



Investment Advisory Committee (IAC) Meeting

**Wednesday, 8/12/2026
9:00 AM - 12:30 PM ET**

1. Approval of Minutes (April 8, 2026)

IAC Meeting Minutes 04082026 FINAL - Page 2

2. CIO Report

CIO Report - August 2026 - Page 5

Combined Quarterly Reports - QE June 2026, 081126 - Page 17

3. Portfolio Solutions Group Review

1. PSG Overview 2026 08 (1)081026 - Page 32

2. Risk Management 2026 08 - Page 36

3. Treasury 2026 08 - Page 48

4. Diversifying Strategies 2026 08 - Page 67

5. EMP 2026 08 - Page 79

4. Capital Market Assumptions and Scenario Analysis

CMAs and Scenario Analysis 2026 08 (1) - Page 90

Minutes

A meeting of the Investment Advisory Committee of the Virginia Retirement System was held on April 8, 2026 with the following members present:

Larry Kochard
Eric Baggesen
Theodore Economou, joined remotely under § 2.2-3708.3(B)(3)
Palmer Garson
Thomas Gayner
Nancy Leake, joined remotely under § 2.2-3708.3(B)(1)
Bryan Lewis, joined remotely under § 2.2-3708.3(B)(4)
Rod Smyth
Hance West

The following Board members were present:

Scott Andrews (remote)
John Bennett (remote)
Lawrence Bernert (remote)
Clifford Foster
Jessica Hood
William Leighty

The following staff members were in attendance:

Trish Bishop, Andrew Junkin, Chung Ma, Stephen Adelaar, Advait Apte, Rory Badura, Parham Behrooz, Brock Bell, Matthew Bennett, Ty Bowers, Ryan Carlson, Perry Corsello, Sara Denson, Curtis Doughtie, Kenji Epling, Laurie Fennell, Laura Fields, Josh Fox, Holly Glass, Katherine Grawe, JT Grier, Mehtab Haleem, Dane Honrado, K.C. Howell, Sandy Jack, Ross Kasarda, Mengting Kim, Matt Lacy, Vu Le, Jennifer MacKnight, Curt Mattson, Kidus Molla, Teresa Nguyen, Walker Noland, Greg Oliff, Daniel Schlusser, Jenny Schoeller, Jennifer Schreck, Kristy Scott, Michael Scott, Joe Shaver, Richard Slate, Virginia Sowers, Larry Tentor, and Korey Turner.

Also in attendance was Lauren Albanese with Financial Investment News; John Baload and Darren Millard of With Intelligence; Doston Bradley of Cerberus Capital; Thomas Cosmer of PineBridge; Julia Dunton, Mitchell King, and AK Ray of Blackrock; Jacob Hodges with Encore; Kimberly Sarte with JLARC; Michael Siciliano of Principal; and Yu Sun and Sabrina Ticer-Wurr with the Financial Times.

Mr. Kochard called the meeting to order at 9:00 a.m.

Mr. Kochard took a roll call of each Committee member for attendance purposes:

Mr. Baggesen - present
Mr. Economou – present
Ms. Garson – present
Mr. Gayner - present
Ms. Leake – present
Mr. Lewis – present
Mr. Smyth – present
Mr. West – present
Mr. Kochard – present

Mr. Kochard reminded attendees that no public comments will be received by the IAC at this meeting. Any member of the audience who disrupts the meeting and is unwilling to comply with the Committee's rules related to the conduct of its business will be asked to leave the room. The IAC encourages any member of the public who wishes to submit comments to do so in writing. All written comments submitted to the IAC will be reviewed by the Committee, Board or VRS staff, as appropriate.

Minutes

A motion was made by Mr. Gayner and seconded by Ms. Garson to approve the minutes from the November 5, 2025 Committee meeting. The motion was unanimously approved.

CIO Report

Mr. Junkin began his report with a market overview. Mr. Junkin then discussed the total fund performance and asset allocation. Last, Mr. Junkin reviewed the New Investments and Terminations Report.

Discussion on Possible Benchmark Changes

Mr. Mootz gave a presentation of benchmark recommendations. A review of current investment benchmarks, a discussion of proposed enhancements and a review from Mercer, our independent consultant, was provided to the committee. Mercer will present the review at the April Board meeting. The IAC agreed with the proposed benchmark changes.

Portfolio Diversification and Asset Allocation Update

Mr. Ma provided a Portfolio Diversification Update. Leverage has been successfully running since January 2024. Staff presented a proposal for adjusting asset allocation target weights in line with the long-term plan

previously adopted by the board. The IAC was comfortable with the proposed changes.

Public Markets Program Review and Roundtable

Mr. Grier discussed the agenda for the public markets program reviews and provided a general overview of the Fixed Income, Internal Equity, and Public Equity programs.

Mr. Schlussler and Mr. Whitlock provided a review of the Public and Internal Equity programs. The presentation included asset allocation as of January 31, 2026, portfolio changes, market review and results, and an update on the DIME managers. The review concluded with an opportunistic look forward as they remain a liquidity source for the plan.

Mr. Oliff and Mr. Behrooz provided a review of the Fixed Income program including a look at the current team, overviews of asset allocation, philosophy, the markets, portfolio characteristics, and results for the period ending January 31, 2026. Fixed Income's future focuses on implementing a long-term vision for the program, while actively finding ways to collaborate across teams to add value to VRS.

Mr. Lewis left the meeting at 11:00 a.m.

The Public Markets Team hosted a roundtable discussion with IAC members covering topics including the impacts of AI on public markets, interest rate outlook, and monetary impacts on equity markets.

The Committee members engaged in general discussion throughout the reviews provided.

Foreign Adversaries Update

Andrew Junkin concluded the meeting by providing an update on the investment team's work toward mitigating investment exposure to those countries who have been designated as foreign adversaries by the Office of the Secretary of Commerce.

Adjournment

Mr. Smyth made a motion to adjourn the meeting. Ms. Garson seconded the motion. Mr. Kochard asked for the Committee members to vote on the motion, and the motion was unanimously approved.

The meeting was adjourned at 11:54 a.m.

Larry Kochard, Chairperson



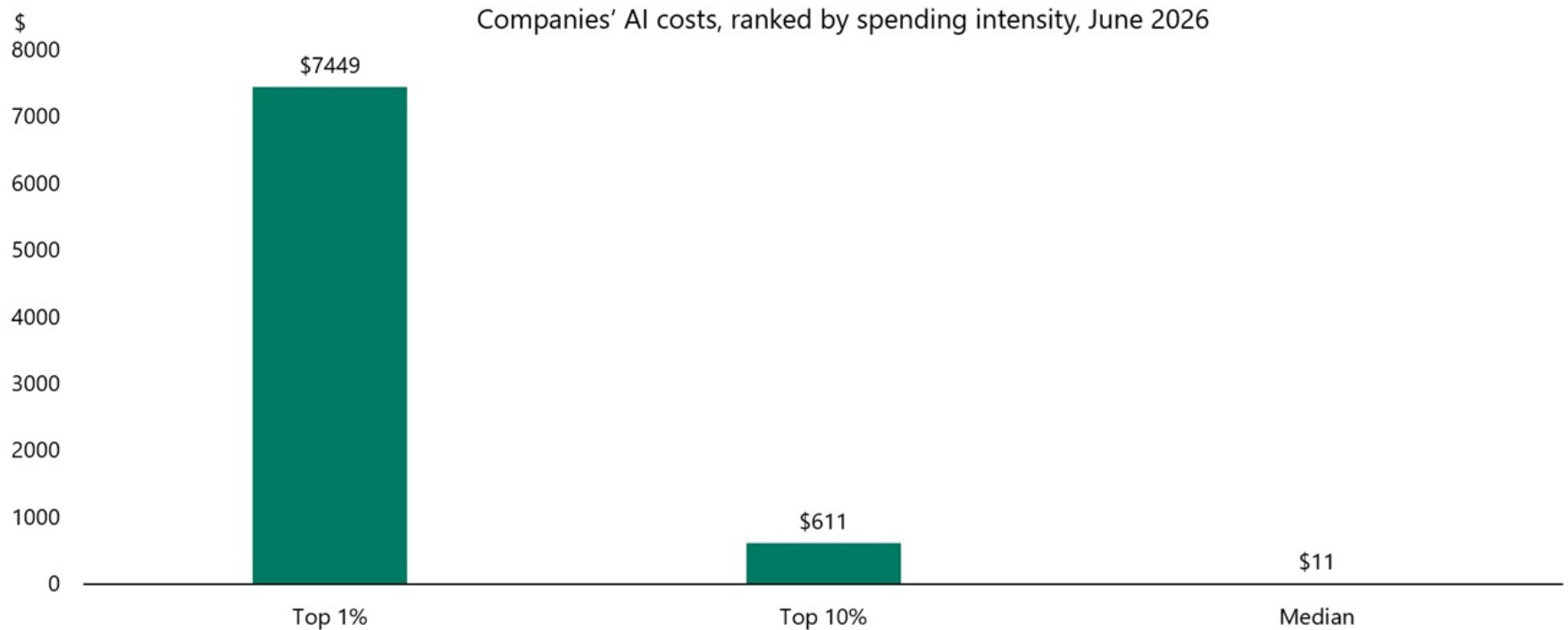
Chief Investment Officer Report

Market Review – August 2026
Andrew Junkin

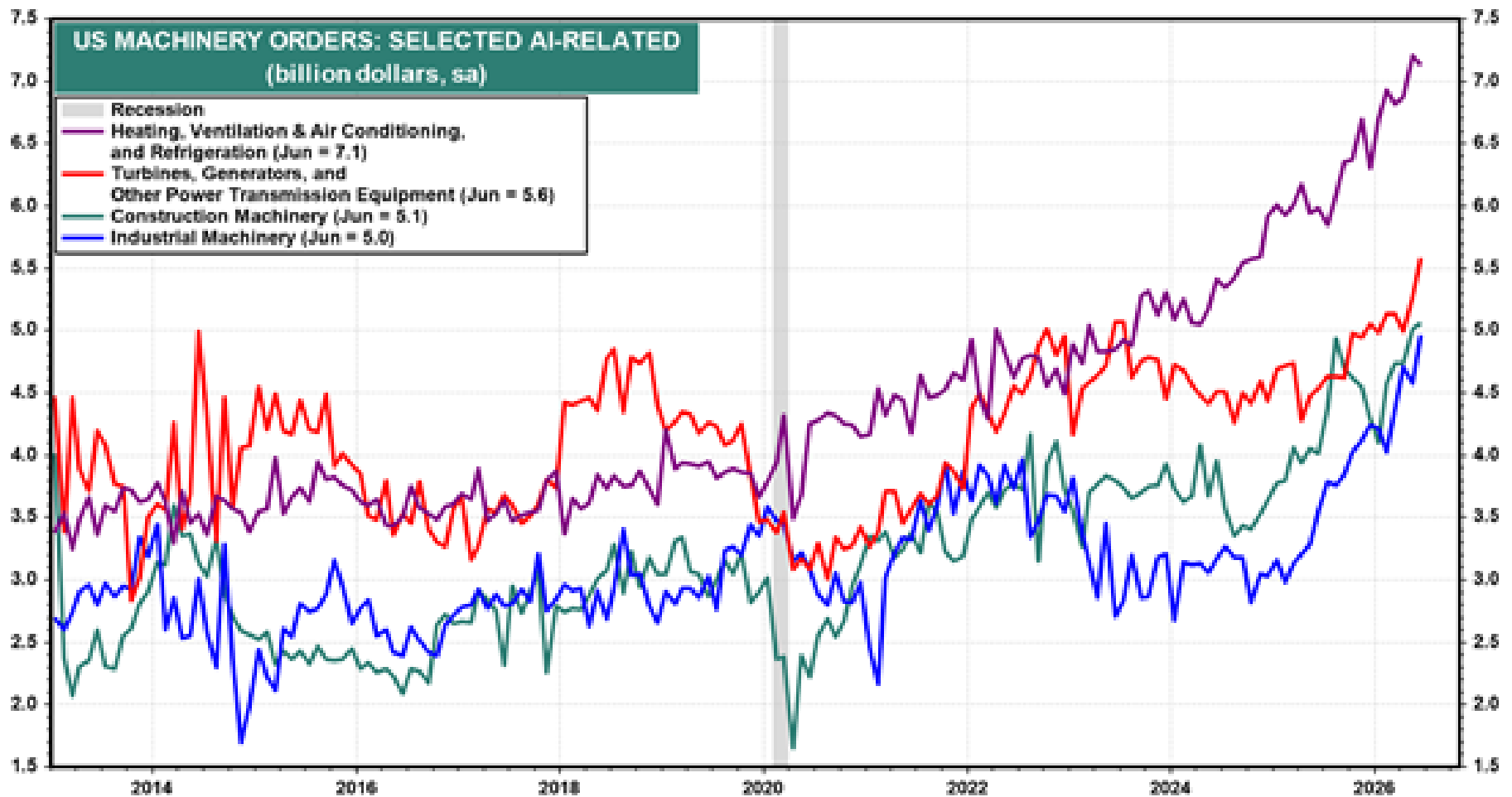
AI Usage

APOLLO

Monthly corporate AI spend per employee, top vs. median spenders



Picks and Shovels Demand Growing

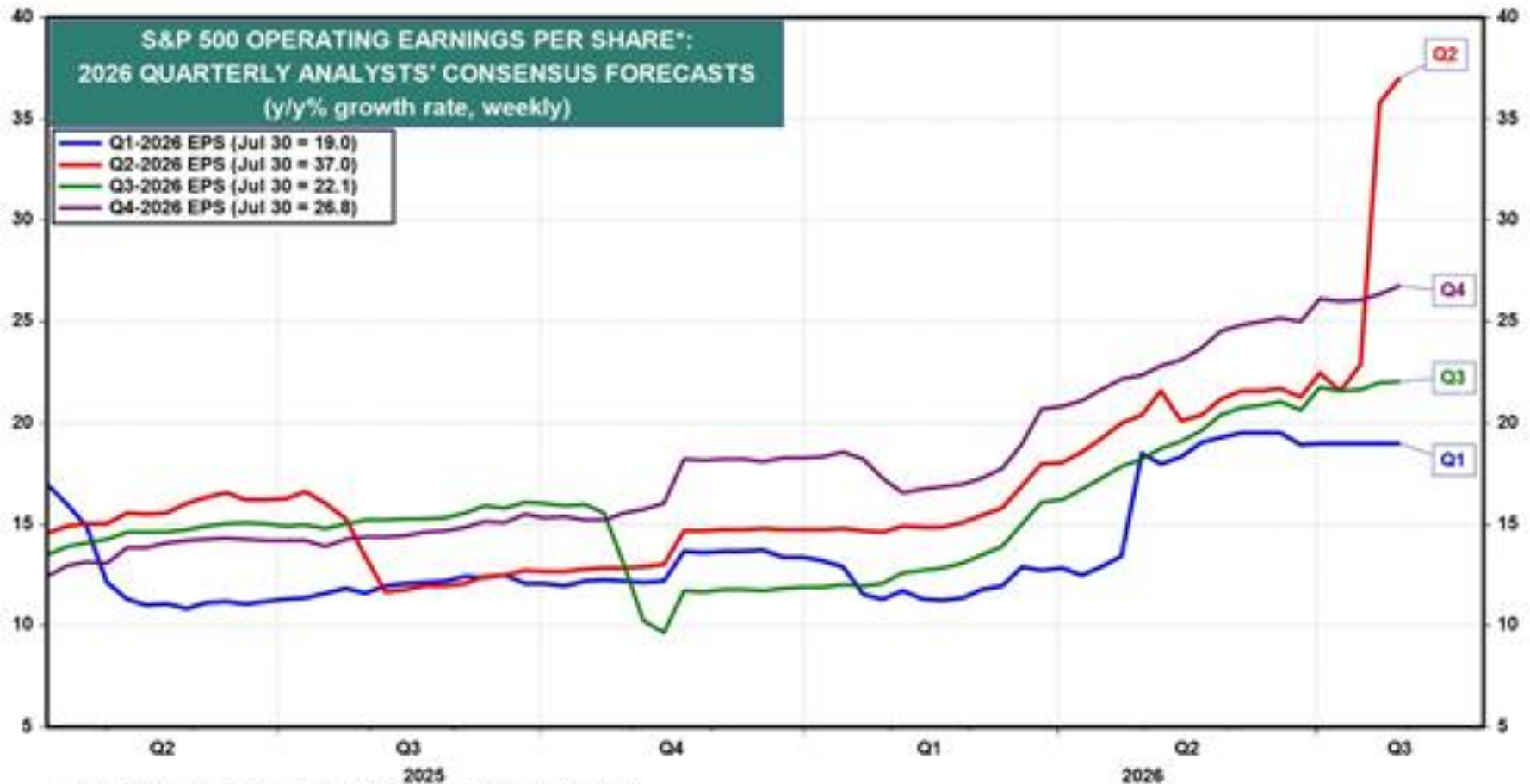


Source: LSEG Datastream and © Yardeni Research.

Tech Sector Looking Less Expensive



Q2 Earnings Spike



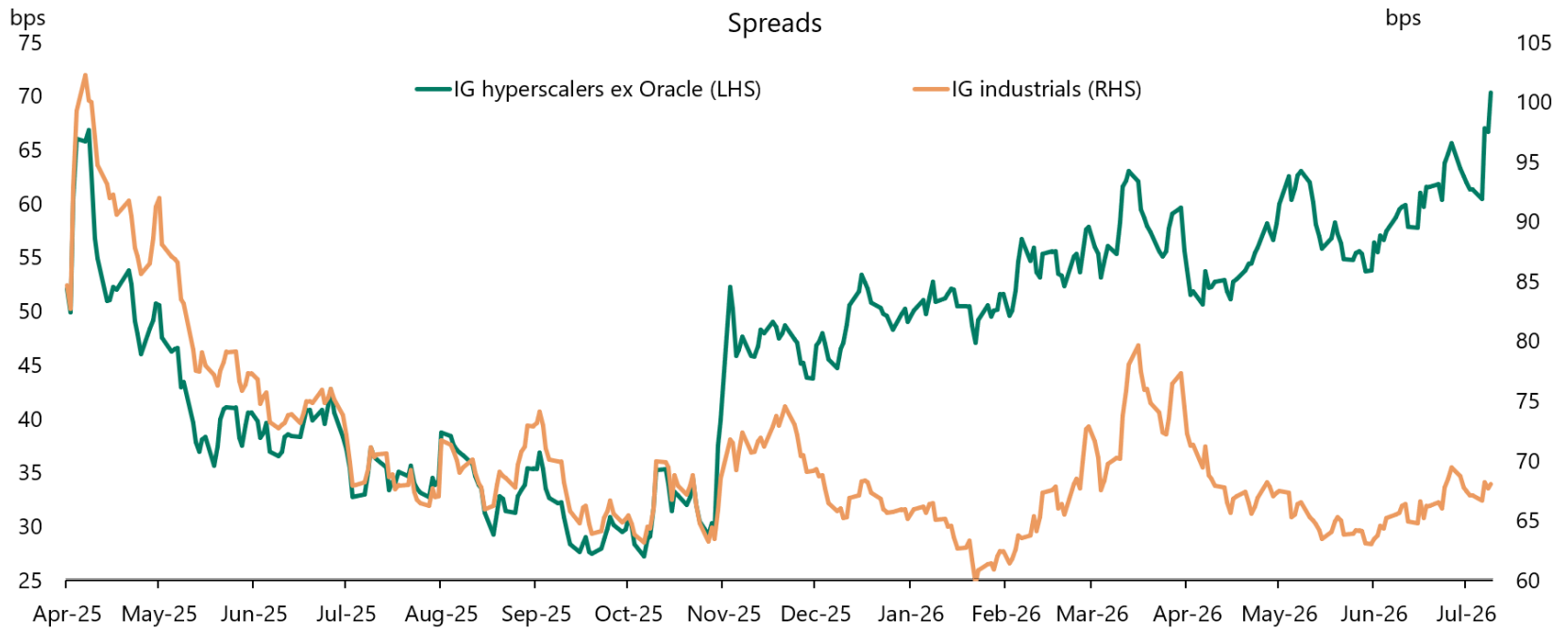
Source: LSEG Datastream and © Yardeni Research. LSEG I/B/E/S.

* Growth rates compare current members of the S&P 500 with members in the index a year earlier (apples-to-oranges comparisons).

IG Credit Markets Evolving

APOLLO

IG hyperscaler spreads steadily trending wider



Long Rates Higher

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Long rates moving higher because of inflation, fiscal problems and hyperscaler issuance

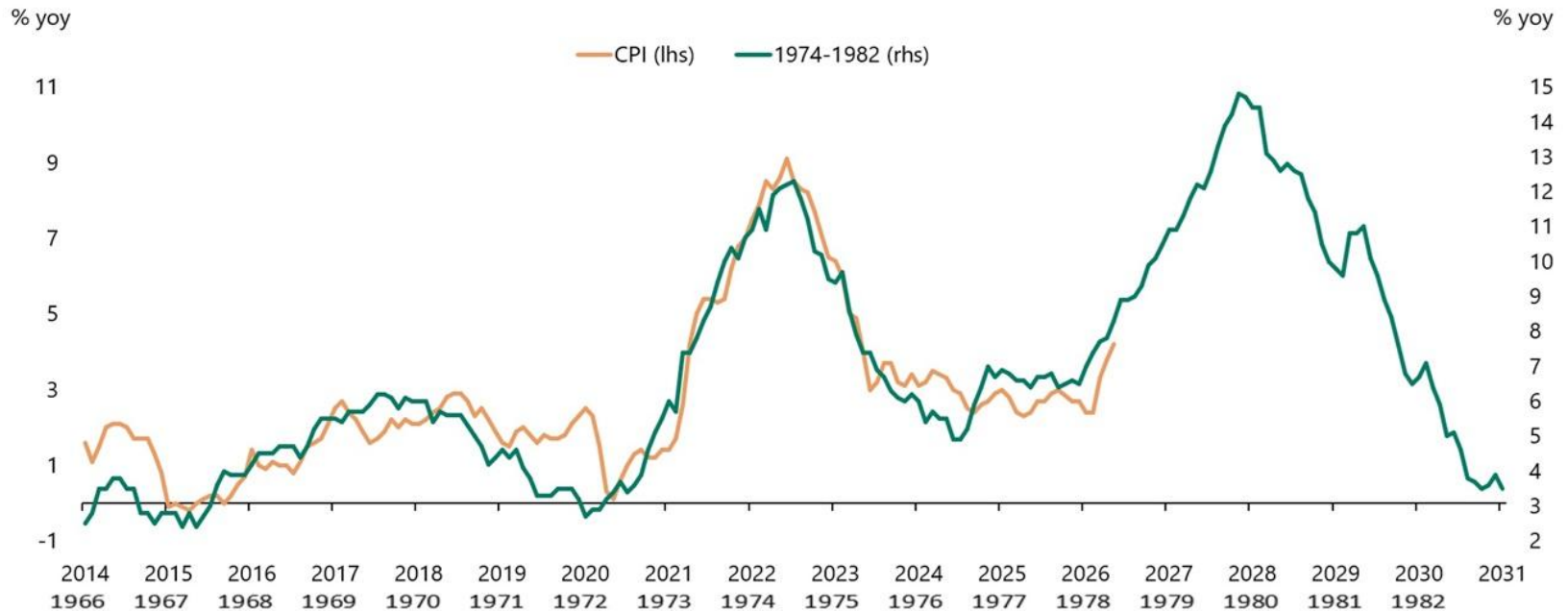


Sources: US Department of Treasury, Macrobond, Apollo Chief Economist

Inflation: Now and Then

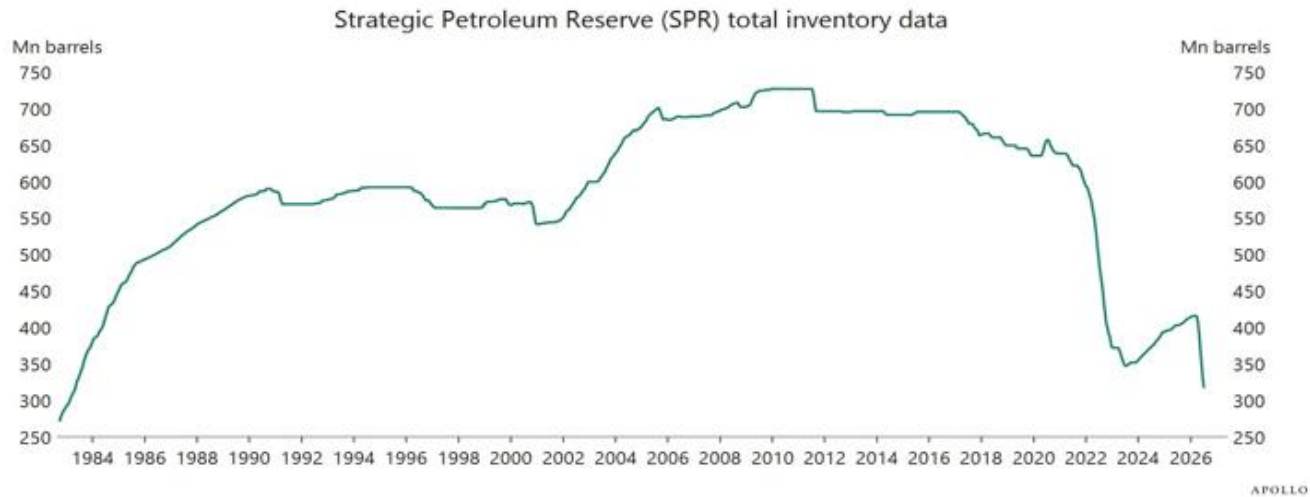
APOLLO

Comparing inflation today with the 1970s

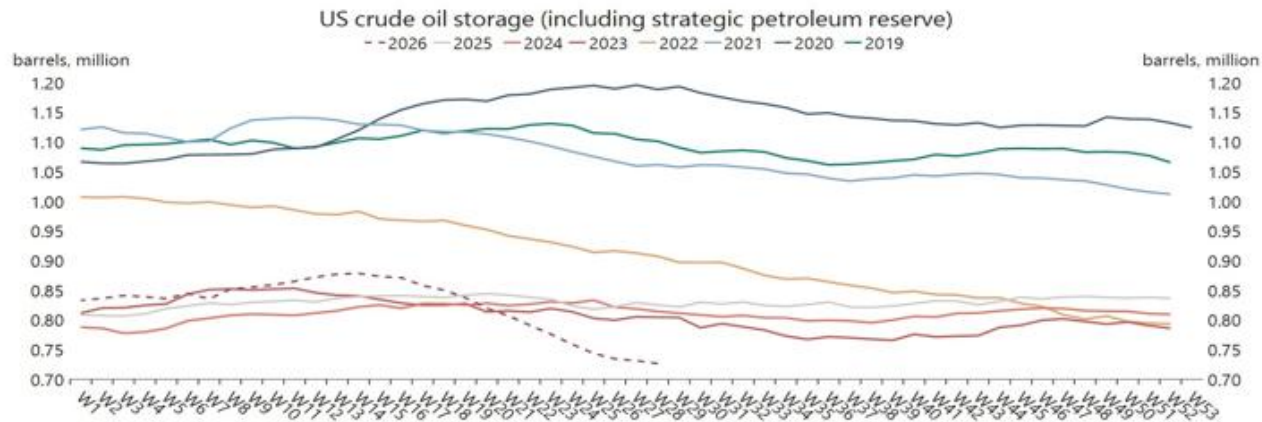


Oil Inventories at Critical Levels

SPR inventory at low levels



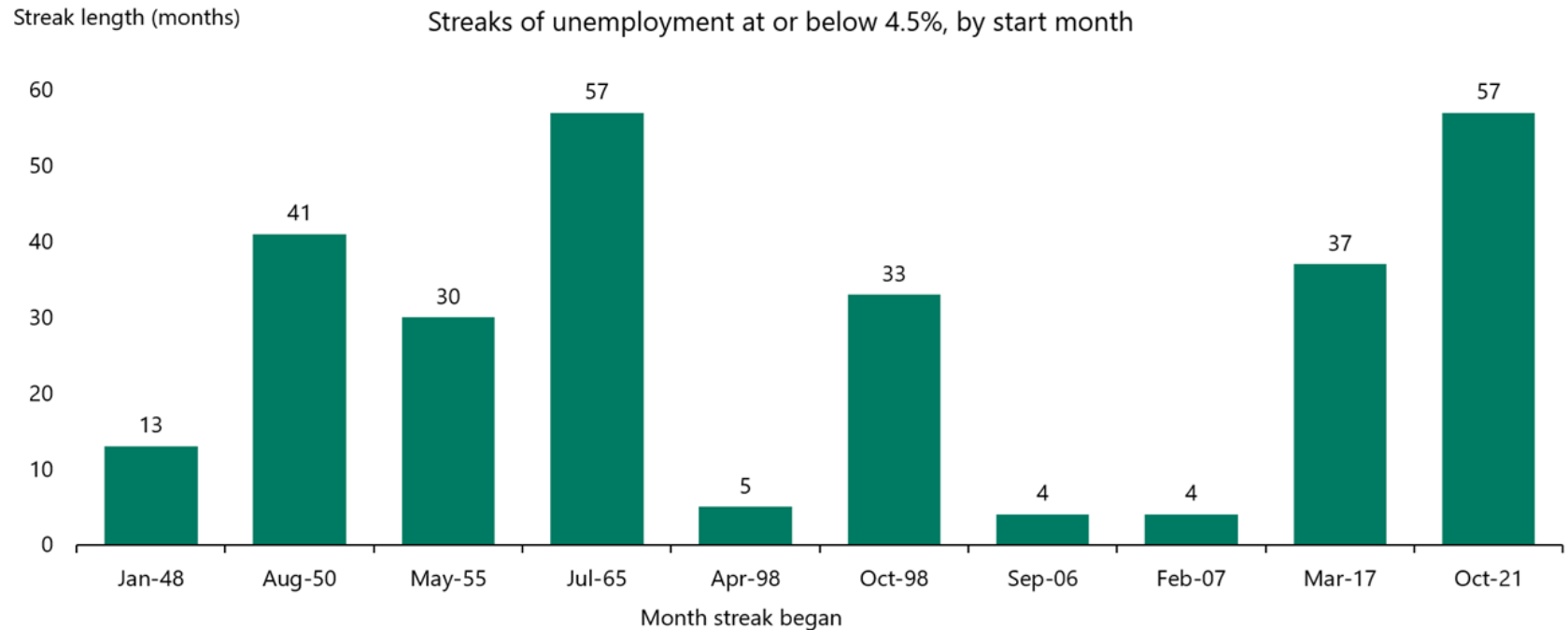
US crude oil storage including SPR at low levels



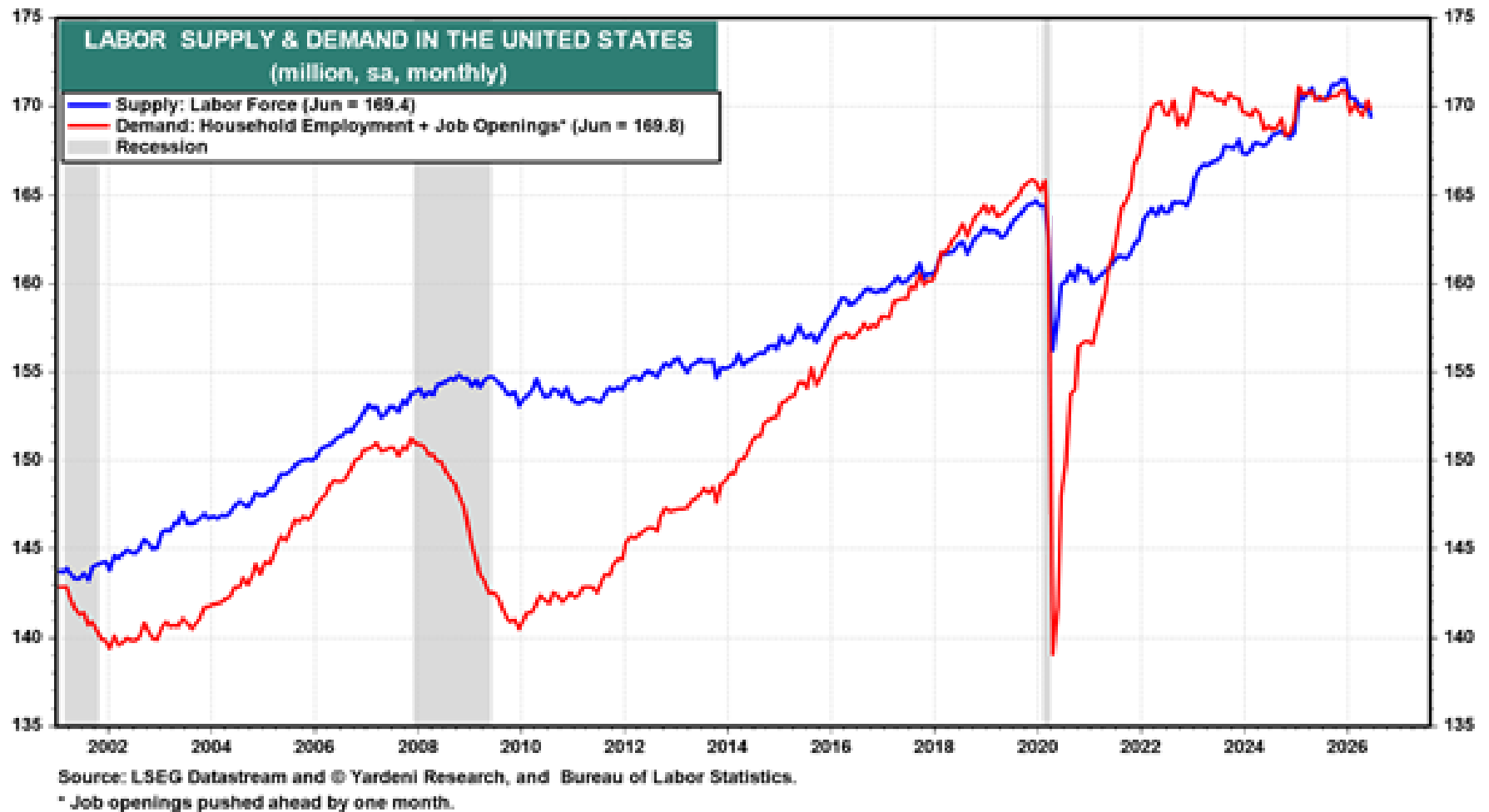
Jobs Market Remains Strong...

APOLLO

Unemployment has been below the Fed's 4.5% NAIRU estimate for a record-tying period



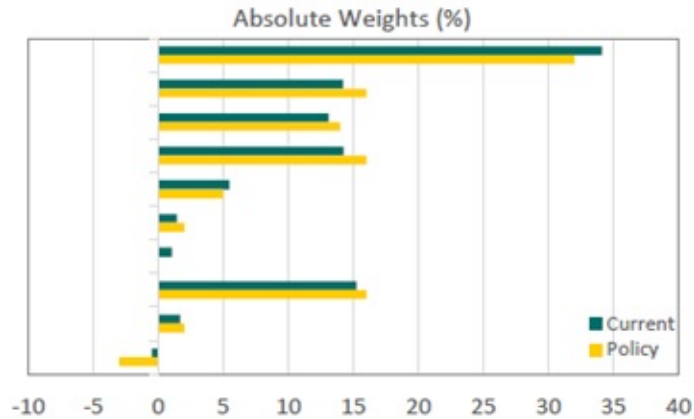
...and Seems Balanced



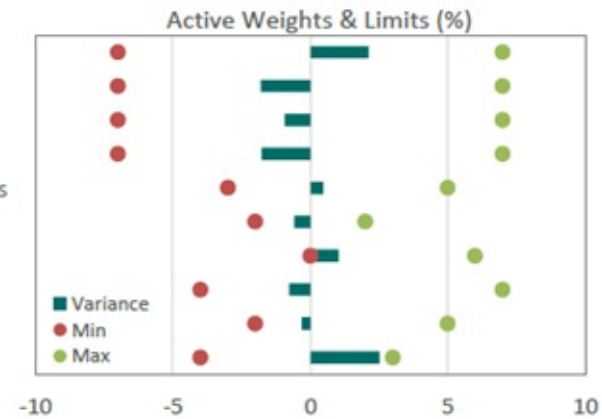
Confidence in Stocks: A Contrary Indicator?



Asset Allocation - June 30, 2026



Public Equity
Private Equity
Real Assets
Credit Strategies
Diversifying Strategies
PIP
EMP
Fixed Income
Cash
Leverage



Tracking Error (%)	
5Yr Fund	2.3
5Yr Public	1.5

Asset Class	Billions (\$)	Weights (%)					
		Current	Policy	Variance	Min	Max	Internal
Public Equity	46.1	34.1	32.0	2.1	25	39	52
Private Equity	19.2	14.2	16.0	-1.8	9	23	15
Real Assets	17.7	13.1	14.0	-0.9	7	21	16
Credit Strategies	19.2	14.2	16.0	-1.8	9	23	6
Diversifying Strategies	7.4	5.5	5.0	0.5	2	10	0
Private Investment Partnerships (PIP)	1.9	1.4	2.0	-0.6	0	4	0
Exposure Management Portfolio (EMP)	1.4	1.0	0.0	1.0	0	6	0
Fixed Income	20.6	15.2	16.0	-0.8	12	23	95
Cash	2.3	1.7	2.0	-0.3	0	7	0
Leverage	-0.7	-0.5	-3.0	2.5	-4	0	0
Total Fund (Net Market Value)	135.2	100.0	100.0	0.0	n.a.	n.a.	37
Total Fund (Gross Market Value)	135.9	100.5	103.0	-2.5	n.a.	n.a.	0

Exposures by Policy Groups							
Public + Private Equity	65.4	48.3	48.0	0.3	38	58	n.a.
Fixed Income + Cash	22.9	16.9	18.0	-1.1	12	27	n.a.

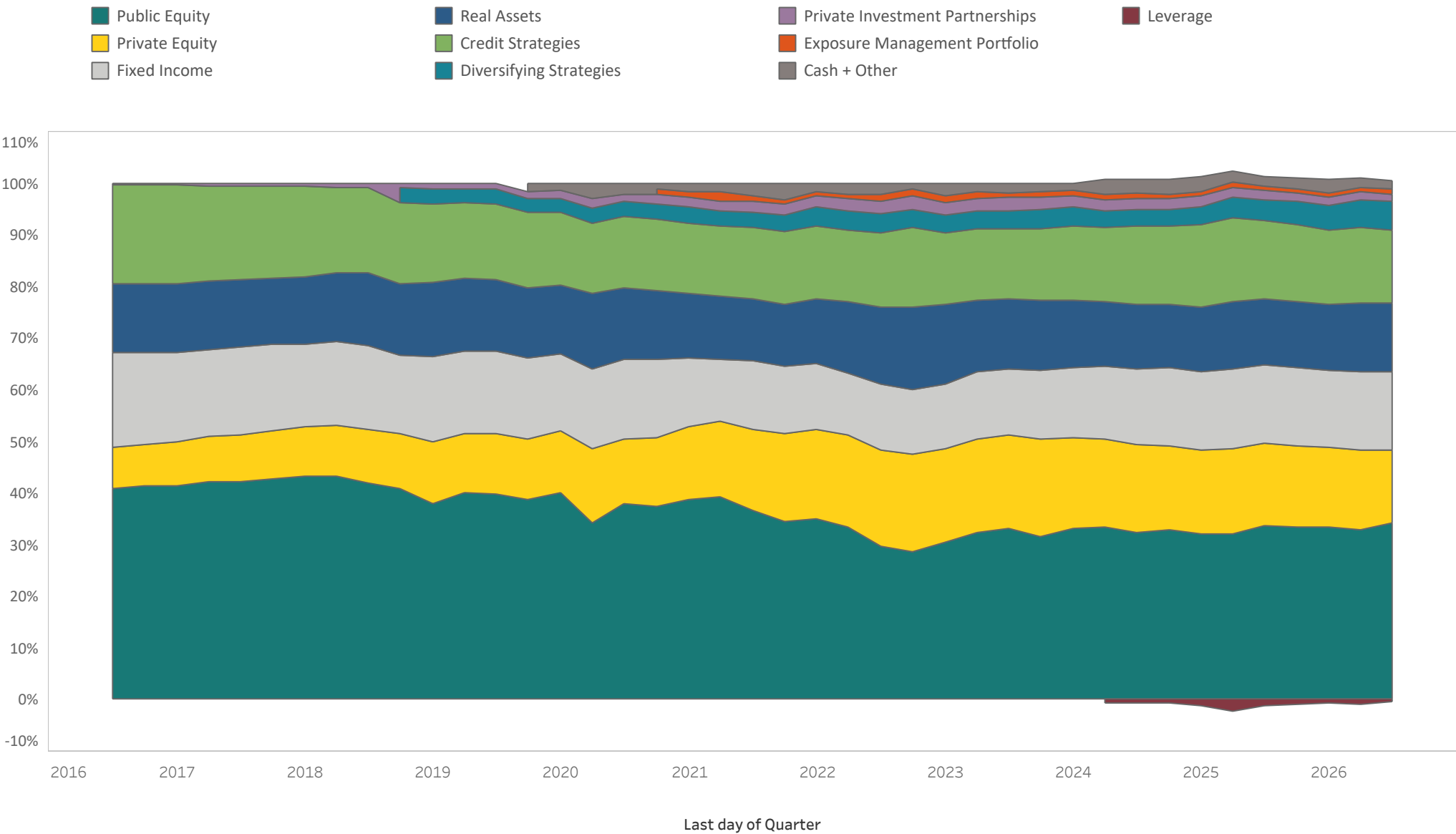
Total Fund includes the following amount held by the Treasurer of VA: \$491 million

The values shown for each asset class on this report may reflect adjustments related to derivative positions in the Rebalance Account, pending transactions and certain accruals, in order to provide a more descriptive representation of the true economic exposure to each asset class (0 adjustments applied)

The VRS Defined Benefit Plan Investment Policy Statement established the total fund tracking error range as the allowable observed tracking error calculated quarterly using 5 years of history as of 6/30/2026.

Differences in totals are due to rounding

Asset Allocation Rolling 10-Year



Performance - June 30, 2026

	(Net of Fees)						Fiscal YTD	Cal YTD	Market Value (\$MM)
	10 Yr	5 Yr	3 Yr	1 Yr	Qtr	Month			
Total Public Equity	12.5	11.6	20.6	23.8	13.7	0.6	23.8	11.9	46,139
<i>Benchmark</i>	12.4	10.4	18.8	21.7	13.5	-0.4	21.7	11.1	
Total Private Equity	13.9	8.3	5.6	5.2	-1.1	-1.3	5.2	0.5	19,217
<i>Benchmark</i>	13.3	9.7	17.1	20.3	-3.1	-6.4	20.3	0.3	
Total Real Assets	6.9	5.8	2.3	6.7	2.0	1.7	6.7	4.2	17,684
<i>Benchmark</i>	4.8	3.5	0.4	4.4	1.6	0.7	4.4	2.4	
Total Credit Strategies	7.6	7.2	9.7	8.3	1.3	0.9	8.3	2.1	19,244
<i>Benchmark</i>	5.9	5.2	8.1	5.2	2.2	0.2	5.2	1.7	
Total Diversifying Strategies	n/a	4.6	6.8	7.1	0.3	-1.0	7.1	1.9	7,403
<i>Benchmark</i>	n/a	4.2	7.6	6.4	1.5	0.5	6.4	3.0	
Total Private Investment Partnerships	9.1	9.0	8.9	9.7	3.9	2.3	9.7	4.7	1,924
<i>Benchmark</i>	7.9	6.5	8.2	9.7	0.3	-1.8	9.7	1.5	
Total Fixed Income	2.6	1.0	5.3	5.3	1.2	0.5	5.3	1.2	20,601
<i>Benchmark</i>	1.7	0.4	4.6	4.2	1.0	0.3	4.2	0.8	
Total Fund	9.2	7.6	10.6	12.1	5.0	0.4	12.1	5.3	135,217
<i>VRS Custom Benchmark</i>	8.5	6.8	11.4	12.7	4.6	-1.0	12.7	4.6	

Effective July 2013, the VRS Custom Benchmark is a blend of the Asset Class Benchmarks at policy weights.

Effective January 2024, the Total Fund includes leverage.

The VRS Cash Account, the Treasurer Short-Term Investment Account, the VRS Rebalancing Account, transition activity and accounts with market values of less than \$1 million are included in the Total Fund's market value. Differences in market value totals are due to rounding.

The Performance Report may differ from the VRS Annual Comprehensive Financial Report (ACFR) due to each report's requirements and objectives.

Leverage Cost Measurement Information

(Information provided for purposes of monitoring the cost effectiveness of leverage implementation.)

							Fiscal YTD	Cal YTD	Market Value (\$MM)
	10 Yr	5 Yr	3 Yr	1 Yr	Qtr	Month			
Leverage	n/a	n/a	n/a	4.5	1.0	0.3	4.5	2.1	(655)
<i>Benchmark</i>	n/a	n/a	n/a	4.5	1.0	0.4	4.5	2.1	

Effective January 2024, the Leverage Custom Benchmark is the Secured Overnight Financing Rate (SOFR) plus 50 basis points per annum.

Performance Attribution

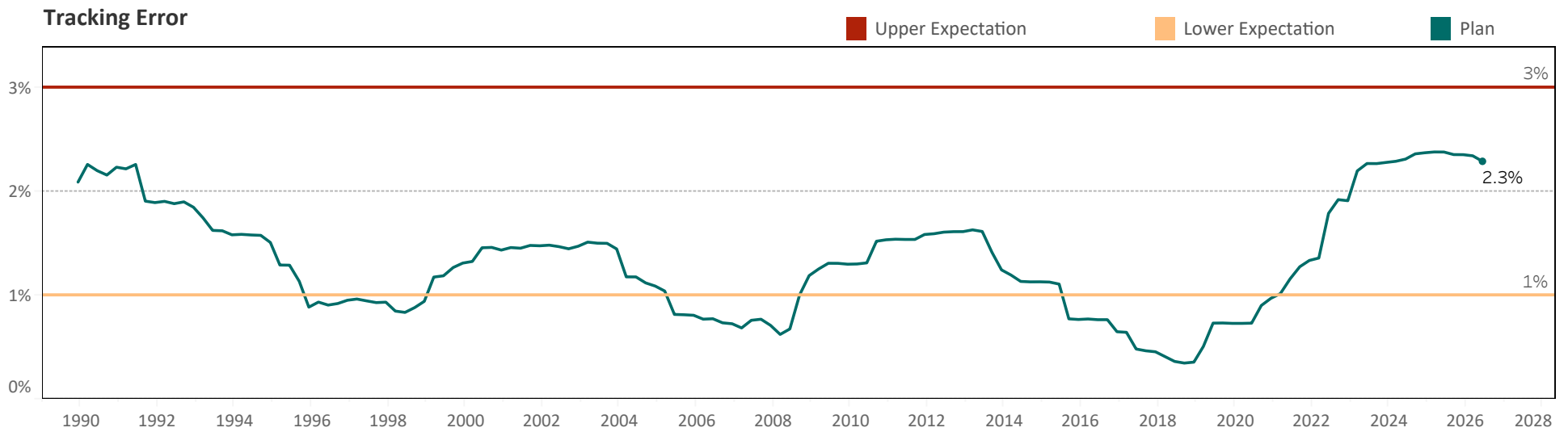
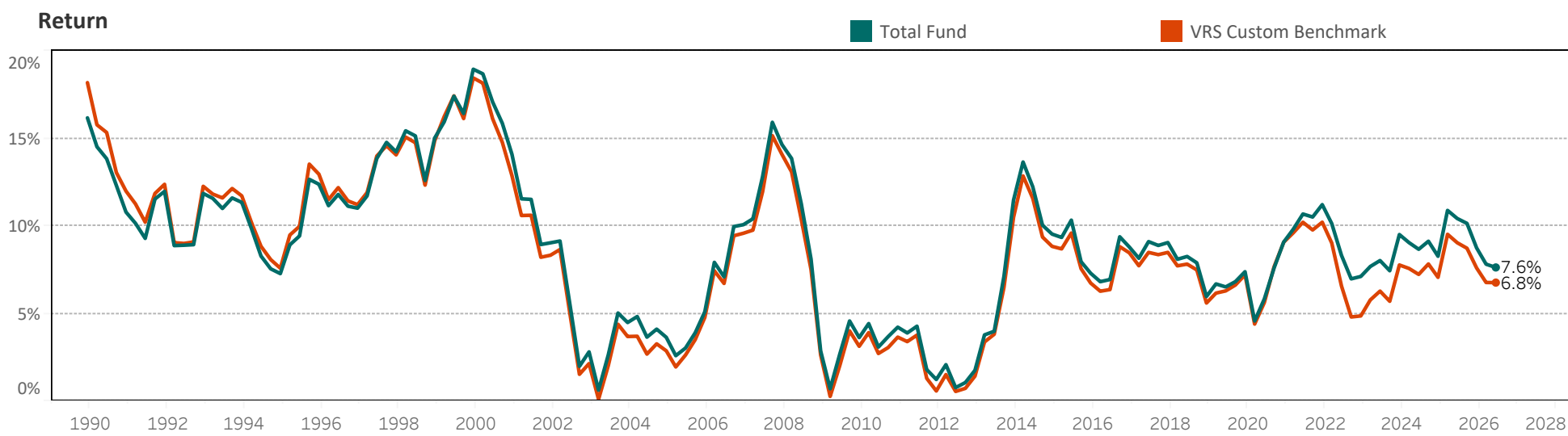
Fiscal Year-To-Date, ending June 30, 2026

	Portfolio		Policy		Attribution		
	Weight	Return	Weight	Return	Allocation	Selection	Total
TOTAL	100.0	12.1	100.0	12.7	0.3	-0.9	-0.6
Public Equity	33.6	23.8	32.0	21.8	0.1	0.6	0.7
Private Equity	15.4	5.2	16.0	20.3	0.0	-2.5	-2.4
Real Assets	12.9	6.7	14.0	4.5	0.1	0.3	0.4
Credit Strategies	14.6	8.3	16.0	5.2	0.1	0.5	0.6
Diversifying Strategies	4.9	7.1	5.0	6.4	0.0	0.0	0.0
Private Investment Partnerships	1.6	9.7	2.0	9.7	0.0	0.0	0.0
EMP	0.9	22.4			0.1	0.0	0.1
Fixed Income	15.1	5.3	16.0	4.2	0.1	0.2	0.2
Cash	1.7	1.4	2.0	3.9	0.1	0.0	0.0
Other	0.2	3.6			0.0	0.0	0.0
Leverage	-0.8	4.5	-3.0	4.5	-0.2	0.0	-0.2

Differences in totals are due to rounding.

In return attribution, **allocation** refers to the value added by having different asset class weights in the portfolio than the asset class weights in the benchmark. **Selection** refers to the value added by holding individual securities or instruments within the asset class in different than benchmark weights.

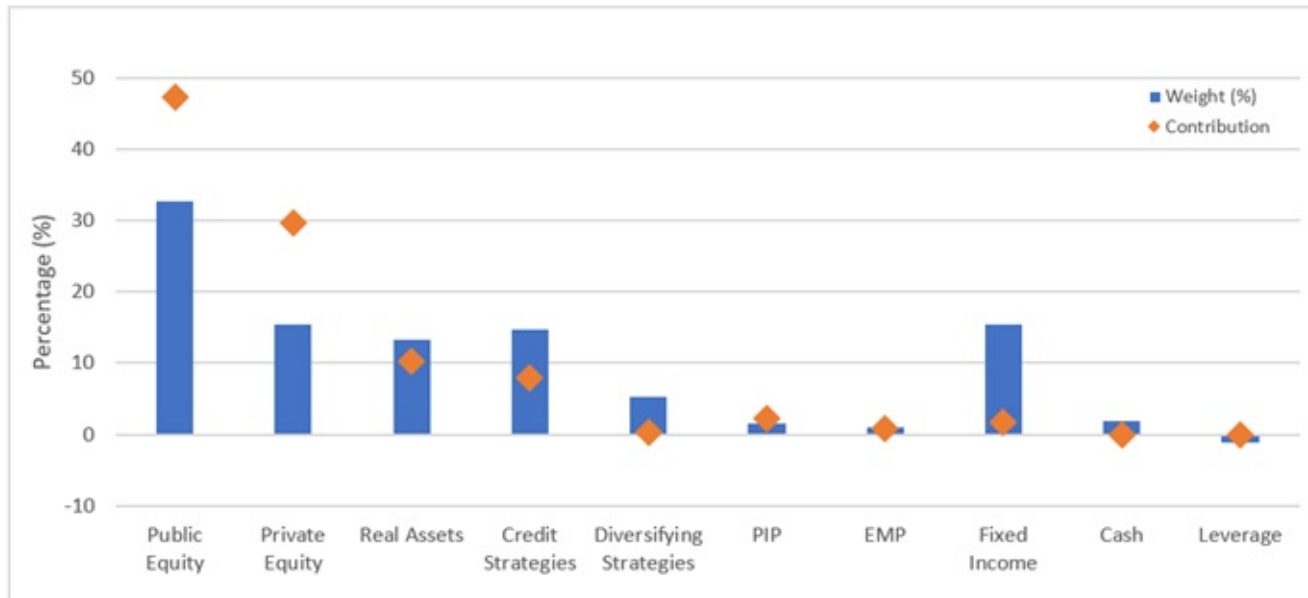
Total Fund Rolling 5-Year



As of June 30, 2026

The VRS Defined Benefit Plan Investment Policy Statement established the total fund tracking error range as the allowable observed tracking error calculated quarterly using 5 years of history.

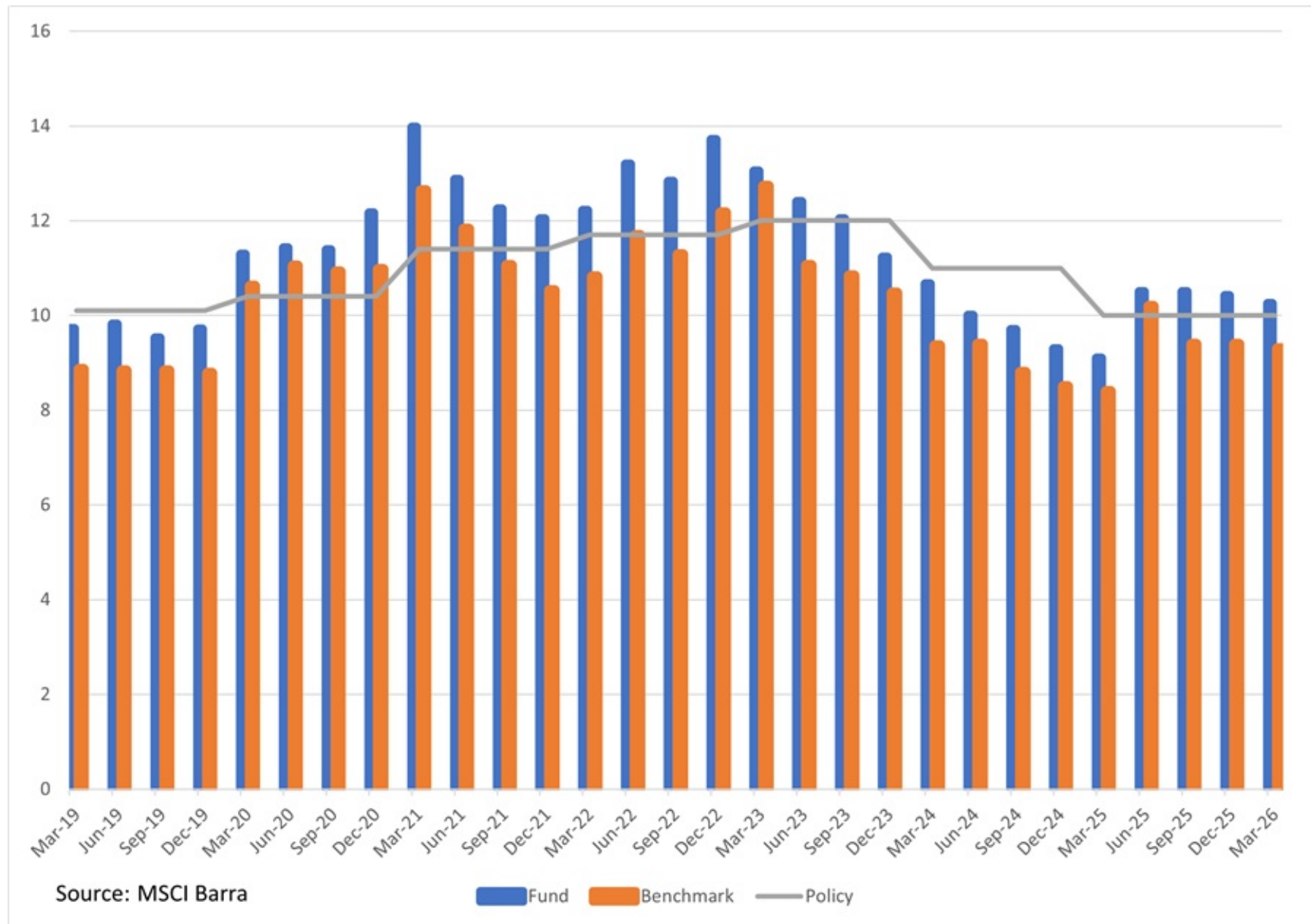
Projected Volatility and Risk Contribution - March 31, 2026



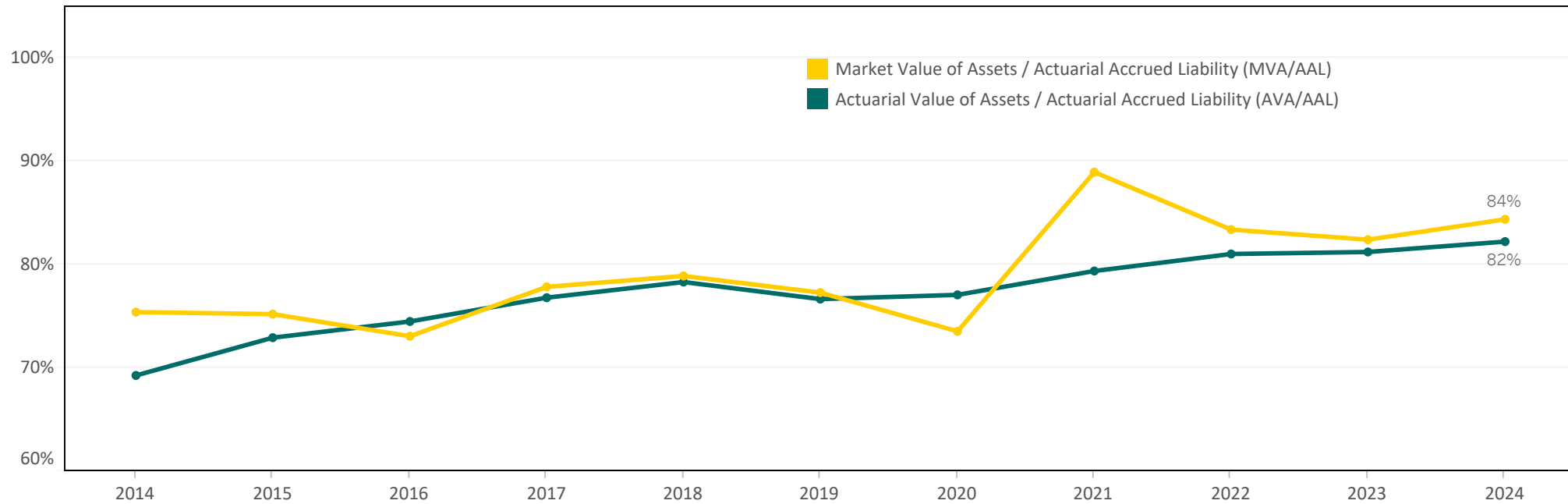
Asset Class	Market Value		Volatility (%)	
	Billions (\$)	Weight (%)	Projected	Contribution
Public Equity	42.3	32.7	15.6	47.2
Private Equity	19.9	15.4	21.8	29.7
Real Assets	17.1	13.2	10.0	10.2
Credit Strategies	19.0	14.7	8.8	7.9
Diversifying Strategies	6.7	5.2	3.1	0.3
Private Investment Partnership (PIP)	2.0	1.5	15.8	2.2
Exposure Management Portfolio (EMP)	1.3	1.0	17.8	0.8
Fixed Income	19.9	15.4	5.4	1.7
Cash	2.4	1.8	0.1	0.0
Leverage	-1.4	-1.1	0.0	0.0
Total Fund (Net Market Value)	129.3	100.0	10.3	100.0

Source: BNY, MSCI Barra

VRS Fund Projected Volatility - March 31, 2026



Funded Status - Assets/Liabilities



As of end of fiscal year.

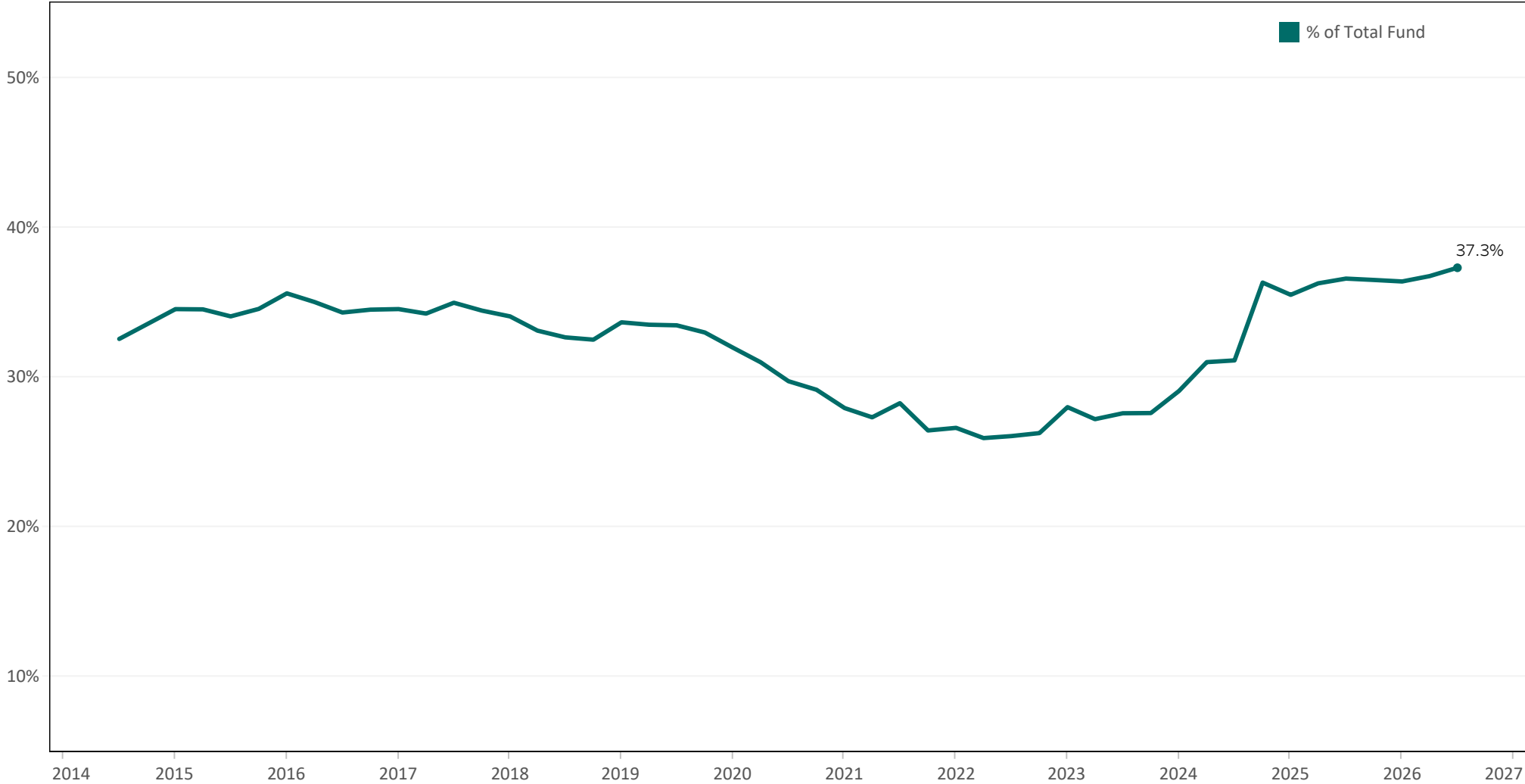
Market Value of Assets (MVA) - The value at which assets could be traded on the market.

Actuarial Value of Assets (AVA) - VRS generally uses a smoothed value of assets for actuarial value. The smoothed value phases-in investment gains and losses over a five year period to reduce volatility.

Actuarial Accrued Liability (AAL) - represents the portion of the Present Value of Future Projected Benefits attributable to service earned (or accrued) as of the valuation date.

Funded Status - The ratio of a plan's current assets to the actuarial accrued liability (AAL). In financial reporting of public pension plans, funded status is reported using the MVA and the liabilities as of the reporting date. When referring to funding of the plan, the funded status equals the actuarial value of assets divided by the actuarial accrued liability as of the valuation date.

Internally Managed Assets



As of 9/30/2024, the percentage includes both internally managed Public Market Assets and Private Market Assets where VRS has full discretion.

PERFORMANCE SUMMARY
Rolling Periods Ending
June 30, 2026



TOTAL FUND PERFORMANCE
(Net of Fees)

	10 Yr	5 Yr	3 Yr	1 Yr	Qtr	Month	Fiscal YTD	Cal YTD	Market Value (\$MM)
Total Public Equity	12.5	11.6	20.6	23.8	13.7	0.6	23.8	11.9	46,139
<i>Benchmark</i>	12.4	10.4	18.8	21.7	13.5	-0.4	21.7	11.1	
Total Private Equity	13.9	8.3	5.6	5.2	-1.1	-1.3	5.2	0.5	19,217
<i>Benchmark</i>	13.3	9.7	17.1	20.3	-3.1	-6.4	20.3	0.3	
Total Real Assets	6.9	5.8	2.3	6.7	2.0	1.7	6.7	4.2	17,684
<i>Benchmark</i>	4.8	3.5	0.4	4.4	1.6	0.7	4.4	2.4	
Total Credit Strategies	7.6	7.2	9.7	8.3	1.3	0.9	8.3	2.1	19,244
<i>Benchmark</i>	5.9	5.2	8.1	5.2	2.2	0.2	5.2	1.7	
Total Diversifying Strategies	n/a	4.6	6.8	7.1	0.3	-1.0	7.1	1.9	7,403
<i>Benchmark</i>	n/a	4.2	7.6	6.4	1.5	0.5	6.4	3.0	
Total Private Investment Partnerships	9.1	9.0	8.9	9.7	3.9	2.3	9.7	4.7	1,924
<i>Benchmark</i>	7.9	6.5	8.2	9.7	0.3	-1.8	9.7	1.5	
Total Fixed Income	2.6	1.0	5.3	5.3	1.2	0.5	5.3	1.2	20,601
<i>Benchmark</i>	1.7	0.4	4.6	4.2	1.0	0.3	4.2	0.8	
Total Fund	9.2	7.6	10.6	12.1	5.0	0.4	12.1	5.3	135,217
<i>VRS Custom Benchmark</i>	8.5	6.8	11.4	12.7	4.6	-1.0	12.7	4.6	

Effective July 2013, the VRS Custom Benchmark is a blend of the Asset Class Benchmarks at policy weights.

Effective January 2024, the Total Fund includes leverage.

The VRS Cash Account, the Treasurer Short-Term Investment Account, the VRS Rebalancing Account, transition activity and accounts with market values of less than \$1 million are included in the Total Fund's market value. Differences in market value totals are due to rounding.

The Performance Report may differ from the VRS Annual Comprehensive Financial Report (ACFR) due to each report's requirements and objectives.

Leverage Cost Measurement Information

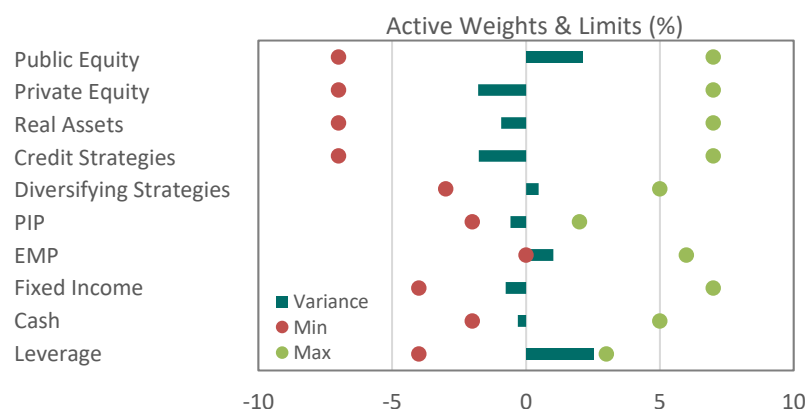
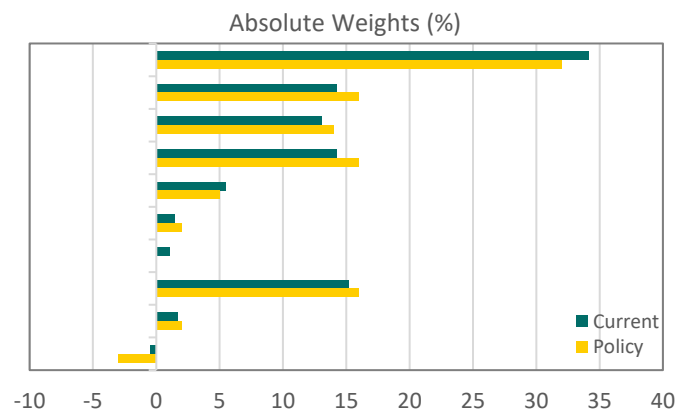
(Information provided for purposes of monitoring the cost effectiveness of leverage implementation.)

	10 Yr	5 Yr	3 Yr	1 Yr	Qtr	Month	Fiscal YTD	Cal YTD	Market Value (\$MM)
Leverage	n/a	n/a	n/a	4.5	1.0	0.3	4.5	2.1	(655)
<i>Benchmark</i>	n/a	n/a	n/a	4.5	1.0	0.4	4.5	2.1	

Effective January 2024, the Leverage Custom Benchmark is the Secured Overnight Financing Rate (SOFR) plus 50 basis points per annum.

Asset Allocation Report

June 30, 2026



Tracking Error (%)	
5Yr Fund	2.3
5Yr Public	1.5

Asset Class	Billions (\$)	Weights (%)					
		Current	Policy	Variance	Min	Max	Internal
Public Equity	46.1	34.1	32.0	2.1	25	39	52
Private Equity	19.2	14.2	16.0	-1.8	9	23	15
Real Assets	17.7	13.1	14.0	-0.9	7	21	16
Credit Strategies	19.2	14.2	16.0	-1.8	9	23	6
Diversifying Strategies	7.4	5.5	5.0	0.5	2	10	0
Private Investment Partnerships (PIP)	1.9	1.4	2.0	-0.6	0	4	0
Exposure Management Portfolio (EMP)	1.4	1.0	0.0	1.0	0	6	0
Fixed Income	20.6	15.2	16.0	-0.8	12	23	95
Cash	2.3	1.7	2.0	-0.3	0	7	0
Leverage	-0.7	-0.5	-3.0	2.5	-4	0	0
Total Fund (Net Market Value)	135.2	100.0	100.0	0.0	n.a.	n.a.	37
Total Fund (Gross Market Value)	135.9	100.5	103.0	-2.5	n.a.	n.a.	0

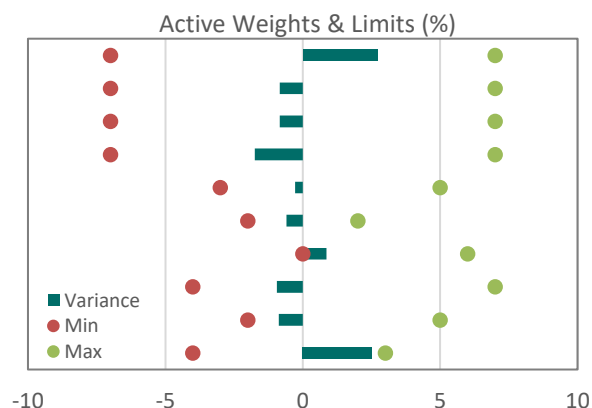
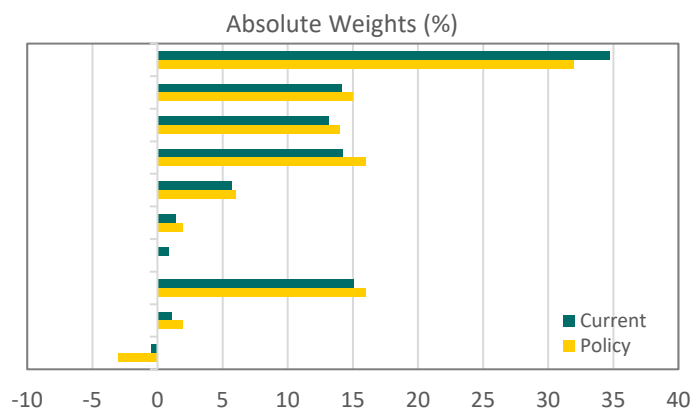
Exposures by Policy Groups

Public + Private Equity	65.4	48.3	48.0	0.3	38	58	n.a.
Fixed Income + Cash	22.9	16.9	18.0	-1.1	12	27	n.a.

- Total Fund includes the following amount held by the Treasurer of VA: \$ 491 million
- The values shown for each asset class on this report may reflect adjustments related to derivative positions in the Rebalance Account, pending transactions and certain accruals, in order to provide a more descriptive representation of the true economic exposure to each asset class (0 adjustments applied)
- The VRS Defined Benefit Plan Investment Policy Statement established the total fund tracking error range as the allowable observed tracking error calculated quarterly using 5 years of history as of 06/30/2026.
- Differences in totals are due to rounding

Daily Asset Allocation Report

August 7, 2026



Tracking Error (%)	
5Yr Fund	2.3
5Yr Public	1.5

Asset Class	Billions (\$)	Weights (%)					
		Current	Policy	Variance	Min	Max	Internal
Public Equity	47.2	34.7	32.0	2.7	25	39	53
Private Equity	19.2	14.2	15.0	-0.8	8	22	15
Real Assets	17.9	13.2	14.0	-0.8	7	21	16
Credit Strategies	19.4	14.3	16.0	-1.7	9	23	6
Diversifying Strategies	7.8	5.7	6.0	-0.3	3	11	0
Private Investment Partnerships (PIP)	1.9	1.4	2.0	-0.6	0	4	0
Exposure Management Portfolio (EMP)	1.2	0.9	0.0	0.9	0	6	0
Fixed Income	20.5	15.1	16.0	-0.9	12	23	95
Cash	1.5	1.1	2.0	-0.9	0	7	0
Leverage	-0.7	-0.5	-3.0	2.5	-7	0	0
Total Fund (Net Market Value)	135.9	100.0	100.0	0.0	n.a.	n.a.	0
Total Fund (Gross Market Value)	136.5	100.5	103.0	-2.5	n.a.	n.a.	0

Exposures by Policy Groups

Public + Private Equity	66.4	48.9	47	1.9	37	57	n.a.
Fixed Income + Cash	22.0	16.2	18	-1.8	12	27	n.a.

- Total Fund includes the following amount held by the Treasurer of VA: \$ 163 million
- The values shown for each asset class on this report may reflect adjustments related to derivative positions in the Rebalance Account, pending transactions and certain accruals, in order to provide a more descriptive representation of the true economic exposure to each asset class (0 adjustments applied)
- The VRS Defined Benefit Plan Investment Policy Statement established the total fund tracking error range as the allowable observed tracking error calculated quarterly using 5 years of history as of 3/31/2026
- Differences in totals are due to rounding

Program	Action	Effective Date	Commitment/ Current Value	Funding/ Defunding Period	Description
VRS Internal Equity Management	Opened	05/01/2026	\$425 Million	Immediate	Three Ridges - An internally managed active US small cap equity strategy.
Private Equity	Hired	03/31/2026	\$300 Million	6 Years	Quad-C XI - Middle market private equity firm focused on investing in established services and industrial companies.
Private Equity	Hired	01/30/2026	\$50 Million	6 Years	Monomoy V Co-invest SMA – A sidecar with Monomoy V for smaller co-investment opportunities.
Private Equity	Hired	03/26/2026	€166 Million	5 Years	Inflexion Buyout Fund VII – Middle market private equity firm focused on acquiring majority stakes in high-growth, high-margin, and entrepreneurially led Northern Europe companies across business services, technology, healthcare, industrials, financial services, and consumer.
Private Equity	Hired	04/27/2026	€200 Million	5 Years	Charterhouse XII – Middle market private equity firm focused on investing in high-quality mid-market European companies across the services and healthcare sectors.
Private Equity	Hired	05/28/2026	€100 Million	5 Years	Charterhouse XII Co-invest SMA – A sidecar with Charterhouse XII for smaller co-investment opportunities.
Private Equity	Hired	07/10/2026	\$201 Million	5 Years	Apax Digital Fund III – Middle market private equity strategy investing in high-quality, high-growth technology companies through a balanced mix of minority growth and growth buyout transactions.
Private Equity	Hired	07/20/2026	\$200 Million	3 Years	General Atlantic SMA II - A separately managed account with General Atlantic, a global growth equity investment firm focused on technology, healthcare and life sciences, financial services, consumer, and climate sectors.
Private Equity	Hired	07/27/2026	\$300 Million	6 Years	GTCR XV – A fund investing in upper middle-market companies across business and consumer services, healthcare, technology, media and telecom, and financial services and technology.

Program	Action	Effective Date	Commitment/ Current Value	Funding/ Defunding Period	Description
Private Equity	Hired	07/29/2026	\$200 Million	6 Years	Apollo Investment Fund XI – A fund investing in both distressed and non-distressed opportunities, providing flexibility across all business cycles and economic environments. The fund will target companies in business and financial services, industrial and manufacturing, leisure and consumer services, and telecommunications, media and technology.
Credit Strategies	Hired	04/24/2026	\$400 Million	3 Years	Ares Pathfinder III - A closed-end fund targeting directly originated asset-backed structured investments.
Credit Strategies	Hired	06/26/2026	\$150 Million	5 Years	Beach Point Credit Tactical Fund II – A closed-end fund investing in hybrid capital solutions for middle market companies.
Credit Strategies	Hired	06/30/2026	\$300 Million	3 Years	Blue Owl Real Estate Fund VII – A commingled drawdown fund investing primarily in U.S. corporate real estate.
Public Equity	Hired	04/01/2026	\$500 Million	Immediate	BlackRock 32 Capital – A quantitative equity market-neutral strategy.
Public Equity	Closed	05/15/2026	\$581 Million	Immediate	Eminence Capital - A fundamental long/short equity strategy.
Diversifying Strategies	Hired	04/01/2026	\$300 Million	Immediate	BlackRock GAO – A quantitative market-neutral hedge fund focused on arbitrage opportunities in equity markets.
Diversifying Strategies	Hired	05/01/2026	\$500 Million	1 Year	PIMCO Multi-Strategy Custom Mandate – A bespoke, multi-strategy hedge fund portfolio solution.
Real Assets	Hired	03/31/2026	\$100 Million	5 Years	Stonepeak Opportunities Fund II – A closed-end fund investing in mid-market diversified infrastructure deals in North America as well as Europe.
Real Assets	Hired	02/26/2026	\$229 Million	Immediate	International Farming Corporation Separate Account – Separate account manager focused on existing U.S. farmland permanent crop properties.
Real Assets	Terminated	05/29/2026	\$187 Million	Immediate	AgIS Farmland Separate Account – Separate account manager focused on U.S. farmland properties.

Program	Action	Effective Date	Commitment/ Current Value	Funding/ Defunding Period	Description
Real Assets	Hired	05/29/2026	\$200 Million	5 Years	LS Power Fund VI - A closed-end fund investing in power generation and energy transition infrastructure assets primarily focused in North America.
Real Assets	Hired	05/27/2026	\$150 Million	5 Years	EQT Transition Infrastructure – A closed-end fund investing in energy transition and related infrastructure assets in North America and Europe.
Real Assets	Hired	06/22/2026	\$125 Million	4 Years	Meadow Real Estate Fund VII – A closed-end fund focused on opportunistic real estate in New York and London.
Real Assets	Hired	07/17/2026	\$150 Million	Immediate	Apollo Manufactured Housing Property Fund –An open-end core-plus fund consisting of 43 existing manufactured housing communities.
Real Assets	Hired	06/30/2026	\$100 Million	4 Years	Silver Hill Energy Partners V – A closed-end fund focused on the acquisition, development, and operation of oil and gas assets in the U.S.
Real Assets	Hired	06/30/2026	\$150 Million	6 Months	Kayne Anderson Core Real Estate Fund – An open-end fund focused on core investments in alternative real estate property types in the U.S.



Virginia
Retirement
System®



Portfolio Solutions Group

Overview: Portfolio Solutions Group

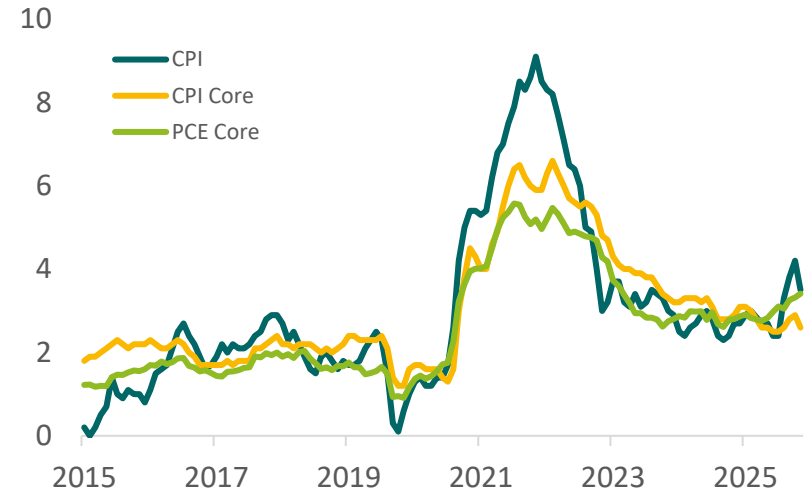
Professional	Position	Highest Degree	Professional Certifications	Investment Experience	VRS Tenure
Chung Ma	Deputy CIO	MA	CFA	30	12
Ross Kasarda	Director, Diversifying Strategies	MA	CFA	22	22
Greg Hines	Sr. Investment Officer	MA	CFA	15	13
Kristina Koutrakos	Director, Diversifying Strategies	MBA	CAIA	27	10
Katie Grawe	Portfolio Manager	MBA		27	8
Matt Lacy	Director, Portfolio Integration	MA	CFA	27	27
Brock Bell	Director, Treasury	AB		20	2
Nathan Thomas	Investment Analyst	MA	CFA Candidate	2	1
Scott Mootz	Director, Investment Sciences	MBA	CFA	19	15
Advait Apte	Sr. Investment Officer	PhD	CFA	9	9
Mengting Kim	Investment Officer	MBA	CFA, CAIA	13	1

Generally Supportive Data ...

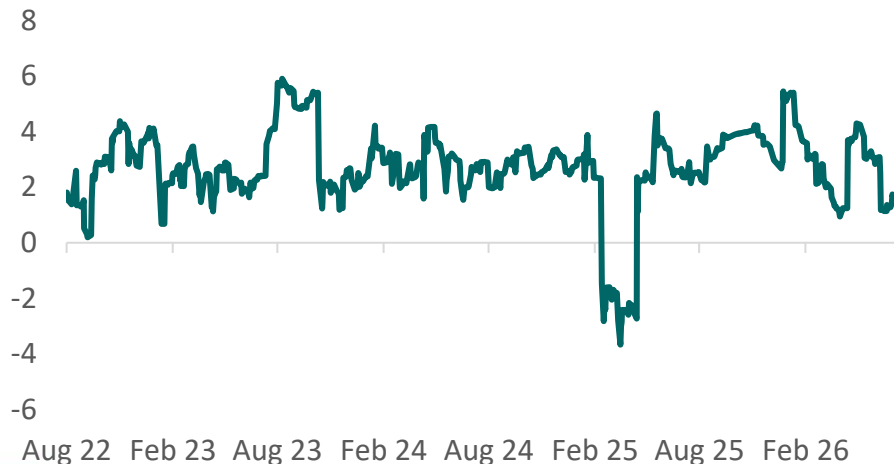
US Equities - Profit Margins



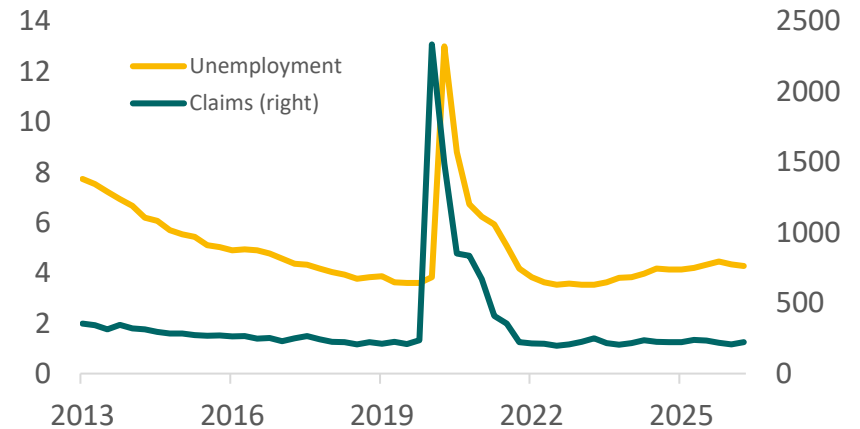
Inflation



Atlanta Fed GDP Now

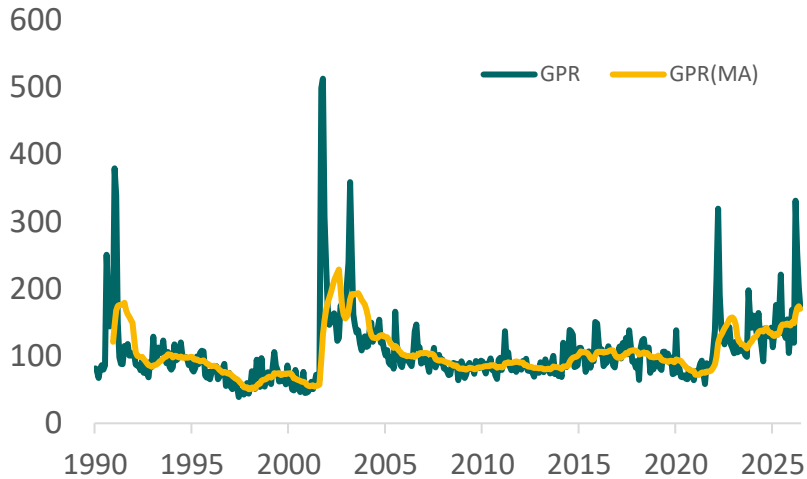


Labor



... But Longer-term Challenges Remain

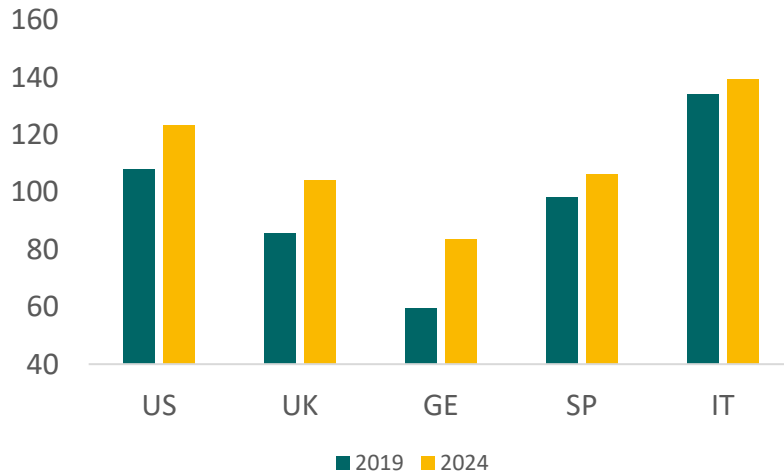
Geopolitical Risk (US)



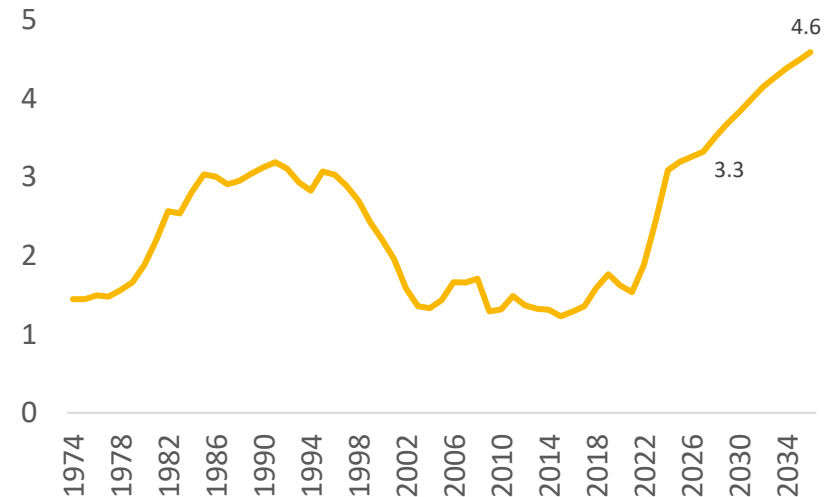
Fed Balance Sheet
(% of GDP)



Debt
(% of GDP)



Forecasted Debt Servicing
(% of GDP)

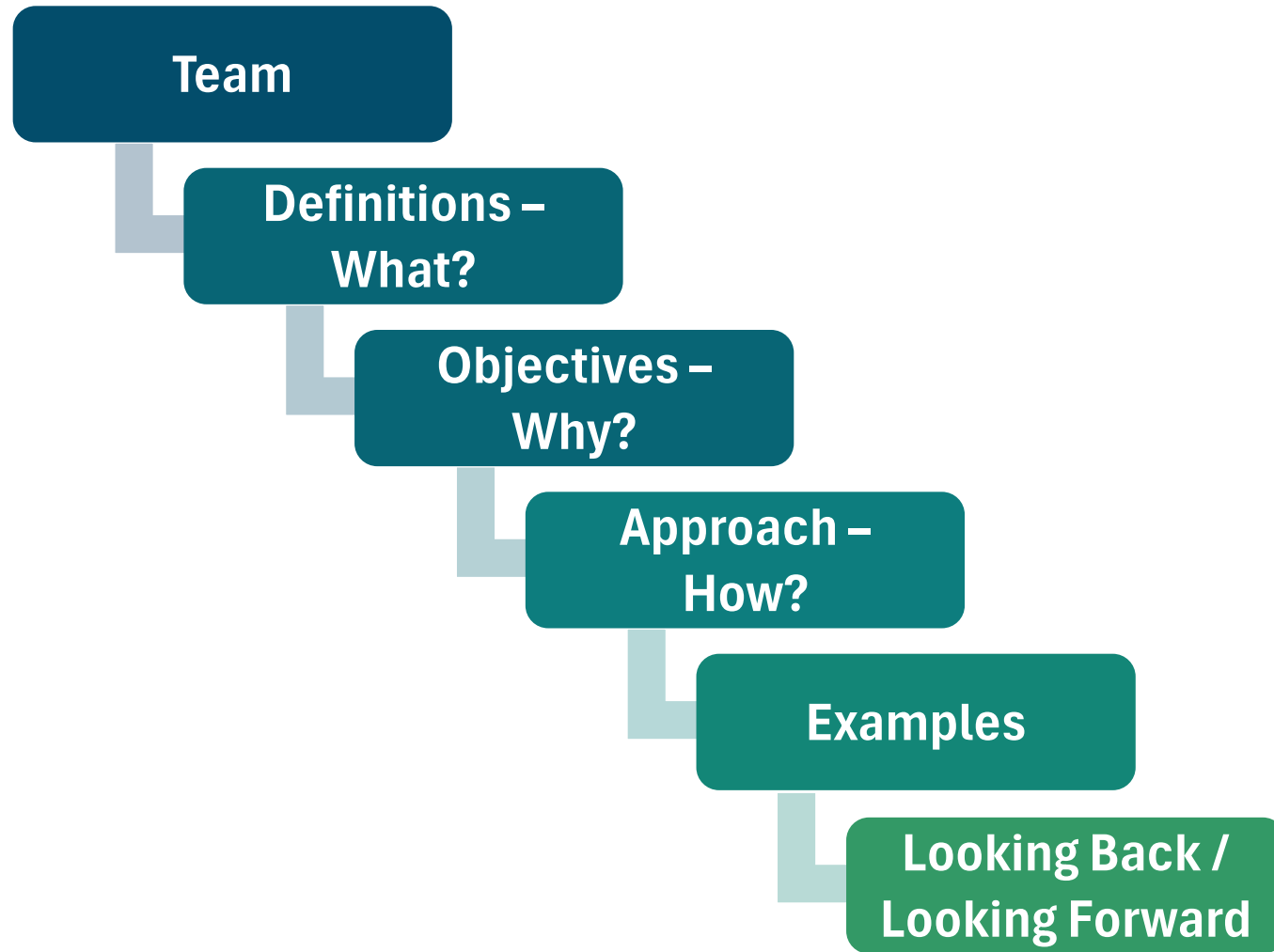




Risk Management at VRS

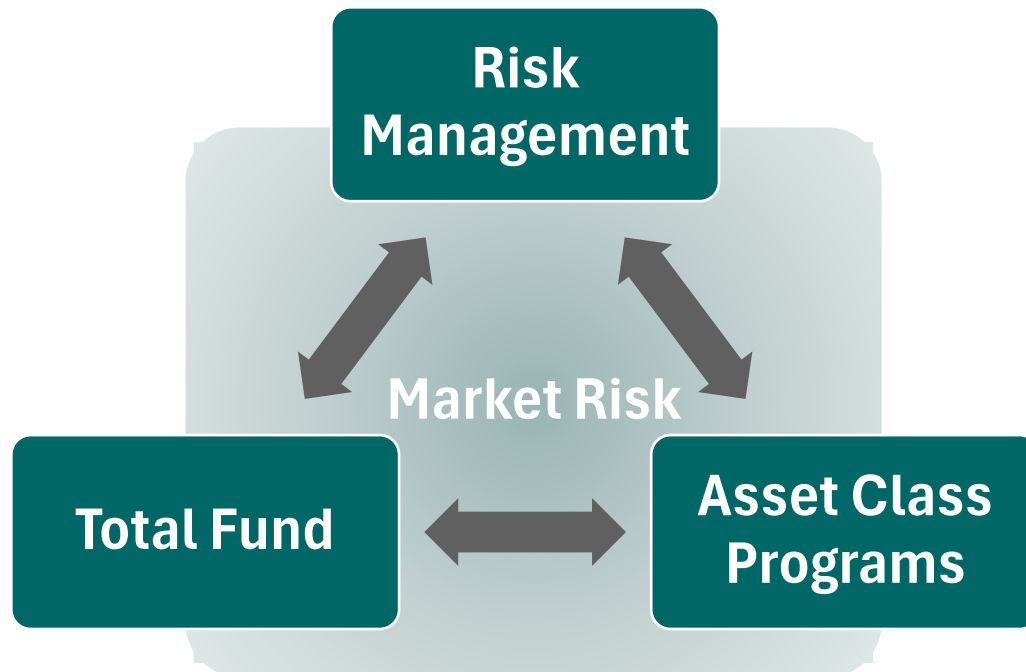
Scott Mootz
Director

Annual Review Topics

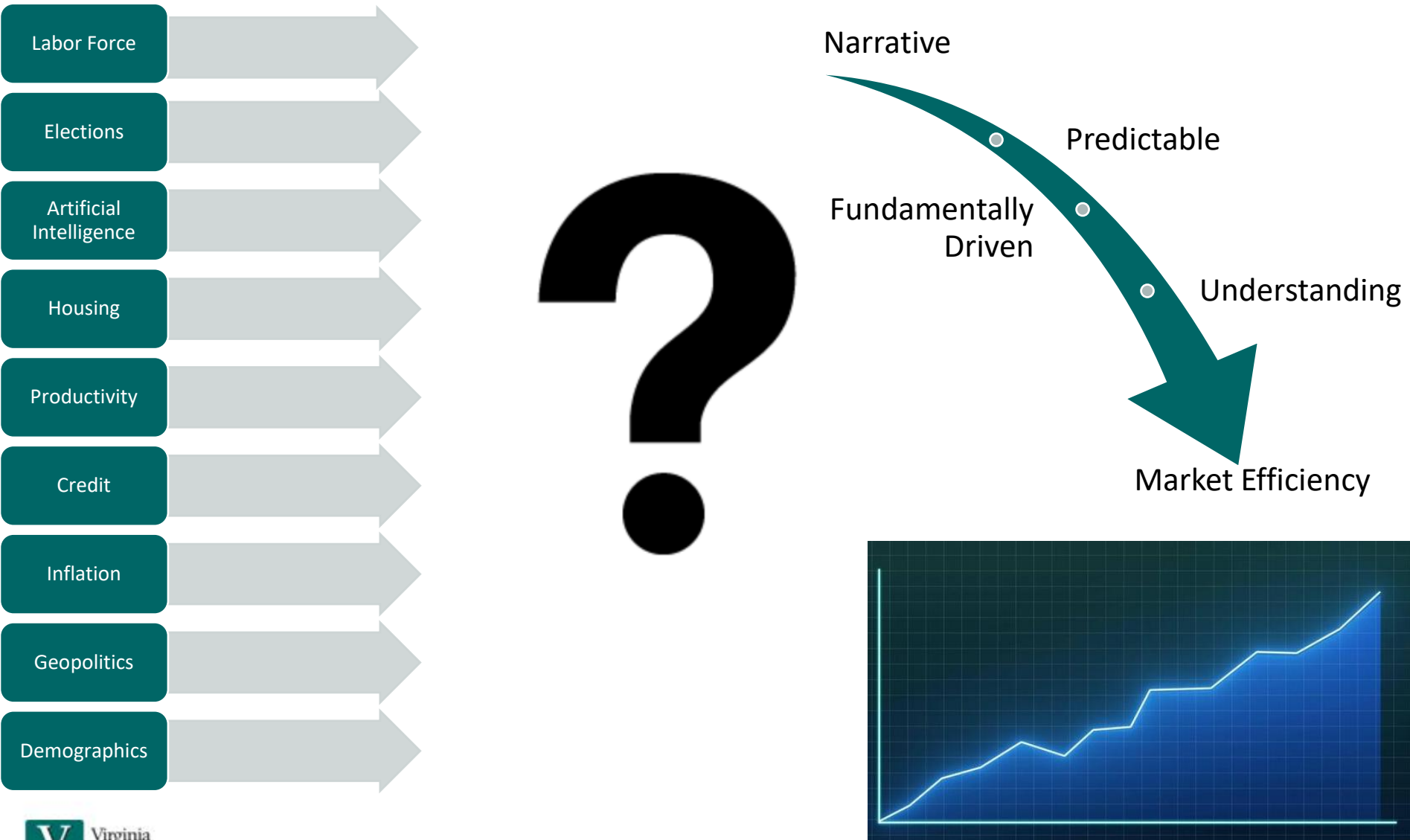


Team Members

Professional	Position	Highest Degree	Professional Certifications	Investment Experience	VRS Tenure
Scott Mootz	Director	MBA	CFA	19	15
Advait Apte	Sr. Investment Officer	PhD	CFA	9	9
Mengting Kim	Investment Officer	MBA	CFA, CAIA	13	1
Additional Resources	Portfolio Solutions Group, Asset Class Programs, Management Committee, Investment Operations, Compliance Team, Legal/Regulatory Team, Investment Decision Support				



What is Risk Management: Perception vs. Reality



Why is Risk Management Important To VRS?

Overarching Goals

- Achieve long-run actuarial return target of 6.75%
 - Fund benefit payments: >860k beneficiaries, >\$7B last year
 - Minimize required contributions & required contribution rate volatility
 - Here risk is an *enabler* vs. a limiter
- Within an acceptable level of risk (3% max tracking error)
 - We must measure, monitor, & manage plan risk
 - Seek to ensure we minimize probability of failing to deliver on VRS's core purpose

How Do We Approach Risk Management?

- Bottom-up granular instrument modeling
- Extensive monthly review & reconciliation process
- 2x+ Weekly review meetings with ERM partner (Barra)
- > 35k Portfolio holdings, >25k benchmark holdings
- > 850 Individual accounts across asset classes
- > 85 New accounts modeled last year
- > 15000 Bespoke user assets modeled
- > 20+ Data sources integrated

Risk Management Examples

Forward-looking Risk Estimates:

Asset	E(Ret)	Risk	BM Risk	TE	EqBeta	BM EqBeta
Total Fund (FY27)	7.3	10.5	9.4	2.6	0.58	0.56
Total Fund (FY31)	7.3	10.5	9.0	2.1	0.58	0.54

Liquidity:

	Cash	Within 3 Months			>3Mo Public	Private	
	1-3 Days	1 Month	1 Qtr	> 1 Qtr	Private		TOTAL
Total Fund Net (\$mm)	36,989	26,515	2,907	7,147	55,718		129,276
% of Fund	29%	21%	2%	6%	43%		

Untapped Max Leverage: 6,354

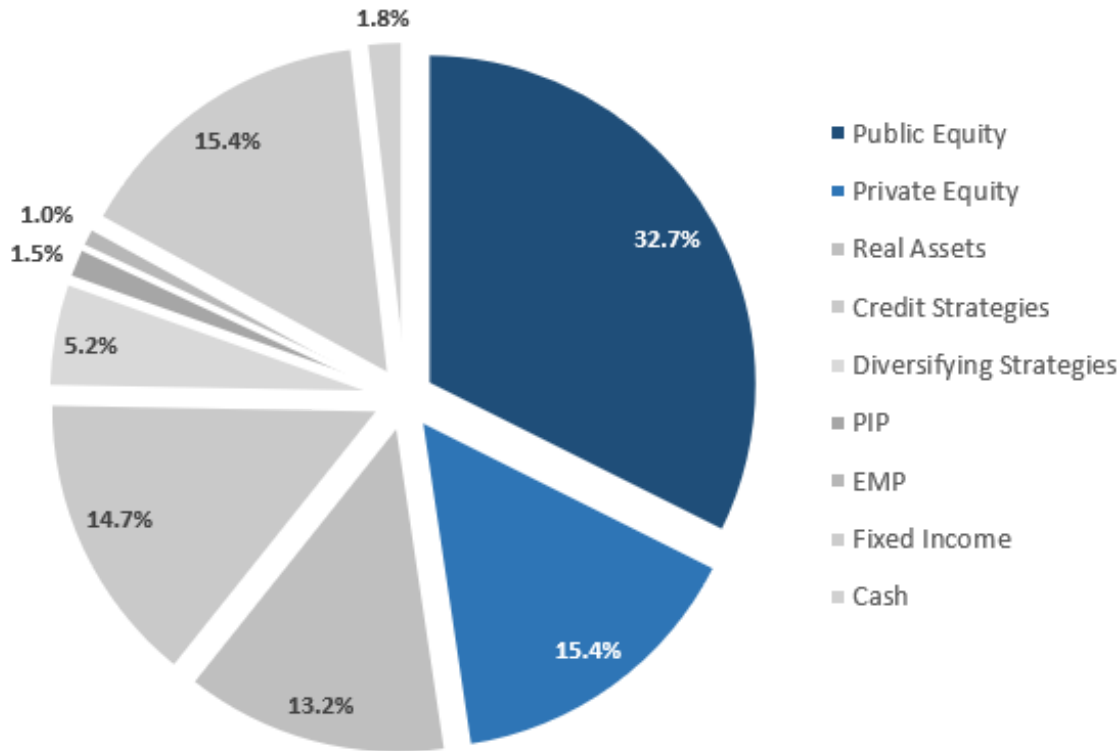
Stress Scenario Shock:

	Equity -20%	Equity +20%
Total Fund	-11.4%	12.2%
Benchmark	-12.3%	12.3%
Excess	0.9%	-0.1%

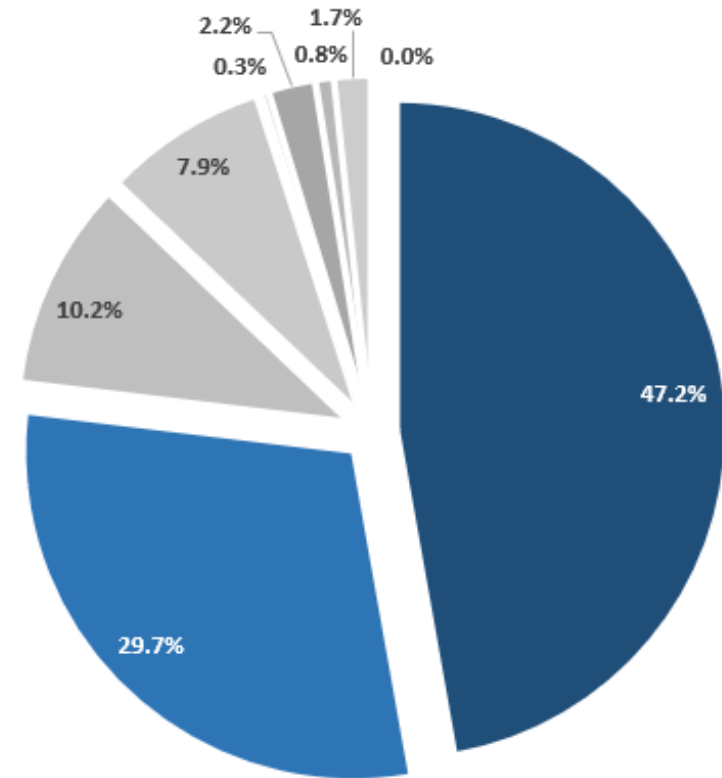
Risk Management Examples

Market Value by Asset Class

Public + Private Equity = 48.2% combined

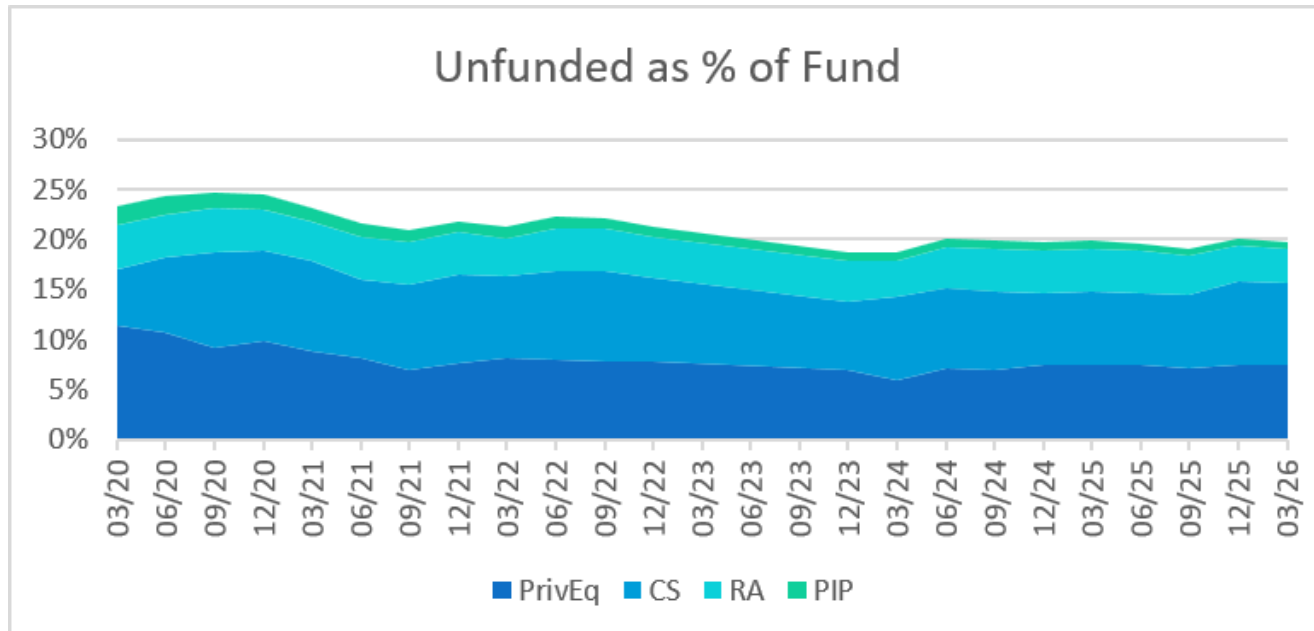
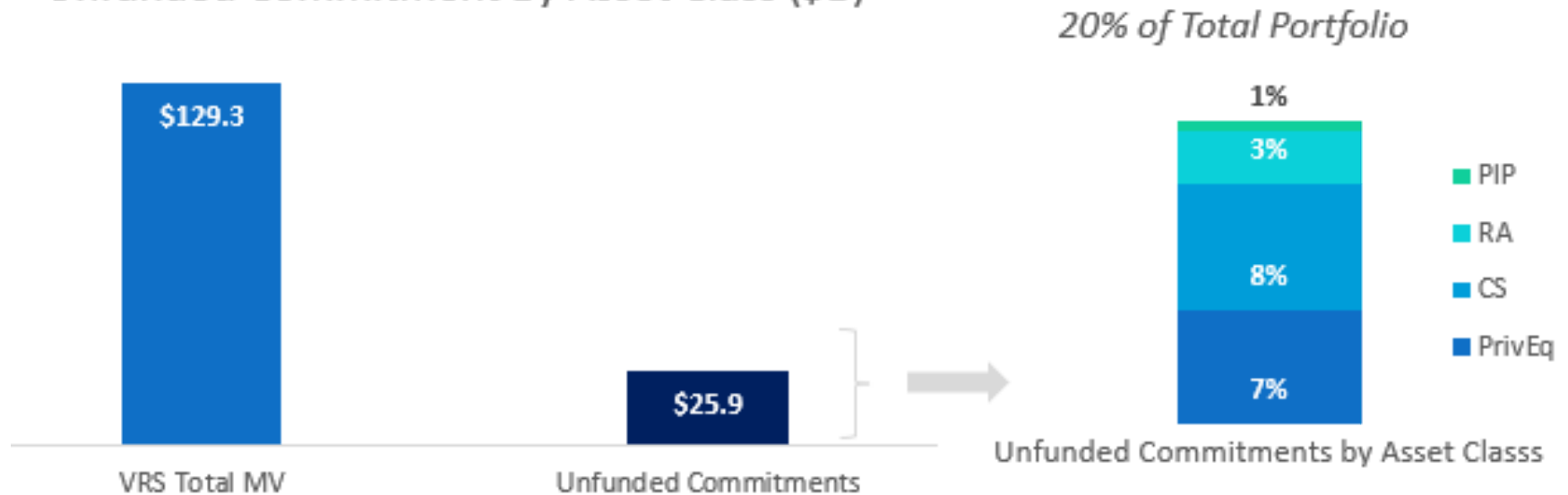


Risk Contribution by Asset Class
Public + Private Equity = 76.9% combined



Risk Management Examples

Unfunded Commitment By Asset Class (\$B)



Looking Back: Year in Review Highlights

- Impact analysis on proposed benchmark changes
- More granular risk modelling: loan-level credit strategies and property level real assets
- Built fund-master with canonical IDs for faster research and analysis
- Research project to quantify portfolio AI exposure
- Explored USD debasement scenarios and hedging opportunities
- Project OneView launch

Looking Ahead

- Enhance Data Foundation Layer
- Seek systems integration & automation
- Improve “What-If” capabilities for evaluating portfolio shifts & scenario planning
- Enrich private investment risk modelling
- Evaluate alternative enterprise risk systems
- Explore internal multi-asset strategies

Q&A



Portfolio Integration and Treasury

Brock Bell
Director

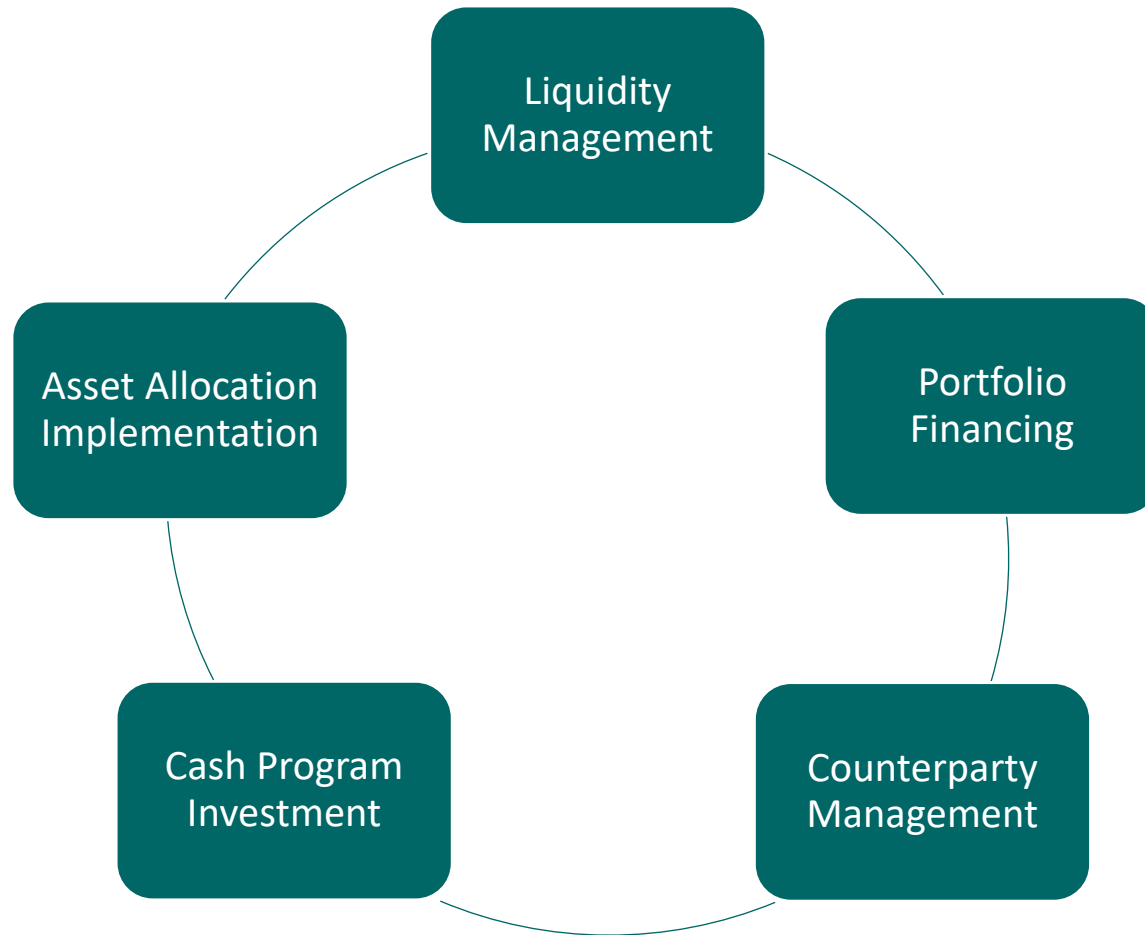
Agenda

- Team Members
- Key Responsibilities
- Current Funding Channels
- Strategic Financing Optimization
- Asset Allocation Implementation
- Treasury Enhancements & Initiatives

Team Members

Professional	Position	Highest Degree	Professional Certifications	Investment Experience	VRS Tenure
Matt Lacy	Program Director	MA	CFA	27	27
Brock Bell	Director	BA		20	2
Nathan Thomas	Investment Analyst	MA		2	1
Additional Resources	Portfolio Solutions Group, Asset Class Programs, Management Committee, Investment Operations, Compliance Team, Legal/Regulatory Team, Investment Decision Support				

Key Responsibilities



Why Do We Want to Deploy Leverage?

Additional capital to invest in diversifying assets

Additional liquidity to meet increasing monthly retiree obligations

Dry powder available to invest when asset prices are attractive

Ability to enhance returns

Leverage employed holistically across Plan to maximize risk-adjusted returns over the long-term

Current Funding Channels

Securities Lending Cash Release

- Secured borrow against cash collateral pool generated from public equity and fixed income agent securities lending program

Synthetic Funding

- OTC Swaps
- Listed Futures

PB Margin Lending

- Portfolio loan against prime broker assets

Prime Brokerage Margin Lending

Significantly increases total leverage capacity

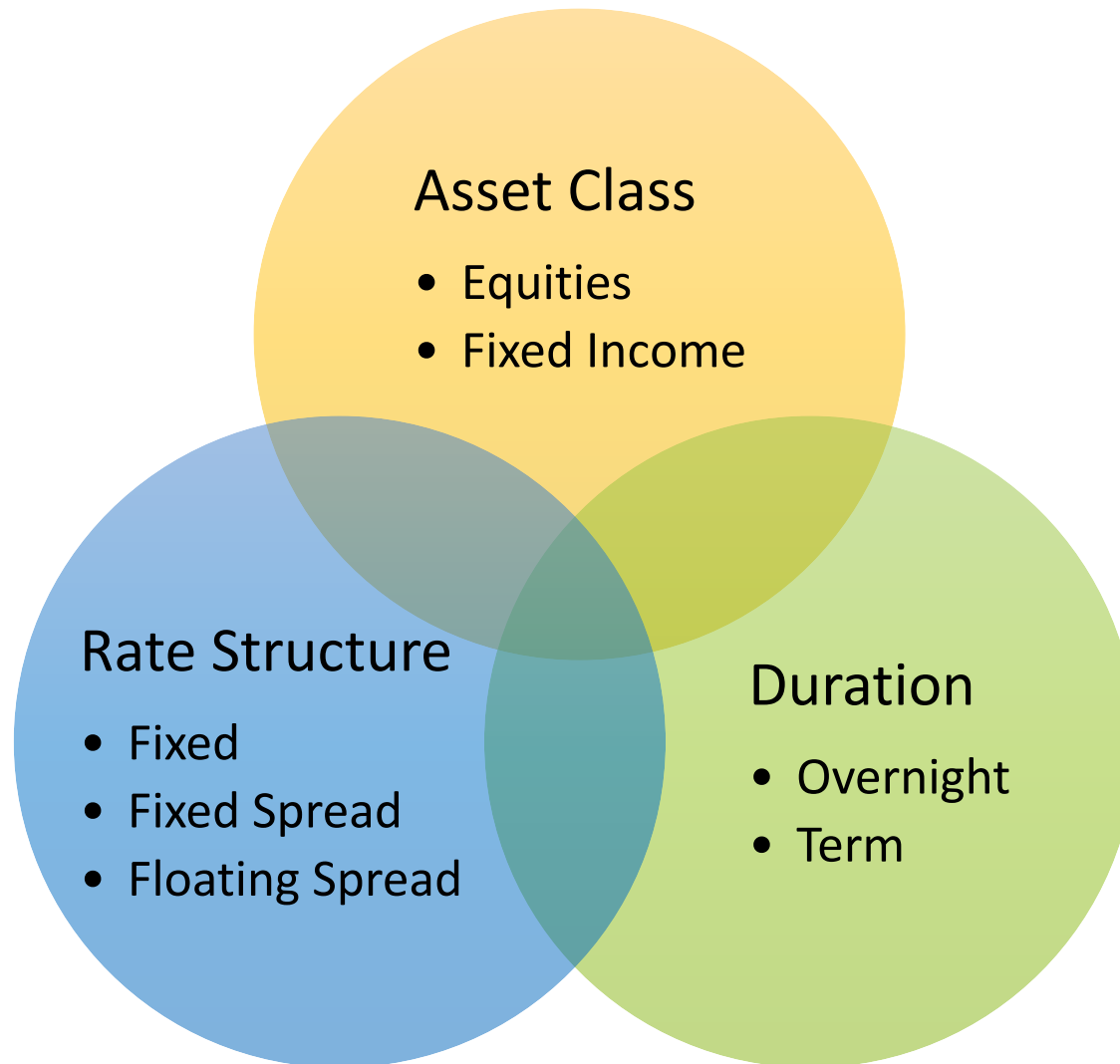
Lower cost of funding

Flexible funding structure

Able to maintain active management

Currently live & operational

Strategic Framework to Diversify and Optimize Funding



Optimizing Funding in a Dynamic Market

Period	Leverage	Portfolio Dynamics	Funding Costs	Tactics
Q4 2025	0.7%	Plan leverage remained roughly flat, with net cash inflows largely offsetting opportunistic capital deployment into enhanced cash strategy	Very High	Funded enhanced cash investment strategy and capitalized on elevated equity funding premium
Q1 2026	0.7% to 1.1%	Leverage increased gradually due to net capital calls	Normal	Increased cash release balance and unwound enhanced cash investments as funding normalized
Q2 2026	1.1% to 0.5%	Leverage declined significantly due to relatively large net cash outflows	Volatile	Reduced cash release balance in sync with leverage reduction
Q3 2026	0.5%	Leverage has remained flat with cash inflows roughly offsetting outflows	Normal	Stable funding balances

Asset Allocation Implementation

Manage Liquidity, Oversee Capital Flows, and Optimize Funding

- \$10bn+ of both capital calls and distributions
- \$5bn+ in public equity transitions
- 2k+ total cash flows

Resilient Liquidity Management Process

- Sufficient cash & available funding to withstand severe stress scenarios
- Daily reporting to monitor and actively manage liquidity risk

Cash vs. Leverage Cost-Benefit Analysis

- Evaluate trade-offs
- Determine most optimal solution

Portfolio Rebalancing Implementation

- Sizing, timing, pricing, execution

Treasury Enhancements

Cash Program Management

- Assumed oversight of externally managed cash investments
- Enhanced returns from internal balance sheet & capital layoff strategy

Securities lending outperformance

- Negotiated improved economic terms for cash release and securities lending
- Total return on assets outperformance over 250% vs. direct peer group
- Addition of Taiwan and Saudi Arabia markets into lending program

Counterparty Management

- Benchmarks to evaluate publicly traded banks and private asset managers
- Defined risk thresholds for sovereign debt risk
- Expanded counterparty trading relationships

Current Initiatives in Progress

Self-Directed Lending

- Tactical trades negotiated directly with specific borrowers
- Leverages agent lender for operational workflow and execution

Tri-Party Repo

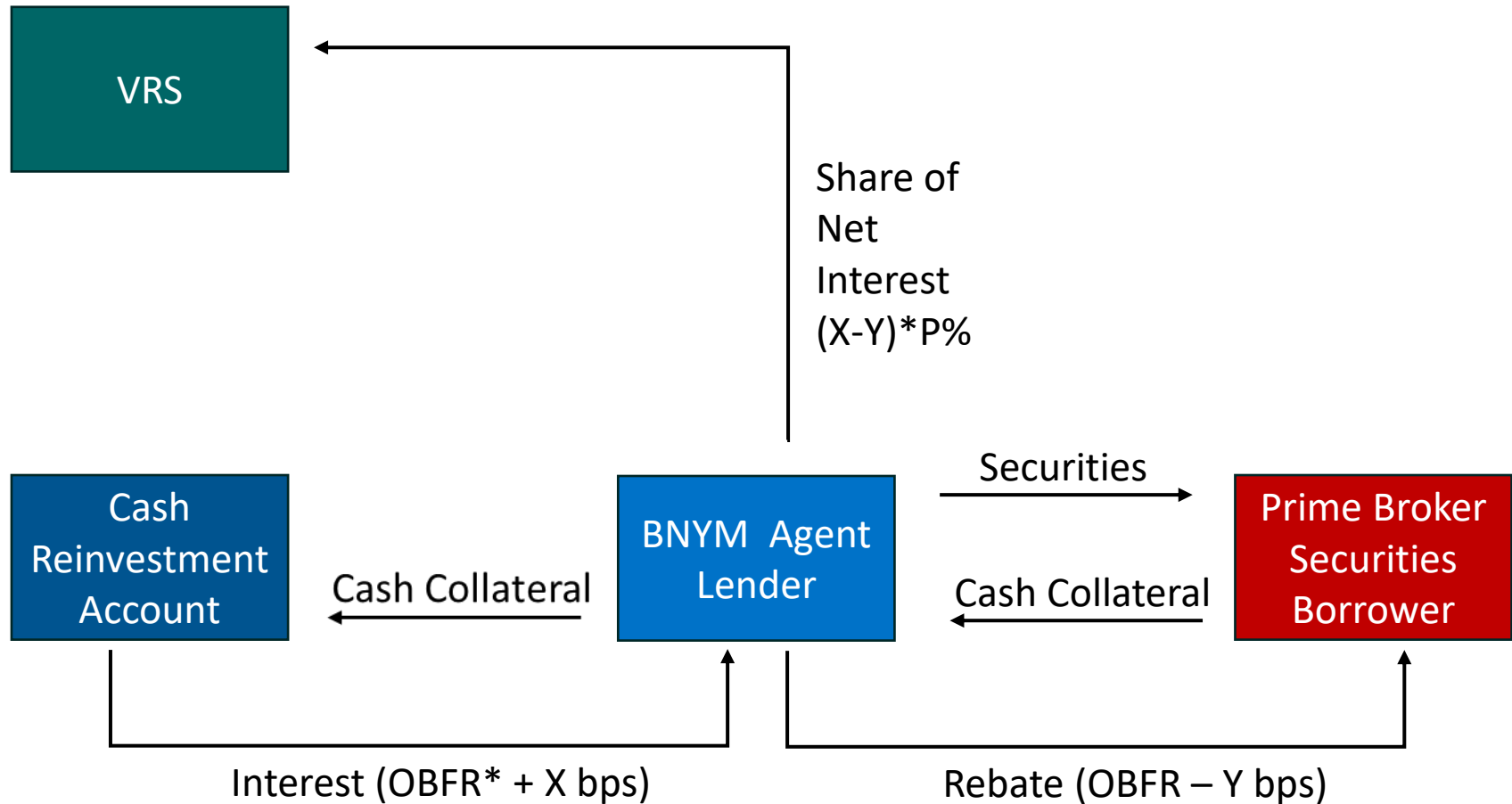
- Repo structure using custodian as tri-party agent
- Advantages: more access to balance sheet, high operational efficiency, and ability to opportunistically fund multiple asset classes

Additional Enhancements

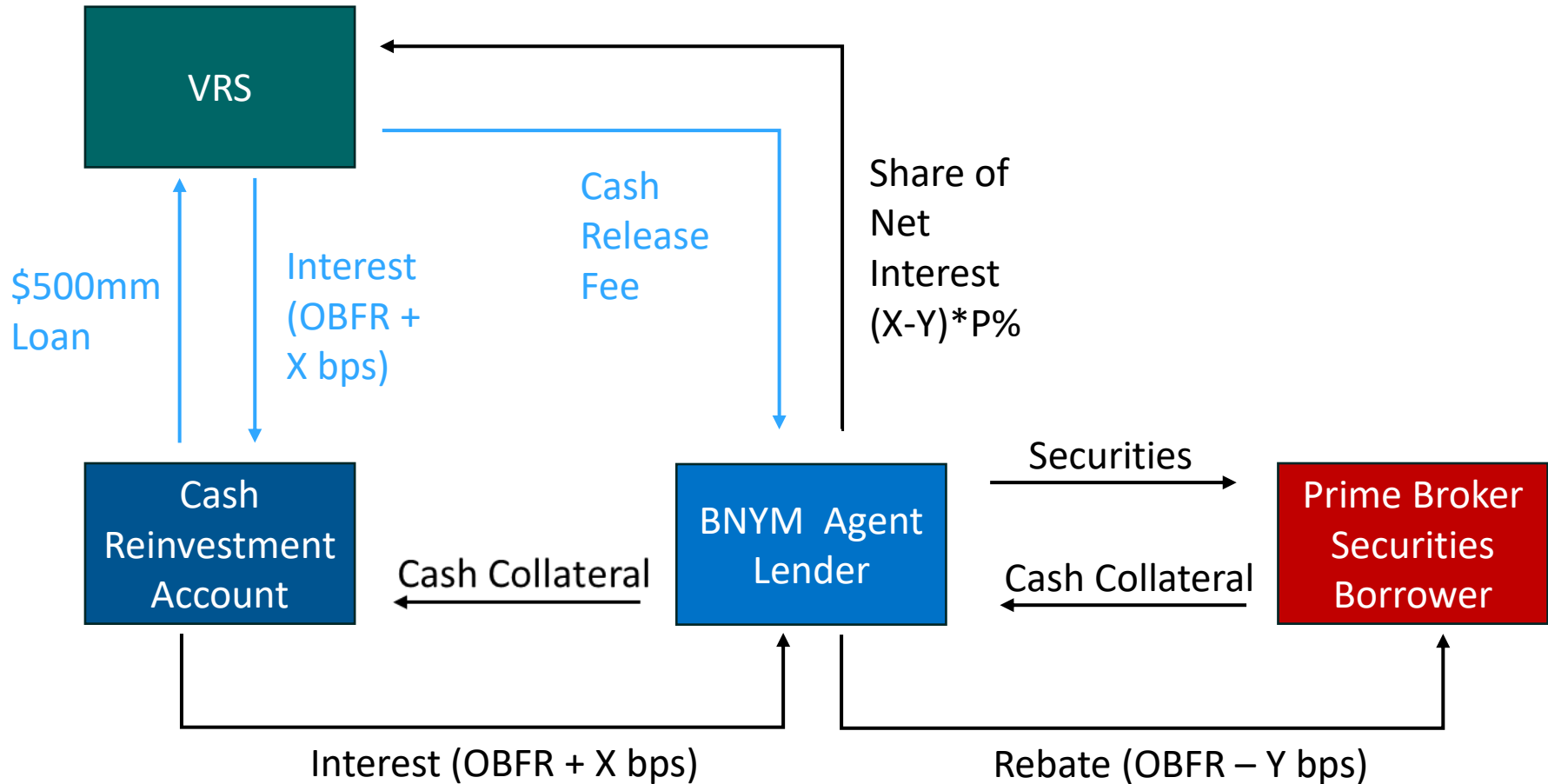
- Strengthening cash reinvestment guidelines
- Exploring new potential securities lending markets
- Cash short selling capabilities

Appendix

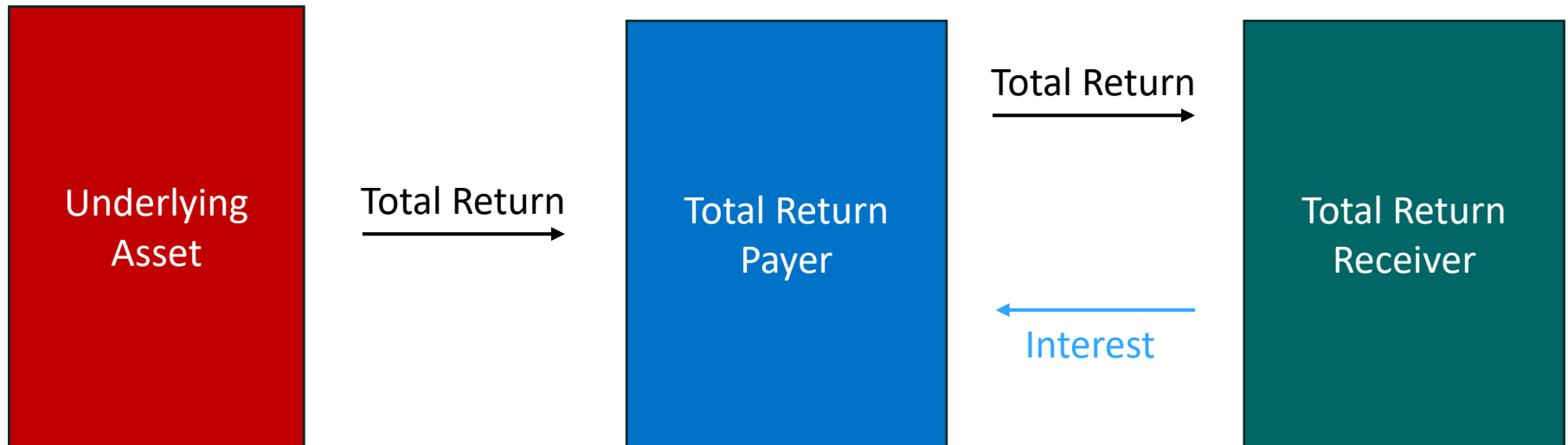
Agency Securities Lending



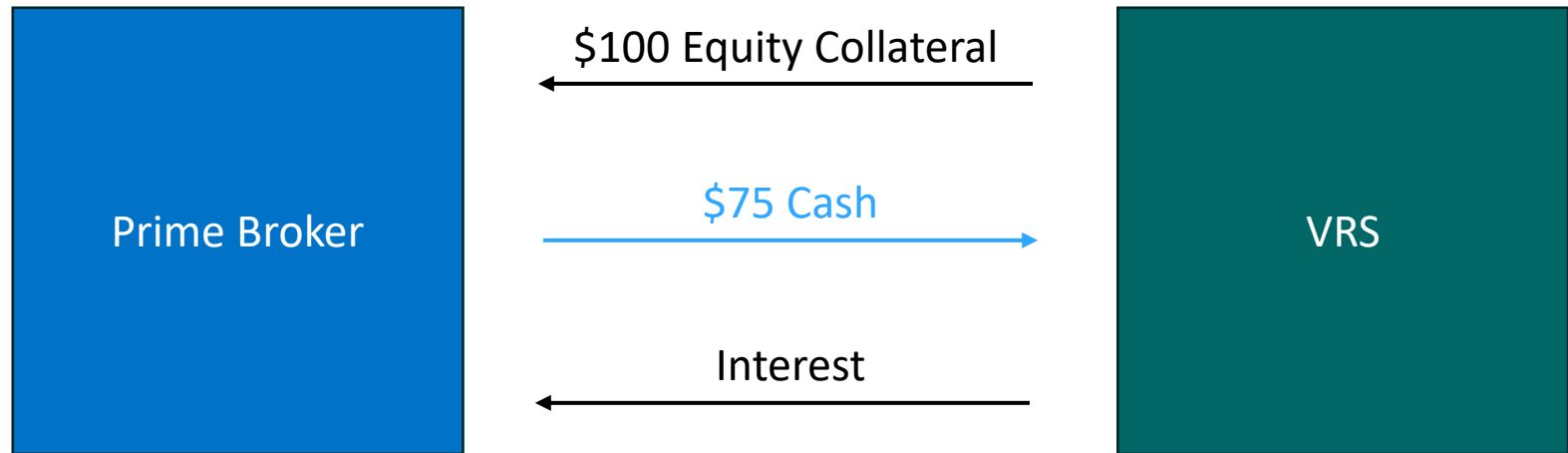
Cash Release Program



Total Return Swaps



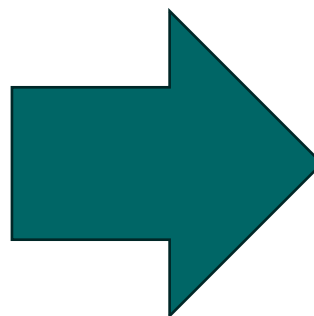
Equity Prime Brokerage Margin Lending



- Prime broker lends cash to clients, using client long positions as collateral
- Margin requirement serves as a haircut or risk buffer for PB
- Client pays a financing rate for the cash loan (Risk-free rate + spread)

PB Margin Lending Sample Drawdown Scenario

Metric	Current Portfolio		20% Drawdown
Long Market Value	\$10,000,000,000		\$8,000,000,000
Net Cash	\$100,000,000		\$100,000,000
Account Equity	\$10,000,000,000		\$8,100,000,000
Margin Requirement	\$2,200,000,000		\$1,760,000,000
Margin Excess	\$7,900,000,000		\$6,340,000,000
Borrowed Cash	\$500,000,000		\$500,000,000
Remaining Margin Excess	\$7,400,000,000		\$5,840,000,000



Prime Broker Selection and Due Diligence

- Explored 10+ potential prime brokerage relationships
- Collective effort and due diligence across various teams
 - Treasury
 - Risk
 - Operations
 - Legal
 - Compliance
 - Investment Accounting
 - IDS and Technology
 - IEM Portfolio Managers
 - Executive Committee
- Ranked each potential counterparty across multiple criteria
 - Financing
 - Margin
 - Client Service
 - Reporting
 - Operational Efficiency
 - Compliance
 - Execution Quality
 - Overall Relationship and Strategic Partnership



Diversifying Strategies

Ross Kasarda
Director

Kristina Koutrakos
Director

Diversifying Strategies: 2026 Review and Outlook



Team and Resources

Professional	Position	Highest Degree / Credentials	Investment Experience	VRS Tenure
Ross Kasarda	Director	MA, CFA	22	22
Kristina Koutrakos	Director	MBA, CAIA	27	10
Katherine Grawe	Portfolio Manager	MBA	27	8
Greg Hines	Senior Investment Officer	MA, CFA	15	13
Additional Resources	Portfolio Solutions Group VRS Investment Staff External Managers & Research Partners Investment Operations Department			

The Role of Diversifying Strategies

Purpose

Improve total fund resilience by broadening return sources, incorporating defensive convexity, and harnessing actionable manager insights.



Diversify

Expand the Plan's return sources and risk exposures to provide diversification across market cycles and investment environments



Defend

Actively manage risk responding strategies that can help preserve capital and provide flexibility in stressed environments



Inform

Translate manager research, market observations, and portfolio learnings into knowledge transfer across the Plan

Portfolio Construction Framework



Uncorrelated returns
to growth assets



Diversifying risk exposures to
traditional market betas



Absolute return
orientation

Diversifying Strategies Program

Risk Responders

Investments that are likely to provide convex returns in more prolonged bear markets

Strategy Examples:

Long Volatility
Trend
Dispersion

Return Enhancers

Investments that seek to diversify the return drivers with low correlation to overall Plan returns

Strategy Examples:

Relative Value
Event Driven
Global Macro

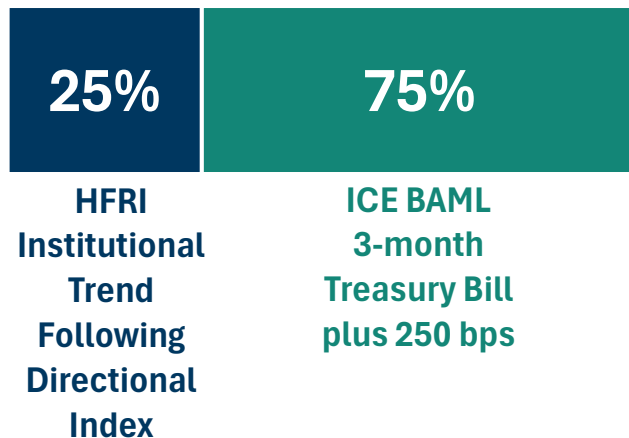
Evolution of the Program in FY 2026

Target Portfolio Allocation



Shifting the overall construct of the program to align more to overall return objectives while retaining a conservative approach to defensive strategies.

Benchmark Alignment



New benchmark effective July 1, 2026

Incorporating a broadly investable trend index to introduce volatility into the overall program benchmark and reflect the convexity embedded into the program.

Program Results through May 2026

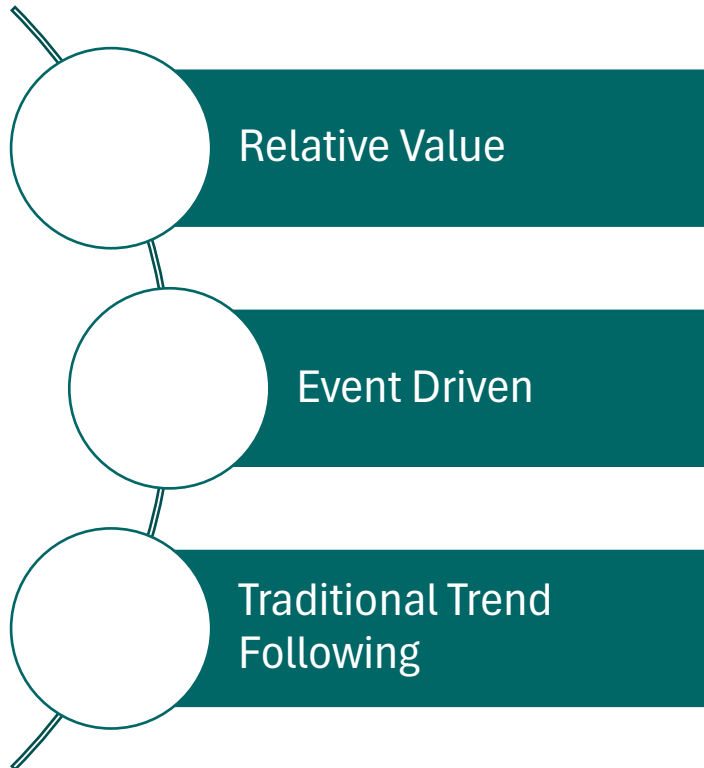
	Since Inception	5 Year	3 Year	Since Jan 2024	1 Year
Diversifying Strategies	5.3	4.8	8.0	7.2	8.2
Benchmark	5.8	4.2	8.1	7.0	6.4
Excess Return	-0.5	0.6	-0.1	0.1	1.8
Volatility	6.8	5.4	3.8	3.5	3.6
Return/Risk	0.8	0.9	2.1	2.1	2.3

Data as of May 2026. Program changes for the former Dynamic Strategies portfolio removed beta from the program starting 01/2024.

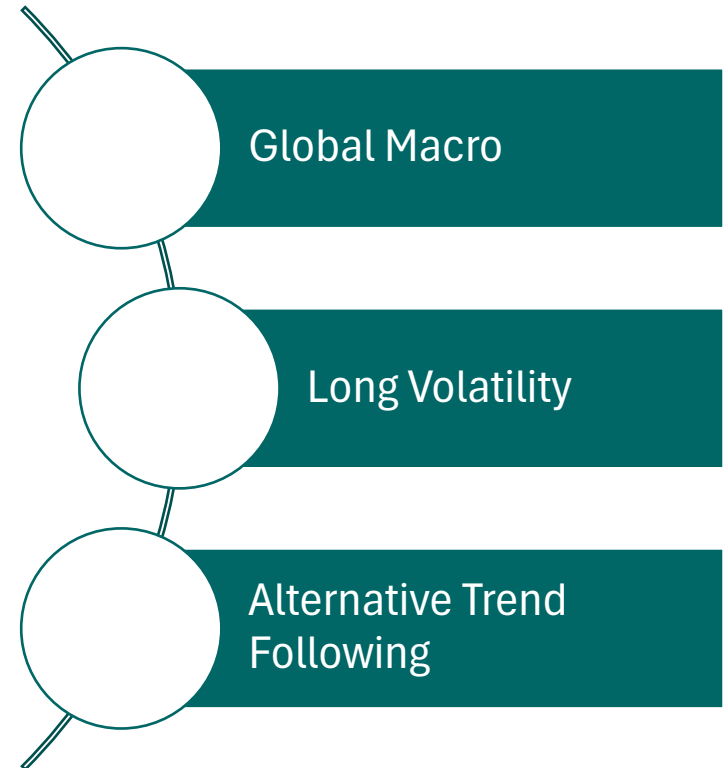
Understanding Last Year Results

Diversifying Strategies returned 8.2% one-year ending May 2026

What Worked



What Struggled



Evidence of Diversification

Div Strat Betas Jan 2024 – May 2026	
Total Fund	0.2
Public Equity	0.1
Fixed Income	0.0
Credit Strategies	0.1

Risk Responder Betas Jan 2024 – May 2026	
Total Fund	0.1
Public Equity	0.0
Fixed Income	0.1
Credit Strategies	-0.4

Return Enhancer Betas Jan 2024 – May 2026	
Total Fund	0.3
Public Equity	0.2
Fixed Income	0.1
Credit Strategies	0.4

Market Betas Jan 2024 – May 2026	
MSCI ACWI IMI	0.1
S&P 500	0.0
US Bonds	0.0
US High Yield	0.1
Commodities	0.1

Looking Ahead



Total Plan Fit

Continue to analyze the complementarity of DS to the Total Fund, seeking to maximize diversification with convex characteristics.



Idea Amplification

Seek additional ways to incorporate targeted, opportunistic deployment to upsize best ideas



Risk Assessment

Build out additional evaluation tools internally and with investment partners to analyze risk through multiple lenses

APPENDIX

Evolution of Diversifying Strategies

Risk-Based Investments

- Diversify total return with **zero to negative beta to traditional assets** alongside a carve out for **risk parity** measured against peer benchmarks
- Modified benchmark to **cash plus** to maintain consistency to zero to negative equity beta focus
- **Removed risk parity** as a component due to lack of alignment with fund objectives

LAUNCH - Jun 2018

Jan 2020

Jan 2023

Dynamic Strategies

- Diversify active return through **asset allocation decisions** measured against a market beta benchmark
- Launched internal asset allocation mandate
- Funded thematic mandates

Dec 2020

Jul 2021

Jan 2024

Diversifying Strategies

- **Diversify the VRS return stream and risk exposures** across market cycles and investment environments; Actively managed mix of **risk responding** and **return enhancing** strategies
- **Absolute return focus**, limited to no market betas, cash plus benchmark



Exposure Management Portfolio

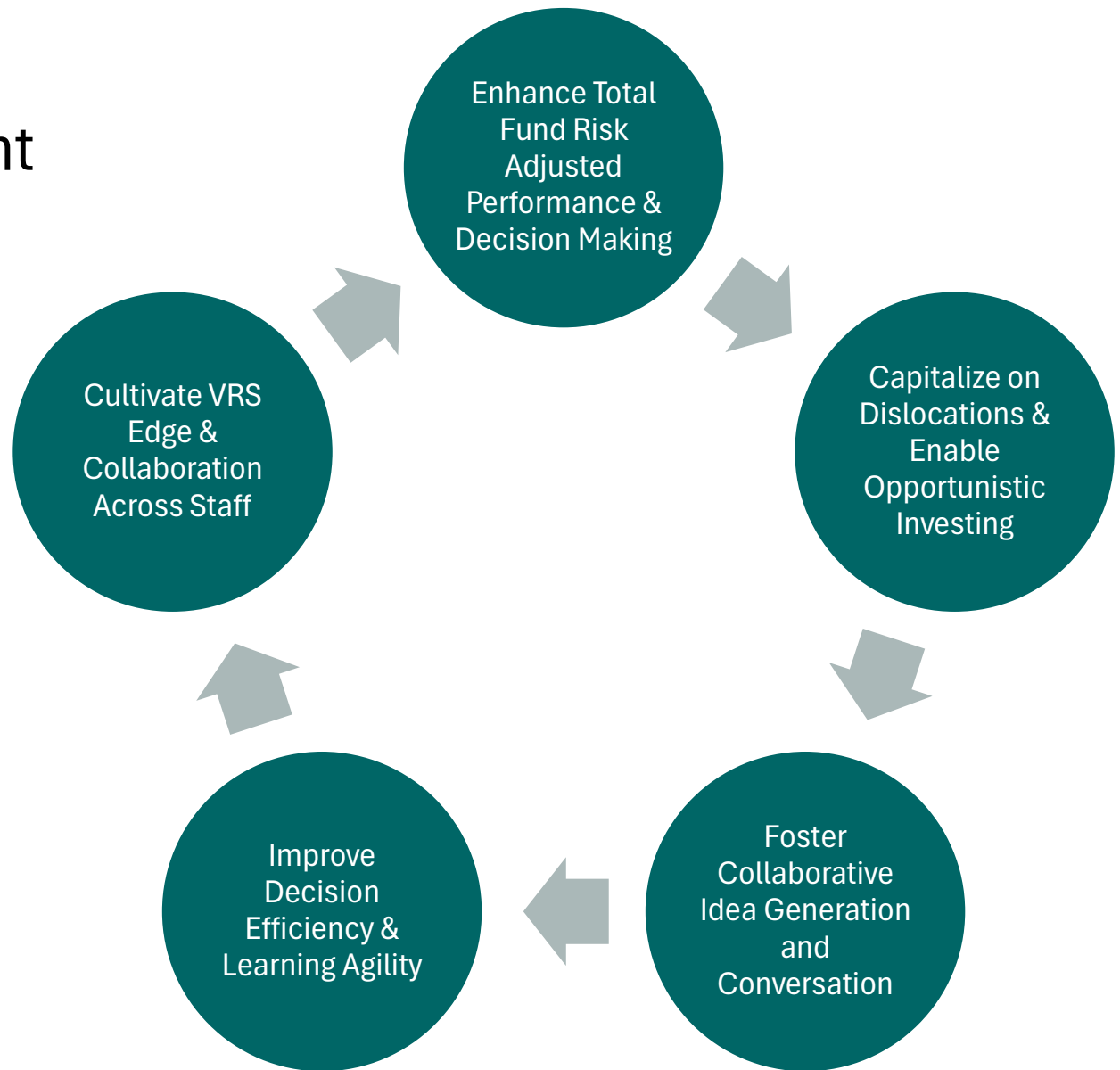
Katie Grawe
Portfolio Manager

Annual Review Topics



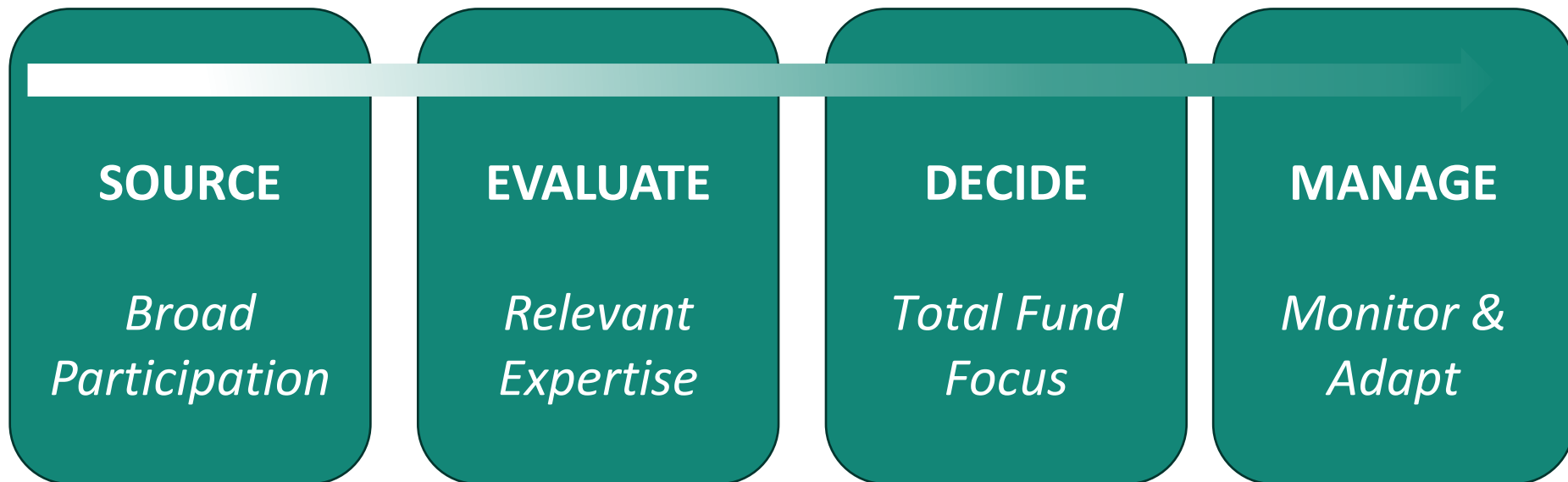
EMP Purpose and Objectives

The VRS investment edge is its deep expertise, disciplined judgment, broad relationships, internal collaboration, and implementation flexibility.



Applying VRS's Investment Edge: Opportunity to Investment

***Relationships] Collaboration] Expertise]
Judgment] Flexibility***



2026 in Review: Selectivity in Deployment

Opportunity Set	Reviewed	Approved	In Active Review	Passed / Deferred
Technological Innovation	7	3	2	2
Economic Security & Reindustrialization	4	0	2	2
Insurance, Reinsurance & Specialty Finance	5	0	0	5
Asset-Backed Credit & Real Assets	7	1	1	5
Financial Market Dislocations	4	0	0	4
Total	27	4	5	18

Note: Formal review activity excludes broader inbound, manager-led, and staff-generated ideas screened out prior to structured evaluation

Performance & Impact

Performance was driven by a concentrated set of differentiated opportunities with return drivers distinct from traditional portfolios.

	Trailing Returns (as of May 31, 2026)			
	5 yr	3 yr	1y	FYTD
Exposure Management Portfolio	14.6	19.3	26.0	24.8
<i>VRS Total Fund Custom Benchmark</i>	<i>7.3</i>	<i>12.8</i>	<i>15.1</i>	<i>13.9</i>

Organizational Impact

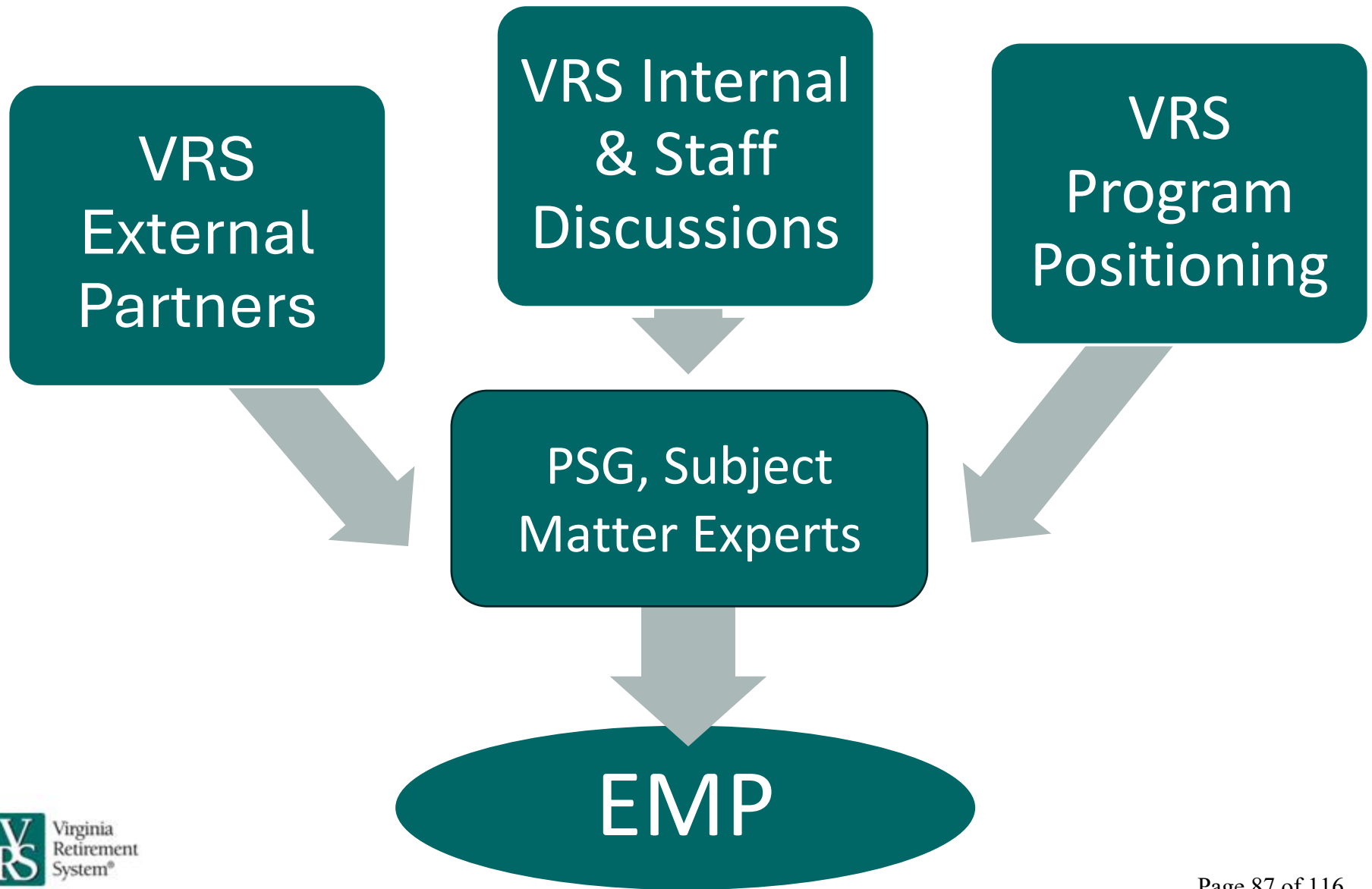
Expanded sourcing and cross-program participation, helping VRS more fully capture its investment edge.

Looking Ahead

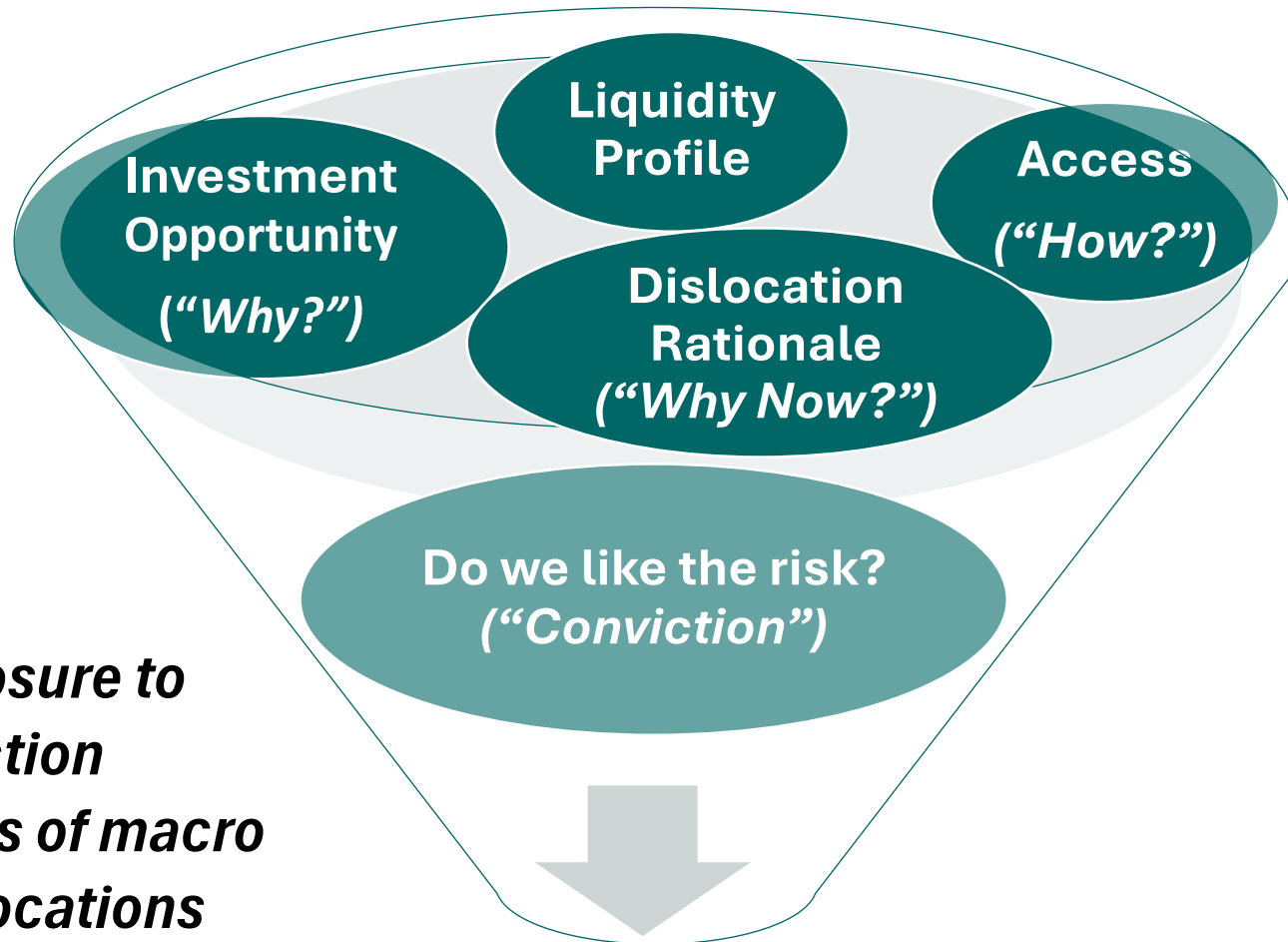
- Leverage cross-functional expertise, collaborative underwriting, and organizational learning to scale evaluation capacity and expertise across a broader opportunity set
- Maintain a high bar for EMP eligibility, prioritizing opportunities that benefit from specialized access, cross-program relevance, and differentiated implementation

Appendix

Team Resources & Idea Curation



Diligence Framework: Synthesis and Timeliness



***Active exposure to
high conviction
expressions of macro
driven dislocations***

Implementation Decision

Identifying Dislocations

Dislocation	Source
Extreme Valuations	Behavioral mispricings due to investor overreaction, sentiment extremes, or speculative bubbles
Market Stress (Non-Economic Flows)	Forced trades from central banks, regulatory shifts, or distressed sellers
Herding Behavior	Crowded trades from momentum chasing, technical overlays, or groupthink
Capital Flow Shifts	Reallocations across regions or asset classes due to macro or geopolitical shocks
Emerging/ New Markets	Regulatory or structural changes opening new investable segments
Niche/Narrow Markets	Markets with limited scale or access where inefficiencies persist
Thematic Macro Trends	Structural shifts such as AI adoption, defense spending, or energy grid transformation



Forward Returns and Scenario Analysis

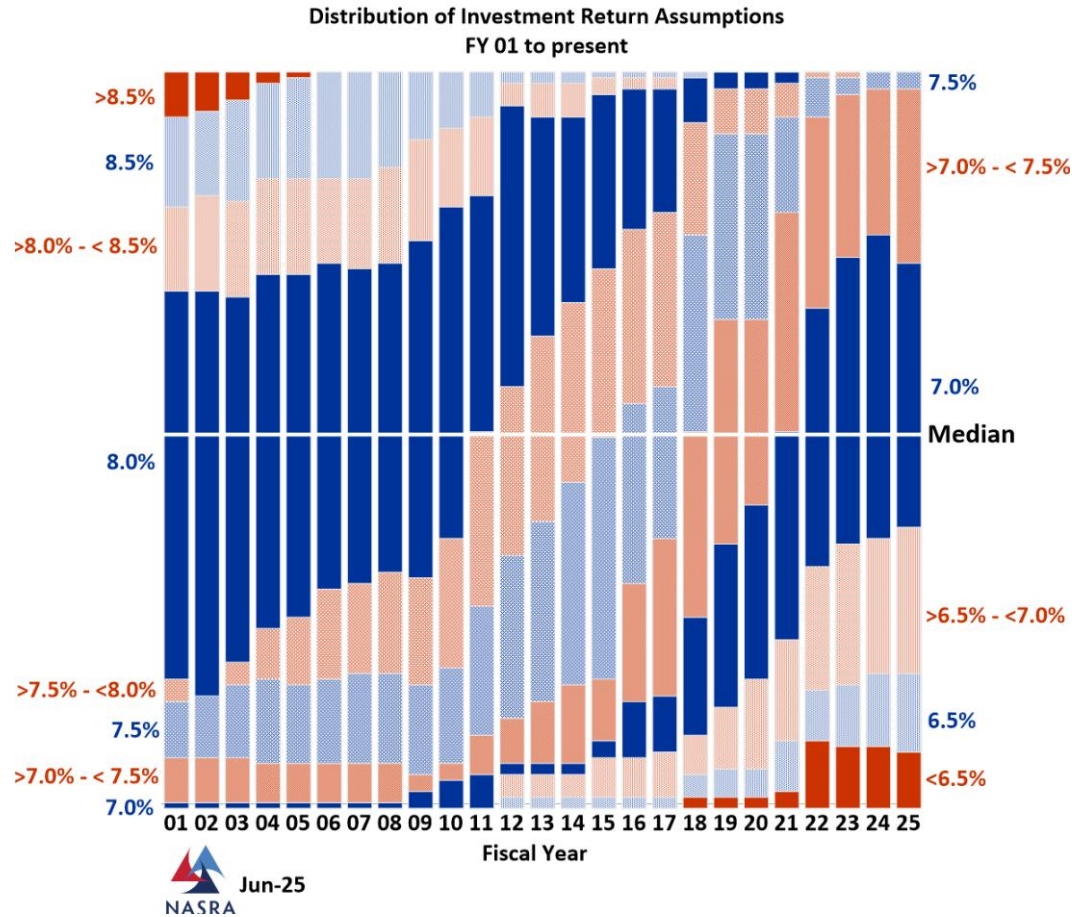
Chung Ma
Deputy CIO

Sara Denson
Actuary

Agenda

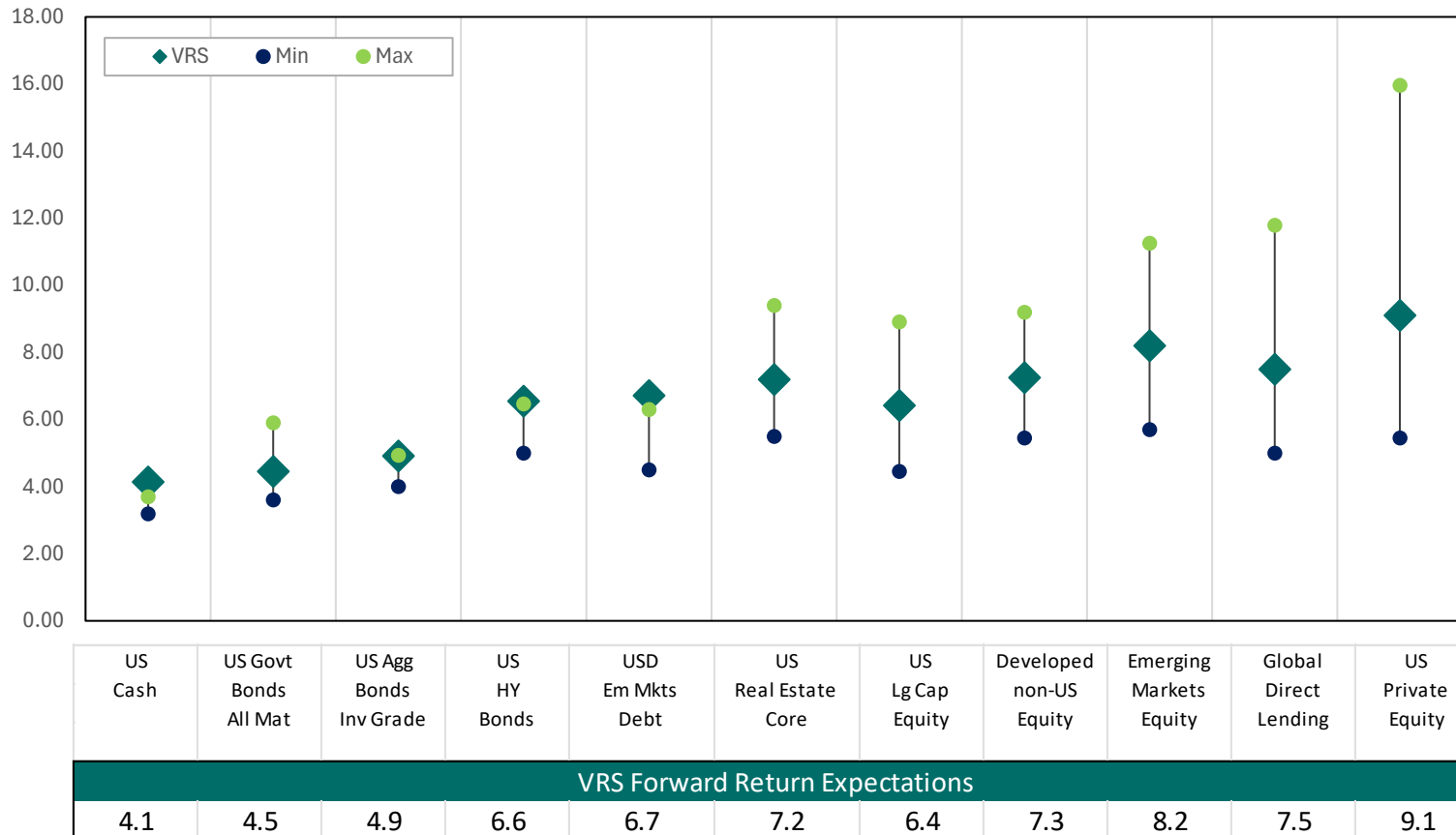
- State Plan Forward Returns Summary
- External Managers' Forward Returns Comparison
- VRS Long Term Forward Returns
- Forward Returns Attribution
- Scenario Analysis

Public Pension Plan Discount Rate Revisions Over Time (2025)



Long Term Forward Return Expectations External Managers and VRS

Long Term Forward Return Expectations
External Manager & VRS



Forward Returns and Volatilities By Asset Class (20 year)

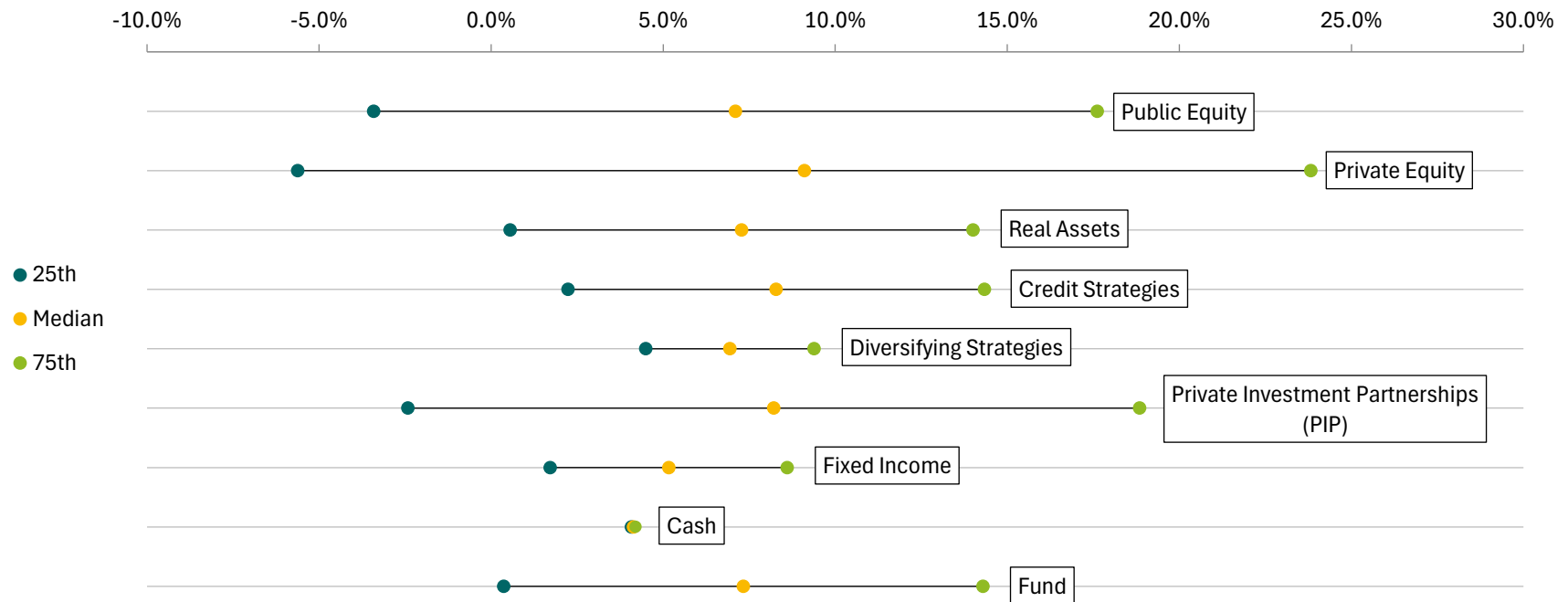
Asset Class	6/30/2026			6/30/2025		
	Wt.	Exp.Ret	Exp.Vol	Wt.	Exp.Ret	Exp.Vol
Public Equity	32%	6.8%	15.6%	32%	6.6%	15.5%
Private Equity	15%	8.8%	21.8%	16%	8.6%	22.4%
Real Assets	14%	7.2%	10.0%	14%	7.1%	10.2%
Credit Strategies	16%	8.2%	9.0%	16%	8.2%	6.3%
Diversifying Strategies	6%	7.1%	3.6%	5%	6.8%	4.2%
Private Investment Partnerships	2%	8.1%	15.8%	2%	7.9%	16.1%
Fixed Income	16%	5.3%	5.1%	16%	5.1%	5.4%
Cash	2%	4.3%	0.1%	2%	4.1%	0.1%
Leverage	-3%	4.8%	0.1%	-3%	4.6%	0.1%
Total Fund		7.2%	10.3%		7.1%	10.5%

Forward Returns and Volatilities By Asset Class (20 year)

Asset Class	3/31/2026			6/30/2025		
	Wt.	Exp.Ret	Exp.Vol	Wt.	Exp.Ret	Exp.Vol
Public Equity	32%	7.1%	15.6%	32%	6.6%	15.5%
Private Equity	15%	9.1%	21.8%	16%	8.6%	22.4%
Real Assets	14%	7.3%	10.0%	14%	7.1%	10.2%
Credit Strategies	16%	8.3%	9.0%	16%	8.2%	6.3%
Diversifying Strategies	6%	6.9%	3.6%	5%	6.8%	4.2%
Private Investment Partnerships	2%	8.2%	15.8%	2%	7.9%	16.1%
Fixed Income	16%	5.2%	5.1%	16%	5.1%	5.4%
Cash	2%	4.1%	0.1%	2%	4.1%	0.1%
Leverage	-3%	4.6%	0.1%	-3%	4.6%	0.1%
Total Fund		7.3%	10.3%		7.1%	10.5%

VRS Forward Returns By Asset Class

Annualized 20 Year Expected Returns



P	PubEq	PvtEq	RA	CS	DS	PIP	FI	Cash	Fund
P25	-3.4%	-5.6%	0.6%	2.2%	4.5%	-2.4%	1.7%	4.1%	0.4%
P50	7.1%	9.1%	7.3%	8.3%	6.9%	8.2%	5.2%	4.1%	7.3%
P75	17.6%	23.8%	14.0%	14.3%	9.4%	18.8%	8.6%	4.2%	14.3%

Economic Scenarios

- Baseline
- Stagflation
 - Slow growth/persistent inflation
 - Modeled on 1969-1988
- Fiscal Dominance
 - Debt grows faster than GDP
 - Debt repayment in deflated \$
- AI Productivity Surge
 - AI-inspired productivity surge

Scenario Analysis – State Plan

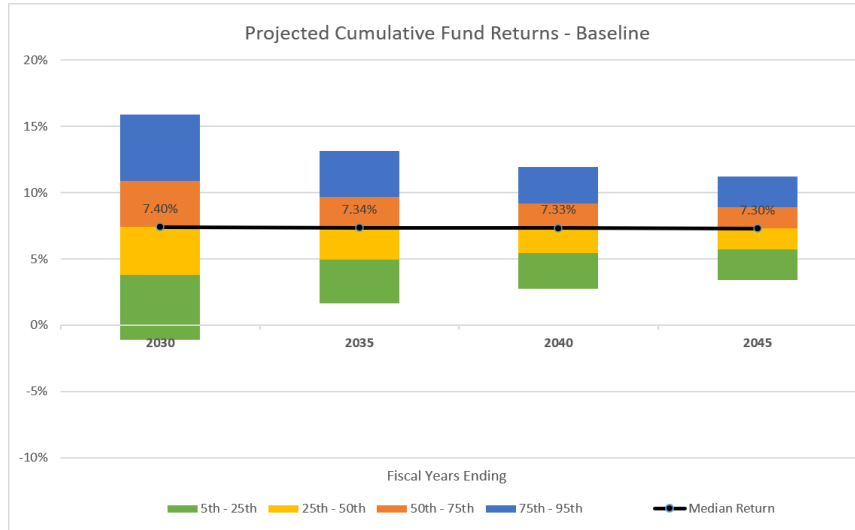
- Decision Factors
 - Total Fund Return
 - Employer Contribution rates
 - Plan Funded Status
 - Liquidity Ratio - $(\text{Contributions} - (\text{Benefits} + \text{Admin Costs})) / \text{Total Fund Value}$
- Discussion Points
 - Projection Period (2026-2045)
 - Median Paths & Confidence Bands

Confidence Bands and Comparison of Economic Scenarios

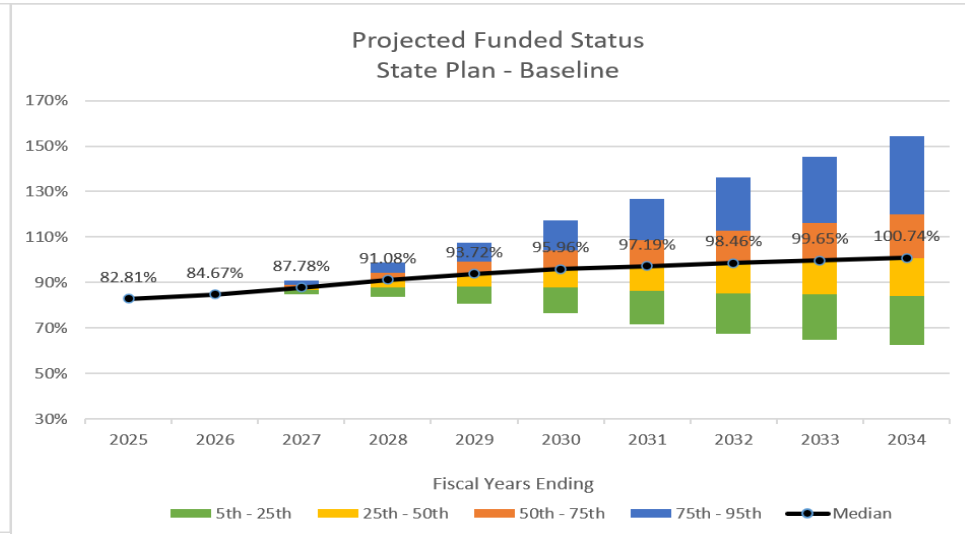


Baseline – State Plan

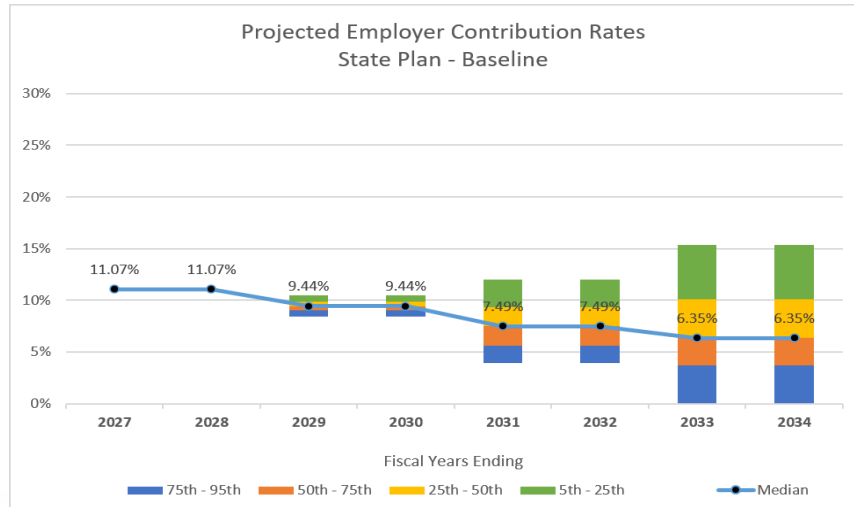
Rates of Return



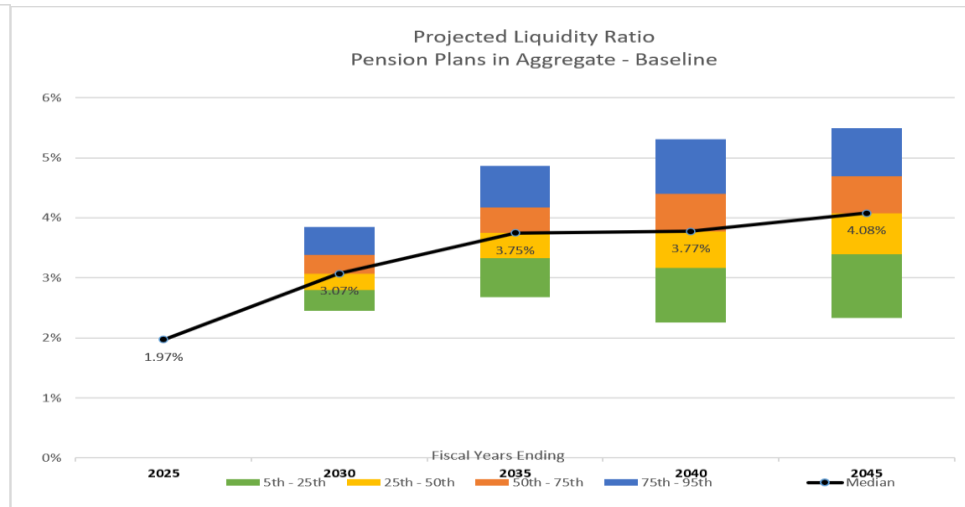
Funded Status – Actuarial Asset Basis



Contribution Rates

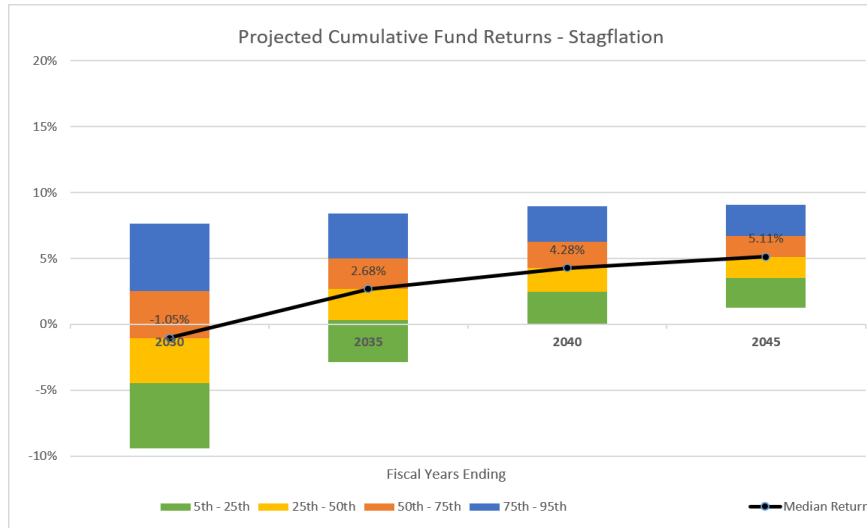


Liquidity

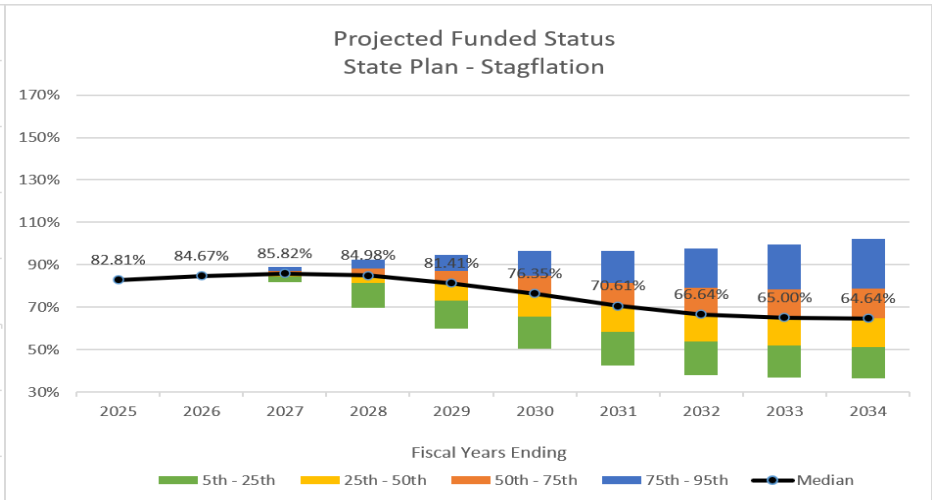


Stagflation – State Plan

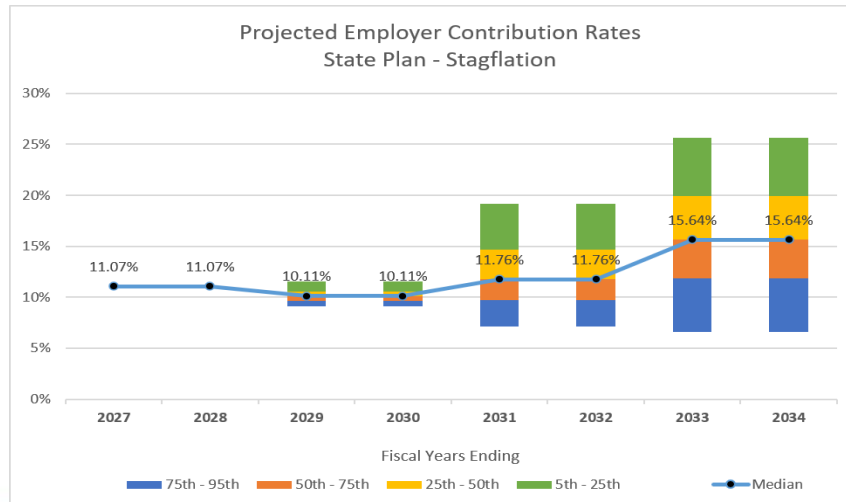
Rates of Return



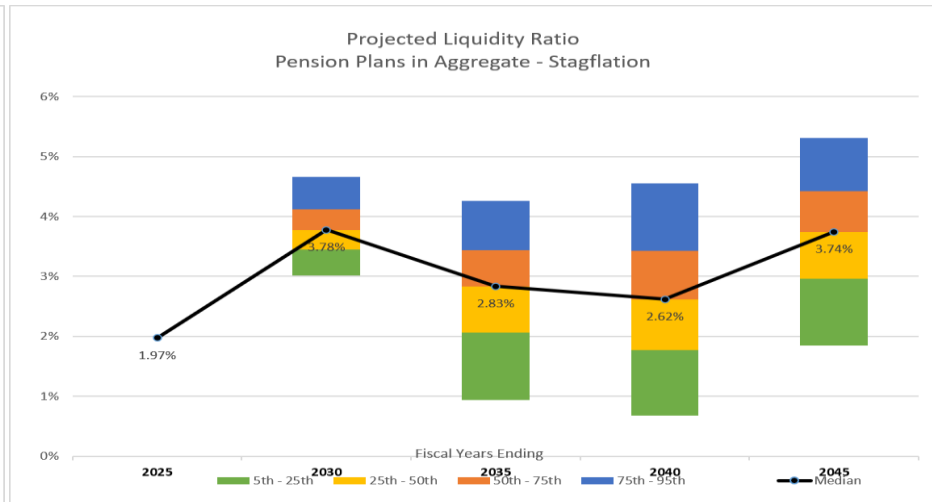
Funded Status – Actuarial Asset Basis



Contribution Rates

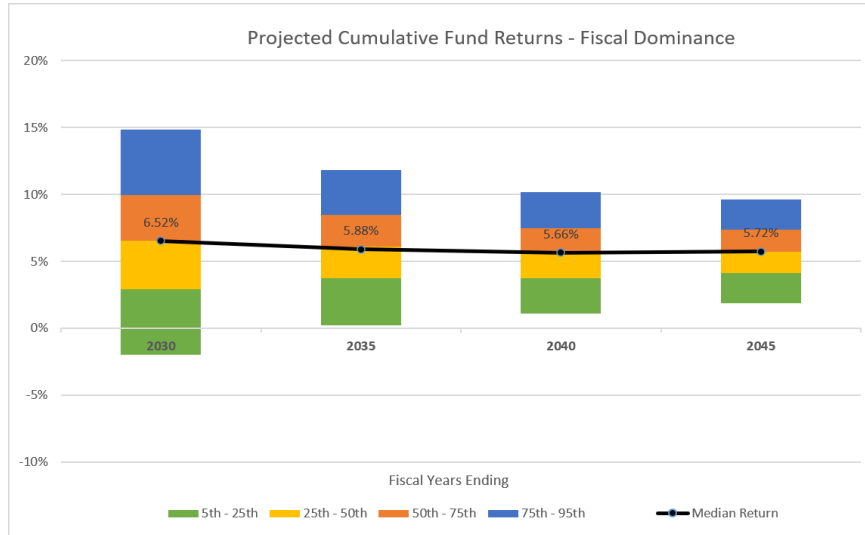


Liquidity

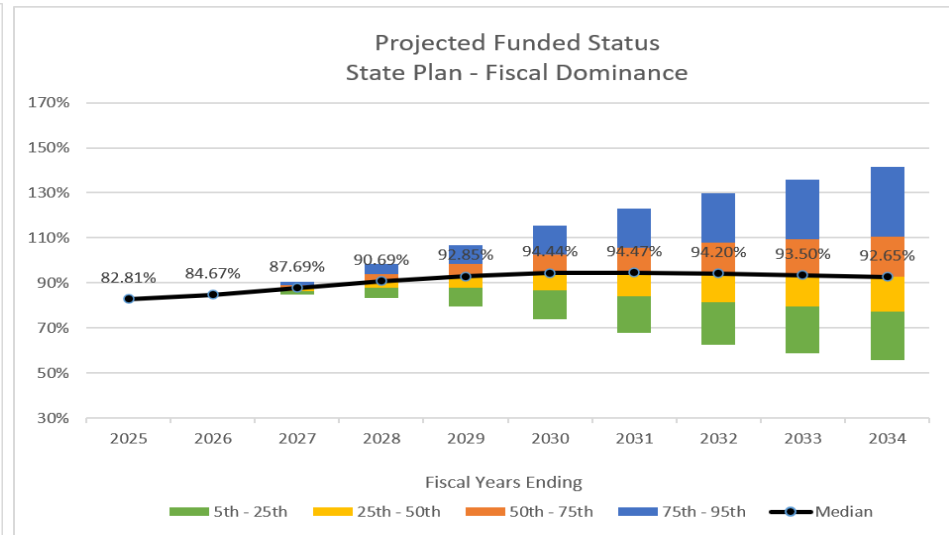


Fiscal Dominance – State Plan

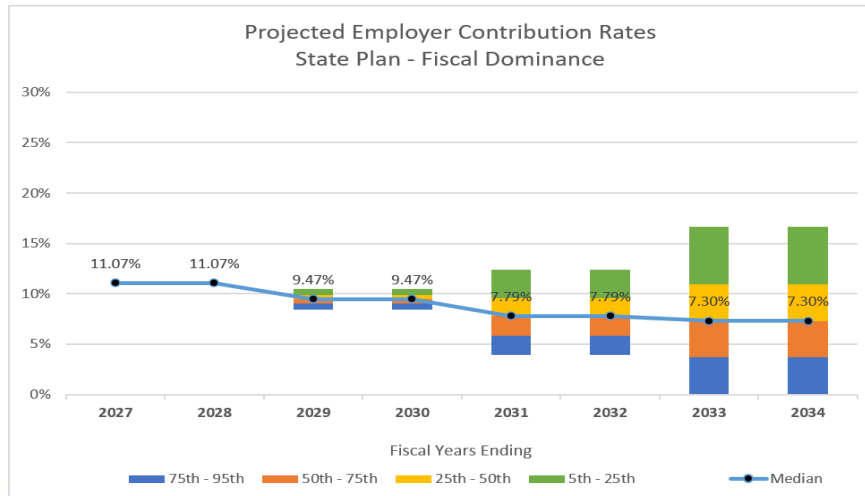
Rates of Return



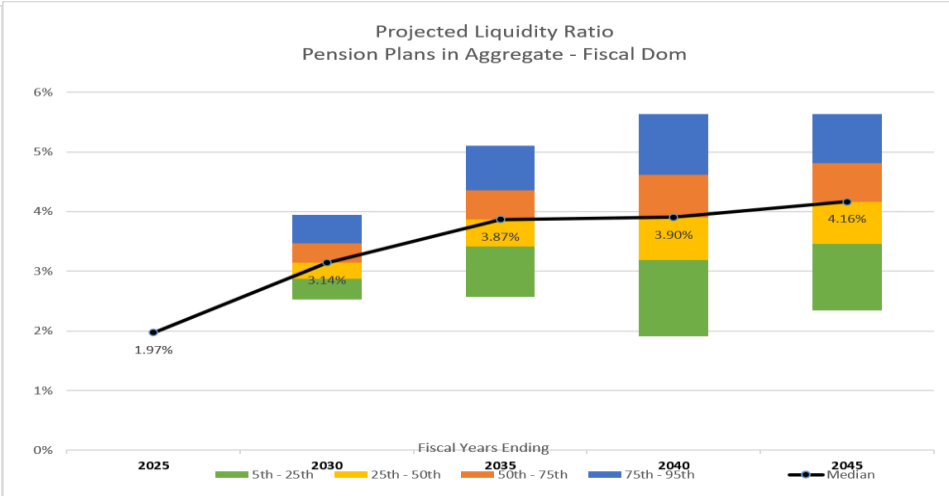
Funded Status – Actuarial Asset Basis



Contribution Rates

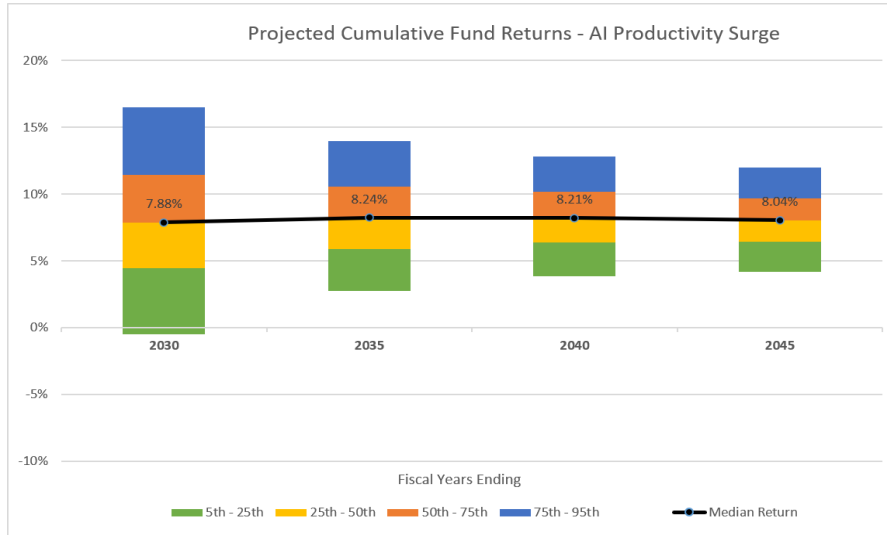


Liquidity

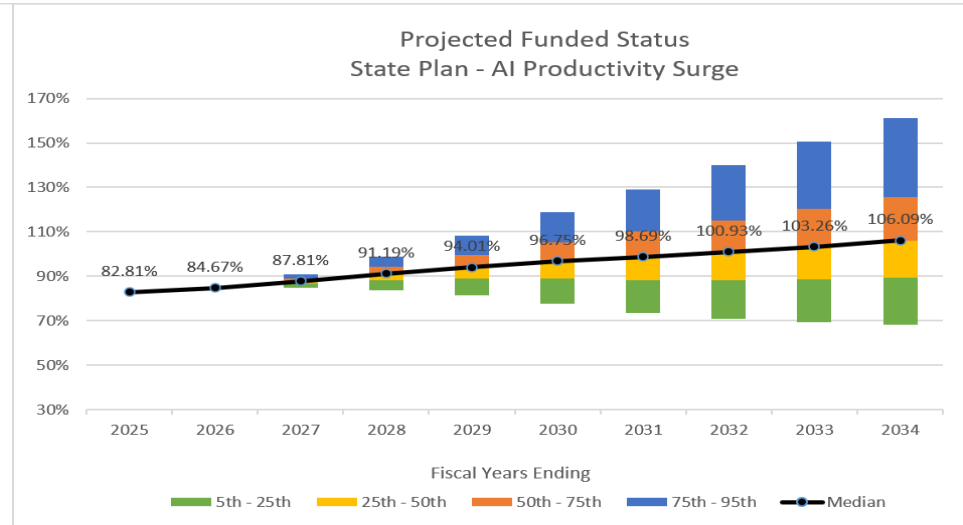


AI Productivity Surge – State Plan

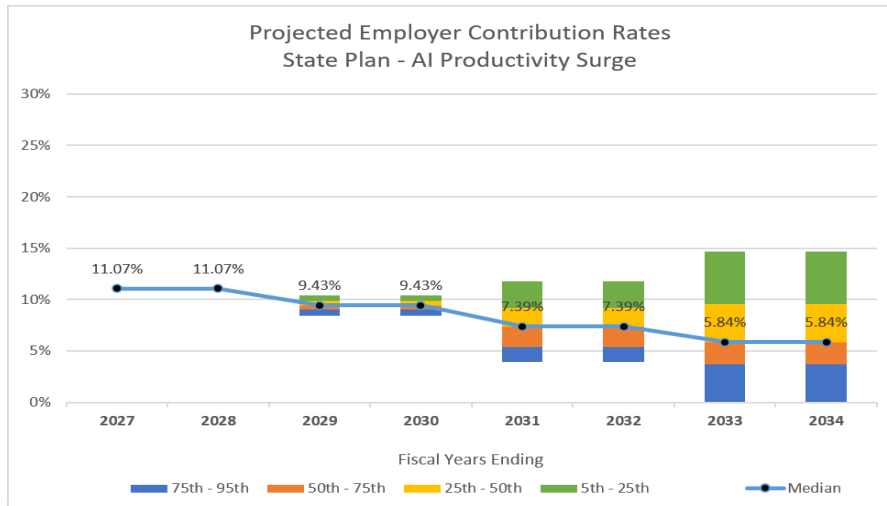
Rates of Return



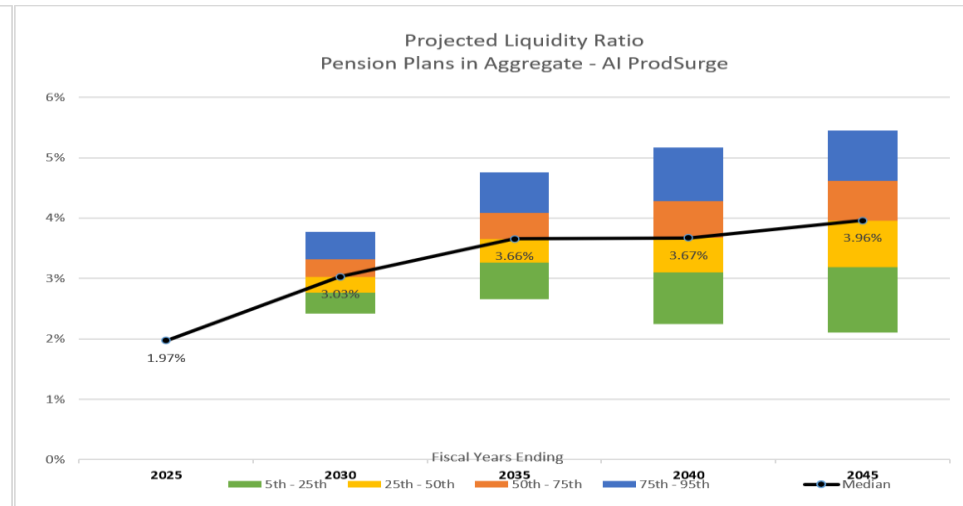
Funded Status – Actuarial Asset Basis



Contribution Rates

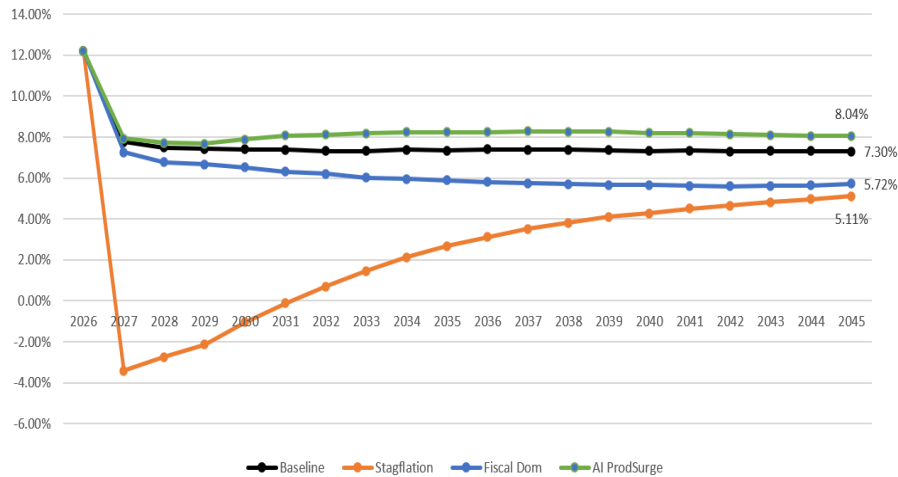


Liquidity

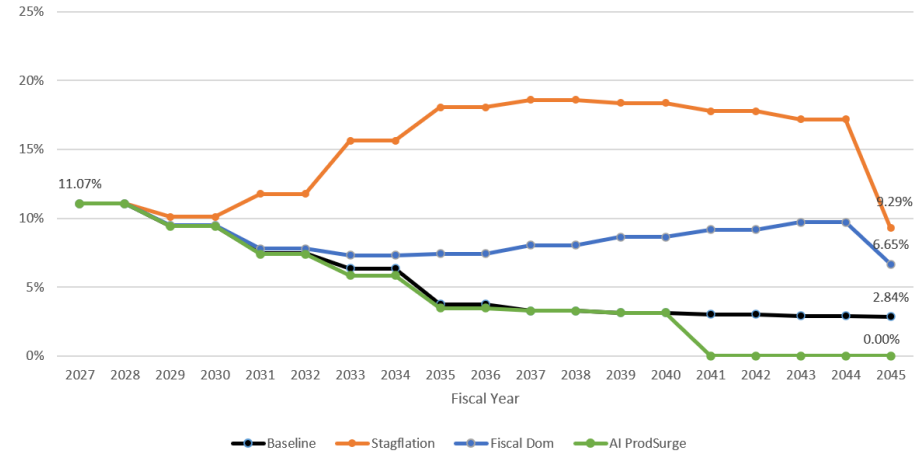


Scenarios – Median Path (State Plan)

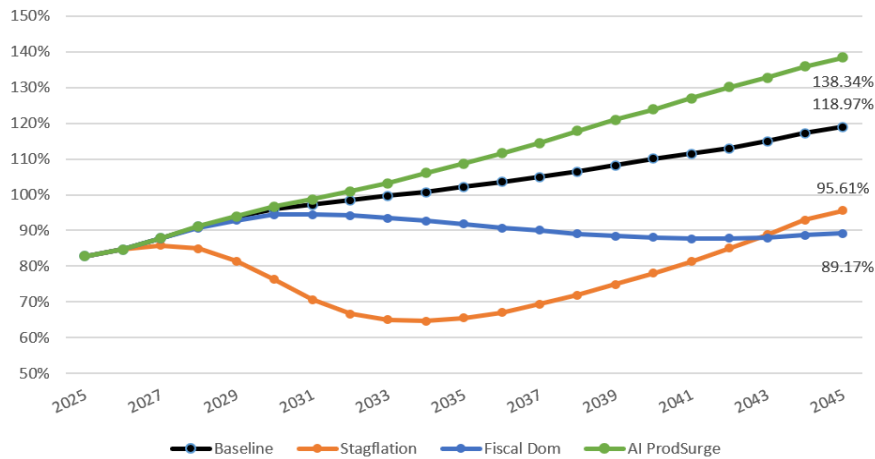
Comparison of Cumulative Returns at Median



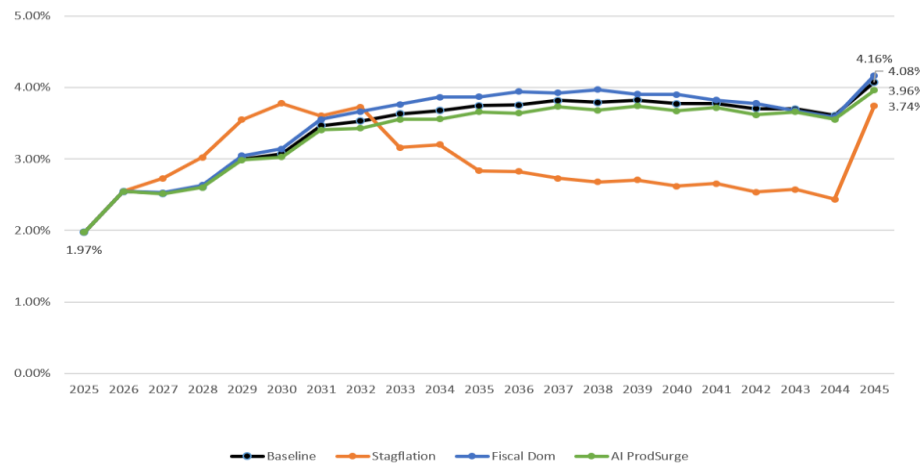
Comparison of Estimated Median Employer Contribution Rates
State Plan



Comparison of Estimated Funded Status
State Plan Median



Comparison of Liquidity Measure at Median



Appendix



External Managers' 10-Yr Forward Return History

	2018	2019	2020	2021	2022	2023	2024	2025	2026
U.S. Core Fixed	3.1	3.4	1.5	1.6	2.7	4.1	5.0	4.8	4.6
Credit (HY)	4.4	5.0	4.8	3.5	4.8	6.3	6.2	5.9	5.7
Core Real Estate	5.2	5.7	5.3	5.9	5.2	5.4	6.1	7.0	7.2
U.S. Stocks	5.5	5.7	5.5	4.0	5.2	6.8	5.9	6.6	6.7
Int'l Developed Stocks	6.8	6.7	6.2	6.2	6.6	8.1	7.1	6.8	7.2
Emerging Stocks	7.1	8.2	7.6	6.6	7.5	9.2	7.7	7.4	8.1
Private Equity	7.7	9.2	8.9	9.5	9.3	9.8	9.1	9.6	9.8

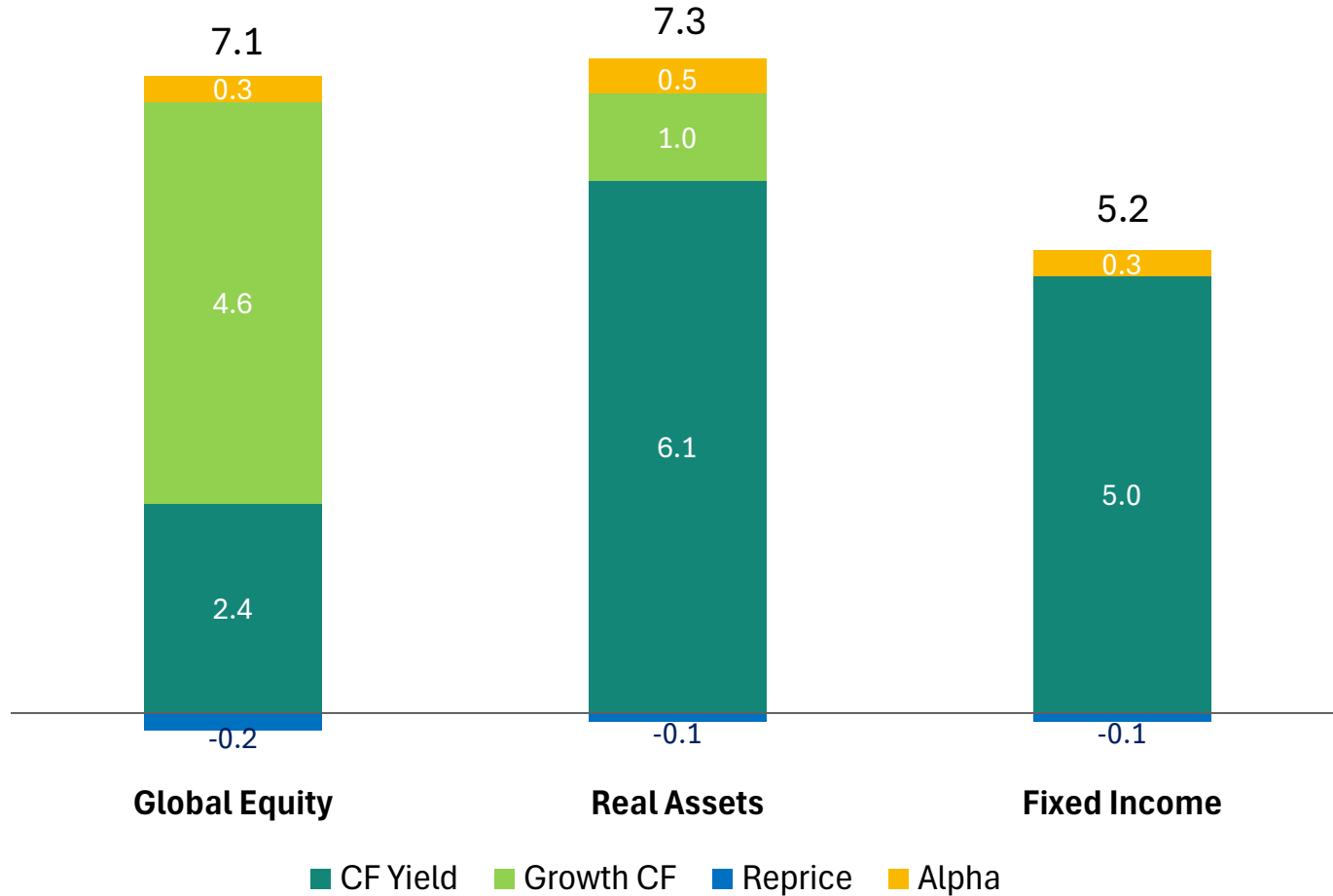
Notes: External Managers' Forward Returns as of 6/30/2026

Forward Returns Attribution

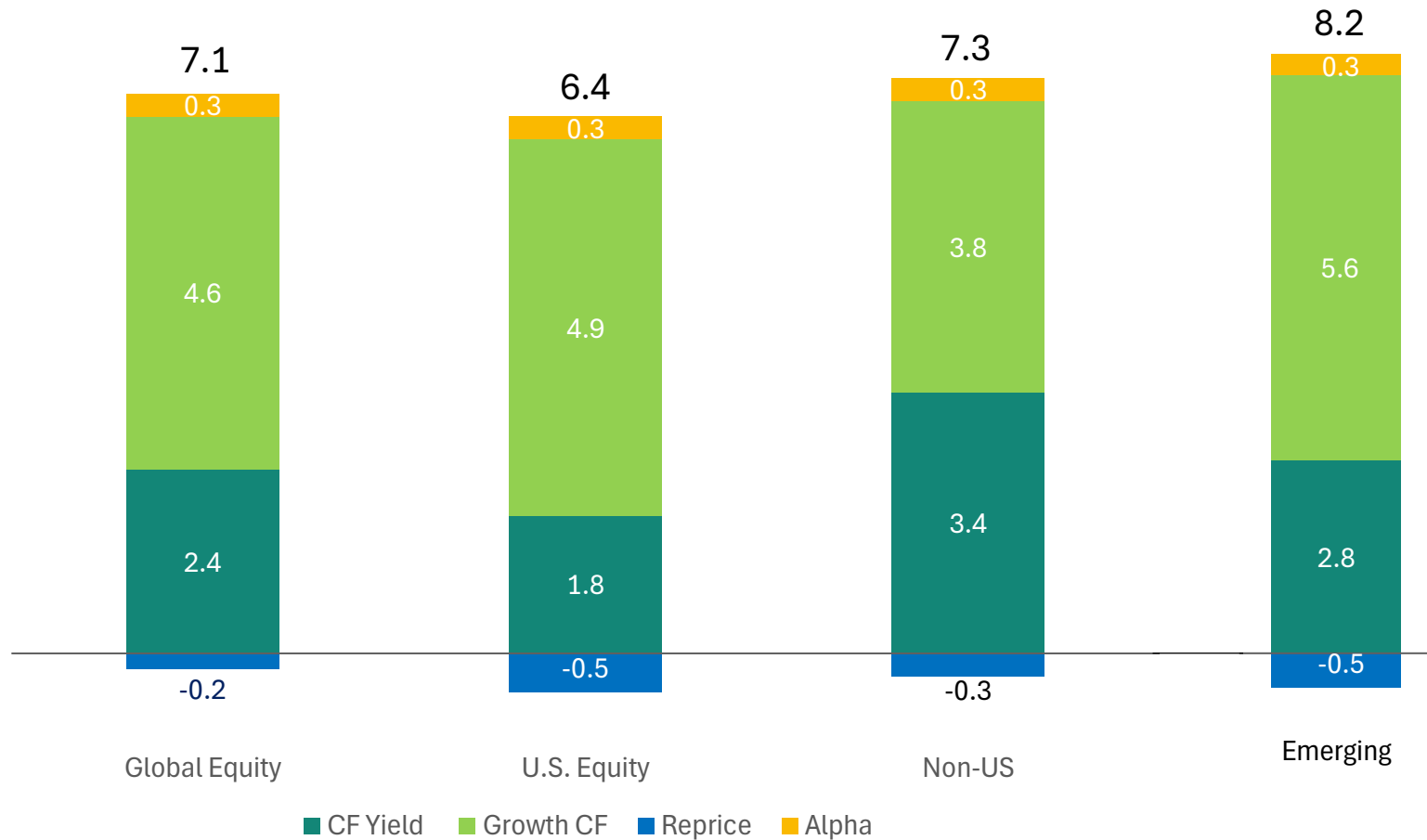
	Return	CF Yield	Growth in CF	Reprice	Alpha
Global Eq (10 yr)	7.1%	2.4%	4.6%	-0.2%	0.3%
US Eq	6.4%	1.8%	4.9%	-0.5%	0.3%
Non_US Eq	7.3%	3.4%	3.8%	-0.3%	0.3%
EM Eq	8.2%	2.8%	5.6%	-0.5%	0.3%
Real Assets (20 yr)	7.3%	6.1%	1.0%	-0.1%	0.5%
Private RE	7.2%	4.8%	2.3%	-0.1%	0.4%
Global REITs	7.8%	5.2%	2.3%	0.1%	0.3%
Infrastructure	7.5%	3.7%	3.4%	-0.1%	1.0%
Energy & Mining	8.5%	25.0%	-16.8%	0.5%	0.7%
Timberland	5.2%	3.0%	2.5%	-0.2%	0.7%
Farmland	7.1%	7.4%	0.2%	0.0%	0.7%
Tot. ORA	7.5%	8.9%	-1.7%	0.0%	0.9%
Total IFI (20 yr)	5.2%	5.0%	0.0%	-0.1%	0.3%
Treasury	4.5%	4.5%	0.0%	-0.1%	0.1%
Agency	4.5%	4.5%	0.0%	-0.1%	0.2%
MBS	5.6%	5.3%	0.0%	-0.1%	0.4%
CMBS	6.2%	6.0%	0.0%	-0.2%	0.4%
ABS	5.7%	5.5%	0.0%	-0.1%	0.4%
IG Credit	4.9%	4.7%	0.0%	-0.2%	0.4%
HY Credit	6.6%	6.6%	0.0%	-0.4%	0.4%
JPM EMBI Core	6.7%	6.9%	0.0%	-0.4%	0.2%

Notes: RA is net of leverage; IFI CF Yield includes growth in CF

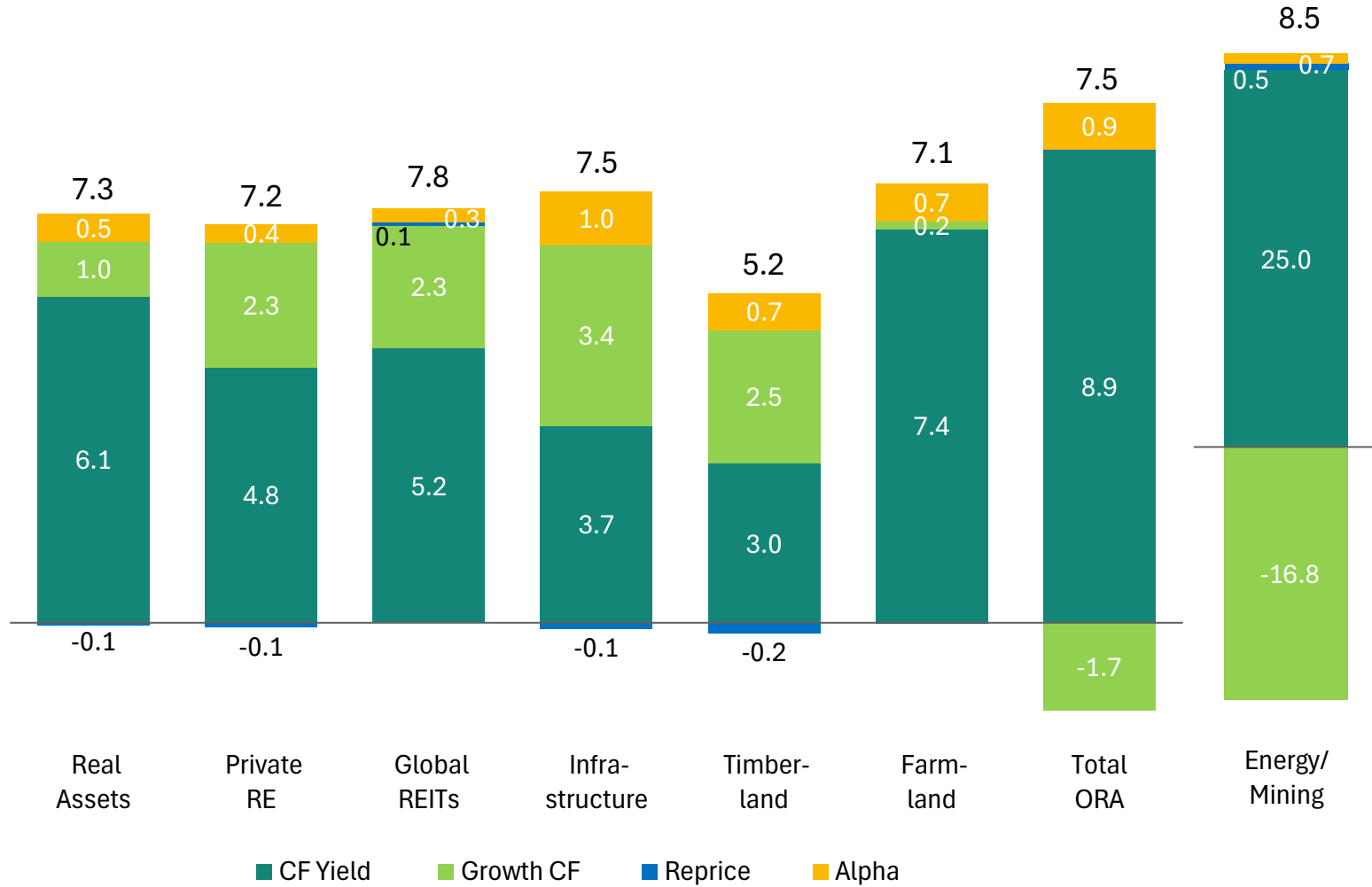
Total Fund – Selected Attribution (Percent)



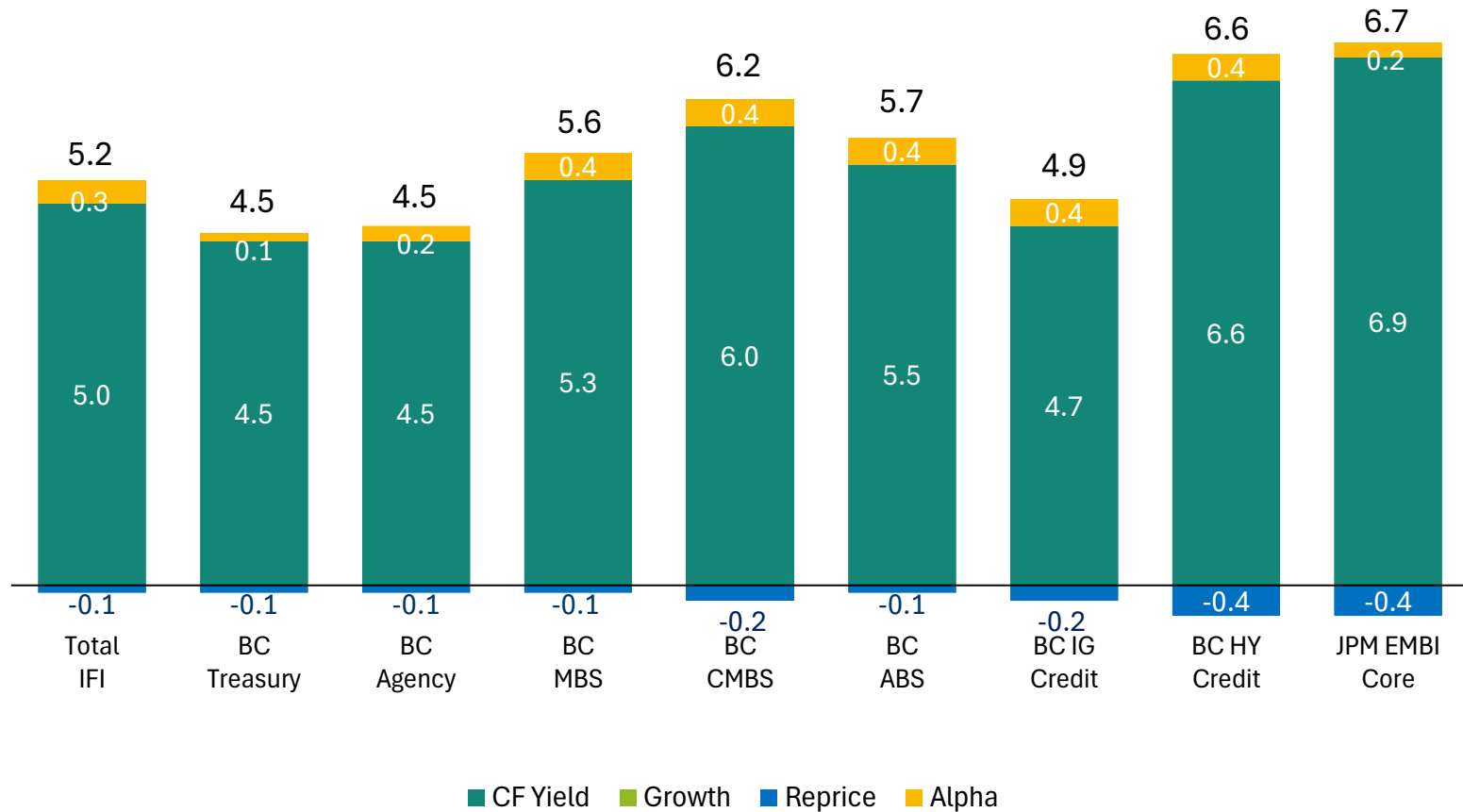
Global Equity Attribution (Percent)



Real Assets Attribution (Percent)



Fixed Income Attribution (Percent)



Macro Factor Impact on Forward Returns

	Factor	Impact
Alpha	Elevated Vol	+
Growth In Yield	Taxes	-
	Productivity	-
	De-Globalization	-
	Nominal Rates	+
Real Yield	Rates v Inflation	-
	Discount Factor	+
Inflation	Fed QT	+
	Commodity Prices	+
	Nominal Wage Growth	-
	Oil	+
Revaluation	P/E Mean Reversion	-
	Risk Aversion	-

Macro Factor Impact on Forward Returns

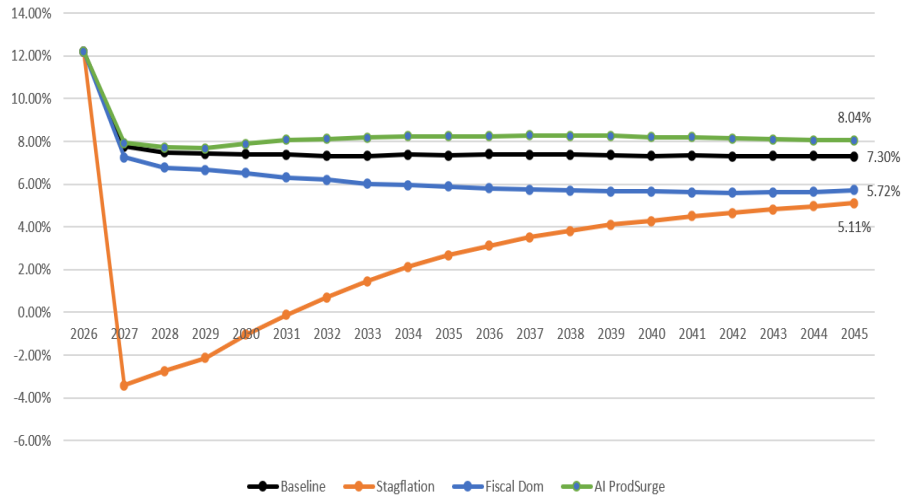
	Factor	Impact	Comments
Alpha	Elevated Volatility	+	Volatility generally increases dispersion among securities and managers. Active managers should benefit provided markets remain functional.
Growth in Yield	Taxes	–	Fiscal pressures make higher effective taxation more likely than lower taxes. Headwind to after-tax growth.
	Productivity	+	Biggest change versus 2025. AI diffusion, automation and capital deepening should gradually lift productivity after several years of disappointing gains.
	De-globalization	–	Supply chains remain more regional, duplication of production continues, geopolitical fragmentation persists. Structural headwind.
	Nominal Rates	–	Nominal rates are likely to remain structurally higher because of debt issuance and inflation risk. Higher financing costs reduce earnings growth.
Real Yield	Rates vs Inflation	–	Real rates likely remain elevated as governments compete for capital and central banks defend inflation credibility.
	Discount Factor	+	Higher real yields increase expected future returns because assets become cheaper after repricing. Long-run positive even though painful initially.

Macro Factor Impact on Forward Returns (cont.)

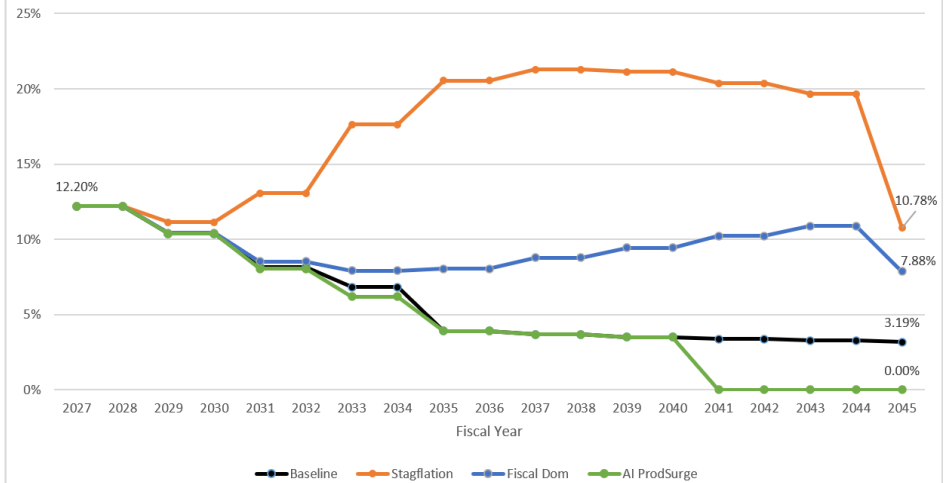
Inflation (+ = lower)	Fed QT	+	QT is likely to remain a disinflationary force, although perhaps smaller than during 2022-25.
	Commodity Prices	+	Mildly positive. Energy transition, underinvestment in mining and geopolitical risks keep commodity inflation somewhat elevated.
	Nominal Wage Growth	–	Aging labor force and persistent labor shortages keep wage growth somewhat sticky. Inflationary headwind.
	Oil	+ / 0	Less conviction than a few years ago. US production is high, EV adoption offsets demand, but geopolitical risk keeps upside spikes possible. I'd call this mildly positive.
Revaluation	P/E Mean Reversion	–	Still negative. US equity multiples remain historically elevated even after corrections. Long-run valuation drag remains.
	Risk Aversion	–	Structural uncertainty (geopolitics, debt, AI disruption, fiscal sustainability) likely keeps required risk premia above the ultra-low levels of the 2010s.

Scenarios – Median Path (Teacher Plan)

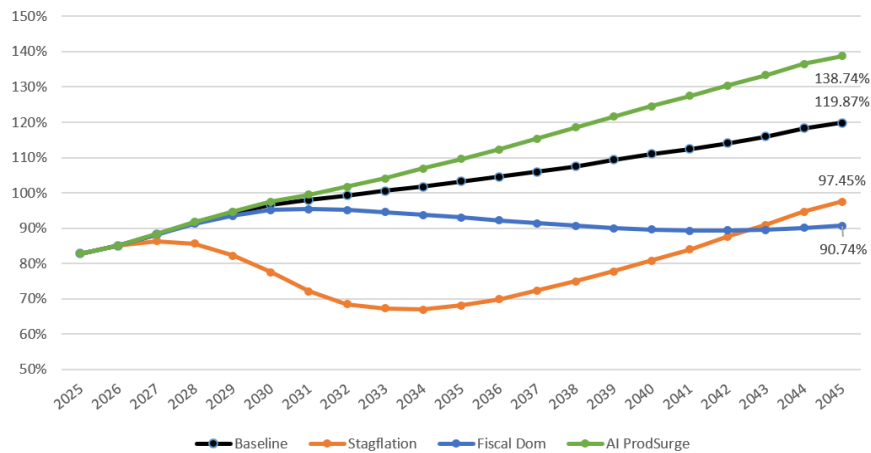
Comparison of Cumulative Returns at Median



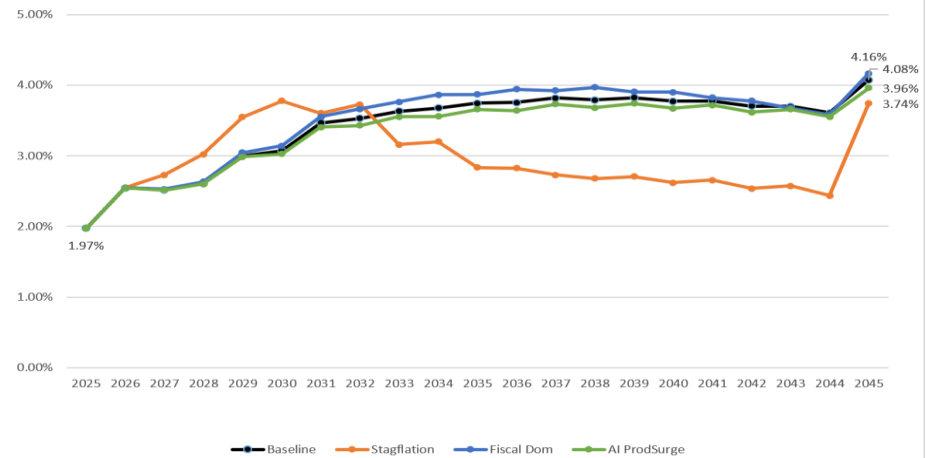
Comparison of Estimated Median Employer Contribution Rates Teacher Plan



Comparison of Estimated Funded Status Teacher Plan Median



Comparison of Liquidity Measure at Median



Scenario Narratives

- **Stagflation** – We begin by drawing from the 1969-1988 experience, extrapolating inflation rates from this period and working with real returns (to the S&P using Shiller). So, while nominal returns are relatively high for equity, real returns reflect much slower growth and are negative for years 1-5 in this scenario, implying that this period of stagflation is front loaded and then tapers off and reverts to the baseline thereafter. Fixed income is hit hardest initially in years 1-4 but then stagnates slightly below the baseline for the remainder of the scenario. Private equity is tied to equity, and CS rate-sensitive exposure is affected adversely.
- **AI Prod Surge** - The premise is that AI investment will increase productivity and usher in a surge in economic growth. This is a J-shaped upside scenario where in Phase I we see very large investment in AI technology (tangible and intangible), admittedly risky especially when debts rollover for refinancing. Assuming no major disruptions, Phase II will begin to see significant rise in productivity that compounds and plateaus during Phase III.
- **Fiscal Dominance and Financial Repression** - Over the next two decades, the United States experiences a gradual transition toward fiscal dominance. The CBO projects that growth in the Federal debt, already exceeding 125% of GDP, will grow persistently faster than the economy beginning in the next decade as policymakers prove unwilling to implement meaningful fiscal consolidation. Inflation remains persistently above the Federal Reserve's historical target, averaging between 3% and 6%, while real economic growth slows due to weak productivity gains, rising debt burdens, and declining private investment. Persistent deficits contribute to inflationary pressures through two channels: (1) the Fed monetizes the deficit directly or (2) the fiscal authority sells bonds to the public, spends that on goods & services, driving up inflation and then paying back debt in deflated dollars. (This is the so-called inflation tax created by “seigniorage” – the government borrows and then spends a dollar and pays back the equivalent less than one dollar). Monetary policy remains formally independent but increasingly accommodates fiscal realities in an effort to stave off insolvency.