

NORTH CAROLINA
DEPARTMENT OF STATE TREASURER



BRADFORD B. BRINER
STATE TREASURER OF NORTH CAROLINA

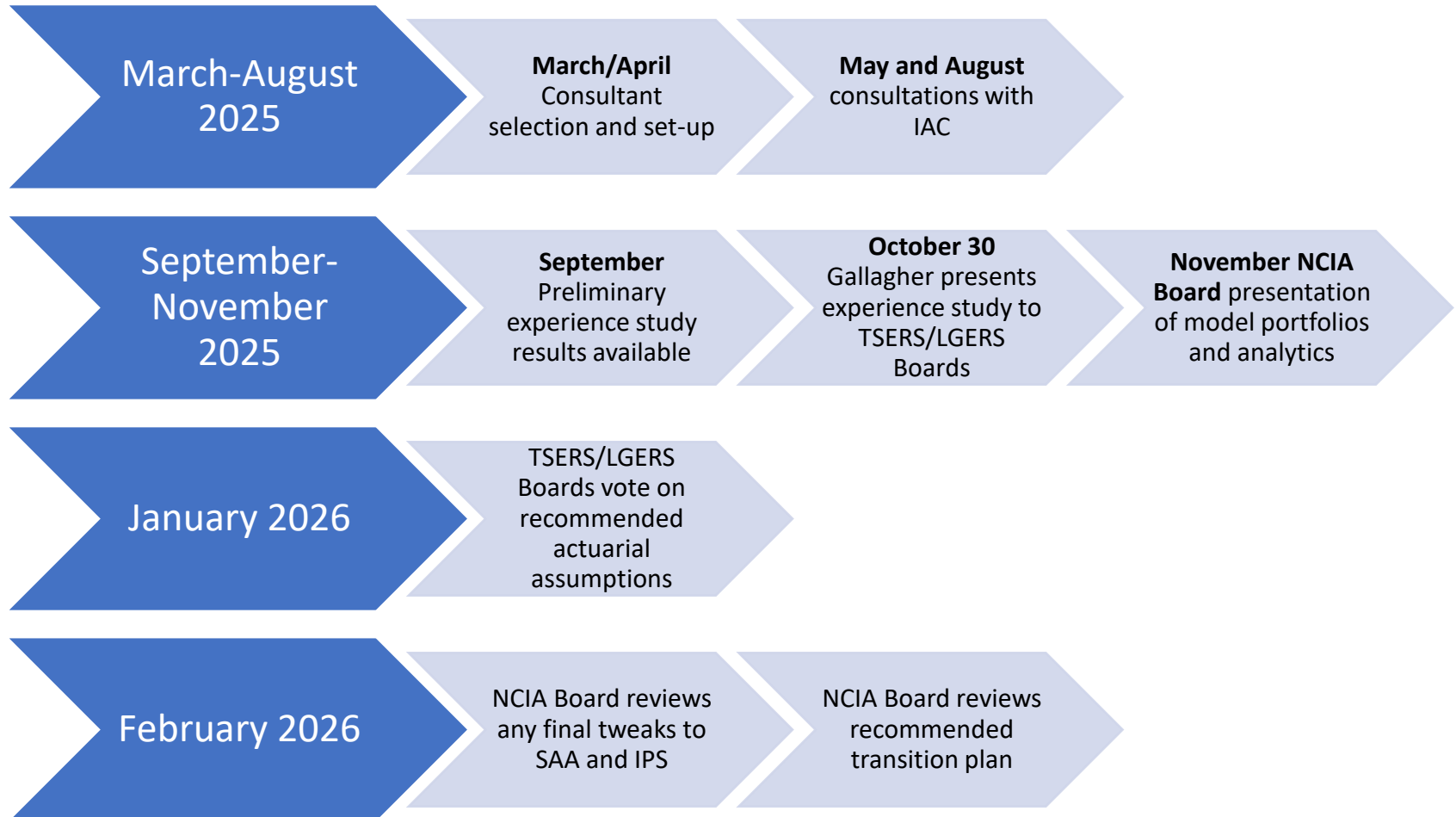
NCRS ALM Study Overview

Investment Advisory Committee

August 27, 2025

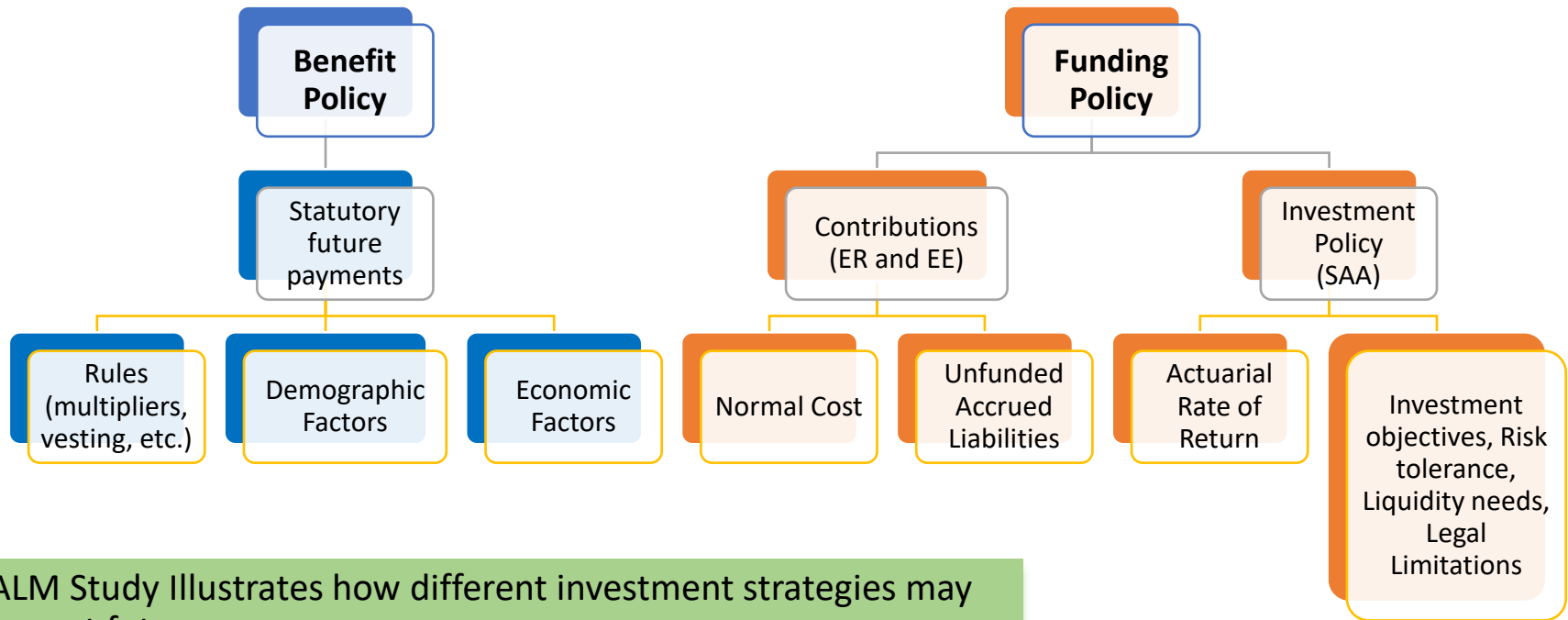


2025-26 NCRS ALM Study: Key Dates/Activities





ALM Study Helps to Align NCRS' Key Financial Drivers



ALM Study Illustrates how different investment strategies may impact future:

- Funded Ratios
- Contributions
- Retiree cost-of-living adjustments



NCRS Investment Objectives*

1. Providing investment returns sufficient for the Fund to make timely payment of statutory benefits to current and future members and keep contribution rates at a reasonable level over the long term. To achieve this, long-term projected investment returns shall be generally consistent with the actuarial assumed rate of return, unless otherwise determined by the Treasurer (Emphasis added)
2. Avoiding excessive volatility in contribution rates over the intermediate term by maintaining a moderate risk profile and diversifying with respect to economic and financial risk factors. It is acceptable to limit the use of return-seeking strategies in order to avoid excessive volatility
3. Achieving cost-efficiency in the overall investment program
4. Exceeding composite benchmark returns for the Fund and broad categories of investments within reasonable risk limits and over market cycles
5. Ensuring sufficient liquidity to meet the Fund's obligations over all time periods
6. Complying with all governing statutes and fiduciary obligations

* Source: Investment Policy Statement for North Carolina Retirement Systems, Effective March 1, 2025



NCRS Statutory Limits

(Applicable until December 31, 2025)

	Min	Max
Fixed Income & Cash	20.0%	100.00%
Public Equity	0.0%	65.0%
Public Equity LLP/LLC	0.0%	8.5%
Alternatives	0.0%	8.75%
Inflation Protection	0.0%	7.5%
Other Fixed Income	0.0%	7.5%
Real Estate	0.0%	10.0%
Aggregate Alternatives	0.0%	35.0%
Grand Total		



2025 State Investment Modernization Act

Updates Statutory Legal Limits

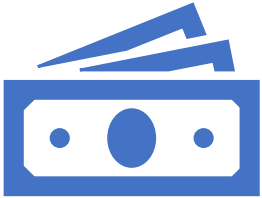
- Minimum of 20% in high quality bonds
- Maximum of 40% in illiquid investments

Updates Governance

- At least biennially, the NCIA Board of Directors approve an absolute risk operating range expressed in equity and debt allocation equivalency terms.
- The absolute risk operating range must meet **all of the following criteria**:
 - The range is deemed appropriate in seeking to maximize long-term returns.
 - The risk is not considered undue relative to other similarly situated U.S. public pension funds.
 - The Board of Directors take into consideration all of the factors affecting the funding of the Retirement Systems and each of the Retirement Systems' ability to meet its financial obligations.
- The Board of Directors use the absolute risk operating range to recommend investment return assumptions to:
 - Board of Trustees of the Local Governmental Retirement System and Board of Trustees of the Teachers' and State Employees' Retirement System.
 - Actuaries engaged to prepare annual actuarial valuations.



Defining Risk of Similarly Situated U.S. Public Pension Funds?



"Similarly Situated" Characteristics

Funded status

Size

Risk appetite

Inflation sensitivity of liabilities

Net benefit payments as percent of assets

Ratio of Actives to Annuitants & TV

Risk Dimensions

Equity/bond equivalence allocation

Volatility of returns

Equity beta and interest rate beta

Volatility of funded ratio and contribution rates

Illiquidity



Key Areas of Focus in the ALM Study

- Separately model TSERS and LGERS
- Map all asset classes into equity and debt allocation equivalency terms
- Reassess the structure of several asset classes (and benchmarks)
 - Target duration for Rates and Liquidity
 - Opportunistic Fixed Income versus Credit (i.e., all non-investment grade public and private credit)
 - Real Estate
 - Inflation Sensitive versus Real Assets (i.e., Infrastructure, Natural Resources, and Agriculture)
- Identify “Candidate Portfolios” using investment judgment and measure effectiveness against optimized portfolios
- Sensitivity Analysis of “Candidate Portfolios”
 - Bull/Bear market environments, inflation/stagflation scenarios
 - Length of UAL amortization period
 - Retiree cost-of-living adjustments



Analysis of Trade Offs will Guide the Recommendations

Opportunity Metric	Risk Metrics
➤ Funded ratio	➤ Volatility, CVAR, Asset / Factor contribution analysis to surplus risk
➤ Employer contribution rates	➤ Volatility, CVAR
➤ Ultimate Net Cost	➤ CVAR
➤ Total returns	➤ Volatility, CVAR, Sharpe Ratio
➤ Liquidity scoring	➤ CVAR
➤ Market "betas"	

Analysis will consider intermediate and longer-term horizons: 5-, 10-, 20-, 30-years

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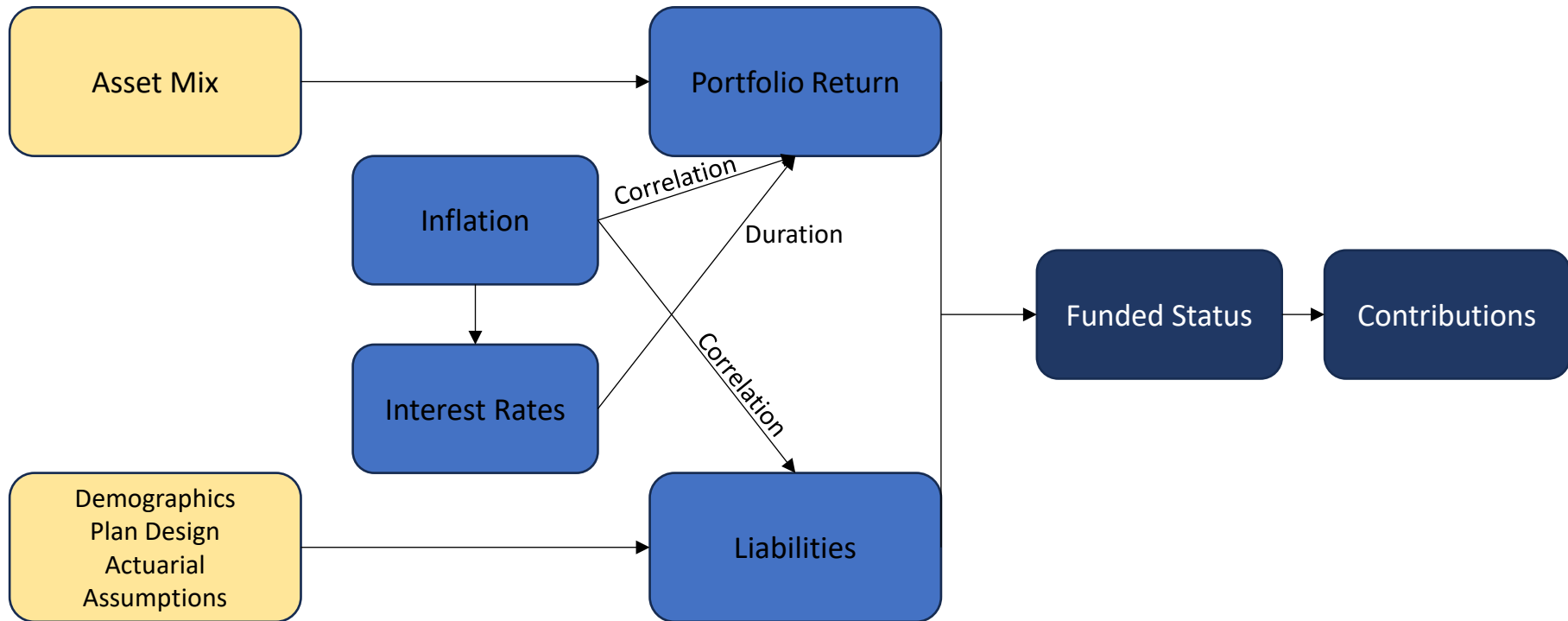
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Investment Management Division

Appendix



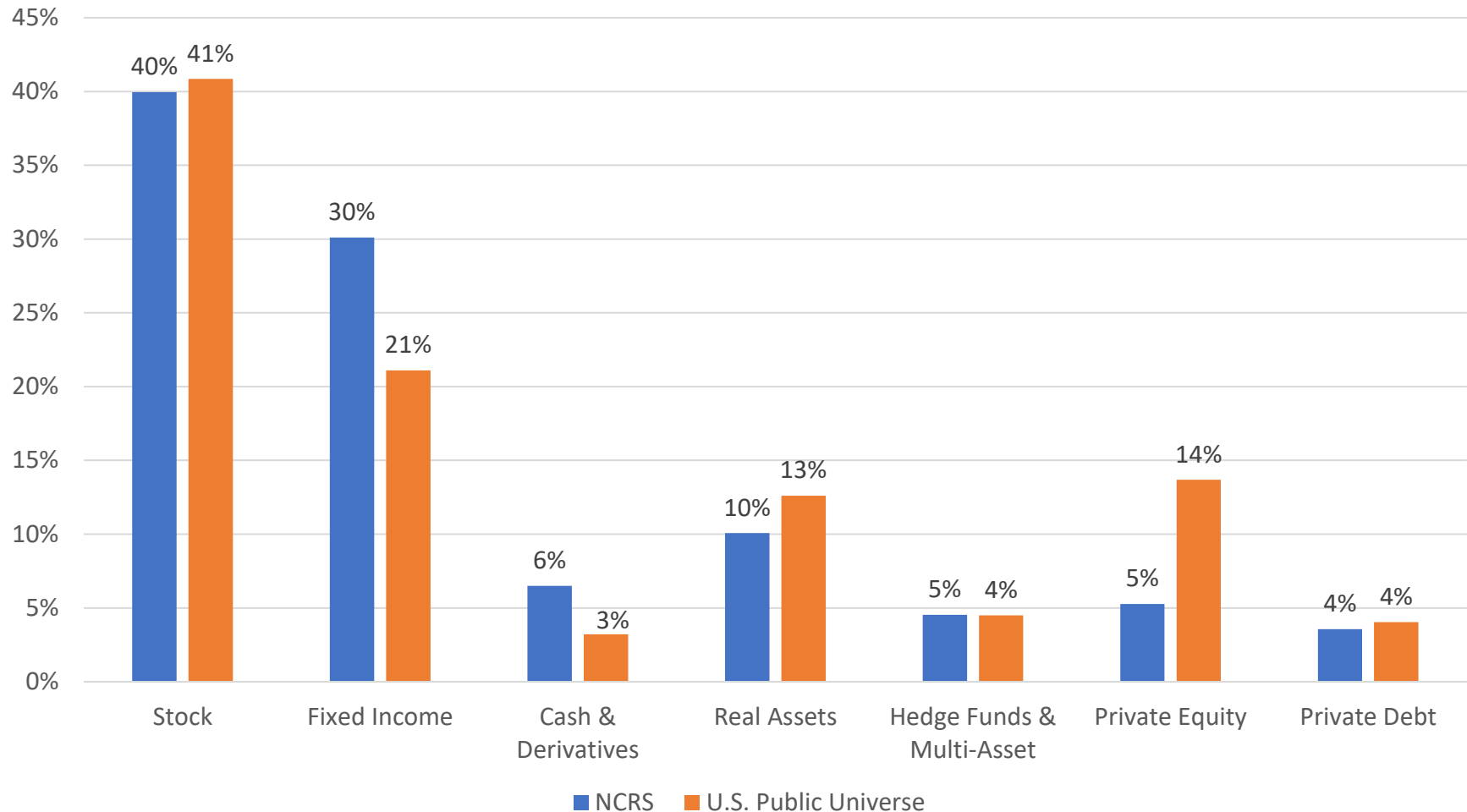
Mechanical Relationships in an ALM Study



- The expected investment return is used as the discount rate for valuations (“actuarial assumed rate of return”)
- After the strategic asset allocation is set, then the actuarial assumed rate of return is determined



Peer Comparison – Actual Weight



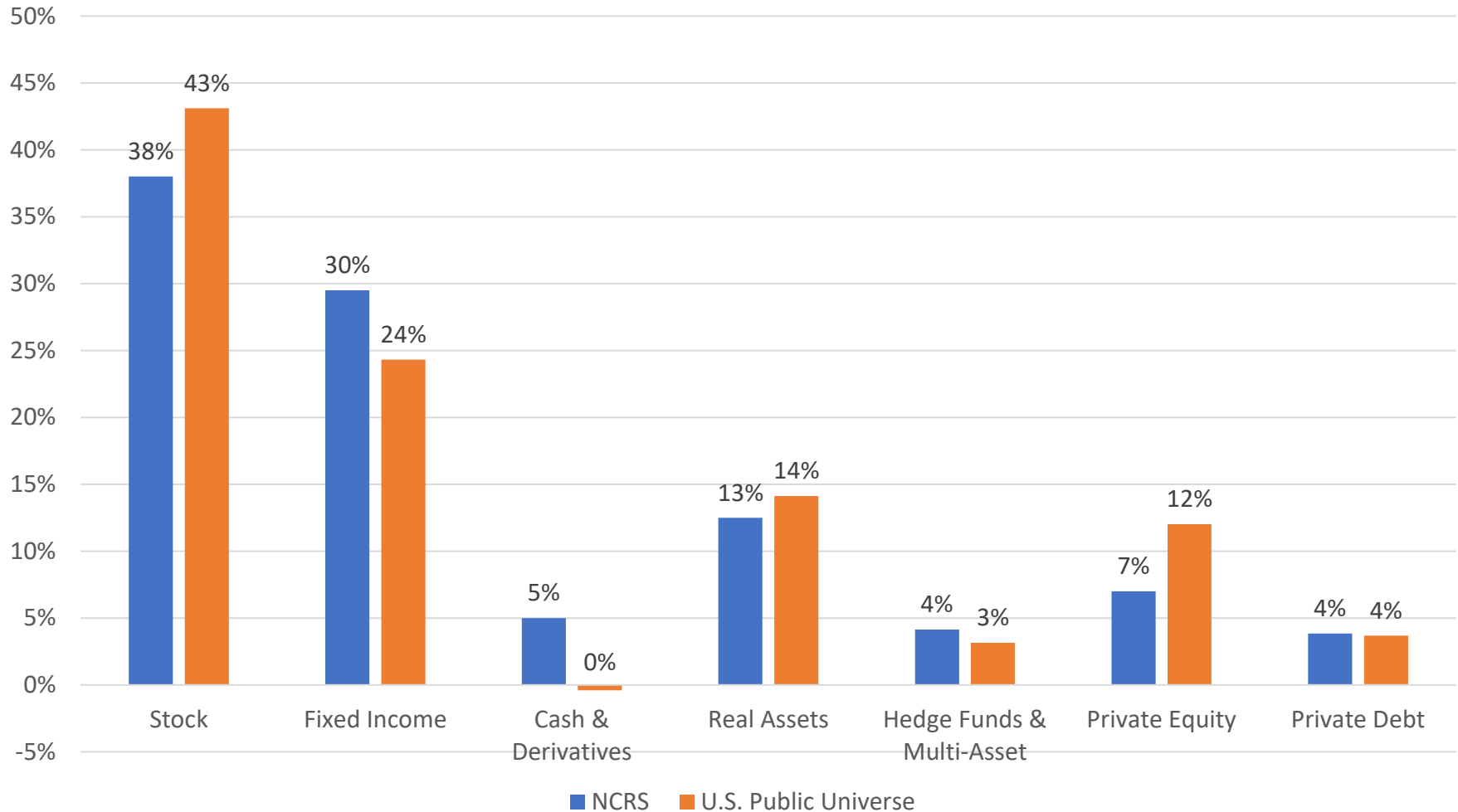
Note: U.S. Public Universe Fixed Income allocation includes 5% in Non-U.S., Global, High Yield, and Other

Note: NCRS Fixed Income allocation includes a 10% strategic allocation to cash

Source: CEM Preliminary 2024 U.S. Public Universe Asset Mix, % of Average Assets



Peer Comparison – Policy Weight



Note: U.S. Public Universe Fixed Income allocation includes 5% in Non-U.S., Global, High Yield, and Other

Note: NCRS Fixed Income allocation includes a 10% strategic allocation to cash

Source: CEM Preliminary 2024 U.S. Public Universe Policy Weight

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