

NORTH CAROLINA
DEPARTMENT OF STATE TREASURER



BRADFORD B. BRINER
STATE TREASURER OF NORTH CAROLINA

Investment Management Division

Performance Review



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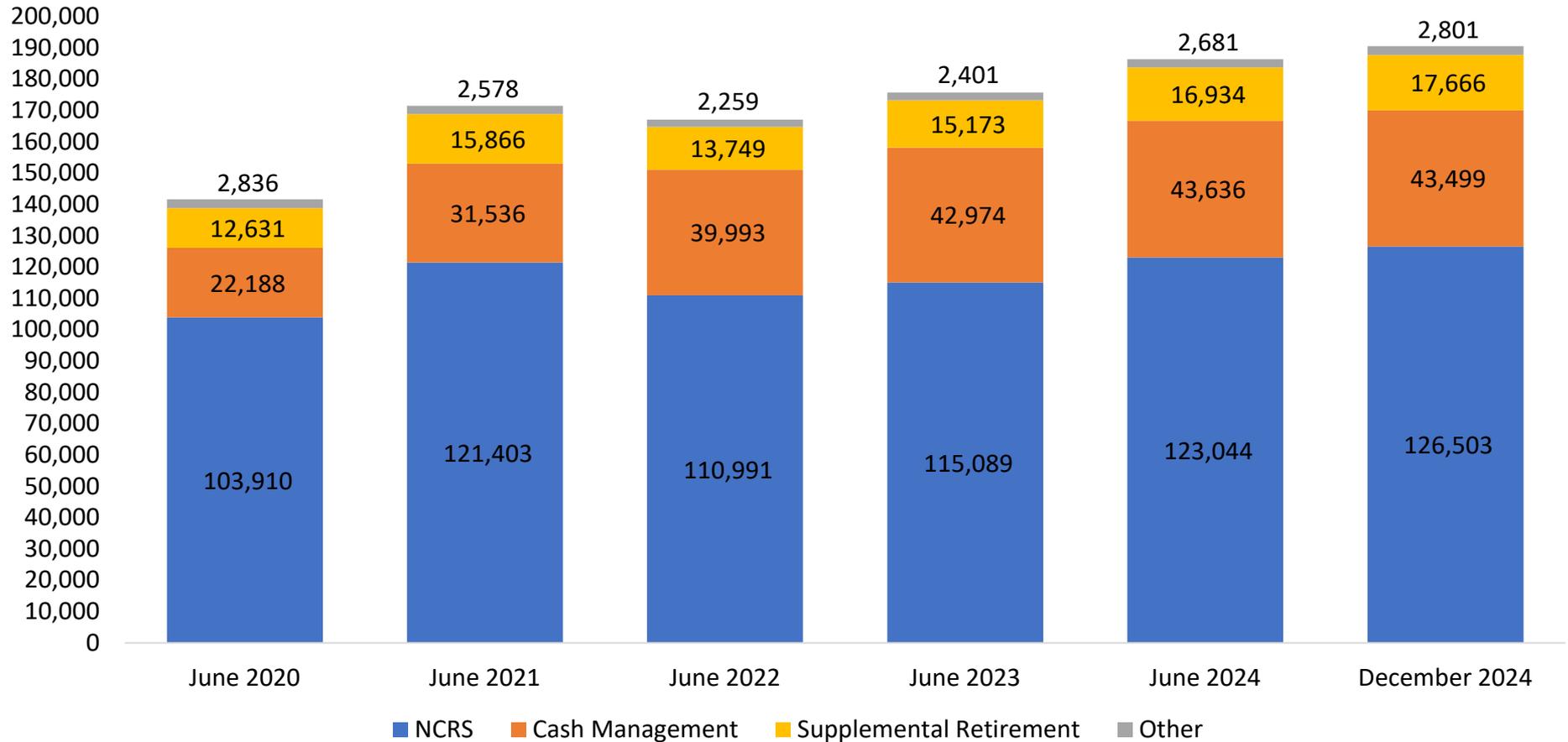


Section 1: Assets Under Management



Assets Under Management (\$MM)

\$190.5 billion as of December 31, 2024



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

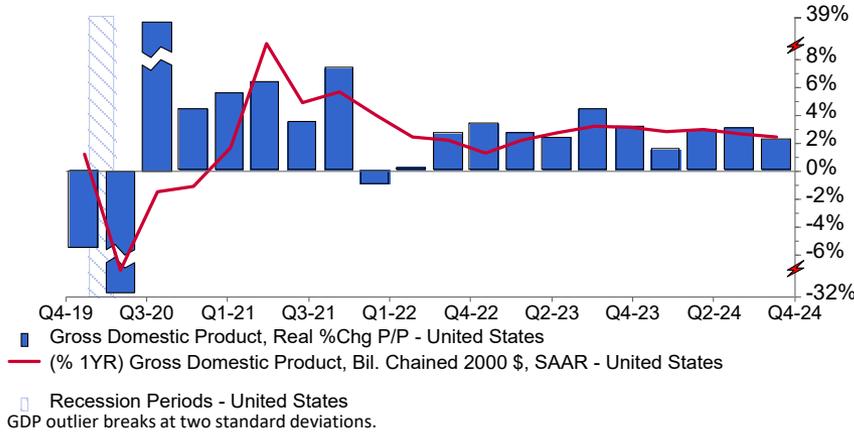
Markets

- 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



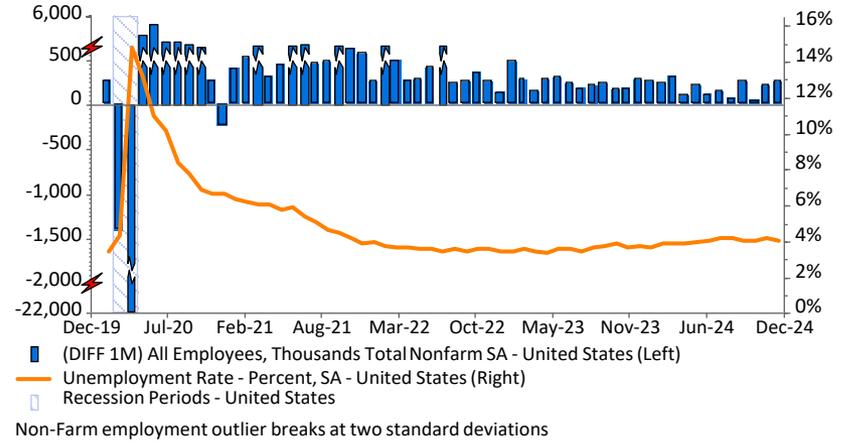
US Economic Environment

US Real GDP Growth



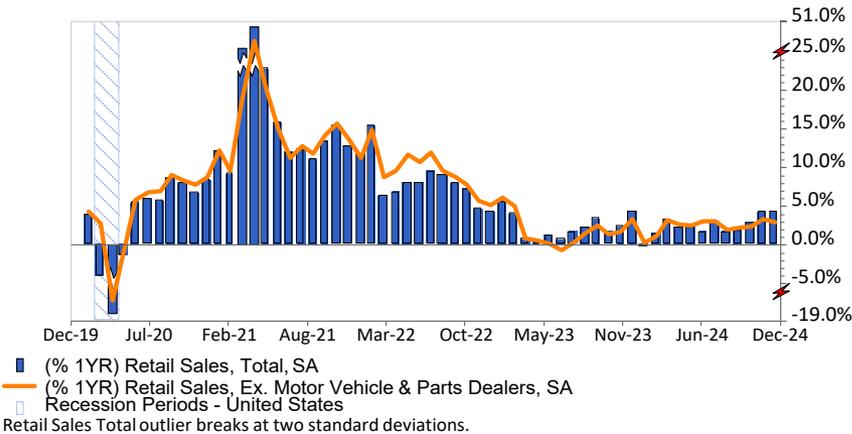
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US Change in NonFarm Employment & Unemployment Rate



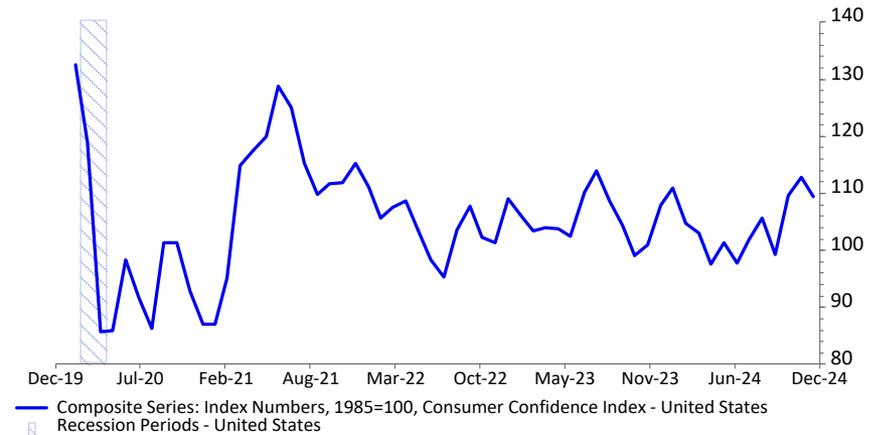
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US Retail Sales



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US Consumer Confidence

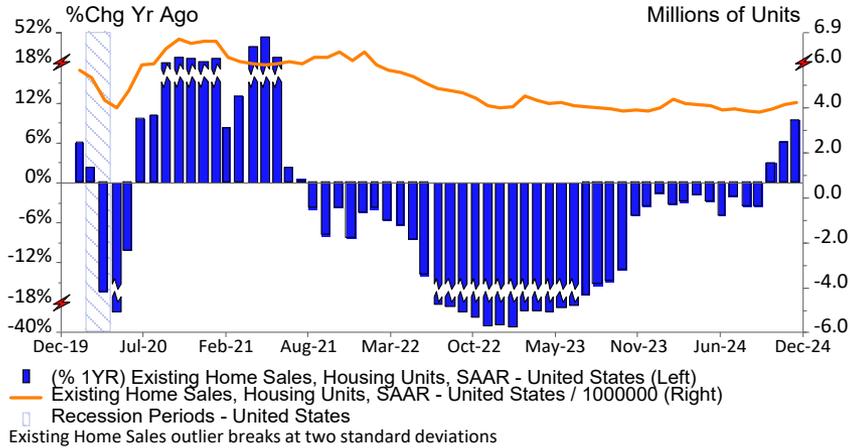


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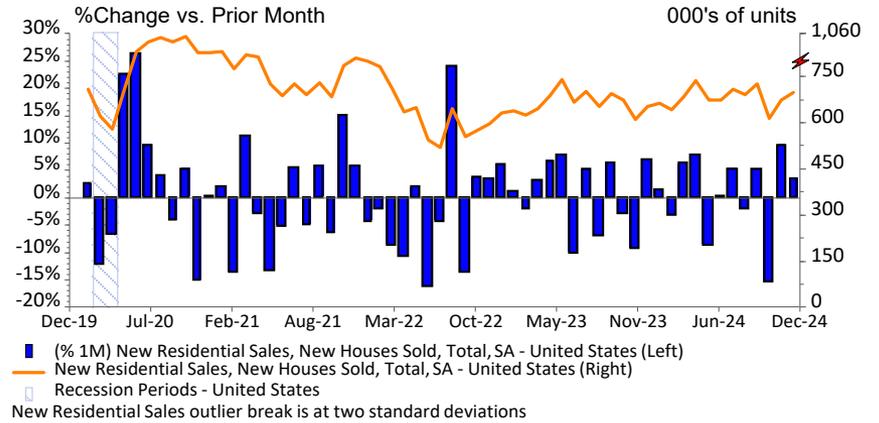
US Economic Environment

US Existing Home Sales



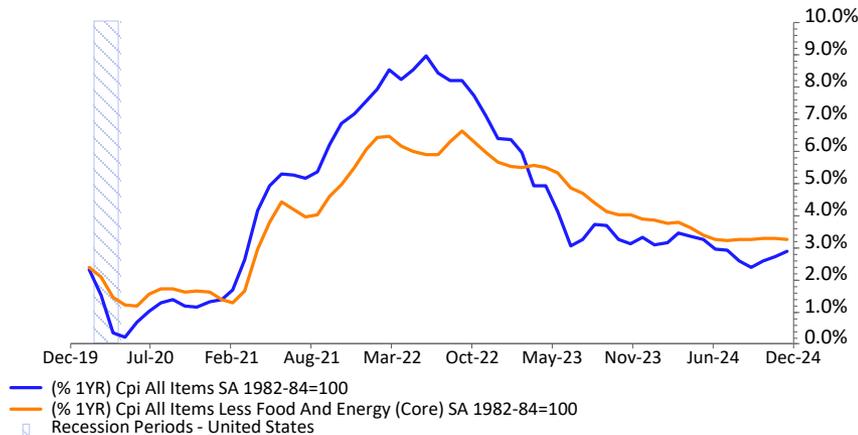
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US New Home Sales



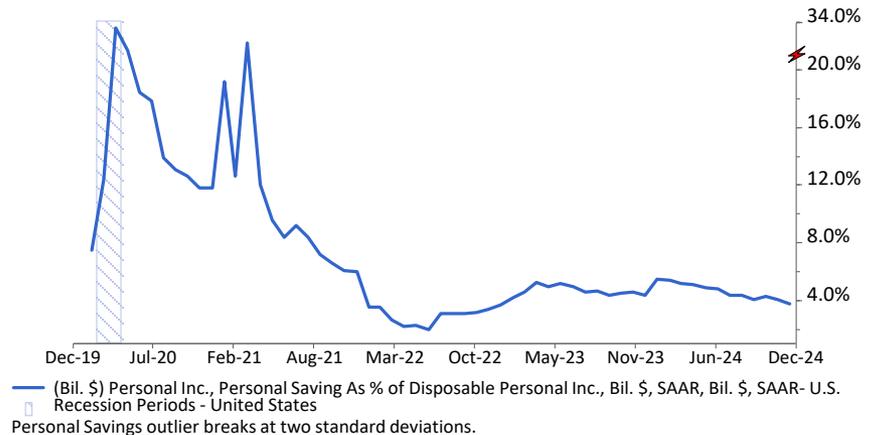
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US Consumer Price Inflation



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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%					



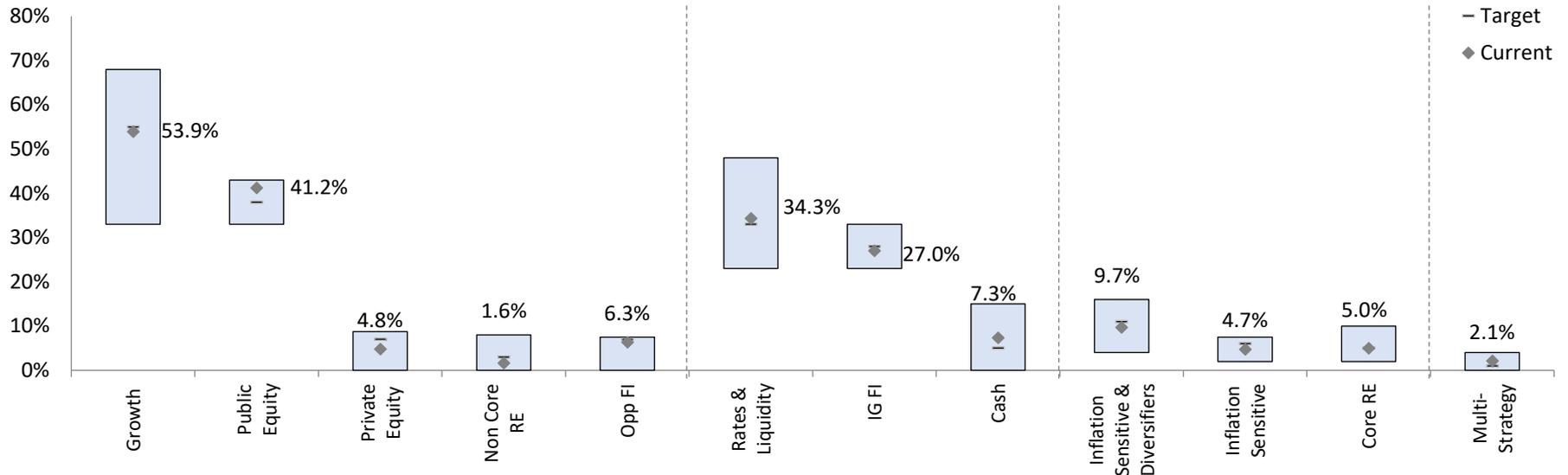
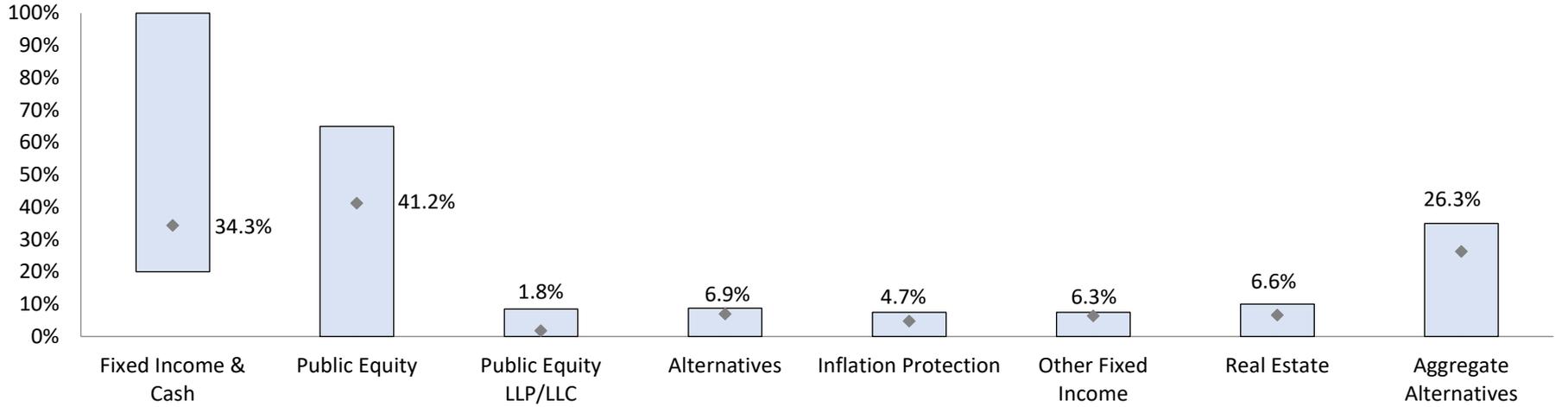
NCRS Asset Allocation (Preliminary)

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



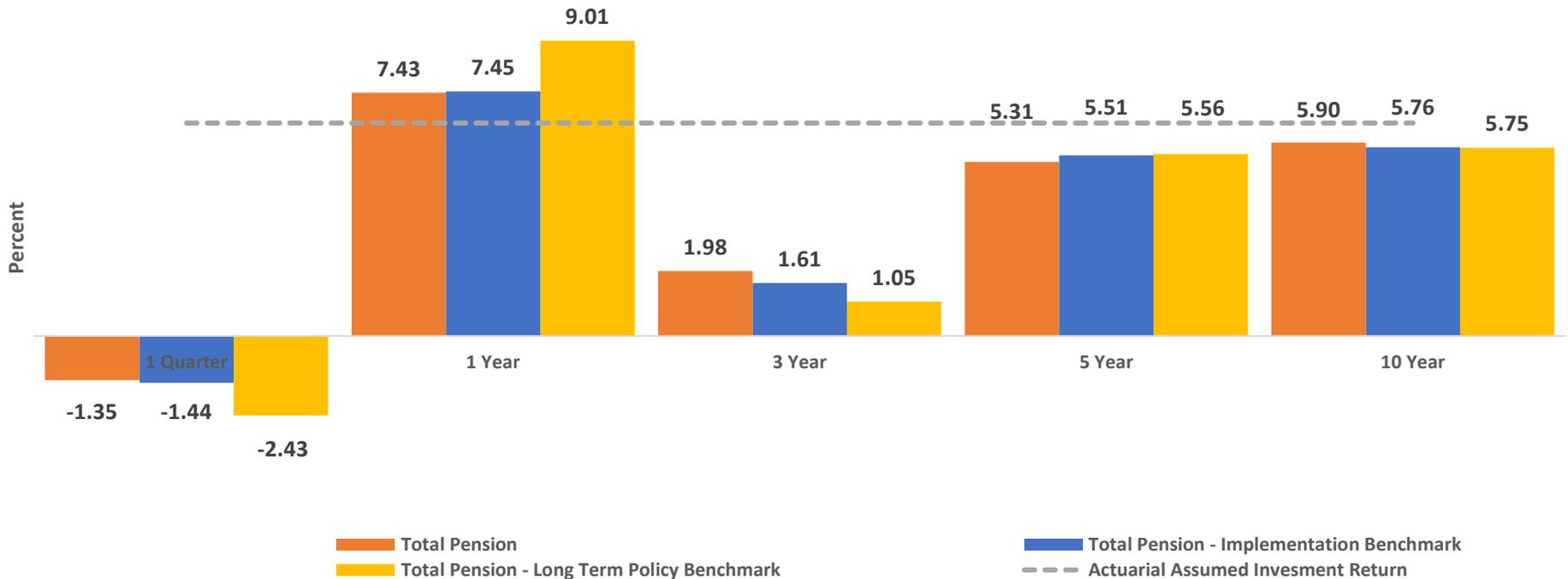
Section 3: Performance Analysis



NCRS Total Net Portfolio Return vs. Benchmarks

As of December 31, 2024

Annualized Returns



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.

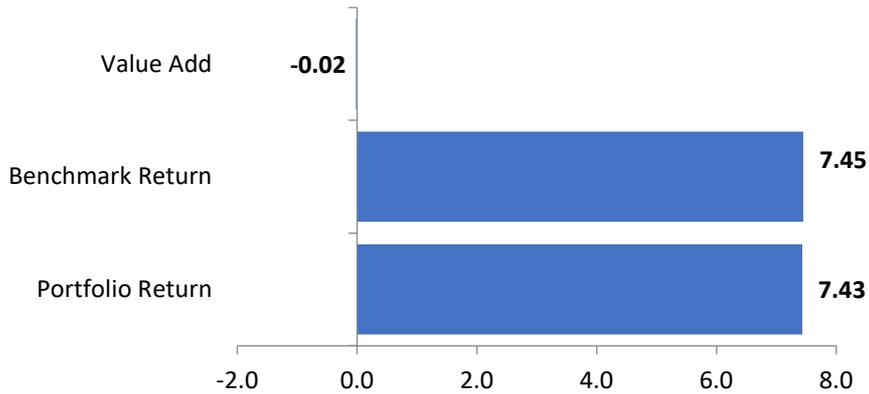
Long-Term Policy Benchmark is comprised of 56% MSCI ACWI IMI Net, 28% ICE BofA 5+ Years U.S. Treasury Index, 6.5% Bloomberg Commodity Index, 5% ICE BofA 3 Month Treasury Bill Index, and 4.5% ICE BofA 1-3 Years U.S. Inflation-Linked Treasury Index.



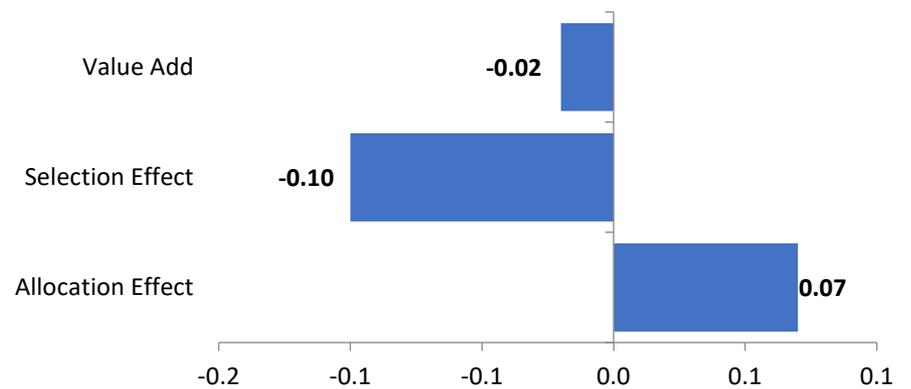
NCRS Net of Fees Return Attribution

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

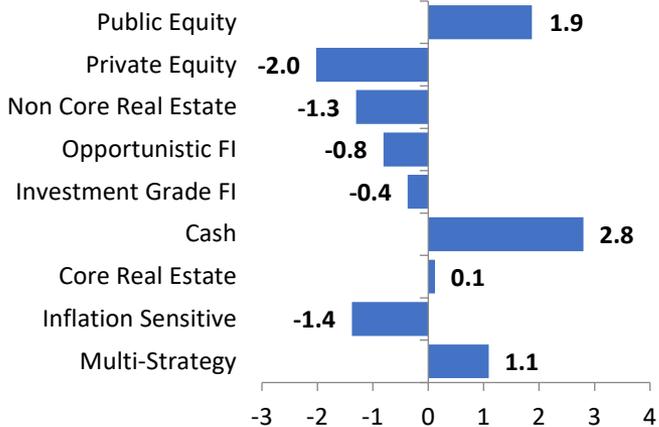
Total Fund Performance



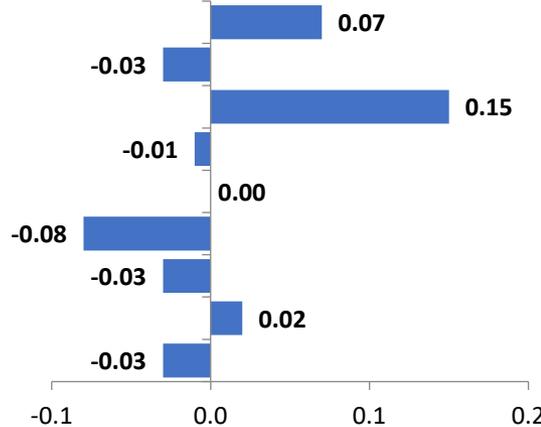
Attribution



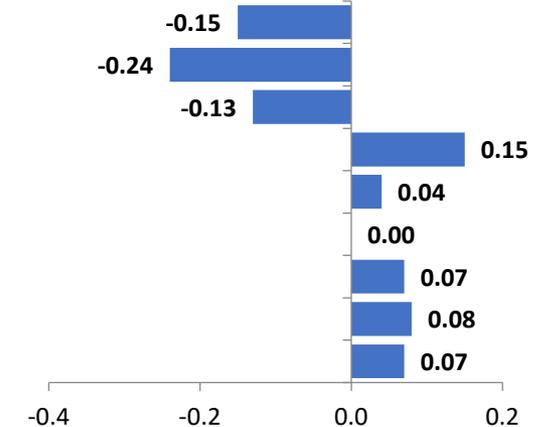
Avg Active Weight



Allocation Effect



Selection Effect

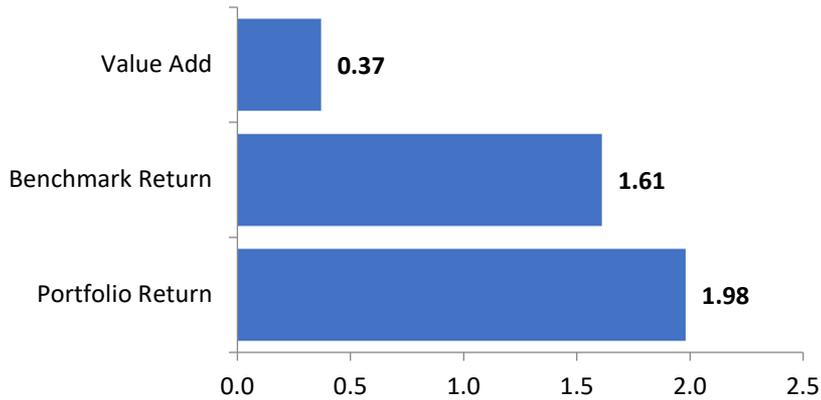




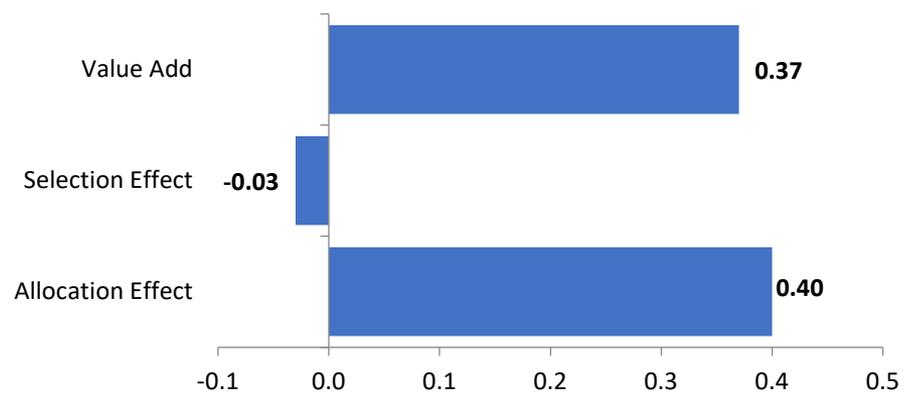
NCRS Net of Fees Return Attribution

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

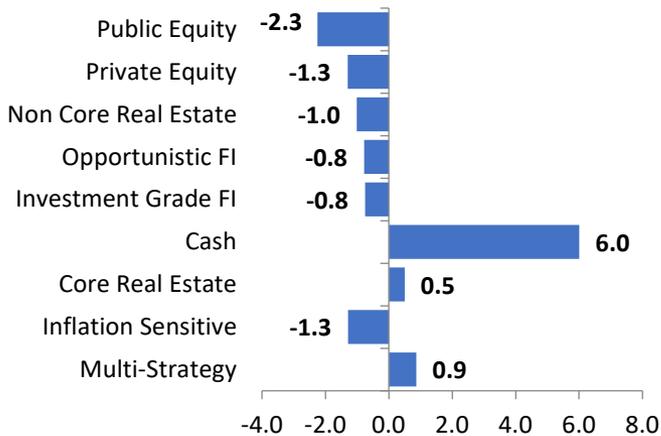
Total Fund Performance



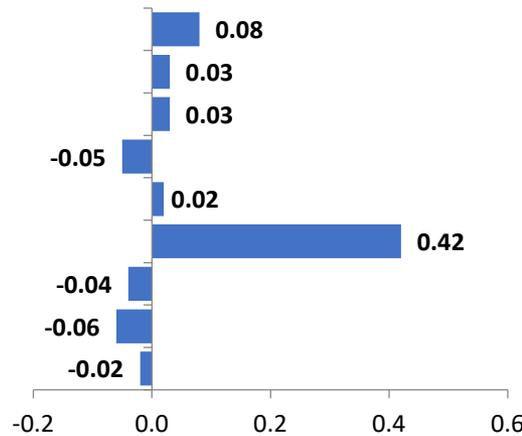
Attribution



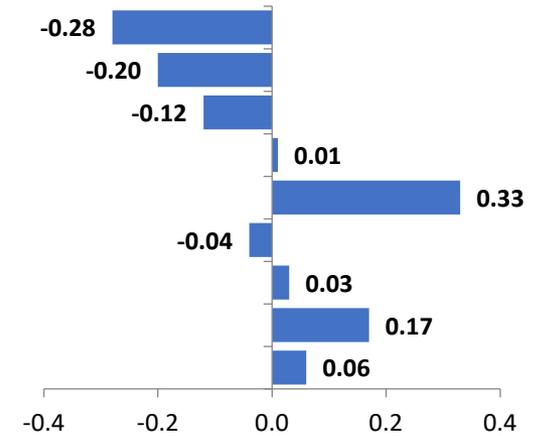
Avg Active Weight



Allocation Effect



Selection Effect

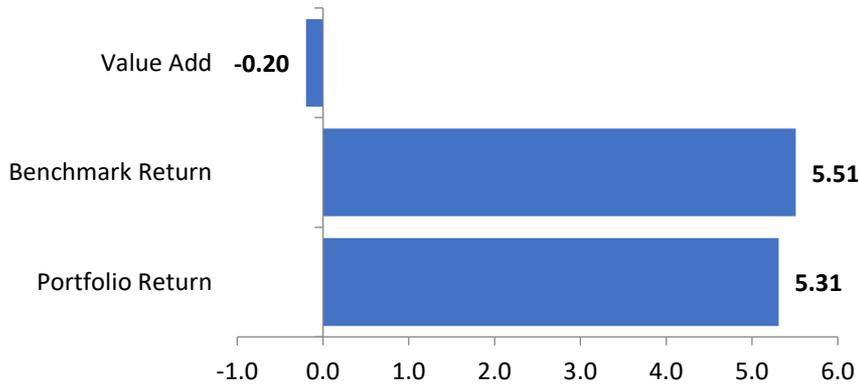




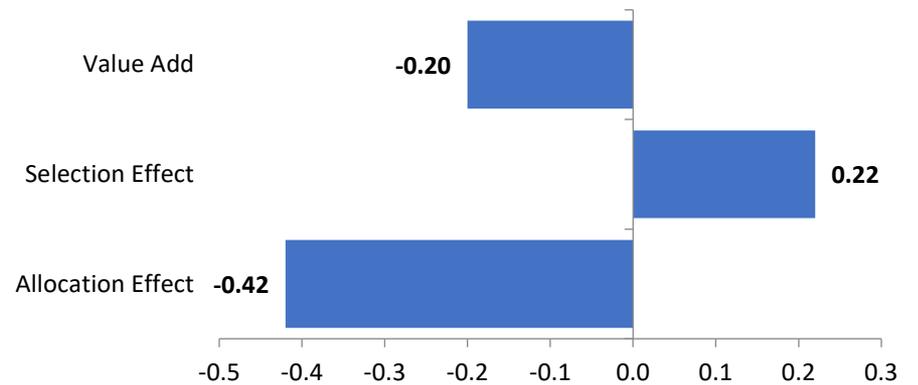
NCRS Net of Fees Return Attribution

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

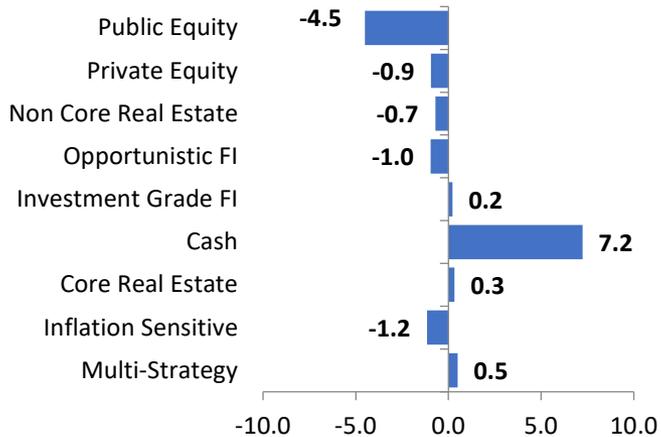
Total Fund Performance



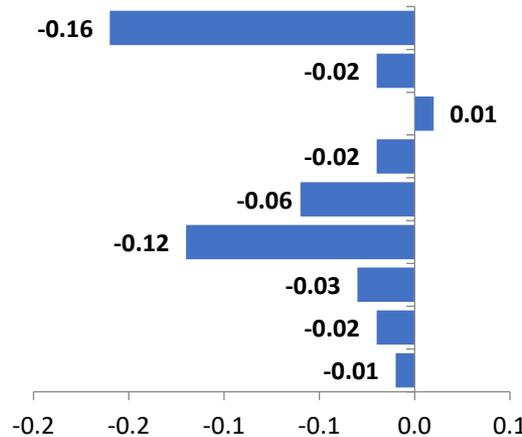
Attribution



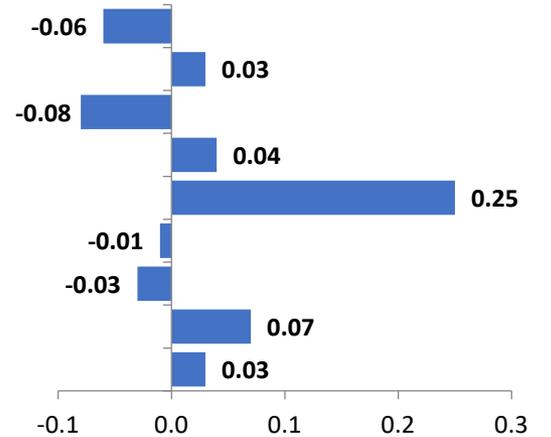
Avg Active Weight



Allocation Effect



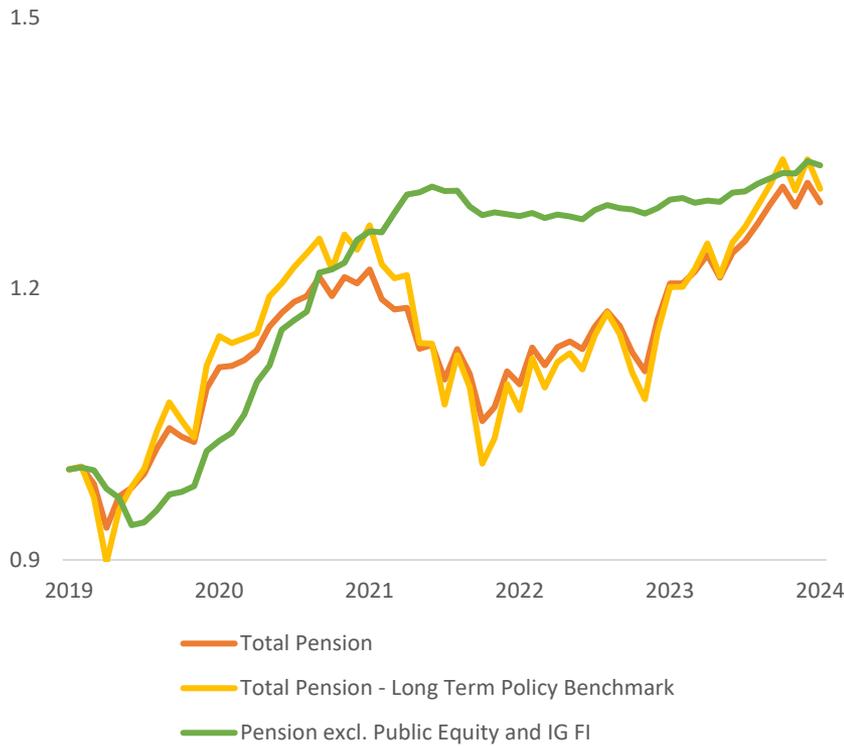
Selection Effect





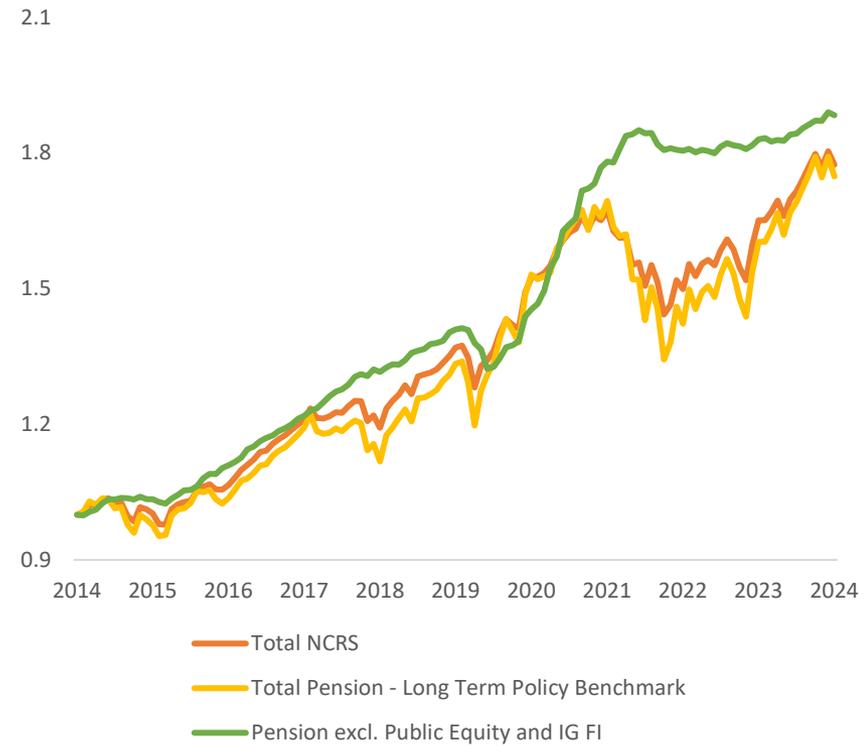
Growth of a Dollar

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

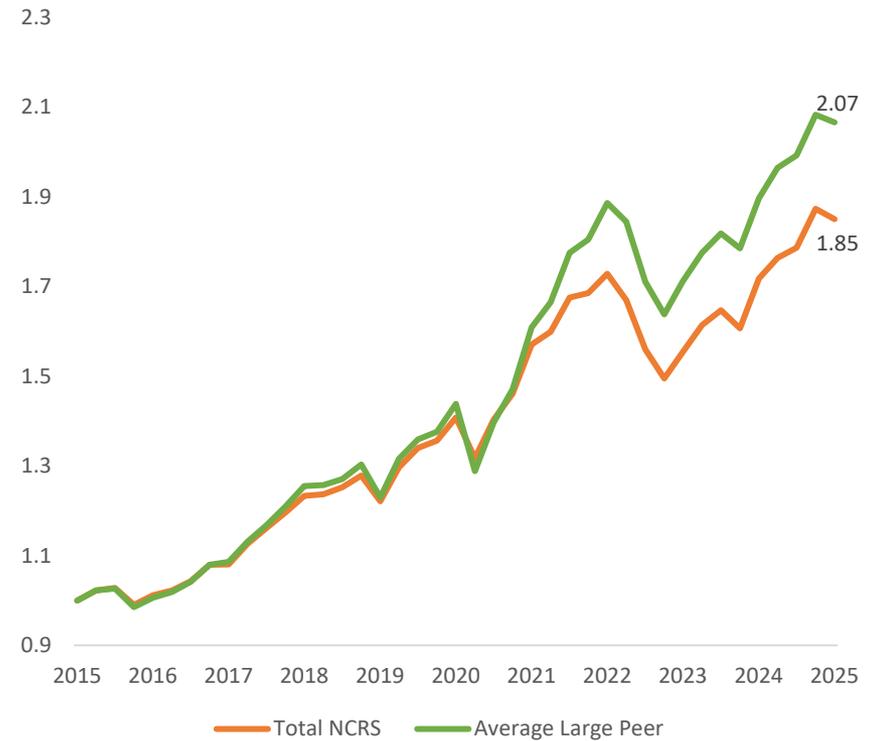
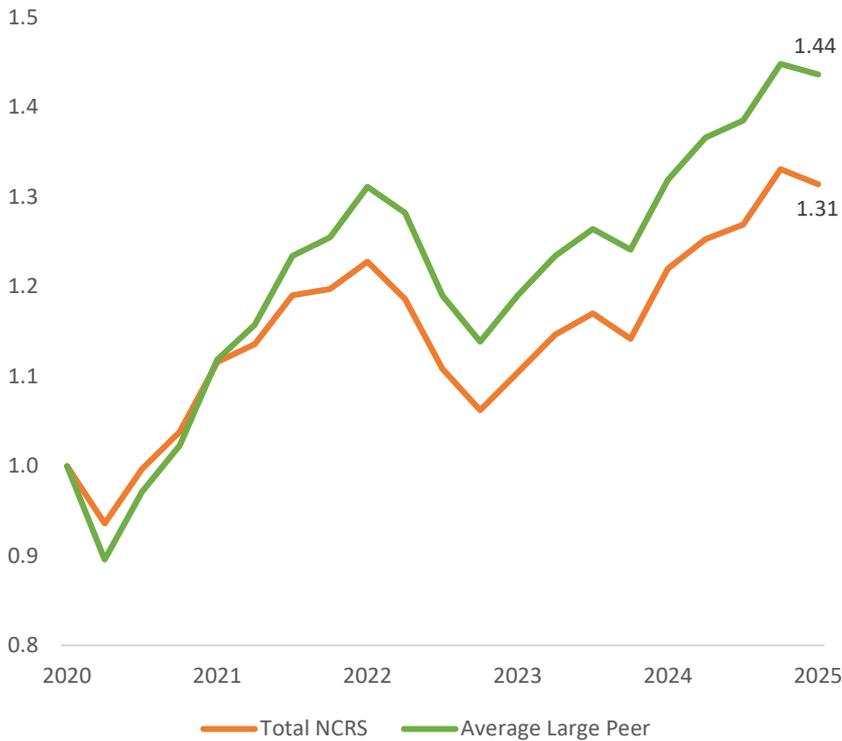
Returns	1 Year	3 Years	5 Years	5 Years Ending 2019	5 Years Ending 2014
Median Percentile	9.43	3.06	7.86	7.56	9.90
NCRS	7.71	2.29	5.62	7.08	9.22
Percentile Rank (1 = highest performance)	75	67	87	77	73
Risk					
Median Percentile	5.29	8.78	8.93	5.76	7.94
NCRS	5.17	8.10	7.79	4.86	6.73
Percentile Rank (1 = 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



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

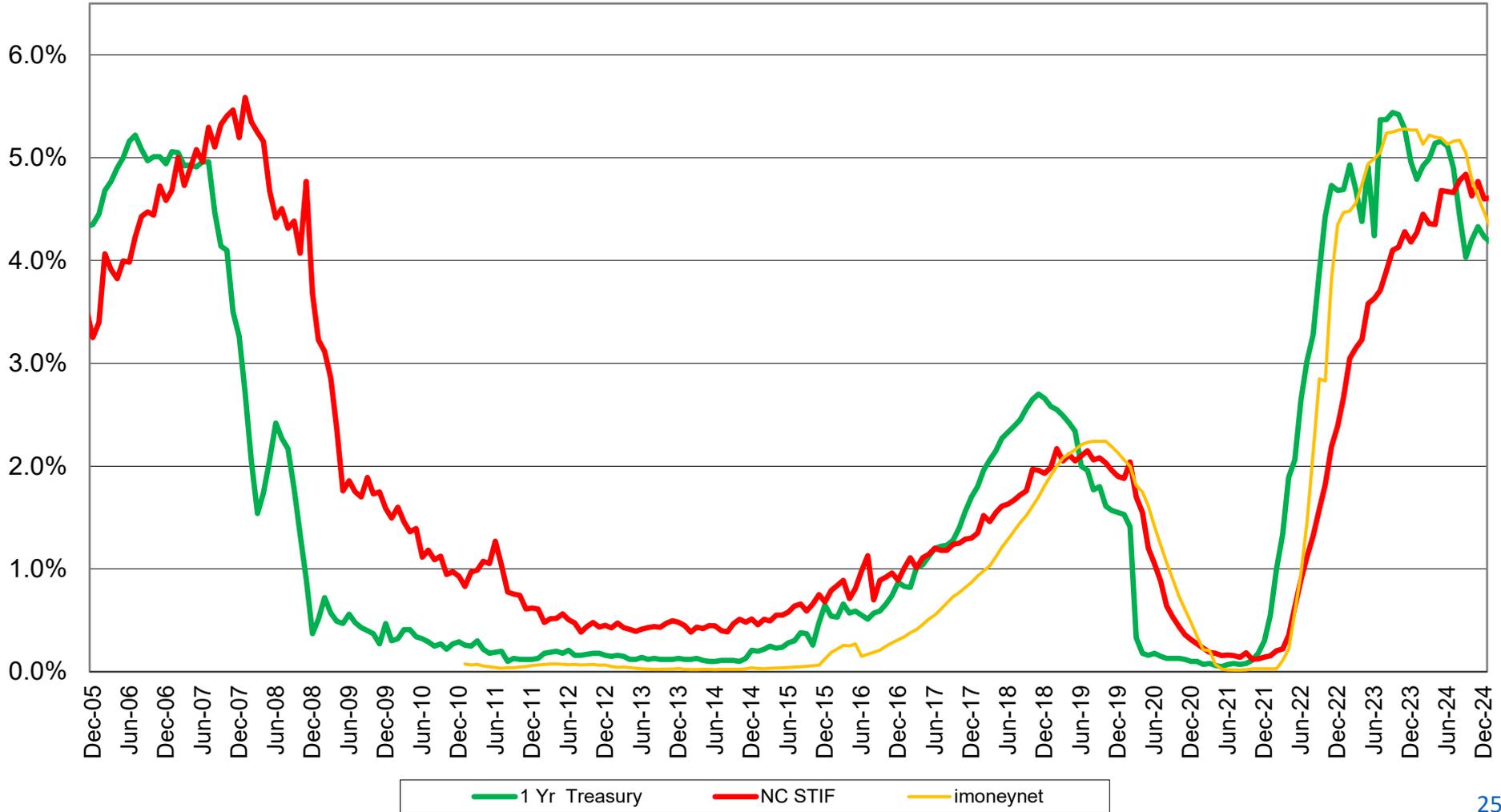
As of December 31, 2024

	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



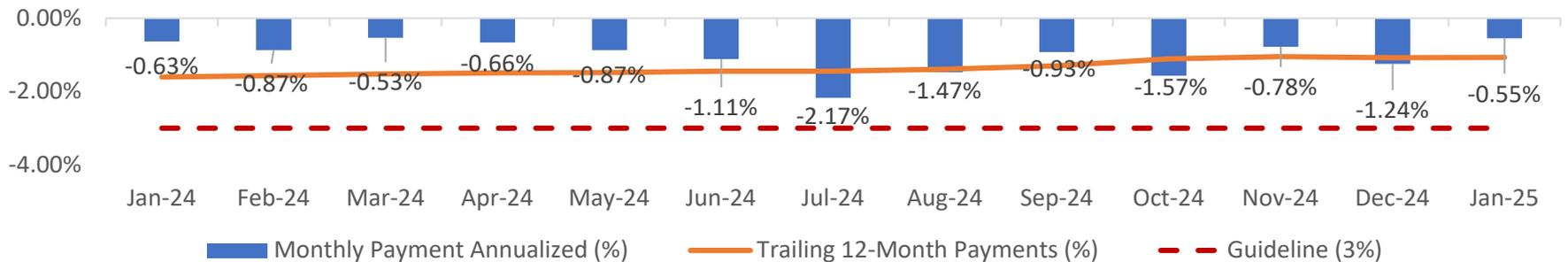
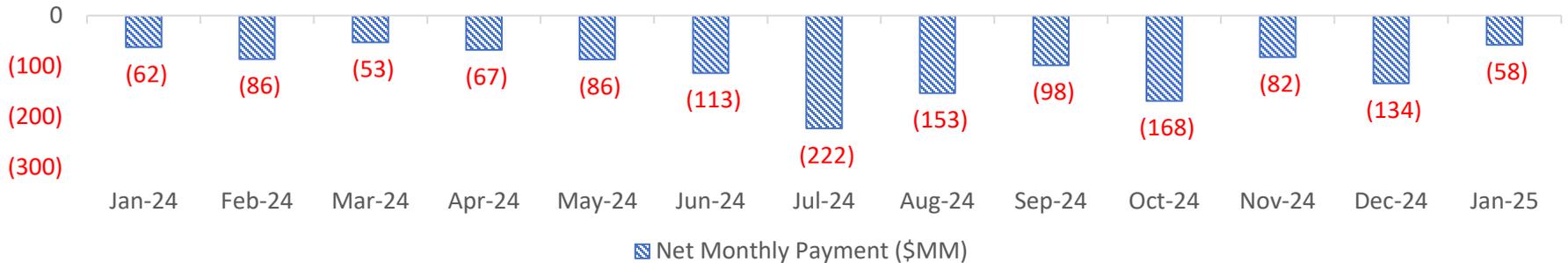


Section 4: Risk Metrics



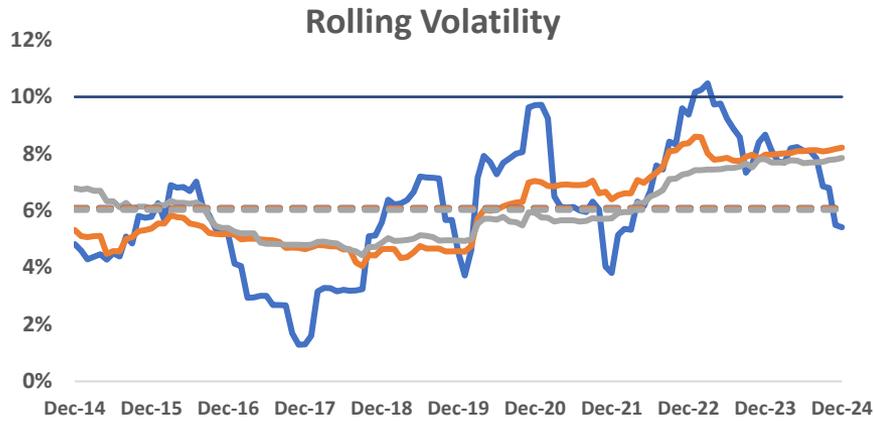
Risk Statistics

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



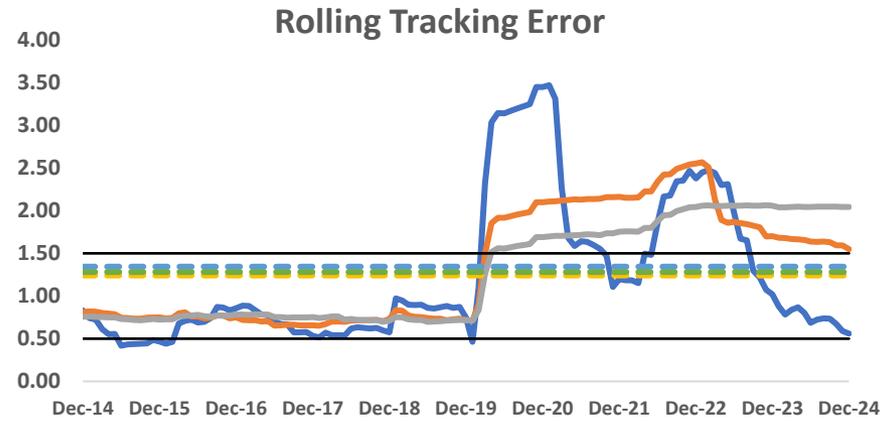


NCRS Net of Fees Risk Metrics As of December 31, 2024



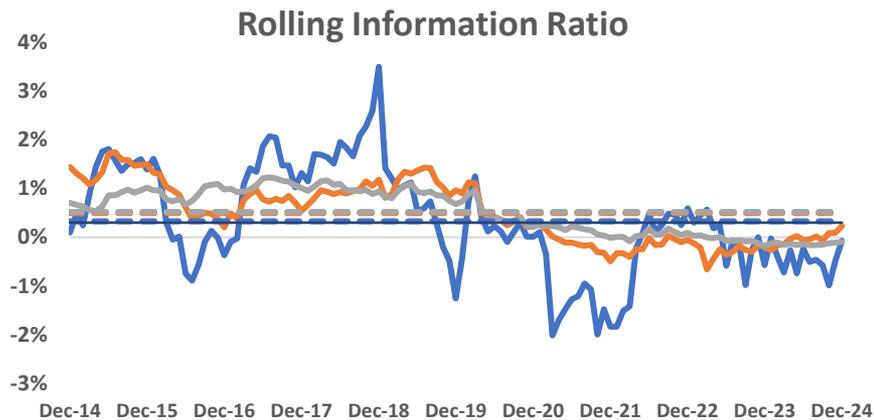
1yr Moving Avg, 5.41% 3yr Moving Avg, 8.22% 5yr Moving Avg, 7.85%
Avg 1yr MAvg, 6.10% Avg 3yr MAvg, 6.08% Avg 5yr MAvg, 6.03%

@FactSet Research Systems



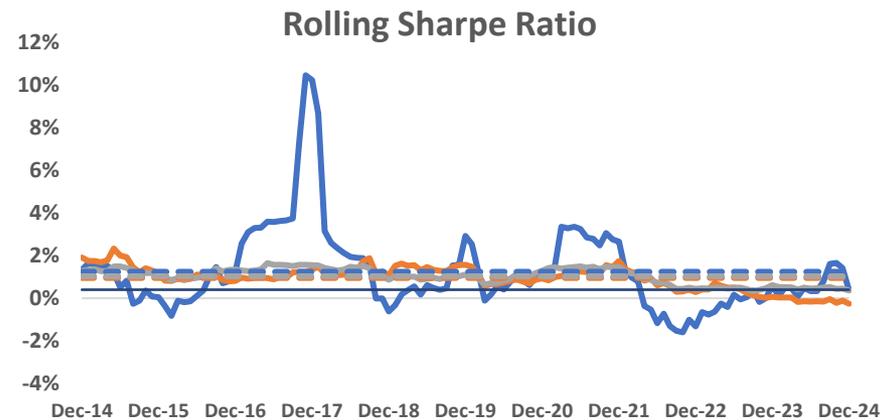
1yr Moving Avg, 0.56 3yr Moving Avg, 1.55 5yr Moving Avg, 2.04
Avg 1yr MAvg, 1.24 Avg 3yr MAvg, 1.34 Avg 5yr MAvg, 1.28

@FactSet Research Systems



1yr Moving Avg, -0.07% 3yr Moving Avg, 0.23% 5yr Moving Avg, -0.10%
Avg 1yr MAvg, 0.33% Avg 3yr MAvg, 0.50% Avg 5yr MAvg, 0.52%

@FactSet Research Systems



1yr Moving Avg, 0.38% 3yr Moving Avg, -0.26% 5yr Moving Avg, 0.36%
Avg 1yr MAvg, 1.24% Avg 3yr MAvg, 0.95% Avg 5yr MAvg, 1.03%

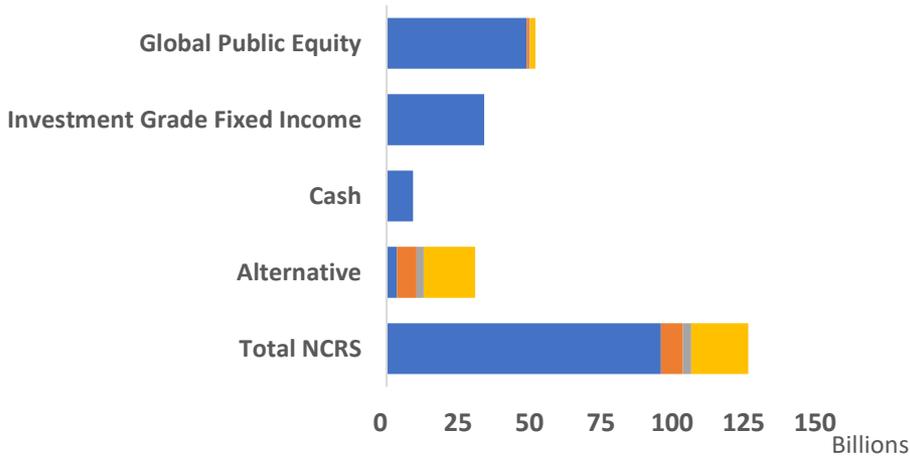
@FactSet Research Systems



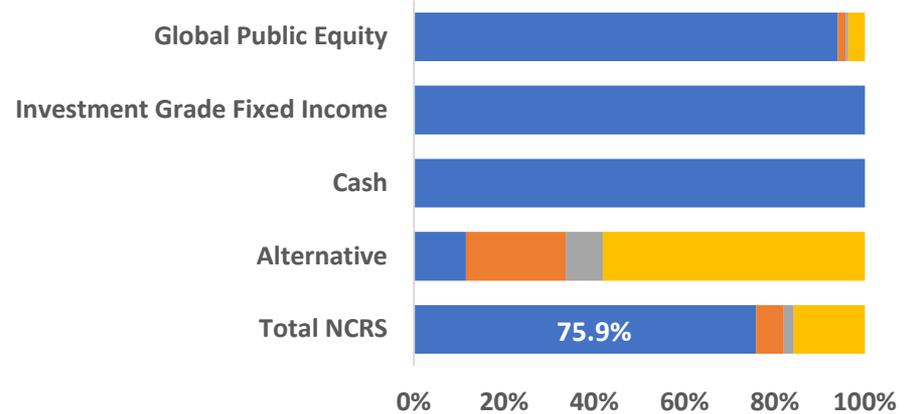
NCRS Liquidity Profile

As of December 31, 2024

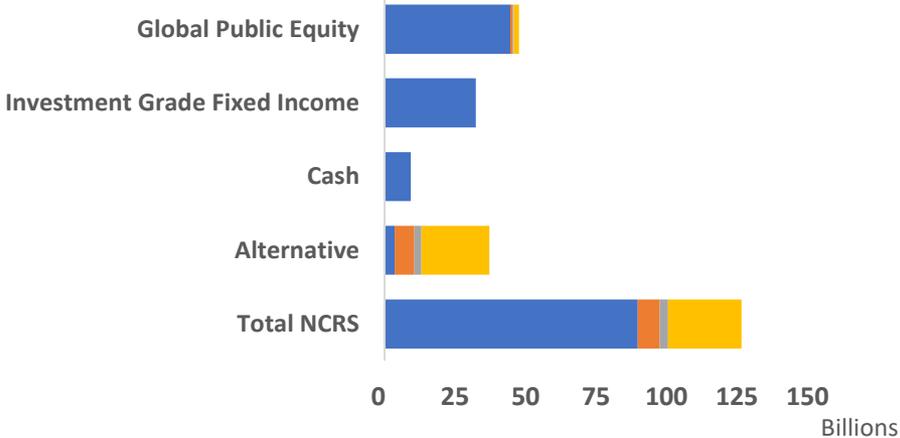
Liquidity Allocation (\$ Market Value)



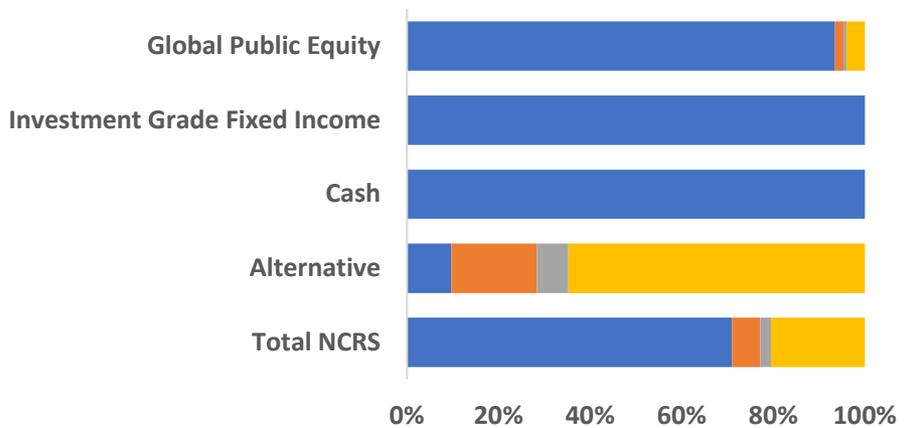
Liquidity Allocation (% Market Value)



Liquidity Allocation (\$ Market Value + Unfunded)



Liquidity Allocation (% Market Value + Unfunded)

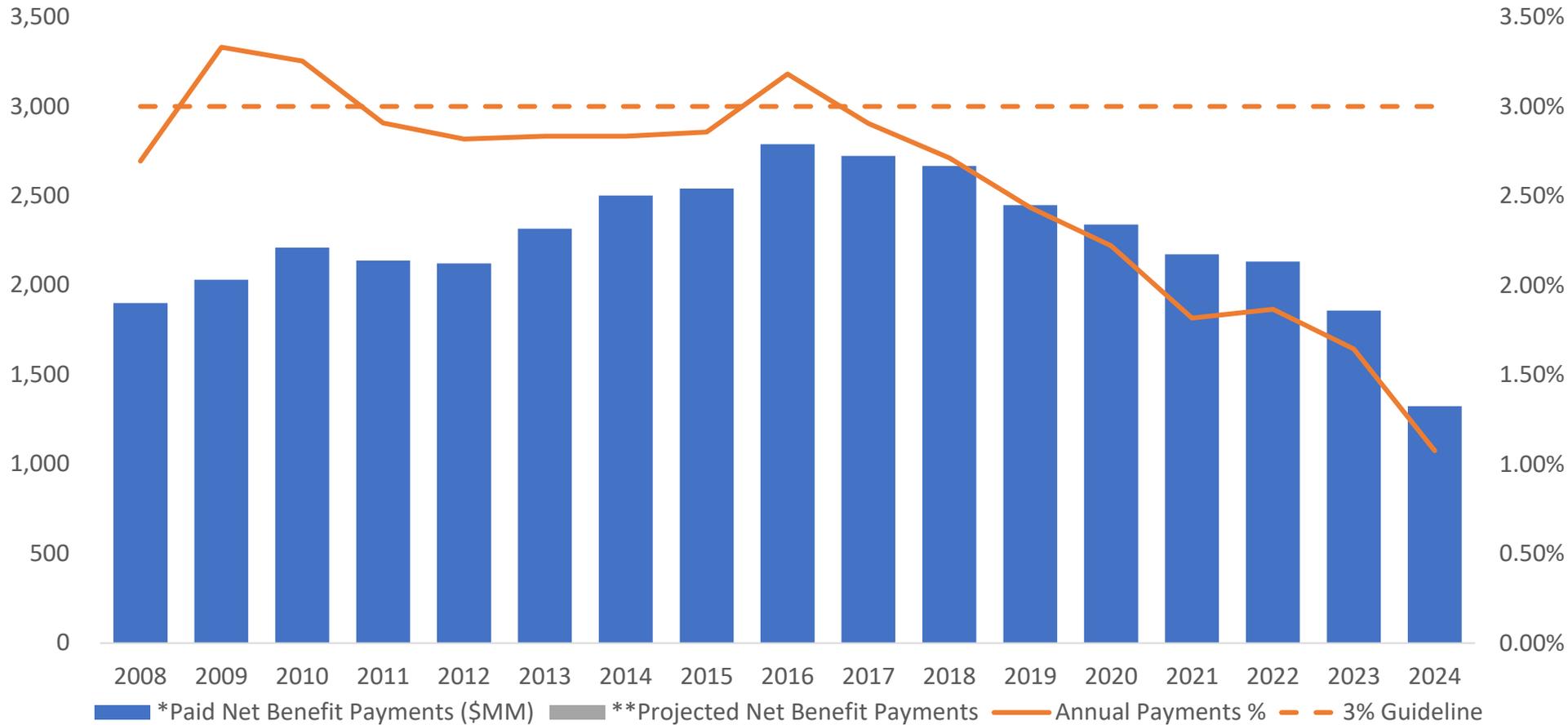


Note: ■ Level 1 Liquidity = T+3; ■ Level 2 = T+3 to 12 Months; ■ Level 3 = 12 to 24 Months; ■ Level 4 = Greater than 24 Months



NCRS Liquidity Profile

Net benefit payments by calendar year



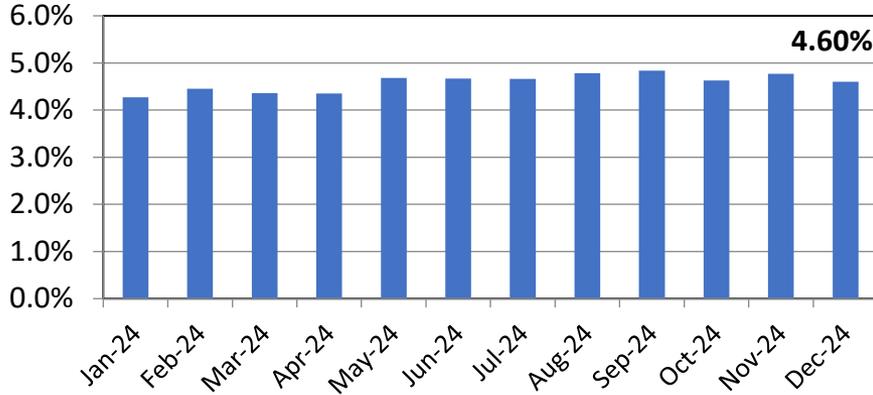
*Benefit payments exclude transfers from the Retiree Health Premium Fund as of January 1, 2022

**Projected Net Benefit Payments for remainder of calendar year

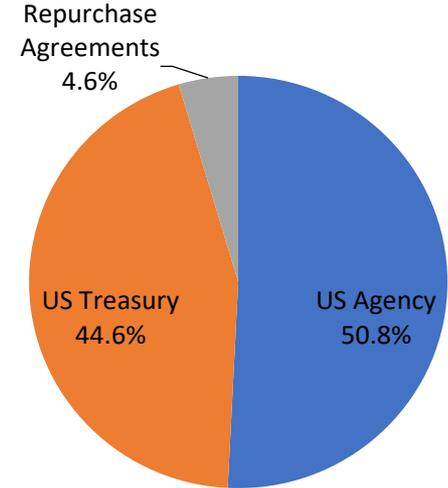


Cash Management Risk Profile

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

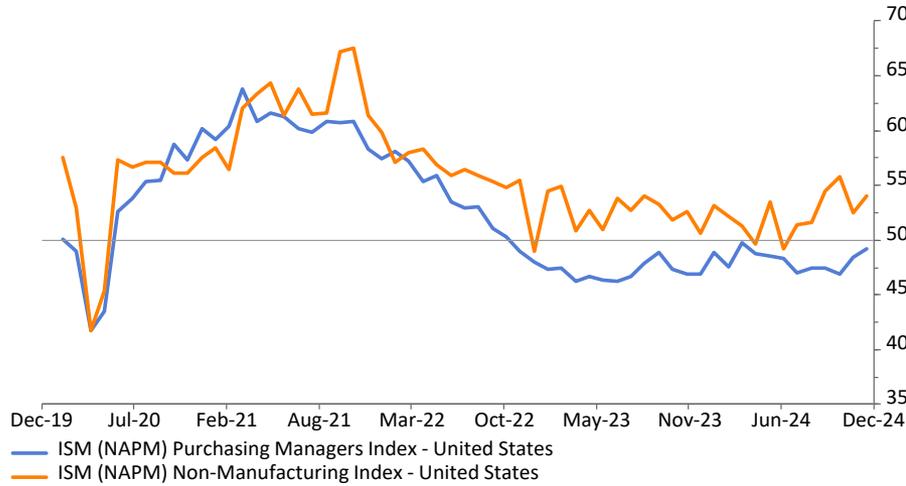


Appendix 1: Macro Charts



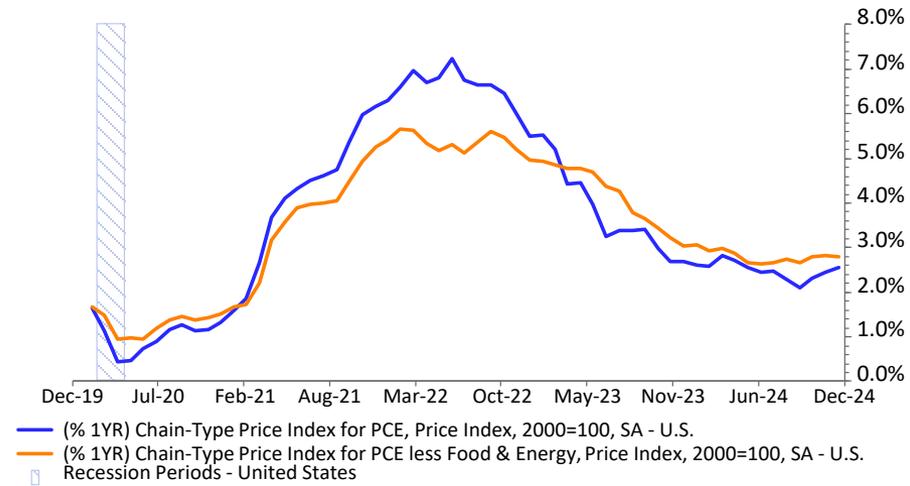
US and Global Economic Environment

ISM Report on Business



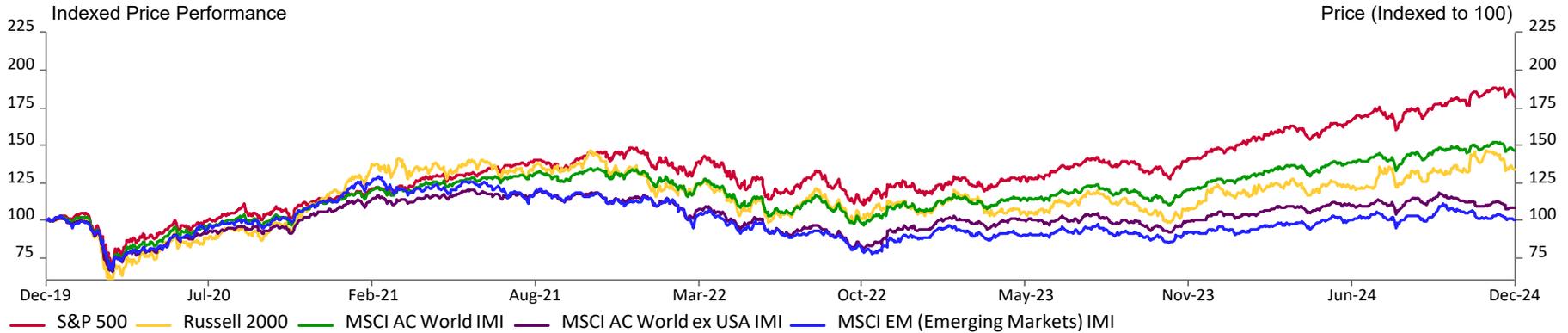
©FactSet Research Systems

US PCE Inflation



©FactSet Research Systems

S&P 500 vs. Peers

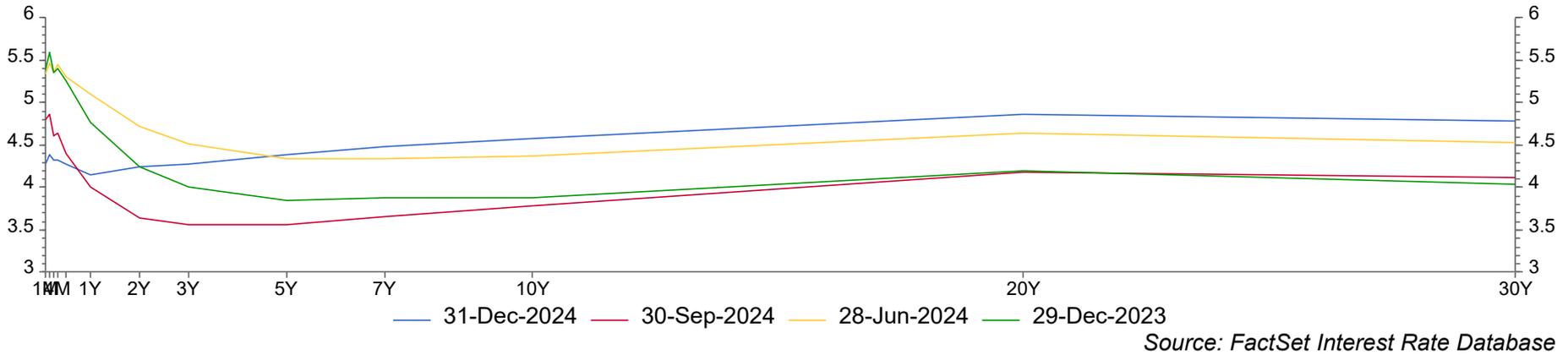


Source: FactSet Prices

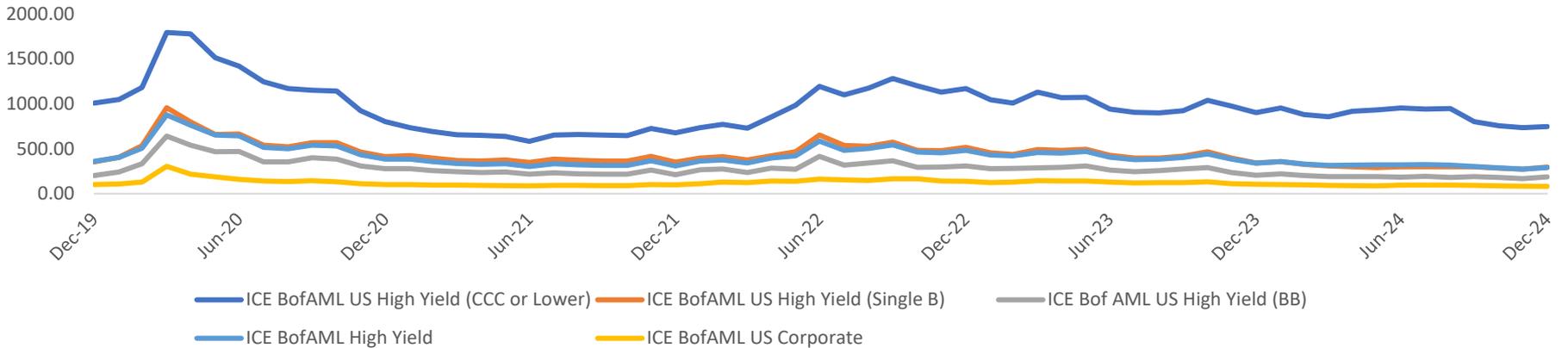


Market Environment

United States Treasury Yield Curve



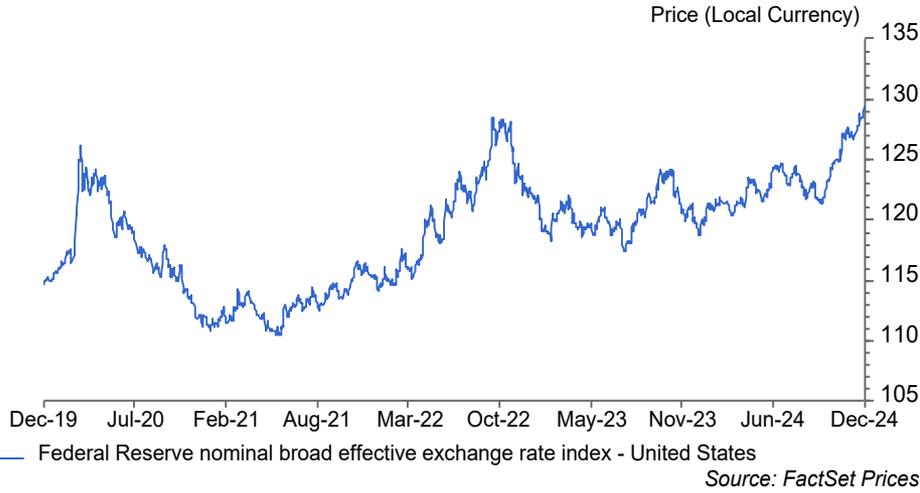
Corporate Credit OAS (ICE BAML Indices)





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

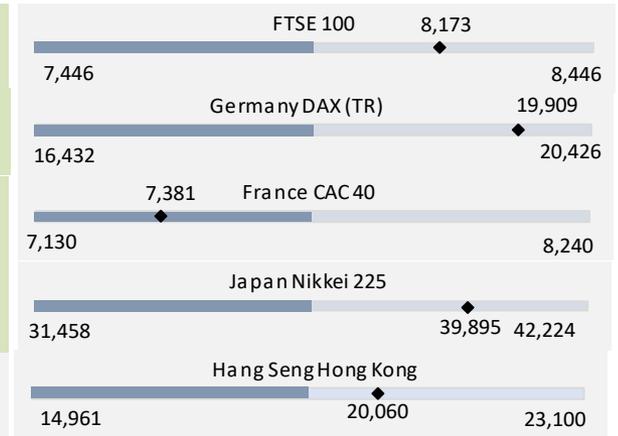
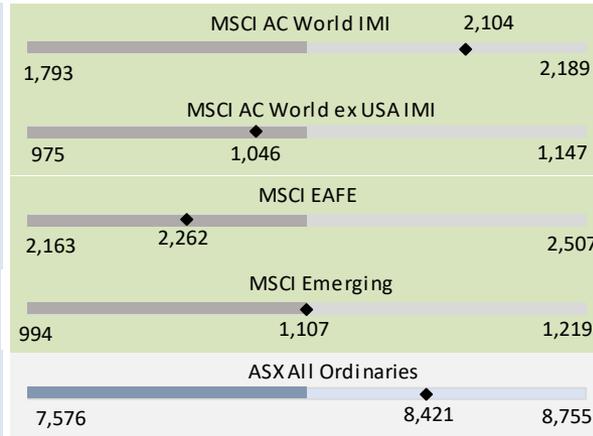
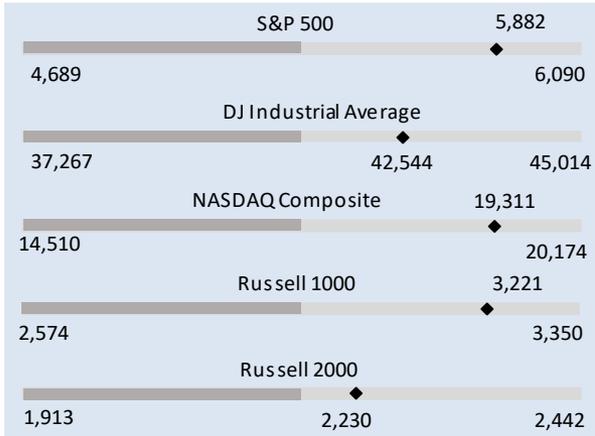
Source: Bloomberg



Economic Environment

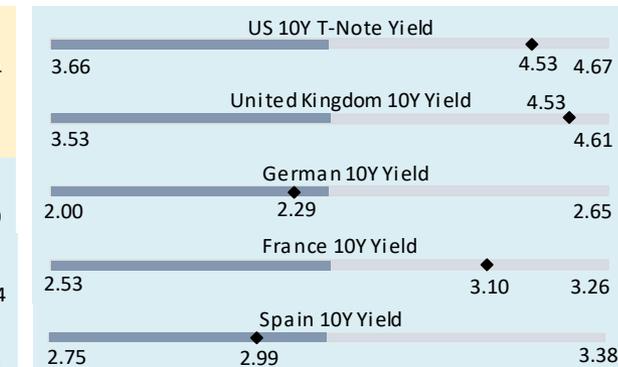
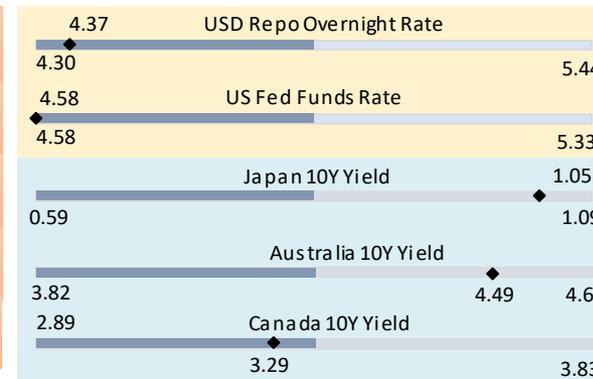
Index 52 Week range as of December 31, 2024

Price



Source: Factset Prices

Yield



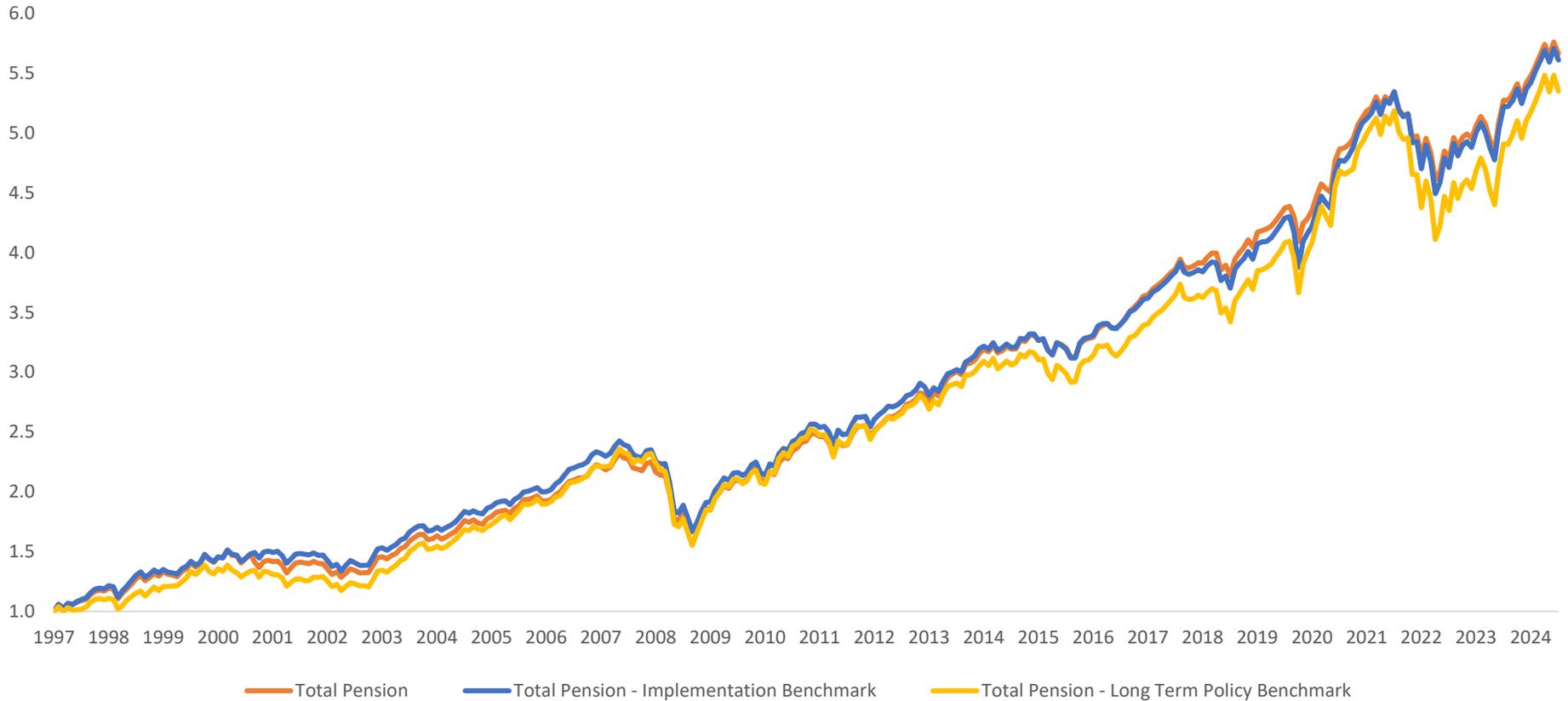
Source: Factset Interest Rate Database



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.

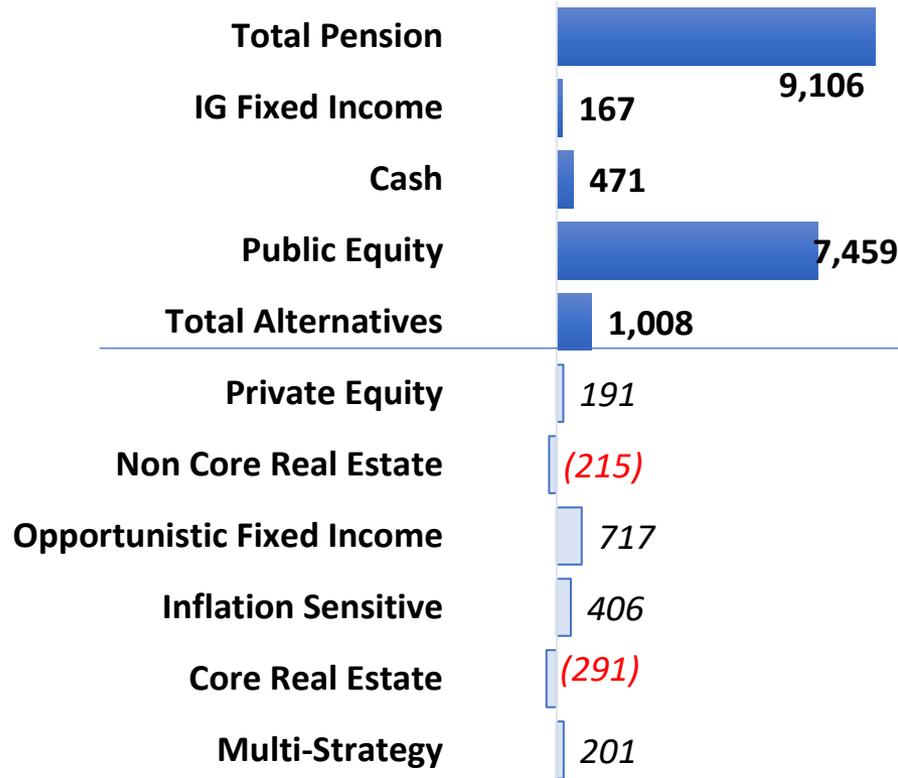
Long-Term Policy Benchmark is comprised of 56% MSCI ACWI IMI Net, 28% ICE BofA 5+ Years U.S. Treasury Index, 6.5% Bloomberg Commodity Index, 5% ICE BofA 3 Month Treasury Bill Index, and 4.5% ICE BofA 1-3 Years U.S. Inflation-Linked Treasury Index.



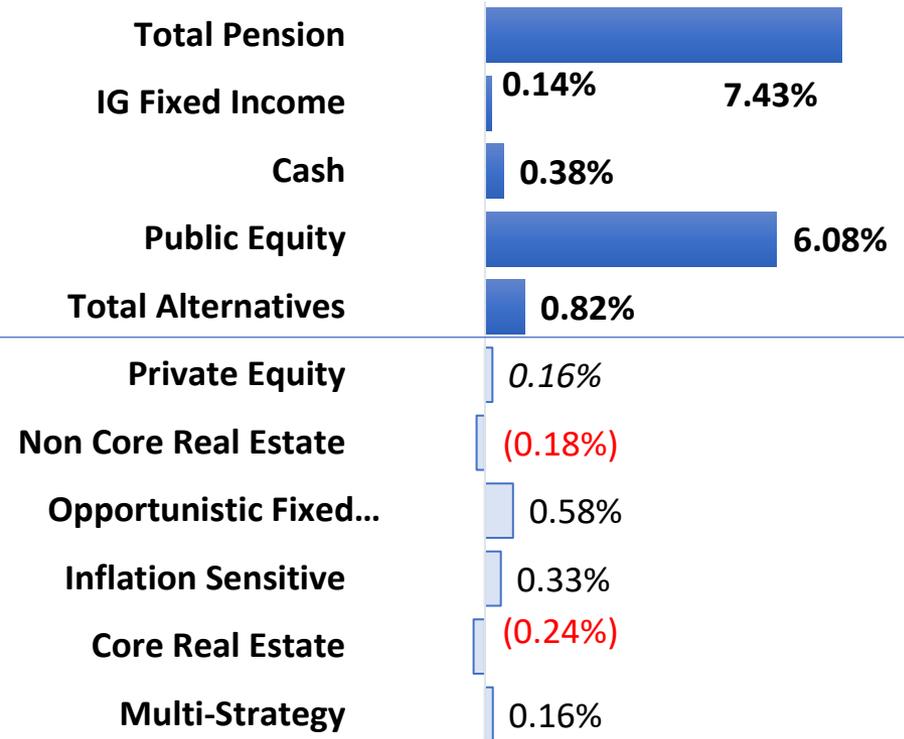
Estimated Contribution to Total Plan Return – 1 Year

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

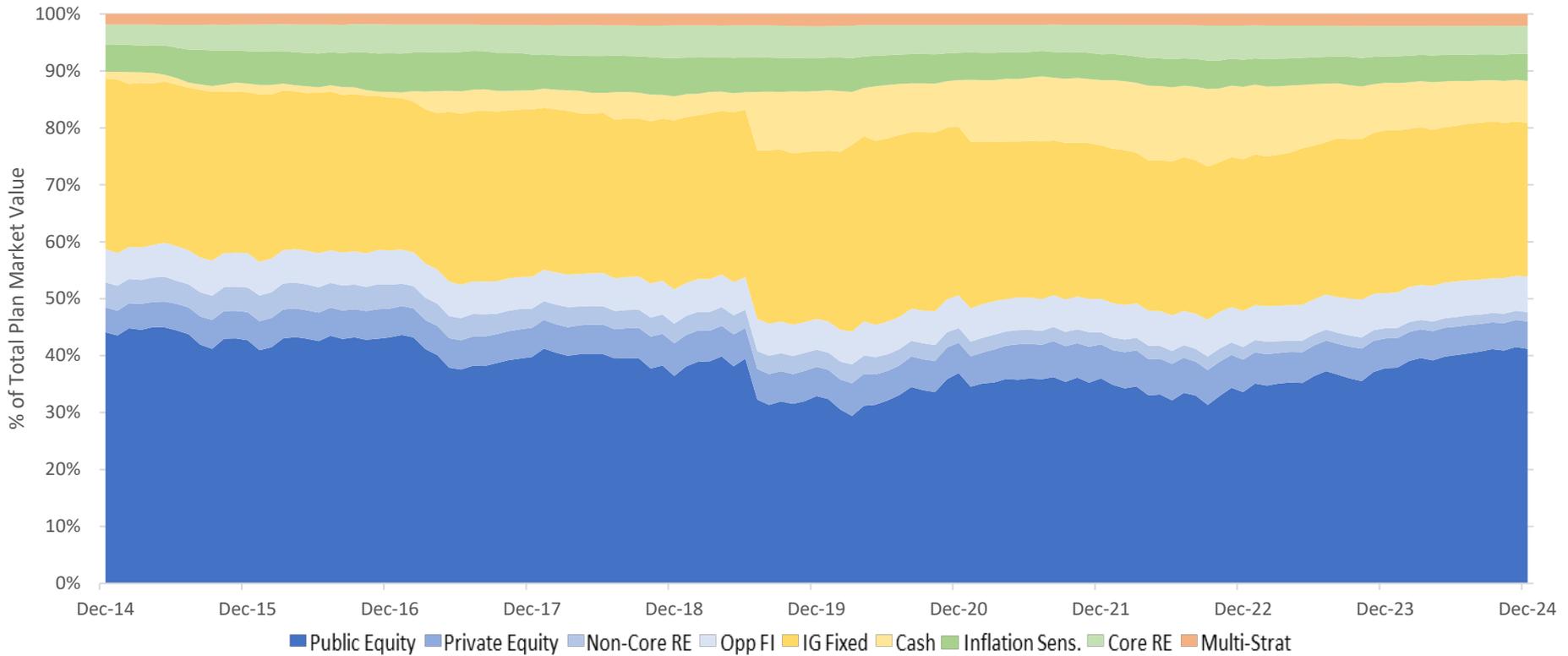
Attribution vs. Implementation Policy

	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

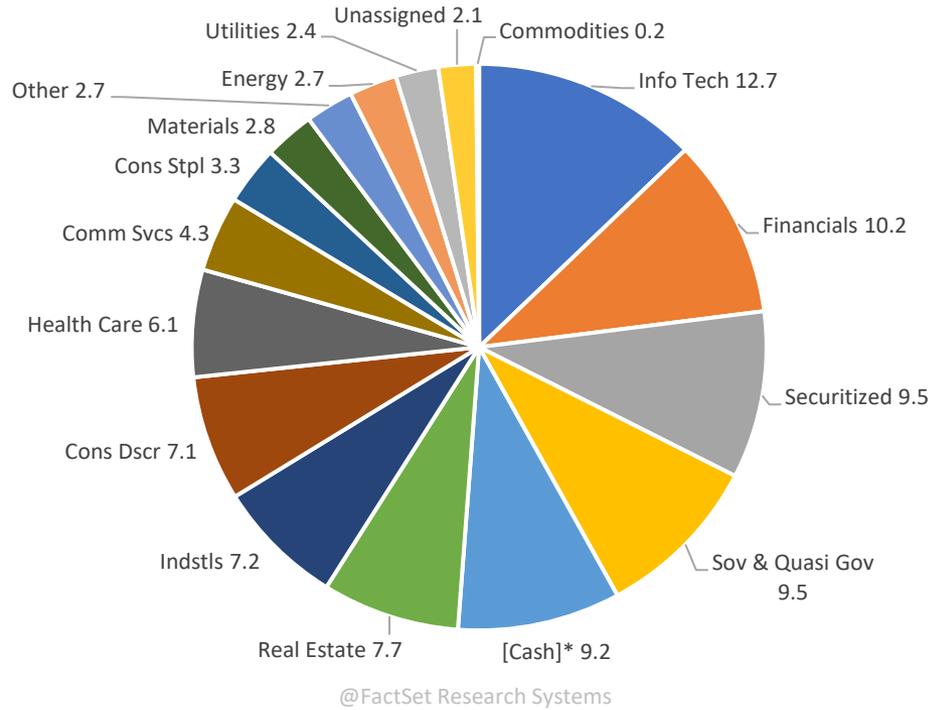
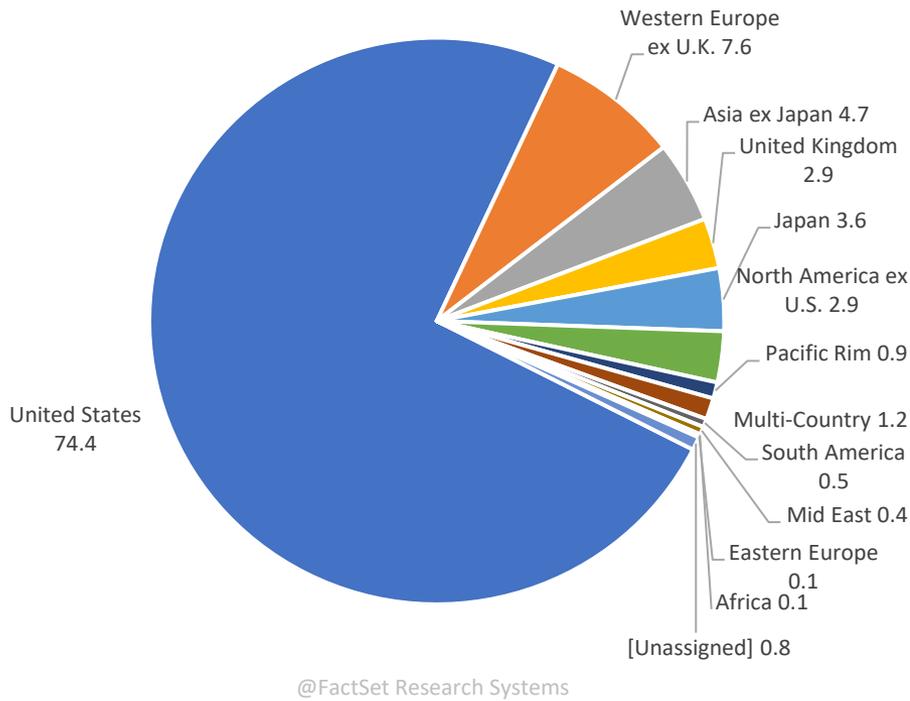


Asset Allocation History as of December 31, 2024





Portfolio Geographical and Sector Exposures



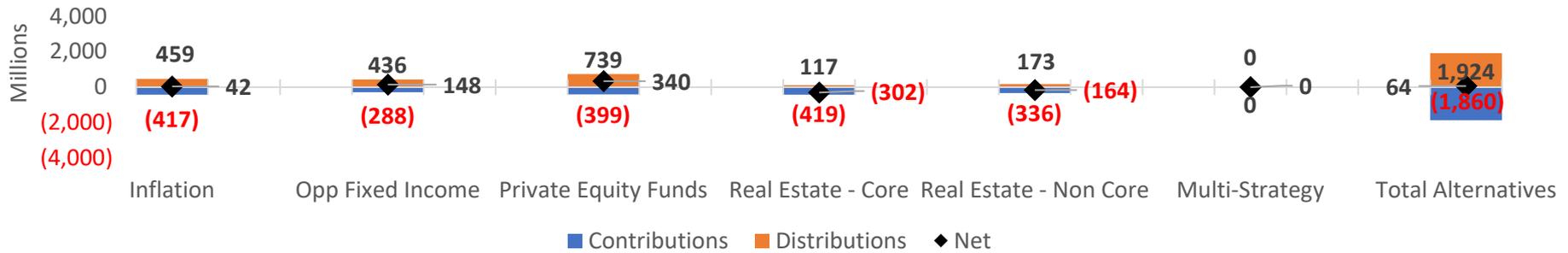
* This report is looking through the STIF account and classifying the underlying securities. [Cash] consists of money market funds, currency, liabilities and temporary cash entries.



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)

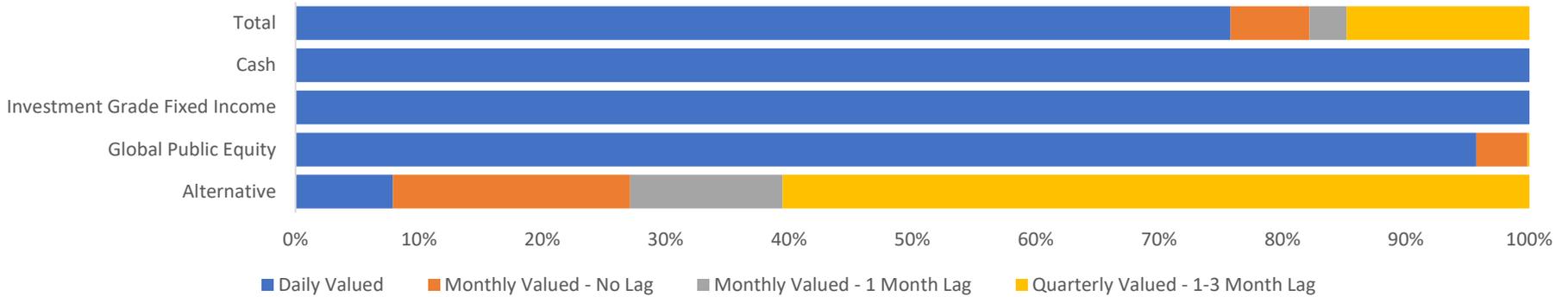




NCRS Valuation Lag Profile

As of December 31, 2024

PORTFOLIO VALUATION LAG



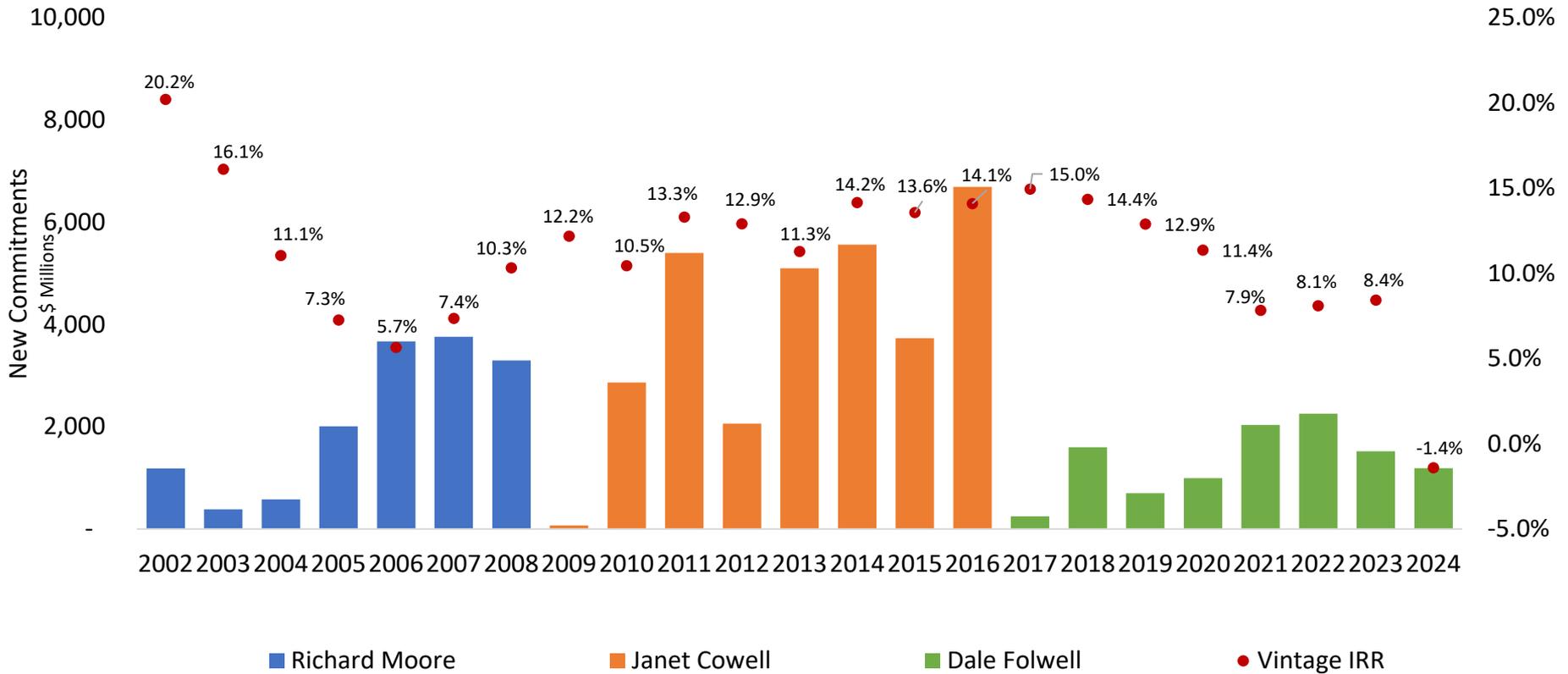
VALUATION LAG BY PORTFOLIO

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



Top 20 Investment Managers

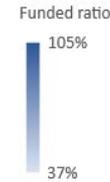
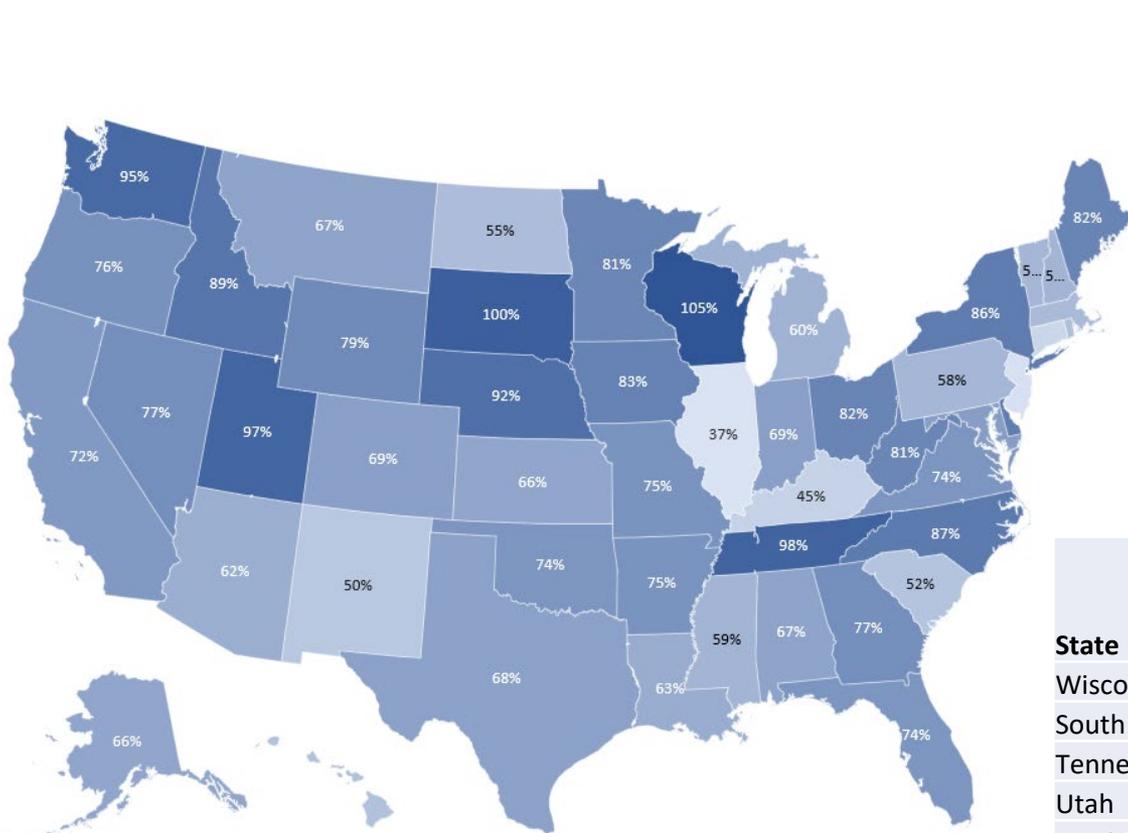
As of December 31, 2024

#	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%	

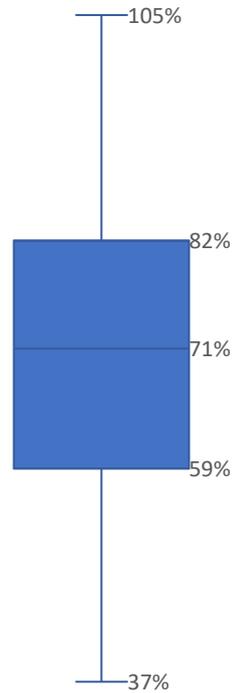
*Manager count consists of all manager accounts with a market value greater than \$5.0 million and new, not yet funded, accounts.



Funded Status Universe Comparison U.S. Public Funds



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%

Source: Pew Charitable Trusts & PublicPlansData.org, Data as of 2020



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

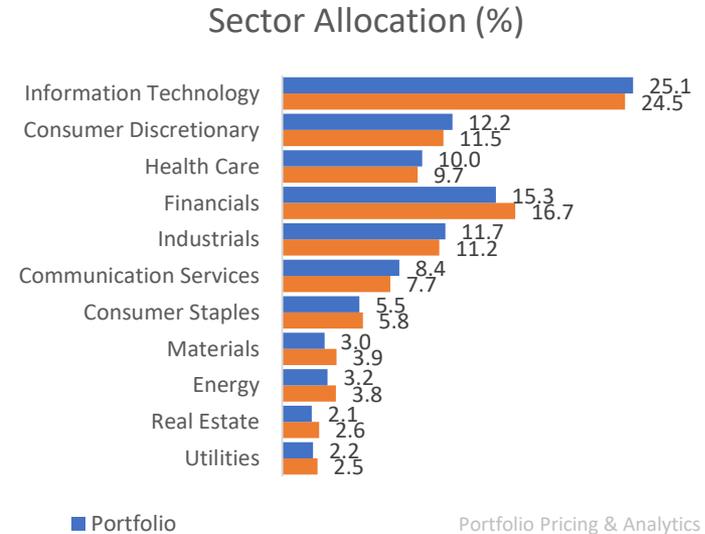
Non-US Custom Benchmark: As of October 2010, the Non U.S. Benchmark is the MSCI ACWI ex US IMI Net Index. Prior to October 2010, the Non-U.S. Benchmark was a blend of MSCI EAFE and MSCI Emerging Markets at policy weights. This data is also sourced from BNY Mellon



NCRS Public Equity Portfolio Characteristics

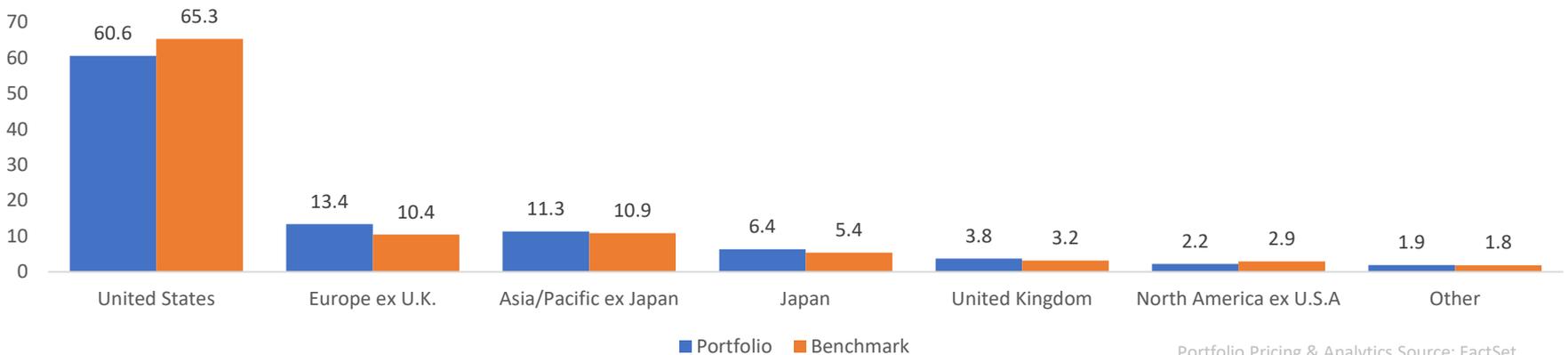
As of December 31, 2024

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%



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

Total Equity Regional Allocation



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

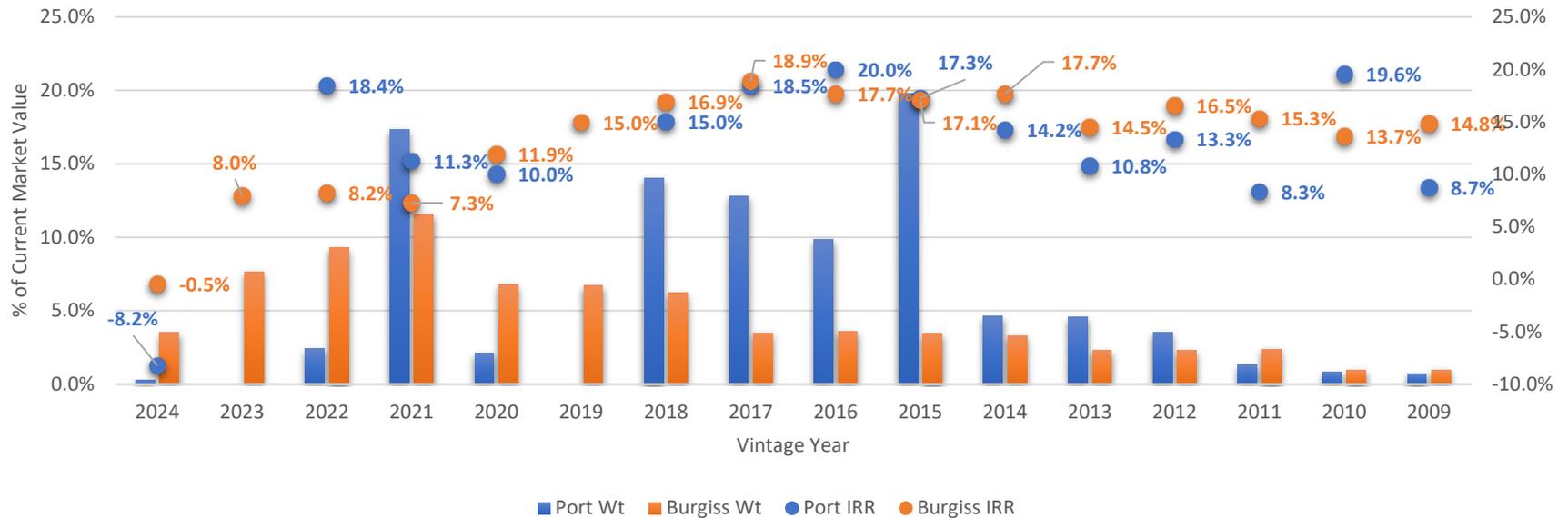


NCRS Private Equity Portfolio

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)



*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

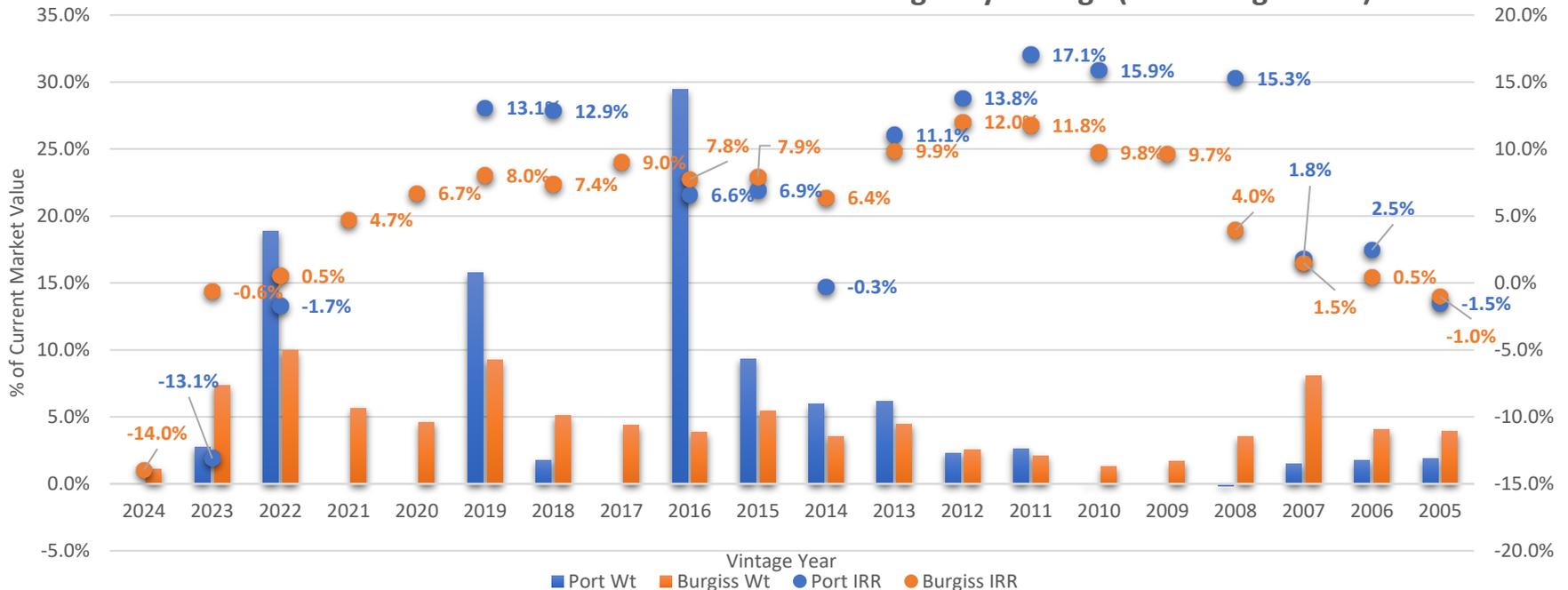
As of December 31, 2024

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 (%)

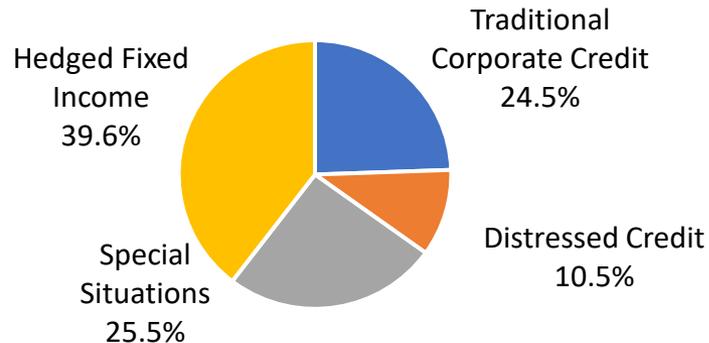
	Market Value	3 Month	1 Year	3 Years	5 Years	10 Years
Opportunistic Fixed Income	\$7,974	2.14	9.74	5.69	7.36	5.72
Benchmark ⁵		0.18	7.25	5.59	6.63	4.45

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

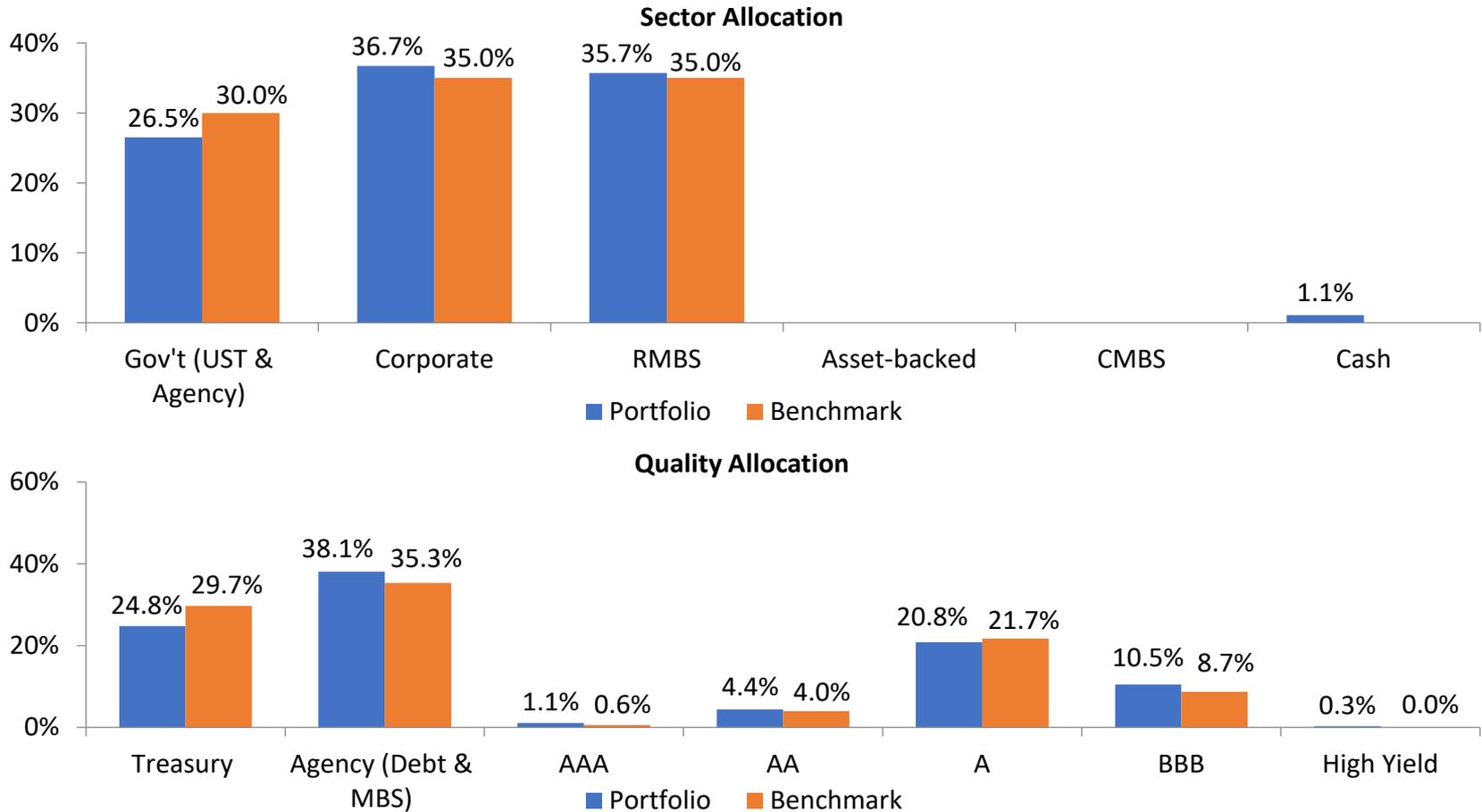
Core Fixed Income Portfolio Characteristics

	<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

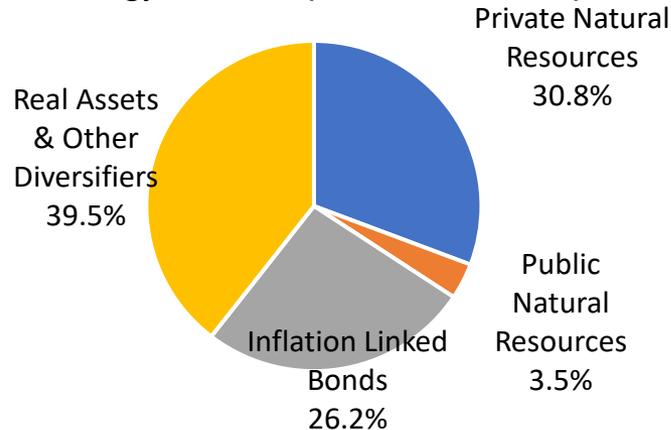
Net of Fees Performance (%)

	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 (%)

	Pre-2010	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
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

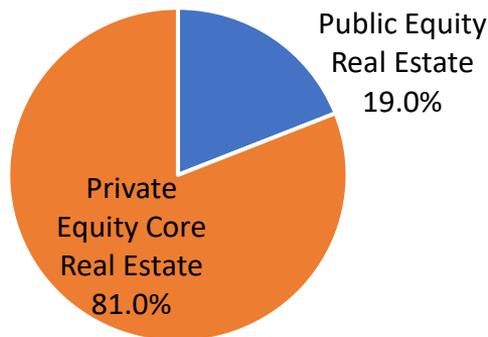
Net of Fees Performance (%)

	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

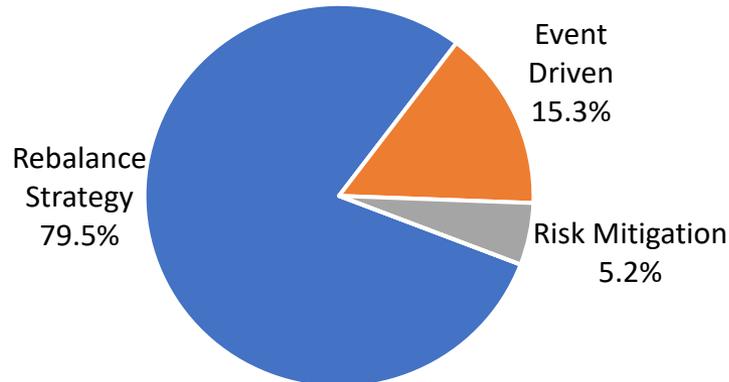


NCRS Multi-Strategy Portfolio

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 a 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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