New Hampshire Retirement System (NHRS)
Investment Committee Meeting

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

Agenda
Tuesday, January 14, 2025

12:30 pm Call to Order

12:30 pm Approve Minutes **[Page 2 of 201]**
- December 10, 2024, Public Meeting Minutes *(Action Expected)*

12:35 pm Comments from the Chief Investment Officer **[Page 6 of 201]**
- Portfolio: Performance & Manager Update(s)
- Holdings Update
- Work Plan *(Action Expected)*
- Contract Renewals (*Action Expected)*
  - Artisan (Non-U.S. Equity)

12:45 pm The Townsend Group Presentation: Annual Portfolio Review **[Page 20 of 201]**
- Review of Investment Plan for Calendar Year 2024
- Review of Investment Plan for Calendar Year 2025 *(Action Expected)*

1:30 pm Callan Presentation: Annual Private Debt & Equity Review **[Page 56 of 201]**
- Review of Calendar Year 2025 Private Equity, Private Credit and Infrastructure Pacing Plan *(Action Expected)*

2:15 pm Review of Changes to NHRS Investment Policy **[Page 108 of 201]**

2:30 pm Adjournment

Informational Materials **[Separate Binder]**
- Callan Monthly Review – November 2024
- Artisan Partners Contract Extension Memo - NHRS, Callan
- Asset Allocation Update
- Private Debt & Equity Summary
- 2024 Proxy Voting Summary
- FY 2024 Comprehensive Annual Investment Report
- Callan Quarterly Compliance Summary – September 30, 2024

Next Meeting: Tuesday, February 11, 2025

NOTE: The draft of these minutes from the December 10, 2024, Independent Investment Committee meeting is subject to approval and execution at a subsequent meeting.

Independent Investment Committee Meeting
December 10, 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 (Absent)*

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*
- Tim Crutchfield, *Deputy Director, and Chief Legal Counsel (by video conference)*
- John Laferriere, *Director of Information Technology (by video conference)*

Guests:

- Pete Keliuotis, CFA, *Executive Vice President, Callan LLC*
- Angel Haddad, *Senior Vice President, Callan LLC*
- Ashley Kahn, CAIA, *Senior Vice President, Callan LLC (by video conference)*
- Britton Murdoch, *Senior Vice President, Callan LLC (by video conference)*
- Dario Buechi, *Vice President, Callan LLC (by video conference)*
- Jessica Archibald, *General Partner, Top Tier Capital Partners*
- Sean Engel, *General Partner, Top Tier Capital Partners*
- Chuck Tedeschi, *Director, Top Tier Capital Partners*
- Dan Oneglia, *Senior Managing Director, Blackstone Inc.*
- Eugene Lee, *Managing Director, Blackstone Inc.*
- Tao Bu, *Managing Director, Blackstone Inc.*

- Taylor Alan-Lee, CFA, *Senior Relationship Manager, Causeway Capital Management*
- Conor Muldoon, CFA, *Director, Causeway Capital Management*
- Mark Yockey, CFA, *Managing Director, Artisan Partners (by video conference)*
- Sean Howley, *Managing Director, Artisan Partners*

Chair Clinton called the meeting to order at 12:35 PM.

On a motion by Ms. Kelliher, seconded by Mr. Bickford, the Independent Investment Committee (Committee) unanimously approved the public minutes of the October 8, 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 October 31, 2024. He shared an update on holdings within the NHRS portfolio, total plan liquidity, the approval of the MSCI ACWI IMI benchmark for the Public Global Equity asset class and CPI + 4% for the infrastructure asset class, as well as asset class ranges, by the Board of Trustees and discussed the Work Plan.

Following this, Mr. Richard provided an update on a recent rebalancing of the portfolio from Public Global Equity to Public Fixed Income and provided detail on the implementation.

On a motion by Mr. Bickford, seconded by Ms. Kelliher, the Committee unanimously approved the 2025 Investment Committee meeting schedule, as presented.

Mr. Leveque reviewed the progress made in 2024 on the Global Equity and Fixed Income Plans implementation and reviewed the Strategic Asset Allocation (SAA) targets adopted by the Board of Trustees in December 2023. The committee discussed market trends, as well as perceived opportunities and risks, as they relate to the implementation of the SAA.

Next, Mr. Richard and Ms. Kahn provided an overview of Top Tier Capital Partners (Top Tier). They discussed the opportunity to invest in Top Tier Venture Velocity Fund 5, reviewed the performance of previous vintages, and provided NHRS Investment Staff and Callan's recommendations to proceed with an investment in Fund 5. Following this, the Committee heard from representatives of Top Tier.

Mr. Tedeschi and Ms. Archibald introduced Top Tier to the Committee and provided an overview of its organizational structure. Mr. Engel detailed Top Tier's investment philosophy, team, and process. He discussed case studies and the performance of investments in previous Top Tier Venture Velocity Funds and closed by discussing Fund V key terms.

The Committee discussed the presentation made by Top Tier and the opportunity to invest in Top Tier Venture Velocity Fund 5. On a motion by Ms. Kelliher, seconded by Mr. Bickford, the Committee unanimously voted to commit $25 million to Top Tier Venture Velocity Fund 5, subject to contract and legal review.

Next, Mr. Leveque, Ms. Biletch and Mr. Buechi provided an overview of Blackstone Inc. They discussed the opportunity to invest in Blackstone Multi-Asset Credit (BMAC) and provided NHRS Investment Staff and Callan's recommendations to proceed with an investment in the platform. Following this, the Committee heard from representatives of Blackstone.

Ms. Bu and Mr. Oneglia introduced Blackstone to the Committee and provided an overview of its organizational structure. Mr. Lee detailed Blackstone BMAC's investment philosophy, team, and process. He provided an overview of BMAC's evergreen and public-private hybrid fund structure, concluding with a discussion of its key terms.

The Committee discussed the presentation made by Blackstone and the opportunity to invest in Blackstone Multi-Asset Credit. On a motion by Mr. Bickford, seconded by Ms. Kelliher, the Committee unanimously voted to commit $75 million to Blackstone Multi-Asset Credit, subject to contract and legal review.

Next, the committee received a presentation from representatives of Causeway Capital Management (Causeway) in conjunction with the five-year contract renewal process, following an introduction on the firm's philosophy, process and investment relationship with NHRS by Ms. Biletch. Mr. Alan-Lee provided an overview of the firm's relationship with NHRS. Mr. Muldoon detailed the firm's investment process and closed with a review of long-term performance attribution.

On a motion by Ms. Kelliher, seconded by Mr. Bickford, the committee unanimously voted for the confirmation of the conditional approval of the Comprehensive Annual Investment Review for the Fiscal Year Ended 2024, by the Board of Trustees.

On a motion by Mr. Bickford, seconded by Ms. Kelliher, the committee unanimously voted to renew the Investment Management Agreement with Causeway Capital Management for a five-year term through December 31, 2029.

Mr. Bickford departed the meeting at 3:16 PM.

Next, the committee received a presentation from representatives of Artisan Partners (Artisan) in conjunction with the five-year contract renewal process, following an introduction on the firm's philosophy, process and investment relationship by Ms. Biletch. Mr. Howley provided the committee with a brief introduction to the firm and strategy, and Mr. Yockey detailed investment performance and case studies, highlighting the firm's stock selection focus. The Committee deferred the renewal of the Artisan investment management contract to the next meeting due to the lack of a quorum.

On a motion by Ms. Kelliher, the Committee unanimously voted to adjourn the meeting.

The meeting adjourned at 3:48PM.

Market Environment
As of November 30, 2024

Index	Last Month	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell 3000	6.65	6.23	34.49	10.54	15.23	12.89
S&P 500	5.87	5.89	33.89	11.44	15.77	13.35
Russell 2000	10.97	9.27	36.43	4.96	9.90	9.05
MSCI ACWI ex USA	(0.91)	8.06	13.03	2.86	5.40	4.62
MSCI Emerging Markets	(3.59)	8.72	11.86	(1.27)	3.20	3.16
Bloomberg Aggregate	1.06	5.20	6.88	(1.95)	(0.01)	1.52
NCREIF NFI-ODCE	0.01	0.02	(4.82)	(2.65)	1.88	4.95
Bloomberg Commodity Price	0.05	(0.64)	(3.60)	0.81	4.94	(1.40)

Both equities and fixed income posted gains in November. Markets rallied following Donald Trump's presidential election win and the Republican Party's control of Congress, driven by investor optimism around potential policy changes, such as tax cuts, increased fiscal spending, deregulation, and shifts in trade policy. Economic data for the month presented mixed signals, including a slowdown in job growth and a modest rise in inflation. Employment figures may have been skewed by hurricane-related disruptions in the Southeast and ongoing labor strikes. In response to evolving economic conditions, the Federal Reserve cut interest rates by 25 basis points at its November meeting. November marked the strongest monthly performance for U.S. equity markets this year, with small cap stocks outperforming large caps and growth stocks leading value. U.S. equities outpaced non-U.S. markets, with developed markets outperforming their emerging counterparts. In fixed income, bond prices rose as interest rates declined. Although Treasury yields briefly ticked upward amid concerns about the potential inflationary pressures of proposed policies, the 10-year Treasury yield closed the month lower, contributing to gains across the fixed income sector.

Real, annualized U.S. GDP increased 2.8% in 3Q24, according to the second estimate, unchanged from the advance estimate. This represents a modest deceleration from the 3.0% growth recorded in 2Q. The second estimate reflects an increase in private inventory investment and non-residential fixed investments, and a downward revision to exports and consumer spending. Imports, which are subtracted in the calculation of GDP, were also revised downward.

The U.S. economy added approximately 227,000 jobs in November, compared to 12,000 jobs in October. Sectors experiencing employment growth included health care, leisure and hospitality, and social assistance, while retail trade employment declined. The seasonally adjusted unemployment rate for November was 4.2%, a slight increase from the October reading of 4.1%. Despite this recent uptick, the unemployment rate remains near levels typically associated with full employment. The labor force participation rate slightly decreased from 62.6% to 62.5%.

The headline Consumer Price Index (CPI) rose 2.7% year-over-year in November, a slight increase from the October reading of 2.6%. Roughly 40% of the overall increase in the all-items index was driven by gains in the shelter index. The food index and energy index both increased. Price levels rose 0.3% month-over-month in November, up slightly from October's 0.2% increase. Core CPI, which excludes more volatile food and energy prices, increased 3.3% year-over-year, unchanged from October. On a monthly basis, core CPI rose 0.3% in November.

*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.

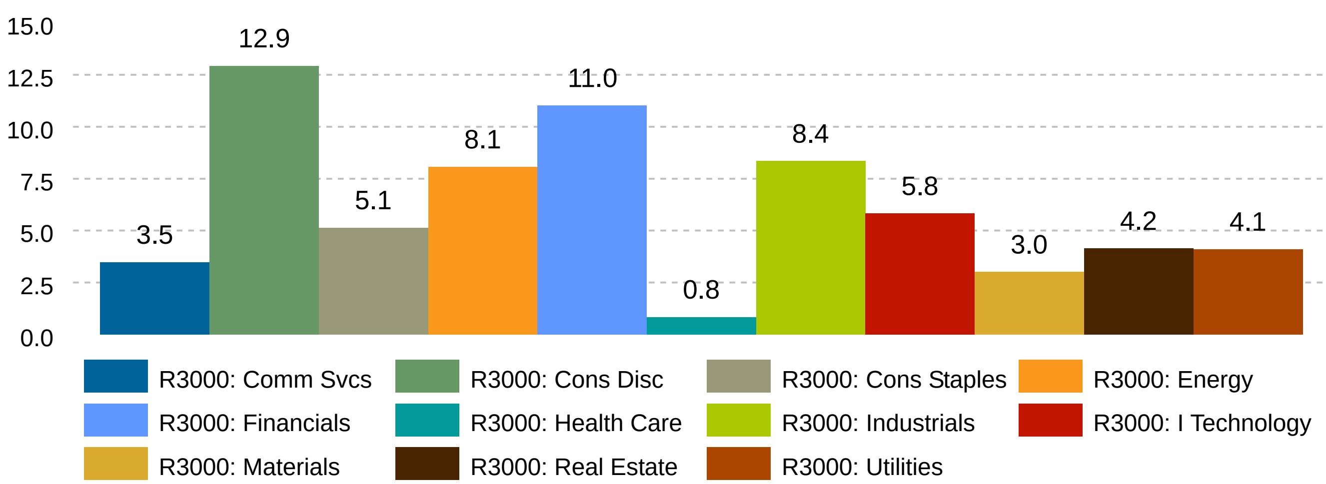
U.S. Equity Overview
As of November 30, 2024

Index	Last Month	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell 3000	6.65	6.23	34.49	10.54	15.23	12.89
Russell 1000	6.44	6.08	34.40	10.89	15.58	13.16
Russell 1000 Growth	6.49	3.19	38.04	10.92	19.46	16.55
Russell 1000 Value	6.39	9.43	29.56	10.39	10.84	9.32
Russell Midcap	8.82	9.21	33.66	7.77	12.05	10.45
Russell 2000	10.97	9.27	36.43	4.96	9.90	9.05
Russell 2000 Growth	12.26	8.41	40.44	3.25	9.19	9.34
Russell 2000 Value	9.65	10.15	32.55	6.35	9.93	8.37

U.S. equities had a strong month in November, advancing 6.7% (Russell 3000 Index). Markets reacted positively to Donald Trump's presidential victory, though some volatility emerged as his cabinet picks were announced. The selection of Robert F. Kennedy Jr. to lead the Department of Health and Human Services added pressure on the health care sector due to concerns over potential pharmaceutical policies. In contrast, the nomination of Scott Bessent as Treasury secretary was well-received, given his hedge fund background and perceived alignment with potential tax reform and deregulation initiatives. Overall, markets remained optimistic about the potential for growth-oriented policies under the new administration. This optimism was further bolstered by the Federal Reserve's rate cut, which is also expected to stimulate economic expansion. Large cap stocks underperformed small caps (Russell 1000 Index: +6.4% vs. Russell 2000 Index: +11.0%). In both the large and small cap spaces, growth stocks outperformed value (Russell 1000 Growth Index: +6.5% vs. Russell 1000 Value Index: +6.4%; Russell 2000 Growth Index: +12.3% vs. Russell 2000 Value Index: +9.7%).

Sector performance was broadly positive in November, with all 11 sectors that comprise the Russell 3000 posting gains. The top-performing sectors were Consumer Discretionary (+12.9%), Financials (+11.0%), Industrials (+8.4%), and Energy (+8.1%). Sectors with more modest gains included Communication Services (+3.5%), Materials (+3.0%), and Health Care (+0.8%). The Financials and Energy sectors were buoyed by expectations of deregulation, while Industrials saw gains tied to anticipated tax cuts and trade policy expectations.

Russell 3000 Index 1 Month Sector Returns



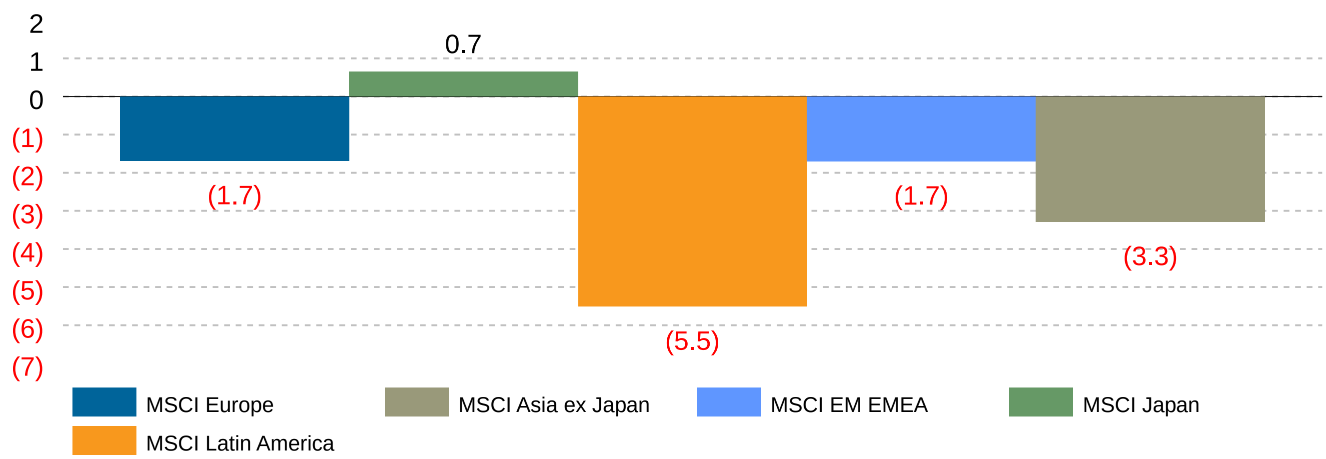
Global ex-U.S. Equity Overview
As of November 30, 2024

Index	Last Month	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
MSCI ACWI ex USA	(0.91)	8.06	13.03	2.86	5.40	4.62
MSCI EAFE	(0.57)	7.26	11.88	4.15	5.89	5.07
MSCI EAFE Hedged	0.75	1.47	17.03	10.68	10.05	8.76
MSCI Emerging Markets	(3.59)	8.72	11.86	(1.27)	3.20	3.16
MSCI ACWI ex USA Small Cap	(0.44)	8.90	12.31	0.62	5.76	5.76

Global ex-U.S. equities recorded losses in November. The MSCI ACWI ex-USA Index fell 0.9%, with growth stocks outperforming value (MSCI ACWI ex-USA Growth Index: -0.8% vs. MSCI ACWI ex-USA Value Index: -1.0%) and large cap stocks outperforming small cap (MSCI ACWI ex-USA Large Cap Index: +0.1% vs. MSCI ACWI ex-USA Small Cap Index: -0.4%). In the euro zone, signs of economic weakness persisted throughout the month. Despite rising inflation expectations, markets anticipated further policy easing to counter the softening economic data. Concerns over potential changes to trade policies weighed on market performance. In the U.K., equities were supported by strong performance in the financial sector. The Bank of England's expected 25-bps rate cut, signaling a supportive monetary policy environment, and increased corporate takeover activity, contributed to positive investor sentiment. In Japan, market performance was negatively impacted by concerns over potential tariff policies, particularly for exporters in the auto, tech, and basic materials sectors. The yen appreciated against the U.S. dollar amid expectations of additional rate hikes from the Bank of Japan in December. The U.S. dollar strengthened against a basket of developed market currencies over the month (MSCI EAFE Index: -0.6% vs. MSCI EAFE Hedged Index: +0.8%).

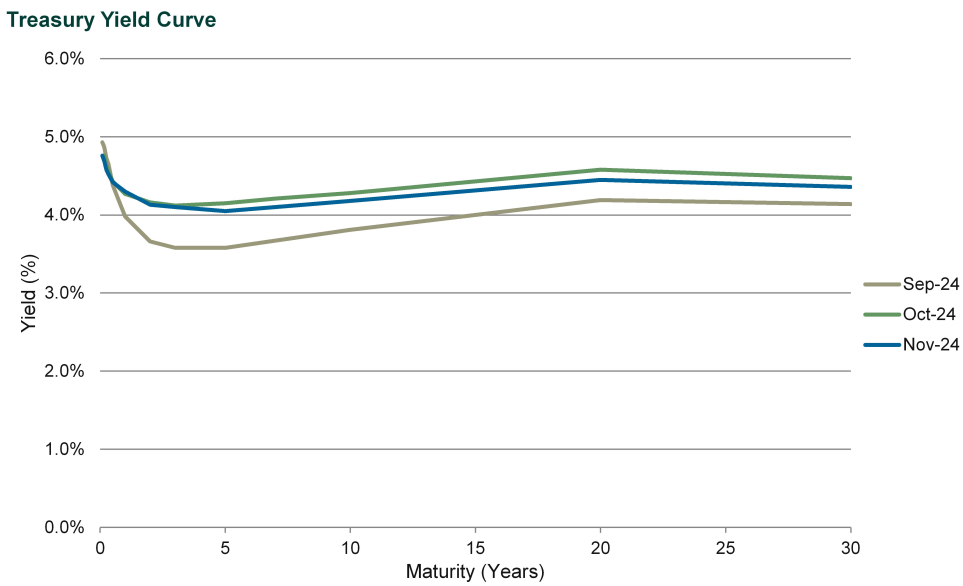
Emerging markets underperformed significantly in November, falling 3.6% (MSCI Emerging Markets Index). A strengthening U.S. dollar, driven by concerns over potential trade tariffs and inflationary pressures from policy shifts, further weighed on emerging market equities. Chinese markets were a notable drag due to concerns over future trade conflicts, including Trump's prior pledge to impose tariffs of up to 60% on Chinese imports. In contrast, Singapore experienced inflows as investors reduced exposure to China and Hong Kong. Meanwhile, markets in Mexico, Saudi Arabia, Malaysia, and India outperformed the broader Emerging Markets Index, providing pockets of relative strength. Emerging Europe, the Middle East, and Africa saw negative returns (MSCI EM EMEA: -1.7%), as did Latin American markets (MSCI Emerging Markets Latin America Index: -5.5%).

MSCI Regional 1 Month Returns



Fixed Income Overview
As of November 30, 2024

Index	Last Month	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Bloomberg Aggregate	1.06	5.20	6.88	(1.95)	(0.01)	1.52
Bloomberg Long Gov/Credit	2.02	7.96	8.63	(7.95)	(2.52)	1.65
Bloomberg Treasury	0.78	4.74	5.59	(2.54)	(0.48)	1.00
Bloomberg Credit	1.27	5.71	8.36	(1.60)	0.68	2.49
Bloomberg Mortgage	1.33	5.53	7.33	(1.61)	(0.35)	1.09
Bloomberg TIPS	0.48	4.12	6.26	(1.67)	2.27	2.29
Bloomberg Corp High Yield	1.15	5.28	12.71	3.70	4.72	5.06
Credit Suisse Leveraged Loans	0.84	2.08	10.16	6.86	5.95	4.95
90-day T-bill	0.38	1.37	5.32	3.76	2.41	1.73



Fixed Income markets posted positive returns in November (Bloomberg US Aggregate Bond Index: +1.1%). Treasury yields experienced significant volatility during the month. The 10-year yield initially rose amid expectations of strong economic growth and inflationary policies but ultimately closed the month lower than October. The 2-year yield followed a similar trajectory. The Federal Reserve cut rates by a quarter point during its November meeting, though expectations for additional cuts over the next 12 months diminished due to inflation concerns. In the municipal bond market, demand remained robust throughout the month, while supply hit its lowest point of the year as issuers held back amid potential volatility surrounding the election and the Fed's decision.

Investment-grade bond issuance in November reached $97 billion, significantly surpassing dealer forecasts of $70 billion. Yields on investment-grade corporates dropped 11 basis points to 5.05%. High yield bond activity slowed significantly in the primary market, with just $9 billion in new issuance. High yield spreads ended the month at 266 bps, 16 bps tighter than October. Yields decreased 19 bps to 7.14%. Treasury yields across maturities declined during November: the 90-day T-bill yield decreased 6 bps to 4.58%, the 2-year fell 3 bps to 4.13%, the 10-year decreased 10 bps to 4.18%, and the 30-year decreased 11 bps to 4.36%. The 2-10 year Treasury yield spread tightened from 12 bps to 5 bps.

Sector performance within fixed income was also positive. The Bloomberg Credit Index and the Bloomberg High Yield Corporate Index increased 1.3% and 1.2%, respectively. Long bonds (Bloomberg Long Gov/Credit Index) rose 2.0% this month. TIPS (Bloomberg US TIPS Index: +0.5%) underperformed nominal Treasuries (Bloomberg Treasury Index: +0.8%). The 10-year breakeven inflation rate decreased from 2.33% to 2.26%.

The table below details the rates of return for the fund's asset classes over various time periods ended November 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 November 30, 2024									
Composite	Total Fund Weighting As of 11/30/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Domestic Equity	**34.93%**	**7.36%**	**8.18%**	**13.89%**	**25.62%**	**33.93%**	**9.59%**	**13.72%**	**11.70%**
Domestic Equity Benchmark(1)		*6.65%*	*8.06%*	*12.46%*	*27.71%*	*34.49%*	*10.54%*	*14.81%*	*12.98%*
Excess Return		*0.71%*	*0.12%*	*1.42%*	*-2.09%*	*-0.55%*	*-0.96%*	*-1.09%*	*-1.29%*
Total Non US Equity	**18.74%**	**0.83%**	**-1.70%**	**3.93%**	**9.93%**	**15.44%**	**4.21%**	**5.92%**	**5.43%**
Non US Equity Benchmark(2)		*-0.91%*	*-3.23%*	*1.83%*	*7.63%*	*13.03%*	*2.86%*	*5.40%*	*4.62%*
Excess Return		*1.74%*	*1.53%*	*2.10%*	*2.31%*	*2.41%*	*1.34%*	*0.52%*	*0.80%*
Total Fixed Income	**18.89%**	**1.04%**	**0.08%**	**3.91%**	**3.32%**	**7.50%**	**-0.83%**	**1.44%**	**2.25%**
Bloomberg Capital Universe Bond Index		*1.05%*	*0.11%*	*3.89%*	*3.60%*	*7.53%*	*-1.47%*	*0.39%*	*1.87%*
Excess Return		*-0.01%*	*-0.03%*	*0.02%*	*-0.29%*	*-0.04%*	*0.65%*	*1.05%*	*0.38%*
Total Cash	**1.64%**	**0.39%**	**1.23%**	**2.12%**	**4.83%**	**5.32%**	**3.86%**	**2.47%**	**1.81%**
3-Month Treasury Bill		*0.38%*	*1.20%*	*2.14%*	*4.83%*	*5.32%*	*3.76%*	*2.41%*	*1.73%*
Excess Return		*0.00%*	*0.03%*	*-0.02%*	*0.00%*	*0.00%*	*0.11%*	*0.06%*	*0.09%*
Total Real Estate (Q2)*	**8.64%**	**-0.07%**	**-0.14%**	**-0.04%**	**-5.43%**	**-7.07%**	**3.71%**	**5.93%**	**8.33%**
Real Estate Benchmark(3)		*0.01%*	*-0.20%*	*-0.65%*	*-8.04%*	*-8.69%*	*-0.36%*	*2.12%*	*5.32%*
Excess Return		*-0.08%*	*0.07%*	*0.60%*	*2.61%*	*1.63%*	*4.07%*	*3.81%*	*3.01%*
Total Private Equity (Q2)*	**12.81%**	**-0.01%**	**-0.02%**	**0.02%**	**3.69%**	**5.08%**	**5.73%**	**13.04%**	**11.76%**
Private Equity Benchmark(4)		*2.31%*	*7.70%*	*8.23%*	*34.42%*	*28.39%*	*11.30%*	*18.52%*	*16.06%*
Excess Return		*-2.31%*	*-7.73%*	*-8.22%*	*-30.73%*	*-23.31%*	*-5.58%*	*-5.48%*	*-4.30%*
Total Private Debt (Q2)*	**4.35%**	**-0.07%**	**-0.46%**	**-0.07%**	**3.83%**	**5.58%**	**6.35%**	**5.54%**	**5.84%**
Private Debt Benchmark(5)		*1.15%*	*3.35%*	*4.46%*	*12.28%*	*12.17%*	*6.09%*	*5.32%*	*4.99%*
Excess Return		*-1.22%*	*-3.81%*	*-4.53%*	*-8.45%*	*-6.58%*	*0.26%*	*0.22%*	*0.85%*
Total Fund Composite	**100.00%**	**2.81%**	**2.37%**	**6.02%**	**10.64%**	**14.90%**	**5.25%**	**8.32%**	**7.58%**
Total Fund Benchmark(6)		*2.37%*	*2.69%*	*6.06%*	*13.44%*	*16.87%*	*5.14%*	*8.32%*	*7.79%*
Excess Return		*0.44%*	*-0.32%*	*-0.03%*	*-2.80%*	*-1.97%*	*0.11%*	*0.00%*	*-0.21%*

(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 11/30/24, the Total Fund has returned 6.61% versus the Total Fund Custom Benchmark return of 6.63%.

*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 November 30, 2024, with the distribution as of October 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.

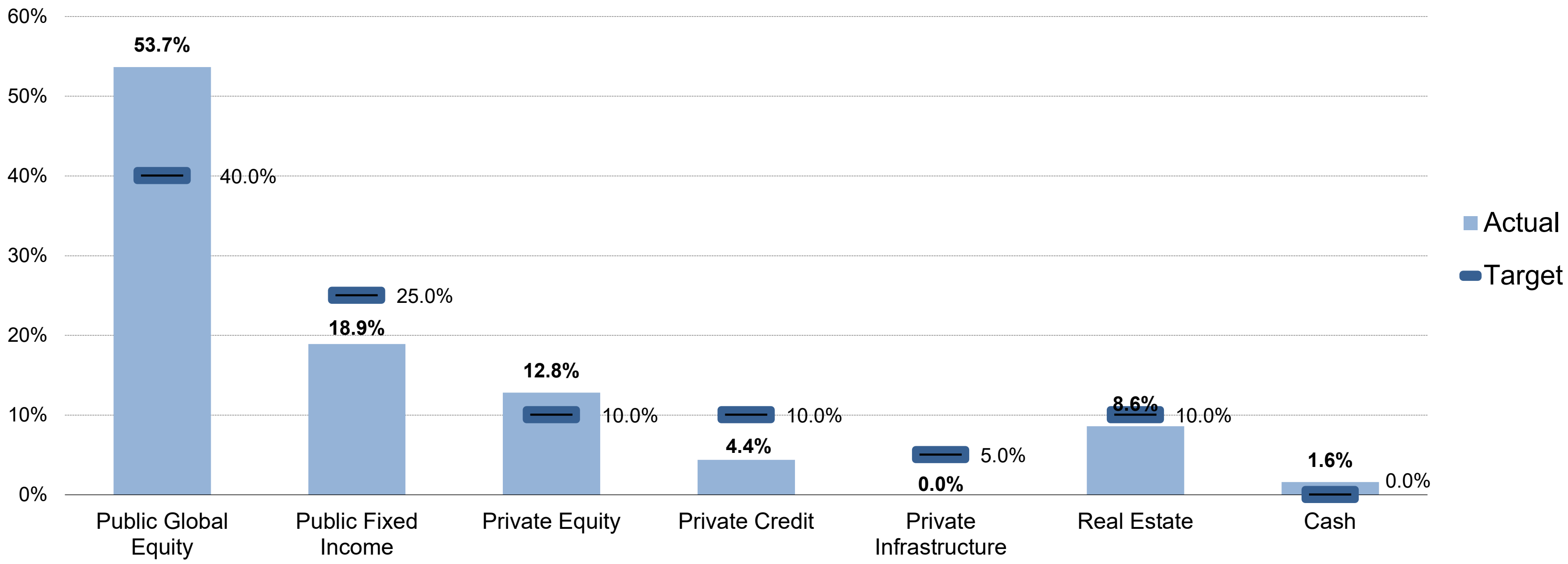
Asset Distribution Across Investment Managers

	November 30, 2024				October 31, 2024	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Domestic Equity	**$4,493,328,885**	**34.93%**	**$0**	**$308,876,407**	**$4,184,452,478**	**33.32%**
Large Cap Domestic Equity	**$2,560,849,362**	**19.91%**	**$0**	**$141,946,508**	**$2,418,902,854**	**19.26%**
Blackrock S&P 500	2,560,849,362	19.91%	0	141,946,508	2,418,902,854	19.26%
SMid Cap Domestic Equity	**$818,788,014**	**6.36%**	**$0**	**$68,736,974**	**$750,051,040**	**5.97%**
AllianceBernstein	523,208,756	4.07%	0	47,937,102	475,271,654	3.78%
TSW	295,579,257	2.30%	0	20,799,872	274,779,386	2.19%
Small Cap Domestic Equity	**$1,113,691,509**	**8.66%**	**$0**	**$98,192,926**	**$1,015,498,583**	**8.09%**
Boston Trust	285,363,856	2.22%	0	27,873,350	257,490,506	2.05%
Segall Bryant & Hamill	300,800,398	2.34%	0	26,020,872	274,779,526	2.19%
Wellington	527,527,255	4.10%	0	44,298,704	483,228,551	3.85%
Total Non US Equity	**$2,410,665,894**	**18.74%**	**$(671)**	**$20,929,846**	**$2,389,736,719**	**19.03%**
Core Non US Equity (1)	**$1,451,274,055**	**11.28%**	**$(671)**	**$812,078**	**$1,450,462,647**	**11.55%**
Aristotle	189,605,937	1.47%	0	2,199,047	187,406,891	1.49%
Artisan Partners	429,251,028	3.34%	(671)	5,795,895	423,455,805	3.37%
BlackRock Superfund	203,104,358	1.58%	0	(1,594,620)	204,698,978	1.63%
Causeway Capital	459,262,969	3.57%	0	(6,657,892)	465,920,861	3.71%
Lazard	169,551,715	1.32%	0	1,083,534	168,468,181	1.34%
Emerging Markets	**$185,423,988**	**1.44%**	**$0**	**$(5,548,378)**	**$190,972,366**	**1.52%**
Wellington Emerging Markets	185,423,988	1.44%	0	(5,548,378)	190,972,366	1.52%
Non US Small Cap	**$141,971,710**	**1.10%**	**$0**	**$(277,718)**	**$142,249,428**	**1.13%**
Wellington Int'l Small Cap Research	141,971,710	1.10%	0	(277,718)	142,249,428	1.13%
Global Equity	**$631,996,142**	**4.91%**	**$0**	**$25,943,864**	**$606,052,278**	**4.83%**
Walter Scott Global Equity	631,996,142	4.91%	0	25,943,864	606,052,278	4.83%
Total Fixed Income	**$2,430,223,600**	**18.89%**	**$0**	**$25,567,936**	**$2,404,655,664**	**19.15%**
BlackRock SIO Bond Fund	281,340,599	2.19%	0	3,006,475	278,334,124	2.22%
Brandywine Asset Mgmt	228,920,609	1.78%	0	928,206	227,992,403	1.82%
FIAM (Fidelity) Tactical Bond	391,697,002	3.04%	0	4,761,512	386,935,490	3.08%
Income Research & Management	814,425,403	6.33%	0	8,491,290	805,934,113	6.42%
Loomis Sayles	304,964,586	2.37%	0	4,056,278	300,908,308	2.40%
Manulife Strategic Fixed Income	224,450,536	1.74%	0	2,384,148	222,066,388	1.77%
Mellon US Agg Bond Index	184,424,864	1.43%	0	1,940,026	182,484,838	1.45%
Total Cash	**$210,571,781**	**1.64%**	**$(3,656,042)**	**$861,063**	**$213,366,759**	**1.70%**
Total Marketable Assets	**$9,544,790,159**	**74.19%**	**$(3,656,713)**	**$356,235,252**	**$9,192,211,620**	**73.19%**
Total Real Estate	**$1,111,986,028**	**8.64%**	**$(13,605,744)**	**$(786,098)**	**$1,126,377,869**	**8.97%**
Strategic Core Real Estate	632,241,795	4.91%	(4,609,181)	(0)	636,850,976	5.07%
Tactical Non-Core Real Estate	479,744,232	3.73%	(8,996,562)	(786,098)	489,526,892	3.90%
Total Alternative Assets	**$2,207,939,068**	**17.16%**	**$(32,249,426)**	**$(492,406)**	**$2,240,680,900**	**17.84%**
Private Equity	1,648,251,641	12.81%	(28,213,643)	(94,811)	1,676,560,094	13.35%
Private Debt	559,687,427	4.35%	(4,035,783)	(397,595)	564,120,805	4.49%
Total Fund Composite	**$12,864,715,255**	**100.0%**	**$(49,511,882)**	**$354,956,748**	**$12,559,270,389**	**100.0%**

-Alternatives market values reflect current custodian valuations, which may not be up to date.
(1) Includes $498,046 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 November 30, 2024 (Preliminary)



Note: private infrastructure and private credit allocations will be scaled up incrementally in subsequent periods to meet target allocations effective as of 7/1/2024.

Source: NHRS

Asset Class Allocations Relative to Policy Targets and Ranges

As of November 30, 2024 (preliminary)

Asset Class	Range[1]	Target	Actual	Variance	Objective	Comments
	Allocation					
Public Markets						
Global Equity	30 - 50%	40.0%	53.7%	13.7%	**Action**	Actual allocation to be reduced over subsequent periods to fund new infrastructure allocation and increase to private credit.
Fixed Income	18 - 32%	25.0%	18.9%	-6.1%	**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. Funds for rebalance were taken from global equity allocation.
Private Markets						
Equity[1]	5 - 15%	10.0%	12.8%	2.8%	**Monitor**	No immediate action needed.
Credit[1]	0 - 15%	10.0%	4.4%	-5.6%	**Action**	To be scaled up incrementally over subsequent periods as part of SAA implementation.
Infrastructure	0 - 15%	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%	8.6%	-1.4%	**Monitor**	No immediate action needed.
Cash Equivalents	0 - 5%	0.0%	1.6%	1.6%	**No Action**	Minimal cash balance to provide liquidity, as needed, for annuities, capital calls and other plan needs.
		100.0%	100.0%	0.0%		

[1]*As reported on the November 30, 2024 Callan Monthly Review*

Source: NHRS

NHRS

New Hampshire Retirement System

To: Investment Committee

From: Raynald Leveque, Chief Investment Officer

Date: January 14, 2025

Re: **Work Plan / Recap of December 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 December Investment Committee (IIC) meeting is as follows:

- Staff presented an update on the monthly performance of the public market asset classes of the NHRS, holdings, and the Work Plan.
- The Committee unanimously voted to approve its 2025 meeting schedule.
- Staff presented an update on the Global Equity and Global Fixed Income Plan Implementation.
- The Committee heard presentations from non-U.S. equity managers Artisan and Causeway in conjunction with the five-year contract extension process.
- The Committee unanimously approved a five-year contract extension for Causeway through December 31, 2029.
- The Committee postponed the contract extension vote for Artisan to the January 2025 IIC meeting, due to a lack of quorum.
- The Committee heard a presentation from private equity manager Top Tier and unanimously voted to commit $25 million to the Top Tier Venture Velocity Fund V, subject to contract and legal review.
- The Committee heard a presentation from private credit manager Blackstone and unanimously voted to commit $75 million to Blackstone Multi-Asset Credit, subject to contract and legal review.
- The Committee unanimously voted to conditionally approve the Comprehensive Annual Investment Report (CAIR) for the Fiscal Year Ended June 30, 2024, and to recommend its approval by the Board.

NHRS
New Hampshire Retirement System

To: Investment Committee
From: Raynald Leveque, Chief Investment Officer
Date: January 14, 2025
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**.

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
  February – Callan Capital Market Assumptions

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

Alternative Investments
- January – Callan, 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
- **February – Abel Noser, trading cost analysis**
- **February – Annual Update on Commission Sharing Agreements**

4th Quarter FY 2025: April – June 2025

Investment Program
- **Continue implementation of Strategic Asset Allocation**
- **Rebalance portfolio as needed to fund increases to private credit and infrastructure sourced from global equity**

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

Alternative Investments
- Continue implementation of 2025 Private Debt & Equity Strategic Plan
  June - Callan, Semi-Annual Update on the Private Debt & Equity program
- Review Private Debt & Equity investments

Real Estate
- Continue implementation of 2025 Real Estate Investment Plan
  June - Townsend, Semi-Annual Update on the Real Estate Investment Plan

Completed Items – Fiscal Year 2025

2nd Quarter FY 2025: October – December 2024

Investment Program
- October / November – SAA Strategy & Implementation Plan:
  Global Equity, Global Fixed Income, Infrastructure
- October - 2025 Investment Committee meeting schedule, **unanimous approval in December**
- December - FY 2024 Comprehensive Annual Investment Report, **unanimous approval in December for recommendation to the Board of Trustees.**

Marketable Investments
- Schedule presentations of current investment managers
- December – Causeway, Artisan, Non-U.S. Equity Contract Renewals, **unanimous five-year renewal vote of Causeway contract in December; Artisan renewal postponed to January due to lack of quorum**
- Monitor and execute structure of marketable assets portfolio

Alternative Investments
- Continue implementation of the 2024 Private Debt & Equity Investment Plan
  December – TopTier, Venture Velocity Fund V, Private Equity, **unanimous approval of $25 million commitment**
  December – Blackstone, Blackstone Multi Asset Credit, Private Credit, **unanimous approval of $75 million commitment**

Real Estate
- Continue implementation of Calendar Year 2024 Real Estate Investment Plan

<u>1st Quarter FY 2025: July – September 2024</u>

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

The Townsend Group Presenter Biographies

Anthony Frammartino, CEO

Mr. Frammartino is the CEO of Townsend Group. He is a member of the Global Macro Strategy and Investment Committees for the firm and has been a member of the Management Committee since its inception in 2011. Prior to heading Townsend, he led the investment management business from 2011-2022 directing the firm's forays into new asset management lines.

Mr. Frammartino joined Townsend Group in 2004, having served as an investment banker advising real estate investors on public and private transactions at KeyBanc Capital Markets (FKA McDonald Investments).

Mr. Frammartino received an MBA in Finance from The Weatherhead School of Management at Case Western Reserve University and a BS in Accounting from The University of Akron.

Industry Experience: 22 years
Townsend Tenure: 20 years

Tony Pietro, Partner

Tony Pietro is a Partner and member of the Investment Committee of the firm. Mr. Pietro is responsible for leading the investment management activities for the firm in the United States.

Mr. Pietro participates in all aspects of investment management including, but not limited to, leading client relationships, strategic and investment planning, and investment due diligence and execution. Mr. Pietro has acted as the lead underwriter for several client investments. Since originally joining Townsend Group in 2006, Mr. Pietro has also focused on various aspects of the firm's businesses, including spending periods of time working within the dedicated advisory and investment underwriting groups.

Mr. Pietro has prior experience in multifamily development as a Project Manager for the NRP Group, a full-service development, construction, and property management firm.

Mr. Pietro obtained his BS in Finance with a concentration in Real Estate from Ohio University.

Industry Experience: 18 years
Townsend Tenure: 18 years

The Townsend Group Presenter Biographies

Joe Davenport, Partner

Mr. Davenport joined Townsend Group in 2012. As a Partner, Joe is responsible for discretionary portfolio management for clients with more than $3 billion in total real estate assets under management. Mr. Davenport participates in strategic and investment planning, investment due diligence and execution, portfolio management, and performance reporting.

Prior to joining Townsend Group, Mr. Davenport worked in risk management and corporate finance for a Fortune 100 insurance and financial services company.

Mr. Davenport received a BS in Finance and Real Estate from The Ohio State University, and a MS in Finance from Indiana University.

Industry Experience: 12 years
Townsend Tenure: 12 years

Christian Nye, Associate Partner

Christian Nye joined Townsend Group in 2016. He is an Associate Partner on the portfolio management team. His main responsibilities include strategic and investment planning, investment due diligence and execution, portfolio analytics, and performance reporting. He also supports the development of Townsend's research and investment strategies.

Mr. Nye received his BSBA specialized in Finance and Real Estate from The Ohio State University. Mr. Nye is a CFA® charter holder.

Industry Experience: 8 years
Townsend Tenure: 8 years

New Hampshire Retirement System

Strategic Plan

January 2025

Townsend Group
Cleveland • San Francisco • London • Hong Kong

Agenda

TOWNSEND® GROUP

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02	NHRS Real Estate Program	10
03	Market Overview	20
04	NHRS and Townsend History	27
05	Appendices	29

01

Townsend Overview

Townsend Snapshot

An established global real assets platform

- Townsend is an established real assets platform bridging both primary capital formation and secondary market liquidity solutions
- Global presence with 108 professionals employed across 4 offices in the US, Europe and Asia
- Exclusive focus on real assets including real estate, infrastructure, timberland, and agriculture
- Townsend serves a diverse group of global institutional investors including public and private pension plans, insurers, sovereign wealth funds, endowments and foundations

$218.2B
Advised assets

$21.5B
Assets Under Management

Investment Highlights

+$227B / 1,500
Capital committed / number of Investments approved since 2004

+$5B / 18
Townsend-led Open-End Fund originations since 2010

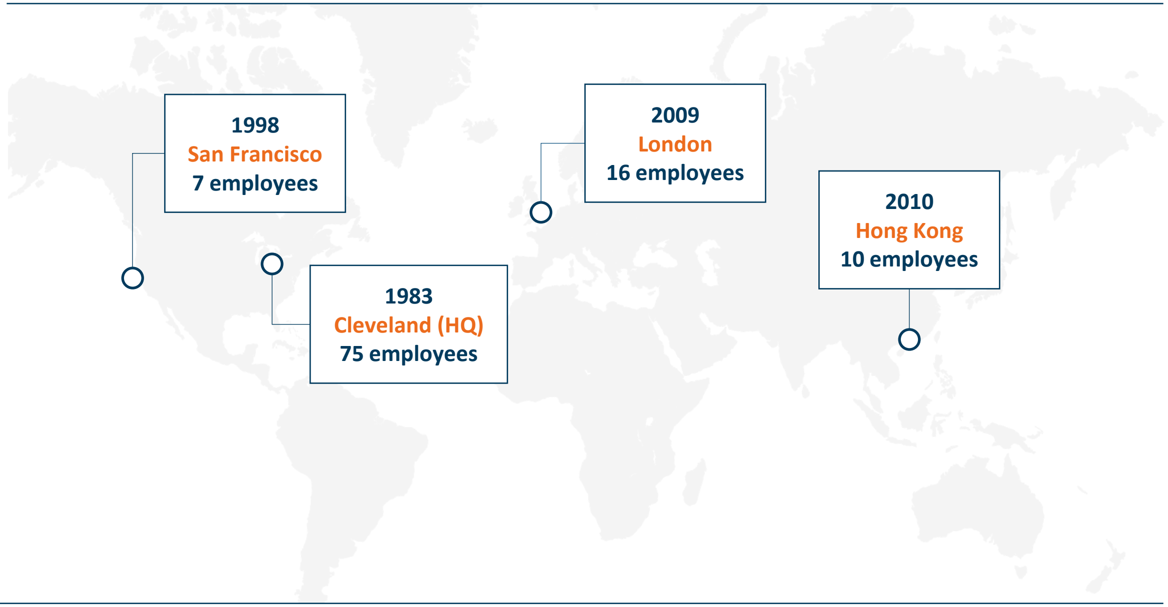
+$9B / 166
Secondary, Recapitalization, JV, Co-Investment, and Platform Transactions since 2007

Townsend Offices

4
Offices

108
Professionals

69
Investment Professionals



Time periods noted may differ, however the dates shown represent most recent data available. Advising clients with assets in excess of $239.6B to real estate and real assets (infrastructure, energy, timber and agriculture). As of December 31, 2023, Townsend had assets under management of approximately $21.5 billion; and provided advisory services to clients who had real estate/real asset allocations exceeding $218.2 billion. Please refer to back pages for additional disclosures and definitions. Employee numbers as of October 2024. Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice.

Why Townsend?

Platform competitive advantages

Trusted Global Partner

Strategic partner to LPs and GPs since 1983, managing $21.5B of AUM and advising investors with assets in excess of $218.2B

Cycle-tested senior team averaging +20 years working together supported by 108 professionals across offices in the US, Europe, and Asia

Access to Deal Flow

Regular communication and collaboration with a broad universe of GPs, and institutional investors drive proprietary partnership sourcing and non-brokered secondary opportunities

Established market position and longstanding relationships with GPs leads to more opportunities

Informational Advantage

Access to proprietary private market data going back +40 years

Deep market presence across the firm through multiple teams (Fund Diligence, Consultants, PMs, Research, Sourcing)

Townsend retains or advises clients with +270 Advisory Board seats

Demonstrated Track Record

US Core Plus Strategies achieving a 10.7% net TWR since inception in 2010 and outperforming the NFI-ODCE by 290 bps annually[1]

Global Value-Add Capital Solutions Strategy achieving a 16.0% net IRR on $3.2B of dedicated LP Commitments since strategy inception in 2007[2]

1. Represents TCREF performance since inception. 2. Performance represents Dedicated Townsend Real Estate Capital Solutions Strategy only. Net IRRs reflect the return that an investor would have on their funded capital contributions, after all fees, assuming liquidation of any unrealized holdings at reported market value as of the calculation reference date. Investment valuations and performance data used in the calculation of performance metrics are reported to Townsend on a quarterly basis by each underlying investment partner. Source: Townsend Group. Performance data and underlying valuations as of 2Q24. As of December 31, 2023, Townsend had assets under management of approximately $21.5 billion; and provided advisory services to clients who had real estate/real asset allocations exceeding $218.2 billion. Townsend's views are as of this date of this publication and may be changed or modified at any time without notice. There can be no assurance that the Strategy will achieve comparable results, that diversification or asset allocations will be met, or that the Strategy will be able to implement its investment strategy and investment approach or achieve its investment objectives. Past performance is not indicative of future results. Investing involves risk, including possible loss of principal. No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment. Actual results and developments may differ materially from those expressed or implied herein. Fee savings are not guaranteed.

Committed Leadership and a Trusted Global Partner

Established senior team supported by global platform

TOWNSEND® GROUP

Anthony Frammartino
Chief Executive Officer

Ron Weihrauch
Chief Operating Officer

Brian White
Chief Financial Officer

Morgan Angus
EMEA

Min Lim
APAC

Jay Long
IC Chairman

John Schaefer

Prashant Tewari

Sarah Cachat

Tony Pietro

+20 years
average industry experience of senior management

A global platform with 69 investment professionals and 4 full service global offices

AMERICAS

Partners
Anthony Frammartino*
Jay Long*
John Schaefer*
Prashant Tewari*
Tony Pietro*
Sarah Cachat*
Jake Heacox
Seth Marcus
Scott Miller
Mike Golubic
Joe Davenport
Martin Rosenberg*
Rob Kochis
Jeff Leighton
Chris Cunningham
Dan Stenger
Dick Brown
Matt Racketa

Associate Partners
Zane Hemming
Dan O'Connell
Jeff Deal
Mike Stark
Christian Nye
PJ Callam
Adam Orlansky
Felix Fels
James Bannon
Stephanie Bender
Dave Rehmar

Vice Presidents
Dan Ryder
Tod Akovic
Mike Petras
Kevin Rivchun
Lauren Conrad

Associates
Alexa Willmann
Kathryn Finneran
Malcom Blake
Haya Daawi
Jose Calderon
Dilon Glasko
Brian Booth

Analysts
Nima Edalatjavid
John Minotti
Federico Sierralta
Max DiFranco
D'metrius Grier
Teddy Grendzynski

EMEA

Partners
Morgan Angus*
Laurie Woolmer
David Dix
Nick Duff

Vice Presidents
James Kipling

Analysts
Vishnu Satkunabalan
Harry Brown
Olga Postnikova

Associate Partners
Nicky King
George Fenton
Myles Grover

Associates
Milo Soames
Tom Trumble
Will Thompson
Ben Wilson

Independent
Asieh Mansour

APAC

Partners
Min Lim*
Joseph Tang

Vice Presidents
Suzy Ji
Paul Sohn
Tommy Fu

Associate Partners
Don Shin
Gordon Yu

Associates
Natalie Wong

Analysts
Jeannie Chow
Lizzie Jeon

+39
Support professionals

**Investment Committee Member*

ESG
Jay Long
Morgan Angus
Nick Duff
Haya Daawi
Kathryn Finneran
Myles Grover
Will Thompson

Updated as of October 2024. There can be no assurance that any of these professionals will remain with the Strategy.
Townsend's views are as of this date of this publication and may be changed or modified at any time without notice.

Informational Advantage

Enables identification of areas of compelling opportunity

Underwriting Data
700+ Active Investments & 300+ Primary Funds screened annually

Townsend Team
Sourcing/Acquisitions, Fund diligence, Consultants, and Sector Specialists

Third-Party Reports
Data and Reports from multiple providers

Manager Data Submission
From **2,700+** quarterly data submissions to our performance database

2,700+ Client-Level Submissions
700+ Fund-Level Submissions
500+ Asset-Level Submissions

Townsend Global Macro Committee & Investment Sourcing
Weekly meetings of senior Townsend professionals

Meeting Intel
From **1,000+** GP and Sponsor relationships

270+ Advisory Board seats retained or advised[1]

50+ Active Investment governance positions

Townsend View of the World

Identify Global Relative Value

Informed Underwriting

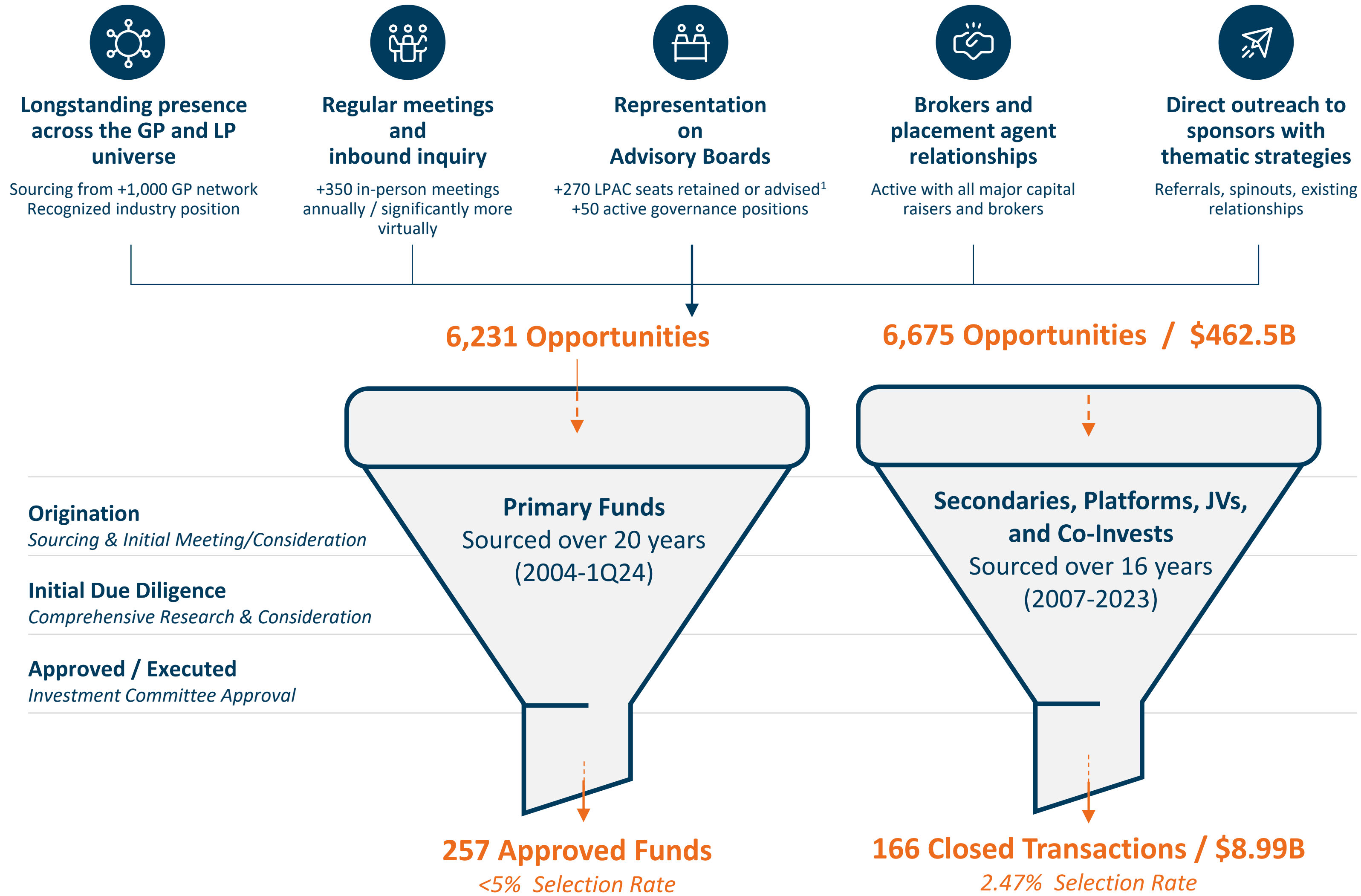
[1] Retained Advisory Board Seats represent positions maintained and voted by Townsend. Advised Board Seats represent positions retained by clients advised by Townsend
Global Macro Strategy Committee meets twice monthly. Investment Committee meets twice weekly.
Source: Townsend Group. Data as of 2Q24. Townsend's views are as of this date of this publication and may be changed or modified at any time without notice.

Sourcing and Selectivity

Investment sourcing and execution capabilities

Leveraging a specialized industry position

- Townsend has been a strategic partner to LPs and GPs since 1986
- Consolidation has left hundreds of high-quality fund managers under-capitalized
- Townsend's industry position and ability to aggregate capital has allowed for sourcing from a vast number of high-quality partners
- The firm's longstanding presence and active outreach has allowed Townsend to source and shape fund offerings ahead of market distribution



[1] Retained Advisory Board Seats represent positions maintained and voted by Townsend. Advised Board Seats represent positions retained by clients advised by Townsend

Source: Townsend Group. Primary Funds data from 2004-1Q24. Secondaries, Platforms, JVs, and Co-Invests data from 2007-2023. Represents all discretionary Active Investments sourced/executed. Townsend's views are as of this date of this publication and may be changed or modified at any time without notice. Past performance is not indicative of future results. Actual results and developments may differ materially from those expressed or implied herein.

Townsend Evolution

TOWNSEND® GROUP

Townsend has evolved to meet the investment needs of its clients and the changing investment landscape

Company Milestones

- **1983** Founded by Terry Ahern and Kevin Lynch
- **1986** First Advisory Client (Still a Client)
- **1990s** Begins covering Timber and Agriculture
- **1996** First OCIO Mandate
- **1998** Raises first Commingled Fund
- **2005** Begins covering Infrastructure
- **2009** Opens London Office
- **2010** Opens Hong Kong Office
- **2014** Launches a US Fund focused on Open-End Fund Originations
- **2020** Launches a Global Core Real Estate Fund
- **2024** Initiates opening a Seoul Office

The Townsend Group

Timeline Milestones

- **2007** Launches TRECS Strategy through an SMA with a US Public Pension
- **2008** First Recapitalization
- **2010** First LP Fund Secondary
- **2017** First Direct GP Capital / Platform Transaction
- **2022** Raised dedicated SMA for Platform Investments
- **2024** Launches its next TRECS Strategy Offering

GLOBAL FINANCIAL CRISIS AND RECOVERY

COVID-19 PANDEMIC / GLOBAL MONETARY TIGHTENING

Townsend's views are as of this date of this publication and may be changed or modified at any time without notice.

02

NHRS Real Estate Program

Real Estate Program Overview

Allocation, Investment Guidelines, and Benchmark

Role of Real Estate

- Risk adjusted returns
- Low correlations to other asset classes
- Potential inflation hedge

Allocation

- Target 10% of total plan assets
  - allowable range of 5-20%
  - **Operating within targeted range**

Investment Guidelines / Risk Mitigation

- Designed in conjunction with NHRS
- **In compliance with all investment guidelines**

Benchmark

- NCREIF NFI-ODCE[1]
  - Measured net of fees over market cycles
  - **Townsend outperformance over all time periods**

Category	Compliance Criteria	Status
Return Objective	NFI-ODCE net of fees[1]	
Style Sector	Minimum 50% Strategic Maximum 50% Tactical	
Location Diversification	Maximum 35% Ex-US Maximum 50% of Ex-US in EM	
Property Diversification	Maximum 40% to a single property type	
Investment Diversification	Maximum 20% to a Strategic investment Maximum 10% to a Tactical investment	
Manager Diversification	Maximum 40% to a single manager	
Leverage	Maximum 50% Strategic Maximum 75% Tactical	

[1]National Council of Real Estate Investment Fiduciaries Open-End Diversified Core Equity; a collection of commingled funds pursuing a core investment strategy in the United States. The NFI-ODCE was adopted as NHRS' real estate benchmark on July 1st, 2015. NPI + 50 bps net of fees was NHRS' historic real estate benchmark.

Source: The Townsend Group, NCREIF. Data as of June 30, 2024. Townsend's views are as of this date of this publication and may be changed or modified at any time without notice. Past performance is not indicative of future results. Actual results and developments may differ materially from those expressed or implied herein.

Real Estate Program Performance

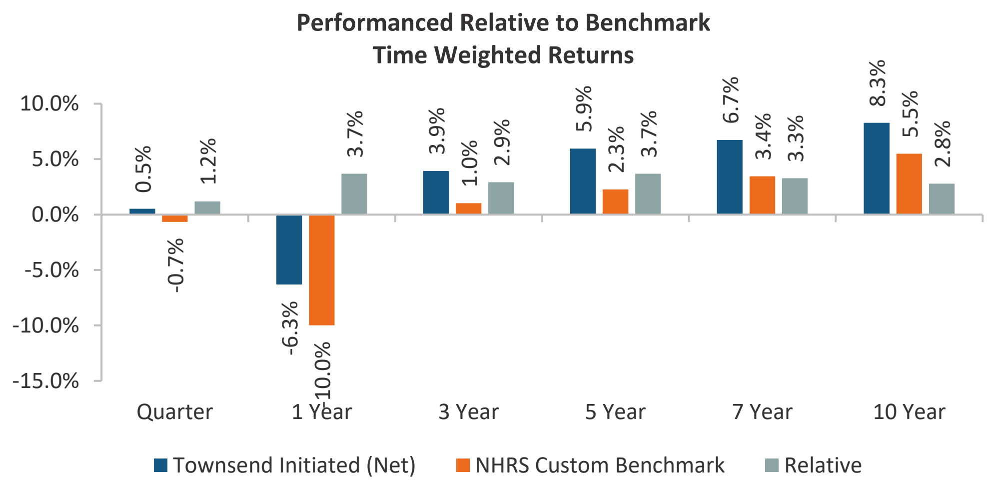
Overview

Role of Real Estate

- Townsend was awarded discretion beginning in 2009
- Over 14 years of performance history with consistent benchmark outperformance[1]
- 9.9% net annualized return and 1.5x equity multiple and over $872 million of value created
- 28 investments, fully or substantially realized, have returned a 15.1% net IRR and a 1.6x net equity multiple, creating over $283 million of value

Long Term Drivers

- Trade into core diversified funds
- Direct property asset/sales management
- Proprietary/newly formed-open end funds
- Townsend Special Situations
- Townsend negotiated fee savings
- Active portfolio positioning (Property types, geographies, risk profiles, etc.)



[1]National Council of Real Estate Investment Fiduciaries Open-End Diversified Core Equity; a collection of commingled funds pursuing a core investment strategy in the United States. The NFI-ODCE was adopted as NHRS' real estate benchmark on July 1st, 2015. NPI + 50 bps net of fees was NHRS' historic real estate benchmark.

Source: The Townsend Group, NCREIF. Data as of June 30, 2024. Townsend's views are as of this date of this publication and may be changed or modified at any time without notice. Past performance is not indicative of future results. Actual results and developments may differ materially from those expressed or implied herein.

Calendar Year 2024 Investment Plan Update

Goals & Progress

Source: The Townsend Group, NCREIF. Data as of June 30, 2024. [1]Underwritten IRRs and equity multiples reflect the return that an investor would have received on their funded capital contributions, after all fees. EM: ([Underwritten Distributions + Underwritten Withdrawals])/ Underwritten Paid in Capital).). [2]Fund's target returns. Townsend's views are as of this date of this publication and may be changed or modified at any time without notice. Past performance is not indicative of future results. Actual results and developments may differ materially from those expressed or implied herein.

Calendar Year 2025 Investment Plan

Goals & Projections

Source: The Townsend Group, NCREIF. Data as of June 30, 2024. [1]Circumstances may warrant more of less aggressive investment pacing consistent with market conditions. [2]Underwritten IRRs and equity multiples reflect the return that an investor would have received on their funded capital contributions, after all fees. EM: ([Underwritten Distributions + Underwritten Withdrawals])/ Underwritten Paid in Capital). Townsend's views are as of this date of this publication and may be changed or modified at any time without notice. Past performance is not indicative of future results. Actual results and developments may differ materially from those expressed or implied herein.

Pipeline

Source: The Townsend Group. All information prepared as of January 2025 unless otherwise stated. Past performance is not indicative of future results. Actual results and developments may differ materially from those expressed or implied herein. The example shown is for illustrative purposes only. Investors will not acquire an interest in the pictured property, the property is owned by an investment managed by the sponsor and not the program. Please see back pages for additional important disclosures. There is no guarantee that Townsend will have access to similar types of investments or opportunities in the future. Townsend's views are as of this date of this publication and may be changed or modified at any time without notice. Case studies were not selected on performance-based criteria and were selected to demonstrate investments of similar mandate. Fee savings not guaranteed

Pipeline

Source: The Townsend Group. All information prepared as of January 2025 unless otherwise stated. Past performance is not indicative of future results. Actual results and developments may differ materially from those expressed or implied herein. The example shown is for illustrative purposes only. Investors will not acquire an interest in the pictured property, the property is owned by an investment managed by the sponsor and not the program. Please see back pages for additional important disclosures. There is no guarantee that Townsend will have access to similar types of investments or opportunities in the future. Townsend's views are as of this date of this publication and may be changed or modified at any time without notice. Case studies were not selected on performance-based criteria and were selected to demonstrate investments of similar mandate. Fee savings not guaranteed

Portfolio Composition

Property Sector Diversification Relative to Benchmark

Source: The Townsend Group, NCREIF. Data as of June 30, 2024. NFI-ODCE Proxy includes 24 of the 25 funds in the NFI-ODCE and is based on Townsend collected data. Townsend's views are as of this date of this publication and may be changed or modified at any time without notice. Past performance is not indicative of future results. Actual results and developments may differ materially from those expressed or implied herein.

Real Estate Program Fee Savings

Townsend Is Highly Focused On Delivering Net Returns to NHRS

Scale of Portfolio

- Townsend seeks to reduce manager fees without compromising quality of execution as a risk-free way to drive performance by leveraging Townsend's scale:

[1]Relative to market rate investment at equivalent size to the June 30, 2024, valuation.

[2]Relative to a market rate non-core fund investment, assuming equivalent performance for each underlying investment, and hypothetical liquidation at June 30, 2024, valuations. Fee savings are equivalent to excess profit relative to a market rate non-core fund fee structure and is divided equally over the duration of the program.

Source: The Townsend Group. Townsend's views are as of this date of this publication and may be changed or modified at any time without further notice. Investing involves risk, including loss of principal. Past performance is not indicative of future results. Actual results and developments may differ materially from those expressed or implied herein.

Performance Relative to Peers

NHRS Continues To Be A Long-term Top Performer Relative To Other Comparable Institutional Investors

[1] 29 institutional investors, including corporate, governmental, and foundation/endowment plans pursuing a similar real estate strategy as NHRS.

Source: The Townsend Group. Data as of June 30, 2024. Townsend's views are as of this date of this publication and may be changed or modified at any time without notice. Past performance is not indicative of future results. Actual results and developments may differ materially from those expressed or implied herein.

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Market Overview

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NHRS and Townsend History

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Disclosures

Disclosure of Risk Factors

Speculative Nature A fundamental premise of private equity investing is the acceptance of illiquidity and a higher degree of risk in expecting higher returns. An investment in the Fund involves a substantial degree of risk, and the purchase of Interests should be considered only by investors able to bear the risk of loss of all or a substantial portion of their investment. No guarantee or representation is made that the investment objective of the Fund will be achieved.

Leverage The Portfolio Investments in which the Fund may invest may utilize highly leveraged capital structures on many investments in order to enhance returns. Although the use of leverage is common in real estate investing, and may both enhance returns and increase the number of investments in the Portfolio, it also exposes the investments to a high level of financial risk, including the risk of volatility in cash flow and default risk in the event that revenues do not meet expectations due to economic downturns, changes in supply and demand conditions, and the condition of the properties. In some cases, leverage will increase exposure to interest rate risk due to floating rate structures.

Loss of Investment An investor could lose some or all of her or his investment.

Lack of Diversification Use of a single advisor applying generally similar trading programs could mean lack of diversification and, consequently, higher risk.

Illiquidity; Lack of Transferability of Interests The Interests are highly illiquid. A Limited Partner may not sell, assign, transfer, pledge, or otherwise dispose of any of its Interests without the prior consent of the General Partner at its sole discretion. The Interests will also be subject to restrictions on assignments, transfers, and resales imposed under federal and state securities and tax laws. There is currently no public market for the Interests and it is unlikely that one will develop. Accordingly, the Interests constitute illiquid investments and should be considered only by investors able to bear the risk of their investment in the Interests for an indefinite period of time.

Uncertainty of Valuation Most Portfolio Investments value their assets using a "fair value" methodology dictated by their organizational documents, and the valuation methods used by various Portfolio Investments will vary. The values of investments as determined under these methods do not necessarily reflect the price at which the investments can currently be sold in an arm's length transaction. Thus, measuring the performance of a Portfolio Investment prior to the full realization of its portfolio involves substantial uncertainty. This can both limit the ability of the Limited Partners to gauge the Fund's ongoing performance, and the ability of Townsend (or an affiliate) to evaluate the past performance of the sponsors of prospective Portfolio Investments.

Volatility The Fund's performance may be volatile.

Hedging Futures, options, and/or other derivative contracts and/or instruments may be used provided that such investments or contracts are entered into in order to hedge actual or prospective investments, positions or exposures in currency holdings of the client, including for hedging purposes of its interest rate and currency exchange exposure. The costs of hedging transactions will be an expense of the client. It may not be possible to hedge against a currency movement at an attractive price, for example where such movement is widely anticipated. As a result of the client's hedging policy, Townsend may, nevertheless, be required to enter into such transactions on behalf of the client. These instruments may end up causing the client to make a lower performance than in the absence of such instruments, in case the covered investment has eventually increased in value due to the covered risk. It may occur that the client is obliged to unwind its derivatives position at a loss, whereas the underlying covered assets have not yet been disposed of, thus not generating yet the symmetrical gain. The client may also be exposed to the risk of a counterparty defaulting under a derivative contract and therefore exposed to risk of losses in the event of the bankruptcy of a derivative counterparty. Further, when used for hedging purposes there may be an imperfect correlation between these instruments and the investment or market sectors being hedged. Transactions in over-the-counter derivatives may involve additional risk, as there is no exchange market on which to close out an open position. It may be impossible to liquidate an existing position, to assess the value of a position or to assess the exposure to risk.

Foreign Investments Townsend clients may invest in RE Funds or other products which invest in real estate assets outside the United States. With any investment in a foreign country, there exist certain risks typically not associated with investing in U.S. assets. Such risks include, among other things, fluctuation in currency exchange rates, trade balances and imbalances and related economic policies and the risk of adverse political or social developments, including nationalization, expropriation of assets, confiscatory taxation, and economic or political instability or war.

Management Fees and Expenses The Fund will bear management fees and expenses (including fees and expenses of Townsend (or an affiliate) and the General Partner) directly, and will also indirectly share in the management fees and expenses of the Portfolio Investments in its portfolio. Such fees and expenses are expected to reduce the returns to investors. The investment return on the Portfolio Investments in which the Fund invests therefore must be sufficient to offset both levels of fees and expenses before Fund investors can receive a positive investment return.

Real Estate Investments The Fund may invest in Portfolio Investments which invest directly in real estate, as well as in companies or other entities engaged in various real estate-related businesses. As a result, the Fund's investments in portfolio investments are subject to various risks associated with real estate investing, including but not limited to: (i) adverse changes in national or international economic conditions, including changes in interest rates; (ii) adverse local real estate market conditions; (iii) the financial condition of tenants, buyers, and sellers of properties; (iv) the promulgation and enforcement of governmental regulations relating to land use and zoning restrictions, environmental protection, and occupational safety; (v) the unavailability of mortgage funds that may render the sale of a property difficult; (vi) changes in real estate tax rates and other operating expenses; (vii) changes in demand for certain property types; (viii) environmental claims arising in respect of real estate acquired with undisclosed or unknown environmental problems as to which inadequate reserves had been established; (ix) uninsurable losses; (x) quality of maintenance, insurance, and management services; (xi) competition based on rental rates; (xii) terrorism, strike, political or military uprising, acts of God, and natural disasters; and (xiii) other factors beyond the control of the Fund or its Portfolio Investments. Investments by Portfolio Investments in existing entities (e.g., buying out a distressed partner or acquiring an interest in an entity that owns a real property) could also create risks of successor liability.

Disclosures

This presentation (the “Presentation”) is being furnished on a confidential basis to a limited number of sophisticated individuals meeting the definition of a Qualified Purchaser under the Investment Advisors Act of 1940 for informational and discussion purposes only and does not constitute an offer to sell or a solicitation of an offer to purchase any security.

This document has been prepared solely for informational purposes and is not to be construed as investment advice or an offer or solicitation for the purchase or sale of any financial instrument. While reasonable care has been taken to ensure that the information contained herein is not untrue or misleading at the time of preparation, The Townsend Group makes no representation that it is accurate or complete. Some information contained herein has been obtained from third-party sources that are believed to be reliable. The Townsend Group makes no representations as to the accuracy or the completeness of such information and has no obligation to revise or update any statement herein for any reason. Any opinions are subject to change without notice and may differ or be contrary to opinions expressed by other divisions of The Townsend Group as a result of using different assumptions and criteria. No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment.

Statements contained in this Presentation that are not historical facts and are based on current expectations, estimates, projections, opinions and beliefs of the general partner of the Fund and upon materials provided by underlying investment funds, which are not independently verified by the general partner. Such statements involve known and unknown risks, uncertainties and other factors, and undue reliance should not be placed thereon. Additionally, this Presentation contains “forward-looking statements.” Actual events or results or the actual performance of the Fund may differ materially from those reflected or contemplated in such forward-looking statements.

Material market or economic conditions may have had an effect on the results portrayed.

Neither Townsend nor any of its affiliates have made any representation or warranty, express or implied, with respect to the fairness, correctness, accuracy, reasonableness or completeness of any of the information contained herein (including but not limited to information obtained from third parties unrelated to them), and they expressly disclaim any responsibility or liability therefore. Neither Townsend nor any of its affiliates have any responsibility to update any of the information provided in this summary document. The products mentioned in this document may not be eligible for sale in some states or countries, nor suitable for all types of investors; their value and the income they produce may fluctuate and/or be adversely affected by exchange rates, interest rates, or other factors. Prospective investors in the Fund should inform themselves as to the legal requirements and tax consequences of an investment in the Fund within the countries of their citizenship, residence, domicile and place of business.

There can be no assurance that any account will achieve results comparable to those presented. Past performance is not indicative of future results.

Disclosures and Definitions

General Disclosures

There can be no assurance that any account will achieve results comparable to those presented. Past performance is not indicative of future results. Investing involves risk, including possible loss of principal.

Returns reflect the equal-weighted returns calculated during the periods indicated. Note: If including Core, this is value-weighted. In addition, the valuations reflect various assumptions, including assumptions of actual unrealized value existing in such investments at the time of valuation. As a result of portfolio customization/blending and other factors, actual investments made for your account may differ substantially from the investments of portfolios comprising any indices or composites presented.

Due to the customized nature of Townsend's client portfolios, the performance stated may be considered "hypothetical" as it does not reflect the experience of individual client portfolios, but rather aggregate client positions in the stated investment strategy.

NON REGULATORY ASSETS UNDER MANAGEMENT

As of December 31, 2023, Townsend had assets under management of approximately $21.5 billion. When calculating assets under management, Townsend aggregates net asset values and unfunded commitments on a quarterly basis. Townsend relies on third parties to provide asset valuations, which typically takes in excess of 90 days after the quarter end. Therefore, assets under management have been calculated using December 31, 2023 figures where available but may also include September 30, 2023 figures. Assets under management are calculated quarterly and includes discretionary assets under management and non-discretionary client assets where the client's contractual arrangement provides the client with the ability to opt out of or into particular transactions, or provides other ancillary control rights over investment decision-making (a/k/a "quasi-discretionary"). Regulatory AUM is calculated annually and can be made available upon request.

ADVISED ASSETS

As of December 31, 2023, Townsend provided advisory services to clients who had real estate/real asset allocations exceeding $218.2 billion. Advised assets includes real estate and real asset allocation as reported by our clients for whom Townsend provides multiple advisory services—including strategic and underwriting advice for the entire portfolio. Advised assets are based on totals reported by each client to Townsend or derived from publicly available information. Advised assets are calculated quarterly. Select clients report less frequently than quarterly in which case we roll forward prior quarter totals. The recent change in Advised Assets is due to a change in the reporting of certain special projects.

Global Non-core Special Situations Strategies employ a global non-core multi strategy approach with 90% or more of the investments invested in non primary fund investments such as secondaries, recapitalizations, joint ventures, platform investments, and co-investments. Strategies are diversified by geography, sector, property type, manager and vintage year.

Separate Accounts includes all Townsend active discretionary accounts which invest in a variety of investment styles and structures.

Disclosures and Definitions

Townsend Real Estate Capital Solutions Strategies

Townsend's Global Non-Core Special Situations Strategies employ a global non-core multi strategy approach with 90% or more of the investments invested in non primary fund investments such as secondaries, recapitalizations, joint ventures, platform investments, and co-investments. Strategies are diversified by geography, sector, property type, manager and vintage year.

Townsend Real Estate Capital Solutions Strategy (Value-Add)

- Townsend's 2007 vintage Townsend Real Estate Capital Solutions Strategy Program was comprised of one closed end single limited partner vehicle (Fund-of-One).
- Townsend's 2010-11 vintage Townsend Real Estate Capital Solutions Strategy Program was comprised of one closed end single limited partner vehicle (Fund-of-One) and one commingled fund (HNW Investor Fund).
- Townsend's 2012 vintage Townsend Real Estate Capital Solutions Strategy Program was comprised of one closed end single limited partner vehicle (Fund-of-One).
- Townsend's 2015 vintage Townsend Real Estate Capital Solutions Strategy Program was comprised of one closed end single limited partner vehicle (Fund-of-One) and one commingled fund.
- Townsend's 2018 vintage Townsend Real Estate Capital Solutions Strategy Program was comprised of one closed end single limited partner vehicle (Fund-of-One) and one commingled fund.

Note: Investment level net IRR's and equity multiples are reported. Net IRR is the net return earned by an investor over a particular time frame, including the performance of both realized and unrealized investments, at fair value. The Net IRR is based upon daily investor level cash flows, current quarter net asset value as hypothetical liquidation mark, and is after the deduction of fees. Investment performance data is reported to Townsend on a quarterly basis by the underlying investment manager. The value of unrealized investments is subject to change.

Net Investment Multiple: Based upon daily investor level cash flows. Calculated as ([Since Inception Distributions + Since Inception Withdrawals + Net Asset Value])/Paid in Capital).

The Townsend Group's Investment Committee (IC) collaboratively makes all strategic investment decisions affecting Townsend's client portfolios.

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GROUP

Callan

Angel G. Haddad is a senior vice president in Callan's New Jersey consulting office. Angel works with a variety of clients, including corporate and public defined benefit plans, corporate defined contribution plans, endowments, and foundations. His client responsibilities include strategic planning, plan implementation, investment monitoring, and coordination of special client projects. Angel is a member of Callan's Client Policy Review Committee and is a shareholder of the firm.

Prior to joining Callan in 2012, Angel worked at Fischer, Francis, Trees & Watts, Inc., a specialty fixed income global investment management firm, as a relationship manager focusing on central bank and official institution clients. Prior to this, Angel was a principal with Mercer Investment Consulting, Inc., where he spent 11 years working with corporate defined benefit and defined contribution plans, endowments, and foundations in the U.S. and Caribbean, and a large sovereign wealth fund in South America.

Angel earned a BBA and MBA from the City University of New York - Baruch College, the Zicklin School of Business.

Pete Keliuotis, CFA, is an executive vice president and the head of Callan's Alternatives Consulting group. He joined Callan in 2019 to lead the private equity, private credit, and hedge fund consulting teams, in addition to advising clients' alternatives investment portfolios. Pete co-chairs Callan's Alternatives Review Committee and is a member of the Client Policy Review, Management, and Institute Advisory committees. He is a shareholder of the firm.

Prior to joining Callan, Pete was a senior managing director of Cliffwater LLC and a senior member of their portfolio advisory team, specializing in alternative investing for institutional clients. Prior to Cliffwater, Pete was a managing director and the CEO of Strategic Investment Solutions, where he led the general and private markets consulting teams and advised several large institutional investors. Previous experience also includes Mercer Investment Consulting, where he was a principal and senior consultant, Hotchkis and Wiley in Los Angeles, and Northern Trust Company in Chicago.

Pete earned an MBA in analytic finance from the University of Chicago Booth School of Business and a BS in economics from the University of Illinois at Urbana-Champaign. He is a holder of the right to use the Chartered Financial Analyst® designation and is a member of CFA Institute and CFA Society New York.

Britton M. Murdoch is a senior vice president in Callan's New Jersey consulting office. He works with a variety of fund sponsors, including corporate, public, endowment, and foundation clients. His responsibilities include strategic planning, implementation, investment manager evaluation and monitoring, education, business development, and other special projects. Britt is member of Callan's Manager Search Committee. He is a shareholder of the firm.

Prior to joining Callan in 2014, Britt worked as an associate at J.P. Morgan Private Bank, where he was responsible for managing and developing private client relationships. In this role, he provided daily support to clients, performed annual reviews, and managed new client prospecting and integration. Britt began his career as a financial adviser and held the Financial Industry Regulatory Authority (FINRA) Series 6, 7, and 63 licenses.

Britt earned a BS in business administration from the University of Delaware, where he was the captain of the men's golf team.

David Smith, CFA, CTP, is a senior vice president in Callan's Alternatives Consulting group. He joined Callan in 2021, focusing on private equity where his role includes manager research, due diligence, client servicing, strategic planning, and portfolio monitoring. David is a member of Callan's Nonprofit Group.

Prior to joining Callan, David was the treasurer for Syracuse University, where he was responsible for treasury and investment operations management, and the strategic vision for the Endowment Administration, Debt Financing, Bursar, Student Debt, and Cash Operations departments. Prior to Syracuse University, he was a partner at the private equity firm Bay Hills Capital Management, where he provided executive leadership to clients across North American lower-middle market buyout segment including primary and secondary fund investments and co-investments.

David earned an MBA from the Syracuse University School of Management and a BBA from Western Illinois University. He is a holder of the right to use the Chartered Financial Analyst® designation and is a member of CFA Institute and CFA Society New York. He also holds the Certified Treasury Professional designation.

Francis Griffin is a senior vice president in Callan's Alternatives Consulting group. He joined Callan in October 2024 to oversee private credit research for all clients and efforts to identify private credit investment opportunities.

Francis brings over 25 years of experience in private markets, working in investment research, business development, and portfolio management roles at banks, consultants, and asset management firms. Prior to Callan, he was an operating partner of credit strategies at Investcorp Strategic Capital Group. Highlights of his experience also include senior roles at Langschiff Capital Partners, Angelo Gordon, and Verus Investments.

Francis earned an MBA in finance from the University of Minnesota and a BA in history from the College of the Holy Cross.

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January 14, 2025

New Hampshire Retirement System (NHRS)

Annual Alternatives Portfolio Review

Pete Keliuotis
Alternatives Consulting

David Smith
Alternatives Consulting

Francis Griffin
Alternatives Consulting

NHRS Annual Alternatives Portfolio Review

- Executive Summary
- Private Equity and Private Credit Market Review
- Private Equity Portfolio Overview
- Private Credit Portfolio Overview

Callan

Executive Summary

Executive Summary

Overview of NHRS Alternatives Portfolio

- As of June 30, 2024 NHRS had a target of 15% to Alternatives, including 10% to Private Equity and 5%* to Private Credit.
  - *As of June 30, 2024 the exposure to Alternatives was 18.8%, which was within the allocation range between 5-25%.*
  - *Private Equity exposure was 14.0% and Private Credit was 4.8%.*
- Through 2Q 2024, the Alternatives portfolio has made $124 million in contributions and received $138 million in distributions. Cash flow activity was at similar levels compared to 1H 2023, but lighter relative to 2022.
- The Alternatives portfolio appreciated 2.3% during 1H 2024, which was in-line with the performance of the broader private markets. Over this period distributions represented about 6% of starting NAV. A slight increase from 5% in 1H 2023.

Total Alternatives ($ thousands)

	12/31/2023	06/30/2024	YTD Change
Committed	$3,762,571	$3,983,147	**$ 220,576**
Paid-In	$3,496,123	$3,622,896	**$ 126,774**
Uncalled	$910,119	$1,034,554	**$ 124,435**
Distributed	$2,722,177	$2,859,902	**$ 137,724**
NAV	$2,250,544	$2,291,519	**$40,974**
DPI	0.78x	0.79x	**0.01x**
RVPI	0.64x	0.63x	**(0.01x)**
TVPI	1.42x	1.42x	**-**
IRR	10.60%	10.32%	**(0.28%)**

	2024 YTD	
Total Appreciation	**2.3%**	
Distribution Yield	**6.1%**	
Net Cash Flow Yield	**0.5%**	

* Note, the Private Credit target was increased from 5% to 10% as of July 1, 2024.

Executive Summary

Summary of 2024 Commitments

- In the last year, $175 million was approved for commitments to private equity strategies including $100 million in commitments approved for a new GP relationship.
  - *Commitments were made to a North American buyout strategy and international fund of funds.*
  - *$50 million of the total FY 2024 commitments were towards co-investment SMA vehicles.*
- In the last year, $200 million was approved for commitments to private credit strategies. These were all new GP relationships, further diversifying the portfolio.
  - *Commitments included two direct lending strategies.*

CY 2024 Vintage Private Equity Commitments

CY 2024 Commitment Total:	**$175 million**
HIG Advantage II / SMA (1)	$100 million
HarbourVest HIPEP X (2)	$75 million

CY 2024 Vintage Private Credit Commitments

CY 2024 Commitment Total:	**$200 million**
Ares Senior Direct Lending III (2)	$100 million
OHA OLEND (1) (2)	$100 million

(1) New GP relationship for NHRS
(2) Commitment approved in FY 2025

Alternative Investment Risk and Return Expectations

2025–2034 Capital Market Assumptions

- Callan expects private markets to outperform public market equivalents due to illiquidity and complexity.
- Private Equity expected return is **8.50%**:
  115 bps above U.S. Equity and 125 bps above Developed ex-U.S. Equity.
- Private Credit expected return is **7.25%**
  125 bps above High Yield and 125 bps below Private Equity.
- Return forecasts are net of fees and represent lower-risk (Core) allocations; client portfolios may have higher expected returns and risk.

Source: Callan 2025-2034 Capital Market Assumptions

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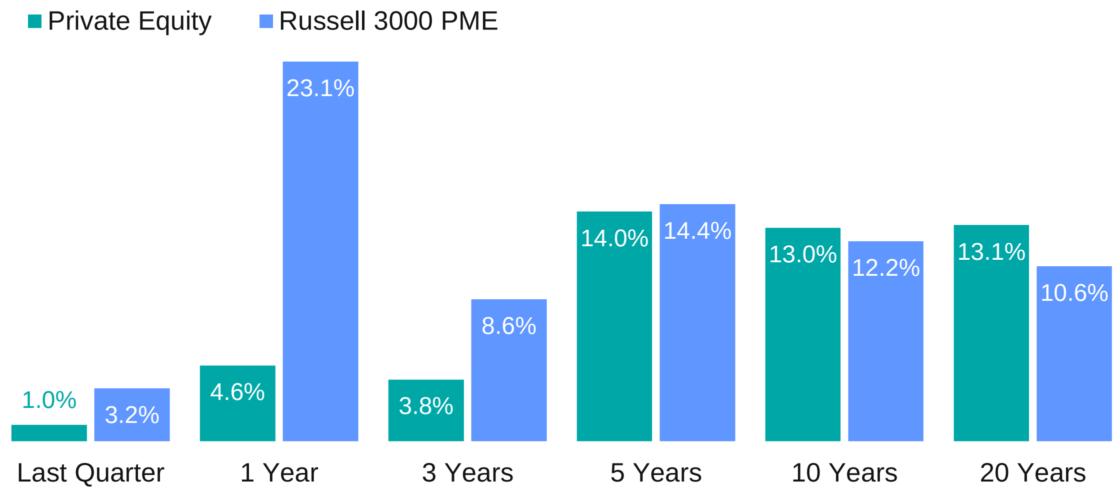
Private Equity and Private Credit Market Environment

Private Equity Trends

Performance

- Public equity's exceptional performance in the first half of the year (led by the "Magnificent Seven" technology stocks) has left private equity in its wake.
- Private equity returns are not as volatile as the public markets, and private equity doesn't typically outperform when public equity is at record highs (likewise it doesn't drop as sharply when public equity drops).
- Over the long term, private equity consistently outperforms public equity by 1%-3%.
- By strategy, buyouts continue to see solid short-term performance, while venture capital and growth equity have experienced a bumpier recovery from the tech downturn of 2022-2023.

Net IRRs as of 6/30/24



Net IRRs by Strategy as of 6/30/2024

Strategy	Last Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Venture Capital	-0.8%	-1.3%	-3.2%	14.7%	15.0%	12.4%
Growth Equity	1.4%	4.1%	0.2%	13.4%	13.0%	13.4%
Buyouts	1.4%	6.6%	6.8%	14.8%	13.3%	14.0%
Mezzanine	2.3%	9.4%	9.3%	11.2%	10.9%	11.3%
Credit Opportunities	1.8%	8.5%	7.6%	8.5%	7.2%	9.2%
Control-Oriented Distressed	0.6%	2.8%	9.0%	13.4%	10.7%	11.3%
Private Equity	**1.0%**	**4.6%**	**3.8%**	**14.0%**	**13.0%**	**13.1%**

Source: LSEG/Cambridge. PME: Public Market Equivalent

Private Equity Trends

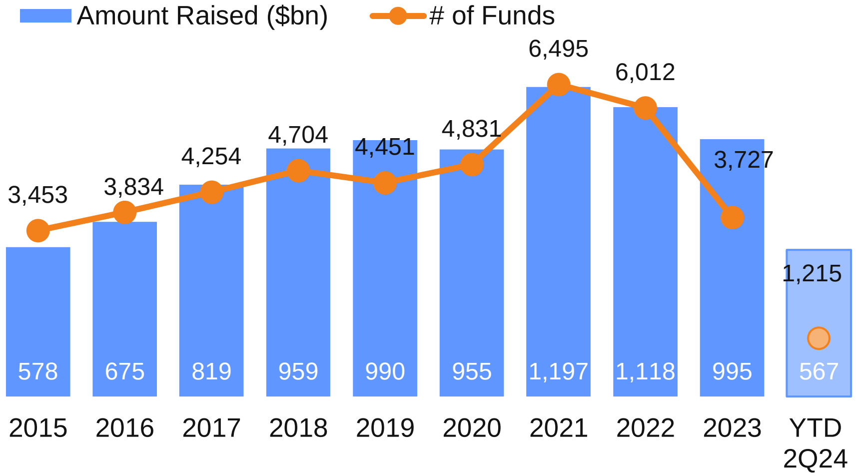
Fundraising

- The first half of 2024 showed mixed signals in terms of fundraising. The number of funds raised was significantly down from years prior, but the amount raised exceeded the first halves of 2022 and 2023.
- As was the case in 2023, capital continued to concentrate with larger funds. Multiple mega funds closed during the quarter, with only 6 funds representing 12% of total capital raised.
- Small venture capital funds, which historically make up a large portion of the # of funds raised, have experienced the greatest fundraising challenges.

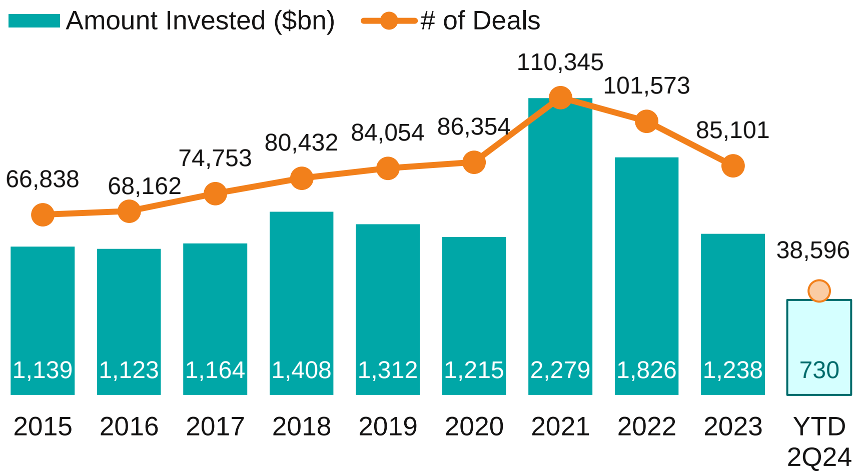
Deal Activity

- Deal activity during the first half of 2024 mirrored the trends seen in fundraising activity. Capital was concentrated in larger deals (typically buyouts).
- While the number of deals closed YTD 2024 was down, transaction volume was up by 18% compared to the first half of 2023. This volume was nowhere near the highs of 2021-2022, but it looked similar to 2019. Several large buyout transactions closed throughout the first half of the year.

Annual Fundraising



Annual Deal Activity



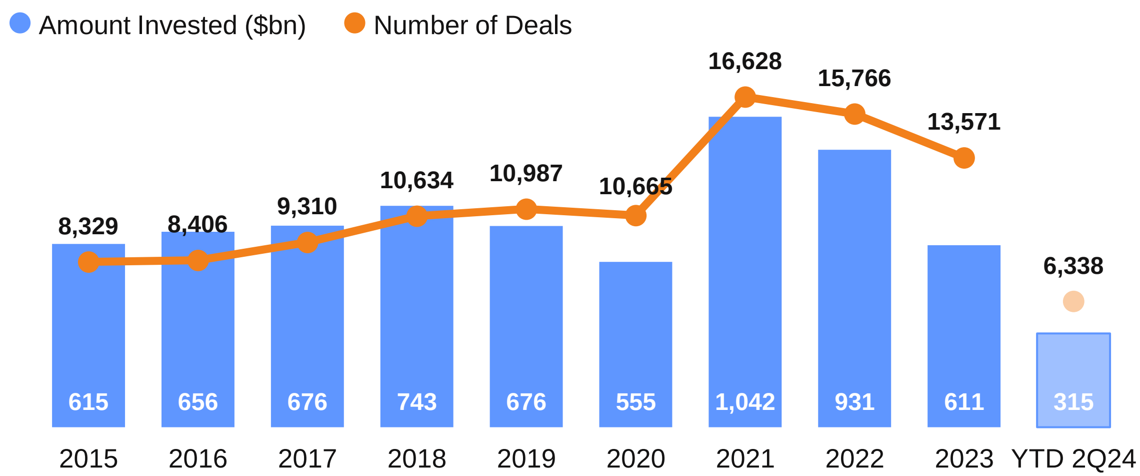
Source: PitchBook

Private Equity Trends

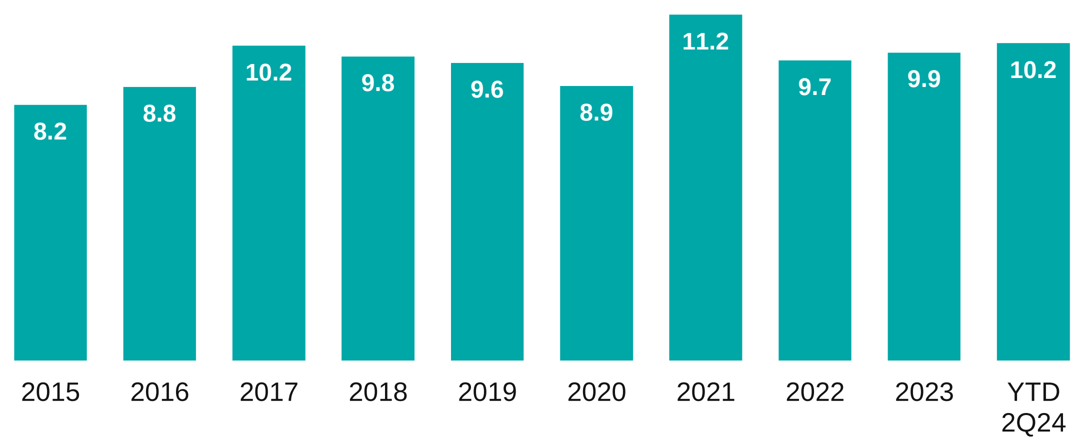
Buyout

- 2024 buyout activity levels were 3–4-year 2023, which represent a return to the pre-pandemic activity levels of 2019.
- In hindsight, 2021-2022 appeared to be the exceptional years, characterized by exuberance in deal activity, while 2023-2024 were closer to historical levels.
- GPs have generally been extending their deployment periods from the 2-year cycle characteristic of 2020-2022 back to a more traditional 3–4-year cycle, leading to slower transaction activity.
- There is greater optimism amongst GPs today about getting deals done, given the Fed’s recent rate cut and political stability.

Buyouts Investments



Buyout Valuations (EV/EBITDA Multiples)



Source: PitchBook.

Private Equity Trends

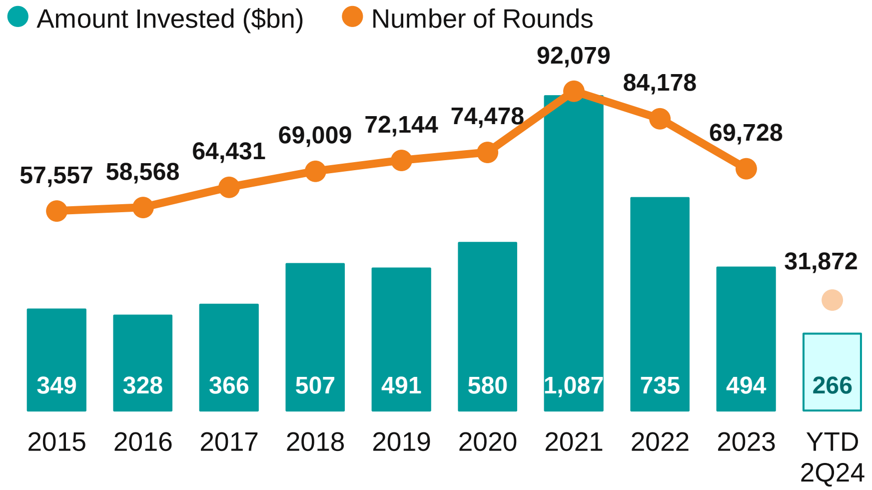
Venture Capital & Growth Equity

– The first half of 2024 represented a continuation of the slower pace of activity in 2023, although managers were generally more optimistic about making new investments this year.

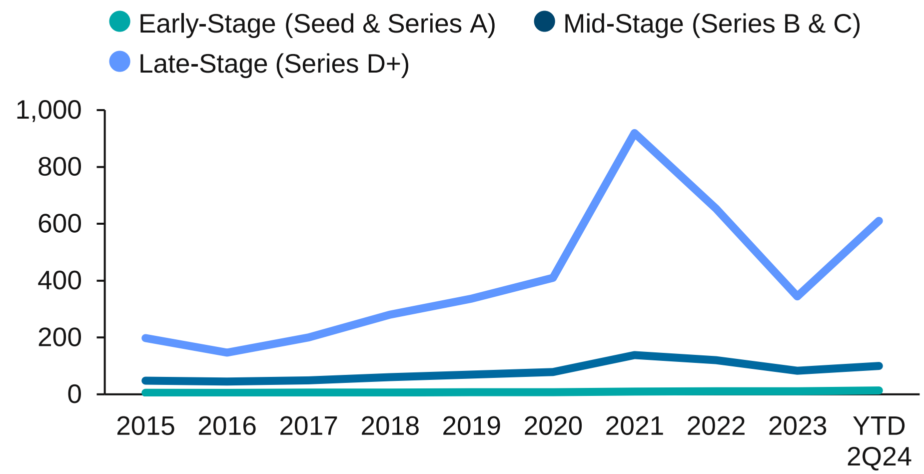
– 2024 has exhibited a notable recovery in late-stage valuations. Companies able to raise follow-on financing typically do so at an up round. The first half of the year saw 30 financing rounds valued over $1 billion (compared to 39 at the peak in 1H21).

– Similarly, early-stage valuations in 2024 also increased by 25% from the prior year. Managers at the early-stage are seeking to take advantage of the next “supercycle” in venture focused on AI. Most of these AI companies are still nascent and have not yet graduated to late-stage/growth financing rounds.

Venture Capital & Growth Equity Investments



Venture Capital & Growth Equity Median Valuations ($bn)



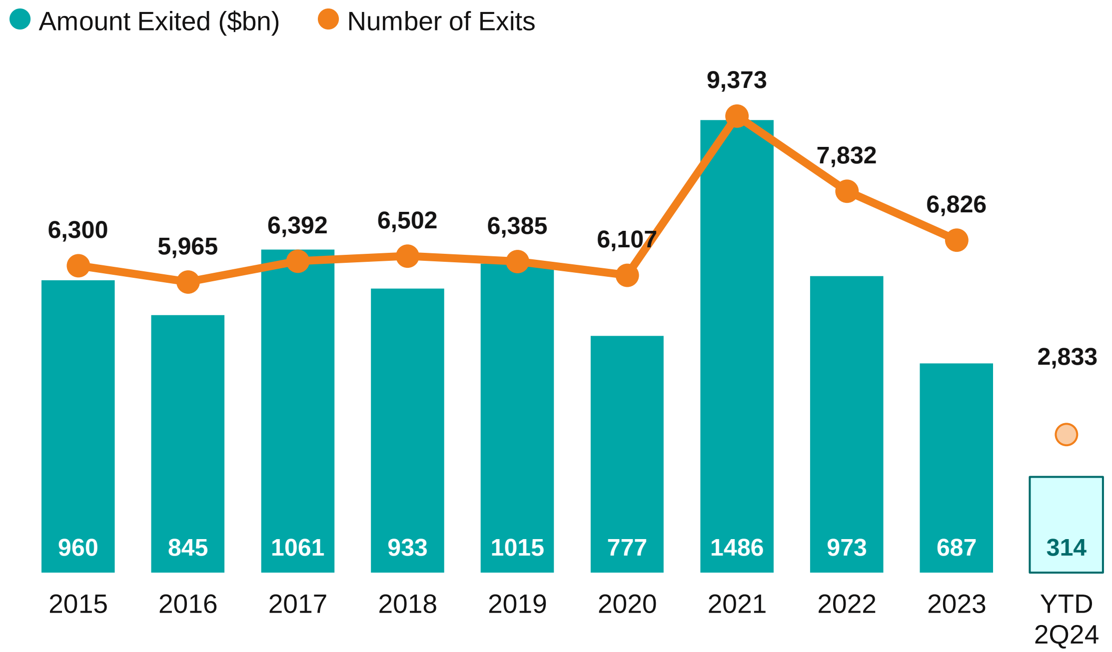
Source: PitchBook.

Private Equity Trends

Exits

- The first half of 2024 represented a continuation of the slower pace of exits in 2023, although managers were generally more optimistic about seeking an exit this year.
- Both IPOs and M&A exits were down in 1H24 compared to 1H23 by roughly 10%.
- Persistent buyer-seller valuation gaps continued to dampen exit activity, and recent interest rate cuts were not yet reflected in the 2Q24 data.
- GPs continued to bring only their highest quality assets to market and hold the rest of the portfolio.
- No blockbuster IPOs have occurred in the past year, although many are poised to go public, and managers have cited the now-closed election season as a key reason for the delay.

Private Equity Exits

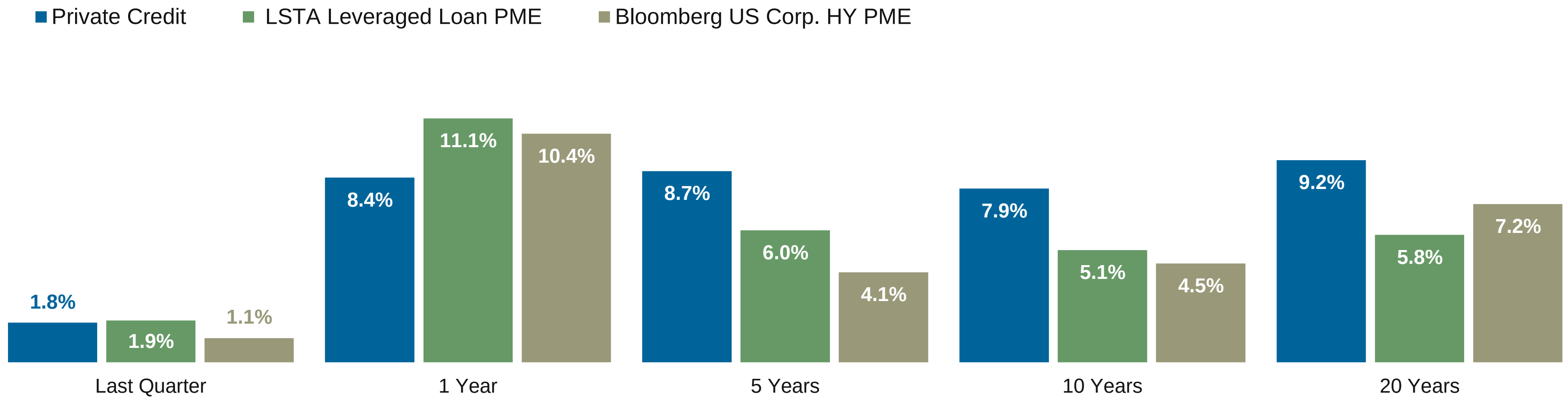


Source: PitchBook.

Private Credit Market Overview

Has outperformed leveraged loans over 5, 10, and 20 years ended 2Q24

Pooled Horizon Net IRRs as of June 30, 2024



Pooled Horizon Net IRRs by Strategy as of June 30, 2024

Strategy	Last Quarter	1 Year	5 Years	10 Years	20 Years
Senior Debt	1.2%	7.5%	7.1%	7.1%	7.3%
Subordinated	2.3%	9.4%	11.2%	10.9%	11.2%
Credit Opportunities	1.8%	8.5%	8.5%	7.2%	9.0%
Total Private Credit	**1.8%**	**8.4%**	**8.7%**	**7.9%**	**9.2%**

- Private credit performance varies across sub-asset class and underlying return drivers. Over the past 10 years the asset class benchmark has generated a net IRR of 7.9%, outperforming leveraged loans as of June 30, 2024. Higher-risk strategies have performed better than lower-risk strategies.

Source: LSEG/Cambridge

Private Credit Fundraising Landscape

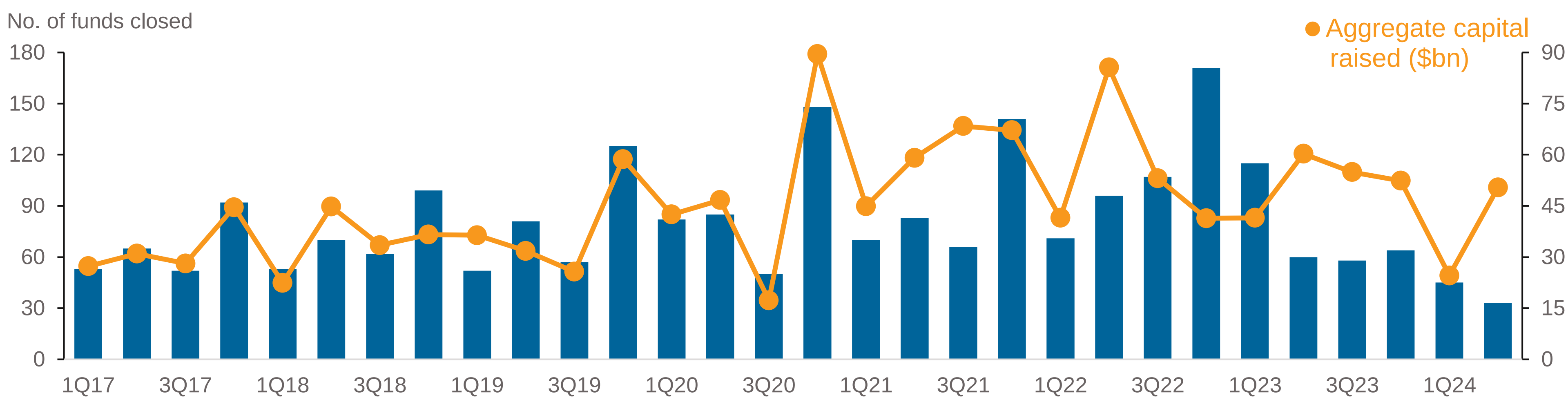
Activity continued to be relatively slow in 2Q24

- The number of funds closed in 2Q24 was the lowest we've seen in years; however, aggregate capital raised was in line with the last few years and outpaced historical quarters.
- While direct lending continued to dominate fundraises, we are noticing increased interest in specialty finance strategies for more mature private credit portfolios.
- Private credit stayed in high demand among Callan clients, and several large DB plans are looking to increase their allocations from 2%–3% to 5%–10%.

Largest Funds Holding Closes in 2Q24

Name	Amount ($millions)	Strategy
West Street Loan Partners V	13,100	Direct Lending - Senior Debt
HPS Specialty Loan Fund VI	10,400	Direct Lending - Senior Debt
CAPZA 6 Private Debt	2,702	Direct Lending - Unitranche Debt
Blue Torch Credit Opportunities Fund III	2,332	Direct Lending

Quarterly Private Debt Fundraising



Source: Preqin

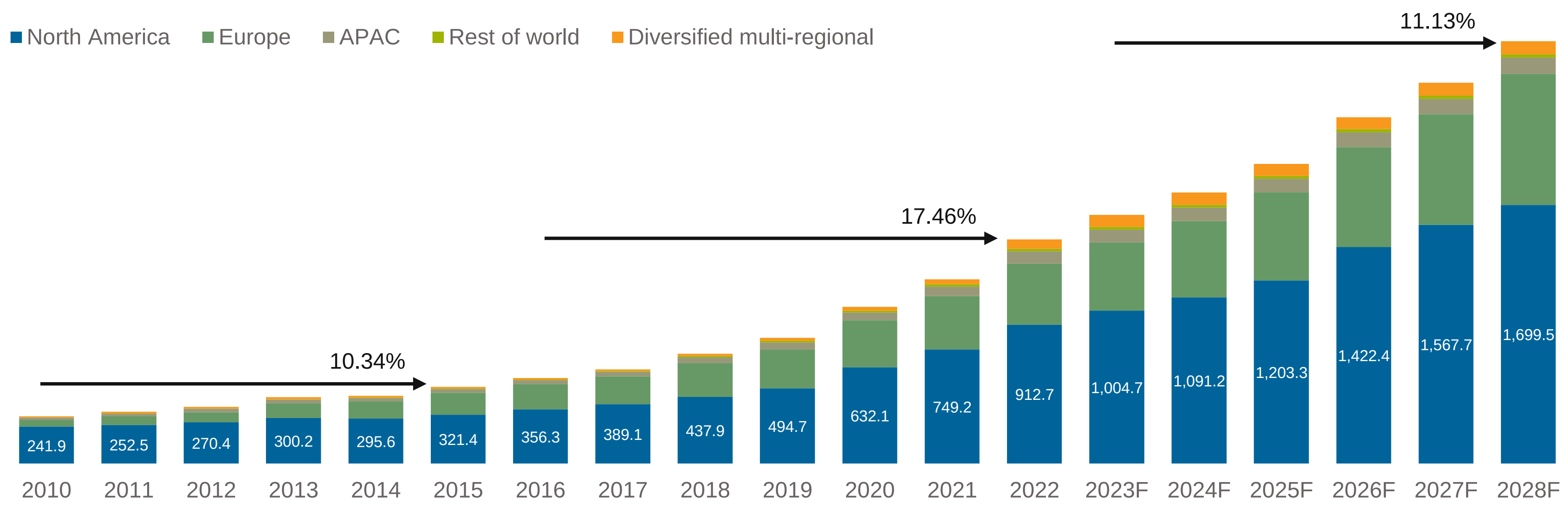
Projected Private Credit Market Growth by Geography

– Private credit AUM stood at over $1.5 trillion at the end of 2023, with Preqin forecasting the asset class could grow to over $2.5 trillion by 2028. Private credit AUM growth is expected to remain steady across geographies. While CAGR grew at about 17.5% from 2016 to 2022, CAGR is forecasted at 11.1% from 2024 to 2028.

– About 90% of investors expect either to maintain or increase their allocation in the next year.

– Direct lending is expected to grow steadily through 2028 as investors increase their private credit allocations. Distressed exposure should grow a bit more slowly with other strategies such as specialty finance and other niche diversifiers growing more quickly.

Private Debt AUM* by Primary Region Focus

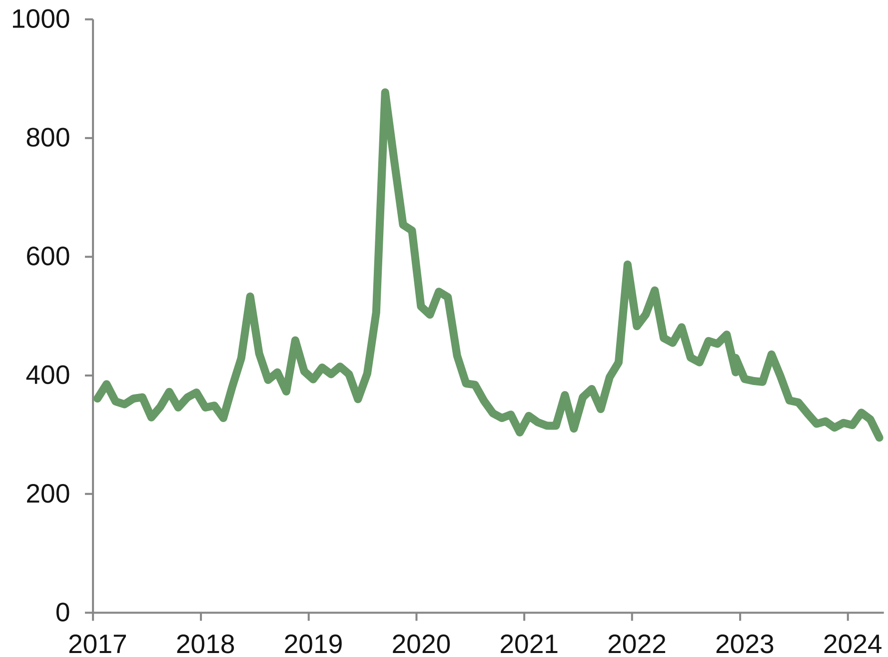


*AUM figures exclude funds denominated in Yuan Renminbi
Source: Preqin

2Q 2024 Yield Spreads

High Yield Effective Yields Ended 06/30/24

US Corporate High Yield Spreads Ended 06/30/24



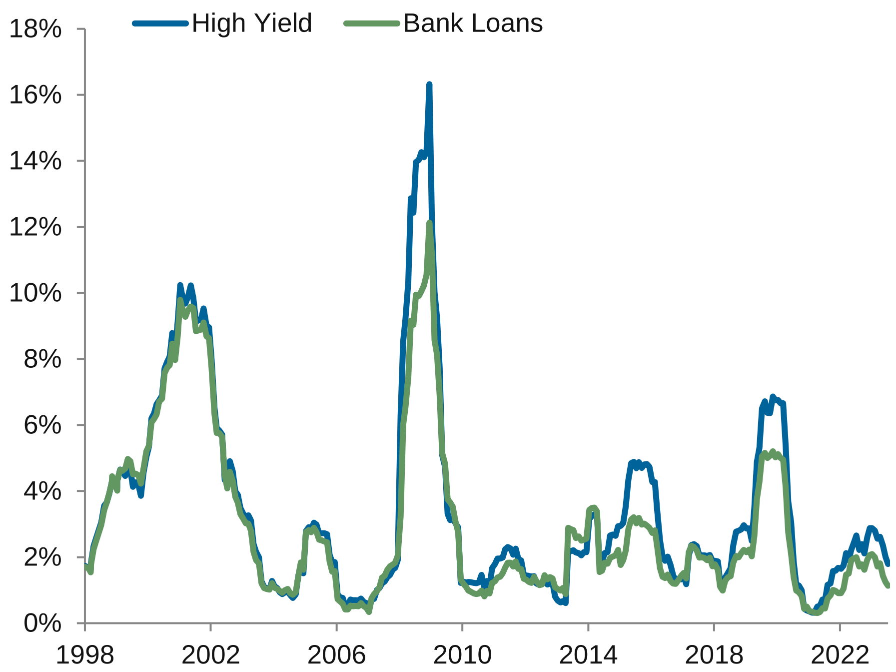
– U.S. sub-investment grade corporate yields rose dramatically at the beginning of 2022 with yields peaking in September. This was a combination of higher interest rates due to tighter Fed policy and a widening of high yield spreads. Effective yields continued to drop in the first half of 2024.

– Spreads contracted during the first half of 2024, a continuation from late 2023, due to stronger credit conditions as the U.S. economic outlook improved.

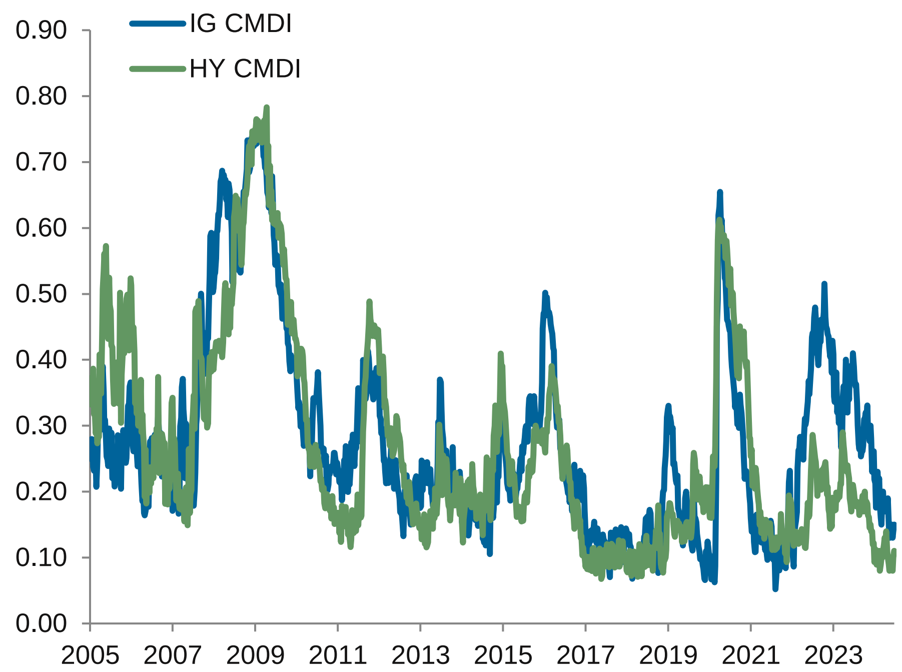
Sources: Bank of America, Federal Reserve Bank of St. Louis. Bloomberg Barclays

2Q 2024 Distressed and Opportunistic Debt

US Corporate Default Rates Ended 06/30/24



Corporate Bond Market Distress Index (CMDI) Ended 06/30/24

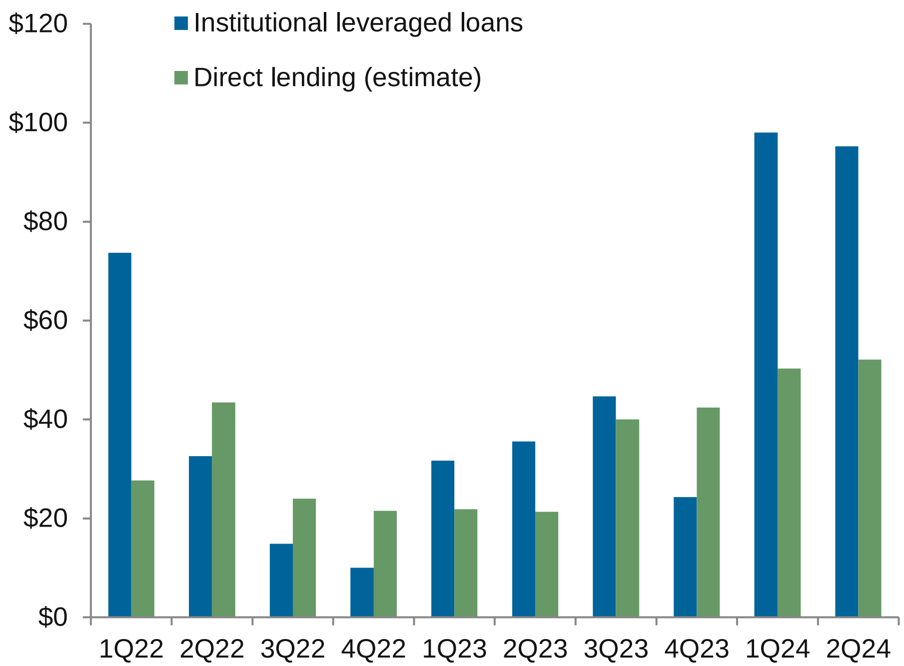


- Default rates for U.S. corporate bonds and loans in 2024 continued to drop in 2024, falling below the historical average of 3% to 4%.
- The Corporate Bond Market Distress Index (CMDI) rose rapidly during 2022, especially for investment grade bonds, but has fallen rapidly since then. In 2024, both the IG distress and HY bond indicator moved downward, a trend that has proceeded since last year.
- These indicators point to a strong credit environment and absence of distressed investment opportunities.

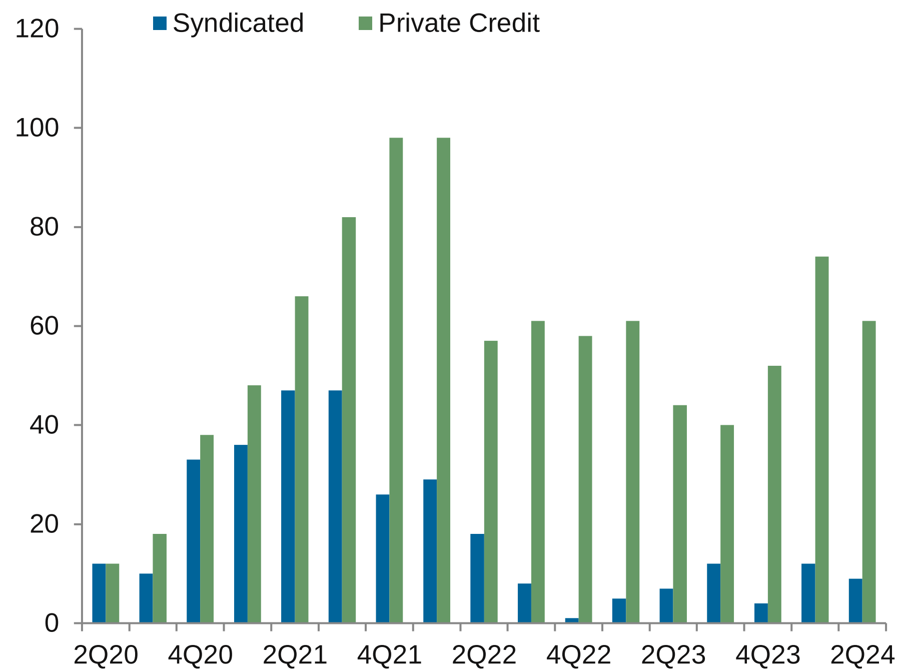
Source: Federal Reserve Bank of New York, JPM

2Q 2024 LBO Financings

New-issue Volume for PE-backed Borrowers



Financed LBOs (BSL vs Private Debt



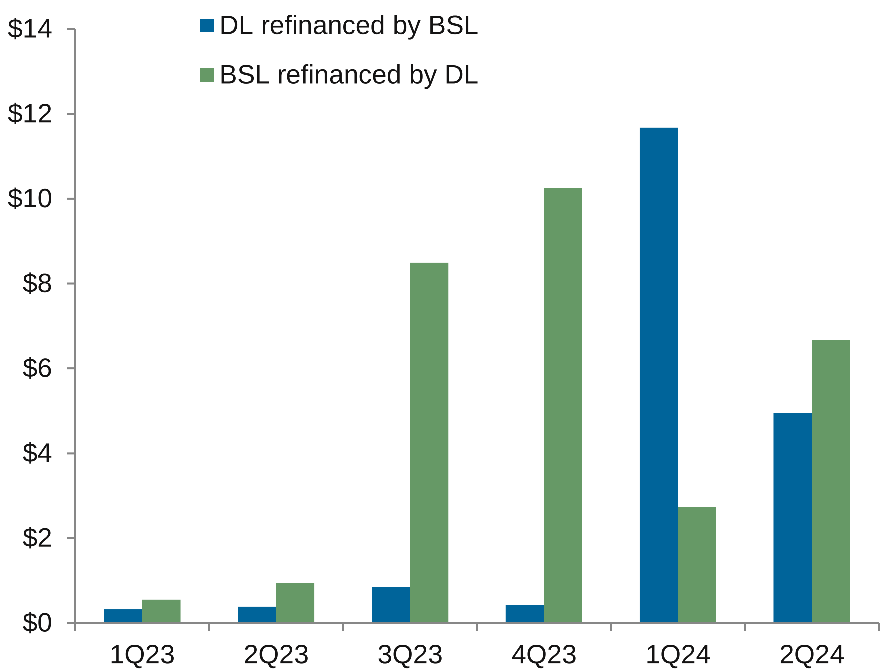
– Direct lending volume for sponsored borrowers reached multi-year highs in Q2, with expectations of stronger deal activity in the second half of 2024. Direct lenders are consistently securing $1 billion+ deals despite the resurgence of the syndicated loan market, while lower middle market deals also contribute to buyout financing demand.

– Refinancings dominated the private credit market in Q2, driven by stronger covenant packages and borrowers capitalizing on the recent drop in interest rates. Spreads in the lower middle market remain more stable compared to the syndicated loan market.

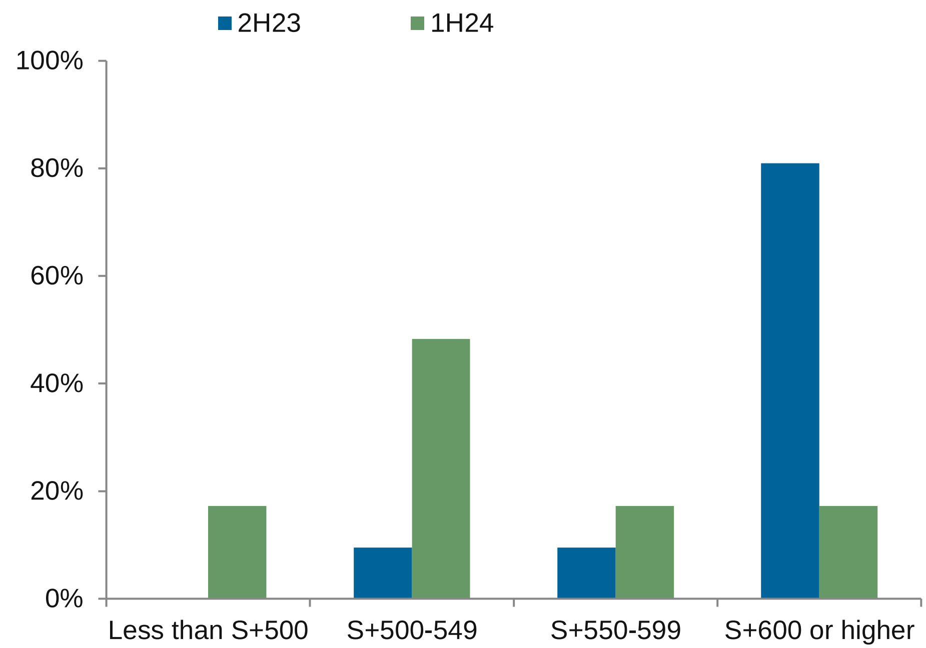
Source: Pitchbook

2Q 2024 Borrowing & Refinancings Volume

Syndicated Loans & Direct Lending Takeouts



Distribution of spreads: New-issue Sponsored Direct Lending



– After the acceleration of the reopening of the syndicated loan market in the Q1 2024, the volume of private credit loans taken out by broadly syndicated loans slowed in the second quarter.

– Despite lower M&A activity, spreads on private credit and broadly syndicated loans for acquisition-related deals are converging, though loans with spreads of S+600 were less common in H1 2024 than in 2023.

Source: Pitchbook

Private Equity Portfolio Overview

NHRS Private Equity Objectives

Selected Objectives for NHRS' Private Equity Program

Private Equity Investment Objectives	▪ Construction of a high quality, "all-weather" private equity portfolio ▪ Focused investment activity with active on-going monitoring of sponsors and partnerships ▪ Active involvement of NHRS Staff and Callan Private Equity Consulting to source, vet and diligence opportunities
Annual Commitment Pacing & Sizing	▪ $200-300 million of annual commitments (subject to total plan growth and distribution rate of existing portfolio) ▪ Typical commitment size of $75-100 million for direct partnerships, incorporating risk and capacity considerations of new opportunities
Strategy Selection	▪ Initial and primary focus on diversified buyouts, with a mix of value-creation mechanisms ▪ Secondary consideration of complementary strategy types (i.e. SMID buyout, growth equity, distressed for control, venture capital, secondaries, etc.) ▪ Emphasis on United States/North America exposure for Direct Primary portfolio
NHRS Preferences & Sensitivities	▪ Focus on high-quality, reputed and stable private equity sponsors with demonstrable track records ▪ Preference for managers that provide significant co-investment opportunities ▪ Strong performance, with key emphasis on capital recovery for realized/unrealized losses ▪ International investments must be compelling against relevant peer group, as well as domestic opportunities

NHRS Private Equity Objectives

Characteristics of Primary Private Equity Strategies*

	Category	Expected Returns	Description	Risk
Control-oriented	**Large buyout** *NHRS exposure: Apollo, Clearlake, Thoma Bravo, American Industrial*	20 – 25% gross IRR 2.0– 2.5x gross TVPI	Acquire control positions in mature businesses, typically valued in the $1 billion + range. Companies have long operating histories, established end markets, and developed product or service offerings.	Low loss ratios given company size and maturity, often ranging from 5% - 15%.
Control-oriented	**Small/Middle buyout** *NHRS exposure: Edgewater, HIG, CCMP, RFE*	25 – 30% gross IRR 2.5 – 3.0x gross TVPI	Acquire control positions in mature businesses, typically valued <$1 billion. Companies have operating histories, established end markets, and developed product or service offerings. Business are more likely to be founder or family-owned, and less institutionalized.	Higher loss ratios than large buyout given smaller company sizes, often ranging from 10% - 20%.
Control-oriented	**Distressed-for-control** *NHRS exposure: None*	20 – 30% gross IRR 2.0 – 3.0x gross TVPI	Acquire mature businesses facing operational or market challenges, often in distress and in need of restructuring.	Typically higher than large buyout given difficult financial positions of businesses, but lower than small buyout.
Non-control-oriented	**Growth equity** *NHRS exposure: Warburg Pincus, Carlyle Asia, Carlyle Japan, Carlyle Sub-Saharan Africa, Pinebrook*	25 – 30% gross IRR 2.5 – 3.0x gross TVPI	Acquire minority interests in growing businesses that are typically at or near profitability. Business are often still founder-owned, and in need of capital to scale.	Loss ratios typically range from 10 – 20%.
Non-control-oriented	**Late-stage venture** *NHRS exposure: Industry Ventures, Top Tier*	25 – 30% gross IRR 2.5 – 3.0x gross TVPI	Acquire minority interests in growing businesses through late-stage financing rounds, subsequent to other institutional investors. Companies have established business models but still have room for growth and are often preparing for an IPO.	Loss ratios typically range from 15 – 25%.
Non-control-oriented	**Early-stage venture** *NHRS exposure: Industry Ventures, Top Tier*	30%+ gross IRR 3.0x+ gross TVPI	Acquire minority interests in startup businesses or ideas with significant growth potential, generally in the technology, consumer, or health care industries. Return dispersion is high.	Higher chance of failure, though high upside. Loss ratios are typically in the 30 – 40% range.

* Co-investments and secondaries may be included across the above strategies.

NHRS Private Equity Portfolio Structure

Current Structure as of June 30, 2024

- **Direct Primaries:** Consists of fourteen GPs, including eleven buyout/growth equity firms and three private energy firms. Thoma Bravo, Warburg Pincus, and Apollo represent the largest positions, totaling 25% of current exposure.
- **Fund of Funds:** Targeted exposure to international and venture capital strategies.
- **Secondaries:** Diversified exposure across four GPs, including specialist venture secondary funds.
- **Co-Investments:** Core exposure to Blackrock Co-Investment strategy, representing approximately 20% of the private equity portfolio. In 2024 the co-investment allocation was expanded with co-investment separate accounts added with Apollo and HIG.

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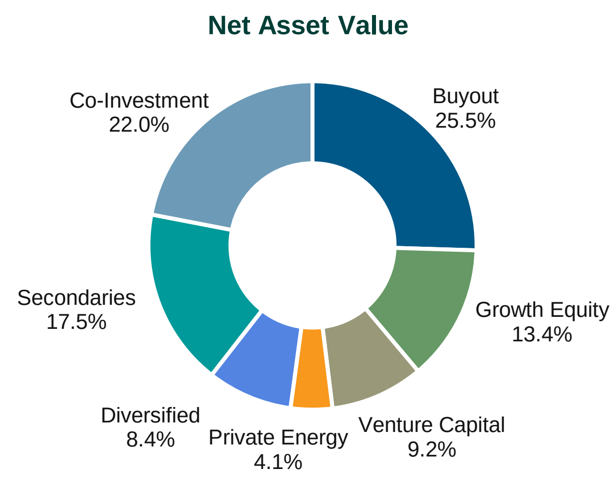
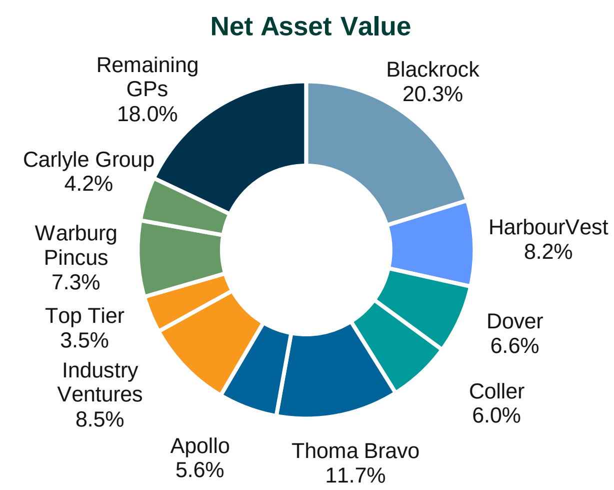
Current Private Equity Portfolio Composition



Current General Partner Exposure



Portfolio Composition represents Net Asset Value plus Unfunded Commitments estimated as of June 30, 2024

NHRS Private Equity Program Overview

Twelve Months Ended June 30, 2024

Portfolio Overweight

- NHRS' private equity portfolio was overweight at 14.0% vs the 10% target as of 6/30/2024.
- The allocation continues to decline towards the target allocation of 10%.

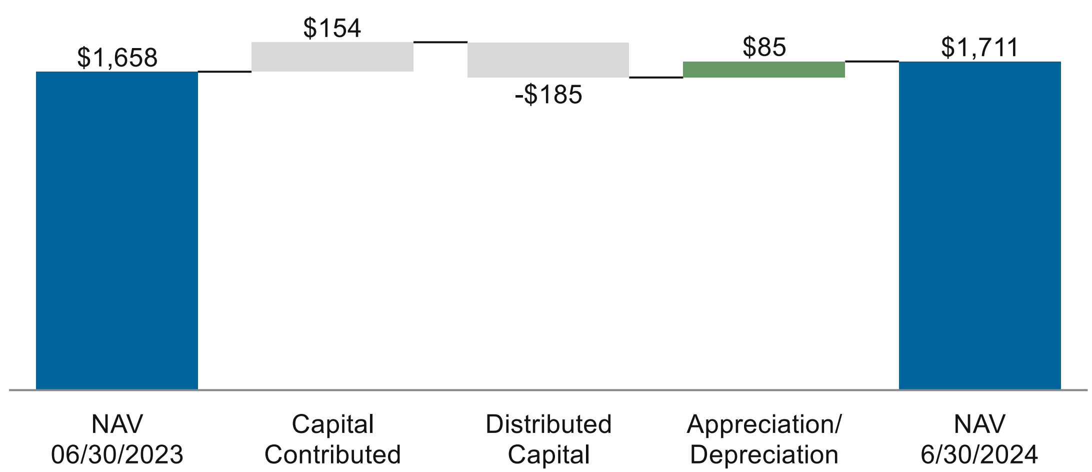
Slowing Distributions

- The NHRS portfolio received $185 million in distributions over the last year, representing 11.2% of beginning NAV. This was in line with distributions received in 2023, although less than 2022.

Increase in NAV

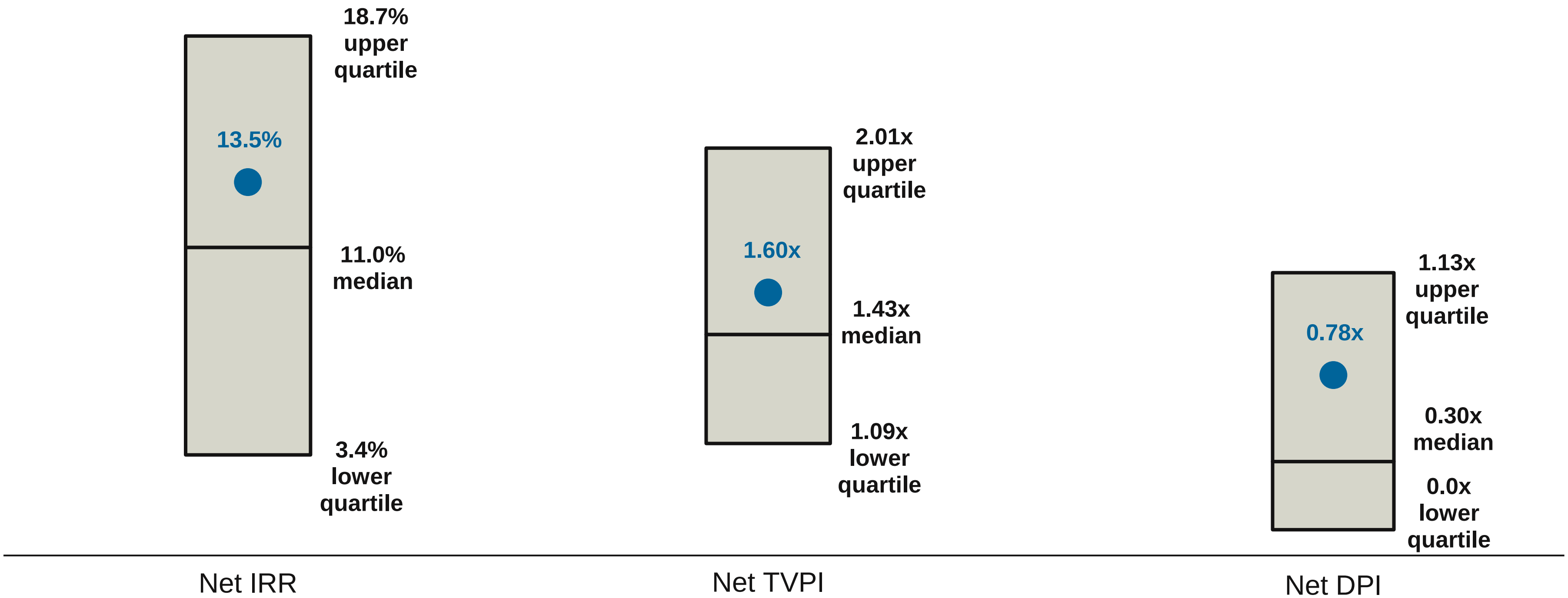
- The NAV increased about 3.2% YoY owing to a 2% net cash outflow and portfolio appreciation of 5.2%. The annual IRR for the NHRS portfolio was 5.1% relative to 4.6% for the broader private equity market.

	06/30/2023 ($m)	*% Change*	06/30/2024 ($m)
Commitments	$2,351	*6%*	$2,485
Paid-In Capital	$1,944	*8%*	$2,097
% Paid-In	*83%*	*1%*	*84%*
Uncalled Capital	$582	*0%*	$579
Distributed Capital	$1,449	*13%*	$1,635
NAV	**$1,658**	*3%*	**$1,711**
Total Value (NAV + Distributed)	**$3,107**	*8%*	**$3,346**



NHRS Private Equity Relative Performance

Inception through June 30, 2024



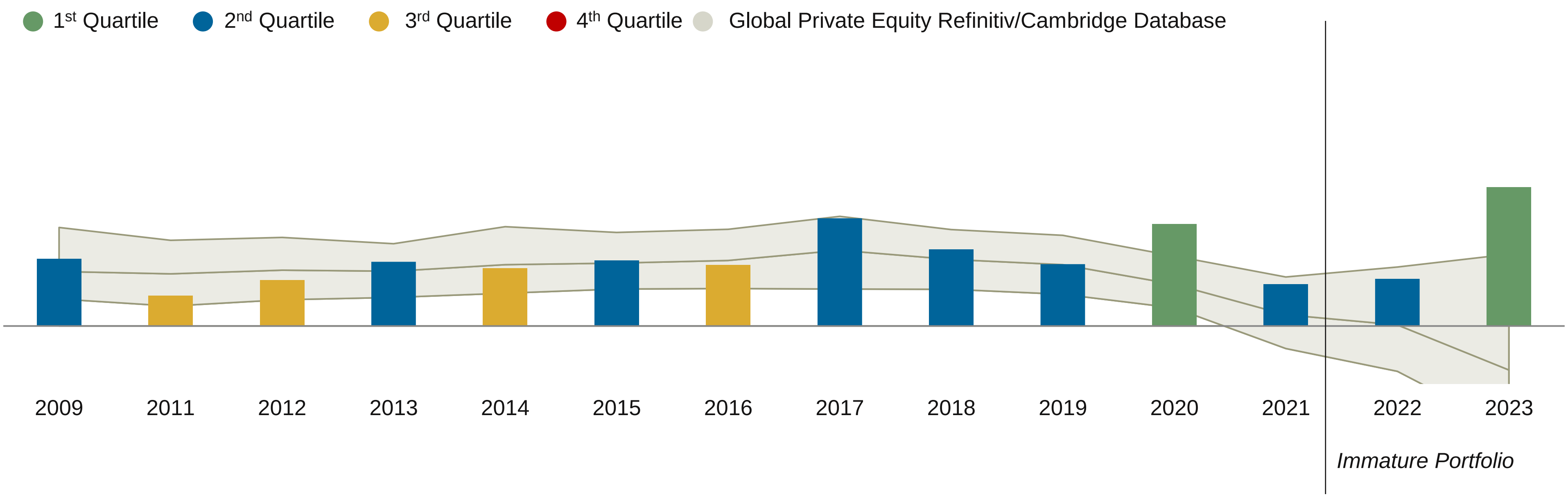
Performance

- The portfolio has generated 2nd quartile performance in terms of net IRR, TVPI, and DPI
- The portfolio's DPI ranks well into the 2nd quartile, which was bolstered by its large allocation to secondaries strategies, which typically distribute capital quicker than primary fund commitments.

As of 6/30/2024. Quartile Rankings against the Global Private Equity Refinitiv/Cambridge database. Includes private energy.

NHRS Private Equity Performance by Vintage Year

Net IRR by Vintage Year



Performance

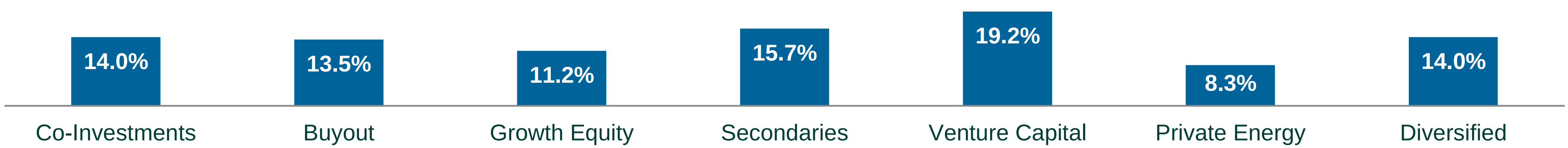
- The portfolio has exhibited mixed performance by vintage year. Since the portfolio's inception in 2009, four vintages have been in the 3rd quartile and ten, including two recent vintages, in the 1st and 2nd quartiles.
- The program's underperformance in 2011 and 2012 was largely a result of poor manager selection, with allocations to Edgewater, RFE Partners, and SL Europe all ranking in the 4th quartile. Underperformance in subsequent years, particularly 2014-2016, was primarily driven by allocations to energy strategies, which suffered from a crash in commodity prices.
- Performance has rebounded in recent years, with new partnerships developing well and currently ranking in the 1st and 2nd quartiles.

NHRS Private Equity Performance by Strategy

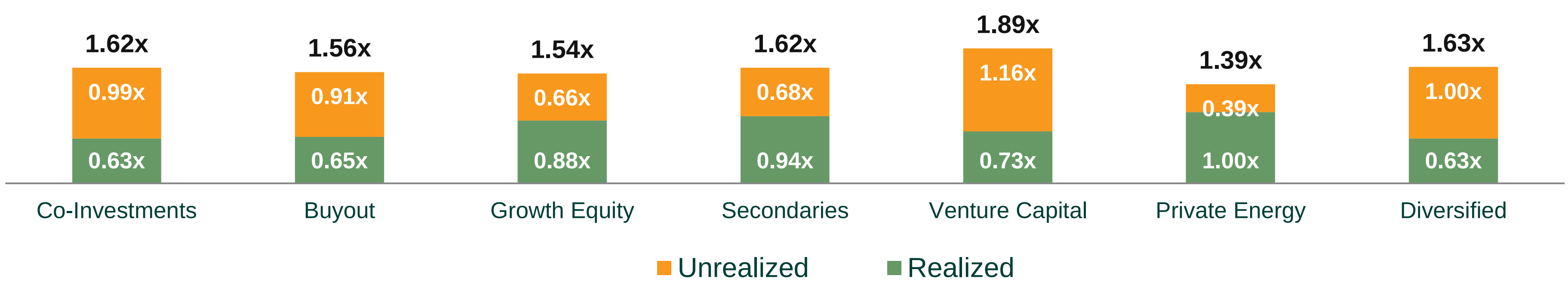
Inception Through Period Ended June 30, 2024

- Despite a decline in broad venture capital valuations over the last year, NHRS' Venture Capital allocation remains the best-performing segment, driven by strong revenue growth in the Technology, Healthcare, and Consumer sectors.
- Dedicated energy exposure in the portfolio has created headwinds in performance, driven by falling commodity prices, and a changing industry landscape, creating challenges for legacy E&P managers. Performance has rebounded over the last several years and energy prices have increased, however private energy still lags other strategy types.
- The buyout and growth equity portfolios have had mixed performance. Exposure to underperforming international strategies in Asia and Africa have detracted from returns.

Net IRR by Strategy



Net TVPI by Strategy



NHRS Private Equity Portfolio Structure

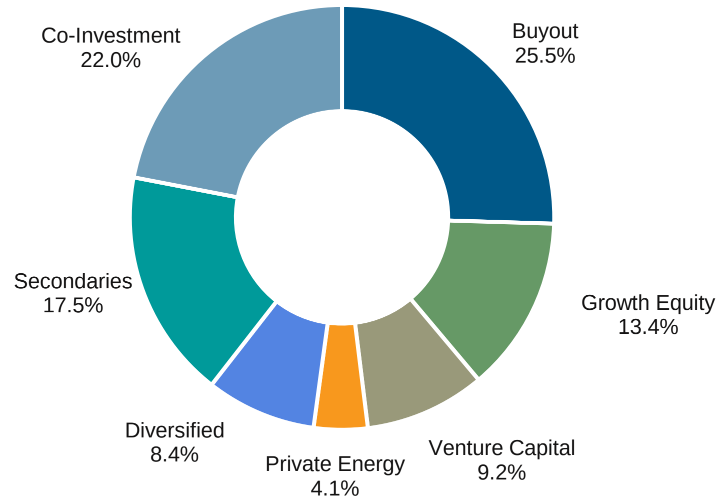
2025 Pro Forma Implementation Plan

2025 Focus Areas:

- Evaluate the plan's co-investment allocation, including a potential re-investment with the BlackRock 2025 Co-Investment Program.
- Evaluate other complementary direct partnership commitments, including opportunities in Europe.

	2024	2025
Commitments	HIG Advantage SMA	Top Tier VVF V HarbourVest HIPEP X
Potential Re-Ups		Blackrock Co-Investment 2025 Program
Potential New Commitments		Advent GPE XI HIG Europe MM LBO

Net Asset Value



NHRS Private Equity Portfolio

Fund	Vintage	Commitment Amount ($m)
Co-Investment Funds		**$540**
BlackRock Private Op 2014	2015	$150
BlackRock Private Op 2018	2018	$150
BlackRock Private Op 2021	2021	$150
Apollo X Co-Investment SMA	2023	$40
HIG Co-Investment SMA	2024	$50
Fund of Funds – International		**$267.6**
SL Capital European Smaller Fds I	2012	$17.6
HarbourVest HIPEP VII	2014	$50
HarbourVest HIPEP VIII	2018	$50
HarbourVest HIPEP IX	2021	$75
HarbourVest HIPEP X	2024	$75
Secondaries		**$435**
Lexington Capital Partners VII	2009	$40
Lexington Capital Partners VIII	2015	$50
Coller International Partners VI	2012	$20
Coller International Partners VII	2016	$50
Coller International Partners VIII	2020	$75
Dover Street VIII	2013	$50
Dover Street IX	2016	$50
Dover Street X	2020	$50
Dover Street XI	2022	$50
Fund of Funds – Venture Capital		**$300**
Industry Ventures Secondary VI	2011	$20
Industry Ventures Secondary VII	2013	$20
Industry Ventures Secondary IX	2021	$50
Industry Ventures Partnership Holdings III	2013	$20
Industry Ventures Partnership Holdings IV	2016	$20
Industry Ventures Partnership Holdings V	2019	$25
Industry Ventures Partnership Holdings VI	2021	$25
Top Tier Venture Velocity Fund	2014	$20
Top Tier Venture Velocity Fund II	2017	$25
Top Tier Venture Velocity Fund III	2019	$25
Top Tier Venture Velocity Fund IV	2021	$25
Top Tier Venture Velocity Fund V	2024	$25

NHRS Private Equity Portfolio (continued)

Fund	Vintage	Commitment Amount ($m)
Buyout		**$566**
Edgewater Growth Partners III	2011	$20
Edgewater Growth Partners IV	2018	$50
RFE Investment Partners VIII	2012	$20
CCMP Capital Investors III	2014	$50
Thoma Bravo XII	2016	$46
Thoma Bravo XIII	2019	$50
Thoma Bravo XIV	2021	$50
Thoma Bravo XV	2022	$50
Apollo IX	2019	$40
Clearlake Capital VII	2022	$50
American Industrial Partners VIII	2023	$50
Apollo X	2023	$40
HIG Advantage II	2024	$50
Growth Equity		**$371.1**
Carlyle Sub-Saharan Africa Fund	2012/2014	$27
Carlyle Japan III	2014	$26.1
Carlyle Asia IV	2014	$54
Carlyle Asia Fund V	2018	$50
Pine Brook Capital Partners II	2013	$50
Warburg Pincus Private Equity XII	2015	$64
Warburg Pincus Global Growth	2019	$50
Warburg Pincus Global Growth XIV	2022	$50
Private Energy		**$175**
NGP XI	2015	$75
Kayne Anderson Energy Fund VII	2016	$50
Actis Energy 4	2017	$50
Total Private Equity (54 commitments/ 21 GPs)		**$2,585**

Private Credit Portfolio Overview

NHRS Private Credit Objectives

Selected Objectives for NHRS' Private Credit Program

Private Credit Investment Objectives	▪ Construction of a high quality, "all-weather" private credit portfolio ▪ Focused investment activity with active on-going monitoring of sponsors and partnerships ▪ Active involvement of NHRS Staff and Callan Private Credit Research to source, vet and diligence opportunities
Annual Commitment Pacing & Sizing	▪ Expected to be approximately $300-350 million total for projected annual private credit commitments ▪ Typical commitment size of $50-100 million, incorporating risk and capacity considerations of new opportunities ▪ Incremental growth of commitment sizing at higher end of annual commitment range
Private Credit Strategy Selection	▪ Primary consideration of Core strategies (Direct Lending) and Opportunistic (Multi-Sector) strategies ▪ Secondary consideration of complementary strategy types (i.e. Specialty Finance, Distressed) ▪ Portfolio is expected to be global in scope, with a primary emphasis on United States/North America
Manager / Strategy Preferences & Sensitivities	▪ Focus on high-quality, reputed and stable private credit managers with demonstrable track records ▪ Strong performance, with key emphasis on generating a high level of current income and the avoidance of realized credit losses, net of recoveries ▪ Strategies offered by managers based outside the U.S. must be compelling against the relevant peer group, as well as strategies managed by domestic firms; it is expected that multi-sector funds will likely have a significant allocation to non-US securities

NHRS Private Credit Objectives

Characteristics of Primary Private Credit Strategies*

	Category	Expected Net IRR	Return Driver(s)	Risk	Type of Collateral
Core	**Direct Lending and Mezzanine** *NHRS Exposure: Comvest, Monroe, Crescent, Alcentra, Arcmont, Ironwood*	6-8% unlevered; 8-10% levered; potentially higher for mezzanine	Coupon; prepayment fees; origination fees; credit spread	Credit risk; illiquidity	Corporate or asset
Core	**Structured Credit** *NHRS Exposure: CarVal*	7 to 9%	Coupon; excess spread	Priority of payment; servicing	Pools of cash flowing contractual obligations
Core	**Real Asset Lending**	6 to 8%	Coupon; origination fees	Priority of payment; servicing; illiquidity	Real assets
Opportunistic	**Distressed Debt/ Special Situations** *NHRS Exposure: Avenue, Gramercy, Siguler Guff, SVP*	10 to 15+%	Coupon; capital gain; recovery in debt prices; restructuring	Liquidity; negotiation with numerous interested parties	Corporate
Opportunistic	**Multi-Sector** *NHRS Exposure: CarVal, Sixth Street, SVP*	7 to 10%	Coupon; equity upside; alpha through sector rotation and broad opportunity set	Expertise in global liquid and private markets; value add from sector rotation	Multiple depending on asset mix
Niche	**Specialty Finance, Asset Based Lending, Other Niche** *NHRS Exposure: Ares, Atalaya, Riverstone*	8 to 10%	Cash flow recovery or enhancement through active servicing	Deep expertise required; highly specialized in nature; illiquidity	Typically cash flow related to stream of payments derived from portfolio of assets

* Co-investments and secondaries may be included across the above strategies

NHRS Private Credit Portfolio Structure

Current Structure as of June 30, 2024

- **Direct Primaries:** Consists of seventeen GPs, including five direct lending strategies, five distressed strategies, three multi-sector strategy, one mezzanine strategy, one energy lending strategy, and two specialty finance strategies.
- The top four GPs represent approximately 56% of the exposure, including Alcentra, Comvest, Monroe, and AB CarVal.
- **Fund of Funds:** One fund early in the program's development (Siguler Guff Distressed in 2011).
- **Secondaries:** No dedicated private credit secondaries strategies.
- **Co-Investments:** No dedicated private credit co-investment strategies.

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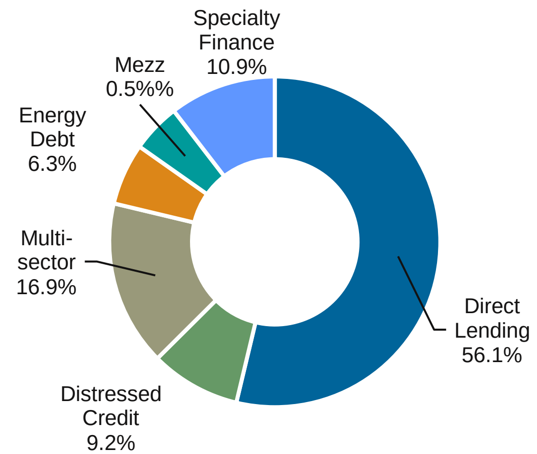
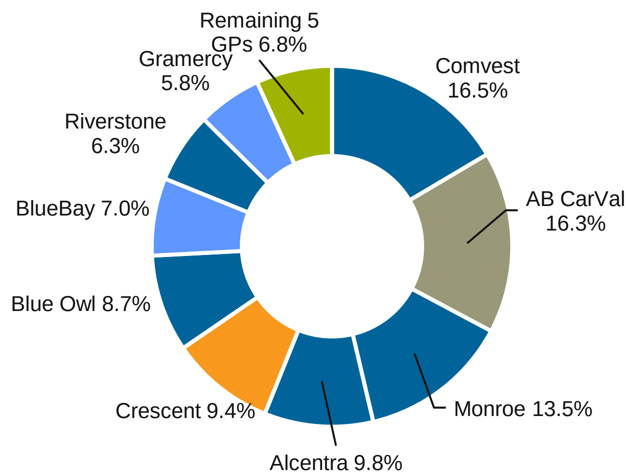
Current Private Credit Portfolio Composition

Net Asset Value



Current General Partner Exposure

Net Asset Value



Portfolio Composition represents Net Asset Value plus Unfunded Commitments estimated as of December 31, 2023

NHRS Private Credit Program Overview

Six Months Ended June 30, 2024

Portfolio Overweight

- NHRS' private credit portfolio is 4.6% of the total fund, near the target of 5%.

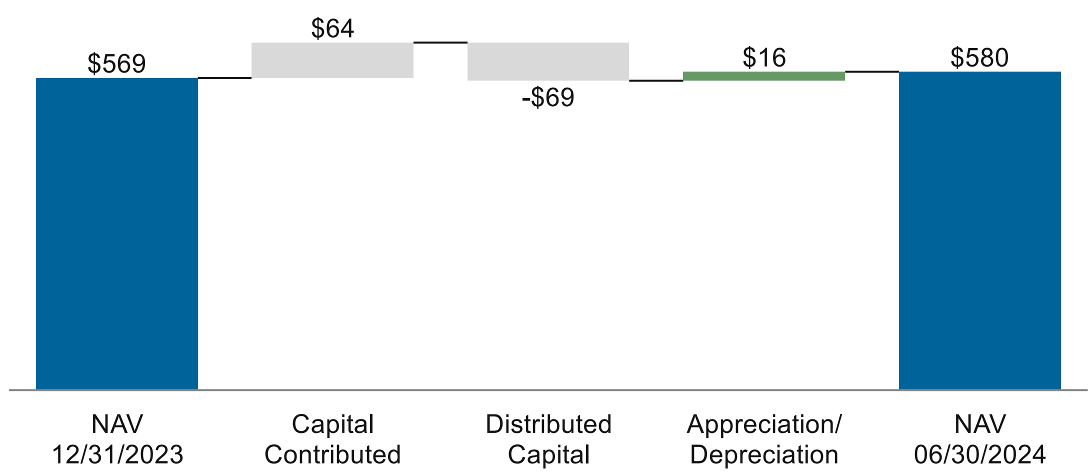
Modest Distributions

- The NHRS portfolio was cash flow positive over the year, receiving $69 million in distributions relative to $64 million in contributions.

Slight Gain in NAV

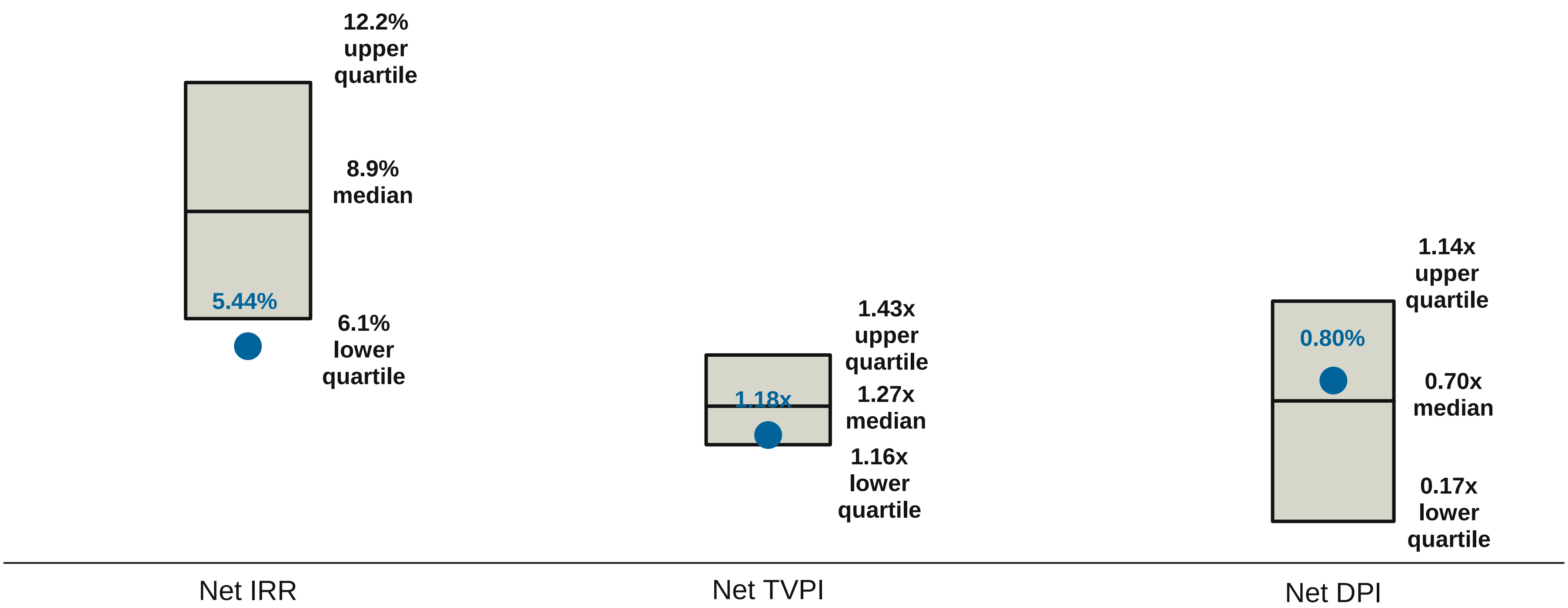
- Strong distributions offset contributions and a small unrealized gain, resulting in a modest increase in NAV of 2%.

	12/31/2023 ($m)	% Change	06/30/2024 ($m)
Commitments	$1,375	9%	$1,498
Paid-In Capital	$1,461	4%	$1,526
% Paid-In	*105%*	-	*106%*
Uncalled Capital	$371	23%	$456
Distributed Capital	$1,156	6%	$1,225
NAV	**$569**	2%	**$580**
Total Value (NAV + Distributed)	**$1,725**	8%	**$1,805**



NHRS Private Credit Relative Performance

Inception through June 30, 2024

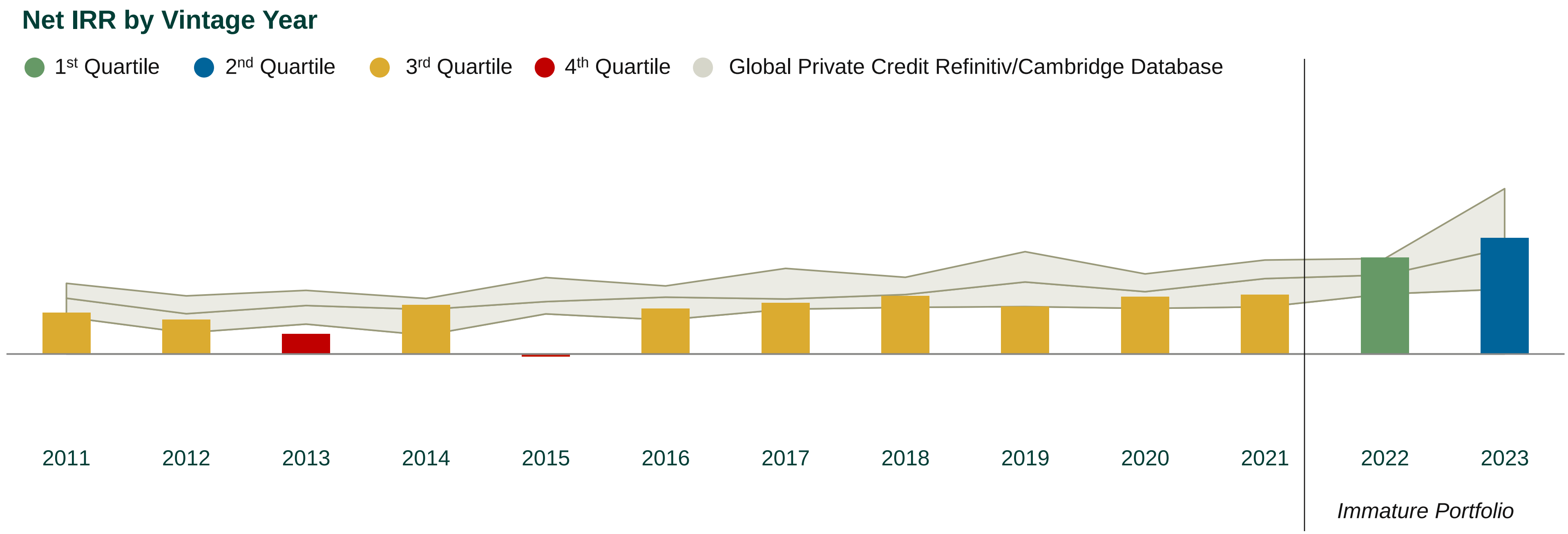


Quartile Performance Commentary

- The portfolio has generated 4th quartile performance on an IRR basis and 3rd quartile on a TVPI basis, consistent with prior years.
- The portfolio has underperformed relative to the Refinitiv database due to NHRS' underperforming legacy investments and the benchmark's higher weighting toward credit opportunities. These legacy commitments to Gramercy, Avenue, Tennenbaum, Riverstone and Siguler Guff have underperformed largely due to poorly timed energy investments.

As of 06/30/2024. Quartile Rankings against the Global Private Credit Refinitiv/Cambridge database.

NHRS Private Credit Performance by Vintage Year



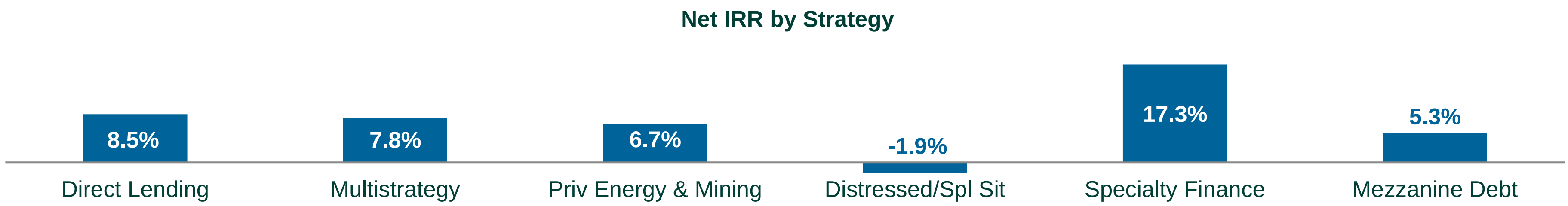
Quartile Performance

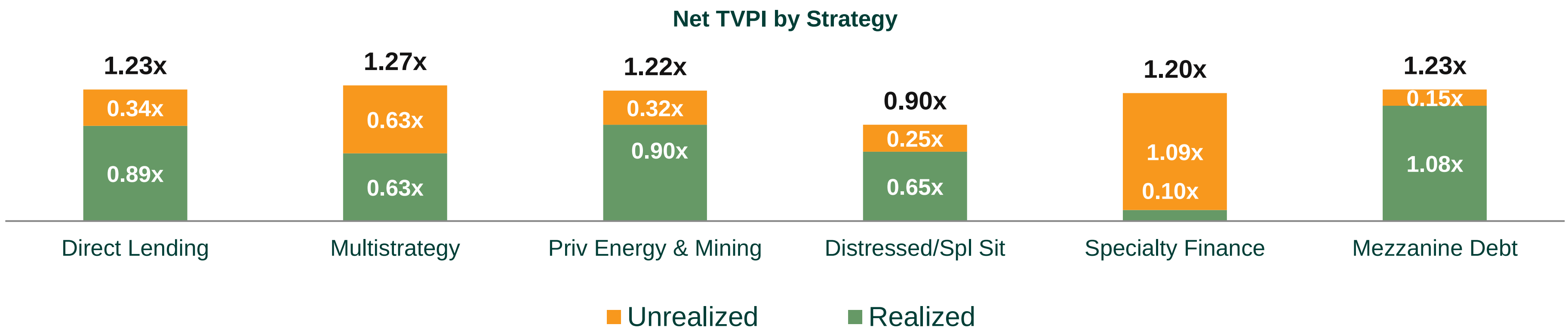
- The portfolio has exhibited consistent 3rd quartile by vintage year. Across the last 12 vintage years, nine years has been in the 3rd quartile and two in the 4th quartile.
- Performance has been trending positively above median in recent years, in line with the broader private credit markets.

NHRS Private Credit Performance by Strategy

Inception Through Period Ended June 30, 2024

- Direct Lending and Multistrategy exposures have been the foundation of the portfolio. These strategies have the strongest performance, tracking to an 8.5% net IRR and 7.8% net IRR, respectively.
- Specialty finance has been a more recent portfolio allocation but has been additive.
- Distressed/Special Situation strategies have been detractors to performance. The distressed/special situations portfolio has faced headwinds from dedicated emerging markets exposure.





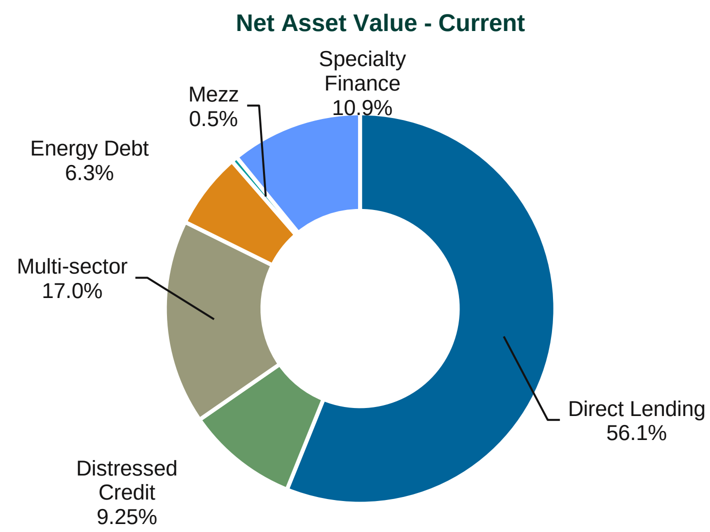
NHRS Private Credit Portfolio Structure

2025 Pro Forma Implementation Plan

2025 Focus Areas:

- Analyze the private credit portfolio in the context of a broader public/private credit portfolio structure analysis.
- Underperforming stub exposures will continue to run off.
- Consider adding credit secondaries and multi-asset credit exposure to provide additional diversification..

	2024	2025
Commitments	OHA OLEND Ares SDL III	Blackstone BMAC
Potential Re-Ups		Ares Pathfinder III Blue Owl Special Opportunities IX Comvest Credit Partners VII Crescent DL IV
Potential New Commitments		



NHRS Private Credit Portfolio

Fund	Vintage	Commitment Amount ($m)
Fund of Funds		**$20**
Siguler Guff Distressed Opportunities IV	2011	$20
Direct Lending Buyout		**$990**
Monroe Capital Senior Secured Direct Loan Fund	2013	$50
Crescent Direct Lending Levered Fund	2014	$50
Crescent Direct Lending Levered Fund II	2017	$50
Crescent Direct Lending Levered Fund III	2021	$50
Alcentra European Direct Lending Fund	2014	$50
Alcentra European Direct Lending Fund II	2016	$50
Alcentra European Direct Lending Fund III	2018	$50
Comvest Capital III	2015	$40
Comvest Capital IV	2016	$50
Comvest Capital V	2020	$50
Comvest Credit Partners VI	2022	$50
Monroe Capital Private Credit Fund II	2015	$50
Monroe Capital Private Credit Fund III	2018	$50
Monroe Capital Private Credit Fund IV	2021	$50
BlueBay Direct Lending Fund II	2015	$50
BlueBay Direct Lending Fund III	2018	$50
OHA OLEND	2024	$100
Ares Senior Direct Lending Fund III	2024	$100
Distressed		**$140**
Avenue Special Situations Fund VI	2011	$20
Tennenbaum Opportunities Fund VI	2011	$20
Gramercy Distressed Opportunity Fund II	2013	$50
Gramercy Distressed Opportunity Fund III	2015	$50

NHRS Private Credit Portfolio (continued)

Fund	Vintage	Commitment Amount ($m)
Multi- Sector		**$275**
CarVal Investors Credit Value Fund III	2015	$50
CarVal Investors Credit Value Fund IV	2017	$50
CarVal Investors Credit Value Fund V	2021	$50
Sixth Street TAO	2023	$75
SVP Capital Solutions II	2023	$50
Niche – Energy Lending		**$100**
Riverstone Credit Partners	2016	$50
Riverstone Credit Partners II	2017	$50
Mezzanine		**$20**
Ironwood Mezzanine Fund III	2012	$20
Niche – Specialty Finance		**$125**
Ares Pathfinder II	2023	$75
Blue Owl Special Opportunities Fund VIII	2021/2022	$50
Total Private Credit (33 Commitments/ 19 GPs*)		**$1,670**

*Number of GPs include legacy GP Matlin Patterson, not reflected in the table.

Callan

January 14, 2025

New Hampshire Retirement System (NHRS)

Annual Alternatives Portfolio Review

Pete Keliuotis
Alternatives Consulting

David Smith
Alternatives Consulting

Francis Griffin
Alternatives Consulting

Callan

2025 Pacing Plan

Callan's NHRS Pacing Model Assumptions

Total Plan Assumptions

- Callan's pacing model projects the growth of the total plan over the next 10 years, to determine the growth of the private equity and credit allocations.
- It incorporates actuarial cash flows and the projected total plan investment return.
- The total plan has an estimate annual net growth rate of 4.0%-5.5%.
- The model begins with the 3Q24 total plan value of $12.7 billion.

Private Equity and Credit Assumptions

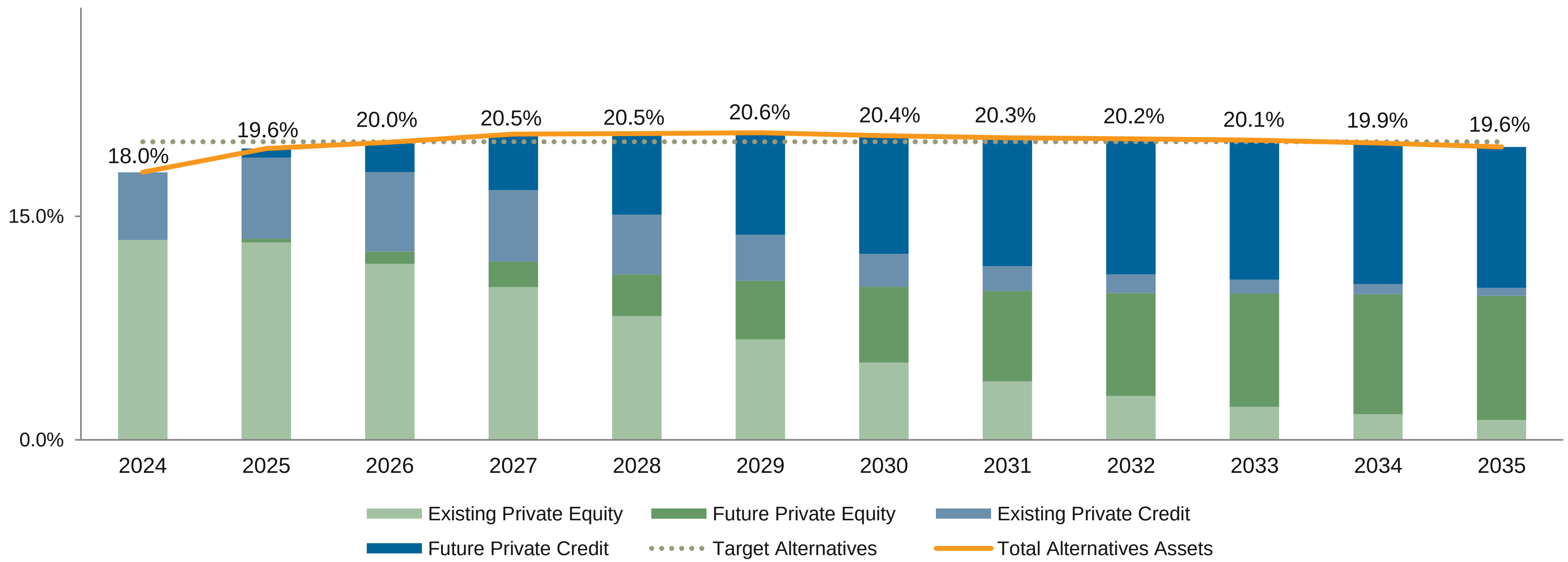
- Historical cash flows from the LSEG/Cambridge private market database are used to project future cash flows of the program.
  - Each vintage year, both historical and future, is modeled individually.
  - Cash flow projections use average contribution and distribution rates from 2000-2023, therefore incorporating both up and down markets.
  - The model also incorporates Callan's private equity Capital Markets Assumptions, to determine the growth of the portfolio's unrealized value.
- The model begins with NHRS's private equity and credit values as of 2Q24, adjusted for 3Q cash flows.

Callan has been leveraging a proprietary private markets pacing model for 30+ years. Callan's model was revamped in 2018 to improve precision by leveraging historical data to inform future cash flows.

NHRS Alternatives Commitment Pacing Summary

Alternate Asset Allocation

- The exhibit below reflects the projected development of the Alternatives portfolio relative to a 20% allocation target over the next 10 years.
- The current overweight to Alternatives is driven by the Private Equity exposure, which is about 350 basis points above target. Private Credit exposure is in line with the historical target allocation of 5%. With the new increased private credit target of 10%, more future commitments will be directed to private credit. Over time the percentage of private credit in the Total Alternatives allocation would increase, while continuing to maintain a 20% allocation to total Alternatives.
- **Callan recommends making roughly $600 million in commitments to Alternatives in 2025, with approximately $200 million to private equity and $400 million to private credit.**

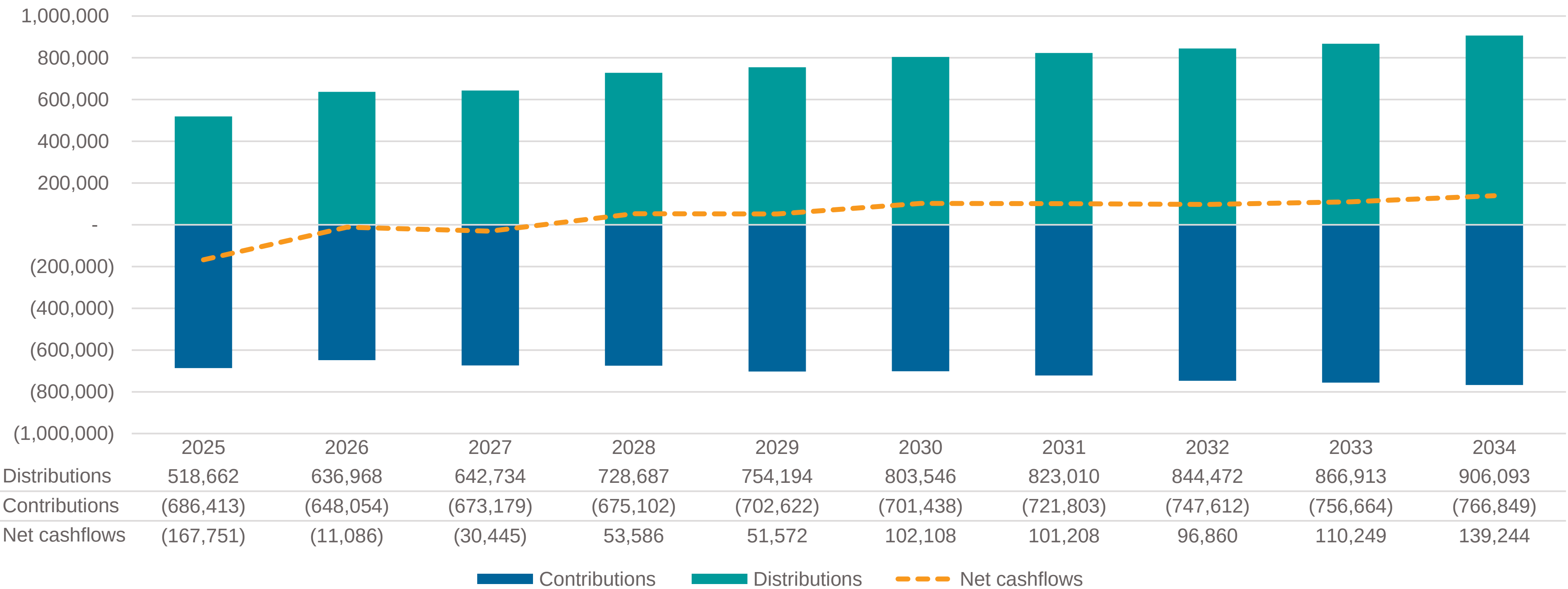


NHRS Alternatives Commitment Pacing Summary

Alternate Asset Allocation

- The exhibit below reflects the projected contributions and distributions of the alternatives portfolio over the next 10 years.
- The pacing model projects the program may require funding over the next few years as the allocation to private credit ramps up, although is expected remain net cash positive in subsequent years, with an expected annual net cash flow ranging from $50 – 200 million.

Projected Annual Cash Flows ($ thousands)

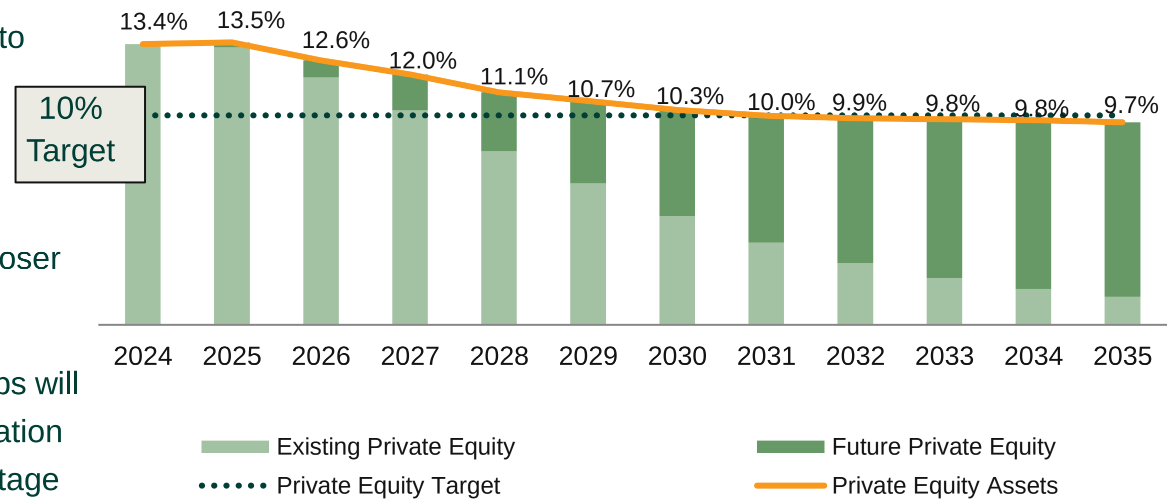


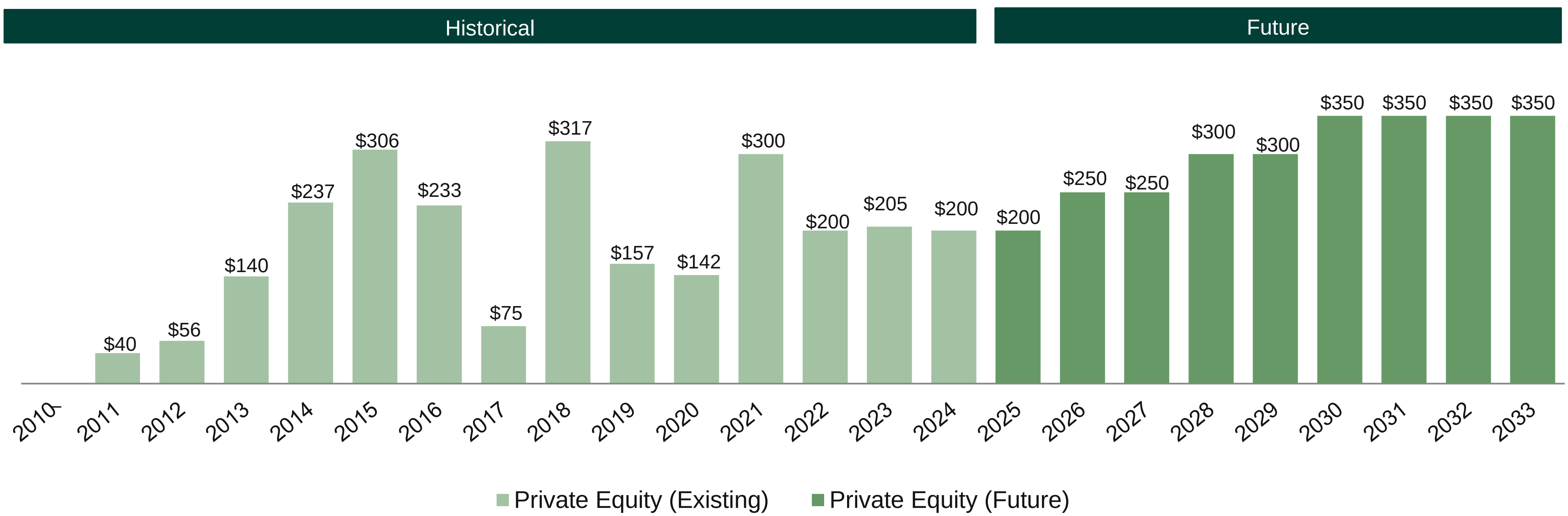
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Distributions	518,662	636,968	642,734	728,687	754,194	803,546	823,010	844,472	866,913	906,093
Contributions	(686,413)	(648,054)	(673,179)	(675,102)	(702,622)	(701,438)	(721,803)	(747,612)	(756,664)	(766,849)
Net cashflows	(167,751)	(11,086)	(30,445)	53,586	51,572	102,108	101,208	96,860	110,249	139,244

NHRS Private Equity Commitment Pacing

Gradually Move Towards Target Allocation

- The existing private equity portfolio NAV is expected to decline steadily, reaching target range by 2030.
- In order to balance the decline, Callan recommends continuing to commit $200 million next year. annual commitments will increase once the allocation is in closer range to the 10%.
- Annual private equity commitments to 2-4 partnerships will provide the ability to maintain the private equity allocation over the long term, with prudent diversification by vintage and partnership.





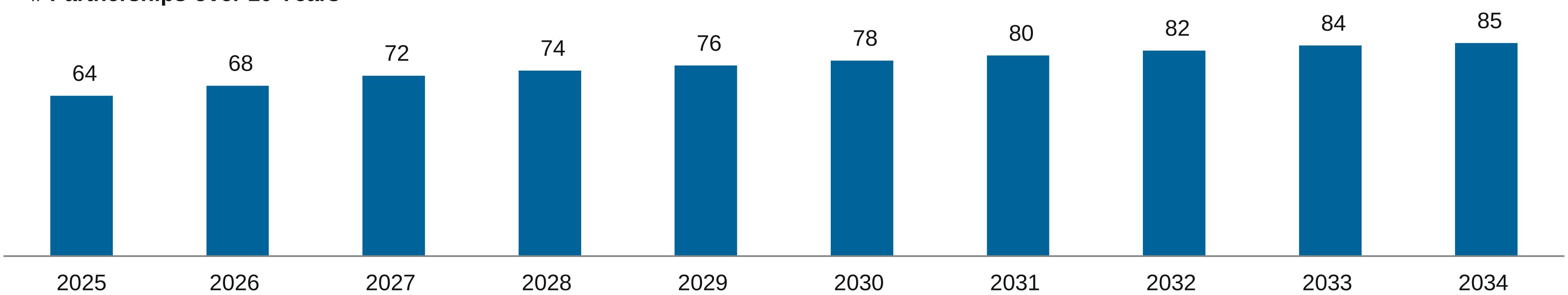
NHRS Private Equity Commitment Pacing

Private Equity Partnership and General Partner Count over Ten Years

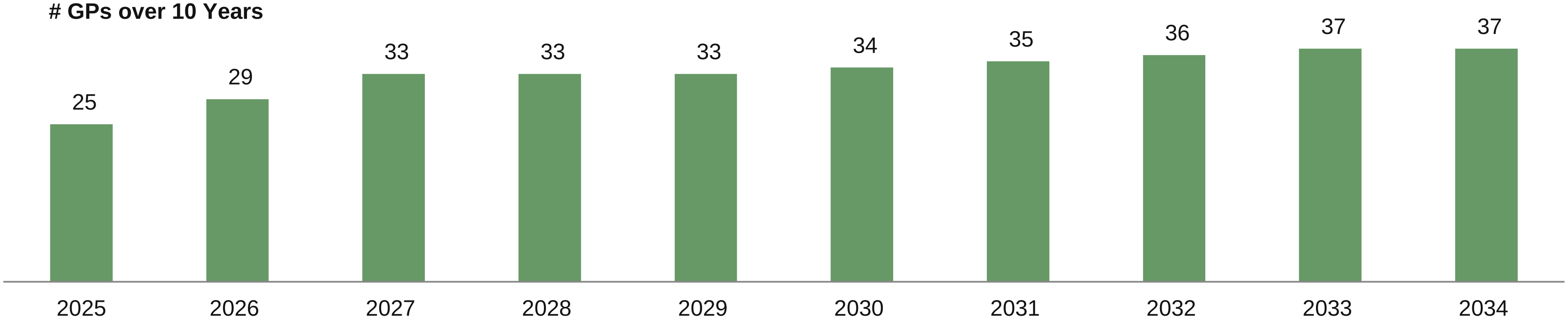
Private Equity Partnerships and General Partners

- Assumes an average of 3 commitments per year at an $80 million average commitment amount.
- Assumes a 75% re-investment rate with existing GPs over a ten-year period.
- Number of partnerships grow to 85 over the ten-year period and number of General Partners increase to 37.
- By the end of the period the # of partnerships and GPs will reduce as legacy commitments roll off.

 # Partnerships over 10 Years



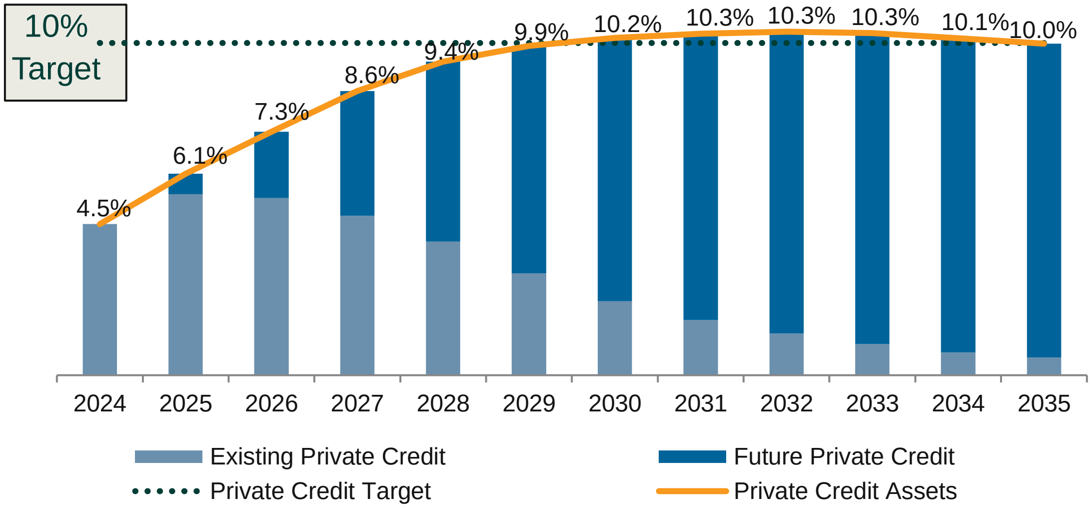
 # GPs over 10 Years

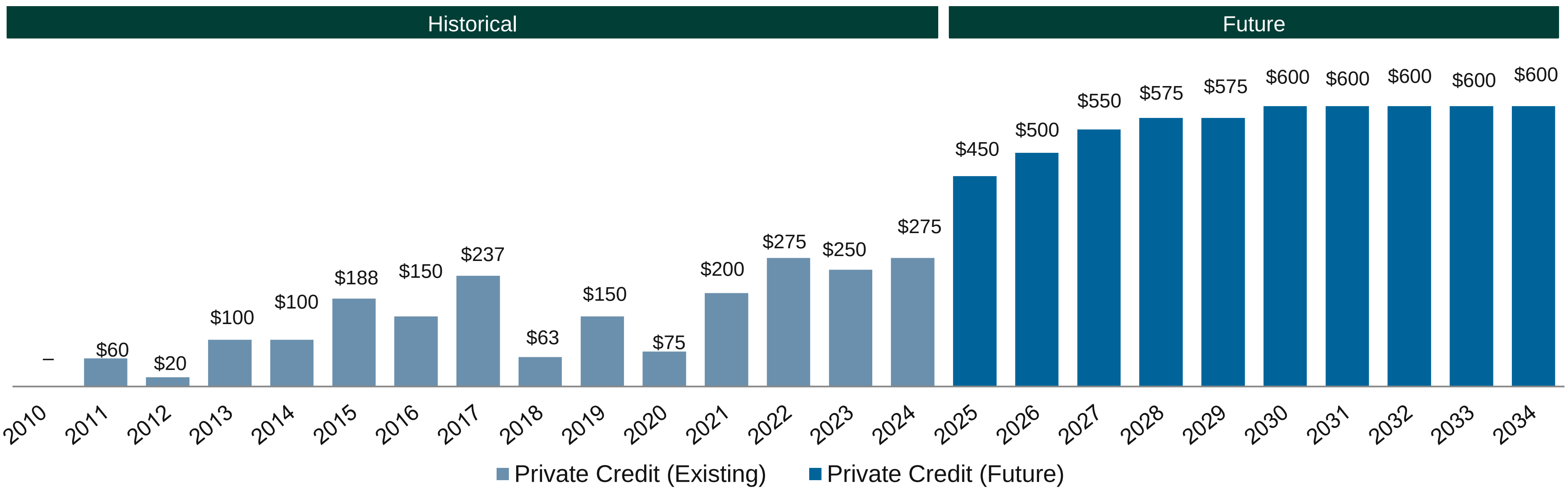


NHRS Private Credit Commitment Pacing

Increase Pacing to Reach New Target Allocation

- Commitments to private credit are expected to increase to achieve a target allocation of 10%.
- Callan recommends targeting $450-600 million in commitments from 2025 through 2034 to private credit to achieve the 10% target. With increased commitments the allocation is expected ramp up over the next five years and stabilize at the target allocation in 2028.



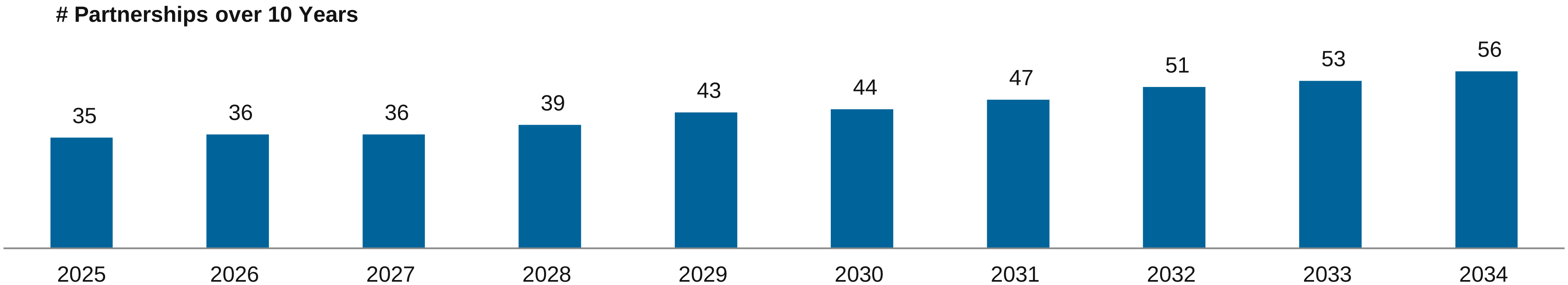


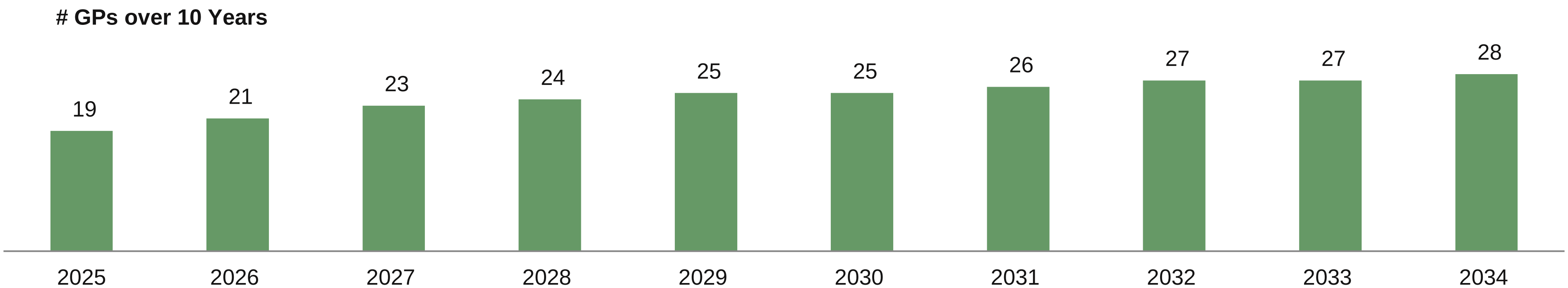
NHRS Commitment Pacing

Private Credit Partnership and General Partner Count over Ten Years into the Future

Private Credit Partnerships and General Partners

- Targeting a 10% allocation to Private Credit
- Assumes four to five commitments per year at $125 million per commitment.
- Assumes a 75% re-investment rate with existing GPs.
- Number of partnerships grow to 56 over the ten-year period and number of GPs is expected to increase to 28.

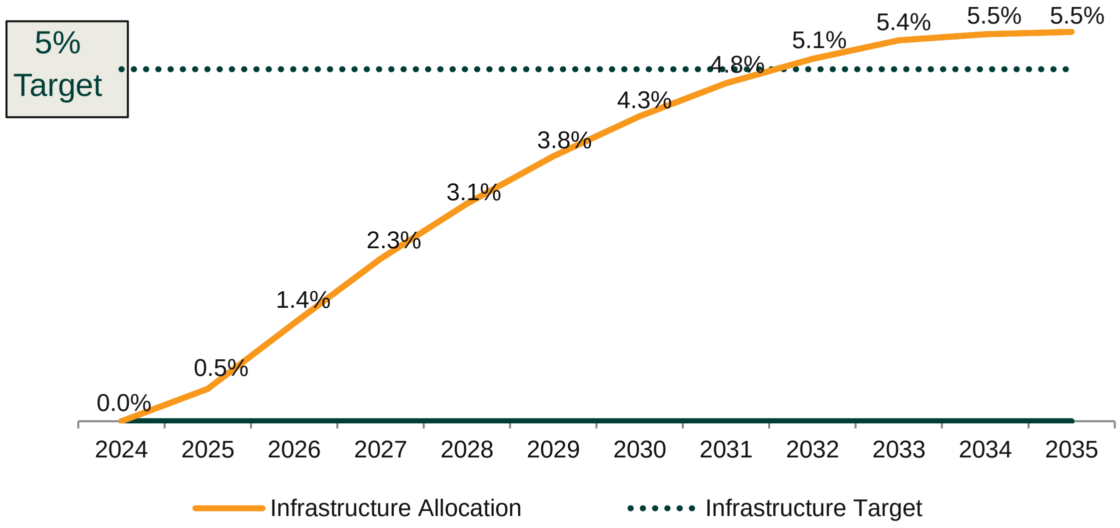


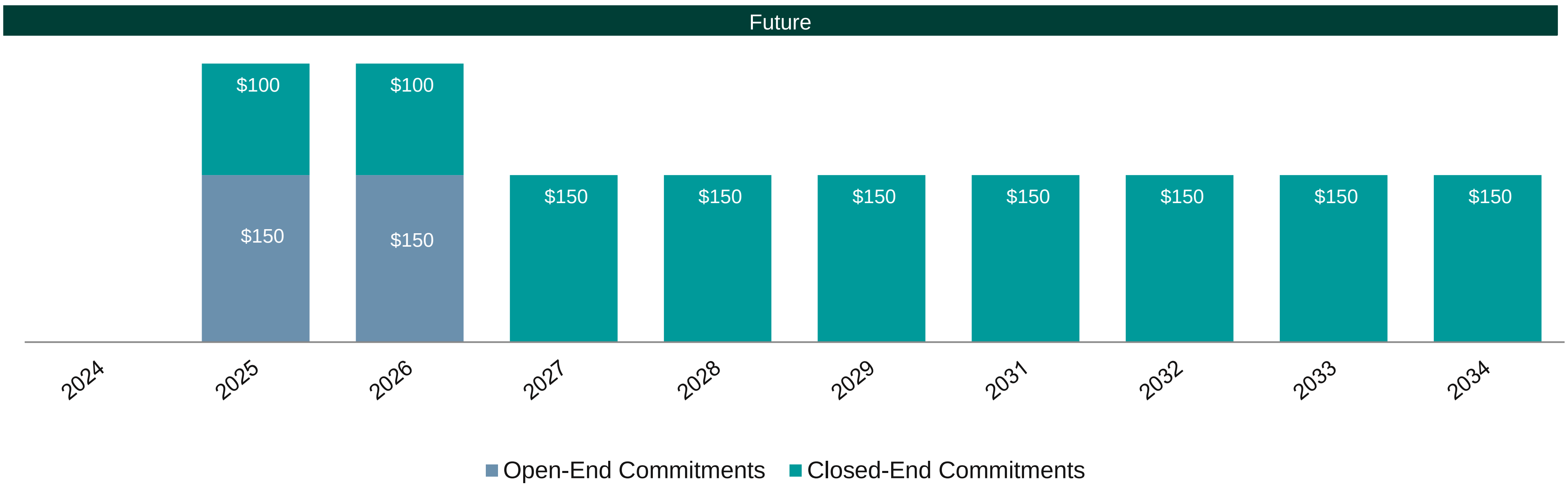


NHRS Infrastructure Commitment Pacing

Pacing to Reach New Target Allocation

- The infrastructure allocation is expected to reach a target allocation of 5% by 2031.
- Callan recommends targeting $150-250 million in commitments from 2025 through 2034 to achieve the 5% target.
- The pacing assumes $150 million in commitments to open-end funds over the first two years. Using this approach, the portfolio will have 15% exposure to open-end funds and 85% exposure to closed-end funds after 10 years.





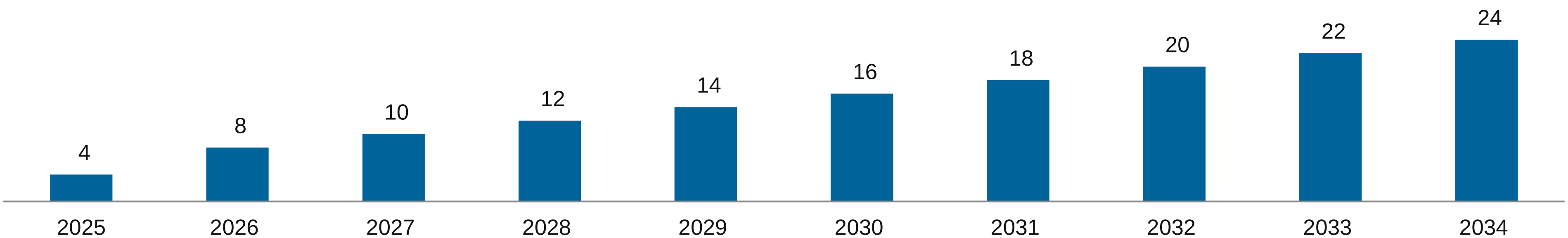
NHRS Commitment Pacing

Infrastructure Partnership and General Partner Count over Ten Years into the Future

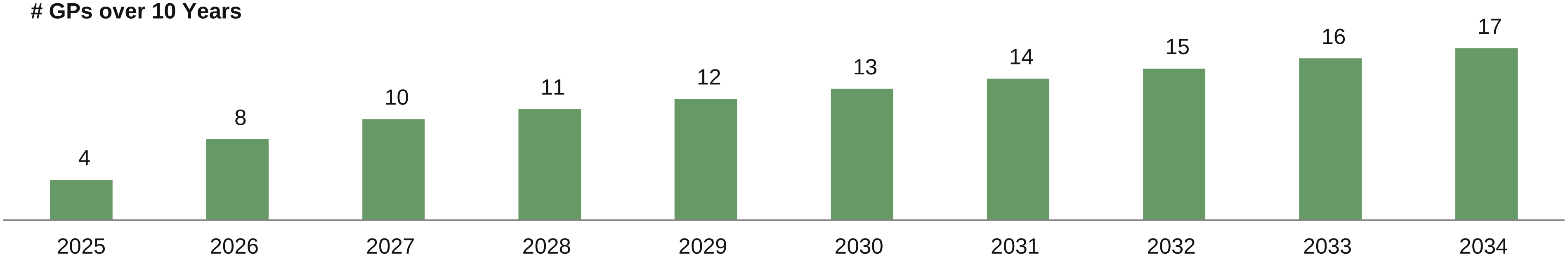
Infrastructure Partnerships and General Partners

- Targeting a 5% allocation to Infrastructure
- Assumes two to four commitments per year at $75 million per commitment.
- Assumes a 75% re-investment rate with existing GPs.
- Number of partnerships grow to 24 over the ten-year period and number of GPs is expected to increase to 17.

 # Partnerships over 10 Years



 # GPs over 10 Years



To: Investment Committee

From: Raynald Leveque, Chief Investment Officer

Date: January 14, 2025

Re: **Revised Investment Manual and Policy**

Item: Action: ☒ Discussion: ☐ Informational: ☐

Attached for your review and feedback is the clean and redlined versions of the System's Investment Manual, which incorporates the latest updates to reflect significant changes in the NHRS asset classes, benchmarks, and internal procedures. These revisions also include the most recent Board-approved adjustments to the asset allocation strategy.

In addition, the changes to the Investment Manual are reflected in several key sub-components, including the Investment Policy, Global Equity Guidelines, Fixed Income Guidelines, Private Markets Investment Guidelines (formerly known as Alternative Investment Guidelines), and the Accountability Matrix.

The Private Markets Investment Guidelines have been modernized to reflect current industry language and practices, with updated targets and revised asset allocation to better align with evolving market trends.

These updates are designed to ensure alignment with the System's long-term investment objectives and to enhance the overall investment framework.

Please note that the Investment Manual was last reviewed and formally approved by the Board of Trustees (BOT) on June 14, 2022.

Changes to the **Investment Policy** are reflected on the following pages:

- Pages 2 – 6: Revisions related to additional parties and stakeholders; reclassification of the lead investment executive from Director of Investments to Chief Investment Officer (CIO), Investment Staff to Investment Team;
- Page 9: Relative to the approved asset classes and target allocation ranges;
- Pages 10 – 11: Revisions to asset class definitions to align with current industry terminology;
- Pages 13 – 15: Relative to benchmarks;
- Addition of previously approved Infrastructure guidelines;

Changes to the **Global Equities Guidelines Policy**

- Transitioning from the Domestic Equities and Non-US Equities policy to a Global Equities policy to align with the newly approved Global Equity asset class as of December 2023;

Changes to **Fixed Income Guidelines**

- Updates to allowable ranges based on prior BOT approval at the December 10, 2024 meeting;

Changes to **Private Markets Guidelines**

- Reclassification of asset class grouping from Alternative Investments to Private Markets;
- Pages 1 – 5: Revisions to update language found in document to current industry language and practices;
- Page 1: Changes to allocation targets, in addition to new Infrastructure asset class;

Changes to **Accountability Matrix**

- Pages 1 – 11: Reclassification of the lead investment executive role from Director of Investments to Chief Investment Officer (CIO);
- Page 11: Update to Legal Counsel responsibility/duty in relation to proxy voting service provider;

Once the Committee has reviewed and approved these changes, the revised Policy will be presented to the Board of Trustees at the next meeting before finalizing the document.

Table of Contents

Section I

- **Investment Policy**
- **Proxy Voting Policy**
- **Securities Lending Policy**
- **Securities Litigation Policy**
- **Private Markets Disclosure Policy**

Section II

- **Accountability Matrix**

Section III

- **Independent Investment Committee Charter**

Section IV

- **Investment Guidelines**
  - Global Equity
  - Global Fixed Income
  - Real Estate
  - Private Markets Investments
  - Infrastructure

New Hampshire Retirement System
Investment Policy
Amended by NHRS Board of Trustees on February 11, 2025

I. Introduction to the Investment Policy

The purpose of this Investment Policy is to:

A. Fulfill the Board's and IIC's statutory duty to oversee the investments of NHRS in accordance with the basic fiduciary responsibilities. These duties include:

- Managing the fund with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character with like objectives.

- Making all decisions solely in the interest of, and for the exclusive purpose of providing benefits to the members, retirees, and their beneficiaries.

- Defraying reasonable administrative expenses.

B. Set forth the investment policies the Board and IIC judge to be appropriate, prudent and, in consideration of the Systems' needs, to comply with current laws and to direct the investment of the System's assets.

C. Ensure appropriate flexibility within the investment process to allow for the System to participate in prudent investment opportunities while also establishing risk parameters within which the portfolio will operate.

D. Establish criteria to evaluate the System's investment performance.

E. Communicate investment policies, objectives, asset class guidelines, and performance criteria to the investment team, external investment managers/advisors, consultants, custodians, and all other interested parties.

F. Serve as a review document to guide ongoing oversight of the System's investments for compliance with the laws of New Hampshire.

II. Responsible Parties and Their Duties

Key parties that participate in the investment decision-making and oversight process for NHRS include the:

- Board of Trustees
- Independent Investment Committee (IIC)
- Investment Team (Team)
- Investment Consultants
- Investment Advisors
- Investment Managers
- Custodian Bank
- Proxy Voting Service Provider
- Investment Service Providers
- External Fund Counsel
- Internal Stakeholders:
    - Finance & Accounting
    - Legal
    - Information Technology
    - Communications

Board of Trustees:
The Board sets investment policy in accordance with applicable State and Federal laws, hires the investment consultant(s), and sets policy for establishing and modifying investment objectives. The Board also has responsibility to review quarterly and annual reports from the IIC.

Independent Investment Committee:
The IIC prepares for the Board's review and approval an investment policy statement, including investment objectives, an expected rate of return the System is attempting to earn, asset allocation targets and ranges, and identification of appropriate benchmarks. The IIC has the full power to hold, purchase, sell, assign, transfer, and dispose of any securities and investments, as well as the proceeds of such investments, in accordance with the policy set by the Board. The IIC has the responsibility to establish asset class guidelines and for selecting, monitoring, and terminating investment managers. The IIC is responsible for reporting to the Board on a quarterly and annual basis as directed by the statute.

Investment Team:
The NHRS Investment Team, led by the Chief Investment Officer (CIO), is responsible for implementation of the investment decisions made by the Board of Trustees and/or the IIC. In general, the responsibilities of the Investment Team include:

- Ensuring the asset allocation of the Fund is implemented in accordance with the policy approved by the Board, including rebalancing as necessary in accordance with the investment policy
- Monitoring policy and statutory compliance of the portfolio

- Assisting the IIC in developing investment policy recommendations to present to the Board for approval
- Monitoring investment managers and performing due diligence on new investment opportunities or managers as directed by the IIC
- Coordinating work with the investment consultant or any other investment-related service provider selected by the Board
- Conducting special research or analysis as directed by the Board, IIC, or CIO
- Ensuring the Board and IIC receive appropriate reporting regarding the investment portfolio

Investment Consultants:
The investment consultant will perform those services as described in its contract, either general consulting or specific asset class consulting. The investment consultant is hired by the Board and is expected to work cooperatively and collaboratively with the Board, the IIC, as well as the Investment Team.

In general, the investment consultant’s responsibilities may include:

- Providing advice on total plan asset allocation, or specific asset class guidance
- Assisting the Board, IIC, and Team with decision-making
- Providing reviews of investment policy, asset class structure, and investment manager due diligence
- Calculating performance
- Reporting and analyzing performance of the total portfolio, asset classes, and individual investment managers
- Performing research as needed
- Providing investment education to the Board, IIC and team as requested
- Reporting quarterly to the Board on investment consultant contract fulfillment actions
- Reporting quarterly to the Board on recommendations made to the IIC and the status of their recommendations.

Investment Advisors:
The investment advisor will carry out the duties stipulated in their contractual agreements. Engaged by the Board, they are expected to actively cooperate and collaborate with the Investment Team, IIC, and the Board. The advisors may have full and complete discretion and authority with respect to the selection and management of investments in a specific asset class.

Broadly, the responsibilities of the investment advisors encompass:

- Assisting the Board, IIC and team with due diligence, selection, review, management and reporting.
- Providing strategic guidance to the IIC and Team on investment strategies, market trends, and economic developments as requested

- Ensuring all investments comply with legal and regulatory requirements and preparing detailed reports for stakeholders on the fund's financial health and performance.

Investment Managers:
The investment managers hired by the IIC have the duty to manage the assets allocated to them as fiduciaries and in accordance with the Investment Management Guidelines established for their accounts and their individual contracts. Investment managers must execute all transactions for the benefit of NHRS and update NHRS regarding any major changes to the portfolio management team, investment strategy, portfolio structure, ownership, organizational structure, or other changes relevant to the account.

Managers may also play a role in transition management, which includes the following responsibilities:

- Transition Planning: Develop transition strategies, including setting timelines and milestones.
- Execution Management: Oversee trade execution and coordinate with custodians, brokers, and other relevant parties.
- Risk Management and Compliance: Manage risks, ensure compliance, and oversee transition processes.
- Performance Monitoring: Track the transition's performance against benchmarks and objectives and provide regular updates.
- Providing guidance to investment office when executing asset class transition management.

Custodian Bank:
The duties of the custodian bank are set forth by their contract with NHRS.

In general, the custodian's responsibilities include:

- Safekeeping of NHRS assets
- Settling investment transactions and collecting income
- Preparing monthly and year-end accounting statements
- Serving as the "book of record" for investment transactions and valuations
- Properly recording and reporting investment activities, transactions, income, and valuations
- Calculating and reporting on gross and net investment performance as well as other investment analytics

When selecting the custodian bank, the IIC will use the current industry standards appropriate for evaluating the qualifications of a custodian bank.

Proxy Voting Service Provider:
The duties of the proxy voting service provider are set forth by their contract with NHRS.

In general, those responsibilities include:

- Voting proxies on behalf of NHRS per the Proxy Voting Policy
- Providing research reports
- Preparing monthly and year-end summaries
- Alerting the Investment Team to issues not covered by the NHRS Proxy Voting Policy
- Recommending revisions to the NHRS Proxy Voting Policy
- Assisting in revising the NHRS Proxy Voting Policy

Transparency / Monitoring Service Provider:
The duties of the Transparency and Monitoring Service Provider, as outlined in their contract with NHRS, include:

- Analyzing financial documentation: Identify and advise on any potential fee discrepancies between contracted Investment Managers and NHRS
- Detecting hidden fees and costs: Search for and analyze hidden fees or costs charged to funds or portfolio investments (e.g., double fee layers, placement agents) and assess any excessive high operating expenses
- Presenting findings: Report findings to NHRS and the respective managers.
- Negotiating resolutions: Work to resolve any identified issues
- Monitoring refunds and optimizations: Oversee the refund process and ensure optimization where applicable

External Fund Counsel:
The duties of external fund counsel, as outlined in their contract with NHRS, include but not limited to:

- Engagement and legal diligence for prospective contracts for fund investments and subscription to private fund mandates and commitments
- Review and assistance with negotiating private investments with external general partners and fund managers
- Representation and assistance in administrative, regulatory proceedings, or litigation related to investment matters
- Ongoing notification and education relevant to changes in the law and industry practices affecting investments

Internal Partners:
The duty of the internal NHRS partners, is to support and/or facilitate activities being performed by the Investment Team to fulfill fiduciary responsibilities to the beneficiaries. The internal partners are made up of the following teams:

Finance & Accounting:
- Cash Management and Financial Reporting
- Processing wires required to fund new investments and/or capital calls, pay service providers and vendors
- Maintaining log of Investment-related transactions
- Budget oversight ensuring the alignment of investment decisions with the fund's budgetary constraints and cash flow needs

Legal:
- Regulatory compliance: Ensure investment activities align with local, state, and federal laws
- Vendor contract review: Assess and approve agreements with external managers, custodians, and consultants
- Coordination with external fund counsel in the legal diligence of investment management agreements with external general partners and fund managers

Information Technology:
- Supporting the secure storage and accessibility of investment-related data systems
- Ensuring that software platforms for investment analytics, risk management, and accounting work seamlessly
- Overseeing the implementation process, ensuring the system is tested and seamlessly integrated

Communications:
- Stakeholder engagement: Facilitate communication between the Investment Team, board members and plan participants
- Policy dissemination: Ensure clarity and accessibility of the investment policy statement to relevant parties.

The Accountability Matrix incorporated herein by reference further summarizes key responsibilities and duties of the Board; IIC; Chief Investment Officer and Investment Team; Internal Legal Team; Investment Consultant(s); and Actuary. Additional responsibilities are also detailed in the Board's governance manual, contracts, and NHRS's position descriptions for Team.

III. Investment Objectives

Considering the purpose of the System, the Board, based on the recommendation of the IIC, has adopted the following investment objectives:

- Efficiently allocate and manage the assets of the Fund so that beneficiaries will receive promised benefits.
- Manage the portfolio on a total return basis, which recognizes the importance of the preservation of capital, as well as the fact that reasonable and varying degrees of investment risk are generally rewarded over the long-term
- Work towards achieving and then maintaining a fully funded pension status.
- Exceed the Policy benchmark on a net of fees basis over a full market cycle.

IV. Risk Management

The Board's role in risk management is to approve the asset allocation targets and ranges for each asset class of the Fund. The Board recognizes that in order for the Fund to achieve its investment objectives, a reasonable level of risk must be present within the investment portfolio. Risk is referenced both in terms of absolute risk (the risk of loss) and volatility (the variability of returns). The Board will seek to minimize the risk of loss by approving an asset allocation that includes an appropriate level of diversification of Fund assets. The Board will periodically review the level of risk as represented by the asset allocation targets and ranges within the Fund and each asset class to ensure it is reasonable and within its tolerance for risk. Equity volatility (risk) is among the highest for any asset class. Other risks that the Board will consider when approving investment policy include benchmark risk, timing risk, market risk, credit risk, currency risk, liquidity risk, and any other risk it determines is relevant.

The Board acknowledges that the IIC also has a responsibility to consider risk when recommending asset allocation, and to monitor risks within the portfolio. The IIC will consider market risk, credit risk, currency risk, liquidity risk, and any other risk it believes to be relevant when it determines an asset allocation to recommend to the Board. The IIC is responsible for risk management at the manager level as it decides upon the number and types of managers to utilize within each asset class portfolio. When making decisions, the IIC will consider idiosyncratic risk (firm specific risk), benchmark risk, timing risk, market risk, credit risk, liquidity risk, interest rate risk, operational risk, concentration risk or any other risk it determines relevant as it makes its decisions.

The investment managers are responsible for risk management within the portfolio they manage on behalf of NHRS. Investment managers will consider those risks most relevant to their portfolio, which could include market risk, credit risk, currency risk, liquidity risk, inflation risk, geo-political risk, political risk, interest rate risk, and operational risk.

Descriptions of major types of risk follow:

A. Credit Risk: The risk of default of a party owing cash to the System as the result of a transaction. These parties may include, but are not limited to, the counterparty and the issuer.

B. Counterparty risk (default risk): The risk to each party of a contract that the counterparty will not live up to its contractual obligations. Counterparty risk is a risk to both parties and should be considered when evaluating a contract.

C. Liquidity Risk: There are two types of liquidity risk: market liquidity risk and funding liquidity risk. Market liquidity risk is the risk of being unable to purchase or liquidate a security quickly enough (or in requisite quantities) at a fair price. Market liquidity risk differs from market risk (defined below). Market liquidity risk only reflects realized price changes, while market risk reflects both realized and unrealized price changes. Funding liquidity risk relates to the relative ease of the organization to meet its cash flow needs as they come due.

D. Market Risk: The risk of unexpected change in market price (amount or direction). Price changes in securities can result from movements in equity markets, interest rates, and currency exchange rates, in addition to various other factors. Market risk incorporates both realized and unrealized price changes.

E. Systemic Risk: Risk that affects an entire financial market or system, and not just specific asset classes. Systemic risk cannot be avoided through diversification.

F. Absolute Risk: Risk of loss of capital.

G. Volatility Risk: The variability of returns often used as a proxy for risk.

H. Operational Risk: The risk of inadequate controls against fraud, incorrect market valuation, failure to record or settle a deal, settlement with the wrong counterparty, failure to collect amounts due, failure of the computer system, or enforceability of contracts. The implications of operational risk include both financial loss and loss of reputation.

I. Geo-Political Risk: The risk of the occurrence of an unanticipated international and/or domestic incident such as war, assassination, terrorism or energy shock that adversely affects global and capital markets resulting in the re-pricing of securities.

J. Political Risk: The risk of nationalization or other unfavorable government action.

K. Idiosyncratic Risk: Firm specific risk or the risk of the change in price of a security due to the unique circumstances of that security.

L. Benchmark Risk: The risk that an investment may outperform or underperform its target return.

M. Interest rate risk: The risk of an investment losing value (such as bonds) when interest rates rise. Rising interest rates increase the cost of doing business for most companies and can also, thereby, raise market risk.

N. Inflation risk: The risk that rising inflation may erode the value of income and/or assets.

O. Currency risk: The risk that currency movements will negatively impact an investment's return. If the value of the U.S. dollar rises in relation to other currencies, the value of foreign stock shares translates into a smaller number of U.S. dollars for investors who hold those shares. Put another way, a "strong" dollar can buy more foreign goods, including foreign stocks. Conversely, if the dollar falls in relation to other currencies, the value of foreign stock shares rises, as more "weak" dollars are needed to buy a given amount of foreign stock.

P. Timing risk: The risk that the market will not move in the anticipated direction when an investment is made (upward for long positions, and downward for short positions).

Q. Concentration risk: The risk that the System does not appropriately and effectively diversify the assets within an asset class. An example of concentration risk is having too large a percentage of System assets with a single investment manager.

V. Asset Allocation

The Board approves the asset allocation targets and ranges for each asset class of the Fund (the allowable asset classes and the distribution of assets among those asset classes) based on recommendations from the IIC. As fiduciaries, the Board and the IIC have a duty to diversify the investments of the System to reduce risk, while maximizing the investment return. Approximately ninety percent (90%) of the long-term total return stems from the asset allocation decision. The remaining ten percent (10%) is expected to be attributable to either the selection of individual assets or timing. Accordingly, asset allocation is one of the most important fiduciary decisions. The Board adopts an asset allocation based on recommendations from the IIC, which relies upon the advice from the Chief Investment Officer and the investment consultant to formulate its recommendations to the Board.

The asset allocation approved by the Board will reflect the results of an Asset Allocation Study performed at least once in every five-year period, or more often, as recommended by the IIC, in consultation with the Investment Team and investment consultant. The study may also include an Asset Liability Study that analyzes the current assets and projected liabilities under various scenarios to ensure long-term funding for retiree benefits.

The Asset Allocation Study identifies a mix of investments, by asset class, which is expected to produce the return required to meet future funding requirements at the lowest level of risk, given all of the assumptions made and employing a mean-variance optimization model.

The asset allocation chart, which follows, lists the approved asset classes in the portfolio and the target percentages and ranges, at market value, of the System's assets to be invested in each. Due to fluctuations of market values, positioning within a specified range is acceptable and constitutes compliance with the policy. Based on the approved asset allocation, recommendations from the System's consulting actuary, IIC, investment managers and the Team, the Board adopts an assumed rate of return, which is subject to periodic change and which is the long-term return that can be expected from this combination of assets. As of June 9, 2020, the assumed rate of return was 6.75%.

Asset Class	Target Allocation	Allocation Range
Public Markets:		
Global Equity	40%	30 – 50%
Global Fixed Income	25%	18 – 32%
Private Markets:		
Private Equity	10%	5 – 15%
Private Credit	10%	0 – 15%
Infrastructure	5%	0 – 10%
Real Estate	10%	5 – 20%
Cash:	0%	0 – 5%

Asset Allocation Targets were approved in December 2023 and the Ranges approved in December 2024.

The Board has approved the use of the above listed asset classes for the following reasons:

Global Equity: The allocation to global equity serves to expose the fund to economic growth throughout the world and will serve as the primary growth engine for capital appreciation.

Global Fixed Income: The investment in fixed income will serve to reduce volatility experienced in the equity markets, as well as offer an opportunity for return enhancement by investment in selected securities (for example, investment grade corporates and high yield). A portion of the fixed income allocation is expected to be invested in Treasury or other government-related issues, which will serve to reduce risk within the portfolio.

Private Markets: Private markets investments are non-traditional investments, not covered by another investment class. In general, private market investments are incorporated into the NHRS asset allocation to enhance the portfolio's risk-adjusted return (private equity/private credit) or to diversify volatility. While the risk associated with these types of investments is higher than that of other asset classes, the expected return is also higher.

- Private Equity: generates attractive risk-adjusted rates of return through investments in private companies and earns returns in excess of the public equity markets over the long-term. Private Equity sub asset classes include leveraged buyouts, venture capital, growth equity and special situations such as investment in general partner interests and industry sector funds, and include co-investments, secondaries and other customized strategies.

- Private Credit: investments will be made across the credit universe, seeking attractive risk-adjusted returns using a diverse set of strategies. Sub asset class strategies include direct lending, mezzanine finance, distressed and special situations, specialty finance, structured credit, real assets credit, real estate credit, and liquid credit.

- Infrastructure: refers to physical assets or facilities that are used to provide essential services or support economic activity, and which are privately owned and managed rather than publicly owned or operated. This category typically includes assets in sectors such as energy (e.g., power plants, renewable energy installations), transportation (e.g., toll roads, bridges, ports, airports), utilities (e.g., water, sewage, telecommunications), and social infrastructure (e.g., schools, hospitals, and housing projects). Private infrastructure investments often involve long-term capital commitments, offering the potential for stable, inflation-linked cash flows and diversification benefits within a broader investment portfolio.

- Real Estate: The investment in real estate will serve as an inflation hedge, return enhancement opportunity, income generator, and diversification source and will include investments within core, value-added, and opportunistic opportunities.

VI. Rebalancing

The actual asset class allocation of the Fund will be continuously reviewed by the Investment Team relative to the asset class policy targets. Market movements or cash flow requirements may require the actual allocations in the portfolio to deviate from the target allocations. The Team shall seek to maintain the Fund's actual asset allocation within allocation ranges at all times. When rebalancing is required, the team will develop a rebalancing plan that, when possible, minimizes transaction costs. The plan will identify whether the assets will be rebalanced to a point within the allowable range, or to the allocation target. The Team will give due consideration to market environments, costs and risks of implementation, potential impacts on manager-level performance, and other relevant factors. The Team will report to the IIC and the Board regarding rebalancing activities that have occurred.

VII. Equity Investment in Another Entity

When the System makes an equity investment in another entity, the underlying assets of such other entity will be deemed "assets" of the System for purposes of Section 100-A15, I-b of the RSA except with respect to investments in the following entities:

(a) Publicly-offered securities

(b) An investment company registered under the Investment Company Act of 1940

(c) A Company primarily engaged, either directly or through majority-owned subsidiaries, in the production and/or sale of goods and/or services (other than the investment of capital) ("Operating Company")

(d) A private equity fund whose primary objective is to invest in Operating Companies in which it has contractual rights to influence company management

(e) A private investment fund whose primary objective is to invest in real estate with respect to which it has the right to participate directly in the development or management

(f) A government mortgage pool guaranteed by the United States or an agency or instrumentality thereof

(g) An investment fund or entity in which:

(1) (i) private U.S. employee benefit plans subject to Part 4 of Subtitle B of Title 1 of the Employee Retirement Income Security Act of 1974 ("ERISA Plans"), (ii) plans subject to Section 4975 of the Internal Revenue Code ("4975 Plans"), and (iii) other entities deemed under ERISA to hold assets of such

ERISA Plans and 4975 Plans (together with ERISA Plans and 4975 Plans, "Benefit Plan Investors"), hold less than 25% of any class of equity interests and

(2) the System holds less than 25% of the total equity interests

(h) An insurance company general account to the extent that the non-guaranteed policy portion of such account is less than 25% held by Benefit Plan Investors and less than 25% held by the System.

It is the intention of the Board that in settling any ambiguity regarding this section of policy, the Board shall look to available guidance under ERISA to settle such ambiguity.

VIII. Liquidity

Currently, each fiscal year, the member benefit payments paid by the System exceed the employer contributions received by the System. As a result, maintaining appropriate liquidity is critical to the System's operations and the System's ability to meet its financial obligations. The Team will be responsible for ensuring the System maintains the appropriate liquidity for the payment of member benefits, fund expenses and capital calls from its General Partners.

IX. Active and Passive Management

The IIC may implement the Board's approved asset allocation through the use of both passive and active management. The use of active and passive management is detailed in the guidelines for each asset class. The goal of passive management is to gain diversified exposure to the desired asset class while incurring minimal expense and seeking a performance return comparable to the asset class benchmark. The goal of active management is to exceed the performance of the appropriate index on a net-of-fees basis at a commensurate level of risk over a full market cycle.

X. Benchmarks

The following benchmarks represent the standards of measurement to be used for the various investment asset classes of the New Hampshire Retirement System as determined by the Board and IIC.

Asset Class	Benchmark
Global Equity	MSCI ACWI IMI (All Country World Index Investable Market Index)
Sub-asset class:	
Domestic Equity	Russell 3000 Index
Non-U.S Equity	MSCI All Country World Ex-U.S. Index

Global Fixed Income	Bloomberg Barclays Capital U.S. Universal Bond Index
Private Markets:	
Private Equity	Russell 3000 Index + 2.0%
Private Credit	(50% S&P/LSTA U.S. Leveraged Loan 100 Index and 50% Bloomberg High Yield Index) + 1.0%
Infrastructure	Consumer Price Index + 4%
Real Estate	NCREIF NFI-ODCE Index (net of fees)
Cash Equivalents	Three-month Treasury Bill Index
Total Fund	Total Fund Custom Benchmark

The Total Fund Custom Benchmark is a weighted average return comprised of the respective asset class benchmarks in the same proportion as the target asset allocation.

As performance results may vary under different economic conditions and market cycles, an effective period for measuring performance would span three to five years or more. Performance returns are expected to meet or exceed the relevant benchmark on a net-of-fees basis over time.

The IIC has responsibility for identifying appropriate benchmarks for each investment in the Fund.

Definitions of the benchmarks are listed below:

A. The MSCI ACWI (All Country World Index) IMI is a global equity benchmark that includes large, mid, and small-cap companies across 23 developed and 26 emerging markets. It is designed to represent the performance of global equity markets and provides broad diversification across regions and sectors.

B. The Russell 3000 Index measures the performance of the largest 3,000 U.S. companies, representing approximately 98% of the investable U.S. equity market.

C. The MSCI ACWI (All Country World Index) is a free-float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The term "free float" refers to the number of shares of stock publicly owned and available for trading.

D. The Bloomberg Barclays Capital U.S. Universal Index represents the union of Bloomberg Barclays Capital's U.S. Aggregate Index (see below), U.S. Corporate High-Yield, Investment Grade 144A Index, Eurodollar Index, U.S. Emerging Markets Index, and the non-ERISA eligible portion of the CMBS Index. The index covers USD-denominated, taxable bonds that are rated either investment grade or below investment grade.

E. The Bloomberg Barclays Capital U.S. Aggregate Index is an unmanaged, market-value-weighted index of taxable investment-grade fixed-rate debt issues, including government, corporate, asset-backed and mortgage-backed securities, with maturities of one year or more.

F. The National Council of Real Estate Investment Fiduciaries (NCREIF) Fund Index Open-End Diversified Core (NFI-ODCE) is a composite comprised of primarily Core open-end funds widely used by institutional investors for exposure to domestic private market real estate. An open-end fund is a large pool of properties held in a commingled fund structure where investors have redemption rights (typically quarterly right to make capital deposits or withdrawals). Because of quarterly purchase or redemption of fund shares, open-end funds have some of the best valuation disciplines in private market real estate. The funds report performance quarterly to NCREIF. Nearly all open-end funds are designed to be perpetual life vehicles, with many having history dating back to the 1970s.

G. The S&P/LSTA U.S. Leveraged Loan 100 Index is a daily tradable index for the U.S. market that seeks to mirror the market-weighted performance of the largest institutional leverage loans. The constituents are drawn from a universe of syndicated leveraged loans representing over 90% of the leveraged loan market.

H. The Bloomberg High Yield Index measures the USD-denominated, high-yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody’s, Fitch, and S&P is Ba1/BB+/BB+ or below. Consumer Price Index (CPI) measures the average change over time in the prices paid by urban consumers for a basket of goods and services. It is commonly used as a gauge of inflation and to assess changes in the cost of living. The CPI is a key economic indicator and is often used to adjust income and investment returns for inflation.

I. The Three-month Treasury bill serves as a common benchmark for cash equivalents in an institutional portfolio due to its risk-free rate, backed by the full faith and credit of the US government, high liquidity, short-term maturity capturing current interest rate conditions, and widely published, accessible and transparent benchmark for performance comparison.

XI. Reporting to the Board

Pursuant to RSA 100-A:15, II-a, the IIC will report to the Board at least quarterly on the management, investment, and reinvestment activities of the IIC, and may delegate such reporting as it deems appropriate.

The quarterly report will include:

- A report on the investment performance of the assets of the System
- Changes, if any, in the investment managers of the System
- Changes, if any, in the investment guidelines for each of the asset classes
- Rebalancing activities, if any

Pursuant to RSA 100-A:15, VII, the IIC will prepare, for Board approval, a comprehensive annual investment report for the Board.

The annual report will include:

- A description of the IIC's philosophy for investing the assets of the System
- An analysis of the return on investment, by category
- An annual investment policy statement
- Any suggested changes in legislation which the Board may seek in order to better serve the members of the system

After Board approval, the comprehensive annual investment report is submitted to the president of the senate, the speaker of the house, and the governor.

The Investment Team, investment consultant(s), custodian bank, and other parties will also provide reporting to the Board as requested or needed.

XII. Manager Selection, Monitoring, and Termination

The IIC, with the assistance of the Investment Team and the investment consultant, will establish a process by which to select investment managers. Criteria for each manager search will be tailored to the search underway and NHRS' specific needs and requirements.

Examples of criteria include:

- Organizational stability
- Investment team, experience and tenure
- Investment process
- Ownership
- Fees
- Performance

Manager searches will be conducted in a fair and transparent manner. During a manager search, a "no contact policy" will be in effect. During this time, only the Investment Team members designated by the Chief Investment Officer will have any contact with potential candidates. Trustees, IIC members, and other team members will refrain from discussing the search with candidate firms or potential candidate firms. This policy does not preclude existing managers from carrying out their normal business requirements with NHRS.

The IIC has delegated selected manager monitoring efforts to the Team and the investment consultant. Any significant changes to a manager's investment philosophy, fees, personnel, ownership or organizational structure will be summarized and reported to the IIC. The IIC will receive quarterly and annual reporting regarding the performance of the investment managers within the fund.

The IIC has the right to terminate any investment manager at any time. Grounds for termination may include, but are not limited to:

- Changes in asset allocation that require re-structuring of the portfolio
- Failure to comply with investment management agreements
- Underperformance over the short to medium term, with consideration of long-term investment strategy and time horizon
- Significant process, organizational, ownership or personnel changes
- Unethical behavior
- Loss of confidence in the organization
- Unresponsiveness or inability to satisfy reporting requests

XIII. Private Markets Fund Advisory Board/Committee Participation

The primary purpose of a private markets fund advisory board/committee is to (1) provide "checks and balances" on the general partner's power and authority to operate the fund; and (2) act as a "sounding board" for matters where the interests of all the fund's partners may not be aligned.

The System has determined that the benefits of the Investment Team participating on advisory boards/committees far outweigh the risks or potential risks of not participating on advisory boards/committees. As a result, it is appropriate for the CIO or designated team member to represent the System as a member of an advisory board/committee, with the approval of the IIC and provided that there are appropriate protections for such members (e.g., with respect to fiduciary duty/standard of care, indemnification, confidentiality, etc.).

XIV. Use of Derivatives

Derivatives may only be used to modify risk/return characteristics of the portfolio, implement asset allocation changes in a cost-effective manner, or reduce transaction costs or taxes. Derivatives may not be used for speculation or leverage (borrowing).

Contracts with separate account managers will identify the types of derivatives that may be used, consistent with this Manual and prudent discretion. Managers must notify the CIO of modifications in the types of derivatives used and obtain the CIO's approval of such modifications. The System's Non-U.S. Equity managers generally have authorization for broader use of derivatives; however, their actions will be monitored for excessive risk.

Investments in commingled funds are open to other investors; therefore, it is not possible for the System to insist that the managers of such funds abide by System policy regarding the use of derivatives; however, their actions will be monitored for excessive risk. The CIO will monitor a manager's use of derivatives on an ongoing basis to determine whether continued investment in a fund is prudent.

XV. Prohibited Transactions

The following transactions will be prohibited unless stated otherwise in the investment manager guidelines:

- "Prohibited transactions" as defined under the Employee Retirement Income Security Act of 1974 (ERISA).
- Transactions that involve a broker acting as a "principal", where such broker is also the investment manager who is making the transaction.
- Any or all investment activities forbidden by SEC or other applicable governing bodies.

The exposure for options, when permitted by contract, must be based on an appropriate options pricing model.

XVI. Review of Investment Policy

The IIC will review the investment policy at least annually to ensure it remains appropriate and to determine whether any modifications are needed and make a recommendation to the Board for changes, if any, to the investment policy. The Board will review the recommendations of the IIC regarding the investment policy and review the policy at least annually.

XVII. Glossary of Common Investment Terms

Investment in any particular instrument or security remains subject to applicable law and circumstances then prevailing. Notwithstanding, the most common investments are cited below:

A. Private Markets Investments are investable assets that fall outside traditional investments (stocks, bonds, cash), and involve less liquid and more specialized strategies (e.g. private equity / private credit and other private markets strategies)

B. American Depositary Receipts (ADRs) are receipts for the shares of a foreign-based corporation held in the vault of a U.S. bank and entitling the shareholder to all dividends and capital gains. These are traded on various U.S.-based exchanges and are available for hundreds of stocks from numerous countries.

C. Commercial Mortgage-Backed Securities (CMBS) are multi-class bonds backed by pools of commercial mortgages.

D. Commercial Mortgage Lending investments are notes and bonds secured by a mortgage or deed of trust providing first lien on real estate.

E. Derivatives are financial instruments such as forwards, futures, options, or other instruments whose values are "derived" from another financial instrument.

F. Domestic Equity Securities for System purposes typically consist of corporate common stock. These stocks must be registered on a national securities exchange or must be otherwise registered as provided in the Securities Exchange Act of 1934 as amended, with price quotations furnished through a nationwide automated quotations system approved by the National Association of Securities Dealers, Inc. (NASD). Domestic Equity Securities also include stock in corporate real estate investment trusts (REITs), which are traded on a national exchange and acquired as part of an index fund or by one of the System's domestic equity managers.

G. Domestic Fixed Income Securities are U.S. Treasury or Government agency obligations; equipment trust certificates; corporate, industrial, or utility bonds; U.S. dollar denominated Euro or Yankee bonds, including Canadian obligations payable in U.S. dollars; residential and commercial mortgage-backed securities; and pass-through certificates. For System purposes, Domestic Fixed Income Securities primarily consist of instruments with maturities in excess of twelve (12) months at time of purchase.

H. Emerging Market Equities are common or preferred stocks and investment shares which are registered on exchanges outside the U.S. Emerging market countries are the developing international countries which have a relatively low per capita Gross National Product. There is wide variety of economic, regulatory, and market development among the emerging countries.

I. Equity Real Estate Investments are any investments in real property, either made directly or through the use of pooled vehicles such as limited partnerships, open or closed-end commingled funds, Real Estate Investment Trusts (REITs) including publicly traded REIT securities, and Real Estate Operating Companies (REOCs).

J. Non-U.S. Equity Securities are common or preferred corporate stocks and investment trust shares. Only stocks registered on recognized exchanges outside the U.S. are to be considered Non-U.S. Equity Securities.

K. Real Estate Mezzanine Funds are investments in funds or partnerships whose portfolios consist of junior loans secured by real estate or partnership interests in real estate ownership.

L. Repurchase Agreements are agreements between a seller and a buyer, whereby the seller agrees to repurchase the securities at an agreed upon price and, usually, at a stated time.

M. Securities Lending occurs when a lender transfers a security to a borrower for cash or non-cash collateral pursuant to an agreement to return the collateral for an identical security in the future.

N. Short Term Investments (Cash Equivalents) include, but are not limited to, interest bearing or discount instruments such as money market funds; U.S. Treasury Bills; corporate-issued commercial paper; bank-issued Certificates of Deposit; bankers' acceptances; and fully collateralized repurchase agreements. For System purposes, short-term investments consist primarily of instruments maturing in twelve (12) months or less at time of purchase.

New Hampshire Retirement System
Accountability Matrix

Total Fund Investment Policy[1]

Function	Independent Investment Committee	Board	Chief Investment Officer and Investment Team	Legal Counsel	Investment Consultants	Actuary
1. Establishing (and modifying when necessary) investment policy, which includes risk tolerances and investment objectives	Recommends 100-A:14-b, III; A:15, I-a(b) & VII(c)	Decides 100-A:15, I; I-a(b) & (c) & VII(c)	Provides advice/analysis		Provides advice/analysis	Provides input
2. Establishing asset allocation targets and ranges	Recommends A:15, VII(c)(2)	Decides A:15, VII(c)(2)	Provides advice/analysis		Provides advice/analysis	Provides input
3. Determining Investment Committee's philosophy for investing assets	Decides A:15, VII(a)	Reviews A:15, VII(a)	Provides advice/analysis			
4. Rebalancing procedures	Decides A:15, I, II-a(b) & VII(c)(2)	Reviews A:15, I-a(c) & VII(c)(2)	Provides advice/analysis		Provides advice/analysis	
5. Monitoring policy compliance	Reviews and assigns responsibility A:15, I-a(a)	Reviews A:15, I-a(a)	Oversees		Serves as a double check	
6. Ensuring statutory compliance of investments parameters	Reviews quarterly A:15, I-a(a)	Reviews annually A:15, I-a(a)	Monitors compliance	Reviews for legal compliance	Abides by parameters	
7. Monitoring Total Fund performance	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis	
8. Completing comprehensive annual investment report (as outlined in HB 1645)	Prepares A:15, VII	Approves A:15, VII	Provides assistance	Provides assistance	Provides assistance	Provides assistance

[1] Items in red are responsibilities dictated by statute.

Global Equity[2]

Function	Independent Investment Committee	Board	Chief Investment Officer and Investment Team	Legal Counsel	Investment Consultants
1. Determining global equity asset class guidelines (active vs. passive, style, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing domestic and international equity benchmarks	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides Advice/Analysis		Provides advice/analysis
3. Determining number and types of managers for the asset class	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment managers	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Recommends	Reviews contracts	Influences/ recommends
5. Monitoring compliance with asset class strategy and guidelines	Reviews and assigns responsibility A:15, VII(c)(3)	Reviews A:15, I-a(a) & VII(c)(3)	Oversees		Serves as a double check
6. Reviewing asset class performance	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities

[2] Items in red are responsibilities dictated by statute.

Global Fixed Income[3]

Function	Independent Investment Committee	Board	Chief Investment Officer and Investment Team	Legal Counsel	Investment Consultants
1. Determining global fixed income asset class guidelines (active vs. passive, style, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing asset class benchmarks	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Recommends		Provides advice/analysis
3. Determining number and types of managers for each asset class	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment managers	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Recommends	Reviews contracts	Influences/ Recommends
5. Monitoring compliance with asset class strategy and guidelines	Reviews and assigns responsibility A:15, VII(c)(3)	Reviews A:15, VII(c)(3)	Oversees		Serves as a double check
6. Reviewing performance of asset classes	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities

[3] Items in red are responsibilities dictated by statute.

Real Estate [4]

Function	Independent Investment Committee	Board	Chief Investment Officer and Investment Team	Legal Counsel	Investment Consultants
1. Determining real estate asset class guidelines (diversification, style, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing asset class benchmarks	Decides A:14-b, III; A:15, VII	Reviews A:15, VII	Provides advice/analysis		Provides advice/analysis
3. Determining number and types of managers for the asset class	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment management firms	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Recommends	Reviews contracts	Influences
5. Monitoring compliance with policy	Reviews and assigns responsibility	Reviews A:15, I-a(a)	Oversees		Serves as a double check
6. Reviewing performance of the asset class	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities
8. Valuation of real estate	Reviews quarterly A:15, I-a(b)(3); A:15, VII(c)(3)	Monitors A:15, I-a(a)	Ensures valuations are completed		Assists as needed
9. Executing purchase and sale agreements on real estate	Reviews quarterly A:15, II-a(b) & VII(c)(3)		Ensures valuations are completed	Reviews contracts	

4 Items in red are responsibilities dictated by statute.

Private Markets Policy[5]

Function	Independent Investment Committee	Board	Chief Investment Officer and Investment Team	Legal Counsel	Investment Consultants
1. Determining private markets class guidelines (style, diversification, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing asset class benchmarks	Decides A:14-b, III; A:15, VII	Reviews A:15, VII	Provides advice/analysis		Provides advice/analysis
3. Approving number and types of external managers	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment management firms	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Recommends	Reviews contracts	Influences
5. Monitoring compliance with policy	Reviews and assigns responsibility A:15, VII(c)(3)	Reviews A:15, I-a(a)	Oversees		Serves as a double check
6. Reviewing performance of the asset class	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities
8. Valuation of private equity	Reviews quarterly A:15, I-a(b)(3); A:15, VII(c)(3)		Ensures valuations are completed		Assists as needed
9. Executing partnership agreements on private equity	Reviews quarterly A:14-b, III; A:15, II-a(b)		Ensures agreements are executed	Reviews agreements	

5 Items in red are responsibilities dictated by statute.

Selection and Monitoring of Investment Managers[6]

Function	Investment Committee	Board	Chief Investment Officer and Investment Team	Legal Counsel	Investment Consultants
1. Selecting specific external investment management firms	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Recommends	Reviews contracts	Influences
2. Conducting due diligence meetings and activities	Reviews staff/consultants A:15, I-a(a); A:15, VII(c)(3); A:15, (c)(3)		Completes investment manager due diligence		Completes independent due diligence activities
3. Developing individual manager guidelines			Recommends	Reviews	Provides advice/analysis
4. Executing investment manager contracts			Approves	Conducts legal diligence	Provides assistance
5. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities

6 Items in red are responsibilities dictated by statute.

Selection of Other Service Providers[7]

Function	Independent Investment Committee	Board	Chief Investment Officer and Investment Team	Legal Counsel	Investment Consultant
1. Selecting (and periodically reviewing) custodian banks	Decides A:15, II-a(a)	Monitors A:15, I-a(a)	Influences	Reviews contract	Influences
2. Selecting (and periodically reviewing) general investment consultant	Recommends A:14-b, III	Decides A:15, II(c)	Provides input	Reviews contract	
3. Selecting (and periodically reviewing) specialty investment consultants	Recommends A:14-b, III	Decides A:15, II(c)	Provides input	Reviews contract	
4. Selecting (and periodically reviewing) the fund's actuary		Decides A:15, II(a)	Influences	Reviews contract	
5. Selecting (and periodically reviewing) outside legal counsel for investment issues		Decides A:15, IV	Influences	Recommends	
6. Selecting (and periodically reviewing) proxy voting service provider		Approves A:15, I-a(a)	Recommends	Oversees/Recommends/Reviews Contract	Influences
7. Selecting (and periodically reviewing) transition managers	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Recommends	Reviews contract	Influences
8. Selecting (and periodically reviewing) transaction analysis provider	Decides A:15, II-a(b)	Reviews A:15, I-a(a)	Recommends	Reviews contract	Influences

7 Items in red are responsibilities dictated by statute.

Proxy Voting

Function	Investment Committee	Board	Executive Director or Chief Investment Officer	Legal Counsel	Investment Consultant
1. Setting (and modifying) proxy voting policy		Decides A:15, I-a(a)	Recommends	Provides input	Provides advice/analysis
2. Identifying proxy voting issues and positions		Decides A:15, I-a(a)	Provides advice/analysis	Provides input	Provides advice/analysis
3. Monitoring proxy voting activity		Reviews annually A:15, I-a(a)	Prepares		
4. Approving exceptions to the policy		Reviews annually A:15, I-a(a)	Oversees/ recommends	Provides input	Provides advice/analysis
5. Ensuring policy compliance		Reviews annually A:15, I-a(a)	Oversees	Provides input	Provides advice/analysis

Securities Lending

Function	Investment Committee	Board	Executive Director or Chief Investment Officer	Legal Counsel	Investment Consultant
1. Setting (and modifying) securities lending policy	Provides Input A:15, I-a(a)	Decides A:15, I-a(a)	Provides advice/analysis	Provides input	Provides advice/analysis
2. Creating and updating securities lending guidelines	Approves A:15, I-a(a)	Reviews A:15, I-a(a)	Recommends	Provides input	Provides advice/analysis
3. Monitoring securities lending activity	Reviews and assigns responsibility A:15, I-a(a)	Reviews A:15, I-a(a)	Oversees	Provides input	Provides advice/analysis
4. Ensuring policy compliance	Reviews and assigns responsibility A:15, I-a(a)	Reviews A:15, I-a(a)	Oversees	Provides input	Provides advice/analysis

Global Equity Investment Guidelines

Purpose: The Global Equity allocation provides the assets of the System with broad participation in global equity markets, including both domestic and international equities. This diversified allocation, across various styles, capitalizations, and geographies, aims to maximize long-term total returns while mitigating risk through geographical and sector diversification.

Allocation: The target allocation to Global Equity is 40% of the Total Fund, with an allowable range of 30 – 50%.

Structure: The Global Equity portfolio is structured to incorporate both active and passive management strategies. Active management is utilized where there is the greatest potential for alpha generation, while passive management is employed in regions or sectors where alpha generation is difficult to obtain, focusing instead on low-cost, efficient beta exposure. The portfolio is diversified across styles, capitalizations, and geographies, with a focus on areas where active management is expected to add value. Global Equity will encompass the Domestic Equity asset class and the Non-US Equity asset class.

Domestic Equity: The Domestic Equity portion is primarily managed with both active and passive strategies, with a minimum of 50% allocated to passive, large-cap equity securities domiciled in the US.

Non-U.S. Equity: The Non-U.S. Equity portion is predominantly actively managed and diversified across global markets, including developed and emerging markets excluding the US. Passive management may be used if determined to be beneficial by Investment Team and the Independent Investment Committee (IIC).

Custody: All Global Equity securities, including both Domestic and Non-U.S. equities, shall be maintained in the custody and safekeeping of the System's master custodian bank. Commingled fund assets may be held in custody at the discretion of the fund manager.

Use of Commingled Funds: Mutual funds and other types of commingled investment vehicles provide, under some circumstances, lower costs and better diversification than can be obtained with a separately managed account pursuing the same investment objectives. However, commingled investment funds cannot customize investment guidelines to the specific needs of individual clients. The Independent Investment Committee (IIC) is willing to accept the policies of such funds in order to achieve the lower costs and diversification benefits of commingled funds, as long as the commingled guidelines are consistent with the spirit of those specified herein and the underlying individual investment manager portfolio-level guidelines. The IIC relies on the Investment Team and the Investment Consultant to assess and monitor the investment policies of any commingled fund used by the System.

Manager Guidelines for Separate Accounts: Portfolio-level guidelines are negotiated with each IIC-approved investment manager with the purpose of establishing agreed-upon parameters for the management of assets. These guidelines are generally based on the guidelines for the respective manager's composite portfolio and investment style; are reviewed by the Team in collaboration with the System's Investment Consultant; and are subject to execution by the Chief Investment Officer and the manager prior to implementation. Each manager will be granted full discretion within the context of their respective portfolio-level negotiated guidelines.

Managers are prohibited from deviating from their respective portfolio-level guidelines without prior written approval from the Chief Investment Officer. Any guideline violation must be reported by the manager in writing as soon as it is discovered (within 24 hours). Recommendations for guideline revisions are to be provided to the Chief Investment Officer in writing, and shall include the rationale for the changes and all relevant research. Any guideline revision requests are reviewed by the Chief Investment Officer in consultation with the System's Investment Consultant prior to approval. All substantive changes to manager guidelines will be reported to the IIC at the next meeting.

Permissible Investments: All eligible securities shall be traded in domestic markets and be of a class listed on a national securities exchange or traded in the over-the-counter market.

Permissible investments are defined within individual manager portfolio-level guidelines, and generally include:

- Common stocks, preferred stocks, and securities with equity characteristics (including, but not limited to, American Depository Receipts and Shares, warrants, and rights) of U.S. and foreign issuers
- European Depository Receipts listed and traded on major U.S. exchanges and in over-the-counter markets
- Securities convertible into common stocks
- 144A securities
- Futures contracts
- Exchange traded funds and similar vehicles
- Closed-end funds
- Private placements, Secondary Offerings, IPO investments and offers for sale
- Real Estate Investment Trusts and Income Trusts
- Short-term fixed income securities and cash equivalents

Prohibited Investments: Any security or strategy not specifically permitted in the respective manager portfolio guidelines requires written permission from the Chief Investment Officer prior to purchase.

Prohibited investments are defined within individual manager portfolio-level guidelines, and generally include:

- Short sales
- Margin transactions
- Use of leverage
- Stock in non-public corporations, private placements or other non-marketable issues
- Specialized investment vehicles
- Direct investments in commodities
- Direct investments in real estate
- Direct investments in Venture Capital
- Lettered stock
- Foreign securities other than those noted in *Permissible Investments* above
- Direct investments in oil, gas, or other mineral exploration or development programs

- **Concentration Limits:** The System shall closely monitor instances where its investments represent a significant component of a commingled fund or total assets under management (AUM) at the strategy level. If the System's positions become more than 20% of any commingled investment fund, or total strategy AUM, Investment Team will notify the IIC and the investment will be monitored to see if any changes are warranted.

Global Fixed Income Investment Guidelines

Purpose: The allocation to Global Fixed Income serves to provide income and potentially reduce volatility experienced in the equity markets, as well as offer an opportunity for return enhancement by investing in selected global debt sectors (for example, investment grade corporate bonds and high yield debt). A portion of the Global Fixed Income allocation is expected to be invested in U.S. Treasury securities or other government-related issues, which will potentially reduce risk within the portfolio.

Allocation: The current target allocation to Global Fixed Income is 25% of the Total Fund, with an allowable range of 18% – 32%.

Structure: The Global Fixed Income portfolio is currently 100% actively managed, as fixed income has been identified as an area in the capital markets where it is more likely that active management will add value. The portfolio is broadly diversified across global markets, sectors, securities and maturities. Active management is focused where there is the greatest potential for alpha generation. Passive management is focused where alpha generation has been demonstrated to be difficult to obtain while also allowing the ability to gain low-cost efficient beta exposure. Passive management may be utilized if determined to be beneficial by the Independent Investment Committee (IIC).

Component	Allocation Target*
Core	Minimum of 60%

* As a percentage of Global Fixed Income.

The Global Fixed Income Core component is defined as securities held within the Bloomberg Barclays U.S. Aggregate Index which measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes U.S. Treasuries, government-related and corporate securities, mortgage backed securities, asset backed securities, and commercial mortgage backed securities. TIPS, 144a securities with registration rights and permanent 144a securities are also permitted.

Custody: All Global Fixed Income securities shall be maintained in the custody and safekeeping of the System's master custodial bank. Commingled fund assets, however, are held in custody at the discretion of the fund manager.

Use of Commingled Funds: Mutual funds and other types of commingled investment vehicles provide, under some circumstances, lower costs and better diversification than can be obtained with a separately managed account pursuing the same investment objectives. However, commingled investment funds cannot customize investment guidelines to the specific needs of individual clients. The IIC is willing to accept the policies of such funds in order to achieve the lower costs and diversification benefits of commingled funds, as long as the commingled guidelines are consistent with the spirit of those specified herein and the underlying individual investment manager portfolio-level guidelines. The IIC relies on the Team and the Investment Consultant to assess and monitor the investment policies of any commingled fund used by the System.

Manager Guidelines for Separate Accounts: Portfolio-level guidelines are negotiated with each IIC-approved investment manager with the purpose of establishing agreed-upon parameters for the management of assets. These guidelines are generally based on the guidelines for the respective manager's composite portfolio and investment style; are reviewed by the Team in collaboration with the System's Investment Consultant; and are subject to execution by the Chief Investment Officer and the manager prior to implementation. Each manager will be granted full discretion within the context of their respective portfolio-level negotiated guidelines.

Managers are prohibited from deviating from their respective portfolio-level guidelines without prior written approval from the Chief Investment Officer. Any guideline violation must be reported by the manager in writing as soon as it is discovered (within 24 hours). Recommendations for guideline revisions are to be provided to the Chief Investment Officer in writing, and shall include the rationale for the changes and all relevant research. Any guideline revision requests are reviewed by the Team and the System's Investment Consultant prior to approval. All substantive changes to manager guidelines will be reported to the IIC at the next meeting.

Permissible Investments: Permissible investments are defined within individual manager portfolio-level guidelines, and generally include:

- U.S. Treasuries and U.S. Treasury Inflation Protected Securities
- Obligations of U.S. Federal Agencies and Government Sponsored Enterprises (GSEs)
- Foreign Sovereign Debt
- Small Business Administration Securities
- Municipal Securities
- Corporate Obligations, including but not limited to, Convertible Bonds
- Foreign Sovereign Debt
- Structured Securities including Asset Backed Securities; Collateralized Mortgage Obligations; Commercial Mortgage Backed Securities; Residential Mortgage Backed Securities
- Zero Coupon Securities
- Non-Sovereign Government/Non-Supranational Debt
- Emerging Market Debt
- Forward exchange contracts/currency derivatives, when used to protect the U.S. Dollar value of the portfolio, dampen portfolio volatility, or to facilitate the settlement of securities
- Private Placements, including 144A securities
- Exchange traded funds and similar vehicles
- Common Stock (shall not exceed 5% of the market value of any individual manager)
- Preferred Stock (shall not exceed 20% of the market value of any individual manager)
- Capital Securities

- Trust Preferred Securities
- Real Estate Investment Trust debt
- Short-term fixed income securities and cash equivalents

Prohibited Investments: Any security or strategy not specifically permitted in the respective manager portfolio guidelines requires written permission from the Chief Investment Officer prior to purchase.

Prohibited investments are defined within individual manager portfolio-level guidelines, and generally include:

- Short Sales
- Margin transactions
- Use of leverage
- Specialized investment vehicles
- Direct investments in commodities
- Direct investments in real estate
- Direct investments in Venture Capital
- Direct investments in oil, gas, or other mineral exploration or development programs

Concentration Limits:

- The System shall closely monitor instances where its investments represent a significant component of a commingled fund or total assets under management (AUM) at the strategy level. If the System's positions become more than 20% of any commingled investment fund, or total strategy AUM, the Team will notify the IIC and the investment will be monitored to see if any changes are warranted.

Private Markets Guidelines

Purpose: Private markets investments or alternative investments represent non-traditional vehicles that do not fit within conventional investment asset classes. These investments aim primarily to achieve superior risk-adjusted returns. They may also exhibit a low correlation with broader stock and bond market returns, potentially reducing the volatility of the plan's total returns. Examples of private markets investments encompass private equity, private credit, real estate, infrastructure, hedge funds, and opportunistic strategies.

Due to their non-traditional, long-term, and illiquid nature, private markets investments necessitate the development of an Annual Strategic Plan. This plan will be prepared and presented to the Independent Investment Committee (IIC) for approval.

Allocation: The current target allocation to Private Markets Investments is 25% of the Total Fund, with an allowable range of 15 – 35%.

In order to reach and maintain the target allocation, capital commitments in excess of 25% of the Total Fund may be made. The primary reasons for permitting such an over commitment are the staged capital calls for new investments and anticipated returns of capital.

Targets:

Sub Strategy	Allocation Target*
Private Equity	10%
Private Credit	10%
Infrastructure	5%

* As a percentage of Total Fund

Custody: All assets are held in custody at the discretion of the fund manager.

Structure: The Private Markets portfolio primarily includes the following:

Private Equity – The purpose of Private Equity is to earn risk-adjusted returns in excess of public equity markets. These investments are also expected to decrease the volatility of the System's assets through the diversification benefits of having lower correlations with other asset classes.

Sub-strategies include:

- *Buyouts/Corporate Finance* – Provides leveraged capital and business development capital to enable the restructuring of existing business and industries.

- *Private Energy* – Investments may include exploration & production, generation, storage, transmission, distribution, renewable energy sources, clean technologies, energy technologies and other similar investments.

- *Growth Equity* – Provides expansion capital for small, growing businesses that are generating cash flow and profits. Generally, these types of investments have reduced exposure to technology risk compared with venture capital.

- *Secondaries* – Private equity interests that are generally purchased at a discount from valuation from motivated sellers. The interests purchased are generally venture and buyout interests with limited exposure to unfunded capital commitments. The strategy also includes the purchase of direct interests in companies through the secondary market.

- *Distressed/Special Situations* – A strategy whereby a manager invests in the distressed debt of companies that likely will undergo some sort of financial and/or operational restructuring. A manager will usually build a controlling stake in a distressed company through the "fulcrum security" which is generally a high yield bond or bank debt. The investment team will then work actively to maximize the value of the investment through driving either an informal restructuring or a formal bankruptcy procedure. The balance sheet may be restructured; new management inserted; cost cutting implemented; as well as other operational improvements put in place. Distressed debt returns are generally comprised of a combination of a debt coupon; capital appreciation of the distressed security; and, participation in the upside of post-reorganization equity.

- *Venture Capital* – Implies early, late and balanced-stages of financing, as well as growth capital, of rapidly growing companies with an innovative/disruptive business idea for a proprietary product or service.

Private Credit - diversify the portfolio and aim to generate higher risk-adjusted returns compared to public credit markets. These investments focus on opportunities in private lending, providing stable income and reducing overall portfolio volatility. They complement traditional fixed income investments by offering lower correlation with public markets and potential for attractive yields. Our strategy aims to preserve capital, generate income sustainably, and enhance overall portfolio performance over the long term.

Sub-strategies include:

- *Direct Lending* – An investment strategy involving senior or unitranche lending directly to companies that seek to generate high current income while focusing on preservation of capital.

- *Distressed* – Includes trading strategies through control positions. For trading strategies, distressed securities are defined as securities experiencing financial or operational distress, default, or are under bankruptcy. Investment instruments include publicly-traded debt securities, private debt, trade claims, mortgage debt, common and preferred stock and commercial paper. Control strategies involve companies with poorly-organized capital structures, turnaround situations and bankrupt companies. Long and short positions are commonly used as a technique to lock in profit or reduce risk.

- *Mezzanine/Junior Capital* – An investment strategy involving subordinated debt (the level of financing tranche that is senior to equity but below senior debt). Capital supplied by mezzanine or junior capital financing is used for various situations such as facilitating changes in ownership through leveraged buyouts or recapitalizations, financing acquisitions, or enabling growth. Venture lending and leasing is a subset of mezzanine financing that targets venture-backed companies. Revenue and Royalty interests are a subset of mezzanine financing that targets intellectual property, license agreements and other similar property that has the ability to restrict the rights to commercialization.

- Asset-Based Lending – providing loans that are secured by a borrower's tangible assets, such as accounts receivable, inventory, equipment, or real estate. This strategy focuses on lending to companies that may not have access to traditional credit markets but possess valuable physical assets that can be used as collateral. ABL investments are typically structured as revolving credit facilities or term loans, and are primarily used to finance working capital needs, acquisitions, or other corporate requirements.

- *Structured Credit* – A private credit strategy which, involves investing in complex financial instruments that are typically collateralized by a pool of assets, such as collateralized loan obligations (CLOs), collateralized debt obligations (CDOs), or asset-backed securities (ABS).Returns are driven by a combination of underlying loan coupon; value enhancement through servicing; and, upside through public market securitization.

- *Specialty Finance* – A private credit strategy which generally provides growth capital in the form of senior secured loans to loan origination platforms such as mortgage; consumer debt and transportation leasing. These loans are securitized by a pool of underlying loans which are placed in a bankruptcy remote structure and pay amortize over time. Specialty finance lenders' returns are generated by a combination of a coupon and, in some cases, equity kickers in the underlying borrower. These loan pools may be securitized and sold into the public market.

- *Litigation Finance* – A private credit strategy which lends money to corporations or law firms to fund the cost of prolonged litigation, often contingent on a favorable payout. Financings may be pre-settlement in which returns are driven by a combination of a debt coupon and upside participation in one, or a diversified pool of legal cases. Litigation funding in the form of a loan may also be provided post a legal settlement. This this type of funding is used to bridge a payment expected by the law firm or other entity entitled to litigation proceeds.

- Real Asset Lending – Private asset-backed loans including backed by real asset collateral such as real estate and infrastructure. Real Assets credit investments may include senior debt or project finance loans, often with long-term, stable cash flows.

Risk Management: Private Markets strategies do not lend themselves to traditional quantitative measures of risk such as standard deviation and benchmark tracking error. Rather, risk is managed through a combination of quantitative and qualitative constraints. The following sections identify the unique risks with private markets investments and method of control:

- Industry – Typically, private markets funds are permitted to invest in a wide variety of industries with limited controls. Industry risk is controlled primarily through appropriate diversification across strategies and sub-strategies.

- Leverage – Many underlying private markets programs will utilize leverage. The intent of the System is to not rely on managers employing high degrees of leverage.

- Vintage Year – Vintage year reflects the year of first capital draw and vintage risk refers to the variability of investment commitments over time. A long-term investment pacing schedule is developed which minimizes vintage risk while achieving targeted exposure.

- Concentration Limits –The System shall not own more than 10% of any single investment vehicle except with prior approval of the NHRS IIC.

- Due Diligence – Each potential investment will be evaluated for portfolio fit; organizational stability; investment staff; investment strategy; investment process; and fund economics.

- Annual Strategic Plan – Given the non-traditional, long-term and illiquid nature of private markets investments, an Annual Strategic Plan will be prepared and presented to the IIC for approval. The Annual Strategic Plan will include a review of performance; cash flow and liquidity analyses; commitment pacing; and sub-strategy recommendations.

Infrastructure Investment Guidelines

Purpose: The allocation to Infrastructure serves to provide diversification to the overall plan as well as offer the opportunity to generate superior risk-adjusted returns through income and capital appreciation. This allocation is expected to have a lower overall correlation with other asset classes, thus potentially reducing the volatility of the return of the Total Fund. Moreover, like real estate assets, infrastructure investments may serve as an inflation hedge.

Allocation: The target allocation to Infrastructure is 5% of the Total Fund per the strategic asset allocation, with an allowable range of 0 – 10%.

During the initial investment period the portfolio is likely to be below the 5% target as infrastructure funds often require several years to identify and acquire assets.

To achieve and maintain the target allocation, capital commitments in excess of 5% of the Total Fund may be made. An annual pacing pace will be approved by the Independent Investment Committee (IIC). This flexibility in over-commitment is designed to accommodate the nature of capital calls, offering periods, and the anticipated return of capital.

Structure: The Infrastructure portfolio seeks to be broadly diversified and consists of two strategy segments: Core and Non-Core, defined below.

<u>Core Infrastructure:</u> Core Infrastructure are typically investments which produce stable, long-lived current income through assets with operating history and high level of contracted revenues with no capital appreciation. Core infrastructure assets generally have been operationally de-risked, with fixed pricing through long-term contracts and contractual inflation escalation. Core investments are typically located in developed markets, which infrastructure managers commonly refer to as the Organization for Economic Co-operation and Development ("OECD") markets; member countries represent approximately 80% of world trade. Core investments offer relatively high current income returns, and as a result, a greater predictability of total returns under normal market conditions. The income component typically represents a significant component of the expected total return.

<u>Core Plus:</u> Core Plus Infrastructure investments are expected to have low to moderate levels of capital appreciation through improvements, repairs, or expansion with little to no construction risk. Core Plus investments will have a higher exposure to fluctuations in demand compared to Core assets, with features that will limit overall risk (e.g., long-term contracts, regulatory price support, etc.). Core Plus assets are typically found in OECD markets, although may include investments in non-OECD countries. Core Plus infrastructure will yield exposure primarily to current income with some capital

appreciation exposure through higher operational or structural complexity.

Non-Core Infrastructure includes Value-Add and Opportunistic strategies, which are accessed through closed-end funds.

Value-Add Infrastructure: Value-Add Infrastructure investments are expected to have moderate levels of capital appreciation through improvements, repairs, or expansion with little to no construction risk. Value-Add investments will exhibit higher operating risk with higher growth potential compared to Core strategies. Value-Add assets are typically found in OECD markets, although may include investments in non-OECD countries. Value Add infrastructure derives a higher share return from capital appreciation than current income, which is often re-invested into the infrastructure business.

Opportunistic Infrastructure: Opportunistic Infrastructure investments are assets with a high exposure to capital appreciation returns through development or construction. Opportunistic investments exhibit the highest risk-return profile, focusing on capital growth of the underlying asset and very little on stable cash flows, with no contracted revenues and higher exposure to market competition. Opportunistic investments can be found in both OECD and emerging markets. Opportunistic investments will attribute most of its returns to capital growth and appreciation.

Portfolio Composition	**Lower Target**	**Upper Target**	**OECD**	**Non-OECD**
Core / Core Plus Infrastructure	70%	100%		
Non-core Infrastructure	0%	30%		
Total Portfolio		**100%**	**≥ 75%**	**≤ 25%**

Target: 75% Core / Core Plus & 25% Non-core

Infrastructure sectors vary across three project stages or development stages that are analogous to risk profile:

- *Secondary* – a fully operational asset or structure that has no further need for development investment, with fully developed operational cash flow and revenue.

- *Brownfield* – an existing structure or asset that requires improvements, repairs or expansion, that is partially operational and may be generating income.

- *Greenfield* – an asset that does not currently exist and needs to be designed and constructed, with uncertain demand, usage, price and development costs. Greenfield investments have no revenue generation prior to existence.

The infrastructure investment opportunity set can be broken into six sector groupings:

- *Transportation* – includes toll roads, bridges, tunnels, airports, ports, rail and mass transit networks

- *Energy and Power Generation* – includes both conventional and renewable power generation, storage and pipelines

- *Utilities* – includes power utilities, water utilities, regulated transmission and distribution assets, water treatment and processing,

- *Telecommunications* – includes fiber optics networks, broadcast and mobile towers, data centers and digital assets

- *Energy transition* – includes electric vehicle charging infrastructure, smart metering, hydrogen, carbon capture, waste to energy, microgrids

- *Social* – includes educational facilities, health care offices, courts, police stations, defense, judicial and community centers

Implementation: Investment vehicles for the infrastructure asset class will be made primarily through private open-end funds and closed-end commingled funds. Other structures such as fund of funds, fund-of-one mandates, or managed accounts by an advisor approved by the IIC may be considered. Additionally, investments may also include secondaries and co-investments alongside a general partner or a dedicated co-investment vehicle. Open-end funds will have defined investment and redemption provisions and/or limited partnerships will have fund expiration and extension provisions.

Custody: All assets are held in custody at the discretion of the general partner (investment manager) of the fund vehicle.

Currency: NHRS accepts the currency risks consistent with the geographic exposures of the infrastructure asset class. Infrastructure managers may or may not offer investment vehicles that are hedged back to United States Dollars (USD), but the Fund will not implement currency hedges. Where possible, the Fund will make investments in USD-hedged vehicles and receive distributions in USD.

Benchmark: The portfolio will initially benchmark performance against an absolute benchmark Consumer Price Index (CPI) + 400 bps and evaluate the universe of benchmarks as the asset class continues to evolve.

Portfolio Construction: Portfolio investments will be allocated across various factors to achieve the intended target. The attributes by which investments should be distributed or diversified to most effectively reduce risk are:

1) Sector
2) Geographic location
3) Manager allocation and investment size
4) Leverage

As such, within the infrastructure asset class allocation, the guidelines are as follows:

Sector - The portfolio will limit exposure to any single infrastructure sub-sector to avoid over-concentration. This strategy is designed to mitigate sector-specific risks and enhance the overall stability and resilience of the portfolio.

Geographic Location – Investments within the Infrastructure allocation will be distributed geographically for the purpose of attaining economic market diversification. OECD markets are expected to represent a minimum of 75% of the portfolio. Non-OECD markets may represent up to 25% of the portfolio.

Manager Allocation and Investment Size – Investments within the Infrastructure allocation will be diversified both by individual investment exposure and manager exposure, as the System does not want the failure of a single investment to have a significant or material impact on the performance of the overall asset class.

- No more than 50% of capital committed to any single investment manager
- No more than 50% of the non-OECD exposure to come from investments in emerging markets

Leverage – infrastructure investments will utilize leverage based on risk profile, with the amount of leverage related to the level and security of the asset's revenue streams. Core investments will usually have higher levels of leverage and Non-Core investments may have lower leverage levels. The intent for the asset class is to have a moderate level of leverage with respect to the overall portfolio exposure, typically at the fund level.

Permissible leverage: The total Program shall, in aggregate, utilize no more than 65% fund level leverage. Any single fund shall utilize no more than 75% leverage.

Summary of Policy Limits

Policy Parameter	Policy Limit
Allocation to Infrastructure	5% of total plan assets; range of 0-10%.
Permissible Investments	Equity investments in infrastructure.
Investment Styles • Core / Core Plus • Non-Core	Core / Core Plus: Target: 70% to 100% Non-Core: Target 0% to 30%
Manager Exposure	No more than 50% of capital committed to any single investment manager
Infrastructure Sector Ranges • Communications / Data • Power / Energy (including Renewables) • Water / Wastewater • Transportation • Social	The portfolio will limit exposure to any single infrastructure sub-sector to avoid over-concentration. This strategy is designed to mitigate sector-specific risks and enhance the overall stability and resilience of the portfolio.
Geographic Exposures Developed Markets / OECD Emerging Markets / Non-OECD	The Fund aims to invest in a broadly diversified range of geographic markets, with a primary focus on major investable infrastructure markets within the OECD, specifically North America, Europe, and Australia. Investments in these regions will comprise at least 75% of the Fund's infrastructure allocation. Additionally, investments in emerging markets and/or non-OECD countries will be capped at a maximum of 25% of the Fund's infrastructure allocation.
Leverage	Underlying investment managers may use various forms of debt financing to execute their respective investment mandates. The use of leverage will be monitored for prudency and will maintain the following loan to value ratios. ▪ The total Program shall, in aggregate, utilize no more than 65% fund level leverage ▪ Any single fund shall utilize no more than 75% leverage
Portfolio Buildout	During the initial investment period the portfolio is likely to be below the 5% target as infrastructure funds often require several years to identify and acquire assets.

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New Hampshire Retirement System
Investment Policy
Amended by NHRS Board of Trustees on February 11, 2025~~June 14, 2022~~

I. Introduction to the Investment Policy

The purpose of this Investment Policy is to:

A. Fulfill the Board's and IIC's statutory duty to oversee the investments of NHRS in accordance with the basic fiduciary responsibilities. These duties include:

- Managing the fund with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character with like objectives.

- Making all decisions solely in the interest of, and for the exclusive purpose of providing benefits to the members, retirees, and their beneficiaries.

- Defraying reasonable administrative expenses.

B. Set forth the investment policies the Board and IIC judge to be appropriate, prudent and, in consideration of the Systems' needs, to comply with current laws and to direct the investment of the System's assets.

C. Ensure appropriate flexibility within the investment process to allow for the System to participate in prudent investment opportunities while also establishing risk parameters within which the portfolio will operate.

D. Establish criteria to evaluate the System's investment performance.

E. Communicate investment policies, objectives, asset class guidelines, and performance criteria to the investment team ~~staff~~, external investment managers/advisors, consultants, custodians, and all other interested parties.

F. Serve as a review document to guide ongoing oversight of the System's investments for compliance with the laws of New Hampshire.

II. Responsible Parties and Their Duties

Key parties that participate in the investment decision-making and oversight process for NHRS include the:

- Board of Trustees
- Independent Investment Committee (IIC)
- Investment ~~Staff~~Team (Team)
- Investment Consultants
- Investment Advisors
- Investment Managers
- Custodian Bank
- Proxy Voting Service Provider
- Investment Service Providers
- External Fund Counsel
- Internal Stakeholders:
    - Finance & Accounting
    - Legal
    - Information Technology
    - Communications

Board of Trustees:
The Board sets investment policy in accordance with applicable State and Federal laws, hires the investment consultant(s), and sets policy for establishing and modifying investment objectives. The Board also has responsibility to review quarterly and annual reports from the IIC.

Independent Investment Committee:
The IIC prepares for the Board's review and approval an investment policy statement, including investment objectives, an expected rate of return the System is attempting to earn, asset allocation targets and ranges, and identification of appropriate benchmarks. The IIC has the full power to hold, purchase, sell, assign, transfer, and dispose of any securities and investments, as well as the proceeds of such investments, in accordance with the policy set by the Board. The IIC has the responsibility to establish asset class guidelines and for selecting, monitoring, and terminating investment managers. The IIC is responsible for reporting to the Board on a quarterly and annual basis as directed by the statute.

Investment ~~Staff~~Team:
The NHRS ~~Investment staff~~Investment Team, led by the ~~-~~ Chief Investment Officer (CIO)~~Director of Investments~~, is responsible for implementation of the investment decisions made by the Board of Trustees and/or the IIC. In general, the responsibilities of the ~~investment~~ Investment ~~staff~~Team include:

- Ensuring the asset allocation of the Fund is implemented in accordance with the policy approved by the Board, including rebalancing as necessary in accordance with the investment policy
- Monitoring policy and statutory compliance of the portfolio
- Assisting the IIC in developing investment policy recommendations to present to the Board for approval
- Monitoring investment managers and performing due diligence on new investment opportunities or managers as directed by the IIC
- Coordinating work with the investment consultant or any other investment-related service provider selected by the Board
- Conducting special research or analysis as directed by the Board, IIC, or ~~Director of Investments~~ CIO
- Ensuring the Board and IIC receive appropriate reporting regarding the investment portfolio

Investment Consultants:
The investment consultant will perform those services as described in its contract, either general consulting or specific asset class consulting. The investment consultant is hired by the Board and is expected to work cooperatively and collaboratively with the Board, the IIC, as well as the ~~investment~~ Investment ~~staff~~Team.

In general, the investment consultant's responsibilities may include:

- Providing advice on total plan asset allocation, or specific asset class guidance
- Assisting the Board, IIC, and ~~staff~~ Team with decision-making
- Providing reviews of investment policy, asset class structure, and investment manager due diligence
- Calculating performance
- Reporting and analyzing performance of the total portfolio, asset classes, and individual investment managers
- Performing research as needed
- Providing investment education to the Board, IIC and ~~staff~~team as requested
- Reporting quarterly to the Board on investment consultant contract fulfillment actions
- ~~Reports~~ Reporting quarterly to the Board ~~quarterly~~ on recommendations made to the IIC and the status of their recommendations.

Investment Advisors:
The investment advisor will carry out the duties stipulated in their contractual agreements. Engaged by the Board, they are expected to actively cooperate and collaborate with the ~~Board, the IIC, and the~~ Investment Team, IIC, and the Board. The advisors may have full and complete discretion and authority with respect to the selection and management of investments in a specific asset class.

Broadly, the responsibilities of the investment advisors encompass: ~~The advisors may have full and complete discretion and authority with respect to the selection and management of investments.~~

- Assisting the Board, IIC and team with due diligence, selection, review, management and reporting.
- Providing strategic guidance to the IIC and Team on investment strategies, market trends, and economic developments as requested~~.~~
- Ensuring all investments comply with legal and regulatory requirements and preparing detailed reports for stakeholders on the fund's financial health and performance.

Investment Managers:
The investment managers hired by the IIC have the duty to manage the assets allocated to them as fiduciaries and in accordance with the Investment Management Guidelines established for their accounts and their individual contracts. Investment managers must execute all transactions for the benefit of NHRS and update NHRS regarding any major changes to the portfolio management team, investment strategy, portfolio structure, ownership, organizational structure, or other changes relevant to the account.

Managers may also play a role in transition management, which includes the following responsibilities:

- Transition Planning: Develop transition strategies, including setting timelines and milestones.
- Execution Management: Oversee trade execution and coordinate with custodians, brokers, and other relevant parties.
- Risk Management and Compliance: Manage risks, ensure compliance, and oversee transition processes.
- Performance Monitoring: Track the transition's performance against benchmarks and objectives and provide regular updates.
- Providing guidance to investment office when executing asset class transition management.

Custodian Bank:
The duties of the custodian bank are set forth by their contract with NHRS.

In general, the custodian's responsibilities include:

- Safekeeping of NHRS assets
- Settling investment transactions and collecting income
- Preparing monthly and year-end accounting statements
- Serving as the "book of record" for investment transactions and valuations
- Properly recording and reporting investment activities, transactions, income, and valuations

- Calculating and reporting on gross and net investment performance as well as other investment analytics

When selecting the custodian bank, the IIC will use the current industry standards appropriate for evaluating the qualifications of a custodian bank.

Proxy Voting Service Provider:
The duties of the proxy voting service provider are set forth by their contract with NHRS.

In general, those responsibilities include:

- Voting proxies on behalf of NHRS per the Proxy Voting Policy
- Providing research reports
- Preparing monthly and year-end summaries
- Alerting the Investment ~~staff~~Team to issues not covered by the NHRS Proxy Voting Policy
- Recommending revisions to the NHRS Proxy Voting Policy
- Assisting in revising the NHRS Proxy Voting Policy

Transparency / Monitoring Service Provider:

The duties of the Transparency and Monitoring Service Provider, as outlined in their contract with NHRS, include:

- Analyzing financial documentation: Identify and advise on any potential fee discrepancies between contracted Investment Managers and NHRS~~.~~
- Detecting hidden fees and costs: Search for and analyze hidden fees or costs charged to funds or portfolio investments (e.g., double fee layers, placement agents) and assess any excessive high operating expenses~~.~~
- Presenting findings: Report findings to NHRS and the respective managers.
- Negotiating resolutions: Work to resolve any identified issues~~.~~
- Monitoring refunds and optimizations: Oversee the refund process and ensure optimization where applicable~~.~~

External Fund Counsel:
The duties of external fund counsel, as outlined in their contract with NHRS, include but not limited to:

- Engagement and legal diligence for prospective contracts for fund investments and subscription to private fund mandates and commitments
- Review and assistance with negotiating private investments with external general partners and fund managers

- Representation and assistance in administrative, regulatory proceedings, or litigation related to investment matters
- Ongoing notification and education relevant to changes in the law and industry practices affecting investments

Internal Partners:

The duty of the internal NHRS partners, is to support and/-or facilitate activities being performed by the Investment Team to fulfill fiduciary responsibilities to the beneficiaries. The internal partners are made up of the following teams:

Finance & Accounting:

- Cash Management and Financial Reporting
- Processing wires required to fund new investments and/or capital calls, pay service providers and vendors
- -Maintaining log of Investment--related transactions
- Budget oversight ensuring the alignment of investment decisions with the fund's budgetary constraints and cash flow needs

Legal:

- Regulatory compliance: Ensure investment activities align with local, state, and federal laws
- Vendor contract review: Assess and approve agreements with external managers, custodians, and consultants
- Coordination with external fund counsel in the legal diligence of investment management agreements with external general partners and fund managers

Information Technology:

- Supporting the secure storage and accessibility of investment-related data systems
- Ensuring that software platforms for investment analytics, risk management, and accounting work seamlessly
- Overseeing the implementation process, ensuring the system is tested and seamlessly integrated

Communications:

- Stakeholder engagement: Facilitate communication between the Investment Team, board members and plan participants

- Policy dissemination: Ensure clarity and accessibility of the investment policy statement to relevant parties.

~~Legal~~

- ~~Regulatory Compliance; ensures investment activities align with local, state, and federal laws~~
- ~~Contract review; assesses and approves agreements with external managers, custodians, and consultants~~

The Accountability Matrix ~~adopted by the Board on April 10, 2012 and~~ incorporated herein by reference further summarizes key responsibilities and duties of the Board; IIC; Chief Investment Officer~~Director of Investments~~ and Investment ~~Staff~~Team; Internal Legal ~~Staff~~Team; Investment Consultant(s); and Actuary. Additional responsibilities are also detailed in the Board's governance manual, contracts, and NHRS's position descriptions for ~~staff~~Team.

III. Investment Objectives

Considering the purpose of the System, the Board, based on the recommendation of the IIC, has adopted the following investment objectives:

- Efficiently allocate and manage the assets of the Fund so that beneficiaries will receive promised benefits.
- Manage the portfolio on a total return basis, which recognizes the importance of the preservation of capital, as well as the fact that reasonable and varying degrees of investment risk are generally rewarded over the long-term
- Work towards achieving and then maintaining a fully funded pension status.
- Exceed the Policy benchmark on a net of fees basis over a full market cycle.

IV. Risk Management

The Board's role in risk management is to approve the asset allocation targets and ranges for each asset class of the Fund. The Board recognizes that in order for the Fund to achieve its investment objectives, a reasonable level of risk must be present within the investment portfolio. Risk is referenced both in terms of absolute risk (the risk of loss) and volatility (the variability of returns). The Board will seek to minimize the risk of loss by approving an asset allocation that includes an appropriate level of diversification of Fund assets. The Board will periodically review the level of risk as represented by the asset allocation targets and ranges within the Fund and each asset class to ensure it is reasonable and within its tolerance for risk. Equity volatility (risk) is among the highest for any asset class. Other risks that the Board will consider when approving investment policy include benchmark risk, timing risk, market risk, credit risk, currency risk, liquidity risk, and any other risk it determines is relevant.

The Board acknowledges that the IIC also has a responsibility to consider risk when recommending asset allocation, and to monitor risks within the portfolio. The IIC will consider market risk, credit risk, currency risk, liquidity risk, and any other risk it believes to be relevant when it determines an asset allocation to recommend to the Board. The IIC is responsible for risk management at the manager level as it decides upon the number and types of managers to utilize within each asset class portfolio. When making decisions, the IIC will consider idiosyncratic risk (firm specific risk), benchmark risk, timing risk, market risk, credit risk, liquidity risk, interest rate risk, operational risk, concentration risk or any other risk it determines relevant as it makes its decisions.

The investment managers are responsible for risk management within the portfolio they manage on behalf of NHRS. Investment managers will consider those risks most relevant to their portfolio, which could include market risk, credit risk, currency risk, liquidity risk, inflation risk, geo-political risk, political risk, interest rate risk, and operational risk.

Descriptions of major types of risk follow:

A. Credit Risk: The risk of default of a party owing cash to the System as the result of a transaction. These parties may include, but are not limited to, the counterparty and the issuer.

B. Counterparty risk (default risk): The risk to each party of a contract that the counterparty will not live up to its contractual obligations. Counterparty risk is a risk to both parties and should be considered when evaluating a contract.

C. Liquidity Risk: There are two types of liquidity risk: market liquidity risk and funding liquidity risk. Market liquidity risk is the risk of being unable to purchase or liquidate a security quickly enough (or in requisite quantities) at a fair price. Market liquidity risk differs from market risk (defined below). Market liquidity risk only reflects realized price changes, while market risk reflects both realized and unrealized price changes. Funding liquidity risk relates to the relative ease of the organization to meet its cash flow needs as they come due.

D. Market Risk: The risk of unexpected change in market price (amount or direction). Price changes in securities can result from movements in equity markets, interest rates, and currency exchange rates, in addition to various other factors. Market risk incorporates both realized and unrealized price changes.

E. Systemic Risk: Risk that affects an entire financial market or system, and not just specific asset classes. Systemic risk cannot be avoided through diversification.

F. Absolute Risk: Risk of loss of capital.

G. Volatility Risk: The variability of returns often used as a proxy for risk.
~~G.~~

H. Operational Risk: The risk of inadequate controls against fraud, incorrect market valuation, failure to record or settle a deal, settlement with the wrong counterparty, failure to collect amounts due, failure of the computer system, or enforceability of contracts. The implications of operational risk include both financial loss and loss of reputation.

I. Geo-Political Risk: The risk of the occurrence of an unanticipated international and/or domestic incident such as war, assassination, terrorism or energy shock that adversely affects global and capital markets resulting in the re-pricing of securities.

J. Political Risk: The risk of nationalization or other unfavorable government action.

K. Idiosyncratic Risk: Firm specific risk or the risk of the change in price of a security due to the unique circumstances of that security.

L. Benchmark Risk: The risk that an investment may outperform or underperform its target return.

M. Interest rate risk: The risk of an investment losing value (such as bonds) when interest rates rise. Rising interest rates increase the cost of doing business for most companies and can also, thereby, raise market risk.

N. Inflation risk: The risk that rising inflation may erode the value of income and/or assets.

O. Currency risk: The risk that currency movements will negatively impact an investment's return. If the value of the U.S. dollar rises in relation to other currencies, the value of foreign stock shares translates into a smaller number of U.S. dollars for investors who hold those shares. Put another way, a "strong" dollar can buy more foreign goods, including foreign stocks. Conversely, if the dollar falls in relation to other currencies, the value of foreign stock shares rises, as more "weak" dollars are needed to buy a given amount of foreign stock.

P. Timing risk: The risk that the market will not move in the anticipated direction when an investment is made (upward for long positions, and downward for short positions).

Q. Concentration risk: The risk that the System does not appropriately and effectively diversify the assets within an asset class. An example of concentration risk is having too large a percentage of System assets with a single investment manager.

V. Asset Allocation

The Board approves the asset allocation targets and ranges for each asset class of the Fund (the allowable asset classes and the distribution of assets among those asset classes) based on recommendations from the IIC. As fiduciaries, the Board and the IIC have a duty to diversify the investments of the System to reduce risk, while maximizing the investment return. Approximately ninety percent (90%) of the long-term total return stems from the asset allocation decision. The remaining ten percent (10%) is expected to be attributable to either the selection of individual assets or timing. Accordingly, asset allocation is one of the most important fiduciary decisions. The Board adopts an asset allocation based on recommendations from the IIC, which relies upon the advice from the ~~Director of Investments~~Chief Investment Officer and the investment consultant to formulate its recommendations to the Board.

The asset allocation approved by the Board will reflect the results of an Asset ~~Liability~~ Allocation Study performed at least once in every five-year period, or more often, as recommended by the IIC, ~~System sta~~in consultation with the Investment Team~~ff,~~ and investment consultant. The study may also include an Asset Liability Study that analyzes the current assets and projected liabilities under various scenarios to ensure long-term funding for retiree benefits.

The Asset ~~Liability~~ Allocation Study identifies a mix of investments, by asset class, which is expected to produce the return required to meet future funding requirements at the lowest level of risk, given all of the assumptions made and employing a mean-variance optimization model.

The asset allocation chart, which follows, lists the approved asset classes in the portfolio and the target percentages and ranges, at market value, of the System's assets to be invested in each. Due to fluctuations of market values, positioning within a specified range is acceptable and constitutes compliance with the policy. Based on the approved asset allocation, recommendations from the System's consulting actuary, IIC, investment managers and the ~~stafft~~Team, the Board adopts an assumed rate of return, which is subject to periodic change and which is the long-term return that can be expected from this combination of assets. As of June 9, 2020, the assumed rate of return was 6.75%.

Asset Class	Target Allocation	Allocation Range
Public Markets:		
~~Domestic Equity~~Global Equity:	40%~~30%~~	30 – 50%~~20 – 40%~~
~~Non-U.S. Equity~~	~~20%~~	~~15 – 25%~~

~~Public~~Global Fixed Income	25%	18 – 32%~~20 – 30%~~
~~Cash:~~	~~0%~~	~~0 – 5%~~
~~Real Estate~~	~~10%~~	~~5 – 20%~~
~~Alternative Investments~~Private Markets:	~~15%~~	~~5 – 25%~~
Private Equity	10%	5 – 15%
Private Credit	10%	0 – 15%
Infrastructure	5%	0 – 10%
Real Estate	10%	5 – 20%
Cash:	0%	0 – 5%

Asset Allocation Targets were approved in December 2023 and the Ranges approved in December 2024~~12/2023, allocation ranges approved 12/10/24~~.

The Board has approved the use of the above listed asset classes for the following reasons:

Global Equity: The allocation to global equity serves to expose the fund to economic growth throughout the world and will serve as the primary growth engine for capital appreciation.

~~Domestic Equity: The allocation to domestic equity serves to expose the fund to the largest economy of the world. An allocation to domestic equity should allow for return enhancement and principal appreciation.~~

~~Non-U.S. Equity: The allocation to non-U.S. equity, both developed and emerging markets, will serve as potential for return enhancement and principal appreciation. A secondary consideration is the diversification it provides from the U.S. market. While the U.S. and non-U.S. markets are considerably correlated, they are not perfectly correlated. Assets that are not perfectly correlated serve to reduce volatility over the long term.~~

Global Fixed Income: The investment in fixed income will serve to reduce volatility experienced in the equity markets, as well as offer an opportunity for return enhancement by investment in selected securities (for example, investment grade corporates and high yield). A portion of the fixed income allocation is expected to be invested in Treasury or other government-related issues, which will serve to reduce risk within the portfolio.

Private Markets: Private markets investments are non-traditional investments, not covered by another investment class. In general, private market ~~alternative~~ investments are incorporated into the NHRS asset allocation to enhance the portfolio's risk-adjusted return (private equity/private ~~debt~~credit) or to diversify volatility. While the risk associated with these types of investments is higher than that of other asset classes, the expected return is also higher.

- Private Equity: generates attractive risk-adjusted rates of return through investments in private companies and earns returns in excess of the public equity markets over the long-term. Private Equity sub asset classes include leveraged buyouts, venture capital, growth equity and special situations such as investment in general partner interests and industry sector funds, and include co-investments, secondaries and other customized strategies.

- Private Credit: ~~to accomplish this objective,~~ investments will be made across the credit universe, seeking attractive risk-adjusted returns using a diverse set of strategies. Sub asset class strategies include direct lending~~;~~, mezzanine finance~~;~~, distressed and special situations~~;~~, specialty finance~~;~~, structured credit~~;~~, real assets credit~~;~~, real estate credit~~;~~, and liquid credit.

- Infrastructure: refers to physical assets or facilities that are used to provide essential services or support economic activity, and which are privately owned and managed rather than publicly owned or operated. This category typically includes assets in sectors such as energy (e.g., power plants, renewable energy installations), transportation (e.g., toll roads, bridges, ports, airports), utilities (e.g., water, sewage, telecommunications), and social infrastructure (e.g., schools, hospitals, and housing projects). Private infrastructure investments often involve long-term capital commitments, offering the potential for stable, inflation-linked cash flows and diversification benefits within a broader investment portfolio.~~e.~~

- Real Estate: The investment in real estate will serve as an inflation hedge, return enhancement opportunity, income generator, and diversification source and will include investments within core, value-added, and opportunistic opportunities.

~~Real Estate: The investment in real estate will serve as an inflation hedge, return enhancement opportunity, income generator, and diversification source and will include investments within core, value-added, and opportunistic opportunities.Real Estate: The investment in real estate will serve as an inflation hedge, return enhancement opportunity, income generator, and diversification source and will include investments within core, value-added, and opportunistic opportunities.~~

~~Private Infrastructure: refers to physical assets or facilities that are used to provide essential services or support economic activity, and which are privately owned and managed rather than publicly owned or operated. This category typically includes assets~~

~~in sectors such as energy (e.g., power plants, renewable energy installations), transportation (e.g., toll roads, bridges, ports, airports), utilities (e.g., water, sewage, telecommunications), and social infrastructure (e.g., schools, hospitals, and housing projects). Private infrastructure investments often involve long-term capital commitments, offering the potential for stable, inflation-linked cash flows and diversification benefits within a broader investment portfolio.~~

~~Alternative Investments: Alternative investments are nontraditional investments, not covered by another investment class. In general, alternative investments are incorporated into the NHRS asset allocation to enhance the portfolio's risk-adjusted return (private equity/private debt) or to diversify volatility (opportunistic strategies). While the risk associated with these types of investments is higher than that of other asset classes, the expected return is also higher. Strategies the IIC may use in private equity/private debt may include, but are not limited to: Buyouts; Distressed Opportunities; Energy-focused; Growth Equity; Infrastructure; Mezzanine; Direct Lending; Secondaries; Special Situations; and Venture Capital. Strategies the IIC may use for opportunistic strategies include: Credit Linked; Equity Linked; Event Driven; Trading; and Multi-Strategy.~~

VI. Rebalancing

The actual asset class allocation of the Fund will be continuously reviewed by the Investment ~~staff~~ Team relative to the asset class policy targets. Market movements or cash flow requirements may require the actual allocations in the portfolio to deviate from the target allocations. The Team shall seek to maintain the Fund's actual asset allocation within allocation ranges at all times. When rebalancing is required, the ~~staff~~ team will develop a rebalancing plan that, when possible, minimizes transaction costs. The plan will identify whether the assets will be rebalanced to a point within the allowable range, or to the allocation target. The~~Staff~~ Team will give due consideration to market environments, costs and risks of implementation, potential impacts on manager-level performance, and other relevant factors. The ~~staff~~ Team will report to the IIC and the Board regarding rebalancing activities that have occurred.

VII. Equity Investment in Another Entity

When the System makes an equity investment in another entity, the underlying assets of such other entity will be deemed "assets" of the System for purposes of Section 100-A15, I-b of the RSA except with respect to investments in the following entities:

(a) Publicly-offered securities

(b) An investment company registered under the Investment Company Act of 1940

(c) A Company primarily engaged, either directly or through majority-owned subsidiaries, in the production and/or sale of goods and/or services (other than the investment of capital) ("Operating Company")

(d) A private equity fund whose primary objective is to invest in Operating Companies in which it has contractual rights to influence company management

(e) A private investment fund whose primary objective is to invest in real estate with respect to which it has the right to participate directly in the development or management

(f) A government mortgage pool guaranteed by the United States or an agency or instrumentality thereof

(g) An investment fund or entity in which:

(1) (i) private U.S. employee benefit plans subject to Part 4 of Subtitle B of Title 1 of the Employee Retirement Income Security Act of 1974 ("ERISA Plans"), (ii) plans subject to Section 4975 of the Internal Revenue Code ("4975 Plans"), and (iii) other entities deemed under ERISA to hold assets of such ERISA Plans and 4975 Plans (together with ERISA Plans and 4975 Plans, "Benefit Plan Investors"), hold less than 25% of any class of equity interests and

(2) the System holds less than 25% of the total equity interests

(h) An insurance company general account to the extent that the non-guaranteed policy portion of such account is less than 25% held by Benefit Plan Investors and less than 25% held by the System.

It is the intention of the Board that in settling any ambiguity regarding this section of policy, the Board shall look to available guidance under ERISA to settle such ambiguity.

VIII. Liquidity

Currently, each fiscal year, the member benefit payments paid by the System exceed the employer contributions received by the System. As a result, maintaining appropriate liquidity is critical to the System's operations and the System's ability to meet its financial obligations. The ~~staff~~ Team will be responsible for ensuring the System maintains the appropriate liquidity for the payment of member benefits, fund expenses and capital calls from its General Partners.

IX. Active and Passive Management

The IIC may implement the Board's approved asset allocation through the use of both passive and active management. The use of active and passive management is detailed in the guidelines for each asset class. The goal of passive management is to gain diversified exposure to the desired asset class while incurring minimal expense and seeking a performance return comparable to the asset class benchmark. The goal of active management is to exceed the performance of the appropriate index on a net-of-fees basis at a commensurate level of risk over a full market cycle.

X. Benchmarks

The following benchmarks represent the standards of measurement to be used for the various investment asset classes of the New Hampshire Retirement System as determined by the Board and IIC.

Asset Class	Benchmark
Global Equity	MSCI ACWI IMI (All Country World Index Investable Market Index)
Sub-asset class:	
Domestic Equity	Russell 3000 Index
Non-U.S Equity	MSCI All Country World Ex-U.S. Index
Global Fixed Income	Bloomberg Barclays Capital U.S. Universal Bond Index
~~Real Estate~~	~~NCREIF NFI-ODCE Index (net of fees)~~
~~Alternative Investments~~Private Markets:	
Private Equity	Russell 3000 Index + 2.0%
Private ~~Debt~~ Credit	(50% S&P/LSTA U.S. Leveraged Loan 100 Index and 50% Bloomberg High Yield Index) + 1.0%
Infrastructure	Consumer Price Index + 4%
Real Estate	NCREIF NFI-ODCE Index (net of fees)
Cash Equivalents	Three-month Treasury Bill ~~Security~~Index
Total Fund	Total Fund Custom Benchmark

The Total Fund Custom Benchmark is a weighted average return comprised of the respective asset class benchmarks in the same proportion as the target asset allocation.

As performance results may vary under different economic conditions and market cycles, an effective period for measuring performance would span three to five years or more. Performance returns are expected to meet or exceed the relevant benchmark on a net-of-fees basis over time.

The IIC has responsibility for identifying appropriate benchmarks for each investment in the Fund.

Definitions of the benchmarks are listed below:

~~A.~~ The MSCI ACWI (All Country World Index) IMI is a global equity benchmark that includes large, mid, and small-cap companies across 23 developed and 26 emerging markets. It is designed to represent the performance of global equity markets and provides broad diversification across regions and sectors.

A.

B. The Russell 3000 Index measures the performance of the largest 3,000 U.S. companies, representing approximately 98% of the investable U.S. equity market.

C. The MSCI ACWI (All Country World Index) is a free-float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The term “free float” refers to the number of shares of stock publicly owned and available for trading.

D. The Bloomberg Barclays Capital U.S. Universal Index represents the union of Bloomberg Barclays Capital’s U.S. Aggregate Index (see below), U.S. Corporate High-Yield, Investment Grade 144A Index, Eurodollar Index, U.S. Emerging Markets Index, and the non-ERISA eligible portion of the CMBS Index. The index covers USD-denominated, taxable bonds that are rated either investment grade or below investment grade.

E. The Bloomberg Barclays Capital U.S. Aggregate Index is an unmanaged, market-value-weighted index of taxable investment-grade fixed-rate debt issues, including government, corporate, asset-backed and mortgage-backed securities, with maturities of one year or more.

F. The National Council of Real Estate Investment Fiduciaries (NCREIF) Fund Index Open-End Diversified Core (NFI-ODCE) is a composite comprised of primarily Core open-end funds widely used by institutional investors for exposure to domestic private market real estate. An open-end fund is a large pool of properties held in a commingled fund structure where investors have redemption rights (typically quarterly right to make capital deposits or withdrawals). Because of quarterly purchase or redemption of fund shares, open-end funds have some of the best valuation disciplines in private market real estate. The funds report performance quarterly to NCREIF. Nearly all open-end funds are designed to be perpetual life vehicles, with many having history dating back to the 1970s.

G. The S&P/LSTA U.S. Leveraged Loan 100 Index is a daily tradable index for the U.S. market that seeks to mirror the market-weighted performance of the largest institutional leverage loans. The constituents are drawn from a universe of syndicated leveraged loans representing over 90% of the leveraged loan market.

H. The Bloomberg High Yield Index measures the USD-denominated, high-yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below. Consumer Price Index (CPI) measures the average change over time in the prices paid by urban consumers for a basket of goods and services. It is commonly used as a gauge of inflation and to assess changes in the cost of living. The CPI is a key economic indicator and is often used to adjust income and investment returns for inflation.

I. The Three-month Treasury bill serves as a common benchmark for cash equivalents in an institutional portfolio due to its risk-free rate, backed by the full faith and credit of the US government, high liquidity, short-term maturity capturing current interest rate conditions, and widely published, accessible and transparent benchmark for performance comparison.

~~The MSCI ACWI (All Country World Index) IMI is a global equity benchmark that includes large, mid, and small-cap companies across 23 developed and 26 emerging markets. It is designed to represent the performance of global equity markets and provides broad diversification across regions and sectors.~~

~~The Russell 3000 Index measures the performance of the largest 3,000 U.S. companies, representing approximately 98% of the investable U.S. equity market.~~

~~A. The MSCI ACWI (All Country World Index) is a free-float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The term "free float" refers to the number of shares of stock publicly owned and available for trading.~~

~~A. The Bloomberg Barclays Capital U.S. Universal Index represents the union of Bloomberg Barclays Capital's U.S. Aggregate Index (see below), U.S. Corporate High-Yield, Investment Grade 144A Index, Eurodollar Index, U.S. Emerging Markets Index, and the non-ERISA eligible portion of the CMBS Index. The index covers USD-denominated, taxable bonds that are rated either investment grade or below investment grade.~~

~~B. The Bloomberg Barclays Capital U.S. Aggregate Index is an unmanaged, market-value-weighted index of taxable investment-grade fixed-rate debt issues, including government, corporate, asset-backed and mortgage-backed securities, with maturities of one year or more.~~

~~C. The National Council of Real Estate Investment Fiduciaries (NCREIF) Fund Index Open-End Diversified Core (NFI-ODCE) is a composite comprised of primarily Core open-end funds widely used by institutional investors for exposure to domestic private market real estate. An open-end fund is a large pool of properties held in a commingled fund structure where investors have redemption rights (typically quarterly right to make capital deposits or withdrawals). Because of quarterly purchase or redemption of fund shares, open-end funds have some of the best valuation disciplines in private market real estate. The funds report performance quarterly to NCREIF. Nearly all open-end funds are designed to be perpetual life vehicles, with many having history dating back to the 1970s.~~

~~C. The S&P/LSTA U.S. Leveraged Loan 100 Index (LL100) is a daily tradable index for the U.S. market that seeks to mirror the market-weighted performance of the largest institutional leverage loans. The constituents are drawn from a universe of syndicated leveraged loans representing over 90% of the leveraged loan market.~~

~~The Bloomberg High Yield Index measures the USD-denominated, high-yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below.~~

~~I. Consumer Price Index (CPI) measures the average change over time in the prices paid by urban consumers for a basket of goods and services. It is commonly used as a gauge of inflation and to assess changes in the cost of living. The CPI is a key economic indicator and is often used to adjust income and investment returns for inflation.~~

XI. Reporting to the Board

Pursuant to RSA 100-A:15, II-a, the IIC will report to the Board at least quarterly on the management, investment, and reinvestment activities of the IIC, and may delegate such reporting as it deems appropriate.

The quarterly report will include:

- A report on the investment performance of the assets of the System
- Changes, if any, in the investment managers of the System
- Changes, if any, in the investment guidelines for each of the asset classes
- Rebalancing activities, if any

Pursuant to RSA 100-A:15, VII, the IIC will prepare, for Board approval, a comprehensive annual investment report for the Board.

The annual report will include:

- A description of the IIC's philosophy for investing the assets of the System
- An analysis of the return on investment, by category
- An annual investment policy statement
- Any suggested changes in legislation which the Board may seek in order to better serve the members of the system

After Board approval, the comprehensive annual investment report is submitted to the president of the senate, the speaker of the house, and the governor.

The Investment ~~staff~~ Team, investment consultant(s), custodian bank, and other parties will also provide reporting to the Board as requested or needed.

XII. Manager Selection, Monitoring, and Termination

The IIC, with the assistance of the I~~i~~nvestment ~~staff~~ Team and the investment consultant, will establish a process by which to select investment managers. Criteria for each manager search will be tailored to the search underway and NHRS' specific needs and requirements.

Examples of criteria include:

- Organizational stability
- Investment ~~staff~~team, experience and tenure
- Investment process
- Ownership
- Fees
- Performance

Manager searches will be conducted in a fair and transparent manner. During a manager search, a "no contact policy" will be in effect. During this time, only the Investment ~~staff~~ Team members designated by the Chief Investment Officer ~~Director of Investments~~ will have any contact with potential candidates. Trustees, IIC members, and other ~~staff~~ team members will refrain from discussing the search with candidate firms or potential candidate firms. This policy does not preclude existing managers from carrying out their normal business requirements with NHRS.

The IIC has delegated selected manager monitoring efforts to the ~~staff~~ Team and the investment consultant. Any significant changes to a manager's investment philosophy, fees, personnel, ownership or organizational structure will be summarized and reported to the IIC. The IIC will receive quarterly and annual reporting regarding the performance of the investment managers within the fund.

The IIC has the right to terminate any investment manager at any time. Grounds for termination may include, but are not limited to:

- Changes in asset allocation that require re-structuring of the portfolio
- Failure to comply with investment management agreements
- Underperformance over the short to medium term, with consideration of long-term investment strategy and time horizon
- Significant process, organizational, ownership or personnel changes
- Unethical behavior
- Loss of confidence in the organization
- Unresponsiveness or inability to satisfy reporting requests

XIII. Private ~~Equity~~ Markets Fund Advisory Board/Committee Participation

The primary purpose of a private ~~equity~~ markets fund advisory board/committee is to (1) provide "checks and balances" on the general partner's power and authority to operate the fund; and (2) act as a "sounding board" for matters where the interests of all the fund's partners may not be aligned.

The System has determined that the benefits of ~~staff~~the Investment Team participating on advisory boards/committees far outweigh the risks or potential risks of not participating on advisory boards/committees. As a result, it is appropriate for ~~System staff~~ the CIO or designated ~~staff~~team member to represent the System as a member of an advisory board/committee, with the approval of the IIC and provided that there are appropriate protections for such members (e.g., with respect to fiduciary duty/standard of care, indemnification, confidentiality, etc.).

XIV. Use of Derivatives

Derivatives may only be used to modify risk/return characteristics of the portfolio, implement asset allocation changes in a cost-effective manner, or reduce transaction costs or taxes. Derivatives may not be used for speculation or leverage (borrowing).

Contracts with separate account managers will identify the types of derivatives that may be used, consistent with this Manual and prudent discretion. Managers must notify the CIO ~~Director of Investments~~ of modifications in the types of derivatives used and obtain the CIO's ~~Director of Investments'~~ approval of such modifications. The System's Non-U.S. Equity managers generally have authorization for broader use of derivatives; however, their actions will be monitored for excessive risk.

Investments in commingled funds are open to other investors; therefore, it is not possible for the System to insist that the managers of such funds abide by System policy regarding the use of derivatives; however, their actions will be monitored for excessive risk. The CIO ~~Director of Investments~~ will monitor a manager's use of derivatives on an ongoing basis to determine whether continued investment in a fund is prudent.

XV. Prohibited Transactions

The following transactions will be prohibited unless stated otherwise in the investment manager guidelines:

- "Prohibited transactions" as defined under the Employee Retirement Income Security Act of 1974 (ERISA).

- Transactions that involve a broker acting as a "principal", where such broker is also the investment manager who is making the transaction.

- Any or all investment activities forbidden by SEC or other applicable governing bodies.

The exposure for options, when permitted by contract, must be based on an appropriate options pricing model.

XVI. Review of Investment Policy

The IIC will review the investment policy at least annually to ensure it remains appropriate and to determine whether any modifications are needed and make a recommendation to the Board for changes, if any, to the investment policy. The Board will review the recommendations of the IIC regarding the investment policy and review the policy at least annually.

XVII. Glossary of Common Investment Terms

Investment in any particular instrument or security remains subject to applicable law and circumstances then prevailing. Notwithstanding, the most common investments are cited below:

A. ~~Alternative~~ Private Markets Investments are investable assets that fall outside ~~non-~~traditional investments (stocks, bonds, cash), ~~not covered by another investment class~~and involve less liquid and more specialized strategies (e.g. private equity / private ~~debt~~ credit and ~~opportunistic~~ other private markets strategies)

B. American Depositary Receipts (ADRs) are receipts for the shares of a foreign-based corporation held in the vault of a U.S. bank and entitling the shareholder to all dividends and capital gains. These are traded on various U.S.-based exchanges and are available for hundreds of stocks from numerous countries.

C. Commercial ~~Mortgage Backed~~Mortgage-Backed Securities (CMBS) are multi-class bonds backed by pools of commercial mortgages.

D. Commercial Mortgage Lending investments are notes and bonds secured by a mortgage or deed of trust providing first lien on real estate.

E. Derivatives are financial instruments such as forwards, futures, options, or other instruments whose values are "derived" from another financial instrument.

F. Domestic Equity Securities for System purposes typically consist of corporate common stock. These stocks must be registered on a national securities exchange or must be otherwise registered as provided in the Securities Exchange Act of 1934 as amended, with price quotations furnished through a nationwide automated quotations system approved by the National Association of Securities Dealers, Inc. (NASD). Domestic Equity Securities also include stock in corporate real estate investment trusts (REITs), which are traded on a national exchange and acquired as part of an index fund or by one of the System's domestic equity managers.

G. Domestic Fixed Income Securities are U.S. Treasury or Government agency obligations; equipment trust certificates; corporate, industrial, or utility bonds; U.S. dollar denominated Euro or Yankee bonds, including Canadian obligations payable in U.S. dollars; residential and commercial mortgage-backed securities; and pass-through certificates. For System purposes, Domestic Fixed Income Securities primarily consist of instruments with maturities in excess of twelve (12) months at time of purchase.

H. Emerging Market Equities are common or preferred stocks and investment shares which are registered on exchanges outside the U.S. Emerging market countries are the developing international countries which have a relatively low per capita Gross National Product. There is wide variety of economic, regulatory, and market development among the emerging countries.

I. Equity Real Estate Investments are any investments in real property, either made directly or through the use of pooled vehicles such as limited partnerships, open or closed-end commingled funds, Real Estate Investment Trusts (REITs) including publicly traded REIT securities, and Real Estate Operating Companies (REOCs).

J. Non-U.S. Equity Securities are common or preferred corporate stocks and investment trust shares. Only stocks registered on recognized exchanges outside the U.S. are to be considered Non-U.S. Equity Securities.

K. Real Estate Mezzanine Funds are investments in funds or partnerships whose portfolios consist of junior loans secured by real estate or partnership interests in real estate ownership.

L. Repurchase Agreements are agreements between a seller and a buyer, whereby the seller agrees to repurchase the securities at an agreed upon price and, usually, at a stated time.

M. Securities Lending occurs when a lender transfers a security to a borrower for cash or non-cash collateral pursuant to an agreement to return the collateral for an identical security in the future.

~~M.~~

N. Short Term Investments (Cash Equivalents) include, but are not limited to, interest bearing or discount instruments such as money market funds; U.S. Treasury Bills; corporate-issued commercial paper; bank-issued Certificates of Deposit; bankers' acceptances; and fully collateralized repurchase agreements. For System purposes, short-term investments consist primarily of instruments maturing in twelve (12) months or less at time of purchase.

New Hampshire Retirement System
Accountability Matrix

Total Fund Investment Policy[1]

Function	Independent Investment Committee	Board	~~Director of Investments~~Chief Investment ~~and~~Officer and Investment ~~Staff~~Team	Legal Counsel	Investment Consultants	Actuary
1. Establishing (and modifying when necessary) investment policy, which includes risk tolerances and investment objectives	Recommends 100-A:14-b, III; A:15, I-a(b) & VII(c)	Decides 100-A:15, I; I-a(b) & (c) & VII(c)	Provides advice/analysis		Provides advice/analysis	Provides input
2. Establishing asset allocation targets and ranges	Recommends A:15, VII(c)(2)	Decides A:15, VII(c)(2)	Provides advice/analysis		Provides advice/analysis	Provides input
3. Determining Investment Committee's philosophy for investing assets	Decides A:15, VII(a)	Reviews A:15, VII(a)	Provides advice/analysis			
4. Rebalancing procedures	Decides A:15, I, II-a(b) & VII(c)(2)	Reviews A:15, I-a(c) & VII(c)(2)	Provides advice/analysis		Provides advice/analysis	
5. Monitoring policy compliance	Reviews and assigns responsibility A:15, I-a(a)	Reviews A:15, I-a(a)	Oversees		Serves as a double check	
6. Ensuring statutory compliance of investments parameters	Reviews quarterly A:15, I-a(a)	Reviews annually A:15, I-a(a)	Monitors compliance	Reviews for legal compliance	Abides by parameters	
7. Monitoring Total Fund performance	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis	
8. Completing comprehensive annual investment report (as outlined in HB 1645)	Prepares A:15, VII	Approves A:15, VII	Provides assistance	Provides assistance	Provides assistance	Provides assistance

[1] Items in red are responsibilities dictated by statute.

Draft: February 11, 2025~~April 10, 2012~~

~~Domestic~~ Global Equity[2]

Function	Independent Investment Committee	Board	~~Director of Investments~~Chief Investment ~~and~~Officer and Investment ~~Staff~~Team	Legal Counsel	Investment Consultants
1. Determining ~~domestic~~ global equity asset class guidelines (active vs. passive, style, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing domestic and international equity benchmarks	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides Advice/Analysis		Provides advice/analysis
3. Determining number and types of managers for ~~each~~ the asset class	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment managers	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Recommends	Reviews contracts	Influences/ recommends
5. Monitoring compliance with asset class strategy and guidelines	Reviews and assigns responsibility A:15, VII(c)(3)	Reviews A:15, I-a(a) & VII(c)(3)	Oversees		Serves as a double check
6. Reviewing asset class performance	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities

[2] Items in red are responsibilities dictated by statute.

~~**Non-U.S. Equity**~~

~~**Function**~~	~~**Independent Investment Committee**~~	~~**Board**~~	~~**Director of Investments**~~**Chief Investment** ~~**and**~~**Officer and** ~~**Investment Staff**~~	~~**Legal Counsel**~~	~~**Investment Consultant**~~
~~1. Determining international equity asset class guidelines (active vs. passive, style, limitations, etc.)~~	~~Decides A:15, I-a(a)~~	~~Reviews A:15, I-a(a)~~	~~Provides advice/analysis~~		~~Provides advice/analysis~~
~~2. Setting and reviewing international equity benchmarks~~	~~Decides A:15, I-a(a)~~	~~Reviews A:15, I-a(a)~~	~~Recommends~~		~~Provides advice/analysis~~
~~3. Determining number and types of managers for each asset class~~	~~Decides A:14-b, III; A:15, II-a(b)~~	~~Reviews A:15, I-a(a)~~	~~Provides advice/analysis~~		~~Provides advice/analysis~~
~~4. Selecting external investment managers~~	~~Decides A:14-b, III; A:15, II-a(b)~~	~~Monitors A:15, I-a(a)~~	~~Recommends~~	~~Reviews contracts~~	~~Influences/ recommends~~
~~5. Monitoring compliance with asset class strategy and guidelines~~	~~Reviews and assigns responsibility A:15, I-a(a)~~	~~Reviews A:15, I-a(a)~~	~~Oversees~~		~~Serves as a double check~~
~~6. Reviewing performance of the asset class~~	~~Reviews and reports to the Board quarterly A:15, II-a(c)~~	~~Reviews quarterly IIC reports A:15, II-a(c)~~	~~Provides advice/analysis~~		~~Provides advice/analysis~~
~~7. Monitoring performance of external investment managers~~	~~Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)~~	~~Reviews quarterly reports A:15, II-a(c)~~	~~Completes monitoring activities~~		~~Completes monitoring activities~~

~~Fixed~~ Global Fixed Income[3]

Function	Independent Investment Committee	Board	~~Director of Investments~~Chief Investment ~~and~~Officer and Investment ~~Staff~~Team	Legal Counsel	Investment Consultants
1. Determining global fixed income asset class guidelines (active vs. passive, style, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing asset class benchmarks	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Recommends		Provides advice/analysis
3. Determining number and types of managers for each asset class	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment managers	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Recommends	Reviews contracts	Influences/ Recommends
5. Monitoring compliance with asset class strategy and guidelines	Reviews and assigns responsibility A:15, VII(c)(3)	Reviews A:15, VII(c)(3)	Oversees		Serves as a double check
6. Reviewing performance of asset classes	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities

[3] Items in red are responsibilities dictated by statute.

Real Estate [4]

Function	Independent Investment Committee	Board	~~Director of Investments~~Chief Investment ~~and~~Officer and Investment ~~Staff~~Team	Legal Counsel	Investment Consultants
1. Determining real estate asset class guidelines (diversification, style, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing asset class benchmarks	Decides A:14-b, III; A:15, VII	Reviews A:15, VII	Provides advice/analysis		Provides advice/analysis
3. Determining number and types of managers for the asset class	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment management firms	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	~~Influences~~Recommends	Reviews contracts	Influences
5. Monitoring compliance with policy	Reviews and assigns responsibility	Reviews A:15, I-a(a)	Oversees		Serves as a double check
6. Reviewing performance of the asset class	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities
8. Valuation of real estate	Reviews quarterly A:15, I-a(b)(3); A:15, VII(c)(3)	Monitors A:15, I-a(a)	Ensures valuations are completed		Assists as needed
9. Executing purchase and sale agreements on real estate	Reviews quarterly A:15, II-a(b) & VII(c)(3)		Ensures valuations are completed	Reviews contracts	

4 Items in red are responsibilities dictated by statute.

~~Alternatives Investments~~Private Markets Policy[5]

Function	Independent Investment Committee	Board	~~Director of Investments~~Chief Investment ~~and~~Officer and Investment ~~Staff~~Team	Legal Counsel	Investment Consultants
1. Determining ~~alternative asset~~private markets class guidelines (style, diversification, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing asset class benchmarks	Decides A:14-b, III; A:15, VII	Reviews A:15, VII	Provides advice/analysis		Provides advice/analysis
3. Approving number and types of external managers	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment management firms	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	~~Influences~~Recommends	Reviews contracts	Influences
5. Monitoring compliance with policy	Reviews and assigns responsibility A:15, VII(c)(3)	Reviews A:15, I-a(a)	Oversees		Serves as a double check
6. Reviewing performance of the asset class	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities
8. Valuation of private equity	Reviews quarterly A:15, I-a(b)(3); A:15, VII(c)(3)		Ensures valuations are completed		Assists as needed

5 Items in red are responsibilities dictated by statute.

Function	Independent Investment Committee	Board	~~Director of Investments~~Chief Investment ~~and~~Officer and Investment ~~Staff~~Team	Legal Counsel	Investment Consultants
9. Executing partnership agreements on private equity	Reviews quarterly A:14-b, III; A:15, II-a(b)		Ensures agreements are executed	Reviews agreements	

Selection and Monitoring of Investment Managers[6]

Function	Investment Committee	Board	~~Director of Investments~~Chief Investment ~~and~~Officer and Investment ~~Staff~~Team	Legal Counsel	Investment Consultant~~s~~
1. Selecting specific external investment management firms	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	~~Influences~~Recommends	Reviews contracts	Influences
2. Conducting due diligence meetings and activities	Reviews staff/consultants A:15, I-a(a); A:15, VII(c)(3); A:15, (c)(3)		~~Oversees~~Completes investment manager due diligence		Completes independent due diligence activities
3. Developing individual manager guidelines			~~Approves~~Recommends	Reviews	Provides advice/analysis
4. Executing investment manager contracts			Approves	~~Recommends~~Conducts legal diligence	Provides assistance
5. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities

6 Items in red are responsibilities dictated by statute.

Selection of Other Service Providers[7]

Function	Independent Investment Committee	Board	~~Director of Investments~~Chief Investment ~~and~~Officer and Investment ~~Staff~~Team	Legal Counsel	Investment Consultant
1. Selecting (and periodically reviewing) custodian banks	Decides A:15, II-a(a)	Monitors A:15, I-a(a)	Influences	Reviews contract	Influences
2. Selecting (and periodically reviewing) general investment consultant	Recommends A:14-b, III	Decides A:15, II(c)	Provides input	Reviews contract	
3. Selecting (and periodically reviewing) specialty investment consultants	Recommends A:14-b, III	Decides A:15, II(c)	Provides input	Reviews contract	
4. Selecting (and periodically reviewing) the fund's actuary		Decides A:15, II(a)	Influences	Reviews contract	
5. Selecting (and periodically reviewing) outside legal counsel for investment issues		Decides A:15, IV	Influences	Recommends	
6. Selecting (and periodically reviewing) proxy voting service provider		Approves A:15, I-a(a)	Recommends	~~Reviews contract~~Oversees/ Recommends/Reviews Contract	Influences
7. Selecting (and periodically reviewing) transition managers	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Recommends	Reviews contract	Influences
8. Selecting (and periodically reviewing) transaction analysis provider	Decides A:15, II-a(b)	Reviews A:15, I-a(a)	Recommends	Reviews contract	Influences

7 Items in red are responsibilities dictated by statute.

Proxy Voting

Function	Investment Committee	Board	Executive Director or ~~Director of Investments~~Chief Investment Officer	Legal Counsel	Investment Consultant
1. Setting (and modifying) proxy voting policy		Decides A:15, I-a(a)	Recommends	Provides input	Provides advice/analysis
2. Identifying proxy voting issues and positions		Decides A:15, I-a(a)	Provides advice/analysis	Provides input	Provides advice/analysis
3. Monitoring proxy voting activity		Reviews annually A:15, I-a(a)	Prepares		
4. Approving exceptions to the policy		Reviews annually A:15, I-a(a)	Oversees/ recommends	Provides input	Provides advice/analysis
5. Ensuring policy compliance		Reviews annually A:15, I-a(a)	Oversees	Provides input	Provides advice/analysis

Securities Lending

Function	Investment Committee	Board	Executive Director or ~~Director of Investments~~Chief Investment Officer	Legal Counsel	Investment Consultant
1. Setting (and modifying) securities lending policy	Provides Input A:15, I-a(a)	Decides A:15, I-a(a)	Provides advice/analysis	Provides input	Provides advice/analysis
2. Creating and updating securities lending guidelines	Approves A:15, I-a(a)	Reviews A:15, I-a(a)	Recommends	Provides input	Provides advice/analysis
3. Monitoring securities lending activity	Reviews and assigns responsibility A:15, I-a(a)	Reviews A:15, I-a(a)	Oversees	Provides input	Provides advice/analysis
4. Ensuring policy compliance	Reviews and assigns responsibility A:15, I-a(a)	Reviews A:15, I-a(a)	Oversees	Provides input	Provides advice/analysis

Global Fixed Income Investment Guidelines

Purpose: The allocation to Global Fixed Income serves to provide income and potentially reduce volatility experienced in the equity markets, as well as offer an opportunity for return enhancement by investing in selected global ~~market~~ debt sectors (for example, investment grade corporate bonds and high yield debt). A portion of the Global Fixed Income allocation is expected to be invested in U.S. Treasury securities or other government-related issues, which will potentially reduce risk within the portfolio.

Allocation: The current target allocation to Global Fixed Income is 25% of the Total Fund, with an allowable range of ~~20%~~18% – ~~30%~~32%.

Structure: The Global Fixed Income portfolio is currently 100% actively managed, as fixed income has been identified as an area in the capital markets where it is more likely that active management will add value. The portfolio is broadly diversified across global markets, sectors, securities and maturities. Active management is focused where there is the greatest potential for alpha generation. Passive management is focused where alpha generation has been demonstrated to be difficult to obtain while also allowing the ability to gain low-cost efficient beta exposure. Passive management may be utilized if determined to be beneficial by the Independent Investment Committee (IIC).

Component	Allocation Target*
Core	Minimum of 60%

* As a percentage of ~~Fixed Income~~Global Fixed Income.

The ~~Fixed Income~~Global Fixed Income Core component is defined as securities held within the Bloomberg Barclays U.S. Aggregate Index which measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes U.S. Treasuries, government-related and corporate securities, mortgage backed securities, asset backed securities, and commercial mortgage backed securities. TIPS, 144a securities with registration rights and permanent 144a securities are also permitted.

Custody: All ~~Fixed Income~~Global Fixed Income securities shall be maintained in the custody and safekeeping of the System's master custodial bank. Commingled fund assets, however, are held in custody at the discretion of the fund manager.

Use of Commingled Funds: Mutual funds and other types of commingled investment vehicles provide, under some circumstances, lower costs and better diversification than can be obtained with a separately managed account pursuing the same investment objectives. However, commingled investment funds cannot customize investment guidelines to the specific needs of individual clients. The IIC is willing to accept the policies of such funds in order to achieve the lower costs and diversification benefits of commingled funds, as long as the commingled guidelines are consistent with the spirit of those specified herein and the underlying individual investment manager portfolio-level guidelines. The IIC relies on ~~Staff~~ the Team and the Investment Consultant to assess and monitor the investment policies of any commingled fund used by the System.

Manager Guidelines for Separate Accounts: Portfolio-level guidelines are negotiated with each IIC-approved investment manager with the purpose of establishing agreed-upon parameters for the management of assets. These guidelines are generally based on the guidelines for the respective manager's composite portfolio and investment style; are reviewed by ~~staff~~ the Team in collaboration with the System's Investment Consultant; and are subject to execution by the ~~Director of Investments~~Chief Investment Officer and the manager prior to implementation. Each manager will be granted full discretion within the context of their respective portfolio-level negotiated guidelines.

Managers are prohibited from deviating from their respective portfolio-level guidelines without prior written approval from the ~~Director of Investments~~Chief Investment Officer. Any guideline violation must be reported by the manager in writing as soon as it is discovered (within 24 hours). Recommendations for guideline revisions are to be provided to the ~~Director of Investments~~Chief Investment Officer in writing, and shall include the rationale for the changes and all relevant research. Any guideline revision requests are reviewed by ~~Staff~~ the Team and the System's Investment Consultant prior to approval. All substantive changes to manager guidelines will be reported to the IIC at the next meeting.

Permissible Investments: Permissible investments are defined within individual manager portfolio-level guidelines, and generally include:

- U.S. Treasuries and U.S. Treasury Inflation Protected Securities
- Obligations of U.S. Federal Agencies and Government Sponsored Enterprises (GSEs)
- Foreign Sovereign Debt
- Small Business Administration Securities
- Municipal Securities
- Corporate Obligations, including but not limited to, Convertible Bonds
- Foreign Sovereign Debt
- Structured Securities including Asset Backed Securities; Collateralized Mortgage Obligations; Commercial Mortgage Backed Securities; Residential Mortgage Backed Securities
- Zero Coupon Securities
- Non-Sovereign Government/Non-Supranational Debt
- Emerging Market Debt
- Forward exchange contracts/currency derivatives, when used to protect the U.S. Dollar value of the portfolio, dampen portfolio volatility, or to facilitate the settlement of securities
- Private Placements, including 144A securities
- Exchange traded funds and similar vehicles
- Common Stock (shall not exceed 5% of the market value of any individual manager)
- Preferred Stock (shall not exceed 20% of the market value of any individual manager)

- Capital Securities
- Trust Preferred Securities
- Real Estate Investment Trust debt
- Short-term fixed income securities and cash equivalents

Prohibited Investments: Any security or strategy not specifically permitted in the respective manager portfolio guidelines requires written permission from the ~~Director of Investments~~Chief Investment Officer prior to purchase.

Prohibited investments are defined within individual manager portfolio-level guidelines, and generally include:

- Short Sales
- Margin transactions
- Use of leverage
- Specialized investment vehicles
- Direct investments in commodities
- Direct investments in real estate
- Direct investments in Venture Capital
- Direct investments in oil, gas, or other mineral exploration or development programs

Concentration Limits:

- The System shall closely monitor instances where its investments represent a significant component of a commingled fund or total assets under management (AUM) at the strategy level. If the System's positions become more than 20% of any commingled investment fund, or total strategy AUM, ~~staff~~ the Team will notify the IIC and the investment will be monitored to see if any changes are warranted.

Global Equity Investment Guidelines~~Domestic Equity Investment Guidelines~~

Purpose: The Global Equity allocation provides the assets of the System with broad participation in global equity markets, including both domestic and international equities. This diversified allocation, across various styles, capitalizations, and geographies, aims to maximize long-term total returns while mitigating risk through geographical and sector~~al~~ diversification.~~The allocation to Domestic Equity provides the assets of the System with participation in the largest economy of the world. A diversified allocation, across style and capitalization, to domestic equity should assist in maximizing long-term total returns.~~

Allocation: The target allocation to Global Equity is 40% of the Total Fund, with an allowable range of 30 – 50%.

~~The current target allocation to Domestic Equity is 30% of the Total Fund, with an allowable range of 20 – 40%.~~

Structure: The Global Equity portfolio is structured to incorporate both active and passive management strategies. Active management is utilized where there is the greatest potential for alpha generation, while passive management is employed in regions or sectors where alpha generation is difficult to obtain, focusing instead on low-cost, efficient beta exposure. The portfolio is diversified across styles, capitalizations, and geographies, with a focus on areas where active management is expected to add value. Global Equity will encompass the Domestic Equity asset class and the Non-US Equity asset class.

Domestic Equity: The Domestic Equity portion is primarily managed with both active and passive strategies, with a minimum of 50% allocated to passive, large-cap equity securities domiciled in the US.

Non-U.S. Equity: The Non-U.S. Equity portion is predominantly actively managed and diversified across global markets, including developed and emerging markets excluding the US. Passive management may be used if determined to be beneficial by ~~Investment Staff~~Investment Team and the Independent Investment Committee (IIC).~~The Domestic Equity portfolio is structured to incorporate both active and passive management. Active management is focused where there is the greatest potential for alpha generation. Passive management is focused where alpha generation has been demonstrated to be difficult to obtain. Therefore, the goal of the passive allocation is to gain low-cost efficient beta exposure. The portfolio is focused to increase exposure to those areas of the capital markets where it is more likely that active management will add value.~~

~~Component~~	~~Allocation Target*~~
~~Large Cap, Passive~~	~~Minimum of 50%~~

~~* As a percentage of Domestic Equity~~

Custody: All Global Equity securities, including both Domestic and Non-U.S. equities, shall be maintained in the custody and safekeeping of the System's master custodia~~l~~n bank. Commingled fund assets may be held in custody at the discretion of the fund manager.~~All Domestic Equity securities shall be maintained in the custody and safekeeping of the System's master custodial bank. Commingled fund assets, however, are held in custody at the discretion of the fund manager.~~

Use of Commingled Funds: Mutual funds and other types of commingled investment vehicles provide, under some circumstances, lower costs and better diversification than can be obtained with a separately managed account pursuing the same investment objectives. However, commingled investment funds cannot customize investment guidelines to the specific needs of individual clients. The Independent Investment Committee (IIC) is willing to accept the policies of such funds in order to achieve the lower costs and diversification benefits of commingled funds, as long as the commingled guidelines are consistent with the spirit of those specified herein and the underlying individual investment manager portfolio-level guidelines. The IIC relies on ~~Staff~~ the Investment Team and the Investment Consultant to assess and monitor the investment policies of any commingled fund used by the System.

Manager Guidelines for Separate Accounts: Portfolio-level guidelines are negotiated with each IIC-approved investment manager with the purpose of establishing agreed-upon parameters for the management of assets. These guidelines are generally based on the guidelines for the respective manager's composite portfolio and investment style; are reviewed by ~~staff~~the Team in collaboration with the System's Investment Consultant; and are subject to execution by the ~~Director of Investments~~Chief Investment Officer and the manager prior to implementation. Each manager will be granted full discretion within the context of their respective portfolio-level negotiated guidelines.

Managers are prohibited from deviating from their respective portfolio-level guidelines without prior written approval from the ~~Director of Investments~~Chief Investment Officer. Any guideline violation must be reported by the manager in writing as soon as it is discovered (within 24 hours). Recommendations for guideline revisions are to be provided to the ~~Director of Investments~~Chief Investment Officer in writing, and shall include the rationale for the changes and all relevant research. Any guideline revision requests are reviewed by the ~~Director of Investments~~Chief Investment Officer ~~and the~~in consultation with the System's Investment Consultant prior to approval. All substantive changes to manager guidelines will be reported to the IIC at the next meeting.

Permissible Investments: All eligible securities shall be traded in domestic markets and be of a class listed on a national securities exchange or traded in the over-the-counter market.

Permissible investments are defined within individual manager portfolio-level guidelines, and generally include:

- Common stocks, preferred stocks, and securities with equity characteristics (including, but not limited to, American Depository Receipts and Shares, warrants, and rights) of U.S. and foreign issuers
- European Depository Receipts listed and traded on major U.S. exchanges and in over-the-counter markets
- Securities convertible into common stocks
- 144A securities
- Futures contracts
- Exchange traded funds and similar vehicles
- Closed-end funds
- Private placements, Secondary Offerings, IPO investments and offers for sale
- Real Estate Investment Trusts and Income Trusts
- Short-term fixed income securities and cash equivalents

Prohibited Investments: Any security or strategy not specifically permitted in the respective manager portfolio guidelines requires written permission from the ~~Director of Investments~~Chief Investment Officer prior to purchase.

Prohibited investments are defined within individual manager portfolio-level guidelines, and generally include:

- Short sales
- Margin transactions
- Use of leverage
- Stock in non-public corporations, private placements or other non-marketable issues
- Specialized investment vehicles
- Direct investments in commodities
- Direct investments in real estate
- Direct investments in Venture Capital
- Lettered stock
- Foreign securities other than those noted in *Permissible Investments* above
- Direct investments in oil, gas, or other mineral exploration or development programs

Concentration Limits:

- The System shall closely monitor instances where its investments represent a significant component of a commingled fund or total assets under management (AUM) at the strategy level. If the System's positions become more than 20% of any commingled investment fund, or total strategy AUM, ~~Staff~~ Investment Team will notify the IIC and the investment will be monitored to see if any changes are warranted.

~~Alternative Investment~~Private Markets Guidelines

Purpose: Private markets investments or alternative investments represent non-traditional vehicles that do not fit within conventional investment asset classes. These investments aim primarily to achieve superior risk-adjusted returns. They may also exhibit a low correlation with broader stock and bond market returns, potentially reducing the volatility of the ~~Total Fund's~~plan's total returns. Examples of private markets investments encompass private equity, private credit, real estate, ~~opportunistic strategies,~~ infrastructure, ~~and~~ hedge funds, and opportunistic strategies.

Due to their non-traditional, long-term, and illiquid nature, ~~alternative~~private markets investments necessitate the development of an Annual Strategic Plan. This plan will be prepared and presented to the Independent Investment Committee (IIC) for approval. ~~Alternative investments are non-traditional investment vehicles that do not fall within another investment asset class. The primary objective of alternative investments is to seek superior risk-adjusted returns. Secondarily, these investments have had a low correlation with broad stock and bond market returns, thus potentially reducing the volatility of the return of the Total Fund. Examples of alternative investments include private equity, private debt, opportunistic strategies, and hedge funds. As a result of the non-traditional, long-term and illiquid nature of alternative investments, an Annual Strategic Plan will be prepared and presented to the Independent Investment Committee (IIC) for approval.~~

Allocation: The current target allocation to ~~Alternative~~ Private Markets Investments is ~~15~~25% of the Total Fund, with an allowable range of 15 – ~~25~~35%.

In order to reach and maintain the target allocation, capital commitments in excess of ~~15~~25% of the Total Fund may be made. The primary reasons for permitting such an over commitment are the staged capital calls for new investments and anticipated returns of capital.

Targets:

Sub Strategy	Allocation Target*
Private Equity	10%
Private Credit	10%
Infrastructure	5%

* As a percentage of Total Fund

Custody: All assets are held in custody at the discretion of the fund manager.

Structure: The ~~Alternative Investment~~Private Markets portfolio primarily includes the following:

Private Equity – The purpose of Private Equity is to earn risk-adjusted returns in excess of public equity markets. These investments are also expected to decrease the volatility of the System's assets through the diversification benefits of having lower correlations with other asset classes.

Sub-strategies include:

- *Buyouts/Corporate Finance* – Provides leveraged capital and business development capital to enable the restructuring of existing business and industries.

- *Private Energy* – Investments may include exploration & production, generation, storage, transmission, distribution, renewable energy sources, clean technologies, energy technologies and other similar investments.

- *Growth Equity* – Provides expansion capital for small, growing businesses that are generating cash flow and profits. Generally, these types of investments have reduced exposure to technology risk compared with venture capital.

- ~~*Infrastructure* - Investments involve the purchase of critical service assets (i.e. toll roads, bridges, water treatment plants, etc.). Typically, infrastructure assets exhibit one or more of the following qualities: monopolistic or quasi-monopolistic, high barriers to entry, long-term assets, regulatory or permitting constraints.~~

- *Secondaries* – Private equity interests that are generally purchased at a discount from valuation from motivated sellers. The interests purchased are generally venture and buyout interests with limited exposure to unfunded capital commitments. The strategy also includes the purchase of direct interests in companies through the secondary market.

- *Distressed/Special Situations* – A strategy whereby a manager invests in the distressed debt of companies that likely will undergo some sort of financial and/or operational restructuring. A manager will usually build a controlling stake in a distressed company through the "fulcrum security" which is generally a high yield bond or bank debt. The investment team will then work actively to maximize the value of the investment through driving either an informal restructuring or a formal bankruptcy procedure. The balance sheet may be restructured; new management inserted; cost cutting implemented; as well as other operational improvements put in place. Distressed debt returns are generally comprised of a combination of a debt coupon; capital appreciation of the distressed security; and, participation in the upside of post-reorganization equity.

- *Venture Capital* – Implies early, late and balanced-stages of financing, as well as growth capital, of rapidly growing companies with an innovative/disruptive business idea for a proprietary product or service.

Private Credit - diversify the portfolio and aim to generate higher risk-adjusted returns compared to public credit markets. These investments focus on opportunities in private lending, providing stable income and reducing overall portfolio volatility. They complement traditional fixed income investments by offering lower correlation with public markets and potential for attractive yields. Our strategy aims to preserve capital, generate income sustainably, and enhance overall portfolio performance over the long term.~~Private Debt – The purpose of Private Debt is to earn risk-adjusted returns in excess of public debt markets. These investments are also expected to decrease the volatility of the System's assets through the diversification benefits of having lower correlations with other asset classes.~~

Sub-strategies include:

~~*Direct Lending* – An investment strategy involving senior or unitranche lending directly to companies that seek to generate high current income while focusing on preservation of capital.~~

- *Direct Lending* – An investment strategy involving senior or unitranche lending directly to companies that seek to generate high current income while focusing on preservation of capital.

- *Distressed* – Includes trading strategies through control positions. For trading strategies, distressed securities are defined as securities experiencing financial or operational distress, default, or are under bankruptcy. Investment instruments include publicly-traded debt securities, private debt, trade claims, mortgage debt, common and preferred stock and commercial paper. Control strategies involve companies with poorly-organized capital structures, turnaround situations and bankrupt companies. Long and short positions are commonly used as a technique to lock in profit or reduce risk.

- *Mezzanine/Junior Capital* – An investment strategy involving subordinated debt (the level of financing tranche that is senior to equity but below senior debt). Capital supplied by mezzanine or junior capital financing is used for various situations such as facilitating changes in ownership through leveraged buyouts or recapitalizations, financing acquisitions, or enabling growth. Venture lending and leasing is a subset of mezzanine financing that targets venture-backed companies. Revenue and Royalty interests are a subset of mezzanine financing that targets intellectual property, license agreements and other similar property that has the ability to restrict the rights to commercialization.

- Asset-Based Lending – providing loans that are secured by a borrower's tangible assets, such as accounts receivable, inventory, equipment, or real estate. This strategy focuses on lending to companies that may not have access to traditional credit markets but possess valuable physical assets that can be used as collateral. ABL investments are typically structured as revolving credit facilities or term loans, and are primarily used to finance working capital needs, acquisitions, or other corporate requirements.

- *Structured Credit* – A private credit strategy which, involves investing in complex financial instruments that are typically collateralized by a pool of assets, such as collateralized loan obligations (CLOs), collateralized debt obligations (CDOs), or asset-backed securities (ABS).~~invests in assets such as pools of loans in the consumer, real estate and transportation space. Often, a manager of this strategy will originate or purchase a pool of loans; service them; and, in some cases, securitize them and sell securitized tranches to the market.~~ Returns are driven by a combination of underlying loan coupon; value enhancement through servicing; and, upside through public market securitization.

- *Specialty Finance* – A private credit strategy which generally provides growth capital in the form of senior secured loans to loan origination platforms such as mortgage; consumer debt and transportation leasing. These loans are securitized by a pool of underlying loans which are placed in a bankruptcy remote structure and pay amortize over time. Specialty finance lenders' returns are generated by a combination of a coupon and, in some cases, equity kickers in the underlying borrower. These loan pools may be securitized and sold into the public market.

- ~~*Royalty Finance* – A private credit strategy which provides debt financing to entities secured by the cash flow of royalty payments of a licensed product. For example, healthcare royalty strategies provide capital in the form of senior secured debt backed by predictable royalty payments from pharmaceutical or other medical devices. Music royalties' strategies, for example, provide debt which is backed by royalty payments from a particular portfolio of music recordings.~~

- *Litigation Finance* – A private credit strategy which lends money to corporations or law firms to fund the cost of prolonged litigation, often contingent on a favorable payout. Financings may be pre-settlement in which returns are driven by a combination of a debt coupon and upside participation in one, or a diversified pool of legal cases. Litigation funding in the form of a loan may also be provided post a legal settlement. This this type of funding is used to bridge a payment expected by the law firm or other entity entitled to litigation proceeds.

Real Asset Lending – Private asset-backed loans including backed by real asset collateral such as real estate and infrastructure. Real Assets credit investments may include senior debt or project finance loans, often with long-term, stable cash flows.

~~**Targets:**~~

~~**Sub Strategy**~~	~~**Allocation Target***~~
~~Private Equity~~	~~10%~~
~~Private Debt~~	~~5%~~

~~* As a percentage of Total Fund~~

~~**Custody:** All assets are held in custody at the discretion of the fund manager.~~

Risk Management: ~~Alternative investment~~Private Markets strategies do not lend themselves to traditional quantitative measures of risk such as standard deviation and benchmark tracking error. Rather, risk is managed through a combination of quantitative and qualitative constraints. The following sections identify the unique risks with ~~alternative~~ private markets investments and method of control:

- Industry – Typically, ~~alternative investment~~private markets funds are permitted to invest in a wide variety of industries with limited controls. Industry risk is controlled primarily through appropriate diversification across strategies and sub-strategies.

- Leverage – Many underlying ~~alternative investment~~private markets programs will utilize leverage. The intent of the System is to not rely on managers employing high degrees of leverage.

- Vintage Year – Vintage year ~~merely~~ reflects the year of first capital draw and vintage risk refers to the variability of investment commitments over time. A long-term investment pacing schedule is developed which minimizes vintage risk while achieving targeted exposure.

- Concentration Limits –The System shall not own more than 10% of any single investment vehicle except with prior approval of the NHRS IIC.

- Due Diligence – Each potential investment will be evaluated for portfolio fit; organizational stability; investment staff; investment strategy; investment process; and fund economics.

- Annual Strategic Plan – Given the non-traditional, long-term and illiquid nature of ~~alternative~~ private markets investments, an Annual Strategic Plan will be prepared and presented to the IIC for approval. The Annual Strategic Plan will include a review of performance; cash flow and liquidity analyses; commitment pacing; and sub-strategy recommendations.

Callan

November 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 November 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 November 30, 2024							
Composite	**Total Fund Weighting As of 11/30/2024**	**Last Month**	**Last 3 Months**	**FYTD**	**CYTD**	**LTM**	**3-YR**	**5-YR**	**10-YR**
Total Domestic Equity	**34.93%**	**7.36%**	**8.18%**	**13.89%**	**25.62%**	**33.93%**	**9.59%**	**13.72%**	**11.70%**
Domestic Equity Benchmark(1)		*6.65%*	*8.06%*	*12.46%*	*27.71%*	*34.49%*	*10.54%*	*14.81%*	*12.98%*
Excess Return		*0.71%*	*0.12%*	*1.42%*	*-2.09%*	*-0.55%*	*-0.96%*	*-1.09%*	*-1.29%*
Total Non US Equity	**18.74%**	**0.83%**	**-1.70%**	**3.93%**	**9.93%**	**15.44%**	**4.21%**	**5.92%**	**5.43%**
Non US Equity Benchmark(2)		*-0.91%*	*-3.23%*	*1.83%*	*7.63%*	*13.03%*	*2.86%*	*5.40%*	*4.62%*
Excess Return		*1.74%*	*1.53%*	*2.10%*	*2.31%*	*2.41%*	*1.34%*	*0.52%*	*0.80%*
Total Fixed Income	**18.89%**	**1.04%**	**0.08%**	**3.91%**	**3.32%**	**7.50%**	**-0.83%**	**1.44%**	**2.25%**
Bloomberg Capital Universe Bond Index		*1.05%*	*0.11%*	*3.89%*	*3.60%*	*7.53%*	*-1.47%*	*0.39%*	*1.87%*
Excess Return		*-0.01%*	*-0.03%*	*0.02%*	*-0.29%*	*-0.04%*	*0.65%*	*1.05%*	*0.38%*
Total Cash	**1.64%**	**0.39%**	**1.23%**	**2.12%**	**4.83%**	**5.32%**	**3.86%**	**2.47%**	**1.81%**
3-Month Treasury Bill		*0.38%*	*1.20%*	*2.14%*	*4.83%*	*5.32%*	*3.76%*	*2.41%*	*1.73%*
Excess Return		*0.00%*	*0.03%*	*-0.02%*	*0.00%*	*0.00%*	*0.11%*	*0.06%*	*0.09%*
Total Real Estate (Q2)*	**8.64%**	**-0.07%**	**-0.14%**	**-0.04%**	**-5.43%**	**-7.07%**	**3.71%**	**5.93%**	**8.33%**
Real Estate Benchmark(3)		*0.01%*	*-0.20%*	*-0.65%*	*-8.04%*	*-8.69%*	*-0.36%*	*2.12%*	*5.32%*
Excess Return		*-0.08%*	*0.07%*	*0.60%*	*2.61%*	*1.63%*	*4.07%*	*3.81%*	*3.01%*
Total Private Equity (Q2)*	**12.81%**	**-0.01%**	**-0.02%**	**0.02%**	**3.69%**	**5.08%**	**5.73%**	**13.04%**	**11.76%**
Private Equity Benchmark(4)		*2.31%*	*7.70%*	*8.23%*	*34.42%*	*28.39%*	*11.30%*	*18.52%*	*16.06%*
Excess Return		*-2.31%*	*-7.73%*	*-8.22%*	*-30.73%*	*-23.31%*	*-5.58%*	*-5.48%*	*-4.30%*
Total Private Debt (Q2)*	**4.35%**	**-0.07%**	**-0.46%**	**-0.07%**	**3.83%**	**5.58%**	**6.35%**	**5.54%**	**5.84%**
Private Debt Benchmark(5)		*1.15%*	*3.35%*	*4.46%*	*12.28%*	*12.17%*	*6.09%*	*5.32%*	*4.99%*
Excess Return		*-1.22%*	*-3.81%*	*-4.53%*	*-8.45%*	*-6.58%*	*0.26%*	*0.22%*	*0.85%*
Total Fund Composite	**100.00%**	**2.81%**	**2.37%**	**6.02%**	**10.64%**	**14.90%**	**5.25%**	**8.32%**	**7.58%**
Total Fund Benchmark(6)		*2.37%*	*2.69%*	*6.06%*	*13.44%*	*16.87%*	*5.14%*	*8.32%*	*7.79%*
Excess Return		*0.44%*	*-0.32%*	*-0.03%*	*-2.80%*	*-1.97%*	*0.11%*	*0.00%*	*-0.21%*

(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 11/30/24, the Total Fund has returned 6.61% versus the Total Fund Custom Benchmark return of 6.63%.

*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 November 30, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Composite	Total Fund Weighting As of 11/30/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
		Net of Fees Returns for Periods Ended November 30, 2024							
Total Domestic Equity	**34.93%**	**7.36%**	**8.18%**	**13.89%**	**25.62%**	**33.93%**	**9.59%**	**13.72%**	**11.70%**
Domestic Equity Benchmark(1)		*6.65%*	*8.06%*	*12.46%*	*27.71%*	*34.49%*	*10.54%*	*14.81%*	*12.98%*
Excess Return		*0.71%*	*0.12%*	*1.42%*	*-2.09%*	*-0.55%*	*-0.96%*	*-1.09%*	*-1.29%*
Large Cap Domestic Equity	**19.91%**	**5.87%**	**7.14%**	**11.07%**	**28.13%**	**33.95%**	**11.40%**	**14.95%**	**12.52%**
S&P 500 Index		*5.87%*	*7.15%*	*11.09%*	*28.07%*	*33.89%*	*11.44%*	*15.77%*	*13.35%*
Excess Return		*0.00%*	*-0.01%*	*-0.01%*	*0.06%*	*0.06%*	*-0.04%*	*-0.82%*	*-0.82%*
BlackRock S&P 500	**19.91%**	**5.87%**	**7.14%**	**11.07%**	**28.13%**	**33.95%**	**11.40%**	**15.72%**	**13.32%**
S&P 500 Index		*5.87%*	*7.15%*	*11.09%*	*28.07%*	*33.89%*	*11.44%*	*15.77%*	*13.35%*
Excess Return		*0.00%*	*-0.01%*	*-0.01%*	*0.06%*	*0.06%*	*-0.04%*	*-0.05%*	*-0.03%*
Smid Cap Domestic Equity	**6.36%**	**9.12%**	**8.73%**	**16.00%**	**19.62%**	**30.66%**	**5.62%**	**10.96%**	**9.28%**
Russell 2500 Index		*9.84%*	*10.44%*	*18.34%*	*21.12%*	*34.10%*	*6.24%*	*10.95%*	*9.85%*
Excess Return		*-0.72%*	*-1.72%*	*-2.34%*	*-1.50%*	*-3.44%*	*-0.62%*	*0.01%*	*-0.58%*
AllianceBernstein	**4.07%**	**10.04%**	**10.24%**	**17.06%**	**22.34%**	**34.49%**	**4.14%**	**11.85%**	**10.40%**
Russell 2500 Index		*9.84%*	*10.44%*	*18.34%*	*21.12%*	*34.10%*	*6.24%*	*10.95%*	*9.85%*
Excess Return		*0.20%*	*-0.20%*	*-1.28%*	*1.22%*	*0.39%*	*-2.10%*	*0.90%*	*0.55%*
TSW	**2.30%**	**7.52%**	**6.14%**	**14.16%**	**15.09%**	**24.39%**	**8.46%**	**9.47%**	**7.55%**
TSW Blended Benchmark (2)		*8.82%*	*8.98%*	*17.80%*	*19.57%*	*32.11%*	*8.24%*	*10.72%*	*9.65%*
Excess Return		*-1.30%*	*-2.83%*	*-3.63%*	*-4.47%*	*-7.73%*	*0.22%*	*-1.25%*	*-2.10%*
Small Cap Domestic Equity	**8.66%**	**9.62%**	**10.22%**	**19.24%**	**24.11%**	**36.42%**	**8.15%**	**12.93%**	**11.57%**
Russell 2000 Index		*10.97%*	*10.13%*	*19.51%*	*21.58%*	*36.43%*	*4.96%*	*9.90%*	*9.05%*
Excess Return		*-1.35%*	*0.09%*	*-0.26%*	*2.53%*	*-0.02%*	*3.19%*	*3.04%*	*2.52%*
Boston Trust	**2.22%**	**10.79%**	**11.65%**	**20.26%**	**22.47%**	**33.00%**	**9.37%**	**12.37%**	**11.59%**
Russell 2000 Index		*10.97%*	*10.13%*	*19.51%*	*21.58%*	*36.43%*	*4.96%*	*9.90%*	*9.05%*
Excess Return		*-0.18%*	*1.52%*	*0.75%*	*0.89%*	*-3.43%*	*4.40%*	*2.47%*	*2.53%*
Segall Bryant & Hamill	**2.34%**	**9.41%**	**7.73%**	**14.98%**	**21.30%**	**32.26%**	**8.31%**	**13.17%**	**10.91%**
Russell 2000 Index		*10.97%*	*10.13%*	*19.51%*	*21.58%*	*36.43%*	*4.96%*	*9.90%*	*9.05%*
Excess Return		*-1.56%*	*-2.40%*	*-4.53%*	*-0.27%*	*-4.17%*	*3.34%*	*3.27%*	*1.86%*
Wellington	**4.10%**	**9.11%**	**10.92%**	**21.26%**	**26.71%**	**40.91%**	**7.42%**	**13.12%**	**11.97%**
Russell 2000 Index		*10.97%*	*10.13%*	*19.51%*	*21.58%*	*36.43%*	*4.96%*	*9.90%*	*9.05%*
Excess Return		*-1.86%*	*0.79%*	*1.75%*	*5.13%*	*4.47%*	*2.46%*	*3.22%*	*2.92%*

(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 November 30, 2024. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Composite	Total Fund Weighting As of 11/30/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
	Net of Fees Returns for Periods Ended November 30, 2024								
Total Non US Equity	**18.74%**	**0.83%**	**-1.70%**	**3.93%**	**9.93%**	**15.44%**	**4.21%**	**5.92%**	**5.43%**
Non US Equity Benchmark (1)		*-0.91%*	*-3.23%*	*1.83%*	*7.63%*	*13.03%*	*2.86%*	*5.40%*	*4.62%*
Excess Return		*1.74%*	*1.53%*	*2.10%*	*2.31%*	*2.41%*	*1.34%*	*0.52%*	*0.80%*
Core Non US Equity	**11.28%**	**0.02%**	**-3.21%**	**3.17%**	**8.67%**	**13.85%**	**5.64%**	**5.83%**	**4.90%**
Core Non US Benchmark (2)		*-0.91%*	*-3.23%*	*1.83%*	*7.63%*	*13.03%*	*2.86%*	*5.40%*	*4.62%*
Excess Return		*0.92%*	*0.02%*	*1.34%*	*1.04%*	*0.82%*	*2.78%*	*0.43%*	*0.28%*
Aristotle	**1.47%**	**1.14%**	**-1.76%**	**6.46%**	**9.37%**	**15.04%**	**2.73%**	**-**	**-**
MSCI EAFE		*-0.57%*	*-5.11%*	*0.85%*	*6.24%*	*11.88%*	*4.15%*	-	-
Excess Return		*1.71%*	*3.35%*	*5.60%*	*3.13%*	*3.15%*	*-1.42%*	-	-
Artisan Partners	**3.34%**	**1.32%**	**-0.65%**	**5.18%**	**14.22%**	**18.90%**	**4.31%**	**5.27%**	**5.04%**
MSCI EAFE		*-0.57%*	*-5.11%*	*0.85%*	*6.24%*	*11.88%*	*4.15%*	*5.89%*	*5.07%*
Excess Return		*1.89%*	*4.46%*	*4.32%*	*7.98%*	*7.02%*	*0.16%*	*-0.61%*	*-0.03%*
BlackRock SuperFund	**1.58%**	**-0.78%**	**-3.14%**	**1.82%**	**7.77%**	**13.07%**	**-**	**-**	**-**
MSCI ACWI Ex-US		*-0.91%*	*-3.23%*	*1.83%*	*7.63%*	*13.03%*	-	-	-
Excess Return		*0.12%*	*0.09%*	*-0.01%*	*0.15%*	*0.04%*	-	-	-
Causeway Capital	**3.57%**	**-1.47%**	**-5.12%**	**1.89%**	**6.26%**	**11.44%**	**10.66%**	**8.90%**	**5.76%**
MSCI EAFE		*-0.57%*	*-5.11%*	*0.85%*	*6.24%*	*11.88%*	*4.15%*	*5.89%*	*5.07%*
Excess Return		*-0.90%*	*-0.01%*	*1.03%*	*0.02%*	*-0.44%*	*6.52%*	*3.01%*	*0.70%*
Lazard	**1.32%**	**0.60%**	**-5.90%**	**-0.09%**	**2.68%**	**8.28%**	**1.81%**	**-**	**-**
MSCI EAFE		*-0.57%*	*-5.11%*	*0.85%*	*6.24%*	*11.88%*	*4.15%*	-	-
Excess Return		*1.17%*	*-0.80%*	*-0.94%*	*-3.56%*	*-3.61%*	*-2.33%*	-	-
Emerging Markets	**1.44%**	**-2.98%**	**-0.07%**	**2.69%**	**9.43%**	**13.24%**	**-1.74%**	**1.35%**	**2.09%**
MSCI EM		*-3.59%*	*-1.73%*	*0.15%*	*7.65%*	*11.86%*	*-1.27%*	*3.20%*	*3.16%*
Excess Return		*0.61%*	*1.65%*	*2.53%*	*1.77%*	*1.38%*	*-0.48%*	*-1.85%*	*-1.07%*
Wellington Emerging Markets	**1.44%**	**-2.98%**	**-0.07%**	**2.69%**	**9.43%**	**13.24%**	**-1.89%**	**1.37%**	**2.73%**
MSCI EM		*-3.59%*	*-1.73%*	*0.15%*	*7.65%*	*11.86%*	*-1.27%*	*3.20%*	*3.16%*
Excess Return		*0.61%*	*1.65%*	*2.53%*	*1.77%*	*1.38%*	*-0.62%*	*-1.83%*	*-0.44%*
Non US Small Cap	**1.10%**	**-0.25%**	**-3.73%**	**3.60%**	**4.51%**	**12.65%**	**-1.66%**	**0.30%**	**1.27%**
MSCI EAFE Small Cap		*0.07%*	*-3.81%*	*3.69%*	*4.21%*	*11.81%*	*-1.09%*	*3.66%*	*5.71%*
Excess Return		*-0.32%*	*0.08%*	*-0.08%*	*0.30%*	*0.84%*	*-0.57%*	*-3.36%*	*-4.44%*
Wellington Int'l Small Cap Research	**1.10%**	**-0.25%**	**-3.73%**	**3.60%**	**4.51%**	**12.65%**	**-**	**-**	**-**
MSCI EAFE Small Cap		*0.07%*	*-3.81%*	*3.69%*	*4.21%*	*11.81%*	-	-	-
Excess Return		*-0.32%*	*0.08%*	*-0.08%*	*0.30%*	*0.84%*	-	-	-
Global Equity	**4.91%**	**4.25%**	**1.98%**	**6.17%**	**14.47%**	**20.66%**	**6.25%**	**10.75%**	**11.09%**
MSCI ACWI net		*3.74%*	*3.77%*	*8.12%*	*20.34%*	*26.12%*	*7.68%*	*11.36%*	*9.28%*
Excess Return		*0.51%*	*-1.79%*	*-1.95%*	*-5.86%*	*-5.45%*	*-1.43%*	*-0.61%*	*1.81%*
Walter Scott Global Equity	**4.91%**	**4.25%**	**1.98%**	**6.17%**	**14.47%**	**20.66%**	**6.25%**	**10.75%**	**11.09%**
Walter Scott Blended Benchmark (3)		*3.74%*	*3.77%*	*8.12%*	*20.34%*	*26.12%*	*7.68%*	*11.36%*	*9.28%*
Excess Return		*0.51%*	*-1.79%*	*-1.95%*	*-5.86%*	*-5.45%*	*-1.43%*	*-0.61%*	*1.81%*

(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 November 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 November 30, 2024							
Composite	Total Fund Weighting As of 11/30/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Fixed Income	**18.89%**	**1.04%**	**0.08%**	**3.91%**	**3.32%**	**7.50%**	**-0.83%**	**1.44%**	**2.25%**
Fixed Income Benchmark (1)		*1.05%*	*0.11%*	*3.89%*	*3.60%*	*7.53%*	*-1.47%*	*0.39%*	*1.87%*
Excess Return		*-0.01%*	*-0.03%*	*0.02%*	*-0.29%*	*-0.04%*	*0.65%*	*1.05%*	*0.38%*
BlackRock SIO Bond Fund	**2.19%**	**1.04%**	**0.77%**	**3.69%**	**5.19%**	**8.33%**	**2.10%**	**3.03%**	**-**
BlackRock Custom Benchmark (2)		*0.38%*	*1.26%*	*2.21%*	*4.99%*	*5.44%*	*3.93%*	*2.56%*	-
Excess Return		*0.66%*	*-0.48%*	*1.48%*	*0.20%*	*2.89%*	*-1.84%*	*0.47%*	-
Brandywine Asset Mgmt	**1.78%**	**0.38%**	**-3.20%**	**2.99%**	**-4.53%**	**2.31%**	**-4.46%**	**-0.95%**	**0.32%**
Brandywine Custom Benchmark (3)		*0.36%*	*-1.74%*	*3.57%*	*-0.97%*	*3.39%*	*-5.43%*	*-2.65%*	*-0.43%*
Excess Return		*0.02%*	*-1.46%*	*-0.58%*	*-3.57%*	*-1.08%*	*0.97%*	*1.70%*	*0.75%*
FIAM (Fidelity) Tactical Bond	**3.04%**	**1.21%**	**0.31%**	**4.20%**	**4.03%**	**8.35%**	**-0.13%**	**2.08%**	**-**
Bloomberg Aggregate		*1.06%*	*-0.13%*	*3.67%*	*2.93%*	*6.88%*	*-1.95%*	*-0.01%*	-
Excess Return		*0.15%*	*0.43%*	*0.53%*	*1.10%*	*1.47%*	*1.83%*	*2.09%*	-
Income Research & Management	**6.33%**	**1.04%**	**0.16%**	**3.72%**	**3.46%**	**7.30%**	**-1.97%**	**0.54%**	**2.00%**
Bloomberg Gov/Credit		*0.97%*	*-0.06%*	*3.59%*	*2.89%*	*6.68%*	*-2.14%*	*0.08%*	*1.67%*
Excess Return		*0.07%*	*0.23%*	*0.13%*	*0.57%*	*0.63%*	*0.18%*	*0.46%*	*0.33%*
Loomis Sayles	**2.37%**	**1.32%**	**1.34%**	**5.14%**	**6.38%**	**10.59%**	**1.00%**	**3.48%**	**3.74%**
Loomis Sayles Custom Benchmark (4)		*1.09%*	*0.70%*	*4.46%*	*4.91%*	*8.89%*	*0.02%*	*1.69%*	*2.80%*
Excess Return		*0.23%*	*0.64%*	*0.69%*	*1.46%*	*1.70%*	*0.98%*	*1.79%*	*0.94%*
Manulife Strategic Fixed Income	**1.74%**	**1.05%**	**0.47%**	**3.91%**	**4.18%**	**7.65%**	**0.75%**	**1.92%**	**-**
Bloomberg Multiverse		*0.35%*	*-1.25%*	*3.84%*	*0.77%*	*4.95%*	*-3.55%*	*-1.21%*	-
Excess Return		*0.70%*	*1.71%*	*0.07%*	*3.40%*	*2.69%*	*4.30%*	*3.13%*	-
Mellon US Agg Bond Index	**1.43%**	**1.06%**	**-0.13%**	**3.68%**	**2.94%**	**6.89%**	**-**	**-**	**-**
Bloomberg Aggregate Bond Index		*1.06%*	*-0.13%*	*3.67%*	*2.93%*	*6.88%*	-	-	-
Excess Return		*0.00%*	*0.00%*	*0.00%*	*0.01%*	*0.02%*	-	-	-
Total Cash	**1.64%**	**0.39%**	**1.23%**	**2.12%**	**4.83%**	**5.32%**	**3.86%**	**2.47%**	**1.81%**
3-month Treasury Bill		*0.38%*	*1.20%*	*2.14%*	*4.83%*	*5.32%*	*3.76%*	*2.41%*	*1.73%*
Excess Return		*0.00%*	*0.03%*	*-0.02%*	*0.00%*	*0.00%*	*0.11%*	*0.06%*	*0.09%*
Total Marketable Assets	**74.19%**	**3.85%**	**3.27%**	**8.32%**	**14.78%**	**20.99%**	**5.14%**	**7.99%**	**7.17%**
Total Marketable Index (5)		*2.77%*	*2.36%*	*6.74%*	*13.95%*	*19.34%*	*4.59%*	*7.63%*	*7.21%*
Excess Return		*1.07%*	*0.91%*	*1.58%*	*0.83%*	*1.65%*	*0.55%*	*0.36%*	*-0.04%*

(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 November 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 November 30, 2024							
Composite	Total Fund Weighting As of 11/30/2024	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Real Estate (Q2)* (5)	**8.64%**	**-0.07%**	**-0.14%**	**-0.04%**	**-5.43%**	**-7.07%**	**3.71%**	**5.93%**	**8.33%**
Real Estate Benchmark (1)		*0.01%*	*-0.20%*	*-0.65%*	*-8.04%*	*-8.69%*	*-0.36%*	*2.12%*	*5.32%*
Excess Return		*-0.08%*	*0.07%*	*0.60%*	*2.61%*	*1.63%*	*4.07%*	*3.81%*	*3.01%*
Strategic Core Real Estate (Q2)*	**4.91%**	**0.00%**	**0.02%**	**0.02%**	**-8.26%**	**-9.67%**	**2.19%**	**3.77%**	**7.05%**
Real Estate Benchmark (1)		*0.01%*	*-0.20%*	*-0.65%*	*-8.04%*	*-8.69%*	*-0.36%*	*2.12%*	*5.32%*
Excess Return		*-0.01%*	*0.22%*	*0.66%*	*-0.22%*	*-0.98%*	*2.55%*	*1.65%*	*1.73%*
Tactical Non-Core Real Estate (Q2)*	**3.73%**	**-0.16%**	**-0.34%**	**-0.12%**	**-0.96%**	**-2.98%**	**6.23%**	**9.71%**	**10.58%**
Real Estate Benchmark (1)		*0.01%*	*-0.20%*	*-0.65%*	*-8.04%*	*-8.69%*	*-0.36%*	*2.12%*	*5.32%*
Excess Return		*-0.17%*	*-0.13%*	*0.53%*	*7.08%*	*5.71%*	*6.59%*	*7.59%*	*5.26%*
Total Alternative Assets (Q2)*	**17.16%**	**-0.02%**	**-0.13%**	**-0.01%**	**3.72%**	**5.21%**	**5.88%**	**10.72%**	**8.99%**
Alternative Assets Benchmark (2)		*1.92%*	*6.24%*	*7.00%*	*26.75%*	*22.92%*	*9.75%*	*14.07%*	*11.39%*
Excess Return		*-1.94%*	*-6.37%*	*-7.01%*	*-23.02%*	*-17.71%*	*-3.87%*	*-3.34%*	*-2.40%*
Total Private Equity (Q2)*	**12.81%**	**-0.01%**	**-0.02%**	**0.02%**	**3.69%**	**5.08%**	**5.73%**	**13.04%**	**11.76%**
Private Equity Benchmark (3)		*2.31%*	*7.70%*	*8.23%*	*34.42%*	*28.39%*	*11.30%*	*18.52%*	*16.06%*
Excess Return		*-2.31%*	*-7.73%*	*-8.22%*	*-30.73%*	*-23.31%*	*-5.58%*	*-5.48%*	*-4.30%*
Total Private Debt (Q2)*	**4.35%**	**-0.07%**	**-0.46%**	**-0.07%**	**3.83%**	**5.58%**	**6.35%**	**5.54%**	**5.84%**
Private Debt Benchmark (4)		*1.15%*	*3.35%*	*4.46%*	*12.28%*	*12.17%*	*6.09%*	*5.32%*	*4.99%*
Excess Return		*-1.22%*	*-3.81%*	*-4.53%*	*-8.45%*	*-6.58%*	*0.26%*	*0.22%*	*0.85%*

(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 November 30, 2024, with the distribution as of October 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

	November 30, 2024				October 31, 2024	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Domestic Equity	**$4,493,328,885**	**34.93%**	**$0**	**$308,876,407**	**$4,184,452,478**	**33.32%**
Large Cap Domestic Equity	**$2,560,849,362**	**19.91%**	**$0**	**$141,946,508**	**$2,418,902,854**	**19.26%**
Blackrock S&P 500	2,560,849,362	19.91%	0	141,946,508	2,418,902,854	19.26%
SMid Cap Domestic Equity	**$818,788,014**	**6.36%**	**$0**	**$68,736,974**	**$750,051,040**	**5.97%**
AllianceBernstein	523,208,756	4.07%	0	47,937,102	475,271,654	3.78%
TSW	295,579,257	2.30%	0	20,799,872	274,779,386	2.19%
Small Cap Domestic Equity	**$1,113,691,509**	**8.66%**	**$0**	**$98,192,926**	**$1,015,498,583**	**8.09%**
Boston Trust	285,363,856	2.22%	0	27,873,350	257,490,506	2.05%
Segall Bryant & Hamill	300,800,398	2.34%	0	26,020,872	274,779,526	2.19%
Wellington	527,527,255	4.10%	0	44,298,704	483,228,551	3.85%
Total Non US Equity	**$2,410,665,894**	**18.74%**	**$(671)**	**$20,929,846**	**$2,389,736,719**	**19.03%**
Core Non US Equity (1)	**$1,451,274,055**	**11.28%**	**$(671)**	**$812,078**	**$1,450,462,647**	**11.55%**
Aristotle	189,605,937	1.47%	0	2,199,047	187,406,891	1.49%
Artisan Partners	429,251,028	3.34%	(671)	5,795,895	423,455,805	3.37%
BlackRock Superfund	203,104,358	1.58%	0	(1,594,620)	204,698,978	1.63%
Causeway Capital	459,262,969	3.57%	0	(6,657,892)	465,920,861	3.71%
Lazard	169,551,715	1.32%	0	1,083,534	168,468,181	1.34%
Emerging Markets	**$185,423,988**	**1.44%**	**$0**	**$(5,548,378)**	**$190,972,366**	**1.52%**
Wellington Emerging Markets	185,423,988	1.44%	0	(5,548,378)	190,972,366	1.52%
Non US Small Cap	**$141,971,710**	**1.10%**	**$0**	**$(277,718)**	**$142,249,428**	**1.13%**
Wellington Int'l Small Cap Research	141,971,710	1.10%	0	(277,718)	142,249,428	1.13%
Global Equity	**$631,996,142**	**4.91%**	**$0**	**$25,943,864**	**$606,052,278**	**4.83%**
Walter Scott Global Equity	631,996,142	4.91%	0	25,943,864	606,052,278	4.83%
Total Fixed Income	**$2,430,223,600**	**18.89%**	**$0**	**$25,567,936**	**$2,404,655,664**	**19.15%**
BlackRock SIO Bond Fund	281,340,599	2.19%	0	3,006,475	278,334,124	2.22%
Brandywine Asset Mgmt	228,920,609	1.78%	0	928,206	227,992,403	1.82%
FIAM (Fidelity) Tactical Bond	391,697,002	3.04%	0	4,761,512	386,935,490	3.08%
Income Research & Management	814,425,403	6.33%	0	8,491,290	805,934,113	6.42%
Loomis Sayles	304,964,586	2.37%	0	4,056,278	300,908,308	2.40%
Manulife Strategic Fixed Income	224,450,536	1.74%	0	2,384,148	222,066,388	1.77%
Mellon US Agg Bond Index	184,424,864	1.43%	0	1,940,026	182,484,838	1.45%
Total Cash	**$210,571,781**	**1.64%**	**$(3,656,042)**	**$861,063**	**$213,366,759**	**1.70%**
Total Marketable Assets	**$9,544,790,159**	**74.19%**	**$(3,656,713)**	**$356,235,252**	**$9,192,211,620**	**73.19%**
Total Real Estate	**$1,111,986,028**	**8.64%**	**$(13,605,744)**	**$(786,098)**	**$1,126,377,869**	**8.97%**
Strategic Core Real Estate	632,241,795	4.91%	(4,609,181)	(0)	636,850,976	5.07%
Tactical Non-Core Real Estate	479,744,232	3.73%	(8,996,562)	(786,098)	489,526,892	3.90%
Total Alternative Assets	**$2,207,939,068**	**17.16%**	**$(32,249,426)**	**$(492,406)**	**$2,240,680,900**	**17.84%**
Private Equity	1,648,251,641	12.81%	(28,213,643)	(94,811)	1,676,560,094	13.35%
Private Debt	559,687,427	4.35%	(4,035,783)	(397,595)	564,120,805	4.49%
Total Fund Composite	**$12,864,715,255**	**100.0%**	**$(49,511,882)**	**$354,956,748**	**$12,559,270,389**	**100.0%**

-Alternatives market values reflect current custodian valuations, which may not be up to date.
(1) Includes $498,046 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-Nov-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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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.

The content of this document may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact. The opinions expressed herein may change based upon changes in economic, market, financial and political conditions and other factors. Callan has no obligation to bring current the opinions expressed herein.

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.

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.

Callan

January 14, 2025

New Hampshire Retirement System (NHRS)

Annual Alternatives Portfolio Review

Pete Keliuotis
Alternatives Consulting

David Smith
Alternatives Consulting

Francis Griffin
Alternatives Consulting

Callan

2025 Pacing Plan

Callan's NHRS Pacing Model Assumptions

Total Plan Assumptions

- Callan's pacing model projects the growth of the total plan over the next 10 years, to determine the growth of the private equity and credit allocations.
- It incorporates actuarial cash flows and the projected total plan investment return.
- The total plan has an estimate annual net growth rate of 4.0%-5.5%.
- The model begins with the 3Q24 total plan value of $12.7 billion.

Private Equity and Credit Assumptions

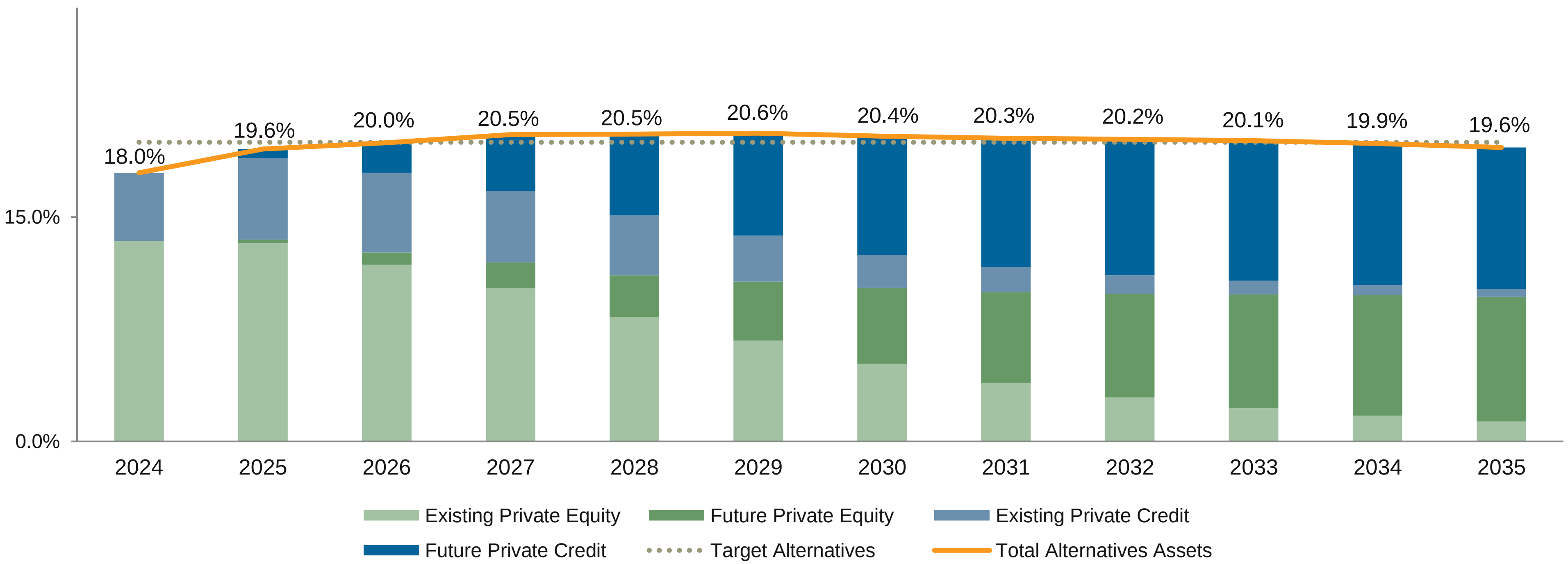
- Historical cash flows from the LSEG/Cambridge private market database are used to project future cash flows of the program.
  - Each vintage year, both historical and future, is modeled individually.
  - Cash flow projections use average contribution and distribution rates from 2000-2023, therefore incorporating both up and down markets.
  - The model also incorporates Callan's private equity Capital Markets Assumptions, to determine the growth of the portfolio's unrealized value.
- The model begins with NHRS's private equity and credit values as of 2Q24, adjusted for 3Q cash flows.

Callan has been leveraging a proprietary private markets pacing model for 30+ years. Callan's model was revamped in 2018 to improve precision by leveraging historical data to inform future cash flows.

NHRS Alternatives Commitment Pacing Summary

Alternate Asset Allocation

- The exhibit below reflects the projected development of the Alternatives portfolio relative to a 20% allocation target over the next 10 years.
- The current overweight to Alternatives is driven by the Private Equity exposure, which is about 350 basis points above target. Private Credit exposure is in line with the historical target allocation of 5%. With the new increased private credit target of 10%, more future commitments will be directed to private credit. Over time the percentage of private credit in the Total Alternatives allocation would increase, while continuing to maintain a 20% allocation to total Alternatives.
- **Callan recommends making roughly $600 million in commitments to Alternatives in 2025, with approximately $200 million to private equity and $400 million to private credit.**

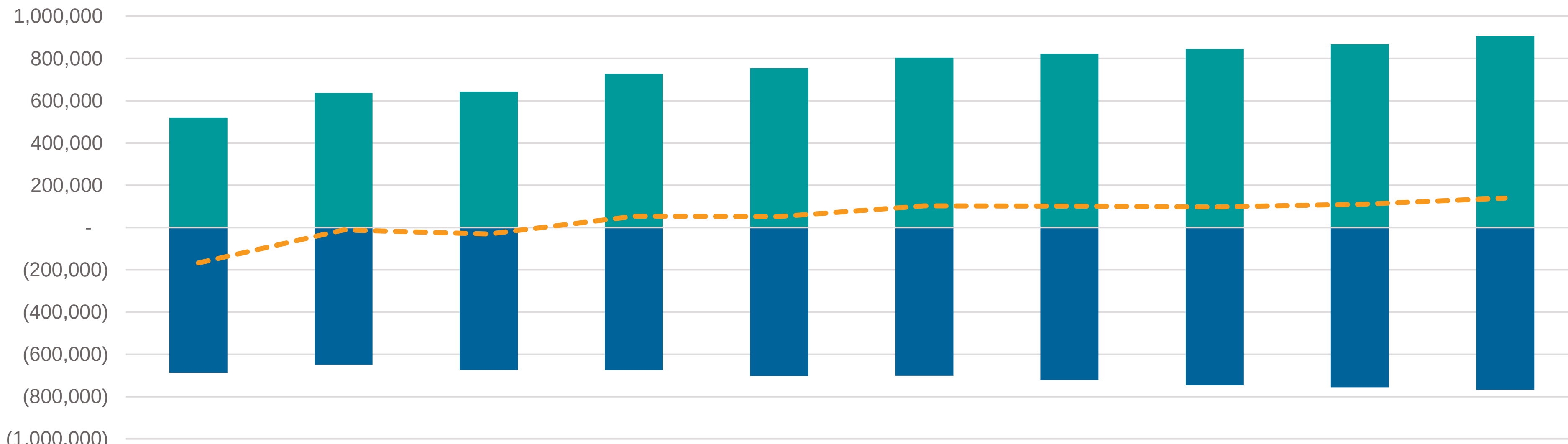


NHRS Alternatives Commitment Pacing Summary

Alternate Asset Allocation

- The exhibit below reflects the projected contributions and distributions of the alternatives portfolio over the next 10 years.
- The pacing model projects the program may require funding over the next few years as the allocation to private credit ramps up, although is expected remain net cash positive in subsequent years, with an expected annual net cash flow ranging from $50 – 200 million.

Projected Annual Cash Flows ($ thousands)

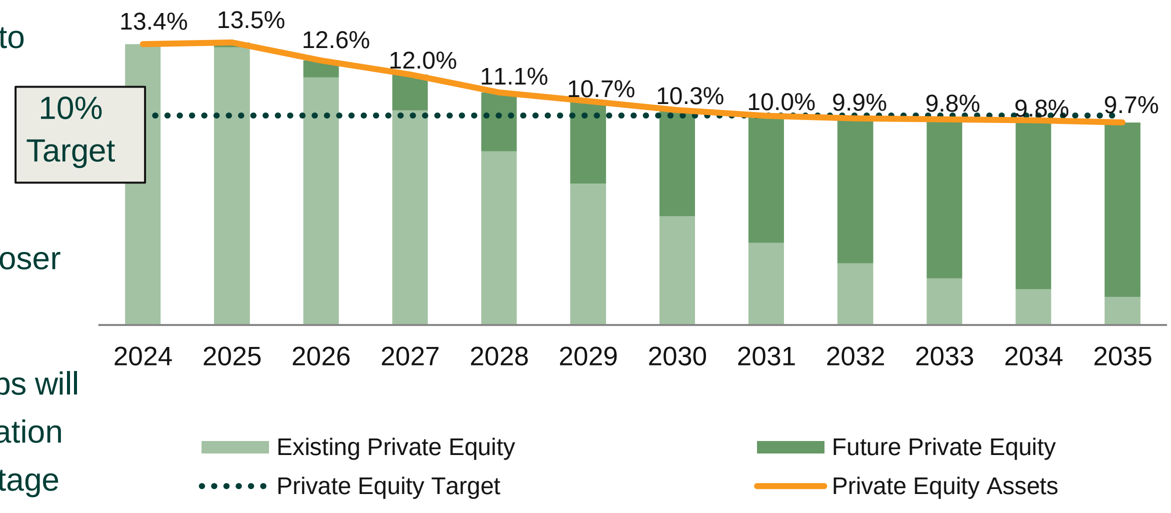


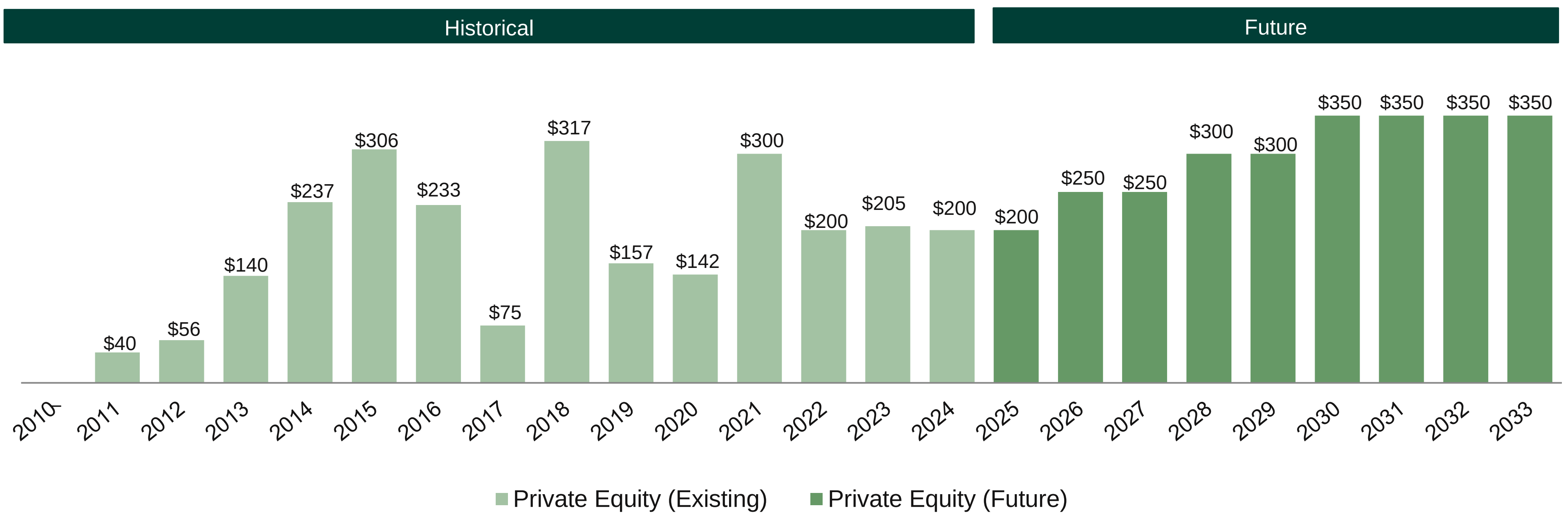
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Distributions	518,662	636,968	642,734	728,687	754,194	803,546	823,010	844,472	866,913	906,093
Contributions	(686,413)	(648,054)	(673,179)	(675,102)	(702,622)	(701,438)	(721,803)	(747,612)	(756,664)	(766,849)
Net cashflows	(167,751)	(11,086)	(30,445)	53,586	51,572	102,108	101,208	96,860	110,249	139,244

NHRS Private Equity Commitment Pacing

Gradually Move Towards Target Allocation

- The existing private equity portfolio NAV is expected to decline steadily, reaching target range by 2030.
- In order to balance the decline, Callan recommends continuing to commit $200 million next year. annual commitments will increase once the allocation is in closer range to the 10%.
- Annual private equity commitments to 2-4 partnerships will provide the ability to maintain the private equity allocation over the long term, with prudent diversification by vintage and partnership.



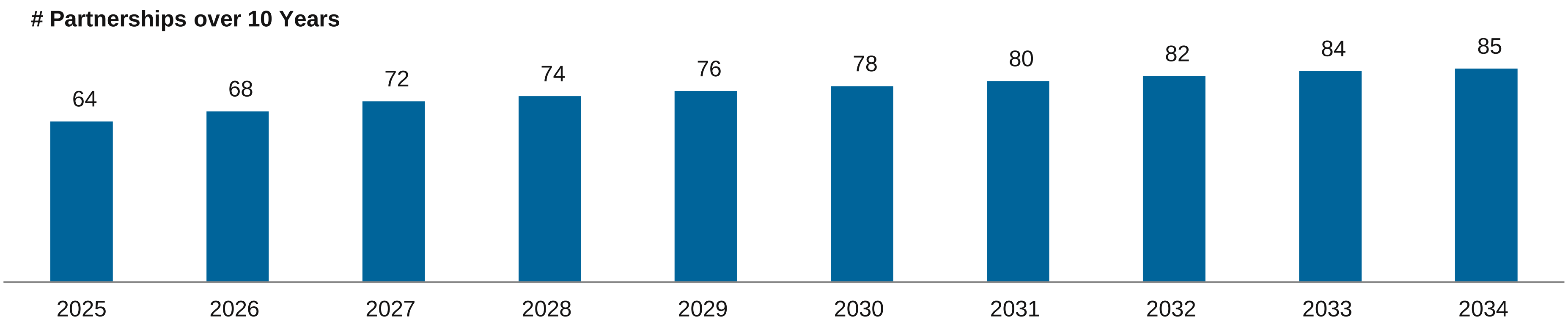


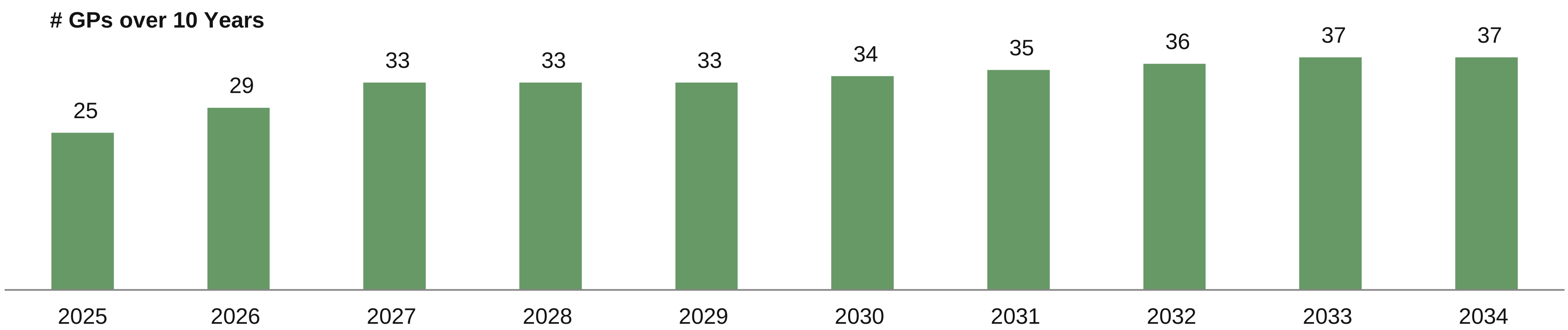
NHRS Private Equity Commitment Pacing

Private Equity Partnership and General Partner Count over Ten Years

Private Equity Partnerships and General Partners

- Assumes an average of 3 commitments per year at an $80 million average commitment amount.
- Assumes a 75% re-investment rate with existing GPs over a ten-year period.
- Number of partnerships grow to 85 over the ten-year period and number of General Partners increase to 37.
- By the end of the period the # of partnerships and GPs will reduce as legacy commitments roll off.

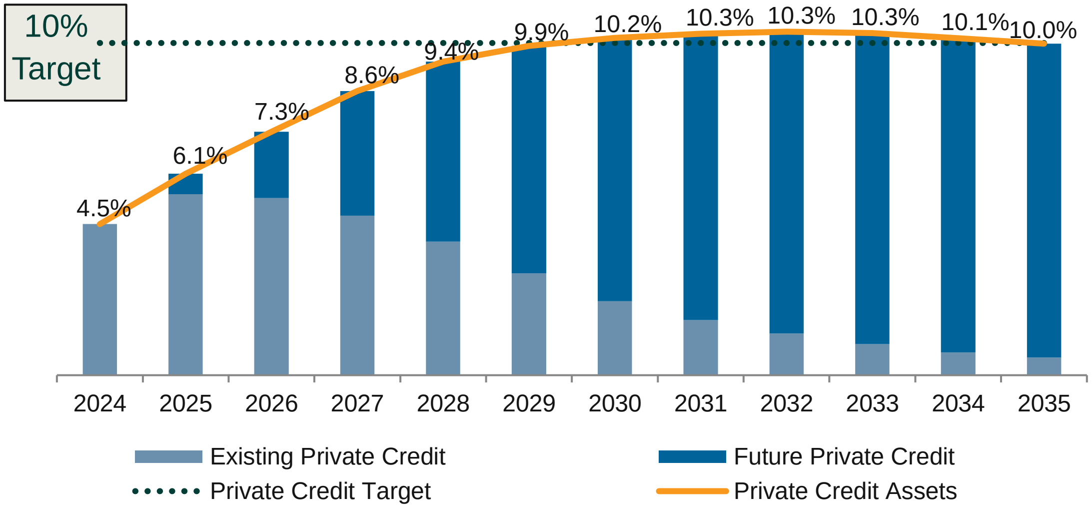


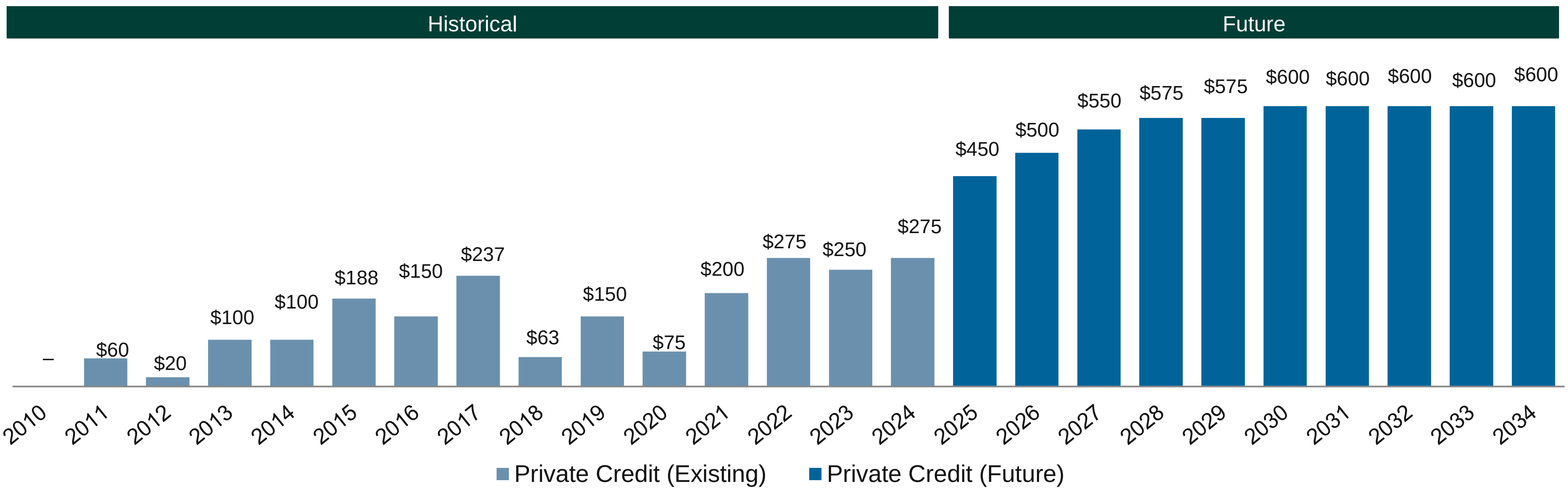


NHRS Private Credit Commitment Pacing

Increase Pacing to Reach New Target Allocation

- Commitments to private credit are expected to increase to achieve a target allocation of 10%.
- Callan recommends targeting $450-600 million in commitments from 2025 through 2034 to private credit to achieve the 10% target. With increased commitments the allocation is expected ramp up over the next five years and stabilize at the target allocation in 2028.





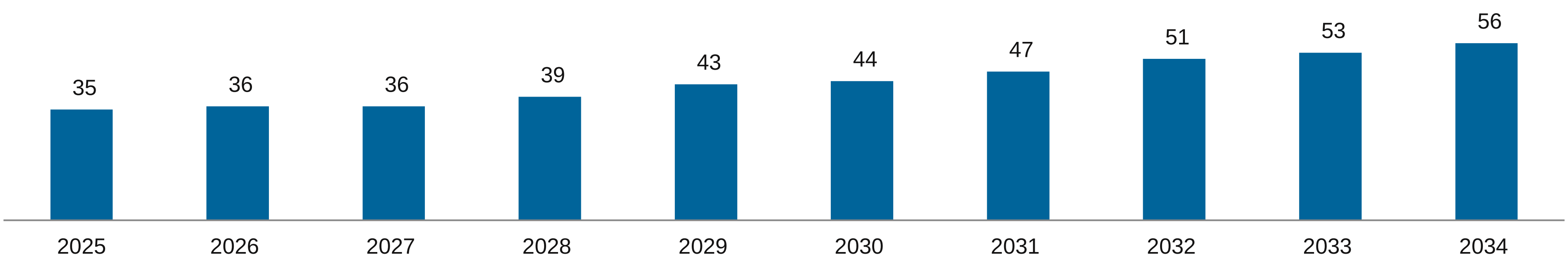
NHRS Commitment Pacing

Private Credit Partnership and General Partner Count over Ten Years into the Future

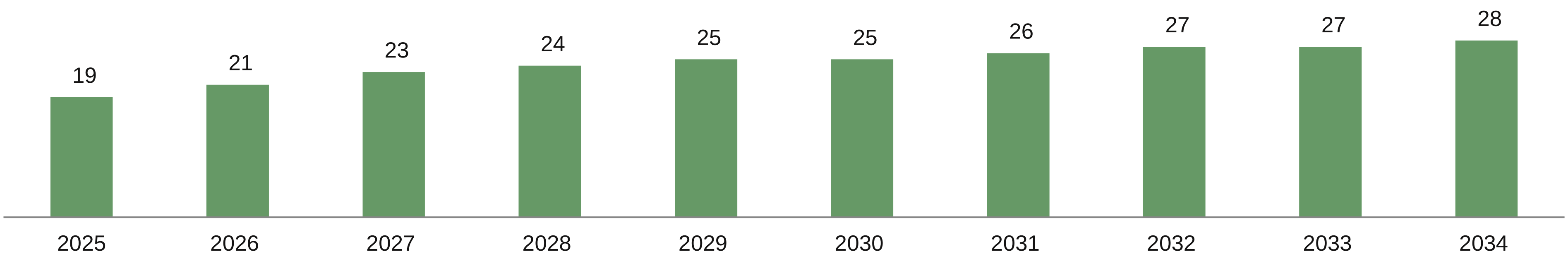
Private Credit Partnerships and General Partners

- Targeting a 10% allocation to Private Credit
- Assumes four to five commitments per year at $125 million per commitment.
- Assumes a 75% re-investment rate with existing GPs.
- Number of partnerships grow to 56 over the ten-year period and number of GPs is expected to increase to 28.

 # Partnerships over 10 Years



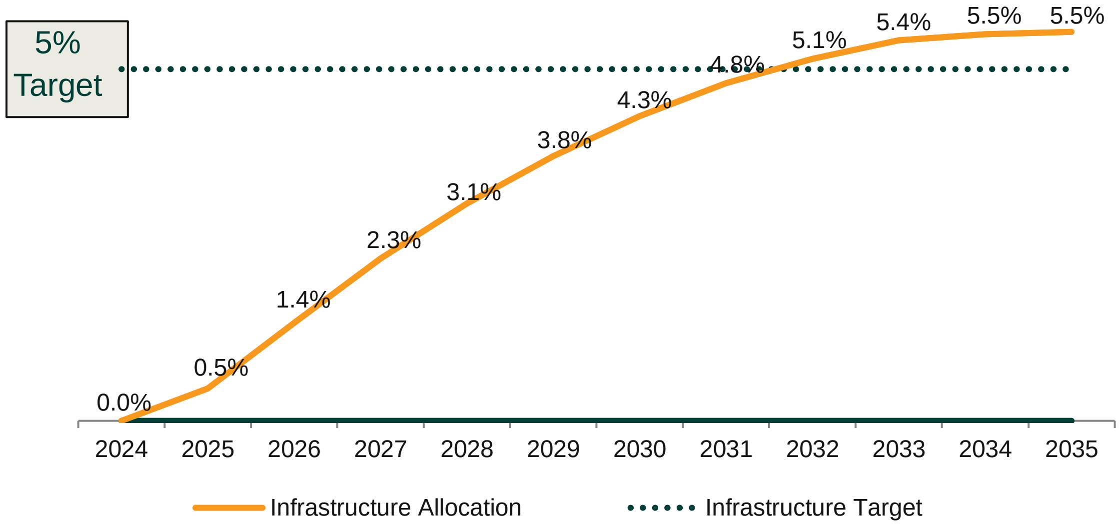
 # GPs over 10 Years

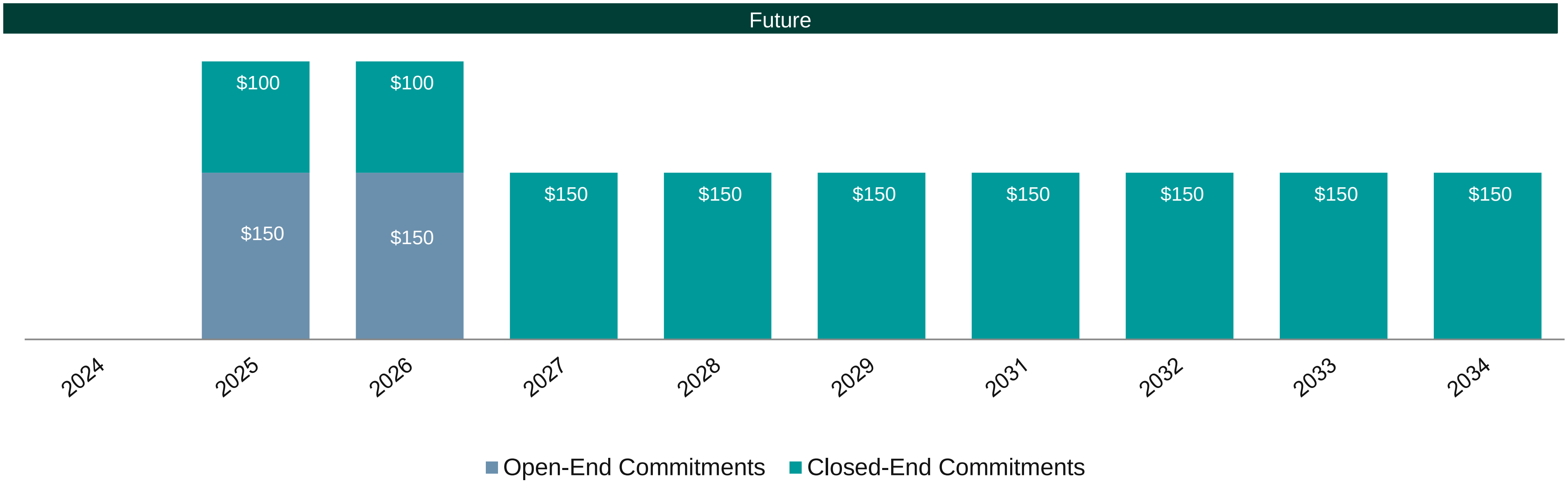


NHRS Infrastructure Commitment Pacing

Pacing to Reach New Target Allocation

- The infrastructure allocation is expected to reach a target allocation of 5% by 2031.
- Callan recommends targeting $150-250 million in commitments from 2025 through 2034 to achieve the 5% target.
- The pacing assumes $150 million in commitments to open-end funds over the first two years. Using this approach, the portfolio will have 15% exposure to open-end funds and 85% exposure to closed-end funds after 10 years.





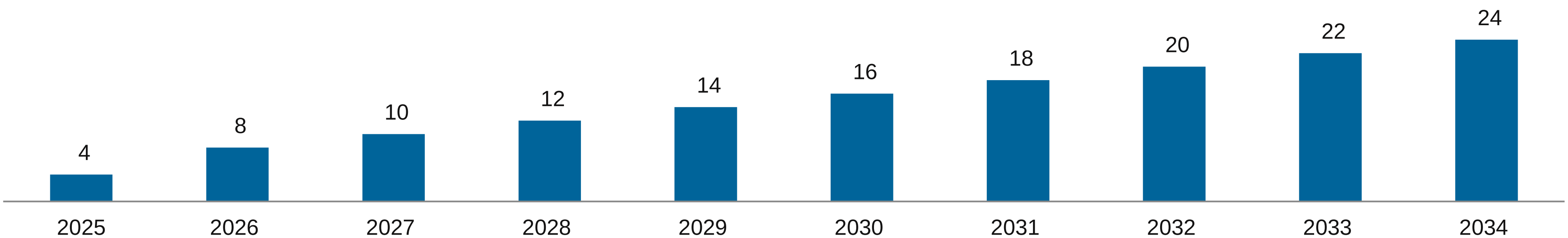
NHRS Commitment Pacing

Infrastructure Partnership and General Partner Count over Ten Years into the Future

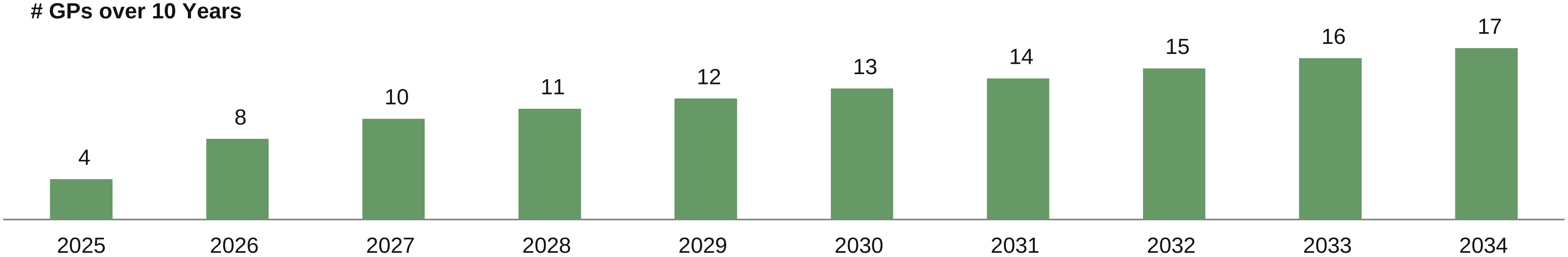
Infrastructure Partnerships and General Partners

- Targeting a 5% allocation to Infrastructure
- Assumes two to four commitments per year at $75 million per commitment.
- Assumes a 75% re-investment rate with existing GPs.
- Number of partnerships grow to 24 over the ten-year period and number of GPs is expected to increase to 17.

 # Partnerships over 10 Years



 # GPs over 10 Years



NHRS
New Hampshire Retirement System

To: Investment Committee

From: Raynald Leveque, Chief Investment Officer

Shana Biletch, 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.

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.

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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.

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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*

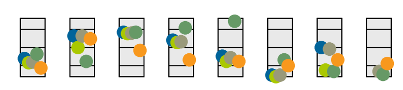
People (cont.)	*strategy is that we see no evidence that associate portfolio managers have driven many of the opportunistic portfolio repositionings that distinguish this strategy from its other growth peers. For us to become comfortable with the eventual transition, we are monitoring to see evidence that the associate portfolio managers can incorporate this into their skills.*
Philosophy and Process	*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.* *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.* *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.* *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.* *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%.*

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.*

● **Short Term Performance**	*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.* *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.* *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.* *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.*
● **Long Term Performance**	*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.* *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.*
● **Overall Status**	*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.*

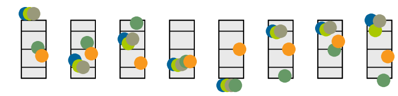
● **Within expectations** ● **Notable** ● **Cautionary** ● **Under Review**

Returns



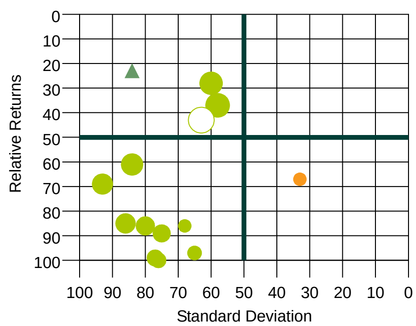
	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 4 Years	Last 5 Years	Last 7 Years	Last 10 Years
Artisan (NH)	6.13	26.75	25.19	4.13	7.11	7.09	6.95	--
*Artisan (NH - net)	5.96	25.97	24.41	3.48	6.44	6.41	6.27	--
Artisan:Intl Growth Composite	5.99	26.72	24.70	3.81	6.89	7.02	6.91	6.18
MSCI:EAFE	7.26	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

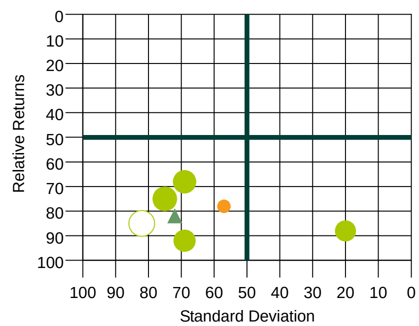


	3 Qtrs. 2024	2023	2022	2021	2020	2019	2018	2017
Artisan (NH)	15.62	16.60	(18.46)	10.25	7.81	30.77	(10.19)	32.66
*Artisan (NH - net)	15.08	15.87	(18.97)	9.57	7.14	29.93	(10.77)	31.80
Artisan:Intl Growth Composite	15.36	15.51	(18.44)	10.07	8.61	30.73	(9.80)	32.55
MSCI:EAFE	12.99	18.24	(14.45)	11.26	7.82	22.01	(13.79)	25.03
MSCI:EAFE Growth	12.26	17.58	(22.95)	11.25	18.29	27.90	(12.83)	28.86

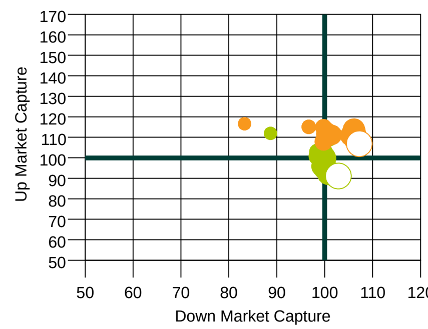
Relative Return vs. Risk vs. Group Rolling 3 Year



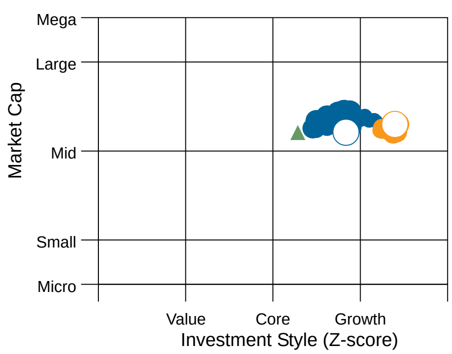
Relative Return vs. Risk vs. Group Rolling 5 Year



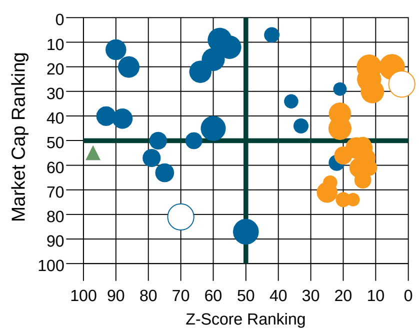
Upside/Downside Capture vs. Index Rolling 5 Year



Holdings Based Style Map Rolling 1 Year



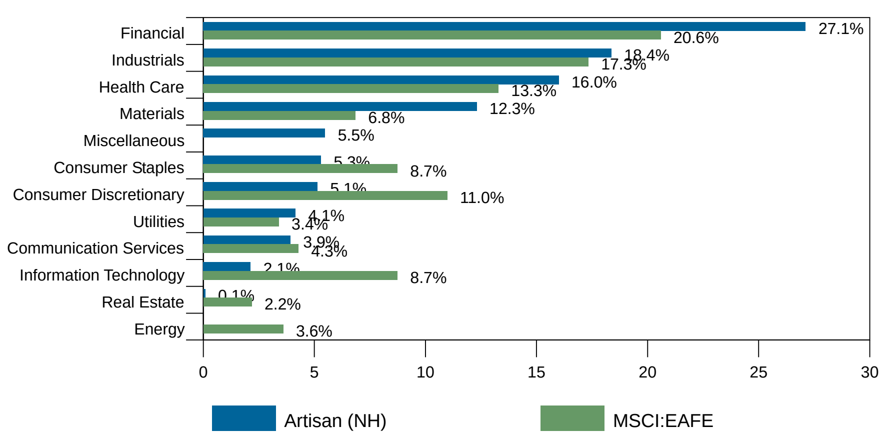
Style Map Ranking vs. Group* Rolling 1 Year



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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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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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.

NHRS Asset Allocation Update

NHRS Investment Team

Independent Investment Committee Meeting

January 14, 2025

Summary

- On November 30, 2024, the preliminary Total Fund value was approximately $12.9 billion.

- Current asset allocation targets were approved by the Board of Trustees on December 12, 2023 (targets) and December 10, 2024 (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. A rebalance of the portfolio was completed on December 5, 2024 bringing fixed income within target and reducing global equity.

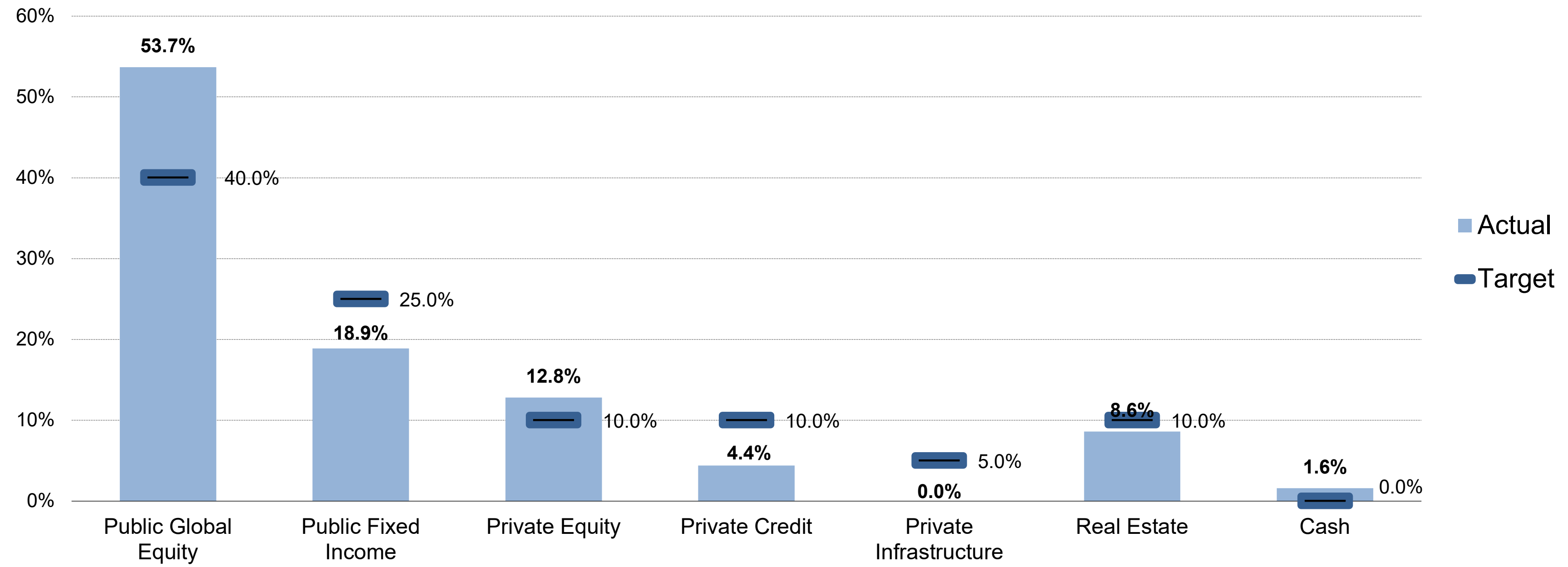
- Current status of Targets vs. Actual is illustrated on page 2.

- All asset classes are within approved allocation ranges (page 3) as of November 30, 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 November 30, 2024 (page 4).

Current Status

Class Targets vs. Actual Allocation as of November 30, 2024 (Preliminary)



Figures in bold represent actual allocation amount.

Source: NHRS

Asset Class Allocations Relative to Policy Targets and Ranges

As of November 30, 2024 (preliminary)

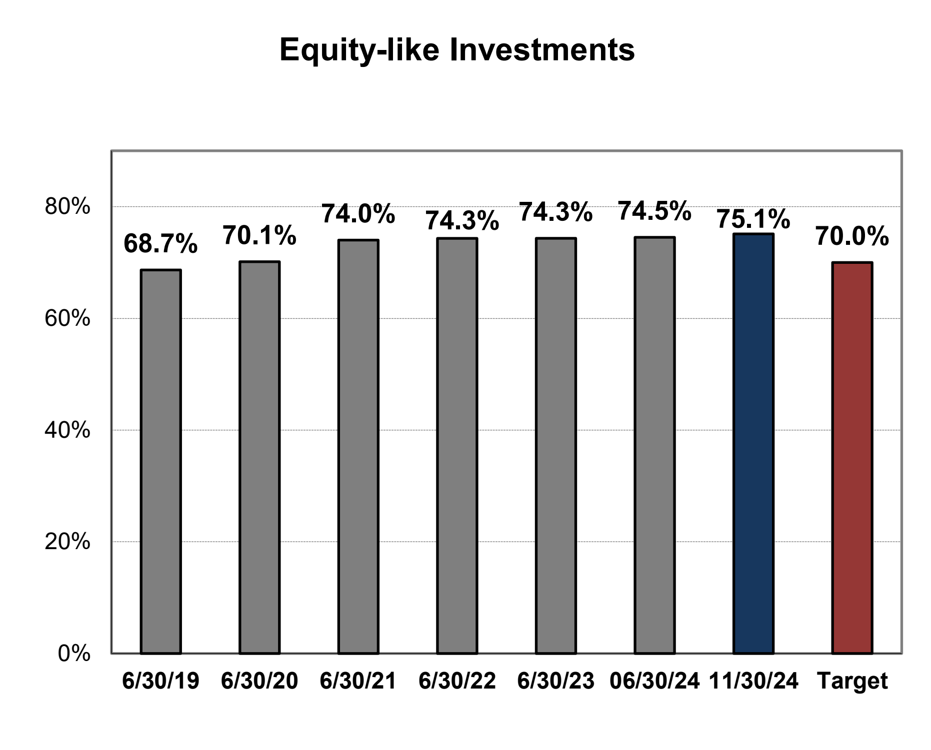
Asset Class	Allocation Range[1]	Target	Actual	Variance	Objective	Comments
Public Markets						
Global Equity	30 - 50%	40.0%	53.7%	13.7%	**Action**	Actual allocation to be reduced over subsequent periods to fund new infrastructure allocation and increase to private credit.
Fixed Income	18 - 32%	25.0%	18.9%	-6.1%	**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. Funds for rebalance were taken from Global Equity.
Private Markets						
Equity[1]	5 - 15%	10.0%	12.8%	2.8%	**Monitor**	No immediate action needed.
Credit[1]	0 - 15%	10.0%	4.4%	-5.6%	**Action**	To be scaled up incrementally over subsequent periods as part of SAA implementation.
Infrastructure	0 - 15%	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%	8.6%	-1.4%	**Monitor**	No immediate action needed.
Cash Equivalents	0 - 5%	0.0%	1.6%	1.6%	**No Action**	Minimal cash balance to provide liquidity, as needed, for annuities, capital calls and other plan needs.
		100.0%	100.0%	0.0%		

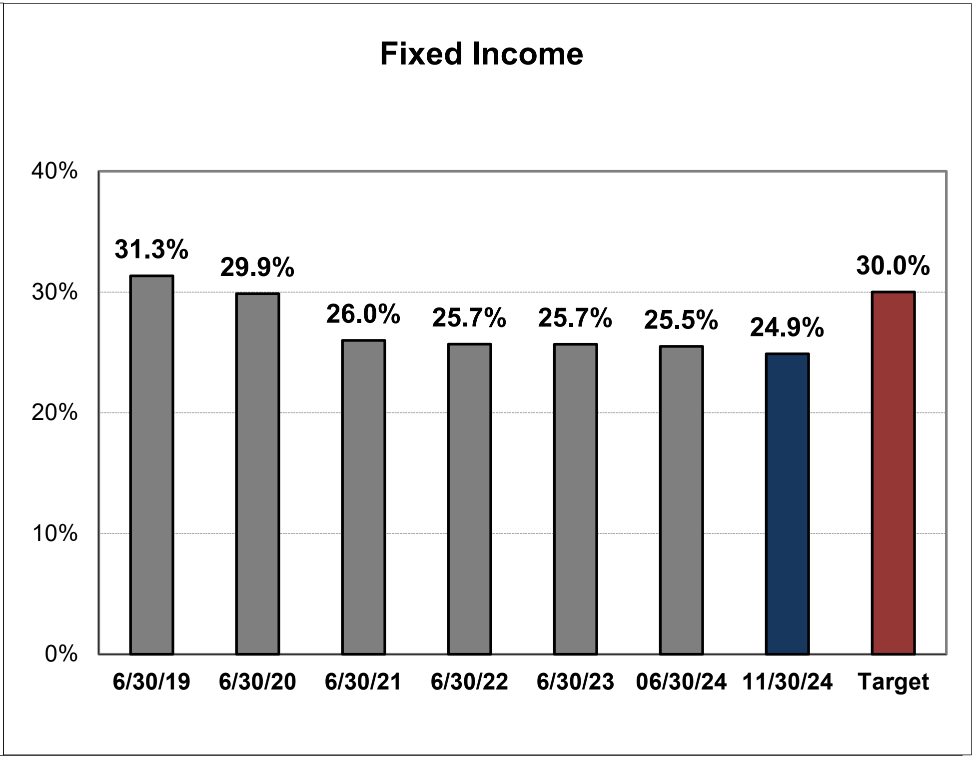
[1]*As reported on the November 30, 2024 Callan Monthly Review.*

Source: NHRS

Total Fund Allocation from 6/30/18 through 11/30/24 (Preliminary)

- The Total Fund allocation is above and below the target of 70% Equity-like and 30% Fixed Income investments, respectively.





Source: NHRS

NHRS
New Hampshire Retirement System

To: Investment Committee and Board of Trustees

From: Raynald Leveque, Chief Investment Officer

Date: January 14, 2025

Re: **2024 Proxy Voting Summary**

Item: Action: ☐ Discussion: ☐ Informational: ☒

Shareholder responsibility is fundamental to good corporate governance, which requires an appropriate balance between the rights of shareholders and the need for management and the board to direct a corporation's affairs with a long-term perspective. The System's shareholder voting rights must be managed with the same care as any of its other assets. Therefore, the Board has adopted a formal Proxy Voting Policy reflecting three objectives: to protect the System's rights; to promote responsible corporate policies and activities; and, to enhance long-term value.

The Proxy Voting Policy under which voting was conducted during calendar year 2024 was adopted by the Board on April 9, 2024. The Policy will be reviewed with Institutional Shareholder Services ("ISS"), the System's proxy voting agent, in early 2024 to ensure that it reflects current industry practices and any changes necessary due to new legislation. Should changes to the Policy be recommended by ISS, a revised Policy will be presented to the Investment Committee for recommendation to the Board.

For the 2024 calendar year, a total of 15,081 proposals were voted, representing 1,246 meetings for the companies owned in the System's investment portfolio. Among other things, the proxies focused on the election of board directors, auditor ratification and executive compensation. System policies generally support management if the position is reasonable, is not detrimental to the long-term economic prospects of the company, and does not tend to diminish the rights of shareholders.

All votes cast during 2024 were compliant with the System's Proxy Voting Policy, barring one not applicable vote which had no impact on the outcome.

A summary of 2024 proxy voting is provided below.

Summary of 2024 Proxy Voting:

	For	Against	Abstain/Withhold	Total
Management Proposals	12,577	1,249	542	14,368
Shareholder Proposals	158	83	388	629
Total	12,735 (85%)	1,332 (9%)	930 (6%)	**14,997***

* Does not include 84 "Say on Pay Frequency" votes, as these are not voted on a *For* or *Against* basis, but are voted for either *One, Two,* or *Three Year* terms.

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

NHRS
New Hampshire Retirement System

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Investment Manual

NHRS Investment Philosophy

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NHRS
New Hampshire Retirement System

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, CFA, CPA; 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

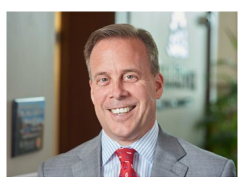
Jan Goodwin, Executive Director
Raynald Leveque, Chief Investment Officer

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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Callan

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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

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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

Callan

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.

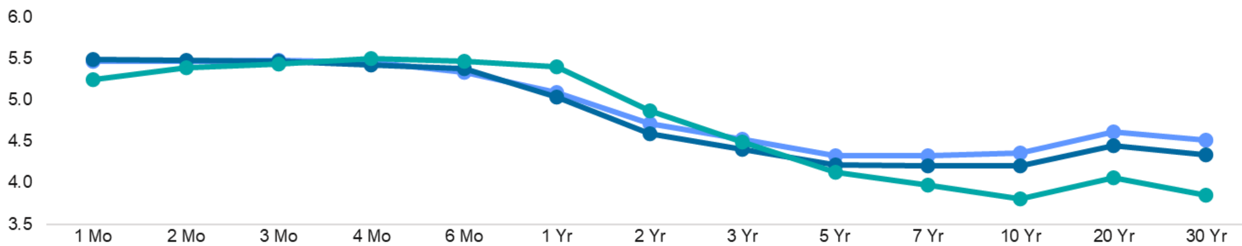
Non-U.S. Equities

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 asses 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



	1 Mo	2 Mo	3 Mo	4 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
6/28/2024	5.47	5.47	5.48	5.45	5.33	5.09	4.71	4.52	4.33	4.33	4.36	4.61	4.51
3/28/2024	5.49	5.48	5.46	5.42	5.38	5.03	4.59	4.40	4.21	4.20	4.20	4.45	4.34
6/30/2023	5.24	5.39	5.43	5.50	5.47	5.40	4.87	4.49	4.13	3.97	3.81	4.06	3.85

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%**
Total Fund Custom Index	*11.92%*
Total Domestic Equity	**18.95%**
US Equity Index	*23.13%*
Total Non-US Equity	**11.31%**
Non-US Equity Index	*11.62%*
Total Fixed Income	**3.50%**
Fixed Income Benchmark	*3.47%*
Total Real Estate	**-7.20%**
Real Estate Benchmark	*-9.99%*
Total Alternatives	**5.20%**
Alternative Assets Benchmark	*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 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.

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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%

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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.

INVESTMENT REPORTS

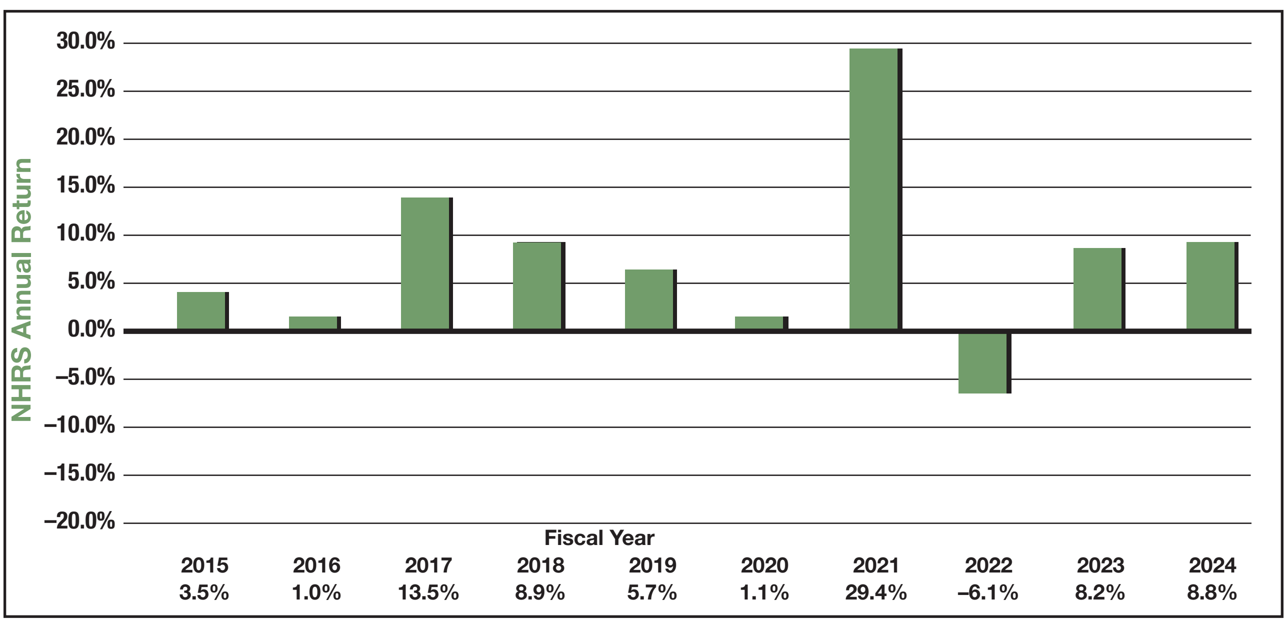
ANNUALIZED INVESTMENT RETURNS—ACTUAL VERSUS INDICES

	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	0.5	5.6	3.8
Fixed Income	3.5	(2.3)	1.0	1.9
Total Fixed Income Blended Benchmark*	3.5	(2.7)	0.1	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.

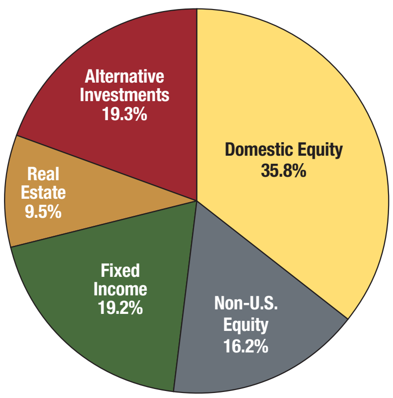
Ten-Year History of Time-Weighted Total NHRS Fund Annual Returns



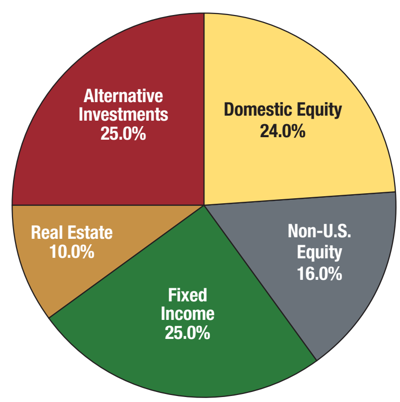
ACTUAL ASSET ALLOCATION VERSUS TARGET ASSET ALLOCATION

	As of June 30, 2024		
	Actual %	Target %	Target Range %
Broad US Equity	35.8%	24.0%	20–40
Global Ex-U.S. Equity	16.2	16.0	15–25
Fixed Income	19.2	25.0	20–30
Real Estate	9.5	10.0	5–20
Alternative Investments	19.3	25.0	5–25
TOTAL FUND	**100.0%**	**100.0%**	

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	648,214	ALPHABET INC	118,521
5	575,006	AMAZON.COM INC	111,120
6	109,958	META PLATFORMS INC	55,443
7	371,965	NOVO NORDISK A/S	53,756
8	90,837	BERKSHIRE HATHAWAY INC	36,952
9	40,058	ELI LILLY & CO	36,268
10	80,294	MASTERCARD INC	35,423

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

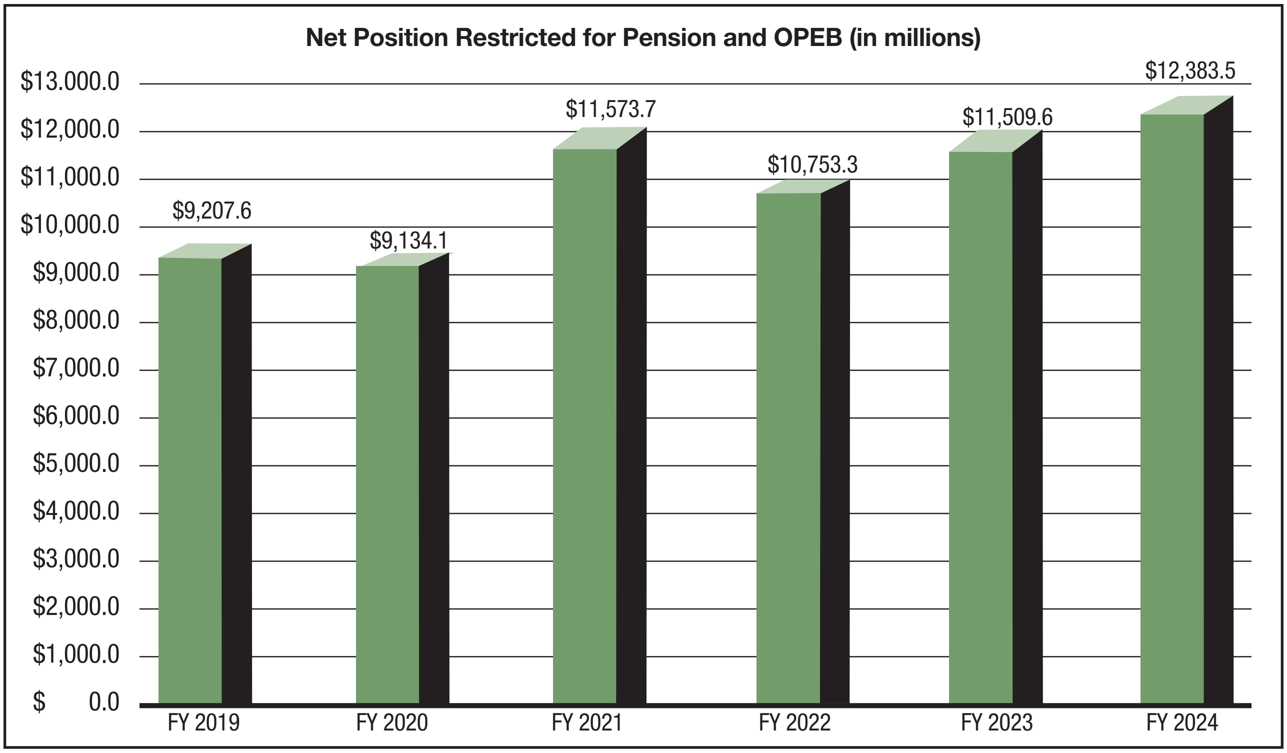
	YEAR ENDED JUNE 30, 2024		
	Assets Under Management (in thousands)	Fees (in thousands)	Average Basis Points
INVESTMENT MANAGEMENT FEES			
Equity Portfolios:			
Domestic	$ 4,234,465	$ 11,206	26
Non-U.S.	1,919,586	8,747	46
Fixed Income Portfolios	2,278,980	5,920	26
Alternative Investments*	2,291,255	18,423	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

	YEAR ENDED JUNE 30, 2024		
Brokerage Firm	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.



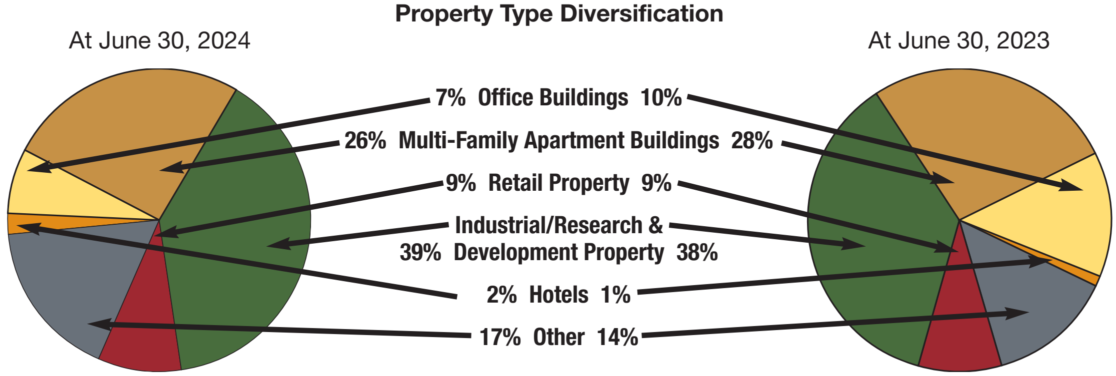
SUMMARY OF INVESTMENTS

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%**

REAL ESTATE INVESTMENTS BY TYPE (in thousands)

	JUNE 30 2024	JUNE 30 2023
Office Buildings	$ 78,999	$ 128,158
Multi-Family Apartment Buildings	296,809	358,844
Retail Property	99,313	115,343
Industrial/Research & Development Property	443,521	487,003
Hotels	15,800	12,816
Other	194,111	179,422
TOTAL REAL ESTATE INVESTMENTS BY TYPE	**$1,128,553**	**$1,281,586**

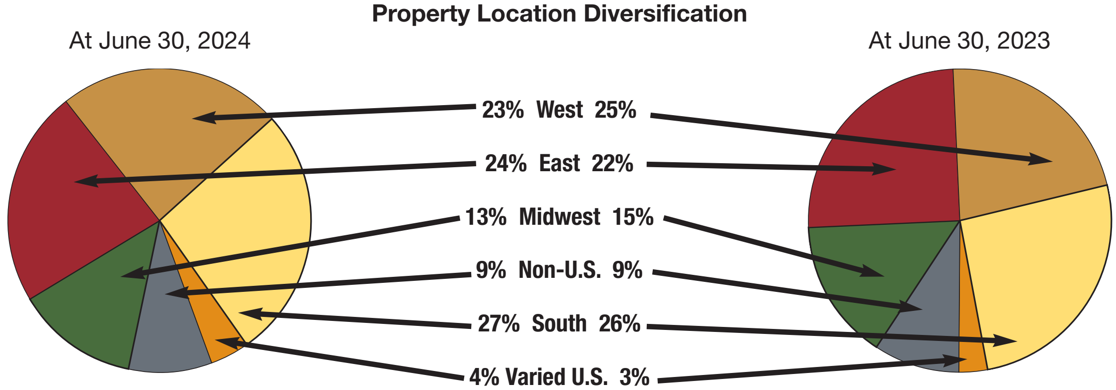
Property Type Diversification



REAL ESTATE INVESTMENTS BY LOCATION (in thousands)

	JUNE 30 2024	JUNE 30 2023
West	$ 257,310	$ 320,396
East	269,724	281,949
South	308,095	333,212
Midwest	150,098	192,238
Varied U.S.	42,885	38,448
Non-U.S.	100,441	115,343
TOTAL REAL ESTATE INVESTMENTS BY LOCATION	**$1,128,553**	**$1,281,586**

Property Location Diversification



ALTERNATIVE INVESTMENTS

(in thousands)

	JUNE 30 2024	2023
Growth Equity	$ 378,266	$ 391,725
Buyouts	892,637	815,280
Secondaries	368,260	357,302
Mezzanine	2,923	4,260
Distressed	130,598	153,647
Direct Lending Strategies	341,714	348,537
Energy	72,159	94,135
Multisector	54,167	35,063
Specialty Finance	50,531	28,395
TOTAL ALTERNATIVE INVESTMENTS	**$2,291,255**	**$2,228,344**

NET APPRECIATION (DEPRECIATION) IN FAIR VALUE OF INVESTMENTS

(in thousands)

	YEAR ENDED JUNE 30 2024	2023
Equity Investments:		
Domestic	$ 602,004	$ 475,466
Non-U.S.	202,447	302,268
Fixed Income Investments	28,070	(12,284)
Temporary Investments	31	24
Real Estate	(102,565)	(123,896)
Growth Equity	3,311	(210)
Buyouts	74,422	57,086
Secondaries	191	18,645
Mezzanine	(688)	288
Distressed	(7,774)	3,657
Direct Lending	(2,729)	(12,614)
Energy	(3,452)	(14,270)
Multisector	245	1,611
Specialty Finance	1,997	803
TOTAL NET APPRECIATION (DEPRECIATION) IN FAIR VALUE OF INVESTMENTS	**$ 795,508**	**$ 696,574**

ALTERNATIVE INVESTMENT INCOME (LOSS)

(in thousands)

	YEAR ENDED JUNE 30 2024	2023
Distressed	$ 3,396	$ 1,803
Secondaries	(90)	(20,670)
Direct Lending	39,010	33,824
Energy	10,593	18,874
Mezzanine	—	237
Buyouts	1,095	(802)
Growth Equity	6,527	763
Multisector	4,249	1,100
Specialty Finance	4,368	2,431
TOTAL ALTERNATIVE INVESTMENT INCOME*	**$ 69,148**	**$ 37,560**

*Other alternative investment types not listed above had no income (loss) for either of the years reported.

REAL ESTATE INVESTMENTS INCOME AND EXPENSES

(in thousands)

	NET INCOME YEAR ENDED JUNE 30 2024	2023
Office Buildings	$ 1,228	$ 2,159
Multi-Family Apartment Buildings	4,616	6,044
Retail Property	1,544	1,943
Industrial/Research & Development Property	6,897	8,203
Hotels	246	216
Other	3,019	3,022
TOTAL	**$ 17,550**	**$ 21,587**

Appendix B

Gabriel Roeder Smith & Company Actuarial Opinion Letter

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800.521.0498 | P: 248.799.9000 | www.grsconsulting.com

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.*

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

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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NEW HAMPSHIRE
RETIREMENT SYSTEM

Investment Manual

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  - Domestic Equity
  - Non-U.S. Equity
  - Fixed Income
  - Real Estate
  - Alternative Investments

SECTION I

Investment Policy

New Hampshire Retirement System
Investment Policy
Amended by NHRS Board of Trustees on June 14, 2022

I. Introduction to the Investment Policy

The purpose of this Investment Policy is to:

A. Fulfill the Board's and IIC's statutory duty to oversee the investments of NHRS in accordance with the basic fiduciary responsibilities. These duties include:

- Managing the fund with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character with like objectives.

- Making all decisions solely in the interest of, and for the exclusive purpose of providing benefits to the members, retirees, and their beneficiaries.

- Defraying reasonable administrative expenses.

B. Set forth the investment policies the Board and IIC judge to be appropriate, prudent and, in consideration of the Systems' needs, to comply with current laws and to direct the investment of the System's assets.

C. Ensure appropriate flexibility within the investment process to allow for the System to participate in prudent investment opportunities while also establishing risk parameters within which the portfolio will operate.

D. Establish criteria to evaluate the System's investment performance.

E. Communicate investment policies, objectives, asset class guidelines, and performance criteria to staff, external investment managers/advisors, consultants, custodians, and all other interested parties.

F. Serve as a review document to guide ongoing oversight of the System's investments for compliance with the laws of New Hampshire.

II. Responsible Parties and Their Duties

Key parties that participate in the investment decision-making and oversight process for NHRS include the:

- Board of Trustees
- Independent Investment Committee (IIC)
- Investment Staff
- Investment Consultants
- Investment Managers
- Custodian Bank
- Proxy Voting Service Provider

Board of Trustees:
The Board sets investment policy in accordance with applicable State and Federal laws, hires the investment consultant(s), and sets policy for establishing and modifying investment objectives. The Board also has responsibility to review quarterly and annual reports from the IIC.

Independent Investment Committee:
The IIC prepares for the Board's review and approval an investment policy statement, including investment objectives, an expected rate of return the System is attempting to earn, asset allocation targets and ranges, and identification of appropriate benchmarks. The IIC has the full power to hold, purchase, sell, assign, transfer, and dispose of any securities and investments, as well as the proceeds of such investments, in accordance with the policy set by the Board. The IIC has the responsibility to establish asset class guidelines and for selecting, monitoring, and terminating investment managers. The IIC is responsible for reporting to the Board on a quarterly and annual basis as directed by the statute.

Investment Staff:
The NHRS investment staff, led by the Director of Investments, is responsible for implementation of the investment decisions made by the Board of Trustees and/or the IIC. In general, the responsibilities of the investment staff include:

- Ensuring the asset allocation of the Fund is implemented in accordance with the policy approved by the Board, including rebalancing as necessary in accordance with the investment policy
- Monitoring policy and statutory compliance of the portfolio
- Assisting the IIC in developing investment policy recommendations to present to the Board for approval
- Monitoring investment managers and performing due diligence on new investment opportunities or managers as directed by the IIC
- Coordinating work with the investment consultant or any other investment-related service provider selected by the Board
- Conducting special research or analysis as directed by the Board, IIC, or Director of Investments

- Ensuring the Board and IIC receive appropriate reporting regarding the investment portfolio

Investment Consultant:
The investment consultant will perform those services as described in its contract. The investment consultant is hired by the Board, and is expected to work cooperatively and collaboratively with the Board, the IIC, as well as the investment staff. In general, the investment consultant's responsibilities include:

- Providing advice on asset allocation
- Assisting the Board, IIC, and staff with decision-making
- Providing reviews of investment policy, asset class structure, and investment managers
- Calculating performance
- Reporting and analyzing performance of the total portfolio, asset classes, and individual investment managers
- Performing research as needed
- Providing investment education to the Board, IIC and staff as requested
- Reports quarterly to the Board on investment consultant contract fulfillment actions
- Reports to the Board quarterly on recommendations made to the IIC and the status of their recommendations.

Investment Managers:
The investment managers hired by the IIC have the duty to manage the assets allocated to them as fiduciaries and in accordance with the Investment Management Guidelines established for their accounts and their individual contracts. Investment managers must execute all transactions for the benefit of NHRS and update NHRS regarding any major changes to the portfolio management team, investment strategy, portfolio structure, ownership, organizational structure, or other changes relevant to the account.

Custodian Bank:
The duties of the custodian bank are set forth by their contract with NHRS. In general, the custodian's responsibilities include:

- Safekeeping of NHRS assets
- Settling investment transactions and collecting income
- Preparing monthly and year-end accounting statements
- Serving as the "book of record" for investment transactions and valuations
- Properly recording and reporting investment activities, transactions, income, and valuations

When selecting the custodian bank the IIC will use the current industry standards appropriate for evaluating the qualifications of a custodian bank.

Proxy Voting Service Provider:
The duties of the proxy voting service provider are set forth by their contract with NHRS. In general, those responsibilities include:

- Voting proxies on behalf of NHRS per the Proxy Voting Policy
- Providing research reports
- Preparing monthly and year-end summaries
- Alert staff to issues not covered by the NHRS Proxy Voting Policy
- Recommending revisions to the NHRS Proxy Voting Policy
- Assisting in revising the NHRS Proxy Voting Policy

The Accountability Matrix adopted by the Board on April 10, 2012 and incorporated herein by reference further summarizes key responsibilities and duties of the Board; IIC; Director of Investments and Investment Staff; Internal Legal Staff; Investment Consultant(s); and Actuary. Additional responsibilities are also detailed in the Board's governance manual, contracts, and NHRS's position descriptions for staff.

III. Investment Objectives

In light of the purpose of the System, the Board, based on the recommendation of the IIC, has adopted the following investment objectives:

- Efficiently allocate and manage the assets of the Fund so that beneficiaries will receive promised benefits.

- Manage the portfolio on a total return basis, which recognizes the importance of the preservation of capital, as well as the fact that reasonable and varying degrees of investment risk are generally rewarded over the long-term.

- Work towards achieving and then maintaining a fully funded pension status.

- Exceed the Policy benchmark on a net of fees basis over a full market cycle.

IV. Risk Management

The Board's role in risk management is to approve the asset allocation targets and ranges for each asset class of the Fund. The Board recognizes that in order for the Fund to achieve its investment objectives, a reasonable level of risk must be present within the investment portfolio. Risk is referenced both in terms of absolute risk (the risk of loss) and volatility (the variability of returns). The Board will seek to minimize the risk of loss by approving an asset allocation that includes an appropriate level of diversification of Fund assets. The Board will periodically review the level of risk as represented by the asset allocation targets and ranges within the Fund and each asset class to ensure it is reasonable and within its tolerance for risk. Equity volatility (risk) is among the highest for any asset class. Other risks that the Board will consider when approving investment policy include benchmark risk, timing risk, market risk, credit risk, currency risk, liquidity risk, and any other risk it determines is relevant.

The Board acknowledges that the IIC also has a responsibility to consider risk when recommending asset allocation, and to monitor risks within the portfolio. The IIC will consider market risk, credit risk, currency risk, liquidity risk, and any other risk it believes to be relevant when it determines an asset allocation to recommend to the Board. The IIC is responsible for risk management at the manager level as it decides upon the number and types of managers to utilize within each asset class portfolio. When making decisions, the IIC will consider idiosyncratic risk (firm specific risk), benchmark risk, timing risk, market risk, credit risk, liquidity risk, interest rate risk, operational risk, concentration risk or any other risk it determines relevant as it makes its decisions.

The investment managers are responsible for risk management within the portfolio they manage on behalf of NHRS. Investment managers will consider those risks most relevant to their portfolio, which could include market risk, credit risk, currency risk, liquidity risk, inflation risk, geo-political risk, political risk, interest rate risk, and operational risk.

Descriptions of major types of risk follow:

A. Credit Risk: The risk of default of a party owing cash to the System as the result of a transaction. These parties may include, but are not limited to, the counterparty and the issuer.

B. Counterparty risk (default risk): The risk to each party of a contract that the counterparty will not live up to its contractual obligations. Counterparty risk is a risk to both parties and should be considered when evaluating a contract.

C. Liquidity Risk: There are two types of liquidity risk: market liquidity risk and funding liquidity risk. Market liquidity risk is the risk of being unable to purchase or liquidate a security quickly enough (or in requisite quantities) at a fair price. Market liquidity risk differs from market risk (defined below). Market liquidity risk only reflects realized price changes, while market risk reflects both realized and unrealized price changes. Funding liquidity risk relates to the relative ease of the organization to meet its cash flow needs as they come due.

D. Market Risk: The risk of unexpected change in market price (amount or direction). Price changes in securities can result from movements in equity markets, interest rates, and currency exchange rates, in addition to various other factors. Market risk incorporates both realized and unrealized price changes.

E. Systemic Risk: Risk that affects an entire financial market or system, and not just specific asset classes. Systemic risk cannot be avoided through diversification.

F. Absolute Risk: Risk of loss of capital.

G. Volatility Risk: The variability of returns often used as a proxy for risk.

H. Operational Risk: The risk of inadequate controls against fraud, incorrect market valuation, failure to record or settle a deal, settlement with the wrong counterparty, failure to collect amounts due, failure of the computer system, or enforceability of contracts. The implications of operational risk include both financial loss and loss of reputation.

I. Geo-Political Risk: The risk of the occurrence of an unanticipated international and/or domestic incident such as war, assassination, terrorism or energy shock that adversely affects global and capital markets resulting in the re-pricing of securities.

J. Political Risk: The risk of nationalization or other unfavorable government action.

K. Idiosyncratic Risk: Firm specific risk or the risk of the change in price of a security due to the unique circumstances of that security.

L. Benchmark Risk: The risk that an investment may outperform or underperform its target return.

M. Interest rate risk: The risk of an investment losing value (such as bonds) when interest rates rise. Rising interest rates increase the cost of doing business for most companies and can also, thereby, raise market risk.

N. Inflation risk: The risk that rising inflation may erode the value of income and/or assets.

O. Currency risk: The risk that currency movements will negatively impact an investment's return. If the value of the U.S. dollar rises in relation to other currencies, the value of foreign stock shares translates into a smaller number of U.S. dollars for investors who hold those shares. Put another way, a "strong" dollar can buy more foreign goods, including foreign stocks. Conversely, if the dollar falls in relation to other currencies, the value of foreign stock shares rises, as more "weak" dollars are needed to buy a given amount of foreign stock.

P. Timing risk: The risk that the market will not move in the anticipated direction when an investment is made (upward for long positions, and downward for short positions).

Q. Concentration risk: The risk that the System does not appropriately and effectively diversify the assets within an asset class. An example of concentration risk is having too large a percentage of System assets with a single investment manager.

V. Asset Allocation

The Board approves the asset allocation targets and ranges for each asset class of the Fund (the allowable asset classes and the distribution of assets among those asset classes) based on recommendations from the IIC. As fiduciaries, the Board and the IIC have a duty to diversify the investments of the System to reduce risk, while maximizing the investment return. Approximately ninety percent (90%) of the long-term total return stems from the asset allocation decision. The remaining ten percent (10%) is expected to be attributable to either the selection of individual assets or timing. Accordingly, asset allocation is one of the most important fiduciary decisions. The Board adopts an asset allocation based on recommendations from the IIC, which relies upon the advice from the Director of Investments and the investment consultant to formulate its recommendations to the Board.

The asset allocation approved by the Board will reflect the results of an Asset Liability Study performed at least once in every five year period, or more often, as recommended by the IIC, System staff, and investment consultant.

The Asset Liability Study identifies a mix of investments, by asset class, which is expected to produce the return required to meet future funding requirements at the lowest level of risk, given all of the assumptions made and employing a mean-variance optimization model.

The asset allocation chart, which follows, lists the approved asset classes in the portfolio and the target percentages and ranges, at market value, of the System's assets to be invested in each. Due to fluctuations of market values, positioning within a specified range is acceptable and constitutes compliance with the policy. Based on the approved asset allocation, recommendations from the System's consulting actuary, IIC, investment managers and staff, the Board adopts an assumed rate of return, which is subject to periodic change and which is the long-term return that can be expected from this combination of assets. As of June 9, 2020, the assumed rate of return was 6.75%.

Asset Class	Target Allocation	Allocation Range
Domestic Equity	30%	20 – 40%
Non-U.S. Equity	20%	15 – 25%
Fixed Income	25%	20 – 30%
Real Estate	10%	5 – 20%
Alternative Investments	15%	5 – 25%

The Board has approved the use of the above listed asset classes for the following reasons:

Domestic Equity: The allocation to domestic equity serves to expose the fund to the largest economy of the world. An allocation to domestic equity should allow for return enhancement and principal appreciation.

Non-U.S. Equity: The allocation to non-U.S. equity, both developed and emerging markets, will serve as potential for return enhancement and principal appreciation. A secondary consideration is the diversification it provides from the U.S. market. While the U.S. and non-U.S. markets are considerably correlated, they are not perfectly correlated. Assets that are not perfectly correlated serve to reduce volatility over the long term.

Fixed Income: The investment in fixed income will serve to reduce volatility experienced in the equity markets, as well as offer an opportunity for return enhancement by investment in selected securities (for example, investment grade corporates and high yield). A portion of the fixed income allocation is expected to be invested in Treasury or other government-related issues, which will serve to reduce risk within the portfolio.

Real Estate: The investment in real estate will serve as an inflation hedge, return enhancement opportunity, income generator, and diversification source and will include investments within core, value-added, and opportunistic opportunities.

Alternative Investments: Alternative investments are nontraditional investments, not covered by another investment class. In general, alternative investments are incorporated into the NHRS asset allocation to enhance the portfolio's risk-adjusted return (private equity/private debt) or to diversify volatility (opportunistic strategies). While the risk associated with these types of investments is higher than that of other asset classes, the expected return is also higher. Strategies the IIC may use in private equity/private debt may include, but are not limited to: Buyouts; Distressed Opportunities; Energy-focused; Growth Equity; Infrastructure; Mezzanine; Direct Lending; Secondaries; Special Situations; and Venture Capital. Strategies the IIC may use for opportunistic strategies include: Credit Linked; Equity Linked; Event Driven; Trading; and Multi-Strategy.

VI. Rebalancing

The actual asset class allocation of the Fund will be continuously reviewed by staff relative to the asset class policy targets. Market movements or cash flow requirements may require the actual allocations in the portfolio to deviate from the target allocations. Staff shall seek to maintain the Fund's actual asset allocation within allocation ranges at all times. When rebalancing is required, the staff will develop a rebalancing plan that, when possible, minimizes transaction costs. The plan will identify whether the assets will be rebalanced to a point within the allowable range, or to the allocation target. Staff will give due consideration to market environments, costs and risks of implementation, potential impacts on manager-level performance, and other relevant factors. The staff will report to the IIC and the Board regarding rebalancing activities that have occurred.

VII. Equity Investment in Another Entity

When the System makes an equity investment in another entity, the underlying assets of such other entity will be deemed “assets” of the System for purposes of Section 100-A15, I-b of the RSA except with respect to investments in the following entities:

(a) Publicly-offered securities

(b) An investment company registered under the Investment Company Act of 1940

(c) A Company primarily engaged, either directly or through majority-owned subsidiaries, in the production and/or sale of goods and/or services (other than the investment of capital) (“Operating Company”)

(d) A private equity fund whose primary objective is to invest in Operating Companies in which it has contractual rights to influence company management

(e) A private investment fund whose primary objective is to invest in real estate with respect to which it has the right to participate directly in the development or management

(f) A government mortgage pool guaranteed by the United States or an agency or instrumentality thereof

(g) An investment fund or entity in which:

(1) (i) private U.S. employee benefit plans subject to Part 4 of Subtitle B of Title 1 of the Employee Retirement Income Security Act of 1974 (“ERISA Plans”), (ii) plans subject to Section 4975 of the Internal Revenue Code (“4975 Plans”), and (iii) other entities deemed under ERISA to hold assets of such ERISA Plans and 4975 Plans (together with ERISA Plans and 4975 Plans, “Benefit Plan Investors”), hold less than 25% of any class of equity interests and

(2) the System holds less than 25% of the total equity interests

(h) An insurance company general account to the extent that the non-guaranteed policy portion of such account is less than 25% held by Benefit Plan Investors and less than 25% held by the System.

It is the intention of the Board that in settling any ambiguity regarding this section of policy, the Board shall look to available guidance under ERISA to settle such ambiguity.

VIII. Liquidity

Currently, each fiscal year, the member benefit payments paid by the System exceed the employer contributions received by the System. As a result, maintaining appropriate liquidity is critical to the System's operations and the System's ability to meet its financial obligations. The staff will be responsible for ensuring the System maintains the appropriate liquidity for the payment of member benefits, fund expenses and capital calls from its General Partners.

IX. Active and Passive Management

The IIC may implement the Board's approved asset allocation through the use of both passive and active management. The use of active and passive management is detailed in the guidelines for each asset class. The goal of passive management is to gain diversified exposure to the desired asset class while incurring minimal expense and seeking a performance return comparable to the asset class benchmark. The goal of active management is to exceed the performance of the appropriate index on a net-of-fees basis at a commensurate level of risk over a full market cycle.

X. Benchmarks

The following benchmarks represent the standards of measurement to be used for the various investment asset classes of the New Hampshire Retirement System as determined by the Board and IIC.

Asset Class	Benchmark
Domestic Equity	Russell 3000 Index
Non-U.S Equity	MSCI All Country World Ex-U.S. Index
Fixed Income	Bloomberg Barclays Capital U.S. Universal Bond Index
Real Estate	NCREIF NFI-ODCE Index (net of fees)
Alternative Investments:	
Private Equity	Russell 3000 Index + 2.0%
Private Debt	(50% S&P/LSTA U.S. Leveraged Loan 100 Index and 50% Bloomberg High Yield Index) + 1.0%
Total Fund	Total Fund Custom Benchmark

The Total Fund Custom Benchmark is a weighted average return comprised of the respective asset class benchmarks in the same proportion as the target asset allocation.

As performance results may vary under different economic conditions and market cycles, an effective period for measuring performance would span three to five years or more. Performance returns are expected to meet or exceed the relevant benchmark on a net-of-fees basis over time.

The IIC has responsibility for identifying appropriate benchmarks for each investment in the Fund.

Definitions of the benchmarks are listed below:

A. The Russell 3000 Index measures the performance of the largest 3,000 U.S. companies, representing approximately 98% of the investable U.S. equity market.

B. The MSCI ACWI (All Country World Index) is a free-float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The term “free float” refers to the number of shares of stock publicly owned and available for trading.

C. The Bloomberg Barclays Capital U.S. Universal Index represents the union of Bloomberg Barclays Capital’s U.S. Aggregate Index (see below), U.S. Corporate High-Yield, Investment Grade 144A Index, Eurodollar Index, U.S. Emerging Markets Index, and the non-ERISA eligible portion of the CMBS Index. The index covers USD-denominated, taxable bonds that are rated either investment grade or below investment grade.

D. The Bloomberg Barclays Capital U.S. Aggregate Index is an unmanaged, market-value-weighted index of taxable investment-grade fixed-rate debt issues, including government, corporate, asset-backed and mortgage-backed securities, with maturities of one year or more.

E. The National Council of Real Estate Investment Fiduciaries (NCREIF) Fund Index Open-End Diversified Core (NFI-ODCE) is a composite comprised of primarily Core open-end funds widely used by institutional investors for exposure to domestic private market real estate. An open-end fund is a large pool of properties held in a commingled fund structure where investors have redemption rights (typically quarterly right to make capital deposits or withdrawals). Because of quarterly purchase or redemption of fund shares, open-end funds have some of the best valuation disciplines in private market real estate. The funds report performance quarterly to NCREIF. Nearly all open-end funds are designed to be perpetual life vehicles, with many having history dating back to the 1970s.

F. The S&P/LSTA U.S. Leveraged Loan 100 Index (LL100) is a daily tradable index for the U.S. market that seeks to mirror the market-weighted performance of the largest institutional leverage loans. The constituents are drawn from a universe of syndicated leveraged loans representing over 90% of the leveraged loan market.

G. The Bloomberg High Yield Index measures the USD-denominated, high-yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below.

XI. Reporting to the Board

Pursuant to RSA 100-A:15, II-a, the IIC will report to the Board at least quarterly on the management, investment, and reinvestment activities of the IIC, and may delegate such reporting as it deems appropriate. The quarterly report will include:

- A report on the investment performance of the assets of the System
- Changes, if any, in the investment managers of the System
- Changes, if any, in the investment guidelines for each of the asset classes
- Rebalancing activities, if any

Pursuant to RSA 100-A:15, VII, the IIC will prepare, for Board approval, a comprehensive annual investment report for the Board. The annual report will include:

- A description of the IIC's philosophy for investing the assets of the System
- An analysis of the return on investment, by category
- An annual investment policy statement
- Any suggested changes in legislation which the Board may seek in order to better serve the members of the system

After Board approval, the comprehensive annual investment report is submitted to the president of the senate, the speaker of the house, and the governor.

The investment staff, investment consultant(s), custodian bank, and other parties will also provide reporting to the Board as requested or needed.

XII. Manager Selection, Monitoring, and Termination

The IIC, with the assistance of the investment staff and the investment consultant, will establish a process by which to select investment managers. Criteria for each manager search will be tailored to the search underway and NHRS' specific needs and requirements. Examples of criteria include:

- Organizational stability
- Investment staff, experience and tenure
- Investment process
- Ownership
- Fees
- Performance

Manager searches will be conducted in a fair and transparent manner. During a manager search, a "no contact policy" will be in effect. During this time, only staff designated by the Director of Investments will have any contact with potential candidates. Trustees, IIC members, and other staff members will refrain from discussing the search with candidate firms or potential candidate firms. This policy does not preclude existing managers from carrying out their normal business requirements with NHRS.

The IIC has delegated selected manager monitoring efforts to the investment staff and the investment consultant. Any significant changes to a manager's investment philosophy, fees, personnel, ownership or organizational structure will be summarized and reported to the IIC. The IIC will receive quarterly and annual reporting regarding the performance of the investment managers within the fund.

The IIC has the right to terminate any investment manager at any time. Grounds for termination may include, but are not limited to:

- Changes in asset allocation that require re-structuring of the portfolio
- Failure to comply with investment management agreements
- Underperformance
- Significant process, organizational, ownership or personnel changes
- Unethical behavior
- Loss of confidence in the organization
- Unresponsiveness or inability to satisfy reporting requests

XIII. Private Equity Fund Advisory Board/Committee Participation

The primary purpose of a private equity fund advisory board/committee is to (1) provide "checks and balances" on the general partner's power and authority to operate the fund; and (2) act as a "sounding board" for matters where the interests of all the fund's partners may not be aligned. The System has determined that the benefits of staff participating on advisory boards/committees far outweigh the risks or potential risks of not participating on advisory boards/committees. As a result, it is appropriate for System staff to represent the System as a member of an advisory board/committee, with the approval of the IIC and provided that there are appropriate protections for such members (e.g., with respect to fiduciary duty/standard of care, indemnification, confidentiality, etc.).

XIV. Use of Derivatives

Derivatives may only be used to modify risk/return characteristics of the portfolio, implement asset allocation changes in a cost-effective manner, or reduce transaction costs or taxes. Derivatives may not be used for speculation or leverage (borrowing).

Contracts with separate account managers will identify the types of derivatives that may be used, consistent with this Manual and prudent discretion. Managers must notify the Director of Investments of modifications in the types of derivatives used and obtain the Director of Investments' approval of such modifications. The System's Non-U.S. Equity managers generally have authorization for broader use of derivatives; however, their actions will be monitored for excessive risk.

Investments in commingled funds are open to other investors; therefore, it is not possible for the System to insist that the managers of such funds abide by System policy regarding the use of derivatives; however, their actions will be monitored for excessive risk. The Director of Investments will monitor a manager's use of derivatives on an ongoing basis to determine whether continued investment in a fund is prudent.

XV. Prohibited Transactions

The following transactions will be prohibited unless stated otherwise in the investment manager guidelines:

- "Prohibited transactions" as defined under the Employee Retirement Income Security Act of 1974 (ERISA).

- Transactions that involve a broker acting as a "principal", where such broker is also the investment manager who is making the transaction.

- Any or all investment activities forbidden by SEC or other applicable governing bodies.

The exposure for options, when permitted by contract, must be based on an appropriate options pricing model.

XVI. Review of Investment Policy

The IIC will review the investment policy at least annually to ensure it remains appropriate and to determine whether any modifications are needed and make a recommendation to the Board for changes, if any, to the investment policy**.** The Board will review the recommendations of the IIC regarding the investment policy and review the policy at least annually.

XVII. Glossary of Common Investment Terms

Investment in any particular instrument or security remains subject to applicable law and circumstances then prevailing. Notwithstanding, the most common investments are cited below:

A. Alternative Investments are non traditional investments, not covered by another investment class (e.g. private equity/private debt and opportunistic strategies)

B. American Depositary Receipts (ADRs) are receipts for the shares of a foreign-based corporation held in the vault of a U.S. bank and entitling the shareholder to all dividends and capital gains. These are traded on various U.S.-based exchanges and are available for hundreds of stocks from numerous countries.

C. Commercial Mortgage Backed Securities (CMBS) are multi-class bonds backed by pools of commercial mortgages.

D. Commercial Mortgage Lending investments are notes and bonds secured by a mortgage or deed of trust providing first lien on real estate.

E. Derivatives are financial instruments such as forwards, futures, options, or other instruments whose values are "derived" from another financial instrument.

F. Domestic Equity Securities for System purposes typically consist of corporate common stock. These stocks must be registered on a national securities exchange or must be otherwise registered as provided in the Securities Exchange Act of 1934 as amended, with price quotations furnished through a nationwide automated quotations system approved by the National Association of Securities Dealers, Inc. (NASD). Domestic Equity Securities also include stock in corporate real estate investment trusts (REITs), which are traded on a national exchange and acquired as part of an index fund or by one of the System's domestic equity managers.

G. Domestic Fixed Income Securities are U.S. Treasury or Government agency obligations; equipment trust certificates; corporate, industrial, or utility bonds; U.S. dollar denominated Euro or Yankee bonds, including Canadian obligations payable in U.S. dollars; residential and commercial mortgage-backed securities; and pass-through certificates. For System purposes, Domestic Fixed Income Securities primarily consist of instruments with maturities in excess of twelve (12) months at time of purchase.

H. Emerging Market Equities are common or preferred stocks and investment shares which are registered on exchanges outside the U.S. Emerging market countries are the developing international countries which have a relatively low per capita Gross National Product. There is wide variety of economic, regulatory, and market development among the emerging countries.

I. Equity Real Estate Investments are any investments in real property, either made directly or through the use of pooled vehicles such as limited partnerships, open or closed-end commingled funds, Real Estate Investment Trusts (REITs) including publicly traded REIT securities, and Real Estate Operating Companies (REOCs).

J. Non-U.S. Equity Securities are common or preferred corporate stocks and investment trust shares. Only stocks registered on recognized exchanges outside the U.S. are to be considered Non-U.S. Equity Securities.

K. Real Estate Mezzanine Funds are investments in funds or partnerships whose portfolios consist of junior loans secured by real estate or partnership interests in real estate ownership.

L. <u>Repurchase Agreements</u> are agreements between a seller and a buyer, whereby the seller agrees to repurchase the securities at an agreed upon price and, usually, at a stated time.

M. <u>Securities Lending</u> occurs when a lender transfers a security to a borrower for cash or non-cash collateral pursuant to an agreement to return the collateral for an identical security in the future.

N. <u>Short Term Investments (Cash Equivalents)</u> include, but are not limited to, interest bearing or discount instruments such as money market funds; U.S. Treasury Bills; corporate-issued commercial paper; bank-issued Certificates of Deposit; bankers' acceptances; and fully collateralized repurchase agreements. For System purposes, short-term investments consist primarily of instruments maturing in twelve (12) months or less at time of purchase.

Proxy Voting Policy

New Hampshire Retirement System
Proxy Voting Policy

INTRODUCTION

A proxy is a written power of attorney given by a shareholder of a corporation, authorizing a specific vote on the shareholder's behalf at corporate meetings. A proxy will normally pertain to election of members of the corporation's board of directors, or to various resolutions submitted for shareholder approval. The System's Proxy Voting Policy has been established to protect the System's long-term investment interests and to promote responsible corporate policies and activities which enhance a corporation's financial prospects.

U.S. PROXY VOTING GUIDELINES

I. OPERATIONAL ITEMS

Adjourn Meeting

Generally vote **against** proposals to provide management with the authority to adjourn an annual or special meeting absent compelling reasons to support the proposal.

Vote **for** adjournment proposals that relate specifically to soliciting votes for a merger or transaction if supporting that merger or transaction. Vote **against** such proposals if the wording is too vague or if the proposal includes "other business."

Amend Quorum Requirements

Proposals to amend quorum requirements for shareholder meetings are evaluated based on several factors which include: market norms, the company's reasons for the change, and the company's ownership structure.

Amend Minor Bylaws

Generally, vote **for** proposals to make bylaw or charter changes that are of a housekeeping nature (updates or corrections) unless the proposed changes are believed to be detrimental to shareholder value.

Change Company Name

Generally, vote **for** proposals to change company name unless the reasons behind the change and necessity of the change have not been clearly provided by the company.

Change Date, Time, or Location of Annual Meeting

Generally, vote **for** management proposals to rotate the time or place of annual meetings unless the proposed change is unreasonable and motivation is unclear.

Generally, vote **against** shareholder proposals to rotate the time or place of annual meetings unless the current scheduling or location is unreasonable and change is determined to be in the best interests of the company and its shareholders.

Ratifying Auditors

Generally, vote **for** proposals to ratify auditors unless:

- More than 20 percent of total fees paid to the auditors are attributable to nonaudit, but not including, SEC-related work. Nonaudit fees should be calculated by adding financial information systems design and implementation fees and all other fees.
- An auditor has a financial interest in or association with the company, and is therefore not independent
- There is reason to believe that the independent auditor has rendered an opinion which is neither accurate nor indicative of the company's financial position
- Poor accounting practices are identified that rise to a serious level of concern, such as: fraud; misapplication of GAAP; and material weaknesses identified in Section 404 disclosures

Vote **for** shareholder proposals that request the company rotate its auditors, taking into account the length of rotation specified in the proposal.

Vote **for** shareholder proposals that request the board adopt a policy stating that the company’s independent accountants will only provide audit services to the company and no other services.

Vote **for** shareholder proposals requesting the company submit the ratification of its auditors to a shareholder vote.

Transact Other Business

Vote **against** management proposals asking for authority to vote at the meeting for "other business" not already described in the proxy statement.

II. THE BOARD OF DIRECTORS

Voting on Director Nominees in Uncontested Elections

Votes on management proposals to elect director nominees are evaluated by taking the following factors into account: composition of the board and key board committees, attendance at board meetings, corporate governance provisions and takeover activity, long-term company performance relative to a market index, directors' investment in the company, whether the chairman is also serving as CEO, and whether a retired CEO sits on the board. However, there are some actions by directors that should result in votes being withheld. These instances include directors who:

- Attend less than 75 percent of the board and committee meetings without a valid excuse
- In cases of chronic poor attendance without reasonable justification, in addition to voting against the director(s) with poor attendance, generally vote against or withhold from appropriate members of the nominating/governance committees or the full board
- Implement or renew a dead-hand or modified dead-hand poison pill
- Adopts a long-term poison pill without shareholder approval. When it comes to the adoption of short-term poison pill, the nomination of directors will be assessed on a case-by-case basis.
- Ignore a shareholder proposal that is approved by a majority of the votes cast
- Are incumbent board members and the board implements an advisory vote on executive compensation on a less frequent basis than the frequency that received the majority of votes cast at the most recent shareholder meeting at which shareholders voted on the say-on-pay frequency
- Failed to act on takeover offers where the majority of the shareholders tendered their shares
- Are inside directors or affiliated outsiders and sit on the audit, compensation, or nominating committees
- Are inside directors or affiliated outsiders and the full board serves as the audit, compensation, or nominating committee or the company does not have one of these committees
- Are audit committee members and the non-audit fees paid to the auditor are more than 20 percent of total fees paid to the auditors
- Are audit committee members and the company receives an adverse opinion on the company's financial statements from its auditor
- Are audit committee members and poor accounting practices are identified that rise to a level of serious concern, such as: fraud; misapplication of GAAP; and material weaknesses identified in Section 404 disclosures

- Are audit committee members and the audit committee entered into an inappropriate indemnification agreement with its auditor
- Are inside directors or affiliated outside directors and the full board is less than majority independent
- Sit on more than two outside public company boards (i.e. more than three boards in total, including the board seat of the company for which the vote is being cast), or sit on more than one outside public company board if they are CEOs of public companies (i.e. more than two boards in total, including the seat for which the vote is being cast)
- Are on the compensation committee and potentially the full board when there is a recurring or egregious negative correlation between chief executive pay and company performance
- Are on the compensation committee and potentially the full board when the company has recurring or egregious problematic pay practices
- Are on the compensation committee and potentially the full board when the company exhibits a significant level of poor communication and responsiveness to shareholders
- Have failed to address the issue(s) that resulted in any of the directors receiving more than 50% withhold votes out of those cast at the previous board election
- Are incumbent board members and the board had material failures of governance, stewardship, risk oversight, or fiduciary responsibilities at the company

In addition, directors who enacted egregious corporate governance policies or failed to replace management as appropriate would be subject to recommendations to **withhold** votes.

If the board lacks accountability and oversight coupled with sustained poor performance relative to peers, any or all appropriate nominees may be held accountable.

If the board is classified and a continuing director responsible for a problematic governance issue at the board/committee level that would warrant a **withhold/against** vote recommendation is not up for election, any or all appropriate nominees may be held accountable.

Exception may be made for new nominees.

Term Limits

Generally, vote **against** term limits unless it is determined that the lack of new perspectives, resulting from insufficient turnover, may be unfavorable to long-term investment interests.

Board Size

Generally, vote **for** management proposals to determine board size.

Classification/Declassification of the Board

Vote **against** management proposals to classify the board.

Vote **for** shareholder proposals to repeal a classified board.

Cumulative Voting

Vote **against** proposals to eliminate cumulative voting.

Vote **for** proposals to restore or permit cumulative voting in those cases where shareholders have access to the board through their own nominations.

Director and Officer Indemnification and Liability Protection

Vote **for** indemnification proposals that only cover legal expenses when the officer acted in good faith in what he/she believed was the company's interest.

Vote **against** proposals that totally eliminate officers' liability.

A certain level of protection is desirable so as to attract and keep qualified candidates as directors and officers. This protection, however, must not go so far as to excuse officers from being accountable for their actions or for becoming negligent in their duties. The protection should only be effective when officers act in good faith, for the best interests of the company. Specifically, officers should be liable for:

a) breach of loyalty;

b) acts or omissions not in good faith or involving intentional misconduct or knowing violations of the law;

c) unlawful purchases or redemptions of stock;

d) payments of unlawful dividends; or

e) receipt of improper personal benefits.

Establish/Amend Nominee Qualifications

Generally, vote **for** management proposals to establish or amend director qualifications unless the proposed criteria are unreasonable and would have a demonstrable effect in precluding dissident nominees from joining the board.

Vote **against** shareholder proposals requiring two candidates per board seat.

Filling Vacancies/Removal of Directors

Vote **against** management proposals to allow for a director's removal from the board only for cause. Directors should be elected or removed by a simple majority vote of shareholders.

Vote **against** management proposals which provide that only continuing directors may fill vacancies on the board.

Vote **for** proposals which allow shareholders to fill vacancies on the board.

Vote **for** proposals to restore shareholder ability to remove directors with or without cause.

Independent Chairman (Separate Chairman/CEO)

Vote **for** shareholder proposals to separate the position of chairman of the board and CEO. The combination of the two positions creates an inherent conflict of interests.

Majority Vote Proposals

Vote **for** reasonably crafted proposals calling for directors to be elected with an affirmative majority of votes cast and/or the elimination of the plurality standard for electing directors (including binding resolutions requesting that the board amend the company's bylaws), provided the proposal includes a carve-out for a plurality voting standard when there are more director nominees than board seats (e.g. contested elections).

Majority of Independent Directors/Establishment of Committees

Generally, vote **for** shareholder proposals asking that boards be comprised of a majority of independent directors, unless it has been determined that the current board composition satisfies our independence threshold.

Vote **for** shareholder proposals asking that board audit, compensation, and/or nominating committees be comprised exclusively of independent directors.

Proxy Access to Nominate Directors

Management and shareholder proposals to enact provisions that give shareholders access to the proxy to nominate directors that are evaluated based on the long-term investment interests of the System, and are examined by considering the following factors:

- Company-specific factors; and

- Proposal-specific factors, including:
    - The ownership thresholds proposed in the resolution (i.e. percentage and duration);
    - The maximum proportion of directors that shareholders may nominate each year; and
    - The method of determining which nominations should appear on the ballot if multiple shareholders submit nominations

Open Access

Vote **for** any and all equal access proposals.

Equal access proposals generally relate to three major topics:

a) discussion of management nominees for the board of directors;

b) discussion of other management proposals;

c) discussion of shareholders' own proposals or nominees.

Shareholders should have the freedom to obtain information and discuss all of these topics. Only with sufficient information will they be able to vote their proxies wisely and maximize the value of their stock.

Management will often oppose these equal access proposals, seeing them as an infringement of its rights. Management will argue that the added cost and length of proxy statements is inefficient. The marginal cost of longer proxies, however, will be minimal, and the cost will be borne by the stockholders anyway.

Stock Ownership Requirements

Vote **for** shareholder proposals requiring directors to own company stock in order to qualify as a director, or to remain on the board.

Shareholder proposals asking that the company adopt a holding or retention period for its executives (for holding stock after the vesting or exercise of equity awards)shall be evaluated by taking into account any stock ownership requirements or holding period/retention ratio already in place and the actual ownership level of executives.

Plurality Vote Requirement for Director Nominees

Vote **for** proposals to elect director nominees by the affirmative vote of the majority of votes cast at an annual meeting of shareholders.

III. PROXY CONTESTS

Voting for Director Nominees in Contested Elections

Votes in a contested election of directors are evaluated based on the long-term economic interest of the System, and must be examined by taking the following factors into account:

- Past performance relative to its peers;
- Market in which fund invests;
- Measures taken by the board to address the issues;
- Past shareholder activism, board activity, and votes on related proposals;
- Strategy of the incumbents versus the dissidents;
- Independence of directors;
- Experience and skills of director candidates;
- Governance profile of the company;
- Evidence of management entrenchment.

Reimbursing Proxy Solicitation Expenses

Generally, vote **for** proposals to reimburse all appropriate proxy solicitation expenses when voting in conjunction with support of a dissident slate. We will also generally support shareholder proposals calling for the reimbursement of reasonable costs associated with nominating one or more candidates in a contested election where the following apply:

- The election of fewer than 50% of the directors to be elected is contested in the election;
- One or more of the dissident's candidates is elected;
- Shareholders are not permitted to cumulate their votes for directors; and
- The election occurred, and the expenses were incurred, after the adoption of this bylaw.

IV. ANTI - TAKEOVER MECHANISMS

Confidential Voting

Vote **for** a confidential voting policy.

Confidential voting would minimize the ability of management to influence proxy votes. It would allow shareholders the freedom to vote solely in their best interests, not considering actual or perceived pressure from management.

In order to maintain and monitor fiduciary responsibility, fiduciaries should still make their records available to clients after the confidential vote. Therefore, fiduciaries can still be held accountable for their votes.

Advance Notice Requirements for Shareholder Proposals/Nominations

Generally, vote **for** advance notice resolutions provided that the proposals seek to allow shareholders to submit proposals as close to the meeting date as reasonably possible and within the broadest window possible. A reasonable deadline for shareholder notice of a proposal/ nominations must not be more than 60 days prior to a meeting, with a submittal window of at least 30 days prior to the deadline.

Amend Bylaws without Shareholder Consent

Vote **against** proposals giving the board exclusive authority to amend the bylaws.

Vote **for** proposals giving the board the ability to amend the bylaws in addition to shareholders.

Poison Pills

Vote **for** shareholder resolutions requiring that poison pills must be submitted for shareholder approval before going into effect.

Generally, vote **against** management proposals to approve or renew a poison pill unless the following factors are present:

1) 20 percent or higher flip-in
2) Two- to three-year sunset provision
3) No dead-hand or no-hand provision
4) Shareholder redemption feature: If the board refuses to redeem the pill 90 days after an offer is announced, ten percent of the shares may call a special meeting or seek a written consent to vote on rescinding the pill.

Shareholder Ability to Act by Written Consent

Vote **against** management proposals to restrict or prohibit shareholders' ability to take action by written consent.

Vote **for** shareholder proposals to allow or make easier shareholder action by written consent.

Shareholder Ability to Call Special Meetings

Vote **against** management proposals to restrict or prohibit shareholders' ability to call special meetings.

Vote **for** shareholder proposals to allow or make easier shareholders' ability to call special meetings.

Supermajority Vote Requirements

Vote **against** management proposals to require a supermajority vote to amend any bylaw or charter provision.

Vote **for** shareholder proposals to lower supermajority vote requirements to amend any bylaw or charter provision. However, at companies with shareholder(s) who have significant ownership levels, proposals to lower supermajority vote requirements should be analyzed on a case-by-case basis, taking into account the following:

- Ownership structure;
- Quorum requirements; and
- Vote requirements

Exclusive Venue

Management proposals seeking shareholder approval to limit shareholder litigation to the company's jurisdiction of incorporation are evaluated based on the long-term investment interests of the System, and are examined by considering the following factors:

- Whether the company has been materially harmed by shareholder litigation outside its jurisdiction of incorporation, based on disclosure in the company's proxy statement; and
- Whether the company has the following good governance features:
  - An annually elected board;
  - A majority vote standard in contested director elections; and
  - The absence of a poison pill, unless the pill was approved by shareholders.

Vote **for** shareholder proposals to remove or adjust exclusive venue proposals, unless:

- The company has sufficiently proven that it has been materially harmed by shareholder litigation outside its jurisdiction of incorporation; and
- The company has the following good governance features:
  - An annually elected board;
  - A majority vote standard in contested director elections; and
  - The absence of a poison pill, unless the pill was approved by shareholders.

V. MERGERS AND CORPORATE RESTRUCTURINGS

Appraisal Rights

Vote **for** shareholder proposals to provide rights of appraisal to dissenting shareholders.

Asset Purchases

Votes on asset purchase proposals are evaluated based on the long-term investment interests of the System, and are examined by considering the following factors:

- Purchase price
- Fairness opinion
- Financial and strategic benefits
- How the deal was negotiated
- Conflicts of interest
- Other alternatives for the business
- Noncompletion risk

Asset Sales

Votes on asset sales are evaluated based on the long-term investment interests of the System, and are examined by considering the following factors:

- Impact on the balance sheet/working capital
- Potential elimination of diseconomies
- Anticipated financial and operating benefits
- Anticipated use of funds
- Value received for the asset
- Fairness opinion
- How the deal was negotiated
- Conflicts of interest

Bundled Proposals

Vote **against** bundled proxy proposals.

Conversion of Securities

Votes on proposals regarding conversion of securities are determined based on the long-term economic interest of the System. When evaluating these proposals the investor should review the dilution to existing shareholders, the conversion price relative to market value, financial issues, control issues, termination penalties, and conflicts of interest.

Vote **for** the conversion if it is expected that the company will be subject to onerous penalties or will be forced to file for bankruptcy if the transaction is not approved.

Corporate Reorganization/Debt Restructuring/Prepackaged Bankruptcy Plans/Reverse Leveraged Buyouts/Wrap Plans

Votes on proposals to increase common and/or preferred shares and to issue shares as part of a debt restructuring plan are determined based on the long-term investment interest of the System, by taking into consideration the following:

- Dilution to existing shareholders' position
- Terms of the offer
- Financial issues
- Management's efforts to pursue other alternatives
- Control issues
- Conflicts of interest

Vote **for** the debt restructuring if it is expected that the company will file for bankruptcy if the transaction is not approved.

Formation of Holding Company

Votes on proposals regarding the formation of a holding company should be determined based on the long-term economic interests of the System, taking into consideration the following:

- The reasons for the change
- Any financial or tax benefits
- Regulatory benefits
- Increases in capital structure
- Changes to the articles of incorporation or bylaws of the company

Absent compelling financial reasons to recommend the transaction, vote **against** the formation of a holding company if the transaction would include either of the following:

- Increases in common or preferred stock in excess of the allowable maximum as calculated by the ISS Capital Structure model
- Adverse changes in shareholder rights

Going Private Transactions (LBOs and Minority Squeeze Outs)

Going private transactions are evaluated based on the long-term economic interest of the System, by taking into account the following: offer price/premium, fairness opinion, how the deal was negotiated, conflicts of interest, other alternatives/offers considered, and noncompletion risk.

Joint Ventures

Proposals seeking to form joint ventures are determined based on the long-term investment interests of the System, by taking into account the following: percentage of assets/business contributed, percentage ownership, financial and strategic benefits, governance structure, conflicts of interest, other alternatives, and noncompletion risk.

Liquidations

Proposals on liquidations are considered based on the long-term investment interests of the System, by taking into account the following: management's efforts to pursue other alternatives, appraisal value of assets, and the compensation plan for executives managing the liquidation.
Vote **for** the liquidation if the company will file for bankruptcy if the proposal is not approved.

Mergers and Acquisitions/ Issuance of Shares to Facilitate Merger or Acquisition

Proposals to merge one company with another, or for one company to acquire another are determined based on the long-term economic interest of the System. When evaluating the proposals, shareholders should weigh the cost to the company, market reaction, strategic rationale, the immediate and long-term benefits to shareholders, conflict of interests, and the resulting corporate governance changes.

Private Placements/Warrants/Convertible Debentures

Votes on proposals regarding private placements should be determined based on the long-term investment interests of the System. When evaluating these proposals the investor should review: dilution to existing shareholders' position, terms of the offer, financial issues, management's efforts to pursue other alternatives, control issues, conflicts of interest, and market reaction.

Vote **for** the private placement if it is expected that the company will file for bankruptcy if the transaction is not approved.

Spinoffs

Votes on spinoffs should be considered based on the long-term investment interests of the System, taking the following factors into account:

- Tax and regulatory advantages
- Planned use of the sale proceeds
- Valuation of spinoff
- Fairness opinion
- Benefits to the parent company
- Conflicts of interest
- Managerial incentives
- Corporate governance changes
- Changes in the capital structure

Value Maximization Proposals

Shareholder proposals seeking to maximize shareholder value by hiring a financial advisor to explore strategic alternatives, selling the company or liquidating the company and distributing the proceeds to shareholders should be evaluated based on the following factors: prolonged poor performance with no turnaround in sight, signs of entrenched board and management, strategic plan in place for improving value, likelihood of receiving reasonable value in a sale or dissolution, and whether company is actively exploring its strategic options, including retaining a financial advisor.

VI. STATE OF INCORPORATION

Control Share Acquisition Provisions

Vote **for** proposals to opt out of control share acquisition statutes unless doing so would enable the completion of a takeover that would be detrimental to shareholders.

Vote **against** proposals to amend the charter to include control share acquisition provisions.

Vote **for** proposals to restore voting rights to the control shares.

Control Share Cashout Provisions

Vote **for** proposals to opt out of control share cashout statutes.

Disgorgement Provisions

Vote **for** proposals to opt out of state disgorgement provisions, if maximizing shareholder value.

Fair Price Provisions

Vote **for** management proposals to adopt a fair price provision, as long as the shareholder vote requirement embedded in the provision is no more than a majority of the disinterested shares.

Vote **against** all other management fair price proposals.

Vote **for** shareholder proposals to lower the shareholder vote requirement embedded in existing fair price provisions.

Generally, vote **against** fair price provisions with shareholder vote requirements greater than a majority of disinterested shares.

Freeze Out Provisions

Vote **for** proposals to opt out of state freeze out provisions, if maximizing shareholder value.

Greenmail

Vote **for** proposals to restrict the company's ability to pay greenmail.

Reincorporation Proposals

Proposals to change a corporation's state of incorporation should be examined based on the long-term economic interest of the System, giving consideration to both financial and corporate governance concerns including the following:

- Reasons for reincorporation;
- Comparison of company's governance practices and provisions prior to and following the reincorporation; and
- Comparison of corporation laws of original state and destination state

Vote **against** proposals that seek to reincorporate the company outside of the jurisdiction of the United States.

Stakeholder Provisions

Vote **against** proposals that ask the board to consider nonshareholder constituencies or other nonfinancial effects when evaluating a merger or business combination.

VII. CAPITAL STRUCTURE

Adjustments to Par Value of Common Stock

Vote **for** management proposals to reduce the par value of common stock, if it will not adversely affect shareholder rights.

Common Stock Authorization

Votes on proposals to increase the number of shares of common stock authorized for issuance are determined based on the long-term economic interest of the System, using a model developed by ISS.

Vote **against** proposals at companies with dual-class capital structures to increase the number of authorized shares of the class of stock that has superior voting rights.
Vote **for** proposals to approve increases beyond the allowable increase when a company's shares are in danger of being delisted or if a company's ability to continue to operate as a going concern is uncertain.

Dual-Class Stock

Proposals to recapitalize a company into dual classes of voting stock must be examined based on the long-term economic interest of the System.

Vote **against** the creation of stock with supervoting privileges.

Vote **against** proposals that introduce nonvoting shares or exchange voting shares for nonvoting shares.

Vote **for** shareholder proposals asking that a company report to shareholders on the financial impact of its dual class voting structure.

Vote **for** shareholder proposals asking that a company submit its dual class voting structure for shareholder ratification.

Issue Stock for Use with Rights Plan

Vote **against** proposals that increase authorized common stock for the explicit purpose of implementing a shareholder rights plan (poison pill).

Preemptive Rights

Vote **against** proposals requesting the issuance of shares with or without preemptive rights which are excessive under local market best practice standards.

Preferred Stock

Vote **against** proposals authorizing the creation of new classes of preferred stock with unspecified voting, conversion, dividend distribution, and other rights ("blank check" preferred stock).

Vote **for** proposals to create "declawed" blank check preferred stock (stock that cannot be used as a takeover defense).

Vote **for** proposals to authorize preferred stock in cases where the company specifies the voting, dividend, conversion, and other rights of such stock and the terms of the preferred stock appear reasonable.

Vote **against** proposals to increase the number of blank check preferred stock authorized for issuance when no shares have been issued or reserved for a specific purpose.

Votes on proposals to increase the number of blank check preferred shares are determined after analyzing the number of preferred shares available for issue given a company's industry and performance in terms of shareholder returns.

Recapitalization

Votes on recapitalizations (reclassifications of securities) are considered based on long-term investment interests of the System, taking into account the following: more simplified capital structure, enhanced liquidity, fairness of conversion terms, impact on voting power and dividends, reasons for the reclassification, conflicts of interest, and other alternatives considered.

Reverse Stock Splits

Generally, vote **for** management proposals to implement a reverse stock split provided that the number of authorized shares will be proportionally reduced or the effective increase in authorized shares is equal to or less than the allowable increase calculated in accordance with stock authorization model developed by ISS. In the event that a proportional reduction of authorized shares is not reciprocated, we will only support such proposals if:

- A stock exchange has provided notice to the company of a potential delisting;
- There is substantial doubt about the company's ability to continue as a going concern without additional financing; or
- The company's rationale or other factors as applicable merit support.

Share Repurchase Programs

Proposals to repurchase shares should be considered based on the long-term economic interest of the System. For example, if this is done because management believes the stock is undervalued then the measure should be approved. If the purchase is proposed as an antitakeover device, then it ought to be opposed. We generally vote **for** management proposals to institute open market share repurchase plans in which all shareholders may participate on equal terms.

Stock Distributions: Splits and Dividends

Vote **for** management proposals to increase the common share authorization for a stock split or share dividend, provided that the increase in authorized shares would not result in an excessive number of shares available for issuance as determined using a model developed by ISS.

Generally, vote **for** proposals to approve stock splits or share dividends unless it is determined that such authorities are detrimental to the long-term economic interest of the System.

Tracking Stock

Vote case-by-case on the creation of tracking stock, weighing the strategic value of the transaction against such factors as:

- Adverse governance changes;
- Excessive increases in authorized capital stock;
- Unfair method of distribution;
- Diminution of voting rights;
- Adverse conversion features;
- Negative impact on stock option plans; and
- Alternatives such as spin-off.

VIII. EXECUTIVE COMPENSATION

Vote **for** resolutions intended to improve the transparency of executive compensation by:

- Requiring a company to place a dollar value on all forms of compensation paid to a company's top-five executives and to include such monetarized disclosure in the summary compensation tables filed by the company with the SEC.
- Requiring a company to disclose to shareholders that compensation paid to a company's top-five executives that are not tax-deductible for federal income tax purposes, and to state the monetary value of the costs of such non-deductibility to the company.
- Requiring a company to disclose to shareholders those gains realized by a company's top-five executives in their exercise of stock options (or in the vesting of restricted shares for restricted share grants) and to report what fraction, if any, is attributable to company outperformance of its industry peers.

- Requiring a company to periodically disclose to shareholders equity investments received as compensation and unloaded by any of the company's top-five executives.

Vote **for** resolutions intended to improve the linkage of executive pay-for-performance by:

- Indexing the exercise price of a company's stock option grants to industry sector or broad market stock movements, or by linking the exercise price to changes in the stock price of firms among the company's industry peer group.
- Establishing executive bonus plans that would discount those improvements in a company's financial performance attributable to industry sector or broad market movements.
- Establishing executive bonus plans that would not utilize metrics based on a company's absolute increases in earnings, sales, or revenues, but rather based on the company's performance relative to its industry peer group.
- Prohibiting a company's top-five executives from unwinding equity-based incentive compensation received from the company.
- Prohibiting a company's top-five executives from hedging or employing any measure intended to eliminate their exposure to a decline in the company stock price.
- Requiring a company's top-five executives to publicly disclose, not less than ten days in advance, their intention to sell company stock, including the number of shares to be sold.
- Requiring "clawback" provisions in executive compensation arrangements that would result in a return to the company of executive over-payments based on performance metrics that are subsequently depressed upon a company's restatement of earnings.
- Requiring equity-based executive compensation arrangements to be "dividend neutral" – i.e., neither encouraging nor discouraging the payment of stock dividends to shareholders.
- Requiring executive stock option plans to adjust downward the exercise price of such options to reflect dividend payments made on company stock during the executive's holding period.
- Curtailing Supplemental Executive Retirement Plans (SERPs) for the top-five executives in the event a company terminates, "freezes", or otherwise curtails a defined benefit plan covering its rank-and-file employees.
- Reducing benefits provided under severance arrangements for a company's chief executive officer (CEO).
- Limiting the ratio of the sum of the compensation paid to a company's top-five executives to 8% of the company's aggregate earnings.

Advisory Votes on Executive Compensation (Say-on-Pay) Management Proposals
Generally, evaluate executive pay and practices based on the overall executive compensation structure's ability to effectively motivate participants to focus on long-term shareholder value and returns, while adhering to market law, disclosure and best practice standards.

Vote **against** management say on pay (MSOP) proposals, **against/withhold** on compensation committee members (or, in rare cases where the full board is deemed responsible, all directors including the CEO), and/or **against** an equity-based incentive plan proposal if:

- There is a misalignment between CEO pay and company performance (pay for performance);
- The company maintains problematic pay practices;
- The board exhibits poor communication and responsiveness to shareholders.

Frequency of Advisory Vote on Executive Compensation (Management "Say on Pay")

Vote **for** annual advisory votes on compensation, which provide the most consistent and clear communication channel for shareholder concerns about companies' executive pay programs.

Advisory Vote on Golden Parachutes in an Acquisition, Merger, Consolidation, or Proposed Sale

We will evaluate these proposals based on our existing policies related to severance packages and problematic pay practices.

Equity-Based and Other Incentive Plans

Proposals concerning director compensation are determined based on compensation methodology developed by ISS.

Vote **against** awarding stock option plans as compensation for directors.

Stock Plans in Lieu of Cash

Votes **for** plans which provide directors with the choice of taking all or a portion of their cash compensation in the form of stock or which provide a dollar-for-dollar cash for stock exchange.

Director Retirement Plans

Vote **against** retirement plans for non-employee directors.

Vote **for** shareholder proposals to eliminate retirement plans for non-employee directors.

Management Proposals Seeking Approval to Reprice Options

Vote **against** management proposals seeking approval to reprice options.

Shareholder Proposals Regarding Executive and Director Pay

Vote **for** shareholder proposals seeking additional disclosure of executive and director pay information, provided the information requested is relevant to shareholders' needs, would not put the company at a competitive disadvantage relative to its industry, and is not unduly burdensome to the company.

Vote **against** shareholder proposals seeking to set absolute levels on compensation or otherwise dictate the amount or form of compensation.

Vote **against** shareholder proposals requiring director fees be paid in stock only.

Vote **for** shareholder proposals to put option repricings to a shareholder vote.

All other shareholder proposals regarding executive and director pay are evaluated by taking into account company performance, pay level versus peers, pay level versus industry, and long term corporate outlook.

Qualified Employee Stock Purchase Plans

Vote **for** proposals to approve qualified employee stock purchase plans where all of the following are aligned with local market best practice standards:

- Purchase price;
- Offering period; and
- The number of shares.

Nonqualified Employee Stock Purchase Plans

Vote **for** proposal to approve nonqualified employee stock purchase plans where all of the following are aligned with local market best practice standards:

- Broad-based participation;
- Limits on employee contribution;
- Company matching contribution;
- No discount on the stock price on the date of purchase (since there is a company matching contribution).

In the event of excessive company matching contributions, we will evaluate the cost of plan against an allowable cap developed by ISS.

Employee Stock Ownership Plans (ESOPs)

Vote **for** proposals to implement an ESOP or increase authorized shares for existing ESOPs, unless the number of shares allocated to the ESOP is excessive (more than five percent of outstanding shares.)

401(k) Employee Benefit Plans

Vote **for** proposals to implement a 401(k) savings plan for employees.

Performance-Based Awards

Generally vote **for** shareholder proposals advocating the use of performance-based awards like indexed, premium-priced, and performance-vested options or performance-based shares, unless:

- The proposal is overly restrictive (e.g., it mandates that awards to all employees must be performance-based or all awards to top executives must be a particular type, such as indexed options)
- The company demonstrates that it is using a substantial portion of performance-based awards for its top executives

Pay-for-Superior-Performance Standard

Generally vote **for** shareholder proposals requesting to establish a pay-for-superior-performance standard whereby the company discloses defined financial performance criteria and a detail list of comparative peer group to allow shareholders to sufficiently determine the pay and performance correlation established in the plan. In addition, establish that no award should be paid out unless the company performance exceeds its peer's median or mean performance on the selected financial and stock price performance criteria.

Golden Parachutes and Executive Severance Agreements

Vote **for** shareholder proposals to require golden parachutes or executive severance agreements to be submitted for shareholder ratification, unless the proposal requires shareholder approval prior to entering into employment contracts.

Proposals to ratify or cancel golden parachutes are determined based on several qualifying factors. An acceptable parachute should include the following:

- The triggering mechanism should be beyond the control of management

- The amount should not exceed three times base amount (defined as the average annual taxable W-2 compensation during the five years prior to the year in which the change of control occurs)
- Change-in-control payments should be double-triggered, i.e., (1) after a change in control has taken place, and (2) termination of the executive as a result of a "change in control", meaning a change in the company ownership structure
- The agreements do not contain problematic features (*e.g.* excessive cash severance; excessive golden parachute payments)

Pension Plan Income Accounting

Vote **for** shareholder proposals to exclude pension plan income in the calculation of earnings used in determining executive bonuses/compensation.

Supplemental Executive Retirement Plans (SERPs)

Vote **for** shareholder proposals requesting to put extraordinary benefits contained in SERP agreements to a shareholder vote unless the company's executive pension plans do not contain excessive benefits beyond what is offered under employee-wide plans.
In addition, generally vote **for** shareholder proposals urging the board to limit the executive benefits provided under the company's supplemental executive retirement plan (SERP) by limiting covered compensation to a senior executive's annual salary and excluding of all incentive or bonus pay from the plan's definition of covered compensation used to establish such benefits.

Advisory Vote on Executive Compensation (Say-on-Pay)

Generally vote **for** shareholder proposals asking the board to propose an advisory resolution seeking to ratify the compensation of the company's named executive officers (NEOs) on an annual basis. The proposal submitted to shareholders should make it clear that the vote is non-binding and would not have an impact on compensation paid or awarded to any NEO.

Disclosure of Board or Company's Utilization of Compensation Consultants

Generally vote **for** shareholder proposals seeking disclosure regarding the Company, Board, or Board committee's use of compensation consultants, such as company name, business relationship(s) and fees paid.

IX. SOCIAL AND ENVIRONMENTAL ISSUES

Social issue proposals will be considered based on their potential impact on the long-term economic interests of the System. Generally, we will **abstain** absent clear effect of proposal on share value.

NON-U.S. PROXY VOTING GUIDELINES

I. OPERATIONAL ITEMS

Allocation of Income

Vote **for** approve of the allocation of income, unless:

- The dividend payout ratio has been consistently below 30 percent without adequate explanation; or
- The payout is excessive given the company's financial position.

Amend Minor Bylaws/Articles of Association

Generally, vote **for** proposals to make bylaw or charter changes that are of a housekeeping nature (updates or corrections) unless the proposed changes are believed to be detrimental to shareholder value or in absence of adequate information to evaluate the proposal per local market best practice standards.

Amend Quorum Requirements

Proposals to amend quorum requirements for shareholder meetings are evaluated based on several factors which include: market norms, the company's reasons for the change, and the company's ownership structure.

Change in Company Fiscal Term

Vote **for** proposals to change a company's fiscal term unless the company's motivation for the change is to postpone its annual general meeting.

Financial Statements/Director and Auditor Reports

Vote **for** proposals to approve financial statements and director and auditor reports, unless:

- There are concerns about the accounts presented or audit procedures used; or
- The company is not responsive to shareholder questions about specific items that should be publicly disclosed.

General Meeting Formalities

In some markets, shareholders are routinely asked to approve:

- the opening of the shareholder meeting
- acknowledge proper convening of meeting
- that the meeting has been convened under local regulatory requirements
- the presence of quorum
- the agenda for the shareholder meeting
- the election of the chair of the meeting
- the appointment of shareholders to co-sign the minutes of the meeting
- regulatory filings
- the designation of inspector or shareholder representative(s) of minutes of meeting
- the designation of two shareholders to approve and sign minutes of meeting
- the allowance of questions
- the publication of minutes
- the closing of the shareholder meeting
- authorize board to ratify and execute approved resolutions
- prepare and approve list of shareholders

As these are typically formalities associated with the convening of general shareholder meetings, generally vote **for** these and similar routine management proposals.

Lower Disclosure Threshold for Stock Ownership

Vote **against** proposals to lower the stock ownership disclosure threshold below 5 percent unless specific reasons exist to implement a lower threshold.

Stock (Scrip) Dividend Alternative

Generally, vote **for** stock (scrip) dividend proposals.

Vote **against** proposals that do not allow for a cash option unless management demonstrates that the cash option is detrimental to shareholder value.

Transact Other Business

Vote **against** other business when it appears as a voting item.

II. AUDITORS

Appointment of Auditors and Auditor Fees

Vote **for** the reelection of auditors and proposals authorizing the board to fix auditor fees, unless:

- There are serious concerns about the accounts presented or the audit procedures used;
- The auditors are being changed without explanation;
- The name(s) of the proposed auditors has not been published;
- The auditors are being changed without explanation;
- For widely-held companies, excessive fees for non-audit services as determined by local market best practice standards; or
- The lead audit partner(s) has been linked with a significant auditing controversy.

Vote **against** the appointment of external auditors if they have previously served the company in an executive capacity or can otherwise be considered affiliated with the company.

Appointment of Internal Statutory Auditors

Vote **for** the appointment or reelection of statutory auditors, unless:

- There are serious concerns about the statutory reports presented or the audit procedures used;
- Questions exist concerning any of the statutory auditors being appointed; or
- The auditors have previously served the company in an executive capacity or can otherwise be considered affiliated with the company.

Auditor Indemnification and Liability Provisions

Vote **against** proposals to indemnify auditors.

<u>III. THE BOARD OF DIRECTORS</u>

Voting on Director Nominees in Uncontested Elections (Non-U.S.)

Votes on management nominees in the election of directors are evaluated by observing relevant market listing rules and regulations, coupled with local market best practice standards. We will typically not support nominees if:

- Adequate disclosure has not been provided in a timely manner;

- There are clear concerns over questionable finances or restatements;
- There have been questionable transactions with conflicts of interest;
- There are any records of abuses against minority shareholder interests; or
- The board fails to meet minimum corporate governance standards.

Vote **for** individual nominees unless there are specific concerns about the individual, such as criminal wrongdoing or breach of fiduciary responsibilities.

Vote **against** individual directors if repeated absences at board meetings have not been explained (in countries where this information is disclosed).

Votes in a contested election of directors are evaluated based on the long-term economic interest of the System, and must be examined by taking the following factors into account:

- Past performance relative to its peers;
- Market in which fund invests;
- Measures taken by the board to address the issues;
- Past shareholder activism, board activity, and votes on related proposals;
- Strategy of the incumbents versus the dissidents;
- Independence of directors;
- Experience and skills of director candidates;
- Governance profile of the company;
- Evidence of management entrenchment.

Vote **for** employee and/or labor representatives if they sit on either the audit or compensation committee *and* are required by law to be on those committees. Vote **against** employee and/or labor representatives if they sit on either the audit or compensation committee, if they are not required to be on those committees.

Under extraordinary circumstances, vote **against** or **withhold** from directors individually, on a committee, or the entire board, due to:

- Material failures of governance, stewardship, or fiduciary responsibilities at the company; or
- Failure to replace management as appropriate; or
- Egregious actions related to the director(s)' service on other boards that raise substantial doubt about his or her ability to effectively oversee management and serve the best interests of shareholders at any company.

Board Structure

Generally, vote **for** management proposals to determine board size.

Director and Officer Indemnification and Liability Provisions

Votes on proposals seeking indemnification and liability protection for directors and officers are examined based on the indemnification and liability protections applicable in each respective market, provided that they are within reason. We will generally only support those proposals that provide directors and officers protection if they have acted in good faith on company business and were found innocent of any civil or criminal charges for duties performed on behalf of the company.

Discharge of Directors

Generally vote **for** the discharge of directors, including members of the management board and/or supervisory board, unless there is reliable information about significant and compelling controversies that the board is not fulfilling its fiduciary duties warranted by:

- A lack of oversight or actions by board members which invoke shareholder distrust related to malfeasance or poor supervision, such as operating in private or company interest rather than in shareholder interest; or
- Any legal issues (e.g. civil/criminal) aiming to hold the board responsible for breach of trust in the past or related to currently alleged actions yet to be confirmed (and not only the fiscal year in question), such as price fixing, insider trading, bribery, fraud, and other illegal actions; or
- Other egregious governance issues where shareholders will bring legal action against the company or its directors.

IV. PROXY CONTESTS

Voting for Director Nominees in Contested Elections

Votes in a contested election of directors are evaluated based on the long-term economic interest of the System, and must be examined by taking the following factors into account:

- Past performance relative to its peers;
- Market in which fund invests;
- Measures taken by the board to address the issues;
- Past shareholder activism, board activity, and votes on related proposals;
- Strategy of the incumbents versus the dissidents;
- Independence of directors;

- Experience and skills of director candidates;
- Governance profile of the company;
- Evidence of management entrenchment.

V. ANTI - TAKEOVER MECHANISMS

Anti-takeover/Entrenchment Devices

Generally vote **against** all antitakeover proposals, unless they are structured in such a way that they give shareholders the ultimate decision on any proposal or offer.

Depositary Receipts and Priority Shares

Generally vote **against** the introduction of depositary receipts and priority shares.

Issuance of Free Warrants

Generally vote **against** the issuance of free warrants.

Mandatory Takeover Bid Waivers

Generally, vote **for** proposals to waive mandatory takeover bid requirements provided that the event prompting the takeover bid is a repurchase by the company of its own shares. During a buyback of shares, the relative stake of a large shareholder increases even though the number of shares held by the large shareholder has not changed. In certain markets, the mandatory bid rules require a large shareholder to make a takeover offer if its stake in the company is increased on a relative basis as a result of a share repurchase by the company. Companies in such markets may seek a waiver from the takeover bid requirement applicable to their large shareholder.

Renew Partial Takeover Provision

Generally vote **for** the adoption of this proposal as this article provides protection for minority shareholders by giving them ultimate decision-making authority based on their own interests.

VI. MERGERS AND CORPORATE RESTRUCTURINGS

Control and Profit Transfer Agreements

Generally vote **for** management proposals to approve control and profit transfer agreements between a parent and its subsidiaries.

Expansion of Business Activities

Vote **for** resolutions to expand business activities unless the new business takes the company into risky areas.

Mergers and Acquisitions/ Issuance of Shares to Facilitate Merger or Acquisition

Proposals to merge one company with another, or for one company to acquire another are determined based on the long-term economic interest of the System. When evaluating the proposals, shareholders should weigh the cost to the company, market reaction, strategic rationale, the immediate and long-term benefits to shareholders, conflict of interests, whether the transaction is contested, and the resulting corporate governance changes.

Vote **against** if the companies do not provide sufficient information upon request to make an informed voting decision.

Related-Party Transactions

Evaluate resolutions that seek shareholder approval on related party transactions (RPTs), considering factors including, but not limited to, the following:

- the parties on either side of the transaction;
- the nature of the asset to be transferred/service to be provided;
- the pricing of the transaction (and any associated professional valuation);
- the views of independent directors (where provided);
- the views of an independent financial adviser (where appointed);
- whether any entities party to the transaction (including advisers) are conflicted; and
- the stated rationale for the transaction, including discussions of timing.

If there is a transaction that NHRS deemed problematic and that was not put to a shareholder vote, we may recommend against the election of the director involved in the related-party transaction or the full board.

Reorganizations/Restructurings

Proposals to approve reorganizations and restructurings are evaluated based on the long-term economic interest of the System. When evaluating such proposals, shareholders should consider if there are clear conflicts of interest among the various parties, if shareholder rights' are being negatively affected, or if certain groups or shareholders appear to be getting a better deal at the expense of general shareholders.

VII. COUNTRY OF INCORPORATION

Reincorporation Proposals

Proposals to change a corporation's country of incorporation should be examined based on the long-term economic interest of the System, giving consideration to both financial and corporate governance concerns including the following:

- Reasons for reincorporation;
- Comparison of company's governance practices and provisions prior to and following the reincorporation; and
- Comparison of corporation laws of original country and destination country

VIII. CAPITAL STRUCTURE

Adjust Par Value of Common Stock

Vote **for** management proposals to reduce par value of common stock.

Capitalization of Reserves for Bonus Issues/Increase in Par Value

Vote **for** requests to capitalize reserves for bonus issues of shares or to increase par value.

Debt Issuance Requests

Votes on non-convertible debt issuance requests with or without preemptive rights are evaluated based on their individual merits, demonstrated need, and long-term investment interests of the company. We will examine the potential impact the proposed authority may have on the company's debt ratio, and further compare the level with similar peers in the industry.

Vote **for** the creation/issuance of convertible debt instruments as long as the maximum number of common shares that could be issued upon conversion meets recommended guidelines on equity issuance requests.

Vote **for** proposals to restructure existing debt arrangements unless the terms of the restructuring would adversely affect the rights of shareholders.

Increases in Authorized Capital

Vote **for** non-specific proposals to increase authorized capital in line with local market best practice standards.

Vote **against** proposals to adopt unlimited capital authorizations.

Increase in Borrowing Powers

Votes on proposals to approve increases in a company's borrowing powers are evaluated based on their individual merits, demonstrated need, and long-term investment interests of the company. We will examine the potential impact the proposed authority may have on the company's debt ratio, and further compare the level with similar peers in the industry.

Pledging of Assets for Debt

Votes on proposals to approve the pledging of assets for debt are evaluated based on their individual merits, demonstrated need, and long-term investment interests of the company. We will examine the potential impact the proposed authority may have on the company's debt ratio, and further compare the level with similar peers in the industry.

Preferred Stock

Vote **for** the creation of a new class of preferred stock or for issuances of preferred stock up to 50 percent of issued capital unless the terms of the preferred stock would adversely affect the rights of existing shareholders.

Vote **for** the creation/issuance of convertible preferred stock as long as the maximum number of common shares that could be issued upon conversion meets ISS guidelines on equity issuance requests.

Vote **against** the creation of a new class of preference shares that would carry superior voting rights to the common shares.

Vote **against** the creation of blank check preferred stock unless the board clearly states that the authorization will not be used to thwart a takeover bid.

Votes on proposals to increase blank check preferred authorizations are evaluated based on the rationale for requested increase, the ability for the company to use the blank check preferred stock as a takeover defense, and whether the company has historically issued such stock for legitimate financing purposes.

Preemptive Rights

Vote **against** proposals requesting the issuance of shares with or without preemptive rights which are excessive under local market best practice standards.

Reduction of Capital

Vote **for** proposals to reduce capital for routine accounting purposes unless the terms are unfavorable to shareholders.

Generally, vote **for** proposals to reduce capital in connection with corporate restructuring, as opposition could lead to insolvency, which is not in the long-term economic interests of shareholders. Evaluation of this type of proposal should take a realistic approach to the company's situation and the future prospects for shareholders.

Reissuance of Repurchased Shares

Vote **for** requests to reissue any repurchased shares unless there is clear evidence of abuse of this authority in the past.

Share Repurchase Programs

Generally vote **for** share repurchase programs/market repurchase authorities, provided that the proposal meets local market best practice standards regarding:

- Maximum volume;
- Duration.

For markets that either generally do not specify the maximum duration of the authority or seek an excessive duration that is allowable under market specific legislation, we will assess the company's historic practice. If there is evidence that a company has sought shareholder approval for the authority to repurchase shares on an annual basis, we will support the proposed authority.

In addition, vote **against** any proposal where:

- The repurchase can be used for takeover defenses;
- There is clear evidence of abuse;
- There is no safeguard against selective buybacks;
- Pricing provisions and safeguards are deemed to be unreasonable in light of market practice.

We may support share repurchase plans with excessive volume under exceptional circumstances, such as one-off company specific events (e.g. capital restructuring). Such proposals will be assessed based on merits, which should be clearly disclosed in the annual report.

IX. EXECUTIVE COMPENSATION

Executive Compensation Plans

All compensation proposals will be reviewed based on local market best practice standards.

Director Remuneration and Compensation

Vote **for** proposals to award cash fees to non-executive directors unless the amounts are excessive relative to other companies in the country or industry.

Votes on non-executive director compensation proposals that include both cash and share-based components are determined based on whether the terms of the proposed compensation can effectively motivate participants to focus on long-term shareholder value and returns, while adhering to local market law, disclosure and best practice standards. However, we will typically vote **against** awarding stock option plans as compensation for non-executive directors.

Votes on proposals that bundle compensation for both non-executive and executive directors into a single resolution are determined based on whether the terms of the proposed compensation can effectively motivate participants to focus on long-term shareholder value and returns, while adhering to local market law, disclosure and best practice standards. However, we will typically vote **against** awarding stock option plans as compensation for non-executive directors.

Vote **against** proposals to introduce retirement benefits for non-executive directors.

Director and Statutory Auditor Retirement Plans

Vote **against** retirement plans for nonemployee directors and statutory auditors.

Vote **for** shareholder proposals to eliminate retirement plans for nonemployee directors and statutory auditors.

Remuneration Report

Management proposals seeking ratification of a company's remuneration policy are evaluated by considering a combination of local market law and best practice standards. We will typically oppose a company's remuneration policy if the proposed compensation policy/report was not made available to shareholders in a timely manner, or if the level of disclosure of the proposed compensation policy is below what local market best practice standards dictate.

X. SOCIAL AND ENVIRONMENTAL ISSUES

Social issue proposals will be considered based on their potential impact on the long-term economic interests of the company. Generally, we will **abstain** absent clear effect of proposal on share value.

Securities Lending Policy

New Hampshire Retirement System
Securities Lending Policy

This policy governs the System's direct lending program. The direct lending program covers securities directly owned by NHRS in separately managed accounts. This policy does not address indirect lending, where securities are lent from commingled investment funds.

Securities lending occurs when the System loans a security to a borrower, such as a broker-dealer or a bank, for cash or non-cash collateral pursuant to an agreement to return the identical security to NHRS in the future. Securities are borrowed for a number of reasons, including settlement of short sales and to cover hedges, options, arbitrage positions and settlement fails. Consequently, the borrower receives custody of the loaned security and has the right to resell it. The borrower, however, is obligated to return the exact same security at the end of the loan period and to make the System whole for dividends, interest, and other distributions as if the security remained in the System's portfolio during the loan period. The System does not retain the right to vote on any proxies for a given security during the period the security is on loan.

Due to the current relationship of risk to reward involved in securities lending, and the limited earning potential associated with this activity due to very low interest rates, the NHRS no longer participates in the practice of securities lending.

April 10, 2012

Securities Litigation Policy

New Hampshire Retirement System
Securities Litigation Policy
Amended by NHRS Board of Trustees on January 14, 2014

I. Purpose and Intent

This policy establishes the New Hampshire Retirement System's ("NHRS") policy regarding potential participation in securities class action lawsuits.

II. Policy

A. Background

To fulfill its fiduciary responsibilities to prudently invest and manage the assets of NHRS, NHRS purchases the stock of various public companies or issuers. Periodically, class action lawsuits are brought against the issuers, their directors and/or their officers for alleged violations of federal and state securities laws relating to various disclosure obligations and other breaches of fiduciary or other duties. As a shareholder, NHRS is often a member of the classes. Frequently, NHRS receives solicitations from attorneys who desire to represent NHRS as lead plaintiff in these class action lawsuits.

B. Appointment as Lead Plaintiff

Under the federal Private Securities Litigation Reform Act of 1995, federal courts are required to appoint one or more members of the class to serve as the lead plaintiff(s) in securities class action lawsuits. The Act provides a presumption that the lead plaintiff is to be the investor with the largest financial interest in the relief sought by the lawsuit. Typically, this means that those investors with the largest holdings in the defendant issuer's stock have the right to serve as the lead plaintiffs. Generally, in most class action lawsuits, several other investors with substantially larger assets than NHRS will hold more shares in the defendant issuer than NHRS and therefore have a larger financial interest in the relief sought. Accordingly, in most of these lawsuits, an investor other than NHRS will have the right to serve as the lead plaintiff.

C. Financial Risks of Serving as Lead Plaintiff

There are financial risks that result from serving as a lead plaintiff in a securities class action lawsuit. Serving as lead plaintiff may have financial risks if the litigation is unsuccessful. Unless the lead plaintiff successfully negotiates an allocation of potential financial risk with other named plaintiffs, the lead plaintiff could bear the costs, expenses or, potentially, attorneys' fees of the defendant if the litigation is unsuccessful or the court grants sanctions pursuant to Rule 11 of the *Federal Rules of Civil Procedure*. Regardless of the outcome of the lawsuit, other class members could potentially pursue claims against the lead plaintiff for inadequately representing their interests. In return for accepting these financial risks, the lead plaintiff does not receive any additional financial benefit from serving as the lead plaintiff, but, instead, shares any final judgment or settlement with all class members on an equal, per share basis. However, the lead plaintiff may also recover its attorneys' fees, costs and expenses if the lawsuit is successful or a settlement is obtained.

D. NHRS Policy

Based on the issues enumerated above, it is the policy if NHRS not to serve as the lead plaintiff in securities class action litigation unless NHRS is among the largest shareholders of the defendant issuer and serving as the lead plaintiff is determined by the Board of Trustees to be in the best interest of NHRS.

Private Markets Disclosure Policy

New Hampshire Retirement System
Private Markets Disclosure Policy
Amended by NHRS Board of Trustees on June 13, 2017

I. Purpose and Intent

The New Hampshire Retirement System ("NHRS") is committed to providing the highest degree of public disclosure and transparency of its financial operations not in conflict with its paramount fiduciary duty to act solely in the interest of its members and beneficiaries and to prudently maximize a risk-adjusted return on NHRS assets for their exclusive benefit. With respect to those private market investments (including these asset types: all private equity, absolute return, and non-direct real estate funds) in which NHRS is invested, and recognizing its general public obligation to be transparent and accountable subject to that fiduciary duty of loyalty it owes to its members and beneficiaries, NHRS's disclosure policy is guided by the following principles:

1. The fiduciary duty of NHRS is to prudently maximize a risk-adjusted return on fund assets solely in the interest of and for the exclusive benefit of its members and beneficiaries.

2. NHRS's Board of Trustees and Independent Investment Committee (IIC) manage NHRS's investments with as much transparency as possible, recognizing it is a public body accountable in the first instance to its members and then also to the general public.

3. However, when the general policy favoring transparency is seen to conflict with the Board's and IIC's express fiduciary duty to act solely in the interest of and for the exclusive benefit of its members, it must act in the best interests of its members.

II. Policy

A. Quarterly Disclosure. On balance, and upon careful consideration, the Board has concluded that public disclosure of the periodic investment performance by asset type of those private market investment funds in which NHRS is invested would neither interfere with the operation of those funds nor impede the fiduciary duty owed to NHRS's members and beneficiaries. Accordingly, NHRS, on a quarterly basis, shall compile, post on its website, and make available for public inspection a report disclosing private market investment information, as outlined below:

1. Date of commitment and the total amount committed for each fund;

2. The type of fund (e.g. buyout, mezzanine, venture, real estate);

3. A column for relationship disclosure (any connection that investment staff or any Trustee or investment committee member has with a partnership or the general partners will be disclosed in detail in footnotes);

4. The asset type internal rate of return (IRR);

5. The asset type contribution amount;

6. The asset type distribution amount; and

7. The asset type market value.

These disclosures will provide substantial relevant information to members, their beneficiaries, and the public. They provide the financial extent of NHRS's private market program, and of each asset type, their scale relative to the total portfolio, the names and numbers of partnerships in which NHRS is invested, their type, whether NHRS is invested in more than one generation of a fund, where the program for each asset type stands relative to its allocation (over-invested or under-invested), how much over-commitment has been made to achieve the invested target (potential liability), what the quarterly cash flows are with regard to the program, the return (success, or lack thereof) of the program, and whether cash is being paid out (invested) or received, on balance. If any funds are bought or sold, that will also be apparent. All transactions, including other important information, are reported through the IIC and captured in the meeting minutes.

B. Nondisclosure. The following information will not be regularly disclosed by NHRS, subject to the exception provided below:

NHRS does not provide information publicly on the internal rates of return on individual partnerships in the portfolio and does not provide sufficient detail for the public to calculate it. This is consistent with the fact that NHRS does not provide returns on individual public investments such as common stocks or bonds held in portfolios. This level of detail is not needed for our constituents to evaluate the performance of the portfolio, or the program, and it distracts attention from the information NHRS does provide which is sufficient to assess success, risks and other relevant program metrics.

As to that additional information specifically concerning underlying investments or portfolio companies in NHRS private market investment portfolios, NHRS recognizes a material adverse effect on the ability of such funds to succeed in their investment activities, objectives, and negotiations that would result from public disclosure of such confidential and proprietary financial information. The business impairment of such compromised funds of course would immediately translate to a direct and negative impact on the economic interests of NHRS, its members and beneficiaries.

In addition to causing substantial harm to the competitive position of those funds and portfolio companies in which NHRS is invested, such public disclosure would likely result in degraded reporting to NHRS of that financial information and reduced opportunities to participate in future private market investments. Therefore, such confidential and proprietary information as may detail a fund's portfolio companies, underlying investments, investment management and sponsor fees, or otherwise exist outside the scope of those items included in the quarterly report described above are exempt from public inspection and may not be disclosed.

Exception: In the event of a valid Right to Know request submitted to NHRS pursuant to RSA 91-A, the Board of Trustees may authorize NHRS staff, after consultation with the IIC, to disclose any information that would otherwise not be subject to disclosure (as noted above) if NHRS staff either previously has or, in response to such an information request, subsequently does confirm and document through direct communication with the private market investment sponsor/manager that such information may be disclosed by NHRS.

SECTION II

Accountability Matrix

New Hampshire Retirement System
Accountability Matrix

Total Fund Investment Policy[1]

Function	Independent Investment Committee	Board	Director of Investments and Investment Staff	Legal Counsel	Investment Consultant	Actuary
1. Establishing (and modifying when necessary) investment policy, which includes risk tolerances and investment objectives	Recommends 100-A:14-b, III; A:15, I-a(b) & VII(c)	Decides 100-A:15, I; I-a(b) & (c) & VII(c)	Provides advice/analysis		Provides advice/analysis	Provides input
2. Establishing asset allocation targets and ranges	Recommends A:15, VII(c)(2)	Decides A:15, VII(c)(2)	Provides advice/analysis		Provides advice/analysis	
3. Determining Investment Committee's philosophy for investing assets	Decides A:15, VII(a)	Reviews A:15, VII(a)	Provides advice/analysis			
4. Rebalancing procedures	Decides A:15, I, II-a(b) & VII(c)(2)	Reviews A:15, I-a(c) & VII(c)(2)	Provides advice/analysis		Provides advice/analysis	
5. Monitoring policy compliance	Reviews and assigns responsibility A:15, I-a(a)	Reviews A:15, I-a(a)	Oversees		Serves as a double check	
6. Ensuring statutory compliance of investments parameters	Reviews quarterly A:15, I-a(a)	Reviews annually A:15, I-a(a)	Monitors compliance	Reviews for legal compliance	Abides by parameters	
7. Monitoring Total Fund performance	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis	
8. Completing comprehensive annual investment report (as outlined in HB 1645)	Prepares A:15, VII	Approves A:15, VII	Provides assistance	Provides assistance	Provides assistance	Provides assistance

[1] Items in red are responsibilities dictated by statute.

Domestic Equity[2]

Function	Independent Investment Committee	Board	Director of Investments and Investment Staff	Legal Counsel	Investment Consultant
1. Determining domestic equity asset class guidelines (active vs. passive, style, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing domestic equity benchmarks	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides Advice/Analysis		Provides advice/analysis
3. Determining number and types of managers for each asset class	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment managers	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Recommends	Reviews contracts	Influences/ recommends
5. Monitoring compliance with asset class strategy and guidelines	Reviews and assigns responsibility A:15, VII(c)(3)	Reviews A:15, I-a(a) & VII(c)(3)	Oversees		Serves as a double check
6. Reviewing asset class performance	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities

[2] Items in red are responsibilities dictated by statute.

Non-U.S. Equity[3]

Function	Independent Investment Committee	Board	Director of Investments and Investment Staff	Legal Counsel	Investment Consultant
1. Determining international equity asset class guidelines (active vs. passive, style, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing international equity benchmarks	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Recommends		Provides advice/analysis
3. Determining number and types of managers for each asset class	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment managers	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Recommends	Reviews contracts	Influences/ recommends
5. Monitoring compliance with asset class strategy and guidelines	Reviews and assigns responsibility A:15, I-a(a)	Reviews A:15, I-a(a)	Oversees		Serves as a double check
6. Reviewing performance of the asset class	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities

[3] Items in red are responsibilities dictated by statute.

Fixed Income[4]

Function	Independent Investment Committee	Board	Director of Investments and Investment Staff	Legal Counsel	Investment Consultant
1. Determining fixed income asset class guidelines (active vs. passive, style, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing asset class benchmarks	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Recommends		Provides advice/analysis
3. Determining number and types of managers for each asset class	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment managers	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Recommends	Reviews contracts	Influences/ Recommends
5. Monitoring compliance with asset class strategy and guidelines	Reviews and assigns responsibility A:15, VII(c)(3)	Reviews A:15, VII(c)(3)	Oversees		Serves as a double check
6. Reviewing performance of asset classes	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities

[4] Items in red are responsibilities dictated by statute.

Real Estate [5]

Function	Independent Investment Committee	Board	Director of Investments and Investment Staff	Legal Counsel	Investment Consultant
1. Determining real estate asset class guidelines (diversification, style, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing asset class benchmarks	Decides A:14-b, III; A:15, VII	Reviews A:15, VII	Provides advice/analysis		Provides advice/analysis
3. Determining number and types of managers for the asset class	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment management firms	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Influences	Reviews contracts	Influences
5. Monitoring compliance with policy	Reviews and assigns responsibility	Reviews A:15, I-a(a)	Oversees		Serves as a double check
6. Reviewing performance of the asset class	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities
8. Valuation of real estate	Reviews quarterly A:15, I-a(b)(3); A:15, VII(c)(3)	Monitors A:15, I-a(a)	Ensures valuations are completed		Assists as needed
9. Executing purchase and sale agreements on real estate	Reviews quarterly A:15, II-a(b) & VII(c)(3)		Ensures valuations are completed	Reviews contracts	

[5] Items in red are responsibilities dictated by statute.

Alternatives Investments Policy[6]

Function	Independent Investment Committee	Board	Director of Investments and Investment Staff	Legal Counsel	Investment Consultant
1. Determining alternative asset class guidelines (style, diversification, limitations, etc.)	Decides A:15, I-a(a)	Reviews A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
2. Setting and reviewing asset class benchmarks	Decides A:14-b, III; A:15, VII	Reviews A:15, VII	Provides advice/analysis		Provides advice/analysis
3. Approving number and types of external managers	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Provides advice/analysis		Provides advice/analysis
4. Selecting external investment management firms	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Influences	Reviews contracts	Influences
5. Monitoring compliance with policy	Reviews and assigns responsibility A:15, VII(c)(3)	Reviews A:15, I-a(a)	Oversees		Serves as a double check
6. Reviewing performance of the asset class	Reviews and reports to the Board quarterly A:15, II-a(c)	Reviews quarterly IIC reports A:15, II-a(c)	Provides advice/analysis		Provides advice/analysis
7. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities
8. Valuation of private equity	Reviews quarterly A:15, I-a(b)(3); A:15, VII(c)(3)		Ensures valuations are completed		Assists as needed
9. Executing partnership agreements on private equity	Reviews quarterly A:14-b, III; A:15, II-a(b)		Ensures agreements are executed	Reviews agreements	

6 Items in red are responsibilities dictated by statute.

Selection and Monitoring of Investment Managers[7]

Function	Investment Committee	Board	Director of Investments and Investment Staff	Legal Counsel	Investment Consultant
1. Selecting specific external investment management firms	Decides A:14-b, III; A:15, II-a(b)	Monitors A:15, I-a(a)	Influences	Reviews contracts	Influences
2. Conducting due diligence meetings and activities	Reviews staff/consultants A:15, I-a(a); A:15, VII(c)(3); A:15, (c)(3)		Oversees due diligence		Completes due diligence activities
3. Developing individual manager guidelines			Approves	Reviews	Provides advice/analysis
4. Executing investment manager contracts			Approves	Recommends	Provides assistance
5. Monitoring performance of external investment managers	Reviews on on-going basis A:14-b, III; A:15, VII(c)(3)	Reviews quarterly reports A:15, II-a(c)	Completes monitoring activities		Completes monitoring activities

[7] Items in red are responsibilities dictated by statute.

Selection of Other Service Providers[8]

Function	Independent Investment Committee	Board	Director of Investments and Investment Staff	Legal Counsel	Investment Consultant
1. Selecting (and periodically reviewing) custodian banks	Decides A:15, II-a(a)	Monitors A:15, I-a(a)	Influences	Reviews contract	Influences
2. Selecting (and periodically reviewing) general investment consultant	Recommends A:14-b, III	Decides A:15, II(c)	Provides input	Reviews contract	
3. Selecting (and periodically reviewing) specialty investment consultants	Recommends A:14-b, III	Decides A:15, II(c)	Provides input	Reviews contract	
4. Selecting (and periodically reviewing) the fund's actuary		Decides A:15, II(a)	Influences	Reviews contract	
5. Selecting (and periodically reviewing) outside legal counsel for investment issues		Decides A:15, IV	Influences	Recommends	
6. Selecting (and periodically reviewing) proxy voting service provider		Approves A:15, I-a(a)	Recommends	Reviews contract	Influences
7. Selecting (and periodically reviewing) transition managers	Decides A:14-b, III; A:15, II-a(b)	Reviews A:15, I-a(a)	Recommends	Reviews contract	Influences
8. Selecting (and periodically reviewing) transaction analysis provider	Decides A:15, II-a(b)	Reviews A:15, I-a(a)	Recommends	Reviews contract	Influences

[8] Items in red are responsibilities dictated by statute.

Proxy Voting

Function	Investment Committee	Board	Executive Director or Director of Investments	Legal Counsel	Investment Consultant
1. Setting (and modifying) proxy voting policy		Decides A:15, I-a(a)	Recommends	Provides input	Provides advice/analysis
2. Identifying proxy voting issues and positions		Decides A:15, I-a(a)	Provides advice/analysis	Provides input	Provides advice/analysis
3. Monitoring proxy voting activity		Reviews annually A:15, I-a(a)	Prepares		
4. Approving exceptions to the policy		Reviews annually A:15, I-a(a)	Oversees/ recommends	Provides input	Provides advice/analysis
5. Ensuring policy compliance		Reviews annually A:15, I-a(a)	Oversees	Provides input	Provides advice/analysis

Securities Lending

Function	Investment Committee	Board	Executive Director or Director of Investments	Legal Counsel	Investment Consultant
1. Setting (and modifying) securities lending policy	Provides Input A:15, I-a(a)	Decides A:15, I-a(a)	Provides advice/analysis	Provides input	Provides advice/analysis
2. Creating and updating securities lending guidelines	Approves A:15, I-a(a)	Reviews A:15, I-a(a)	Recommends	Provides input	Provides advice/analysis
3. Monitoring securities lending activity	Reviews and assigns responsibility A:15, I-a(a)	Reviews A:15, I-a(a)	Oversees	Provides input	Provides advice/analysis
4. Ensuring policy compliance	Reviews and assigns responsibility A:15, I-a(a)	Reviews A:15, I-a(a)	Oversees	Provides input	Provides advice/analysis

SECTION III

Independent Investment Committee Charter

New Hampshire Retirement System
Independent Investment Committee Charter

Revisions approved at the November 22, 2019 Independent Investment Committee meeting.

Purpose

The Independent Investment Committee (IIC) was established by Chapter 300 of the 2008 Session Laws with an effective date of January 1, 2009. The purpose of the IIC is to invest the funds of the New Hampshire Retirement System ("NHRS" or "System") in accordance with the policies approved by the NHRS Board of Trustees (the Board). The IIC will also make recommendations to the Board on investment policy, prepare a comprehensive annual investment report, and provide quarterly investment program updates to the Board.

As fiduciaries, the IIC members must exercise the highest degree of care, skill, prudence, and loyalty to beneficiaries of the trust funds.

Authority

The IIC is granted authority as outlined in statute, as may be amended from time to time, and as summarized below. The IIC has the authority to invest and reinvest fund assets in accordance with the policy set by the Board, and in recognition of the assumed rate of return set by the Board. Furthermore, the IIC has the authority to hire and terminate investment managers, and the custodian, and other related investment agents, consistent with statute.

The IIC has the authority to review research data, historical information, consultants' reports, and other documents it deems reasonably necessary to form an opinion on the capabilities of the investment managers and related agents, custodian, and investment consultant of the fund. The Committee is allowed to ask any questions of the firms that are relevant to the services they perform on behalf of the trust funds.

The IIC also has the authority to call upon the NHRS Executive Director, Director of Investments or his or her designee, legal counsel, investment consultant, actuary, and auditor to assist it in carrying out its responsibilities.

Implementation of IIC decisions and directives is delegated to NHRS staff.

Composition

The IIC consists of not more than 5 members. Three members, who shall not be members of the NHRS Board, will be appointed by the Governor with the consent of the Executive Council. Up to two members, who will be members the NHRS Board, will be appointed by the chairperson of the NHRS Board of Trustees. All members of the IIC shall have substantial experience in the field of institutional investments or finance (beyond experience as a trustee of the New Hampshire Retirement System).

Meetings

The IIC shall set an annual calendar and generally meet monthly. All committee members are expected to attend each meeting in person. Meetings will be held in accordance with New Hampshire open meeting requirements under RSA 91-A. The Committee may invite members of staff or others to attend meetings and provide pertinent information, as necessary. Meeting agendas will be prepared and provided in advance to Committee members, along with appropriate briefing materials. Minutes of the meeting discussions and decisions will be prepared by staff. Any Trustee may attend the Committee's meetings.

Staffing

The Director of Investments will act as staff liaison to the Committee. NHRS staff will assist the Committee in the discharge of its responsibilities.

Statutory Obligation to Act as Fiduciary (excerpts from RSA 100-A:15):

"I-a.(a) A trustee, independent investment committee member, or other fiduciary shall discharge duties with respect to the retirement system:

(1) Solely in the interest of the participants and beneficiaries;

(2) For the exclusive purpose of providing benefits to participants and beneficiaries and paying reasonable expenses of administering the system;

(3) With the care, skill, and caution under the circumstances then prevailing which a prudent person acting in a like capacity and familiar with those matters would use in the conduct of an activity of like character and purpose;

(4) Impartially, taking into account any differing interests of participants and beneficiaries;

(5) Incurring only costs that are appropriate and reasonable; and

(6) In accordance with a good-faith interpretation of the law governing the retirement system.

(b) In investing and managing assets of the retirement system pursuant to subparagraph (a), a trustee or independent investment committee member with authority to invest and manage assets:

(1) Shall consider among other circumstances:

(A) General economic conditions;

(B) The possible effect of inflation or deflation;

(C) The role that each investment or course of action plays within the overall portfolio of the retirement system;

(D) The expected total return from income and the appreciation of capital;

(E) Needs for liquidity, regularity of income, and preservation or appreciation of capital; and

(F) The adequacy of funding for the system based on reasonable actuarial factors;

(2) Shall diversify the investments of the retirement system unless the trustee or independent investment committee member reasonably determines that, because of special circumstances, it is clearly prudent not to do so;

(3) Shall make a reasonable effort to verify facts relevant to the investment and management of assets of a retirement system; and

(4) May invest in any kind of property or type of investment consistent with this section.

(c) The board of trustees shall adopt a statement of investment objectives and policy for the retirement system as provided in subparagraph VII(c).

I-b. Paragraph 1-a shall apply to all board members, independent investment committee members, and other fiduciaries, as well as staff and vendors to the extent they exercise any discretionary authority or discretionary control respecting management of the retirement system or exercise any authority or control respecting management or disposition of its assets, or they render investment advice for a fee or other compensation, direct or indirect, with respect to any monies or other property of the retirement system, or have any authority or responsibility to do so, or they have any discretionary authority or discretionary responsibility in the administration of the retirement system.

I-c. The fiduciary obligations of the members of the board of trustees and the independent investment committee are paramount to any other interest a trustee or independent investment committee member may have arising from another role or position that he or she holds, including the position which qualified the person for appointment to the board of trustees or independent investment committee."

Responsibilities of the Committee

The IIC has the following responsibilities:

- Determine the IIC's philosophy for investing the assets of the System;
- Recommend changes in the Investment Policy to the Board;
- Review, with the assistance of the investment consultant or Director of Investments or his or her designee, the performance of the fund, asset classes, and investment managers versus the benchmarks set forth in the Investment Policy;
- Select and, as appropriate, terminate the investment managers or related investment agents, consistent with statute;
- Develop appropriate benchmarks for investment managers;
- Appoint and periodically review a custodian bank for the assets;
- Report to the Board at least quarterly on the management, investment, and reinvestment activities of the IIC;
- Recommend an investment consultant to the Board;

- Prepare a Comprehensive Annual Investment Report as outlined in statute for review and approval by the Board;
- Suggest legislative changes to the Board; and,
- Maintain an orientation and education program for Committee members.

Responsibilities of the Committee Members

Individual Committee members have the following responsibilities:

- Discharge duties solely in the interest of the members and beneficiaries and for their exclusive benefit;
- Observe relevant policies and procedures of NHRS such as those covering Code of Ethics, disclosure, confidentiality, travel, and communications;
- Observe appropriate distinctions in roles and responsibilities with NHRS staff, service providers, IIC members and Trustees;
- Be informed about the System's investment policies and remain current on developments in the pension and public fund industry;
- Work constructively with other IIC members ;
- Interact appropriately with NHRS staff, outside service providers, and the full Board
- Be prepared and regularly attend IIC meetings;
- Respect open meeting laws by not convening meetings with fellow IIC members to discuss NHRS business outside the properly noticed meetings;
- Maintain co-fiduciary responsibility; and,
- Live up to high ethical standards and avoid the appearance of impropriety.

Reporting to the NHRS Board of Trustees

By statute the IIC is required to provide quarterly and annual investment reports to the Board.

The quarterly investment reports will be provided to the Board in advance of its scheduled meetings. They will include, at a minimum, the following:

- Review of the performance of the total fund, asset classes, and investment managers' versus benchmarks;
- Comparison of the fund's actual asset allocations versus target allocations, with explanation of deviations; and,
- Summary of actions taken which involved moving investment proceeds or assets during the period (such as liquidity events, rebalancing, manager hire or termination).

In addition to the items above, supplemental information for the annual period ending June 30th will be provided to the Board. Each year the IIC will also present the Comprehensive Annual Investment Report. It will include, at a minimum, the following:

- A description of the IIC's investment philosophy, including a summary of any significant changes to that philosophy that have occurred since the last annual report;
- A review of the Investment Policy with any recommended changes, including asset class target allocations and allowable ranges;
- A summary of compliance with the Investment Policy, including an explanation for exceptions and steps taken to return to compliance;

- An analysis of returns on investment by investment category;
- Summary of changes to investment structure or portfolio managers;
- An assessment of the current asset structure to determine if it will allow the funds to reach its long range objectives, and any recommended changes;
- Statement of investment costs;
- Summary of any other relevant investment program developments, including those affecting securities lending, proxy voting, divestment, etc.;
- Any suggested changes in legislation which are requested to better serve the members of the System; and,
- Other items as required by statute

Upon approval of this Comprehensive Annual Investment Report by the Board, it will be submitted to the President of the Senate, the Speaker of the House, and the Governor.

As the IIC is also responsible for recommending an investment consultant to the Board of Trustees, the IIC will provide a report, upon request from the Board, which may include any of the following:

- An assessment of the current investment consultant;
- A recommendation to retain, competitively review, or terminate the investment consultant; and,
- An assessment of proposals from investment consultants, including a recommendation for an investment consultant.

Governance

The IIC will elect a chairperson for the term of the person on the IIC, or until a successor is chosen, from among the Committee members who will have the following responsibilities:

- Communicating with the chairperson of the NHRS Board of Trustees, the NHRS Executive Director, and the Director of Investments or his or her designee, on a regular basis;
- Setting the schedule and agendas for the meetings;
- Conducting the IIC meetings or appointing another IIC member to conduct them in his or her absence;
- Calling special or emergency meetings, when necessary;
- Enforcing the governing policies of the IIC; and,
- Scheduling and attending new member orientations.

SECTION IV

Asset Class Guidelines

Domestic Equity Investment Guidelines

Purpose: The allocation to Domestic Equity provides the assets of the System with participation in the largest economy of the world. A diversified allocation, across style and capitalization, to domestic equity should assist in maximizing long-term total returns.

Allocation: The current target allocation to Domestic Equity is 30% of the Total Fund, with an allowable range of 20 – 40%.

Structure: The Domestic Equity portfolio is structured to incorporate both active and passive management. Active management is focused where there is the greatest potential for alpha generation. Passive management is focused where alpha generation has been demonstrated to be difficult to obtain. Therefore, the goal of the passive allocation is to gain low-cost efficient beta exposure. The portfolio is focused to increase exposure to those areas of the capital markets where it is more likely that active management will add value.

Component	Allocation Target*
Large Cap, Passive	Minimum of 50%

* As a percentage of Domestic Equity

Custody: All Domestic Equity securities shall be maintained in the custody and safekeeping of the System's master custodial bank. Commingled fund assets, however, are held in custody at the discretion of the fund manager.

Use of Commingled Funds: Mutual funds and other types of commingled investment vehicles provide, under some circumstances, lower costs and better diversification than can be obtained with a separately managed account pursuing the same investment objectives. However, commingled investment funds cannot customize investment guidelines to the specific needs of individual clients. The Independent Investment Committee (IIC) is willing to accept the policies of such funds in order to achieve the lower costs and diversification benefits of commingled funds, as long as the commingled guidelines are consistent with the spirit of those specified herein and the underlying individual investment manager portfolio-level guidelines. The IIC relies on Staff and the Investment Consultant to assess and monitor the investment policies of any commingled fund used by the System.

Manager Guidelines for Separate Accounts: Portfolio-level guidelines are negotiated with each IIC-approved investment manager with the purpose of establishing agreed-upon parameters for the management of assets. These guidelines are generally based on the guidelines for the respective manager's composite portfolio and investment style; are reviewed by staff in collaboration with the System's Investment Consultant; and are subject to execution by the Director of Investments and the manager prior to implementation. Each manager will be granted full discretion within the context of their respective portfolio-level negotiated guidelines.

Managers are prohibited from deviating from their respective portfolio-level guidelines without prior written approval from the Director of Investments. Any guideline violation must be reported by the manager in writing as soon as it is discovered (within 24 hours). Recommendations for guideline revisions are to be provided to the Director of Investments in writing, and shall include the rationale for the changes and all relevant research. Any guideline revision requests are reviewed by the Director of Investments and the System's Investment Consultant prior to approval. All substantive changes to manager guidelines will be reported to the IIC at the next meeting.

Permissible Investments: All eligible securities shall be traded in domestic markets and be of a class listed on a national securities exchange or traded in the over-the-counter market.

Permissible investments are defined within individual manager portfolio-level guidelines, and generally include:

- Common stocks, preferred stocks, and securities with equity characteristics (including, but not limited to, American Depository Receipts and Shares, warrants, and rights) of U.S. and foreign issuers
- European Depository Receipts listed and traded on major U.S. exchanges and in over-the-counter markets
- Securities convertible into common stocks
- 144A securities
- Futures contracts
- Exchange traded funds and similar vehicles
- Closed-end funds
- Private placements, Secondary Offerings, IPO investments and offers for sale
- Real Estate Investment Trusts and Income Trusts
- Short-term fixed income securities and cash equivalents

Prohibited Investments: Any security or strategy not specifically permitted in the respective manager portfolio guidelines requires written permission from the Director of Investments prior to purchase.

Prohibited investments are defined within individual manager portfolio-level guidelines, and generally include:

- Short sales
- Margin transactions
- Use of leverage
- Stock in non-public corporations, private placements or other non-marketable issues
- Specialized investment vehicles
- Direct investments in commodities
- Direct investments in real estate
- Direct investments in Venture Capital
- Lettered stock
- Foreign securities other than those noted in *Permissible Investments* above
- Direct investments in oil, gas, or other mineral exploration or development programs

Concentration Limits:

- The System shall closely monitor instances where its investments represent a significant component of a commingled fund or total assets under management (AUM) at the strategy level. If the System's positions become more than 20% of any commingled investment fund, or total strategy AUM, Staff will notify the IIC and the investment will be monitored to see if any changes are warranted.

Non-U.S. Equity Investment Guidelines

Purpose: The allocation to Non-U.S. Equity serves to diversify the assets of the System across the world's economies. A diversified allocation, across style and capitalization, to Non-U.S. equity should assist in maximizing long-term total returns.

Allocation: The current target allocation to Non-U.S. Equity is 20% of the Total Fund, with an allowable range of 15 – 25%.

Structure: The Non-U.S. Equity portfolio is currently 100% actively managed and broadly diversified across global economies, market sectors, capitalization, and securities. Active management is focused where there is the greatest potential for alpha generation. Passive management is focused where alpha generation has been demonstrated to be difficult to obtain while also allowing the ability to gain low-cost efficient beta exposure. Passive management may be utilized if determined to be beneficial by the Independent Investment Committee (IIC).

Component	Allocation Target*
Developed Markets	The Lesser of: A 65% Minimum or The Index's Allocation

* As a percentage of Non-U.S. Equity as defined by the MSCI ACWI ex-U.S. Index

Custody: All Non-U.S. Equity securities shall be maintained in the custody and safekeeping of the System's master custodial bank. Commingled fund assets, however, are held in custody at the discretion of the fund manager.

Use of Commingled Funds: Mutual funds and other types of commingled investment vehicles provide, under some circumstances, lower costs and better diversification than can be obtained with a separately managed account pursuing the same investment objectives. However, commingled investment funds cannot customize investment guidelines to the specific needs of individual clients. The IIC is willing to accept the policies of such funds in order to achieve the lower costs and diversification benefits of commingled funds, as long as the commingled guidelines are consistent with the spirit of those specified herein and the underlying individual investment manager portfolio-level guidelines. The IIC relies on Staff and the Investment Consultant to assess and monitor the investment policies of any commingled fund used by the System.

Manager Guidelines for Separate Accounts: Portfolio-level guidelines are negotiated with each IIC-approved investment manager with the purpose of establishing agreed-upon parameters for the management of assets. These guidelines are generally based on the guidelines for the respective manager's composite portfolio and investment style; are reviewed by staff in collaboration with the System's Investment Consultant; and are subject to execution by the Director of Investments and the manager prior to implementation. Each manager will be granted full discretion within the context of their respective portfolio-level negotiated guidelines.

Managers are prohibited from deviating from their respective portfolio-level guidelines without prior written approval from the Director of Investments. Any guideline violation must be reported by the manager in writing as soon as it is discovered (within 24 hours). Recommendations for guideline revisions are to be provided to the Director of Investments in writing, and shall include the rationale for the changes and all relevant research. Any guideline revision requests are reviewed by the Director of Investments and the System's Investment Consultant prior to approval. All substantive changes to manager guidelines will be reported to the IIC at the next meeting.

Permissible Investments: All eligible securities shall be traded on globally recognized security exchanges or over-the-counter markets.

Permissible investments are defined within individual manager portfolio-level guidelines, and generally include:

- Common stocks; preferred stocks; securities convertible into or exchangeable for common stock; rights and warrants to acquire such securities; and substantially similar forms of equity with comparable risk, of companies domiciled, listed on exchanges, or having their principal activities in countries that comprise respective manager benchmarks.
- Global Depository Receipts, American Depository Receipts, and other depository arrangements
- Real Estate Investment Trusts and Income Trusts
- Exchange traded funds and similar vehicles
- Shares obtained through Initial Public Offerings
- 144A securities
- Forward exchange contracts/currency derivatives, when used to protect the U.S. Dollar value of the portfolio, dampen portfolio volatility, or to facilitate the settlement of securities
- Short-term fixed income securities and cash equivalents
- Equity index futures, equity linked notes and currency contracts

Prohibited Investments: Any security or strategy not specifically permitted in the respective manager portfolio guidelines requires written permission from the Director of Investments prior to purchase.

Prohibited investments are defined within individual manager portfolio-level guidelines, and generally include:

- Short sales
- Margin transactions
- Use of leverage
- Stock in non-public corporations, private placements or other non-marketable issues
- Specialized investment vehicles
- Direct investments in commodities
- Direct investments in real estate
- Direct investments in Venture Capital
- Lettered stock
- Derivative contracts, aside from those referenced above in *Permissible Investments*
- Direct investments in oil, gas, or other mineral exploration or development programs

Concentration Limits:

- The System shall closely monitor instances where its investments represent a significant component of a commingled fund or total assets under management (AUM) at the strategy level. If the System's positions become more than 20% of any commingled investment fund, or total strategy AUM, Staff will notify the IIC and the investment will be monitored to see if any changes are warranted.

Fixed Income Investment Guidelines

Purpose: The allocation to Fixed Income serves to provide income and potentially reduce volatility experienced in the equity markets, as well as offer an opportunity for return enhancement by investing in selected market sectors (for example, investment grade corporate bonds and high yield debt). A portion of the Fixed Income allocation is expected to be invested in U.S. Treasury securities or other government-related issues, which will potentially reduce risk within the portfolio.

Allocation: The current target allocation to Fixed Income is 25% of the Total Fund, with an allowable range of 20% – 30%.

Structure: The Fixed Income portfolio is currently 100% actively managed, as fixed income has been identified as an area in the capital markets where it is more likely that active management will add value. The portfolio is broadly diversified across global markets, sectors, securities and maturities. Active management is focused where there is the greatest potential for alpha generation. Passive management is focused where alpha generation has been demonstrated to be difficult to obtain while also allowing the ability to gain low-cost efficient beta exposure. Passive management may be utilized if determined to be beneficial by the Independent Investment Committee (IIC).

Component	Allocation Target*
Core	Minimum of 60%

* As a percentage of Fixed Income.

The Fixed Income Core component is defined as securities held within the Bloomberg Barclays U.S. Aggregate Index which measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes U.S. Treasuries, government-related and corporate securities, mortgage backed securities, asset backed securities, and commercial mortgage backed securities. TIPS, 144a securities with registration rights and permanent 144a securities are also permitted.

Custody: All Fixed Income securities shall be maintained in the custody and safekeeping of the System's master custodial bank. Commingled fund assets, however, are held in custody at the discretion of the fund manager.

Use of Commingled Funds: Mutual funds and other types of commingled investment vehicles provide, under some circumstances, lower costs and better diversification than can be obtained with a separately managed account pursuing the same investment objectives. However, commingled investment funds cannot customize investment guidelines to the specific needs of individual clients. The IIC is willing to accept the policies of such funds in order to achieve the lower costs and diversification benefits of commingled funds, as long as the commingled guidelines are consistent with the spirit of those specified herein and the underlying individual investment manager portfolio-level guidelines. The IIC relies on Staff and the Investment Consultant to assess and monitor the investment policies of any commingled fund used by the System.

Manager Guidelines for Separate Accounts: Portfolio-level guidelines are negotiated with each IIC-approved investment manager with the purpose of establishing agreed-upon parameters for the management of assets. These guidelines are generally based on the guidelines for the respective manager's composite portfolio and investment style; are reviewed by staff in collaboration with the System's Investment Consultant; and are subject to execution by the Director of Investments and the manager prior to implementation. Each manager will be granted full discretion within the context of their respective portfolio-level negotiated guidelines.

Managers are prohibited from deviating from their respective portfolio-level guidelines without prior written approval from the Director of Investments. Any guideline violation must be reported by the manager in writing as soon as it is discovered (within 24 hours). Recommendations for guideline revisions are to be provided to the Director of Investments in writing, and shall include the rationale for the changes and all relevant research. Any guideline revision requests are reviewed by Staff and the System's Investment Consultant prior to approval. All substantive changes to manager guidelines will be reported to the IIC at the next meeting.

Permissible Investments: Permissible investments are defined within individual manager portfolio-level guidelines, and generally include:

- U.S. Treasuries and U.S. Treasury Inflation Protected Securities
- Obligations of U.S. Federal Agencies and Government Sponsored Enterprises (GSEs)
- Foreign Sovereign Debt
- Small Business Administration Securities
- Municipal Securities
- Corporate Obligations, including but not limited to, Convertible Bonds
- Foreign Sovereign Debt
- Structured Securities including Asset Backed Securities; Collateralized Mortgage Obligations; Commercial Mortgage Backed Securities; Residential Mortgage Backed Securities
- Zero Coupon Securities
- Non-Sovereign Government/Non-Supranational Debt
- Emerging Market Debt
- Forward exchange contracts/currency derivatives, when used to protect the U.S. Dollar value of the portfolio, dampen portfolio volatility, or to facilitate the settlement of securities
- Private Placements, including 144A securities
- Exchange traded funds and similar vehicles
- Common Stock (shall not exceed 5% of the market value of any individual manager)
- Preferred Stock (shall not exceed 20% of the market value of any individual manager)
- Capital Securities
- Trust Preferred Securities
- Real Estate Investment Trust debt
- Short-term fixed income securities and cash equivalents

Prohibited Investments: Any security or strategy not specifically permitted in the respective manager portfolio guidelines requires written permission from the Director of Investments prior to purchase.

Prohibited investments are defined within individual manager portfolio-level guidelines, and generally include:

- Short Sales
- Margin transactions
- Use of leverage
- Specialized investment vehicles
- Direct investments in commodities
- Direct investments in real estate
- Direct investments in Venture Capital
- Direct investments in oil, gas, or other mineral exploration or development programs

Concentration Limits:

- The System shall closely monitor instances where its investments represent a significant component of a commingled fund or total assets under management (AUM) at the strategy level. If the System's positions become more than 20% of any commingled investment fund, or total strategy AUM, staff will notify the IIC and the investment will be monitored to see if any changes are warranted.

Real Estate Investment Guidelines

Purpose: The primary objective of real-estate investing is to seek superior risk-adjusted returns. Secondarily, these investments have had a low to negative correlation with stock and bond returns, thus potentially reducing the volatility of the return of the Total Fund. Moreover, real-estate investments, like some other real assets, have historically been a hedge against inflation.

Allocation: The current target allocation to Real Estate is 10% of the Total Fund, with an allowable range of 5 – 20%. The allocation is measured based upon the net equity value (gross real estate assets less any debt) of the portfolio.

In order to reach and maintain the target allocation, capital commitments in excess of 10% of the Total Fund may be made. The primary reasons for permitting such an over commitment are the staged capital calls for new closed-end investments, finite offering periods, and anticipated returns of capital.

Structure: The Real Estate portfolio consists of Strategic and Tactical investments as defined below. NHRS will maintain a Strategic Portfolio to provide its "keel in the water", and a Tactical Portfolio in order to target expected superior risk adjusted returns.

Strategic Portfolio (Core/Core Plus): Strategic Portfolio investments are typically the lowest risk and return investments in the real estate sector and consist of commingled investment vehicles comprised of operating, substantially leased (typically 60% or more for Core Plus and 75% or more for Core) institutional quality properties. These investments include mostly well located traditional property types in developed markets. Traditional property types are office, apartment, retail, and industrial. These investments offer relatively high current income returns, and as a result, a greater predictability of total returns under normal market conditions. The income component typically represents a significant component of the expected total return.

Tactical Portfolio (Non-Core): Tactical Portfolio investments include those that have higher expected returns, and correspondingly higher expected risk, than the Strategic Portfolio. Examples of the higher return and risk strategies that may be included in the Tactical Portfolio include life cycle opportunities (e.g. leasing, renovation, development); business or operational opportunities (e.g. hotels, senior housing, investments in real estate operating companies); non-traditional property types (e.g. data centers, golf courses); and non-traditional formats (e.g. distressed assets, private-to-public market arbitrage). Opportunistic investment in real estate debt is also a permissible element of the Tactical Portfolio.

Real Estate Investment Trusts (REITs) may be included as part of the Strategic and/or Tactical portfolios.

Portfolio Component	Allocation Target	U.S.	Ex -U.S.
Strategic Portfolio	Minimum of 50%		
Tactical Portfolio	Maximum of 50%		
Total Portfolio	**100%**	**≥ 65%**	**≤ 35%**

Implementation: A manager ("Manager") has been retained as a "manager of managers" with full and complete discretion and authority with respect to the selection and management of investments. Currently, the Manager is Townsend Holdings LLC (d/b/a) The Townsend Group ("Townsend").

The Manager is responsible for the due diligence, selection, review, management and reporting of the Real Estate program. It will not acquire or manage assets directly but will select investments and provide oversight for assets managed by other third-party investment managers. The Manager shall prepare a periodic (annually at a minimum) Real Estate Investment Plan that shall set forth the implementation and management plans for the Real Estate allocation. The NHRS Independent Investment Committee (IIC) will review and annually approve the Real Estate Investment Plan.

The Manager shall make presentations to the IIC, at a minimum, on a semi-annual basis. In addition, the Manager will provide a formal update to Staff, at a minimum, on a quarterly basis.

Staff will provide oversight of the Manager and serve as a liaison between the IIC and the Manager. Staff is responsible for coordinating with the Manager, custodian, consultant(s) and legal counsel to implement and administer the Real Estate program, including the coordination of information between these parties and the management of funding relative to the investments. Staff will facilitate any other duties with the Manager relative to the NHRS Real Estate program, including the implementation of IIC actions.

Custody: REIT securities shall be maintained in the custody and safekeeping of the System's master custodial bank. All other assets, however, are held in custody at the discretion of the third-party investment managers.

As numerous studies indicate, distributing portfolio investments by certain attributes will reduce the risk in the real estate portfolio. The attributes by which investments should be distributed or diversified to most effectively reduce risk are:

1) Property type
2) Geographic location
3) Manager allocation and investment size
4) Leverage

As such, within the Real Estate allocation, the guidelines are as follows:

1) Property Type - The property type limit will ensure prudent diversification amongst property types while still being able to capitalize on opportunities caused by shifts in real estate and capital markets.

- No more than 40% of the allocation shall be invested in any one property type

2) Geographic Location – Investments within the Real Estate allocation will be distributed geographically for the purpose of attaining economic market diversification. A minimum of 65% will be located in the U.S. with a maximum of 35% invested outside the U.S.

3) Manager Allocation and Investment Size – Investments within the Real Estate allocation will be diversified both by individual investment exposure and manager exposure, as the System does not want the failure of a single investment to have a significant or material impact on the performance of the total Real Estate program.

- No more than 20% of capital committed to any investment in the Strategic Portfolio
- No more than 10% of capital committed to any investment in the Tactical Portfolio
- No more than 40% of capital committed to any single investment manager
- No more than 50% of ex-U.S. exposure to come from investments in emerging markets

4) Leverage

- The Strategic Portfolio loan-to-value ratio shall be no more than 50% at portfolio level
- The Tactical Portfolio loan-to-value ratio shall be no more than 75% at portfolio level

Alternative Investment Guidelines

Purpose: Alternative investments are non-traditional investment vehicles that do not fall within another investment asset class. The primary objective of alternative investments is to seek superior risk-adjusted returns. Secondarily, these investments have had a low correlation with broad stock and bond market returns, thus potentially reducing the volatility of the return of the Total Fund. Examples of alternative investments include private equity, private debt, opportunistic strategies, and hedge funds. As a result of the non-traditional, long-term and illiquid nature of alternative investments, an Annual Strategic Plan will be prepared and presented to the Independent Investment Committee (IIC) for approval.

Allocation: The current target allocation to Alternative Investments is 15% of the Total Fund, with an allowable range of 5 – 25%.

In order to reach and maintain the target allocation, capital commitments in excess of 15% of the Total Fund may be made. The primary reasons for permitting such an over commitment are the staged capital calls for new investments and anticipated returns of capital.

Structure: The Alternative Investment portfolio primarily includes the following:

Private Equity – The purpose of Private Equity is to earn risk-adjusted returns in excess of public equity markets. These investments are also expected to decrease the volatility of the System's assets through the diversification benefits of having lower correlations with other asset classes.

Sub-strategies include:

- *Buyouts/Corporate Finance* – Provides leveraged capital and business development capital to enable the restructuring of existing business and industries.

- *Energy* – Investments may include exploration & production, generation, storage, transmission, distribution, renewable energy sources, clean technologies, energy technologies and other similar investments.

- *Growth Equity* – Provides expansion capital for small, growing businesses that are generating cash flow and profits. Generally, these types of investments have reduced exposure to technology risk compared with venture capital.

- *Infrastructure* - Investments involve the purchase of critical service assets (i.e. toll roads, bridges, water treatment plants, etc.). Typically, infrastructure assets exhibit one or more of the following qualities: monopolistic or quasi-monopolistic, high barriers to entry, long-term assets, regulatory or permitting constraints.

- *Secondaries* – Private equity interests that are generally purchased at a discount from valuation from motivated sellers. The interests purchased are generally venture and buyout interests with limited exposure to unfunded capital commitments. The strategy also includes the purchase of direct interests in companies through the secondary market.

- *Distressed/Special Situations* – A strategy whereby a manager invests in the distressed debt of companies that likely will undergo some sort of financial and/or operational restructuring. A manager will usually build a controlling stake in a distressed company through the "fulcrum security" which is generally a high yield bond or bank debt. The investment team will then work actively to maximize the value of the investment through driving either an informal restructuring or a formal bankruptcy procedure. The balance sheet may be restructured; new management inserted; cost cutting implemented; as well as other operational improvements put in place. Distressed debt returns are generally comprised of a combination of a debt coupon; capital appreciation of the distressed security; and, participation in the upside of post-reorganization equity.

- *Venture Capital* – Implies early, late and balanced-stages of financing, as well as growth capital, of rapidly growing companies with an innovative/disruptive business idea for a proprietary product or service.

Private Debt – The purpose of Private Debt is to earn risk-adjusted returns in excess of public debt markets. These investments are also expected to decrease the volatility of the System's assets through the diversification benefits of having lower correlations with other asset classes.

Sub-strategies include:

- *Direct Lending* – An investment strategy involving senior or unitranche lending directly to companies that seek to generate high current income while focusing on preservation of capital.

- *Distressed* – Includes trading strategies through control positions. For trading strategies, distressed securities are defined as securities experiencing financial or operational distress, default, or are under bankruptcy. Investment instruments include publicly-traded debt securities, private debt, trade claims, mortgage debt, common and preferred stock and commercial paper. Control strategies involve companies with poorly-organized capital structures, turnaround situations and bankrupt companies. Long and short positions are commonly used as a technique to lock in profit or reduce risk.

- *Mezzanine/Junior Capital* – An investment strategy involving subordinated debt (the level of financing tranche that is senior to equity but below senior debt). Capital supplied by mezzanine or junior capital financing is used for various situations such as facilitating changes in ownership through leveraged buyouts or recapitalizations, financing acquisitions, or enabling growth. Venture lending and leasing is a subset of mezzanine financing that targets venture-backed companies. Revenue and Royalty interests are a subset of mezzanine financing that targets intellectual property, license agreements and other similar property that has the ability to restrict the rights to commercialization.

- *Structured Credit* – A private credit strategy which invests in assets such as pools of loans in the consumer, real estate and transportation space. Often, a manager of this strategy will originate or purchase a pool of loans; service them; and, in some cases, securitize them and sell securitized tranches to the market. Returns are driven by a combination of underlying loan coupon; value enhancement through servicing; and, upside through public market securitization.

- *Specialty Finance* – A private credit strategy which generally provides growth capital in the form of senior secured loans to loan origination platforms such as mortgage; consumer debt and transportation leasing. These loans are securitized by a pool of underlying loans which are placed in a bankruptcy remote structure and pay amortize over time. Specialty finance lenders' returns are generated by a combination of a coupon and, in some cases, equity kickers in the underlying borrower. These loan pools may be securitized and sold into the public market.

- *Royalty Finance* – A private credit strategy which provides debt financing to entities secured by the cash flow of royalty payments of a licensed product. For example, healthcare royalty strategies provide capital in the form of senior secured debt backed by predictable royalty payments from pharmaceutical or other medical devices. Music royalties' strategies, for example, provide debt which is backed by royalty payments from a particular portfolio of music recordings.

- *Litigation Finance* – A private credit strategy which lends money to corporations or law firms to fund the cost of prolonged litigation, often contingent on a favorable payout. Financings may be pre-settlement in which returns are driven by a combination of a debt coupon and upside participation in one, or a diversified pool of legal cases. Litigation funding in the form of a loan may also be provided post a legal settlement. This this type of funding is used to bridge a payment expected by the law firm or other entity entitled to litigation proceeds.

Targets:

Sub Strategy	Allocation Target*
Private Equity	10%
Private Debt	5%

* As a percentage of Total Fund

Custody: All assets are held in custody at the discretion of the fund manager.

Risk Management: Alternative investment strategies do not lend themselves to traditional quantitative measures of risk such as standard deviation and benchmark tracking error. Rather, risk is managed through a combination of quantitative and qualitative constraints. The following sections identify the unique risks with alternative investments and method of control:

- Industry – Typically, alternative investment funds are permitted to invest in a wide variety of industries with limited controls. Industry risk is controlled primarily through appropriate diversification across strategies and sub-strategies.

- Leverage – Many underlying alternative investment programs will utilize leverage. The intent of the System is to not rely on managers employing high degrees of leverage.

- Vintage – Vintage merely reflects the year of first capital draw and vintage risk refers to the variability of investment commitments over time. A long-term investment pacing schedule is developed which minimizes vintage risk while achieving targeted exposure.

- Concentration Limits –The System shall not own more than 10% of any single investment vehicle except with prior approval of the NHRS IIC.

- Due Diligence – Each potential investment will be evaluated for portfolio fit; organizational stability; investment staff; investment strategy; investment process; and fund economics.

- Annual Strategic Plan – Given the non-traditional, long-term and illiquid nature of alternative investments, an Annual Strategic Plan will be prepared and presented to the IIC for approval. The Annual Strategic Plan will include a review of performance; cash flow and liquidity analyses; commitment pacing; and sub-strategy recommendations.

NHRS
New Hampshire Retirement System

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.

Callan

December 2024

Defined Benefit Plan

Investment Guidelines Summary Report

Third Quarter 2024 - FYE

Angel G. Haddad
Senior Vice President, Fund Sponsor Consulting

Britton M. Murdoch
Senior Vice President, Fund Sponsor Consulting

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Investment Guideline Compliance Summary Report As of September 30, 2024

I. Domestic Equity Portfolio

A. Allocation = 20% to 40% of Total Assets?	B. At Least 50% of Large Cap is Passive?	C. Managers in Compliance with SA Portfolio Guidelines?	D. Prohibited Investments: All SA Violations Reported within 24 Hours?	E. Separate Account Ownership ≤ 20% of Strategy Assets?	F. Commingled Fund Ownership ≤ 20%?
Yes – 36.1%	Yes – 53.0%*	Yes	Yes	No	N/A: All SAs

Exceptions Report:

- **Item E:** NHRS SBH Small Cap SA: 35.2% ownership of strategy assets. NHRS TSW SMID Cap Value SA: 28.0% ownership of strategy assets.

II. Non-U.S. Equity Portfolio

A. Allocation = 15% to 25% of Total Assets?	B. Allocation ≥ 75% Developed Markets?**	C. Managers in Compliance with SA Portfolio Guidelines?	D. Prohibited Investments: All SA Violations Reported within 24 Hours?	E. Separate Account Ownership ≤ 20% of Strategy Assets?	F. Commingled Fund Ownership ≤ 20%?
Yes – 16.5%	Yes – 81.5%	Yes	Yes	No	No

Exceptions Report:

- **Item B:** Per MSCI ACWI ex US definitions.
- **Item E:** NHRS Wellington Emerging Markets Local Equity Commingled Fund: 51.8% ownership of all vehicle assets (i.e. MF, CIT, SMA, Other).
- **Item F:** NHRS Wellington International Small Cap Research Equity Commingled Fund: 24.0% ownership of CIT. NHRS Wellington Emerging Markets Local Equity Commingled Fund: 51.7% ownership of CIT.

III. Fixed Income Portfolio

A. Allocation = 20% to 30% of Total Assets?	B. Allocation ≥ 60% Core Fixed Income?	C. Managers in Compliance with SA Portfolio Guidelines?	D. Prohibited Investments: All SA Violations Reported within 24 Hours?	E. Separate Account Ownership ≤ 20% of Strategy Assets?	F. Commingled Fund Ownership ≤ 20%?
No – 19.3%	Yes – 74.5%	Yes	Yes	No	No

Exceptions Report:

- **Item A:** Slightly below target. The Fund's allocation to defensive positions, including fixed income and cash, represented 20.89% of assets.
- **Item E:** NHRS IR&M Fixed Income SA: 51.4% ownership of strategy assets. Total AUM in IR&M Gov/Credit strategy as of 9/30/24: $1,603,277,266.
- **Item F:** NHRS Manulife Strategic Fixed Income Commingled Fund: 31.4% ownership of CIT. NHRS BlackRock SIO Bond Commingled Fund: 58.1% ownership of CIT.

**Represents NH BlackRock passively managed S&P 500 Index Fund*
***Walter Scott market value was broken down into U.S. and Non-U.S. components. Fisher Investments residual assets not included in DM calculation.*
Note: Commingled fund vehicles follow their own investment guidelines. Any reported violations above focus on separate account (SA) vehicles.
Strategy Assets are defined as assets managed to the same benchmark and style and by the same team. Strategy assets represent the combination of all of the vehicles under the product (i.e. MF, CIT, SMA, Other). NH represents 73.6% of AB's SMID Blend Strategy which had $655.9m in AUM as of 9/30/24. The AB SMID Blend strategy includes allocations to AB SMID Growth Fund ($5.0B) and AB SMID Value Fund ($8.6B). NH represents ~3.4% of total AB SMID AUM.

Compliance Summary Data Sources

- **Item A:** Custodian market values.
- **Item B:** Custody records used for domestic equity portfolios – all separate accounts. Manager data used for Non-U.S. equity developed/emerging regional exposures (as defined by the MSCI ACWI ex US Index) – multiple investment vehicles employed in portfolio (manager data used to track/confirm 9/30/2024 regional positions across SA and CIT vehicles). Manager data used for fixed income to confirm “Core” bond positions. Core fixed income is defined as securities held within the Bloomberg Barclays U.S. Aggregate Index which measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes U.S. Treasuries, government-related and corporate securities, mortgage backed securities, asset backed securities, and commercial mortgage backed securities. TIPS, 144a securities with registration rights and permanent 144a securities are also included in the core fixed income calculation. All managers were asked to provide data conforming to these definitions.
- **Items C through F:** Callan requested confirmation from each investment manager to summarize portfolio status. Please see Appendix for details.

Executive Order on China Summary

As of September 30, 2024

Asset Class / Manager	Does Manager own any securities listed on President's Executive Order on China?	If so, what plans does Manager have, if any?	Impact to Alpha Generation or Risk/Return Dynamics of the Strategy
Domestic Equity			
BlackRock S&P 500	No	N/A	No
AllianceBernstein SMID Cap Blend	No	N/A	N/A
TSW SMID Cap Value	No	N/A	No
Boston Trust Walden Small Cap	No	N/A	N/A
Segall Bryant & Hamill Small Cap	No	N/A	No
Wellington Small Cap 2000	No	N/A	N/A
Non-US Equity			
Artisan Partners Non-US Growth	No	N/A	No
Causeway Non-US Equity	No	N/A	No
Aristotle Capital International Equity	No	N/A	No
Lazard International Strategic Equity	No	N/A	No
BlackRock Superfund	No	N/A	No
Wellington Emerging Markets Local Equity	No	N/A	No
Wellington International Small Cap Research Equity	No	N/A	N/A
Walter Scott Global Equity	No	N/A	N/A
Fixed Income			
BlackRock Strategic Income Opportunities (SIO) Bond Fund	No	N/A	No
Brandywine Global Opportunistic Fixed Income	No	N/A	No
FIAM Tactical Bond	N/A	N/A	N/A
IR&M Fixed Income (Gov/Credit)	No	N/A	No
Loomis Sayles Multisector Full Discretion	No	N/A	No
Manulife Strategic Fixed Income	No	N/A	No
BNY Mellon Aggregate Bond Index Fund (SL)	No	N/A	N/A

Russia/Ukraine Exposure Summary

As of September 30, 2024

Asset Class / Manager	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.
Non-US Equity			
Artisan Partners Non-US Growth	Yes	Russian Exposure as of 30 September 2024: MMC Norilsk Nickel PJSC ADR 0% Sberbank Russia PJSC Sponsored ADR 0%*	Yes*
Causeway Non-US Equity	No	N/A	Yes
Aristotle Capital International Equity	No	N/A	Yes
Lazard International Strategic Equity	No	N/A	Yes
BlackRock Superfund	No	N/A	Yes
Wellington Emerging Markets Local Equity	No	N/A	Yes
Wellington International Small Cap Research Equity	No	N/A	Yes
Walter Scott Global Equity	No	N/A	Yes
Fixed Income			
BlackRock Strategic Income Opportunities (SIO) Bond Fund	Yes	0.13%	Yes
Brandywine Global Opportunistic Fixed Income	No	N/A	Yes
FIAM Tactical Bond	FIAM reported no exposure to Russia or Ukraine securities		
IR&M Fixed Income (Gov/Credit)	IR&M reported no exposure to Russia or Ukraine securities		
Loomis Sayles Multisector Full Discretion	No	N/A	Yes
Manulife Strategic Fixed Income	No	N/A	Yes
BNY Mellon Aggregate Bond Index Fund (SL)	No	N/A	Yes

*Please see Russia/Ukraine Exposure Appendix for additional details.

Callan

Appendix – Manager Compliance Questionnaire Responses

NHRS Compliance – Manager Responses

BlackRock S&P 500

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) U.S. Equity - Separate Managed Accounts		
Manager Name:	**BlackRock**	
Strategy Name:	**BlackRock NHRS S&P 500 index separate account**	
Quarter End Date:	**9/30/2024**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	
	If no, please detail the violation(s) and reporting process for each violation.	
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	0.20%

NHRS Compliance – Manager Responses

AllianceBernstein SMID Cap Blend

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) U.S. Equity - Separate Managed Accounts		
Manager Name:	**AllianceBernstein**	
Strategy Name:	**AB Small and Mid Cap Blend**	
Quarter End Date:	**9/30/2024**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	N/A
	If no, please detail the violation(s) and reporting process for each violation.	N/A
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	73.6%
3	What percentage (%) of SMID cap equity assets does NHRS represent? SMID cap equity assets should include SMID Blend AUM as well as all underlying components of the SMID Blend Fund (SMID Growth and SMID Value).	3.4%
4	Please provide the total strategy AUM in the SMID Blend, SMID Value and SMID Growth strategies.	SMID Blend: $655.9 Million SMID Growth: $5,011.2 Million SMID Value: $8,634.6 Million

NHRS Compliance – Manager Responses

TSW SMID Cap Value

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) U.S. Equity - Separate Managed Accounts		
Manager Name:	**Thompson, Siegel & Walmsley LLC**	
Strategy Name:	**SMID Cap Value**	
Quarter End Date:	**9/30/2024**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	N/A
	If no, please detail the violation(s) and reporting process for each violation.	N/A
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	28.0%

NHRS Compliance – Manager Responses

Boston Trust Walden Small Cap

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) U.S. Equity - Separate Managed Accounts		
Manager Name:	**Boston Trust Walden**	
Strategy Name:	**Small Cap Equity**	
Quarter End Date:	**9/30/24**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	N/A
	If no, please detail the violation(s) and reporting process for each violation.	N/A
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	7.45%

NHRS Compliance – Manager Responses

Segall Bryant & Hamill Small Cap

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) U.S. Equity - Separate Managed Accounts		
Manager Name:	**Segall Bryant & Hamill**	
Strategy Name:	**US Small Cap Core**	
Quarter End Date:	**9/30/2024**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	n/a
	If no, please detail the violation(s) and reporting process for each violation.	n/a
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	35.20%

NHRS Compliance – Manager Responses

Wellington Small Cap 2000

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) U.S. Equity - Separate Managed Accounts		
Manager Name:	**Wellington Management Company**	
Strategy Name:	**Small Cap 2000**	
Quarter End Date:	**30-September-24**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes. To the best of our knowledge and belief, there were no errors to report and the account was in compliance with investment guidelines for the quarter ended September 30, 2024.
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	
	If no, please detail the violation(s) and reporting process for each violation.	
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	9.5%

NHRS Compliance – Manager Responses

Artisan Partners Non-US Growth

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Non-U.S. Equity - Separately Managed Accounts		
Manager Name:	**Artisan Partners**	
Strategy Name:	**Artisan Non-U.S. Growth Strategy**	
Quarter End Date:	**Q3 2024**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	-
	If no, please detail the violation(s) and reporting process for each violation.	-
2	What percentage (%) of fund assets were invested in developed markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	94.5%
3	What percentage (%) of fund assets were invested in emerging markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	5.5%
4	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	3.4%

Source: Artisan Partners/MSCI. Percentages shown are of total portfolio equities. Cash represented 6.8% of the total portfolio at 30 September 2024.

Securities not classified by MSCI reflect country designations as of the date the report was generated. Countries held in the index but not in the portfolio are not listed.

NHRS Compliance – Manager Responses

Causeway Non-US Equity

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Non-U.S. Equity - Separately Managed Accounts		
Manager Name:	**Causeway Capital Management LLC**	
Strategy Name:	**International Value Equity**	
Quarter End Date:	**9/30/2024**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes, for the 9/30/2024 reporting period, the account was in compliance with the investment guidelines as set forth in the IMA between NHRS and Causeway
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	
	If no, please detail the violation(s) and reporting process for each violation.	
2	What percentage (%) of fund assets were invested in developed markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	The weight for the portfolio's Developed Subtotal was 91.5% as of 9/30/2024
3	What percentage (%) of fund assets were invested in emerging markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	The weight for the portfolio's Emerging Subtotal was 5.9% as of 9/30/2024
4	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	As of 9/30/2024: **NHRS represented 1.8% of total assets in the Causeway International Value Equity Strategy** (accounts in the same strategy, managed by the same investment team, but may have a different primary benchmark). **NHRS represented 2.1% of total assets in the Causeway International Value Equity Composite** (accounts in the same strategy, managed by the same investment team, and using MSCI EAFE as the primary benchmark).

NHRS Compliance – Manager Responses

Aristotle Capital International Equity

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Non-U.S. Equity - Separately Managed Accounts		
Manager Name:	**Aristotle Capital Management, LLC**	
Strategy Name:	**International Equity**	
Quarter End Date:	**9/30/2024**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	N/A
	If no, please detail the violation(s) and reporting process for each violation.	N/A
2	What percentage (%) of fund assets were invested in developed markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	93.05%
3	What percentage (%) of fund assets were invested in emerging markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	4.44%
4	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	3.50%

NHRS Compliance – Manager Responses

Lazard International Strategic Equity

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Non-U.S. Equity - Separately Managed Accounts		
Manager Name:	**Lazard Asset Management**	
Strategy Name:	**International Strategic Equity**	
Quarter End Date:	**9/30/2024**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	To the best of our belief and knowledge this account was in compliance with its guidelines during 3Q 2024.
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	N/A
	If no, please detail the violation(s) and reporting process for each violation.	N/A
2	What percentage (%) of fund assets were invested in developed markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	91.05%
3	What percentage (%) of fund assets were invested in emerging markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	6.13%
4	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	* Strategy level: 1.14% / Sub-strategy level: 3.79%

*These numbers reflect the overall percentage based on AUM in the Lazard International Strategic Equity strategy and sub-strategy as of 9/30/24

Allocations and security selection are subject to change.

Information and opinions presented have been obtained or derived from sources believed by Lazard to be reliable. Lazard makes no representation as to their accuracy or completeness. All opinions expressed herein are as of the published date and are subject to change.

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The MSCI All Country World ex-US Index (ACWI ex-US) is a free-float-adjusted, market capitalization–weighted index designed to measure the performance of developed and emerging equity markets outside the United States. The index is unmanaged and has no fees. One cannot invest directly in an index.

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NHRS Compliance – Manager Responses

BlackRock Superfund

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Non-U.S. Equity - Commingled Funds		
Manager Name:	**BlackRock**	
Strategy Name:	**BlackRock Superfund**	
Quarter End Date:	**9/30/2024**	
1	What percentage (%) of the commingled fund does NHRS represent?	1.20%
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	0.49%
3	What percentage (%) of fund assets were invested in developed markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	71.46%
4	What percentage (%) of fund assets were invested in emerging markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	28.54%*

** Emerging markets include - China, India, Indonesia, Korea, Malaysia, Philippines, Russia, Taiwan, Thailand, Czech Republic, Latin America, Middle East and Africa.*

NHRS Compliance – Manager Responses

Wellington Emerging Markets Local Equity

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Non-U.S. Equity - Commingled Funds		
Manager Name:	**Wellington Management Company**	
Strategy Name:	**Emerging Markets Local Equity**	
Quarter End Date:	**30-September-24**	
1	What percentage (%) of the commingled fund does NHRS represent?	51.66%
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	51.79%
3	What percentage (%) of fund assets were invested in developed markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	8.55%
4	What percentage (%) of fund assets were invested in emerging markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	91.45%

NHRS Compliance – Manager Responses

Wellington International Small Cap Research Equity

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Non-U.S. Equity - Commingled Funds		
Manager Name:	**Wellington Management Company**	
Strategy Name:	**International Small Cap Research Equity**	
Quarter End Date:	**30-September-24**	
1	What percentage (%) of the commingled fund does NHRS represent?	24.00%
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	8.07%
3	What percentage (%) of fund assets were invested in developed markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	93.49%
4	What percentage (%) of fund assets were invested in emerging markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?	6.51%

NHRS Compliance – Manager Responses

Walter Scott Global Equity

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Non-U.S. Equity - Separately Managed Accounts		
Manager Name:	**Walter Scott & Partners Limited**	
Strategy Name:	**Global**	
Quarter End Date:	**30-September-2024**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	N/A
	If no, please detail the violation(s) and reporting process for each violation.	N/A
2	What percentage (%) of fund assets were invested in developed markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?*	82.33%
3	What percentage (%) of fund assets were invested in emerging markets (as defined by the MSCI ACWI ex US Index) at the end of the quarter?**	10.39%
4	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).***	1.22%

*DM Weight in Non-US Portion of Portfolio

**EM Weight in Non-US Portion of Portfolio

***Compared to WS Global Composite

NHRS Compliance – Manager Responses

BlackRock Strategic Income Opportunities (SIO) Bond Fund

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Fixed Income - Commingled Funds		
Manager Name:	**BlackRock**	
Strategy Name:	**Strategic Income Opportunities Fund**	
Quarter End Date:	**9/30/2024**	
1	What percentage (%) of the commingled fund does NHRS represent?	58.07%
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	0.59%
3	What percentage (%) of fund assets were invested in core fixed income? Core fixed income is defined as securities held within the Bloomberg Barclays U.S. Aggregate Index which measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes U.S. Treasuries, government-related and corporate securities, mortgage backed securities, asset backed securities, and commercial mortgage backed securities. Please also include TIPS, 144a securities with registration rights and permanent 144a securities in the core fixed income calculation. No other assets should be included in this core definition.	65.44%

NHRS Compliance – Manager Responses

Brandywine Global Opportunistic Fixed Income

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Fixed Income - Separately Managed Accounts		
Manager Name:	**Brandywine Global Investment Management**	
Strategy Name:	**Global Opportunistic Fixed Income**	
Quarter End Date:	**9/30/2024**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	NA
	If no, please detail the violation(s) and reporting process for each violation.	NA
2	What percentage of fund assets were invested in core fixed income? Core fixed income is defined as securities held within the Bloomberg Barclays U.S. Aggregate Index which measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes U.S. Treasuries, government-related and corporate securities, mortgage backed securities, asset backed securities, and commercial mortgage backed securities. Please also include TIPS, 144a securities with registration rights and permanent 144a securities in the core fixed income calculation. No other assets should be included in this core definition.	59.68%
3	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	2%

NHRS Compliance – Manager Responses

FIAM Tactical Bond

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Fixed Income - Commingled Funds		
Manager Name:	**Fidelity (FIAM)**	
Strategy Name:	**Tactical Bond**	
Quarter End Date:	**9/30/24**	
1	What percentage (%) of the commingled fund does NHRS represent?	11.60%
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	3.18%
3	What percentage (%) of fund assets were invested in core fixed income? Core fixed income is defined as securities held within the Bloomberg Barclays U.S. Aggregate Index which measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes U.S. Treasuries, government-related and corporate securities, mortgage backed securities, asset backed securities, and commercial mortgage backed securities. Please also include TIPS, 144a securities with registration rights and permanent 144a securities in the core fixed income calculation. No other assets should be included in this core definition.	73.99%

NHRS Compliance – Manager Responses

IR&M Fixed Income

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Fixed Income - Separately Managed Accounts		
Manager Name:	**Income Research + Management**	
Strategy Name:	**NHRS Government/Credit Portfolio**	
Quarter End Date:	**9/30/2024**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	
	If no, please detail the violation(s) and reporting process for each violation.	
2	What percentage of fund assets were invested in core fixed income? Core fixed income is defined as securities held within the Bloomberg Barclays U.S. Aggregate Index which measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes U.S. Treasuries, government-related and corporate securities, mortgage backed securities, asset backed securities, and commercial mortgage backed securities. Please also include TIPS, 144a securities with registration rights and permanent 144a securities in the core fixed income calculation. No other assets should be included in this core definition.	85.55%
3	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	51.42%
4	Please provide the total AUM of the IR&M Gov/Cred strategy including all underlying vehicle AUM.	$1,603,277,266.38

NHRS Compliance – Manager Responses

Loomis Sayles Multisector Full Discretion

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Fixed Income - Separately Managed Accounts		
Manager Name:	**Loomis, Sayles & Co., L.P.**	
Strategy Name:	**Multisector Full Discretion**	
Quarter End Date:	**9/30/24**	
1	Were you in compliance with the New Hampshire Retirement System investment manager guidelines during the quarter? (yes or no)	Yes
	If no, were any violations reported to NHRS in writing as soon as they were discovered and within 24 hours?	
	If no, please detail the violation(s) and reporting process for each violation.	
2	What percentage of fund assets were invested in core fixed income? Core fixed income is defined as securities held within the Bloomberg Barclays U.S. Aggregate Index which measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes U.S. Treasuries, government-related and corporate securities, mortgage backed securities, asset backed securities, and commercial mortgage backed securities. Please also include TIPS, 144a securities with registration rights and permanent 144a securities in the core fixed income calculation. No other assets should be included in this core definition.	69.94%
3	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	1.16%

NHRS Compliance – Manager Responses

Manulife Strategic Fixed Income

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Fixed Income - Commingled Funds		
Manager Name:	**Manulife Investment Management**	
Strategy Name:	**Strategic Fixed Income**	
Quarter End Date:	**9/30/24**	
1	What percentage (%) of the commingled fund does NHRS represent?	31.39%
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	1.31%
3	What percentage (%) of fund assets were invested in core fixed income? Core fixed income is defined as securities held within the Bloomberg Barclays U.S. Aggregate Index which measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes U.S. Treasuries, government-related and corporate securities, mortgage backed securities, asset backed securities, and commercial mortgage backed securities. Please also include TIPS, 144a securities with registration rights and permanent 144a securities in the core fixed income calculation. No other assets should be included in this core definition.	48.00%

NHRS Compliance – Manager Responses

BNY Mellon Aggregate Bond Index (SL)

New Hampshire Retirement System Quarterly Investment Guidelines Questionnaire (as of quarter end) Fixed Income - Commingled Funds		
Manager Name:	**Mellon**	
Strategy Name:	**BNYM Mellon DB SL Aggregate Bond Index Fund**	
Quarter End Date:	**9/30/2024**	
1	What percentage (%) of the commingled fund does NHRS represent?	1.67%
2	What percentage (%) of strategy assets (assets managed to the same benchmark and style and by the same team) does NHRS represent? Strategy assets represent the combination of all of the vehicles under this product (i.e. MF, CIT, SMA, Other).	0.59%
3	What percentage (%) of fund assets were invested in core fixed income? Core fixed income is defined as securities held within the Bloomberg Barclays U.S. Aggregate Index which measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes U.S. Treasuries, government-related and corporate securities, mortgage backed securities, asset backed securities, and commercial mortgage backed securities. Please also include TIPS, 144a securities with registration rights and permanent 144a securities in the core fixed income calculation. No other assets should be included in this core definition.	99%

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Appendix – China Executive Order Questionnaire Responses

NHRS China Executive Order Questionnaire – Manager Responses

BlackRock S&P 500

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**BlackRock Financial Management LTD.**	
Strategy Name:	**NHRS S&P 500 index separate account**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

NHRS China Executive Order Questionnaire – Manager Responses

AllianceBernstein SMID Cap Blend

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**AllianceBernstein**	
Strategy Name:	**US SMID Style Blend**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	N/A
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	N/A

NHRS China Executive Order Questionnaire – Manager Responses

TSW SMID Cap Value

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Thompson, Siegel & Walmsley**	
Strategy Name:	**SMID Cap Value**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No.
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No.
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No.

NHRS China Executive Order Questionnaire – Manager Responses

Boston Trust Walden Small Cap

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Boston Trust Walden**	
Strategy Name:	**Small Cap Equity**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	N/A
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	N/A

NHRS China Executive Order Questionnaire – Manager Responses

Segall Bryant & Hamill Small Cap

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Segall Bryant & Hamill**	
Strategy Name:	**US Small Cap Core**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

NHRS China Executive Order Questionnaire – Manager Responses

Wellington Small Cap 2000

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Wellington Management**	
Strategy Name:	**Small Cap 2000**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	N/A
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	N/A

NHRS China Executive Order Questionnaire – Manager Responses

Artisan Partners Non-US Growth

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Artisan Partners**	
Strategy Name:	**Artisan Non-U.S. Growth Strategy**	
Quarter End Date:	**3Q 2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No. The NHRS investment account managed by Artisan Partners does not hold a position in any of the companies listed on the Non-SDN Chinese Military-Industrial Complex Companies ("CMICs") List published by the US Treasury Department's Office of Foreign Assets Control under Executive Order 14032.
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	--
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No. The Global Equity Team is not and has not invested in any of the companies included in the Executive Order.
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No. The Global Equity Team is not and has not invested in any of the companies included in the Executive Order.

NHRS China Executive Order Questionnaire – Manager Responses

Causeway Non-US Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Causeway Capital Management LLC**	
Strategy Name:	**International Value Equity**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

NHRS China Executive Order Questionnaire – Manager Responses

Aristotle Capital International Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Aristotle Capital Management, LLC**	
Strategy Name:	**International Equity**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

NHRS China Executive Order Questionnaire – Manager Responses

Lazard International Strategic Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Lazard Asset Management**	
Strategy Name:	**International Strategic Equity**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

Allocations and security selection are subject to change.

Information and opinions presented have been obtained or derived from sources believed by Lazard to be reliable. Lazard makes no representation as to their accuracy or completeness. All opinions expressed herein are as of the published date and are subject to change.

This material is for informational purposes only. It is not intended to, and does not constitute financial advice, fund management services, an offer of financial products or to enter into any contract or investment agreement in respect of any product offered by Lazard Asset Management and shall not be considered as an offer or solicitation with respect to any product, security, or service in any jurisdiction or in any circumstances in which such offer or solicitation is unlawful or unauthorized or otherwise restricted or prohibited.

NHRS China Executive Order Questionnaire – Manager Responses

BlackRock Superfund

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**BlackRock**	
Strategy Name:	**BlackRock Superfund**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

NHRS China Executive Order Questionnaire – Manager Responses

Wellington Emerging Markets Local Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Wellington Management Company**	
Strategy Name:	**Emerging Markets Local Equity**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	N/A
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	N/A

NHRS China Executive Order Questionnaire – Manager Responses

Wellington International Small Cap Research Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Wellington Management Company**	
Strategy Name:	**Wellington International Small Cap Research Equity**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	N/A
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	N/A

NHRS China Executive Order Questionnaire – Manager Responses

Walter Scott Global Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Walter Scott & Partners Limited**	
Strategy Name:	**Global**	
Quarter End Date:	**30-September-2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

NHRS China Executive Order Questionnaire – Manager Responses

BlackRock Strategic Income Opportunities (SIO) Bond Fund

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**BlackRock Financial Management Inc.**	
Strategy Name:	**Strategic Income Opportunities Fund CTF**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

NHRS China Executive Order Questionnaire – Manager Responses

Brandywine Global Opportunistic Fixed Income

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Brandywine Global Investment Management**	
Strategy Name:	**Global Opportunistic Fixed Income**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

NHRS China Executive Order Questionnaire – Manager Responses

FIAM Tactical Bond

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Fidelity Institutional Asset Management (FIAM)**	
Strategy Name:	**Tactical Bond***	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	N/A*
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A*
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	N/A*
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	N/A*

*Per FIAM, the Tactical Bond Commingled Pool has no exposure to Chinese companies related to the Presidential Order.

NHRS China Executive Order Questionnaire – Manager Responses

IR&M Fixed Income

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Income Research + Management**	
Strategy Name:	**NHRS Government/Credit Portfolio**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

NHRS China Executive Order Questionnaire – Manager Responses

Loomis Sayles Multisector Full Discretion

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Loomis, Sayles & Co., L.P.**	
Strategy Name:	**MultiSector Full Discretion**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

NHRS China Executive Order Questionnaire – Manager Responses

Manulife Strategic Fixed Income

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Manulife Investment Management**	
Strategy Name:	**Strategic Fixed Income**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	No
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	No

NHRS China Executive Order Questionnaire – Manager Responses

BNY Mellon Aggregate Bond Index (SL)

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) - China Executive Order		
Manager Name:	**Mellon**	
Strategy Name:	**BNYM Mellon DB SL Aggregate Bond Index Fund**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account hold any of the Chinese companies (or securities that are derivatives of or provide exposure to such securities) listed on the amended Executive Order, taking effect on August 2, 2021? (yes or no)	No
	If yes, what securities do you own and what plans, if any, do you have to comply with the Executive Order?	N/A
2	Do any of the exclusions in the amended Executive Order impact your ability to generate alpha for NHRS? If so, please describe.	N/A
3	Do any of the exclusions in the amended Executive Order impact the risk/return dynamics of the strategy in any way? If so, please describe	N/A

Callan

Appendix – Russia/Ukraine Questionnaire Responses

NHRS Russia/Ukraine Questionnaire – Manager Responses

Artisan Partners Non-US Growth

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Artisan Partners**	
Strategy Name:	**Artisan Non-U.S. Growth Strategy**	
Quarter End Date:	**3Q 2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	Yes
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	Russian Exposure as of 30 September 2024: MMC Norilsk Nickel PJSC ADR 0% Sberbank Russia PJSC Sponsored ADR 0% The invasion of Ukraine and the resultant sanctions on Russia caused the stock prices of our two Russian holdings—Russia's largest bank Sberbank and metals and mining company Norilsk Nickel—to collapse. With trading suspended in the ADRs of both Russian companies, we chose to price both positions to zero, although we firmly believe both companies have value. We have coded New Hampshire Retirement System's account to restrict further purchases and sell the positions as soon as trading resumes and is practical and prudent.
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Artisan Partners is aware of, has complied with and will continue to comply with the investment prohibitions issued by OFAC with respect to Russia's actions in Ukraine. Please note that the firm is further monitoring for any developments and will take responsive action as is necessary.

Team commentary represents the views of the investment manager(s) and may not reflect those of each of Artisan Partners' autonomous investment teams. The views and opinions expressed are based on current market conditions, which will fluctuate, and those views are subject to change without notice. While the information contained herein is believed to be reliable, there is no guarantee to the accuracy or completeness of any statement in the discussion. This material is provided for informational purposes and shall not be construed as investment advice. Any forecasts contained herein are for illustrative purposes only and are not to be relied upon as advice or interpreted as a recommendation. 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 is provided for informational purposes without regard to your particular investment needs and 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. 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 authorized and 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 Partners is not registered, authorized or eligible for an exemption from registration in all jurisdictions. Therefore, services described herein may not be available in certain jurisdictions. This material does not constitute an offer or solicitation where such actions are not authorized or lawful, and in some cases may only be provided at the initiative of the prospect. Further limitations on the availability of products or services described herein may be imposed. This material is only intended for investors which meet qualifications as institutional investors as defined in the applicable jurisdiction where this material is received, which includes only Professional Clients or Eligible Counterparties as defined by the Markets in Financial Instruments Directive (MiFID) where this material is issued by APUK or AP Europe. This material is not for use by retail investors and may not be reproduced or distributed without Artisan Partners' permission.

NHRS Russia/Ukraine Questionnaire – Manager Responses

Causeway Non-US Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Causeway Capital Management LLC**	
Strategy Name:	**International Value Equity**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	No
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	N/A
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

NHRS Russia/Ukraine Questionnaire – Manager Responses

Aristotle Capital International Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Aristotle Capital Management, LLC**	
Strategy Name:	**International Equity**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	No
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	N/A
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

NHRS Russia/Ukraine Questionnaire – Manager Responses

Lazard International Strategic Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Lazard Asset Management**	
Strategy Name:	**International Strategic Equity**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	No
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	N/A
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

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Information and opinions presented have been obtained or derived from sources believed by Lazard to be reliable. Lazard makes no representation as to their accuracy or completeness. All opinions expressed herein are as of the published date and are subject to change.
This material is for informational purposes only. It is not intended to, and does not constitute financial advice, fund management services, an offer of financial products or to enter into any contract or investment agreement in respect of any product offered by Lazard Asset Management and shall not be considered as an offer or solicitation with respect to any product, security, or service in any jurisdiction or in any circumstances in which such offer or solicitation is unlawful or unauthorized or otherwise restricted or prohibited.

NHRS Russia/Ukraine Questionnaire – Manager Responses

BlackRock Superfund

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**BlackRock**	
Strategy Name:	**BlackRock Superfund**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	No
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	N/A
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

NHRS Russia/Ukraine Questionnaire – Manager Responses

Wellington Emerging Markets Local Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Wellington Management Company**	
Strategy Name:	**Emerging Markets Local Equity**	
Quarter End Date:	**30-September-24**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	No
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	N/A
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

NHRS Russia/Ukraine Questionnaire – Manager Responses

Wellington International Small Cap Research Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Wellington Management Company**	
Strategy Name:	**International Small Cap Research Equity**	
Quarter End Date:	**30-September-24**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	No
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	n/a
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

NHRS Russia/Ukraine Questionnaire – Manager Responses

Walter Scott Global Equity

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Walter Scott & Partners Limited**	
Strategy Name:	**Global**	
Quarter End Date:	**30-September-2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	No
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	N/A
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

NHRS Russia/Ukraine Questionnaire – Manager Responses

BlackRock Strategic Income Opportunities (SIO) Bond Fund

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**BlackRock Financial Management Inc.**	
Strategy Name:	**Strategic Income Opportunities Fund CTF**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	Yes
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	0.13%
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

NHRS Russia/Ukraine Questionnaire – Manager Responses

Brandywine Global Opportunistic Fixed Income

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Brandywine Global Investment Management**	
Strategy Name:	**Global Opportunistic Fixed Income**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	No
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

NHRS Russia/Ukraine Questionnaire – Manager Responses

FIAM Tactical Bond

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Fidelity Institutional Asset Management (FIAM)**	
Strategy Name:	**Tactical Bond**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	N/A*
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	N/A*
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	N/A*

*Per FIAM, the Tactical Bond Commingled Pool has no exposure to Russia/Ukraine issuers.

NHRS Russia/Ukraine Questionnaire – Manager Responses

IR&M Fixed Income

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Income Research + Management**	
Strategy Name:	**NHRS Government/Credit Portfolio**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	N/A*
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	N/A*
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	N/A*

*IR&M did not fill out the Russia/Ukraine questionnaire as the portfolio does not have any direct exposure.

NHRS Russia/Ukraine Questionnaire – Manager Responses

Loomis Sayles Multisector Full Discretion

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Loomis, Sayles & Co., L.P.**	
Strategy Name:	**MultiSector Full Discretion**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	No
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	N/A
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

NHRS Russia/Ukraine Questionnaire – Manager Responses

Manulife Strategic Fixed Income

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Manulife Investment Management**	
Strategy Name:	**Strategic Fixed Income**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	No
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	N/A
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

NHRS Russia/Ukraine Questionnaire – Manager Responses

BNY Mellon Aggregate Bond Index (SL)

New Hampshire Retirement System Quarterly Questionnaire (as of quarter end) – Russia/Ukraine Exposure		
Manager Name:	**Mellon**	
Strategy Name:	**BNYM Mellon DB SL Aggregate Bond Index Fund**	
Quarter End Date:	**9/30/2024**	
1	Does NHRS' account have any direct exposure to Russia or Ukraine securities?	No
	If yes, what securities do you own and what percentage of the NHRS portfolio do these holdings represent?	N/A
2	Are you abiding by all OFAC financial sanctions and restrictions? If not, please explain.	Yes

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