committee consisting of three employees (i.e., CEO Eric Colson, CFO C.J. Daley and Head of Vehicle Administration Greg Ramirez) controlled approximately 12% of the voting power in APAM. The founders, initial investors, and former employee partners owned approximately 11%, and the remaining 80% of the shares were publicly traded.

Artisan has nearly 580 associates and is headquartered in Milwaukee. Regional offices are located in Atlanta, Boston, Chicago, Denver, Dublin, Hong Kong, London, New York, San Francisco, Singapore, Sydney, and Wilmington. Artisan is composed of 11 autonomous investment teams. The firm established the Artisan Partners Growth team effective April 1997. Each team solely focuses on investing independent of other teams while leveraging centralized infrastructure, primarily based in Milwaukee, to manage non-investment functions such as operations and compliance. To align interests and promote team stability, compensation for each team is structured with about 25% revenue sharing and equity ownership. Artisan offers multiple distinct strategies across asset classes including equities, fixed income, and hedge funds to institutional and retail investors. The firm is primarily exposed to U.S.-based clients, which make up more than 75% of the firm-wide assets.

Artisan Partners Limited Partnership assets under management as of September 30, 2024: \$167,840mm.

● People

Artisan's Global Equity Team manages the International Fund and consists of 24 investment members, including one portfolio manager, two associate portfolio managers, nine research analysts, and seven research associates. The team is led by Mark Yockey, who joined the firm in 1995 as the teams founding portfolio manager. Associate Portfolio Managers Charles-Henri Hamker and Andrew Euretig support Yockey and were promoted to these positions in January 2012 after serving as analysts. Associate PM, Michael Luciano, departed from Artisan in August 2024.

Artisan employs a team approach where all investment ideas are constantly discussed between the analysts and members of the portfolio management team throughout the research process. Additionally, they have set up an Investment Policy Committee composed of Yockey, three associate portfolio managers, and two research analysts. This committee meets every month to discuss research ideas and macroeconomic matters. However, Portfolio Manager Yockey has ultimate authority over the portfolios. Regarding the research analysts group, the nine members are responsible for covering companies and recommending investment ideas within their respective sectors or regions with guidance from the portfolio management team. Despite stable senior leadership, this analyst platform is known for its above-average analyst turnover for a team this size: 17 departures from 2011-2024. The International Growth teams structure always promoted a higher level of investment team turnover than its competitors, and this trend tends to increase during periods of underperformance. The most recent departure was the termination of analyst Mike West. He joined the team as a research associate supporting Sam Zarnegar and, after three years, was promoted to research analyst. He was on the industrials/cyclicals/technology team and had three stocks in the portfolio under his coverage. Unfortunately, despite the team's efforts to elevate the level of his contributions, he failed to meet expectations.

Based on his influence on the strategy, Yockey presents key person risk despite having three associate portfolio managers and an investment committee. Yockey is in his late 60s and has no plans to retire. To this date, Yockey is still the key decision maker and has generally been the driving force behind the abrupt changes in the portfolio positioning that have occurred frequently throughout the products history. Our longer-term concern for the

<p>● People (cont.)</p>	<p><i>strategy is that we see no evidence that associate portfolio managers have driven many of the opportunistic portfolio repositionings that distinguish this strategy from its other growth peers. For us to become comfortable with the eventual transition, we are monitoring to see evidence that the associate portfolio managers can incorporate this into their skills.</i></p>
<p>● Philosophy and Process</p>	<p><i>Artisan’s non-U.S. growth strategy employs a bottom-up stock selection process to identify long-term growth opportunities. The team seeks to invest in attractively valued companies that are industry leaders and have meaningful exposure to and will benefit from long-term secular growth trends.</i></p> <p><i>The investment process begins with a universe of non-U.S. stocks of all market capitalizations across developed and emerging markets. There are approximately 1,300 securities in the non-U.S. growth strategy’s investable universe. The team identifies global or regional investment themes and corresponding companies that are likely to benefit from their exposure to the growth rates above trend. Current themes include changing demographics, technology, environment, financial services, outsourcing, and infrastructure. Particular emphasis is placed on researching well-managed companies with dominant or increasing market share that the team believes may lead to sustained earnings growth. When choosing portfolio investments, the team also pays careful attention to valuation relative to a company’s market or global industry.</i></p> <p><i>Within identified themes, the team uses qualitative and quantitative methods to narrow the initial universe and identify companies that exhibit the team’s three foundations for sustainable growth: sustainable competitive advantages, superior business models, and high-quality management. The sustainable competitive advantages element focuses on companies with a dominant market position, brand strength, and pricing power. The superior business model element emphasizes companies with significant free cash flows, high/improving profit margins, and an overall sound financial position. Finally, the high-quality management element targets companies with focused leadership, a clear business strategy, and a strong history of allocating cash and capital to grow the business over the long term.</i></p> <p><i>The team generally focuses on companies with attractive, sustainable earnings growth of 10%-20% and free cash flow growth. The analysts screen for stocks in their respective sectors using valuation and growth metrics such as EPS growth and revenue growth to establish target price ranges and assess the relationship between their estimate of a company’s sustainable growth prospects and its valuation. Growth metrics such as EPS growth and revenue growth are important inputs to the team’s stock selection process, and valuation metrics such as EV/EBITDA or P/E are equally important as the team quantifies the relative valuation of a company. The final portfolio contains securities that are generally believed to offer the most compelling potential earnings growth relative to their valuation.</i></p> <p><i>Portfolio construction is a by-product of bottom-up selection and conviction. Although the strategy is benchmark unaware, the team employs several guidelines and constraints to ensure diversification and manage risk. Portfolios are diversified and typically consist of 50-100 securities with an average stock position of between 1%-3% and capped at 5%. Expected annual turnover is approximately 40%. The maximum cash limit is 5%. The maximum exposure to a single country is 30%, and no more than 35% of the strategy may be invested in emerging markets. While there are no quantitative guidelines with respect to sectors, the maximum exposure to any one industry is 25%.</i></p>

● Product
Dynamics

Artisan's Non-U.S. Growth strategy has been under redemption pressures since assets peaked at \$32 billion in the second quarter of 2015. The strategy faced net out flows over the past five years: \$3.4 billion in 2017, \$3.1 billion in 2018, \$3.2 billion in 2019, \$3.3 billion in 2020, \$2.6 billion in 2021, \$670 million in 2022, and \$350 million in 2023. As of March 31, 2024, the product assets have declined by more than 50% since its peak in 2015.

The strategy has consistently maintained a growth style profile. As measured by the Callan combined MSCI Z-Score, the portfolio has historically measured between +0.2 and +0.9, and generally plotted more to growth than the MSCI EAFE Index and the Callan Non-U.S. Broad Growth Equity peer group. In recent years the size of growth exposure has oscillated as the strategy pivoted into cyclical growth opportunities within Energy, Financials and Materials. The weighted median market capitalization of the strategy has been higher than the Index (i.e., \$62.4 bn vs. \$52.5 bn) as of the first quarter of 2024. The market capitalization of the portfolio is expected to be in line with the benchmark and between mid- and large-cap.

Given the bottom-up nature of the strategy with liberal guidelines, considerable regional and sector deviations are expected relative to the benchmark. The portfolio has had a structural underweight in Japan and overweight in Emerging Markets relative to the benchmark. Although the strategy is limited to 35% in Emerging Markets, it has ranged between 3% and 17% over the past 10 years. The strategy had a 11.3% underweight in Japan and a 3.8% overweight in Emerging Markets as of March 31, 2024. While the strategy has generally gravitated to the growth segment of the markets, the composition of the sectors is expected to be dynamic and differentiated relative to growth peers especially during periods of market volatility. In the most recent quarter, the portfolio had a 6.7% overweight in Materials and a 6.3% underweight in Information Technology.

At the end of 2021, the strategy had exposure to two Russian securities totaling an overweight of 2.8% relative to the Index (i.e., 1.6% in Norilsk Nickel and 1.2% in Sberbank). Throughout the month of February 2022 as events unfolded between Russia and Ukraine, Artisan significantly reduced its exposure to Sberbank to 0.1%, while they maintained a 0.9% position in Norilsk Nickel given the strong fundamentals. On March 3, 2022, the team priced both Sberbank and Norilsk Nickel securities to zero due to the market closure and lack of liquidity.

As of March 31, 2024, the tracking error of the strategy has realized approximately 4.9%-6.7% relative to the MSCI EAFE Index on a rolling three-year basis over the past 10 years. Moreover, the strategy has maintained a similar level of beta and absolute volatility relative to the market over the past decade. The portfolio characteristics and risk/return profile of the strategy have typically aligned with the opportunistic growth process. This enables the strategy to be nimble and exploit investment opportunities dynamically across regions and sectors especially during periods of extreme market dislocations. As such, the strategy is optimal for a multi-manager structure.

The "Notable" status on the Product Dynamics denotes the protracted asset decline since it peaked in the second quarter of 2015. However, the strategy maintains a healthy level of assets.

Strategy assets under management as of September 30, 2024: \$13,217mm.

<p>● Short Term Performance</p>	<p><i>New Hampshire's investment in the Artisan non-U.S. growth strategy outperformed the MSCI EAFE Index by 1.2% net of fees over the trailing one-year period but trailed by 200 basis points over the three-year period as of September 30, 2024. This reflects an above median ranking over both periods within Callan's Non-U.S. Broad Growth Equity peer group.</i></p> <p><i>Recent performance has been strong and improved intermediate annualized returns. After outperforming the Index for three consecutive years from 2017 to 2019, the portfolio modestly underperformed in 2020 and 2021, and then, it struggled during 2022 as a result of the Russia-Ukraine War. The invasion exacerbated the dispersion between value to growth. In the first quarter of 2022, value outperformed growth by 12.3%. Furthermore, Artisan's 2.8% combined exposure to two Russian securities detracted value by approximately 3.1% during the first quarter as Russia's aggression against Ukraine ultimately led to sanctions, and then, market closure. During 2023 the team added to the Environment theme which was additive to relative results over the period. However, the portfolio has remained underweight Information Technology which has created headwinds to performance versus the benchmark during 2023 and early 2024. IT has been a more difficult sector due to high valuations, but the strategy has indirect exposure through holdings like Amazon and industrial companies such as RELX and Wolters Kluwer, which are tech-heavy and utilize AI tools for their data.</i></p> <p><i>Despite currency headwinds and a sharp rise in volatility leading to underperformance in the third quarter of 2024, the strategy remains ahead year to date as of September 30, 2024. The team has done particularly well in health care and it is one of the best performing sectors so far this year. Biotech, biopharma and other large pharmaceutical companies have similarly large pipelines that should contribute to better than expected growth going forward. The team remains focused on their investment themes as a source of new, unique ideas, but also for diversification. The weightings of these themes have not changed dramatically this year; financial services, infrastructure and demographics/health care are the largest weights.</i></p> <p><i>The "Notable" status on the Short-Term Performance denotes the magnitude of underperformance in the first quarter of 2022 and its negative impact on the trailing three year period despite near term improvements.</i></p>
<p>● Long Term Performance</p>	<p><i>The long-term performance of New Hampshire's investment in the Artisan non-US growth strategy is notable. Over the last seven years annualized the strategy has outperformed the MSCI EAFE Index, net of fees, by 27bps. The more muted relative outperformance is largely impacted by the magnitude of underperformance during calendar years 2022 and 2023. As results have improved through 2024, long term figures should rebound.</i></p> <p><i>Rather than being built around a well-defined set of portfolio characteristics, the funds long-term performance is largely based on the skill of the investment team implementing a flexible and opportunistic investment process. While the investment team has proven capable of adjusting to multiple market environments, they have also had extended periods of poor market positioning. Consequently, investors should expect significant volatility in the funds relative performance, frequently out of sync with other growth strategies.</i></p>
<p>● Overall Status</p>	<p><i>Callan maintains a positive view of the Artisan Non-U.S. Growth strategy and supports this strategy in client portfolios. The Non-U.S. Growth team is well-resourced and has been under the stable leadership of Portfolio Manager Yockey since its inception in 1996. A robust research team supports Yockey. While Yockey has no plans to retire for the foreseeable future, compensation and leadership structures are in place to mitigate such risk. The team employs a tested bottom-up, fundamental process that seeks to identify sustainable growth companies with secular tailwinds to construct portfolios with 50-100 names. Although the short-term performance has been volatile, it was disproportionately weighed down by exogenous factors (i.e., the Russia-Ukraine War & style headwinds). There have been periods like this in the past, and performance has recovered similarly to results year to date 2024. The strategy is optimal for a multi-manager structure given the growth portfolio characteristics and risk/return profile.</i></p>

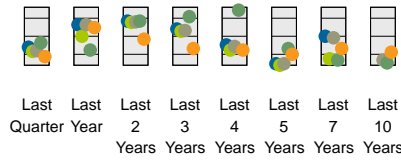
● Within expectations

● Notable

● Cautionary

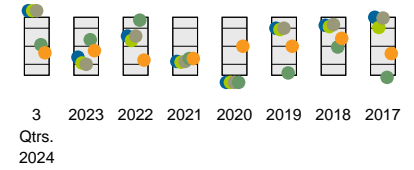
● Under Review

Returns

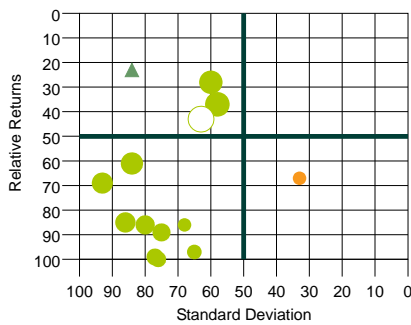


Artisan (NH)	6.13	26.75	25.19	4.13	7.11	7.09	6.95	--
*Artisan (NH - net)	5.96	25.97	24.41	3.48	6.44	6.41	6.27	--
Artisan: Intl Growth Composite	5.99	26.72	24.70	3.81	6.89	7.02	6.91	6.18
MSCI:EAFE	7.26	24.77	25.21	5.48	10.22	8.20	6.00	5.71
MSCI:EAFE Growth	5.68	26.54	23.23	1.92	6.36	7.74	6.66	6.61

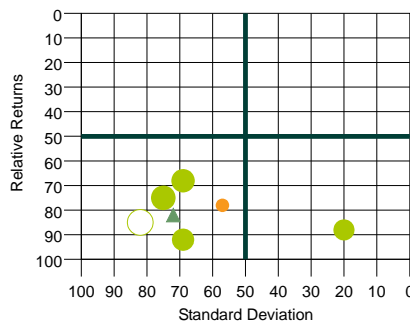
Calendar Year Returns



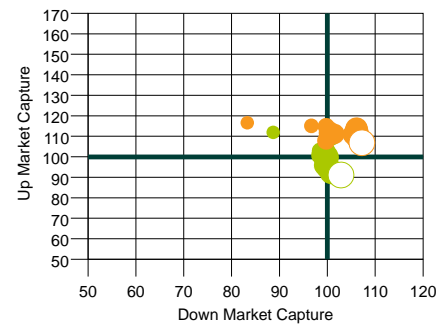
Relative Return vs. Risk vs. Group Rolling 3 Year



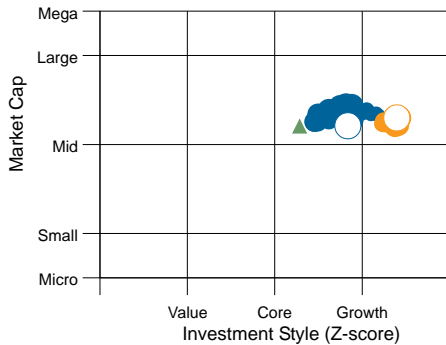
Relative Return vs. Risk vs. Group Rolling 5 Year



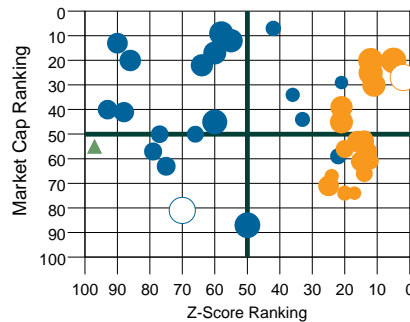
Upside/Downside Capture vs. Index Rolling 5 Year



Holdings Based Style Map Rolling 1 Year



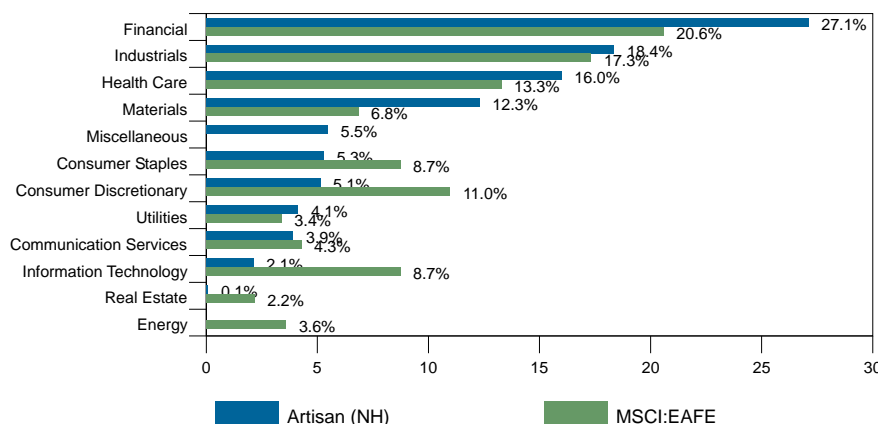
Style Map Ranking vs. Group* Rolling 1 Year



Portfolio Characteristics

	Artisan (NH)	MSCI:EAFE	MSCI:EAFE Growth
Number of Holdings	62	732	367
Issue Diversification	12.8	84.8	38.6
Growth Z Score	0.2	0.0	0.3
Value Z Score	(0.2)	(0.1)	(0.6)
Combined Z Score	0.4	0.1	0.9
Wtd. Median Market Cap.	42.4	53.6	72.6
Forecasted P/E (exc neg)	15.7	14.2	21.2
Price/Book Value	2.2	1.9	3.6
Forecasted Gr. in Earnings	19.8	11.1	14.1
Return on Equity	15.6	18.2	22.2
Dividend Yield	1.9	2.9	1.7

Equity Sector Exposure vs MSCI:EAFE



Region Exposures

	Artisan (NH)	MSCI:EAFE	MSCI:EAFE Growth
Emerging Markets	4.5%	0.0%	0.0%
Europe	74.7%	66.2%	65.2%
Japan	6.6%	22.3%	22.9%
North America	14.2%	0.0%	0.0%
Pacific Rim	0.0%	11.4%	11.8%

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The investment manager organizations contained herein have submitted information to Callan regarding their investment management capabilities, for which information Callan has not necessarily verified the accuracy or completeness of or updated. The information provided to Callan has been summarized in this report for your consideration. Unless otherwise noted, performance figures reflect a commingled fund or a composite of discretionary accounts. All written comments in this report are based on Callan's standard evaluation procedures which are designed to provide objective comments based upon facts provided to Callan. The appropriateness of the candidate investment vehicle(s) discussed herein is based on Callan's understanding of the client's portfolio as of the date hereof. Certain operational topics may be addressed in this investment evaluation for information purposes. The investment evaluation and any related due diligence questionnaire completed by the candidate may contain highly confidential information that is covered by a non-disclosure or other related agreement with the candidate which must be respected by the client and its representatives. The client agrees to adhere to the conditions of any applicable confidentiality or non-disclosure agreement.

Biographies—Artisan Partners

Mark L. Yockey, CFA, is a managing director of Artisan Partners and a portfolio manager on the Global Equity team. In this role, he is a portfolio manager for the Artisan Non-U.S. Growth and Global Equity Strategies. Prior to joining Artisan Partners in December 1995, Mr. Yockey was the portfolio manager of the United International Growth Fund and vice president of Waddell & Reed from January 1990 through December 1995. Before assuming responsibility for the United International Growth Fund, Mr. Yockey was an analyst for Waddell & Reed from 1986 through 1989, specializing in the worldwide health care industry and international special situations. Earlier in his career, he was a health care analyst for the State of Michigan Retirement Fund for five years. Mr. Yockey holds a bachelor's degree and a master's degree in finance from Michigan State University. He completed one year of undergraduate work at the Université d'Aix-en-Provence in France. He also worked for the French bank, La Société Générale. He is fluent in French.

Sean J. Howley is a managing director of Artisan Partners and a business leader for the firm's Global Equity team. Prior to joining Artisan Partners in March 2007, Mr. Howley was the managing director and product manager for international and global equity products at Putnam Investments, where he was responsible for overseeing communications on policy, strategy and tactics with institutional clients. Before that, he was head of sales and distribution for Pioneer Investment Management, where he developed sales and marketing channels in the United Kingdom and Ireland. Mr. Howley holds a bachelor's degree in commerce from University College Dublin and a master's degree in business administration from the Haas School of Business at the University of California-Berkeley.

Biographies — Artisan Partners Global Equity Team

Richard Logan, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the global chemicals and energy sectors. Prior to joining Artisan Partners in April 2013, Mr. Logan headed up the Goldman Sachs European Chemicals equity research team in London. Earlier in his career, he trained as a chartered accountant at Arthur Andersen before working in securities lending with Morgan Stanley. Mr. Logan holds a bachelor's degree in chemical engineering from Aston University in Birmingham, England, and a master's degree in finance from London Business School.

Nikola Legetic, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research on multiple sectors. Prior to joining Artisan Partners in May 2017, Mr. Legetic was an analyst at GQG Partners LLC, where he covered emerging markets, global and international equities. Before that, Mr. Legetic was a senior research analyst at Riverloft Capital Management LP, where he worked on special situations, long/short equity, capital structure arbitrage and credit. Earlier in his career, he was an equity research analyst at Raymond James Financial/Eagle Asset Management, where he focused on financial services and energy. Mr. Legetic holds a bachelor's degree in international finance and international relations (with honors) from Eckerd College. He is fluent in Serbo-Croatian.

Sam Zarnegar is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the technology sector. Prior to joining Artisan Partners in July 2017, Mr. Zarnegar was an analyst for Glenview Capital Management where he covered the technology sector for the firm's long/short equity hedge fund. Before that, he worked as an investment associate at Sageview Capital, a public/private equity hybrid fund, where he focused on TMT investments across the capital structure. Earlier in his career, Mr. Zarnegar was an investment banking analyst across a variety of industry verticals at Evercore Partners. Mr. Zarnegar holds a bachelor's degree in economics from Cornell University. He is fluent in Persian.

Daniel Reagan, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the health care sector. Prior to joining Artisan Partners in June 2015, Mr. Reagan interned at UBS Global Asset Management and Balyasny Asset Management while studying for his MBA. Earlier in his career, he was an equity analyst at Hamlin Capital Management. Mr. Reagan holds bachelor's degrees in biology and economics from Bowdoin College and a master's degree in business administration from New York University.

Jeffrey Zhu, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the media, internet and communication sectors. Prior to joining Artisan Partners in July 2014, Mr. Zhu was an analyst at J.P. Morgan Investment Management where he covered the financial services sector. Mr. Zhu holds bachelor's degrees in mathematics and economics from Yale University and a master's degree in business administration from the Wharton School, University of Pennsylvania.

Navdeep Singh is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on biopharmaceutical companies. Prior to joining Artisan Partners in June 2020, Mr. Singh was a global biotechnology research analyst for Fidelity Institutional Asset Management. Before that, he conducted equity research in biotechnology as a vice president for both Goldman Sachs and Deutsche Bank. Earlier in his career, Mr. Singh served as an associate in equity biotechnology research at three different companies which included Citi, Banc of America and C.E. Unterberg, Towbin. Mr. Singh has bachelor's degrees in biology and economics from the University of Rochester.

Derek G. de Petra is a managing director and head of global trading at Artisan Partners. Prior to joining Artisan Partners in January 2000, Mr. de Petra was a trader with Montgomery Asset Management where he was responsible for trading in developed and emerging Europe for the international and emerging strategies. Mr. de Petra began trading at Mellon Capital Management in San Francisco where he traded the firm's passive international strategies. Mr. de Petra holds a bachelor's degree in history from the University of California-Los Angeles and a master's degree in business administration from the Haas School of Business at the University of California-Berkeley.

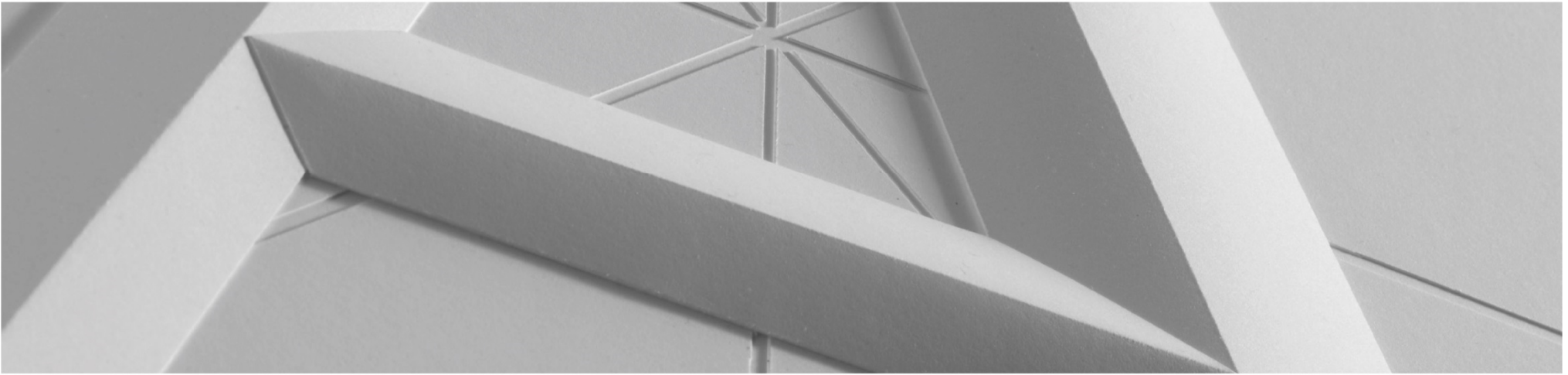
Biographies—Operations and Client Service Team

Eric R. Colson, CFA, is a managing director and chief executive officer of Artisan Partners. Mr. Colson also serves as a director of Artisan Partners Funds, Inc. Prior to joining Artisan Partners in January 2005, Mr. Colson was an executive vice president of Callan Associates, Inc. where he managed the institutional consulting group, providing business and investment advice to asset management firms. Prior to managing the institutional consulting group, he managed Callan's global manager research. Mr. Colson holds a bachelor's degree in economics from the University of California-Irvine.

Brett J. Meyer, CFA, is the chief operating officer of the Artisan Partners Global Equity Team. In this role, he is responsible for a number of non-investment responsibilities to ensure the focus of the team's portfolio managers and analysts is on managing the team's investment strategies. His responsibilities include day-to-day coordination of the research processes, hiring investment talent, and the information flow among the members of the investment team and trading. In addition, he acts as the team's liaison with Artisan Partners' business management team on legal, compliance, accounting, finance, facilities and IT matters. Mr. Meyer joined Artisan Partners in February 2013 as a director in the Investment Operations group which supports the firm's existing investment teams as well as identifies new investment talent. Prior to joining Artisan, Mr. Meyer served as an equity analyst on the investment team at Quantum Capital Management. Previously, Mr. Meyer spent 12 years at Callan Associates in a variety of capacities, including director of research for the Independent Adviser Group. Mr. Meyer holds a bachelor's degree in business administration and sports management from Principia College.

Sean J. Howley is a managing director of Artisan Partners and a business leader for the firm's Global Equity team. Prior to joining Artisan Partners in March 2007, Mr. Howley was the managing director and product manager for international and global equity products at Putnam Investments, where he was responsible for overseeing communications on policy, strategy and tactics with institutional clients. Before that, he was head of sales and distribution for Pioneer Investment Management, where he developed sales and marketing channels in the United Kingdom and Ireland. Mr. Howley holds a bachelor's degree in commerce from University College Dublin and a master's degree in business administration from the Haas School of Business at the University of California-Berkeley.

Benjamin C. Helsby is a director on the institutional client services team at Artisan Partners with responsibility for institutional marketing and client service of the strategies managed by the firm's Global Equity team. Prior to joining Artisan Partners in June 2018, Mr. Helsby was an investment consultant at Willis Towers Watson. Mr. Helsby holds a bachelor's degree in finance from the University of Florida.



December 10, 2024

New Hampshire Retirement System

Artisan Non-U.S. Growth Investment Review

Contents

- I. Firm and Strategy Overview
- II. Investment Team, Philosophy and Process
- III. Performance Analysis and Positioning

Appendix

Holdings

Statistics

Performance

Biographies

Notes and Disclosures

Client Service

Sean Howley

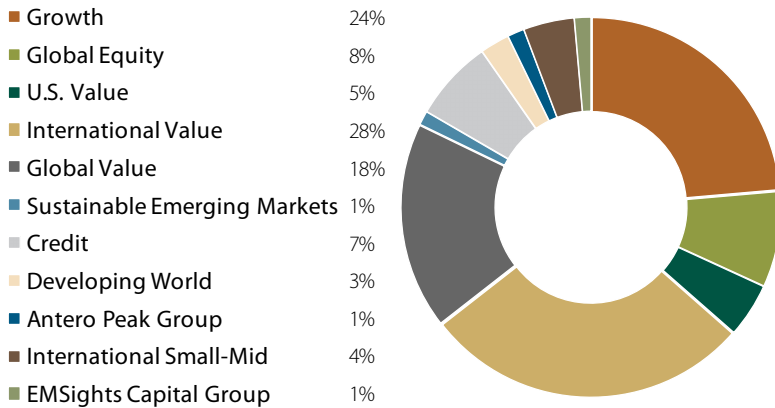
T 415 283 1075

sean.howley@artisanpartners.com

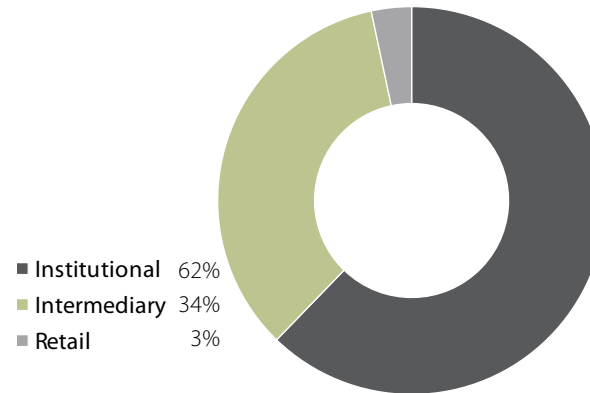
About Artisan Partners

- Founded in 1994; solely focused on providing high value-added investment strategies to sophisticated investors
- Autonomous investment teams oversee a range of investment strategies across multiple asset classes
- Primary offices in Atlanta, Boston, Chicago, Denver, Dublin, Hong Kong, London, Milwaukee, New York, San Francisco, Singapore, Sydney and Wilmington, with 592 associates
- Approximately \$167.8 billion under management as of 30 September 2024

AUM by Investment Team



AUM by Client Type



Growth Team

Global Opportunities
Global Discovery
U.S. Mid-Cap Growth
U.S. Small-Cap Growth

Global Equity Team

Global Equity
Non-U.S. Growth
China Post-Venture

U.S. Value Team

Value Equity
U.S. Mid-Cap Value
Value Income

International Value Team

International Value
International Explorer

Global Value Team

Global Value
Select Equity

Sustainable Emerging Markets Team

Sustainable Emerging Markets

Credit Team

High Income
Credit Opportunities
Floating Rate

Developing World Team

Developing World

Antero Peak Group

Antero Peak
Antero Peak Hedge

International Small-Mid Team

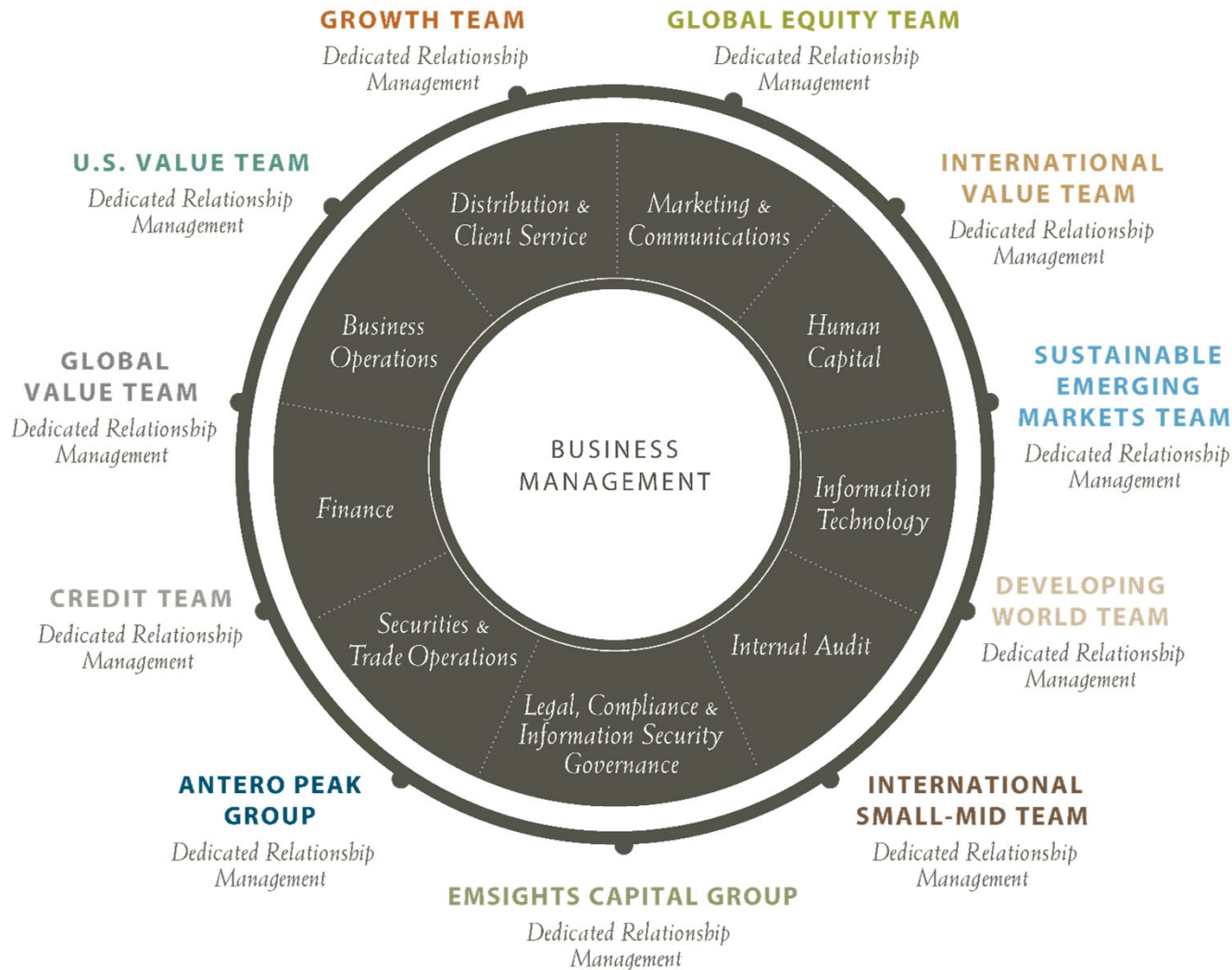
Non-U.S. Small-Mid Growth

EMSights Capital Group

Global Unconstrained
Emerging Markets Debt Opportunities
Emerging Markets Local Opportunities

As of 30 Sep 2024.

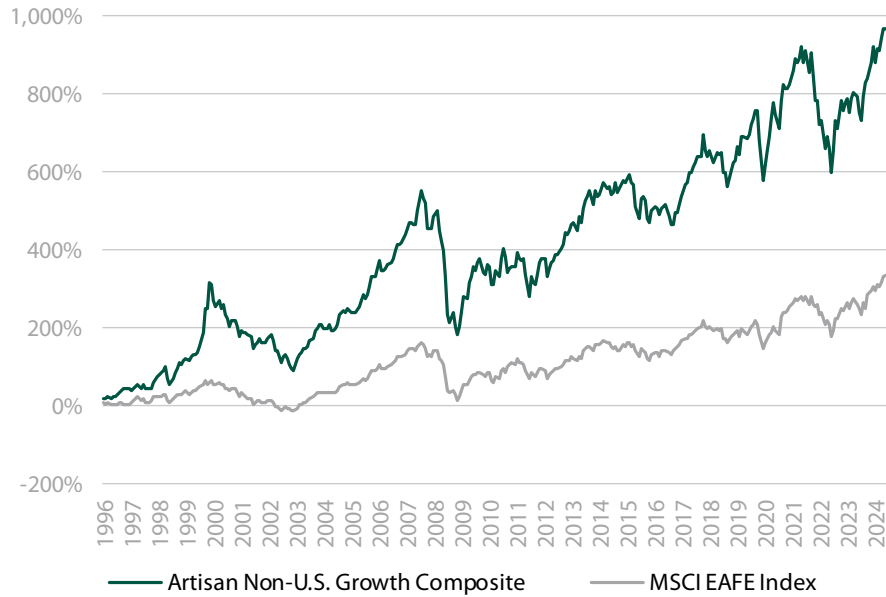
Talent-Driven Business Model



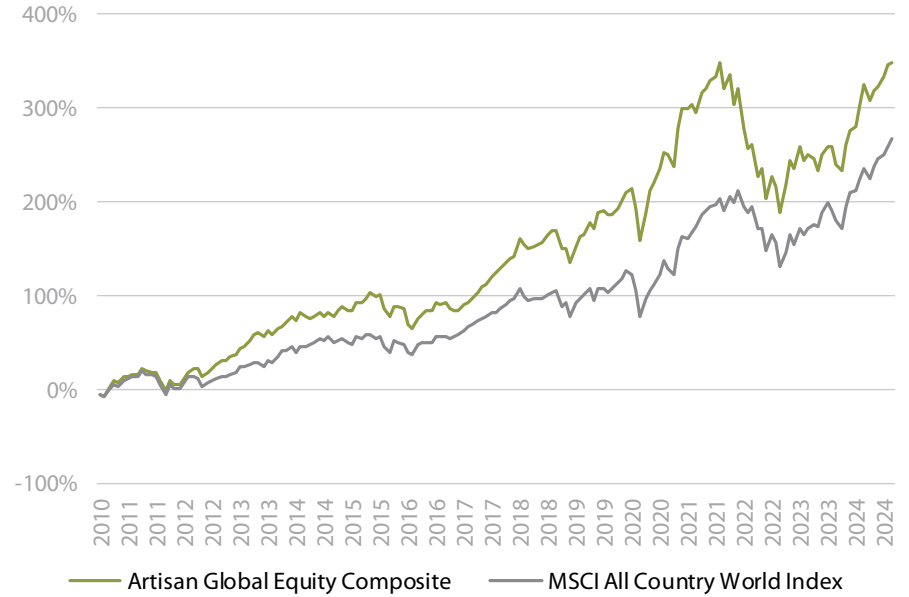
Our investment teams focus on generating results for our clients in a distraction-free environment

Long-Term Alpha Generation (USD)

Artisan Non-U.S. Growth Composite Cumulative Returns (% Net)



Artisan Global Equity Composite Cumulative Returns (% Net)



(% as of 30 Sep 2024)	Status	Average Annual Total Returns				
		1 Yr	3 Yr	5 Yr	10 Yr	Inception
Artisan Non-U.S. Growth Composite: Gross (1 Jan 1996)	Open	26.72	3.81	7.01	6.17	9.58
Artisan Non-U.S. Growth Composite: Net		25.57	2.85	6.03	5.21	8.57
MSCI EAFE Index		24.77	5.48	8.19	5.70	5.23
Artisan Global Equity Composite: Gross (1 Apr 2010)	Open	33.07	3.04	10.28	10.78	11.94
Artisan Global Equity Composite: Net		31.90	2.12	9.30	9.75	10.88
MSCI All Country World Index		31.76	8.08	12.18	9.38	9.38

Source: Artisan Partners/MSCI. Past performance does not guarantee and is not a reliable indicator of future results. Gross- and net-of-fees performance shown for the Composite. Current performance may be lower or higher than performance shown.

Artisan Partners Global Equity Team

Seasoned Leadership, Continuity of Decision Makers, Diverse Perspectives

Portfolio Leadership

- Process
- Research
- Decisions
- Construction / Risk



Mark Yockey, CFA

New York
Investment Experience:
44 Years



Charles-Henri Hamker

New York
Investment Experience:
34 Years



Andrew Euretig

San Francisco
Investment Experience:
20 Years

Portfolio Specialists

Sean Howley | Ben Helsby

Chief Operating Officer

Brett Meyer, CFA, FRM

- Talent, ESG, Risk

Research Analysts

- Diverse Perspectives
- Idea Generation
- Experienced
- Deep Stock Research
- Thematic Research

FINANCIALS

- Claudia Corra
- Brice Vandamme

HEALTH CARE

- Daniel Reagan, CFA
- Navdeep Singh

INDUSTRIALS / CYCLICALS / TECHNOLOGY

- Richard Logan, CFA
- Sam Zarnegar

MULTI-SECTOR

- Nikola Legetic, CFA

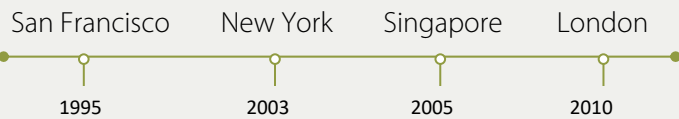
CONSUMER BUSINESSES

- Stephen Chan
- Jeff Zhu, CFA

RESEARCH ASSOCIATES (9)

- Fundamental Modeling
- Sector Research Support

Team Offices



Team Interaction

- Twice weekly research meetings
- Daily interaction between team members
- Daily meetings and conferences with management teams

Investment Portfolio Committee

- Monthly meetings
- Members include: Mark Yockey, Charles-Henri Hamker, Andrew Euretig, Brett Meyer, Claudia Corra, and Nik Legetic

Investment Portfolio Committee (IPC)

Members

Chair: Brett Meyer
Mark Yockey | Charles-Henri Hamker | Andrew Euretig | Claudia Corra | Nik Legetic

Primary Functions

- Define thematic research priorities
- Evaluate risk
- Oversee ESG integration
- Consider macroeconomic, geopolitical impacts

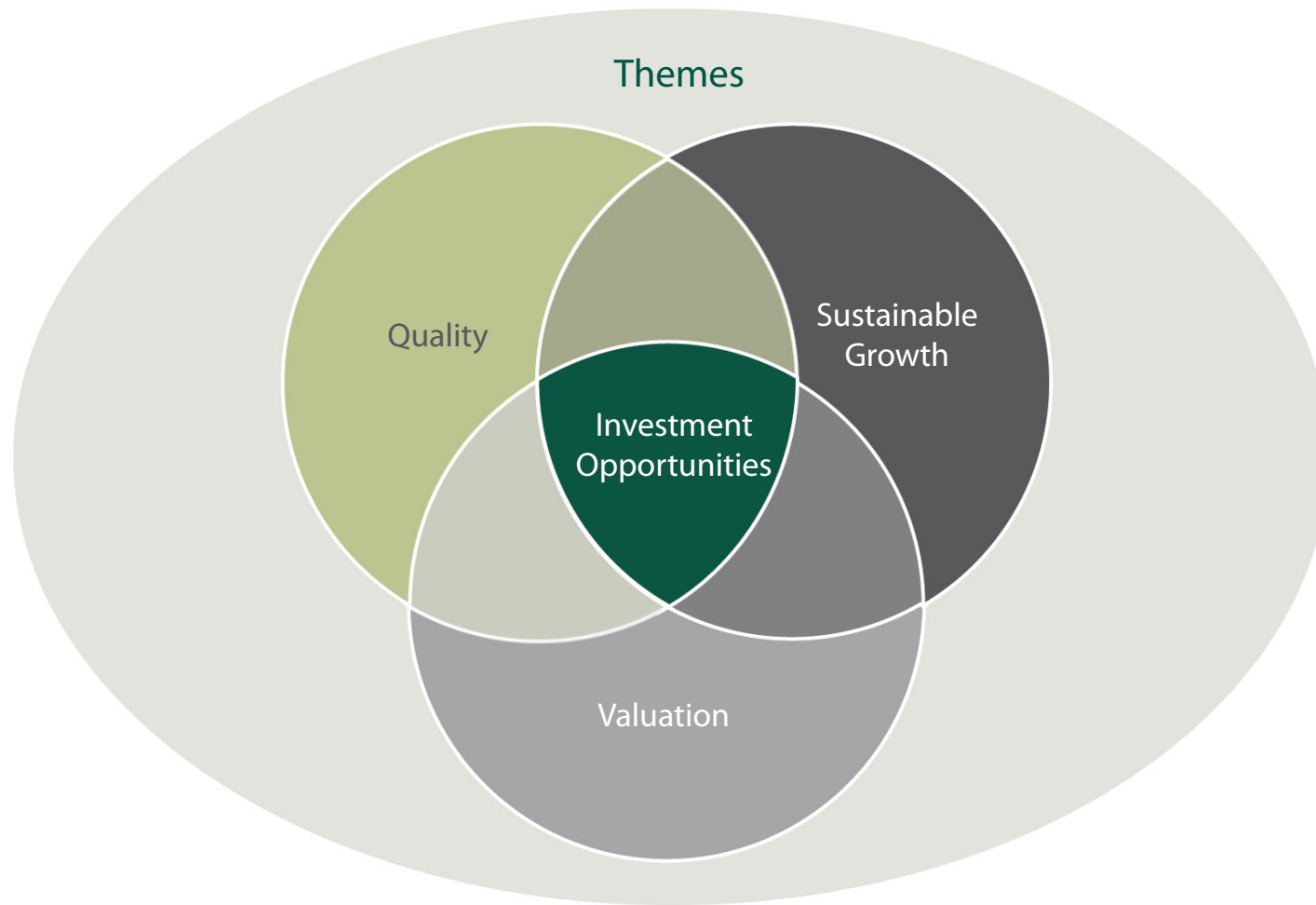
Process

- Meet monthly, distribute information weekly
- Document and maintain strategic decisions
- Review capital market environment and macroeconomic factors
- Review portfolio positioning and performance
- Evaluate pipeline of stock ideas and priorities
- Assess portfolio-level risk factors

Investment Philosophy

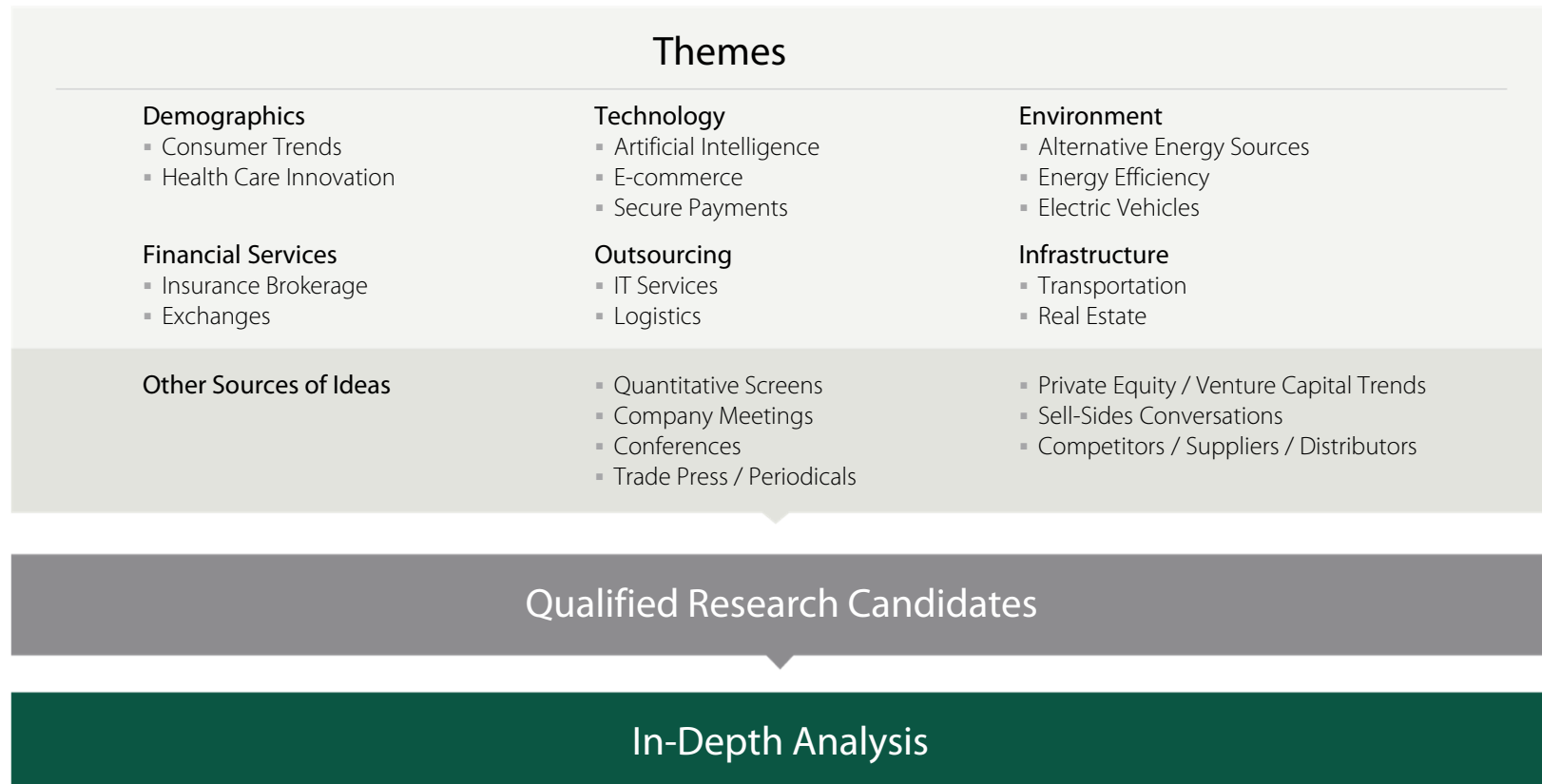
We believe investing in high-quality companies with sustainable growth characteristics at attractive valuations will lead to outperformance over a full market cycle.

Investment Process—Quality, Growth and Valuation



Investment Process—Idea Generation

Identify long-term growth themes with the objective of investing in companies having meaningful exposure to these trends



Investment Process—In-Depth Analysis

Quality

- Focused management and strong governance
- Proven track record, clear business strategy
- Alignment of interest, treatment of stakeholders
- Financial strength, ROE, ROIC

Sustainable Growth

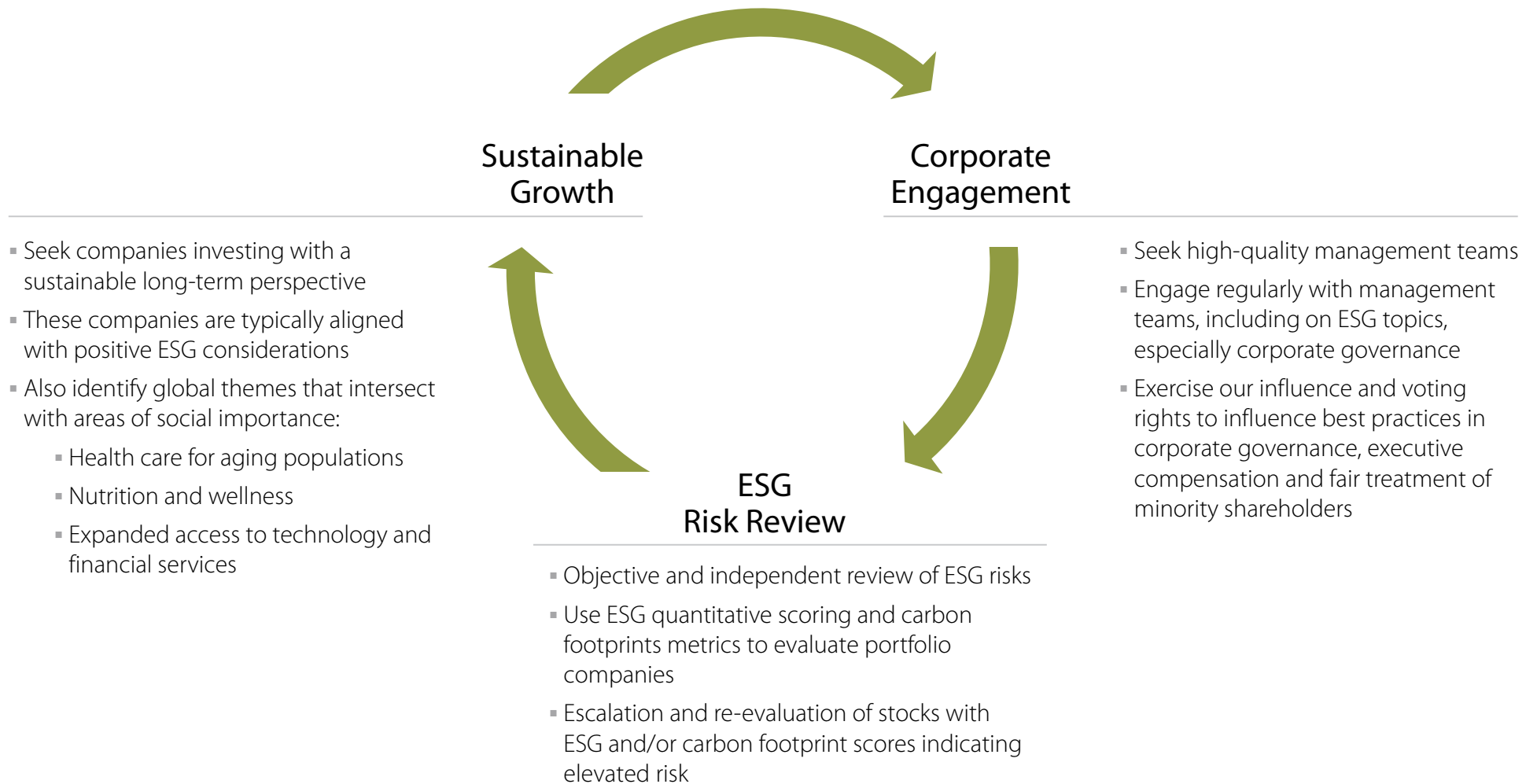
- Dominant market position, high barriers to entry
- Unique assets, brand strength → pricing power
- Investing for the future, responsible practices
- High and/or improving profit margins
- Significant free cash flow

Valuation

- EV/EBITDA
- FCF yield
- PEG ratio
- Sum-of-the-parts
- Relative to history and peers

Sustainable Growth factors outlined above apply to the investment selection criteria.

Investment Process—ESG Integration



All candidates for inclusion in the final portfolio must be consistent with our growth and valuation objectives and any ESG criteria must stand on their own merits financially.

ESG assessments represent one of many pieces of research available and the degree to which it impacts holdings may vary based on manager discretion.

Investment Process—Risk Management

A multi-faceted approach to mitigate risk of capital impairment

Security Level Know What You Own

- Continuous review of investment thesis
- Deep sector and industry knowledge
- Competitive landscape evaluation
- In-depth financial models and scenario analysis

Portfolio Construction

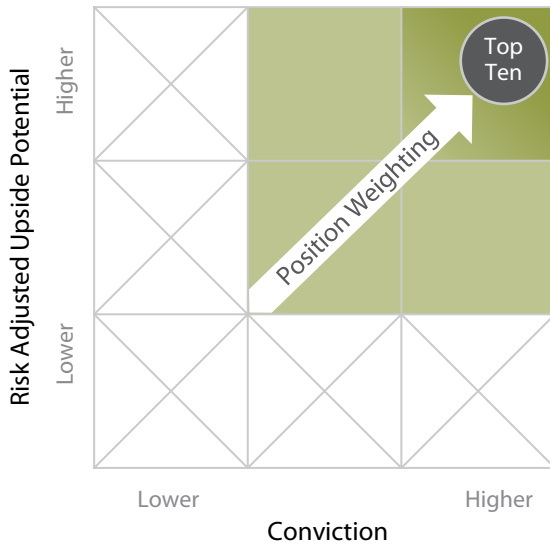
- Diversified by sectors, industries, themes
- Cognizant of common risk factors
- Mitigate unintended risks (Barra/Bloomberg)
- Monthly IPC meetings

Rigorous Sell Discipline

- Disruption of competitive advantages
- Deterioration in business quality and/or growth metrics
- Valuation levels
- Management or regulatory changes

Investment Process—Position Sizing

High conviction, benchmark agnostic and stock selection driven.



Portfolio Construction

Maximum position size generally 5%*

Number of holdings range from 50 to 90

Maximum of 25% in any one industry*

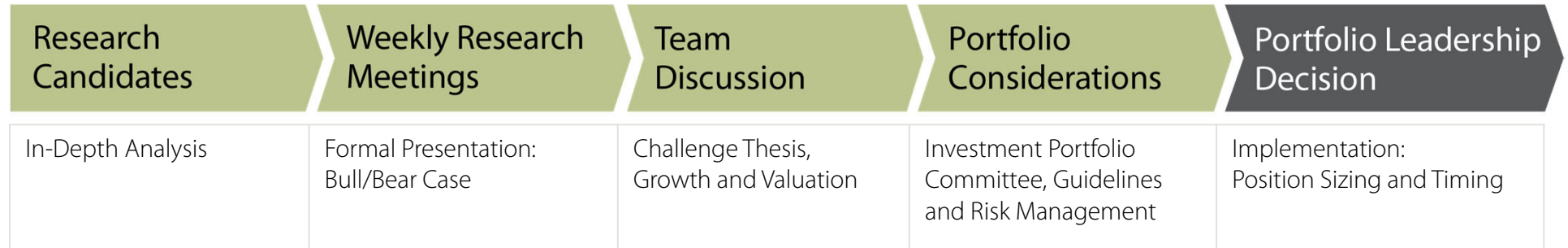
Maximum of 30% in any one country*

May invest up to 35% in emerging markets*

Typically less than 5% cash

Source: Artisan Partners. The investment process is provided for illustrative purposes only and individual securities may vary from the general approach shown. Based on a model portfolio. Determination of Risk Adjusted Upside Potential is based on analyst estimates. *Limitations apply at the time of purchase.

Investment Process—Decision-Making Process



Financial Services—Asset Management, Insurance and Exchanges

Invest in competitively advantaged financial intermediaries benefiting from economic and monetary tailwinds

Asset Management & Insurance

- Large and diversified asset base
- Source of recurring fee revenue
- Future capital return prospects

Exchanges

- Increased volatility drives trade volume and revenues higher
- “Mini-monopolies” approved by regulators
- Mix shift toward data & services adding to recurring revenue streams

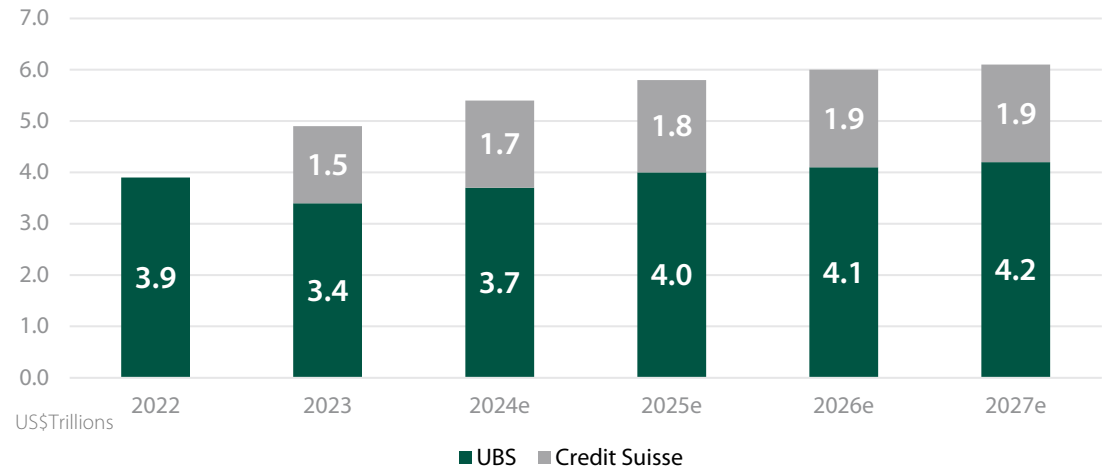
Selected Holdings

Company	Strategies	
	Non-U.S. Growth	Global Equity
UBS	■	■
AXA	■	
Allianz	■	

Company	Strategies	
	Non-U.S. Growth	Global Equity
AJ Gallagher		■
Deutsche Boerse	■	
London Stock Exchange	■	

Source: Artisan Partners. As of 30 Sep 2024. Security examples and portfolio holdings are for illustrative purposes only and are subject to change without notice. Based on a representative portfolio. The holdings mentioned comprised the following weights as of 30 Sep 2024 in the Artisan Non-U.S. Growth Strategy: UBS Group AG 5.6%, AXA SA 1.2%, Allianz SE 2.3%, Deutsche Boerse AG 3.3% and London Stock Exchange Group PLC 1.3%. Artisan Global Equity Strategy: UBS Group AG 4.7% and Arthur J Gallagher & Co 2.1%. Refer to Notes and Disclosures for additional information.

Global Wealth and Asset Management AUM



Source: Company data, Morgan Stanley Research estimates

Demographics—Health Care Innovation

Seek high-conviction holdings with strong balance sheets, novel approaches for treatment and promising pipelines

Consumer-Driven Care

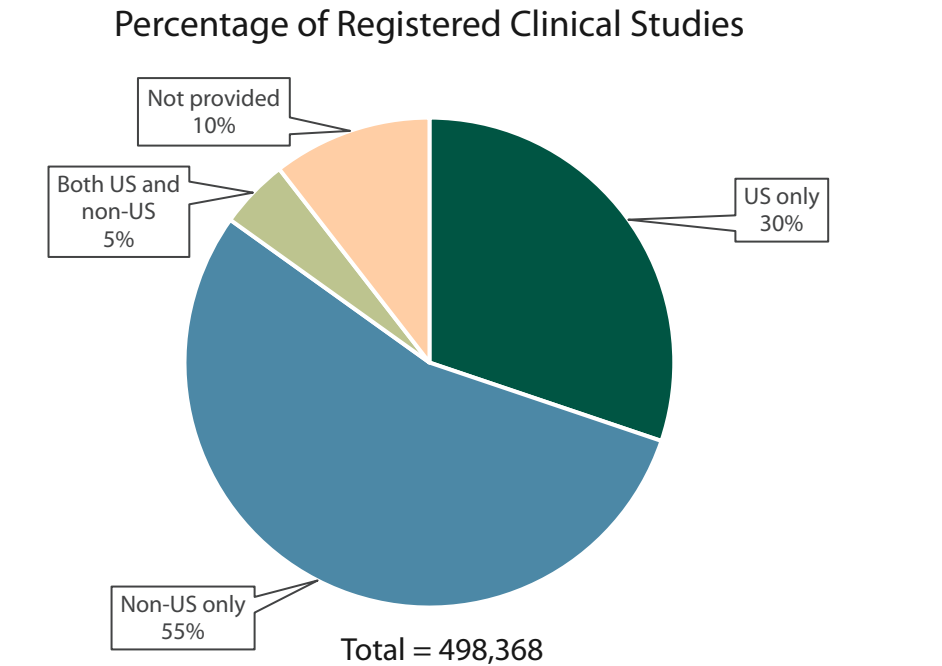
- People living longer lives, requiring more care
- Patients becoming stakeholders in their own care
- Health systems moving toward patient-centric models

Tech Driving Continued Improvement in R&D

- Increased collaboration bringing together multiple stakeholders to produce more targeted results
- Artificial Intelligence (AI) and deep learning advancing research and drug development
- AI helping to increase speed and effectiveness of clinical trials

Selected Holdings

Company	Strategies	
	Non-U.S. Growth	Global Equity
Novo Nordisk	■	■
Argenx	■	
UCB	■	■



Source: ClinicalTrials.gov, June 2024

Company	Strategies	
	Non-U.S. Growth	Global Equity
Otsuka Holdings	■	■
Natera		■
Halozyyme Therapeutics		■

Source: Artisan Partners. As of 30 Sep 2024. Security examples and portfolio holdings are for illustrative purposes only and are subject to change without notice. Based on a representative portfolio. The holdings mentioned comprised the following weights as of 30 Sep 2024 in the Artisan Non-U.S. Growth Strategy: Novo Nordisk A/S 3.3%, Argenx SE 4.0%, UCB SA 4.0% and Otsuka Holdings Co Ltd 1.3%. Artisan Global Equity Strategy: Novo Nordisk A/S 2.8%, UCB SA 1.8%, Otsuka Holdings Co Ltd 1.3%, Natera Inc. 4.5% and Halozyyme Therapeutics Inc. 4.2%. Refer to Notes and Disclosures for additional information.

Infrastructure—Defense

Research structurally advantaged companies with hard-to-replicate assets

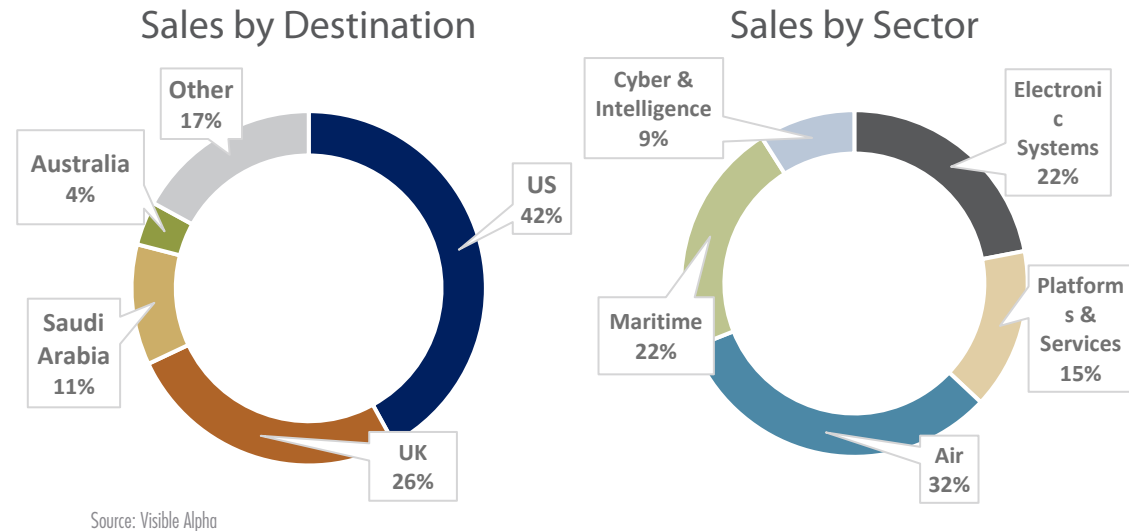
Growing number of conflicts fueling demand

- Continuing war in Ukraine increasing need for US and Europe to replenish and increase stockpiles
- Turmoil in Middle East adding to global demand pressures
- Increasing threats in Far East as China flexes its military muscles

UK-based BAE growing faster than US peers

- Global revenue mix reduces country risk
- Higher margins than US counterparts with growing dividends
- £70 billion backlog
- CHIPS Act beneficiary

BAE Systems



Selected Holdings

Company	Strategies	
	Non-U.S. Growth	Global Equity
BAE Systems	■	■
LIG Nex1	■	■
Hanwha Aerospace	■	■

Company	Strategies	
	Non-U.S. Growth	Global Equity
Babcock International Group		■
Dessault Aviation		■
Rheinmetall	■	

Source: Artisan Partners. As of 30 Sep 2024. Security examples and portfolio holdings are for illustrative purposes only and is subject to change without notice. Based on a representative portfolio. The holdings mentioned comprised the following weights as of 30 Sep 2024 in the Artisan Non-U.S. Growth Strategy: BAE Systems PLC 3.4%, LIG Nex1 Co Ltd 1.4%, Hanwha Aerospace Co Ltd 0.6% and Rheinmetall AG 0.4%. Artisan Global Equity Strategy: BAE Systems PLC 3.1%, LIG Nex1 Co Ltd 1.4%, Hanwha Aerospace Co Ltd 0.9%, Babcock International Group PLC 2.0% and Dessault Aviation SA 0.7%. Refer to Notes and Disclosures for additional information.

Market Review

- Falling interest rates and economic concerns favored more cyclical and defensive sectors this quarter, while equity markets saw modest returns in Q3.
- Non-US equity stocks, as measured by the MSCI EAFE Index, ended slightly positive, with value edging out growth during the quarter.
- Positive returns were led by real estate and utilities. Energy and information technology ended lower.

	MSCI EAFE Index Total Returns (Local) %	
	Q3 2024	1 Yr
Real Estate	10.7	21.5
Utilities	9.6	18.4
Materials	4.5	16.0
Financials	4.3	27.9
Consumer Staples	4.1	3.5
Communication Services	3.9	20.8
Industrials	2.3	26.5
Health Care	-1.4	12.7
Consumer Discretionary	-2.3	8.4
Information Technology	-8.9	29.2
Energy	-10.5	-8.8
MSCI EAFE Index	0.8%	17.5%
MSCI EAFE Growth Index	-0.6%	19.2%
MSCI EAFE Value Index	2.3%	16.0%

Source: Artisan Partners/FactSet/GICS/MSCI. As of 30 Sep 2024. Past performance does not guarantee and is not a reliable indicator of future results. An investment cannot be made directly in an index.

Investment Results—Average Annual Total Returns ^(USD) New Hampshire Retirement System

(%) as of 30 Nov 2024	MTD	QTD	YTD	1 Yr	3 Yr	5 Yr	7 Yr	10 Yr	Inception
Gross¹	1.34	-0.33	15.01	20.08	4.83	5.96	6.31	5.72	6.52
Net¹	1.28	-0.43	14.35	19.33	4.17	5.29	5.64	5.05	5.84
MSCI EAFE Index	-0.57	-5.97	6.24	11.88	4.14	5.88	4.68	5.06	5.56

Past performance does not guarantee and is not a reliable indicator of future results. Current performance may be lower or higher than the performance shown.

Returns for periods less than one year are not annualized.

Account Inception: 20 Oct 2014.

Performance Inception: 21 Oct 2014.

Source: Artisan Partners/MSCI.

Account Summary¹ (USD)

Account Value at Inception	\$179,656,170
Additions	62,635,254
Withdrawals	-138,588
Market Value 30 November 2024	\$429,531,059

¹Preliminary.

Attribution—YTD ^(USD)

New Hampshire Retirement System

Economic Sector	Portfolio		MSCI EAFE		Attribution Analysis		
	% Average Weight	% Return	% Average Weight	% Return	Allocation Effect	Selection Effect	Total Effect
Communication Services	2.84	38.10	4.16	16.29	-0.05	0.51	0.46
Consumer Discretionary	5.12	36.18	11.53	-2.33	0.58	1.95	2.53
Consumer Staples	4.21	-20.11	8.73	-5.04	0.38	-0.56	-0.19
Energy	0.39	-9.08	4.02	-7.41	0.55	-0.14	0.41
Financials	22.88	15.13	19.91	23.14	0.45	-1.66	-1.21
Health Care	17.68	42.62	13.23	4.56	0.13	5.76	5.89
Industrials	24.89	7.07	17.04	11.87	0.47	-1.44	-0.97
Information Technology	2.52	36.35	9.01	3.38	-0.02	0.84	0.82
Materials	12.20	4.37	6.91	-8.00	-0.72	1.70	0.98
Real Estate	1.86	7.93	2.19	1.91	0.34	-0.27	0.08
Utilities	1.46	2.11	3.27	0.88	0.15	0.01	0.16
Cash	3.96	3.09	--	--	-0.28	0.16	-0.12
Total	100.00	15.08	100.00	6.24	1.98	6.86	8.84

Source: FactSet/GICS/MSCI. As of 30 Nov 2024. Past performance does not guarantee and is not a reliable indicator of future results. Security values are reported in local currency and returns attributable to currency exposures are represented within Selection Effect. Refer to Notes and Disclosures for attribution information.

Attribution—3 Yr ^(USD)

New Hampshire Retirement System

Economic Sector	Portfolio		MSCI EAFE		Attribution Analysis		
	% Average Weight	% Return	% Average Weight	% Return	Allocation Effect	Selection Effect	Total Effect
Communication Services	4.72	40.07	4.40	8.33	-0.24	1.05	0.81
Consumer Discretionary	8.04	27.33	11.72	-3.97	0.96	1.01	1.97
Consumer Staples	6.81	-28.93	9.84	-8.39	0.06	-1.52	-1.46
Energy	4.46	26.62	4.35	41.49	0.68	-0.39	0.29
Financials	21.97	28.22	18.89	46.12	0.73	-3.16	-2.43
Health Care	15.65	43.35	13.29	6.70	-0.49	5.57	5.08
Industrials	17.98	24.14	16.08	20.82	0.13	-0.22	-0.09
Information Technology	3.74	6.34	8.15	-0.53	-1.77	0.89	-0.88
Materials	10.89	7.10	7.43	6.02	-0.18	-0.34	-0.52
Real Estate	0.57	7.93	2.47	-10.64	0.88	-0.25	0.63
Utilities	0.61	3.83	3.39	10.00	0.08	-0.18	-0.09
Cash	4.56	9.17	--	--	-0.59	0.43	-0.16
Total	100.00	16.11	100.00	12.96	0.27	2.87	3.14

Source: FactSet/GICS/MSCI. As of 30 Nov 2024. Past performance does not guarantee and is not a reliable indicator of future results. Security values are reported in local currency and returns attributable to currency exposures are represented within Selection Effect. Refer to Notes and Disclosures for attribution information.

Attribution—5 Yr ^(USD) New Hampshire Retirement System

Economic Sector	Portfolio		MSCI EAFE		Attribution Analysis		
	% Average Weight	% Return	% Average Weight	% Return	Allocation Effect	Selection Effect	Total Effect
Communication Services	5.29	126.14	4.71	17.80	-0.53	4.04	3.51
Consumer Discretionary	8.15	86.87	11.76	21.04	1.01	1.27	2.28
Consumer Staples	5.95	-19.65	10.40	0.11	0.81	-1.88	-1.06
Energy	3.28	-4.46	3.96	23.14	1.46	-1.48	-0.02
Financials	21.88	39.44	18.28	62.05	-1.25	-1.73	-2.98
Health Care	15.65	64.16	13.31	27.27	-1.61	5.96	4.35
Industrials	16.26	22.51	15.86	46.26	-0.65	-4.98	-5.62
Information Technology	6.18	51.54	7.97	57.89	-1.52	-0.19	-1.71
Materials	12.18	51.57	7.46	37.94	0.92	0.87	1.79
Real Estate	0.34	7.93	2.73	-13.35	1.85	-0.27	1.58
Utilities	0.81	16.03	3.57	22.96	-0.00	-0.13	-0.13
Cash	4.05	10.14	--	--	-1.01	0.52	-0.49
Total	100.00	34.58	100.00	33.10	-0.52	2.00	1.48

Source: FactSet/GICS/MSCI. As of 30 Nov 2024. Past performance does not guarantee and is not a reliable indicator of future results. Security values are reported in local currency and returns attributable to currency exposures are represented within Selection Effect. Refer to Notes and Disclosures for attribution information.

Contribution to Return—QTD and YTD (USD)

QTD

Top		Avg.Weight (%)
Argenx	Health Care	3.9
UCB	Health Care	3.8
Otsuka	Health Care	1.8
Air Liquide	Materials	4.5
Deutsche Telekom	Communication Services	3.1

Bottom

		Avg.Weight (%)
Novo Nordisk	Health Care	5.4
Melrose Industries	Industrials	3.4
Wizz Air	Industrials	0.9
Samsung Electronics	Information Technology	0.7
ASML Holdings (sold)	Information Technology	0.5

YTD

Top		Avg.Weight (%)
UCB	Health Care	3.1
Argenx	Health Care	2.9
Amazon.com	Consumer Discretionary	5.0
Novo Nordisk	Health Care	5.5
Linde	Materials	4.7

Bottom

		Avg.Weight (%)
Melrose Industries	Industrials	2.4
Wizz Air	Industrials	1.0
Wal-Mart de Mexico	Consumer Staples	1.0
Ryanair	Industrials	2.0
Nestle	Consumer Staples	1.7

Source: Artisan Partners/FactSet/GICS. As of 30 Sep 2024. Past performance does not guarantee and is not a reliable indicator of future results. Based on a representative portfolio. These securities made the greatest contribution to, or detracted most from, performance during the period. This is not a complete listing of portfolio activity. Upon request, Artisan will provide: (i) the calculation methodology and/or (ii) a list showing the contribution of each holding to overall performance during the measurement period. Securities of the same issuer are aggregated to determine the weight in the portfolio. Refer to Portfolio Holdings for security weights.

Representative Transactions — QTD

New Positions	Sector	Description and Investment Thesis
National Grid	Utilities	A British utility that generates and transmits natural gas and electricity in the UK and US, and recently launched a renewables group to accelerate the clean energy transition. We value National Grid's leadership in the industry, its role in the clean energy transition and the essential assets it owns for meeting the growing demand for power.
Engie	Utilities	A global energy company that designs, builds and operates low-carbon power plants using natural gas and renewables. Engie is also a pioneer in using artificial intelligence to better predict renewable power supply and demand, making energy grids more efficient. We see upside in its earnings given rising long-term energy prices and the growing demand for renewable energy.
3i Group	Financials	A pioneer in British venture capital that provides exposure to Action, a high-quality discount retailer that we believe is undervalued. In our analysis, Action represents a significant and mispriced portion of 3i's overall valuation.
Sold Positions	Sector	Reason(s) for Sale
Daiichi Sankyo	Health Care	Reached target price
Mitsubishi Estate	Real Estate	Sold to balance risk/reward
Airbus	Industrials	Sold in favor of better opportunities

Source: Artisan Partners/FactSet/GICS. As of 30 Sep 2024. This presentation is not a complete listing of portfolio activity. Refer to Portfolio Holdings for security weights. Based on a representative portfolio.

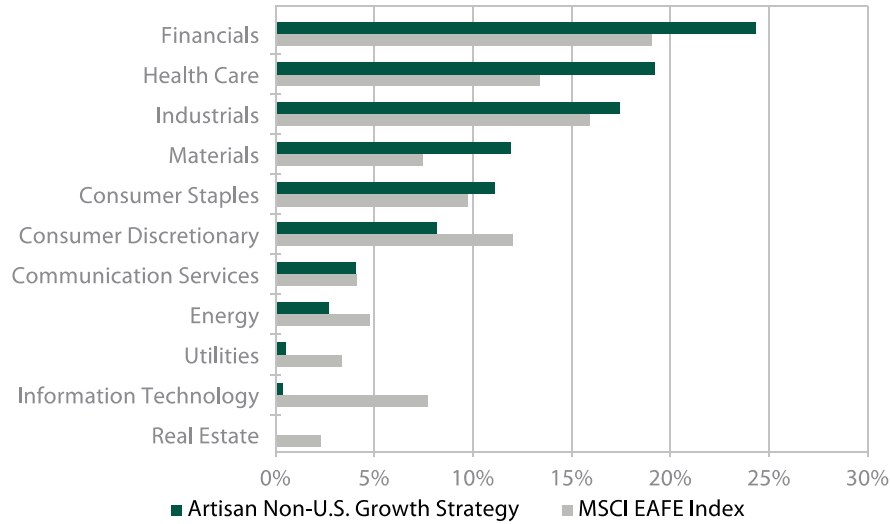
Top 10 Holdings

Company		Initial Purchase	% of total portfolio
UBS Group AG	A global financial services company offering investments, banking and fund servicing.	19 Sep 2019	5.6
Air Liquide SA	The world's second-largest industrial gas producer.	25 Apr 2018	4.7
Linde PLC	One of the world's largest industrial gas providers, supplying customers across a diverse range of industries.	15 Mar 2007	4.4
Amazon.com Inc	The largest e-commerce and cloud computing company in the world.	26 Jul 2018	4.2
Argenx SE	A commercial stage biotechnology company.	28 May 2021	4.0
UCB SA	A biopharmaceutical company.	21 April 2015	4.0
Deutsche Telekom AG	Europe's largest integrated telecom company.	15 May 2017	3.7
Melrose Industries PLC	UK-based aerospace manufacturer.	2 Feb 2024	3.5
BAE Systems PLC	Global developer of advanced defense, aerospace and security systems.	5 Jun 2017	3.4
Novo Nordisk A/S	Global pharmaceutical company that develops drugs for diabetes care, hemostasis (blood clotting), chronic weight management and hormone therapy.	16 Aug 2019	3.3
Total			40.8%

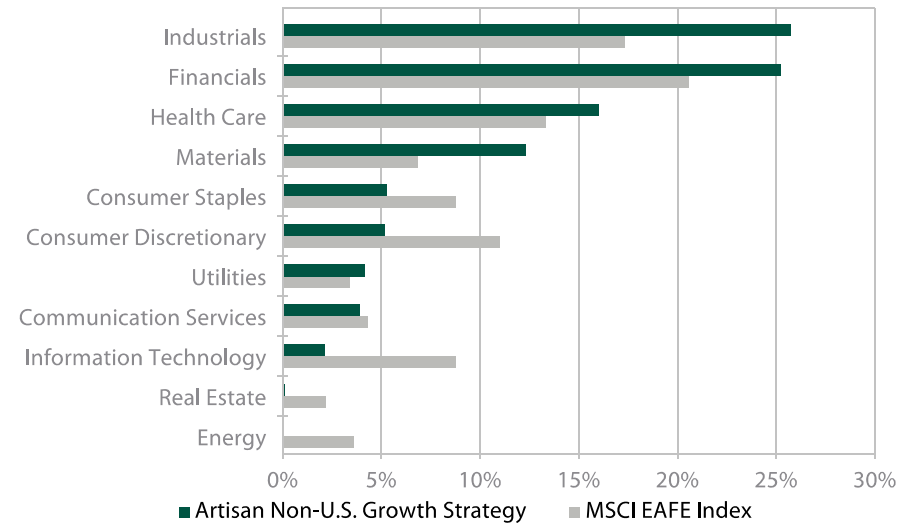
Source: Artisan Partners. As of 30 Sep 2024. Securities of the same issuer are aggregated to determine the weight in the portfolio. Based on a representative portfolio.

Sector Weights

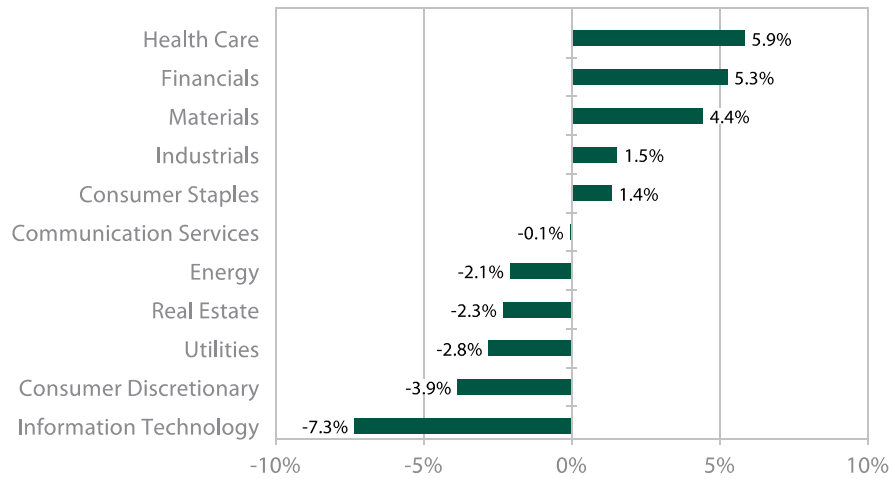
Sector Weights (30 Sep 2023)



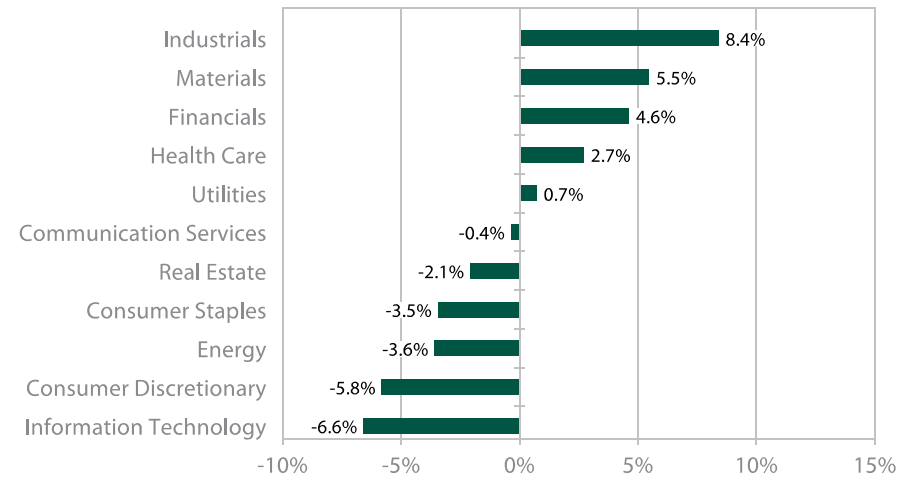
Sector Weights (30 Sep 2024)



Relative Sector Weights (30 Sep 2023)



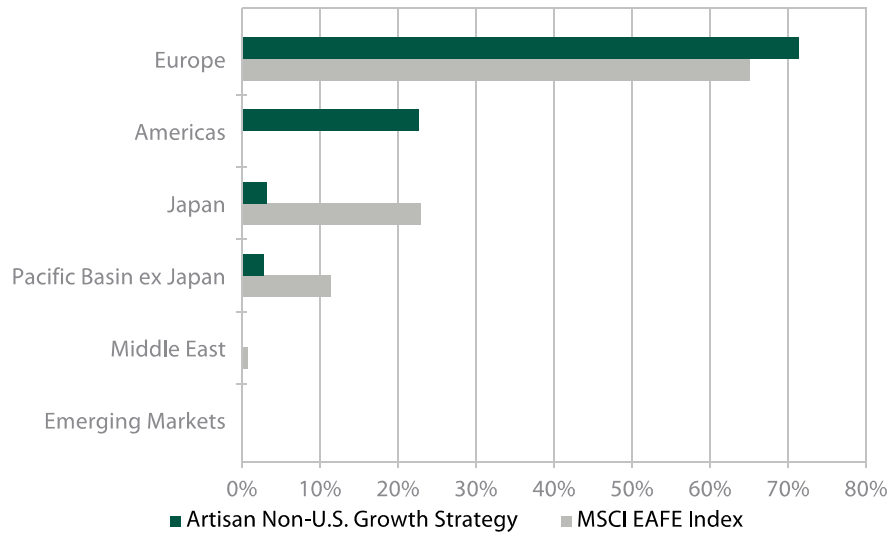
Relative Sector Weights (30 Sep 2024)



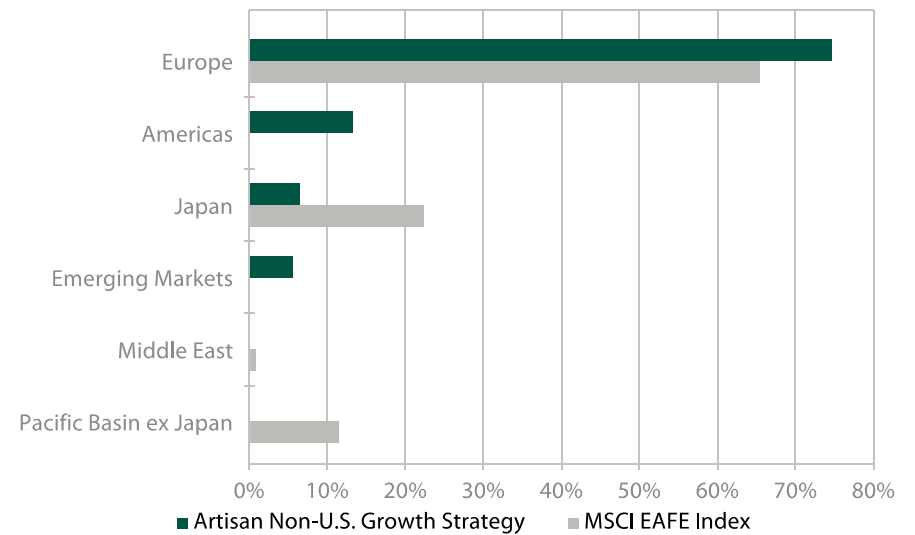
Source: GICS/MSCI. Percentages shown are of the representative portfolio securities compared to the MSCI EAFE Index. Based on a representative portfolio. Cash represented 6.4% of the total representative portfolio at 30 Sep 2023 and 5.6% at 30 Sep 2024.

Region Weights

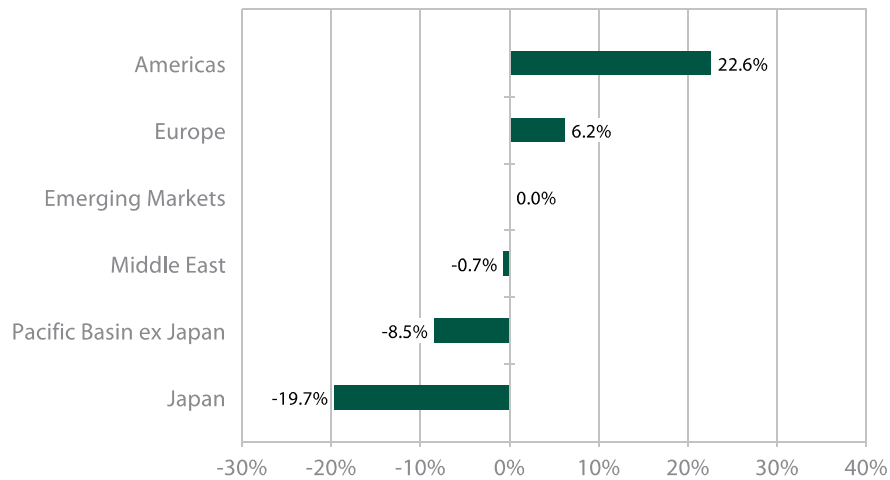
Region Weights (30 Sep 2023)



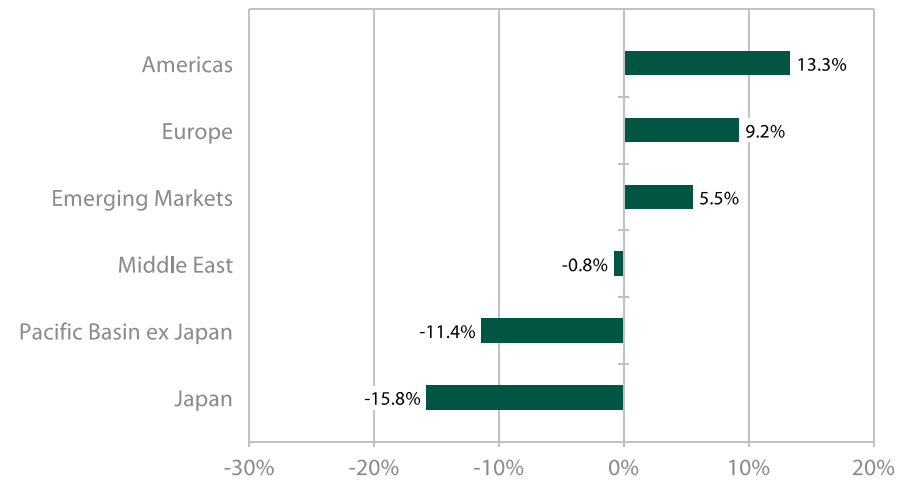
Region Weights (30 Sep 2024)



Relative Region Weights (30 Sep 2023)



Relative Region Weights (30 Sep 2024)



Source: MSCI. Percentages shown are of the representative portfolio securities compared to the MSCI EAFE Index. Based on a representative portfolio. Cash represented 6.4% of the total representative portfolio at 30 Sep 2023 and 5.6% at 30 Sep 2024.

Portfolio Holdings (% of total portfolio)

Communication Services

3.7 Deutsche Telekom AG

Consumer Discretionary

4.2 Amazon.com Inc

0.6 Accor SA

Consumer Staples

1.2 Nestle SA

0.7 British American Tobacco PLC

0.7 Wal-Mart de Mexico SAB de CV

0.7 Pernod Ricard SA

0.6 Reckitt Benckiser Group PLC

0.5 Coca-Cola Bottlers Japan Holdings Inc

0.5 Heineken NV

Financials

5.6 UBS Group AG

3.3 Deutsche Boerse AG

2.3 Allianz SE

2.1 Danske Bank A/S

1.8 UniCredit SpA

1.3 London Stock Exchange Group PLC

1.2 Sumitomo Mitsui Financial Group Inc

1.2 AXA SA

1.2 Mediobanca Banca di Credito Finanziario SpA

0.9 3i Group PLC

0.9 BFF Bank SpA

0.6 Resona Holdings Inc

0.5 Mitsubishi UFJ Financial Group Inc

0.5 Japan Post Bank Co Ltd

0.5 BNP Paribas SA

0.0 Sberbank of Russia PJSC

Health Care

4.0 Argenx SE

4.0 UCB SA

3.3 Novo Nordisk A/S

1.3 Otsuka Holdings Co Ltd

1.0 Medacta Group SA

0.8 AstraZeneca PLC

0.7 Galderma Group AG

Industrials

3.5 Melrose Industries PLC

3.4 BAE Systems PLC

2.8 Canadian Pacific Kansas City Ltd

2.3 RELX PLC

1.9 Safran SA

1.8 Aena SME SA

1.8 Ryanair Holdings PLC

1.7 SGS SA

1.4 LIG Nex1 Co Ltd

0.9 Wizz Air Holdings Plc

0.8 NKT A/S

0.6 AerCap Holdings NV

0.6 Hanwha Aerospace Co Ltd

0.4 Rheinmetall AG

0.2 Bureau Veritas SA

0.1 Hanwha Industrial Solutions Co Ltd/ New

Information Technology

1.2 Shopify Inc

0.8 Samsung Electronics Co Ltd

Materials

4.7 Air Liquide SA

4.4 Linde PLC

1.4 Nippon Sanso Holdings Corp

0.7 Cemex SAB de CV

0.5 Novonesis (Novozymes) B

Real Estate

0.1 Mitsui Fudosan Co Ltd

Utilities

2.4 National Grid PLC

1.5 Engie SA

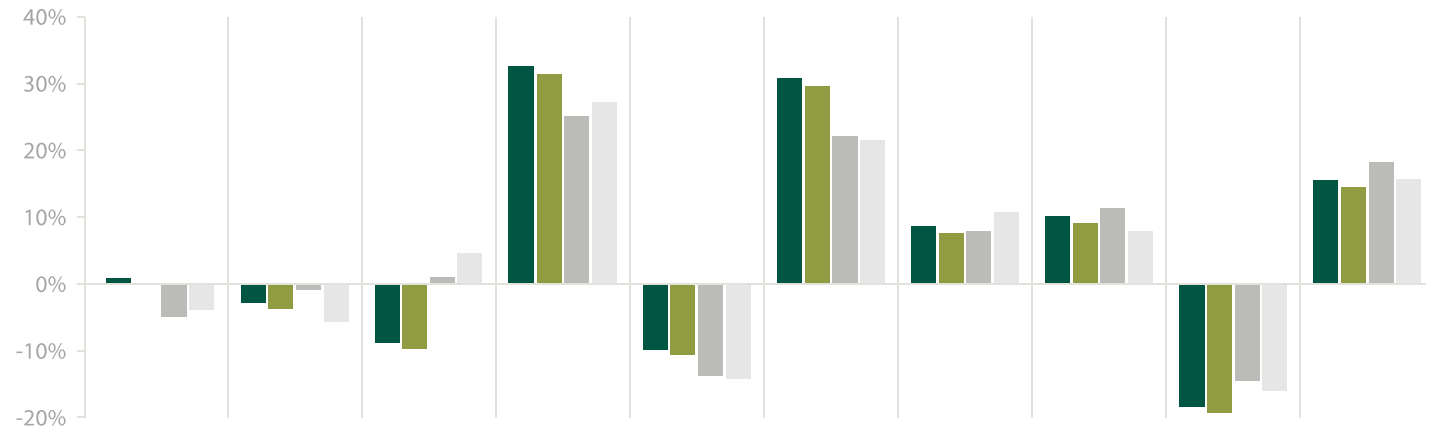
Source: GICS. As of 30 Sep 2024. Cash represented 5.6% of the total representative portfolio at 30 Sep 2024. Securities of the same issuer are aggregated to determine the weight in the portfolio. As of 3 Mar 2022, Russian holdings were valued at zero. Based on a representative portfolio.

Portfolio Statistics (USD)

	Strategy	MSCI EAFE Index
Weighted Avg. Market Cap (Billions)	\$176.3	\$97.6
Median Market Cap (Billions)	\$40.0	\$15.5
Weighted Avg. P/E Ratio (FY1) ¹	16.9X	14.7X
Weighted Avg. P/E Ratio (FY2) ¹	15.4X	13.5X
Weighted Avg. LT EPS Growth Rate (3-5 Yr)	19.7%	10.5%
Weighted Avg. PEG Ratio ²	1.1X	1.4X
Weighted Avg. Operating Margin	16.0%	18.8%
Number of Countries	17	21
Number of Securities	60	732
Percent in Top 10 Holdings	40.9%	14.3%
Active Share	85.8%	—

Source: FactSet/MSCI. As of 30 Sep 2024. ¹Harmonic; excluding negative earners. ²Harmonic; excluding negative earners and companies with negative growth rates. Based on a representative portfolio.

Investment Results—Calendar Year Total Returns (% USD)



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
■ Artisan Non-U.S. Growth Composite: Gross	0.78	-2.83	-8.87	32.55	-9.80	30.73	8.61	10.07	-18.44	15.53
■ Artisan Non-U.S. Growth Composite: Net	-0.13	-3.71	-9.70	31.37	-10.63	29.56	7.62	9.07	-19.21	14.47
■ MSCI EAFE Index	-4.90	-0.81	1.00	25.03	-13.79	22.01	7.82	11.26	-14.45	18.24
■ MSCI All Country World ex USA Index	-3.87	-5.66	4.50	27.19	-14.20	21.51	10.65	7.82	-16.00	15.62

Source: Artisan Partners/MSCI. Past performance does not guarantee and is not a reliable indicator of future results. Gross- and net-of-fees performance shown for the Composite. Current performance may be lower or higher than that shown. Composite inception: 1 Jan 1996.

Biographies — Artisan Partners Global Equity Team

Mark L. Yockey, CFA, is a managing director of Artisan Partners and a portfolio manager on the Global Equity team. In this role, he is a portfolio manager for the Artisan Non-U.S. Growth and Global Equity Strategies. Prior to joining Artisan Partners in December 1995, Mr. Yockey was the portfolio manager of the United International Growth Fund and vice president of Waddell & Reed from January 1990 through December 1995. Before assuming responsibility for the United International Growth Fund, Mr. Yockey was an analyst for Waddell & Reed from 1986 through 1989, specializing in the worldwide health care industry and international special situations. Earlier in his career, he was a health care analyst for the State of Michigan Retirement Fund for five years. Mr. Yockey holds a bachelor's degree and a master's degree in finance from Michigan State University. He completed one year of undergraduate work at the Université d'Aix-en-Provence in France. He also worked for the French bank, La Société Générale. He is fluent in French.

Charles-Henri Hamker is a managing director of Artisan Partners and a portfolio manager on the Global Equity team. In this role, he is a portfolio manager for the Artisan Global Equity Strategy and an associate portfolio manager for the Artisan Non-U.S. Growth Strategy. He also conducts research, primarily focusing on companies within the consumer discretionary and consumer staples sectors. Prior to joining Artisan Partners in August 2000, Mr. Hamker worked on the European Equities Desk in the New York office of Banque Nationale de Paris. Earlier in his career, he worked in the Paris and London offices of J.P. Morgan. Mr. Hamker holds a bachelor's degree with a specialization in finance and economics from the European Business School in Paris. He is fluent in French and German.

Andrew J. Euretig is a managing director of Artisan Partners and a portfolio manager on the Global Equity team. In this role, he is a portfolio manager for the Artisan Global Equity Strategy and an associate portfolio manager for the Artisan Non-U.S. Growth Strategy. He also conducts research, primarily focusing on companies within the industrials and utilities sectors. Prior to joining Artisan Partners in June 2005, Mr. Euretig was a graduate student at the University of California at Berkeley. He previously served in the United States Navy as an amphibious operations officer. Mr. Euretig holds a bachelor's and a master's degree in business administration from the Haas School of Business at the University of California-Berkeley.

Claudia P. Corra is an analyst on the Artisan Partners Global Equity Team. In this role, she conducts fundamental research, primarily focusing on global financial services companies. Prior to joining Artisan Partners in December 2003, Ms. Corra was an equity analyst for Independence Investors covering the financial services sector for the firm's domestic strategy and the global insurance sector for its international strategy. Earlier in her career, Ms. Corra worked at the Federal Reserve Bank of New York in various analyst positions. Ms. Corra holds a bachelor's degree in history and political science from New York University, a master's degree from Columbia University and a master's degree from Harvard University. She is fluent in German and Italian.

Stephen C. Chan is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on companies within the Asia Pacific region. Prior to joining Artisan Partners in April 2005, Mr. Chan was a managing director for American Century Investment Management Asia Pacific, where he led research efforts for Asia Pacific equities. Earlier in his career, Mr. Chan was a vice president at Merrill Lynch, where he conducted investment research for the technology sector. Mr. Chan holds a bachelor's degree in economics (magna cum laude) from the Wharton School, University of Pennsylvania and a master's degree in business administration from Stanford University. He is fluent in Mandarin and Cantonese.

Brice Vandamme is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on global financial services companies. Prior to joining Artisan Partners in June 2011, Mr. Vandamme was an equity research analyst at Deutsche Bank in London where he covered European banks. Earlier in his career, he was a manager on the banking and finance advisory team at Ernst & Young that conducted management consulting projects for leading French banks. Mr. Vandamme holds a business degree from the Reims Management School in France. He is fluent in French.

Biographies — Artisan Partners Global Equity Team

Richard Logan, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the global chemicals and energy sectors. Prior to joining Artisan Partners in April 2013, Mr. Logan headed up the Goldman Sachs European Chemicals equity research team in London. Earlier in his career, he trained as a chartered accountant at Arthur Andersen before working in securities lending with Morgan Stanley. Mr. Logan holds a bachelor's degree in chemical engineering from Aston University in Birmingham, England, and a master's degree in finance from London Business School.

Nikola Legetic, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research on multiple sectors. Prior to joining Artisan Partners in May 2017, Mr. Legetic was an analyst at GQG Partners LLC, where he covered emerging markets, global and international equities. Before that, Mr. Legetic was a senior research analyst at Riverloft Capital Management LP, where he worked on special situations, long/short equity, capital structure arbitrage and credit. Earlier in his career, he was an equity research analyst at Raymond James Financial/Eagle Asset Management, where he focused on financial services and energy. Mr. Legetic holds a bachelor's degree in international finance and international relations (with honors) from Eckerd College. He is fluent in Serbo-Croatian.

Sam Zarnegar is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the technology sector. Prior to joining Artisan Partners in July 2017, Mr. Zarnegar was an analyst for Glenview Capital Management where he covered the technology sector for the firm's long/short equity hedge fund. Before that, he worked as an investment associate at Sageview Capital, a public/private equity hybrid fund, where he focused on TMT investments across the capital structure. Earlier in his career, Mr. Zarnegar was an investment banking analyst across a variety of industry verticals at Evercore Partners. Mr. Zarnegar holds a bachelor's degree in economics from Cornell University. He is fluent in Persian.

Daniel Reagan, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the health care sector. Prior to joining Artisan Partners in June 2015, Mr. Reagan interned at UBS Global Asset Management and Balyasny Asset Management while studying for his MBA. Earlier in his career, he was an equity analyst at Hamlin Capital Management. Mr. Reagan holds bachelor's degrees in biology and economics from Bowdoin College and a master's degree in business administration from New York University.

Jeffrey Zhu, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the media, internet and communication sectors. Prior to joining Artisan Partners in July 2014, Mr. Zhu was an analyst at J.P. Morgan Investment Management where he covered the financial services sector. Mr. Zhu holds bachelor's degrees in mathematics and economics from Yale University and a master's degree in business administration from the Wharton School, University of Pennsylvania.

Navdeep Singh is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on biopharmaceutical companies. Prior to joining Artisan Partners in June 2020, Mr. Singh was a global biotechnology research analyst for Fidelity Institutional Asset Management. Before that, he conducted equity research in biotechnology as a vice president for both Goldman Sachs and Deutsche Bank. Earlier in his career, Mr. Singh served as an associate in equity biotechnology research at three different companies which included Citi, Banc of America and C.E. Unterberg, Towbin. Mr. Singh has bachelor's degrees in biology and economics from the University of Rochester.

Derek G. de Petra is a managing director and head of global trading at Artisan Partners. Prior to joining Artisan Partners in January 2000, Mr. de Petra was a trader with Montgomery Asset Management where he was responsible for trading in developed and emerging Europe for the international and emerging strategies. Mr. de Petra began trading at Mellon Capital Management in San Francisco where he traded the firm's passive international strategies. Mr. de Petra holds a bachelor's degree in history from the University of California-Los Angeles and a master's degree in business administration from the Haas School of Business at the University of California-Berkeley.

Biographies—Operations and Client Service Team

Eric R. Colson, CFA, is a managing director and chief executive officer of Artisan Partners. Mr. Colson also serves as a director of Artisan Partners Funds, Inc. Prior to joining Artisan Partners in January 2005, Mr. Colson was an executive vice president of Callan Associates, Inc. where he managed the institutional consulting group, providing business and investment advice to asset management firms. Prior to managing the institutional consulting group, he managed Callan's global manager research. Mr. Colson holds a bachelor's degree in economics from the University of California-Irvine.

Brett J. Meyer, CFA, is the chief operating officer of the Artisan Partners Global Equity Team. In this role, he is responsible for a number of non-investment responsibilities to ensure the focus of the team's portfolio managers and analysts is on managing the team's investment strategies. His responsibilities include day-to-day coordination of the research processes, hiring investment talent, and the information flow among the members of the investment team and trading. In addition, he acts as the team's liaison with Artisan Partners' business management team on legal, compliance, accounting, finance, facilities and IT matters. Mr. Meyer joined Artisan Partners in February 2013 as a director in the Investment Operations group which supports the firm's existing investment teams as well as identifies new investment talent. Prior to joining Artisan, Mr. Meyer served as an equity analyst on the investment team at Quantum Capital Management. Previously, Mr. Meyer spent 12 years at Callan Associates in a variety of capacities, including director of research for the Independent Adviser Group. Mr. Meyer holds a bachelor's degree in business administration and sports management from Principia College.

Sean J. Howley is a managing director of Artisan Partners and a business leader for the firm's Global Equity team. Prior to joining Artisan Partners in March 2007, Mr. Howley was the managing director and product manager for international and global equity products at Putnam Investments, where he was responsible for overseeing communications on policy, strategy and tactics with institutional clients. Before that, he was head of sales and distribution for Pioneer Investment Management, where he developed sales and marketing channels in the United Kingdom and Ireland. Mr. Howley holds a bachelor's degree in commerce from University College Dublin and a master's degree in business administration from the Haas School of Business at the University of California-Berkeley.

Benjamin C. Helsby is a director on the institutional client services team at Artisan Partners with responsibility for institutional marketing and client service of the strategies managed by the firm's Global Equity team. Prior to joining Artisan Partners in June 2018, Mr. Helsby was an investment consultant at Willis Towers Watson. Mr. Helsby holds a bachelor's degree in finance from the University of Florida.

Notes and Disclosures

This section of this presentation contains information important to a complete understanding of the material presented. Please review it carefully.

Artisan Partners Limited Partnership (APLP) is an investment adviser registered with the U.S. Securities and Exchange Commission (SEC). Artisan Partners UK LLP (APUK) is authorized and regulated by the Financial Conduct Authority and is a registered investment adviser with the SEC. APEL Financial Distribution Services Limited (AP Europe) is regulated by the Central Bank of Ireland. APLP, APUK and AP Europe are collectively, with their parent company and affiliates, referred to as Artisan Partners herein.

Artisan Non-U.S. Growth Strategy Investment Risks

International investments involve special risks, including currency fluctuation, lower liquidity, different accounting methods and economic and political systems, and higher transaction costs. These risks typically are greater in emerging and less developed markets, including frontier markets. Securities of small- and medium-sized companies tend to have a shorter history of operations, be more volatile and less liquid and may have underperformed securities of large companies during some periods. Growth securities may underperform other asset types during a given period.

This material may include the views of the portfolio manager and other information relating to the portfolio and portfolio securities. While we believe the information accurately reflects the investment process, this information is presented as of the date indicated and will change over time. Descriptions of investment philosophy and processes included herein are provided for illustrative purposes only, are subject to change, and may differ materially from what is shown.

ESG assessments represent one of many pieces of research available and the degree to which it impacts holdings may vary based on manager discretion.

Composite Performance: Net-of-fees composite returns were calculated using the highest model investment advisory fees applicable to portfolios within the composite. All performance results are net of commissions and transaction costs, and have been presented gross and net of investment advisory fees. For performance presented net of fees, fees may be higher for certain pooled vehicles and the composite may include accounts with performance-based fees. Dividend income is recorded net of foreign withholding taxes on ex-dividend date or as soon after the ex-dividend date as the information becomes available to Artisan Partners. Interest income is recorded on the accrual basis. Performance results for the index include reinvested dividends and are presented net of foreign withholding taxes but, unlike the portfolio's returns, do not reflect the payment of sales commissions or other expenses incurred in the purchase or sale of the securities included in the indices.

Unless otherwise indicated, the Artisan Strategy characteristics relate to that of an investment composite or a representative account managed within a composite. It is intended to provide a general illustration of the investment strategy and considerations used by Artisan Partners in managing that strategy. Individual accounts may differ, at times significantly, from the reference data shown due to varying account restrictions, fees and expenses, and since-inception time periods, among others. Where applicable, this information is supplemental to, and not to be construed with, a current or prospective client's investment account information.

MSCI makes no express or implied warranties or representations and shall have no liability whatsoever with respect to any MSCI data contained herein. The MSCI data may not be further redistributed or used to create indices or financial products. This report is not approved or produced by MSCI.

The index(es) are unmanaged; include net reinvested dividends; do not reflect fees or expenses; and are not available for direct investment.

Totals may not sum due to rounding. All data shown is in USD unless otherwise indicated.

Assets Under Management (AUM) refers to the assets of pooled vehicles and accounts to which Artisan Partners provides investment services. Artisan Partners' AUM as reported here includes assets for which Artisan Partners does not have investment discretion, including certain assets for which we earn only investment-related service fees. Non-discretionary assets are reported on a one-month lag. Artisan's definition of AUM is not based on any definition of Assets Under Management contained in the ADV or in any of Artisan's fund management agreements.

Country Allocation: Historical country exposure percentages reflect country designations as classified by MSCI as of the date shown. Securities not classified by MSCI reflect country designations as of the date the report was generated.

Sector Allocation: Unless otherwise noted, sector exposure percentages reflect sector designations as currently classified by GICS. The Global Industry Classification Standard (GICS®) is the exclusive intellectual property of MSCI Inc. (MSCI) and Standard & Poor's Financial Services, LLC (S&P). Neither MSCI, S&P, their affiliates, nor any of their third party providers ("GICS Parties") makes any representations or warranties, express or implied, with respect to GICS or the results to be obtained by the use thereof, and expressly disclaim all warranties, including warranties of accuracy, completeness, merchantability and fitness for a particular purpose. The GICS Parties shall not have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of such damages.

Portfolio Statistics: Portfolio statistics are intended to provide a general view of the entire portfolio, or Index, at a certain point in time. Statistics are calculated using information obtained from various data sources. Artisan Partners excludes outliers when calculating portfolio statistics. If information is unavailable for a particular security Artisan may use data from a related security to calculate portfolio statistics.

Security Examples: The security examples provided are intended to illustrate the type of investments that may be made in the portfolio and do not constitute recommendations to buy or sell any individual security. The examples may contain the views of the investment or other information drawn from various sources that is believed to be accurate as of the date indicated, but is subject to change. Examples are not intended to be representative of each security in the portfolio or the portfolio as a whole. Securities are subject to change, and current or future investments may vary from the characteristics shown.

Attribution: Attribution quantifies the relationship between a portfolio's relative returns and the active management decisions differentiating the portfolio from the benchmark. Allocation Effect examines the relative return attributable to group (e.g., asset class, sector, region) allocations. Selection Effect examines the relative return attributable to security selections. For international portfolios, Currency Effect examines the relative return attributable to currency exposures. Contribution to Return is calculated by multiplying a security's portfolio weight by its in-portfolio return for the period. Securities of the same issuer are aggregated to determine the weight in the portfolio; aggregation of corporate affiliates is subject to the determination of Artisan Partners. Attribution and Contribution to Return are not exact, but should be considered an approximation of the relative contribution from factors considered. The analysis of relative returns is not representative of portfolio returns due to several variables (e.g., fees, expenses transactions) and therefore should be examined in conjunction with the portfolio's actual returns for the period. Further information on the methodology used is available upon request.

Portfolio Holdings: For the purpose of determining the portfolio's holdings, securities of the same issuer are aggregated to determine the weight in the portfolio. For an index, the largest holdings are calculated at the security level and do not aggregate securities held by an issuer. Holdings information is not intended to represent or predict portfolio investment performance or as a recommendation of any individual security. A complete list of the securities held by portfolio, other than cash and cash equivalents unless otherwise noted, as of the date indicated is included. Securities named in this material, but not listed within the portfolio holdings page were not held as of the date reported. Portfolio holdings are subject to change without notice. Upon request, Artisan Partners will furnish to any prospective client a complete list of all securities purchased over the last year, including the name of each security, the date(s) it was purchased and/or sold, the market price of those transactions, and the market price of those securities as of the most recent practicable date.

Notes and Disclosures

This material is provided for informational purposes without regard to your particular investment needs. This material shall not be construed as investment or tax advice on which you may rely for your investment decisions. Investors should consult their financial and tax adviser before making investments in order to determine the appropriateness of any investment product discussed herein. We expressly confirm that neither Artisan Partners nor its affiliates have made or are making an investment recommendation, or have provided or are providing investment advice of any kind whatsoever (whether impartial or otherwise), in connection with any decision to hire Artisan Partners as an investment adviser, invest in or remain invested in any funds to which we serve as investment adviser or otherwise engage with Artisan Partners in a business relationship.

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For Institutional Investors Only — Not for Onward Distribution

New Hampshire Retirement System

A Component Unit of the State of New Hampshire

Comprehensive Annual Investment Report

For the Fiscal Year Ended June 30, 2024

DRAFT



NHRS

New Hampshire Retirement System

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Investment Manual

NHRS Investment Philosophy

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December 10, 2024

The Honorable Christopher Sununu, Governor
The Honorable Jeb Bradley, President of the Senate
The Honorable Sherman Packard, Speaker of the House of Representatives

Annual Report for Fiscal Year 2024

The Independent Investment Committee (Investment Committee) of the New Hampshire Retirement System (NHRS, System) is pleased to present the Comprehensive Annual Investment Report for the Fiscal Year ended June 30, 2024, in accordance with the provisions of the Revised Statutes Annotated (RSA) 100-A:15, VII of the State of New Hampshire.

Asset Allocation & Summary of Results

Total assets at the end of Fiscal Year 2024 were \$12.2 billion, reflecting a \$0.8 billion increase compared to \$11.4 billion the prior year. The System’s investment portfolio is prudently managed for the long-term in order to generate adequate returns to support benefit payments promised to members. To achieve that goal, investments are broadly diversified across the following asset classes: domestic (U.S.) and non-U.S. stocks, bonds, real estate, and alternative investments.

The target allocation and range for each asset class shown below was adopted by the Board of Trustees on May 14, 2019, based on a recommendation of the Investment Committee.

Asset Class	Target Allocation	Allocation Range	Actual Allocation at June 30, 2024*
U.S. Equity	30%	20 - 40%	35.1%
Non-U.S. Equity	20%	15 - 25%	16.2%
Fixed Income	25%	20 – 30%	20.8%
Real Estate	10%	5 – 20%	9.3%
Alternative Investments	15%	5 – 25%	18.5%

* U.S. Equity and Non-U.S. Equity have been adjusted to reflect a global equity portfolio which may opportunistically invest in each of these asset classes. Fixed Income includes cash. Refer to Appendix C for additional detail.

As illustrated in the table, as of June 30, 2024, all asset classes were within the allocation ranges.

The NHRS return was 8.81% net of fees for the Fiscal Year ended June 30, 2024, compared to the benchmark return of 11.92%. The five-year annualized net of fees return was 7.67% compared to the benchmark return of 7.74%. The ten-year annualized net of fees return was 7.04% compared to the benchmark return of 7.27%. Note that these benchmarks do not include any management fees which would be incurred if NHRS invested in the underlying indices. Compared to our peers, NHRS ranked in the top 36% and 27% for the five and ten-year trailing periods, respectively. These rankings are based on the Callan Public Fund Large Defined Benefit Gross Universe.

Over the long-term, the 25-year annualized net of fees return was 6.29%. The System's actuarial assumed rate of return is 6.75%.

Please refer to Appendix A for a detailed review of investment performance as well as market commentary.

The Investment Committee

The Investment Committee is responsible for investing in accordance with policies established by the NHRS Board of Trustees (Board), and making recommendations to the Board regarding asset allocation, investment consultants, and other investment policy matters. In addition, the Investment Committee is responsible for selecting investment managers, agents, custodial banks, and reviewing performance.

The Investment Committee meets most months and is comprised of six members: three independent voting members and an active non-voting member of the retirement system appointed by the Governor and Executive Council; and two voting members of the Board of Trustees appointed by the Chair of the Board. All members are required by statute to have significant experience in institutional investing or finance. As of June 30, 2024, the Chair of the IIC was Christine Clinton, the independent member was Brian Bickford, CFA; and the active non-voting member was Michael McMahon.

The two Board members serving on the Investment Committee were Maureen Kelliher, CFA (Chair); and Paul Provost, CFP®. One vacancy remains for an independent voting member. Brief biographies and photographs of the Investment Committee members as of June 30, 2024, follow this report.

The Committee would like to recognize prior Committee Chair, Maureen Kelliher, for her contributions and dedicated service. Ms. Kelliher served as Chair of the Investment Committee from March 2017 to February 2024. Ms. Kelliher continues her service to the New Hampshire Retirement System as Chair of its Board of Trustees and as a voting member of the Investment Committee.

Investment Manual

The NHRS Investment Manual provides governance and oversight of the pension fund assets and is presented in Appendix C of this report. Highlights are listed below:

- The Investment Policy and Accountability Matrix provide a description of the roles and responsibilities of the Board, the Investment Committee, NHRS Staff, and the System's service providers.
- The Proxy Voting Policy and Securities Lending Policy provide specific guidance on these individual topics.
- The program's benchmarks and asset allocation policy are detailed along with discussions of risk management, liquidity, rebalancing and portfolio monitoring controls.
- Various considerations related to the oversight of investments are described, including the selection of service providers and use of active or passive strategies.
- Asset class guidelines detail portfolio construction, permissible and prohibited investment vehicles, as well as concentration limits.

The Board sets the assumed rate of return based on the recommendations of the System's actuary, NHRS Staff, the Investment Committee, and analysis provided by the investment consultant and

other industry experts. A written opinion letter on this subject is included in this report as Appendix B.

Governance, Benchmarks and Measurement of Outcomes

The management and administration of the pension trust is a complex effort involving multiple stakeholders with distinct roles and responsibilities as described in the Investment Manual and in statute. At each regular meeting of the Board or Investment Committee, status reports are provided regarding the outcomes of various investment initiatives. Additionally, performance is reviewed versus benchmarks at the manager-level, asset class-level, and portfolio-level on a monthly and quarterly basis, as appropriate, and over various time-periods since the inception of a particular investment mandate or strategy to continually evaluate the portfolio.

NHRS continuously monitors the investment fees paid to managers and discloses alternative investment fees on an aggregate basis each quarter in compliance with the New Hampshire House Bill (HB) 173 passed in 2021. NHRS has a procedure to monitor Environmental, Social, and Governance factors for all marketable managers.

Administrative Comments

The Investment Committee meets at the System's offices monthly. Notice is provided regarding the time, agenda and location of these meetings pursuant to RSA 91-A:2, II. The Investment Committee promotes transparency regarding the investment program through these public meetings, investment materials and reports. Meeting minutes are posted on the NHRS website. Certain investment matters may require discussion in non-public session in accordance with statute. On a regular basis, the Investment Committee receives presentations from investment managers currently retained by NHRS as well as from prospective managers.

Raynald D. Leveque was the System's Chief Investment Officer for the Fiscal Year ending June 30, 2024. Leading a team of four investment professionals, Mr. Leveque served as the primary staff liaison on investment matters. In addition, the investment team directs all aspects of the System's investment program including the development of recommendations regarding the System's overall investment strategy and asset allocation; oversight of external portfolio

managers; and promoting productive relationships with investment consultants and service providers. A biography of Mr. Leveque follows this report.

Each fiscal year, NHRS produces an Annual Comprehensive Financial Report (ACFR), which details the operation and financial condition of the retirement system. This report also includes a financial section which outlines the funded status and unfunded actuarial accrued liability, in addition to other actuarial statistics. ACFR reports are available on the System's website, www.nhrs.org.

Overview of Significant Investment Committee Initiatives during the 2024 Fiscal Year:

- Approved the development and implementation of a new Strategic Asset Allocation.
- Development of a long-term Strategic Plan for the NHRS Investment Office.
- Elected Christine Clinton as IIC Chairperson, following the appointment of Maureen Kelliher the prior IIC Chairperson, to Chairperson of the Board of Trustees.
- Reviewed the long-term performance of all current marketable investment managers against their respective benchmarks and renewed their contracts, where appropriate.
- Reviewed and renewed, where appropriate, service provider/other contracts:
 - Renewed the trading cost analysis services agreement with Abel Noser for an additional two-year period and expanded the scope of services to include fixed income and foreign exchange cost analysis.
 - Renewed the real estate investment management agreement with The Townsend Group for an additional two-year period.
- Approved a revised proxy voting policy which was subsequently approved by the NHRS Board of Trustees.
- Continued the expansion of the alternative investments program; new commitments of \$400 million in aggregate were made to one private equity and four private credit investment strategies respectively.

- Performed a comprehensive review of all private debt and equity commitments made since the program's restart in 2009 and adopted an annual private debt and equity investment plan.
- Adopted an annual real estate investment plan.

The Investment Committee is dedicated to achieving the best long-term investment results possible within acceptable levels of risk and consistent with prudent policies and practices.

Respectfully submitted,

Christine Clinton, Chair
Brian Bickford
Maureen Kelliher
Paul Provost
Michael McMahon

Jan Goodwin, Executive Director
Raynald Leveque, Chief Investment Officer



Christine Clinton

Christine Clinton has been working in the investment management industry for more than two decades after cofounding Bluestone Wealth Management LLC. Prior to Bluestone, she worked as a Corporate Controller for several high-tech start-ups in the communications, finance, and biotech industries in the Boston area. Christine is a CPA as well as a Chartered Financial Analyst® (CFA) charterholder. She is a member of the CFA Institute and Boston Securities Analysts Society. She lives in Dublin.



Maureen Kelliher

Maureen Kelliher has over four decades of investment management experience, having served as Co-Chief and Chief Investment Officer for trust and investment management firms, as well as Money Desk Manager for several banks. She holds the Chartered Financial Analyst® (CFA®) designation and is a member of the CFA Institute. Maureen resides in Dover, New Hampshire.



Paul Provost

Paul Provost is a 30-year veteran of the wealth management and trust business, he has led the wealth management businesses for local community banks in New Hampshire since 2002. He is the president of New Hampshire Trust Company (NHTrust), a subsidiary of New Hampshire Mutual Bancorp headquartered in Concord. Paul earned a bachelor's degree from the University of Vermont and a master's degree in Administrative Management from Saint Michael's College. He is a Certified Financial Planner. He also serves on the boards of the New Hampshire Higher Education Loan Corporation and the Concord Hospital Trust. He previously served as a board chair for the NH Charitable Foundation, Capital Region, and the Central New Hampshire Boys & Girls Club. He lives in Concord.



Mike McMahon

Mike McMahon has been a member of Hampton Fire Rescue for nearly 30 years, where he currently serves as Fire Chief. During this time, he has served in a variety of financial and investment roles. He has spent over two decades in credit union leadership and is currently a director at Service Credit Union. Mike was a member of the 2017 Decennial Retirement Commission and serves in many other community leadership roles.



Brian Bickford

Brian Bickford has over 30 years of investment management experience and has been managing money in New Hampshire for more than 25 years. He is a senior vice president and director of client portfolio management at Cambridge Trust. Brian earned a Bachelor of Science degree in Business Administration at the University of Maine and a Master of Science degree in Finance at Florida International University. He is a Chartered Financial Analyst® (CFA®), a CERTIFIED FINANCIAL PLANNERTM professional and a Chartered Market Technician® CMT®. Brian serves on the finance committee for the Pope Memorial SPCA in Concord, NH. He lives in Hopkinton.



Raynald Leveque

Raynald Leveque is the Chief Investment Officer for the New Hampshire Retirement System. Before joining New Hampshire in 2022, Raynald was the Deputy Chief Investment Officer for the State of Connecticut's \$41 billion Retirement Plans and Trust Funds. Prior to the State of Connecticut, Raynald held leadership roles in strategic asset allocation, risk management and quantitative portfolio management at the \$254 billion New York State Common Retirement Fund, and Invesco (formerly OppenheimerFunds). Raynald earned his master's degree in finance from Fordham University and a bachelor's degree in computer engineering from the Rochester Institute of Technology.

Appendix A

Investment Consultant's Letter

Investment Performance Review & Market Commentary

Investment Reports

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Summit, NJ 07901

Main 908.522.3880
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www.callan.com

November 19, 2024

Board of Trustees
Investment Committee
Executive Director

The New Hampshire Retirement System

54 Regional Drive
Concord, NH 03301-8507

Dear NHRS Fiduciaries:

Callan LLC (Callan) is pleased to provide an overview of the New Hampshire Retirement System (NHRS) investment program for the fiscal year ended June 30, 2024. The capital markets registered strong returns over Fiscal Year 2024 (FY2024), with the U.S. market leading the way with a return of 23.1%, as measured by Russell 3000 Index. The U.S. economy was resilient during the Fiscal Year. Despite stubborn inflation, the labor market remained relatively strong and persistent growth in consumption spending kept surprising to the upside, contributing to relatively solid GDP growth over the last four quarters, ranging from 1.6% to 4.4% over this period.

So how should we interpret all the contrasting economic data we have observed over the last Fiscal Year, where in each quarter the economy kept surprising on the upside despite relatively pessimistic expectations? To put things in the right context, consider that four years ago U.S. GDP dropped by an incredible 28% in one quarter. While it quickly recovered, the country suffered a pandemic of stunning cost, both economically, and, more importantly, in terms of lost lives, severed social connections, missed education opportunities, and worsening mental health. And yet, here we are, on the verge of something that is very difficult to achieve: a “soft landing” for the U.S. economy, where inflation is brought down while growth gradually subsides, but we avoid a recession. This would be a remarkable achievement. In terms of the international arena, with very few exceptions, the global equity markets registered double-digit returns over the Fiscal Year, despite uncertainty regarding future economic growth across some developed non-U.S. economies, political instability, and divergent central bank policies. By contrast, emerging markets rebounded sharply over the last quarter of the fiscal year, after underperforming developed markets for multiple quarters, as both China and India produced strong returns. India’s rapid growth has benefited from positive demographics with a large working population, registering one of the highest real GDP growth rates globally in recent years compared to other countries. China posted negative returns over the Fiscal Year, struggling with increased regulatory scrutiny and economic slowdown. However, China’s GDP growth exceeded expectations in the last quarter of the Fiscal Year with a rebound in industrial production, manufacturing and exports.

NHRS follows an investment strategy designed to meet its funding requirements over the long-term. Assets are allocated efficiently to ensure that beneficiaries will receive the benefits they were promised. The Fund is managed on a total return basis, while recognizing the importance of capital preservation and prudent risk management. Additionally, the Independent Investment Committee (IIC) administers the Fund in accordance with sound fiduciary standards and industry best practices. The Fund’s strategic asset allocation and related objectives, parameters and specific delegation of responsibilities are explicitly defined in the Investment Policy Statement. The IIC manages the investment program pursuant to the investment policy, develops asset class guidelines, monitors and evaluates performance, and makes decisions regarding the retention or termination of asset managers. The investment manual includes all investment policies and asset class guidelines and may be obtained from the NHRS website at www.nhrs.org. The following pages report on the performance and attributes of the investment program for FY2024.

Market and Economic Review for the Year Ended June 30, 2024

The hunt for signs of the much-anticipated slowdown in the U.S. economy continues to be thwarted. Every data release is scrutinized: However, despite stubborn inflation, the labor market has remained relatively strong and persistent growth in consumption spending has kept surprising to the upside. Inflation eased from the worrisome rise in 1Q24, but still sits at 3.0% compared to a year ago, well above the Fed's target. The labor market looked like it finally cracked in April, creating just 108,000 jobs after adding 800,000 in the first three months of the year. Then job growth rebounded to 218,000 in May and 206,000 in June, clearly softer than the average monthly rate of 250,000 in 2023 and the surge in 1Q, but still solid. The unemployment rate remains low at 4.1%, although initial unemployment claims have been rising gradually since the recent low set in January. The labor market is indeed softening, which should reduce pressure on wage inflation at some point. A softer labor market will likely dampen consumer demand, and therefore provide more relief to inflation pressures. Consumer spending slowed from a robust 3% growth rate in the second half of 2023 to 1.5% in 1Q, another potential crack in the façade. Consumer spending rebounded to a 2.3% gain in 2Q and drove a surprising 2Q GDP growth rate of 2.8%, about double the rate expected for the quarter. In addition to consumer spending, GDP growth was driven by private inventory investment and business fixed investment, particularly in equipment and intellectual property. GDP growth in Q1 came in at just 1.4%, the first sure sign of the anticipated slowdown—or so it seemed. Interest rates have been higher for a longer period than many expected, including the Fed. There are surprisingly few signs that these higher rates have taken the expected toll on the economy. The economy does appear to be gradually slowing, current contradictory indicators like the strong GDP report aside. The cost of borrowing is sharply higher, and delinquencies in auto loans and credit cards are rising.

The Russell 3000 Index rose 23.1% over the fiscal year while the MSCI ACWI Ex-US Index rose 11.6%. Emerging markets equities, as measured by the MSCI Emerging Markets Index, returned 12.6%, outperforming non-U.S. developed markets equities. Within emerging markets, both China and India produced strong returns. China's GDP growth exceeded expectations with a rebound in industrial production, manufacturing, and exports. Further, the Chinese government implemented several measures to support capital markets. The fixed income market produced more modest returns, ending the volatile Fiscal Year with a return of 2.6%, as measured by the Bloomberg Aggregate Index, partly in response to interest rate uncertainty.

NHRS Investment Portfolio Review

For the fiscal year ended June 30, 2024, the NHRS Total Fund returned 9.3% gross of investment management fees (or "gross") and 8.8% net of investment management fees (or "net"), underperforming the Total Fund Benchmark return of 11.9%. The Fund's 9.3% gross return ranked in the 68th percentile relative to peers in Callan's Large Defined Benefit Public Fund Universe, which consisted of 139 constituents as of June 30, 2024 (gross of fees returns are referenced in this section, as peer group returns and related rankings are also gross of fees). Domestic stocks and high yield bonds were among the best-performing asset classes over Fiscal Year 2024. The Fund's public equity and alternatives portfolios underperformed their respective benchmarks. The Fund's underperformance over the year was mostly attributable to the more modest valuations impacting private equity and private credit investments, following the aftermath of the market correction we experienced in 2022. Additionally, the disconnect between the investment results of these instruments and the public market benchmarks used to measure their performance, and associated premiums to account for liquidity risk, also contributed to these results. For example, the alternatives investments had a total return of 5.2% over the fiscal year, compared to a return of 20.8% of the benchmark. The benchmark reflects the combined return of the Russell 3000 Index, plus a premium of 2%, and the Bloomberg HY Corporate Index, plus a premium of 1%. Domestic stocks and high yield bonds were among the best-performing asset classes over Fiscal Year 2024. Consistent with our experience, it is difficult for private market investments to be able to "keep up" with their public market counterparts during high

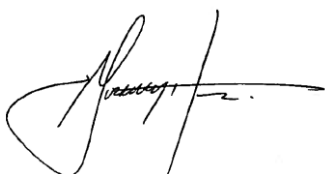
momentum markets, as was the case during the Fiscal Year, particularly considering the high level of concentration in the U.S. equity market, and the impressive returns registered by the “Magnificent Seven” technology stocks. This helps explain most of the underperformance registered using time weighted returns and the above-referenced benchmarks. For the trailing three-year period, the Fund returned 4.0%, gross of investment management fees (3.4% net), ranking in the 36th percentile of its peers (peer group rankings are measured gross of investment management fees). For the trailing five-year period, the Fund returned 8.1%, gross of investment management fees (7.7% net), ranking in the 36th percentile of the peer group. For the trailing ten-year period, the Fund returned 7.4%, gross of investment management fees (7.0% net), ranking in the 27th percentile of its peers, and for the trailing twenty-five year period, the Fund returned 6.7%, gross of investment management fees (6.3% net), ranking in the 45th percentile of its peers.

During fiscal year 2024, the IIC engaged in the following activities:

- **Strategic Asset Allocation:** Reevaluated the Fund’s strategic asset allocation in November 2023. After a careful evaluation of several alternative asset mixes proposed by NHRS Staff, the Board adopted a new asset allocation, which enhances diversification and expected risk-adjusted outcomes. The new strategic allocation reduces exposure to public equity by 10%, increases the target allocation to private credit by 5% and introduces private infrastructure investments, with a target allocation of 5%.
- **Portfolio Structure Analysis:** NHRS Staff worked closely with the investment consultant to evaluate the structure of the Fund’s public equity and fixed income portfolios. This analysis is being carried out in different stages to provide the Independent Investment Committee with an evaluation of the current structure and different alternatives for consideration for the eventual implementation of the new strategic asset allocation.
- **Alternative Assets Portfolio:** Continued to implement the approved allocations within the Alternative Assets portfolio. The portfolio continued to grow during the year, with an 8.2% increase in paid-in (contributed) capital and a 13.3% increase in distributed capital through December 31, 2023. The target allocation to private credit was increased from 5% to 10% of the total fund, effective June 30, 2024. The portfolio continued to make commitments to new and existing partnerships, with \$100 million in private equity commitments to one manager, and \$300 million in private credit commitments to three managers, in line with expected pacing. The private equity portfolio is expanding its allocation to U.S. buyout and co-investment opportunities, while the private credit portfolio increased its multi-strategy and direct lending allocations.

Callan LLC provides NHRS with strategic planning, implementation, performance monitoring services, and on-going research and education on a variety of relevant topics for institutional investors. The investment performance analysis produced by Callan has been developed using performance evaluation methodologies that are consistent with industry best practices. The performance results presented in this letter are calculated using a time-weighted returns and are reported both gross of investment management fees, as well as net of fees.

Sincerely,



Angel Haddad
Senior Vice President



Britton M. Murdoch
Senior Vice President

Investment Performance Review – Fiscal Year 2024

Overview

For the fiscal year ended June 30, 2024, the NHRS Total Fund returned 9.3% gross of investment management fees (or “gross”) and 8.8% net of investment management fees (or “net”), underperforming the Total Fund Benchmark return of 11.9%. The Fund’s 9.3% gross return ranked in the 68th percentile relative to peers in Callan’s Large Defined Benefit Public Fund Universe, which consisted of 139 constituents as of June 30, 2024. The Fund’s public equity and alternatives portfolios underperformed their respective benchmarks. The Fund’s underperformance over the year was mostly attributable to the more modest valuations impacting private equity and private credit investments, following the aftermath of the market correction we experienced in 2022. Additionally, the disconnect between the investment results of these instruments and the public market benchmarks used to measure their performance, and associated premiums to account for liquidity risk, also contributed to these results.

U.S. Equity Markets

U.S. stocks registered a return of 23.1% over the fiscal year, as measured by the Russell 3000 Index. The annualized return over the past 10 years was 12.2%. Sector-level performance was positive within the U.S. equity market. For example, all of the sectors represented in one of the most widely known equity index, the S&P 500 Index, produced positive returns over the fiscal year, led by the Communication Services and Information Technology sectors posting returns above 40%. Growth stocks outperformed value stocks by over 20% within the large cap segment over the period, but small cap value stocks outperformed their growth counterparts. Small cap stocks produced strong absolute returns but similar to Fiscal Year 2023, underperformed large cap stocks in 2024, returning 10.1%, as measured by the Russell 2000 Index.

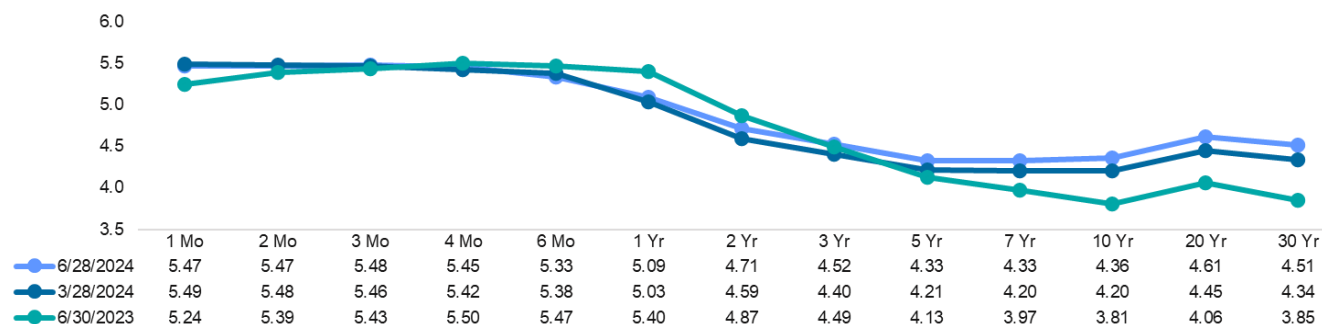
Non-U.S. Equities

Developed non-U.S. equities and emerging market equities produced positive returns during the fiscal year. The MSCI ACWI Ex-US Index posted a return of 11.6% over the period, and emerging markets, as measured by MSCI Emerging Markets Index, posted a return of 12.6%. Non-U.S. markets delivered strong returns on the decreasing expected probability of a recession in the U.S., continued optimism around artificial intelligence, and dovish signaling from central banks. Contrary to recent trends, emerging markets stocks outperformed their non-U.S. developed counterparts by a comfortable margin. India posted particularly strong returns over the fiscal year, +34.4% as measured by the MSCI India Index, due to positive demographics with a large growing working population and one of the highest real GDP growth rates globally when compared to other major countries/regions.

Fixed Income

The fixed income market produced positive returns during the fiscal year with the Bloomberg Aggregate increasing 2.6%. The first quarter of the fiscal year brought weak returns as the Fed maintained high interest rates and yields increased. However, over second quarter of the fiscal year, the U.S. Aggregate produced its highest quarterly return in over 30 years (+6.8%) driven by the prospect of falling interest rates in 2024 and falling yields. The last two quarter’s of the fiscal year brought flat returns with the market trying to assess when and how swiftly the Fed would begin easing interest rates. The U.S. Treasury yield curve remained inverted over the fiscal year, though the inversion generally decreased, resulting in poor performance for long duration markets. High yield corporates produced very strong returns over the period as defaults remained low and the economy resilient. The 10-year U.S. Treasury yield remained at high levels relative to recent history during fiscal year 2024, beginning at 3.81% as of June 30, 2023, and ending at 4.36% as of June 30, 2024.

U.S. Treasury Yield Curves



Real Estate and Alternative Investments

The real estate market returned -10.3% for the fiscal year, as measured by the NCREIF ODCE Index, with depreciation of 12.8% and income returns of 3.1%. During the fiscal year, ODCE redemption queues continued to steadily increase and transaction volume was flat, remaining significantly lower than 2022. Real estate valuations continue to be reflective of the high interest rate environment, which has put upward pressure on capitalization rate and discount rate assumptions. Income returns remained positive throughout each quarter of the fiscal year across all sectors. Underperformance was broadly spread across region and property types. The Office and Apartment sectors performed worst, depreciating over 20% and 9% over the fiscal year, respectively.

Alternative investments posted positive returns for the fiscal year. Public equity's exceptional performance during fiscal year 2024 (led by the "Magnificent Seven" technology stocks) has left private equity in its wake. Due to the "smoothing effect," private equity does not experience the sharp rises and falls that drive the public markets over the short term. Broad private equity returns were positive for the fiscal year, with all strategy types exhibiting high single digit performance other than venture capital which produced negative returns given the valuation adjustments from the highs of 2021. In 2023, the number of private equity funds raised sharply declined by ~50% followed by a decline of 42% in 1Q24 as compared to 1Q23. As was the case in 2023, capital continues to concentrate with larger funds. The 2023 vintage experienced the full impact of the denominator effect, which when combined with slower deal activity and exits, left minimal capital for new commitments.

NHRS Asset Class Highlights

NHRS Asset Class	FY 2024 Return (Net of Fees)
Total Fund	8.81%
<i>Total Fund Custom Index</i>	11.92%
Total Domestic Equity	18.95%
<i>US Equity Index</i>	23.13%
Total Non-US Equity	11.31%
<i>Non-US Equity Index</i>	11.62%
Total Fixed Income	3.50%
<i>Fixed Income Benchmark</i>	3.47%
Total Real Estate	-7.20%
<i>Real Estate Benchmark</i>	-9.99%
Total Alternatives	5.20%
<i>Alternative Assets Benchmark</i>	20.79%

The NHRS Total Domestic Equity portfolio, comprised of both passive and actively managed portfolios, returned 19.0% (net), underperforming the strategic benchmark (Russell 3000 Index) by 418 basis points over fiscal year 2024. The Domestic Equity portfolio's passive large cap exposure had a 24.6% return compared to 10.1% for the

Callan

small/mid-cap composite and 12.6% for the small cap composite. The small/mid-cap composite underperformed its Russell 2500 benchmark and the small cap composite outperformed its Russell 2000 benchmark.

The NHRS Total Non-U.S. Equity portfolio, which is comprised of both passive and actively managed portfolios with exposures to both developed and emerging markets, returned 11.3% (net). The Non-U.S. Equity portfolio underperformed its benchmark by 31 basis points during the fiscal year as global equity, emerging markets, and multiple active core non-US equity managers underperformed their respective benchmarks.

The NHRS Total Fixed Income portfolio is comprised of passive and broadly diversified actively managed portfolios, including domestic and international exposures. This aggregate portfolio had a 3.5% return (net), outperforming the Total Fixed Income Index return by 3 basis points. An overweight to lower quality and higher yielding issues relative to the Bloomberg Universal Index had a positive impact on relative performance. Exposure to non-U.S. and slightly longer duration issues detracted from relative performance, as non-U.S. bonds and long duration posted negative returns over the fiscal year.

The NHRS Real Estate portfolio returned -7.2% (net), outperforming its benchmark return of -10.0%. Outperformance was driven by the Tactical Non-Core Real Estate allocation within the portfolio; the Strategic Core portfolio also contributed to relative results.

Lastly, for fiscal year 2024, the Alternative Investments portfolio generated a return of 5.2% (net) while its benchmark returned 20.8%. Underperformance was driven by both the private equity and private debt allocations within the portfolio, given more modest valuations for alternative investments in 2024.

Investment Market Update (by asset type)

Index Summary (6/30/24)	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Equity Indices				
S&P 500 Index	24.6%	10.0%	15.1%	12.9%
Russell 1000 Index	23.9%	8.7%	14.6%	12.5%
Russell 1000 Growth Index	33.5%	11.3%	19.3%	16.3%
Russell 1000 Value Index	13.1%	5.5%	9.0%	8.2%
Russell 2000 Index	10.1%	-2.6%	6.9%	7.0%
Russell 2000 Growth Index	9.1%	-4.9%	6.2%	7.4%
Russell 2000 Value Index	10.9%	-0.5%	7.1%	6.2%
Russell 2500 Index	10.5%	-0.3%	8.3%	8.0%
Russell 3000 Index	23.1%	8.1%	14.1%	12.2%
MSCI ACWI Index	19.4%	5.4%	10.8%	8.4%
MSCI ACWI ex US Index	11.6%	0.5%	5.6%	3.8%
MSCI EAFE Index	11.5%	2.9%	6.5%	4.3%
MSCI EAFE Growth Index	9.4%	0.1%	6.5%	5.4%
MSCI EAFE Value Index	13.8%	5.6%	6.1%	3.0%
MSCI Europe Index	11.7%	3.9%	7.1%	4.2%
MSCI Japan Index	13.2%	2.3%	6.6%	5.5%
MSCI Pacific ex JPN Index	6.8%	-1.3%	2.4%	3.2%
MSCI EM Index	12.6%	-5.1%	3.1%	2.8%
Fixed Income Indices				
Bloomberg Aggregate Index	2.6%	-3.0%	-0.2%	1.4%
Bloomberg Gov't/Credit Index	2.7%	-3.1%	-0.1%	1.5%
Bloomberg TIPS Index	2.7%	-1.3%	2.1%	1.9%
Bloomberg High Yield Corporate Index	10.4%	1.6%	3.9%	4.3%
S&P LSTA Leveraged Loan 100 Index	10.8%	5.9%	5.2%	4.2%
Bloomberg Global Aggregate Index	0.9%	-5.5%	-2.0%	-0.4%
Bloomberg High Yield Muni Index	8.9%	0.1%	3.0%	4.7%
JPM EMBI Global Diversified Index	9.2%	-2.6%	-0.0%	2.6%
JPM GBI-EM Global Diversified Index	0.7%	-3.3%	-1.3%	-0.9%
Other Indices				
Bloomberg Commodity Price Index	-0.5%	2.2%	4.9%	-2.8%
S&P GSCI Index	15.0%	12.7%	8.3%	-3.1%
Alerian MLP Index	35.8%	22.7%	12.2%	2.0%
FTSE NAREIT Composite Index	5.7%	-1.9%	3.1%	5.9%
NCREIF NFI-ODCE Equal Weight Net Index	-10.3%	1.1%	2.6%	5.8%

Investment Market Update (sorted by best to worst 1-year performance)

Index Summary (6/30/24)	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Alerian MLP Index	35.8%	22.7%	12.2%	2.0%
Russell 1000 Growth Index	33.5%	11.3%	19.3%	16.3%
S&P 500 Index	24.6%	10.0%	15.1%	12.9%
Russell 1000 Index	23.9%	8.7%	14.6%	12.5%
Russell 3000 Index	23.1%	8.1%	14.1%	12.2%
MSCI ACWI Index	19.4%	5.4%	10.8%	8.4%
S&P GSCI Index	15.0%	12.7%	8.3%	-3.1%
MSCI EAFE Value Index	13.8%	5.6%	6.1%	3.0%
MSCI Japan Index	13.2%	2.3%	6.6%	5.5%
Russell 1000 Value Index	13.1%	5.5%	9.0%	8.2%
MSCI EM Index	12.6%	-5.1%	3.1%	2.8%
MSCI Europe Index	11.7%	3.9%	7.1%	4.2%
MSCI ACWI ex US Index	11.6%	0.5%	5.6%	3.8%
MSCI EAFE Index	11.5%	2.9%	6.5%	4.3%
Russell 2000 Value Index	10.9%	-0.5%	7.1%	6.2%
S&P LSTA Leveraged Loan 100 Index	10.8%	5.9%	5.2%	4.2%
Russell 2500 Index	10.5%	-0.3%	8.3%	8.0%
Bloomberg High Yield Corporate Index	10.4%	1.6%	3.9%	4.3%
Russell 2000 Index	10.1%	-2.6%	6.9%	7.0%
MSCI EAFE Growth Index	9.4%	0.1%	6.5%	5.4%
JPM EMBI Global Diversified Index	9.2%	-2.6%	-0.0%	2.6%
Russell 2000 Growth Index	9.1%	-4.9%	6.2%	7.4%
Bloomberg High Yield Muni Index	8.9%	0.1%	3.0%	4.7%
MSCI Pacific ex JPN Index	6.8%	-1.3%	2.4%	3.2%
FTSE NAREIT Composite Index	5.7%	-1.9%	3.1%	5.9%
Bloomberg Gov't/Credit Index	2.7%	-3.1%	-0.1%	1.5%
Bloomberg TIPS Index	2.7%	-1.3%	2.1%	1.9%
Bloomberg Aggregate Index	2.6%	-3.0%	-0.2%	1.4%
Bloomberg Global Aggregate Index	0.9%	-5.5%	-2.0%	-0.4%
JPM GBI-EM Global Diversified Index	0.7%	-3.3%	-1.3%	-0.9%
Bloomberg Commodity Price Index	-0.5%	2.2%	4.9%	-2.8%
NCREIF NFI-ODCE Equal Weight Net Index	-10.3%	1.1%	2.6%	5.8%

S&P 500 Sectors (sorted by best to worst 1-year performance)

Sector	Benchmark Weight (%) as of 6/30/24	Benchmark Return (%) as of 6/30/24
Communication Services	9.3%	44.9%
Information Technology	32.4%	41.8%
Financial	12.4%	24.2%
Energy	3.6%	15.9%
Industrials	8.1%	15.5%
Consumer Discretionary	10.0%	13.1%
Health Care	11.7%	11.7%
Materials	2.2%	8.7%
Consumer Staples	5.8%	8.2%
Utilities	2.3%	7.8%
Real Estate	2.2%	5.6%

Note: Figures may not add up to exactly 100% due to rounding.

Summary

Callan will continue to work closely with the NHRS Investment Staff (Staff or Team) to carry forward the Fund's strategic plan and related initiatives. We believe the new asset allocation strategy will benefit the Fund in several ways, including enhancing diversification opportunities across a mix of complementary asset classes and the potential for favorable expected risk-adjusted outcomes. The Team's implementation strategy will be critical in this process. The capital markets were quite volatile over the last Fiscal Year, but the portfolio continued to exhibit resilience in this environment, producing strong absolute returns above and beyond the actuarial expected rate of return of 6.75%. We will continue to work closely with Staff, as necessary, to support the needs of the Fund going forward.

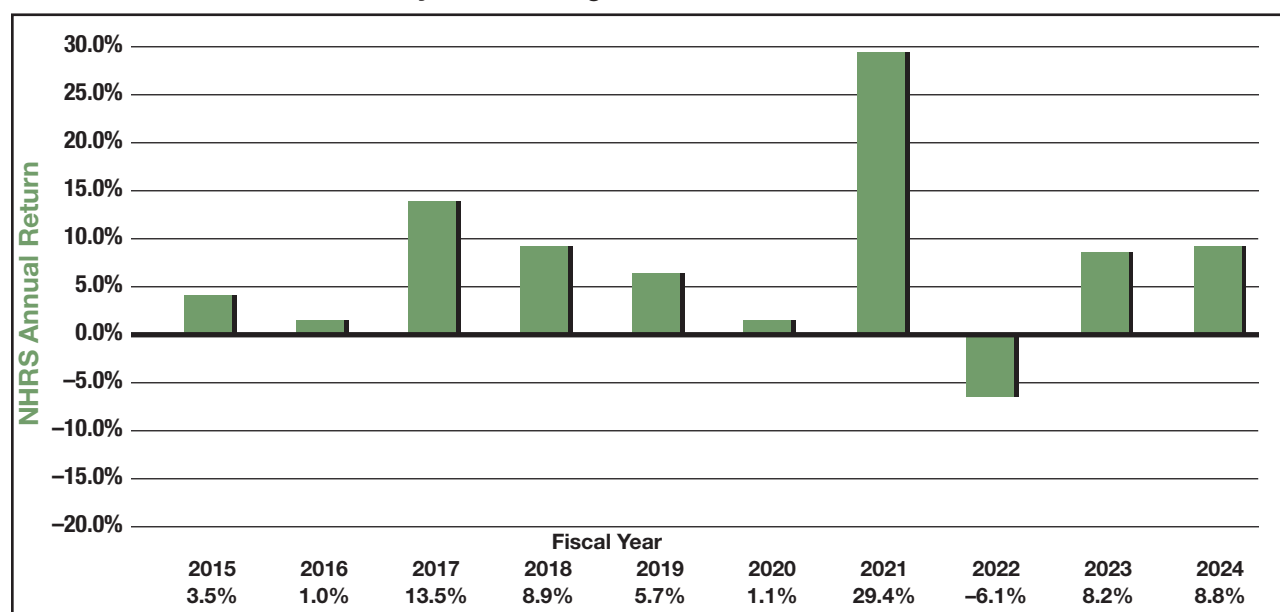
ANNUALIZED INVESTMENT RETURNS—ACTUAL VERSUS INDICES

	Current Year 2024	3 Year	Annualized 5 Year	10 Year
Total NHRS Fund	8.8%	3.4%	7.7%	7.0%
Total Fund Custom Index*	11.9	3.7	7.7	7.3
Domestic Equity	19.0	6.5	12.2	10.6
Total Domestic Equity Blended Benchmark*	23.1	8.1	13.8	12.2
Non-U.S. Equity	11.3	1.5	5.8	4.6
Total Non-U.S. Equity Blended Benchmark*	11.6	.5	5.6	3.8
Fixed Income	3.5	(2.3)	1.0	1.9
Total Fixed Income Blended Benchmark*	3.5	(2.7)	.1	1.6
Real Estate	(7.2)	3.6	6.0	8.3
Total Real Estate Blended Benchmark*	(10.0)	1.0	2.3	5.5
Alternative Investments	5.2	5.9	10.7	9.0
Total Alternative Investments Benchmark*	20.8	10.3	13.6	11.6
Cash Equivalents	5.5	3.1	2.3	1.6
90 Day T-Bills	5.4	3.0	2.2	1.5

Performance returns are calculated on a net-of-fees time-weighted rate of return basis.

*In a dynamic market, strategies and objectives evolve over time. Consequently, these benchmarks are blended due to historical investment strategy decisions. Detailed descriptions of the benchmarks above are available by contacting NHRS.

Ten Year History of Time-Weighted Total NHRS Fund Annual Returns

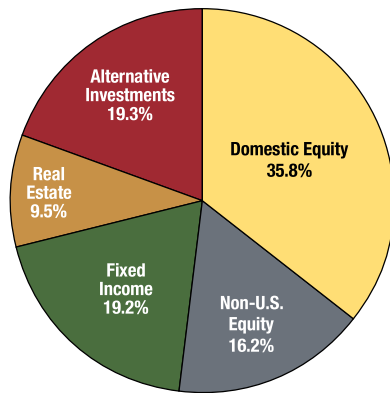


ACTUAL ASSET ALLOCATION VERSUS TARGET ASSET ALLOCATION*

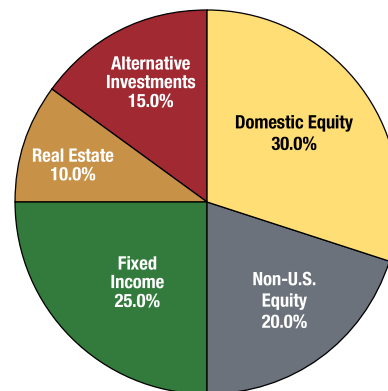
	Actual %	As of June 30, 2024 Target %	Target Range %
Domestic Equity	35.8%	30.0%	20-40
Non-U.S. Equity	16.2	20.0	15-25
Fixed Income	19.2	25.0	20-30
Real Estate	9.5	10.0	5-20
Alternative Investments	19.3	15.0	5-25
TOTAL FUND	100.0%	100.0%	

*excludes cash

Actual Asset Allocation as of June 30, 2024



Target Asset Allocation as of June 30, 2024



TEN LARGEST STOCK HOLDINGS BY FAIR VALUE*

(in thousands)

	Shares	Stock	June 30, 2024 Fair Value
1	433,424	MICROSOFT CORP	\$193,719
2	1,234,247	NVIDIA CORP	152,479
3	723,239	APPLE INC	152,329
4	575,006	AMAZON.COM INC	111,120
5	353,480	ALPHABET INC	64,835
6	109,958	META PLATFORMS INC	55,443
7	371,965	NOVO NORDISK A/S	53,756
8	294,734	ALPHABET INC	53,686
9	90,837	BERKSHIRE HATHAWAY INC	36,952
10	40,058	ELI LILLY & CO	36,268

TEN LARGEST FIXED INCOME HOLDINGS BY FAIR VALUE*

(in thousands)

	Par**	Security	June 30, 2024 Fair Value
1	44,520,000	U.S. Treasury Bond — 4.375%, 2043	\$42,972
2	32,602,000	U.S. Treasury Note — 3.625%, 2028	31,674
3	28,558,000	U.S. Treasury Note — 4.000%, 2029	28,118
4	21,931,000	U.S. Treasury Note — 4.625%, 2029	22,183
5	25,823,000	U.S. Treasury Bond — 3.625%, 2053	21,975
6	20,635,000	U.S. Treasury Note — 4.375%, 2028	20,611
7	20,563,000	U.S. Treasury Note — 4.000%, 2034	19,959
8	17,250,000	U.S. Treasury Note — 4.625%, 2026	17,188
9	17,080,000	U.S. Treasury Note — 4.375%, 2028	17,077
10	22,630,000	U.S. Treasury Bond — 3.000%, 2052	17,025

**A complete listing of separate account portfolio holdings is available by contacting the NHRS offices. NHRS also invests in various commingled investment vehicles, for which the underlying investments are custodied outside of The Bank of NY Mellon (Master Custodian for NHRS), as reported on the Summary of Investments schedule.

**Par value is denoted in local currency.

SCHEDULE OF INVESTMENT MANAGEMENT AND SERVICE FEES

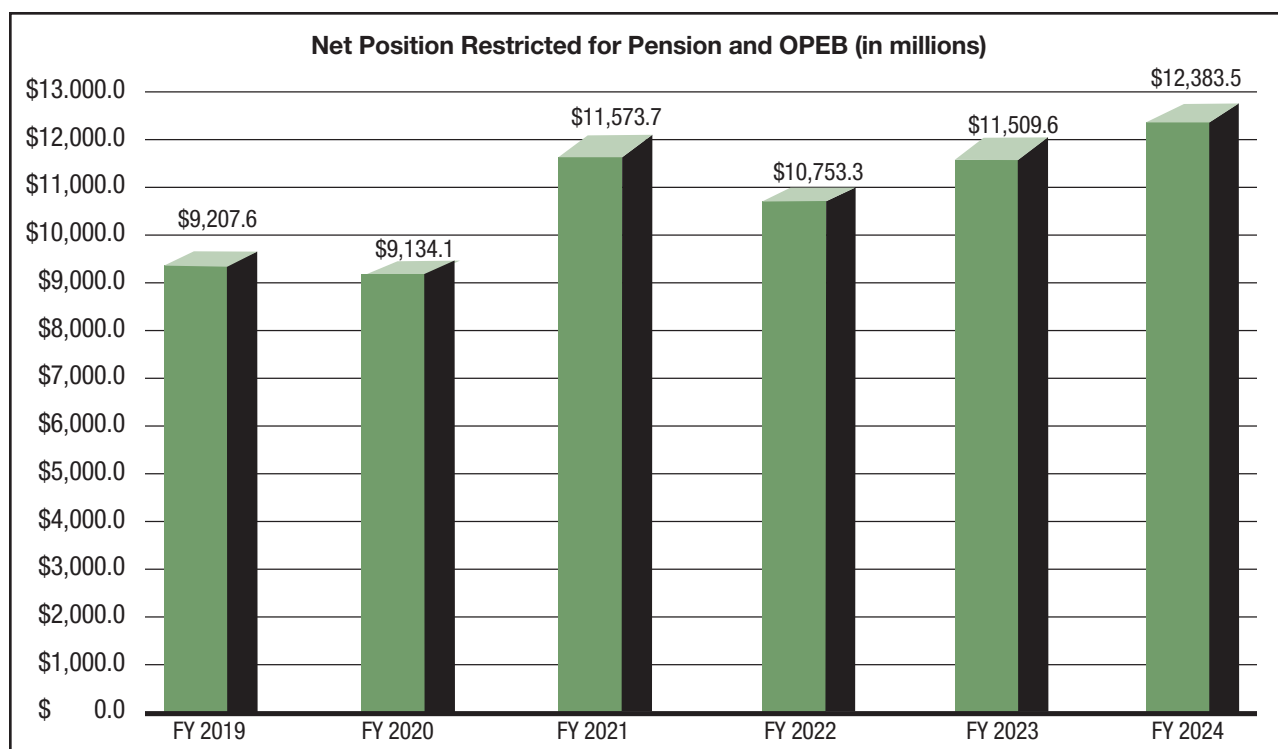
	YEAR ENDED JUNE 30, 2024		
	Assets Under Management (in thousands)	Fees (in thousands)	Average Basis Points
INVESTMENT MANAGEMENT FEES			
Equity Portfolios:			
Domestic	\$ 4,234,465	\$ 11,206	26
Non-U.S.	1,919,586	8,747	46
Fixed Income Portfolios	2,278,980	5,920	26
Alternative Investments*	2,291,255	18,423	80
Real Estate	1,127,946	12,288	109
Cash and Cash Equivalents	331,768	—	—
TOTAL INVESTMENT MANAGEMENT FEES	\$12,184,000	\$ 56,584	46
INVESTMENT SERVICE FEES			
Custodial Fees	\$12,184,000	\$ 704	1
Investment Advisor Fees — External	12,184,000	650	1
Investment Professional Fees	12,184,000	452	—
Investment Administrative Expenses — Internal	12,184,000	1,109	1
TOTAL INVESTMENT MANAGEMENT AND SERVICE FEES	\$12,184,000	\$ 59,499	49

*The custodian records all transactions on a net of fee basis.

SCHEDULE OF BROKERAGE COMMISSIONS PAID

Brokerage Firm	YEAR ENDED JUNE 30, 2024		
	Number of Shares Traded (in thousands)	Total Commissions (in thousands)	Commissions Per Share
GOLDMAN SACHS & CO, NY	5,580	\$ 136	0.02
J.P MORGAN SECURITIES INC, NEW YORK	4,670	135	0.03
MORGAN STANLEY AND CO., LLC, NEW YORK	5,755	130	0.02
MERRILL LYNCH INTL LONDON EQUITIES	6,389	94	0.01
JEFFERIES & CO INC, NEW YORK	4,551	87	0.02
MERRILL LYNCH PIERCE FENNER SMITH INC NY	3,769	84	0.02
J P MORGAN SECS LTD, LONDON	3,085	70	0.02
UBS SECURITIES LLC, STAMFORD	4,071	59	0.01
WELLS FARGO SECURITIES, LLC, NEW YORK	2,256	57	0.03
LIQUIDNET INC, NEW YORK	2,810	49	0.02
PERSHING LLC, JERSEY CITY	2,445	47	0.02
RBC CAPITAL MARKETS LLC, NEW YORK	3,975	45	0.01
UBS EQUITIES, LONDON	4,245	40	0.01
BERNSTEIN SANFORD C & CO, NEW YORK	2,494	34	0.01
BAIRD, ROBERT W & CO INC, MILWAUKEE	1,812	34	0.02
BMO CAPITAL MARKETS CORP, NEW YORK	1,580	29	0.02
BTIG LLC, NEW YORK	1,238	29	0.02
BARCLAYS CAPITAL, LONDON (BARCGB33)	1,317	29	0.02
RAYMOND JAMES & ASSOC INC, ST PETERSBURG	1,178	29	0.02
All Others (174 not listed separately)	47,801	810	0.02
TOTAL BROKERAGE COMMISSIONS PAID	111,022	\$ 2,029	0.02

Commission detail is not included in the schedule above for the commingled funds in which NHRS invests.



SUMMARY OF INVESTMENTS

TYPE OF INVESTMENT	June 30, 2024	
	Fair Value (in millions)	Percent of Total Fair Value
FIXED INCOME		
Collateralized/Asset Backed Securities	\$ 169.0	1.4%
Corporate Bonds	500.3	4.2%
Government and Agency Bonds	566.0	4.8%
Blackrock Strategic Income Opportunities	270.8	2.3%
Fidelity	375.4	3.2%
Inc. and Research Management	3.9	0.0%
Manulife	215.8	1.8%
Mellon US AG Bond	177.9	1.5%
TOTAL FIXED INCOME	\$ 2,279.0	19.1%
EQUITY		
Consumer Cyclical	\$ 621.0	5.2%
Consumer Non-Cyclical	1,161.6	9.8%
Energy	207.2	1.7%
Financial Services	883.7	7.5%
Industrial Materials	765.9	6.5%
Technology	1,132.1	9.6%
Basic Materials	206.5	1.7%
Communications	524.3	4.4%
Utilities	127.5	1.1%
Blackrock Superfund	199.4	1.7%
Wellington NHT	8.5	0.1%
Wellington ISCRE	136.6	1.2%
Wellington Emerging Markets Local Equity Fund	179.8	1.5%
TOTAL EQUITY	\$ 6,154.1	51.9%
OTHER INVESTMENTS		
Alternative Investments	\$ 2,291.3	19.4%
Real Estate	1,127.9	9.5%
TOTAL INVESTMENTS	\$ 11,852.2	100.0%

Appendix B

Gabriel Roeder Smith & Company Actuarial Opinion Letter

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October 3, 2024

Board of Trustees
New Hampshire Retirement System
54 Regional Drive
Concord, New Hampshire 03301

Re: Reasonableness of the Assumed Rate of Return

Dear Board Members:

The purpose of this letter is to provide our actuarial opinion regarding the reasonableness of the assumed rate of return for the New Hampshire Retirement System and to address any differences between the assumed rate of return and the expected rate of return under the System's investment policy statement as required under New Hampshire statute.

Background:

The requirement under New Hampshire statute is as follows:

RSA 100-A:15 VII.

- (c) An annual investment policy statement which shall incorporate the following:
 - (1) A clear statement of investment objectives including the adoption of a reasonable and sound expected rate of return the retirement system is attempting to earn. The expected rate of return utilized for the statement of investment objectives shall bear some reasonable relationship to the assumed rate of return set by the trustees for the biennial actuarial calculation. *The retirement system's actuaries shall issue a written opinion in regard to the reasonableness of the assumed rate of return that shall address any difference between the assumed rate of return and the expected rate of return.*

We understand the new asset allocation targets and ranges, adopted by the Board of Trustees effective July 1, 2024, are based on asset liability modeling and asset allocation recommendations from investment consultants. The Independent Investment Committee reviewed the results of asset/liability and asset allocation studies and confirmed the asset allocation targets and ranges remain appropriate. Based on the 2024 capital market assumptions, Callan has indicated the following expectations for NHRS' current asset allocation:

- During the next 10-year period:
 - The expected rate of return is 7.65% per year;
 - The standard deviation is 12.05% per year; and
 - The implicit price inflation rate is 2.50% per year.

- During the next 30-year period:
 - The expected rate of return is 7.80% per year;
 - The standard deviation is 12.05% per year; and
 - The implicit price inflation rate is 2.50% per year.

In determining the assumed rate of return for the actuarial valuation, we abide by Actuarial Standard of Practice (ASOP) No. 27, Selection of Economic Assumptions for Measuring Pension Obligations, as adopted by the Actuarial Standards Board.

Under ASOP No. 27, we determine a reasonable assumption for each economic assumption. The reasonable assumption must be appropriate for the purpose of the measurement, reflect the actuary's professional judgement, take into account relevant historical and current demographic data, reflect the actuary's estimate of future experience or the estimates inherent in the market data and have no significant bias. For the investment return assumption, our analysis is based on forward-looking measures of expected investment return outcomes for the asset classes in the System's current investment policy.

For purposes of this analysis, we have analyzed the System's investment policy with the capital market assumptions from thirteen nationally recognized investment firms and the 2024 GRS Capital Market Assumption Modeler (CMAM). The capital market assumptions in the 2024 CMAM are from the following investment firms (in alphabetical order): Aon, Blackrock, BNY Mellon, Callan, Cambridge, JPMorgan, Meketa, Mercer, NEPC, Northern Trust, RVK, Verus, and Wilshire. Twelve of these firms provide capital market expectations for a 10-year horizon, eight of them provide expectations for longer horizons of 20-30 years. Capital market expectations can vary significantly from year to year and often are contrarian. The financial markets at the end of 2022 were not particularly strong resulting in higher expectations in 2023 and 2024 than in prior years.



Our analysis is based on the GRS 2024 CMAM. The purpose of the CMAM is to assess the reasonability of the assumed rate of return for use in the actuarial valuations for the plan. In our professional judgment, the CMAM has the capability to provide results that are consistent with this purpose. We performed tests to ensure that the model reasonably represents that which is intended to be modeled. We are relying on the GRS actuaries and Internal Software, Training, and Processes Team who developed and maintain the model.

Actuarial Opinion:

For the June 30, 2024 valuation, the actuarial assumed rate of return is made up of a price inflation assumption of 2.25% and a real rate of return assumption of 4.50% for a total of 6.75% per year, net of investment expenses. This assumption was adopted by the Board to be effective in the June 30, 2023 valuation based on the 2019-2023 Experience Study.

Based on our independent analysis using NHRS' target asset allocation and the 2024 CMAM, the median rate of return is 6.74% over a 10-year horizon. As discussed, this year's expectations are slightly higher than prior years.

Over the longer horizon of 20-30 years, the median rate of return is 6.94%. The current NHRS net investment rate assumption of 6.75% is reasonable when compared to our 2024 CMAM medians of 6.74% - 6.94% and Callan's 7.65% - 7.80% current estimates for the expected rate of return.

It should be noted that due to the methods utilized by the GRS CMAM, differences in the underlying inflation assumption between the actuarial valuation (2.25%) and Callan's (2.50%) result in expected returns that may not be directly comparable. For example, if Callan's inflation assumption of 2.50% was used in our analysis, the expected returns discussed above based on the 2024 GRS CMAM would be approximately 0.25% higher.

Differences between the expected rate of return in the System's Investment Policy and the actuarial assumed rate of return are attributable in part to the different objectives of the measurement. Key differences are:

- The Investment Policy focuses on asset allocation decisions and establishes benchmarks for manager performance. The assumed rate of return is a long-term assumption for funding policy.
- The Investment Horizon of 10 years in the Investment Policy is based on a shorter time frame than used to determine the assumed rate of return which can be 20-30 years or longer. When focusing on the 20- 30-year time horizon, the policy and the actuarial assumption produce similar expected returns.



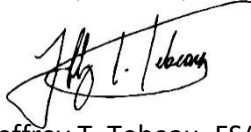
Given the purpose and use of the different assumptions, different results are not uncommon. Under the current actuarial standard of practice, the current assumed rate of return for valuation purposes is reasonable and, therefore, meets the requirements of those standards.

Governmental Accounting Standards Board (GASB) Statement No. 67:

The statutory funding requirements of RSA 100-A:16 and the NHRS' Actuarial Funding Policy call for the NHRS pension unfunded actuarial accrued liability as of June 30, 2017 to be amortized through 2039. Each subsequent change in liability as calculated in odd-numbered years shall be separately amortized over a fixed period of no longer than 20 years. Based on this, the GASB discount rate will be equal to the assumed rate of investment return of 6.75%.

Jeffrey T. Tebeau, Heidi G. Barry, and Casey T. Ahlbrandt-Rains are independent of the plan sponsor, are Members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



Jeffrey T. Tebeau, FSA, EA, FCA, MAAA



Heidi G. Barry, ASA, FCA, MAAA



Casey T. Ahlbrandt-Rains, ASA, FCA, MAAA

JTT/HGB/CTA:ah



Appendix C

Investment Manual

NHRS Investment Philosophy

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The NHRS Investment Manual can be accessed by clicking [here](#).





Changes to the NHRS Investment Policy

This document outlines changes to the NHRS Investment Policy since the founding of the Independent Investment Committee (IIC) under RSA 100-A:14-b, on January 1, 2009.

Assumed Rate of Return

The Board of Trustees (Board) approved the following based on recommendations of the IIC. All changes were effective starting July 1 of the fiscal year subsequent to approval.

- May 10, 2011: 8.50% to 7.75%
- May 10, 2016: 7.75% to 7.25%
- June 9, 2020: 7.25% to 6.75%

Asset Allocation Targets and Ranges

The Board adopted the following changes based on recommendations of the IIC. All changes were effective at the start of the month subsequent to approval.

- July 13, 2010:
 - Domestic Equity allocation range changed from 26 - 43% to 20 - 50%.
 - Non-U.S. Equity target allocation increased from 15% to 20% and the 5% target allocation to Global Equity was removed. The Non-U.S. Equity allocation range changed from 11 - 19% to 15 - 25%.
 - Fixed Income allocation range changed from 26 - 34% to 25 - 35%.
 - Real Estate range changed from 5 - 15% to 0 - 15%.
- September 11, 2012:
 - Fixed income target allocation was reduced from 30% to 25%. The allocation range changed from 25 - 35% to 20 - 30%.
 - Alternative Investments target allocation was increased from 10% to 15%. The allocation range changed from 0 - 15% to 0 - 20%.
- June 9, 2015:
 - Real Estate allocation range changed from 0 - 15% to 5 - 20%.
 - Alternative Investments allocation range changed from 0 - 20% to 5 - 25%.
- May 14, 2019:
 - U.S. Equity allocation range changed from 20 - 50% to 20 - 40%.
- December 12, 2023:
 - Domestic Equity and Non-US Equity target allocation decreased from 50% to 40%.
 - Private Credit target allocation increased from 5% to 10%.
 - Infrastructure asset class was created with a target allocation of 5%.
 - All changes were effective in Fiscal Year 2025.

Benchmark Changes

The IIC approved the following changes which were subsequently reviewed by the Board. All changes were effective starting July 1 of the fiscal year subsequent to approval.

- April 24, 2015:
 - The U.S. Equity benchmark changed from the Russell 3000 Index to the S&P 500 Index.
 - The Real Estate benchmark changed from the NCREIF Property Index + 50 basis points to the NCREIF NFI-ODCE Index.
 - The Alternative Investments benchmark changed from the S&P 500 Index + 5% or Consumer Price Index + 5% to the following:
 - 33.3% Private Equity: S&P 500 Index + 3%.
 - 33.3% Private Debt: S&P/LSTA U.S. Leveraged Loan 100 Index.
 - 33.3% Opportunistic: 1-month LIBID + 5%.
- May 14, 2019:
 - The Opportunistic benchmark was eliminated and the Alternative Investments benchmark was changed to the following:
 - 66.7% Private Equity (S&P 500 Index + 3%).
 - 33.3% Private Debt (S&P LSTA Leveraged Loan 100 Index).
- June 18, 2021:
 - The U.S. Equity benchmark changed from the S&P 500 Index to the Russell 3000 Index.
- June 14, 2022:
 - The Private Equity benchmark was updated from the S&P 500 + 3% to the Russell 3000 + 2%.
 - The Private Debt benchmark was updated from the S&P/LSTA U.S. Leveraged Loan 100 Index to a blend of (50% S&P/LSTA 100 Index and 50% Bloomberg High Yield Index) + 1%.

NHRS Investment Philosophy:

Adopted by the Investment Committee at the July 17, 2009 meeting

Purpose: The New Hampshire Retirement System (“NHRS” or “System”) Investment Philosophy sets forth guiding principles for the management of the investment program.

Description of the Fund: The NHRS is a defined-benefit pension plan. Contributions to the plan are made by employees and employers participating in the System. These contributions are invested to support the payment of plan benefits and to pay reasonable expenses of administering the System.

The System’s assets are invested pursuant to the Constitution of the State of New Hampshire and all applicable statutes and are managed in accordance with the NHRS Statement of Investment Policy for the exclusive purpose of providing plan benefits to members and beneficiaries. NHRS plan fiduciaries are beholden to a duty of loyalty and a standard of care as described in RSA 100-A:15. The Board of Trustees (“Board”) and the Investment Committee (“Committee”) seek the advice and assistance of internal and external professionals and shall exercise conscious discretion when making investment decisions. The Committee members recognize their fiduciary duty to invest the System's funds prudently and in continued recognition of the fundamental long-term nature of the System.

The NHRS investment program has a distinctive profile. The objective of supporting plan benefits is one primary differentiator from the goals of other types of institutional investors, for example, endowments or foundations. The NHRS also differs from other public pension plans because each plan has its own distinctive characteristics such as benefit structures and legislative mandates. The System has a high proportion of retirees relative to actively-contributing members. The demographics of a mature plan require more liquidity from the investment program because contributions into the plan do not fully offset the benefits paid. Additionally, the size of the NHRS investment program provides the System with the ability to invest in certain opportunities but may not provide the scale necessary to gain access to other opportunities. All of these factors guide the design of the NHRS investment program.

Investment Objectives: The NHRS pursues an investment strategy designed to support the long-term funding obligations of the plan. The Board adopts an assumed rate of return and sets asset-allocation policy. The Committee manages the components of the investment program with the goal of achieving the plan’s objectives with a comprehensive understanding of risk. This involves designing a program that balances expected return and risk over long time periods through a range of market conditions. For the reasons previously mentioned, peer performance or universe comparisons are not the most appropriate measurements of the effectiveness of the NHRS investment program. Performance comparisons within the context of the stated investment objectives will promote alignment with the System’s mission.

The primary objective of the Committee is to manage the investment program to support the payment of plan benefits over the long-term. A secondary objective is to exceed the policy benchmark on a net-of-fees basis over a three to five-year period.

NHRS Investment Philosophy:

Market View and Context: The Committee believes that financial markets are largely, but not entirely, efficient. This means that there is a central tendency to the markets and that in some developed and accessible segments it is difficult to gain an advantage relative to other investors. However, there are areas of the market in which inefficiencies exist due to more limited access, information, coverage, or other factors; and investors can benefit from participation in these areas. Investment opportunities emerge and evolve over time and the NHRS Committee, staff, and consultants will remain vigilant concerning market developments in order to identify these opportunities and to build a sustainable advantage.

Diversification: The Board and the Committee recognize that it is necessary to maintain broad diversification both among and within various asset classes. The asset allocation of the investment program will be reviewed monthly by staff relative to the asset-class policy targets and ranges established by the Board in the Statement of Investment Policy. Staff shall strive to maintain the System's asset allocation within policy ranges. When rebalancing assets already within ranges, staff will give due consideration to market conditions, costs and risks of implementation, potential impacts on manager-level performance, and other relevant factors.

Portfolio Structure and Implementation: The Committee may utilize a combination of passive and active management strategies. The goal of passive management is to gain diversified exposure to the desired asset class while incurring minimal expense and seeking performance returns comparable to the asset class benchmark. The goal of active management is to exceed the performance of the appropriate benchmark on a net-of-fees basis, measured across market cycles, at a commensurate level of risk. The Committee will structure the program and implement its philosophy through the use of external investment management firms.

Performance Measurement: The ultimate measurement of the pension plan is how well it achieves its funding objectives and supports plan benefits. This is a shared responsibility between the Board who set the assumed rate of return and also determines the contribution rates and the Committee who seek to augment those contributions with investment returns over the long term. Achievement of the plan objectives in absolute terms is contingent on sound return assumptions and the execution of a clear investment process which recognizes that market conditions will vary over time.

Relative investment performance can be an important measurement tool. The Board adopts specific benchmarks which represent the standards of measurement used for the various asset classes utilized by the NHRS. Individual managers are also measured relative to benchmarks. As a model for performance measurement of the investment program, the NHRS uses a plan-level policy benchmark comprised of index returns (or proxy asset returns in the case of illiquid assets) weighted to reflect the asset-allocation policy targets set by the Board. This provides insight into the ways in which the actual portfolio performs relative to a passively-managed representation of plan policy during various market conditions.

Since investment returns will vary under different economic conditions and market cycles, an optimal period for effectively measuring performance would span three to five years or more. NHRS returns are expected to exceed the relevant benchmark on a net-of-fees basis over time.

NHRS Investment Philosophy:

Risk: Risk must be viewed within the context of the total portfolio. Since most risks are not readily quantifiable, defining the appropriate level of risk and creating a portfolio that reflects a reasonable balance between potential risk and return is a matter of judgment. Risk comes in a variety of forms including the risk of the unknown, liquidity risk, valuation risk, regulatory risk, geopolitical risk, and volatility risk as well as excessive diversification, fraud, inconsistency of investment discipline, and the risk of the destruction of capital. The Committee takes a broad view of risk in its oversight and endeavors to mitigate risk through rebalancing, monitoring managers, and conducting strategic reviews of the portfolio.

October 31, 2024



New Hampshire Retirement System

**Investment Measurement Service
Monthly Review**

The table below details the rates of return for the fund’s asset classes over various time periods ended October 31, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended October 31, 2024									
Composite	Total Fund Weighting As of 10/31/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Domestic Equity	33.32%	-1.03%	2.21%	6.08%	17.01%	35.51%	6.45%	12.97%	11.13%
<i>Domestic Equity Benchmark(1)</i>		-0.73%	3.52%	5.45%	19.75%	37.86%	7.64%	14.15%	12.53%
<i>Excess Return</i>		-0.30%	-1.31%	0.63%	-2.74%	-2.34%	-1.20%	-1.18%	-1.39%
Total Non US Equity	19.03%	-3.90%	0.28%	3.07%	9.02%	24.42%	2.13%	6.09%	5.48%
<i>Non US Equity Benchmark(2)</i>		-4.91%	0.44%	2.76%	8.61%	24.33%	1.60%	5.78%	4.79%
<i>Excess Return</i>		1.01%	-0.16%	0.31%	0.41%	0.09%	0.53%	0.31%	0.68%
Total Fixed Income	19.15%	-2.43%	0.60%	2.84%	2.25%	11.28%	-1.24%	1.17%	2.18%
<i>Bloomberg Capital Universe Bond Index</i>		-2.27%	0.53%	2.81%	2.52%	11.20%	-1.78%	0.18%	1.82%
<i>Excess Return</i>		-0.16%	0.07%	0.03%	-0.27%	0.08%	0.53%	0.99%	0.36%
Total Cash	1.70%	0.42%	1.29%	1.73%	4.43%	5.41%	3.73%	2.42%	1.77%
<i>3-Month Treasury Bill</i>		0.38%	1.30%	1.75%	4.43%	5.39%	3.63%	2.36%	1.69%
<i>Excess Return</i>		0.04%	-0.01%	-0.02%	0.00%	0.02%	0.10%	0.06%	0.08%
Total Real Estate (Q2)*	8.97%	-0.14%	0.04%	0.03%	-5.37%	-6.93%	3.69%	5.97%	8.32%
<i>Real Estate Benchmark(3)</i>		0.01%	-0.43%	-0.65%	-8.05%	-9.35%	0.33%	2.20%	5.41%
<i>Excess Return</i>		-0.15%	0.48%	0.68%	2.69%	2.42%	3.36%	3.78%	2.91%
Total Private Equity (Q2)*	13.35%	-0.02%	-0.01%	0.02%	3.70%	5.10%	5.72%	13.02%	11.71%
<i>Private Equity Benchmark(4)</i>		1.99%	10.35%	5.79%	31.38%	23.33%	11.63%	17.68%	16.30%
<i>Excess Return</i>		-2.01%	-10.36%	-5.77%	-27.69%	-18.22%	-5.91%	-4.65%	-4.59%
Total Private Debt (Q2)*	4.49%	-0.02%	-0.30%	0.00%	3.90%	5.68%	6.36%	5.54%	5.83%
<i>Private Debt Benchmark(5)</i>		1.43%	3.38%	3.27%	11.00%	11.79%	5.89%	5.00%	5.32%
<i>Excess Return</i>		-1.45%	-3.68%	-3.28%	-7.10%	-6.11%	0.47%	0.55%	0.51%
Total Fund Composite	100.00%	-1.58%	0.90%	3.13%	7.62%	17.37%	3.76%	8.00%	7.41%
<i>Total Fund Benchmark(6)</i>		-1.50%	2.43%	3.61%	10.82%	20.47%	4.05%	8.06%	7.71%
<i>Excess Return</i>		-0.08%	-1.52%	-0.48%	-3.20%	-3.10%	-0.29%	-0.06%	-0.30%

(1) The Domestic Equity Benchmark is the Russell 3000 Index as of 7/1/2021.

(2) The Non US Equity Index is the MSCI ACWI ex US Index as of 7/1/2003. Prior to 7/1/2003 it was the MSCI EAFE Index.

(3) The Real Estate Benchmark is the NCREIF NFI-ODCE Value Weight Net Index lagged 1 quarter as of 7/1/2015.

(4) The Private Equity Benchmark is the Russell 3000 Index + 2% lagged 1 quarter as of 7/1/2022.

(5) The Private Debt Benchmark is (50% MStar LSTA Leveraged Loan 100 Idx + 50% Bloomberg High Yield Index) + 1% lagged 1 quarter as of 7/1/2022.

(6) Current Month Target = 30.0% Russell 3000 Index, 25.0% Bloomberg Universal, 20.0% MSCI ACWI ex-US, 10.0% NCREIF NFI-ODCE Value Weight Net lagged 3 months, 10.0% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg High Yield Corp lagged 3 months+1.0% and 2.5% MStar LSTA Lev Loan 100 lagged 3 months +1.0%.

(7) For the trailing 25 year period ended 10/31/24, the Total Fund has returned 6.50% versus the Total Fund Custom Benchmark return of 6.60%.

*Real Estate and Alternatives market values reflect current custodian valuations, which are typically lagged approximately 1 quarter.

The table below details the rates of return for the fund's investment managers over various time periods ended October 31, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended October 31, 2024									
Composite	Total Fund Weighting As of 10/31/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Domestic Equity	33.32%	-1.03%	2.21%	6.08%	17.01%	35.51%	6.45%	12.97%	11.13%
<i>Domestic Equity Benchmark(1)</i>		-0.73%	3.52%	5.45%	19.75%	37.86%	7.64%	14.15%	12.53%
<i>Excess Return</i>		-0.30%	-1.31%	0.63%	-2.74%	-2.34%	-1.20%	-1.18%	-1.39%
Large Cap Domestic Equity	19.26%	-0.91%	3.66%	4.92%	21.03%	38.08%	9.05%	14.45%	12.17%
<i>S&P 500 Index</i>		-0.91%	3.66%	4.93%	20.97%	38.02%	9.08%	15.27%	13.00%
<i>Excess Return</i>		0.00%	-0.01%	-0.01%	0.06%	0.06%	-0.04%	-0.82%	-0.83%
BlackRock S&P 500	19.26%	-0.91%	3.66%	4.92%	21.03%	38.08%	9.05%	15.23%	12.97%
<i>S&P 500 Index</i>		-0.91%	3.66%	4.93%	20.97%	38.02%	9.08%	15.27%	13.00%
<i>Excess Return</i>		0.00%	-0.01%	-0.01%	0.06%	0.06%	-0.04%	-0.05%	-0.03%
Smid Cap Domestic Equity	5.97%	-1.64%	-0.26%	6.31%	9.63%	29.49%	1.63%	9.93%	8.48%
<i>Russell 2500 Index</i>		-0.93%	0.29%	7.74%	10.27%	33.08%	1.51%	9.81%	8.92%
<i>Excess Return</i>		-0.71%	-0.55%	-1.43%	-0.64%	-3.59%	0.11%	0.13%	-0.44%
AllianceBernstein	3.78%	-1.54%	0.92%	6.38%	11.18%	34.94%	-0.09%	10.95%	9.60%
<i>Russell 2500 Index</i>		-0.93%	0.29%	7.74%	10.27%	33.08%	1.51%	9.81%	8.92%
<i>Excess Return</i>		-0.61%	0.64%	-1.36%	0.91%	1.87%	-1.60%	1.15%	0.68%
TSW	2.19%	-1.81%	-2.24%	6.18%	7.04%	21.02%	4.91%	8.29%	6.79%
<i>TSW Blended Benchmark (2)</i>		-1.26%	0.14%	8.25%	9.87%	32.42%	3.99%	9.39%	8.82%
<i>Excess Return</i>		-0.55%	-2.38%	-2.07%	-2.83%	-11.40%	0.91%	-1.10%	-2.03%
Small Cap Domestic Equity	8.09%	-0.87%	0.70%	8.78%	13.22%	34.08%	3.86%	11.83%	10.58%
<i>Russell 2000 Index</i>		-1.44%	-2.24%	7.69%	9.56%	34.07%	-0.05%	8.50%	7.94%
<i>Excess Return</i>		0.57%	2.94%	1.09%	3.66%	0.01%	3.91%	3.33%	2.64%
Boston Trust	2.05%	-1.45%	-0.96%	8.54%	10.54%	26.41%	4.55%	10.68%	10.49%
<i>Russell 2000 Index</i>		-1.44%	-2.24%	7.69%	9.56%	34.07%	-0.05%	8.50%	7.94%
<i>Excess Return</i>		0.00%	1.28%	0.85%	0.98%	-7.67%	4.60%	2.17%	2.55%
Segall Bryant & Hamill	2.19%	-1.30%	-2.24%	5.09%	10.88%	30.36%	4.24%	12.29%	9.96%
<i>Russell 2000 Index</i>		-1.44%	-2.24%	7.69%	9.56%	34.07%	-0.05%	8.50%	7.94%
<i>Excess Return</i>		0.15%	0.00%	-2.60%	1.31%	-3.72%	4.28%	3.79%	2.02%
Wellington	3.85%	-0.32%	3.39%	11.13%	16.13%	40.95%	3.29%	12.22%	11.01%
<i>Russell 2000 Index</i>		-1.44%	-2.24%	7.69%	9.56%	34.07%	-0.05%	8.50%	7.94%
<i>Excess Return</i>		1.12%	5.63%	3.44%	6.57%	6.87%	3.33%	3.71%	3.08%

(1) The Domestic Equity Benchmark is the Russell 3000 Index as of 7/1/2021.

(2) TSW Blended Benchmark is the Russell 2500 Value Index as of 7/1/2019. Prior to 7/1/2019 it was the Russell 2500.

The table below details the rates of return for the fund's investment managers over various time periods ended October 31, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Composite	Net of Fees Returns for Periods Ended October 31, 2024								
	Total Fund Weighting As of 10/31/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Non US Equity	19.03%	-3.90%	0.28%	3.07%	9.02%	24.42%	2.13%	6.09%	5.48%
Non US Equity Benchmark (1)		-4.91%	0.44%	2.76%	8.61%	24.33%	1.60%	5.78%	4.79%
Excess Return		1.01%	-0.16%	0.31%	0.41%	0.09%	0.53%	0.31%	0.68%
Core Non US Equity	11.55%	-4.40%	-0.46%	3.15%	8.65%	23.94%	3.44%	6.19%	5.11%
Core Non US Benchmark (2)		-4.91%	0.44%	2.76%	8.61%	24.33%	1.60%	5.78%	4.79%
Excess Return		0.51%	-0.90%	0.39%	0.04%	-0.39%	1.83%	0.41%	0.32%
Aristotle	1.49%	-5.13%	0.24%	5.26%	8.14%	23.70%	1.07%	-	-
MSCI EAFE		-5.44%	-1.46%	1.43%	6.85%	22.97%	2.70%	-	-
Excess Return		0.31%	1.70%	3.83%	1.30%	0.74%	-1.63%	-	-
Artisan Partners	3.37%	-2.04%	0.39%	3.81%	12.74%	26.55%	1.63%	5.38%	-
MSCI EAFE		-5.44%	-1.46%	1.43%	6.85%	22.97%	2.70%	6.24%	-
Excess Return		3.40%	1.85%	2.38%	5.89%	3.59%	-1.07%	-0.87%	-
BlackRock SuperFund	1.63%	-4.93%	0.40%	2.62%	8.62%	24.18%	-	-	-
MSCI ACWI Ex-US		-4.91%	0.44%	2.76%	8.61%	24.33%	-	-	-
Excess Return		-0.03%	-0.04%	-0.14%	0.02%	-0.15%	-	-	-
Causeway Capital	3.71%	-5.41%	-0.68%	3.41%	7.84%	23.53%	8.62%	9.82%	6.06%
MSCI EAFE		-5.44%	-1.46%	1.43%	6.85%	22.97%	2.70%	6.24%	5.27%
Excess Return		0.02%	0.78%	1.98%	1.00%	0.57%	5.92%	3.58%	0.79%
Lazard	1.34%	-5.87%	-3.68%	-0.68%	2.06%	18.96%	-0.71%	-	-
MSCI EAFE		-5.44%	-1.46%	1.43%	6.85%	22.97%	2.70%	-	-
Excess Return		-0.44%	-2.22%	-2.11%	-4.79%	-4.01%	-3.41%	-	-
Emerging Markets	1.52%	-3.90%	5.14%	5.84%	12.79%	24.55%	-2.25%	2.03%	2.34%
MSCI EM		-4.45%	3.58%	3.89%	11.66%	25.32%	-1.43%	3.93%	3.43%
Excess Return		0.55%	1.56%	1.96%	1.13%	-0.77%	-0.82%	-1.90%	-1.09%
Wellington Emerging Markets	1.52%	-3.90%	5.14%	5.84%	12.79%	24.55%	-2.25%	2.26%	3.04%
MSCI EM		-4.45%	3.58%	3.89%	11.66%	25.32%	-1.43%	3.93%	3.43%
Excess Return		0.55%	1.56%	1.96%	1.13%	-0.77%	-0.82%	-1.67%	-0.40%
Non US Small Cap	1.13%	-5.93%	-1.94%	3.87%	4.77%	24.80%	-3.95%	0.74%	1.29%
MSCI EAFE Small Cap		-6.27%	-1.97%	3.61%	4.14%	22.96%	-3.00%	4.10%	5.73%
Excess Return		0.34%	0.04%	0.25%	0.63%	1.84%	-0.95%	-3.36%	-4.44%
Wellington Int'l Small Cap Research	1.13%	-5.93%	-1.94%	3.87%	4.77%	24.80%	-	-	-
MSCI EAFE Small Cap		-6.27%	-1.97%	3.61%	4.14%	22.96%	-	-	-
Excess Return		0.34%	0.04%	0.25%	0.63%	1.84%	-	-	-
Global Equity	4.83%	-2.16%	1.14%	1.85%	9.81%	25.45%	3.68%	10.38%	10.82%
MSCI ACWI net		-2.24%	2.57%	4.22%	16.00%	32.79%	5.51%	11.08%	9.06%
Excess Return		0.08%	-1.43%	-2.38%	-6.19%	-7.34%	-1.83%	-0.70%	1.75%
Walter Scott Global Equity	4.83%	-2.16%	1.14%	1.85%	9.81%	25.45%	3.68%	10.38%	10.82%
Walter Scott Blended Benchmark (3)		-2.24%	2.57%	4.22%	16.00%	32.79%	5.51%	11.08%	9.06%
Excess Return		0.08%	-1.43%	-2.38%	-6.19%	-7.34%	-1.83%	-0.70%	1.75%

(1) The Non US Equity Index is the MSCI ACWI ex US Index as of 7/1/2003. Prior to 7/1/2003 it was the MSCI EAFE Index.

(2) The Core Non US Equity Index is the MSCI ACWI ex US as of 7/1/2007. Prior to 7/1/2007 it was the MSCI EAFE Index.

(3) The Walter Scott Blended Benchmark is the MSCI ACWI Index as 5/1/2008. Prior to 5/1/2008 it was the MSCI EAFE Index.

The table below details the rates of return for the fund's investment managers over various time periods ended October 31, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended October 31, 2024									
Composite	Total Fund Weighting As of 10/31/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Fixed Income	19.15%	-2.43%	0.60%	2.84%	2.25%	11.28%	-1.24%	1.17%	2.18%
<i>Fixed Income Benchmark (1)</i>		-2.27%	0.53%	2.81%	2.52%	11.20%	-1.78%	0.18%	1.82%
<i>Excess Return</i>		-0.16%	0.07%	0.03%	-0.27%	0.08%	0.53%	0.99%	0.36%
BlackRock SIO Bond Fund	2.22%	-1.51%	0.73%	2.62%	4.11%	10.23%	1.62%	2.82%	-
<i>BlackRock Custom Benchmark (2)</i>		0.42%	1.33%	1.82%	4.59%	5.50%	3.80%	2.51%	-
<i>Excess Return</i>		-1.93%	-0.60%	0.79%	-0.48%	4.72%	-2.18%	0.31%	-
Brandywine Asset Mgmt	1.82%	-5.61%	-0.44%	2.60%	-4.90%	10.39%	-4.85%	-1.43%	0.28%
<i>Brandywine Custom Benchmark (3)</i>		-3.73%	0.18%	3.20%	-1.32%	8.19%	-5.56%	-2.95%	-0.53%
<i>Excess Return</i>		-1.88%	-0.62%	-0.61%	-3.58%	2.20%	0.71%	1.52%	0.80%
FIAM (Fidelity) Tactical Bond	3.08%	-2.25%	0.63%	2.96%	2.79%	12.09%	-0.53%	1.87%	-
<i>Bloomberg Aggregate</i>		-2.48%	0.25%	2.59%	1.86%	10.55%	-2.20%	-0.23%	-
<i>Excess Return</i>		0.23%	0.39%	0.37%	0.94%	1.55%	1.67%	2.10%	-
Income Research & Management	6.42%	-2.25%	0.42%	2.65%	2.40%	10.64%	-2.19%	0.30%	1.98%
<i>Bloomberg Gov/Credit</i>		-2.38%	0.35%	2.60%	1.91%	10.23%	-2.31%	-0.13%	1.65%
<i>Excess Return</i>		0.13%	0.08%	0.06%	0.49%	0.40%	0.12%	0.43%	0.33%
Loomis Sayles	2.40%	-1.78%	1.60%	3.77%	4.99%	14.15%	0.24%	3.25%	3.64%
<i>Loomis Sayles Custom Benchmark (4)</i>		-1.80%	1.11%	3.33%	3.78%	12.60%	-0.39%	1.48%	2.71%
<i>Excess Return</i>		0.02%	0.49%	0.44%	1.20%	1.56%	0.63%	1.77%	0.93%
Manulife Strategic Fixed Income	1.77%	-2.05%	1.01%	2.82%	3.09%	11.24%	0.11%	1.70%	-
<i>Bloomberg Multiverse</i>		-3.26%	0.73%	3.48%	0.42%	9.88%	-3.79%	-1.43%	-
<i>Excess Return</i>		1.21%	0.28%	-0.66%	2.67%	1.36%	3.89%	3.13%	-
Mellon US Agg Bond Index	1.45%	-2.49%	0.24%	2.59%	1.86%	10.57%	-	-	-
<i>Bloomberg Aggregate Bond Index</i>		-2.48%	0.25%	2.59%	1.86%	10.55%	-	-	-
<i>Excess Return</i>		-0.01%	-0.01%	0.00%	0.00%	0.03%	-	-	-
Total Cash	1.70%	0.42%	1.29%	1.73%	4.43%	5.41%	3.73%	2.42%	1.77%
<i>3-month Treasury Bill</i>		0.38%	1.30%	1.75%	4.43%	5.39%	3.63%	2.36%	1.69%
<i>Excess Return</i>		0.04%	-0.01%	-0.02%	0.00%	0.02%	0.10%	0.06%	0.08%
Total Marketable Assets	73.19%	-2.13%	1.25%	4.31%	10.53%	25.09%	3.12%	7.56%	6.92%
<i>Total Marketable Index (5)</i>		-2.36%	1.71%	3.86%	10.88%	24.98%	3.03%	7.40%	7.07%
<i>Excess Return</i>		0.23%	-0.46%	0.45%	-0.35%	0.11%	0.10%	0.17%	-0.15%

(1) The Fixed Income Benchmark is the Bloomberg Universal Bond Index as of 7/1/2007.

(2) The BlackRock Custom Benchmark is 3 Month SOFR compounded in arrears as of 1/1/2022.

(3) The Brandywine Blended Benchmark is the FTSE WGBI Ex-China Index as of 11/1/2021.

(4) The Loomis Sayles Custom Benchmark is 65% Bloomberg Aggregate and 35% Bloomberg High Yield.

(5) Marketable Assets Index is 40% Russell 3000, 26.7% MSCI ACWI ex US, and 33.3% Bloomberg Universal as of 7/1/2021.

The table below details the rates of return for the fund’s investment managers over various time periods ended October 31, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended October 31, 2024									
Composite	Total Fund Weighting As of 10/31/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Real Estate (Q2)* (5)	8.97%	-0.14%	0.04%	0.03%	-5.37%	-6.93%	3.69%	5.97%	8.32%
<i>Real Estate Benchmark (1)</i>		<i>0.01%</i>	<i>-0.43%</i>	<i>-0.65%</i>	<i>-8.05%</i>	<i>-9.35%</i>	<i>0.33%</i>	<i>2.20%</i>	<i>5.41%</i>
<i>Excess Return</i>		<i>-0.15%</i>	<i>0.48%</i>	<i>0.68%</i>	<i>2.69%</i>	<i>2.42%</i>	<i>3.36%</i>	<i>3.78%</i>	<i>2.91%</i>
Strategic Core Real Estate (Q2)*	5.07%	0.00%	0.02%	0.02%	-8.26%	-9.72%	2.19%	3.78%	7.05%
<i>Real Estate Benchmark (1)</i>		<i>0.01%</i>	<i>-0.43%</i>	<i>-0.65%</i>	<i>-8.05%</i>	<i>-9.35%</i>	<i>0.33%</i>	<i>2.20%</i>	<i>5.41%</i>
<i>Excess Return</i>		<i>-0.01%</i>	<i>0.45%</i>	<i>0.67%</i>	<i>-0.21%</i>	<i>-0.38%</i>	<i>1.86%</i>	<i>1.58%</i>	<i>1.64%</i>
Tactical Non-Core Real Estate (Q2)*	3.90%	-0.33%	0.09%	0.04%	-0.80%	-2.52%	6.15%	9.82%	10.57%
<i>Real Estate Benchmark (1)</i>		<i>0.01%</i>	<i>-0.43%</i>	<i>-0.65%</i>	<i>-8.05%</i>	<i>-9.35%</i>	<i>0.33%</i>	<i>2.20%</i>	<i>5.41%</i>
<i>Excess Return</i>		<i>-0.34%</i>	<i>0.52%</i>	<i>0.70%</i>	<i>7.25%</i>	<i>6.82%</i>	<i>5.82%</i>	<i>7.62%</i>	<i>5.15%</i>
Total Alternative Assets (Q2)*	17.84%	-0.02%	-0.08%	0.02%	3.75%	5.25%	5.88%	10.71%	8.99%
<i>Alternative Assets Benchmark (2)</i>		<i>1.80%</i>	<i>8.00%</i>	<i>4.99%</i>	<i>24.36%</i>	<i>19.54%</i>	<i>9.90%</i>	<i>13.40%</i>	<i>11.65%</i>
<i>Excess Return</i>		<i>-1.82%</i>	<i>-8.08%</i>	<i>-4.97%</i>	<i>-20.61%</i>	<i>-14.29%</i>	<i>-4.02%</i>	<i>-2.69%</i>	<i>-2.66%</i>
Total Private Equity (Q2)*	13.35%	-0.02%	-0.01%	0.02%	3.70%	5.10%	5.72%	13.02%	11.71%
<i>Private Equity Benchmark (3)</i>		<i>1.99%</i>	<i>10.35%</i>	<i>5.79%</i>	<i>31.38%</i>	<i>23.33%</i>	<i>11.63%</i>	<i>17.68%</i>	<i>16.30%</i>
<i>Excess Return</i>		<i>-2.01%</i>	<i>-10.36%</i>	<i>-5.77%</i>	<i>-27.69%</i>	<i>-18.22%</i>	<i>-5.91%</i>	<i>-4.65%</i>	<i>-4.59%</i>
Total Private Debt (Q2)*	4.49%	-0.02%	-0.30%	0.00%	3.90%	5.68%	6.36%	5.54%	5.83%
<i>Private Debt Benchmark (4)</i>		<i>1.43%</i>	<i>3.38%</i>	<i>3.27%</i>	<i>11.00%</i>	<i>11.79%</i>	<i>5.89%</i>	<i>5.00%</i>	<i>5.32%</i>
<i>Excess Return</i>		<i>-1.45%</i>	<i>-3.68%</i>	<i>-3.28%</i>	<i>-7.10%</i>	<i>-6.11%</i>	<i>0.47%</i>	<i>0.55%</i>	<i>0.51%</i>

(1) The Real Estate Benchmark is the NCREIF NFI-ODCE Value Weight Net Index lagged 1 quarter as of 7/1/2015.

(2) The Alternative Assets Benchmark is 66.7% Russell 3000 Index + 2% lagged 1 quarter and 33.3% ((50% S&P LSTA Leveraged Loan 100 Index + 50% Bloomberg High Yield Index) + 1%) lagged 1 quarter as of 7/1/2022.

(3) The Private Equity Benchmark is the Russell 3000 Index + 2% lagged 1 quarter as of 7/1/2022.

(4) The Private Debt Benchmark is (50% MStar LSTA Leveraged Loan 100 Index / 50% Bloomberg High Yield Index) + 1% lagged 1 quarter as of 7/1/2022.

(5) Total Real Estate returns includes Townsend discretionary fee as of 7/1/2022.

*Real Estate and Alternatives market values reflect current custodian valuations, which are typically lagged approximately 1 quarter.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of October 31, 2024, with the distribution as of September 30, 2024. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	October 31, 2024		Net New Inv.	Inv. Return	September 30, 2024	
	Market Value	Weight			Market Value	Weight
Total Domestic Equity	\$4,184,452,478	33.32%	\$0	\$(42,581,779)	\$4,227,034,257	33.13%
Large Cap Domestic Equity	\$2,418,902,854	19.26%	\$0	\$(22,127,240)	\$2,441,030,094	19.13%
Blackrock S&P 500	2,418,902,854	19.26%	0	(22,127,240)	2,441,030,094	19.13%
SMid Cap Domestic Equity	\$750,051,040	5.97%	\$0	\$(12,100,389)	\$762,151,429	5.97%
AllianceBernstein	475,271,654	3.78%	0	(7,193,712)	482,465,366	3.78%
TSW	274,779,386	2.19%	0	(4,906,678)	279,686,063	2.19%
Small Cap Domestic Equity	\$1,015,498,583	8.09%	\$0	\$(8,354,150)	\$1,023,852,733	8.02%
Boston Trust	257,490,506	2.05%	0	(3,695,718)	261,186,224	2.05%
Segall Bryant & Hamill	274,779,526	2.19%	0	(3,420,850)	278,200,376	2.18%
Wellington	483,228,551	3.85%	0	(1,237,582)	484,466,133	3.80%
Total Non US Equity	\$2,389,736,719	19.03%	\$0	\$(95,679,902)	\$2,485,416,621	19.48%
Core Non US Equity (1)	\$1,450,462,647	11.55%	\$0	\$(66,103,615)	\$1,516,566,261	11.89%
Aristotle	187,406,891	1.49%	0	(10,058,003)	197,464,893	1.55%
Artisan Partners	423,455,805	3.37%	0	(8,556,637)	432,012,442	3.39%
BlackRock Superfund	204,698,978	1.63%	0	(10,612,931)	215,311,909	1.69%
Causeway Capital	465,920,861	3.71%	0	(26,432,756)	492,353,617	3.86%
Lazard	168,468,181	1.34%	0	(10,428,944)	178,897,125	1.40%
Emerging Markets	\$190,972,366	1.52%	\$0	\$(7,559,885)	\$198,532,252	1.56%
Wellington Emerging Markets	190,972,366	1.52%	0	(7,559,885)	198,532,252	1.56%
Non US Small Cap	\$142,249,428	1.13%	\$0	\$(8,857,819)	\$151,107,247	1.18%
Wellington Int'l Small Cap Research	142,249,428	1.13%	0	(8,857,819)	151,107,247	1.18%
Global Equity	\$606,052,278	4.83%	\$0	\$(13,158,583)	\$619,210,861	4.85%
Walter Scott Global Equity	606,052,278	4.83%	0	(13,158,583)	619,210,861	4.85%
Total Fixed Income	\$2,404,655,664	19.15%	\$0	\$(59,420,115)	\$2,464,075,780	19.31%
BlackRock SIO Bond Fund	278,334,124	2.22%	0	(4,134,344)	282,468,468	2.21%
Brandywine Asset Mgmt	227,992,403	1.82%	0	(13,482,959)	241,475,361	1.89%
FIAM (Fidelity) Tactical Bond	386,935,490	3.08%	0	(8,771,206)	395,706,696	3.10%
Income Research & Management	805,934,113	6.42%	0	(18,417,618)	824,351,731	6.46%
Loomis Sayles	300,908,308	2.40%	0	(5,366,773)	306,275,081	2.40%
Manulife Strategic Fixed Income	222,066,388	1.77%	0	(4,598,000)	226,664,388	1.78%
Mellon US Agg Bond Index	182,484,838	1.45%	0	(4,649,216)	187,134,054	1.47%
Total Cash	\$213,366,759	1.70%	\$11,270,340	\$847,705	\$201,248,714	1.58%
Total Marketable Assets	\$9,192,211,620	73.19%	\$11,270,340	\$(196,834,092)	\$9,377,775,372	73.50%
Total Real Estate	\$1,126,377,869	8.97%	\$(18,450,764)	\$(1,642,685)	\$1,146,471,318	8.99%
Strategic Core Real Estate	636,850,976	5.07%	(15,848,796)	(0)	652,699,773	5.12%
Tactical Non-Core Real Estate	489,526,892	3.90%	(2,601,967)	(1,642,685)	493,771,544	3.87%
Total Alternative Assets	\$2,240,680,900	17.84%	\$6,199,971	\$(366,013)	\$2,234,846,942	17.52%
Private Equity	1,676,560,094	13.35%	3,711,420	(279,998)	1,673,128,673	13.11%
Private Debt	564,120,805	4.49%	2,488,551	(86,015)	561,718,269	4.40%
Total Fund Composite	\$12,559,270,389	100.0%	\$(980,452)	\$(198,842,790)	\$12,759,093,632	100.0%

-Alternatives market values reflect current custodian valuations, which may not be up to date.

(1) Includes \$511,932 in legacy assets that are not actively managed and in liquidation following the termination of Fisher Investments.

New Hampshire Retirement System Target History

30-Jun-2022 - 31-Oct-2024		
Domestic Broad		
Eq	Russell 3000 Index	30.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF NFI-ODCE Value Weight Net	10.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Russell 3000 Index+2.00%	10.00%
Other Alternatives	Bloomberg HY Corporate+1.00%	2.50%
Other Alternatives	Morningstar LSTA Leveraged Loan 100+1.00%	2.50%
		100.00%

30-Jun-2021 - 30-Jun-2022		
Domestic Broad		
Eq	Russell 3000 Index	30.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF NFI-ODCE Value Weight Net	10.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+3.00%	10.00%
Other Alternatives	Morningstar LSTA Leveraged Loan 100	5.00%
		100.00%

30-Sep-2020 - 30-Jun-2021		
Domestic Broad		
Eq	S&P 500 Index	30.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF NFI-ODCE Value Weight Net	10.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+3.00%	10.00%
Other Alternatives	Morningstar LSTA Leveraged Loan 100	5.00%
		100.00%

30-Jun-2015 - 30-Sep-2020		
Domestic Broad		
Eq	S&P 500 Index	30.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF NFI-ODCE Value Weight Net	10.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	15.00%
		100.00%

31-Mar-2015 - 30-Jun-2015		
Domestic Broad		
Eq	Russell 3000 Index	37.30%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.70%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	9.00%
		100.00%

31-Dec-2014 - 31-Mar-2015		
Domestic Broad		
Eq	Russell 3000 Index	37.70%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.80%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	8.50%
		100.00%

30-Sep-2014 - 31-Dec-2014		
Domestic Broad		
Eq	Russell 3000 Index	39.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.60%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	7.40%
		100.00%

30-Jun-2014 - 30-Sep-2014		
Domestic Broad		
Eq	Russell 3000 Index	39.60%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.90%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	6.50%
		100.00%

31-Mar-2014 - 30-Jun-2014		
Domestic Broad		
Eq	Russell 3000 Index	42.20%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.60%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	4.20%
		100.00%

31-Dec-2013 - 31-Mar-2014		
Domestic Broad		
Eq	Russell 3000 Index	41.80%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	9.10%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	4.10%
		100.00%

30-Sep-2013 - 31-Dec-2013		
Domestic Broad		
Eq	Russell 3000 Index	42.90%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.60%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	3.50%
		100.00%

30-Jun-2013 - 30-Sep-2013		
Domestic Broad		
Eq	Russell 3000 Index	42.50%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	9.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	3.50%
		100.00%

31-Mar-2013 - 30-Jun-2013		
Domestic Broad		
Eq	Russell 3000 Index	43.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.60%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	3.40%
		100.00%

31-Dec-2012 - 31-Mar-2013		
Domestic Broad		
Eq	Russell 3000 Index	43.60%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.80%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	2.60%
		100.00%

Alternatives Benchmark represents from 7/1/2022 to present: 66.7% Russell 3000 Idx + 2% (1 qtr lag) and 33.3% ((50% S&P LSTA Leveraged Loan 100 Idx + 50% Bloomberg HY Idx) + 1%) (1 qtr lag).

From 7/1/2019 to 7/1/2022: 66.7% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag). From 7/1/2016 to 7/1/2019: 33.3% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag) + 33.3% of Cash (6-mo USD LIBOR) + 5%. From 7/1/2015 to 7/1/2016: 33.3% S&P 500 +3% (1qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Idx(1 qtr lag) + 33.3% of Cash (1 month USD LIBID) +5%. From 7/1/2013 to 7/1/2015: S&P 500 plus 5% (1 qtr lag). From 7/1/2011 to 7/1/2013: Qtr ending weight of Private Equity x S&P 500 plus 5% + Qtr ending weight Absolute Return x CPI + 5%. Prior to 7/1/2011: CPI + 5%.

New Hampshire Retirement System Target History

30-Sep-2012 - 31-Dec-2012		
Domestic Broad		
Eq	Russell 3000 Index	43.90%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.70%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	2.40%
		100.00%

30-Jun-2012 - 30-Sep-2012		
Domestic Broad		
Eq	Russell 3000 Index	43.50%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	9.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	2.50%
		100.00%

31-Mar-2012 - 30-Jun-2012		
Domestic Broad		
Eq	Russell 3000 Index	40.10%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	7.60%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	2.30%
		100.00%

31-Dec-2011 - 31-Mar-2012		
Domestic Broad		
Eq	Russell 3000 Index	39.70%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	8.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	2.30%
		100.00%

30-Sep-2011 - 31-Dec-2011		
Domestic Broad		
Eq	Russell 3000 Index	40.20%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	7.40%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	2.40%
		100.00%

30-Jun-2011 - 30-Sep-2011		
Domestic Broad		
Eq	Russell 3000 Index	42.50%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	5.40%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	2.10%
		100.00%

31-Mar-2011 - 30-Jun-2011		
Domestic Broad		
Eq	Russell 3000 Index	43.00%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	5.30%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Alternative Asset Benchmark	1.70%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

31-Dec-2010 - 31-Mar-2011		
Domestic Broad		
Eq	Russell 3000 Index	43.00%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	5.20%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Alternative Asset Benchmark	1.80%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

30-Sep-2010 - 31-Dec-2010		
Domestic Broad		
Eq	Russell 3000 Index	42.80%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	5.40%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Alternative Asset Benchmark	1.80%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

30-Jun-2010 - 30-Sep-2010		
Domestic Broad		
Eq	Russell 3000 Index	42.90%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	5.00%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Alternative Asset Benchmark	2.10%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

31-Dec-2009 - 30-Jun-2010		
Domestic Broad		
Eq	Russell 3000 Index	43.30%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	4.70%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Alternative Asset Benchmark	2.00%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

30-Sep-2009 - 31-Dec-2009		
Domestic Broad		
Eq	Russell 3000 Index	42.30%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	5.50%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Alternative Asset Benchmark	2.20%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

30-Jun-2009 - 30-Sep-2009		
Domestic Broad		
Eq	Russell 3000 Index	41.50%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	6.20%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Alternative Asset Benchmark	2.30%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

Alternatives Benchmark represents from 7/1/2022 to present: 66.7% Russell 3000 Idx + 2% (1 qtr lag) and 33.3% ((50% S&P LSTA Leveraged Loan 100 Idx + 50% Bloomberg HY Idx) + 1%) (1 qtr lag).

From 7/1/2019 to 7/1/2022: 66.7% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag). From 7/1/2016 to 7/1/2019: 33.3% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag) + 33.3% of Cash (6-mo USD LIBOR) + 5%. From 7/1/2015 to 7/1/2016: 33.3% S&P 500 +3% (1qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Idx(1 qtr lag) + 33.3% of Cash (1 month USD LIBID) +5%. From 7/1/2013 to 7/1/2015: S&P 500 plus 5% (1 qtr lag). From 7/1/2011 to 7/1/2013: Qtr ending weight of Private Equity x S&P 500 plus 5% + Qtr ending weight Absolute Return x CPI + 5%. Prior to 7/1/2011: CPI + 5%.

New Hampshire Retirement System Target History

31-Mar-2009 - 30-Jun-2009		
Domestic Broad		
Eq	Russell 3000 Index	38.00%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	9.30%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Alternative Asset Benchmark	2.70%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

31-Dec-2008 - 31-Mar-2009		
Domestic Broad		
Eq	Russell 3000 Index	37.20%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	9.70%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Alternative Asset Benchmark	3.10%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

30-Sep-2008 - 31-Dec-2008		
Domestic Broad		
Eq	Russell 3000 Index	38.90%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index	8.20%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Consumer Price Index (W) + 5%	2.90%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

30-Jun-2008 - 30-Sep-2008		
Domestic Broad		
Eq	Russell 3000 Index	40.00%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index	7.30%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Consumer Price Index (W) + 5%	2.70%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

30-Jun-2007 - 30-Jun-2008		
Domestic Broad		
Eq	Russell 3000 Index	44.00%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index	5.00%
Intl Equity	MSCI ACWI xUS (Net)	16.00%
Other Alternatives	Consumer Price Index (W) + 5%	5.00%
		100.00%

30-Nov-2006 - 30-Jun-2007		
Domestic Broad		
Eq	Russell 3000 Index	44.00%
Domestic Fixed	Bloomberg Universal	26.00%
Real Estate	NCREIF Property Index	5.00%
Intl Equity	MSCI ACWI xUS (Net)	16.00%
Other Alternatives	Consumer Price Index (W) + 5%	5.00%
Global Fixed-Inc	Brandywine Blended Benchmark	4.00%
		100.00%

30-Jun-2003 - 30-Nov-2006		
Domestic Broad		
Eq	Russell 3000 Index	47.00%
Domestic Fixed	Bloomberg Universal	18.00%
Real Estate	NCREIF Property Index	10.00%
Intl Equity	MSCI ACWI xUS (Net)	12.00%
Other Alternatives	Consumer Price Index (W) + 5%	10.00%
Global Fixed-Inc	Brandywine Blended Benchmark	3.00%
		100.00%

31-Oct-1997 - 30-Jun-2003		
Domestic Broad		
Eq	S&P 500 Index	50.00%
Domestic Fixed	Bloomberg Universal	18.00%
Real Estate	NCREIF Property Index	10.00%
Intl Equity	MSCI EAFE (Net)	9.00%
Other Alternatives	Consumer Price Index (W) + 5%	10.00%
Global Fixed-Inc	Brandywine Blended Benchmark	3.00%
		100.00%

31-Mar-1990 - 31-Oct-1997		
Domestic Broad		
Eq	S&P 500 Index	50.00%
Domestic Fixed	Bloomberg Universal	18.00%
Real Estate	NCREIF Property Index	10.00%
Intl Equity	MSCI EAFE (Net)	9.00%
Other Alternatives	Consumer Price Index (W) + 5%	10.00%
Global Fixed-Inc	JPM GBI Global Unhedged USD	3.00%
		100.00%

30-Jun-1975 - 31-Mar-1990		
Domestic Broad		
Eq	S&P 500 Index	50.00%
Real Estate	NCREIF Property Index	10.00%
Intl Equity	MSCI EAFE (Net)	9.00%
Other Alternatives	Consumer Price Index (W) + 5%	10.00%
Global Fixed-Inc	JPM GBI Global Unhedged USD	3.00%
		82.00%

Alternatives Benchmark represents from 7/1/2022 to present: 66.7% Russell 3000 Idx + 2% (1 qtr lag) and 33.3% ((50% S&P LSTA Leveraged Loan 100 Idx + 50% Bloomberg HY Idx) + 1%) (1 qtr lag).

From 7/1/2019 to 7/1/2022: 66.7% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag). From 7/1/2016 to 7/1/2019: 33.3% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag) + 33.3% of Cash (6-mo USD LIBOR) + 5%. From 7/1/2015 to 7/1/2016: 33.3% S&P 500 +3% (1qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Idx(1 qtr lag) + 33.3% of Cash (1 month USD LIBID) +5%. From 7/1/2013 to 7/1/2015: S&P 500 plus 5% (1 qtr lag). From 7/1/2011 to 7/1/2013: Qtr ending weight of Private Equity x S&P 500 plus 5% + Qtr ending weight Absolute Return x CPI + 5%. Prior to 7/1/2011: CPI + 5%.

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Past performance is no guarantee of future results.

June 30, 2024



New Hampshire Retirement System

**Investment Measurement Service
Monthly Review**

The table below details the rates of return for the fund’s asset classes over various time periods ended June 30, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended June 30, 2024									
Composite	Total Fund Weighting As of 6/30/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Domestic Equity	32.28%	1.54%	1.28%	18.95%	10.30%	18.95%	6.48%	12.21%	10.64%
<i>Domestic Equity Benchmark(1)</i>		3.10%	3.22%	23.13%	13.56%	23.13%	8.05%	13.81%	12.24%
<i>Excess Return</i>		-1.56%	-1.94%	-4.17%	-3.26%	-4.17%	-1.57%	-1.60%	-1.60%
Total Non US Equity	18.96%	-0.52%	-0.22%	11.31%	5.78%	11.31%	1.47%	5.80%	4.57%
<i>Non US Equity Benchmark(2)</i>		-0.10%	0.96%	11.62%	5.69%	11.62%	0.46%	5.55%	3.84%
<i>Excess Return</i>		-0.42%	-1.18%	-0.32%	0.09%	-0.32%	1.01%	0.25%	0.73%
Total Fixed Income	19.14%	0.73%	-0.04%	3.50%	-0.58%	3.50%	-2.25%	1.04%	1.90%
<i>Bloomberg Capital Universe Bond Index</i>		0.91%	0.19%	3.47%	-0.28%	3.47%	-2.68%	0.11%	1.63%
<i>Excess Return</i>		-0.18%	-0.23%	0.03%	-0.30%	0.03%	0.43%	0.93%	0.27%
Total Cash	1.61%	0.44%	1.30%	5.48%	2.65%	5.48%	3.14%	2.25%	1.60%
<i>3-Month Treasury Bill</i>		0.41%	1.32%	5.40%	2.63%	5.40%	3.03%	2.16%	1.51%
<i>Excess Return</i>		0.03%	-0.02%	0.08%	0.02%	0.08%	0.11%	0.10%	0.09%
Total Real Estate (Q2)*	9.24%	-1.32%	-2.56%	-7.20%	-5.39%	-7.20%	3.64%	5.96%	8.29%
<i>Real Estate Benchmark(3)</i>		-0.22%	-0.66%	-9.99%	-3.22%	-9.99%	1.02%	2.27%	5.47%
<i>Excess Return</i>		-1.10%	-1.90%	2.79%	-2.17%	2.79%	2.62%	3.69%	2.82%
Total Private Equity (Q2)*	14.02%	2.38%	2.72%	5.05%	3.67%	5.05%	5.70%	13.01%	11.58%
<i>Private Equity Benchmark(4)</i>		3.21%	3.72%	25.39%	14.51%	25.39%	12.30%	17.88%	16.10%
<i>Excess Return</i>		-0.83%	-1.00%	-20.33%	-10.84%	-20.33%	-6.60%	-4.87%	-4.52%
Total Private Debt (Q2)*	4.75%	2.55%	2.82%	5.65%	3.90%	5.65%	6.34%	5.53%	5.83%
<i>Private Debt Benchmark(5)</i>		0.73%	1.82%	11.65%	3.81%	11.65%	5.31%	4.92%	5.07%
<i>Excess Return</i>		1.82%	1.00%	-6.00%	0.09%	-6.00%	1.03%	0.60%	0.76%
Total Fund Composite	100.00%	0.86%	0.61%	8.81%	4.36%	8.81%	3.40%	7.67%	7.04%
<i>Total Fund Benchmark(6)</i>		1.47%	1.63%	11.92%	6.35%	11.92%	3.67%	7.74%	7.27%
<i>Excess Return</i>		-0.61%	-1.01%	-3.12%	-1.99%	-3.12%	-0.27%	-0.07%	-0.23%

(1) The Domestic Equity Benchmark is the Russell 3000 Index as of 7/1/2021.

(2) The Non US Equity Index is the MSCI ACWI ex US Index as of 7/1/2003. Prior to 7/1/2003 it was the MSCI EAFE Index.

(3) The Real Estate Benchmark is the NCREIF NFI-ODCE Value Weight Net Index lagged 1 quarter as of 7/1/2015.

(4) The Private Equity Benchmark is the Russell 3000 Index + 2% lagged 1 quarter as of 7/1/2022.

(5) The Private Debt Benchmark is (50% MStar LSTA Leveraged Loan 100 Idx + 50% Bloomberg High Yield Index) + 1% as of 7/1/2022.

(6) Current Month Target = 30.0% Russell 3000 Index, 25.0% Bloomberg Universal, 20.0% MSCI ACWI ex-US, 10.0% NCREIF NFI-ODCE Value Weight Net, 10.0% Russell 3000 Index +2.0%, 2.5% Bloomberg High Yield Corp +1.0% and 2.5% MStar LSTA Lev Loan 100+ 1.0%.

(7) For the trailing 25 year period ended 6/30/24, the Total Fund has returned 6.29% versus the Total Fund Custom Benchmark return of 6.49%.

*Real Estate and Alternatives market values are not lagged and reflect custodian valuations through FYE (2Q24).

The table below details the rates of return for the fund's investment managers over various time periods ended June 30, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended June 30, 2024									
Composite	Total Fund Weighting As of 6/30/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Domestic Equity	32.28%	1.54%	1.28%	18.95%	10.30%	18.95%	6.48%	12.21%	10.64%
<i>Domestic Equity Benchmark(1)</i>		3.10%	3.22%	23.13%	13.56%	23.13%	8.05%	13.81%	12.24%
<i>Excess Return</i>		-1.56%	-1.94%	-4.17%	-3.26%	-4.17%	-1.57%	-1.60%	-1.60%
Large Cap Domestic Equity	18.88%	3.59%	4.35%	24.63%	15.36%	24.63%	9.99%	14.24%	11.94%
<i>S&P 500 Index</i>		3.59%	4.28%	24.56%	15.29%	24.56%	10.01%	15.05%	12.86%
<i>Excess Return</i>		0.00%	0.07%	0.07%	0.07%	0.07%	-0.02%	-0.80%	-0.92%
BlackRock S&P 500	18.88%	3.59%	4.35%	24.63%	15.36%	24.63%	9.99%	15.00%	12.83%
<i>S&P 500 Index</i>		3.59%	4.28%	24.56%	15.29%	24.56%	10.01%	15.05%	12.86%
<i>Excess Return</i>		0.00%	0.07%	0.07%	0.07%	0.07%	-0.02%	-0.04%	-0.03%
Smid Cap Domestic Equity	5.77%	-1.82%	-4.29%	10.09%	3.13%	10.09%	0.74%	8.46%	7.59%
<i>Russell 2500 Index</i>		-1.50%	-4.27%	10.47%	2.35%	10.47%	-0.29%	8.31%	7.99%
<i>Excess Return</i>		-0.32%	-0.02%	-0.38%	0.78%	-0.38%	1.03%	0.15%	-0.40%
AllianceBernstein	3.65%	-1.41%	-4.53%	12.61%	4.51%	12.61%	-0.51%	8.97%	8.73%
<i>Russell 2500 Index</i>		-1.50%	-4.27%	10.47%	2.35%	10.47%	-0.29%	8.31%	7.99%
<i>Excess Return</i>		0.08%	-0.25%	2.14%	2.16%	2.14%	-0.21%	0.66%	0.74%
TSW	2.12%	-2.51%	-3.88%	5.99%	0.82%	5.99%	3.06%	7.61%	5.88%
<i>TSW Blended Benchmark (2)</i>		-2.01%	-4.31%	11.24%	1.50%	11.24%	2.15%	8.01%	7.84%
<i>Excess Return</i>		-0.50%	0.42%	-5.25%	-0.69%	-5.25%	0.91%	-0.41%	-1.95%
Small Cap Domestic Equity	7.63%	-0.74%	-1.63%	12.63%	4.08%	12.63%	2.54%	10.25%	9.52%
<i>Russell 2000 Index</i>		-0.93%	-3.28%	10.06%	1.73%	10.06%	-2.58%	6.94%	7.00%
<i>Excess Return</i>		0.18%	1.65%	2.57%	2.35%	2.57%	5.12%	3.30%	2.52%
Boston Trust	1.94%	-1.16%	-3.08%	7.92%	1.84%	7.92%	4.39%	9.59%	9.37%
<i>Russell 2000 Index</i>		-0.93%	-3.28%	10.06%	1.73%	10.06%	-2.58%	6.94%	7.00%
<i>Excess Return</i>		-0.23%	0.20%	-2.14%	0.11%	-2.14%	6.97%	2.65%	2.36%
Segall Bryant & Hamill	2.14%	-0.78%	-1.17%	14.65%	5.50%	14.65%	4.27%	11.48%	9.09%
<i>Russell 2000 Index</i>		-0.93%	-3.28%	10.06%	1.73%	10.06%	-2.58%	6.94%	7.00%
<i>Excess Return</i>		0.14%	2.11%	4.60%	3.77%	4.60%	6.85%	4.54%	2.09%
Wellington	3.55%	-0.49%	-1.10%	14.14%	4.50%	14.14%	0.62%	9.90%	9.87%
<i>Russell 2000 Index</i>		-0.93%	-3.28%	10.06%	1.73%	10.06%	-2.58%	6.94%	7.00%
<i>Excess Return</i>		0.43%	2.17%	4.09%	2.76%	4.09%	3.20%	2.96%	2.87%

(1) The Domestic Equity Benchmark is the Russell 3000 Index as of 7/1/2021.

(2) TSW Blended Benchmark is the Russell 2500 Value Index as of 7/1/2019. Prior to 7/1/2019 it was the Russell 2500.

The table below details the rates of return for the fund's investment managers over various time periods ended June 30, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended June 30, 2024									
Composite	Total Fund Weighting As of 6/30/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Non US Equity	18.96%	-0.52%	-0.22%	11.31%	5.78%	11.31%	1.47%	5.80%	4.57%
Non US Equity Benchmark (1)		-0.10%	0.96%	11.62%	5.69%	11.62%	0.46%	5.55%	3.84%
Excess Return		-0.42%	-1.18%	-0.32%	0.09%	-0.32%	1.01%	0.25%	0.73%
Core Non US Equity	11.50%	-1.40%	-0.30%	11.12%	5.33%	11.12%	3.09%	5.95%	4.11%
Core Non US Benchmark (2)		-0.10%	0.96%	11.62%	5.69%	11.62%	0.46%	5.55%	3.84%
Excess Return		-1.30%	-1.26%	-0.50%	-0.36%	-0.50%	2.64%	0.40%	0.26%
Aristotle	1.46%	-2.21%	-0.88%	8.16%	2.74%	8.16%	0.82%	-	-
MSCI EAFE		-1.61%	-0.42%	11.54%	5.34%	11.54%	2.89%	-	-
Excess Return		-0.59%	-0.46%	-3.38%	-2.60%	-3.38%	-2.07%	-	-
Artisan Partners	3.33%	-0.58%	-1.26%	13.97%	8.60%	13.97%	1.55%	5.32%	-
MSCI EAFE		-1.61%	-0.42%	11.54%	5.34%	11.54%	2.89%	6.46%	-
Excess Return		1.03%	-0.84%	2.43%	3.26%	2.43%	-1.35%	-1.14%	-
BlackRock SuperFund	1.63%	-0.12%	1.14%	11.68%	5.85%	11.68%	-	-	-
MSCI ACWI Ex-US		-0.10%	0.96%	11.62%	5.69%	11.62%	-	-	-
Excess Return		-0.02%	0.18%	0.05%	0.16%	0.05%	-	-	-
Causeway Capital	3.68%	-2.28%	1.30%	10.71%	4.29%	10.71%	7.44%	9.45%	-
MSCI EAFE		-1.61%	-0.42%	11.54%	5.34%	11.54%	2.89%	6.46%	-
Excess Return		-0.67%	1.72%	-0.83%	-1.05%	-0.83%	4.55%	2.98%	-
Lazard	1.39%	-1.62%	-3.12%	8.23%	2.76%	8.23%	-0.20%	-	-
MSCI EAFE		-1.61%	-0.42%	11.54%	5.34%	11.54%	2.89%	-	-
Excess Return		-0.01%	-2.70%	-3.30%	-2.58%	-3.30%	-3.10%	-	-
Emerging Markets	1.47%	0.79%	2.68%	9.43%	6.57%	9.43%	-6.49%	0.76%	1.59%
MSCI EM		3.94%	5.00%	12.55%	7.49%	12.55%	-5.07%	3.10%	2.79%
Excess Return		-3.16%	-2.32%	-3.12%	-0.92%	-3.12%	-1.42%	-2.34%	-1.20%
Wellington Emerging Markets	1.47%	0.79%	2.68%	9.43%	6.57%	9.43%	-6.46%	0.66%	2.47%
MSCI EM		3.94%	5.00%	12.55%	7.49%	12.55%	-5.07%	3.10%	2.79%
Excess Return		-3.16%	-2.32%	-3.12%	-0.92%	-3.12%	-1.39%	-2.43%	-0.32%
Non US Small Cap	1.12%	-3.75%	-3.42%	8.67%	0.87%	8.67%	-5.13%	0.66%	-0.51%
MSCI EAFE Small Cap		-3.04%	-1.84%	7.78%	0.51%	7.78%	-3.35%	4.19%	4.30%
Excess Return		-0.71%	-1.58%	0.88%	0.36%	0.88%	-1.78%	-3.53%	-4.80%
Wellington Int'l Small Cap Research	1.12%	-3.75%	-3.42%	8.67%	0.87%	8.67%	-	-	-
MSCI EAFE Small Cap		-3.04%	-1.84%	7.78%	0.51%	7.78%	-	-	-
Excess Return		-0.71%	-1.58%	0.88%	0.36%	0.88%	-	-	-
Global Equity	4.87%	2.03%	-0.12%	12.97%	7.82%	12.97%	5.25%	10.53%	10.59%
MSCI ACWI net		2.23%	2.87%	19.38%	11.30%	19.38%	5.43%	10.76%	8.43%
Excess Return		-0.20%	-2.99%	-6.41%	-3.48%	-6.41%	-0.18%	-0.22%	2.15%
Walter Scott Global Equity	4.87%	2.03%	-0.12%	12.97%	7.82%	12.97%	5.25%	10.53%	10.59%
Walter Scott Blended Benchmark (3)		2.23%	2.87%	19.38%	11.30%	19.38%	5.43%	10.76%	8.43%
Excess Return		-0.20%	-2.99%	-6.41%	-3.48%	-6.41%	-0.18%	-0.22%	2.15%

(1) The Non US Equity Index is the MSCI ACWI ex US Index as of 7/1/2003. Prior to 7/1/2003 it was the MSCI EAFE Index.
 (2) The Core Non US Equity Index is the MSCI ACWI ex US as of 7/1/2007. Prior to 7/1/2007 it was the MSCI EAFE Index.
 (3) The Walter Scott Blended Benchmark is the MSCI ACWI Index as 5/1/2008. Prior to 5/1/2008 it was the MSCI EAFE Index.

The table below details the rates of return for the fund's investment managers over various time periods ended June 30, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Composite	Net of Fees Returns for Periods Ended June 30, 2024								
	Total Fund Weighting As of 6/30/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Fixed Income	19.14%	0.73%	-0.04%	3.50%	-0.58%	3.50%	-2.25%	1.04%	1.90%
<i>Fixed Income Benchmark (1)</i>		0.91%	0.19%	3.47%	-0.28%	3.47%	-2.68%	0.11%	1.63%
<i>Excess Return</i>		-0.18%	-0.23%	0.03%	-0.30%	0.03%	0.43%	0.93%	0.27%
BlackRock SIO Bond Fund	2.22%	0.90%	0.75%	6.89%	1.45%	6.89%	0.85%	2.57%	-
<i>BlackRock Custom Benchmark (2)</i>		0.41%	1.37%	5.49%	2.72%	5.49%	3.19%	2.29%	-
<i>Excess Return</i>		0.49%	-0.61%	1.39%	-1.27%	1.39%	-2.35%	0.28%	-
Brandywine Asset Mgmt	1.82%	-0.52%	-2.65%	-3.29%	-7.31%	-3.29%	-6.90%	-1.74%	-0.05%
<i>Brandywine Custom Benchmark (3)</i>		-0.10%	-1.83%	-1.06%	-4.38%	-1.06%	-7.07%	-3.29%	-1.24%
<i>Excess Return</i>		-0.42%	-0.82%	-2.23%	-2.92%	-2.23%	0.17%	1.55%	1.19%
FIAM (Fidelity) Tactical Bond	3.08%	0.78%	-0.01%	3.62%	-0.16%	3.62%	-1.28%	1.84%	-
<i>Bloomberg Aggregate</i>		0.95%	0.07%	2.63%	-0.71%	2.63%	-3.02%	-0.23%	-
<i>Excess Return</i>		-0.16%	-0.08%	0.99%	0.55%	0.99%	1.75%	2.08%	-
Income Research & Management	6.43%	0.90%	0.13%	3.12%	-0.25%	3.12%	-3.00%	0.36%	1.83%
<i>Bloomberg Gov/Credit</i>		0.87%	0.05%	2.74%	-0.68%	2.74%	-3.11%	-0.07%	1.51%
<i>Excess Return</i>		0.03%	0.09%	0.38%	0.42%	0.38%	0.12%	0.43%	0.33%
Loomis Sayles	2.37%	0.85%	0.51%	6.93%	1.17%	6.93%	-0.91%	2.92%	3.12%
<i>Loomis Sayles Custom Benchmark (4)</i>		0.95%	0.43%	5.31%	0.44%	5.31%	-1.38%	1.27%	2.43%
<i>Excess Return</i>		-0.09%	0.09%	1.62%	0.74%	1.62%	0.47%	1.65%	0.70%
Manulife Strategic Fixed Income	1.77%	0.77%	0.25%	4.33%	0.26%	4.33%	-0.95%	1.67%	-
<i>Bloomberg Multiverse</i>		0.15%	-1.03%	1.30%	-2.95%	1.30%	-5.26%	-1.84%	-
<i>Excess Return</i>		0.62%	1.28%	3.03%	3.21%	3.03%	4.30%	3.51%	-
Mellon US Agg Bond Index	1.46%	0.95%	0.07%	2.64%	-0.71%	2.64%	-	-	-
<i>Bloomberg Aggregate Bond Index</i>		0.95%	0.07%	2.63%	-0.71%	2.63%	-	-	-
<i>Excess Return</i>		0.00%	0.01%	0.01%	0.00%	0.01%	-	-	-
Total Cash	1.61%	0.44%	1.30%	5.48%	2.65%	5.48%	3.14%	2.25%	1.60%
<i>3-month Treasury Bill</i>		0.41%	1.32%	5.40%	2.63%	5.40%	3.03%	2.16%	1.51%
<i>Excess Return</i>		0.03%	-0.02%	0.08%	0.02%	0.08%	0.11%	0.10%	0.09%
Total Marketable Assets	71.99%	0.75%	0.50%	12.37%	5.96%	12.37%	2.66%	7.13%	6.42%
<i>Total Marketable Index (5)</i>		1.52%	1.62%	13.34%	6.76%	13.34%	2.57%	7.19%	6.68%
<i>Excess Return</i>		-0.77%	-1.12%	-0.97%	-0.80%	-0.97%	0.08%	-0.06%	-0.26%

(1) The Fixed Income Benchmark is the Bloomberg Universal Bond Index as of 7/1/2007.

(2) The BlackRock Custom Benchmark is 3 Month SOFR compounded in arrears as of 1/1/2022.

(3) The Brandywine Blended Benchmark is the FTSE WGBI Ex-China Index as of 11/1/2021.

(4) The Loomis Sayles Custom Benchmark is 65% Bloomberg Aggregate and 35% Bloomberg High Yield.

(5) Marketable Assets Index is 40% Russell 3000, 26.7% MSCI ACWI ex US, and 33.3% Bloomberg Universal as of 7/1/2021.

The table below details the rates of return for the fund's investment managers over various time periods ended June 30, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended June 30, 2024									
Composite	Total Fund Weighting As of 6/30/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Real Estate (Q2)* (5)	9.24%	-1.32%	-2.56%	-7.20%	-5.39%	-7.20%	3.64%	5.96%	8.29%
<i>Real Estate Benchmark (1)</i>		-0.22%	-0.66%	-9.99%	-3.22%	-9.99%	1.02%	2.27%	5.47%
<i>Excess Return</i>		-1.10%	-1.90%	2.79%	-2.17%	2.79%	2.62%	3.69%	2.82%
Strategic Core Real Estate (Q2)*	5.40%	-3.06%	-4.28%	-9.88%	-8.28%	-9.88%	2.18%	3.77%	7.05%
<i>Real Estate Benchmark (1)</i>		-0.22%	-0.66%	-9.99%	-3.22%	-9.99%	1.02%	2.27%	5.47%
<i>Excess Return</i>		-2.84%	-3.62%	0.12%	-5.06%	0.12%	1.16%	1.50%	1.58%
Tactical Non-Core Real Estate (Q2)*	3.84%	1.27%	-0.01%	-3.02%	-0.84%	-3.02%	6.02%	9.78%	10.51%
<i>Real Estate Benchmark (1)</i>		-0.22%	-0.66%	-9.99%	-3.22%	-9.99%	1.02%	2.27%	5.47%
<i>Excess Return</i>		1.49%	0.66%	6.97%	2.38%	6.97%	5.00%	7.51%	5.03%
Total Alternative Assets (Q2)*	18.77%	2.42%	2.75%	5.20%	3.73%	5.20%	5.86%	10.70%	9.02%
<i>Alternative Assets Benchmark (2)</i>		2.39%	3.12%	20.79%	10.91%	20.79%	10.28%	13.63%	11.58%
<i>Excess Return</i>		0.03%	-0.37%	-15.58%	-7.18%	-15.58%	-4.42%	-2.93%	-2.56%
Total Private Equity (Q2)*	14.02%	2.38%	2.72%	5.05%	3.67%	5.05%	5.70%	13.01%	11.58%
<i>Private Equity Benchmark (3)</i>		3.21%	3.72%	25.39%	14.51%	25.39%	12.30%	17.88%	16.10%
<i>Excess Return</i>		-0.83%	-1.00%	-20.33%	-10.84%	-20.33%	-6.60%	-4.87%	-4.52%
Total Private Debt (Q2)*	4.75%	2.55%	2.82%	5.65%	3.90%	5.65%	6.34%	5.53%	5.83%
<i>Private Debt Benchmark (4)</i>		0.73%	1.82%	11.65%	3.81%	11.65%	5.31%	4.92%	5.07%
<i>Excess Return</i>		1.82%	1.00%	-6.00%	0.09%	-6.00%	1.03%	0.60%	0.76%

(1) The Real Estate Benchmark is the NCREIF NFI-ODCE Value Weight Net Index as of 7/1/2015.

(2) The Alternative Assets Benchmark is 66.7% Russell 3000 Index + 2% and 33.3% ((50% MStar LSTA Leveraged Loan 100 Index + 50% Bloomberg High Yield Index) + 1%) as of 7/1/2022.

(3) The Private Equity Benchmark is the Russell 3000 Index + 2% as of 7/1/2022.

(4) The Private Debt Benchmark is (50% MStar LSTA Leveraged Loan 100 Index / 50% Bloomberg High Yield Index) + 1% as of 7/1/2022.

(5) Total Real Estate returns includes Townsend discretionary fee as of 7/1/2022.

*Real Estate and Alternatives market values are not lagged and reflect custodian valuations through FYE (2Q24).

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2024, with the distribution as of May 31, 2024. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	June 30, 2024		Net New Inv.	Inv. Return	May 31, 2024	
	Market Value	Weight			Market Value	Weight
Total Domestic Equity	\$3,941,147,389	32.28%	\$0	\$60,541,314	\$3,880,606,075	32.01%
Large Cap Domestic Equity	\$2,305,420,983	18.88%	\$0	\$79,826,696	\$2,225,594,288	18.36%
Blackrock S&P 500	2,305,420,983	18.88%	0	79,826,696	2,225,594,288	18.36%
SMid Cap Domestic Equity	\$704,220,158	5.77%	\$0	\$(12,754,909)	\$716,975,067	5.91%
AllianceBernstein	445,959,496	3.65%	0	(6,218,531)	452,178,028	3.73%
TSW	258,260,662	2.12%	0	(6,536,377)	264,797,039	2.18%
Small Cap Domestic Equity	\$931,506,248	7.63%	\$0	\$(6,530,473)	\$938,036,720	7.74%
Boston Trust	236,923,311	1.94%	0	(2,705,850)	239,629,160	1.98%
Segall Bryant & Hamill	260,802,217	2.14%	0	(1,905,155)	262,707,371	2.17%
Wellington	433,780,720	3.55%	0	(1,919,469)	435,700,189	3.59%
Total Non US Equity	\$2,314,686,635	18.96%	\$0	\$(11,145,163)	\$2,325,831,798	19.18%
Core Non US Equity (1)	\$1,404,064,350	11.50%	\$0	\$(19,420,800)	\$1,423,485,150	11.74%
Aristotle	177,787,986	1.46%	0	(3,955,558)	181,743,544	1.50%
Artisan Partners	407,062,258	3.33%	0	(2,180,441)	409,242,699	3.38%
BlackRock Superfund	199,447,677	1.63%	0	(232,705)	199,680,382	1.65%
Causeway Capital	449,774,683	3.68%	0	(10,319,570)	460,094,253	3.79%
Lazard	169,339,080	1.39%	0	(2,724,095)	172,063,175	1.42%
Emerging Markets	\$179,813,061	1.47%	\$0	\$1,541,737	\$178,271,324	1.47%
Wellington Emerging Markets	179,813,061	1.47%	0	1,541,737	178,271,324	1.47%
Non US Small Cap	\$136,620,364	1.12%	\$0	\$(5,250,115)	\$141,870,480	1.17%
Wellington Int'l Small Cap Research	136,620,364	1.12%	0	(5,250,115)	141,870,480	1.17%
Global Equity	\$594,188,859	4.87%	\$0	\$11,984,015	\$582,204,844	4.80%
Walter Scott Global Equity	594,188,859	4.87%	0	11,984,015	582,204,844	4.80%
Total Fixed Income	\$2,336,137,563	19.14%	\$0	\$17,366,498	\$2,318,771,064	19.13%
BlackRock SIO Bond Fund	270,789,712	2.22%	0	2,499,255	268,290,457	2.21%
Brandywine Asset Mgmt	221,997,543	1.82%	0	(1,104,055)	223,101,598	1.84%
FIAM (Fidelity) Tactical Bond	375,407,619	3.08%	0	3,007,271	372,400,349	3.07%
Income Research & Management	784,651,371	6.43%	0	7,058,525	777,592,847	6.41%
Loomis Sayles	289,656,164	2.37%	0	2,523,351	287,132,813	2.37%
Manulife Strategic Fixed Income	215,765,425	1.77%	0	1,702,963	214,062,461	1.77%
Mellon US Agg Bond Index	177,869,728	1.46%	0	1,679,188	176,190,539	1.45%
Total Cash	\$196,464,243	1.61%	\$(25,434,694)	\$948,268	\$220,950,669	1.82%
Total Marketable Assets	\$8,788,435,830	71.99%	\$(25,434,694)	\$67,710,917	\$8,746,159,607	72.14%
Total Real Estate	\$1,128,553,548	9.24%	\$2,442,061	\$(13,221,178)	\$1,139,332,665	9.40%
Strategic Core Real Estate	659,725,899	5.40%	(2,971,436)	(19,943,778)	682,641,113	5.63%
Tactical Non-Core Real Estate	468,827,648	3.84%	6,181,696	5,954,401	456,691,551	3.77%
Total Alternative Assets	\$2,291,255,110	18.77%	\$(6,528,374)	\$58,984,680	\$2,238,798,803	18.47%
Private Equity	1,711,322,271	14.02%	(10,235,123)	42,287,655	1,679,269,739	13.85%
Private Debt	579,932,839	4.75%	3,706,749	16,697,026	559,529,065	4.61%
Total Fund Composite	\$12,208,244,488	100.0%	\$(29,521,007)	\$113,474,419	\$12,124,291,075	100.0%

-Alternatives market values reflect current custodian valuations, which may not be up to date.

(1) Includes \$689,161 in legacy assets that are not actively managed and in liquidation following the termination of Fisher Investments.

New Hampshire Retirement System Target History

30-Jun-2022 - 30-Jun-2024		
Domestic Broad		
Eq	Russell 3000 Index	30.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF NFI-ODCE Value Weight Net	10.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Russell 3000 Index+2.00%	10.00%
Other Alternatives	Bloomberg HY Corporate+1.00%	2.50%
Other Alternatives	Morningstar LSTA Leveraged Loan 100+1.00%	2.50%
		100.00%
30-Jun-2021 - 30-Jun-2022		
Domestic Broad		
Eq	Russell 3000 Index	30.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF NFI-ODCE Value Weight Net	10.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+3.00%	10.00%
Other Alternatives	Morningstar LSTA Leveraged Loan 100	5.00%
		100.00%
30-Sep-2020 - 30-Jun-2021		
Domestic Broad		
Eq	S&P 500 Index	30.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF NFI-ODCE Value Weight Net	10.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+3.00%	10.00%
Other Alternatives	Morningstar LSTA Leveraged Loan 100	5.00%
		100.00%
30-Jun-2015 - 30-Sep-2020		
Domestic Broad		
Eq	S&P 500 Index	30.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF NFI-ODCE Value Weight Net	10.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	15.00%
		100.00%
31-Mar-2015 - 30-Jun-2015		
Domestic Broad		
Eq	Russell 3000 Index	37.30%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.70%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	9.00%
		100.00%
31-Dec-2014 - 31-Mar-2015		
Domestic Broad		
Eq	Russell 3000 Index	37.70%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.80%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	8.50%
		100.00%
30-Sep-2014 - 31-Dec-2014		
Domestic Broad		
Eq	Russell 3000 Index	39.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.60%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	7.40%
		100.00%
30-Jun-2014 - 30-Sep-2014		
Domestic Broad		
Eq	Russell 3000 Index	39.60%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.90%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	6.50%
		100.00%
31-Mar-2014 - 30-Jun-2014		
Domestic Broad		
Eq	Russell 3000 Index	42.20%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.60%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	4.20%
		100.00%
31-Dec-2013 - 31-Mar-2014		
Domestic Broad		
Eq	Russell 3000 Index	41.80%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	9.10%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	4.10%
		100.00%
30-Sep-2013 - 31-Dec-2013		
Domestic Broad		
Eq	Russell 3000 Index	42.90%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.60%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	3.50%
		100.00%
30-Jun-2013 - 30-Sep-2013		
Domestic Broad		
Eq	Russell 3000 Index	42.50%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	9.00%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	S&P 500 Index+5.00%	3.50%
		100.00%
31-Mar-2013 - 30-Jun-2013		
Domestic Broad		
Eq	Russell 3000 Index	43.00%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.60%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	3.40%
		100.00%
31-Dec-2012 - 31-Mar-2013		
Domestic Broad		
Eq	Russell 3000 Index	43.60%
Domestic Fixed	Bloomberg Universal	25.00%
Real Estate	NCREIF Property Index+0.50%	8.80%
Intl Equity	MSCI ACWI xUS (Net)	20.00%
Other Alternatives	Alternative Asset Benchmark	2.60%
		100.00%

Alternatives Benchmark represents from 7/1/2022 to present: 66.7% Russell 3000 Idx + 2% (1 qtr lag) and 33.3% ((50% S&P LSTA Leveraged Loan 100 Idx + 50% Bloomberg HY Idx) + 1%) (1 qtr lag).

From 7/1/2019 to 7/1/2022: 66.7% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag). From 7/1/2016 to 7/1/2019: 33.3% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag) + 33.3% of Cash (6-mo USD LIBOR) + 5%. From 7/1/2015 to 7/1/2016: 33.3% S&P 500 +3% (1qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Idx(1 qtr lag) + 33.3% of Cash (1 month USD LIBID) +5%. From 7/1/2013 to 7/1/2015: S&P 500 plus 5% (1 qtr lag). From 7/1/2011 to 7/1/2013: Qtr ending weight of Private Equity x S&P 500 plus 5% + Qtr ending weight Absolute Return x CPI + 5%. Prior to 7/1/2011: CPI + 5%.

New Hampshire Retirement System Target History

30-Sep-2012 - 31-Dec-2012			
Domestic Broad			
Eq	Russell 3000 Index	43.90%	
Domestic Fixed	Bloomberg Universal	25.00%	
Real Estate	NCREIF Property Index+0.50%	8.70%	
Intl Equity	MSCI ACWI xUS (Net)	20.00%	
Other Alternatives	Alternative Asset Benchmark	2.40%	
		100.00%	

31-Dec-2010 - 31-Mar-2011			
Domestic Broad			
Eq	Russell 3000 Index	43.00%	
Domestic Fixed	Bloomberg Universal	30.00%	
Real Estate	NCREIF Property Index+0.50%	5.20%	
Intl Equity	MSCI ACWI xUS (Net)	15.00%	
Other Alternatives	Alternative Asset Benchmark	1.80%	
Global Equity			
Broad	MSCI ACWI (Net)	5.00%	
		100.00%	

30-Jun-2012 - 30-Sep-2012			
Domestic Broad			
Eq	Russell 3000 Index	43.50%	
Domestic Fixed	Bloomberg Universal	25.00%	
Real Estate	NCREIF Property Index+0.50%	9.00%	
Intl Equity	MSCI ACWI xUS (Net)	20.00%	
Other Alternatives	Alternative Asset Benchmark	2.50%	
		100.00%	

30-Sep-2010 - 31-Dec-2010			
Domestic Broad			
Eq	Russell 3000 Index	42.80%	
Domestic Fixed	Bloomberg Universal	30.00%	
Real Estate	NCREIF Property Index+0.50%	5.40%	
Intl Equity	MSCI ACWI xUS (Net)	15.00%	
Other Alternatives	Alternative Asset Benchmark	1.80%	
Global Equity			
Broad	MSCI ACWI (Net)	5.00%	
		100.00%	

30-Jun-2010 - 30-Sep-2010			
Domestic Broad			
Eq	Russell 3000 Index	42.90%	
Domestic Fixed	Bloomberg Universal	30.00%	
Real Estate	NCREIF Property Index+0.50%	5.00%	
Intl Equity	MSCI ACWI xUS (Net)	15.00%	
Other Alternatives	Alternative Asset Benchmark	2.10%	
Global Equity			
Broad	MSCI ACWI (Net)	5.00%	
		100.00%	

31-Dec-2011 - 31-Mar-2012			
Domestic Broad			
Eq	Russell 3000 Index	39.70%	
Domestic Fixed	Bloomberg Universal	30.00%	
Real Estate	NCREIF Property Index+0.50%	8.00%	
Intl Equity	MSCI ACWI xUS (Net)	20.00%	
Other Alternatives	Alternative Asset Benchmark	2.30%	
		100.00%	

30-Sep-2011 - 31-Dec-2011			
Domestic Broad			
Eq	Russell 3000 Index	40.20%	
Domestic Fixed	Bloomberg Universal	30.00%	
Real Estate	NCREIF Property Index+0.50%	7.40%	
Intl Equity	MSCI ACWI xUS (Net)	20.00%	
Other Alternatives	Alternative Asset Benchmark	2.40%	
		100.00%	

31-Dec-2009 - 30-Jun-2010			
Domestic Broad			
Eq	Russell 3000 Index	43.30%	
Domestic Fixed	Bloomberg Universal	30.00%	
Real Estate	NCREIF Property Index+0.50%	4.70%	
Intl Equity	MSCI ACWI xUS (Net)	15.00%	
Other Alternatives	Alternative Asset Benchmark	2.00%	
Global Equity			
Broad	MSCI ACWI (Net)	5.00%	
		100.00%	

30-Sep-2009 - 31-Dec-2009			
Domestic Broad			
Eq	Russell 3000 Index	42.30%	
Domestic Fixed	Bloomberg Universal	30.00%	
Real Estate	NCREIF Property Index+0.50%	5.50%	
Intl Equity	MSCI ACWI xUS (Net)	15.00%	
Other Alternatives	Alternative Asset Benchmark	2.20%	
Global Equity			
Broad	MSCI ACWI (Net)	5.00%	
		100.00%	

30-Jun-2011 - 30-Sep-2011			
Domestic Broad			
Eq	Russell 3000 Index	42.50%	
Domestic Fixed	Bloomberg Universal	30.00%	
Real Estate	NCREIF Property Index+0.50%	5.40%	
Intl Equity	MSCI ACWI xUS (Net)	20.00%	
Other Alternatives	Alternative Asset Benchmark	2.10%	
		100.00%	

31-Mar-2011 - 30-Jun-2011			
Domestic Broad			
Eq	Russell 3000 Index	43.00%	
Domestic Fixed	Bloomberg Universal	30.00%	
Real Estate	NCREIF Property Index+0.50%	5.30%	
Intl Equity	MSCI ACWI xUS (Net)	15.00%	
Other Alternatives	Alternative Asset Benchmark	1.70%	
Global Equity			
Broad	MSCI ACWI (Net)	5.00%	
		100.00%	

30-Jun-2009 - 30-Sep-2009			
Domestic Broad			
Eq	Russell 3000 Index	41.50%	
Domestic Fixed	Bloomberg Universal	30.00%	
Real Estate	NCREIF Property Index+0.50%	6.20%	
Intl Equity	MSCI ACWI xUS (Net)	15.00%	
Other Alternatives	Alternative Asset Benchmark	2.30%	
Global Equity			
Broad	MSCI ACWI (Net)	5.00%	
		100.00%	

Alternatives Benchmark represents from 7/1/2022 to present: 66.7% Russell 3000 Idx + 2% (1 qtr lag) and 33.3% ((50% S&P LSTA Leveraged Loan 100 Idx + 50% Bloomberg HY Idx) + 1%) (1 qtr lag).

From 7/1/2019 to 7/1/2022: 66.7% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag). From 7/1/2016 to 7/1/2019: 33.3% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag) + 33.3% of Cash (6-mo USD LIBOR) + 5%. From 7/1/2015 to 7/1/2016: 33.3% S&P 500 +3% (1qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Idx(1 qtr lag) + 33.3% of Cash (1 month USD LIBID) +5%. From 7/1/2013 to 7/1/2015: S&P 500 plus 5% (1 qtr lag). From 7/1/2011 to 7/1/2013: Qtr ending weight of Private Equity x S&P 500 plus 5% + Qtr ending weight Absolute Return x CPI + 5%. Prior to 7/1/2011: CPI + 5%.

New Hampshire Retirement System Target History

31-Mar-2009 - 30-Jun-2009		
Domestic Broad		
Eq	Russell 3000 Index	38.00%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	9.30%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Alternative Asset Benchmark	2.70%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

31-Dec-2008 - 31-Mar-2009		
Domestic Broad		
Eq	Russell 3000 Index	37.20%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index+0.50%	9.70%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Alternative Asset Benchmark	3.10%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

30-Sep-2008 - 31-Dec-2008		
Domestic Broad		
Eq	Russell 3000 Index	38.90%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index	8.20%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Consumer Price Index (W) + 5%	2.90%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

30-Jun-2008 - 30-Sep-2008		
Domestic Broad		
Eq	Russell 3000 Index	40.00%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index	7.30%
Intl Equity	MSCI ACWI xUS (Net)	15.00%
Other Alternatives	Consumer Price Index (W) + 5%	2.70%
Global Equity		
Broad	MSCI ACWI (Net)	5.00%
		100.00%

30-Jun-2007 - 30-Jun-2008		
Domestic Broad		
Eq	Russell 3000 Index	44.00%
Domestic Fixed	Bloomberg Universal	30.00%
Real Estate	NCREIF Property Index	5.00%
Intl Equity	MSCI ACWI xUS (Net)	16.00%
Other Alternatives	Consumer Price Index (W) + 5%	5.00%
		100.00%

30-Nov-2006 - 30-Jun-2007		
Domestic Broad		
Eq	Russell 3000 Index	44.00%
Domestic Fixed	Bloomberg Universal	26.00%
Real Estate	NCREIF Property Index	5.00%
Intl Equity	MSCI ACWI xUS (Net)	16.00%
Other Alternatives	Consumer Price Index (W) + 5%	5.00%
Global Fixed-Inc	Brandywine Blended Benchmark	4.00%
		100.00%

30-Jun-2003 - 30-Nov-2006		
Domestic Broad		
Eq	Russell 3000 Index	47.00%
Domestic Fixed	Bloomberg Universal	18.00%
Real Estate	NCREIF Property Index	10.00%
Intl Equity	MSCI ACWI xUS (Net)	12.00%
Other Alternatives	Consumer Price Index (W) + 5%	10.00%
Global Fixed-Inc	Brandywine Blended Benchmark	3.00%
		100.00%

31-Oct-1997 - 30-Jun-2003		
Domestic Broad		
Eq	S&P 500 Index	50.00%
Domestic Fixed	Bloomberg Universal	18.00%
Real Estate	NCREIF Property Index	10.00%
Intl Equity	MSCI EAFE (Net)	9.00%
Other Alternatives	Consumer Price Index (W) + 5%	10.00%
Global Fixed-Inc	Brandywine Blended Benchmark	3.00%
		100.00%

31-Mar-1990 - 31-Oct-1997		
Domestic Broad		
Eq	S&P 500 Index	50.00%
Domestic Fixed	Bloomberg Universal	18.00%
Real Estate	NCREIF Property Index	10.00%
Intl Equity	MSCI EAFE (Net)	9.00%
Other Alternatives	Consumer Price Index (W) + 5%	10.00%
Global Fixed-Inc	JPM GBI Global Unhedged USD	3.00%
		100.00%

30-Jun-1975 - 31-Mar-1990		
Domestic Broad		
Eq	S&P 500 Index	50.00%
Real Estate	NCREIF Property Index	10.00%
Intl Equity	MSCI EAFE (Net)	9.00%
Other Alternatives	Consumer Price Index (W) + 5%	10.00%
Global Fixed-Inc	JPM GBI Global Unhedged USD	3.00%
		82.00%

Alternatives Benchmark represents from 7/1/2022 to present: 66.7% Russell 3000 Idx + 2% (1 qtr lag) and 33.3% ((50% S&P LSTA Leveraged Loan 100 Idx + 50% Bloomberg HY Idx) + 1%) (1 qtr lag).

From 7/1/2019 to 7/1/2022: 66.7% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag). From 7/1/2016 to 7/1/2019: 33.3% S&P 500 +3% (1 qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Index (1 qtr lag) + 33.3% of Cash (6-mo USD LIBOR) + 5%. From 7/1/2015 to 7/1/2016: 33.3% S&P 500 +3% (1qtr lag) + 33.3% S&P LSTA Leverage Loan 100 Idx(1 qtr lag) + 33.3% of Cash (1 month USD LIBID) +5%. From 7/1/2013 to 7/1/2015: S&P 500 plus 5% (1 qtr lag). From 7/1/2011 to 7/1/2013: Qtr ending weight of Private Equity x S&P 500 plus 5% + Qtr ending weight Absolute Return x CPI + 5%. Prior to 7/1/2011: CPI + 5%.

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NHRS Asset Allocation Update

NHRS Investment Team
Independent Investment Committee Meeting

December 10, 2024

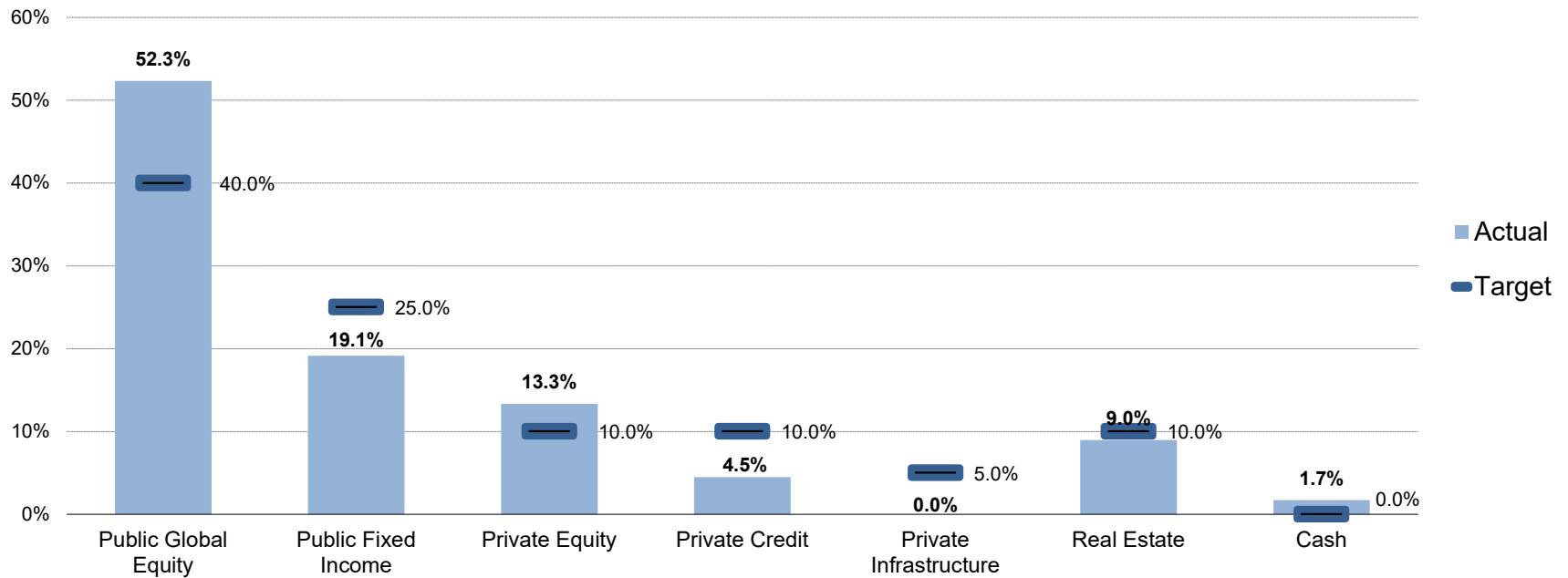
Summary



- On October 31, 2024, the preliminary Total Fund value was approximately \$12.6 billion.
- Current asset allocation targets were approved by the Board of Trustees on December 12, 2023 (targets) and December 14, 2019 (ranges), respectively.
 - The new Target Asset Allocation, approved by the Board in December 2023, took effect at the start of the new fiscal year on July 1, 2024. Implementation will occur over a multi-year timeframe, with interim targets to be determined in subsequent meetings by the Investment Committee.
- Allocations are managed within approved allocation ranges. All asset classes are continually monitored and Staff takes action to prudently rebalance as a range limit is approached.
- Current status of Targets vs. Actual is illustrated on page 2.
- All asset classes are within approved allocation ranges (page 3) as of October 31, 2024.
 - The investment team will adjust the allocation within the target ranges at the conclusion of the ongoing implementation plan for the total plan.
- Total Fund allocation is above and below the target of 70% Equity-like and 30% Fixed Income investments, respectively as of October 31, 2024 (page 4).

Current Status

Class Targets vs. Actual Allocation as of October 31, 2024 (Preliminary)



Figures in bold represent actual allocation amount.

Source: NHRS

Asset Class Allocations Relative to Policy Targets and Ranges



As of October 31, 2024 (preliminary)

Asset Class	Range ¹	Allocation			Objective	Comments
		Target	Actual	Variance		
Public Markets						
Global Equity	TBD	40.0%	52.3%	12.3%	Action	Actual allocation to be reduced over subsequent periods to fund new infrastructure allocation and increase to private credit.
Fixed Income ²	20 - 30%	25.0%	19.1%	-5.9%	Action	Below target allocation but within approved allocation range when cash is included. Rebalancing of portfolio took place on 12/05/2024, actual allocation estimated to be approximately 21% post the rebalance.
Private Markets						
Equity ³	5 - 15%	10.0%	13.3%	3.3%	Monitor	No immediate action needed.
Credit ³	TBD	10.0%	4.5%	-5.5%	Action	To be scaled up incrementally over subsequent periods as part of SAA implementation.
Infrastructure	TBD	5.0%	0.0%	-5.0%	Action	To be scaled up incrementally over subsequent periods as part of SAA implementation.
Real Estate (RE) ³	5 - 20%	10.0%	9.0%	-1.0%	Monitor	No immediate action needed.
Cash Equivalents	NA	0.0%	1.7%	1.7%	No Action	Minimal cash balance to provide liquidity, as needed, for annuities, capital calls and other plan needs.
		100.0%	100.0%	0.0%		

¹New allocation ranges will be established as part of the implementation plan for the updated Strategic Asset Allocation.

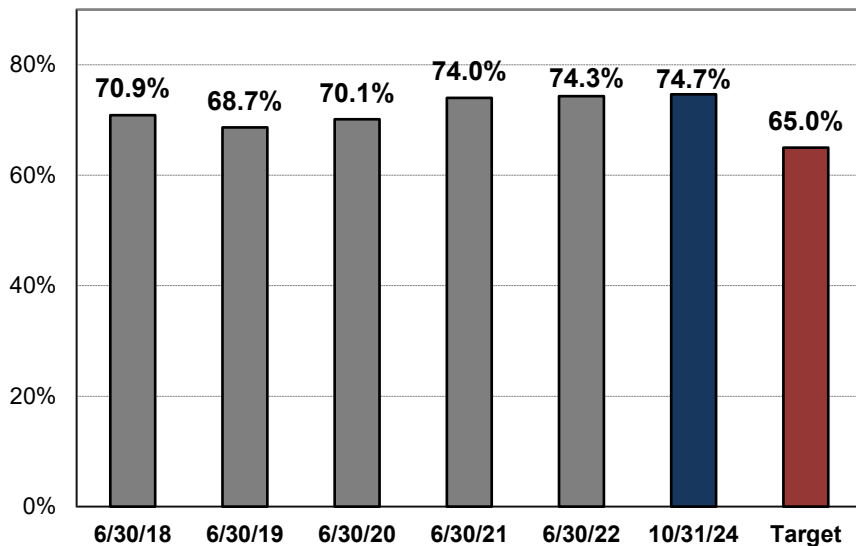
²The investment team will adjust the allocation within the target ranges at the conclusion of the ongoing implementation plan for Global Fixed Income

³As reported on the October 31, 2024 Callan Monthly Review.

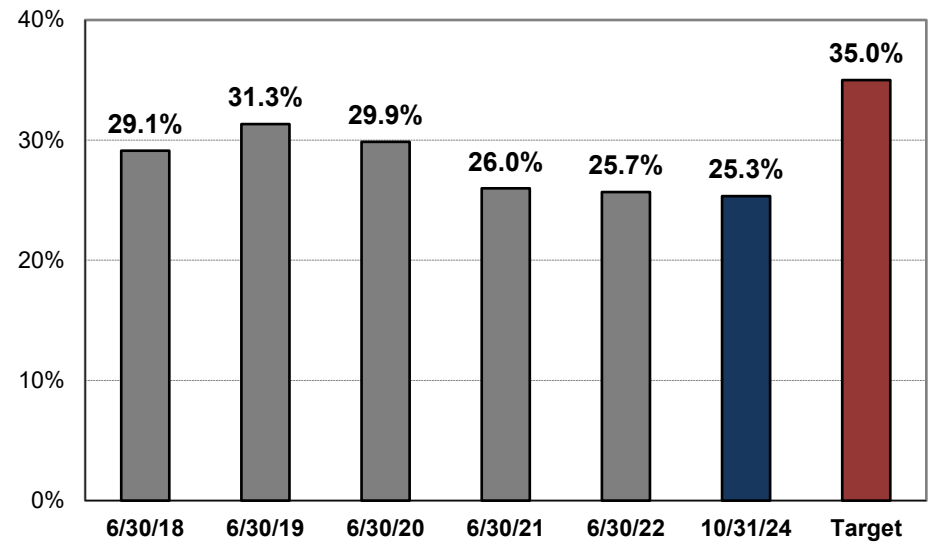
Source: NHRS

- The Total Fund allocation is above and below the target of 70% Equity-like and 30% Fixed Income investments, respectively.

Equity-like Investments



Fixed Income



Source: NHRS

Private Debt & Equity Summary: As of August 31, 2024

<u>IIC Approval</u>	<u>Investment Name</u>	<u>Amount</u>	<u>Strategy</u>
June 2009	Lexington Capital Partners VII	\$ 20,000,000	Secondaries
March 2011	Siguler Guff Distressed Opportunities IV *	\$ 20,000,000	Distressed
April 2011	Avenue Special Situations Fund VI	\$ 20,000,000	Distressed
April 2011	Lexington Capital Partners VII	\$ 20,000,000	Secondaries
May 2011	Industry Ventures Fund VI *	\$ 20,000,000	Secondaries
August 2011	RFE Investment Partners VIII *	\$ 20,000,000	Buyout
August 2011	Tennenbaum Opportunities Fund VI	\$ 20,000,000	Distressed
September 2011	Edgewater Growth Capital Partners Fund III *	\$ 20,000,000	Buyout
November 2011	SL Capital European Smaller Funds I *	\$ 20,000,000 **	Buyout
July 2012	Ironwood Mezzanine Fund III *	\$ 20,000,000	Mezzanine
July 2012	Coller International Partners VI	\$ 20,000,000	Secondaries
December 2012	Paul Capital Partners X *	\$ 12,500,000	Secondaries
February 2013	HarbourVest Dover Street VIII *	\$ 50,000,000	Secondaries
May 2013	Gramercy Distressed Opportunity Fund II *	\$ 50,000,000	Distressed
July 2013	Monroe Capital Senior Secured Direct Loan Fund *	\$ 50,000,000	Direct Lending
September 2013	Industry Ventures Fund VII *	\$ 20,000,000	Secondaries
September 2013	Industry Ventures Partnership Holdings Fund III *	\$ 20,000,000	Venture Capital
October 2013	Pine Brook Capital Partners II	\$ 50,000,000	Growth
February 2014	CCMP Capital Investors III	\$ 50,000,000	Buyout
February 2014	Carlyle Group *	\$ 150,000,000	Growth
March 2014	Crescent Direct Lending Levered Fund *	\$ 50,000,000	Direct Lending
April 2014	Lexington Capital Partners VIII *	\$ 50,000,000	Secondaries
August 2014	Alcentra European Direct Lending Fund	\$ 50,000,000	Direct Lending
August 2014	HarbourVest HIPEP VII *	\$ 50,000,000	Buyout
September 2014	Top Tier Venture Velocity Fund *	\$ 20,000,000	Secondaries
October 2014	BlackRock Private Opportunities Fund - 2014 Series	\$ 150,000,000	Co-Investments
November 2014	NGP Natural Resources XI *	\$ 75,000,000	Energy
January 2015	Comvest Capital III *	\$ 40,000,000	Direct Lending
January 2015	CarVal Investors Credit Value Fund III *	\$ 50,000,000	Multi-sector
April 2015	Coller International Partners VII	\$ 50,000,000	Secondaries
August 2015	Gramercy Distressed Opportunity Fund III *	\$ 50,000,000	Distressed
August 2015	Monroe Capital Private Credit Fund II *	\$ 50,000,000	Direct Lending
August 2015	BlueBay Direct Lending Fund II *	\$ 50,000,000 **	Direct Lending
September 2015	Industry Ventures Partnership Holdings Fund IV *	\$ 20,000,000	Venture Capital
September 2015	Warburg Pincus XII	\$ 64,000,000 ***	Growth
November 2015	HarbourVest Dover Street IX *	\$ 50,000,000	Secondaries
November 2015	Kayne Anderson Energy Fund VII *	\$ 50,000,000	Energy
February 2016	Alcentra European Direct Lending Fund II *	\$ 50,000,000	Direct Lending
February 2016	Riverstone Credit Partners *	\$ 50,000,000	Energy
March 2016	Thoma Bravo Fund XII	\$ 46,000,000 ***	Buyout
October 2016	Comvest Capital IV *	\$ 50,000,000	Direct Lending
December 2016	HarbourVest HIPEP VIII *	\$ 50,000,000	Buyout
January 2017	Actis Energy 4	\$ 50,000,000	Energy
February 2017	Edgewater Growth Capital Partners Fund IV *	\$ 50,000,000	Buyout
February 2017	Top Tier Venture Velocity Fund 2 *	\$ 25,000,000	Secondaries
April 2017	Apollo Investment Fund IX	\$ 40,000,000 ***	Buyout
June 2017	Crescent Direct Lending Levered Fund II *	\$ 50,000,000	Direct Lending
September 2017	Carlyle Asia V *	\$ 50,000,000	Growth
September 2017	CarVal Investors Credit Value Fund IV *	\$ 50,000,000	Multi-sector
October 2017	BlackRock Private Opportunities Fund - 2018 Series	\$ 150,000,000	Co-Investments
November 2017	Riverstone Credit Partners II *	\$ 50,000,000	Energy
February 2018	Industry Ventures Partnership Holdings Fund V *	\$ 25,000,000	Venture Capital
March 2018	BlueBay Direct Lending Fund III *	\$ 50,000,000	Direct Lending
April 2018	Monroe Capital Private Credit Fund III *	\$ 50,000,000	Direct Lending
September 2018	Alcentra European Direct Lending Fund III *	\$ 50,000,000	Direct Lending
September 2018	Thoma Bravo Fund XIII	\$ 50,000,000	Buyout
September 2018	Warburg Pincus Global Growth	\$ 50,000,000	Growth
April 2019	HarbourVest Dover Street X *	\$ 50,000,000	Secondaries
April 2019	Top Tier Venture Velocity Fund 3 *	\$ 25,000,000	Secondaries

Private Debt & Equity Summary: As of August 31, 2024

<u>IIC Approval</u>	<u>Investment Name</u>	<u>Amount</u>	<u>Strategy</u>
March 2020	Coller International Partners VIII	\$ 75,000,000	Secondaries
March 2020	HarbourVest HIPEP IX *	\$ 75,000,000	Buyout
April 2020	Comvest Capital V *	\$ 50,000,000	Direct Lending
September 2020	Thoma Bravo Fund XIV	\$ 50,000,000 ***	Buyout
October 2020	CarVal Investors Credit Value Fund V *	\$ 50,000,000	Multi-sector
October 2020	Industry Ventures Fund IX *	\$ 50,000,000	Secondaries
November 2020	BlackRock Private Opportunities Fund - 2021 Series	\$ 150,000,000	Co-Investments
December 2020	Monroe Capital Private Credit Fund IV *	\$ 50,000,000	Direct Lending
February 2021	Crescent Direct Lending Levered Fund III *	\$ 50,000,000	Direct Lending
June 2021	Industry Ventures Partnership Holdings Fund VI *	\$ 25,000,000	Venture Capital
September 2021	Top Tier Venture Velocity Fund 4 *	\$ 25,000,000	Secondaries
November 2021	Atalaya Special Opportunities Fund VIII	\$ 50,000,000	Specialty Finance
February 2022	Clearlake Capital Partners VII	\$ 50,000,000	Buyout
February 2022	Thoma Bravo Fund XV	\$ 50,000,000	Buyout
March 2022	Comvest Capital VI *	\$ 50,000,000	Direct Lending
March 2022	Warburg Pincus 14	\$ 50,000,000	Growth
May 2022	HarbourVest Dover Street XI *	\$ 50,000,000	Secondaries
May 2023	American Industrial Partners VIII	\$ 50,000,000	Buyout
May 2023	Apollo X	\$ 40,000,000	Buyout
May 2023	Apollo X Co-Investment	\$ 40,000,000	Buyout
Aug / Sept 2023	Ares Pathfinder II	\$ 75,000,000	Specialty Finance
October 2023	Strategic Value Partners Capital Solutions II	\$ 50,000,000	Multi-sector
December 2023	Sixth Street Partners TAO Global	\$ 75,000,000	Multi-sector
February 2024	H.I.G. Capital Advantage Buyout Fund II	\$ 50,000,000	Buyout
February 2024	H.I.G. Capital Advantage Buyout Fund II Co-Investment	\$ 50,000,000	Buyout
June 2024	Ares Senior Direct Lending Fund III	\$ 100,000,000	Direct Lending
August 2024	HarbourVest HIPEP X	\$ 75,000,000	Buyout
August 2024	Oak Hill Advisors Senior Private Lending Fund (OLEND)	\$ 100,000,000	Direct Lending
		\$ 4,357,500,000	

Red indicates Private Equity (\$2,687.5m or 62% of commitments)

Green indicates Private Debt (\$1,670.0m or 38% of commitments)

Investments that are bolded and shaded represent re-ups

* Advisory Board Member (includes observer seats)

** Commitment made in Euros

*** Amount reduced due to oversubscription



September 19, 2024

**New Hampshire Retirement
System – Defined Benefit Plan**

Second Quarter 2024

Executive Summary

Angel G. Haddad

Senior Vice President, Fund Sponsor Consulting

Britton M. Murdoch

Senior Vice President, Fund Sponsor Consulting

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Equity and Bond Markets Mixed in 2Q

Many sectors still have ground to make up to recover losses of 2022

S&P 500 climbed 4.3% in 2Q24

- Emerging markets and non-U.S. small cap equities also posted gains but U.S. small cap and developed non-U.S. stocks fell.

Core fixed income eked out a gain

- The Bloomberg Aggregate rose 0.1% despite rates rising over the quarter due to coupon income offsetting price losses.
- Long duration fixed income and non-U.S. bonds fell.
- Interest rates have been volatile as the markets assess when and how swiftly the Fed will begin easing.
- CPI-U came in at 3.0% (year-over-year) in 2Q, falling sharply from last quarter's 3.5%, and improving the prospects for a rate cut later this year.

Economy reignites in second quarter

- After a weak 1.4% rise in 1Q24, the initial estimate for 2Q24 GDP came in at a brisk 2.8%, with consumer spending and business investment fueling the climb.

Returns for Periods ended 6/30/24

	Quarter	1/1/22 -				
		1 Year	Current	5 Years	10 Years	25 Years
U.S. Equity						
Russell 3000	3.22	23.13	5.96	14.14	12.15	7.82
S&P 500	4.28	24.56	7.29	15.05	12.86	7.67
Russell 2000	-3.28	10.06	-2.18	6.94	7.00	7.60
Global ex-U.S. Equity						
MSCI World ex USA	-0.60	11.22	2.39	6.55	4.27	4.63
MSCI Emerging Markets	5.00	12.55	-2.31	3.10	2.79	--
MSCI ACWI ex USA Small Cap	0.66	11.26	-1.98	6.13	4.44	6.74
Fixed Income						
Bloomberg Aggregate	0.07	2.63	-3.64	-0.23	1.35	3.88
90-day T-Bill	1.32	5.40	3.64	2.16	1.51	1.91
Bloomberg Long Gov/Credit	-1.73	-1.58	-10.91	-2.22	1.65	5.29
Bloomberg Global Agg ex-US	-2.11	-0.66	-7.88	-3.56	-1.86	2.46
Real Estate						
NCREIF Property	-0.26	-5.53	-1.64	3.39	6.07	7.75
FTSE Nareit Equity	0.06	7.79	-5.90	3.90	5.90	9.06
Alternatives						
Cambridge Private Equity*	1.17	5.16	1.70	14.58	13.47	13.37
Cambridge Senior Debt*	0.73	7.73	5.58	6.87	6.73	4.25
HFRI Fund Weighted	0.54	9.80	3.44	6.67	4.77	6.00
Bloomberg Commodity	2.89	5.00	4.79	7.25	-1.29	2.69
CPI-U	0.59	2.97	4.89	4.17	2.80	2.58

*Cambridge Private Equity and Cambridge Senior Debt data as of 3/31/24.

Returns greater than one year are annualized. Sources: Bloomberg, Callan, Cambridge, FTSE Russell, HFRI, MSCI, NCREIF, S&P Dow Jones Indices

Key Observations

NHRS Pension Plan

Asset Allocation and Portfolio Structure

- Overall, the Fund's asset allocation was close to the permissible Policy ranges at quarter-end. The Fund's allocation to defensive positions, including fixed income and cash, represented 20.8% of total assets. The fixed income allocation was slightly below the policy range by 0.8%, partially balanced by a 1.6% allocation to cash equivalent instruments. The Fund had an overweight to domestic equity and alternatives relative to target, and underweight positions to international equity fixed income, and real estate.

Investment Performance

- The Fund had a gross return of 0.49% over the fourth quarter of Fiscal Year 2024, underperforming the market benchmark return of 2.08% and ranking in the 96th percentile of its peers. On a net-of-fees basis, the Fund returned 0.36%
 - The Alternative Assets and Non-U.S. Equity portfolios detracted most from relative performance over the quarter
 - By contrast, the Domestic Equity, Fixed Income, and Real Estate portfolios contributed to performance. The Fund's underweight to Fixed Income and overweight to Alternative Assets contributed to performance.
- Overall, performance is competitive relative to both benchmarks over longer periods measured. The Fund outperformed the peer group median over the long term, ranking in the top 29% of peers for the trailing 10-year period, and in the top 46% of peers over the last 25 years
- The Fund exhibits attractive risk-adjusted performance, as measured by the Sharpe Ratio over the last five years. In addition, relative risk-adjusted scores, as measured by the Excess Return Ratio, are also strong. Both of these ratios ranked in the top 42% of peers

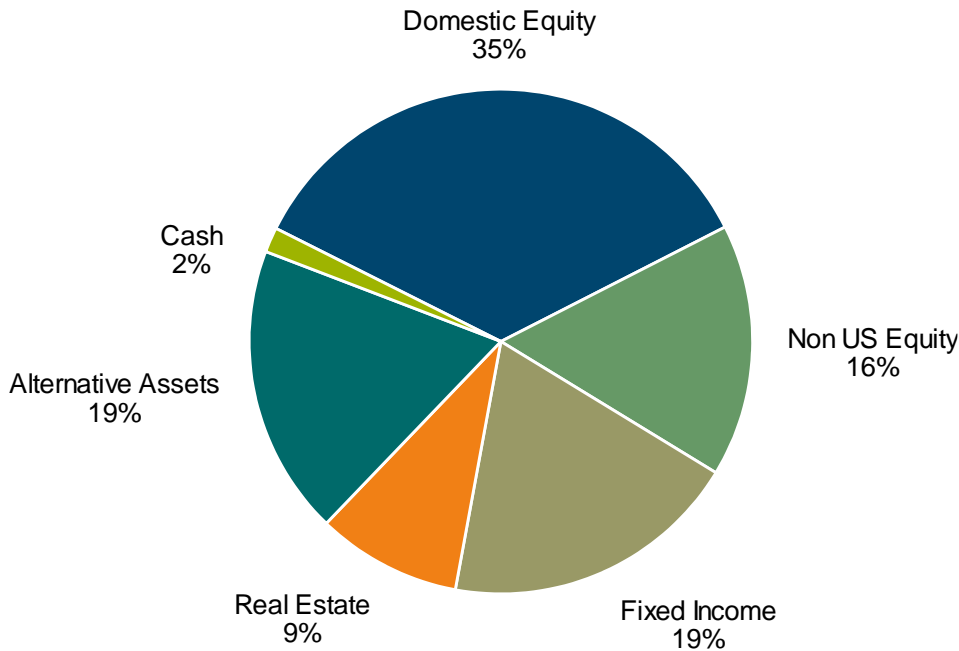
Other Developments

- Callan and NHRS Staff are working to implement the recently approved asset allocation.

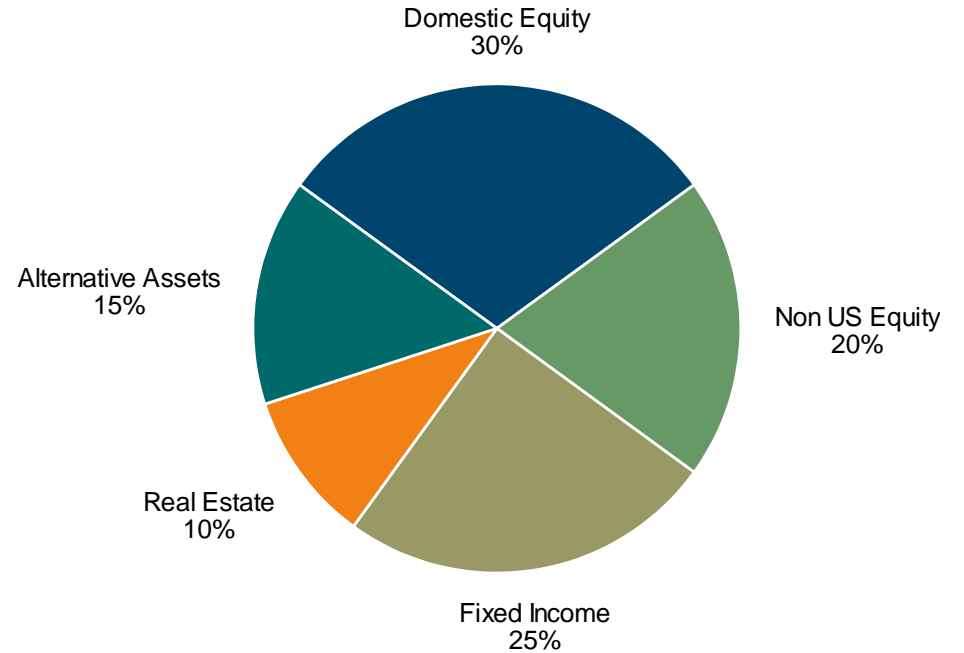
Total Fund

Actual Asset Allocation vs. Target, as of June 30, 2024

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$Millions Actual	Weight Actual	Target	Percent Difference	\$Millions Difference
Domestic Equity	4,282	35.1%	30.0%	5.1%	627
Non US Equity	1,974	16.2%	20.0%	(3.8%)	(462)
Fixed Income	2,336	19.2%	25.0%	(5.8%)	(709)
Real Estate	1,131	9.3%	10.0%	(0.7%)	(87)
Alternative Assets	2,262	18.6%	15.0%	3.6%	435
Cash	196	1.6%	0.0%	1.6%	196
Total	12,181	100.0%	100.0%		

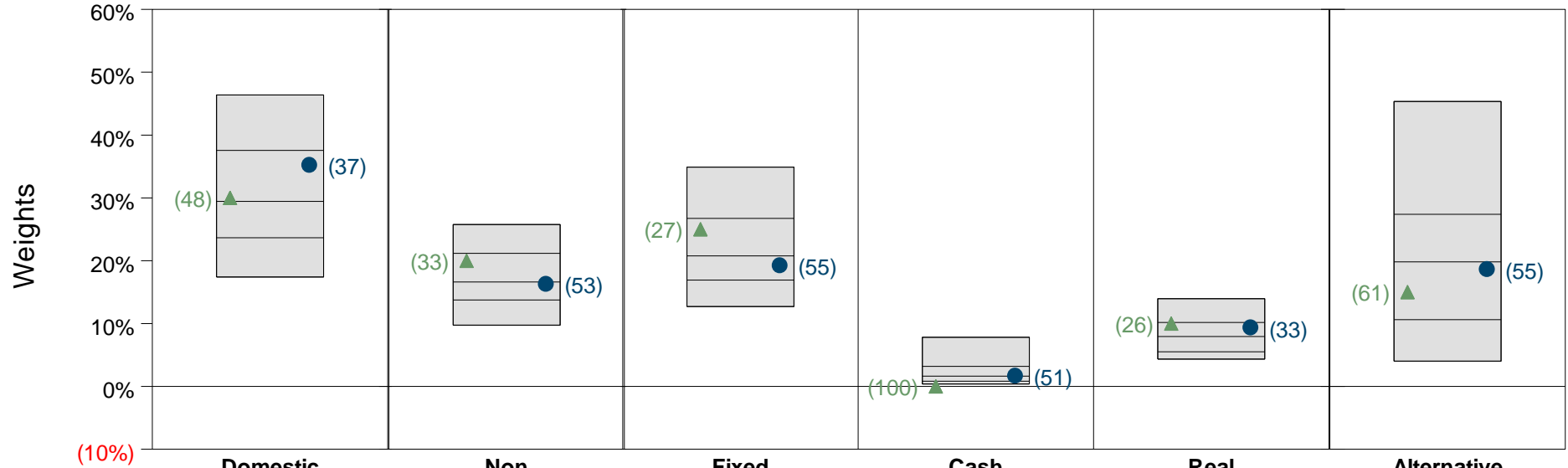
*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

**The United States equity portion of the Walter Scott Global Equity fund is allocated to the Domestic Equity composite.

Total Fund

Actual Asset Allocation vs. Large Public DB Plan (>\$1B) Peer Group, as of June 30, 2024

Asset Class Weights vs Callan Public Fund Spons - Large (>1B)



	Domestic Equity	Non US Equity	Fixed Income	Cash	Real Estate	Alternative Assets
10th Percentile	46.37	25.76	34.91	7.82	13.95	45.35
25th Percentile	37.56	21.18	26.73	3.18	10.17	27.38
Median	29.43	16.60	20.76	1.63	7.95	19.82
75th Percentile	23.64	13.75	16.92	0.82	5.50	10.63
90th Percentile	17.41	9.73	12.70	0.38	4.34	4.00
Fund ●	35.15	16.21	19.18	1.61	9.28	18.57
Target ▲	30.00	20.00	25.00	0.00	10.00	15.00
% Group Invested	100.00%	98.41%	96.83%	85.71%	79.37%	76.92%

*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

Total Fund

Market Values

	June 30, 2024			March 31, 2024		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Domestic Equity	\$3,941,147,389	32.35%	\$(175,000,000)	\$45,982,430	\$4,070,164,959	33.42%
Large Cap Domestic Equity	\$2,305,420,983	18.93%	\$(175,000,000)	\$90,459,599	\$2,389,961,384	19.62%
Blackrock S&P 500	2,305,420,983	18.93%	(175,000,000)	90,459,599	2,389,961,384	19.62%
SMid Cap Domestic Equity	\$704,220,158	5.78%	\$0	\$(30,534,707)	\$734,754,865	6.03%
AllianceBernstein	445,959,496	3.66%	0	(20,512,743)	466,472,240	3.83%
TSW	258,260,662	2.12%	0	(10,021,964)	268,282,626	2.20%
Small Cap Domestic Equity	\$931,506,248	7.65%	\$0	\$(13,942,462)	\$945,448,710	7.76%
Boston Trust	236,923,311	1.95%	0	(7,294,322)	244,217,633	2.01%
Segall Bryant & Hamill	260,802,217	2.14%	0	(2,583,349)	263,385,565	2.16%
Wellington	433,780,720	3.56%	0	(4,064,792)	437,845,512	3.59%
Total Non US Equity *	\$2,314,686,635	19.00%	\$(1,284)	\$(2,091,344)	\$2,316,779,263	19.02%
Core Non US Equity *	\$1,404,064,350	11.53%	\$(1,284)	\$(2,553,161)	\$1,406,618,795	11.55%
Aristotle	177,787,986	1.46%	0	(1,385,973)	179,173,959	1.47%
Artisan Partners	407,062,258	3.34%	0	(4,559,079)	411,621,337	3.38%
BlackRock Superfund	199,447,677	1.64%	0	2,271,909	197,175,769	1.62%
Causeway Capital	449,774,683	3.69%	(86)	6,355,881	443,418,889	3.64%
Lazard	169,339,080	1.39%	0	(5,232,077)	174,571,157	1.43%
Emerging Markets	\$179,813,061	1.48%	\$0	\$5,135,923	\$174,677,138	1.43%
Wellington Emerging Markets	179,813,061	1.48%	0	5,135,923	174,677,138	1.43%
Non US Small Cap	\$136,620,364	1.12%	\$0	\$(4,587,317)	\$141,207,682	1.16%
Wellington Int'l Small Cap Research	136,620,364	1.12%	0	(4,587,317)	141,207,682	1.16%
Global Equity	\$594,188,859	4.88%	\$0	\$(86,789)	\$594,275,648	4.88%
Walter Scott Global Equity	594,188,859	4.88%	0	(86,789)	594,275,648	4.88%

*Includes \$683,533 in legacy assets that are not actively managed and in liquidation following the termination of Fisher

Total Fund

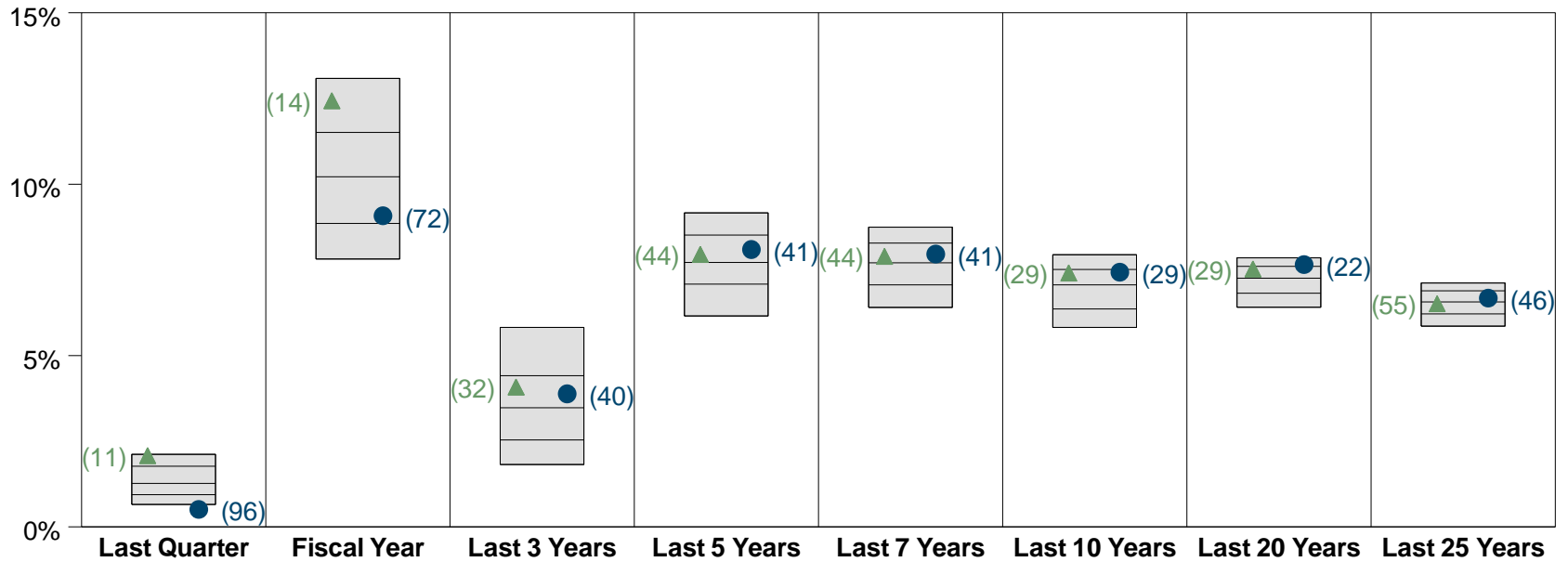
Market Values

	June 30, 2024		Net New Inv.	Inv. Return	March 31, 2024	
	Market Value	Weight			Market Value	Weight
Total Fixed Income	\$2,336,137,563	19.18%	\$0	\$632,558	\$2,335,505,005	19.17%
BlackRock SIO Bond Fund	270,789,712	2.22%	0	2,351,213	268,438,499	2.20%
Brandywine Asset Mgmt	221,997,543	1.82%	0	(5,871,846)	227,869,390	1.87%
FIAM (Fidelity) Tactical Bond	375,407,619	3.08%	0	250,606	375,157,014	3.08%
Income Research & Management	784,651,371	6.44%	0	1,369,572	783,281,800	6.43%
Loomis Sayles	289,656,164	2.38%	0	1,711,272	287,944,892	2.36%
Manulife Strategic Fixed Income	215,765,425	1.77%	0	681,185	215,084,239	1.77%
Mellon US Agg Bond Index	177,869,728	1.46%	0	140,556	177,729,171	1.46%
Total Cash	\$196,464,243	1.61%	\$152,632,893	\$1,911,661	\$41,919,689	0.34%
Total Marketable Assets	\$8,788,435,830	72.15%	\$(22,368,391)	\$46,435,304	\$8,764,368,916	71.96%
Total Real Estate	\$1,130,822,864	9.28%	\$(33,532,402)	\$(23,444,774)	\$1,187,800,040	9.75%
Strategic Core Real Estate	666,562,084	5.47%	(38,758,647)	(20,585,427)	725,906,158	5.96%
Tactical Non-Core Real Estate	464,260,779	3.81%	5,994,445	(3,627,547)	461,893,882	3.79%
Total Alternative Assets	\$2,261,851,512	18.57%	\$(3,647,100)	\$37,690,858	\$2,227,807,754	18.29%
Private Equity	1,685,568,274	13.84%	3,543,048	22,422,245	1,659,602,981	13.63%
Private Debt	576,283,238	4.73%	(7,190,148)	15,268,613	568,204,773	4.67%
Total Fund Composite	\$12,181,110,205	100.00%	\$(59,547,894)	\$60,681,388	\$12,179,976,711	100.00%

Total Fund Performance – Gross of Investment Management Fees

Performance vs. Large Public DB Plan (>\$1B) Peers, as of June 30, 2024

Performance vs Callan Public Fund Large DB (Gross)



10th Percentile	2.12	13.08	5.82	9.16	8.74	7.94	7.85	7.12
25th Percentile	1.77	11.51	4.41	8.52	8.28	7.51	7.60	6.89
Median	1.27	10.21	3.48	7.72	7.70	7.06	7.25	6.56
75th Percentile	0.94	8.85	2.54	7.08	7.06	6.36	6.82	6.22
90th Percentile	0.66	7.82	1.82	6.16	6.41	5.82	6.41	5.86
Total Fund Composite	● 0.49	9.05	3.86	8.07	7.94	7.41	7.63	6.65
Total Fund Benchmark	▲ 2.08	12.43	4.08	7.95	7.89	7.41	7.53	6.51

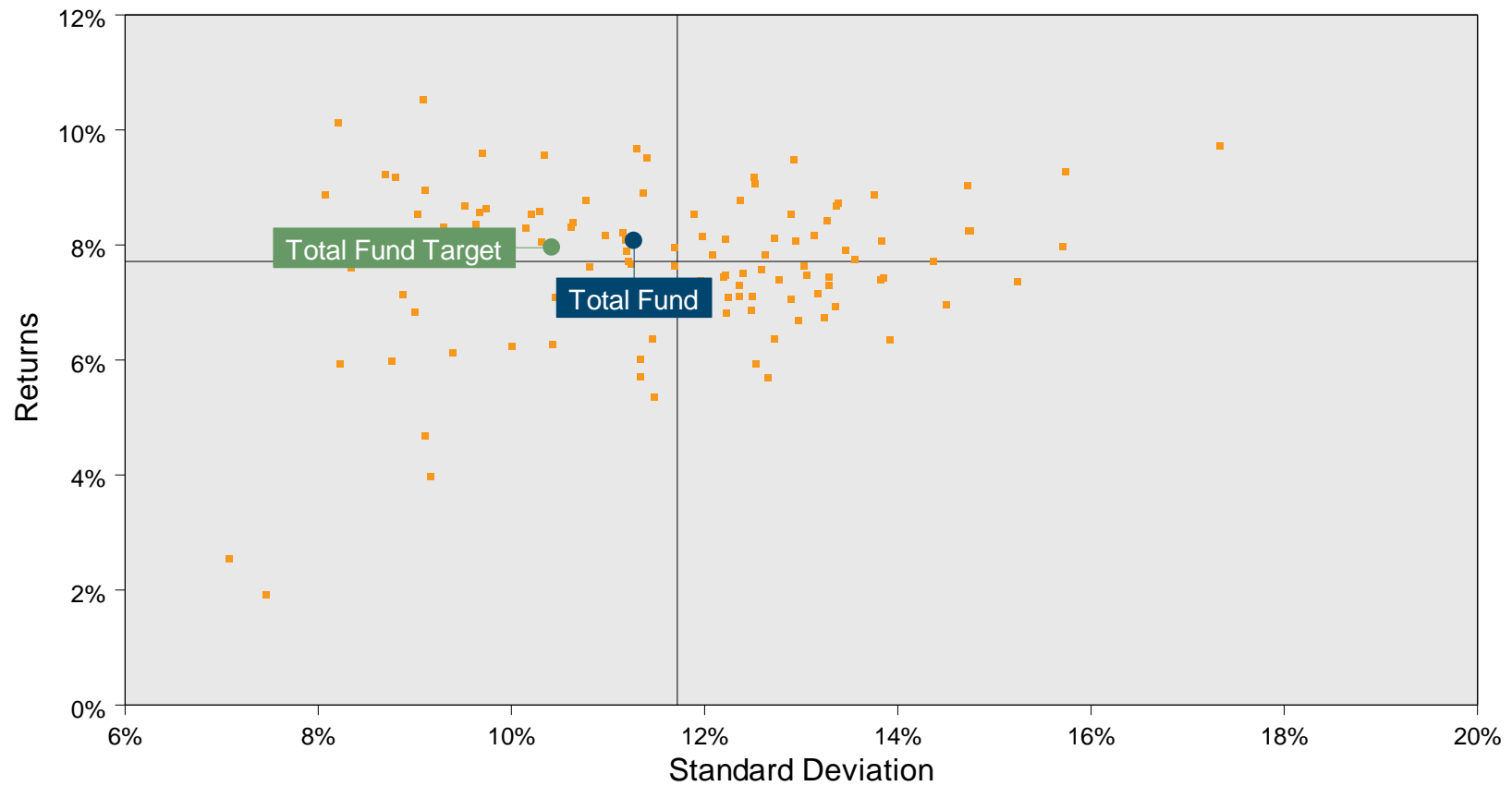
Note: Investment results are shown gross of investment management fees versus corresponding peer group.

*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

Total Fund Performance – Gross of Investment Management Fees

Five-Year Risk/Return Analysis as of June 30, 2024

Five Year Annualized Risk vs Return



Squares represent membership of the Callan Public Fund Spons - Large (>1B)

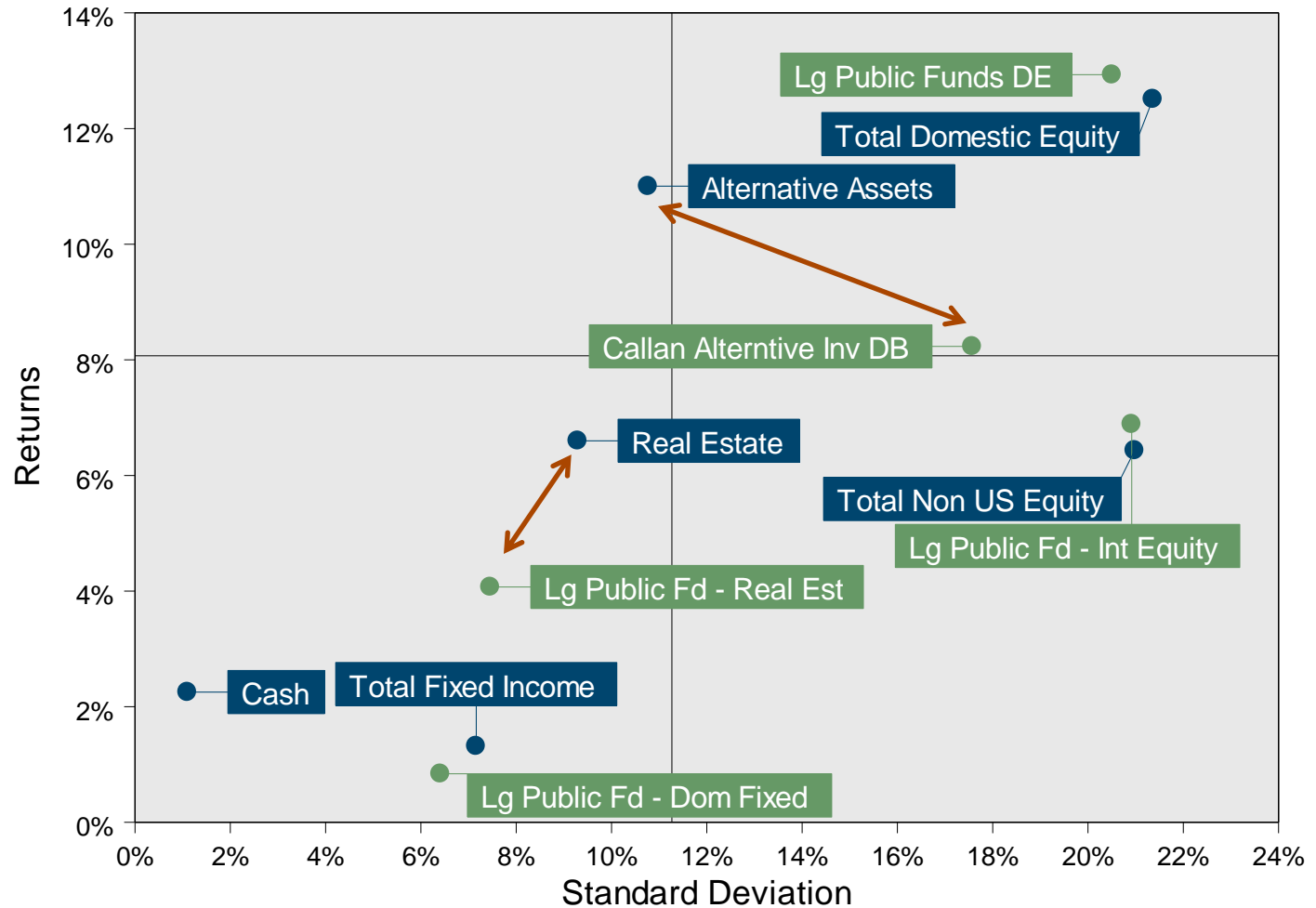
Note: Investment results are shown gross of investment management fees versus corresponding peer group.

*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

Total Fund Performance – Gross of Investment Management Fees

Asset Class Composites – Five-Year Risk/Return Analysis as of June 30, 2024

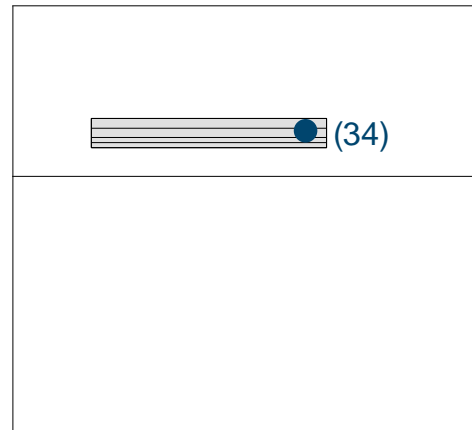
Five Year Annualized Risk vs Return
Asset Classes vs Asset Class Median



Note: Investment results are shown gross of investment management fees.

Total Fund Performance – Gross of Investment Management Fees

Five-Year Sharpe Ratio, as of June 30, 2024



**Sharpe
Ratio**

10th Percentile	0.68
25th Percentile	0.57
Median	0.46
75th Percentile	0.40
90th Percentile	0.34

Total Fund Composite ● 0.52

- Measures absolute risk-adjusted performance, taking into account the risk-free rate and portfolio volatility
- Ranks near the top quartile of the peer group

Note: Investment results are shown gross of investment management fees versus corresponding peer group.

Total Fund Performance – Net of Investment Management Fees

One-Year Attribution Analysis vs. Policy Benchmark, as of June 30, 2024

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	31%	30%	18.95%	23.13%	(1.22%)	0.09%	(1.13%)
Non US Equity	18%	20%	11.31%	11.62%	(0.07%)	(0.01%)	(0.09%)
Fixed Income	20%	25%	3.50%	3.47%	0.01%	0.50%	0.50%
Real Estate	11%	10%	(7.07%)	(12.00%)	0.67%	(0.17%)	0.50%
Alternative Assets	19%	15%	3.71%	25.08%	(4.10%)	0.46%	(3.65%)
Cash	1%	0%	5.48%	5.48%	0.00%	(0.06%)	(0.06%)
Total			8.53%	= 12.43%	+ (4.70%)	+ 0.80%	(3.90%)

What helped relative performance?

- Strong relative performance from the real estate portfolio
- An underweight to fixed income relative to target
- An overweight to alternative assets relative to target
- A slight overweight domestic equity relative to target

What hurt relative performance?

- Weak relative performance from the alternative assets, domestic equity, and non-US equity portfolios
- An overweight to the real estate relative to target
- A slight overweight to cash relative to target

*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

Total Fund Performance – Net of Investment Management Fees

Five-Year Attribution Analysis vs. Policy Benchmark, as of June 30, 2024

Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	30%	30%	12.21%	13.81%	(0.42%)	(0.11%)	(0.53%)
Non US Equity	18%	20%	5.78%	5.55%	0.03%	(0.01%)	0.01%
Fixed Income	21%	25%	1.04%	0.11%	0.19%	0.33%	0.52%
Real Estate	11%	10%	5.98%	2.56%	0.38%	(0.08%)	0.30%
Alternative Assets	19%	15%	10.38%	13.48%	(0.69%)	0.13%	(0.56%)
Cash	1%	0%	2.25%	2.25%	0.00%	(0.07%)	(0.07%)
Total			7.62%	7.95%	+ (0.52%)	+ 0.18%	(0.33%)

What helped relative performance?

- Strong relative performance from real estate, fixed income, and non-U.S. equity portfolios
- An underweight to fixed income relative to target
- An overweight to alternative assets relative to target

What hurt relative performance?

- Weak relative performance from alternative assets and domestic equity portfolios
- A slight underweight to domestic equity and non-U.S. equity relative to target
- A slight overweight to real estate and cash relative to target

*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

Callan

Appendix

Investment Manager Returns – Net of Investment Management Fees

As of June 30, 2024

	Last Quarter	Fiscal Year	Last 3 Years	Last 5 Years
Net of Fees				
Total Domestic Equity	1.28%	18.95%	6.48%	12.21%
Domestic Equity Benchmark (1)	3.22%	23.13%	8.05%	13.81%
Secondary Domestic Equity Bmk (6)	1.02%	18.82%	5.42%	12.19%
Large Cap Domestic Equity	4.35%	24.63%	9.99%	14.24%
S&P 500 Index	4.28%	24.56%	10.01%	15.05%
Blackrock S&P 500	4.35%	24.63%	9.99%	15.00%
SMid Cap Domestic Equity	(4.29%)	10.09%	0.74%	8.46%
Russell 2500 Index	(4.27%)	10.47%	(0.29%)	8.31%
AllianceBernstein	(4.53%)	12.61%	(0.51%)	8.97%
TSW	(3.88%)	5.99%	3.06%	7.61%
TSW Blended Benchmark (2)	(4.31%)	11.24%	2.15%	8.01%
Small Cap Domestic Equity	(1.63%)	12.63%	2.54%	10.25%
Russell 2000 Index	(3.28%)	10.06%	(2.58%)	6.94%
Boston Trust	(3.08%)	7.92%	4.39%	9.59%
Segall Bryant & Hamill	(1.17%)	14.65%	4.27%	11.48%
Wellington	(1.10%)	14.14%	0.62%	9.90%
Total Non US Equity	(0.22%)	11.31%	1.47%	5.80%
Non US Equity Benchmark (3)	0.96%	11.62%	0.46%	5.55%
Core Non US Equity	(0.30%)	11.12%	3.09%	5.95%
Core Non US Benchmark (4)	0.96%	11.62%	0.46%	5.55%
Aristotle	(0.88%)	8.16%	0.82%	-
Artisan Partners	(1.26%)	13.97%	1.55%	5.32%
BlackRock Superfund	1.14%	11.68%	-	-
Causeway Capital	1.30%	10.71%	7.44%	9.45%
Lazard	(3.12%)	8.23%	(0.20%)	-
Emerging Markets	2.68%	9.43%	(6.49%)	0.76%
MSCI EM	5.00%	12.55%	(5.07%)	3.10%
Wellington Emerging Markets	2.68%	9.43%	(6.46%)	0.66%
Non US Small Cap	(3.42%)	8.67%	(5.13%)	0.66%
Wellington Int'l Small Cap Research	(3.42%)	8.67%	-	-
MSCI EAFE Small Cap	(1.84%)	7.78%	(3.35%)	4.19%
Global Equity	(0.12%)	12.97%	5.25%	10.53%
MSCI ACWI net	2.87%	19.38%	5.43%	10.76%
Walter Scott Global Equity	(0.12%)	12.97%	5.25%	10.53%
Walter Scott Blended Benchmark (5)	2.87%	19.38%	5.43%	10.76%

(1) The Domestic Equity Benchmark is the Russell 3000 index as of 7/1/2021. From 7/1/2015 to 6/30/2021 the benchmark was the S&P 500 Index. From 7/1/2003 to 6/30/2015 the benchmark was the Russell 3000 Index. Prior to 7/1/2003 the benchmark was the S&P 500.

(2) TSW Blended Benchmark is the Russell 2500 Value Index as of 7/1/2019. Prior to 7/1/2019 it was the Russell 2500.

(3) The Non US Equity Index is the MSCI ACWI ex US Index as of 7/1/2003. Prior to 7/1/2003 it was the MSCI EAFE Index.

(4) The Core Non US Equity Index is the MSCI ACWI ex US as of 7/1/2007. Prior to 7/1/2007 it was the MSCI EAFE Index.

(5) The Walter Scott Blended Benchmark is the MSCI ACWI Index as 5/1/2008. Prior to 5/1/2008 it was the MSCI EAFE Index.

(6) The Secondary Domestic Equity Bmk consists of 60% S&P 500, 20% Russell 2500, and 20% Russell 2000.

Investment Manager Returns – Net of Investment Management Fees

As of June 30, 2024

	Last Quarter	Fiscal Year	Last 3 Years	Last 5 Years
Net of Fees				
Total Fixed Income	(0.04%)	3.50%	(2.25%)	1.04%
Fixed Income Benchmark (1)	0.19%	3.47%	(2.68%)	0.11%
Bloomberg Aggregate	0.07%	2.63%	(3.02%)	(0.23%)
BlackRock SIO Bond Fund	0.75%	6.89%	0.85%	2.57%
BlackRock Custom Benchmark (2)	1.35%	5.51%	3.05%	2.21%
Brandywine Asset Mgmt	(2.65%)	(3.29%)	(6.90%)	(1.74%)
Brandywine Custom Benchmark (3)	(1.83%)	(1.06%)	(7.07%)	(3.29%)
FIAM (Fidelity) Tactical Bond	(0.01%)	3.62%	(1.28%)	1.84%
Bloomberg Aggregate	0.07%	2.63%	(3.02%)	(0.23%)
Income Research & Management	0.13%	3.12%	(3.00%)	0.36%
Bloomberg Gov/Credit	0.05%	2.74%	(3.11%)	(0.07%)
Loomis Sayles	0.51%	6.93%	(0.91%)	2.92%
Loomis Sayles Custom Benchmark (4)	0.43%	5.31%	(1.38%)	1.27%
Manulife Strategic Fixed Income	0.25%	4.33%	(0.95%)	1.67%
Bloomberg Multiverse	(1.03%)	1.30%	(5.26%)	(1.84%)
Mellon US Agg Bond Index	0.07%	2.64%	-	-
Bloomberg Aggregate	0.07%	2.63%	(3.02%)	(0.23%)
Total Cash	1.30%	5.48%	3.14%	2.25%
3-month Treasury Bill	1.32%	5.40%	3.03%	2.16%
Total Marketable Assets	0.50%	12.37%	2.66%	7.13%
Total Marketable Index (5)	1.62%	13.34%	2.57%	7.19%
Total Real Estate (10)	(2.43%)	(7.07%)	3.69%	5.98%
Real Estate Benchmark (6)	(2.58%)	(12.00%)	2.47%	2.56%
Strategic Core Real Estate	(3.42%)	(9.07%)	2.49%	3.96%
Tactical Non-Core Real Estate	(0.95%)	(3.94%)	5.68%	9.57%
Total Alternative Assets	1.29%	3.71%	5.36%	10.38%
Alternative Assets Benchmark (7)	7.56%	25.08%	10.94%	13.48%
Total Private Equity	1.09%	3.38%	5.14%	12.65%
Private Equity Benchmark (8)	10.40%	31.52%	13.76%	17.92%
Cambridge Global PE Idx 1 Qtr Lag	1.21%	5.00%	7.07%	14.16%
Total Private Debt	1.91%	4.72%	6.03%	5.34%
Private Debt Benchmark (9)	1.96%	12.70%	5.07%	4.88%
Cambridge Private Credit Idx 1 Qtr Lag	1.62%	8.52%	8.78%	8.51%
Total Fund Composite	0.36%	8.53%	3.31%	7.62%
Total Fund Benchmark *	2.08%	12.43%	4.08%	7.95%

*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

(1) The Fixed Income Benchmark is the Bloomberg Capital Universal Bond Index as of 7/1/2007.

(2) The BlackRock Custom Benchmark is 3 Month SOFR compounded in arrears as of 1/1/2022.

(3) The Brandywine Blended Benchmark is the FTSE WGBI Ex-China Index as of 11/1/2021.

(4) The Loomis Sayles Custom Benchmark is 65% Bloomberg Aggregate and 35% Bloomberg High Yield.

(5) Marketable Assets Index is 40% Russell 3000, 26.7% MSCI ACWI ex US, and 33.3% Bloomberg Universal as of 7/1/2021.

(6) The Real Estate Benchmark is the NCREIF NFI-ODCE Value Weight Net Index as of 7/1/2015.

(7) The Alternative Assets Benchmark is 66.7% Russell 3000 Index + 2% and 33.3% ((50% S&P LSTA Leveraged Loan 100 Index + 50% Bloomberg High Yield Index) + 1%) as of 7/1/2022.

(8) The Private Equity Benchmark is the Russell 3000 Index + 2% as of 7/1/2022.

(9) The Private Debt Benchmark is (50% S&P LSTA Leveraged Loan 100 Index & 50% Bloomberg HY Index) + 1% as of 7/1/2022..

(10) Total Real Estate returns includes Townsend discretionary fee as of 7/1/2022.

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Past performance is no guarantee of future results.

June 30, 2024

New Hampshire Retirement System



Redacted Private Markets Report

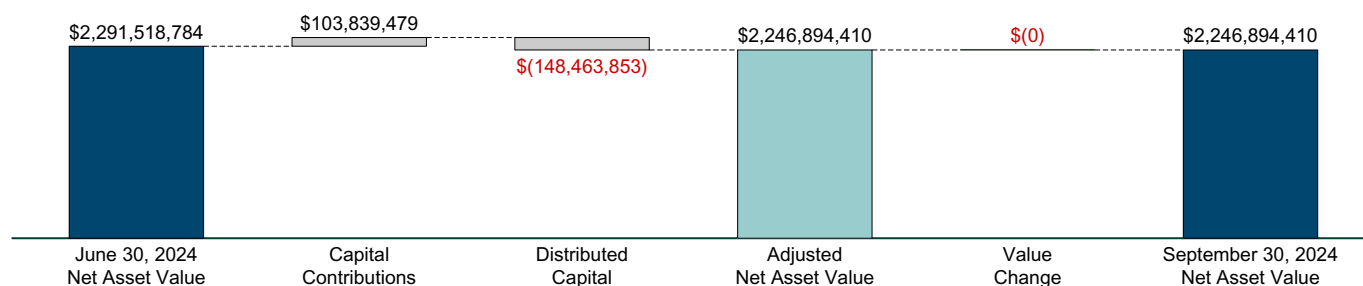
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New Hampshire Retirement System
June 30, 2024

Total Alternatives	3
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Total Alternatives Period Ended September 30, 2024

Quarterly Portfolio Flows	June 30, 2024	Quarterly Change	September 30, 2024
# Partnerships	84	2	86
# General Partners	36	0	36
Capital Committed	\$3,983,147,433	\$154,638,547	\$4,137,785,980
Capital Contributed	\$3,622,896,233	\$103,839,479	\$3,726,735,712
Unfunded Commitments	\$1,034,554,392	\$75,052,292	\$1,109,606,684
Distributed Capital	\$2,859,901,830	\$148,463,853	\$3,008,365,683
Recallable Distributions	\$667,280,515	\$24,100,554	\$691,381,069
Non-Recallable Distributions	\$2,192,621,315	\$124,363,299	\$2,316,984,614
Net Asset Value	\$2,291,518,784	\$(44,624,374)	\$2,246,894,410
Total Distributed Capital and Net Asset Value	\$5,151,420,615	\$103,839,479	\$5,255,260,094

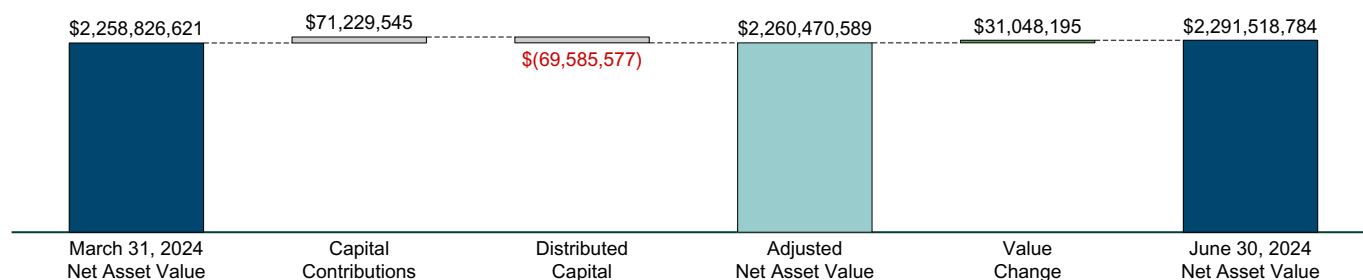
Ratios and Performance	June 30, 2024	Quarterly Change	September 30, 2024
Net Internal Rate of Return, Since Inception	10.32%	(0.24%)	10.07%
Total Value to Paid-in Capital (TVPI)	1.42x	(0.01x)	1.41x
Distributions to Paid-in Capital (DPI)	0.79x	0.02x	0.81x
Residual Value to Paid-in Capital (RVPI)	0.63x	(0.03x)	0.60x
% of Commitments Contributed	90.96%	(0.89%)	90.07%



Total Alternatives Period Ended June 30, 2024

Quarterly Portfolio Flows	March 31, 2024	Quarterly Change	June 30, 2024
# Partnerships	81	3	84
# General Partners	33	3	36
Capital Committed	\$3,809,715,067	\$173,432,367	\$3,983,147,433
Capital Contributed	\$3,551,666,688	\$71,229,545	\$3,622,896,233
Unfunded Commitments	\$920,042,125	\$114,512,267	\$1,034,554,392
Distributed Capital	\$2,790,316,253	\$69,585,577	\$2,859,901,830
Recallable Distributions	\$655,913,472	\$11,367,043	\$667,280,515
Non-Recallable Distributions	\$2,134,402,781	\$58,218,534	\$2,192,621,315
Net Asset Value	\$2,258,826,621	\$32,692,163	\$2,291,518,784
Total Distributed Capital and Net Asset Value	\$5,049,142,874	\$102,277,740	\$5,151,420,615

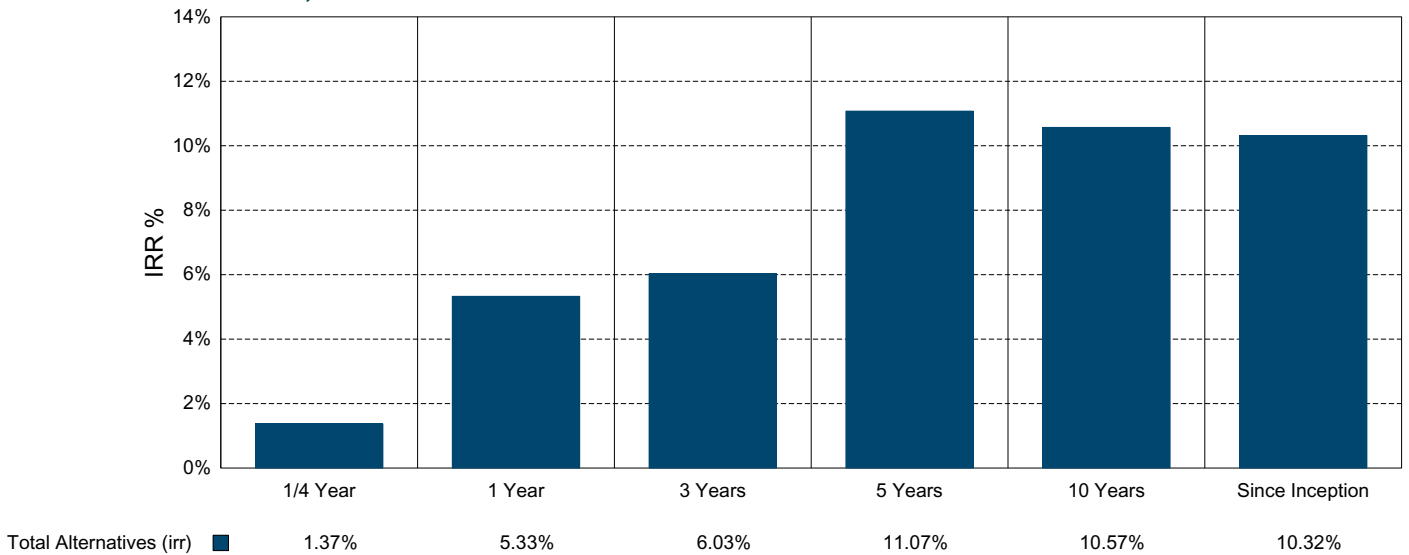
Ratios and Performance	March 31, 2024	Quarterly Change	June 30, 2024
Net Internal Rate of Return, Since Inception	10.43%	(0.11%)	10.32%
Total Value to Paid-in Capital (TVPI)	1.42x	0.00x	1.42x
Distributions to Paid-in Capital (DPI)	0.79x	0.00x	0.79x
Residual Value to Paid-in Capital (RVPI)	0.64x	(0.00x)	0.63x
% of Commitments Contributed	93.23%	(2.27%)	90.96%



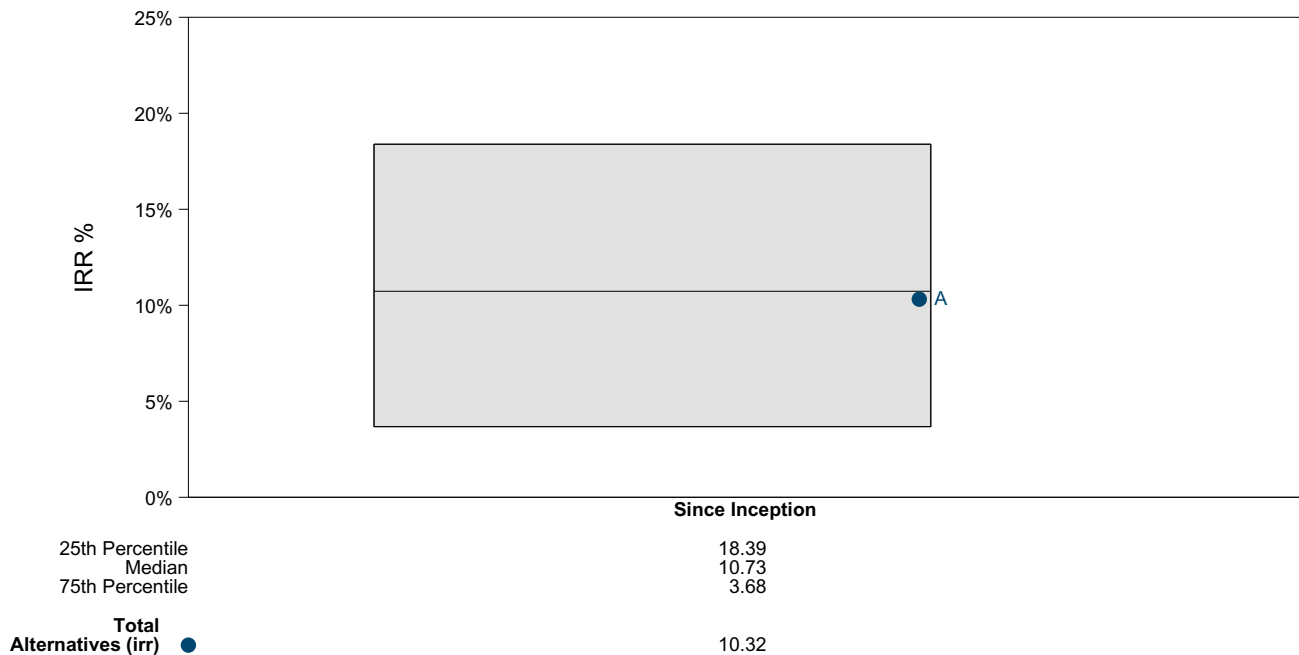
Performance Analysis Total Alternatives

The first chart below compares the performance (internal rate of return) of the fund to its benchmarks over various time periods. The second chart displays the performance of the component investments of the fund by vintage year (inception) along with its benchmark returns.

Cumulative Performance Periods Ended June 30, 2024



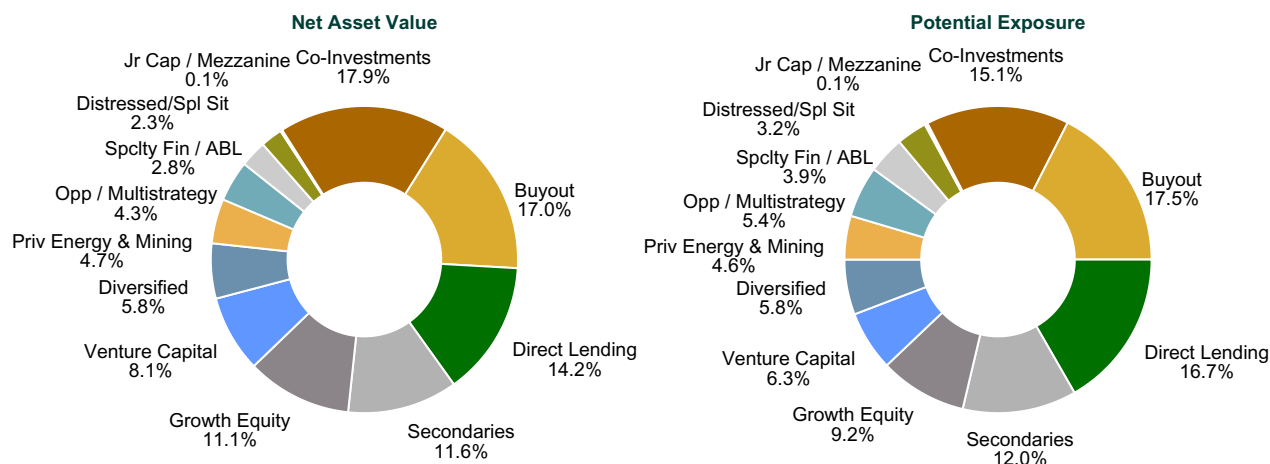
Vintage Year Performance vs. Cambridge Private Markets



Portfolio Diversification Total Alternatives Period Ended June 30, 2024

The following tables illustrate current and potential exposure by Strategy type as of June 30, 2024 in USD millions.

Portfolio Exposure by Strategy Type	Net Asset Value	%	Unfunded Commitments	%	Potential Exposure	%
Co-Investments	\$410	17.89%	\$94	9.07%	\$504	15.15%
Buyout	\$390	17.04%	\$193	18.62%	\$583	17.53%
Direct Lending	\$326	14.21%	\$230	22.26%	\$556	16.71%
Secondaries	\$267	11.63%	\$133	12.89%	\$400	12.02%
Growth Equity	\$254	11.08%	\$53	5.07%	\$306	9.21%
Venture Capital	\$185	8.06%	\$26	2.51%	\$211	6.33%
Diversified	\$134	5.83%	\$59	5.69%	\$193	5.79%
Priv Energy & Mining	\$109	4.74%	\$44	4.26%	\$153	4.59%
Opp / Multistrategy	\$98	4.29%	\$81	7.84%	\$179	5.39%
Spclty Fin / ABL	\$63	2.76%	\$67	6.50%	\$130	3.92%
Distressed/Spl Sit	\$54	2.34%	\$54	5.25%	\$108	3.25%
Jr Cap / Mezzanine	\$3	0.13%	\$0	0.03%	\$3	0.10%
Total Alternatives	\$2,292		\$1,035		\$3,326	



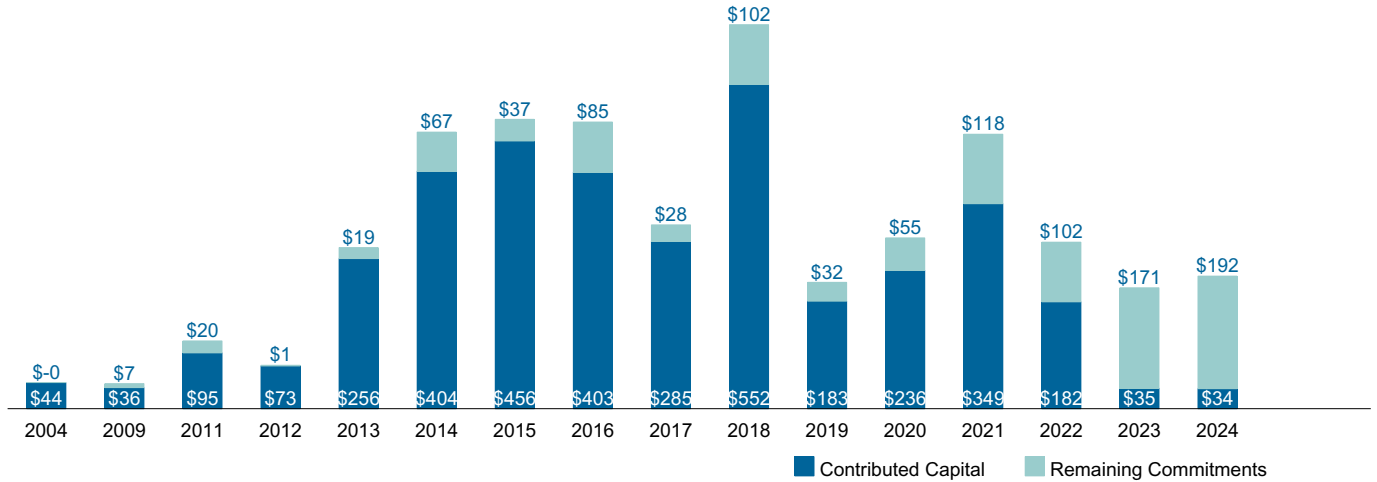
Cash Flow Analysis

Total Alternatives

Period Ended June 30, 2024

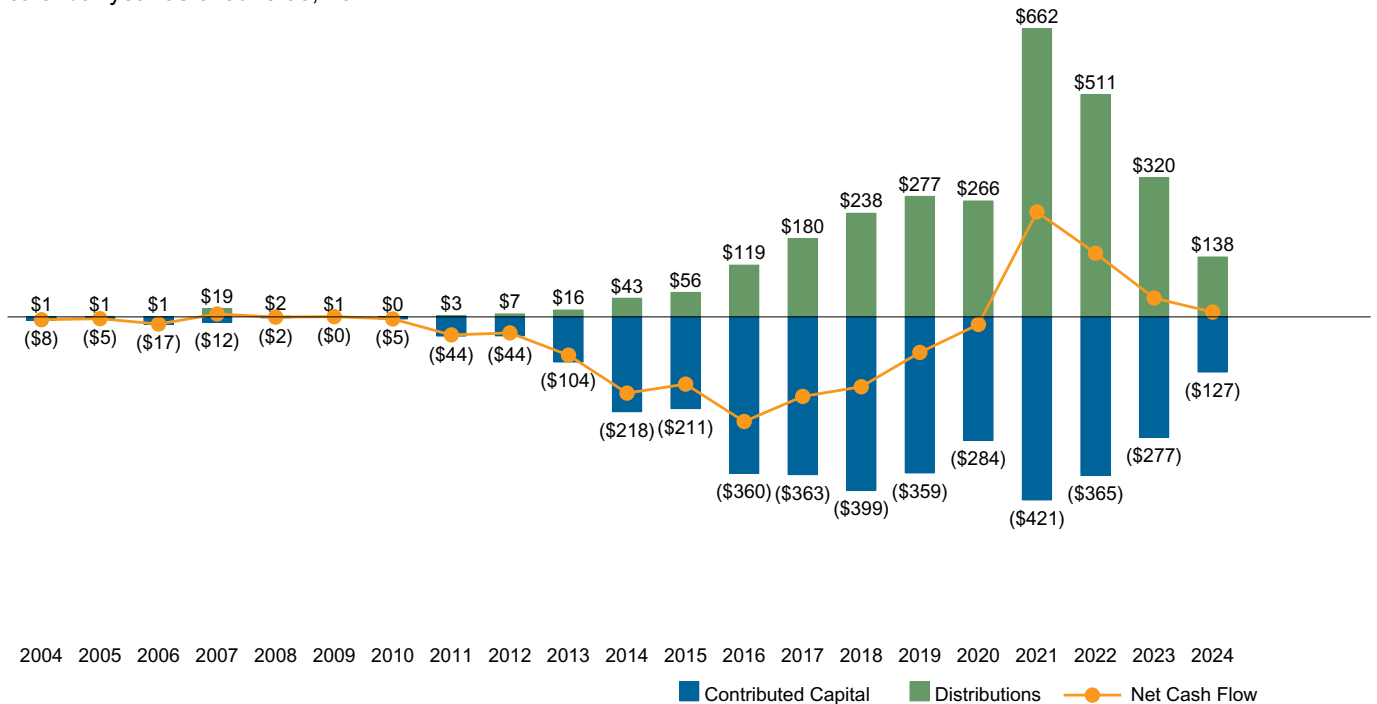
Contributed Capital and Unfunded Commitments

The following chart illustrates contributed capital and the unfunded commitments by vintage year, as of June 30, 2024 in USD millions. Vintage is defined as the clients first cash flow.



Cash Flow by Calendar Year

The following chart illustrates historical capital contributions made, distributions received and the resultant net cash flow by calendar year as of June 30, 2024.

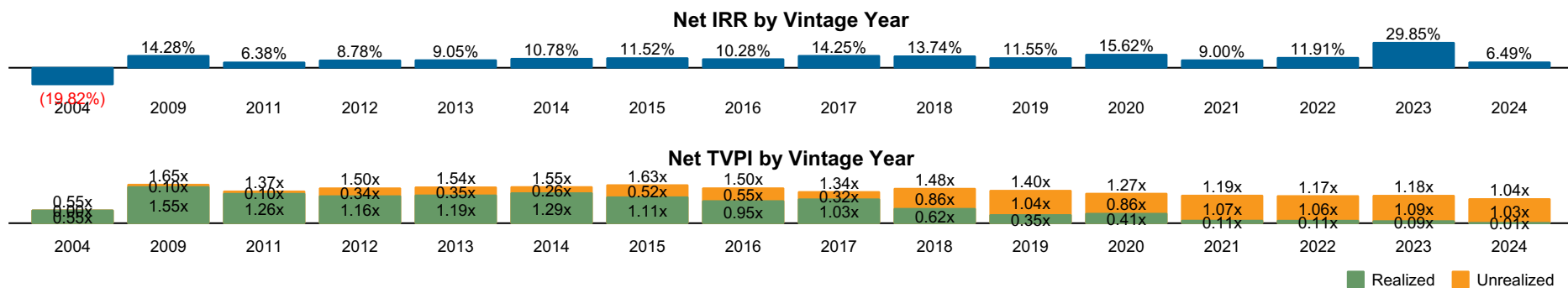


Performance by Vintage Year
Total Alternatives
Period Ended June 30, 2024

The following tables illustrate current performance by Vintage Year as of June 30, 2024 in USD millions.

Portfolio Performance by Vintage Year	Capital Commitments	Capital Contributions	Unfunded Commitments	Distributions	Net Asset Value	DPI	TVPI	TVPI Quartile	Net IRR	Net IRR Quartile
2004	\$30	\$44	\$-0	\$25	\$0	0.55x	0.55x	-	(19.82%)	-
2009	\$40	\$36	\$7	\$56	\$4	1.55x	1.65x	3rd	14.28%	2nd
2011	\$100	\$95	\$20	\$120	\$10	1.26x	1.37x	3rd	6.38%	3rd
2012	\$71	\$73	\$1	\$84	\$25	1.16x	1.50x	3rd	8.78%	3rd
2013	\$240	\$256	\$19	\$305	\$89	1.19x	1.54x	3rd	9.05%	3rd
2014	\$369	\$404	\$67	\$522	\$106	1.29x	1.55x	3rd	10.78%	3rd
2015	\$429	\$456	\$37	\$508	\$237	1.11x	1.63x	3rd	11.52%	3rd
2016	\$409	\$403	\$85	\$382	\$222	0.95x	1.50x	3rd	10.28%	3rd
2017	\$175	\$285	\$28	\$293	\$90	1.03x	1.34x	4th	14.25%	3rd
2018	\$550	\$552	\$102	\$342	\$476	0.62x	1.48x	3rd	13.74%	2nd
2019	\$190	\$183	\$32	\$64	\$191	0.35x	1.40x	3rd	11.55%	3rd
2020	\$225	\$236	\$55	\$96	\$203	0.41x	1.27x	2nd	15.62%	1st
2021	\$450	\$349	\$118	\$39	\$375	0.11x	1.19x	2nd	9.00%	2nd
2022	\$275	\$182	\$102	\$20	\$193	0.11x	1.17x	1st	11.91%	2nd
2023	\$205	\$35	\$171	\$3	\$38	0.09x	1.18x	1st	29.85%	1st
2024	\$225	\$34	\$192	\$0	\$35	0.01x	1.04x	-	6.49%	-
Total Alternatives	\$3,983	\$3,623	\$1,035	\$2,860	\$2,292	0.79x	1.42x	2nd	10.32%	3rd

Performance Metrics by Vintage Year



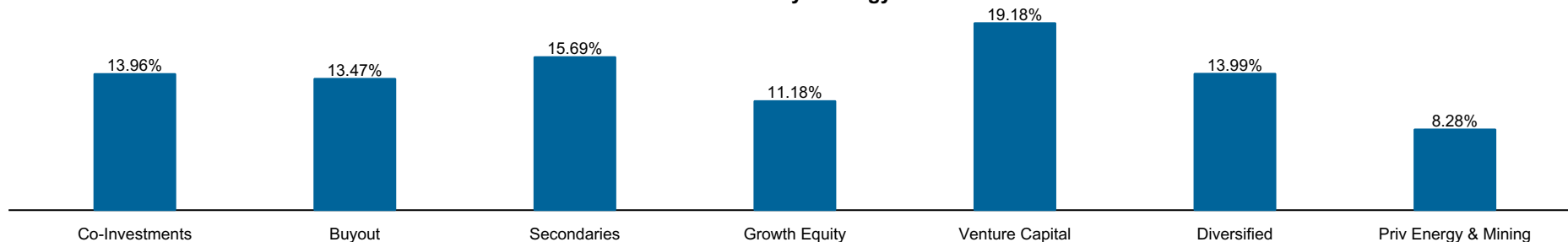
Performance by Strategy Total Private Equity Period Ended June 30, 2024

The following tables illustrate current performance by Strategy type as of June 30, 2024 in USD millions.

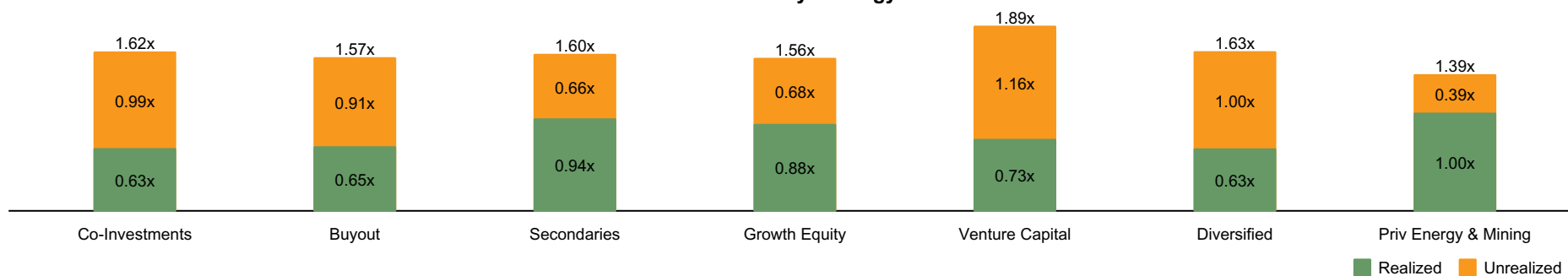
Portfolio Performance by Strategy Type	Capital Commitments	Capital Contributions	Unfunded Commitments	Distributions	Net Asset Value	DPI	TVPI	TVPI Quartile	Net IRR	Net IRR Quartile
Co-Investments	\$490	\$414	\$94	\$263	\$410	0.63x	1.62x	2nd	13.96%	2nd
Buyout	\$566	\$428	\$193	\$279	\$390	0.65x	1.57x	2nd	13.47%	3rd
Secondaries	\$520	\$403	\$133	\$378	\$267	0.94x	1.60x	2nd	15.69%	2nd
Growth Equity	\$363	\$375	\$53	\$331	\$254	0.88x	1.56x	2nd	11.18%	3rd
Venture Capital	\$185	\$159	\$26	\$116	\$185	0.73x	1.89x	2nd	19.18%	1st
Diversified	\$191	\$134	\$59	\$85	\$134	0.63x	1.63x	2nd	13.99%	2nd
Priv Energy & Mining	\$170	\$183	\$22	\$183	\$72	1.00x	1.39x	3rd	8.28%	3rd
Total Private Equity	\$2,485	\$2,097	\$579	\$1,635	\$1,711	0.78x	1.60x	2nd	13.49%	2nd

Performance Metrics by Strategy

Net IRR by Strategy



Net TVPI by Strategy

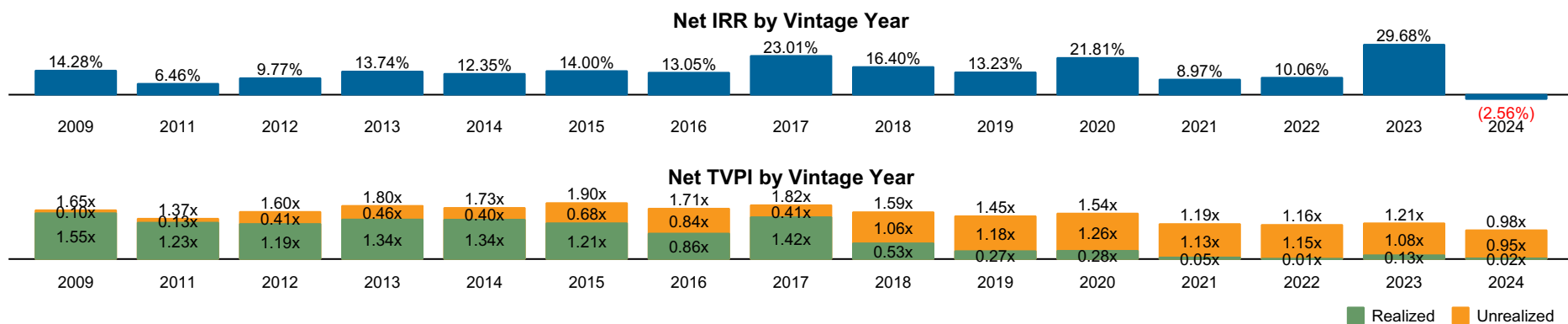


Performance by Vintage Year Total Private Equity Period Ended June 30, 2024

The following tables illustrate current performance by Vintage Year as of June 30, 2024 in USD millions.

Portfolio Performance by Vintage Year	Capital Commitments	Capital Contributions	Unfunded Commitments	Distributions	Net Asset Value	DPI	TVPI	TVPI Quartile	Net IRR	Net IRR Quartile
2009	\$40	\$36	\$7	\$56	\$4	1.55x	1.65x	3rd	14.28%	2nd
2011	\$40	\$38	\$2	\$47	\$5	1.23x	1.37x	3rd	6.46%	3rd
2012	\$51	\$53	\$1	\$63	\$22	1.19x	1.60x	3rd	9.77%	3rd
2013	\$140	\$149	\$14	\$200	\$69	1.34x	1.80x	2nd	13.74%	2nd
2014	\$219	\$242	\$10	\$324	\$97	1.34x	1.73x	3rd	12.35%	3rd
2015	\$339	\$324	\$33	\$393	\$221	1.21x	1.90x	3rd	14.00%	2nd
2016	\$211	\$205	\$35	\$177	\$173	0.86x	1.71x	3rd	13.05%	3rd
2017	\$75	\$79	\$18	\$111	\$32	1.42x	1.82x	2nd	23.01%	2nd
2018	\$350	\$351	\$34	\$187	\$371	0.53x	1.59x	3rd	16.40%	2nd
2019	\$140	\$134	\$16	\$36	\$158	0.27x	1.45x	2nd	13.23%	2nd
2020	\$125	\$86	\$45	\$24	\$109	0.28x	1.54x	1st	21.81%	1st
2021	\$350	\$262	\$95	\$14	\$298	0.05x	1.19x	2nd	8.97%	2nd
2022	\$175	\$99	\$76	\$1	\$114	0.01x	1.16x	1st	10.06%	2nd
2023	\$130	\$23	\$107	\$3	\$25	0.13x	1.21x	1st	29.68%	1st
2024	\$100	\$16	\$84	\$0	\$16	0.02x	0.98x	-	(2.56%)	-
Total Private Equity	\$2,485	\$2,097	\$579	\$1,635	\$1,711	0.78x	1.60x	2nd	13.49%	2nd

Performance Metrics by Vintage Year

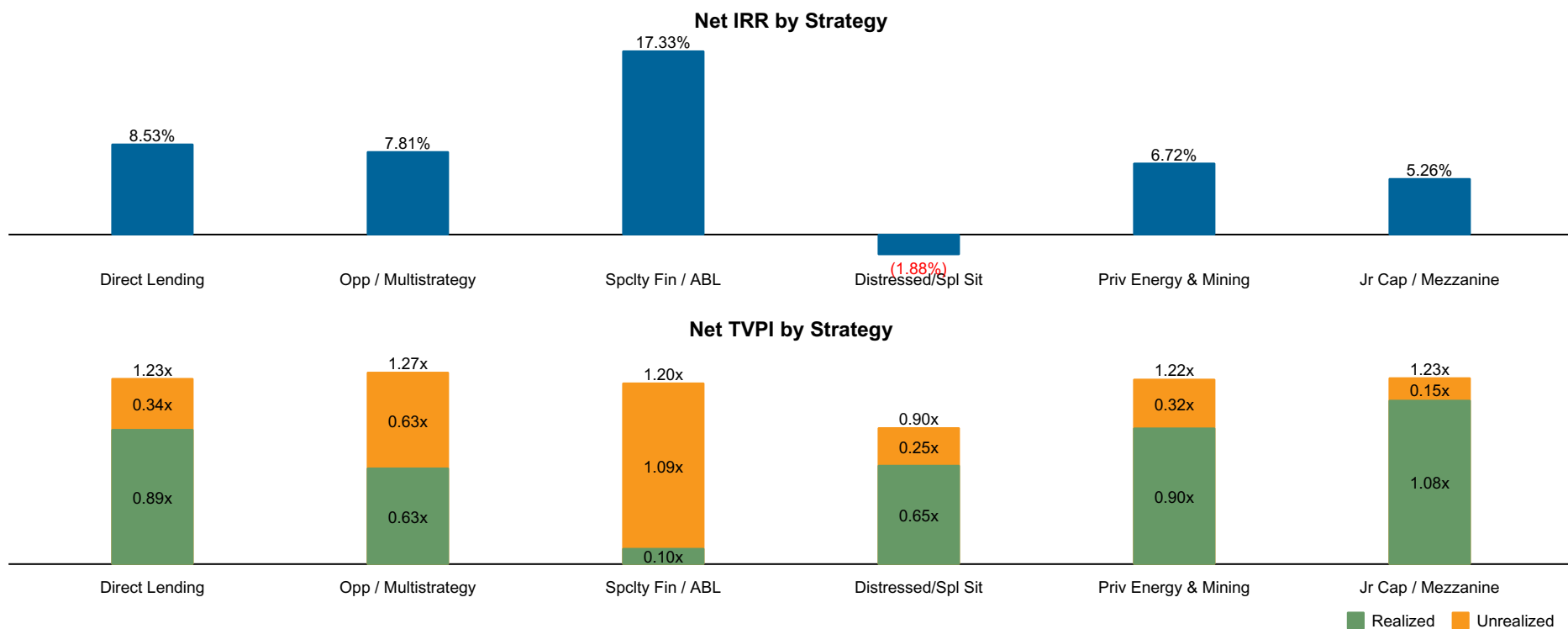


Performance by Strategy Total Private Credit Period Ended June 30, 2024

The following tables illustrate current performance by Strategy type as of June 30, 2024 in USD millions.

Portfolio Performance by Strategy Type	Capital Commitments	Capital Contributions	Unfunded Commitments	Distributions	Net Asset Value	DPI	TVPI	TVPI Quartile	Net IRR	Net IRR Quartile
Direct Lending	\$788	\$965	\$230	\$858	\$326	0.89x	1.23x	3rd	8.53%	3rd
Opp / Multistrategy	\$225	\$155	\$81	\$98	\$98	0.63x	1.27x	3rd	7.81%	3rd
Spclty Fin / ABL	\$125	\$58	\$67	\$6	\$63	0.10x	1.20x	1st	17.33%	1st
Distressed/Spl Sit	\$240	\$215	\$54	\$140	\$54	0.65x	0.90x	4th	(1.88%)	4th
Priv Energy & Mining	\$100	\$113	\$22	\$102	\$37	0.90x	1.22x	4th	6.72%	4th
Jr Cap / Mezzanine	\$20	\$20	\$0	\$21	\$3	1.08x	1.23x	3rd	5.26%	3rd
Total Private Credit	\$1,498	\$1,526	\$456	\$1,225	\$580	0.80x	1.18x	3rd	5.44%	4th

Performance Metrics by Strategy

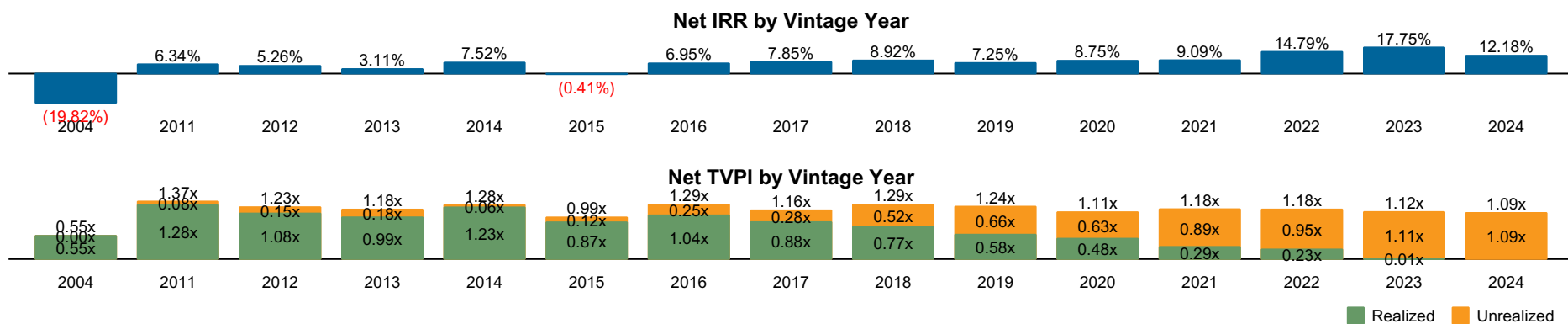


Performance by Vintage Year
Total Private Credit
Period Ended June 30, 2024

The following tables illustrate current performance by Vintage Year as of June 30, 2024 in USD millions.

Portfolio Performance by Vintage Year	Capital Commitments	Capital Contributions	Unfunded Commitments	Distributions	Net Asset Value	DPI	TVPI	TVPI Quartile	Net IRR	Net IRR Quartile
2004	\$30	\$44	\$-0	\$25	\$0	0.55x	0.55x	-	(19.82%)	-
2011	\$60	\$57	\$18	\$74	\$5	1.28x	1.37x	2nd	6.34%	3rd
2012	\$20	\$20	\$0	\$21	\$3	1.08x	1.23x	3rd	5.26%	3rd
2013	\$100	\$107	\$5	\$106	\$20	0.99x	1.18x	4th	3.11%	4th
2014	\$150	\$162	\$56	\$198	\$9	1.23x	1.28x	3rd	7.52%	2nd
2015	\$90	\$132	\$4	\$115	\$15	0.87x	0.99x	4th	(0.41%)	4th
2016	\$198	\$198	\$50	\$206	\$50	1.04x	1.29x	3rd	6.95%	3rd
2017	\$100	\$207	\$9	\$181	\$58	0.88x	1.16x	4th	7.85%	3rd
2018	\$200	\$201	\$68	\$154	\$105	0.77x	1.29x	3rd	8.92%	3rd
2019	\$50	\$50	\$16	\$29	\$33	0.58x	1.24x	3rd	7.25%	4th
2020	\$100	\$150	\$10	\$72	\$94	0.48x	1.11x	4th	8.75%	3rd
2021	\$100	\$87	\$23	\$25	\$78	0.29x	1.18x	3rd	9.09%	3rd
2022	\$100	\$83	\$25	\$19	\$79	0.23x	1.18x	1st	14.79%	1st
2023	\$75	\$11	\$64	\$0	\$13	0.01x	1.12x	2nd	17.75%	2nd
2024	\$125	\$18	\$107	\$0	\$19	0.00x	1.09x	-	12.18%	-
Total Private Credit	\$1,498	\$1,526	\$456	\$1,225	\$580	0.80x	1.18x	3rd	5.44%	4th

Performance Metrics by Vintage Year



Callan

**New Hampshire Retirement
System**

Private Equity Program Review

Total Private Equity Portfolio Summary

Portfolio Overview & History

New Hampshire Retirement System re-established the Private Equity Program in 2009. The Private Equity Program seeks to generate enhanced risk-adjusted investment returns over a long-time horizon through targeted private equity primary partnership investments, secondaries, diversified fund of funds, and co-investments. The portfolio is intended to be diversified by private equity strategy types and be led by a concentrated roster of private equity managers. Venture capital commitments to Industry Ventures and Top Tier have been the strongest contributors to performance, generating an aggregate return of a 1.89x net TVPI and 19.18% net IRR. Historical commitments to oil and gas strategies have detracted the most from overall performance. The asset class has rebounded slightly since 2022, however still has generated meaningfully lower performance relative to other private equity strategy types the plan is invested in.

	Net IRR	Quartile Rank	Net TVPI	Quartile Rank
NHRS Private Equity Portfolio	13.49%	2 nd	1.60x	2 nd

Quarterly Highlights & Portfolio Commentary

- The Private Equity program had \$52.7 million of called capital and \$81.3 million of distributions during the third quarter of 2024, resulting in a net cash outflow of \$29.4 million.
- The Private Equity program had \$37.6 million of called capital and \$31.4 million of distributions during the second quarter of 2024, resulting in a net cash outflow of \$6.1 million.
 - The private equity program appreciated \$26.1 million, or 1.5%, during the second quarter.

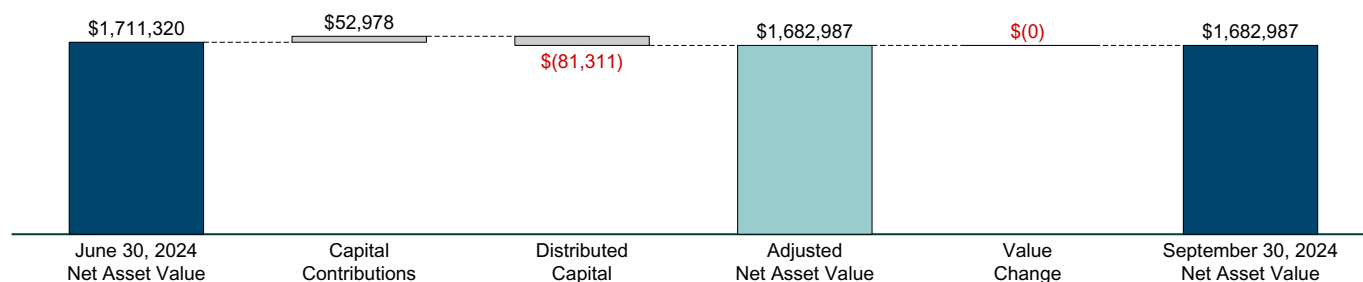
Two buyout partnerships were funded in the second quarter of 2024.

Partnership Name	Strategy	Commitments
American Industrial Partners VIII	Buyout	\$50 million
HIG Advantage Fund II	Buyout	\$50 million

Total Private Equity Period Ended September 30, 2024

Quarterly Portfolio Flows \$(Thousands)	June 30, 2024	Quarterly Change	September 30, 2024
# Partnerships	52	1	53
# General Partners	21	0	21
Capital Committed	\$2,484,937	\$52,741	\$2,537,678
Capital Contributed	\$2,097,023	\$52,978	\$2,150,001
Unfunded Commitments	\$578,683	\$2,759	\$581,442
Distributed Capital	\$1,634,671	\$81,311	\$1,715,982
Recallable Distributions	\$183,940	\$2,843	\$186,783
Non-Recallable Distributions	\$1,450,731	\$78,468	\$1,529,199
Net Asset Value	\$1,711,320	\$(28,333)	\$1,682,987
Total Distributed Capital and Net Asset Value	\$3,345,991	\$52,978	\$3,398,969

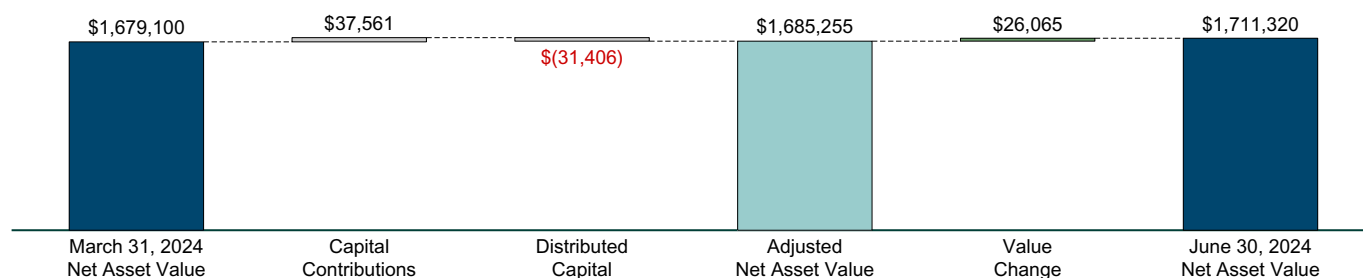
Ratios and Performance	June 30, 2024	Quarterly Change	September 30, 2024
Net Internal Rate of Return, Since Inception	13.49%	(0.35%)	13.14%
Total Value to Paid-in Capital (TVPI)	1.60x	(0.01x)	1.58x
Distributions to Paid-in Capital (DPI)	0.78x	0.02x	0.80x
Residual Value to Paid-in Capital (RVPI)	0.82x	(0.03x)	0.78x
% of Commitments Contributed	84.39%	0.33%	84.72%



Total Private Equity Period Ended June 30, 2024

Quarterly Portfolio Flows \$(Thousands)	March 31, 2024	Quarterly Change	June 30, 2024
# Partnerships	50	2	52
# General Partners	19	2	21
Capital Committed	\$2,386,159	\$98,778	\$2,484,937
Capital Contributed	\$2,059,462	\$37,561	\$2,097,023
Unfunded Commitments	\$515,289	\$63,394	\$578,683
Distributed Capital	\$1,603,265	\$31,406	\$1,634,671
Recallable Distributions	\$182,706	\$1,234	\$183,940
Non-Recallable Distributions	\$1,420,558	\$30,172	\$1,450,731
Net Asset Value	\$1,679,100	\$32,219	\$1,711,320
Total Distributed Capital and Net Asset Value	\$3,282,365	\$63,626	\$3,345,991

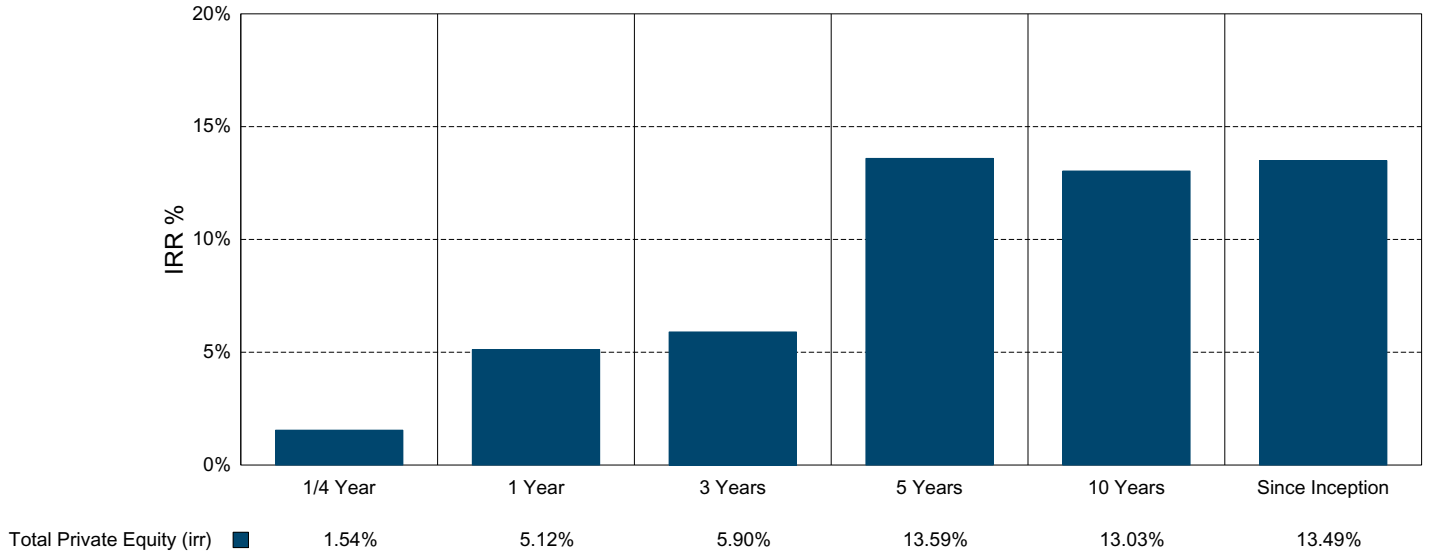
Ratios and Performance	March 31, 2024	Quarterly Change	June 30, 2024
Net Internal Rate of Return, Since Inception	13.69%	(0.19%)	13.49%
Total Value to Paid-in Capital (TVPI)	1.59x	0.00x	1.60x
Distributions to Paid-in Capital (DPI)	0.78x	0.00x	0.78x
Residual Value to Paid-in Capital (RVPI)	0.82x	0.00x	0.82x
% of Commitments Contributed	86.31%	(1.92%)	84.39%



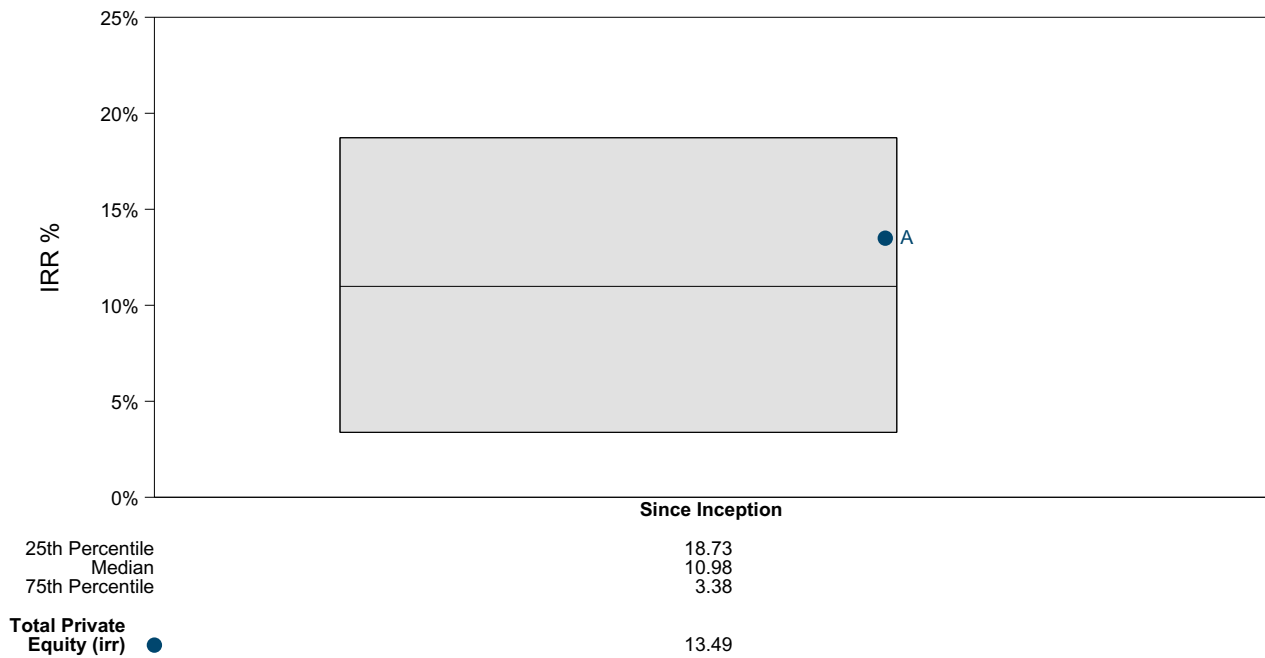
Performance Analysis Total Private Equity

The first chart below compares the performance (internal rate of return) of the fund to its benchmarks over various time periods. The second chart displays the performance of the component investments of the fund by vintage year (inception) along with its benchmark returns.

Cumulative Performance Periods Ended June 30, 2024



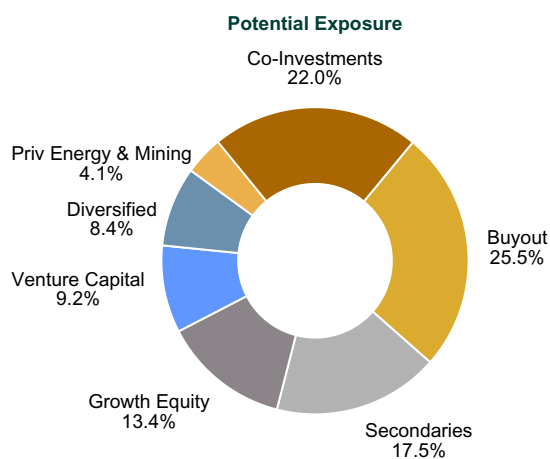
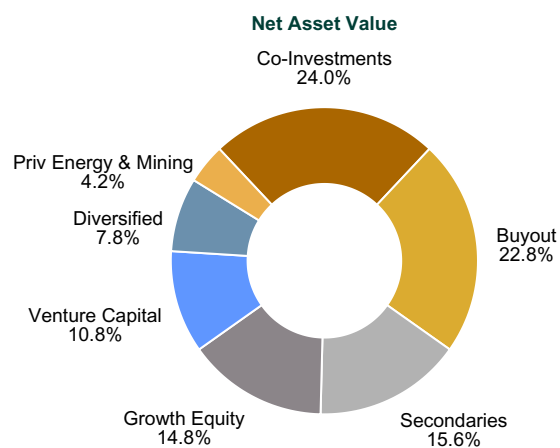
Vintage Year Performance vs. Cambridge Private Equity



Portfolio Diversification Total Private Equity Period Ended June 30, 2024

The following tables illustrate current and potential exposure by Strategy type as of June 30, 2024 in USD millions.

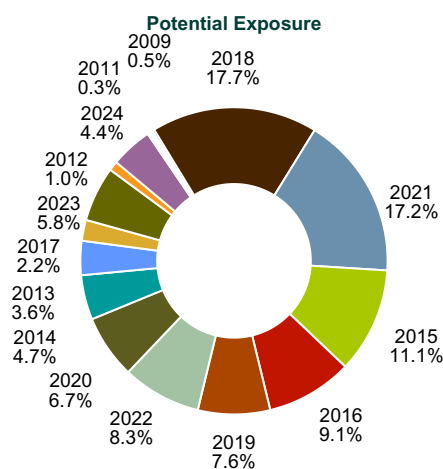
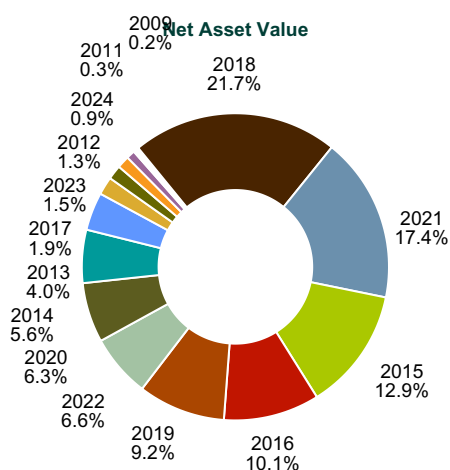
Portfolio Exposure by Strategy Type	Net Asset Value	%	Unfunded Commitments	%	Potential Exposure	%
Co-Investments	\$410	23.95%	\$94	16.22%	\$504	22.00%
Buyout	\$390	22.82%	\$193	33.29%	\$583	25.46%
Secondaries	\$267	15.58%	\$133	23.04%	\$400	17.46%
Growth Equity	\$254	14.84%	\$53	9.07%	\$306	13.38%
Venture Capital	\$185	10.79%	\$26	4.49%	\$211	9.20%
Diversified	\$134	7.81%	\$59	10.17%	\$193	8.41%
Priv Energy & Mining	\$72	4.22%	\$22	3.73%	\$94	4.09%
Total Private Equity	\$1,711		\$579		\$2,290	



Portfolio Diversification Total Private Equity Period Ended June 30, 2024

The following tables illustrate current and potential exposure by Vintage Year as of June 30, 2024 in USD millions.

Portfolio Exposure by Vintage Year	Net Asset Value	%	Unfunded Commitments	%	Potential Exposure	%
2018	\$371	21.67%	\$34	5.91%	\$405	17.68%
2021	\$298	17.39%	\$95	16.48%	\$393	17.16%
2015	\$221	12.93%	\$33	5.63%	\$254	11.09%
2016	\$173	10.09%	\$35	6.10%	\$208	9.08%
2019	\$158	9.23%	\$16	2.78%	\$174	7.60%
2022	\$114	6.64%	\$76	13.19%	\$190	8.29%
2020	\$109	6.35%	\$45	7.78%	\$154	6.71%
2014	\$97	5.64%	\$10	1.76%	\$107	4.66%
2013	\$69	4.02%	\$14	2.37%	\$83	3.61%
2017	\$32	1.86%	\$18	3.20%	\$50	2.20%
2023	\$25	1.48%	\$107	18.57%	\$133	5.80%
2012	\$22	1.27%	\$1	0.12%	\$22	0.98%
2024	\$16	0.91%	\$84	14.56%	\$100	4.36%
2011	\$5	0.29%	\$2	0.39%	\$7	0.32%
2009	\$4	0.21%	\$7	1.17%	\$10	0.45%
Total Private Equity	\$1,711		\$579		\$2,290	

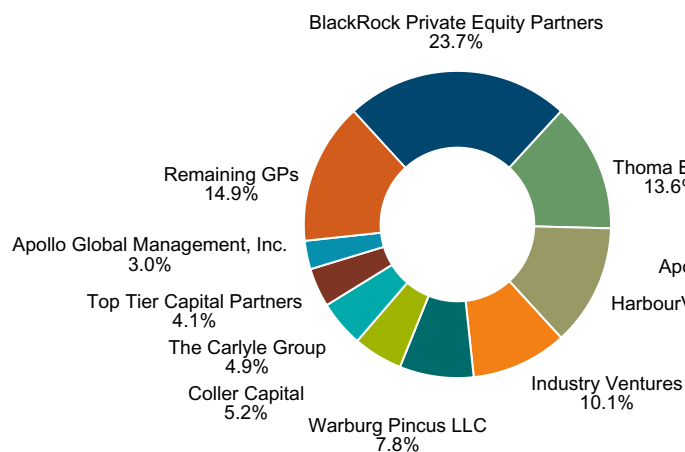


Portfolio Diversification Total Private Equity Period Ended June 30, 2024

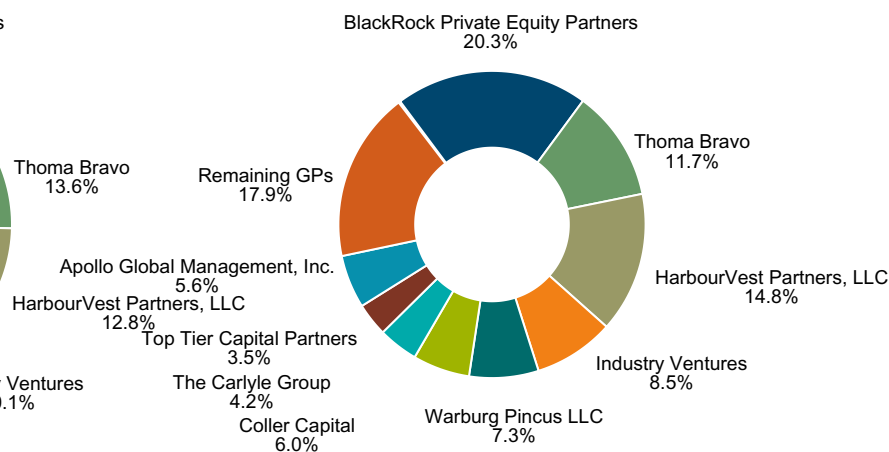
The following tables illustrate current and potential exposure by GP as of June 30, 2024 in USD millions.

Portfolio Exposure by GP	Net Asset Value		Unfunded Commitments		Potential Exposure	
	Value	%		%		%
BlackRock Private Equity Partners	\$405	23.68%	\$59	10.18%	\$464	20.27%
Thoma Bravo	\$233	13.62%	\$36	6.17%	\$269	11.74%
HarbourVest Partners, LLC	\$219	12.78%	\$120	20.80%	\$339	14.81%
Industry Ventures	\$172	10.08%	\$23	3.94%	\$195	8.53%
Warburg Pincus LLC	\$134	7.82%	\$33	5.73%	\$167	7.29%
Coller Capital	\$88	5.16%	\$50	8.61%	\$138	6.03%
The Carlyle Group	\$84	4.88%	\$13	2.16%	\$96	4.20%
Top Tier Capital Partners	\$70	4.10%	\$11	1.93%	\$81	3.55%
Apollo Global Management, Inc.	\$51	3.00%	\$78	13.47%	\$129	5.64%
The Edgewater Funds	\$48	2.78%	\$3	0.53%	\$51	2.21%
NGP Energy Capital	\$37	2.17%	\$1	0.21%	\$38	1.67%
Pine Brook Partners	\$37	2.14%	\$7	1.18%	\$43	1.90%
Clearlake Capital	\$32	1.88%	\$21	3.66%	\$53	2.33%
Lexington Partners	\$30	1.77%	\$14	2.50%	\$45	1.95%
Kayne Anderson Capital Advisors LP	\$29	1.69%	\$2	0.33%	\$31	1.34%
RFE Investment Partners	\$15	0.88%	\$0	0.03%	\$15	0.66%
H.I.G. Capital, LLC	\$11	0.63%	\$39	6.82%	\$50	2.19%
Actis	\$6	0.37%	\$18	3.19%	\$25	1.08%
SL Capital Partners	\$5	0.29%	\$-1	(0.09%)	\$4	0.19%
American Industrial Partners	\$5	0.29%	\$45	7.74%	\$50	2.17%
CCMP Capital Advisors	\$0	0.02%	\$5	0.89%	\$6	0.24%
Total Private Equity	\$1,711		\$579		\$2,290	

Net Asset Value



Potential Exposure



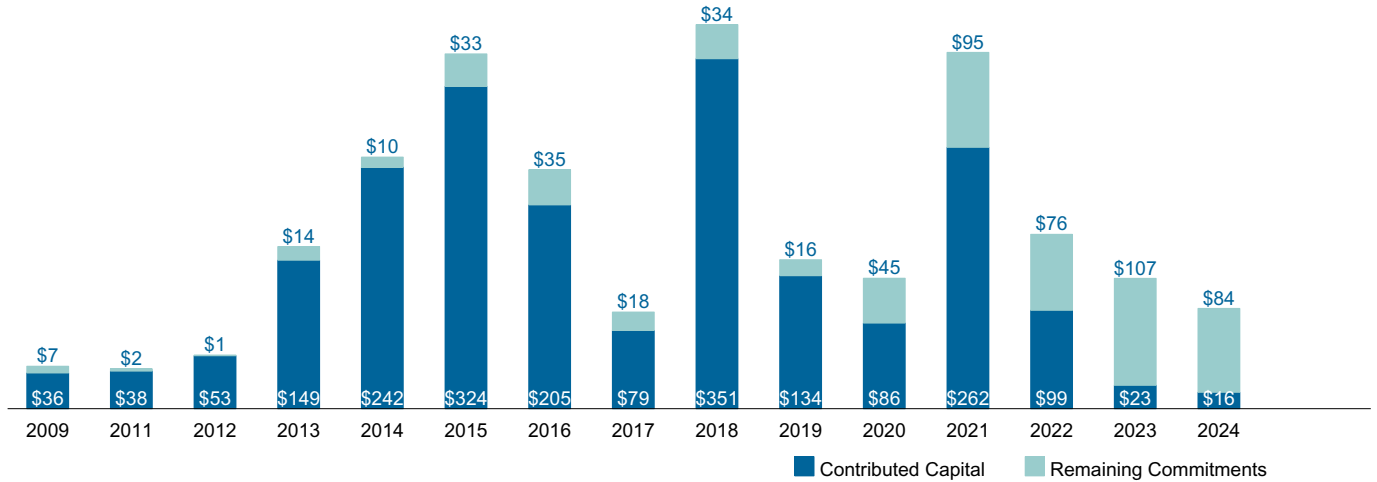
Cash Flow Analysis

Total Private Equity

Period Ended June 30, 2024

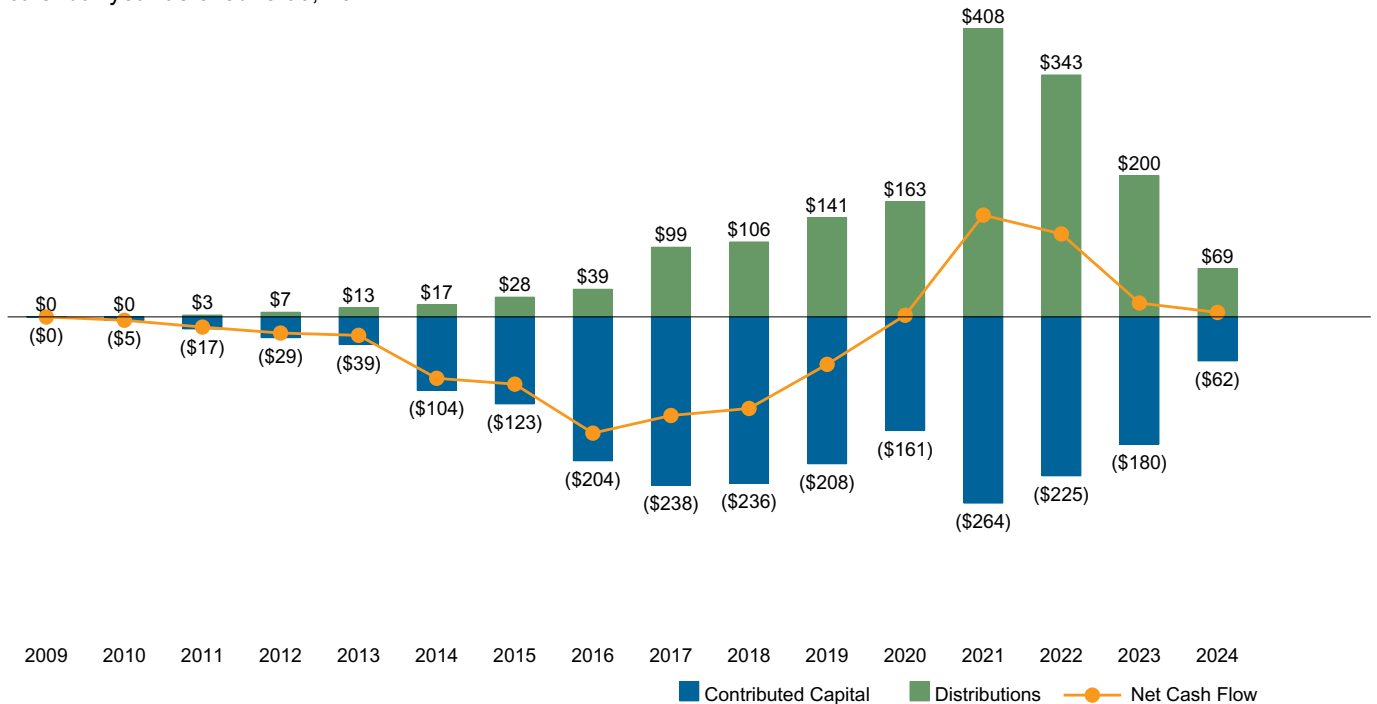
Contributed Capital and Unfunded Commitments

The following chart illustrates contributed capital and the unfunded commitments by vintage year, as of June 30, 2024 in USD millions. Vintage is defined as the clients first cash flow.



Cash Flow by Calendar Year

The following chart illustrates historical capital contributions made, distributions received and the resultant net cash flow by calendar year as of June 30, 2024.



Callan

New Hampshire Retirement System

Private Credit Program Review

Total Private Credit Portfolio Summary

Portfolio Overview & History

New Hampshire Retirement System re-established the Direct Private Credit Program in 2011. The Direct Private Credit Program seeks to generate enhanced risk-adjusted investment returns over a long-time horizon through targeted private credit primary partnership investments diversified by private credit strategy types. As of 06/30/2024 the private credit program has generated a net IRR of 5.44%, which ranks in the fourth quartile relative to the Refinitiv/Cambridge private credit database. There is less available peer performance data for the private credit universe, making peer group comparisons less meaningful than for private equity. However, the private credit performance to date is still lagging expectations. Underperformance has been principally driven by early allocations to distressed strategies. Most have which have significantly underperformed and are earlier commitments are valued below cost. Core allocations to direct lending and multistrategy funds have performed well, generating net IRRs of 8.53% and 7.81% respectively. The plan has recently added allocations to specialty finance and opportunistic lending to complement the direct lending exposure in place.

	Net IRR	Quartile Rank	Net TVPI	Quartile Rank
NHRS Private Credit Portfolio	5.44%	4 th	1.18x	3 rd

Quarterly Highlights & Portfolio Commentary

- The Direct Private Credit Program saw a \$16.3 million net cash outflow in the third quarter of 2024. During the quarter, \$50.9 million of capital contributions were made and \$67.2 million of distributions were received.
- The Direct Private Credit Program saw a \$4.4 million net cash outflow in the second quarter of 2024. During the quarter, \$33.7 million of capital contributions were made and \$38.1 million of distributions were received.

The value of the Private Credit Program increased \$4.9 million over the second quarter of 2024, net of quarterly cash flow.

New Capital Commitments

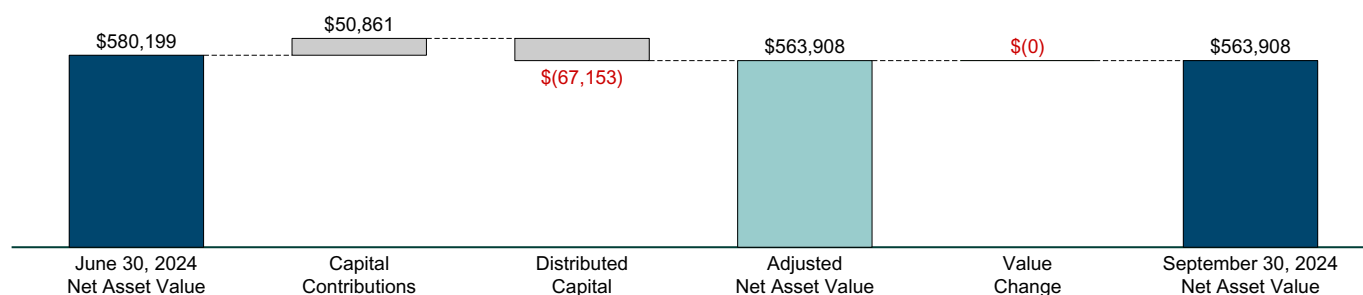
One new private credit partnership was funded in 2Q 2024.

Quarterly Follow-On Commitment Activity	Strategy	Primary Geography	Commitment
Sixth Street TAO	Opportunistic/ Multistrategy	Global	\$75

Total Private Credit Period Ended September 30, 2024

Quarterly Portfolio Flows \$(Thousands)	June 30, 2024	Quarterly Change	September 30, 2024
# Partnerships	32	1	33
# General Partners	16	0	16
Capital Committed	\$1,498,210	\$101,897	\$1,600,108
Capital Contributed	\$1,525,873	\$50,861	\$1,576,735
Unfunded Commitments	\$455,871	\$72,293	\$528,165
Distributed Capital	\$1,225,231	\$67,153	\$1,292,384
Recallable Distributions	\$483,340	\$21,258	\$504,598
Non-Recallable Distributions	\$741,891	\$45,895	\$787,786
Net Asset Value	\$580,199	\$(16,292)	\$563,908
Total Distributed Capital and Net Asset Value	\$1,805,430	\$50,861	\$1,856,291

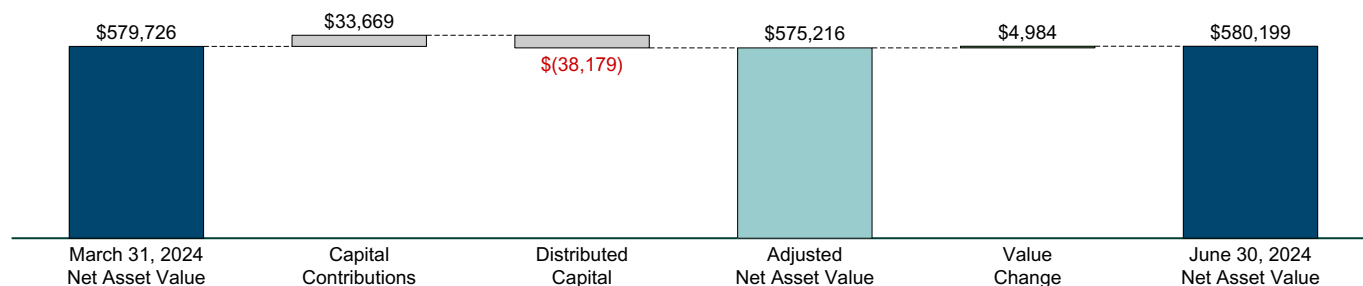
Ratios and Performance	June 30, 2024	Quarterly Change	September 30, 2024
Net Internal Rate of Return, Since Inception	5.44%	(0.11%)	5.32%
Total Value to Paid-in Capital (TVPI)	1.18x	(0.01x)	1.18x
Distributions to Paid-in Capital (DPI)	0.80x	0.02x	0.82x
Residual Value to Paid-in Capital (RVPI)	0.38x	(0.02x)	0.36x
% of Commitments Contributed	101.85%	(3.31%)	98.54%



Total Private Credit Period Ended June 30, 2024

Quarterly Portfolio Flows \$(Thousands)	March 31, 2024	Quarterly Change	June 30, 2024
# Partnerships	31	1	32
# General Partners	15	1	16
Capital Committed	\$1,423,556	\$74,654	\$1,498,210
Capital Contributed	\$1,492,205	\$33,669	\$1,525,873
Unfunded Commitments	\$404,753	\$51,119	\$455,871
Distributed Capital	\$1,187,052	\$38,179	\$1,225,231
Recallable Distributions	\$473,207	\$10,133	\$483,340
Non-Recallable Distributions	\$713,845	\$28,046	\$741,891
Net Asset Value	\$579,726	\$473	\$580,199
Total Distributed Capital and Net Asset Value	\$1,766,778	\$38,652	\$1,805,430

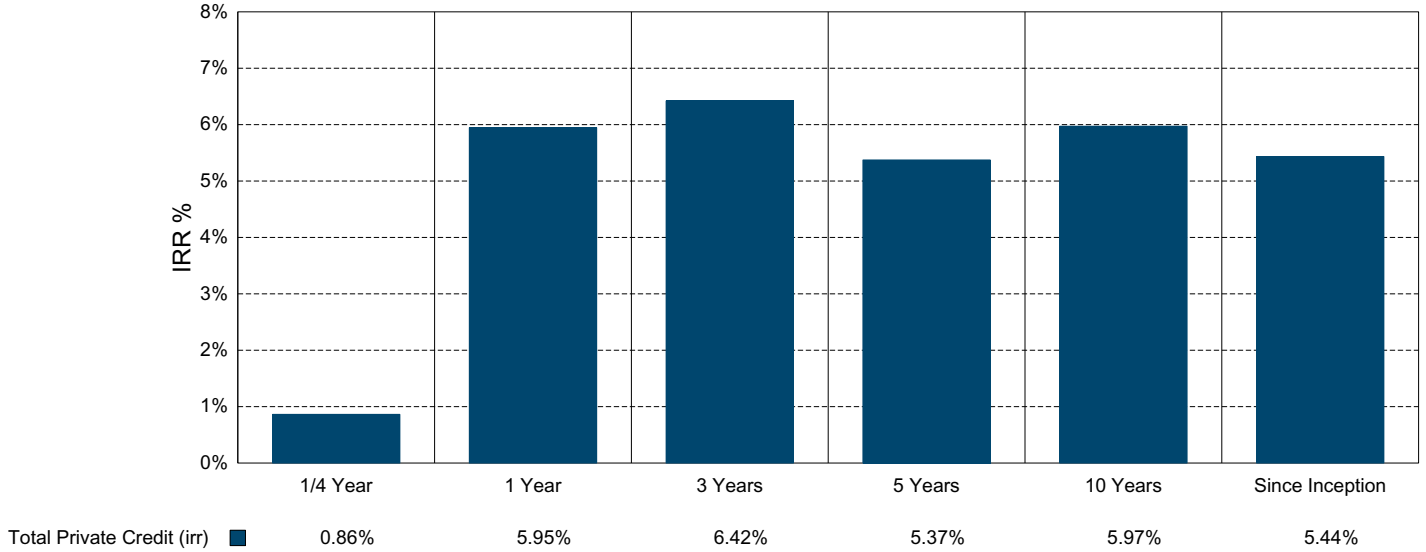
Ratios and Performance	March 31, 2024	Quarterly Change	June 30, 2024
Net Internal Rate of Return, Since Inception	5.48%	(0.04%)	5.44%
Total Value to Paid-in Capital (TVPI)	1.18x	(0.00x)	1.18x
Distributions to Paid-in Capital (DPI)	0.80x	0.01x	0.80x
Residual Value to Paid-in Capital (RVPI)	0.39x	(0.01x)	0.38x
% of Commitments Contributed	104.82%	(2.98%)	101.85%



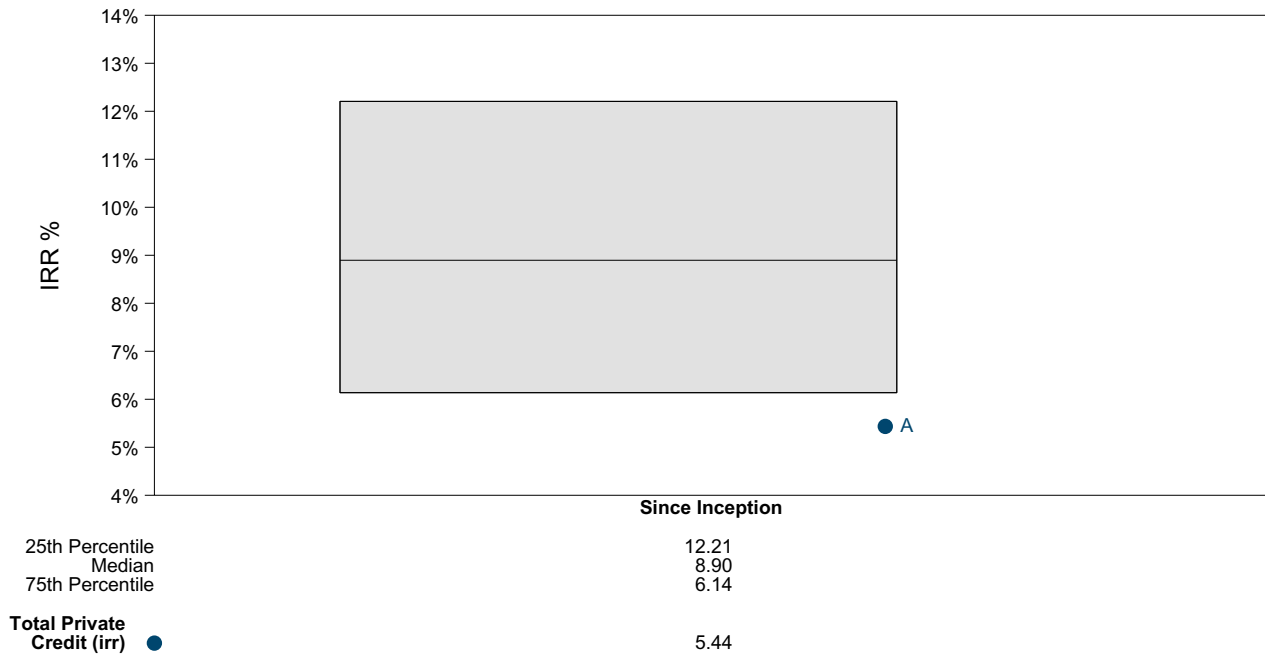
Performance Analysis Total Private Credit

The first chart below compares the performance (internal rate of return) of the fund to its benchmarks over various time periods. The second chart displays the performance of the component investments of the fund by vintage year (inception) along with its benchmark returns.

Cumulative Performance Periods Ended June 30, 2024



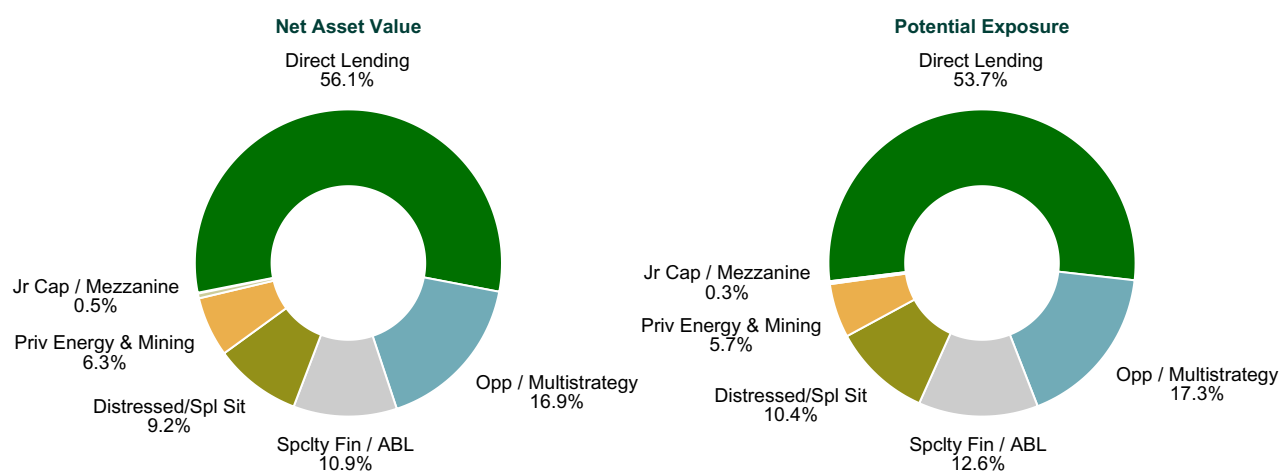
Vintage Year Performance vs. Cambridge Private Debt



Portfolio Diversification Total Private Credit Period Ended June 30, 2024

The following tables illustrate current and potential exposure by Strategy type as of June 30, 2024 in USD millions.

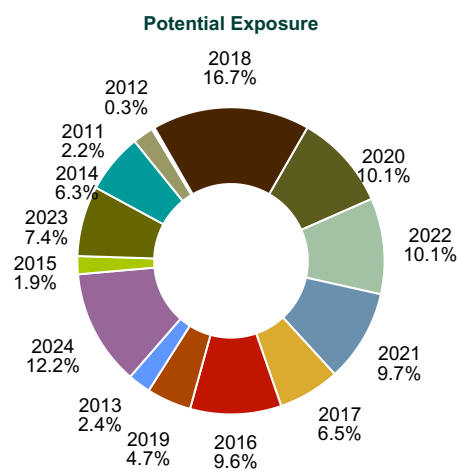
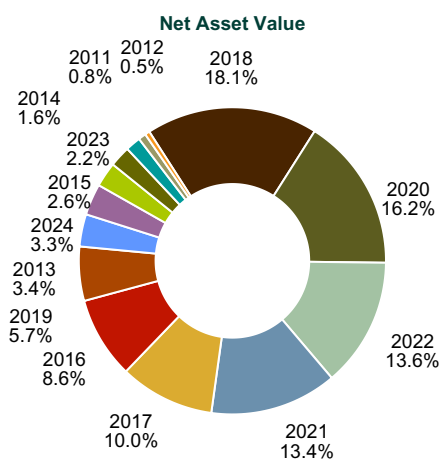
Portfolio Exposure by Strategy Type	Net Asset Value	%	Unfunded Commitments	%	Potential Exposure	%
Direct Lending	\$326	56.11%	\$230	50.53%	\$556	53.65%
Opp / Multistrategy	\$98	16.95%	\$81	17.79%	\$179	17.32%
Spclty Fin / ABL	\$63	10.89%	\$67	14.76%	\$130	12.59%
Distressed/Spl Sit	\$54	9.25%	\$54	11.91%	\$108	10.42%
Priv Energy & Mining	\$37	6.30%	\$22	4.93%	\$59	5.70%
Jr Cap / Mezzanine	\$3	0.50%	\$0	0.08%	\$3	0.32%
Total Private Credit	\$580		\$456		\$1,036	



Portfolio Diversification Total Private Credit Period Ended June 30, 2024

The following tables illustrate current and potential exposure by Vintage Year as of June 30, 2024 in USD millions.

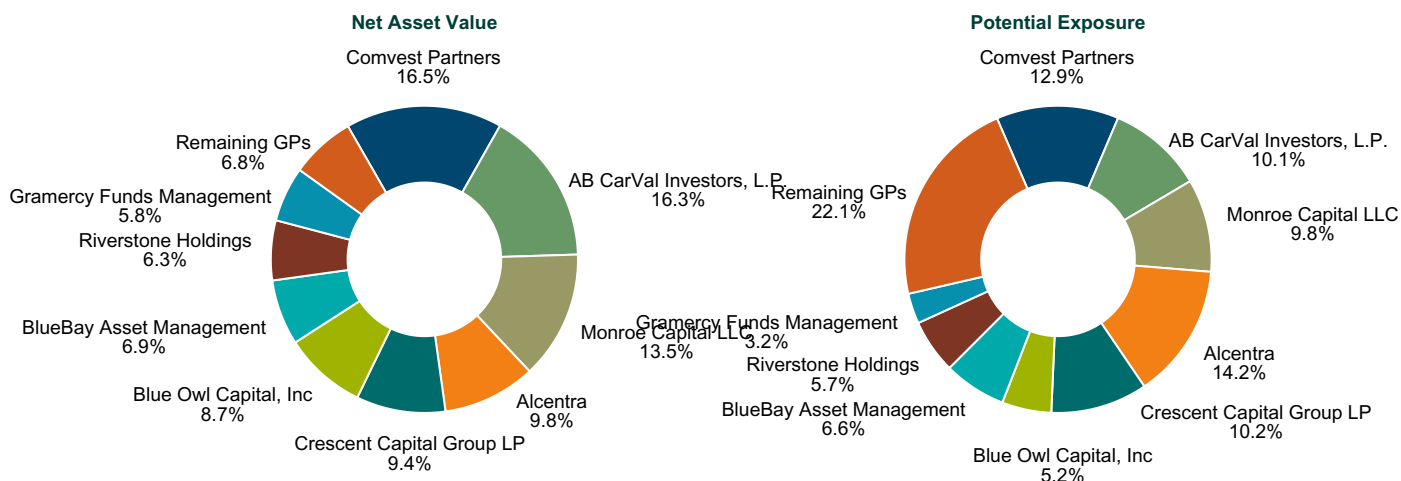
Portfolio Exposure by Vintage Year	Net Asset Value	%	Unfunded Commitments	%	Potential Exposure	%
2018	\$105	18.13%	\$68	14.83%	\$173	16.68%
2020	\$94	16.21%	\$10	2.21%	\$104	10.05%
2022	\$79	13.61%	\$25	5.53%	\$104	10.05%
2021	\$78	13.36%	\$23	5.02%	\$100	9.69%
2017	\$58	10.01%	\$9	2.01%	\$67	6.49%
2016	\$50	8.56%	\$50	10.96%	\$100	9.61%
2019	\$33	5.68%	\$16	3.50%	\$49	4.72%
2013	\$20	3.40%	\$5	1.10%	\$25	2.38%
2024	\$19	3.33%	\$107	23.55%	\$127	12.23%
2015	\$15	2.64%	\$4	0.93%	\$20	1.89%
2023	\$13	2.18%	\$64	13.95%	\$76	7.36%
2014	\$9	1.57%	\$56	12.38%	\$66	6.33%
2011	\$5	0.81%	\$18	3.96%	\$23	2.20%
2012	\$3	0.50%	\$0	0.08%	\$3	0.32%
2004	\$0	0.00%	\$-0	(0.00%)	\$-0	(0.00%)
Total Private Credit	\$580		\$456		\$1,036	



Portfolio Diversification Total Private Credit Period Ended June 30, 2024

The following tables illustrate current and potential exposure by GP as of June 30, 2024 in USD millions.

Portfolio Exposure by GP	Net Asset Value	%	Unfunded Commitments	%	Potential Exposure	%
Comvest Partners	\$96	16.49%	\$37	8.22%	\$133	12.85%
AB CarVal Investors, L.P.	\$95	16.30%	\$10	2.19%	\$105	10.09%
Monroe Capital LLC	\$79	13.53%	\$22	4.94%	\$101	9.75%
Alcentra	\$57	9.76%	\$91	19.93%	\$148	14.24%
Crescent Capital Group LP	\$54	9.38%	\$51	11.30%	\$106	10.22%
Blue Owl Capital, Inc	\$51	8.71%	\$4	0.81%	\$54	5.24%
BlueBay Asset Management	\$40	6.95%	\$28	6.14%	\$68	6.59%
Riverstone Holdings	\$37	6.30%	\$22	4.93%	\$59	5.70%
Gramercy Funds Management	\$33	5.76%	\$0	0.00%	\$33	3.23%
Strategic Value Partners, LLC	\$16	2.68%	\$36	7.95%	\$52	5.00%
Ares Management LLC	\$13	2.18%	\$64	13.95%	\$76	7.36%
Sixth Street Partners, LLC	\$4	0.65%	\$71	15.59%	\$75	7.23%
Ironwood Capital Holdings LLC	\$3	0.50%	\$0	0.08%	\$3	0.32%
Siguler Guff & Company, LP	\$3	0.49%	\$2	0.37%	\$5	0.44%
Avenue Capital Group	\$2	0.31%	\$0	0.00%	\$2	0.17%
Tennenbaum Capital Partners	\$0	0.01%	\$16	3.59%	\$16	1.59%
MatlinPatterson Asset Management	\$0	0.00%	\$-0	(0.00%)	\$-0	(0.00%)
Total Private Credit	\$580		\$456		\$1,036	



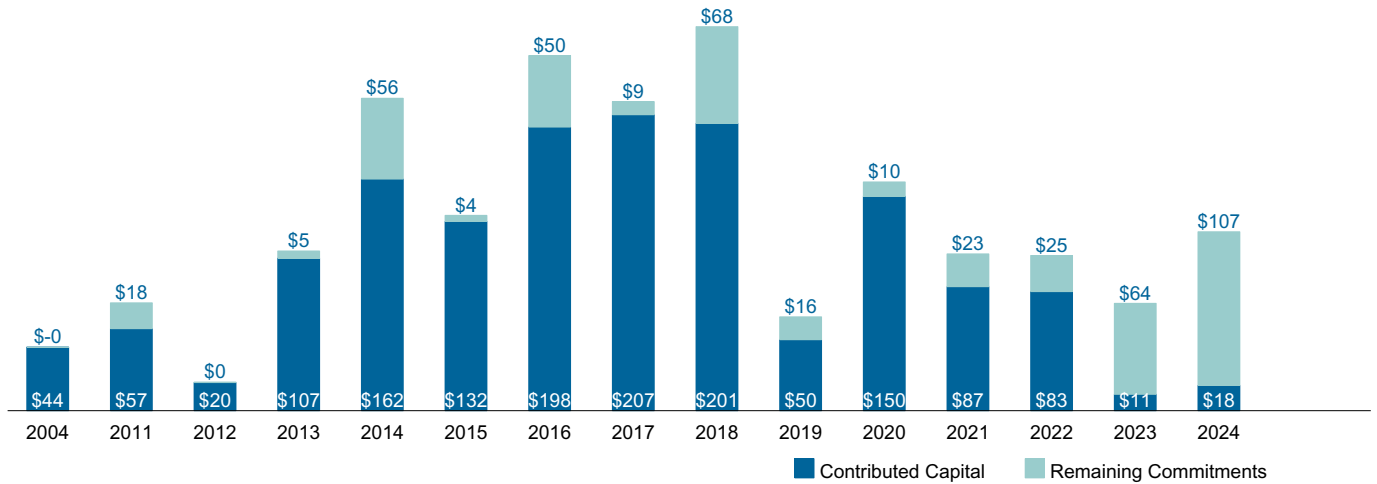
Cash Flow Analysis

Total Private Credit

Period Ended June 30, 2024

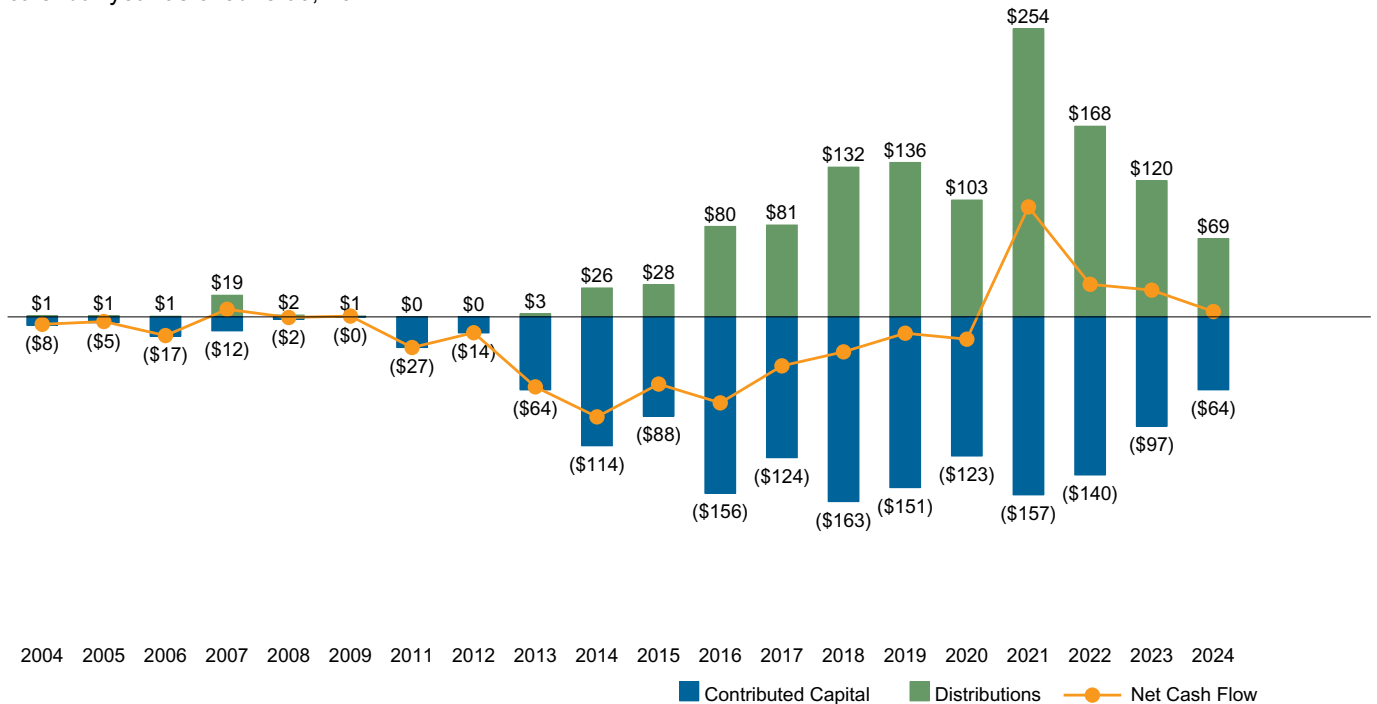
Contributed Capital and Unfunded Commitments

The following chart illustrates contributed capital and the unfunded commitments by vintage year, as of June 30, 2024 in USD millions. Vintage is defined as the clients first cash flow.



Cash Flow by Calendar Year

The following chart illustrates historical capital contributions made, distributions received and the resultant net cash flow by calendar year as of June 30, 2024.



Report Benchmark Definitions

Composites	Region	Strategy	Vintage
Total Alternatives	Global	All PE + Senior Debt	2009,2011-2024
Total Private Equity	Global	All PE **	2009,2011-2024
Total Private Credit	Global	Private Credit *	2011-2024
Vintage Year Composites	Global	All PE/All PC	Various
Buyout Composite	United States	Buyout	2011-2012, 2014, 2016, 2018-2019, 2021-2024
Growth Equity Composite	Global	Growth Equity	2013-2015, 2018, 2019, 2022 2013, 2014, 2016, 2017, 2019, 2021-2022
Venture Capital Composite	United States	Venture Capital	2013-2015, 2018, 2019, 2022 2013, 2014, 2016, 2017, 2019, 2021-2022
Private Energy Composite	Global	Private Energy	2015-2017
Co-investment Composite	Global	Buyout	2015, 2018, 2021, 2023, 2024
Secondaries Composite	Global	Secondaries	2009, 2011-2013, 2016, 2020-2023
Diversified Composite	Global	All PE	2012, 2014, 2018, 2021
Direct Lending Composite	Global	Private Credit	2013-2022
Multi-strategy Composite	Global	Private Credit	2015, 2017, 2020, 2024
Specialty Finance Composite	Global	Private Credit	2022, 2023
Distressed Composite	Global	Private Credit	2011, 2013, 2015, 2024
Energy Lending Composite	Global	Private Credit	2016, 2018
Mezzanine Debt	Global	Private Credit	2012
Private Equity Funds	Region	Strategy	Vintage
Actis Energy 4	United States	Private Energy	2017
Apollo IX	United States	Buyout	2019
Apollo X	United States	Buyout	2023
BlackRock Private Opps - 2014	United States	Buyout	2014
BlackRock Private Opps - 2018	United States	Buyout	2018
BlackRock Private Opps - 2021	United States	Buyout	2021
Carlyle Asia IV	Asia	Growth Equity and Buyout	2014
Carlyle Asia V	Asia	Growth Equity and Buyout	2018
Carlyle Japan III	Asia	Growth Equity and Buyout	2014
Carlyle Sub-Saharan Africa Fund	EM	Growth Equity and Buyout	2012
CCMP Capital Investors III	United States	Buyout	2014
Clearlake Capital Partners VII	United States	Buyout	2022
Coller International Partners VI	Global	Secondaries	2012
Coller International Partners VII	Global	Secondaries	2015
Coller International Partners VIII	Global	Secondaries	2020
Dover Street VIII	Global	Secondaries	2013
Dover Street IX	Global	Secondaries	2016
Dover Street X	Global	Secondaries	2020
Dover Street XI	Global	Secondaries	2023
Edgewater Growth Partners III	United States	Buyout	2011

Edgewater Growth Partners IV	United States	Buyout	2018
HarbourVest HIPEP VII	International	All PE	2014-2018
HarbourVest HIPEP VIII	International	All PE	2017-2020
Industry Ventures Holdings III	United States	Venture Capital	2011-2014
Industry Ventures Holdings IV	United States	Venture Capital	2016-2018
Industry Ventures Holdings V	United States	Venture Capital	2019-2021
Industry Ventures Secondary VI	United States	Venture Capital	2011
Industry Ventures Secondary VII	United States	Venture Capital	2014
Industry Ventures Secondary IX	United States	Venture Capital	2021
Kayne Anderson Energy Fund VII	United States	Private Energy	2016
Lexington Capital Partners VII	Global	Secondaries	2009
Lexington Capital Partners VIII	Global	Secondaries	2015
NGP XI	United States	Private Energy	2015
Pine Brook Capital Partners II	United States	Buyout	2011
RFE Investment Partners VIII	United States	Buyout	2011
SL Capital European Smaller Fds I	Europe	Buyout	2012-2015
Thoma Bravo Fund XII	United States	Buyout	2016
Thoma Bravo Fund XIII	United States	Buyout	2019
Thoma Bravo Fund XIV	United States	Buyout	2021
Thoma Bravo Fund XV	United States	Buyout	2022
Top Tier VVF	United States	Venture Capital	2014-2018
Top Tier Venture Velocity Fund 2	United States	Venture Capital	2017-2020
Top Tier Venture Velocity Fund 3	United States	Venture Capital	2019-2021
Top Tier Venture Velocity Fund 4	United States	Venture Capital	2022-2023
Warburg Pincus Private Equity XII	Global	Growth Equity	2015
Warburg Pincus Global Growth	Global	Growth Equity	2019
Warburg Pincus Global Growth 14	Global	Growth Equity	2022

Private Credit Funds *	Region	Strategy	Vintage
Alcentra European DLF III	Global	Private Credit	2019
Alcentra European DLF I	Global	Private Credit	2014
Alcentra European DLF II	Global	Private Credit	2016
Atalaya SOF VIII	United States	Private Credit	2022
Ares Pathfinder II	United States	Private Credit	2023
Avenue Special Situations Fund VI	United States	Private Credit	2011
BlueBay DLF II	Global	Private Credit	2016
Bluebay DLF III	Global	Private Credit	2018
CarVal Credit Value Fund III	Global	Private Credit	2015
CarVal Credit Value Fund IV	Global	Private Credit	2017
CarVal Credit Value Fund V	Global	Private Credit	2021
Comvest III	United States	Private Credit	2015
Comvest IV	United States	Private Credit	2017
Comvest V	United States	Private Credit	2020
Comvest VI	United States	Private Credit	2022
Crescent DLF I Levered	United States	Private Credit	2014
Crescent DLF II Levered	United States	Private Credit	2018

Crescent DLF III Levered	United States	Private Credit	2021
Gramercy Distressed Opportunities II	Global	Private Credit	2013
Gramercy Distressed Opportunities III	Global	Private Credit	2015
Ironwood Mezzanine Fund III	United States	Private Credit	2012
Monroe Sr. Secured Direct Loan	United States	Private Credit	2013
Monroe Private Credit II	United States	Private Credit	2016
Monroe Private Credit III	United States	Private Credit	2018
Monroe Private Credit IV	United States	Private Credit	2021
Riverstone Credit	United States	Private Credit	2016
Riverstone Credit II	United States	Private Credit	2018
Riverstone Credit II N	United States	Private Credit	2018
Siguler Guff Distressed Opportunities IV	United States	Private Credit	2011
Tennenbaum Opportunities Fund VI	United States	Private Credit	2011

* The private credit benchmark includes the Cambridge/Refinitiv Groups for Credit Opportunities, Subordinated Debt, and Senior Debt

** All PE includes global Buyout, Growth Equity, Venture Capital, Private Energy, Credit Opportunities, Distressed-for-control, and Subordinated Debt

Private Equity Terms and Glossary

General Terms

Private Equity: Refers to equity and equity-related investments in companies that are not quoted on the stock exchange. Investments are typically illiquid in nature. Ownership is typically accessed through limited partnership interests.

Vintage Year: The year in which a private equity partnership makes its first investment.

J Curve Effect: A common phenomenon associated with a developing private equity program where the return during the first several years can be moderately negative prior to larger positive returns developing (hence the “J” representation). The actual curve is depicted by plotting the return generated by a private equity fund against time (from inception to termination). In the early years of a developing program the payment of management fees out of drawn down capital does not produce an equivalent book value. Consequently, a private equity fund will initially show a negative return. For more detailed information on the “J-Curve Effect” ask to see Callan’s Whitepaper on the topic.

Cash Flow and Valuation Definitions

Commitment: The amount of a limited partner’s obligation to a private equity fund.

Capital Contribution: The amount of the commitment that has been called by the general partner for company investments and also fees and expenses. Capital contributed is also referred to as paid-in capital.

Recycling/Reinvestment and Recalable Cash Flows: Private equity vehicles are usually characterized by the prohibition (unless stipulated by agreement) to reinvest proceeds or allow redemptions. This means that unless otherwise agreed to, private equity funds must distribute proceeds from investments to limited partners and cannot reinvest that capital. In some cases, distributions are “recalable”, that is, after the fund distributes proceeds to its investors, it can draw down the same capital again, which makes it possible for the fund to draw capital in excess of its total committed capital.

Distributions include both recalable and non-recalable distributions. This means that a recalable distribution must be treated as an actual distribution and, if and when that distribution is called again, it must be treated as additional paid-in capital but must not reduce unfunded commitments or change cumulative committed capital.

It should be noted that recalable distributions have an impact on the metric calculations. For example, this recalable feature means that cumulative paid-in capital can be higher than cumulative committed capital. It also means that, all other things being equal, the DPI, RVPI, and TVPI multiples will be lower for funds with recalable distributions as the denominator will be increased. It also means that the PIC multiple (paid-in capital to cumulative committed capital) will be higher for funds with recalable distributions, all other things being equal. *(Source: GIPS Guidance Statement on Private Equity, January 2011)*

Distribution: The returns of cash or securities that an investor in a private equity fund receives.

Market Value or Net Asset Value (NAV): The carrying value of the investments as determined by the general partner of a partnership in accordance with a limited partnership’s valuation policy.

Major Components

Venture Capital

- **Seed Capital** – An initial investment funding a start-up company’s initial activities, such as business plan development, initial management and employee hiring, prototype development, and product beta testing

Private Equity Terms and Glossary

- **Series A** – first round of institutional investment capital
 - **Series B** – second round of institutional investment capital
 - **Series C** – third round of institutional investment capital (*Source: VCExperts*)
- **Early Stage** – Funding a company typically subsequent to its seed stage that has a founding or core senior management team, has proven its concept or completed its beta test, has minimal revenues, and no positive earnings or cash flows. (*Source: VCExperts*)
 - **Later Stage** – Financing for the expansion of a company that is producing, shipping its product, and increasing its sales volume. Later stage funds often provide the financing to help a company achieve critical mass in order to position its shareholders for an exit event (e.g., an IPO or strategic sale of the company). (*Source: VCExperts*)

Buyouts / Corporate Finance

- **Leveraged Buyout** – The acquisition of a company using a combination of equity and borrowed funds. Generally the target company's assets act as the collateral for the loans taken out by the acquiring group. The acquiring group then repays the loan from the cash flow of the acquired company. For example, a group of investors may borrow funds, using the assets of the company as collateral, in order to take ownership of a company. (*Source: VCExperts*)
- **Management Buyout** – A private equity firm will often provide financing to enable current operating management to acquire a significant stake in the business they manage, along with the private equity firm providing significant equity and arranging other financing. (*Source: VCExperts*)
- **Categorizations of Buyout Funds by Fund Size:**

Small Buyout	(\$0 to \$1 billion)
Medium Buyout	(\$1 billion to \$3 billion)
Large Buyout	(\$3 billion to \$7 billion)
Mega Buyout	(\$7 billion +)

Mezzanine (Subordinated Debt): An investment strategy that involves providing capital or financing that is below the senior debt and above the equity in terms of liquidation priority. Mezzanine is analogous to private high yield debt and typically includes preferred stock and warrants. The majority of return is provided through coupon payments and equity rights typically increase the return. Mezzanine debt is commonly structured as part of a Buyout transaction.

Distressed Debt: Investing in corporate bonds of companies that have either filed for bankruptcy or appear likely to do so in the near future. The strategy of distressed debt involves first becoming a major creditor of the target company by buying up a company's bonds at a deep discount to par. Securing a position as a key creditor allows for influence regarding the plan for reorganization of the company. In the event of liquidation distressed debt investors have a senior position to the equity holders for priority of repayment and normally recover the full par value of debt securities. Usually a reorganization allows the company to avoid or emerge from bankruptcy protection. In some instances distressed debt firms convert the debt obligations to equity in the company, and gain majority control of the newly capitalized business. (*Source: VCExperts*)

Secondary Investing: There is a private equity secondary market where investors in private equity funds can privately negotiate the sale of their interest(s) to a new buyer. Secondary funds are vehicles which buy (invest in)

Private Equity Terms and Glossary

secondary partnership interests purchased from pre-existing investors. Usually secondary purchases are made at a discount to the partnerships' stated valuation.

Fund-of-Funds: A vehicle established to invest in a diversified portfolio of private equity partnerships over a period of several vintage years. The underlying partnerships in turn invest the capital in companies. Investing in fund-of-funds can help spread the risk of investing in private equity because they invest the capital in a variety of funds and provide diversification by general partner, industry, geography, time and strategy. Fund-of-funds are specialist private equity investors and have existing relationships with general partner firms. Fund-of-funds may be able to provide investors with a route to investing in partnerships that would otherwise not be available to them. (*Source: VCExperts*)

Performance Metrics

DPI = Distributions as a ratio of (divided by) paid-in capital (notionally a DPI ratio of 0.60 means that 60 cents has been distributed back to investors for every dollar contributed).

RVPI = Residual Value (NAV) as a ratio of (divided by) paid-in capital (notionally a RVPI ratio of 0.70 means that the remaining investment(s) is currently valued at 70 cents for every dollar contributed).

TVPI = Total Value (Distributions + Net Asset Value) as a ratio of (divided by) paid-in capital. Notionally a TVPI ratio of 1.30 means that the investment has created a total gain of 30 cent for every dollar contributed. TVPI is composed of both returned capital and residual value (e.g., DPI of 0.60 + RVPI of 0.70 = TVPI of 1.30).

Public Market Equivalent (PME) TVPI: A TVPI calculated by applying the called capital and distributed capital of the private equity investment as an equivalent purchase and sale of the chosen benchmark. The calculated net asset value (NAV) is then used to calculate the benchmark's RVPI, which is subsequently added to the investors actual DPI to get a benchmark TVPI. The figure is intended to evaluate the investor's total value if they had moved money in and out of the chose benchmark instead of the partnership.

Internal Rate of Return (IRR): The CFA Institute GIPS approved methodology to calculate return performance of private equity investments. The IRR calculates the rate of return since inception (implied interest rate earned) of an investment based on the amount and timing of capital contributions (money invested), distributions (money returned from investments), and the current unrealized value of investments. The IRR is a capital- or dollar-weighted calculation and accounts for the timing and size of flows. IRR differs from the time-weighted return (TWR) calculation employed with equity and fixed income investments, where a series of interim period (e.g., quarterly) returns are linked together in an equal-weighted manner to derive a percentage return unaffected by cash flows.

Public Market Equivalent (PME) IRR: An internal rate of return (IRR) calculated by applying the called capital and distributed capital of the private equity investment as an equivalent purchase and sale of the chosen benchmark. The calculated net asset value (NAV) is then used to calculate the benchmark's IRR. The figure is intended to evaluate the investor's return if they had moved money in and out of the chose benchmark instead of the partnership.

Cash Yield: Quarter's Distributed capital change divided by the quarter's beginning Net Asset Value. It values the percentage of realized appreciation/depreciation embedded in the NAV. For example, a cash yield of 5% means every dollar of residual value (NAV) has paid 5 cents to the investor this quarter.

Private Equity Terms and Glossary

\$ Unrealized Appreciation/ Depreciation = Quarter's Total Value change minus the quarter's Distribution capital change minus the quarter's Paid-In capital change. The dollar amount values the unrealized appreciation/depreciation embedded in the Net Asset Value.

% Unrealized Appreciation/ Depreciation = Unrealized Appreciation/ Depreciation in dollars divided by the quarter's starting Net Asset Value. It values the percentage of unrealized appreciation/depreciation embedded in the NAV. For example, unrealized appreciation of 2% means every dollar of residual value (NAV) has a gain of 2 cents that has yet to be paid to investors.

\$ Total Valuation Change = Quarter's Distributed capital change minus the quarter's Paid-In capital during the quarter plus the quarter's change in Net Asset Value. It values the total dollar amount of both realized and unrealized gains/ losses that the investor received over the quarter.

% Total Valuation Change = Total Valuation Change in dollars divided by the quarter's starting Net Asset Value. It values the percentage of both realized and unrealized gains/ losses that the investor received over the quarter. For example, total valuation change of 4% means every dollar of residual value (NAV) has a gain of 4 cents of which a portion has and a portion has not been paid to investors.

Database Metrics

Pooled IRR: An IRR calculation that treats a database of multiple private equity partnerships (such as Thomson Reuters/Cambridge) as a single portfolio. The initial flow in the calculation represents the total market value of the database (if any). The subsequent cash inflows and outflows are incorporated, and the final cash flow is the ending valuation of the database holdings.

TVPI Quartile: Drawn from a database of multiple private equity partnerships, the quartile is a breakpoint return that separates the partnerships' TVPIs in a selected sample into 25% increments ranked from highest to lowest, e.g. 1st quartile is the highest 25% performing funds. Members may be separated into by specific vintage years and strategies.

IRR Quartile: Drawn from a database of multiple private equity partnerships, the quartile is a breakpoint return that separates the partnerships' IRRs in a selected sample into 25% increments ranked from highest to lowest, e.g. 1st quartile is the highest 25% performing funds. Members may be separated into by specific vintage years and strategies.

List of Callan's Investment Manager Clients

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Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance department.

Manager Name
abrdn
Acadian Asset Management LLC
ACR Alpine Capital Research
Adams Street Partners, LLC
Aegon Asset Management
AEW Capital Management, L.P.
AllianceBernstein
Allspring Global Investments, LLC
Altrinsic Global Advisors, LLC
American Century Investments
Amundi US, Inc.
Antares Capital LP
Apollo Global Management, Inc.
AQR Capital Management
Ares Management LLC
ARGA Investment Management, LP
Ariel Investments, LLC
Aristotle Capital Management, LLC

Manager Name
Atlanta Capital Management Co., LLC
Audax Private Debt
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Barings LLC
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BentallGreenOak
Beutel, Goodman & Company Ltd.
BlackRock
Blackstone Group (The)
Blue Owl Capital, Inc.
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
Brookfield Asset Management Inc.

Manager Name

Brown Brothers Harriman & Company
Brown Investment Advisory & Trust Company
Capital Group
CastleArk Management, LLC
Cercano Management LLC
Champlain Investment Partners, LLC
CIBC Asset Management Inc.
CIM Group, LP
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Comvest Partners
Cooke & Bieler, L.P.
Crescent Capital Group LP
Dana Investment Advisors, Inc.
D.E. Shaw Investment Management, LLC
DePrince, Race & Zollo, Inc.
Dimensional Fund Advisors L.P.
Doubleline
DWS
EARNEST Partners, LLC
Fayez Sarofim & Company
Federated Hermes, Inc.
Fidelity Institutional Asset Management
Fiera Capital Corporation
First Eagle Investment Management, LLC
First Hawaiian Bank Wealth Management Division
Fisher Investments
Franklin Templeton
Fred Alger Management, LLC
GAMCO Investors, Inc.
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
Goldman Sachs
Golub Capital
GW&K Investment Management
Harbor Capital Group Trust
HarbourVest Partners, LLC
Hardman Johnston Global Advisors LLC
Heitman LLC

Manager Name

Hotchkis & Wiley Capital Management, LLC
HPS Investment Partners, LLC
IFM Investors
Impax Asset Management LLC
Income Research + Management
Insight Investment
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Invesco
J.P. Morgan
Janus
Jennison Associates LLC
Jobs Peak Advisors
Kayne Anderson Rudnick Investment Management, LLC
King Street Capital Management, L.P.
Kohlberg Kravis Roberts & Co. L.P. (KKR)
Lazard Asset Management
LGIM America
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord, Abbett & Company
LSV Asset Management
MackKay Shields LLC
Macquarie Asset Management
Manulife Investment Management
Manulife | CQS Investment Management
Marathon Asset Management, L.P.
Maverick Real Estate Partners
Mawer Investment Management Ltd.
MetLife Investment Management
MFS Investment Management
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mount Lucas Management LP
MUFG Bank, Ltd.
Natixis Investment Managers
Neuberger Berman
Newmarket Capital
Newton Investment Management

Manager Name

Nipun Capital, L.P.

NISA Investment Advisors LLC

Northern Trust Asset Management

Nuveen

Oaktree Capital Management, L.P.

Orbis Investment Management Limited

P/E Investments

Pacific Investment Management Company

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

Red Cedar Investment Management

Regions Financial Corporation

S&P Dow Jones Indices

Sands Capital Management

Manager Name

Schroder Investment Management North America Inc.

Segall Bryant & Hamill

SLC Management

Star Mountain Capital, LLC

State Street Global Advisors

Strategic Global Advisors, LLC

T. Rowe Price Associates, Inc.

TD Global Investment Solutions – TD Epoch

The TCW Group, Inc.

Thompson, Siegel & Walmsley LLC

TPG Angelo Gordon

Tweedy, Browne Company LLC

UBS Asset Management

VanEck

Vaughan Nelson Investment Management

Versus Capital Group

Victory Capital Management Inc.

Virtus Investment Partners, Inc.

Vontobel Asset Management

Voya

Walter Scott & Partners Limited

WCM Investment Management

Wellington Management Company LLP

Western Asset Management Company LLC

Westfield Capital Management Company, LP

William Blair & Company LLC

Xponance, Inc.

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Callan undertakes no obligation to update the information contained herein except as specifically requested by the client.

Past performance is no guarantee of future results.

New Hampshire Retirement System

ADJUSTED ENDING VALUE WITH TVPI, DPI & RVPI As of 6/30/2024

NHRS - Real Estate

Base Currency: USD

Investment	Commitment	Vintage Year	Contributions	Distributions	Valuation			Performance				
			Funding	Cumulative Distributions	Valuation Date	Reported Valuation	Adjustments	Adjusted Valuation	IRR	TVPI	DPI	RVPI
New Hampshire Retirement System												
Almanac Realty Securities (ARS) VII Sidecar	14,965,000	2018	12,477,967									
Almanac Realty Securities VII LP	20,000,000	2014	20,588,268									
Almanac Realty Securities VIII LP	20,000,000	2018	15,973,816									
Alterra IOS Venture II	20,000,000	2022	20,496,183									
Ares Industrial Real Estate Fund LP	25,000,000	2020	26,625,374									
Asana Real Estate Partners I	20,000,000	2016	18,438,881									
Asana Real Estate Partners III	20,000,000	2022	9,066,667									
Berkshire Bridge Loan Investors II	8,055,600	2021	8,162,044									
Berkshire MF Income	20,000,000	2015	20,916,585									
Bozzuto Capital Partners II, LLC	22,400,000	2011	21,939,555									
Bridge Logistics US Venture I LP	20,400,000	2022	19,562,946									
Bridge Logistics US Venture II	12,875,000	2023	6,585,004									
Broadview Real Estate Partners LP	20,000,000	2018	12,936,797									
Brockton Capital II	8,431,547	2010	12,845,545									
Brookfield Premier Real Estate Partners	60,000,000	2016	67,762,347									
BRV Partners I	8,420,000	2015	8,731,785									
Bryanston Retail Opportunity Fund	7,000,000	2005	3,252,537									
Buckingham BTR Fund I LP	15,000,000	2024	0									
Buckingham Multifamily Fund I	14,810,000	2018	13,992,937									
Buckingham Multifamily Fund II	12,242,991	2022	9,677,793									
Caprock Partners Industrial Co-Investment Fund III	13,233,333	2020	11,130,615									
Carlyle Property Investors	15,981,000	2016	20,057,833									
Carroll Fund V Bedrock Sidecar	8,860,000	2017	7,421,419									
Carroll Multifamily Real Estate Fund VI LP	20,000,000	2019	20,478,810									
Carroll Multifamily Real Estate VII	20,000,000	2021	13,074,058									
Carroll Multifamily Real Estate Fund V LP	15,960,000	2017	15,511,201									
Cinespace Studio Venture	14,206,788	2023	7,373,348									
CITIC Capital China Retail Properties Investment Fund LP	15,000,000	2011	14,347,168									
Clarion Lion Properties Fund	14,699,339	2021	14,829,134									
Cortland Growth & Income Fund	20,000,000	2018	22,005,293									
Crossbay Townsend Feeder	16,579,973	2020	18,316,241									
Dream U.S. Industrial Fund	30,000,000	2021	31,279,264									
Fortress Japan Opportunity Fund I	5,688,176	2010	9,885,097									
Fortress Japan Opportunity Fund II	5,174,641	2011	8,885,118									
Fortress Japan Opportunity Fund IV	8,625,000	2018	6,242,390									

New Hampshire Retirement System

ADJUSTED ENDING VALUE WITH TVPI, DPI & RVPI As of 6/30/2024

NHRS - Real Estate

Base Currency: USD

Investment	Commitment	Vintage Year	Contributions	Distributions	Valuation			Performance				
			Funding	Cumulative Distributions	Valuation Date	Reported Valuation	Adjustments	Adjusted Valuation	IRR	TVPI	DPI	RVPI
New Hampshire Retirement System												
Fortress Japan Residential Co-Investment	20,000,000	2017	15,083,288									
Gerrity Retail II	20,000,000	2015	22,711,368									
GID Mainstay Fund	40,000,000	2022	38,343,042									
Gramercy Property EUR IV Townsend Feeder Limited	18,847,860	2019	20,033,165									
Greenfield Partners	9,000,000	2013	8,859,130									
Greenfield VII	13,500,000	2015	14,781,536									
Greystar Growth And Income Fund LP	11,564,013	2017	12,104,662									
H/2 SOF III	20,000,000	2015	21,106,313									
H2 Special Opportunities II	10,000,000	2010	10,000,000									
Hancock US Real Estate Fund LP	30,000,000	2019	31,629,348									
Heitman Asia-Pacific Property Fund	15,000,000	2018	14,053,721									
HSRE Quad V	20,000,000	2015	20,061,735									
IGIS Asia Data Center 2	9,416,196	2023	2,636,211									
Jadian IOS Fund 1-A	25,000,000	2023	3,461,679									
Jadian IT AIV POV I LP	14,194,123	2022	9,894,298									
Jadian Real Estate Fund I	20,000,000	2020	32,025,155									
Jadian Real Estate Fund II LP	20,000,000	2024	0									
Jamestown Premier Property Fund	40,000,000	2011	63,877,195									
JP Morgan Strategic Property Fund	40,000,000	2010	40,460,693									
Kayne Anderson Core Real Estate LP	36,030,000	2017	39,055,256									
Lion Industrial Trust	30,000,000	2012	31,417,510									
Lone Star Fund V	8,100,000	2005	8,100,000									
MetLife Core Property Fund LP	85,000,000	2013	92,062,754									
Noble Hospitality Fund IV- SSCIV	12,500,000	2020	11,933,138									
Oaktree Real Estate Opportunities Fund VIII LP	20,000,000	2020	16,067,279									
Prime Property Fund LLC	40,000,000	2010	40,000,000									
Prosperitas Real Estate Partners III	10,000,000	2010	11,079,511									
Resmark-Townsend Model Home Leaseback	11,818,182	2021	9,161,066									
Rockpoint Real Estate Fund III, L.P.	6,646,661	2011	6,406,914									
Slate Canadian Real Estate Opportunities Fund I (SCREO)	11,108,269	2018	12,589,834									
Slate Canadian Real Estate Opportunities Fund II (SCREO)	20,462,601	2020	12,223,051									
Smart Markets Fund	30,273,946	2013	34,486,585									
TTG Frelid Feeder	18,455,860	2022	5,470,487									
UBS (US) Trumbull Property Fund LP	0	2024	0									

New Hampshire Retirement System

ADJUSTED ENDING VALUE WITH TVPI, DPI & RVPI As of 6/30/2024

NHRS - Real Estate

Base Currency: USD

Investment	Commitment	Vintage Year	Contributions	Distributions	Valuation			Performance				
			Funding	Cumulative Distributions	Valuation Date	Reported Valuation	Adjustments	Adjusted Valuation	IRR	TVPI	DPI	RVPI
New Hampshire Retirement System												
Unico Core Plus Partners LP	20,000,000	2019	18,771,081									
VBI Brazil Real Estate Opportunities II	15,000,000	2011	14,157,540									
Waterton Residential Property Venture XI	20,000,000	2010	20,888,857									
WCP NewCold III LP	20,000,000	2024	4,200,000									
Wolff Credit Partners II LP	20,000,000	2017	16,132,515									
Wolff Credit Partners III LP	20,000,000	2021	10,274,510									
Total: Real Estate	75		1,445,526,098									