

NORTH CAROLINA
DEPARTMENT OF STATE TREASURER



BRADFORD B. BRINER
STATE TREASURER OF NORTH CAROLINA

Investment Management Division

Performance Review



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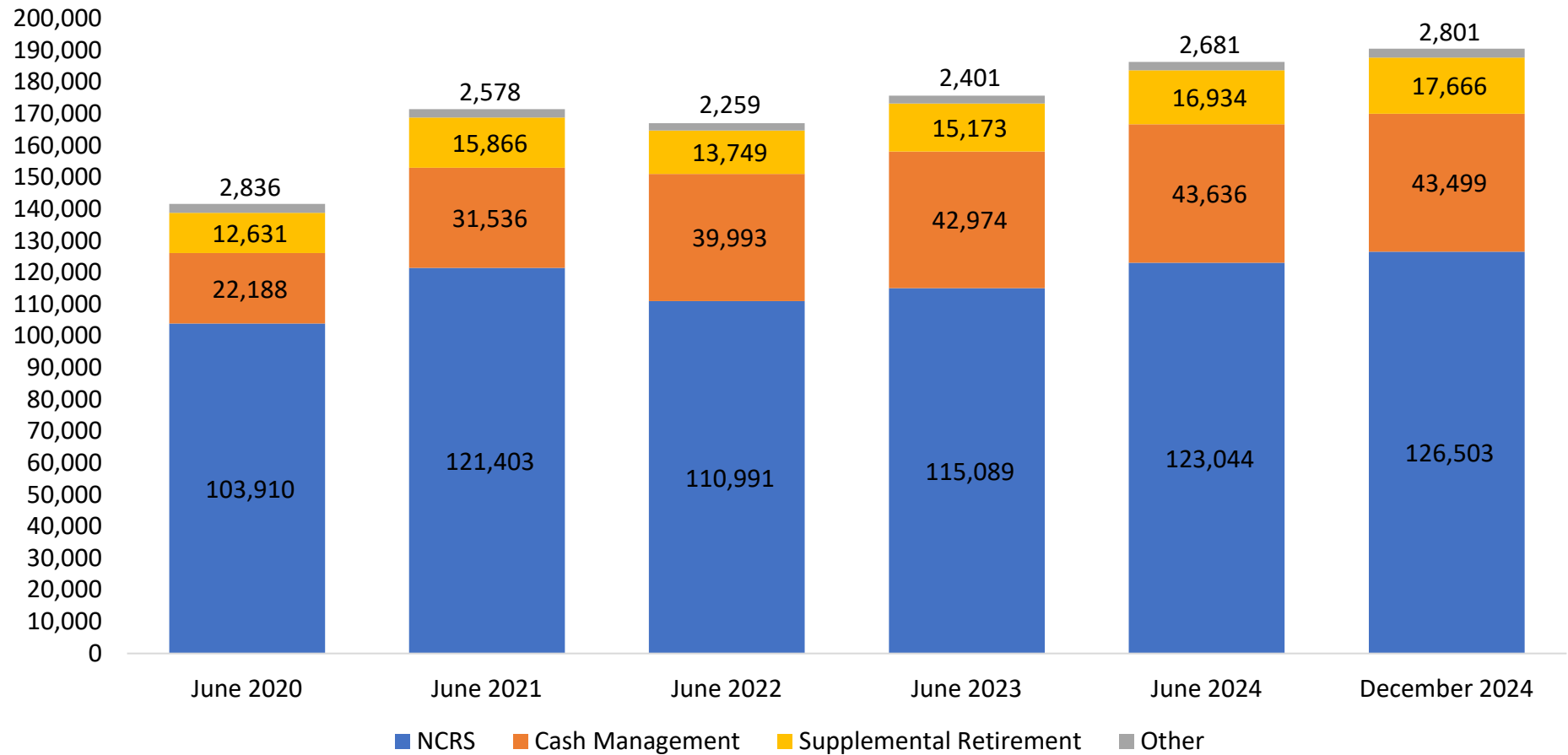


Section 1: Assets Under Management



Assets Under Management (\$MM)

\$190.5 billion as of December 31, 2024



■ NCRS ■ Cash Management ■ Supplemental Retirement ■ Other

Note: The Cash Management Program does not include Assets with Fiscal Agent, which are reflected in the Bond Proceeds Fund. These funds, which may have been reported in the Cash Management Program previously, have now been removed for all years shown in this report to more accurately reflect the Cash Management Program balance.



Section 2: Macro Positioning and Recent Activity



Summary View of Macro and Markets Environment

Macro

- Robust global economic growth led by U.S. with Europe and China dependent on policy actions
- Difficult last mile of U.S. disinflation may keep Fed on sidelines with growth, fiscal policy and tariffs adding upside risks
- Term premium and near-term break-evens are reflecting these risks
- Geopolitical stress remains material (trade tensions, political polarization, and encroachment/war zones)
- Still easy financial conditions, persistent risk-on sentiment creates fragility and potential for strong short-term rotations

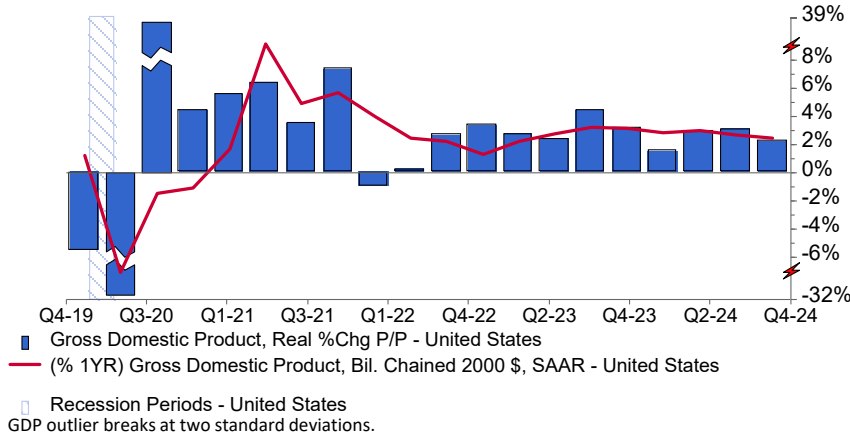
Markets

- Risk assets have support, despite full valuations and policy risks
 - ✓ U.S. equity market is broadening
 - ✓ Non-US markets could benefit from USD
 - ✓ Rising M&A helps private equity
- Rates and IG Credit benefit from current yields
 - ✓ Narrative shifts ==> volatility at long-end, but higher term premium is self-correcting
 - ✓ Credit fundamentals are sound, but spreads remain very tight
- Inflation-sensitive, ABF, and low duration HY are interesting diversifiers
- Improving opportunities in real estate as valuations stabilize and fundamentals improve



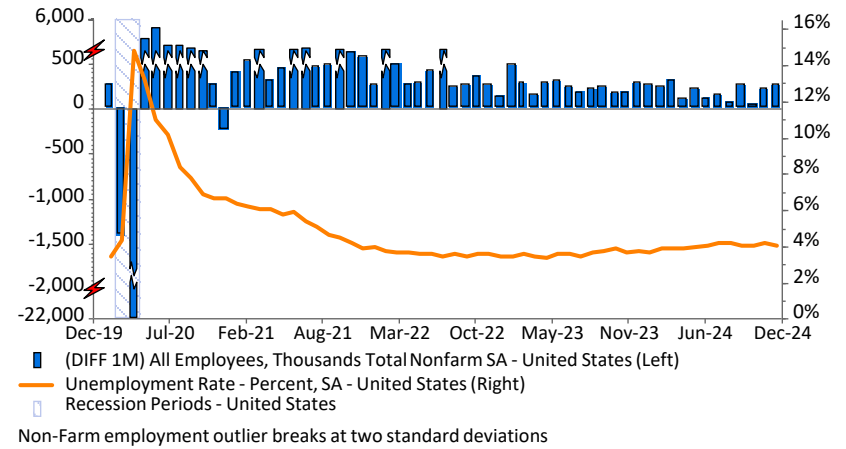
US Economic Environment

US Real GDP Growth



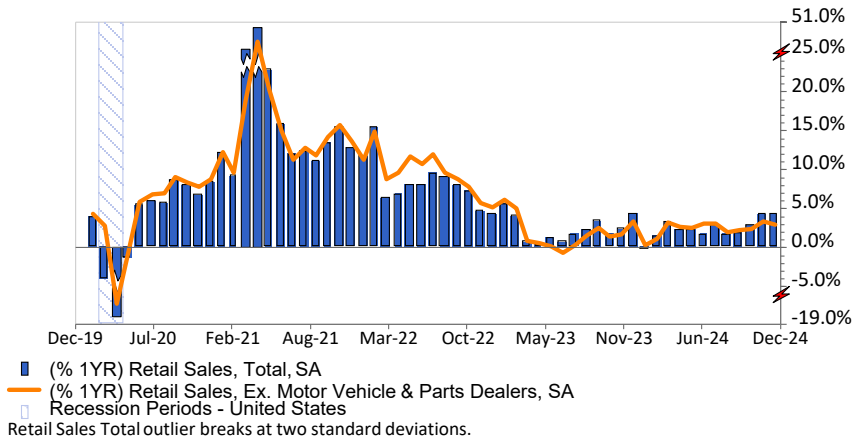
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US Change in NonFarm Employment & Unemployment Rate



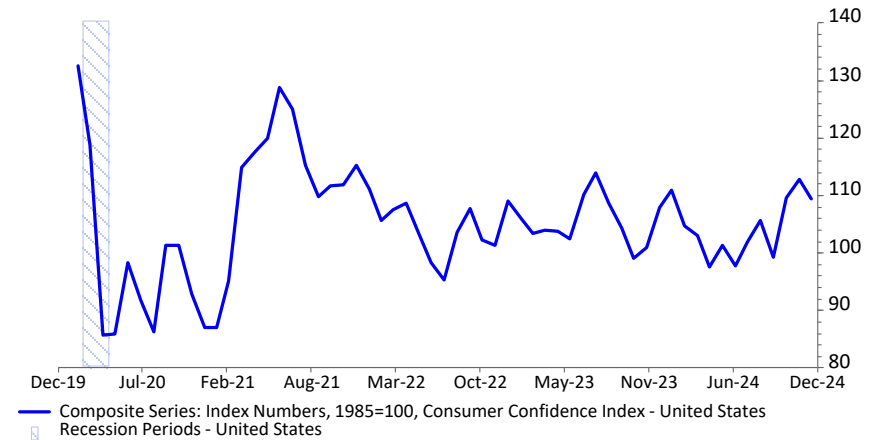
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US Retail Sales



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US Consumer Confidence

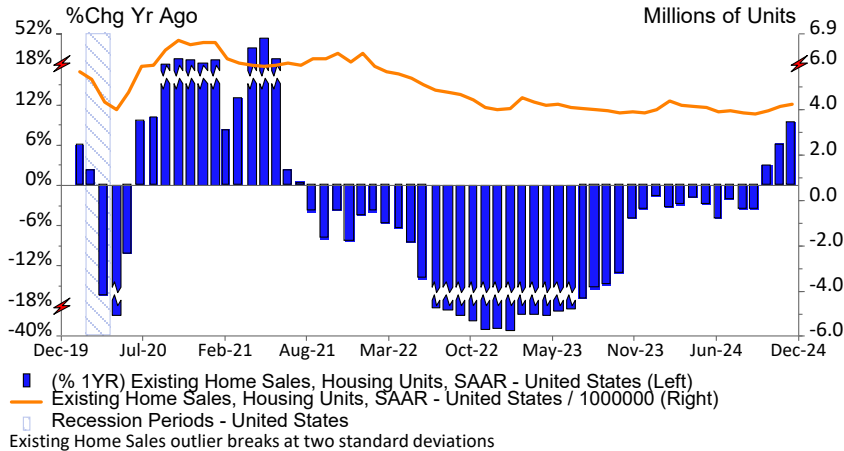


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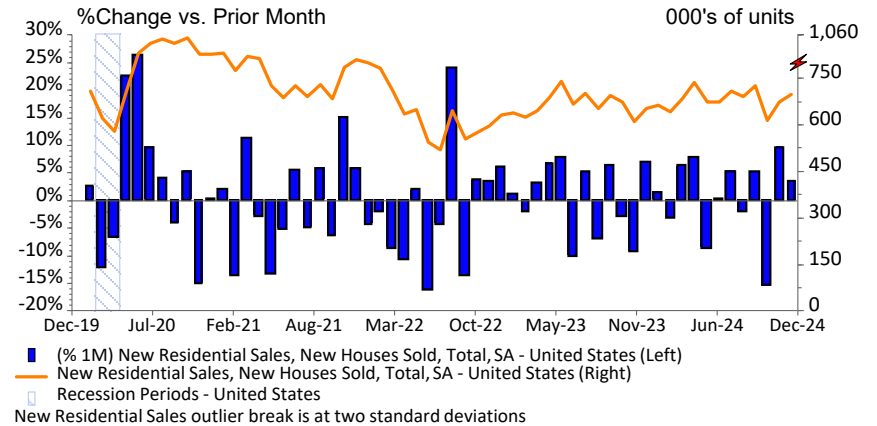
US Economic Environment

US Existing Home Sales



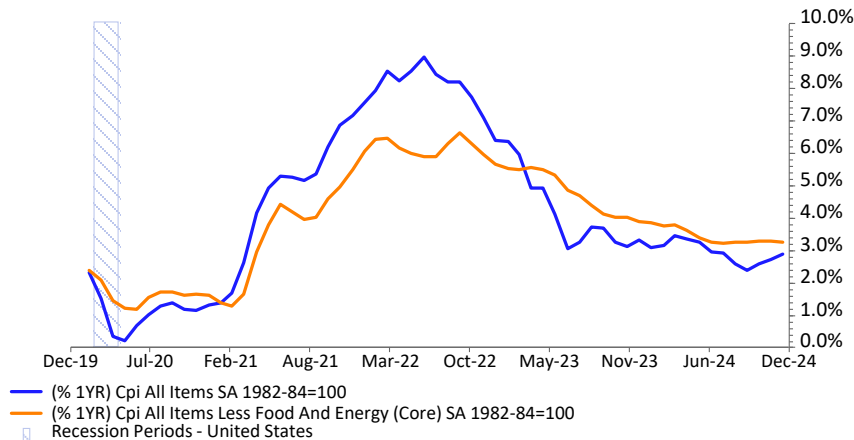
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US New Home Sales



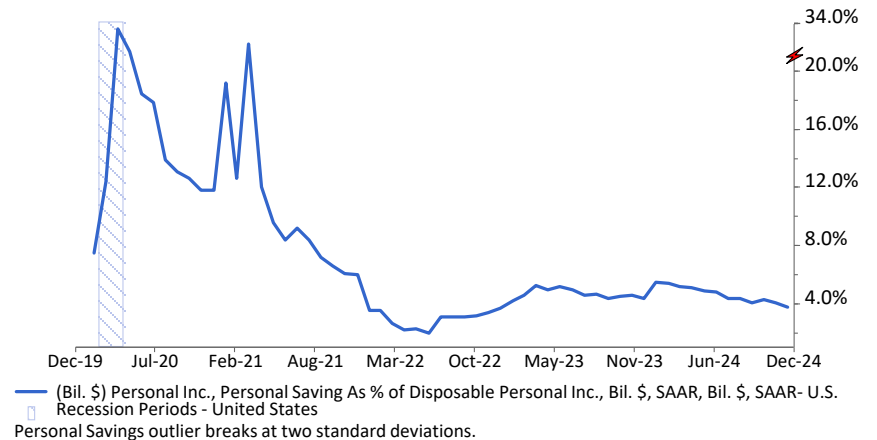
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US Consumer Price Inflation



©FactSet Research Systems

US Personal Savings Rate



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NCRS Asset Allocation

As of December 31, 2024

| | Market Value (\$000) | % | Target | Range | | Relative % | Relative \$ (\$000) |
|---|----------------------|----------------|--------------|--------------|--------------|---------------|----------------------|
| | | | | Minimum | Maximum | | |
| Growth | 68,218,252 | 53.93% | 55.0% | 33.0% | 68.0% | -1.07% | (\$1,358,662) |
| Public Equity | 52,118,678 | 41.20% | 38.0% | 33.0% | 43.0% | 3.20% | 4,047,355 |
| Private Equity | 6,067,333 | 4.80% | 7.0% | 0.0% | 8.75% | -2.20% | (2,787,911) |
| Non Core Real Estate | 2,058,384 | 1.63% | 3.0% | 0.0% | 8.0% | -1.37% | (1,736,720) |
| Opportunistic Fixed Income | 7,973,857 | 6.30% | 7.0% | 0.0% | 7.5% | -0.70% | (881,387) |
| Rates & Liquidity | 43,401,378 | 34.31% | 33.0% | 23.0% | 48.0% | 1.31% | 1,655,230 |
| IG Fixed Income & Cash | 34,129,271 | 26.98% | 28.0% | 23.0% | 33.0% | -1.02% | (1,291,703) |
| Pension Cash | 9,272,107 | 7.33% | 5.0% | 0.0% | 15.0% | 2.33% | 2,946,933 |
| Inflation Sensitive & Diversifiers | 12,230,703 | 9.67% | 11.0% | 4.0% | 16.0% | -1.33% | (1,684,680) |
| Inflation Sensitive | 5,960,159 | 4.71% | 6.0% | 2.0% | 7.5% | -1.29% | (1,630,049) |
| Core Real Estate | 6,270,544 | 4.96% | 5.0% | 2.0% | 10.0% | -0.04% | (54,630) |
| Multi-Strategy | 2,653,146 | 2.10% | 1.0% | 0.0% | 4.0% | 1.10% | 1,388,112 |
| Grand Total | 126,503,480 | 100.00% | | | | | |



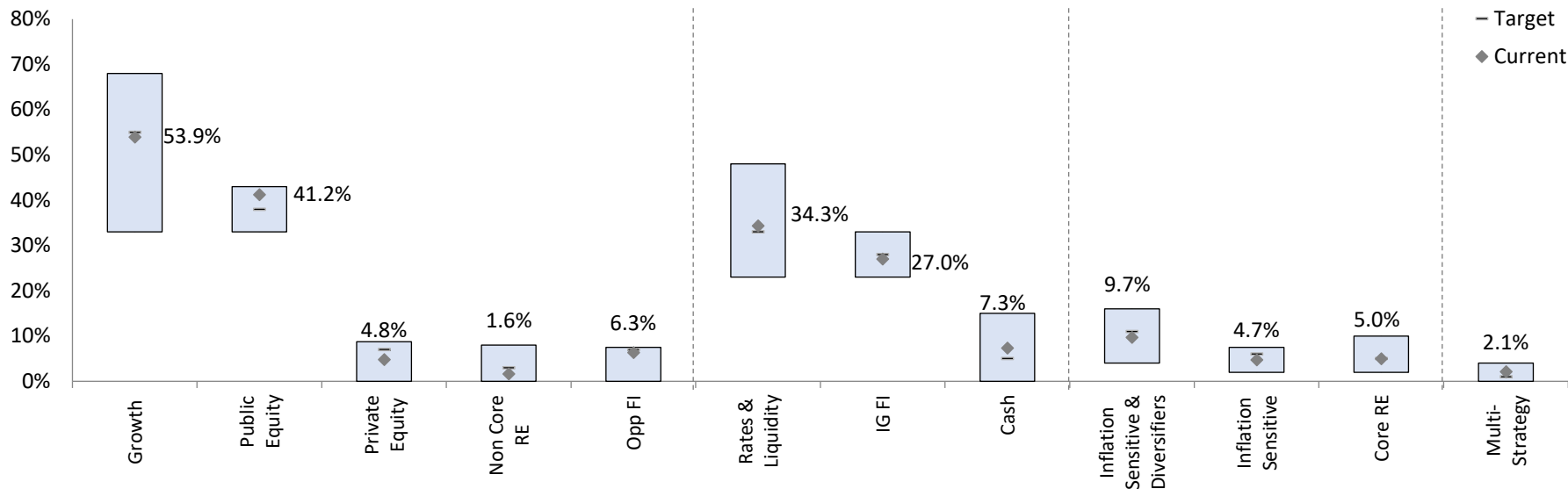
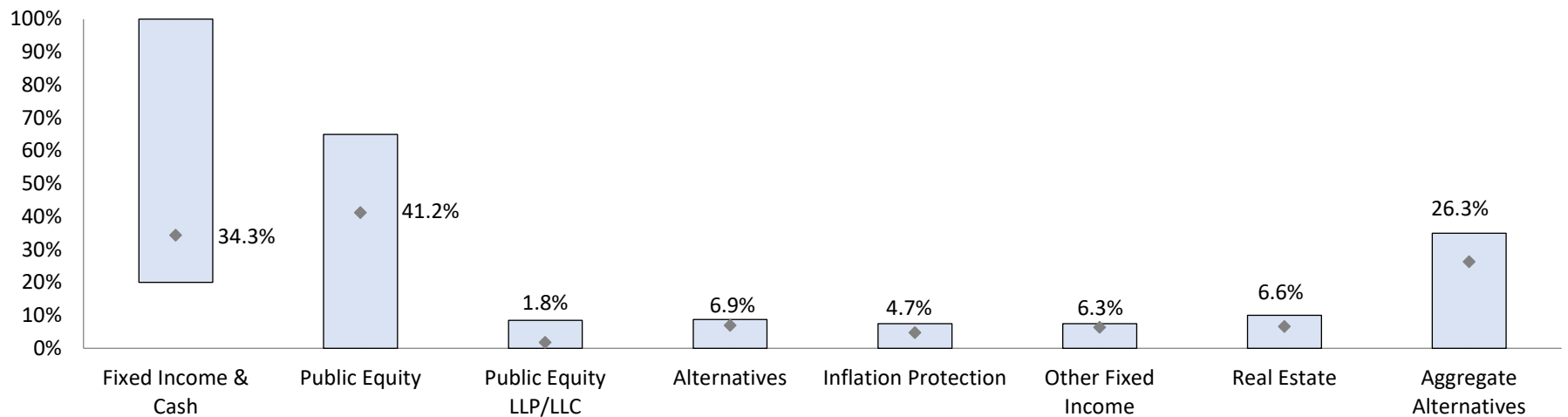
NCRS Asset Allocation (Preliminary)

As of February 19, 2025

| | Market Value (\$000) | % | Target | Range | | Relative % | Relative \$ (\$000) |
|---|----------------------|----------------|--------------|--------------|--------------|---------------|---------------------|
| | | | | Minimum | Maximum | | |
| Growth | 72,256,234 | 55.54% | 55.0% | 33.0% | 68.0% | 0.54% | 708,379 |
| Public Equity | 56,145,057 | 43.16% | 38.0% | 33.0% | 43.0% | 5.16% | 6,711,994 |
| Private Equity | 6,093,313 | 4.68% | 7.0% | 0.0% | 8.75% | -2.32% | (3,012,778) |
| Non Core Real Estate | 2,070,690 | 1.59% | 3.0% | 0.0% | 8.0% | -1.41% | (1,831,920) |
| Opportunistic Fixed Income | 7,947,174 | 6.11% | 7.0% | 0.0% | 7.5% | -0.89% | (1,158,917) |
| Rates & Liquidity | 42,846,102 | 32.94% | 33.0% | 23.0% | 48.0% | -0.06% | (82,610) |
| IG Fixed Income & Cash | 35,230,874 | 27.08% | 28.0% | 23.0% | 33.0% | -0.92% | (1,193,489) |
| Pension Cash | 7,615,229 | 5.85% | 5.0% | 0.0% | 15.0% | 0.85% | 1,110,878 |
| Inflation Sensitive & Diversifiers | 12,291,722 | 9.45% | 11.0% | 4.0% | 16.0% | -1.55% | (2,017,849) |
| Inflation Sensitive | 5,998,356 | 4.61% | 6.0% | 2.0% | 7.5% | -1.39% | (1,806,864) |
| Core Real Estate | 6,293,366 | 4.84% | 5.0% | 2.0% | 10.0% | -0.16% | (210,984) |
| Multi-Strategy | 2,692,950 | 2.07% | 1.0% | 0.0% | 4.0% | 1.07% | 1,392,080 |
| Grand Total | 130,087,008 | 100.00% | | | | | |



Statute and IPS Allocation





Rebalancing Activity

Since November 20th IAC Meeting

2025 Phase 1 Rebalance Status - 02/20/2025

Completed/In Process

| Asset Class | Approval | 2/12/2025 | 2/18/2025 | 2/19/2025 | Remaining |
|-----------------------------|-----------------|---------------|---------------|-----------------|-----------------|
| Pension Cash | (3,305,000,000) | (250,000,000) | (500,000,000) | (1,000,000,000) | (1,555,000,000) |
| IG Fixed Income | 1,000,000,000 | 250,000,000 | 500,000,000 | - | 250,000,000 |
| Public Equity | 1,000,000,000 | - | - | 1,000,000,000 | - |
| <i>Domestic Equity</i> | 2,941,000,000 | - | - | 1,000,000,000 | 1,941,000,000 |
| <i>International Equity</i> | (1,941,000,000) | - | - | - | (1,941,000,000) |
| Opportunistic Fixed Income | 555,000,000 | - | - | - | 555,000,000 |
| Inflation Sensitive | 750,000,000 | - | - | - | 750,000,000 |



New & Incremental Investment Commitments

Since November 20th IAC Meeting

| <u>Fund Name</u> | <u>Firm Name</u> | <u>New or Incremental Commitment (\$MM)</u> | <u>Closing Date</u> |
|-----------------------------------|------------------|---|-------------------------|
| Public Equity | | | |
| Russell 1000 Passive | Internal | \$1,000 | 2/19 |
| IG Fixed Income | | | |
| Core Fixed Income | Internal | \$750 | 2/18 |
| Private Equity | | | |
| NCL III OOSA – Addendum | Ares | \$350 | 2/21 |
| Non-Core Real Estate | | | |
| | | | |
| Opportunistic Fixed Income | | | |
| | | | |
| Inflation Sensitive | | | |
| | | | |
| Core Real Estate | | | |
| | | | |
| Multi-Strategy | | | |
| | | | |



Exited Investments

Since November 20th IAC Meeting

| <u>Fund Name</u> | <u>Redemption Amount (\$MM)</u> | <u>Redemption Effective</u> |
|-----------------------------------|---------------------------------|-----------------------------|
| Public Equity | | |
| None | | |
| Private Equity | | |
| None | | |
| Non-Core Real Estate | | |
| None | | |
| Opportunistic Fixed Income | | |
| None | | |
| Inflation Sensitive | | |
| None | | |
| Core Real Estate | | |
| None | | |
| Multi Strategy | | |
| None | | |



New Fund Pipeline as of February 20, 2025

| Asset Class Pipeline | | | | | |
|----------------------------|------------------------------|--------------|---------------------------|--------------------|--------------|
| Asset Class | Sub-Strategy | New or Re-Up | Commitment/Funding (\$MM) | Pipeline Status | Target Close |
| Private Equity | Co-Invest | N/A | \$50 | Treasurer Approved | Feb |
| Private Equity | Co-Invest vehicle | Re-Up SMA | \$350 | Treasurer Approved | Feb |
| Opportunistic Fixed Income | Special Situations | Re-Up Fund | \$250 | Treasurer Approved | March |
| Opportunistic Fixed Income | Special Situations | Re-Up SMA | \$200 | Treasurer Approved | March |
| Private Equity | Co-Invest | N/A | \$150 | Diligence Stage | Feb |
| Core RE | Private Core | Re-Up SMA | \$300 | Diligence Stage | Feb |
| Public Equity | Co-Invest | New | \$75 to \$100 | Diligence Stage | Feb |
| Private Equity | Buyout | Re-Up Fund | \$150 | Diligence Stage | March |
| Private Equity | Secondaries - CVs | Re-Up Fund | \$150 | Diligence Stage | March |
| Private Equity | Secondaries - CVs | Re-Up SMA | \$75 | Diligence Stage | March |
| Opportunistic Fixed Income | Special Situations | Re-Up SMA | \$250 | Diligence Stage | March |
| Non-Core RE | Value-Add | Re-Up SMA | \$300 | Diligence Stage | March |
| Private Equity | Buyout | Re-Up Fund | \$250 | Diligence Stage | April |
| Non-Core RE | Value-Add | Re-Up SMA | \$200 | Diligence Stage | April |
| Inflation Sensitive | Inflation Linked Bonds | Re-Up SMA | \$300 to \$400 | Diligence Stage | April |
| Inflation Sensitive | Inflation Linked Bonds | Re-Up SMA | \$300 to \$400 | Diligence Stage | April |
| Opportunistic Fixed Income | Traditional Corporate Credit | Re-Up SMA | \$250 | Diligence Stage | April |

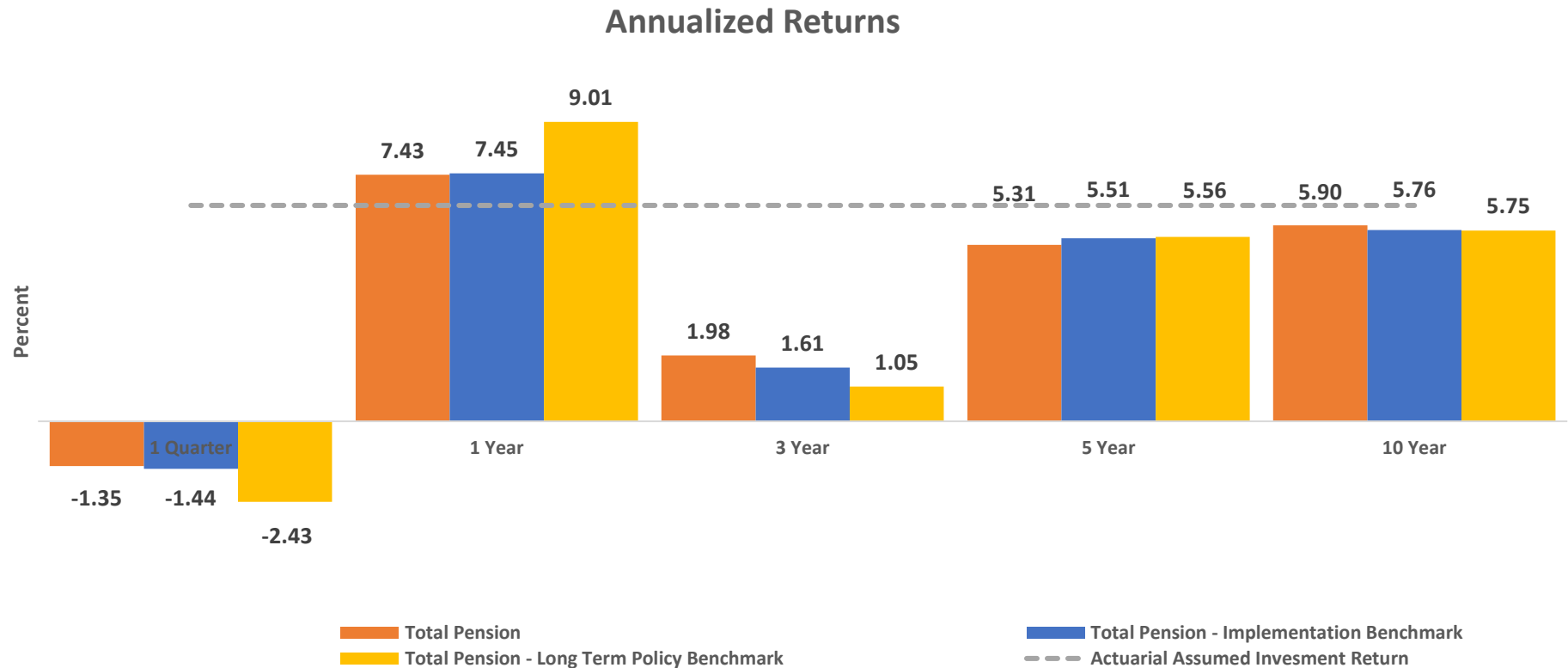


Section 3: Performance Analysis



NCRS Total Net Portfolio Return vs. Benchmarks

As of December 31, 2024



Notes:

Actuarial Assumed Investment Return was lowered from 7.0% to 6.5% as of December 31, 2020

Returns for periods greater than one year are annualized.

Implementation Benchmark is a blend of the Asset Class Benchmarks at policy weights. It is currently weighted as follows: 55% Growth Benchmark; 33% Rates & Liquidity Benchmark; 11% Inflation Sensitive & Diversifiers Benchmark; and 1% Multi-Strategy Benchmark.

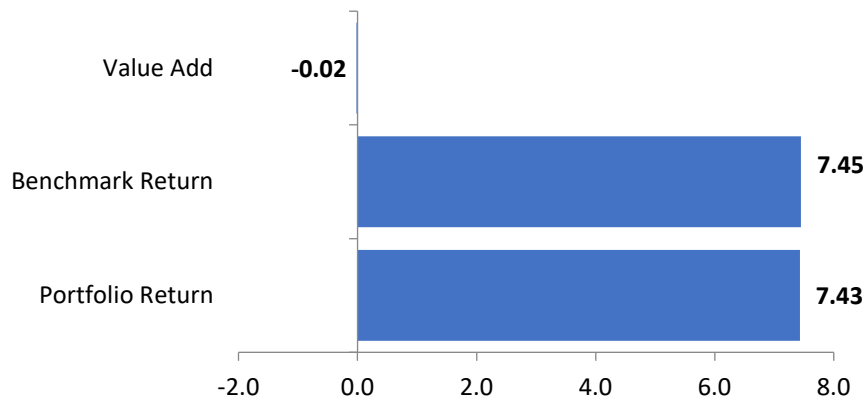
Long-Term Policy Benchmark is comprised of 56% MSCI ACWI IMI Net, 28% ICE BofA 5+ Years U.S. Treasury Index, 6.5% Bloomberg Commodity Index, 5% ICE BofA 3 Month Treasury Bill Index, and 4.5% ICE BofA 1-3 Years U.S. Inflation-Linked Treasury Index.



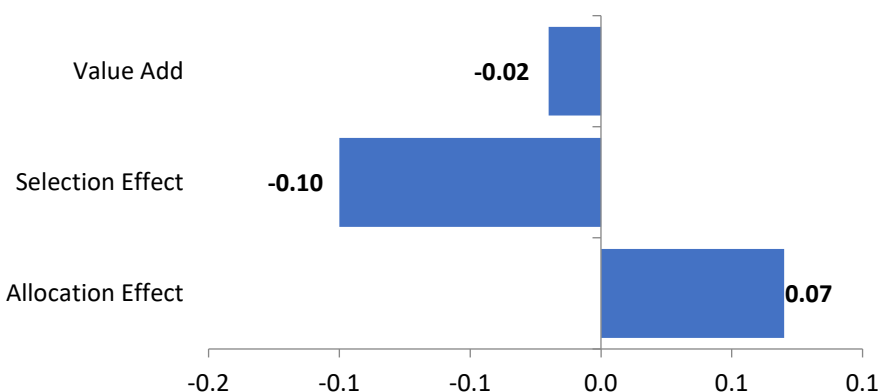
NCRS Net of Fees Return Attribution

Total Fund vs. Implementation Benchmark: 1 Year Ending December 31, 2024

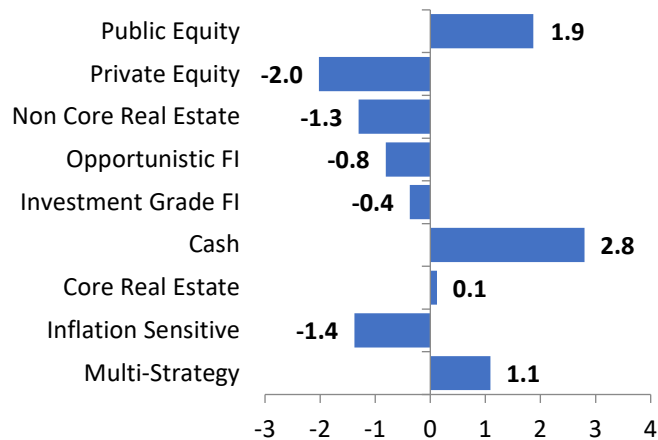
Total Fund Performance



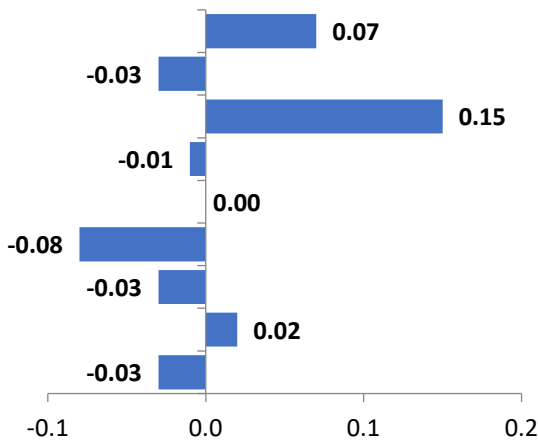
Attribution



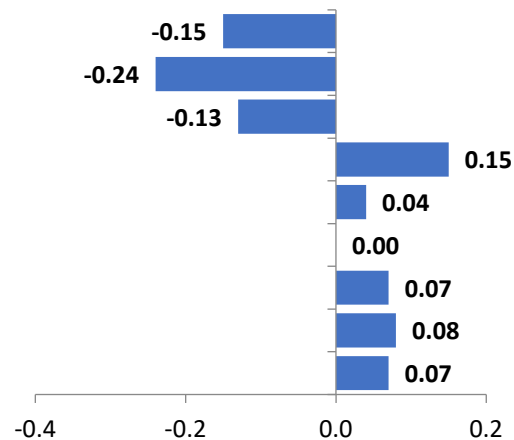
Avg Active Weight



Allocation Effect



Selection Effect

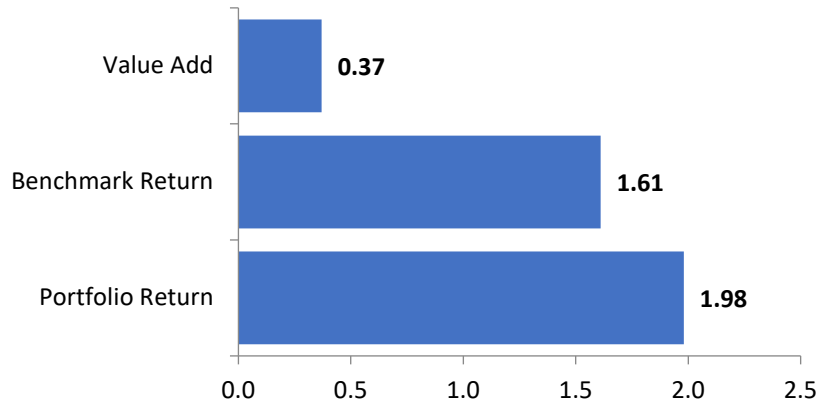




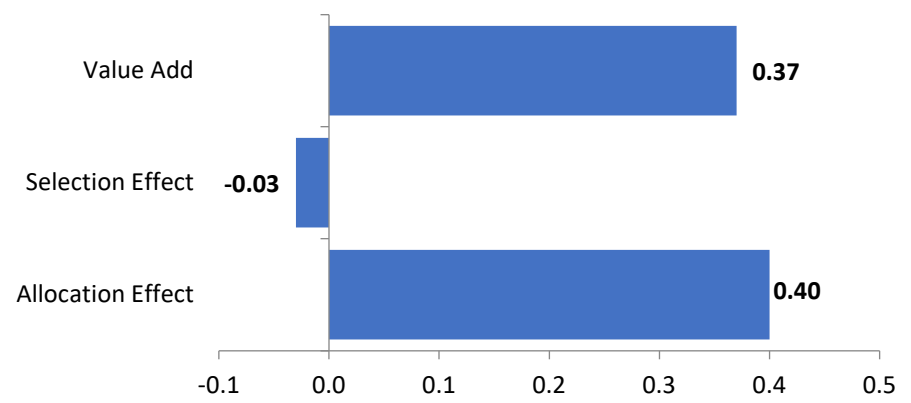
NCRS Net of Fees Return Attribution

Total Fund vs. Implementation Benchmark: 3 Years Ending December 31, 2024

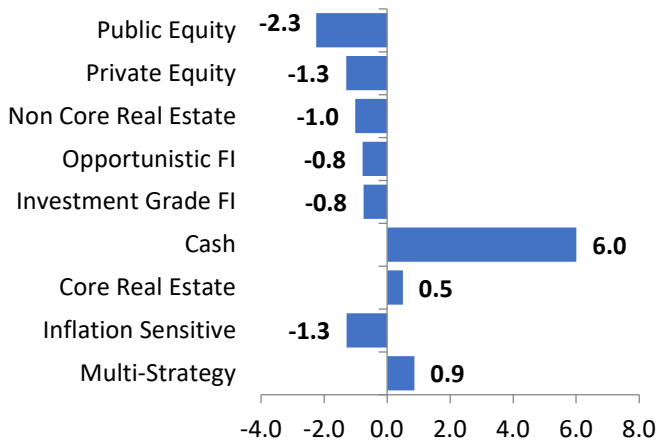
Total Fund Performance



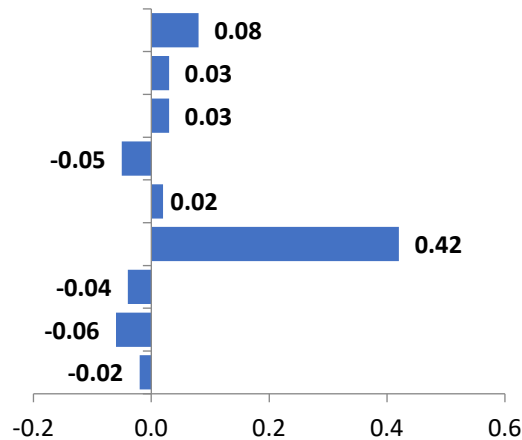
Attribution



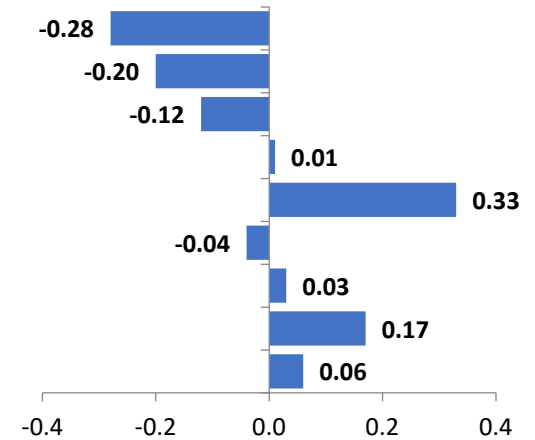
Avg Active Weight



Allocation Effect



Selection Effect

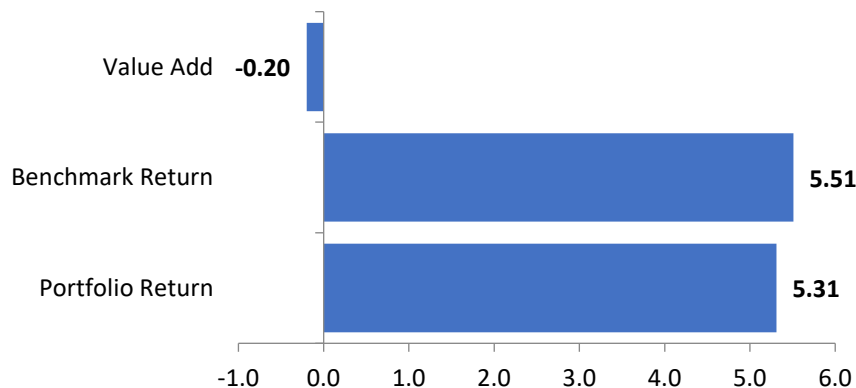




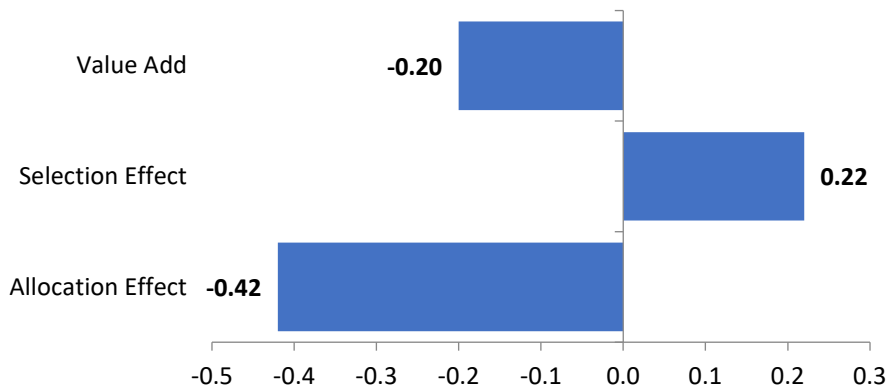
NCRS Net of Fees Return Attribution

Total Fund vs. Implementation Benchmark: 5 Years Ending December 31, 2024

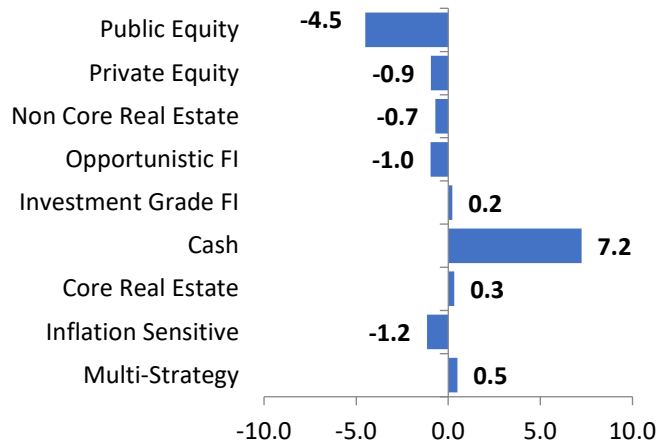
Total Fund Performance



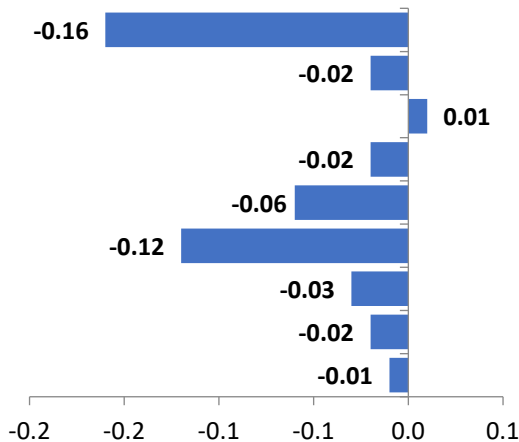
Attribution



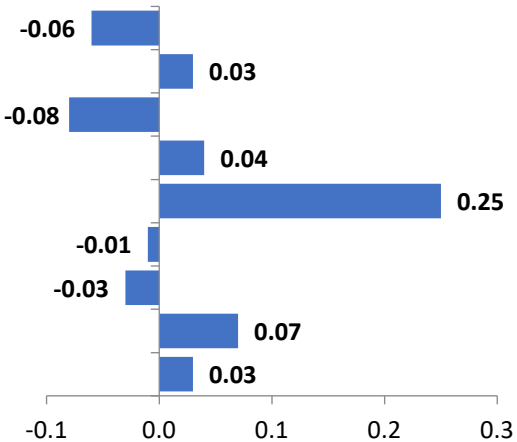
Avg Active Weight



Allocation Effect



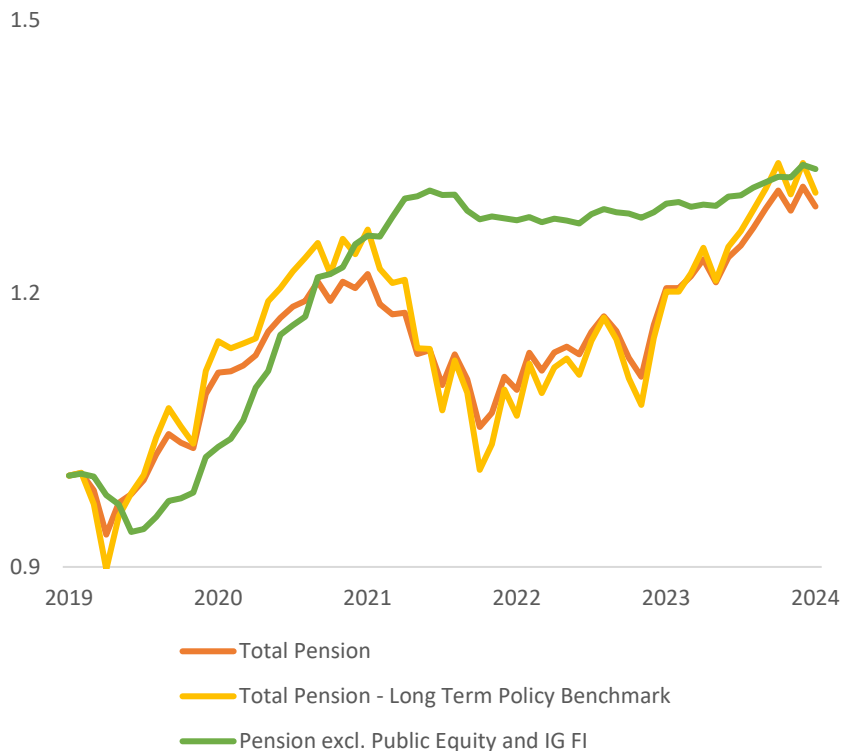
Selection Effect





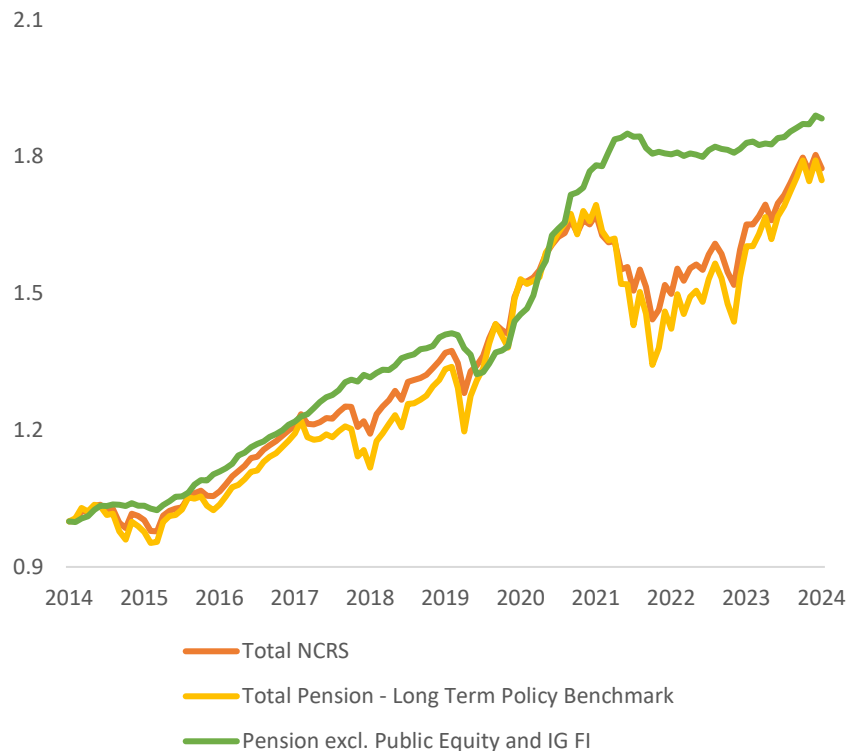
Growth of a Dollar

5 Years Ending December 31, 2024



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10 Years Ending December 31, 2024



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Note: Pension excl. Public Equity and IG FI includes the following: Core Real Estate; Inflation Sensitive – Private Natural Resources; Inflation Sensitive – Real Assets and Other Diversifiers; Multi-Strategy Investments; Non-Core Real Estate; Opportunistic Fixed Income; Private Equity; Equity Hedge Strategies; and closed-end Public Natural Resource funds.



NCRS Gross of Fees Return and Risk

BNY Mellon Universe: US Public Funds > \$20B; Data as of December 31, 2024

| Returns | 1 Year | 3 Years | 5 Years | 5 Years Ending 2019 | 5 Years Ending 2014 |
|---|-------------|--------------|-------------|---------------------|---------------------|
| Median Percentile | 9.43 | 3.06 | 7.86 | 7.56 | 9.90 |
| NCRS | 7.71 | 2.29 | 5.62 | 7.08 | 9.22 |
| Percentile Rank (1 = highest performance) | 75 | 67 | 87 | 77 | 73 |
| Risk | | | | | |
| Median Percentile | 5.29 | 8.78 | 8.93 | 5.76 | 7.94 |
| NCRS | 5.17 | 8.10 | 7.79 | 4.86 | 6.73 |
| Percentile Rank (1 = highest risk) | 63 | 60 | 80 | 83 | 80 |
| Sharpe Ratio | | | | | |
| Median Percentile | 0.73 | -0.06 | 0.61 | 1.09 | 1.22 |
| NCRS | 0.47 | -0.16 | 0.43 | 1.22 | 1.34 |
| Percentile Rank | 75 | 80 | 80 | 24 | 30 |

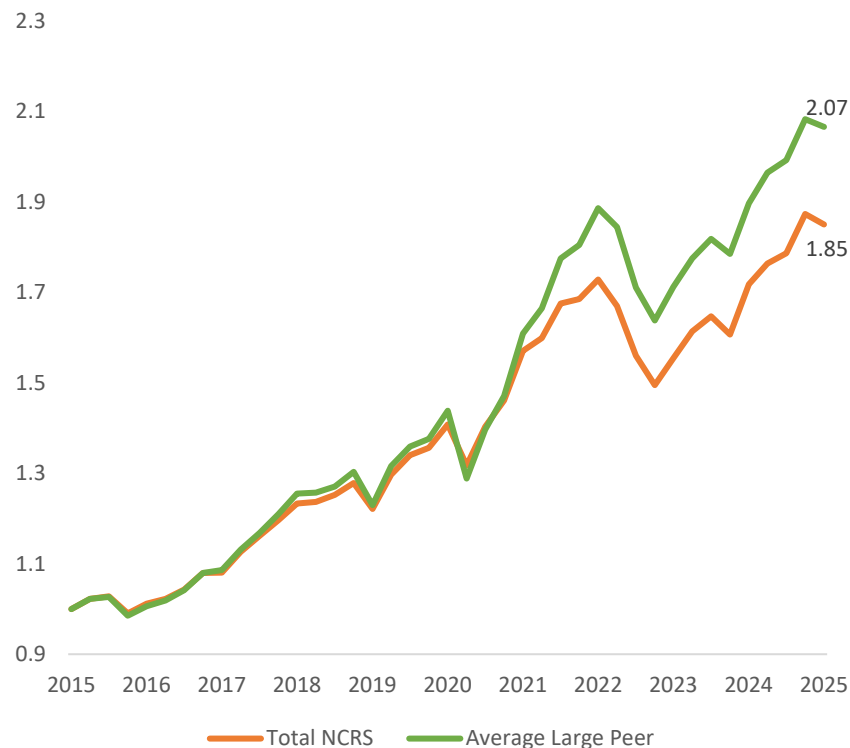
Note: Data shown is gross of fees with the exception of incentive payments, which have been deducted from NAV when applicable.



Growth of a Dollar vs Average Large Peer

5 Years Ending December 31, 2024

10 Years Ending December 31, 2024



Note: Data shown is gross of fees with the exception of incentive payments, which have been deducted from NAV when applicable.

BNY Mellon Universe: US Public Funds > \$20B; Data as of December 31, 2024



NCRS Asset Class Net of Fees Performance

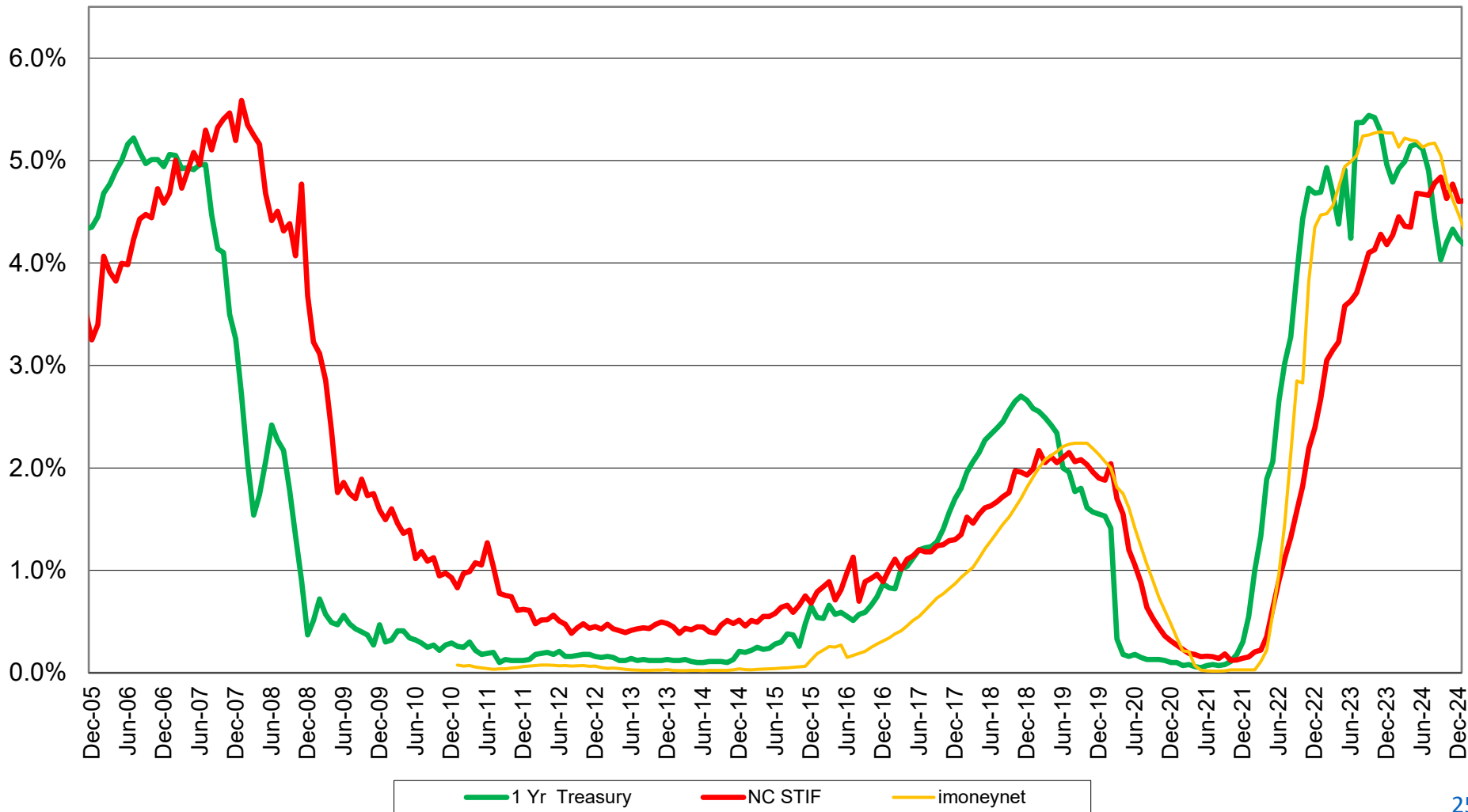
As of December 31, 2024

| | Market Value (\$MM) | 1 Year | 3 Years | 5 Years | 10 Years | 15 Years | 20 Years |
|---|---------------------|---------------|--------------|--------------|--------------|--------------|-------------|
| Growth | \$68,218 | 12.97 | 3.65 | 9.25 | 9.00 | 9.47 | 7.38 |
| Benchmark ¹ | | 12.98 | 4.49 | 9.23 | 8.35 | 8.76 | 6.92 |
| Public Equity | \$52,119 | 15.98 | 4.09 | 9.56 | 9.21 | 9.64 | 7.56 |
| Benchmark ² | | 16.37 | 4.90 | 9.64 | 8.83 | 9.11 | 7.08 |
| Private Equity | \$6,067 | 3.23 | -0.14 | 11.87 | 11.26 | 10.89 | 9.74 |
| Benchmark ³ | | 7.93 | 3.34 | 11.39 | 10.04 | 11.20 | 11.21 |
| Non-Core Real Estate | \$2,058 | -10.69 | -6.33 | -0.73 | 5.65 | 7.17 | 5.28 |
| Benchmark ⁴ | | -4.24 | -0.20 | 3.15 | 5.07 | 6.40 | 5.77 |
| Opportunistic Fixed Income | \$7,974 | 9.74 | 5.69 | 7.36 | 5.72 | 7.20 | - |
| Benchmark ⁵ | | 7.25 | 5.59 | 6.63 | 4.45 | 4.00 | - |
| Rates & Liquidity | \$43,401 | 1.51 | -0.63 | 0.77 | 1.99 | 3.42 | 4.02 |
| Benchmark ⁶ | | 1.11 | -2.97 | -0.55 | 1.46 | 3.08 | 3.59 |
| IG Fixed Income | \$34,129 | 0.51 | -2.43 | -0.06 | 1.69 | 3.23 | 3.88 |
| Benchmark ⁷ | | 0.37 | -3.61 | -0.91 | 1.32 | 2.99 | 3.52 |
| Cash | \$9,272 | 5.11 | 3.58 | 2.38 | 1.87 | - | - |
| Benchmark ⁸ | | 5.15 | 3.92 | 2.43 | 1.73 | - | - |
| Inflation Sensitive & Diversifiers | \$12,231 | 0.80 | 2.07 | 3.40 | 4.27 | 3.49 | 3.83 |
| Benchmark ⁹ | | 0.25 | 0.83 | 3.44 | 3.79 | 3.89 | 3.26 |
| Inflation Sensitive | \$5,960 | 7.34 | 8.23 | 6.49 | 4.59 | 1.62 | 3.86 |
| Benchmark ¹⁰ | | 5.73 | 4.49 | 4.90 | 2.94 | 1.16 | 4.05 |
| Core Real Estate | \$6,271 | -4.79 | -2.97 | 0.88 | 4.51 | 6.42 | 5.25 |
| Benchmark ¹¹ | | -5.99 | -3.48 | 1.61 | 4.72 | 6.93 | 5.52 |
| Multi-Strategy | \$2,653 | 8.18 | 4.46 | 3.32 | 4.57 | 6.47 | 5.27 |
| Benchmark ¹² | | 5.05 | 1.40 | 1.85 | 3.24 | 4.84 | 5.87 |
| Total Pension Plan | \$126,503 | 7.43 | 1.98 | 5.31 | 5.90 | 6.84 | 6.02 |
| Implementation Benchmark ¹³ | | 7.45 | 1.61 | 5.51 | 5.76 | 6.56 | 5.74 |
| Long-Term Policy Benchmark ¹⁴ | | 9.01 | 1.05 | 5.56 | 5.75 | 6.41 | 5.95 |



Short Term Portfolio (STIF) Rate History

\$46.5 Billion AUM as of December 31, 2024



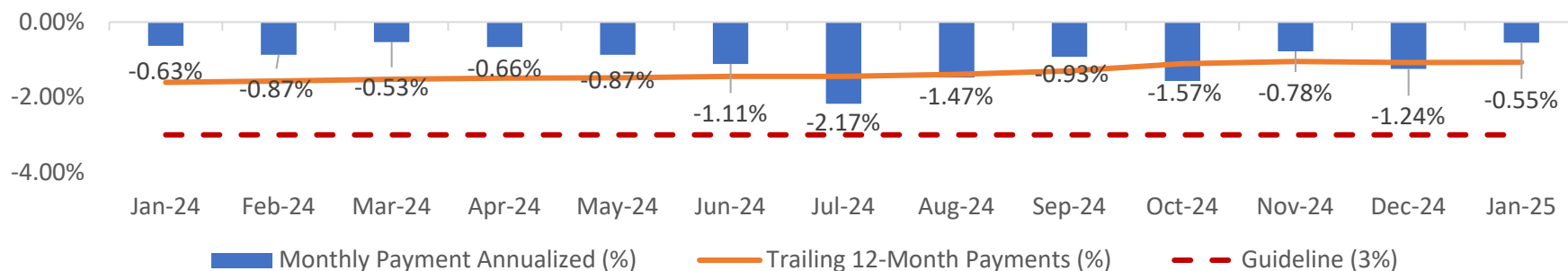
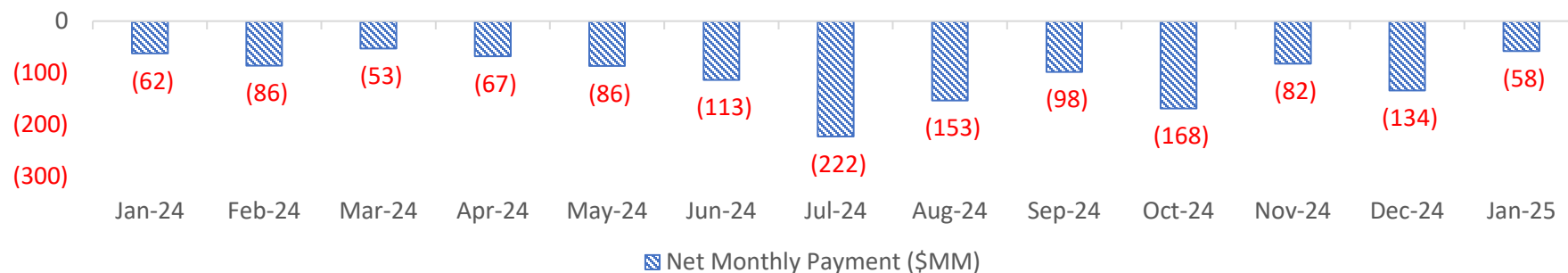


Section 4: Risk Metrics



Risk Statistics

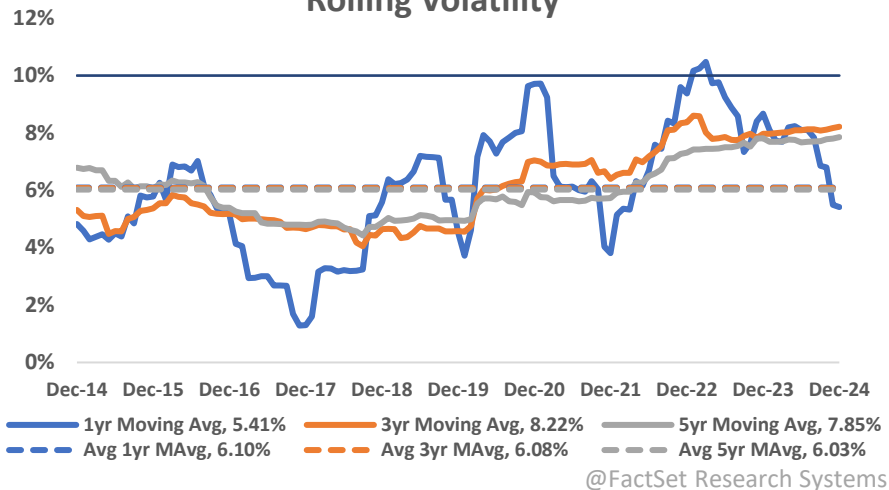
| Metric | 1 Year | | 3 Year | | 5 Year | | Policy Guidelines | |
|----------------------|---------|--------|--------|--------|---------|--------|-------------------|--------|
| | Port | Bmk | Port | Bmk | Port | Bmk | 3yr Target | Status |
| Return | 13.02% | 13.31% | 2.99% | 2.83% | 5.94% | 6.16% | - | - |
| Volatility | 5.49% | 5.83% | 8.17% | 9.50% | 7.80% | 9.52% | <10% | Pass |
| Sharpe Ratio | 1.42 | 1.39 | (0.12) | (0.12) | 0.45 | 0.39 | >0.40 | Fail |
| Value Add | (0.29%) | -- | 0.15% | -- | (0.22%) | -- | -- | -- |
| Tracking Error | 0.59% | -- | 1.59% | -- | 2.04% | -- | 0.50-1.50% | Fail |
| Information Ratio | (0.47) | -- | 0.09 | -- | (0.11) | -- | >0.30 | Fail |
| Beta - Equity Market | 0.58 | 0.61 | 0.48 | 0.56 | 0.42 | 0.53 | <0.60 | Pass |
| Beta - Bond Market | 0.70 | 0.75 | 0.89 | 1.00 | 0.63 | 0.68 | <0.30 | Fail |
| Beta - Inflation | 0.24 | 0.39 | (0.34) | (0.37) | (0.27) | (0.29) | <0.30 | TBD |



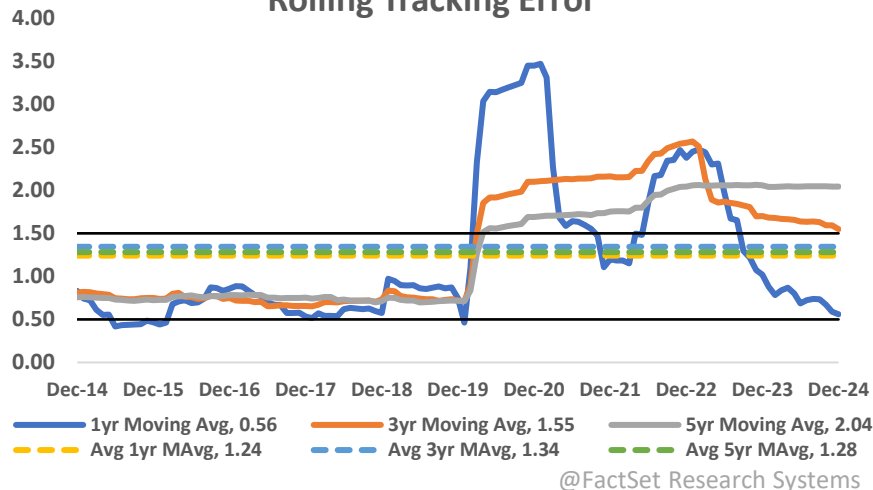


NCRS Net of Fees Risk Metrics As of December 31, 2024

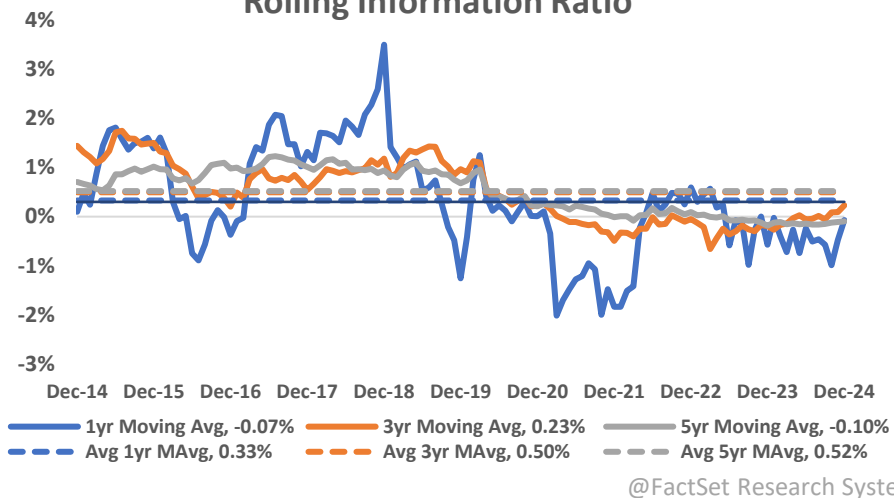
Rolling Volatility



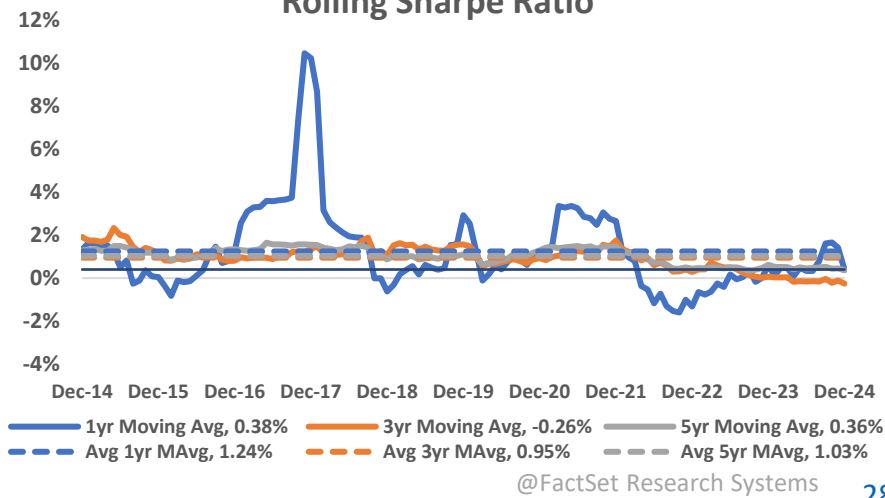
Rolling Tracking Error



Rolling Information Ratio



Rolling Sharpe Ratio

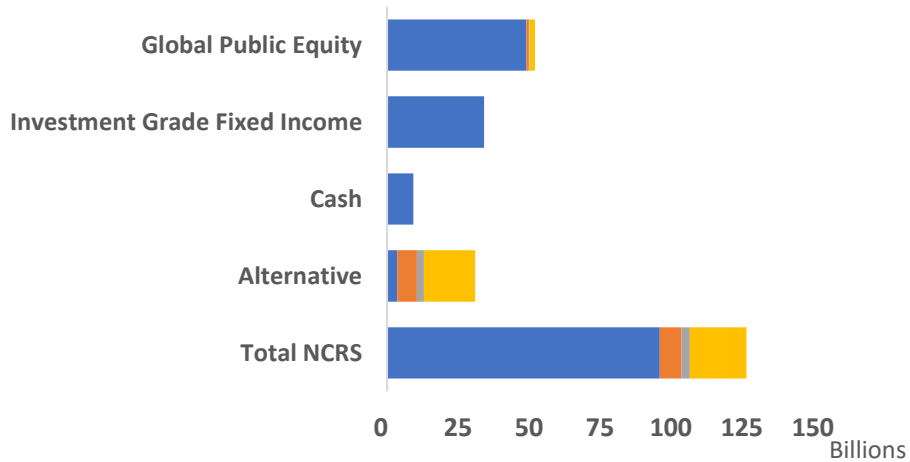




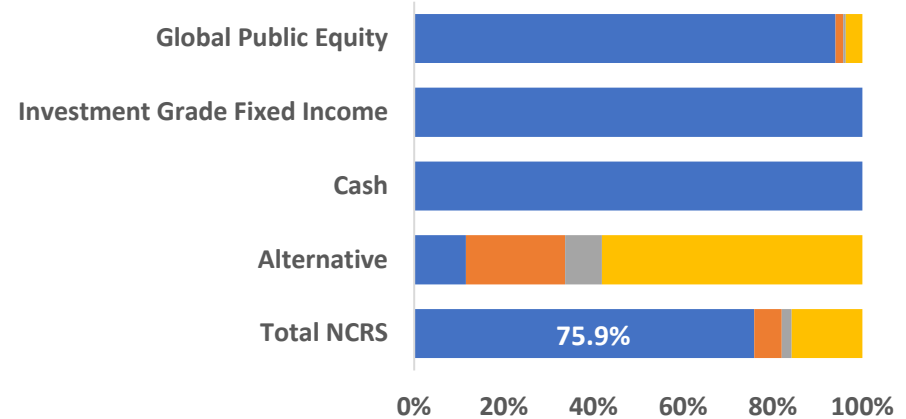
NCRS Liquidity Profile

As of December 31, 2024

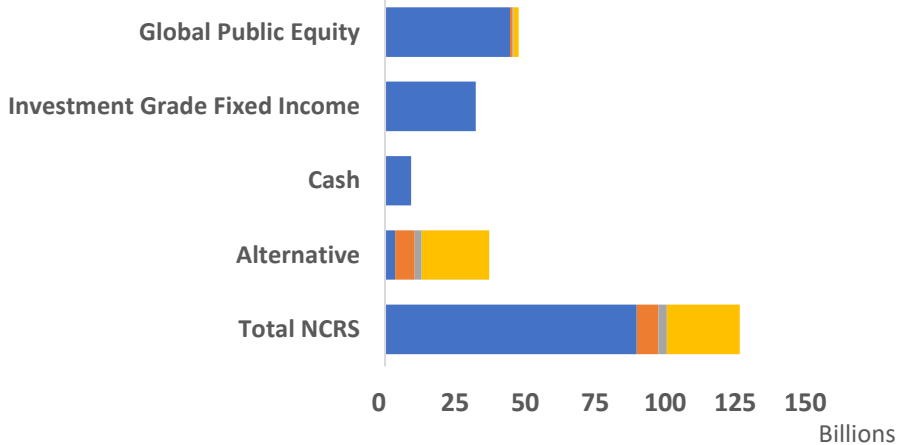
Liquidity Allocation (\$ Market Value)



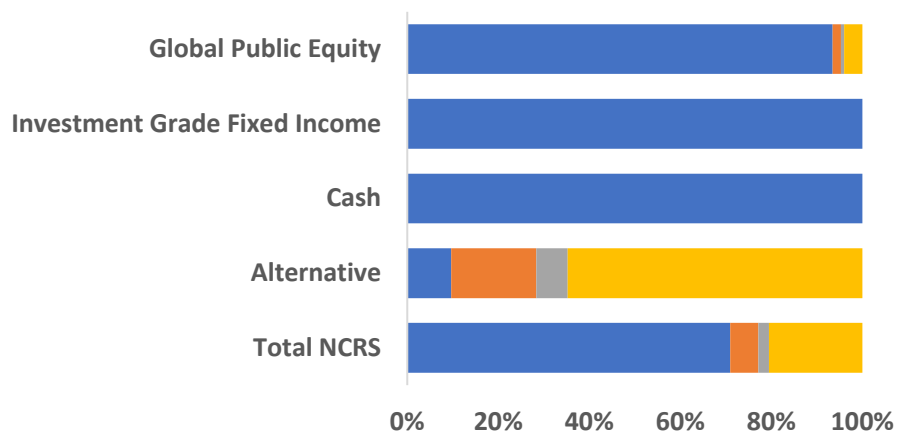
Liquidity Allocation (% Market Value)



Liquidity Allocation (\$ Market Value + Unfunded)



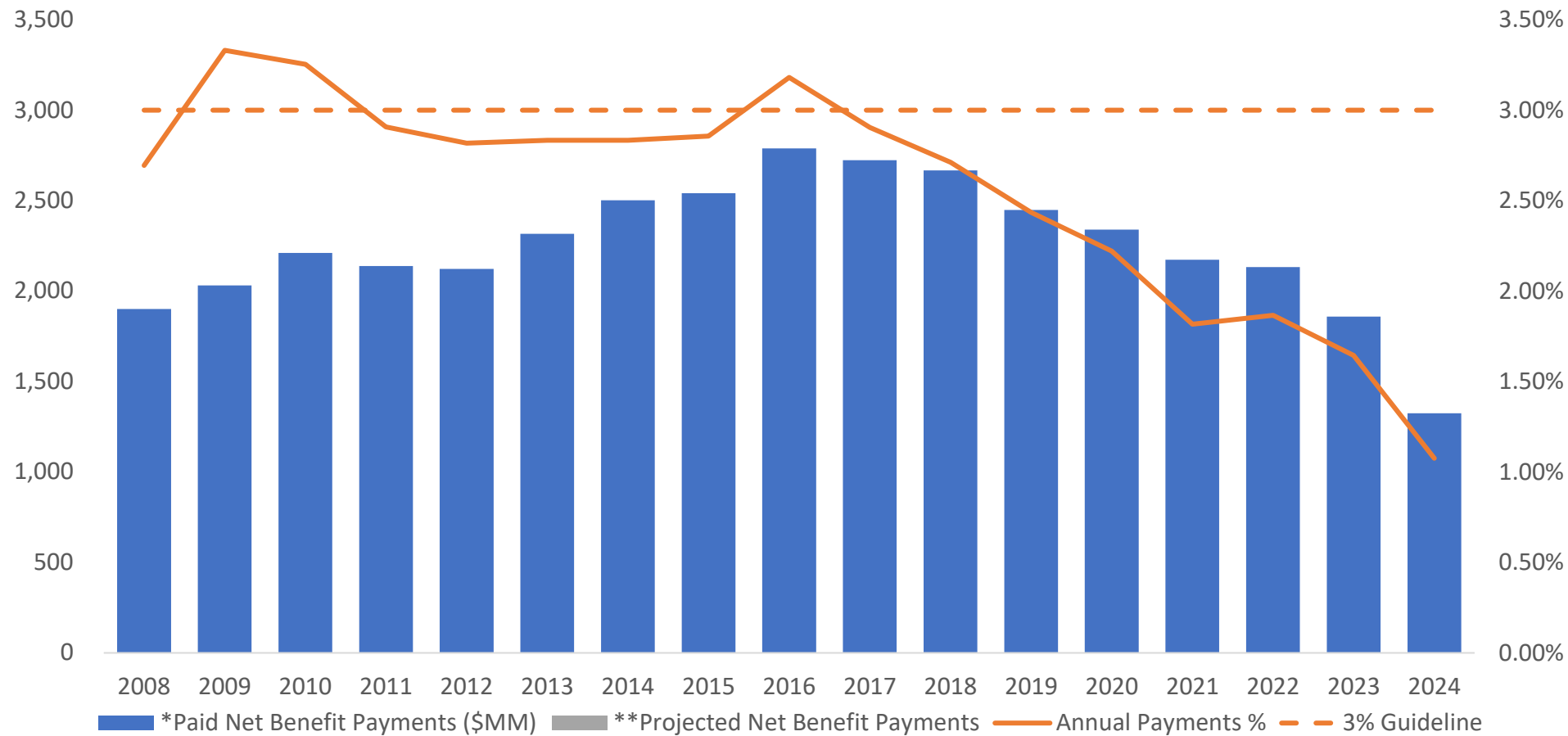
Liquidity Allocation (% Market Value + Unfunded)





NCRS Liquidity Profile

Net benefit payments by calendar year



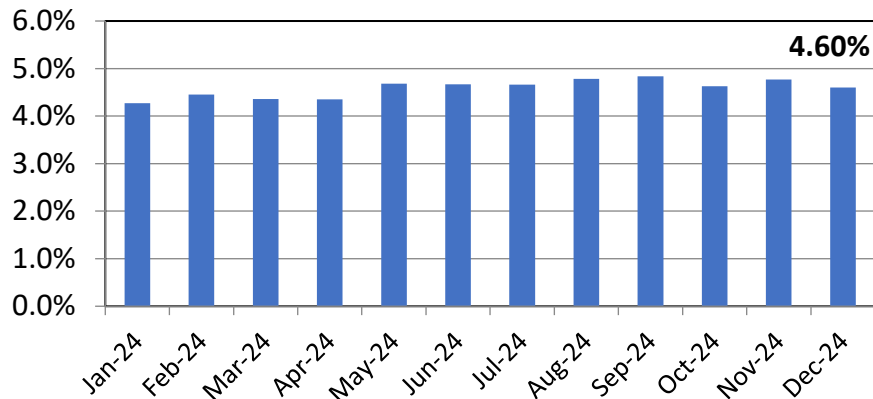
*Benefit payments exclude transfers from the Retiree Health Premium Fund as of January 1, 2022

**Projected Net Benefit Payments for remainder of calendar year

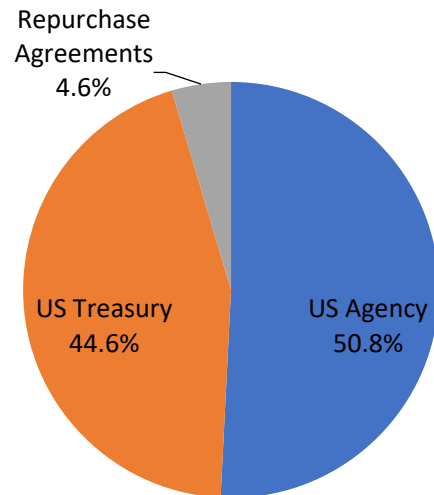


Cash Management Risk Profile

Historical Annualized Net Cash Return



STIF Allocation



Portfolio Characteristics

As of 12/31/24

| | |
|------------------------------------|-------|
| Current Annualized Net Cash Return | 4.60% |
| Effective Duration | .81 |
| Average Maturity (Yrs) | 1.9 |
| Average Credit Rating (Moody's) | AAA |
| Average Price | 99.78 |
| Average Coupon | 3.87% |

STIF Liquidity Profile as of 12/31/24

| | Allocation | Policy Target |
|-------------------|------------|---------------|
| Maturity < 1 Year | 58.2% | 40% Min |
| Maturity 1-3 Year | 10.8% | 40% Max |
| Maturity 3-5 Year | 31.0% | 40% Max |

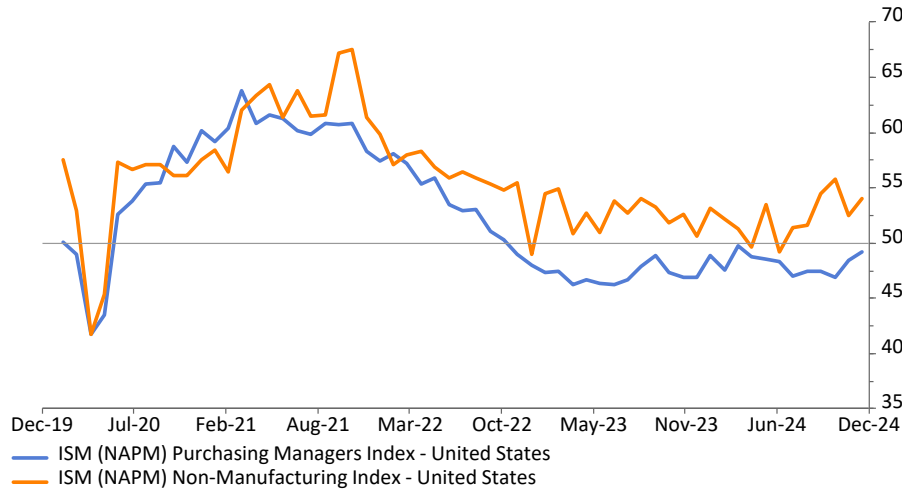


Appendix 1: Macro Charts



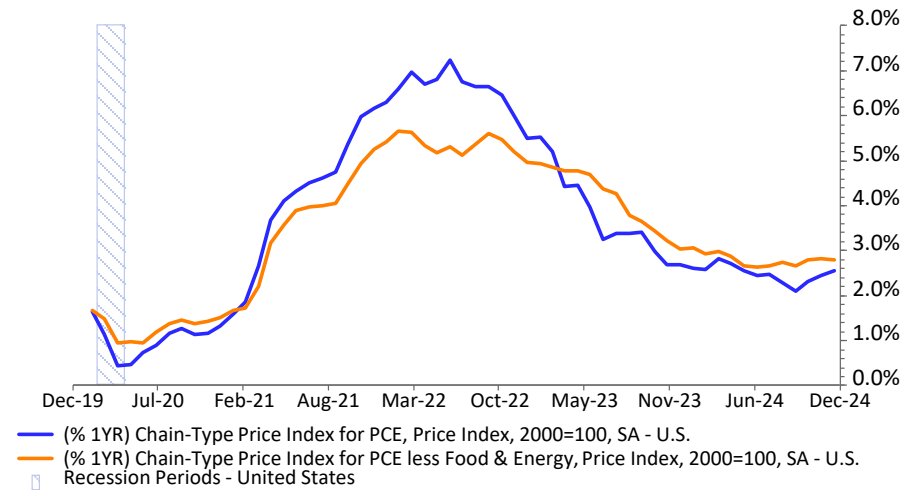
US and Global Economic Environment

ISM Report on Business



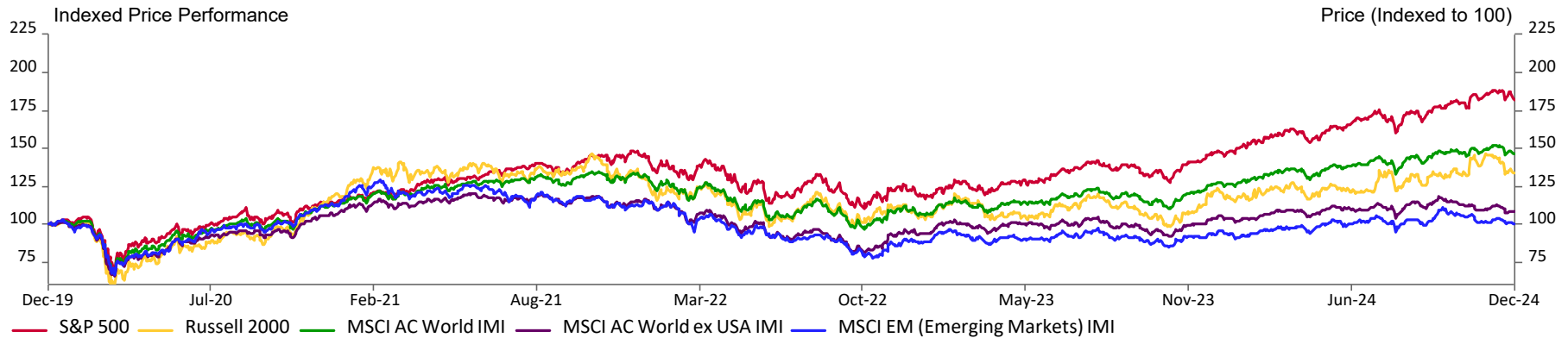
©FactSet Research Systems

US PCE Inflation



©FactSet Research Systems

S&P 500 vs. Peers

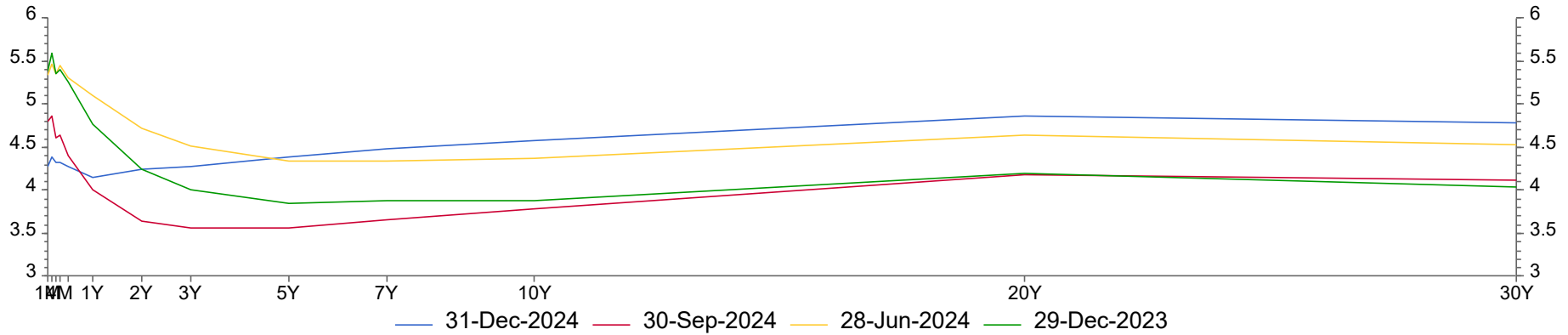


Source: FactSet Prices



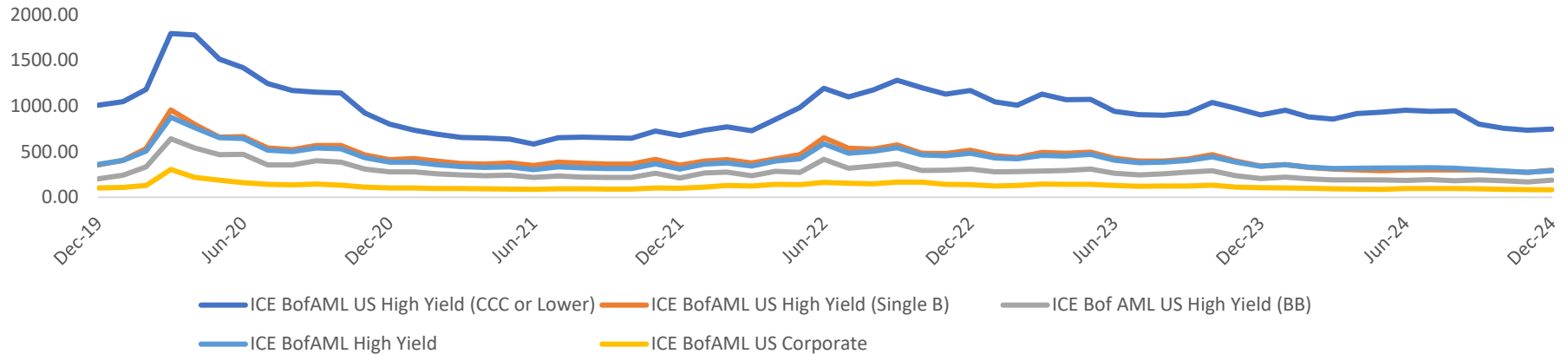
Market Environment

United States Treasury Yield Curve



Source: FactSet Interest Rate Database

Corporate Credit OAS (ICE BAML Indices)

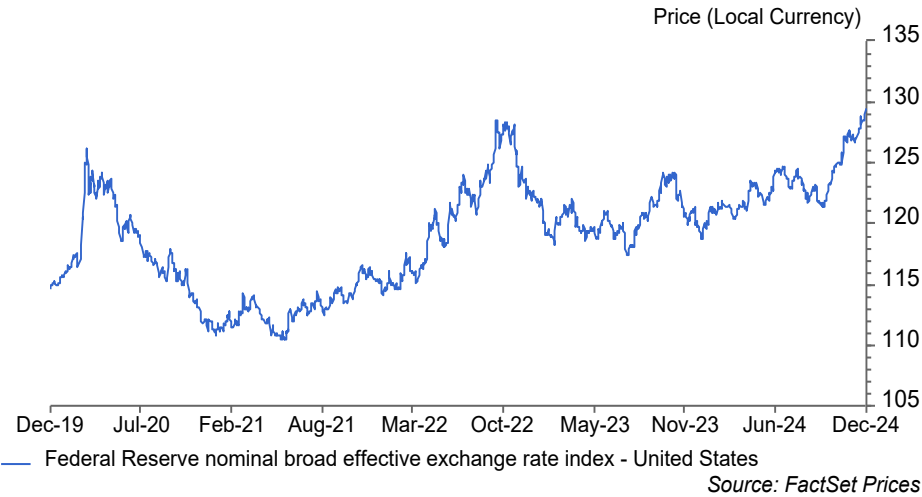


Source: Bloomberg

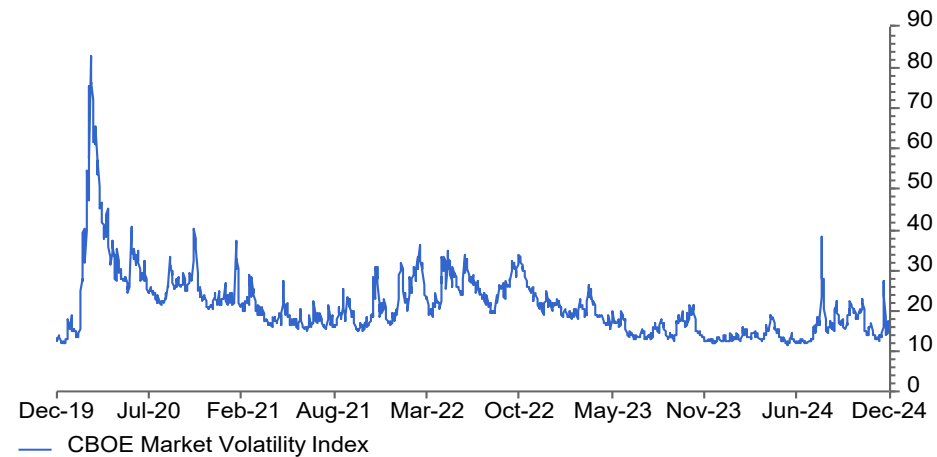


Market Environment

Closing Price Fed Nominal Broad Dollar Index



Closing Price CBOE VIX Index



| Countries | Real GDP YoY | | Unemployment | | CPI YoY | | Countries | Real GDP YoY | | Unemployment | | CPI YoY | |
|---------------|--------------|-------|--------------|-------|---------|-------|---------------------------|--------------|-------|--------------|-------|---------|-------|
| | Date | Value | Date | Value | Date | Value | | Date | Value | Date | Value | Date | Value |
| U.S. | 12/24 | 2.5 | 12/24 | 4.1 | 12/24 | 2.9 | Asia/Pacific/Latam | | | | | | |
| Europe | | | | | | | China | 12/24 | 5.4 | | | 12/24 | 0.1 |
| Germany | 12/24 | -0.2 | 12/24 | 6.1 | 12/24 | 2.6 | India | 09/24 | 5.4 | | | 11/24 | 3.9 |
| France | 12/24 | 0.7 | 12/24 | 7.8 | 12/24 | 1.3 | Japan | 09/24 | 0.5 | 12/24 | 2.4 | 12/24 | 3.6 |
| U.K. | 09/24 | 0.9 | 11/24 | 4.4 | 12/24 | 2.5 | Indonesia | 09/24 | 5.0 | | | 12/24 | 1.6 |
| Italy | 12/24 | 0.5 | 12/24 | 6.2 | 12/24 | 1.3 | Brazil | 09/24 | 4.0 | | | 12/24 | 4.8 |
| Spain | 12/24 | 3.5 | 12/24 | 10.6 | 12/24 | 2.8 | Australia | 09/24 | 0.8 | 12/24 | 4.0 | 12/24 | 2.4 |

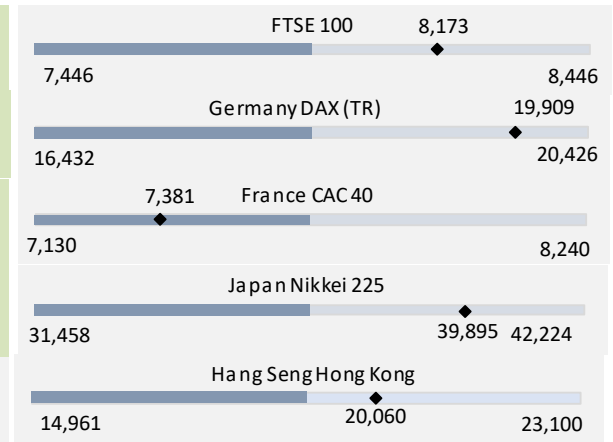
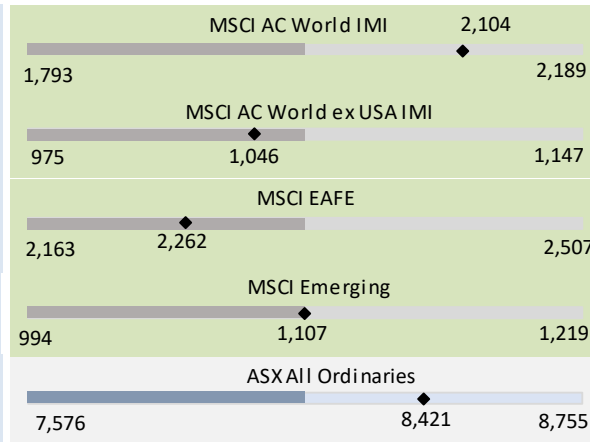
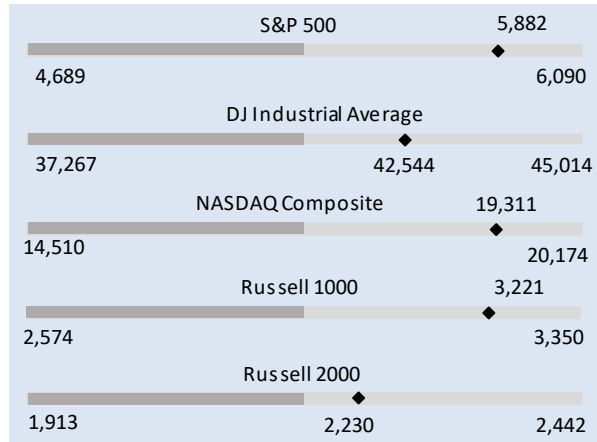
Source: Bloomberg



Economic Environment

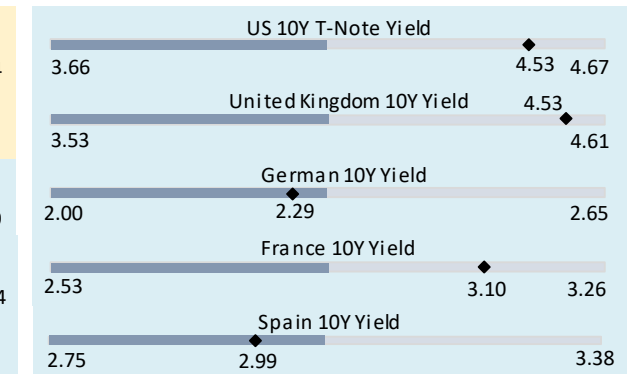
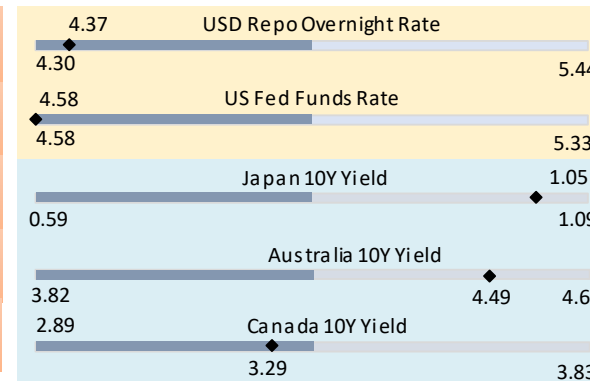
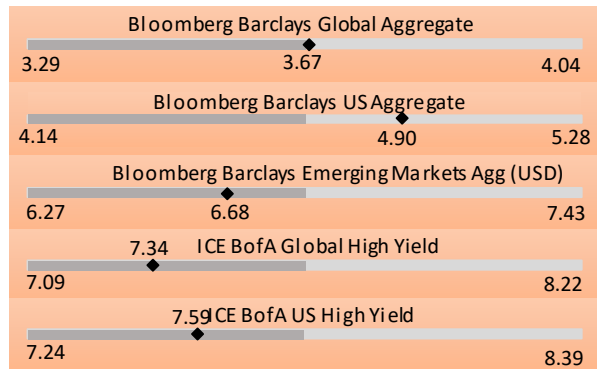
Index 52 Week range as of December 31, 2024

Price



Source: Factset Prices

Yield



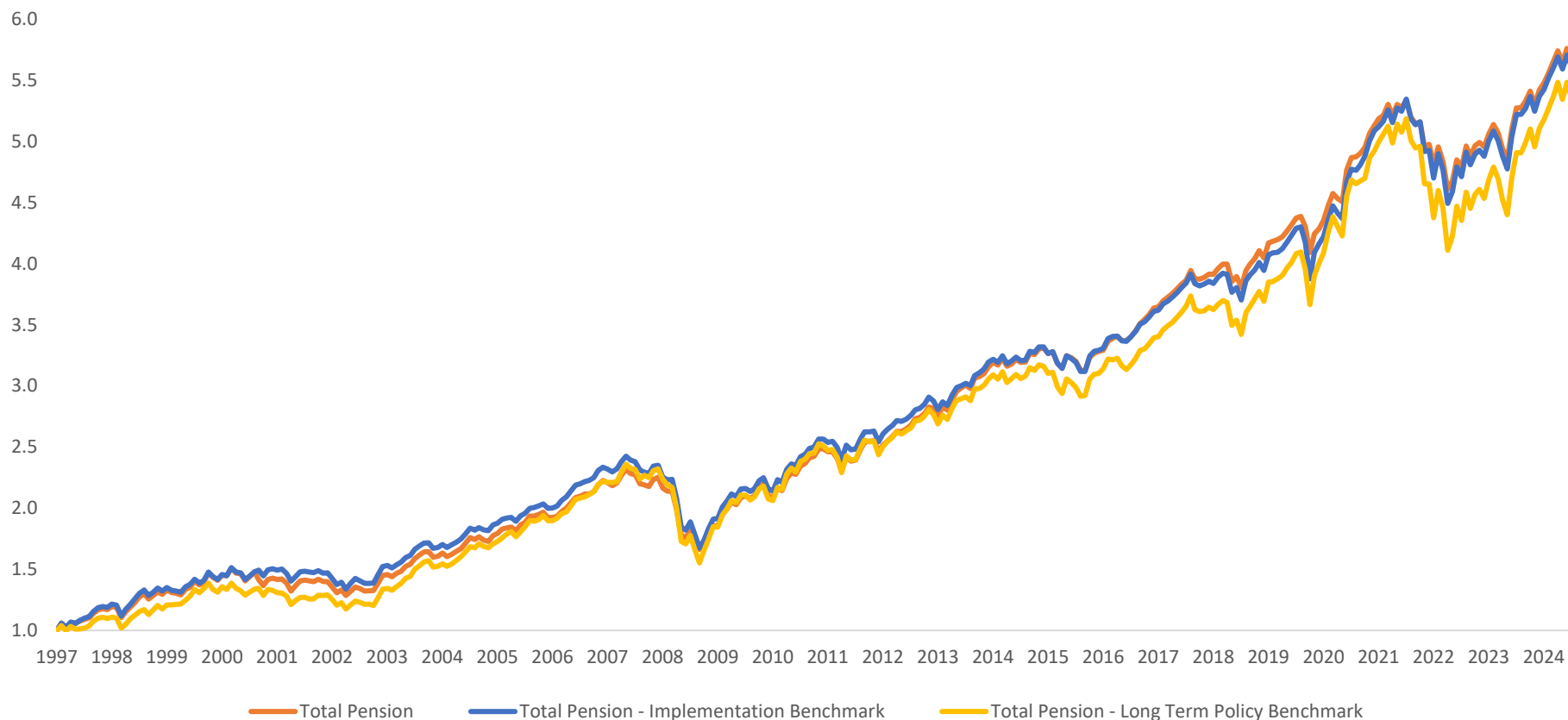
Source: Factset Interest Rate Database



Appendix 2: Other Portfolio Information and Asset Class Performance/Characteristics



Growth of a Dollar Through December 31, 2024



Notes:

Implementation Benchmark is a blend of the Asset Class Benchmarks at policy weights. It is currently weighted as follows: 55% Growth Benchmark; 33% Rates & Liquidity Benchmark; 11% Inflation Sensitive & Diversifiers Benchmark; and 1% Multi-Strategy Benchmark.

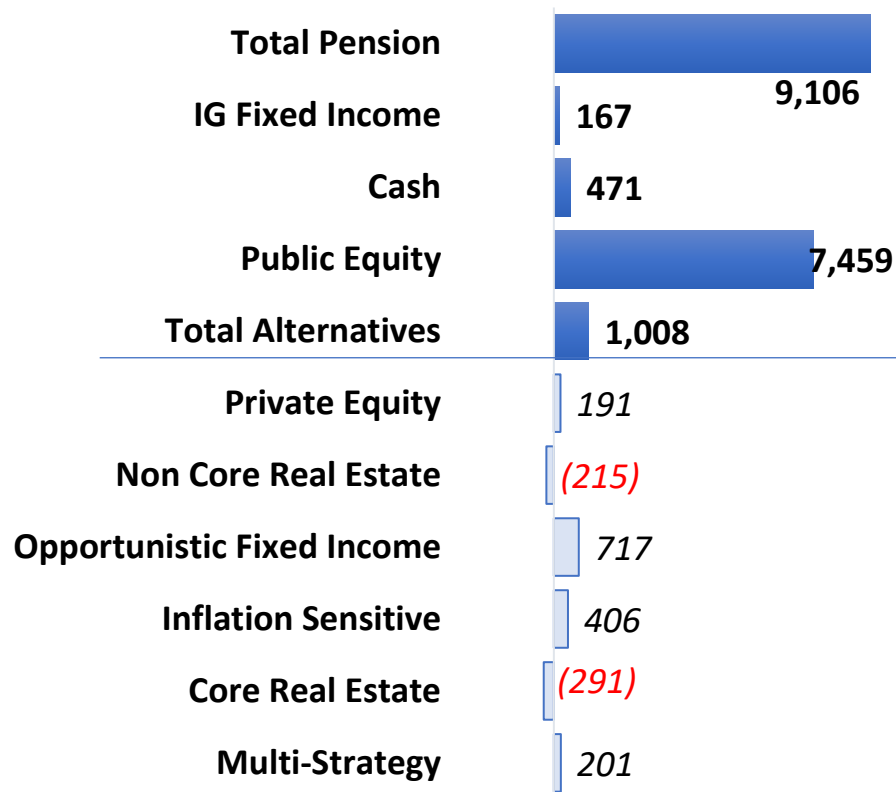
Long-Term Policy Benchmark is comprised of 56% MSCI ACWI IMI Net, 28% ICE BofA 5+ Years U.S. Treasury Index, 6.5% Bloomberg Commodity Index, 5% ICE BofA 3 Month Treasury Bill Index, and 4.5% ICE BofA 1-3 Years U.S. Inflation-Linked Treasury Index.



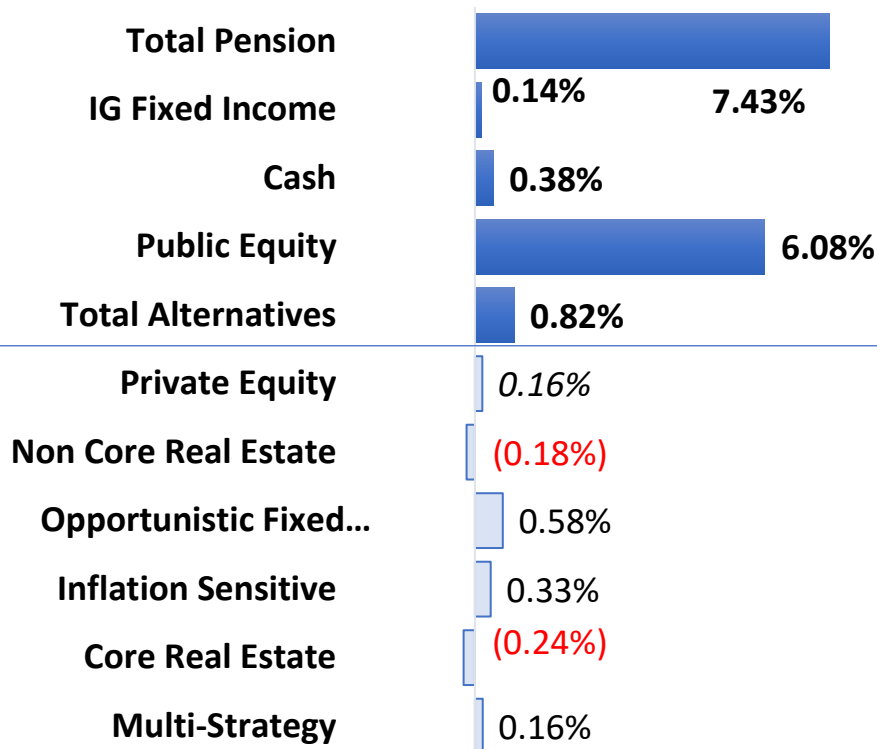
Estimated Contribution to Total Plan Return – 1 Year

As of December 31, 2024

Contribution to Total Plan \$ Earnings



Contribution to Total Plan % Returns



Notes:

1.) Estimated Contributions are based on average market value and the total return for the period.

Contribution to Total Plan \$ Earnings = Average \$ Market Value * % Total Return for each asset class

Contribution to Total Plan % Returns = Average Market Value % weight * % Total Return for each asset class

2.) Alternatives for this analysis include the following: Private Equity, Non-Core Real Estate, Opportunistic Fixed Income, Inflation Sensitive, Core Real Estate, and Multi-Strategy investments.



NCRS Performance 8 Years to December 2024

Attribution vs. Implementation Policy

| | Portfolio Return | Policy Return | Allocation Effect | Selection Effect | Total Value Add |
|------------------------------------|---------------------|------------------|----------------------|---------------------|--------------------|
| Total Growth | 10.30 | 9.61 | -0.19 | 0.32 | 0.13 |
| Public Equity | 10.88 | 10.38 | -0.19 | 0.16 | -0.03 |
| Private Equity | 12.19 | 11.08 | -0.03 | 0.06 | 0.03 |
| Non-Core Real Estate | 3.82 | 4.80 | 0.00 | 0.00 | 0.01 |
| Opportunistic FI | 6.64 | 4.84 | 0.02 | 0.10 | 0.12 |
| Total Rates & Liquidity | 2.06 | 1.40 | -0.23 | 0.13 | -0.10 |
| Investment Grade FI | 1.67 | 1.21 | -0.07 | 0.13 | 0.07 |
| Pension Cash | 2.14 | 2.11 | -0.16 | 0.00 | -0.16 |
| Total Infl Sen & Diver | 4.74 | 3.86 | -0.04 | 0.13 | 0.08 |
| Inflation Sensitive | 6.11 | 4.11 | -0.02 | 0.11 | 0.09 |
| Core Real Estate | 3.78 | 3.49 | -0.02 | 0.02 | 0.00 |
| Multi-Strategy | 4.86 | 3.59 | -0.01 | 0.03 | 0.02 |
| Total | 6.58 | 6.44 | -0.47 | 0.60 | 0.13 |

Excess cash created negative allocation effect, but selection was positive



NCRS Performance 3 Years to December 2024

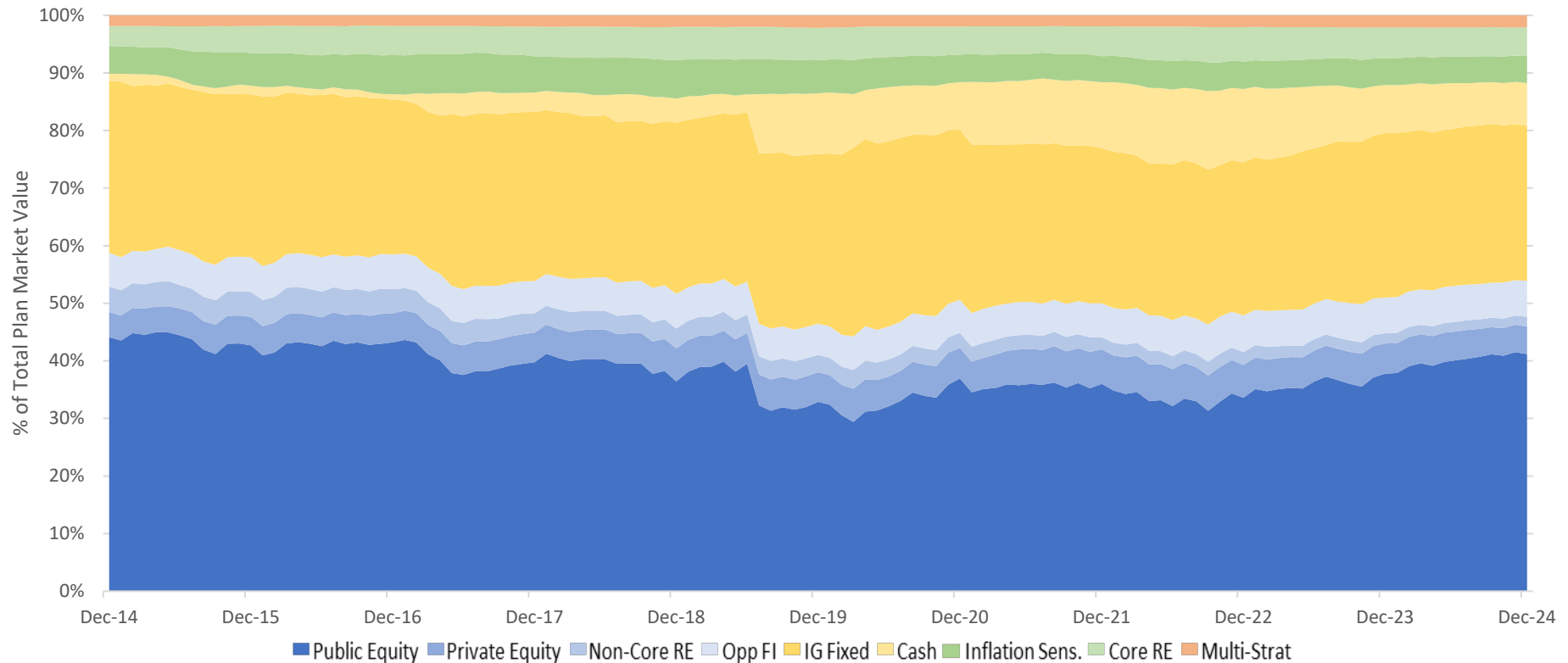
Attribution vs. Implementation Policy

| | Portfolio Return | Policy Return | Allocation Effect | Selection Effect | Total Value Add |
|------------------------------------|---------------------|------------------|----------------------|---------------------|--------------------|
| Total Growth | 3.65 | 4.49 | 0.09 | -0.60 | -0.51 |
| Public Equity | 4.09 | 4.91 | 0.08 | -0.28 | -0.20 |
| Private Equity | -0.14 | 3.34 | 0.03 | -0.20 | -0.17 |
| Non-Core Real Estate | -6.33 | -0.20 | 0.03 | -0.12 | -0.10 |
| Opportunistic FI | 5.69 | 5.64 | -0.05 | 0.00 | -0.04 |
| Total Rates & Liquidity | -0.63 | -2.97 | 0.43 | 0.30 | 0.73 |
| Investment Grade FI | -2.43 | -3.61 | 0.02 | 0.33 | 0.35 |
| Pension Cash | 3.58 | 3.89 | 0.42 | -0.04 | 0.38 |
| Total Infl Sen & Diver | 2.07 | 0.83 | -0.09 | 0.21 | 0.11 |
| Inflation Sensitive | 8.23 | 4.49 | -0.06 | 0.17 | 0.12 |
| Core Real Estate | -2.97 | -3.48 | -0.04 | 0.03 | -0.01 |
| Multi-Strategy | 4.46 | 1.38 | -0.02 | 0.06 | 0.04 |
| Total | 1.98 | 1.62 | 0.40 | -0.04 | 0.37 |

Excess cash created positive allocation effect, but selection was negative

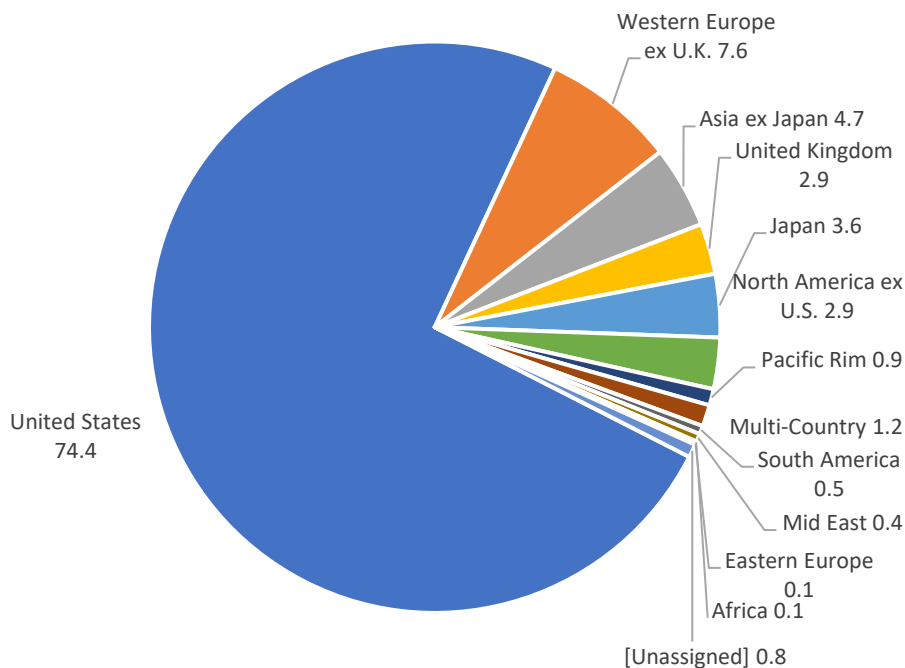


Asset Allocation History as of December 31, 2024

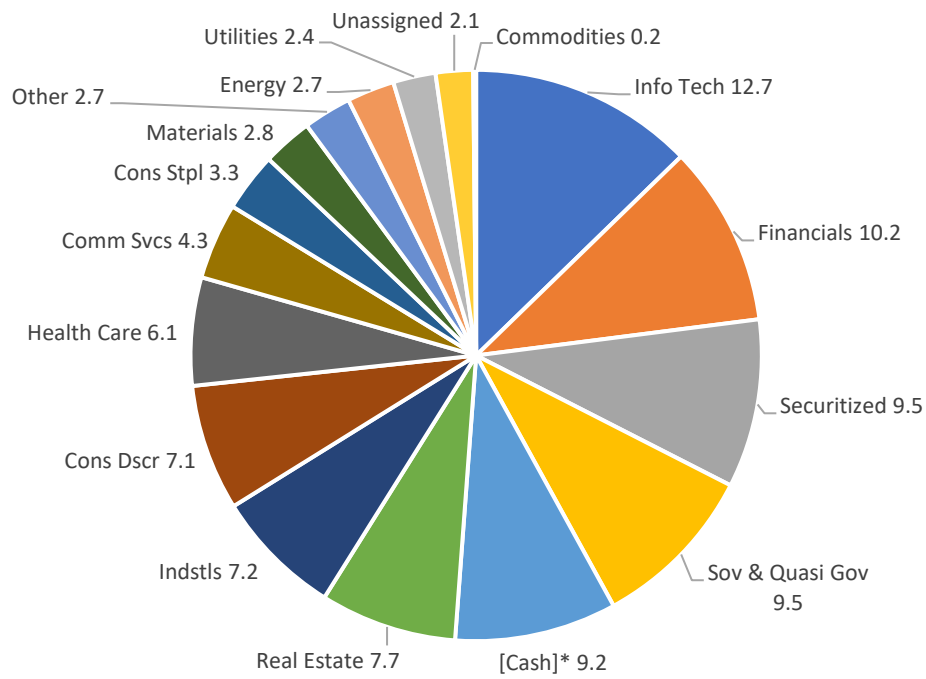




Portfolio Geographical and Sector Exposures



@FactSet Research Systems



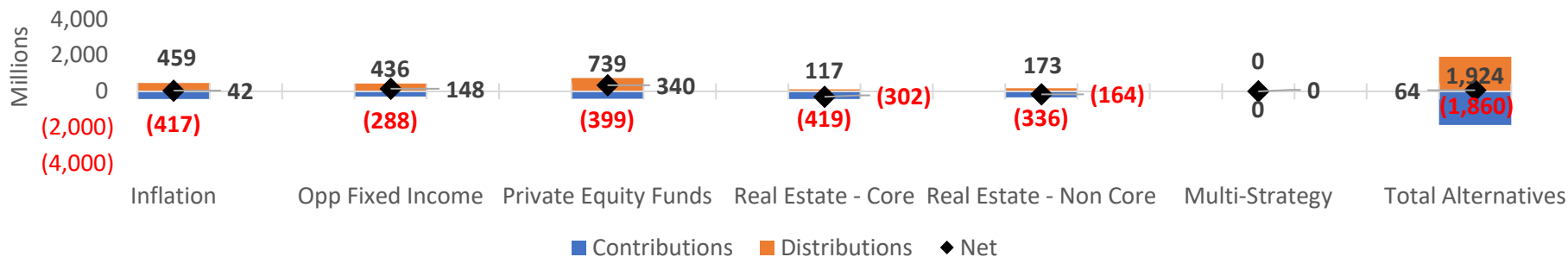
@FactSet Research Systems

* This report is looking through the STIF account and classifying the underlying securities. [Cash] consists of money market funds, currency, liabilities and temporary cash entries.

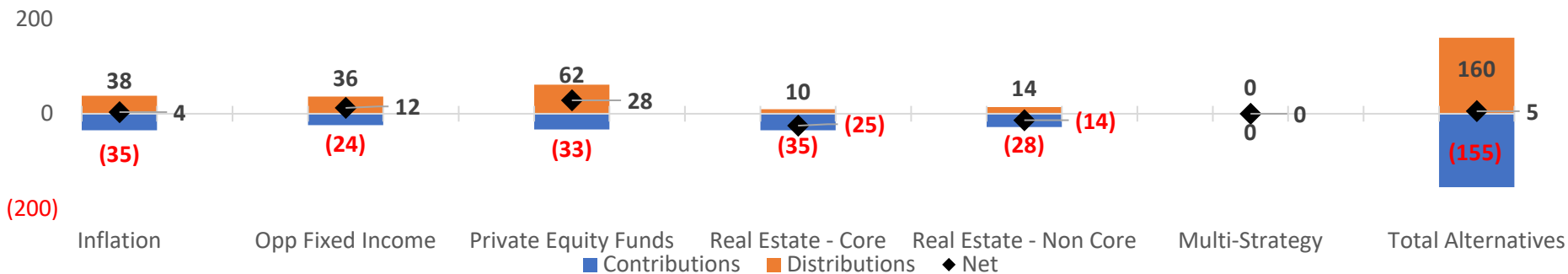


NCRS Alternatives Liquidity Profile Through December 31, 2024

Prior 12-Months
Total Cash Flows by Alternative Asset Class (\$MM)



Prior 12-Months
Average Monthly Cash Flows by Alternative Asset Class (\$MM)

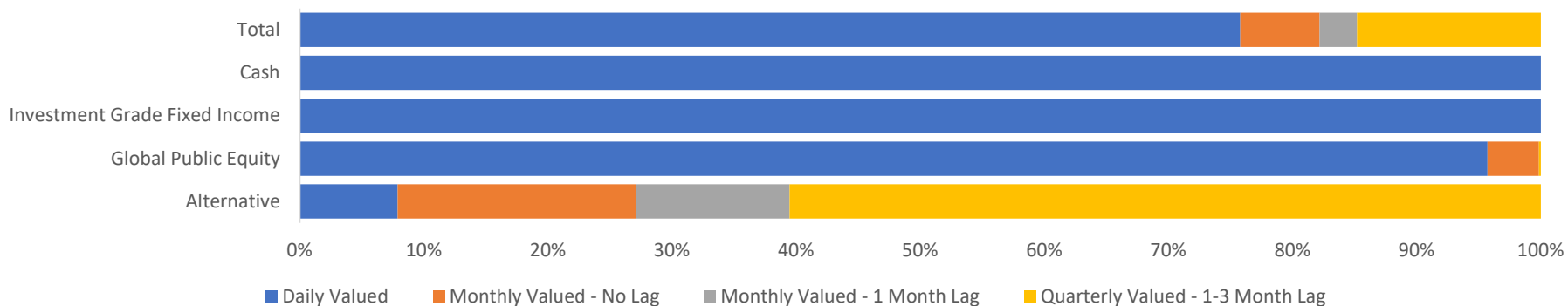




NCRS Valuation Lag Profile

As of December 31, 2024

PORTFOLIO VALUATION LAG



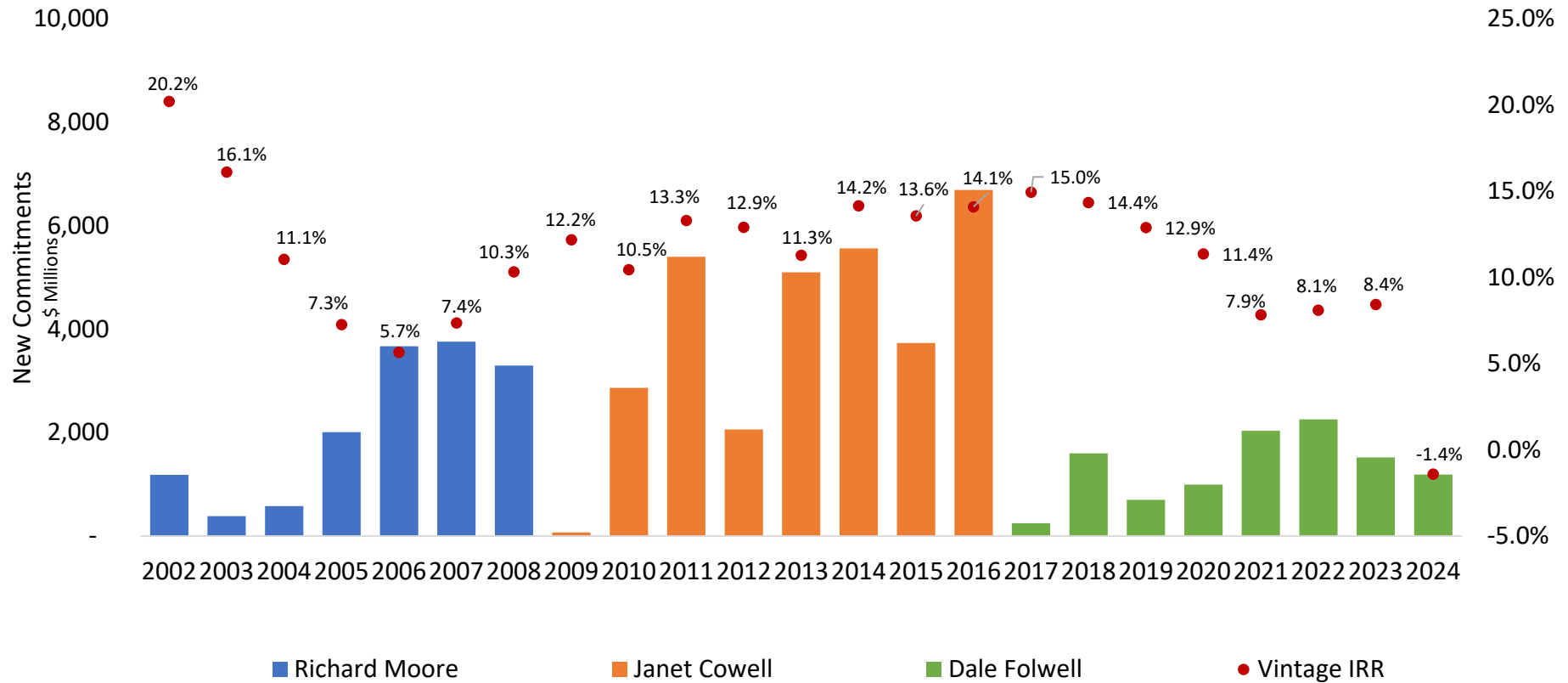
VALUATION LAG BY PORTFOLIO

in Millions





New and Total Unfunded Private Asset Class Commitments By Calendar Year of Closing through December 31, 2024





Unfunded Investment Commitments

As of December 31, 2024

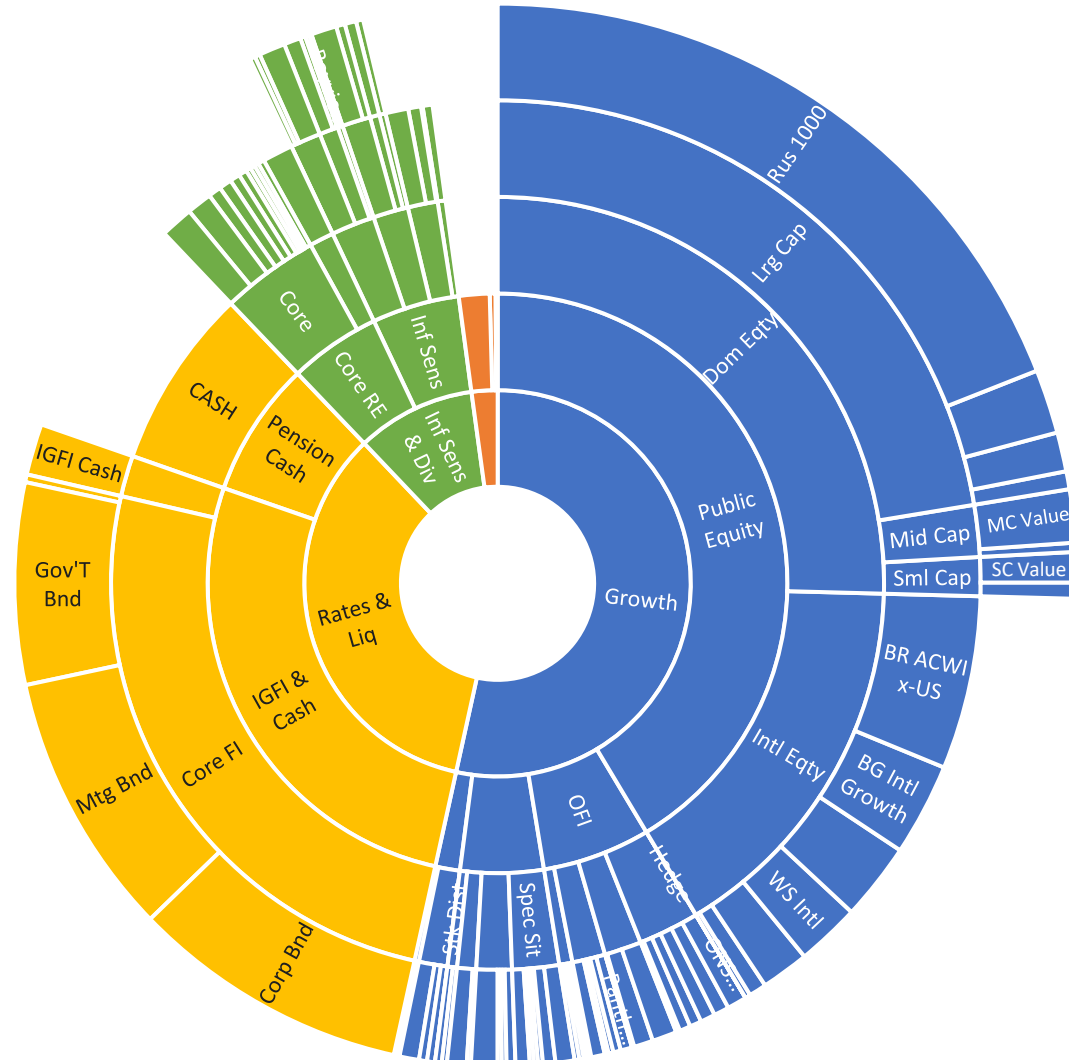
| <u>Asset Class</u> | <u>Unfunded Commitments (\$MM)</u> |
|----------------------------|------------------------------------|
| Public Equity | 0 |
| Private Equity | 2,016 |
| Non-Core Real Estate | 1,401 |
| Opportunistic Fixed Income | 1,399 |
| Inflation Sensitive | 1,477 |
| Core Real Estate | 326 |
| Multi Strategy | 0 |
| Total | 6,619 |



NCRS Strategy Breakout

As of December 31, 2024

| | Portfolio | Managers* | Active Funds |
|---|----------------------|-----------|--------------|
| ■ | Public Equity: | 11 | 17 |
| ■ | Pvt Equity: | 37 | 91 |
| ■ | Opportunistic FI: | 22 | 37 |
| ■ | Non-Core RE: | 17 | 59 |
| ■ | Investment Grade FI: | 1 | 6 |
| ■ | Pension Cash: | 1 | 1 |
| ■ | Inflation Sensitive: | 22 | 46 |
| ■ | Core RE: | 7 | 20 |
| ■ | Multi-Strategy: | 2 | 4 |



*Manager count consists of all manager accounts with a market value greater than \$5.0 million.



Top 20 Investment Managers

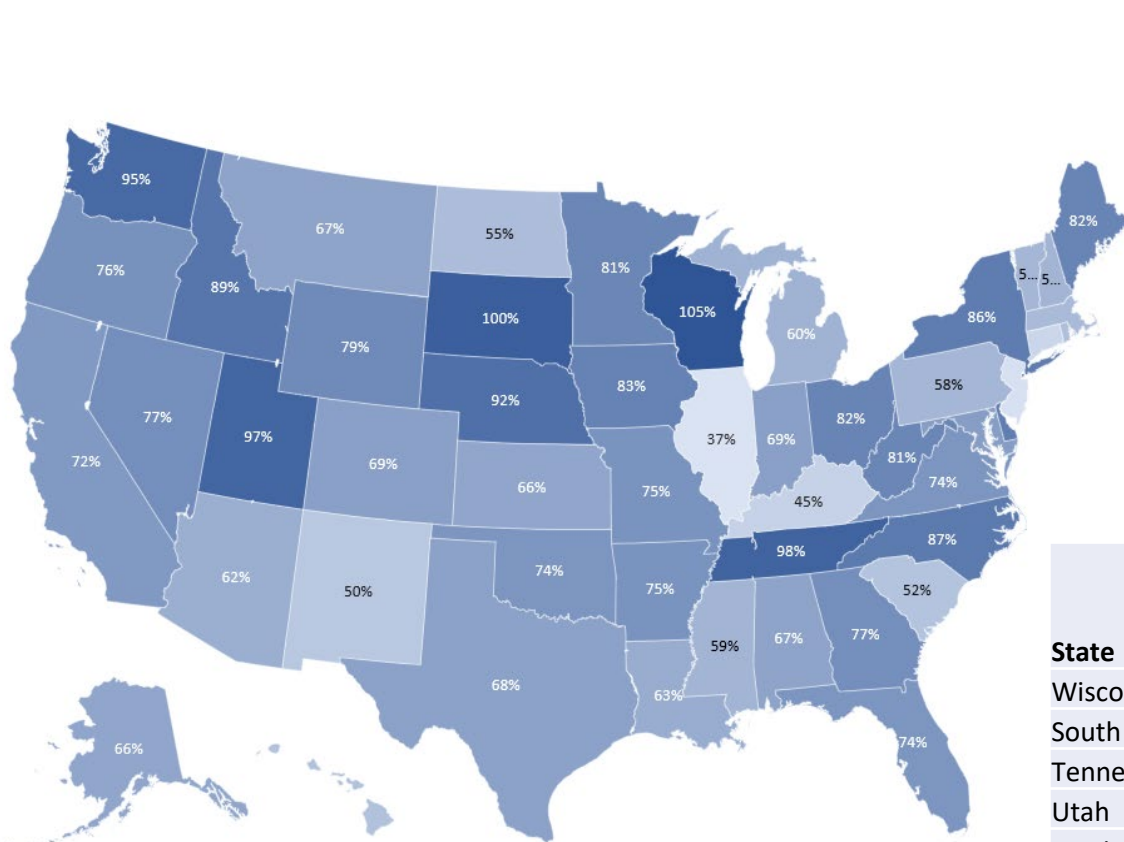
As of December 31, 2024

| # | Investment Manager | Market Value by Investment Program | | | | Total \$MV | % Total MV | % Total MV Cum. |
|-------|--------------------------------------|------------------------------------|---------------|----------------|----------------|-----------------|------------|-----------------|
| | | NCRS | Other | SRP | CASH MGMT | | | |
| 1 | Internal Fixed Income | 43,401,378,121 | - | - | 43,499,429,373 | 86,900,807,494 | 45.6% | 45.6% |
| 2 | Internal Equity | 25,677,672,551 | - | - | | 25,677,672,551 | 13.5% | 59.1% |
| 3 | BlackRock, Inc. | 10,292,055,863 | 2,621,199,531 | 7,180,270,091 | | 20,093,525,485 | 10.5% | 69.7% |
| 4 | Baillie Gifford | 3,805,083,930 | - | 1,231,625,566 | | 5,036,709,495 | 2.6% | 72.3% |
| 5 | Mondrian Investment Partners Limited | 3,202,959,881 | - | 1,234,195,742 | | 4,437,155,623 | 2.3% | 74.6% |
| 6 | Wellington Management | 4,190,387,117 | - | - | | 4,190,387,117 | 2.2% | 76.8% |
| 7 | Ares Management | 2,931,957,586 | - | - | | 2,931,957,586 | 1.5% | 78.4% |
| 8 | Walter Scott & Partners | 2,606,374,946 | - | - | | 2,606,374,946 | 1.4% | 79.7% |
| 9 | Rockwood Capital | 2,458,358,196 | - | - | | 2,458,358,196 | 1.3% | 81.0% |
| 10 | Gladius Capital Management LP | 2,247,593,321 | - | - | | 2,247,593,321 | 1.2% | 82.2% |
| 11 | Blackstone Group | 2,233,440,448 | 55,290 | - | | 2,233,495,738 | 1.2% | 83.4% |
| 12 | Galliard Capital Management | - | - | 2,216,891,768 | | 2,216,891,768 | 1.2% | 84.5% |
| 13 | ValueAct Capital | 2,159,752,698 | - | - | | 2,159,752,698 | 1.1% | 85.7% |
| 14 | Angelo, Gordon & Co. | 1,792,258,439 | 13,148,037 | - | | 1,805,406,476 | 0.9% | 86.6% |
| 15 | HPS Investment Partners, LLC | 1,457,541,448 | - | - | | 1,457,541,448 | 0.8% | 87.4% |
| 16 | LBA Realty | 1,366,381,944 | - | - | | 1,366,381,944 | 0.7% | 88.1% |
| 17 | Earnest Partners | 978,615,996 | - | 383,363,537 | | 1,361,979,533 | 0.7% | 88.8% |
| 18 | Prudential Investment Management | - | - | 1,180,270,347 | | 1,180,270,347 | 0.6% | 89.4% |
| 19 | Trust Company of the West (TCW) | - | - | 1,180,103,975 | | 1,180,103,975 | 0.6% | 90.1% |
| 20 | DoubleLine Capital LP | 958,538,850 | - | - | | 958,538,850 | 0.5% | 90.6% |
| | 84 Remaining Managers* | 14,743,128,407 | 166,665,909 | 3,059,853,584 | | 17,969,647,899 | 9.4% | 100.0% |
| Total | | 126,503,479,739 | 2,801,068,767 | 17,666,574,611 | 43,499,429,373 | 190,470,552,489 | 100.0% | |

*Manager count consists of all manager accounts with a market value greater than \$5.0 million and new, not yet funded, accounts.

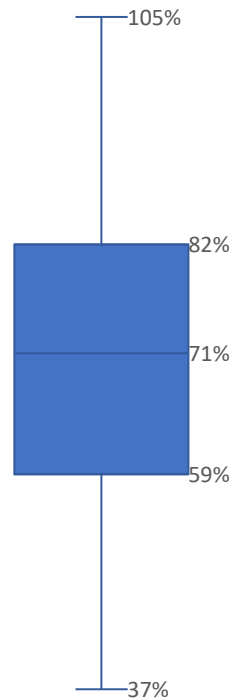


Funded Status Universe Comparison U.S. Public Funds



Funded ratio
105%
37%

| | |
|------------------|------------|
| 25th %ile | 82% |
| 50th %ile | 71% |
| 75th %ile | 59% |
| NCRS | 87% |
| NCRS %ile | 14% |



| State | Funded Ratio | Actuarial Assumed Rate of Return |
|----------------|--------------|----------------------------------|
| Wisconsin | 105% | 7.00% |
| South Dakota | 100% | 6.50% |
| Tennessee | 98% | 7.25% |
| Utah | 97% | 6.85% |
| Washington | 95% | 7.50% |
| Nebraska | 92% | 7.50% |
| Idaho | 89% | 7.00% |
| North Carolina | 87% | 6.50% |



NCRS Calendar Year Asset Class Return Diversification

As of December 31, 2024

| 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|-------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| Non-Core Real Estate 19.45% | Non-Core Real Estate 14.84% | Non-Core Real Estate 11.73% | Public Equity 24.44% | Private Equity 18.32% | Public Equity 27.91% | Public Equity 22.23% | Private Equity 48.03% | Inflation Sensitive 9.43% | Public Equity 22.3% | Public Equity 15.98% |
| Private Equity 14.02% | Private Equity 9.20% | Public Equity 7.33% | Multi-Strategy 13.58% | Non-Core Real Estate 13.32% | Total Pension 14.88% | Private Equity 18.86% | Opportunistic Fixed Income 17.46% | Non-Core Real Estate 6.6% | Multi-Strategy 10.31% | Opportunistic Fixed Income 9.74% |
| Core Real Estate 10.41% | Core Real Estate 8.28% | Inflation Sensitive 7.19% | Total Pension 13.53% | Inflation Sensitive 6.88% | Multi-Strategy 14.82% | Total Pension 11.30% | Non-Core Real Estate 16.75% | Core Real Estate 5.76% | Total Pension 10.18% | Multi-Strategy 8.18% |
| IG Fixed Income & Cash 8.51% | Multi-Strategy 0.85% | Opportunistic Fixed Income 7.09% | Non-Core Real Estate 12.40% | Opportunistic Fixed Income 5.69% | Core Real Estate 10.71% | IG Fixed Income & Cash 9.34% | Public Equity 14.51% | Pension Cash 1.22% | Opportunistic Fixed Income 9.67% | Total Pension 7.43% |
| Total Pension 6.19% | Pension Cash 0.58% | Core Real Estate 6.68% | Private Equity 11.95% | Core Real Estate 5.67% | IG Fixed Income & Cash 10.33% | Opportunistic Fixed Income 2.85% | Core Real Estate 14.51% | Opportunistic Fixed Income (1.91%) | Inflation Sensitive 7.92% | Inflation Sensitive 7.34% |
| Public Equity 3.68% | Total Pension 0.29% | Total Pension 6.26% | Core Real Estate 10.12% | Pension Cash 1.88% | Non-Core Real Estate 9.93% | Pension Cash 1.06% | Inflation Sensitive 11.97% | Multi-Strategy (4.48%) | IG Fixed Income & Cash 5.92% | Pension Cash 5.11% |
| Opportunistic Fixed Income 3.40% | IG Fixed Income & Cash 0.28% | Private Equity 6.05% | Inflation Sensitive 7.53% | IG Fixed Income & Cash (0.57%) | Private Equity 8.15% | Non-Core Real Estate 0.45% | Total Pension 9.71% | Private Equity (5.81%) | Pension Cash 4.44% | Private Equity 3.23% |
| Multi-Strategy 2.69% | Public Equity (1.26%) | Multi-Strategy 6.00% | Opportunistic Fixed Income 7.05% | Total Pension (1.47%) | Opportunistic Fixed Income 3.61% | Core Real Estate (0.13%) | Multi-Strategy 7.74% | Total Pension (10.39%) | Private Equity 2.42% | IG Fixed Income & Cash 0.51% |
| Pension Cash 0.45% | Opportunistic Fixed Income (2.61%) | IG Fixed Income & Cash 3.24% | IG Fixed Income & Cash 4.42% | Multi-Strategy (4.79%) | Pension Cash 2.20% | Inflation Sensitive (3.50%) | Pension Cash 0.15% | IG Fixed Income & Cash (12.74%) | Core Real Estate (9.27%) | Core Real Estate (4.79%) |
| Inflation Sensitive (0.65%) | Inflation Sensitive (9.05%) | Pension Cash 0.98% | Pension Cash 1.12% | Public Equity (9.32%) | Inflation Sensitive 2.09% | Multi-Strategy (4.13%) | IG Fixed Income & Cash (1.84%) | Public Equity (20.5%) | Non-Core Real Estate (13.66%) | Non-Core Real Estate (10.69%) |



NCRS Public Equity Net of Fees Performance

As of December 31, 2024

| | Market Value (\$MM) | 3 Month | 1 Year | 3 Years | 5 Years | 10 Years |
|---------------------------|------------------------|---------------|--------------|---------------|--------------|--------------|
| Public Equity | \$52,119 | (1.46) | 15.98 | 4.09 | 9.56 | 9.21 |
| Benchmark ² | | (1.24) | 16.37 | 4.90 | 9.64 | 8.83 |
| Domestic Portfolio | \$31,543 | 2.88 | 23.45 | 7.89 | 13.94 | 12.63 |
| Russell 3000 | | 2.63 | 23.81 | 8.01 | 13.86 | 12.55 |
| Non-US Portfolio | \$20,573 | (7.46) | 6.14 | (0.81) | 4.34 | 5.71 |
| Custom Benchmark | | (7.61) | 5.23 | 0.50 | 4.12 | 4.91 |

Russell 3000: Data is sourced from BNY Mellon

Non-US Custom Benchmark: As of October 2010, the Non U.S. Benchmark is the MSCI ACWI ex US IMI Net Index. Prior to October 2010, the Non-U.S. Benchmark was a blend of MSCI EAFE and MSCI Emerging Markets at policy weights. This data is also sourced from BNY Mellon

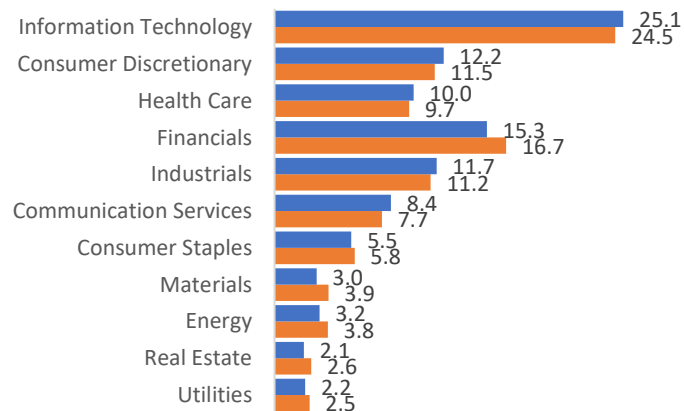


NCRS Public Equity Portfolio Characteristics

As of December 31, 2024

| Portfolio Characteristics | | |
|---------------------------|------------|---------------|
| | Portfolio | MSCI ACWI IMI |
| Price/Earnings | 23.0 | 20.9 |
| Dividend Yield | 1.7% | 1.8% |
| Price/Book | 3.2 | 2.9 |
| Market Capitalization | \$ 671,936 | \$ 669,056 |
| Return On Equity | 23.0% | 22.5% |

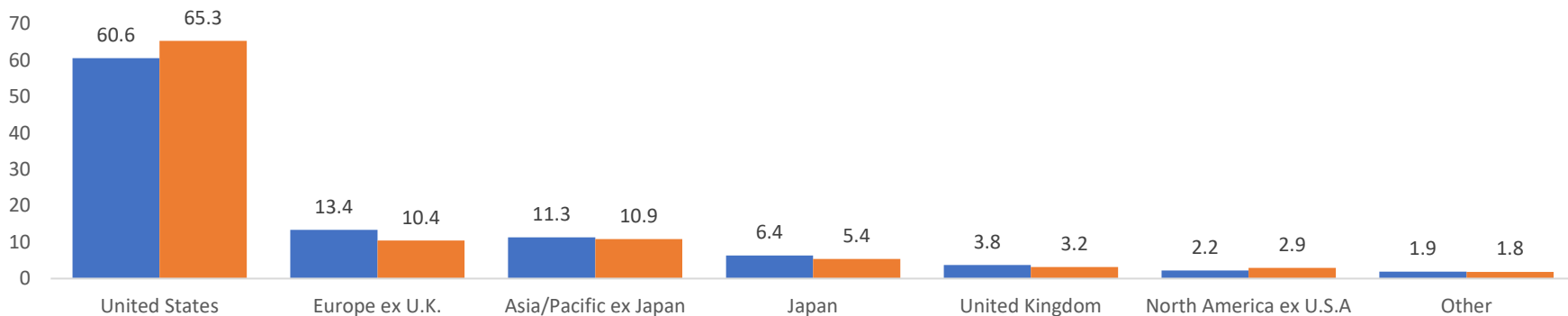
Sector Allocation (%)



■ Portfolio

Portfolio Pricing & Analytics
Source: FactSet
Benchmark Pricing &
Analytics Source: FactSet

Total Equity Regional Allocation



■ Portfolio ■ Benchmark

Portfolio Pricing & Analytics Source: FactSet
Benchmark Pricing & Analytics Source: FactSet

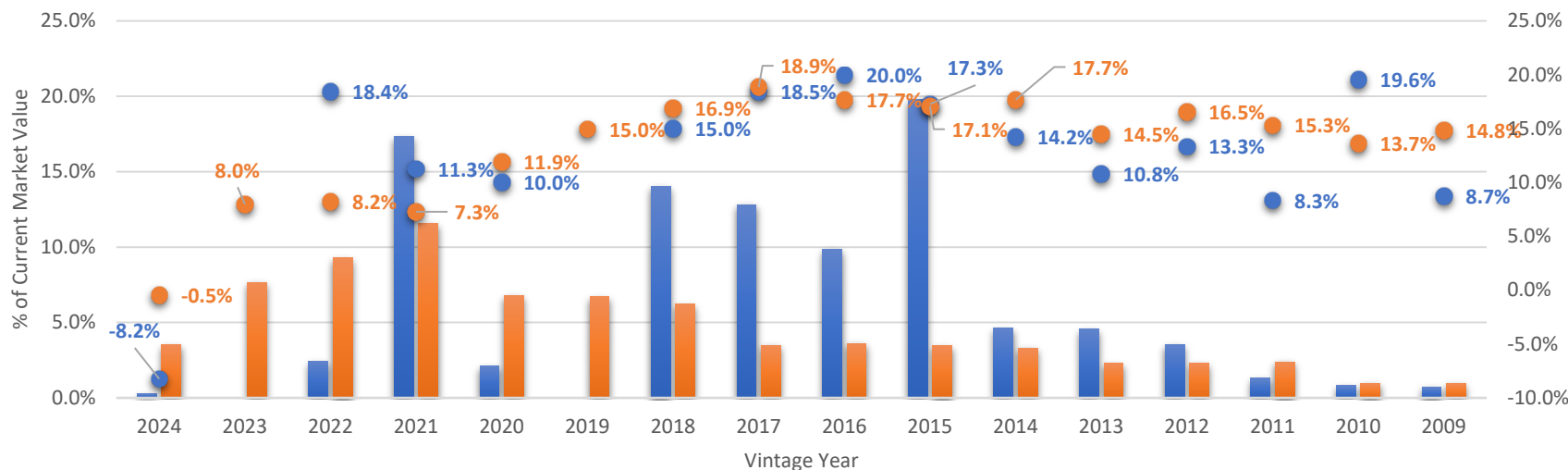


NCRS Private Equity Portfolio

As of December 31, 2024

| | Market Value (\$MM) | Net of Fees Performance (%) | | | | |
|---------------------------|---------------------|-----------------------------|---------------|----------------|--------------|--------------|
| | | 3 Month | 1 Year | 3 Years | 5 Years | 10 Years |
| Private Equity | \$6,067 | 1.34 | 3.23 | (0.14) | 11.87 | 11.26 |
| Benchmark ³ | | 2.69 | 7.93 | 3.34 | 11.39 | 10.04 |
| Buyout | \$2,021 | 1.44 | 4.53 | 3.72 | 13.08 | 12.09 |
| Growth | \$941 | (0.22) | 0.21 | (10.50) | 8.19 | 10.50 |
| Special Situations | \$2,614 | 1.87 | 4.05 | 5.34 | 13.24 | 9.96 |
| Fund of Funds | \$489 | 1.56 | (0.59) | (5.04) | 9.57 | 10.22 |

Total Private Equity - IRR and Current MV Weight by Vintage (IRR on Right Axis)



■ Port Wt ■ Burgiss Wt ● Port IRR ● Burgiss IRR

*Private Equity returns include a stock distribution account, in the amount of roughly \$2 million, which does not fall under any specific sub-section.



NCRS Private Equity Portfolio Structure

| Portfolio Component* | Target* | 12/31/24 | +/- | Maximum* |
|----------------------|---------|----------|--------|----------|
| Growth | 25% | 20.45% | -4.55% | 35% |
| Buyout | 45% | 35.96% | -9.04% | 60% |
| Special Situations | 30% | 43.59% | 13.59% | 45% |

* Portfolio Components come from the Investment Policy Statement for North Carolina Retirement Systems

*Private Equity returns include a stock distribution account, in the amount of roughly \$2.5 million, which does not fall under any specific sub-section.



NCRS Non-Core Real Estate Portfolio

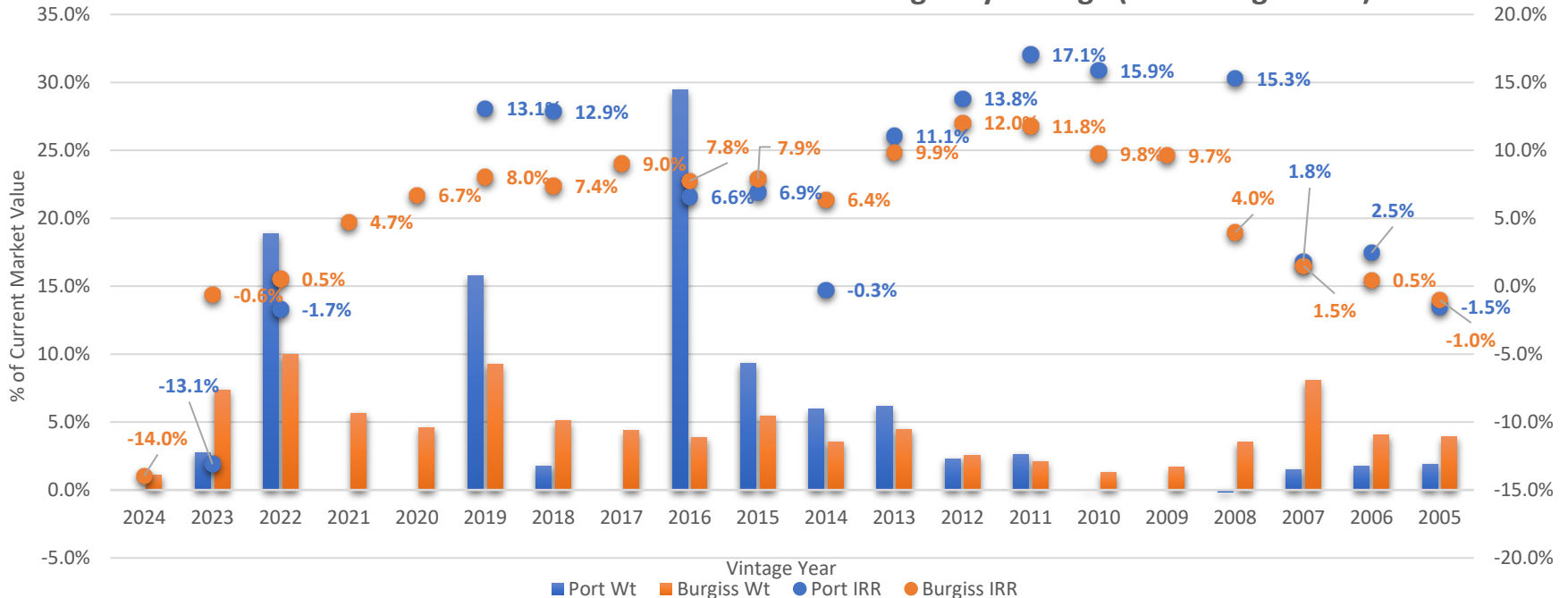
As of December 31, 2024

Net of Fees Performance (%)

| | Market Value | 3 Month | 1 Year | 3 Years | 5 Years | 10 Years |
|-----------------------------|----------------|---------------|----------------|---------------|---------------|-------------|
| Non-Core Real Estate | \$2,058 | (0.95) | (10.69) | (6.33) | (0.73) | 5.65 |
| Benchmark ⁴ | | 0.12 | (4.24) | (0.20) | 3.15 | 5.07 |

| | | | | | | |
|----------------------|----------------|---------------|----------------|----------------|---------------|-------------|
| Opportunistic | \$1,772 | (0.63) | (9.02) | (4.88) | 0.48 | 6.16 |
| Value Add | \$287 | (2.80) | (21.18) | (15.45) | (7.27) | 2.24 |

Total Non Core Real Estate - IRR and Current MV Weight by Vintage (IRR on Right Axis)





NCRS Non-Core Real Estate Structure

| Portfolio Component* | Target* | 12/31/24 | +/- | Maximum* |
|----------------------|---------|----------|---------|----------|
| Value | 35% | 13.92% | -21.08% | 60% |
| Opportunistic | 65% | 86.08% | 21.08% | 90% |
| Special Situations | 0% | 0.00% | 0.00% | 30% |

* Portfolio Components come from the Investment Policy Statement for North Carolina Retirement Systems



NCRS Opportunistic Fixed Income Portfolio

As of December 31, 2024

Net of Fees Performance (%)

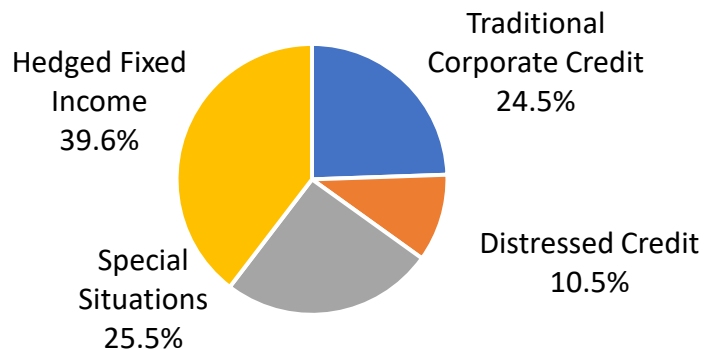
| | Market Value | 3 Month | 1 Year | 3 Years | 5 Years | 10 Years |
|-----------------------------------|----------------|-------------|-------------|-------------|-------------|-------------|
| Opportunistic Fixed Income | \$7,974 | 2.14 | 9.74 | 5.69 | 7.36 | 5.72 |
| Benchmark ⁵ | | 0.18 | 7.25 | 5.59 | 6.63 | 4.45 |

| | | | | | | |
|-------------------------------------|----------------|-------------|--------------|-------------|--------------|-------------|
| Traditional Corporate Credit | \$1,950 | 3.24 | 11.06 | 5.41 | 7.21 | 5.71 |
| Distressed Credit | \$834 | 3.65 | 11.11 | 6.09 | 10.95 | 8.57 |
| Special Situations | \$2,031 | 1.81 | 9.30 | 7.37 | 7.30 | 7.94 |
| Hedged Fixed Income | \$3,159 | 1.29 | 8.92 | 4.55 | 7.13 | 4.52 |

IRR by Vintage Year (%)

| | <u>Pre 2010</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>2021</u> | <u>2022</u> | <u>2023</u> | <u>Total</u> |
|------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| NCRS | 8.82 | 5.30 | 5.01 | 3.73 | 5.07 | 4.37 | 8.32 | 8.05 | 9.49 | N/A | 8.36 | 13.36 | 9.40 | 9.86 | 13.39 | 6.42 |
| # of Funds | 6 | 4 | 9 | 2 | 7 | 3 | 1 | 8 | 2 | N/A | 1 | 2 | 1 | 2 | 1 | 49 |

Strategy Allocation (Based on Valuation)





NCRS Opportunistic Fixed Income Portfolio Structure

| Portfolio Component* | Target* | 12/31/24 | +/- | Maximum* |
|------------------------------|---------|----------|---------|----------|
| Traditional Corporate Credit | 15% | 24.45% | 9.45% | 50% |
| Distressed Credit | 25% | 10.46% | -14.54% | 50% |
| Hedged Fixed Income | 45% | 39.61% | -5.39% | 75% |
| Special Situations | 15% | 25.48% | 10.48% | 75% |

* Portfolio Components come from the Investment Policy Statement for North Carolina Retirement Systems



NCRS Rates & Liquidity Portfolio

As of December 31, 2024

Net of Fees Performance (%)

| | Market Value | 3 Month | 1 Year | 3 Years | 5 Years | 10 Years |
|------------------------------|-----------------|---------------|-------------|---------------|---------------|-------------|
| Rates & Liquidity | \$43,401 | (2.62) | 1.51 | (0.63) | 0.77 | 1.99 |
| Benchmark ⁶ | | (3.30) | 1.11 | (2.97) | (0.55) | 1.46 |
| IG Fixed Income | \$34,129 | (3.61) | 0.51 | (2.43) | (0.06) | 1.69 |
| Core Fixed Income | \$30,684 | (4.10) | 0.02 | (3.18) | (0.43) | 1.63 |
| IG Fixed Income Cash | \$2,223 | 1.19 | 4.84 | 3.15 | 2.15 | 1.70 |
| IG Short Credit | \$1,223 | 0.83 | 5.31 | - | - | - |
| Pension Cash | \$9,272 | 1.20 | 5.11 | 3.58 | 2.38 | 1.87 |

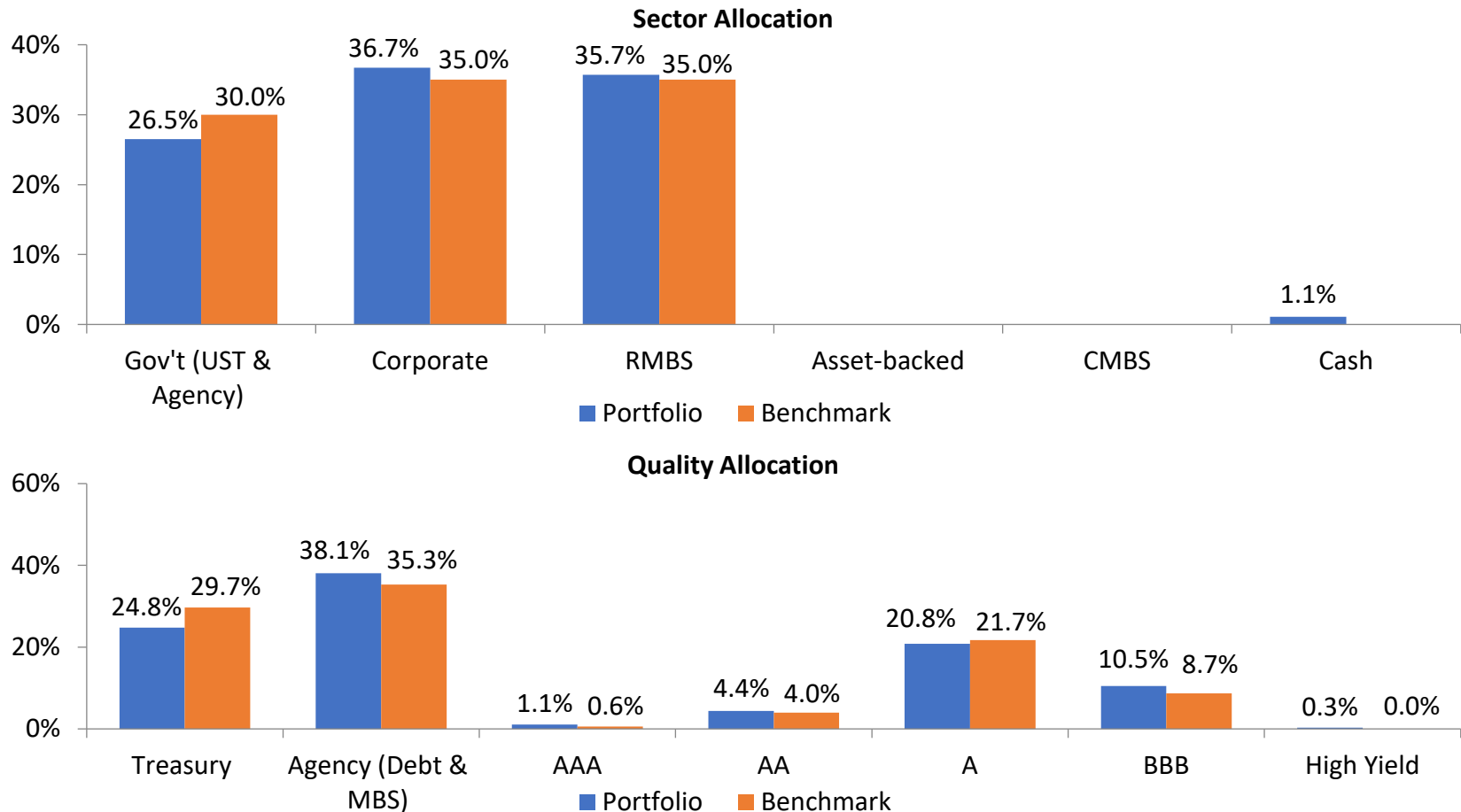
Core Fixed Income Portfolio Characteristics

| | <u>Avg. Coupon</u> | <u>Yield to Worst</u> | <u>Effective Duration</u> |
|--------------------------------|--------------------|-----------------------|---------------------------|
| Government (Treasury & Agency) | 3.5% | 4.7% | 10.2 |
| Corporate | 4.5% | 5.4% | 8.6 |
| Mortgage | 3.9% | 5.3% | 5.3 |
| Total | 4.0% | 5.2% | 7.9 |



NCRS Core Fixed Income Portfolio Characteristics

As of December 31, 2024



Benchmark: The Core Fixed Income Benchmark is a custom ICE BofA Core Investment Grade Index comprised of the following weightings: 30% ICE BofA 5+ Years Governments, 35% ICE BofA 5+ Years Investment Grade Corporates, and 35% ICE BofA Mortgage Master



NCRS Inflation Sensitive Portfolio

As of December 31, 2024

Net of Fees Performance (%)

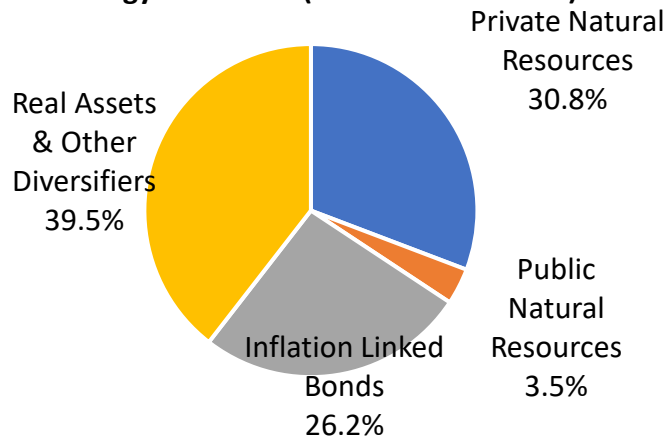
| | Market Value | 3 Month | 1 Year | 3 Years | 5 Years | 10 Years |
|----------------------------|----------------|-------------|-------------|-------------|-------------|-------------|
| Inflation Sensitive | \$5,960 | 1.95 | 7.34 | 8.23 | 6.49 | 4.59 |
| Benchmark ¹⁰ | | 0.11 | 5.73 | 4.49 | 4.90 | 2.94 |

| | | | | | | |
|---|----------------|-------------|-------------|--------------|-------------|-------------|
| Private Natural Resources | \$1,834 | 2.01 | 8.34 | 11.79 | 7.98 | 3.92 |
| Public Natural Resources | \$210 | 0.42 | 6.24 | 4.38 | 6.86 | 0.87 |
| Inflation Linked Bonds | \$1,562 | 1.45 | 8.72 | 3.95 | 3.91 | - |
| Real Assets & Other Diversifiers | \$2,354 | 2.41 | 5.54 | 7.92 | 6.85 | 7.99 |

IRR by Vintage Year (%)

| | <u>Pre-2010</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>2021</u> | <u>2022</u> | <u>2023</u> | <u>2024</u> | <u>Total</u> |
|------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| NCRS | 2.04 | -5.13 | -5.78 | 5.47 | 7.04 | 7.24 | 8.68 | 4.11 | 8.20 | 19.01 | 25.84 | N/A | 19.16 | N/A | 5.04 | -0.74 | 2.88 |
| # of Funds | 8 | 3 | 9 | 7 | 11 | 12 | 4 | 3 | 1 | 3 | 2 | N/A | 5 | N/A | 2 | 2 | 72 |

Strategy Allocation (Based on Valuation)





NCRS Inflation Sensitive Portfolio Structure

| Portfolio Component* | Target* | 12/31/24 | +/- | Maximum* |
|----------------------------------|---------|----------|---------|----------|
| Inflation-Linked Bonds | 25% | 26.20% | 1.20% | 75% |
| Public Traded Natural Resources | 0% | 3.50% | 3.50% | 50% |
| Private Natural Resources | 50% | 30.80% | -19.20% | 75% |
| Other Real Assets & Diversifiers | 25% | 39.50% | 14.50% | 75% |

* Portfolio Components come from the Investment Policy Statement for North Carolina Retirement Systems



NCRS Core Real Estate Portfolio

As of December 31, 2024

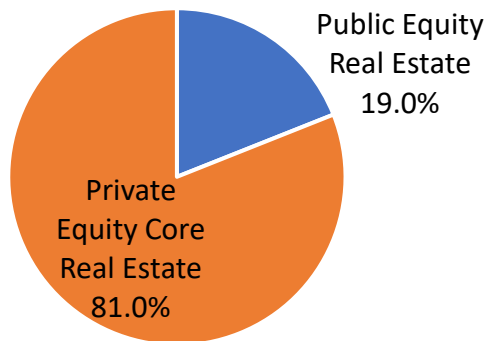
Net of Fees Performance (%)

| | Market Value | 3 Month | 1 Year | 3 Years | 5 Years | 10 Years |
|--|----------------|---------------|---------------|---------------|-------------|-------------|
| Core Real Estate | \$6,271 | (2.04) | (4.79) | (2.97) | 0.88 | 4.51 |
| Benchmark ¹¹ | | (1.93) | (5.99) | (3.48) | 1.61 | 4.72 |
| Public Equity Real Estate | \$1,190 | (8.83) | 2.09 | (5.71) | 0.28 | 3.56 |
| Private Equity Core Real Estate | \$5,081 | (0.31) | (6.24) | (2.90) | 0.71 | 4.58 |

IRR by Vintage Year (%)

| | <u>Pre-2010</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>2021</u> | <u>2022</u> | <u>2023</u> | <u>Total</u> |
|------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| NCRS | 6.54 | 23.62 | N/A | N/A | 4.10 | 3.15 | 1.62 | 6.01 | N/A | 15.77 | N/A | N/A | 3.44 | N/A | N/A | 5.75 |
| # of Funds | 13 | 1 | N/A | N/A | 2 | 6 | 2 | 9 | N/A | 1 | N/A | N/A | 3 | N/A | N/A | 37 |

Strategy Allocation (Based on Valuation)





NCRS Core Real Estate Portfolio Structure

| Portfolio Component* | Target* | 12/31/24 | +/- | Maximum* |
|---------------------------------------|---------|----------|--------|----------|
| Private Equity Core Real Estate | 80% | 81.02% | 1.02% | 90% |
| Private Equity Real Estate Securities | 20% | 18.98% | -1.02% | 40% |
| Special Situations | 0% | 0.00% | 0.00% | 30% |

* Portfolio Components come from the Investment Policy Statement for North Carolina Retirement Systems

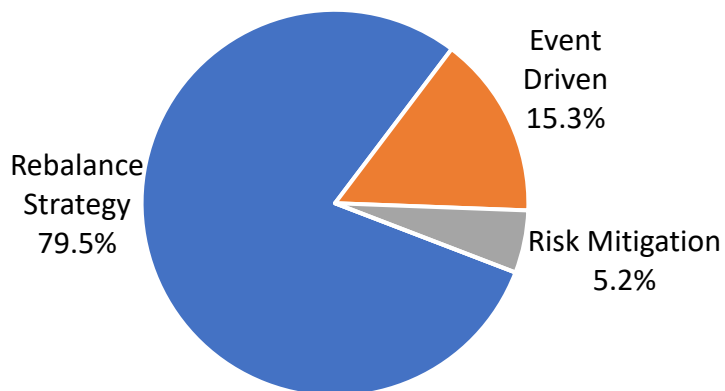


NCRS Multi-Strategy Portfolio

As of December 31, 2024

| Net of Fees Performance (%) | | | | | | |
|-----------------------------|----------------|---------------|--------------|-------------|-------------|-------------|
| | Market Value | 3 Month | 1 Year | 3 Years | 5 Years | 10 Years |
| Multi-Strategy | \$2,653 | 0.08 | 8.18 | 4.46 | 3.32 | 4.57 |
| Benchmark ¹² | | (0.73) | 5.05 | 1.40 | 1.85 | 3.24 |
| Rebalance Strategy | \$2,109 | (0.70) | 7.14 | 4.17 | 3.66 | 5.51 |
| Event Driven | \$406 | 4.30 | 16.93 | 7.38 | 8.39 | - |
| Risk Mitigation | \$139 | 0.29 | 1.12 | 0.93 | 2.68 | - |
| Volatility Trading | - | - | - | - | - | - |

Strategy Allocation (Based on Valuation)





Notes:

All data presented are based on currently available information at time of publication and may be revised subsequently.

1. The Growth Benchmark is a blend of the Public Equity Benchmark, Private Equity Benchmark, Non-Core Real Estate Benchmark, & Opportunistic FI Benchmark at policy weights.
2. The Public Equity Benchmark is a dynamically weighted combination of the MSCI ACWI IMI Net (Long-Only) and a beta adjusted MSCI ACWI IMI Net (Hedged Equity).
3. The Private Equity Benchmark is comprised of the following MSCI Private Capital indices: Effective 7/1/2022 at 45% Buyout, 25% Venture Capital, and 30% Distressed.
4. The Non-Core Real Estate Benchmark is comprised of the following MSCI Private Capital indices: 80% U.S. Non-Core Real Estate (Opportunistic and Value-Added) and 20% Non-U.S. Non-Core Real Estate (Opportunistic and Value-Added).
5. The Opportunistic Fixed Income Benchmark is comprised of 50% HFRX Distressed Securities Index, 20% HFRX Relative Value Index, 15% Credit Suisse Leveraged Loan Index, and 15% ICE BofA High Yield Index.
6. The Rates & Liquidity Benchmark is a blend of the IG Fixed Income & Cash Benchmark and the Pension Cash Benchmark at policy weights.
7. The IG Fixed Income & Cash Benchmark is comprised 10% iMoneyNet First Tier Institutional Money Market Funds Net Index and 90% custom ICE BofA Core Investment Grade Index. The custom ICE BofA core index comprised of the following weightings: 30% ICE BofA 5+ Years Governments, 35% ICE BofA 5+ Years Investment Grade Corporates, and 35% ICE BofA Mortgage Master.
8. The Pension Cash Benchmark is the iMoneyNet First Tier Institutional Money Market Funds Net Index.
9. The Inflation Sensitive & Diversifiers Benchmark is a blend of the Inflation Sensitive Benchmark and the Core Real Estate Benchmark at policy weights.
10. The Inflation Sensitive Benchmark is the dynamically weighted combination of the ICE BofA 1-3 Years U.S. Inflation-Linked Treasury Index (TIPS), the Bloomberg Commodities Index (Commodities), and a combination of the benchmarks of investments classified within Private Natural Resources or Other Real Assets and Diversifiers.
11. The Core Real Estate Benchmark is comprised of 80% Custom NCREIF ODCE Net Index and 20% FTSE EPRA NAREIT Global Index.
12. The Multi-Strategy Benchmark is comprised of a dynamically weighted combination of the HFRX ED: Multi-Strategy Index, net of fees, and the market value weighted benchmarks for any other total fund strategies within the Portfolio.
13. The Implementation Benchmark is a blend of the Asset Class Benchmarks at policy weights. It is currently weighted as follows: 55% Growth Benchmark, 33% Rates & Liquidity Benchmark, 11% Inflation Sensitive & Diversifiers Benchmark, and 1% Multi-Strategy Benchmark.
14. The Long-Term Policy Benchmark is comprised of 56% MSCI ACWI IMI Net, 28% ICE BofA 5+ Years U.S. Treasury Index, 6.5% Bloomberg Commodity Index, 5% ICE BofA 3 Month Treasury Bill Index, and 4.5% ICE BofA 1-3 Years U.S. Inflation-Linked Treasury Index.



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