

Investment Board Meeting Agenda

Thursday, September 25, 2025

Conference Telephone #: 301-715-8592

Meeting ID: 852 8840 0461

8:30 a.m. - 11:30 a.m.

- 8:30 a.m. Call to Order / Roll Call of Members**
- 8:30 a.m. Election of Chair and Vice Chair**
- 8:35 a.m. Approval of Minutes from the June 19, 2025, and August 22, 2025, Board Meetings**
- 8:40 a.m. IPERS CEO Report – Greg Samorajski**
- 8:50 a.m. FY2027 IPERS Budget**
Greg Samorajski and Amanda Schwarz, *IPERS*
- 9:15 a.m. FY2025 Investment Performance Review**
Thomas Toth and Ali Kazemi, *Wilshire*
- 9:45 a.m. Annual Asset Allocation Review**
Thomas Toth, Ali Kazemi and Ned McGuire, *Wilshire*
- 10:15 a.m. Annual Review of Investment Policy and Goal Statement**
Sriram Lakshminarayanan, *IPERS*
- 10:30 a.m. Securities Lending**
Jina Bresson, *State of Iowa Treasurer's Office*
- 10:40 a.m. IPERS Investment Staff Reports**
- Beta Report – Sriram Lakshminarayanan
 - Alpha Report – Investment Team
 - Private Market Program – Investment Team
 - Risk Report – Sriram Lakshminarayanan
- 11:15 a.m. Public Comments**
- 11:20 a.m. Other Business**
- Confirm Next Meeting – December 6, 2025
 - Next BAC Meeting – October 27, 2025
 - Confirm Calendar Year 2026 Meeting Dates
- 11:30 a.m. Adjourn**



INVESTMENT BOARD MEETING MINUTES
IPERS Headquarters
7401 Register Drive, Des Moines, Iowa
June 19, 2025

The following people participated in the IPERS Investment Board Meeting held on Thursday, June 19, 2025.

Members of the Board - Present

Bill Bemis, Chair

Kris Rowley, Vice Chair

Tami Loge

Brent Mathisen

Sara Meinders

Treasurer Roby Smith

Matt Watters

Representative Michael Bergan

Representative Elizabeth Wilson

Senator Molly Donahue

Senator Mark Lofgren

Members of the Board - Absent

None

Administration and Staff

Greg Samorajski, CEO

Sriram Lakshminarayanan, CIO

John Fujiwara, Head of Strategy

Marcus Dong, Senior Investment Officer

Sheldon Lien, Senior Investment Officer

Pat Reinhardt, Senior Investment Officer

Keith Scholten, Senior Investment Officer

Kate Fishman, Retirement Investment Officer

Ankit Saw, Retirement Investment Officer

Melinda McElroy, Executive Assistant

Elizabeth Hennessey, General Counsel

Shawna Lode, Chief Strategy Officer

Steve Herbert, Chief Benefits Officer

Wilshire Associates

Thomas Toth

Ali Kazemi

Proceedings

Bill Bemis, chair, called the meeting to order at 10:30 a.m. and recognized Greg Samorajski for 5 years of service as IPERS' CEO.

Approval of Minutes of Previous Meeting

Tami Loge moved to approve the March 28, 2025, Investment Board meeting minutes. Kris Rowley seconded. The minutes were approved by unanimous voice vote.

CEO Report

Greg Samorajski provided several updates, beginning with progress on building renovations and security enhancements. These are expected to extend into August due to material delays. He announced his upcoming medical leave, during which Rick Hindman will serve as acting CEO. Budget updates included approval of five new FTEs and retention of ten additional FTEs previously thought to be transferred due to IT restructuring. This will enable the immediate hiring of several retirement benefit officers. The legislature also approved \$60 million over ten years to upgrade the pension administration system to a cloud-based platform, with implementation expected to span several years. Personnel changes included the upcoming retirement of Jim Burke, promotions of Craig Stoermer and Kelly Carnine, and the introduction of Steve Herbert as Chief Benefit Officer and legislative liaison. Steve will gradually assume full legislative responsibilities, while Shawna Lode will focus on communications and member education initiatives.

Private Markets Program Annual Review

Pat Reinhardt and Marcus Dong presented the annual review of IPERS' private markets program. The program consists of three main portfolios: private equity, private credit and private real assets; no changes were recommended to the portfolios.

Closed Session Discussion for Financial or Commercial Information

Kris Rowley moved that the IPERS Investment Board go into a closed session of this public meeting to discuss financial or commercial information as authorized by Iowa Code §97B.8A(5). Matt Watters seconded. The motion carried by unanimous roll call vote.

Ayes: Bill Bemis, Kris Rowley, Tami Loge, Brent Mathisen, Sara Meinders, Treasurer Roby Smith and Matt Watters

Nays: None

MOTION PASSED

Kris Rowley moved that the IPERS Investment Board end its closed session and resume the open session of this meeting. Matt Watters seconded. The motion carried by unanimous roll call vote. The Board took no action during its closed session.

Ayes: Bill Bemis, Kris Rowley, Tami Loge, Brent Mathisen, Sara Meinders, Treasurer Roby Smith and Matt Watters

Nays: None

MOTION PASSED

IPERS Investment Staff Reports

Beta Report

Sriram Lakshminarayanan reviewed the fund's asset allocation and stated that all asset classes were within policy ranges as of June 6, 2025. The total fund market value estimate on that date was \$45.9 billion.

Alpha Report

The Investments Division staff reported no concerns with the investment managers listed on the report.

Private Markets Program

Pat Reinhardt reviewed the private markets program managers, noting performance issues with Heitman CREDIT.

Risk Report

Sriram Lakshminarayanan presented IPERS' risk monitoring report, noting that plan-level total active risk is stable at 0.23%. Active risk increased by four basis points mostly due to rebalancing activity in passive mandates.

CIO Updates

Sriram Lakshminarayanan provided updates on some ongoing investment team projects. The team is actively developing a strategy for smart beta investing, with plans to present options during the September in-service meeting, aligning with the broader asset allocation discussion. Research work is underway to analyze how active risk is distributed across strategies, including a review of the LARS overlay program, with some recommendations also expected at the September Board meeting. The investment team also plans to explore various ways to enhance cash management approaches, including, collaborating with the State Treasurer's Office.

Securities Litigation Report

Elizabeth Hennessey reported on the status of each case in which IPERS is serving in an active role and provided the total funds recovered from June 2, 2024, through June 9, 2025.

Public Comments

None

Other Business

None

Confirm Next Meeting Dates

The next regularly scheduled meetings of the Investment Board are Wednesday, September 24, and Thursday, September 25, 2025.

Adjourn

With no further business to come before the Investment Board, Kris Rowley moved to adjourn. Bill Bemis seconded. The motion was approved by unanimous voice vote. The meeting adjourned at 1:15 p.m.



INVESTMENT BOARD MEETING MINUTES
Virtual Video Meeting
August 22, 2025

The following people participated in the virtual IPERS Investment Board meeting held on Friday, August 22, 2025.

Members of the Board – Present

Bill Bemis, Chair
Kris Rowley, Vice Chair
Tami Loge
Brent Mathisen
Sara Meinders
Treasurer Roby Smith
Matt Watters

Representative Michael Bergan
Representative Elizabeth Wilson
Senator Mark Lofgren
Senator Molly Donahue

IPERS Administration and Staff

Greg Samorajski, CEO
Sriram Lakshminarayanan, CIO
Elizabeth Hennessey, General Counsel
Andrew Ewing, Attorney
Melinda McElroy, Executive Assistant

External Legal Counsel

Jeffrey Peterzalek, Iowa Attorney General's Office
Steven Blankinship, Iowa Attorney General's Office
Cynthia Lande, BrownWinick

Proceedings

Bill Bemis, chair, called the meeting to order at 1:00 p.m.

Closed Session - Litigation Review

Bill Bemis moved that the IPERS Investment Board go into a closed session of this public meeting to discuss litigation with attorneys from the Iowa Attorney General's Office and the BrownWinick Law Firm as authorized by Iowa Code §21.5(1)(c). Matt Watters seconded. The motion carried by unanimous roll call vote.

Ayes: Bill Bemis, Kris Rowley, Tami Loge, Brent Mathisen, Sara Meinders, Treasurer Roby Smith and Matt Watters

Nays: None

MOTION PASSED

Bill Bemis moved that the IPERS Investment Board end its closed session and resume the open session of the meeting. No action was taken by the Board in closed session. Tami Loge seconded. The motion carried by a unanimous roll call vote.

Ayes: Bill Bemis, Kris Rowley, Tami Loge, Brent Mathisen, Sara Meinders, Treasurer Roby Smith and Matt Watters

Nays: None

MOTION PASSED

Adjourn

With no further business to come before the Investment Board, the meeting adjourned at 2:30 p.m.

FY2027 Budget Request

Unlike most state government agencies, IPERS receives no funding from the general fund or any other government source.

IPERS' annual administrative budget comes entirely from the IPERS Trust Fund that is funded only with member and employer contributions, and investment income.

IPERS' administrative budget is subject to appropriation from the Iowa Legislature. The administrative budget provides the funding necessary for IPERS to act as a responsible fiduciary by earning investment returns and delivering services to members.

IPERS' administrative budget does *not* include funds for benefit payments, refunds or investment management expenses. These items are *not* subject to appropriation.

IPERS' FY2027 budget request reflects the funding necessary to achieve its mission and vision and achieve excellence through reimagined and modernized service delivery operations.

Service delivery excellence is only possible with the people, tools and programs necessary to accomplish its goals.

MISSION STATEMENT

The Iowa Public Employees' Retirement System (IPERS) is the fiduciary responsible for administering the IPERS Trust Fund. IPERS exists for the exclusive benefit of its members and fulfills its obligations to cost-effectively pay benefits, maintain stable contribution rates, protect member information and provide outstanding service.

VISION STATEMENT

IPERS is committed to maintaining its status as one of the nation's most well-funded public retirement plans and seeks to establish itself as an innovative leader in the delivery of service to all stakeholders.

FY2027 Budget Request

STATUS QUO BUDGET*, INCLUDES A \$20,000 REDUCTION FROM FY2026

Program	New or Existing Program	One-Time or Ongoing	FY2026 Appropriation	FTEs	FY2027 Requested Increase	New FTEs	FY2027 Appropriation
Service Delivery	Existing	Ongoing	\$ 4,485,000	42	\$0.00	0	\$ 4,485,000
Compliance & Risk Management	Existing	Ongoing	\$ 2,836,000	20	\$0.00	0	\$ 2,836,000
Shared Costs & Services	Existing	Ongoing	\$ 14,781,702	29	\$0.00	0	\$ 14,761,702
Investment Management	Existing	Ongoing	\$ 4,228,000	13	\$0.00	0	\$ 4,228,000
Total			\$ 26,330,702	104	\$0.00	0	\$ 26,310,702

***IPERS' FY2026 budget includes a one-time, 10-year \$60 million appropriation for the Pension Administration System. In FY2026, IPERS expects to spend approximately \$7 million of this appropriation.**

IPERS' PROGRAMS

- **Service Delivery** - This program is designed to deliver retirement payroll services, interact with members and perform IPERS' most complex calculations that result in highly accurate and compliant benefit calculations and processing of time-sensitive member requests.
- **Compliance & Risk Management** - The external compliance program is designed to ensure employers in Iowa annually report wages to IPERS accurately and expeditiously and in accordance with state and federal laws. The internal program is designed to provide executive-level guidance on compliance and risk mitigation efforts concerning the most significant compliance issues and risks facing the system.
- **Shared Costs & Services** - These shared costs and services include IPERS leadership, legal, actuarial services, audit services, financial management, information technology, facility management and other similar costs associated with the day-to-day operation of IPERS.
- **Investment Management** - This program is designed to ensure sound implementation of IPERS' Investment Policy as adopted by the Investment Board and in compliance with federal and state law.

Wilshire

Iowa Public Employees' Retirement System

Fiscal Year 2025 Investment Summary

June 2025

Quarterly Market Review

June 30, 2025

Market Commentary

U.S. Equity

The U.S. stock market was up 11.1% for the second quarter and 5.7% for the past six months. Sector performance was mostly positive for the quarter, with eight sectors producing a gain. The two best performing sectors were information technology (+23.5%) and communication services (+18.6%). Small-cap underperformed large-cap by 470 basis points while growth stocks generally outperformed value by a large margin.

Historically, the U.S. federal government has boosted spending during economic downturns and rising unemployment. One example is the recession in the 1980s, where unemployment exceeded 10%. The U.S. Congress passed a stimulus bill that largely focused on tax reform, which increased the federal deficit. As the economy recovered, the relative size of the deficit fell back towards 3% of GDP. A more recent and troubling change in this pattern is the increase of deficits under good economic conditions. Even before COVID, the relative deficit was growing as unemployment fell to 3.5%. Since 2022, the ratio has remained above 5% of GDP. With total U.S. debt now at ~120% of GDP, the sobering question is what might these levels reach should the United States enter a meaningful recession?

Non-U.S. Equity

The U.K. experienced what may be a temporary jump in GDP during Q1 as consumers sought to take advantage of a tax break for homebuyers before it expired. Current conditions still seem favorable as a recent study showed that consumer confidence hit a nine-year high in June. The situation in Germany, Europe's largest economy, is looking more dire. Retail sales fell in May for the second straight month while consumer sentiment is down. China's retail sales accelerated in May as government subsidies helped boost spending. Stable economic growth in China remains challenging, however, due to heightened uncertainty around trade policies.

Fixed Income

The U.S. Treasury yield curve was down among intermediate maturities during the quarter but up for longer maturities starting at 10 years. The 10-year Treasury yield ended the quarter at 4.23%, up just 2 basis points. The FOMC met twice during the quarter and left their overnight rate unchanged. Expectations for rate cuts this year equal -0.5%, as signaled following the June meeting. Fed Chair Jerome Powell recently emphasized the need to tame inflation and stay the current course.

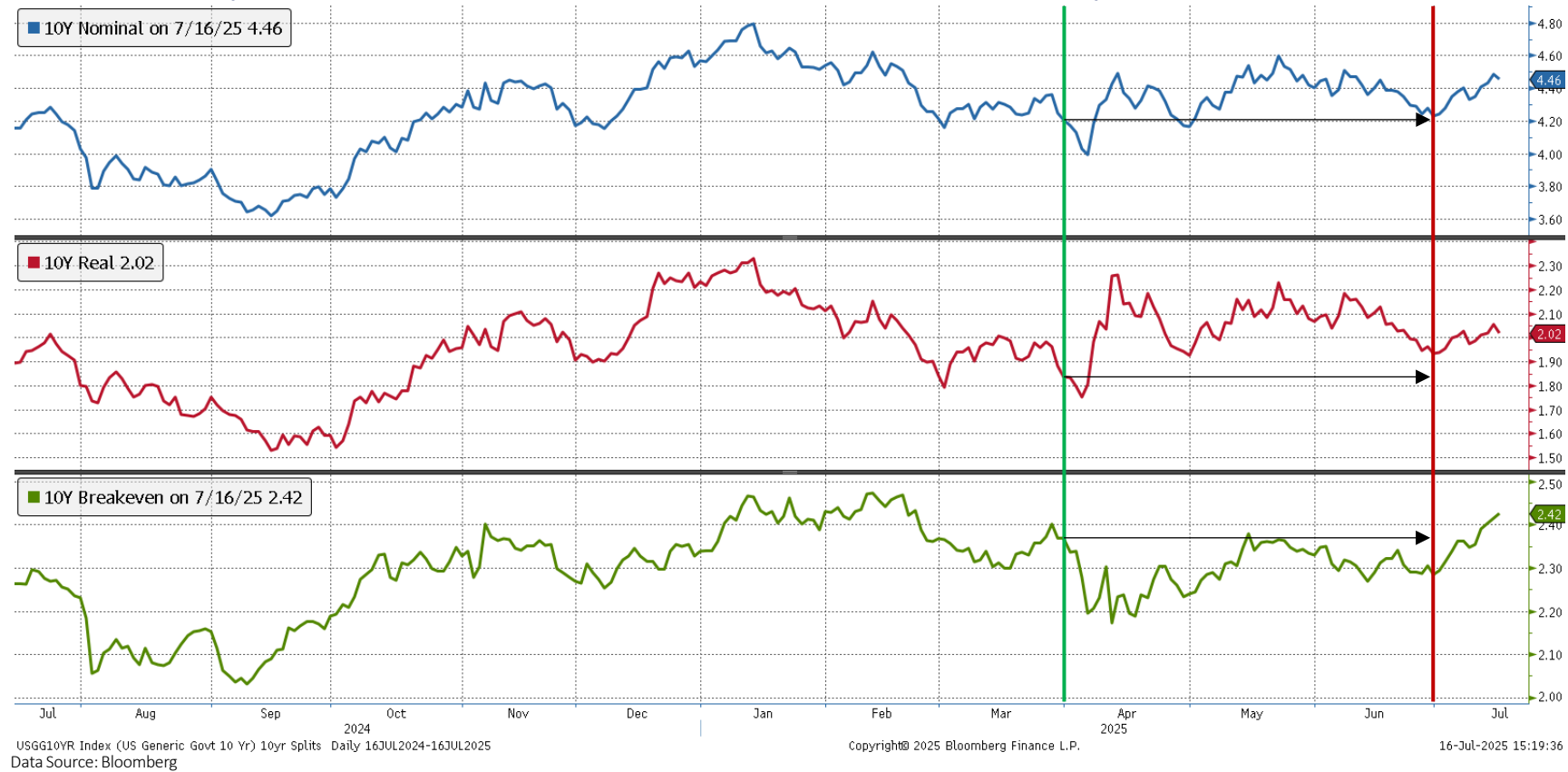
June 2025 Asset Class Assumptions

	Equity						Fixed Income							Real Assets						
	U.S. Stock	Dev ex-U.S. Stock	Emg Stock	Global ex-U.S. Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Private Credit	Dev ex-U.S. Bond (Hdg)	Real Estate			Cmdty	Real Assets	U.S. CPI	
	U.S. RES	Global RES	Private RE																	
Compound Return (%)	4.30	5.30	5.55	5.65	4.85	6.20	3.55	5.05	5.25	4.45	6.30	7.70	3.05	5.65	5.80	6.45	4.80	6.85	2.30	
Arithmetic Return (%)	5.65	6.80	8.55	7.30	6.20	9.95	3.55	5.15	5.70	4.60	6.75	8.45	3.15	7.05	7.05	7.35	6.00	7.60	2.30	
Risk (%)	17.00	18.00	26.00	19.05	17.00	29.65	0.75	4.75	9.90	6.00	10.00	12.75	4.00	17.50	16.55	13.95	16.00	12.60	1.75	
Yield (%)	1.25	2.95	2.40	2.80	1.75	0.00	3.55	5.75	5.80	5.05	9.90	4.90	4.30	3.95	3.95	2.90	3.55	3.75	0.00	
Growth Factor Exposure	8.00	8.00	8.00	8.00	8.00	14.00	0.00	-0.95	-2.55	-3.00	4.00	5.10	-1.00	6.00	6.00	3.70	0.00	2.85	0.00	
Inflation Factor Exposure	-3.00	-1.00	3.00	0.15	-1.95	-4.25	0.00	-2.60	-6.95	2.50	-1.00	-1.50	-3.00	1.00	1.65	1.00	12.00	5.20	1.00	

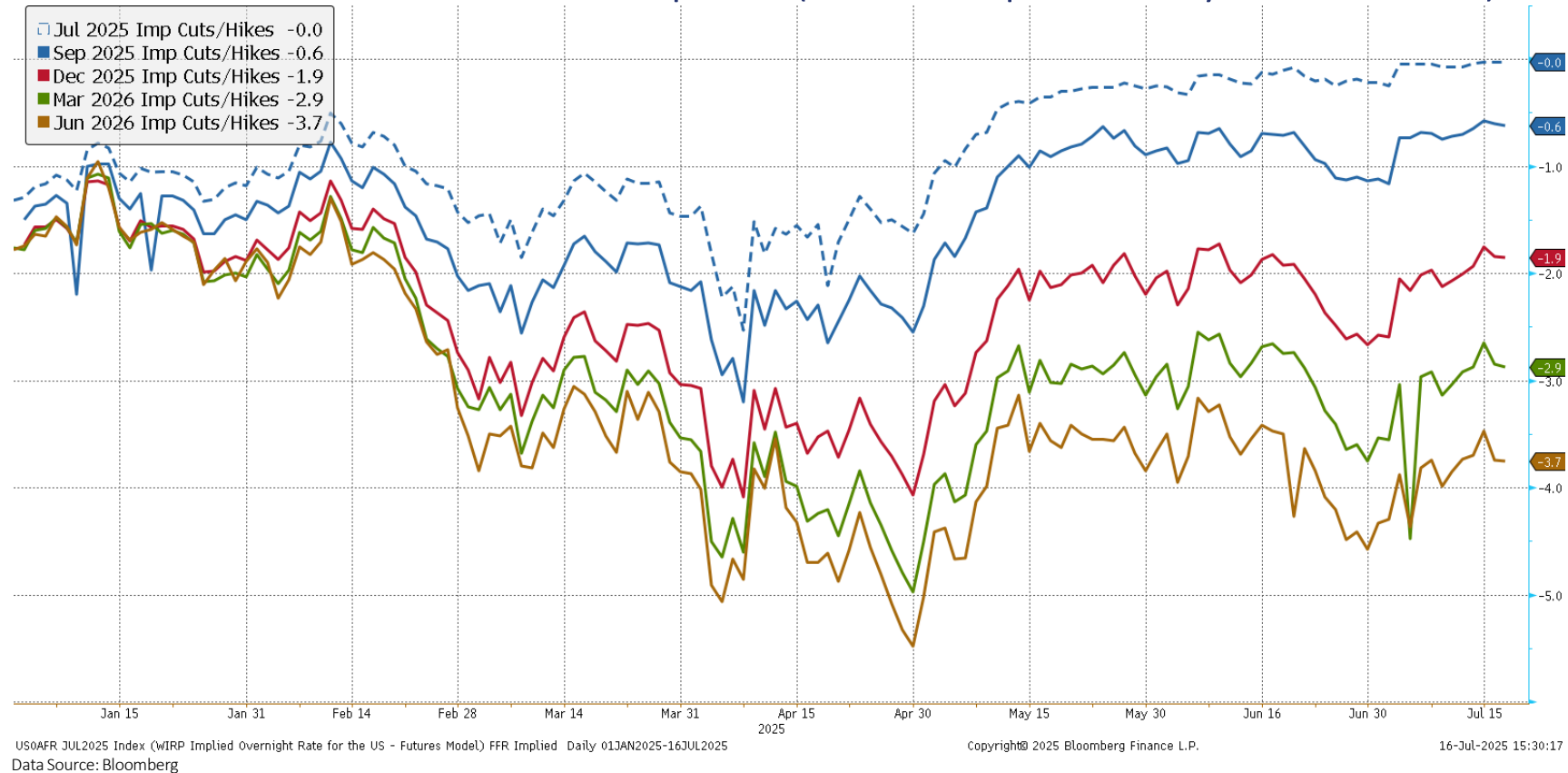
Correlations

U.S. Stock	1.00																		
Dev ex-U.S. Stock (USD)	0.81	1.00																	
Emerging Mkt Stock	0.74	0.74	1.00																
Global ex-U.S. Stock	0.84	0.96	0.89	1.00															
Global Stock	0.98	0.90	0.83	0.93	1.00														
Private Equity	0.72	0.63	0.61	0.66	0.73	1.00													
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.06	0.00	1.00												
Core Bond	0.27	0.13	0.00	0.08	0.21	0.30	0.18	1.00											
LT Core Bond	0.30	0.15	0.00	0.10	0.24	0.31	0.11	0.95	1.00										
TIPS	-0.05	0.00	0.15	0.06	-0.01	-0.03	0.20	0.60	0.47	1.00									
High Yield Bond	0.54	0.39	0.49	0.46	0.53	0.31	-0.10	0.24	0.32	0.05	1.00								
Private Credit	0.68	0.55	0.58	0.60	0.68	0.44	0.00	0.23	0.30	0.00	0.76	1.00							
Dev ex-U.S. Bond (Hdg)	0.16	0.25	-0.01	0.16	0.17	0.26	0.10	0.68	0.66	0.39	0.26	0.22	1.00						
U.S. RE Securities	0.57	0.47	0.44	0.49	0.56	0.49	-0.05	0.17	0.22	0.10	0.56	0.62	0.05	1.00					
Global RE Securities	0.62	0.55	0.52	0.58	0.63	0.54	-0.05	0.17	0.21	0.11	0.61	0.67	0.04	0.99	1.00				
Private Real Estate	0.55	0.45	0.45	0.48	0.55	0.50	-0.05	0.18	0.24	0.09	0.58	0.63	0.05	0.79	0.79	1.00			
Commodities	0.25	0.34	0.39	0.38	0.31	0.28	0.00	-0.03	-0.04	0.25	0.29	0.29	-0.10	0.25	0.28	0.25	1.00		
Real Assets	0.62	0.63	0.65	0.68	0.67	0.57	-0.03	0.24	0.25	0.32	0.64	0.69	0.06	0.79	0.83	0.77	0.63	1.00	
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.12	-0.10	0.10	-0.12	-0.12	0.15	-0.08	0.00	-0.08	0.05	0.04	0.05	0.44	0.21	1.00

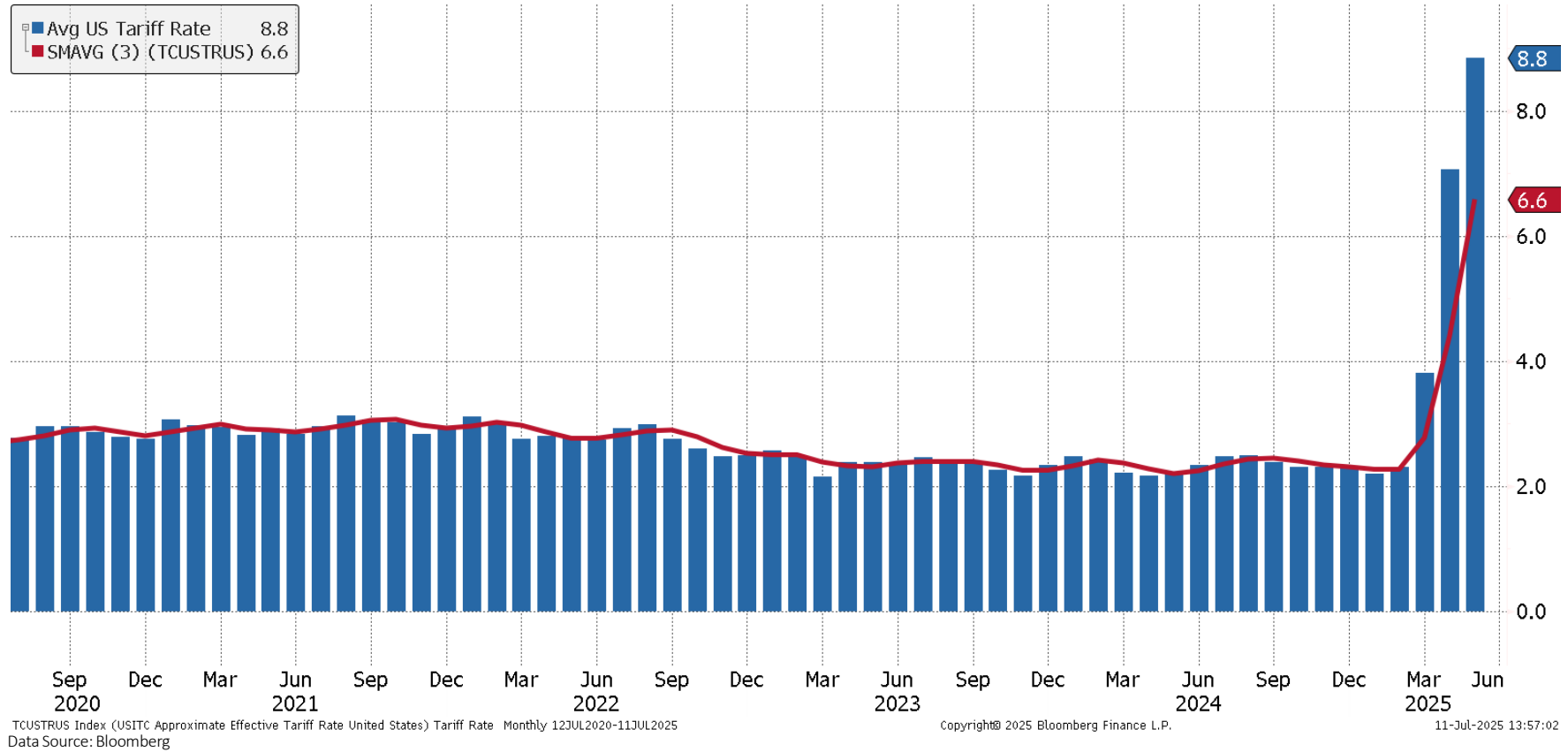
Q2 Rate Splits: Volatile but Flat with Real Rates Up & BEI Down



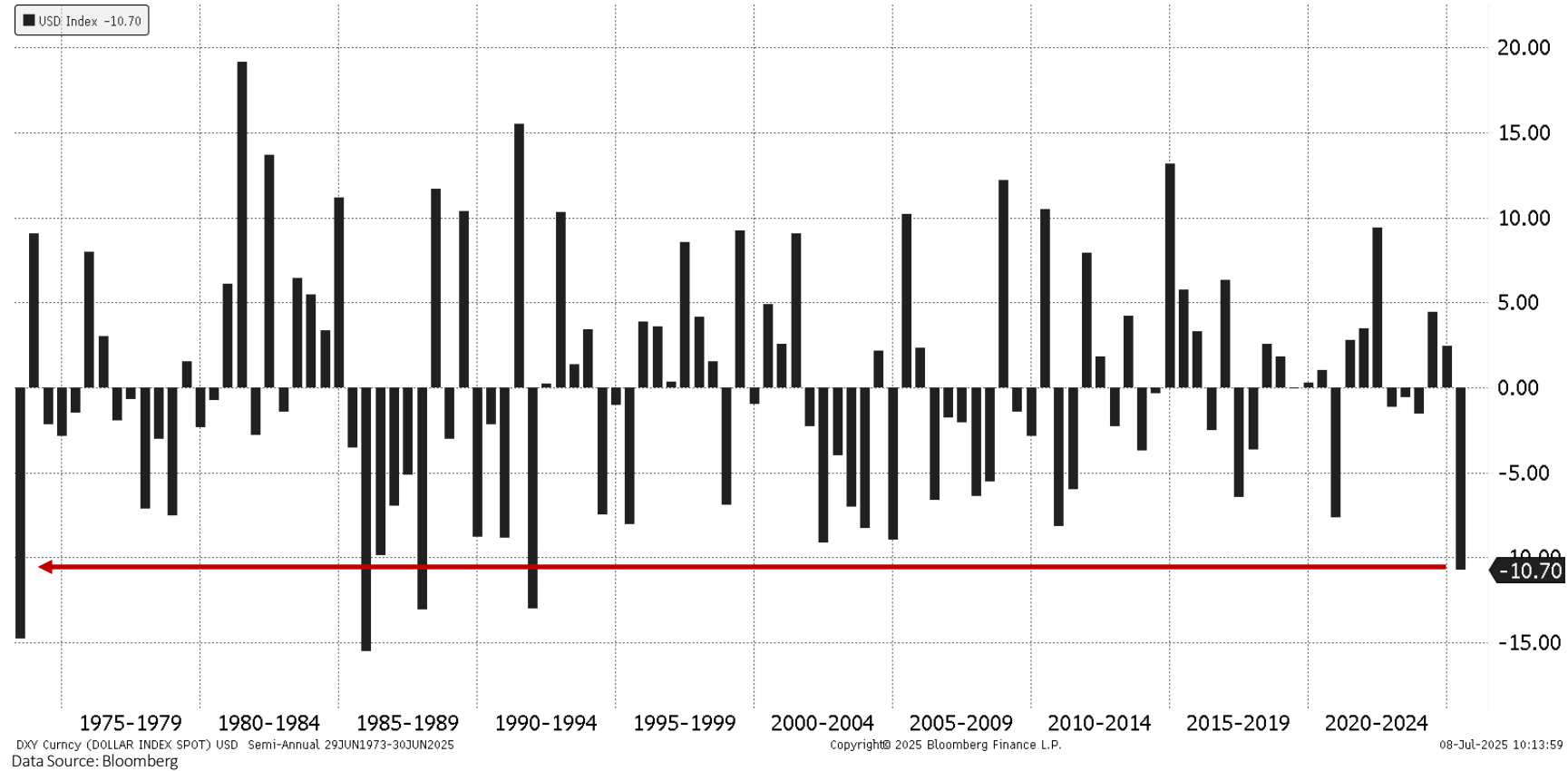
Fed Funds Rate: Current & Implied (2 cuts expected by YE, red line)



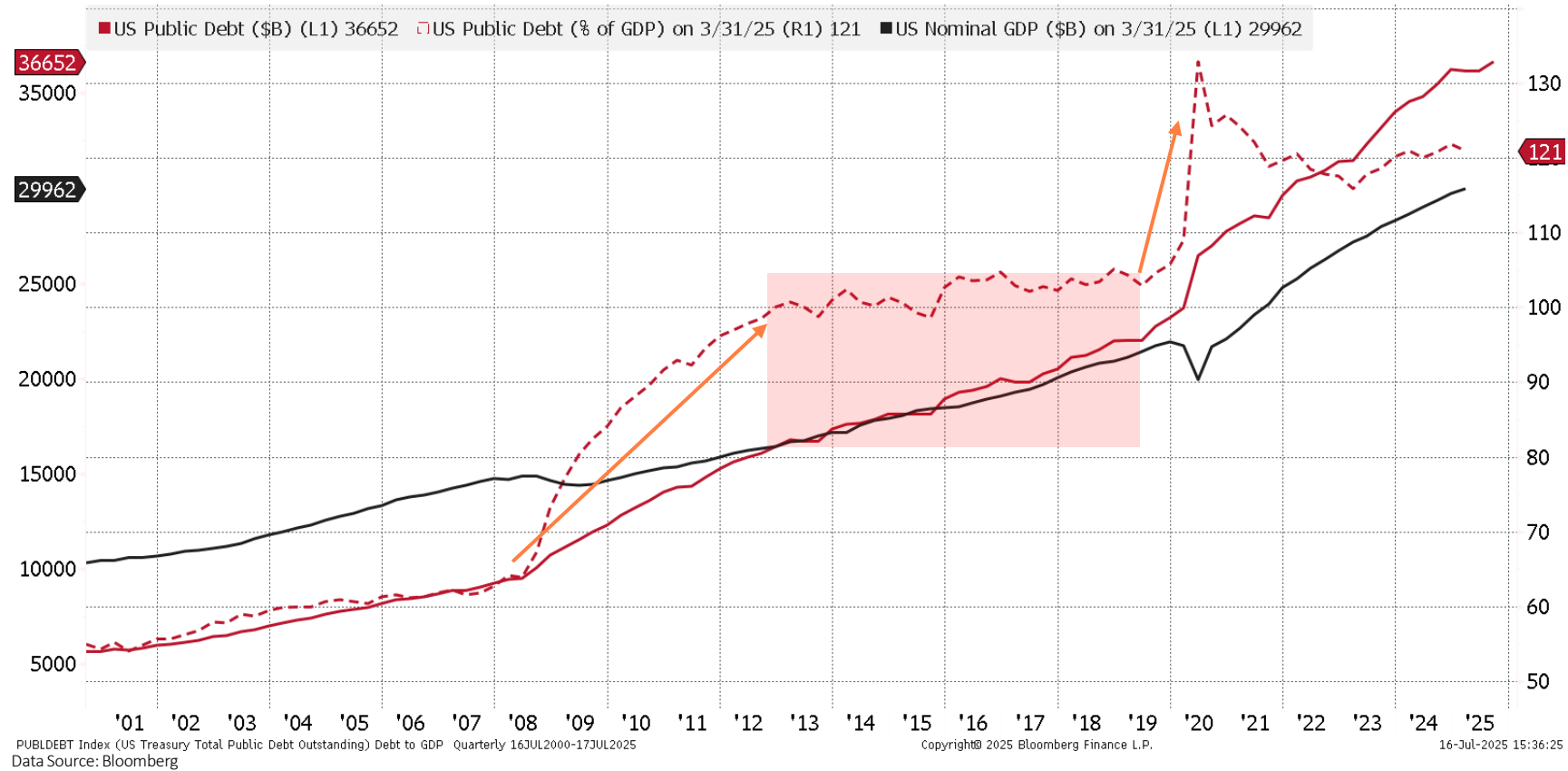
Tariff Uncertainty Remains



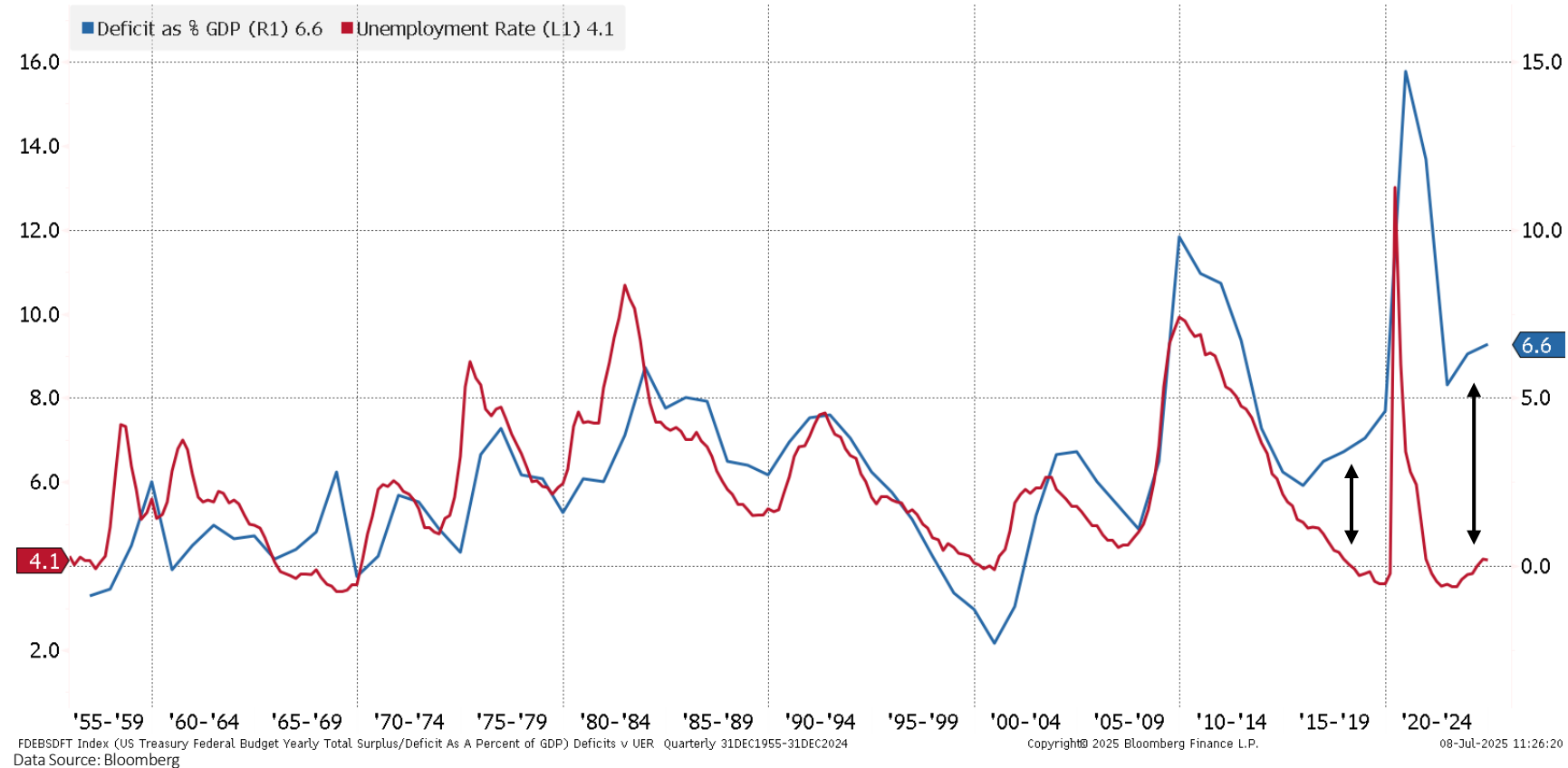
USD: Worst 1H since 1973 (when major currencies floated vs. the USD)



Between This (current debt levels, ~\$36T, ~120% of GDP)...



And This (running large deficits during “good times”)...




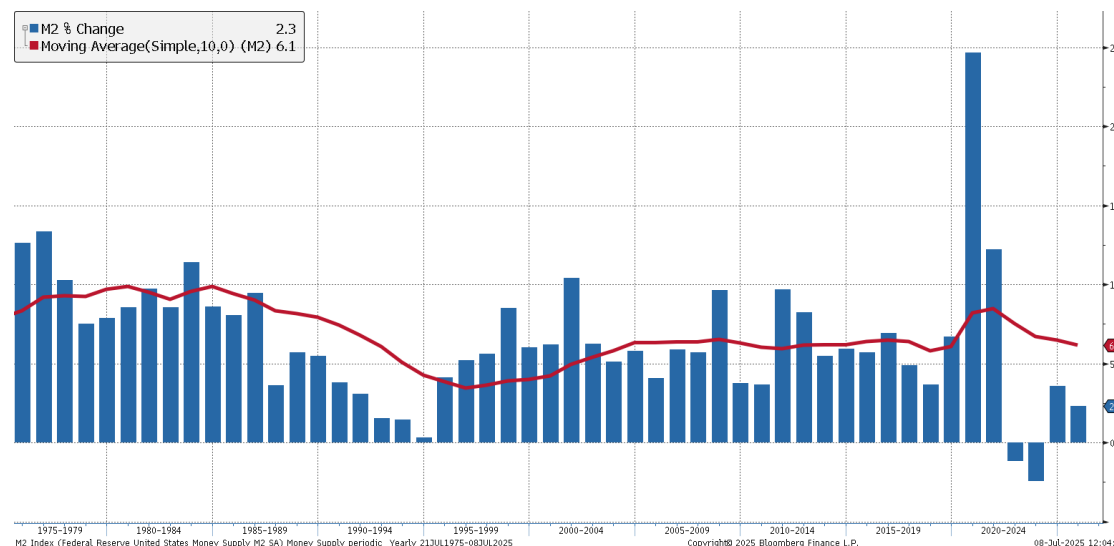
Few Options Left but to Print

Options for dealing with debt:

- You/Me/Corporations
 - Pay it back (can be painful)
 - Default/Restructure (painful)
- Government
 - Pay it back (can be painful)
 - Default/Restructure (painful)
 - Print money (easy, at least in the short-term)

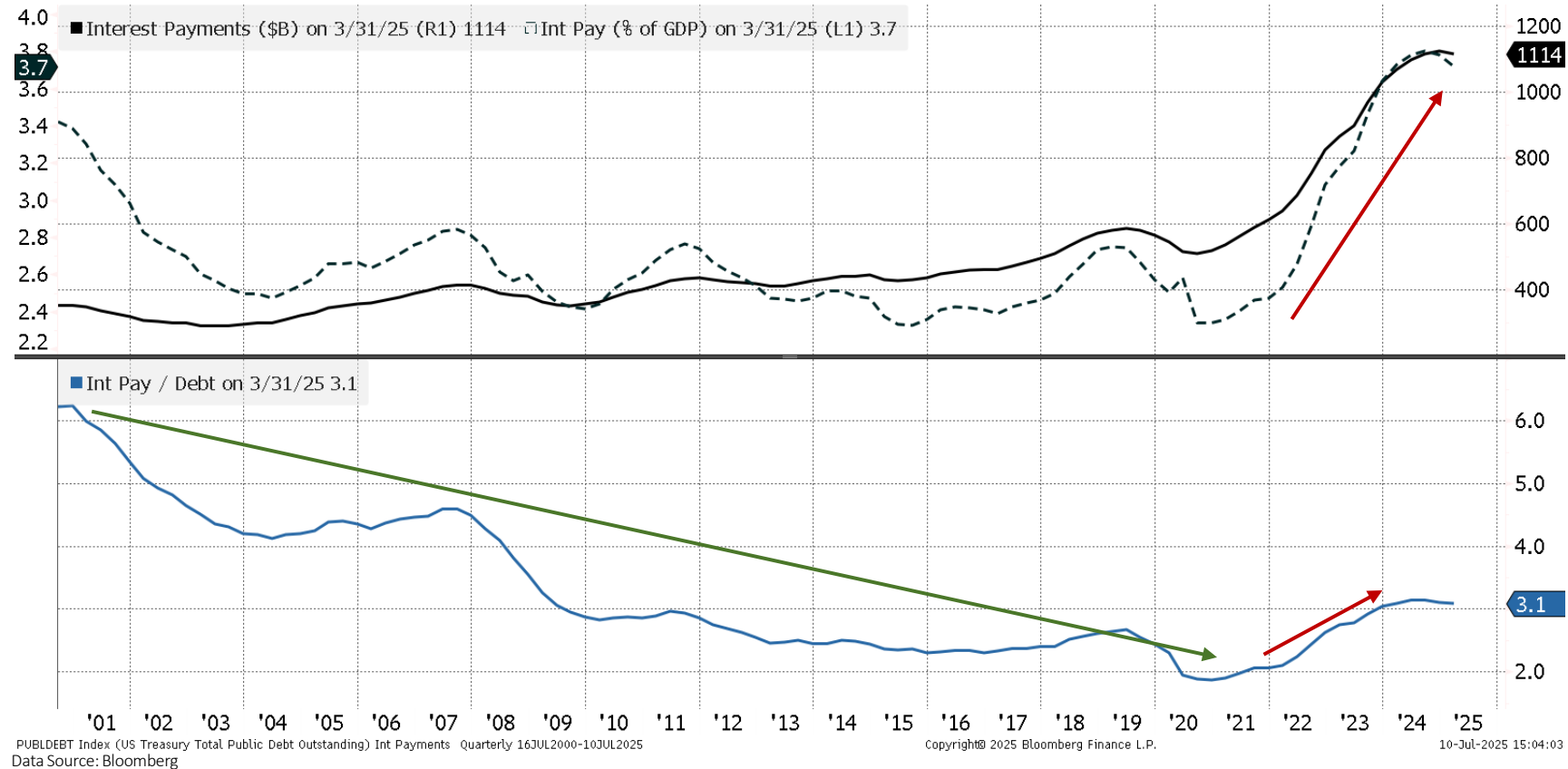
History tells us that the “easy” way out will be the likely path

- Plan : Such a path benefits assets of limited supply (i.e., Gold / Bitcoin / Earth Minerals)
- This is likely to be a decade-plus AA trend

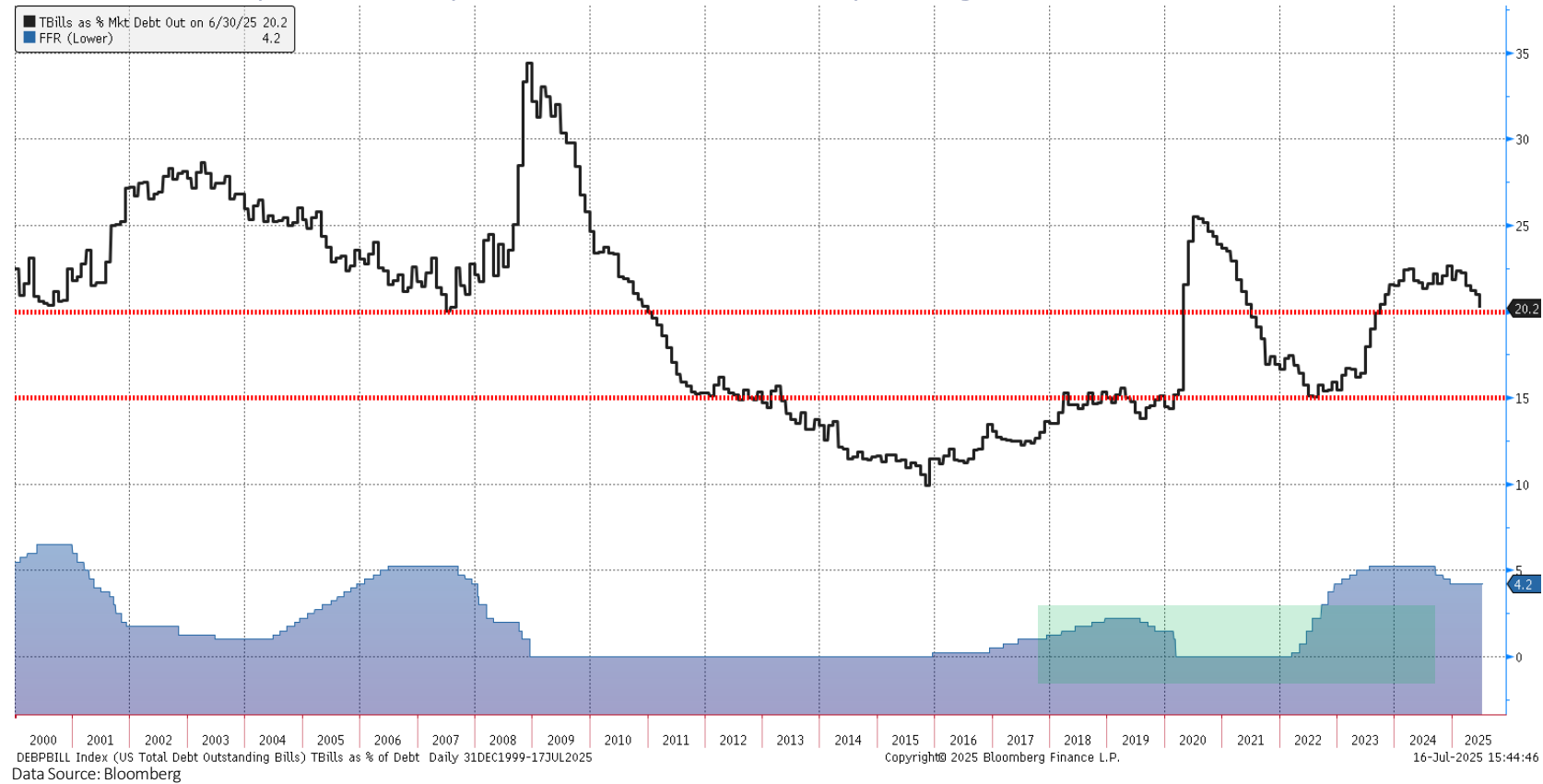


Data Source: Bloomberg

Interest Payment Dynamics: Vulnerability to Rising Rates

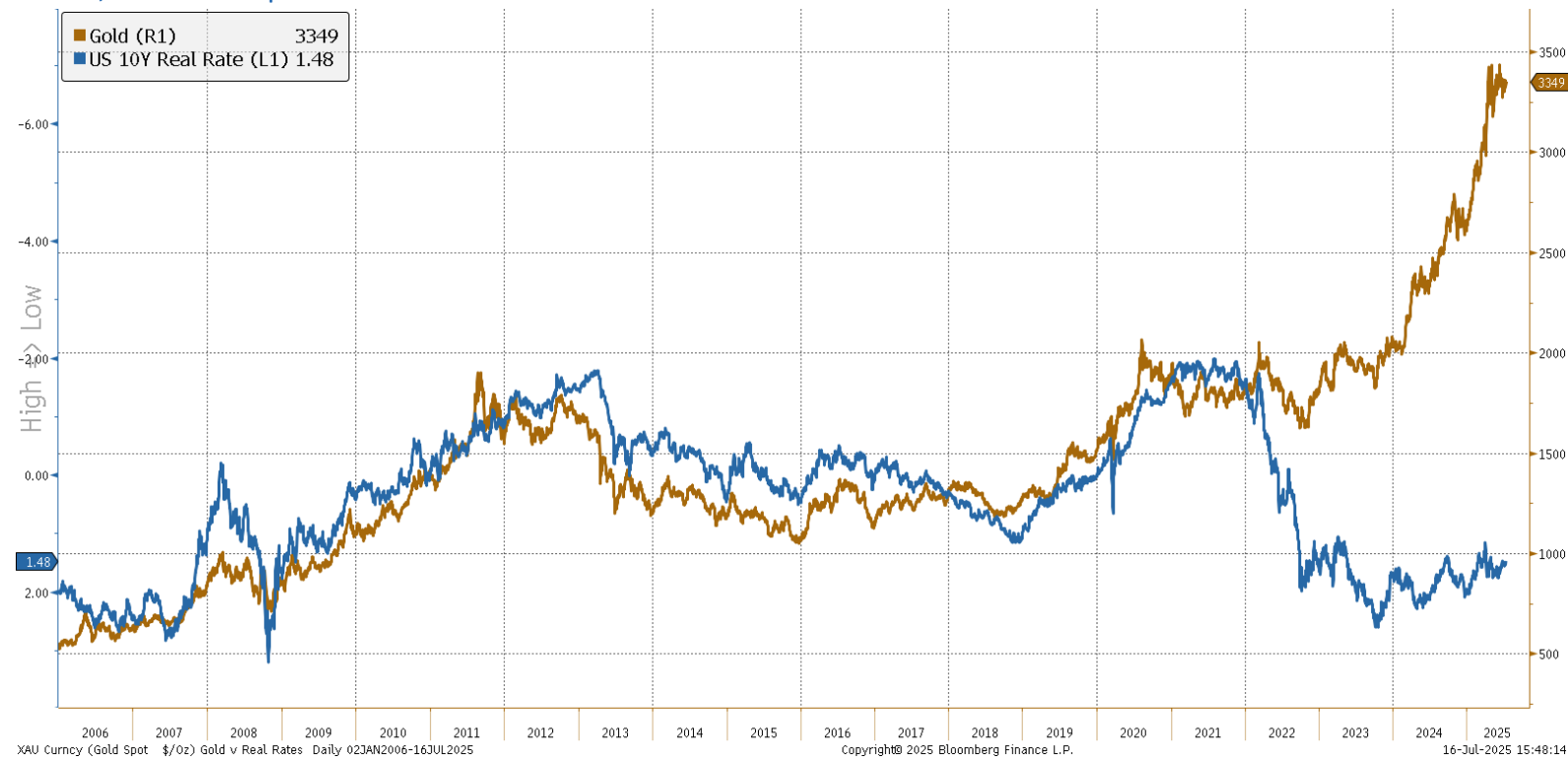


Interest Payment Dynamics: Relatively Large % in ST Debt



Fiscal Dominance Regime Risk: Asset Behavior/Relationships Change

Gold, for example....



Data Source: Bloomberg

Asset Class Performance

Asset Class Returns - Best to Worst

2020	2021	2022	2023	2024	2025 YTD	Annualized 5-Year as of 6/25
U.S. Equity 20.8%	REITs 46.2%	Commodities 16.1%	U.S. Equity 26.1%	U.S. Equity 23.8%	Developed 19.9%	U.S. Equity 16.2%
Emrg Mkts 18.7%	Commodities 27.1%	T-Bills 1.3%	Developed 18.9%	REITs 9.1%	Emrg Mkts 15.6%	Commodities 12.7%
U.S. TIPS 11.0%	U.S. Equity 26.7%	High Yield -11.2%	REITs 16.1%	High Yield 8.2%	U.S. Equity 5.7%	Developed 11.7%
Developed 8.3%	Developed 11.8%	U.S. TIPS -11.8%	High Yield 13.4%	Emrg Mkts 8.1%	Commodities 5.5%	REITs 8.7%
Core Bond 7.5%	U.S. TIPS 6.0%	Core Bond -13.0%	Emrg Mkts 10.3%	Commodities 5.4%	U.S. TIPS 4.7%	Emrg Mkts 7.3%
High Yield 7.1%	High Yield 5.3%	Developed -14.0%	Core Bond 5.5%	T-Bills 5.3%	High Yield 4.6%	High Yield 6.0%
T-Bills 0.7%	T-Bills 0.0%	U.S. Equity -19.0%	T-Bills 5.1%	Developed 4.3%	Core Bond 4.0%	T-Bills 2.8%
Commodities -3.1%	Core Bond -1.5%	Emrg Mkts -19.7%	U.S. TIPS 3.9%	U.S. TIPS 1.8%	T-Bills 2.1%	U.S. TIPS 1.6%
REITs -7.9%	Emrg Mkts -2.2%	REITs -26.8%	Commodities -1.3%	Core Bond 1.3%	REITs -0.2%	Core Bond -0.7%

Data Sources: Bloomberg

Note: Developed asset class is developed equity markets ex-U.S., ex-Canada

Total Fund

Executive Summary (as of 6/30/2025)

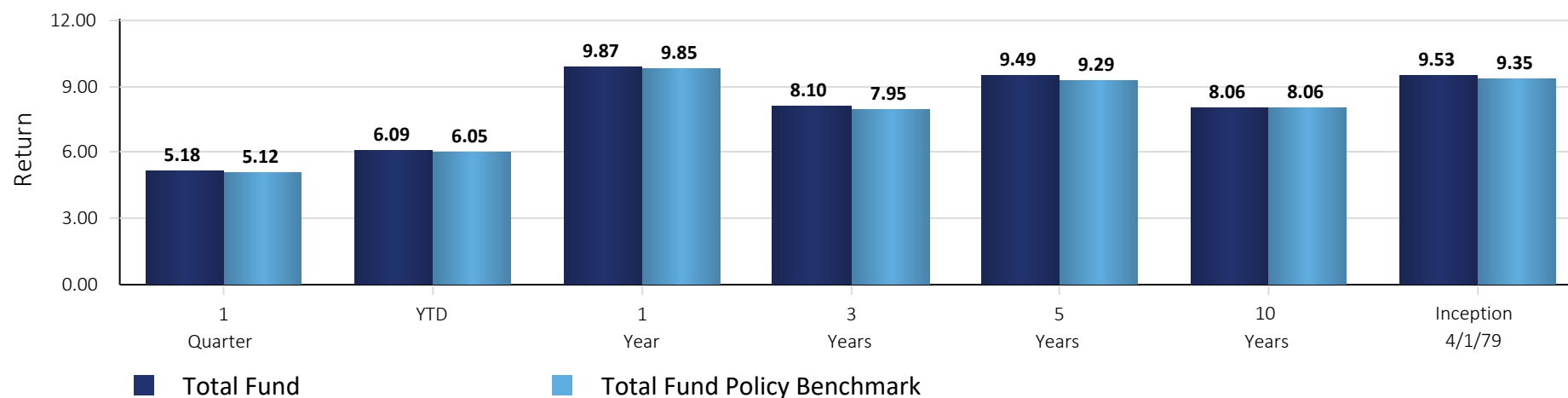
- Total Fund returned 9.87% during FY 2025, slightly outperforming the Total Fund Policy Benchmark¹ (“policy”) return of 9.85% over the same period.
- Manager performance across public markets was mixed for the year. International Equity, Core Fixed Income, and Public Credit led their policies, while U.S. Equity and Global Smart Beta slightly trailed their respective indexes.
- 10-year annualized returns were 8.1% for Total Fund, matching the policy return.
- IPERS ranks favorably versus peers across most time horizons. Total Fund return has ranked in or near the top quartile against all public plans with greater than \$1 billion in assets over 5-, and 10-years.
- IPERS’ 5-year risk-adjusted returns remain top-third relative to all public plans greater than \$1 billion in Total Fund assets—outpacing almost 66% of peers.

Total Fund Summary

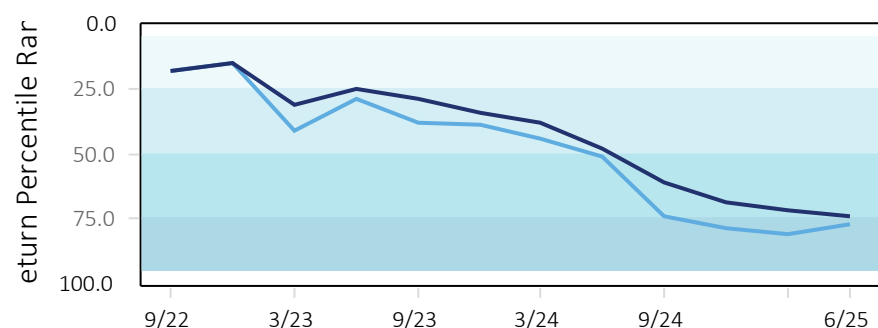
Total Fund

Periods Ended June 30, 2025

Comparative Performance

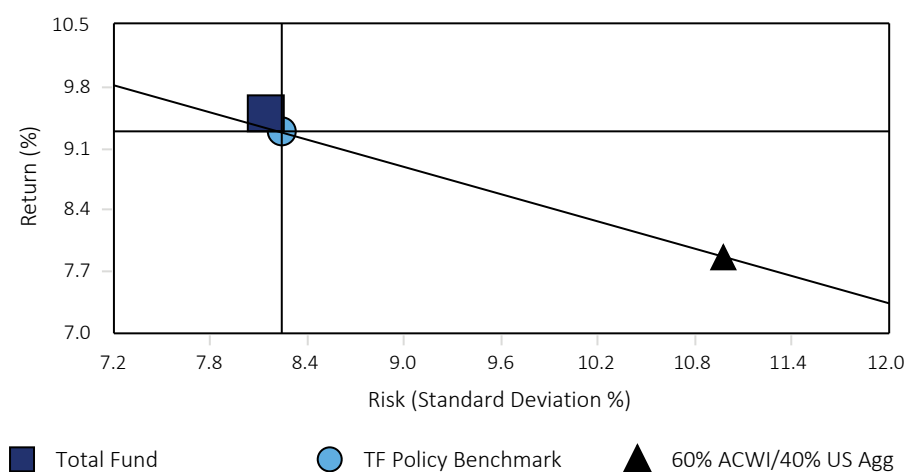


Rolling Percentile Rank: All Public Plans >\$1B-Total Fund



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
— Total Fund	12	3 (25%)	5 (42%)	4 (33%)	0 (0%)
— Benchmark	12	2 (17%)	5 (42%)	2 (17%)	3 (25%)

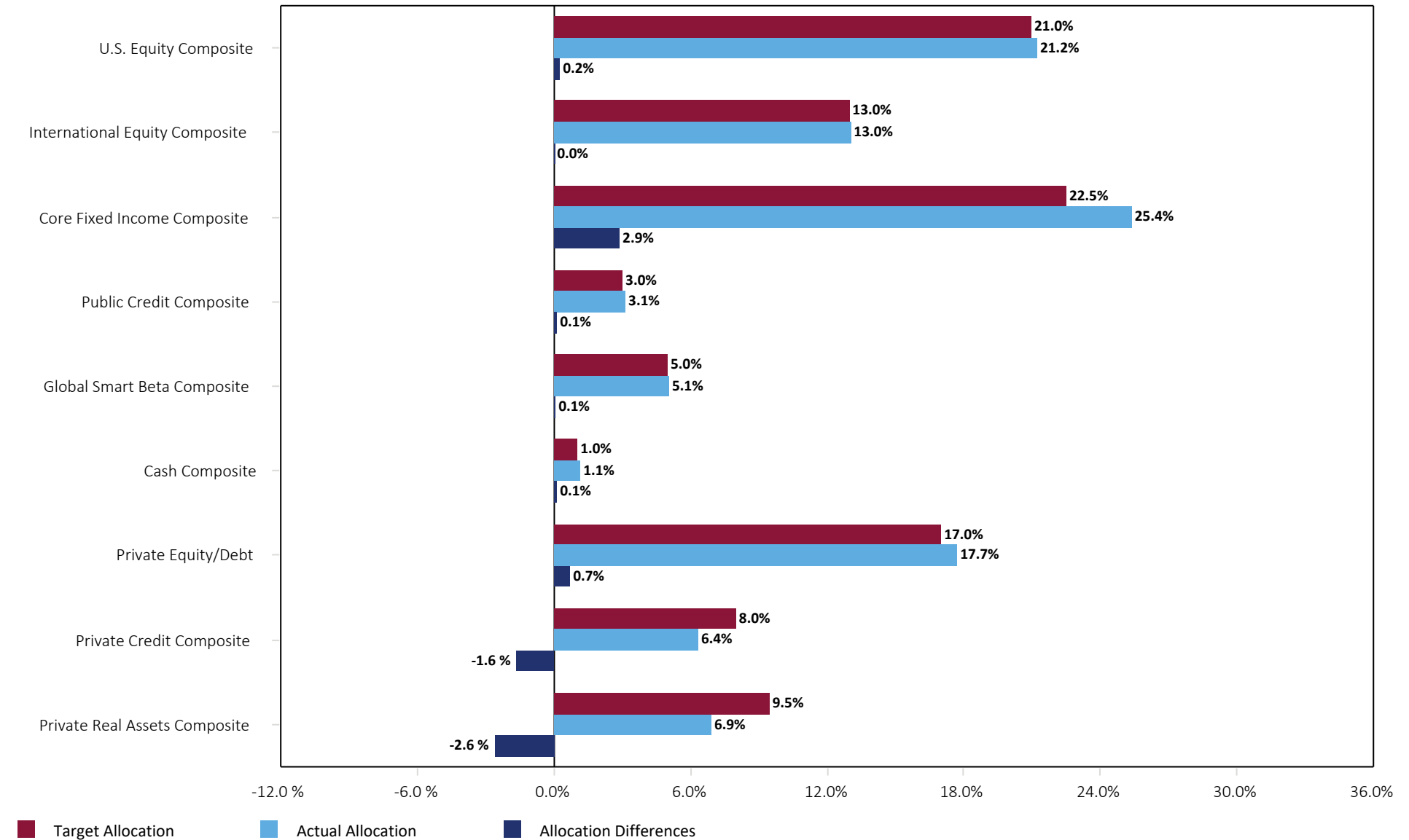
Risk and Return (5-year)



Asset Allocation Compliance

Total Fund

Periods Ended As of June 30, 2025



Asset Allocation & Performance

Total Fund

Periods Ended June 30, 2025

	Performance (%) Net of Fees										Market Value \$	%
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date		
Total Fund	5.18	9.87	9.87	8.10	9.49	8.06	7.64	8.41	9.53	4/1/1979	46,682,170,944	100.00
Total Fund Policy Benchmark	5.12	9.85	9.85	7.95	9.29	8.06	7.76	8.17	9.35			
Public Markets Reference Index	7.49	12.40	12.40	11.08	7.76	6.85	6.64	7.02				
CPI + 3%	1.61	5.75	5.75	5.96	7.72	6.15	5.64	5.60	6.46			
All Public Plans > \$1B-Total Fund Median	5.81	10.23	10.23	9.08	8.87	7.16	6.79	7.55				
Actuarial Rate	1.71	7.00	7.00	7.00	7.00	7.05	7.28	7.35	7.06			
Public Markets Composite	6.84	11.95	11.95	11.37	8.26				7.39	10/1/2016	32,738,996,701	70.13
Public Markets Reference Index	7.49	12.40	12.40	11.08	7.76				7.36			
U.S. Equity Composite	10.99	14.82	14.82	19.12	16.27	12.95	10.11	10.32	11.60	4/1/1975	10,172,948,251	21.79
U.S. Equity Composite Benchmark	10.99	15.30	15.30	19.08	16.18	13.18	10.64	10.41	12.09			
International Equity Composite	11.86	18.16	18.16	15.04	10.90	6.42	6.03	6.32	5.81	10/1/1989	6,315,908,883	13.53
International Equity Policy Index	12.03	17.72	17.72	13.99	10.13	6.28	6.15	6.02	5.68			
Core Fixed Income Composite	1.43	6.23	6.23	2.77	-0.39	2.11	3.48	4.76	6.23	7/1/1985	11,909,480,091	25.51
Core Fixed Income Policy Index	1.21	6.08	6.08	2.86	-0.39	1.99	3.33	4.53	5.87			
Public Credit Composite	3.57	10.74	10.74	9.82	5.46	4.85	5.88		5.89	4/1/1998	1,417,317,209	3.04
Public Credit Policy Index	3.37	10.03	10.03	9.38	4.58	4.66	5.83		5.76			
Global Smart Beta Composite	8.43	15.87	15.87	14.29	12.68				8.75	8/1/2017	2,430,535,551	5.21
Global Smart Beta Policy Index	8.40	16.08	16.08	14.52	12.89				8.88			
MSCI AC World Index (Net)	11.53	16.17	16.17	17.35	13.65				10.51			

Asset Allocation & Performance

Total Fund

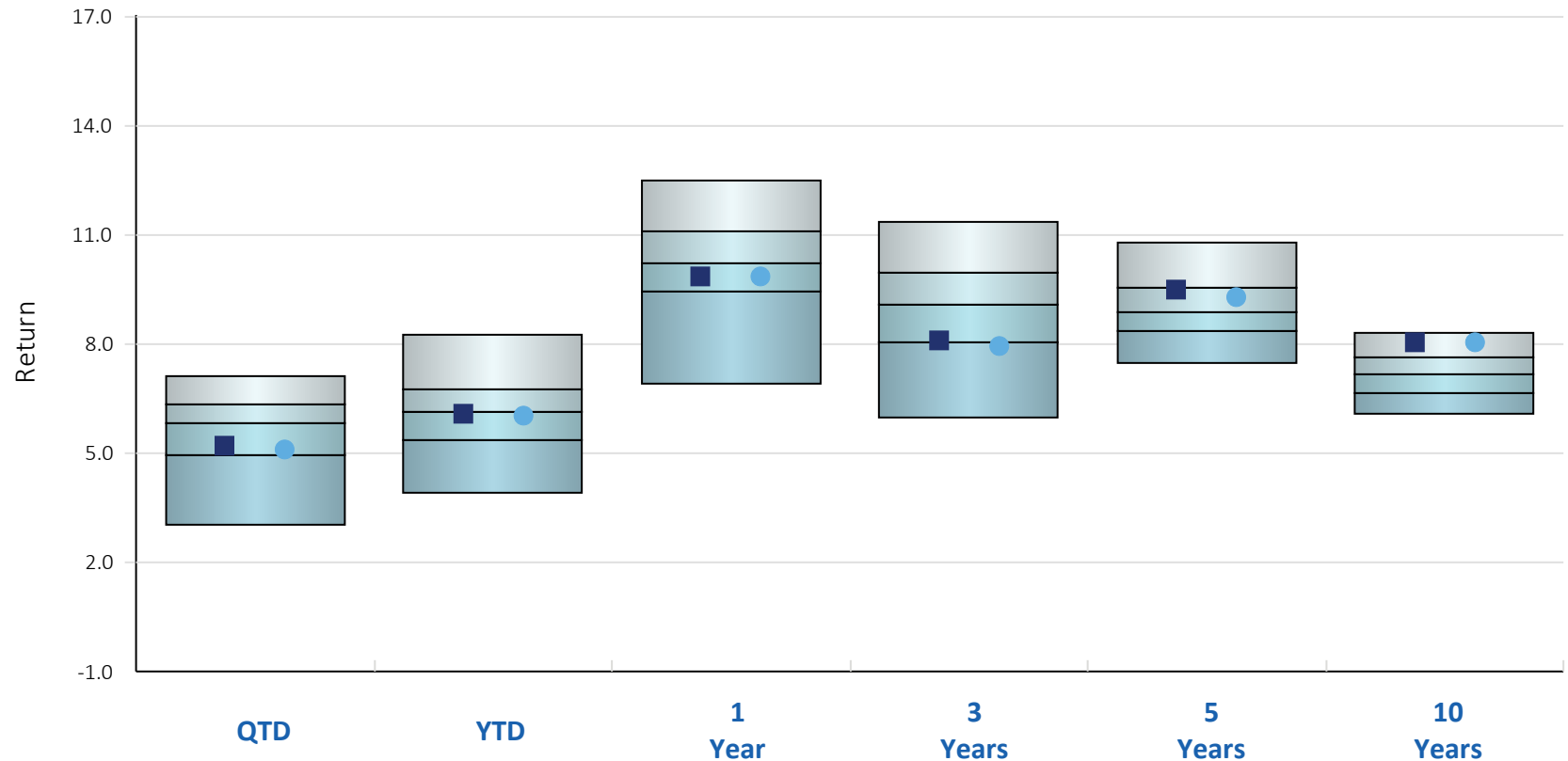
Periods Ended June 30, 2025

	Performance (%) Net of Fees										Market Value \$	%
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date		
LARS	-14.10	-20.36	-20.36	-5.33	7.36				4.42	1/1/2017	191,911,602	0.41
90 Day U.S. Treasury Bill	1.04	4.68	4.68	4.56	2.76				2.28			
Cash Composite	-3.89	-4.28	-4.28	1.12	3.90	3.45	2.62	3.23	3.23	7/1/1995	492,806,717	1.06
90 Day U.S. Treasury Bill	1.04	4.68	4.68	4.56	2.76	1.96	1.67	2.42	2.42			
Private Markets Composite	1.09	4.70	4.70	1.22	13.58				12.94	10/1/2016	13,943,174,243	29.87
Private Equity/Debt	0.86	4.22	4.22	1.46	16.76	15.12	15.03	14.22	12.73	10/1/1985	7,883,431,343	16.89
Private Equity Policy Index	0.86	4.22	4.22	1.46	16.76	15.12	13.01	13.04	14.28			
Private Credit Composite	1.89	7.89	7.89	7.32	8.08				7.53	10/1/2016	2,860,202,847	6.13
Private Credit Policy Index	1.89	7.89	7.89	7.32	8.08				7.53			
Private Real Assets Composite	0.94	3.06	3.06	-3.40	6.65				6.73	10/1/2016	3,199,540,052	6.85
Private Real Assets Policy Index	0.94	3.06	3.06	-3.40	6.65				6.73			

Plan Sponsor Peer Group Analysis

Total Fund vs All Public Plans > \$1B-Total Fund

Periods Ended June 30, 2025



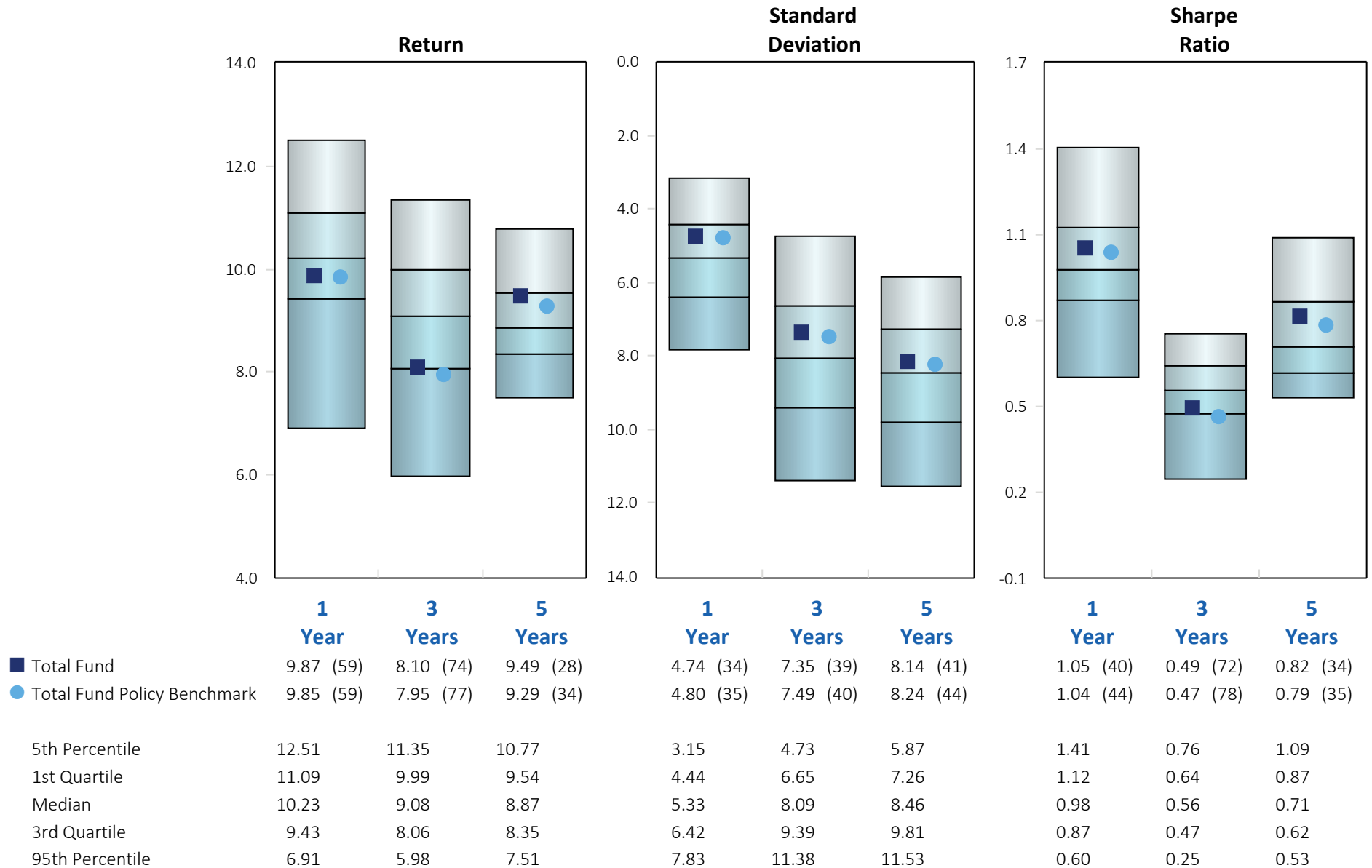
■ Total Fund	5.18 (71)	6.09 (51)	9.87 (59)	8.10 (74)	9.49 (28)	8.06 (10)
● Total Fund Policy Benchmark	5.12 (72)	6.05 (52)	9.85 (59)	7.95 (77)	9.29 (34)	8.06 (10)
5th Percentile	7.15	8.24	12.51	11.35	10.77	8.31
1st Quartile	6.36	6.76	11.09	9.99	9.54	7.62
Median	5.81	6.12	10.23	9.08	8.87	7.16
3rd Quartile	4.94	5.35	9.43	8.06	8.35	6.66
95th Percentile	3.02	3.94	6.91	5.98	7.51	6.08
Population	113	113	113	109	103	97

Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.

Plan Sponsor Peer Group Analysis - Multi Statistics

Total Fund vs All Public Plans > \$1B-Total Fund

Periods Ended June 30, 2025

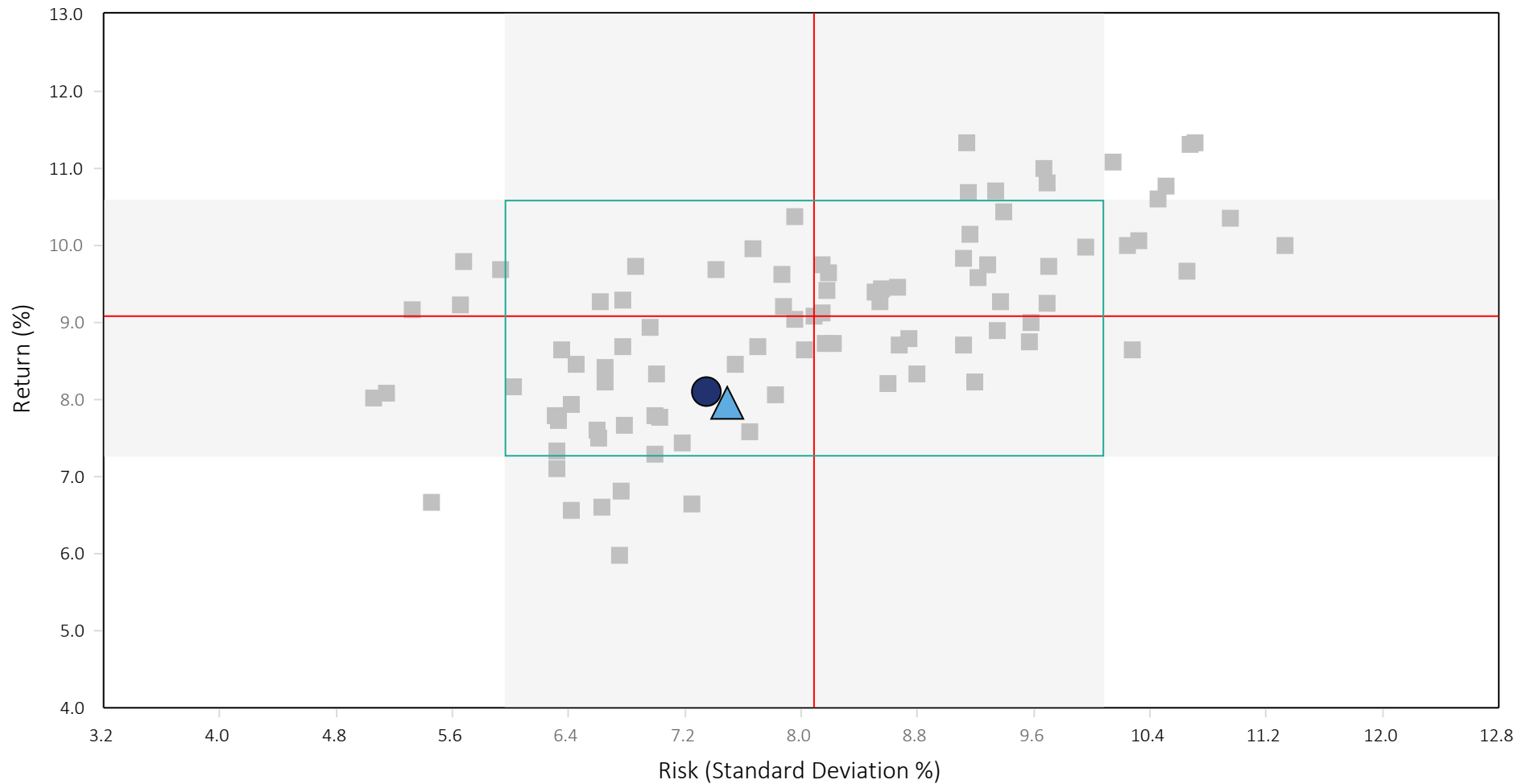


Parenteses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Scattergram

Total Fund vs All Public Plans > \$1B-Total Fund

Periods Ended July 1, 2022 To June 30, 2025

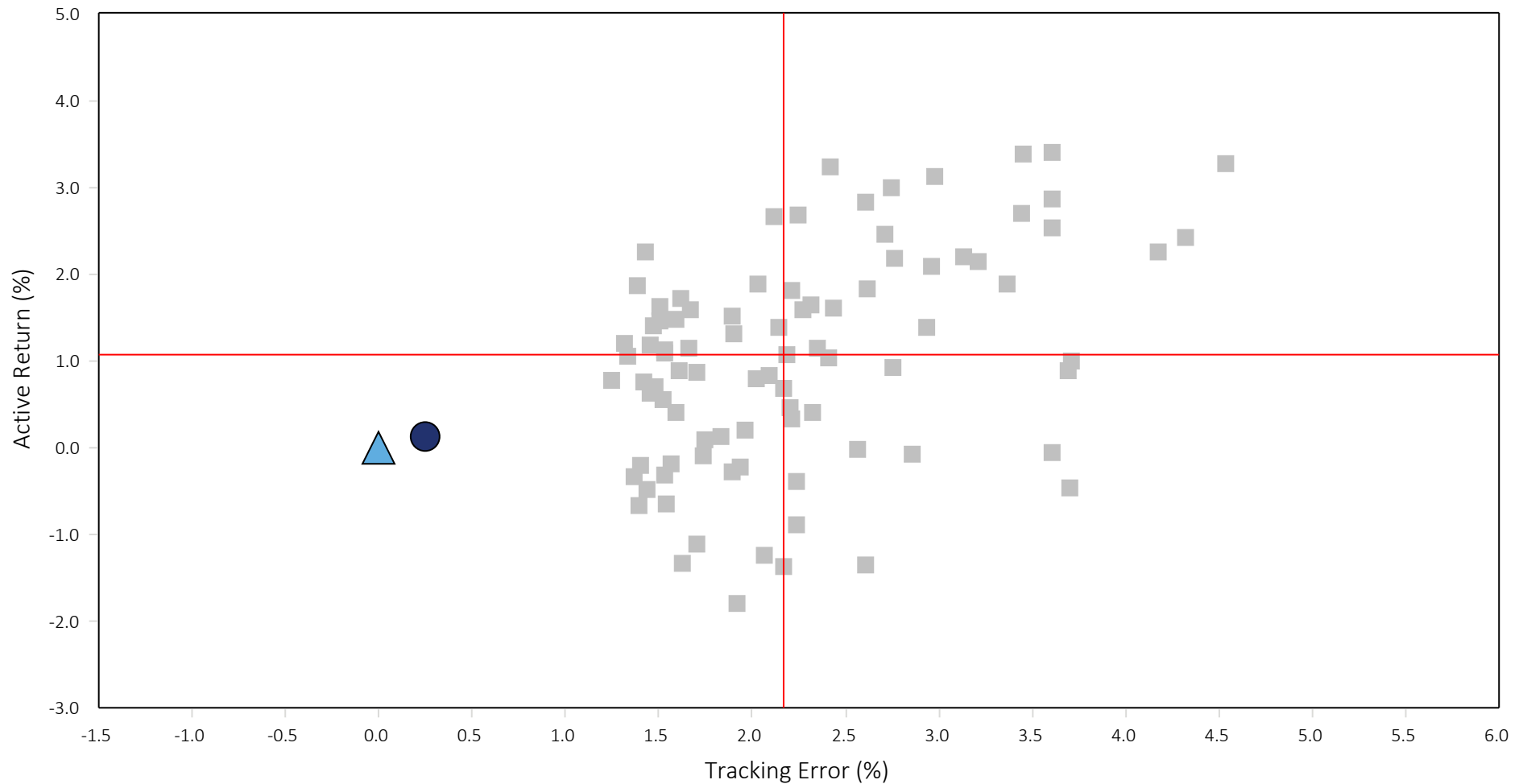


	Return	Standard Deviation
● Total Fund	8.10	7.35
▲ Total Fund Policy Benchmark	7.95	7.49
— Median	9.08	8.09

Plan Sponsor Scattergram

Total Fund vs All Public Plans > \$1B-Total Fund

Periods Ended July 1, 2022 To June 30, 2025

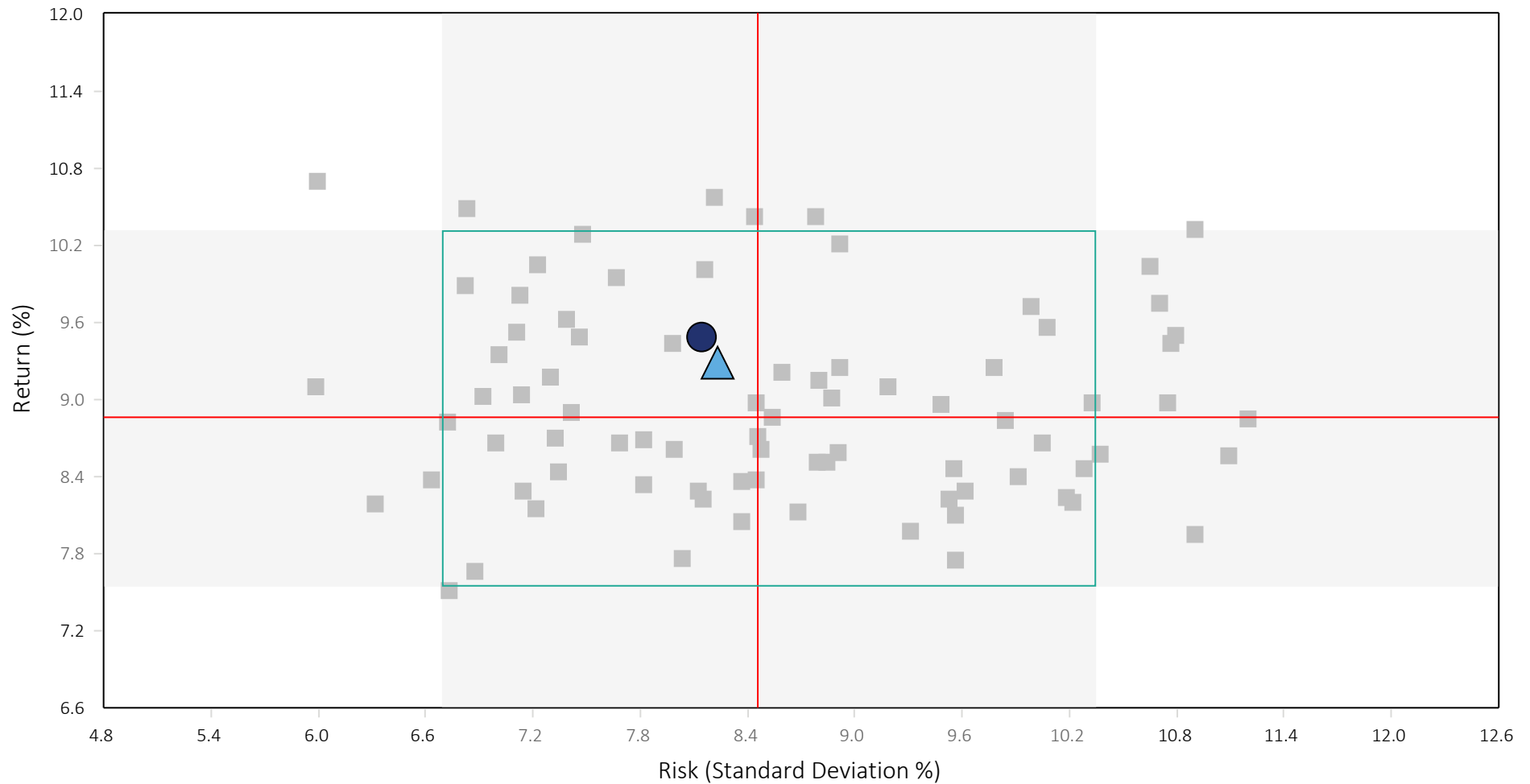


	Active Return	Tracking Error
● Total Fund	0.12	0.25
▲ Total Fund Policy Benchmark	0.00	0.00
— Median	1.07	2.17

Plan Sponsor Scattergram

Total Fund vs All Public Plans > \$1B-Total Fund

Periods Ended July 1, 2020 To June 30, 2025

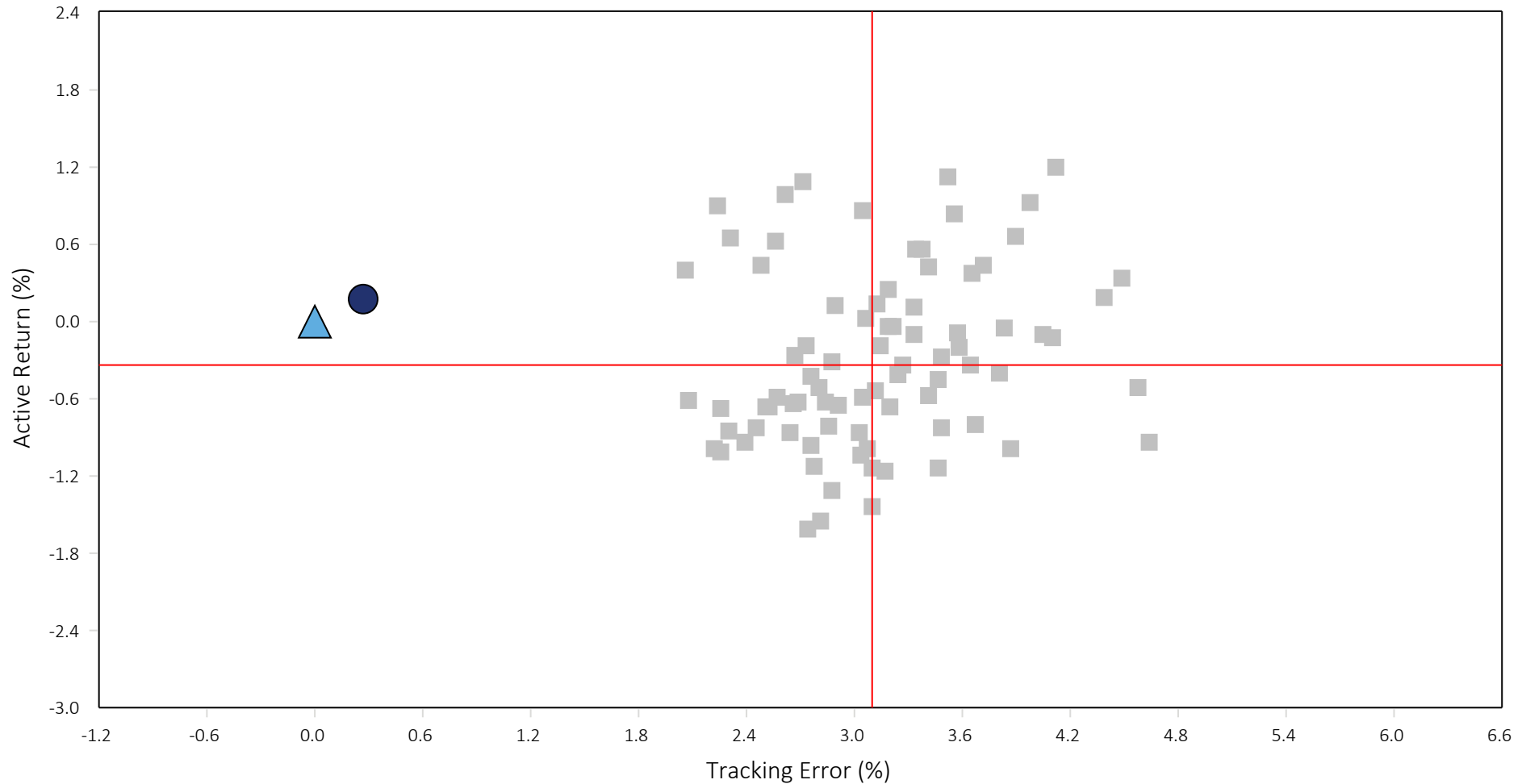


	Return	Standard Deviation
● Total Fund	9.49	8.14
▲ Total Fund Policy Benchmark	9.29	8.24
— Median	8.87	8.46

Plan Sponsor Scattergram

Total Fund vs All Public Plans > \$1B-Total Fund

Periods Ended July 1, 2020 To June 30, 2025

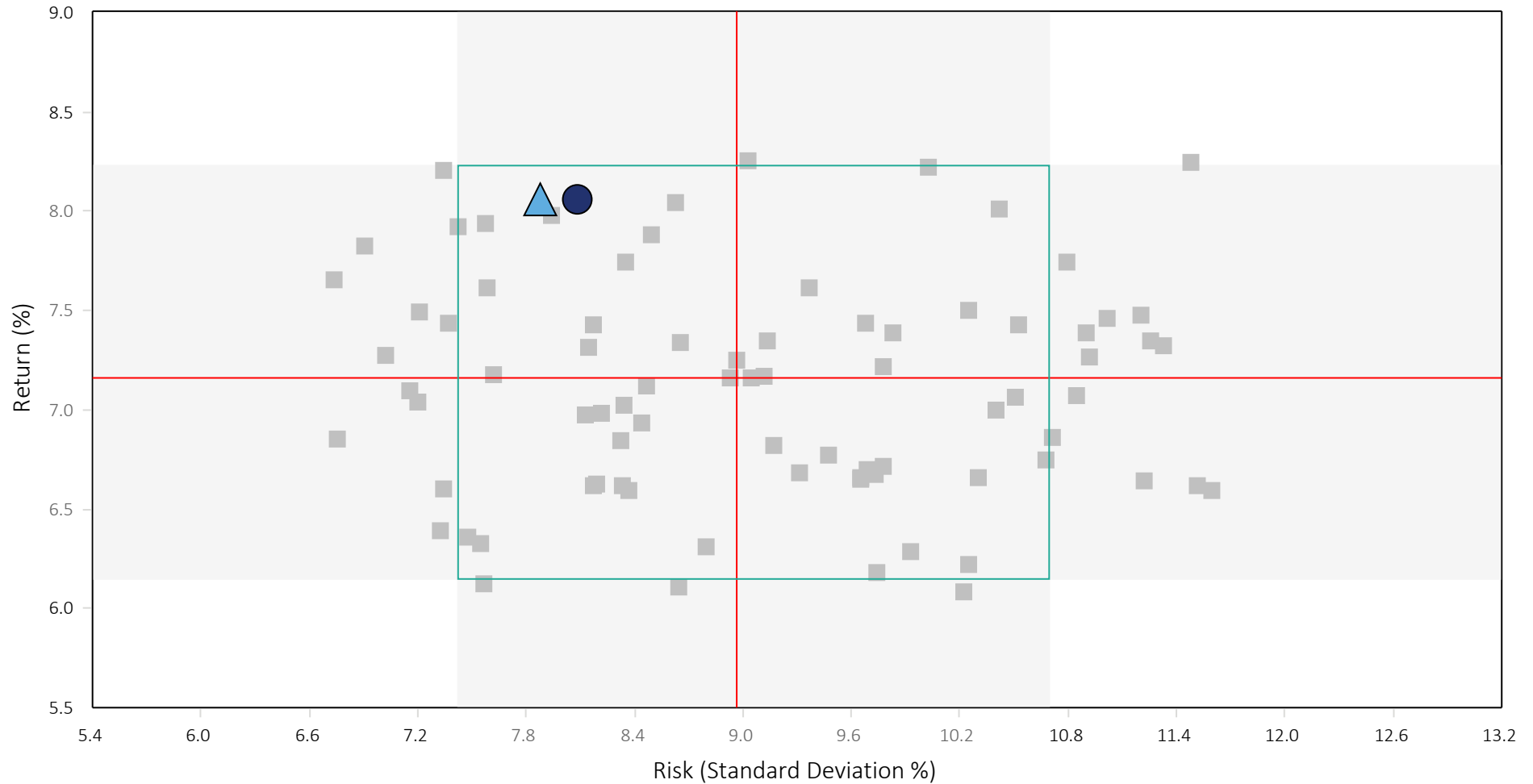


	Active Return	Tracking Error
● Total Fund	0.18	0.27
▲ Total Fund Policy Benchmark	0.00	0.00
— Median	-0.34	3.10

Plan Sponsor Scattergram

Total Fund vs All Public Plans > \$1B-Total Fund

Periods Ended July 1, 2015 To June 30, 2025

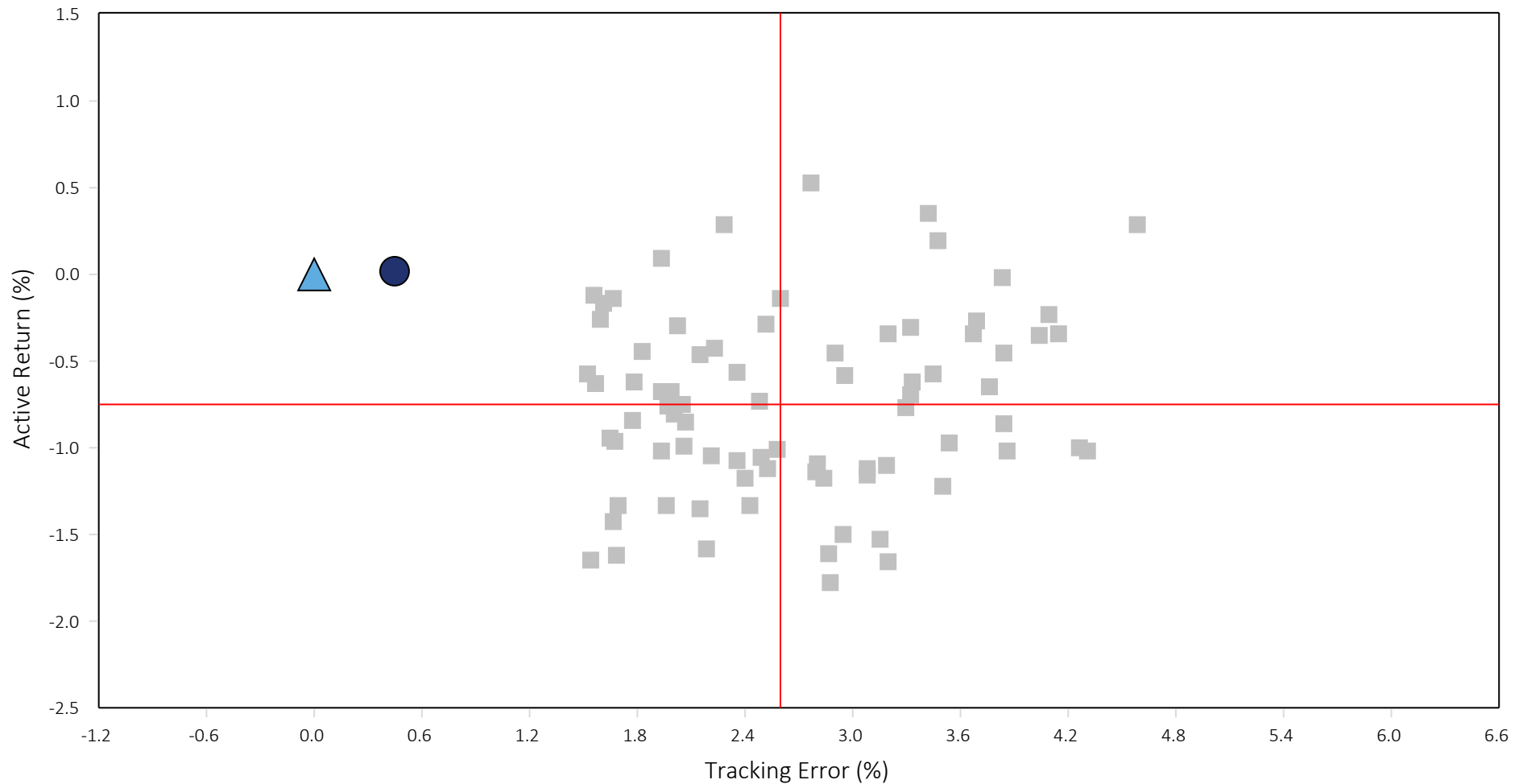


	Return	Standard Deviation
● Total Fund	8.06	8.08
▲ Total Fund Policy Benchmark	8.06	7.88
— Median	7.16	8.97

Plan Sponsor Scattergram

Total Fund vs All Public Plans > \$1B-Total Fund

Periods Ended July 1, 2015 To June 30, 2025



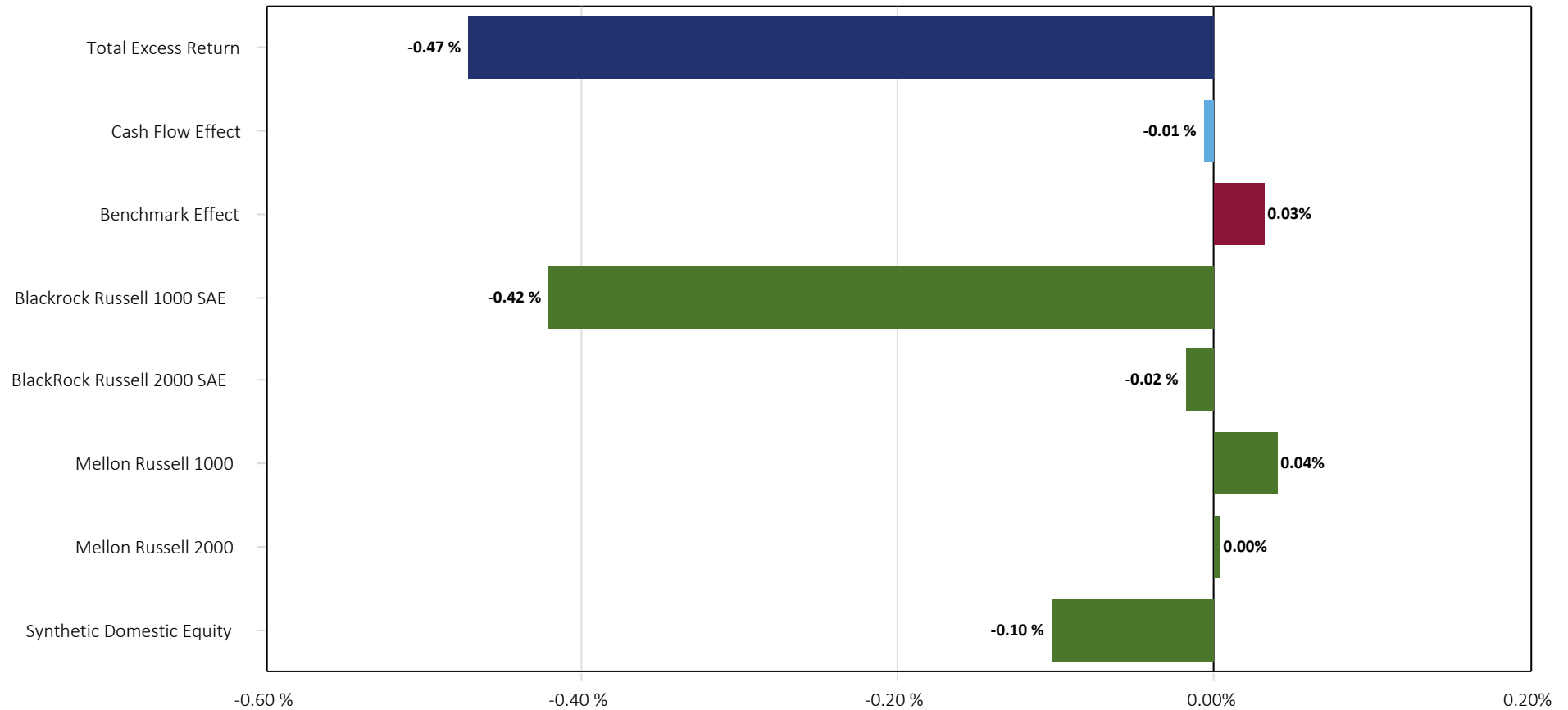
	Active Return	Tracking Error
● Total Fund	0.02	0.44
▲ Total Fund Policy Benchmark	0.00	0.00
— Median	-0.75	2.60

Asset Class Attribution

U.S. Equity Composite

Periods Ended 1 Year Ending June 30, 2025

1 Year

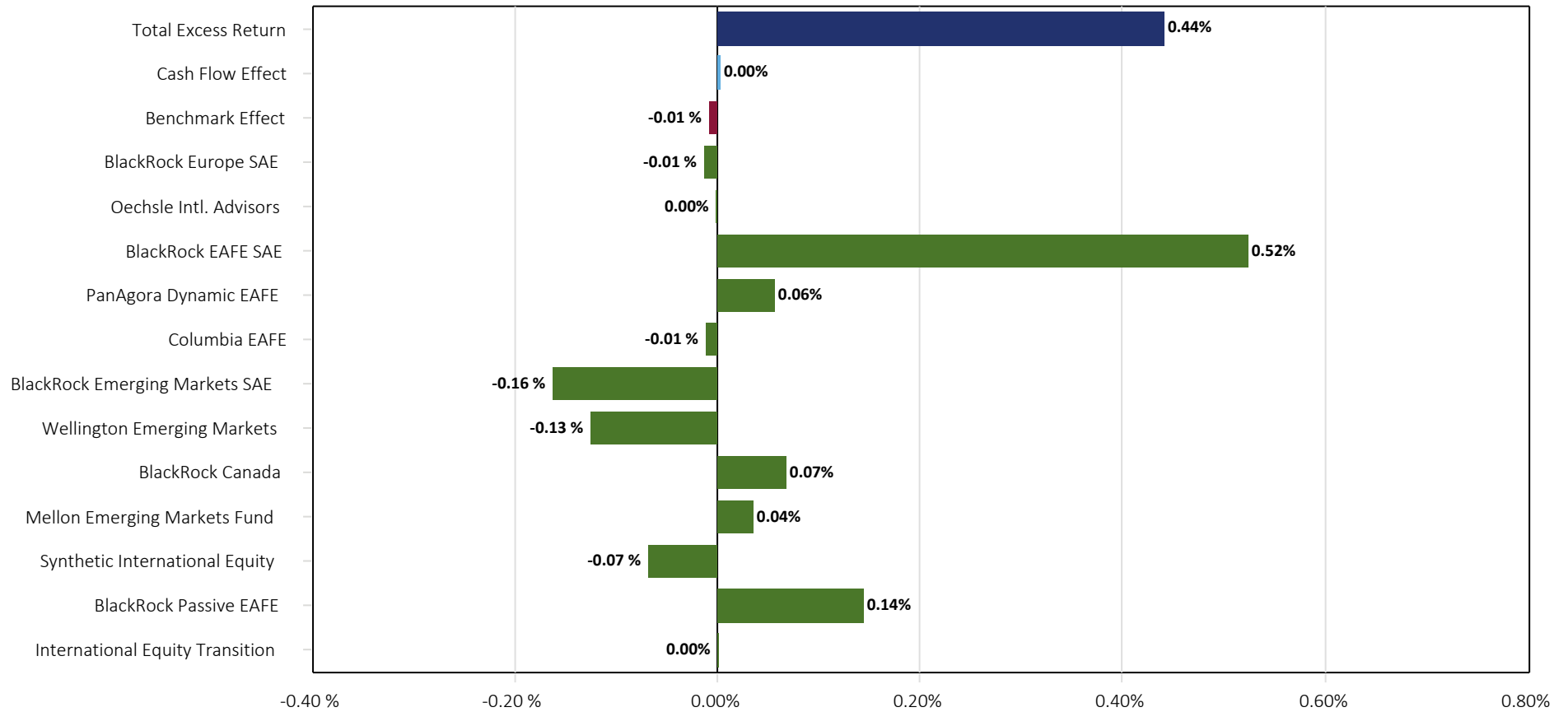


Asset Class Attribution

International Equity Composite

Periods Ended 1 Year Ending June 30, 2025

1 Year

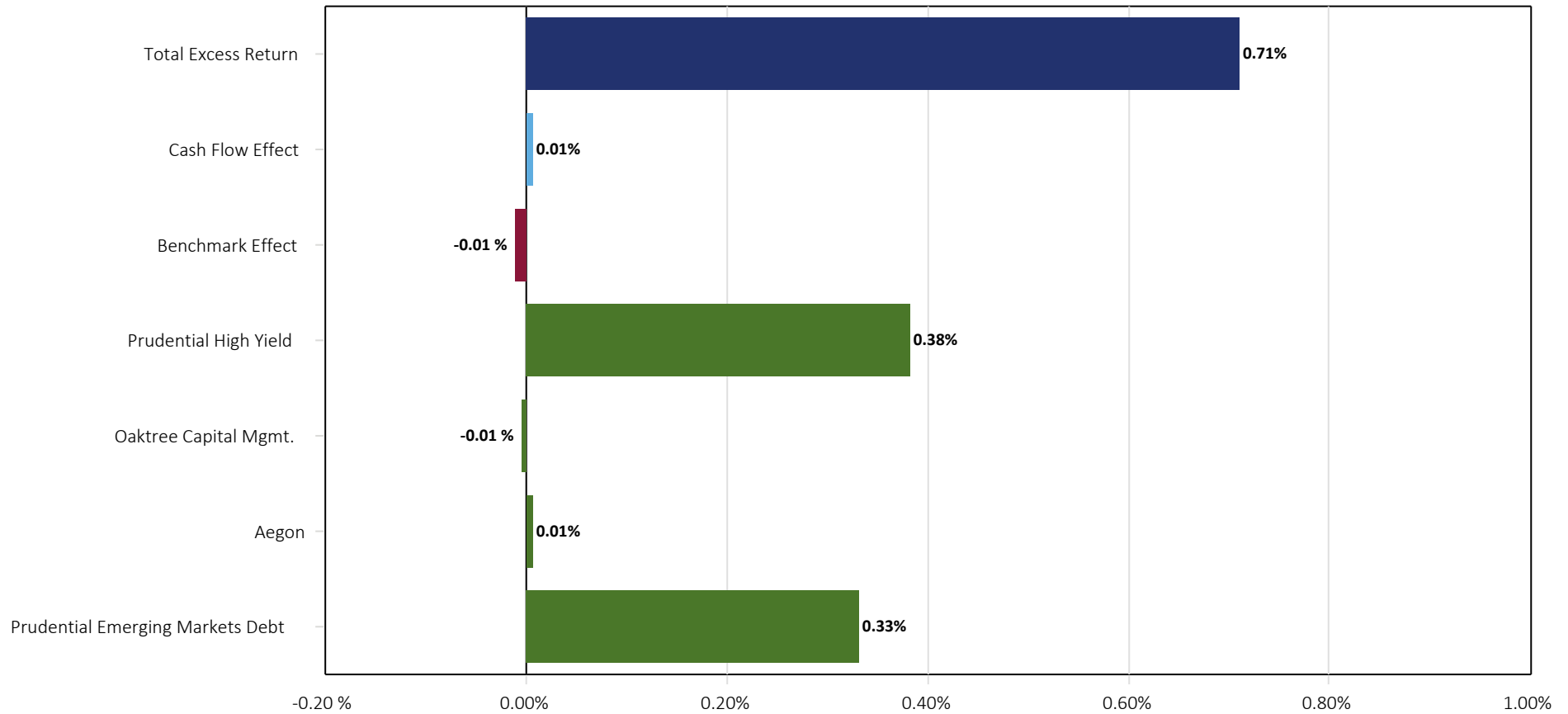


Asset Class Attribution

Public Credit Composite

Periods Ended 1 Year Ending June 30, 2025

1 Year

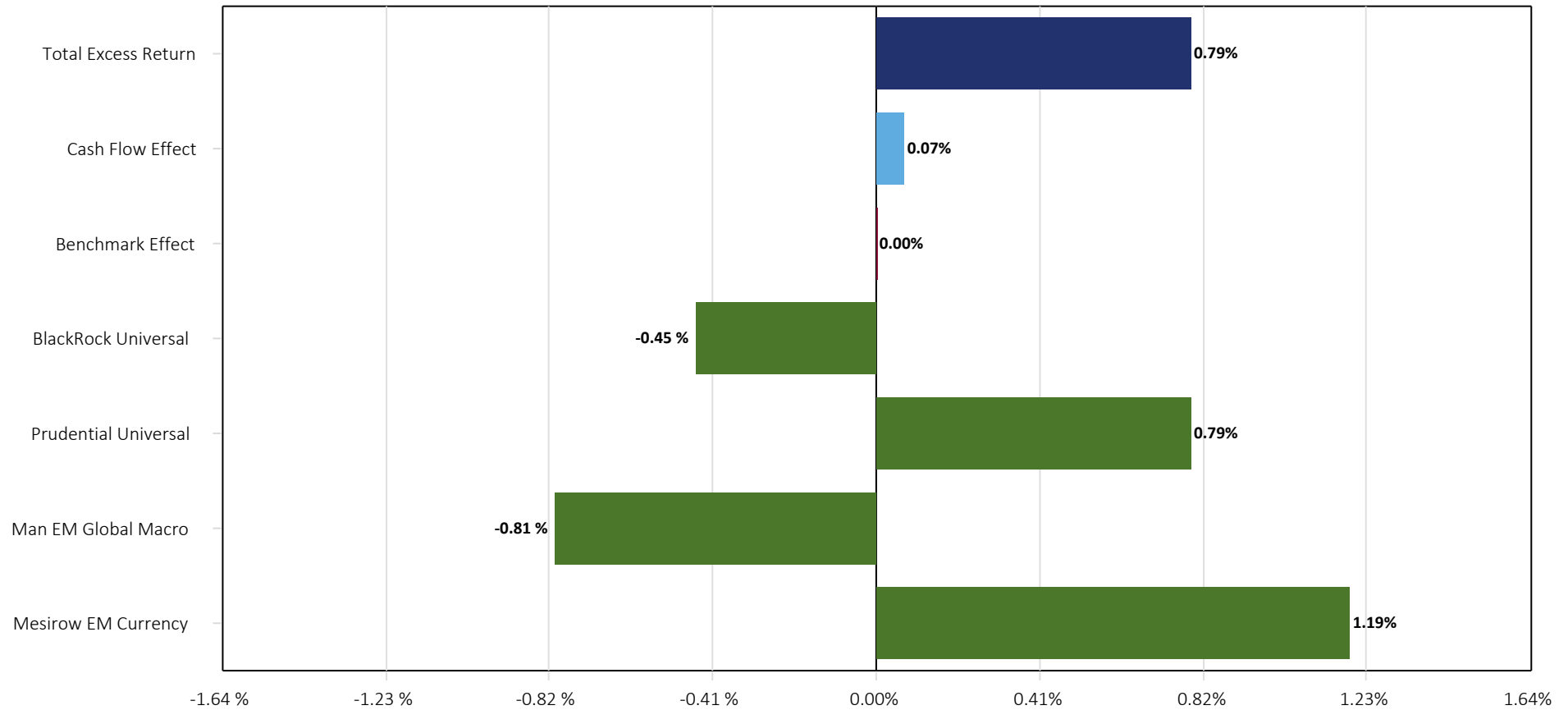


Asset Class Attribution

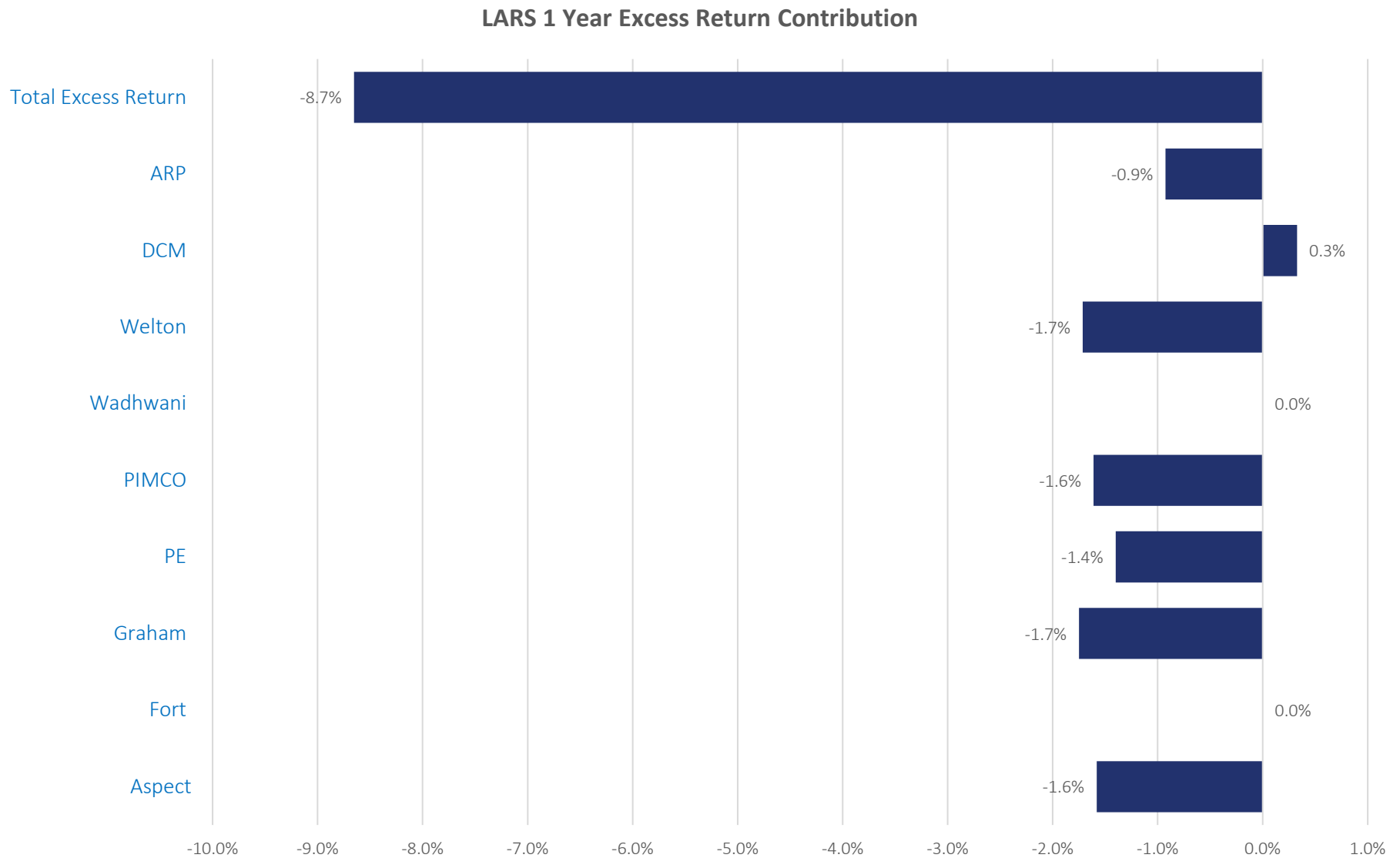
Relative Value Composite

Periods Ended 1 Year Ending June 30, 2025

1 Year



LARS Program Attribution



Public Markets Composite

Asset Allocation & Performance

U.S. Equity Composite

Periods Ended June 30, 2025

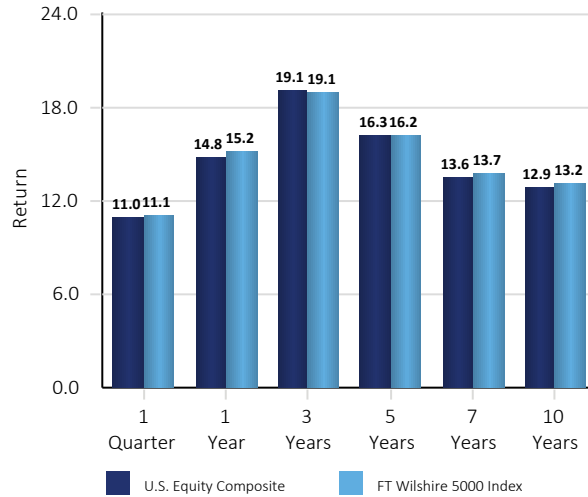
	Performance (%) Net of Fees									Market Value \$	%
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date		
U.S. Equity Composite	10.99	14.82	14.82	19.12	16.27	12.95	10.11	11.60	4/1/1975	10,172,948,251	100.00
Equity Composite Benchmark	10.99	15.30	15.30	19.08	16.18	13.18	10.64	12.09			
Active Equity Composite	11.41	13.12	13.12	18.89	14.76	11.96	9.04	7.34	1/1/1999	2,516,574,497	24.74
Blackrock Russell 1000 SAE	11.76	13.80	13.80	19.73				15.39	5/1/2022	2,285,056,286	22.46
Russell 1000 Index	11.11	15.66	15.66	19.59				15.18			
BlackRock Russell 2000 SAE	8.10	6.87	6.87	10.75	10.63			7.94	5/1/2019	231,518,211	2.28
Russell 2000 Index	8.50	7.68	7.68	10.00	10.04			6.65			
Passive Equity Composite	10.85	15.40	15.40	19.19	15.75	12.86	10.76	8.88	1/1/1999	7,656,373,754	75.26
Mellon Russell 1000	11.12	15.72	15.72	19.65				15.25	5/1/2022	7,372,055,220	72.47
Russell 1000 Index	11.11	15.66	15.66	19.59				15.18			
Mellon Russell 2000	8.57	7.85	7.85	10.20				6.76	5/1/2022	222,153,653	2.18
Russell 2000 Index	8.50	7.68	7.68	10.00				6.57			
Synthetic Domestic Equity	-9.93	0.91	0.91	3.65	19.99			29.84	4/1/2017	62,164,881	0.61
Northern Trust Domestic Equity Transition											0.00
All Public Plans > \$1B-US Equity Segment Median	10.45	14.52	14.52	17.80	15.12	11.55	9.81				
Russell 3000 Index	10.99	15.30	15.30	19.08	15.96	12.96	10.53	12.13	1/1/1979		
Wilshire 4500 Completion Index	12.28	16.00	16.00	15.62	13.29	10.20	9.88	10.66	1/1/1984		
FT Wilshire 5000 Index	11.11	15.21	15.21	19.08	16.16	13.18	10.63	11.14	1/1/1971		

Performance Summary

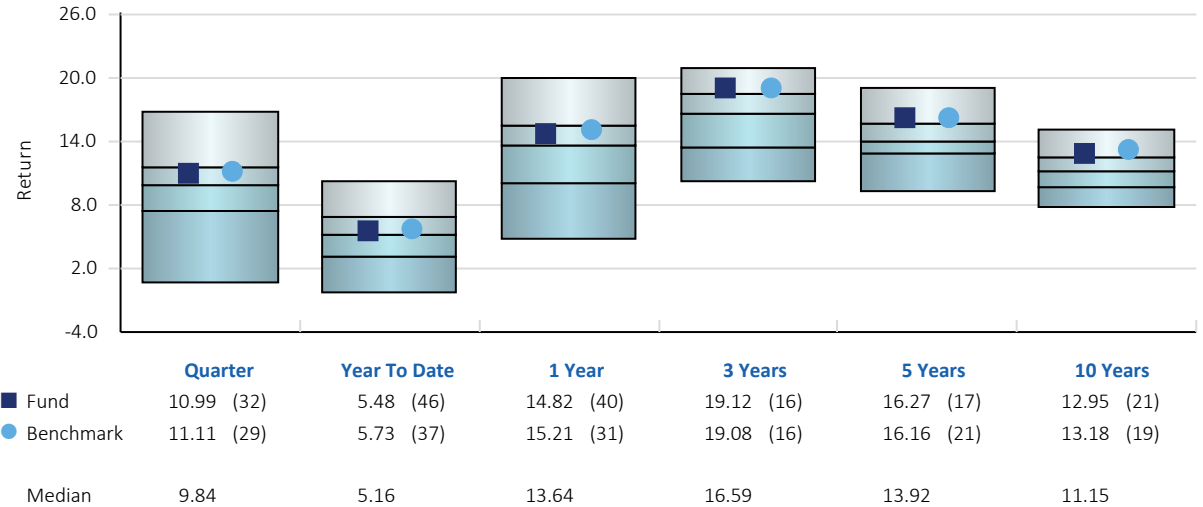
U.S. Equity Composite

Periods Ended June 30, 2025

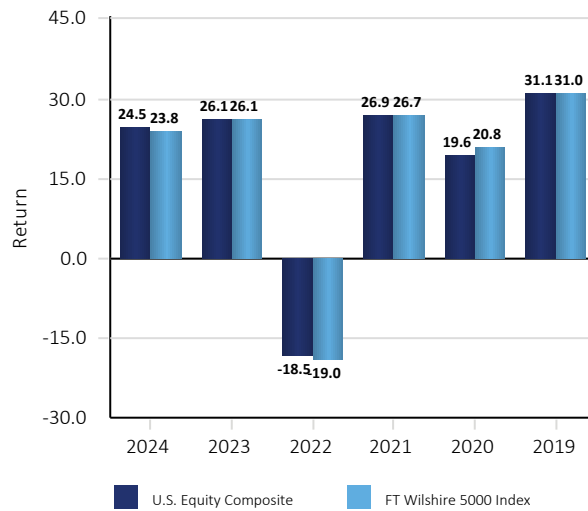
Comparative Performance



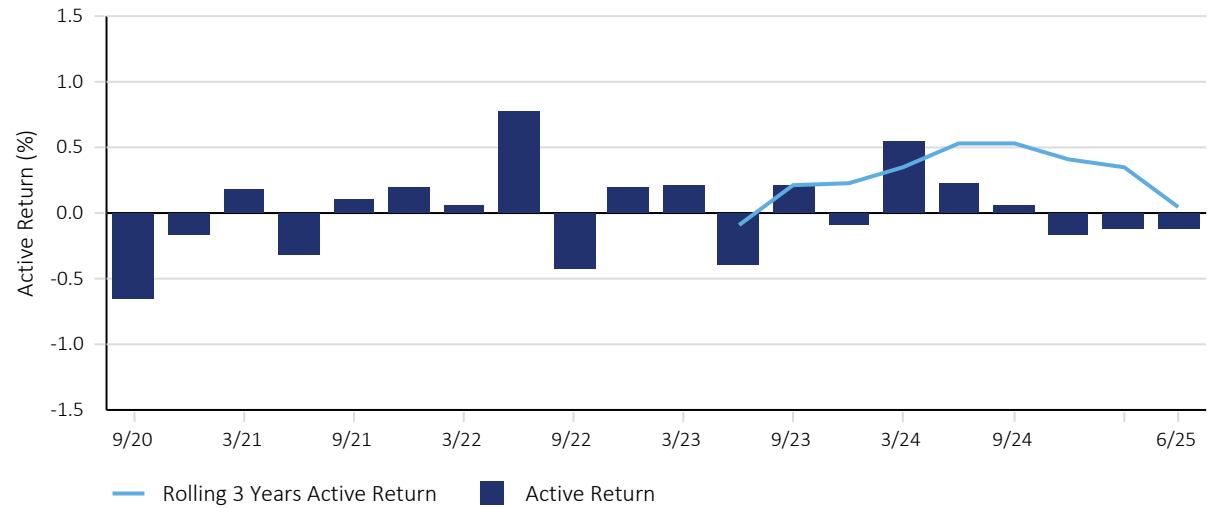
Peer Group Analysis: IM U.S. All Cap Core Equity (SA+CF)



Comparative Performance



Rolling 3 Years Performance



Asset Allocation & Performance

International Equity Composite

Periods Ended June 30, 2025

	Performance (%) Net of Fees									Market Value \$	%
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date		
International Equity Composite	11.86	18.16	18.16	15.04	10.90	6.42	6.03	5.81	10/1/1989	6,315,908,883	100.00
International Equity Policy Index	12.03	17.72	17.72	13.99	10.13	6.28	6.15	5.68			
BlackRock Canada	14.42	27.90	27.90	14.73	15.54	8.75	7.69	7.84	12/1/2000	504,535,622	7.99
MSCI Canada (Net)	14.20	26.98	26.98	13.83	14.64	7.93	6.98	7.14			
BlackRock Passive EAFE	11.99	18.14	18.14	16.37	11.58			8.96	4/1/2019	2,080,598,010	32.94
MSCI EAFE (Net)	11.78	17.73	17.73	15.97	11.16			8.55			
BlackRock EAFE SAE	11.41	20.36	20.36	18.85	13.26			9.81	5/1/2019	1,417,010,703	22.44
MSCI EAFE (Net)	11.78	17.73	17.73	15.97	11.16			8.18			
BlackRock Emerging Markets SAE	11.13	12.98	12.98	9.56	6.21			4.12	5/1/2019	453,552,509	7.18
MSCI Emerging Markets (Net)	11.99	15.29	15.29	9.70	6.81			4.64			
Columbia EAFE										8,132,459	0.13
PanAgora Dynamic EAFE	11.85	18.60	18.60	17.90	13.40			9.17	5/1/2019	441,517,534	6.99
MSCI EAFE (Net)	11.78	17.73	17.73	15.97	11.16			8.18			
Wellington Emerging Markets	13.95	12.55	12.55	9.94	6.77	6.07		8.48	3/1/2009	293,264,270	4.64
Wellington EM Custom Benchmark	11.99	15.29	15.29	9.70	6.81	4.81		8.38			
Mellon Emerging Markets Fund	11.86	15.46	15.46	9.52	6.66	4.76		4.76	7/1/2015	1,065,794,978	16.87
MSCI Emerging Markets (Net)	11.99	15.29	15.29	9.70	6.81	4.81		4.81			
Oechsle Intl. Advisors										797,579	0.01
BlackRock Europe SAE										4,099,505	0.06
Synthetic International Equity	-6.21	9.08	9.08	24.03	20.56			-140.87	4/1/2017	46,267,491	0.73
Active International Equity	11.69	17.73	17.73	15.94	11.02	6.40	5.70	6.20	1/1/2004	2,618,374,560	41.46
Passive International Equity	11.98	18.47	18.47	14.20	11.03	6.51	6.08	6.61	1/1/2004	3,697,196,100	58.54

Asset Allocation & Performance

International Equity Composite

Periods Ended June 30, 2025

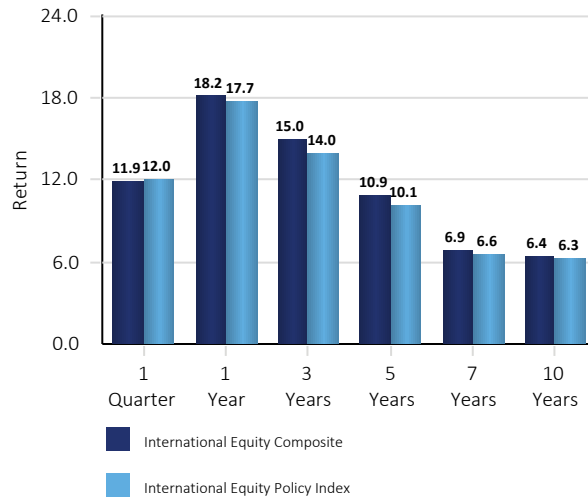
	Performance (%) Net of Fees									Market Value \$	%
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date		
All Public Plans > \$1B-Intl. Equity Segment Median	12.55	17.75	17.75	14.88	10.51	7.12	6.81				
MSCI AC World ex USA (Net)	12.03	17.72	17.72	13.99	10.13	6.12	5.83		1/1/1999		
MSCI EAFE (Net)	11.78	17.73	17.73	15.97	11.16	6.51	5.81	8.58	1/1/1970		
MSCI Emerging Markets (Net)	11.99	15.29	15.29	9.70	6.81	4.81	6.45	7.98	1/1/1999		

Performance Summary

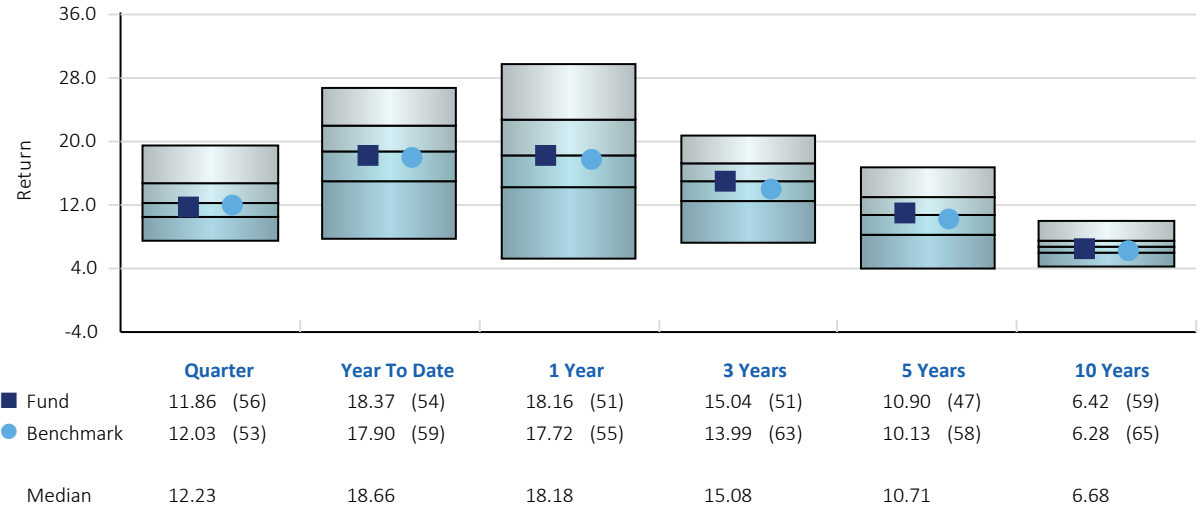
International Equity Composite

Periods Ended June 30, 2025

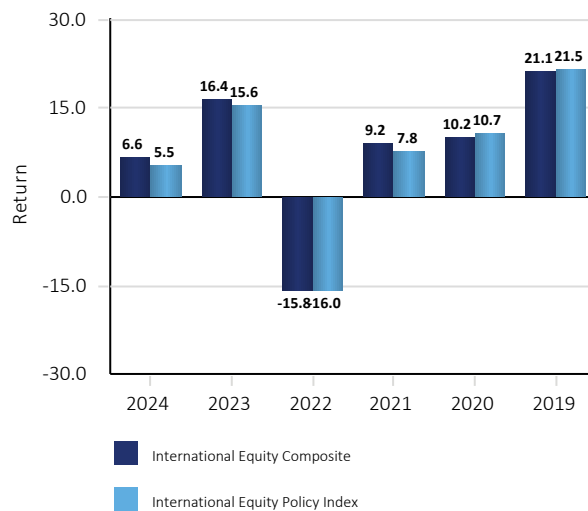
Comparative Performance



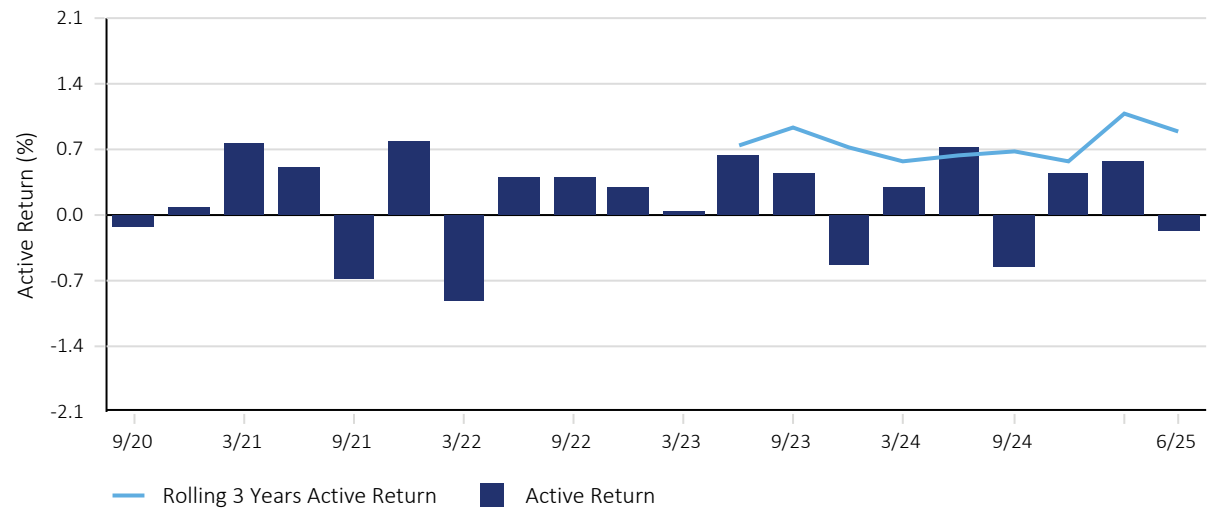
Peer Group Analysis: IM International Equity (SA+CF)



Comparative Performance



Rolling 3 Years Performance



Asset Allocation & Performance

Total Fixed Composite

Periods Ended June 30, 2025

	Performance (%) Net of Fees									Market Value \$
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date	
Total Fixed Composite	1.66	6.71	6.71	3.58	0.30	2.46	3.80	6.46	7/1/1985	13,326,797,300
Fixed Income Policy Index	1.44	6.49	6.49	3.25	-0.17	2.10	3.38	5.90		
Total US Fixed Income Composite	1.58	6.57	6.57	3.32	0.20	2.39	3.78	6.43	7/1/1985	12,857,148,968
Fixed Income Policy Index	1.44	6.49	6.49	3.25	-0.17	2.10	3.38	5.90		
Core Fixed Income Composite	1.43	6.23	6.23	2.77	-0.39	2.11	3.48	6.23	7/1/1985	11,909,480,091
Core Fixed Income Policy Index	1.21	6.08	6.08	2.86	-0.39	1.99	3.33	5.87		
Active Core Fixed Composite	2.49	6.85	6.85	2.55	-0.36	2.19	3.62	3.98	9/1/1995	1,645,269,272
Blackrock										17,965
Principal Global Investors										3,620
Mackay Shields Core Plus										60
Prudential Fixed Income										11,665
TCW Asset Management										108,851
Western Asset Mgmt										18,750
Passive Fixed Composite	1.24	6.13	6.13	2.64	-1.04	1.44	2.95	4.97	7/1/1990	10,264,210,819
Mellon Aggregate	1.24	6.12	6.12	2.60	-0.70	1.78	3.13	5.08	7/1/1990	10,236,779,840
Blmbg. U.S. Aggregate Index	1.21	6.08	6.08	2.55	-0.73	1.76	3.09	5.03		
Synthetic Fixed Income	1.60	9.22	9.22	-4.74	-23.03			-14.04	4/1/2017	27,430,979
Relative Value Composite	2.50	6.87	6.87	3.33				-0.63	11/1/2020	1,645,108,361
Relative Value Policy Index	1.21	6.08	6.08	2.86				-0.55		

Asset Allocation & Performance

Total Fixed Composite

Periods Ended June 30, 2025

	Performance (%) Net of Fees									Market Value \$
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date	
BlackRock Universal	1.55	5.01	5.01	3.56				0.36	11/1/2020	684,454,913
Core Fixed Income Policy Index	1.21	6.08	6.08	2.86				-0.55		
Prudential Universal	1.98	8.43	8.43	5.04				-0.17	3/1/2021	560,053,909
Core Fixed Income Policy Index	1.21	6.08	6.08	2.86				-0.53		
Man EM Global Macro	-0.60	-2.17	-2.17					-5.31	10/1/2023	147,333,197
Blmbg. U.S. Aggregate Index	1.21	6.08	6.08					6.96		
Mesirow EM Currency	8.47	13.99	13.99					5.08	10/1/2023	253,266,342
Blmbg. U.S. Aggregate Index	1.21	6.08	6.08					6.96		
Public Credit Composite	3.57	10.74	10.74	9.82	5.46	4.85	5.88	5.89	4/1/1998	1,417,317,209
Public Credit Policy Index	3.37	10.03	10.03	9.38	4.58	4.66	5.83	5.76		
High Yield Composite	3.55	10.87	10.87	9.61	6.63	5.27	6.34	6.23	4/1/1998	947,668,877
High Yield Policy Index	3.53	10.29	10.29	9.93	5.96	5.23	6.30	6.11		
Aegon	3.84	10.30	10.30	9.01	6.18	5.18		5.82	2/1/2012	470,624,119
High Yield Policy Index	3.53	10.29	10.29	9.93	5.96	5.23		5.62		
Prudential High Yield	3.26	11.43	11.43	10.00	6.97			5.66	7/1/2019	475,545,807
Blmbg. U.S. High Yield - 2% Issuer Cap	3.53	10.29	10.29	9.93	5.96			4.94		
Emerging Market Debt Composite	3.63	10.50	10.50	10.23	3.01	4.01		2.98	10/1/2012	469,648,332
JPM EMBI Global Index (USD)	3.06	9.51	9.51	8.23	1.80	3.45		2.98		
Prudential Emerging Markets Debt	3.63	10.50	10.50	10.23	3.01			3.93	5/1/2016	469,648,332
JPM EMBI Global Index (USD)	3.06	9.51	9.51	8.23	1.80			3.04		
Active Fixed Composite	2.98	8.63	8.63	5.23	1.44	3.09	4.23	6.69	7/1/1985	3,062,586,481

Asset Allocation & Performance

Total Fixed Composite

Periods Ended June 30, 2025

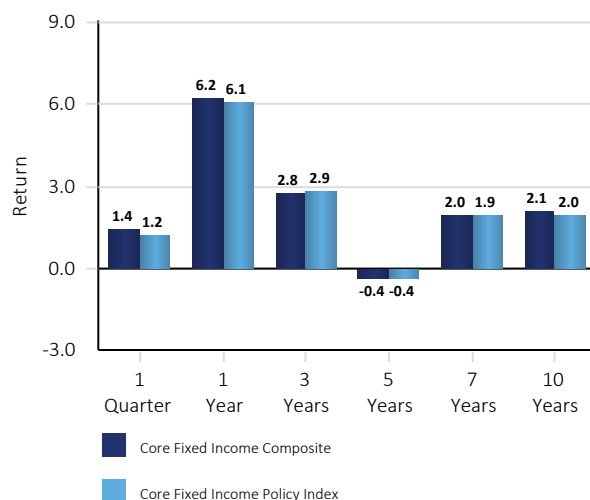
	Performance (%) Net of Fees									Market Value \$
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date	
All Public Plans > \$1B-US Fixed Income Segment Median	1.35	5.87	5.87	3.10	0.39	2.45	3.67			
Blmbg. U.S. Universal Index	1.40	6.51	6.51	3.28	-0.15	2.11	3.39	5.27	1/1/1990	
Blmbg. U.S. Aggregate Index	1.21	6.08	6.08	2.55	-0.73	1.76	3.09	6.52	1/1/1976	
Bloomberg U.S. Government/Credit Index	1.22	5.89	5.89	2.61	-0.83	1.92	3.14	6.43	1/1/1973	
Blmbg. U.S. Credit Index	1.82	6.83	6.83	4.19	0.12	2.80	3.95	6.93	1/1/1973	
Blmbg. U.S. Treasury Index	0.85	5.30	5.30	1.53	-1.60	1.20	2.62	6.20	1/1/1973	
Blmbg. U.S. Mortgage Backed Securities	1.14	6.52	6.52	2.32	-0.60	1.30	2.91	6.51	1/1/1976	
Blmbg. U.S. High Yield - 2% Issuer Cap	3.53	10.29	10.29	9.93	5.96	5.37	6.63	7.12	1/1/1993	
FTSE High Yield Cash Pay	3.61	10.44	10.44	9.99	6.15	5.21	6.35	7.49	1/1/1989	
JPM EMBI Global Index (USD)	3.06	9.51	9.51	8.23	1.80	3.45	5.38	7.40	1/1/1994	

Performance Summary

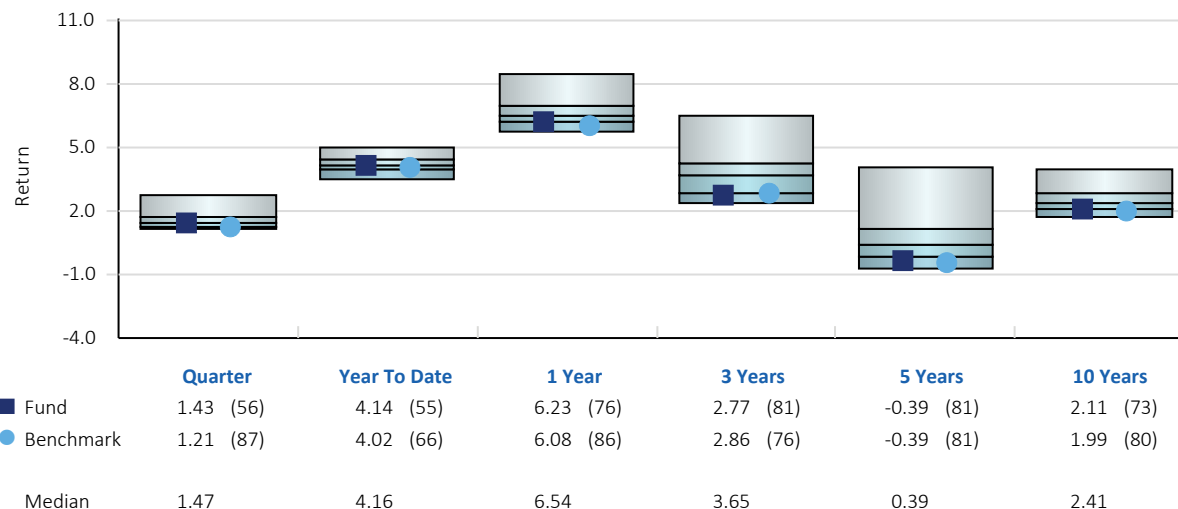
Core Fixed Income Composite

Periods Ended June 30, 2025

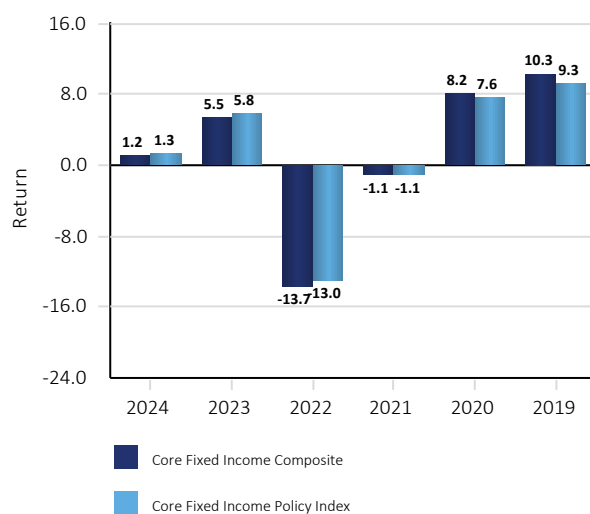
Comparative Performance



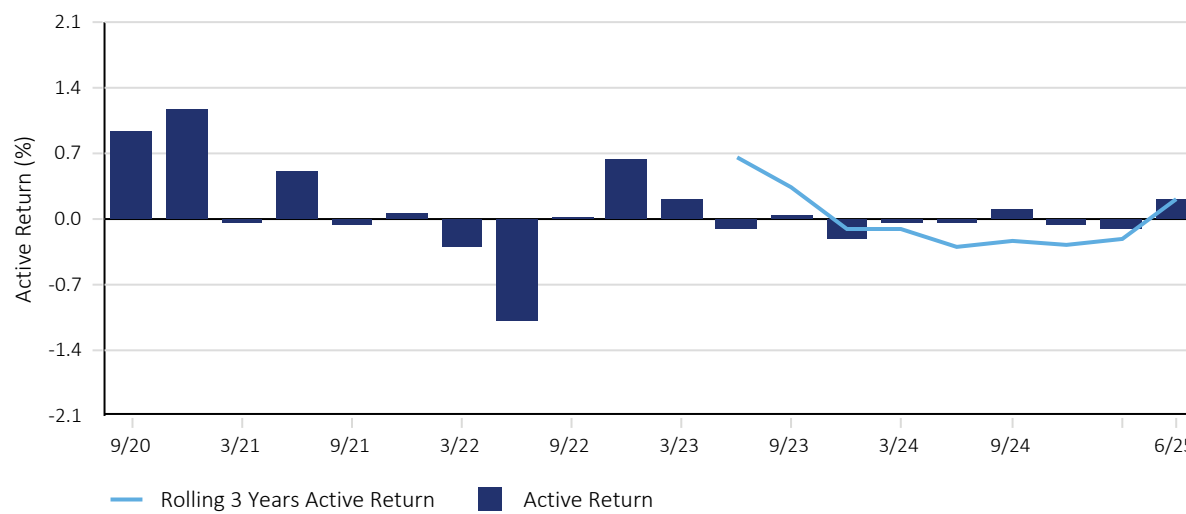
Peer Group Analysis: IM U.S. Broad Market Core+ Fixed Income (SA+CF)



Comparative Performance



Rolling 3 Years Performance

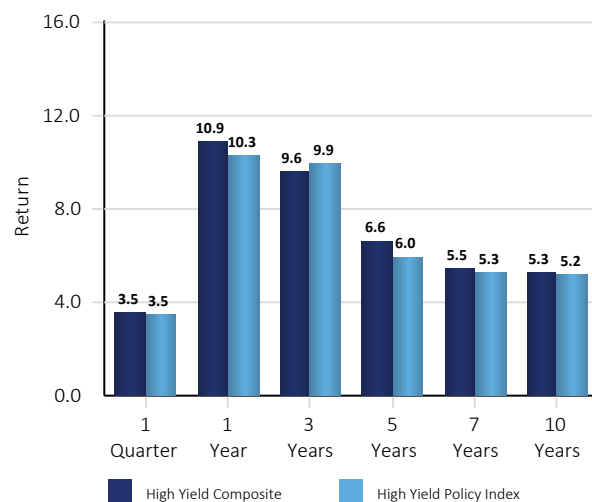


Performance Summary

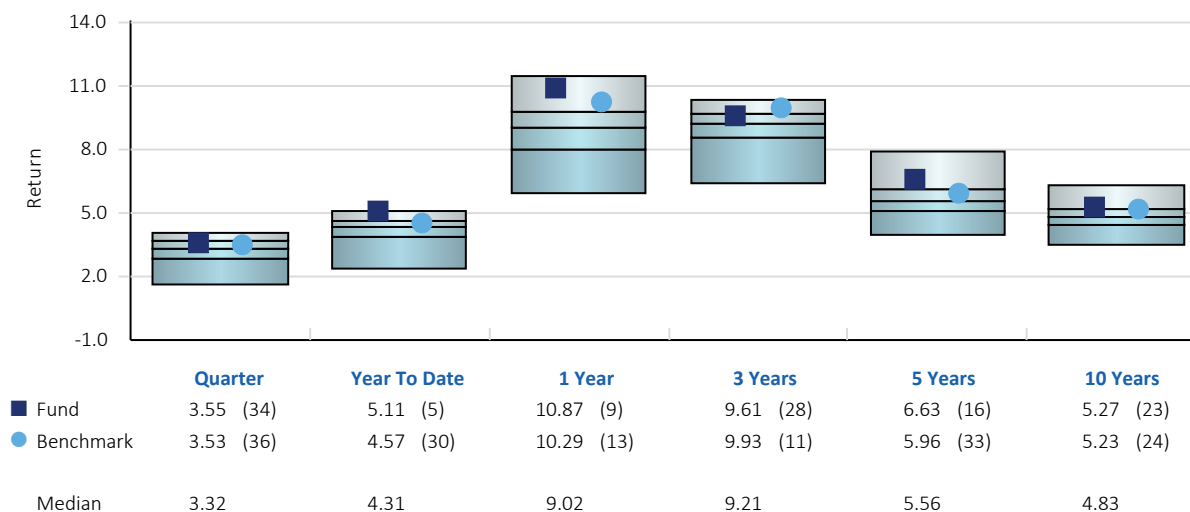
High Yield Composite

Periods Ended June 30, 2025

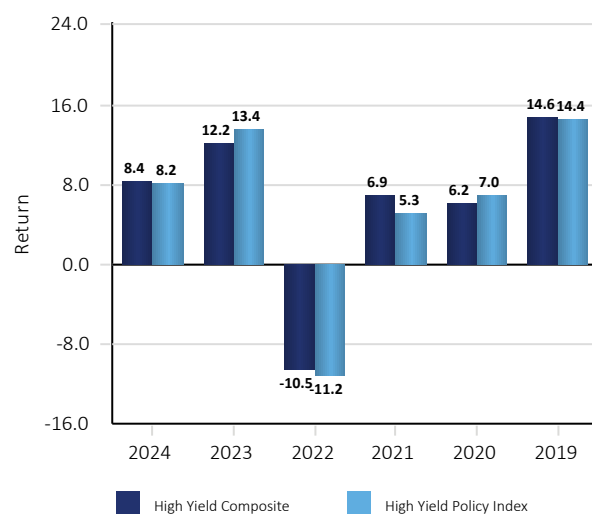
Comparative Performance



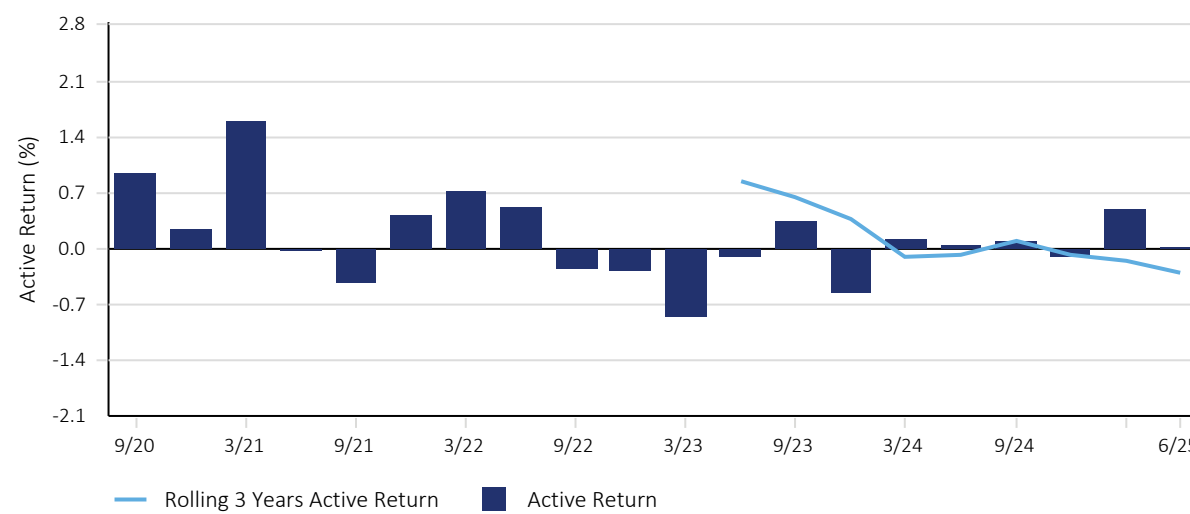
Peer Group Analysis: IM U.S. High Yield Bonds (SA+CF)



Comparative Performance



Rolling 3 Years Performance



Asset Allocation & Performance

Global Smart Beta Composite

Periods Ended June 30, 2025

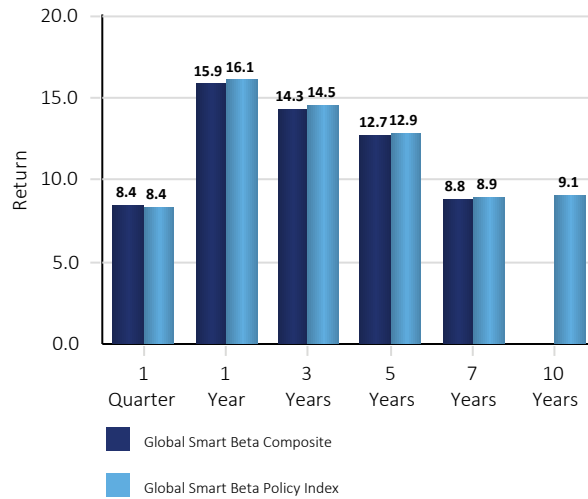
	Performance (%) Net of Fees									Market Value \$
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date	
Global Smart Beta Composite	8.43	15.87	15.87	14.29	12.68			8.75	8/1/2017	2,430,535,551
Global Smart Beta Policy Index	8.40	16.08	16.08	14.52	12.89			8.88		
MSCI AC World Index (Net)	11.53	16.17	16.17	17.35	13.65			10.51		
U.S. Equity Smart Beta	5.27	13.40	13.40	14.04	13.81			10.36	8/1/2017	1,452,115,769
Russell 1000 Comprehensive Factor Index	5.24	13.49	13.49	14.09	13.83			10.36		
Developed Ex-U.S. Equity Smart Beta	13.81	22.60	22.60	14.48	10.41			6.49	8/1/2017	732,751,821
FTSE Dev. Ex-U.S. Comprehensive Factor Index (N)	13.89	22.63	22.63	14.52	10.60			6.56		
Emerging Markets Smart Beta	11.05	9.60	9.60	14.69	13.73			6.24	8/1/2017	245,667,960
FTSE Emerging Comprehensive Factor Index (N)	11.04	10.38	10.38	15.63	14.39			6.80		
Russell 1000 Comprehensive Factor Index	5.24	13.49	13.49	14.09	13.83	10.54	10.98	11.27	8/1/2001	
FTSE Dev. Ex-U.S. Comprehensive Factor Index (N)	13.89	22.63	22.63	14.52	10.60	6.99	8.06	10.09	10/1/2001	
FTSE Emerging Comprehensive Factor Index (N)	11.04	10.38	10.38	15.63	14.39	6.43	10.24	13.67	10/1/2001	

Performance Summary

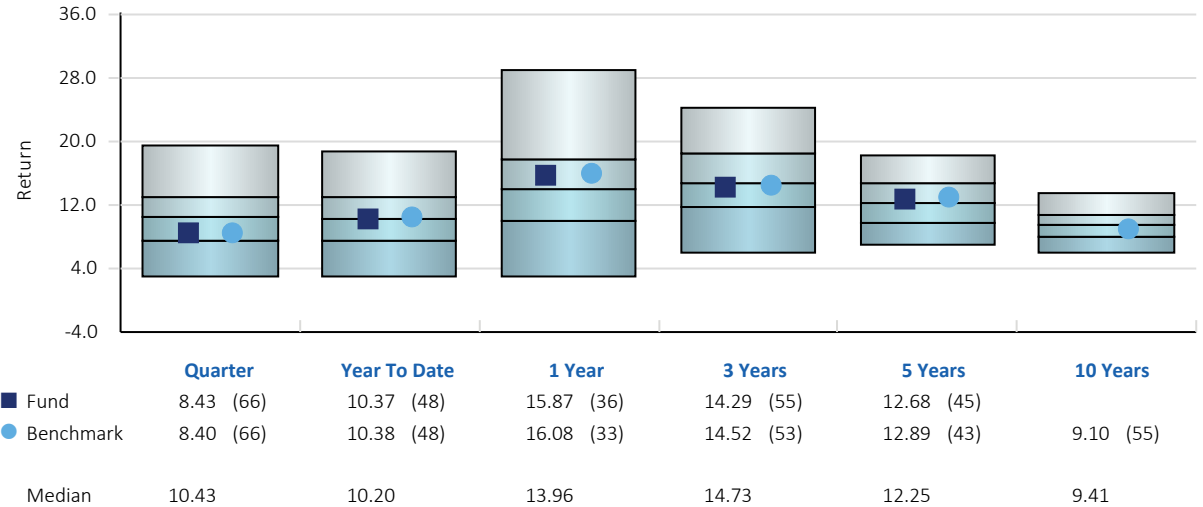
Global Smart Beta Composite

Periods Ended June 30, 2025

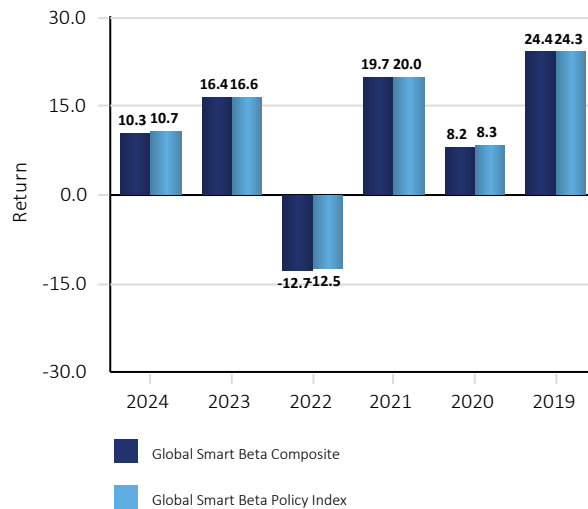
Comparative Performance



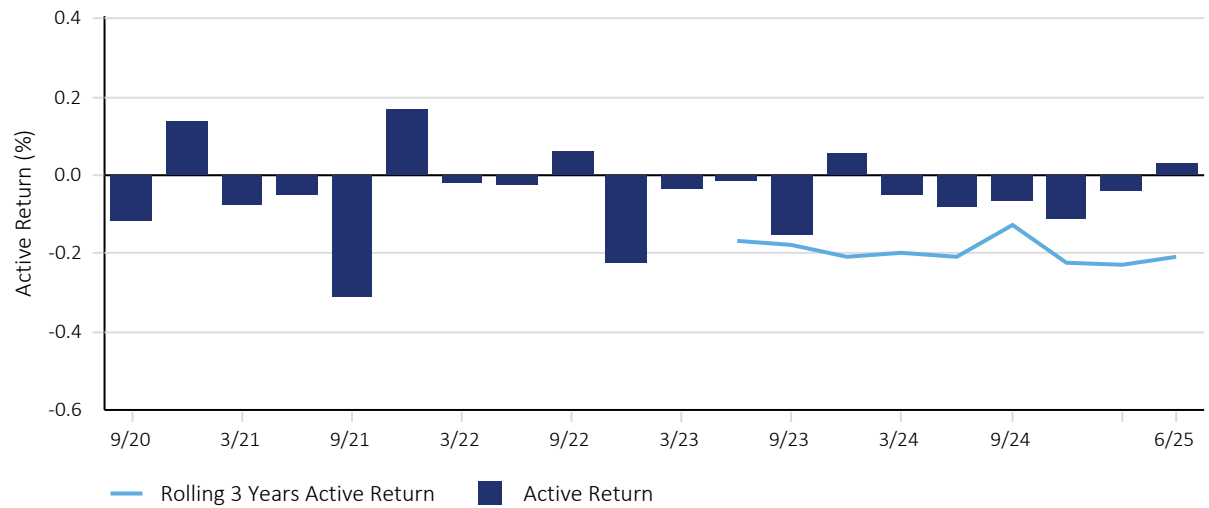
Peer Group Analysis: IM Global Equity (SA+CF)



Comparative Performance



Rolling 3 Years Performance



Appendix

Cash Flow Summary

Total Fund

1 Quarter Ending June 30, 2025

	Begin Value	Contributions	Distributions	Net Transfers	Fees	Expenses	Capital Apprec./ Deprec.	End Value
Total Fund	44,660,393,393	589,806,853	-877,905,801		-13,051,943	-52,284	2,322,980,726	46,682,170,944
Public Markets Composite	30,828,338,137	673,231,816	-812,695,323	-108,908,764	-414,508	-5,973	2,159,451,317	32,738,996,701
U.S. Equity Composite	9,487,058,132	-20,589		-400,000,000	20,589		1,085,890,119	10,172,948,251
Active Equity Composite	2,258,783,290						257,791,207	2,516,574,497
Blackrock Russell 1000 SAE	2,044,622,645						240,433,641	2,285,056,286
BlackRock Russell 2000 SAE	214,160,645						17,357,567	231,518,211
Passive Equity Composite	7,228,274,842	-20,589		-400,000,000	20,589		828,098,912	7,656,373,754
Mellon Russell 1000	6,991,082,342	-45,704		-430,000,000	45,704		810,972,878	7,372,055,220
Mellon Russell 2000	168,193,294	4,220		30,000,000	-4,220		23,960,359	222,153,653
Synthetic Domestic Equity	68,999,206	20,895			-20,895		-6,834,326	62,164,881
Northern Trust Domestic Equity Transition								
International Equity Composite	5,820,082,006	173,475		-200,000,000	-173,475	-5,622	695,832,499	6,315,908,883
Active International Equity	2,344,110,460	128,405			-128,405	-5,622	274,269,723	2,618,374,560
BlackRock Europe SAE	9,499,936			-5,732,251			331,820	4,099,505
Oechsle Intl. Advisors	733,948						63,631	797,579
BlackRock EAFE SAE	1,266,141,930			5,732,251			145,136,522	1,417,010,703
PanAgora Dynamic EAFE	394,742,232						46,775,302	441,517,534
Columbia EAFE	7,600,326						532,134	8,132,459
Active Emerging Markets Equity Composite	665,392,087	128,405			-128,405	-5,622	81,430,315	746,816,779
BlackRock Emerging Markets SAE	408,140,369						45,412,140	453,552,509
Wellington Emerging Markets	257,251,718	128,405			-128,405	-5,622	36,018,175	293,264,270
Passive International Equity	3,475,637,044	45,070		-200,000,000	-45,070		421,559,057	3,697,196,100
BlackRock Canada	459,643,223			-20,000,000			64,892,398	504,535,622
Mellon Emerging Markets Fund	1,027,697,851	37,572		-80,000,000	-37,572		118,097,127	1,065,794,978

Cash Flow Summary

Total Fund

1 Quarter Ending June 30, 2025

	Begin Value	Contributions	Distributions	Net Transfers	Fees	Expenses	Capital Apprec./ Deprec.	End Value
Synthetic International Equity	49,325,136	7,498			-7,498		-3,057,645	46,267,491
BlackRock Passive EAFE	1,938,970,834			-100,000,000			241,627,176	2,080,598,010
International Equity Transition	334,502						3,720	338,222
Active Fixed Composite	3,008,516,904	136,783		-35,000,000	-136,783	-104	89,069,681	3,062,586,481
Total US Fixed Income Composite	12,273,853,222	79,657		385,000,000	-79,657		198,295,746	12,857,148,968
Total Fixed Composite	12,747,038,417	79,657		365,000,000	-79,657	-104	214,758,987	13,326,797,300
Core Fixed Income Ex RV	10,120,608,361	-57,085		400,000,000	57,085		144,362,908	10,664,971,269
Core Fixed Income Composite	11,343,833,403	-57,085		400,000,000	57,085		165,646,688	11,909,480,091
Passive Fixed Composite	9,738,521,513	-57,127		400,000,000	57,127		125,689,306	10,264,210,819
Mellon Aggregate	9,711,536,741	-70,749		400,000,000	70,749		125,243,099	10,236,779,840
Synthetic Fixed Income	26,984,772	13,623			-13,623		446,207	27,430,979
Active Core Fixed Composite	1,605,311,890	42			-42		39,957,382	1,645,269,272
MacKay Shields Core Plus	59	42			-42		1	60
Prudential Fixed Income	11,369						296	11,665
Principal Global Investors	3,582						38	3,620
TCW Asset Management	100,625						8,226	108,851
Western Asset Mgmt	245,783						-227,033	18,750
Blackrock	17,768						197	17,965
Relative Value Composite	1,604,932,703						40,175,657	1,645,108,361
BlackRock Universal	674,038,662						10,416,251	684,454,913
Prudential Universal	549,186,380						10,867,529	560,053,909
Man EM Global Macro	148,216,573						-883,376	147,333,197
Mesirow EM Currency	233,491,089						19,775,253	253,266,342
Public Credit Composite	1,403,205,015	136,741		-35,000,000	-136,741	-104	49,112,298	1,417,317,209
High Yield Composite	930,019,819	136,741		-15,000,000	-136,741		32,649,058	947,668,877

Cash Flow Summary

Total Fund

1 Quarter Ending June 30, 2025

	Begin Value	Contributions	Distributions	Net Transfers	Fees	Expenses	Capital Apprec./ Deprec.	End Value
Prudential High Yield	475,498,692			-15,000,000			15,047,115	475,545,807
Oaktree Capital Mgmt.	1,418,982						79,969	1,498,951
Aegon	453,102,145	136,741			-136,741		17,521,974	470,624,119
Emerging Market Debt Composite	473,185,196			-20,000,000		-104	16,463,240	469,648,332
Prudential Emerging Markets Debt	473,185,196			-20,000,000		-104	16,463,240	469,648,332
Global Smart Beta Composite	2,270,853,690	181,966		-30,000,000	-181,966	-247	189,682,108	2,430,535,551
Developed Ex-U.S. Equity Smart Beta	690,852,356	55,256		-50,000,000	-55,256		91,899,465	732,751,821
Emerging Markets Smart Beta	230,922,427	18,182		-10,000,000	-18,182	-247	24,745,780	245,667,960
U.S. Equity Smart Beta	1,349,078,907	108,529		30,000,000	-108,529		73,036,862	1,452,115,769
Managed Short Term Cash Composite	503,305,892	672,817,308	-812,695,323	156,091,236			-26,712,395	492,806,717
STIF	503,305,892	672,817,308	-812,695,323	156,310,905			-26,932,065	492,806,717
LARS	279,905,120	672,817,308	-812,695,323	156,310,905			4,557,105	300,895,115
Cash - Securities Lending Income	223,400,772			-219,669			-31,489,170	191,911,602
							219,669	
Private Markets Composite	13,832,055,256	-83,424,963	-65,210,477	108,908,764	-12,637,435	-46,311	163,529,409	13,943,174,243
Private Equity/Debt	7,913,920,250	-98,082,087			-3,047,821		70,641,001	7,883,431,343
Pathway Fund of Funds	7,169,129,938	-48,387,860			-2,911,412		80,954,197	7,198,784,863
Private Equity/Debt Long Perf	744,790,312	-49,694,227			-136,409		-10,313,196	684,646,480
LBO Composite	402,942,114	-26,332,025			-93,060		-4,397,668	372,119,361
Venture Capital Composite	341,848,198	-23,362,202			-43,349		-5,915,528	312,527,119
Private Credit Composite	2,838,410,428			-31,364,047	-5,399,257		58,555,724	2,860,202,847
Private Corporate Debt Composite	977,830,504			11,972,980	-1,381,550		16,874,225	1,005,296,159
Tennenbaum CP Direct Lending	319,872,917				-717,186		4,369,361	323,525,092
Monroe Capital	418,247,994			-6,808,439	-377,462		6,576,180	417,638,273

Cash Flow Summary

Total Fund

1 Quarter Ending June 30, 2025

	Begin Value	Contributions	Distributions	Net Transfers	Fees	Expenses	Capital Apprec./ Deprec.	End Value
PPEF XXV B	239,709,593			18,781,419	-286,902		5,928,684	264,132,794
Private Real Asset Debt Composite	740,297,983			-42,280,582	-1,499,518		16,452,975	712,970,858
Principal Real Estate Debt II	2,739,892			-2,865,954	-3,334		129,397	1
PGIM Real Estate Global Debt	116,248,835			-11,416,545	-231,416		3,106,725	107,707,598
Kayne Anderson Real Estate Debt IV	90,030,358			-13,521,725	-221,652		2,339,524	78,626,505
Heitman Credit	96,204,501			-1,675,788	-190,442		1,561,564	95,899,835
IFM US Infrastructure Debt Fund	95,560,593			-1,617,777	-106,050		1,071,745	94,908,511
JP Morgan Global Transport Income Fund	103,318,256			-2,096,798	-257,395		3,653,927	104,617,991
ITE Rail Fund IA	88,771,057			-12,131,585	-255,587		1,657,824	78,041,709
PGIM PREDS	70,743,649			-1,339,412	-136,621		1,449,272	70,716,888
Oaktree RECIF	64,907,019			-1,012,064	-80,571		1,250,431	65,064,815
Principal OEDF	11,773,824			5,397,066	-16,451		232,567	17,387,006
Opportunistic Credit Composite	1,120,281,941			-1,056,445	-2,518,190		25,228,524	1,141,935,830
KKR Global Corporate Debt	289,129,222			-544,299	-652,143		5,893,056	293,825,836
Crestline Opportunistic Credit	175,550,144			-4,599,009	-557,165		2,820,684	173,214,654
ARES PCS II	69,891,294			-421,451	-250,927		1,382,050	70,600,966
Audax Mezzanine Coinvest	12,884,289			-241,449			453,981	13,096,821
Marathon SPS	253,133,710			-17,500,000	-646,194		5,495,704	240,483,220
Arrowmark	209,424,020			7,528,709			5,350,522	222,303,251
Audax Mezzanine V	37,503,863			3,532,935	-224,030		1,261,041	42,073,810
Crestline Opportunistic Credit - Series 2	72,765,399			11,188,119	-187,731		2,571,487	86,337,274
Private Real Assets Composite	3,079,724,578	14,657,124	-65,210,477	140,272,811	-4,190,357	-46,311	34,332,683	3,199,540,052
Private Other Real Assets Composite	671,722,082		-33,359,354	140,272,811	-1,452,147		11,903,355	789,086,747
UBS Farmland Investors	111,260,867		-550,000		-232,950		1,213,540	111,691,458
Forest Investment Associates	222,353,128		-27,667,157		-317,867		2,666,011	197,034,114
Brookfield Super-Core Infrastructure	338,108,086		-5,142,196		-901,330		8,023,804	340,088,364
MIP VI				140,272,811				140,272,811

Cash Flow Summary

Total Fund

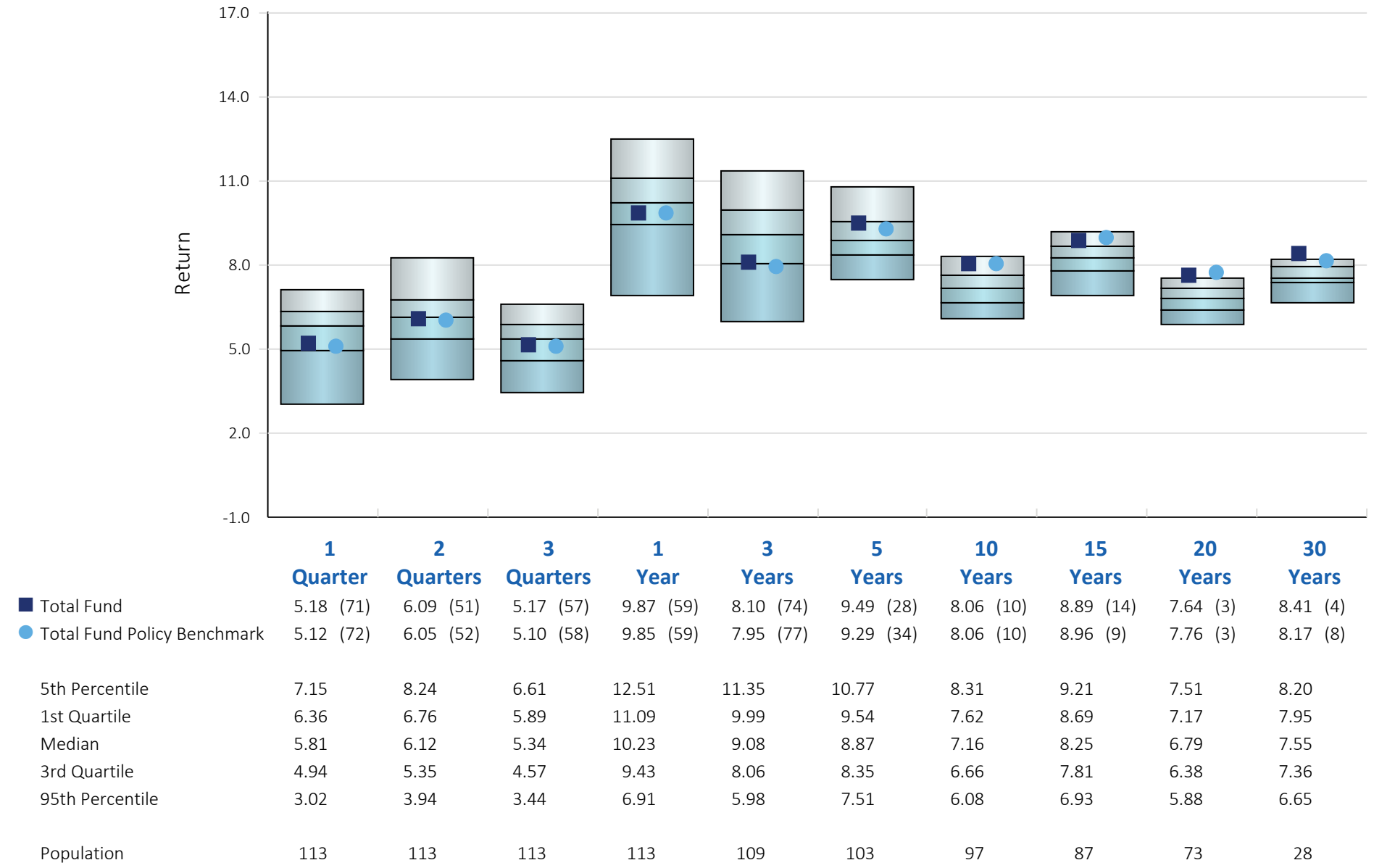
1 Quarter Ending June 30, 2025

	Begin Value	Contributions	Distributions	Net Transfers	Fees	Expenses	Capital Apprec./ Deprec.	End Value
Private Real Estate Composite	2,408,002,497	14,657,124	-31,851,124		-2,738,209	-46,311	22,429,328	2,410,453,305
UBS	494,858,633		-6,400,000		-512,081		10,657,559	498,604,112
Clarion Partners	53,526,438		-3,181,293				3,119,703	53,464,848
RREEF America LLC	976,023,388	4,244	-14,200,344		-806,348		9,112,959	970,133,899
Invesco Separate Account	867,229,549	652,000	-8,069,487		-1,108,989		-477,826	858,225,247
KAREP VII	16,364,489	14,000,880			-310,792	-46,311	16,933	30,025,199
Settlement Proceeds								

Plan Sponsor Peer Group Analysis

Total Fund vs All Public Plans > \$1B-Total Fund

Periods Ended June 30, 2025



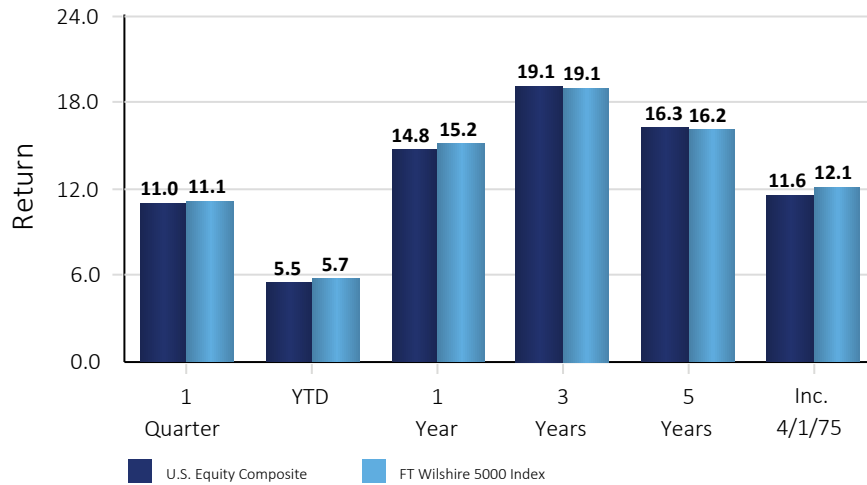
Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.

Manager Summary

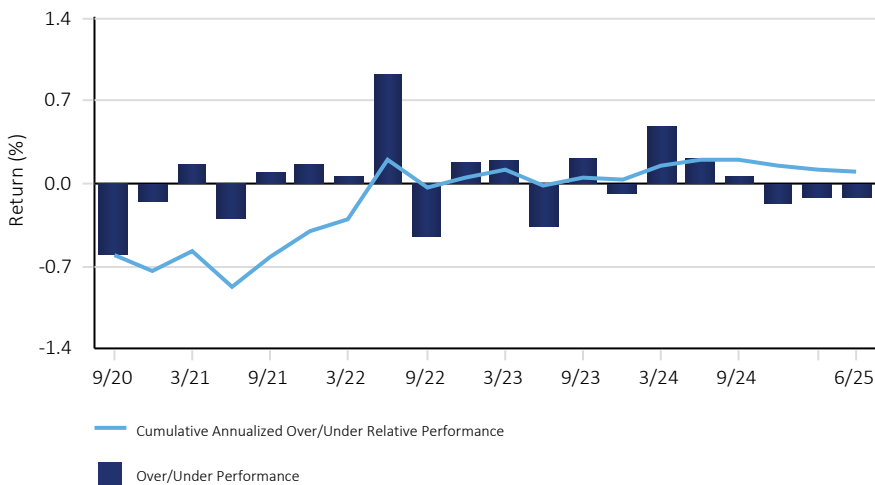
U.S. Equity Composite vs IM U.S. All Cap Equity (SA+CF)

Periods Ended June 30, 2025

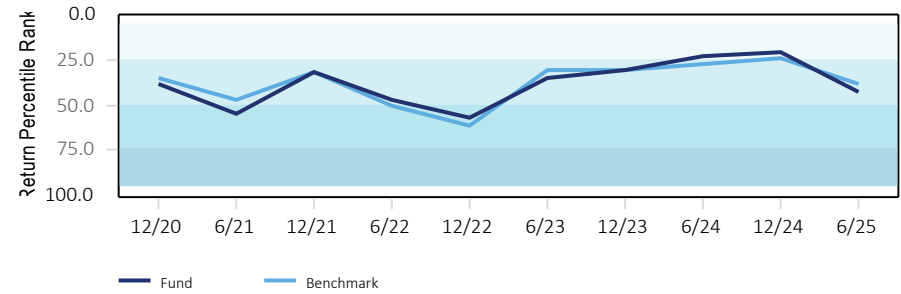
Comparative Performance



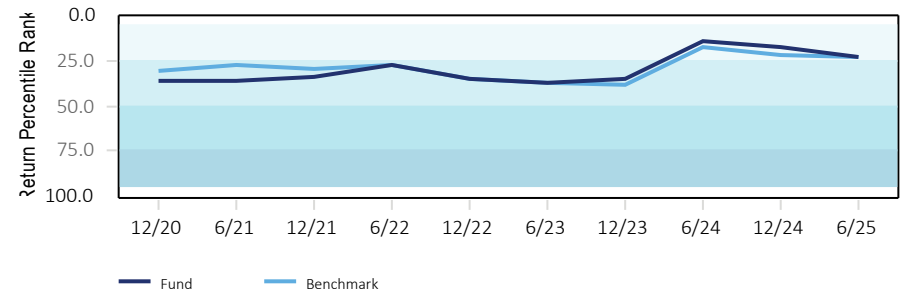
Relative Performance



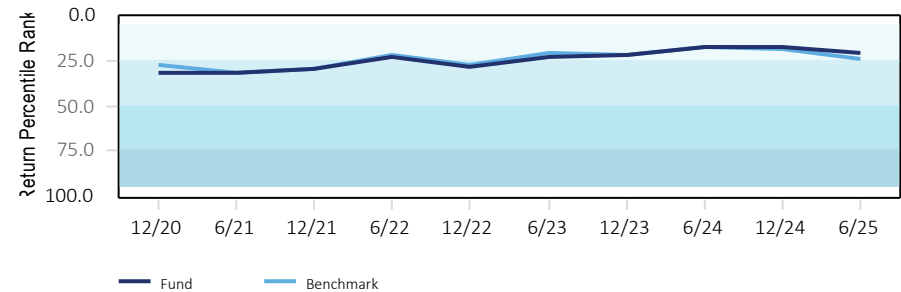
1 Year Rolling Percentile Ranking



3 Year Rolling Percentile Ranking



5 Year Rolling Percentile Ranking

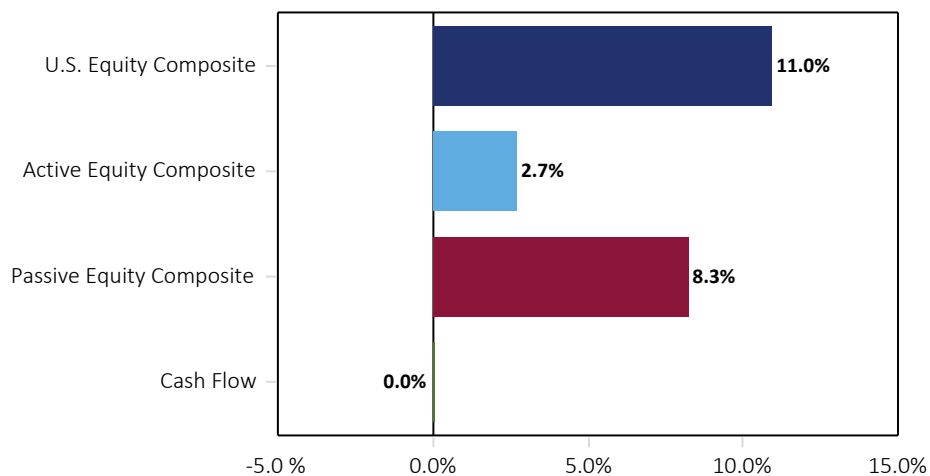


Return and Risk Contribution

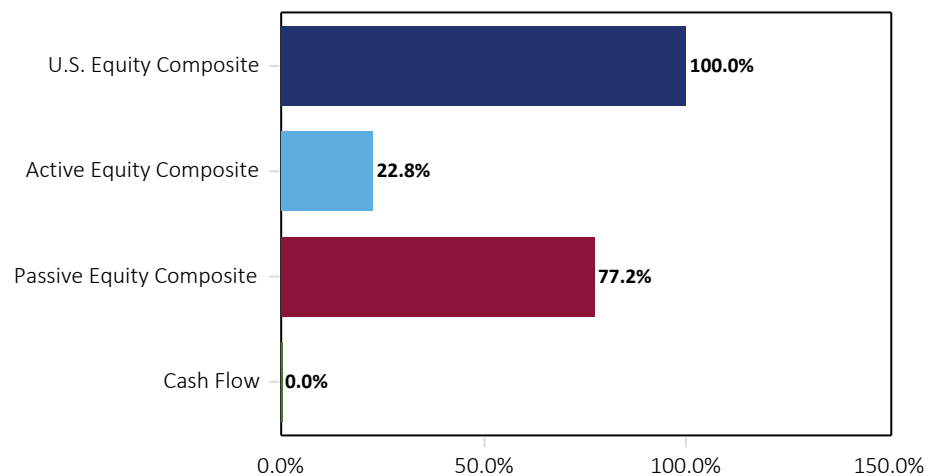
U.S. Equity Composite

Periods Ended 1 Quarter June 30, 2025

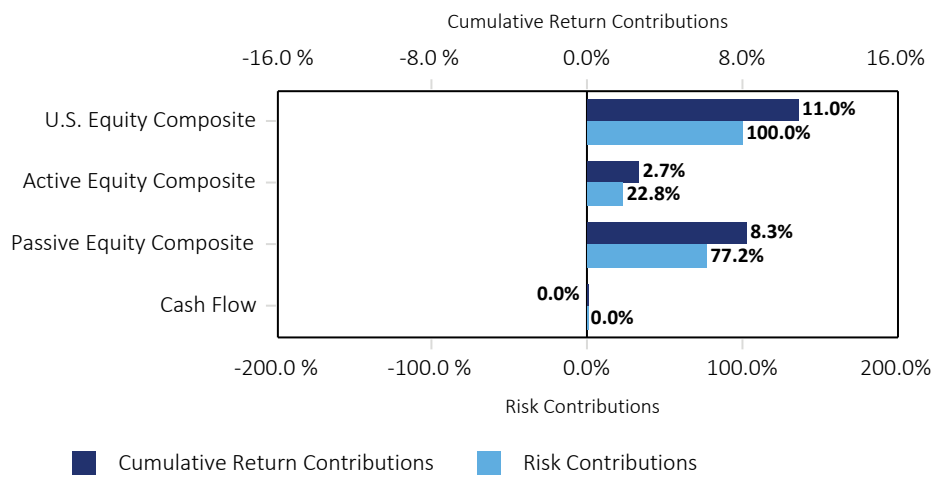
Cumulative Return Contributions



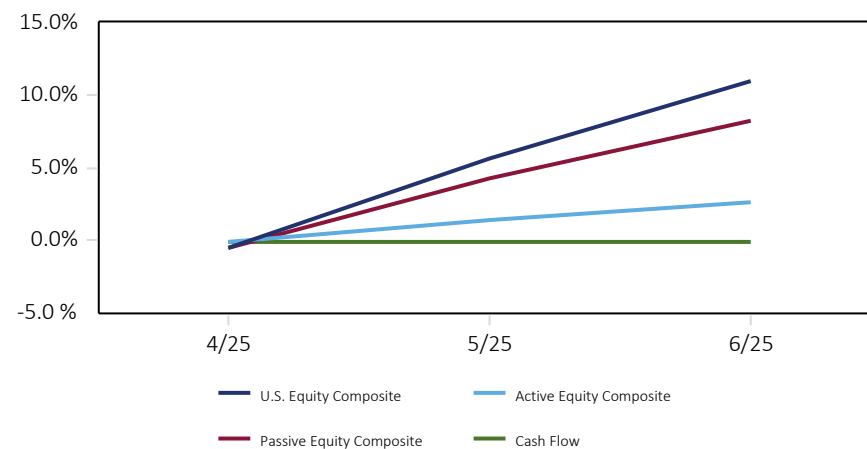
Risk Contributions



Cumulative Return and Risk Contributions



Cumulative Return Contributions History

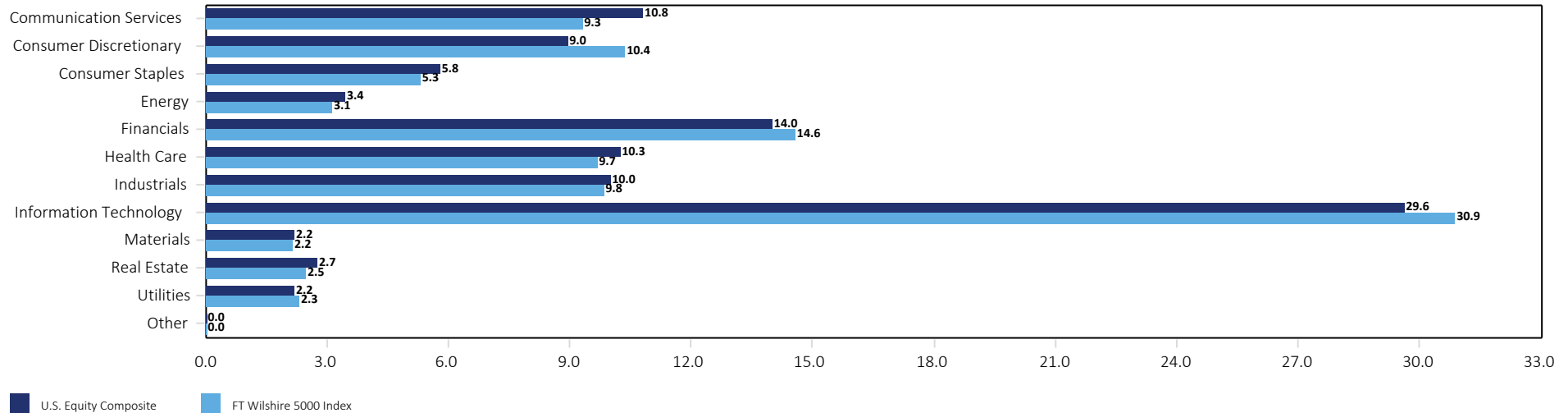


Portfolio Characteristics

U.S. Equity Composite

Periods Ended As of June 30, 2025

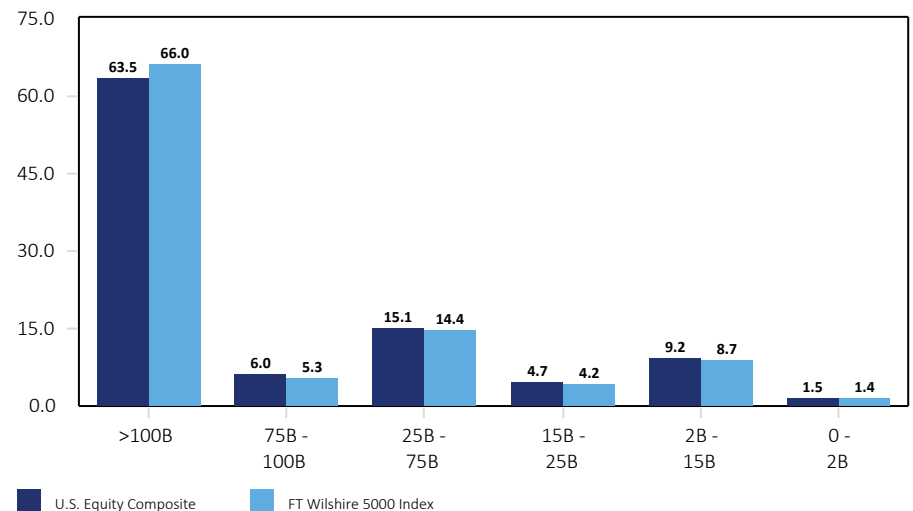
Sector Weights (%)



Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap \$	912,657,678,022	990,897,713,440
Median Mkt. Cap \$	1,950,529,020	1,415,255,490
Price/Earnings ratio	26.7	26.6
Price/Book ratio	4.9	4.9
5 Yr. EPS Growth Rate (%)	22.8	23.0
Current Yield (%)	1.3	1.3
Beta (5 Years, Monthly)	0.98	1.00
Number of Stocks	3,077	3,289

Distribution of Market Capitalization (%)

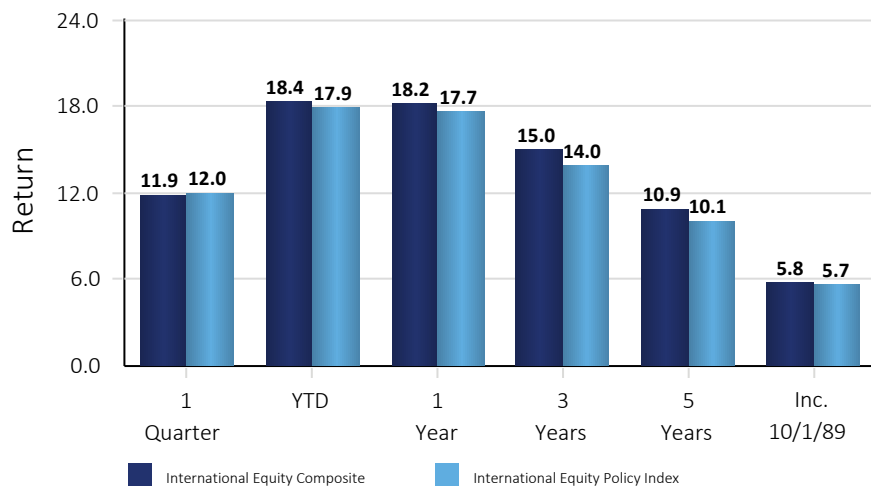


Manager Summary

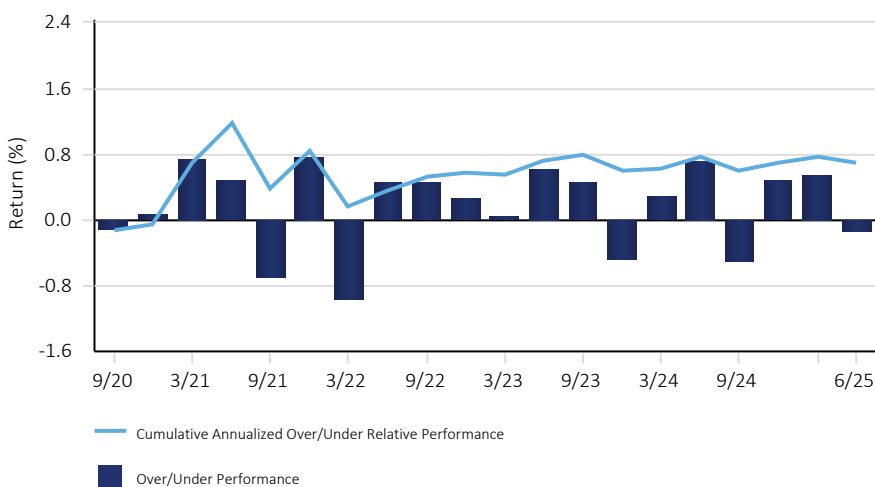
International Equity Composite vs IM International Equity (SA+CF)

Periods Ended June 30, 2025

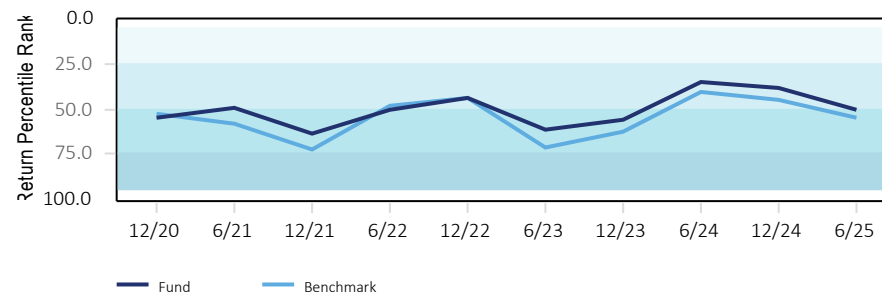
Comparative Performance



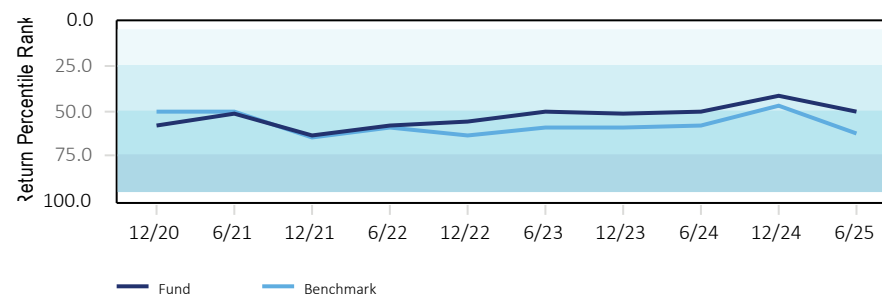
Relative Performance



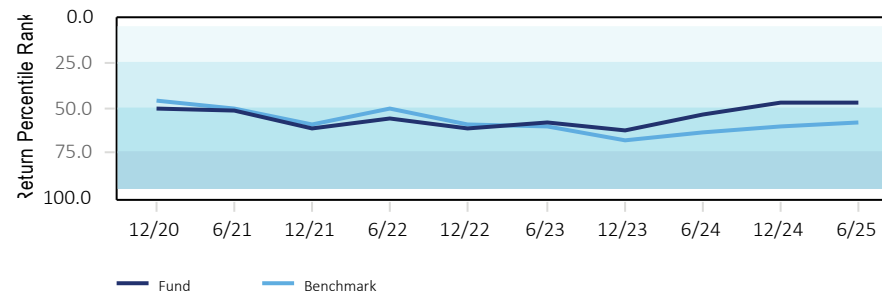
1 Year Rolling Percentile Ranking



3 Year Rolling Percentile Ranking



5 Year Rolling Percentile Ranking

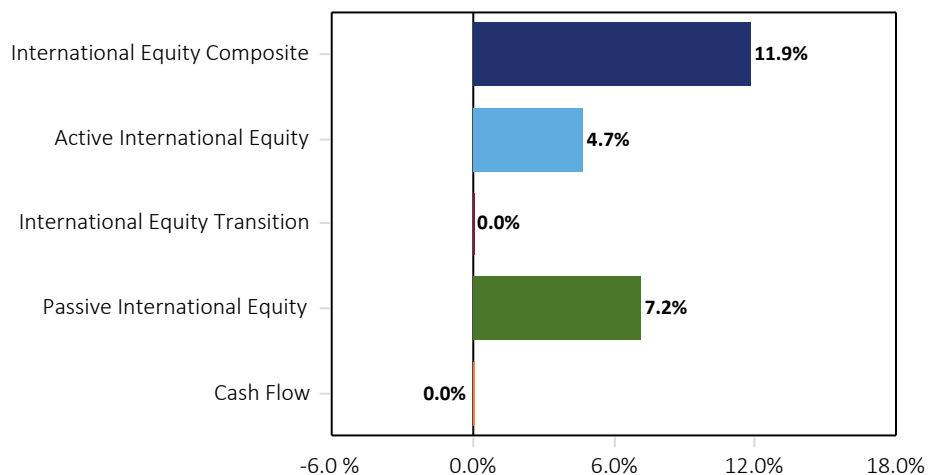


Return and Risk Contribution

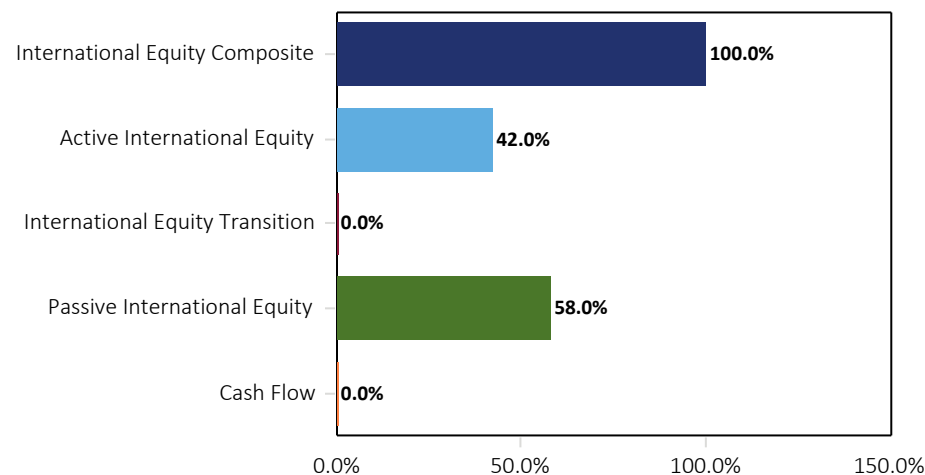
International Equity Composite

Periods Ended 1 Quarter June 30, 2025

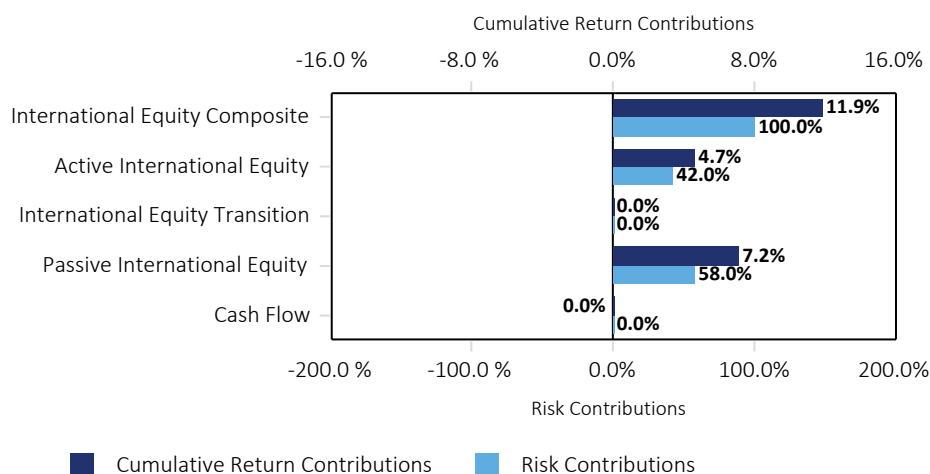
Cumulative Return Contributions



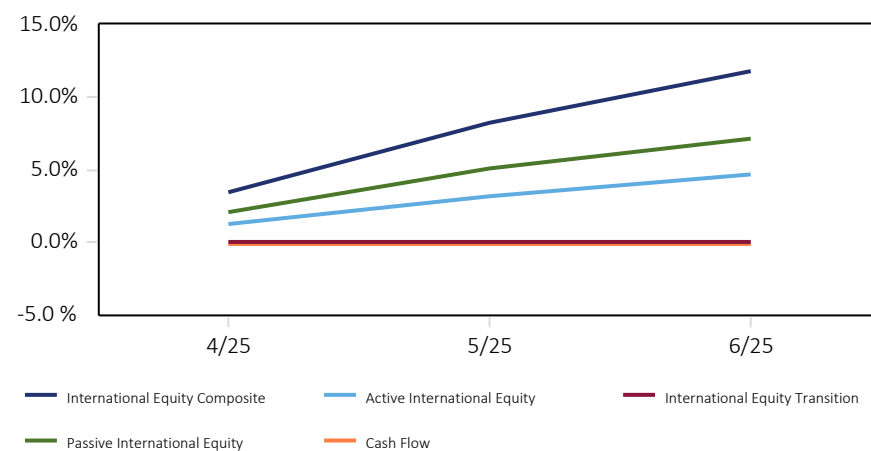
Risk Contributions



Cumulative Return and Risk Contributions



Cumulative Return Contributions History

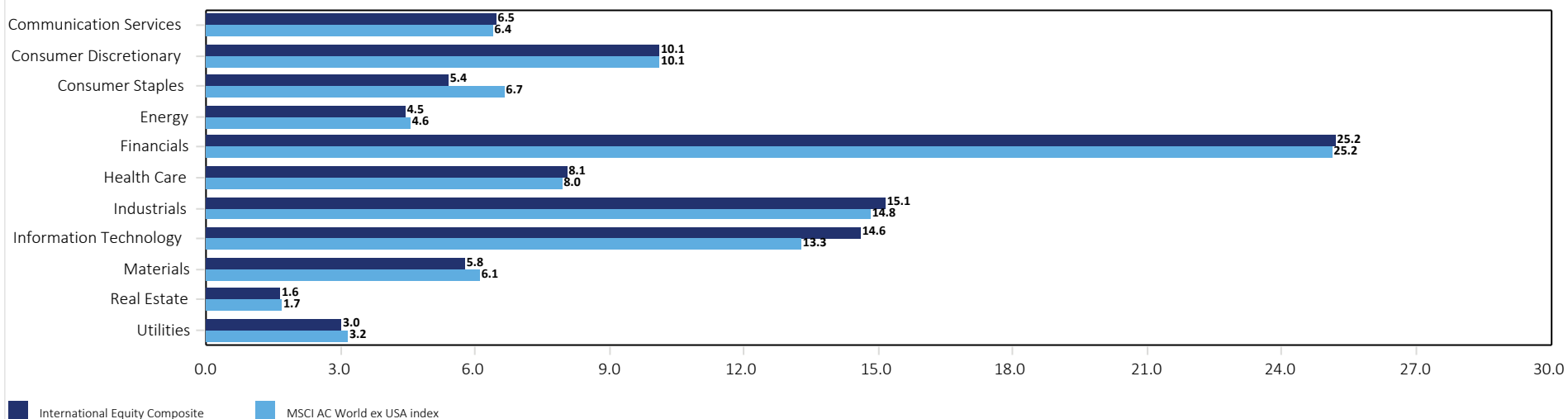


Portfolio Characteristics

International Equity Composite

Periods Ended As of June 30, 2025

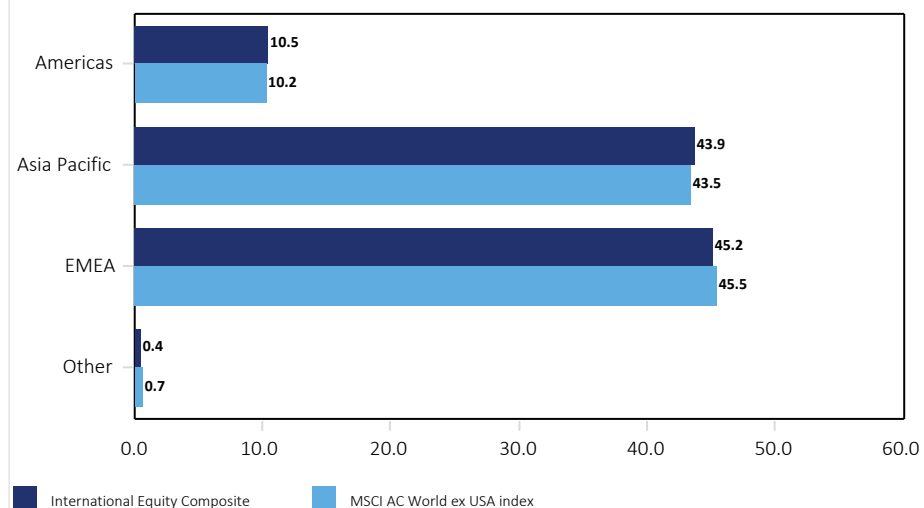
Sector Weights (%)



Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap \$	121,243,066,847	119,195,723,386
Median Mkt. Cap \$	12,107,779,502	11,628,581,246
Price/Earnings ratio	15.0	16.1
Price/Book ratio	2.7	2.6
5 Yr. EPS Growth Rate (%)	17.1	15.8
Current Yield (%)	2.3	3.0
Beta (5 Years, Monthly)	0.99	1.00
Number of Stocks	2,461	1,981

Region Allocation



Country/RegionAllocation

International Equity Composite

Periods Ended June 30, 2025

	International Equity Composite	MSCI AC World ex USA index		International Equity Composite	MSCI AC World ex USA index
Canada	8.11	8.07	Brazil	1.16	1.26
United States	0.37	0.11	Chile	0.10	0.13
Americas	8.48	8.18	Colombia	0.02	0.03
Australia	3.91	4.16	Mexico	0.67	0.58
Hong Kong	1.90	1.76	Peru	0.07	0.06
Japan	14.42	13.68	Americas	2.02	2.06
New Zealand	0.33	0.18	China	6.98	7.45
Singapore	1.26	1.20	India	5.19	5.30
Asia Pacific	21.82	20.96	Indonesia	0.38	0.34
Austria	0.14	0.13	Korea	3.12	3.14
Belgium	0.44	0.53	Malaysia	0.36	0.37
Denmark	1.10	1.44	Philippines	0.10	0.14
Finland	0.54	0.67	Taiwan	5.51	5.55
France	6.58	6.38	Thailand	0.40	0.29
Germany	6.69	6.50	Asia Pacific	22.04	22.58
Ireland	0.98	0.82	Czech Republic	0.03	0.05
Israel	0.57	0.62	Egypt	0.01	0.02
Italy	1.87	1.88	Greece	0.21	0.18
Netherlands	3.39	3.60	Hungary	0.16	0.09
Norway	0.46	0.40	Kuwait	0.19	0.22
Portugal	0.05	0.09	Poland	0.30	0.31
Spain	1.83	1.99	Qatar	0.16	0.22
Sweden	1.85	1.90	Saudi Arabia	0.88	1.03
Switzerland	6.40	6.15	South Africa	0.85	0.84
United Kingdom	8.90	8.89	Turkey	0.17	0.15
EMEA	41.80	41.98	United Arab Emirates	0.45	0.46
Developed Markets	72.10	71.13	EMEA	3.40	3.57
			Emerging Markets	27.45	28.21
			Frontier Markets	0.01	0.00

Country/RegionAllocation

International Equity Composite

Periods Ended June 30, 2025

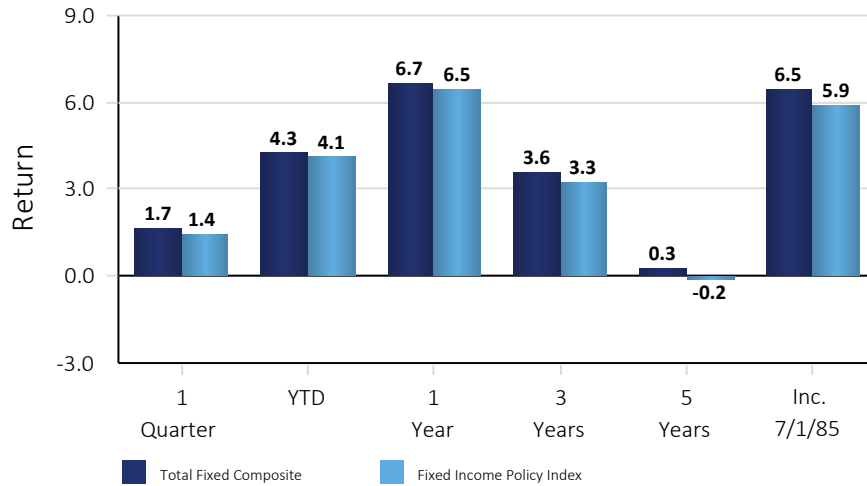
	International Equity Composite	MSCI AC World ex USA index
Cash	0.00	0.00
Other	0.43	0.66
Total	100.00	100.00

Manager Summary

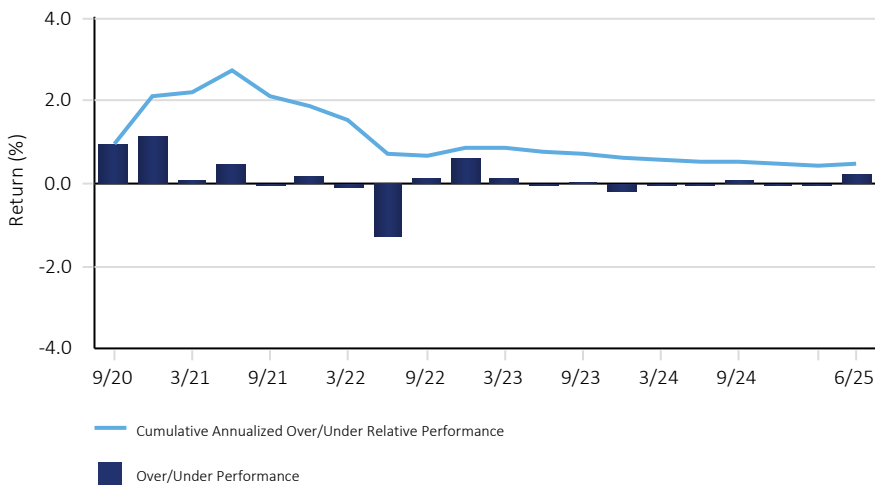
Total Fixed Composite vs IM U.S. Fixed Income (SA+CF)

Periods Ended June 30, 2025

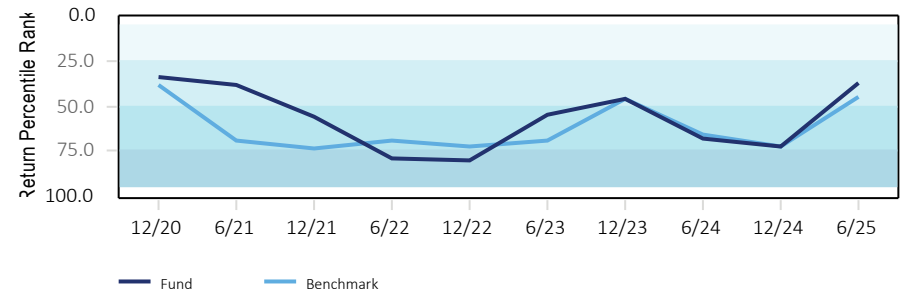
Comparative Performance



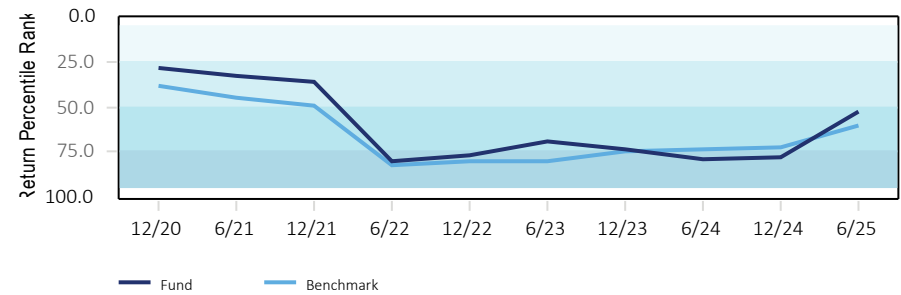
Relative Performance



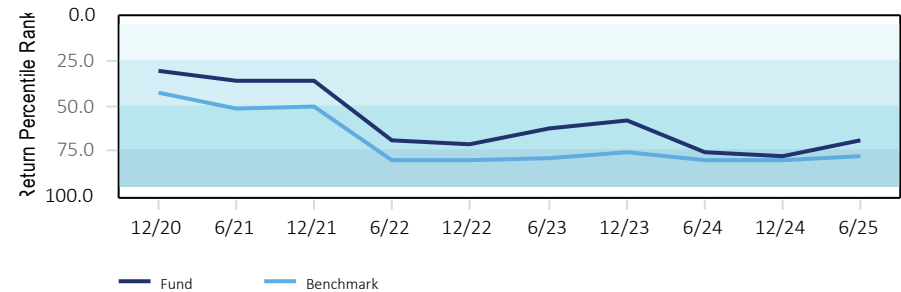
1 Year Rolling Percentile Ranking



3 Year Rolling Percentile Ranking



5 Year Rolling Percentile Ranking

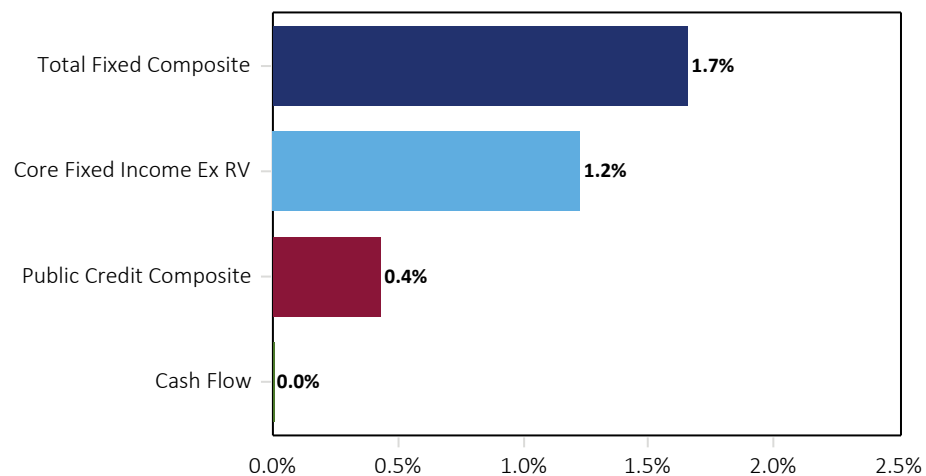


Return and Risk Contribution

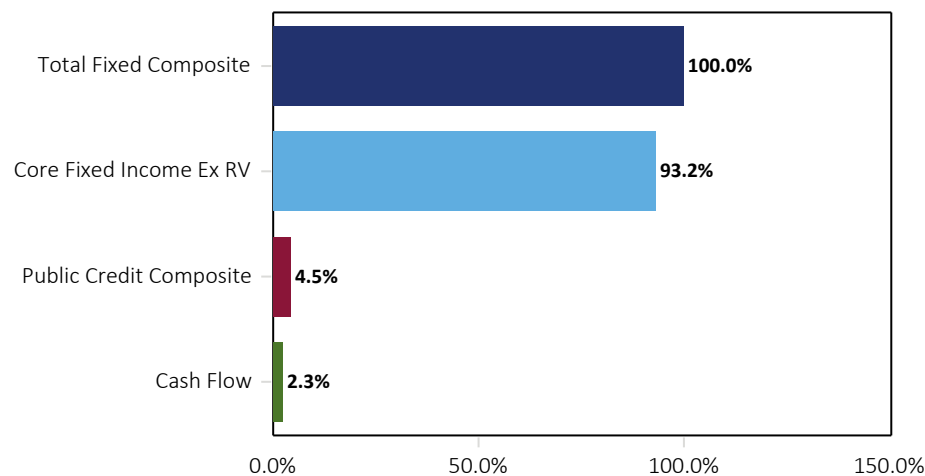
Total Fixed Composite

Periods Ended 1 Quarter June 30, 2025

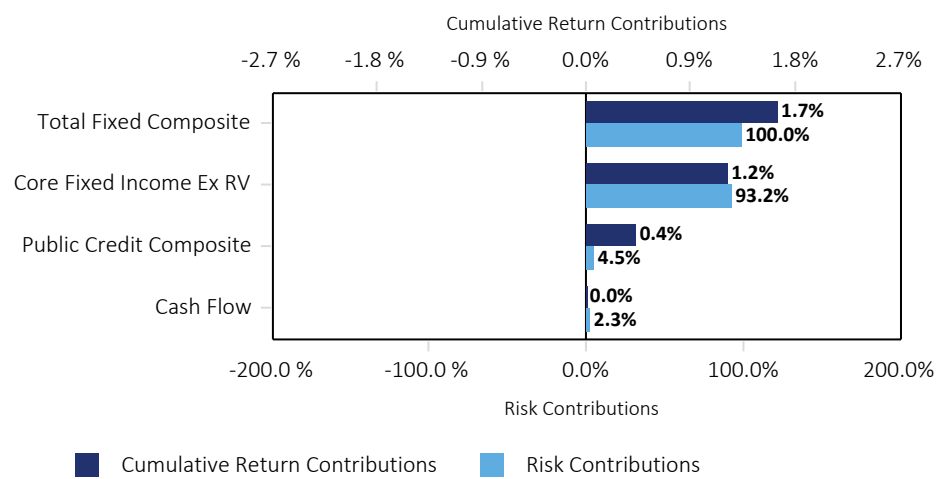
Cumulative Return Contributions



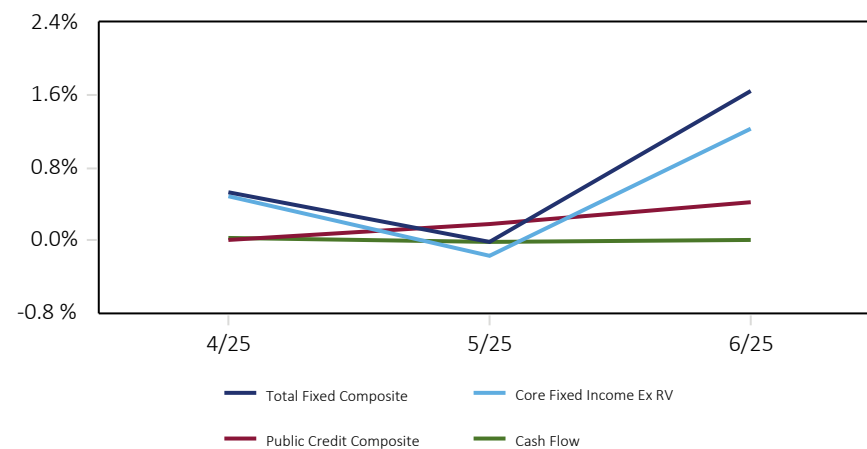
Risk Contributions



Cumulative Return and Risk Contributions



Cumulative Return Contributions History



Portfolio Characteristics

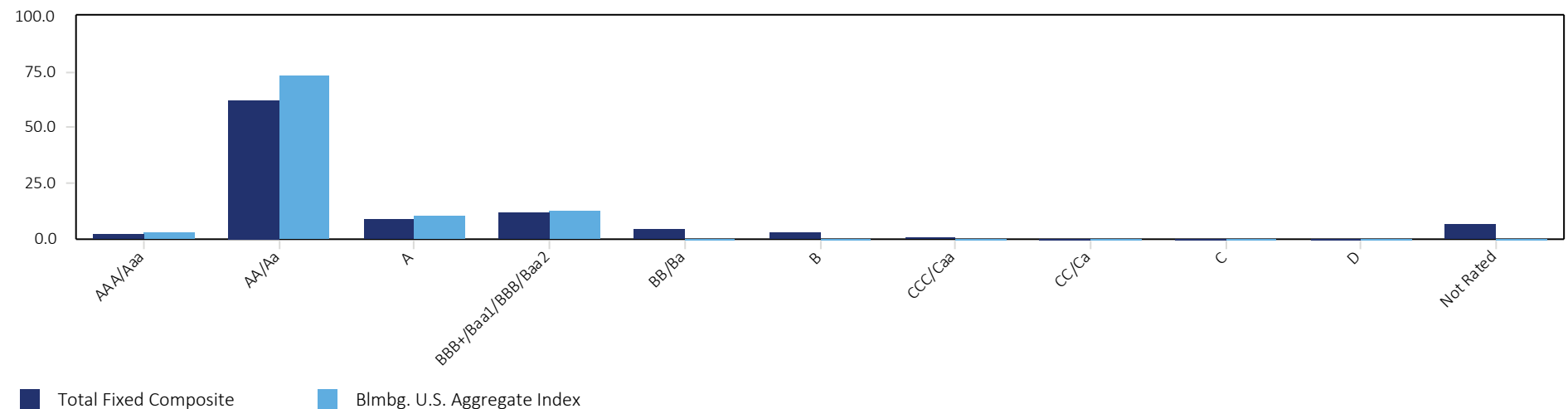
Total Fixed Composite vs Blmbg. U.S. Aggregate Index

Periods Ended As of June 30, 2025

Portfolio Characteristics

	Portfolio	Benchmark
Avg. Quality	AA	AA
Convexity	0.24	0.27
Coupon Rate (%)	3.89	3.67
Current Yield	4.20	4.49
Effective Duration	5.65	5.91
Yield To Maturity (%)	4.80	4.49
Years to Maturity	8.18	8.32
Holdings Count	14,630	13,874

Credit Quality Distribution (%)



Portfolio Characteristics

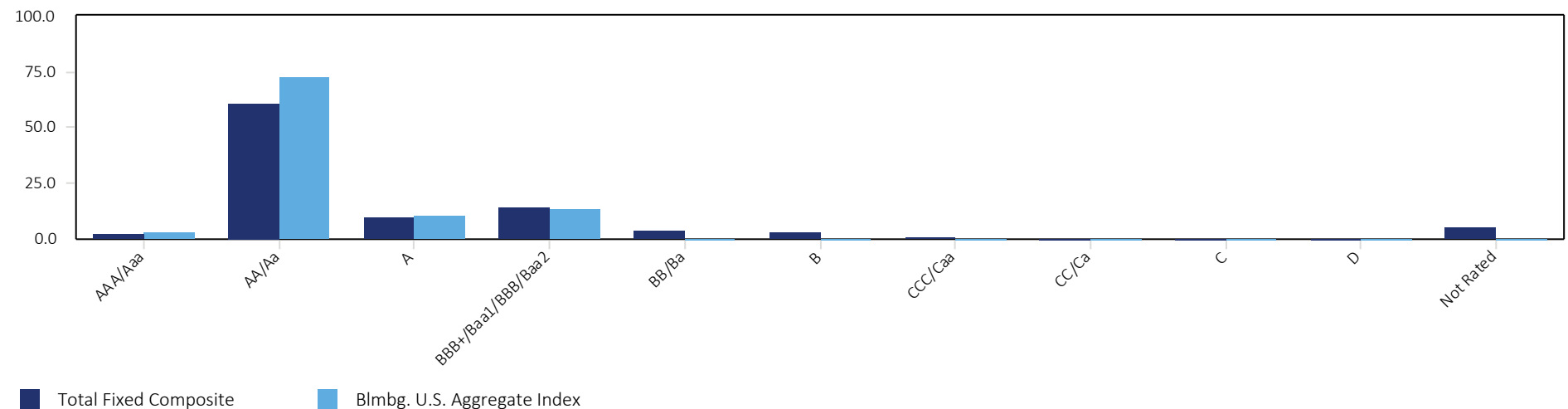
Total Fixed Composite vs Blmbg. U.S. Aggregate Index

Periods Ended As of June 30, 2024

Portfolio Characteristics

	Portfolio	Benchmark
Avg. Quality	AA	AA
Convexity	0.27	0.28
Coupon Rate (%)	3.63	3.41
Current Yield	3.63	4.93
Effective Duration	5.86	5.96
Yield To Maturity (%)	5.30	4.93
Years to Maturity	8.51	8.39
Holdings Count	14,923	13,617

Credit Quality Distribution (%)



Portfolio Characteristics

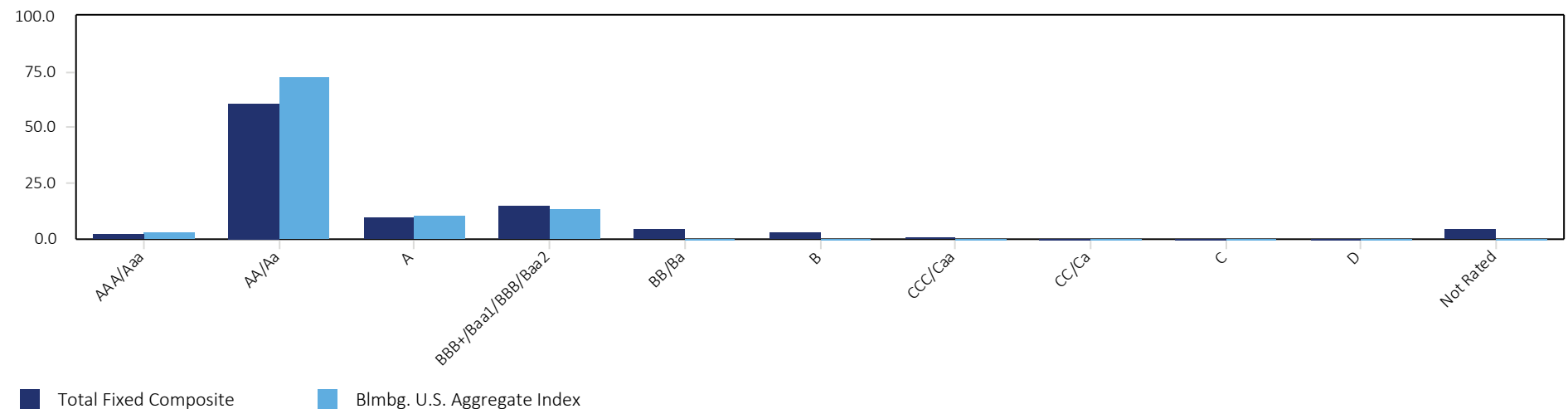
Total Fixed Composite vs Blmbg. U.S. Aggregate Index

Periods Ended As of September 30, 2024

Portfolio Characteristics

	Portfolio	Benchmark
Avg. Quality	AA	AA
Convexity	0.26	0.28
Coupon Rate (%)	3.73	3.48
Current Yield	3.75	4.19
Effective Duration	6.01	5.97
Yield To Maturity (%)	4.86	4.19
Years to Maturity	8.49	8.27
Holdings Count	14,980	13,702

Credit Quality Distribution (%)



Portfolio Characteristics

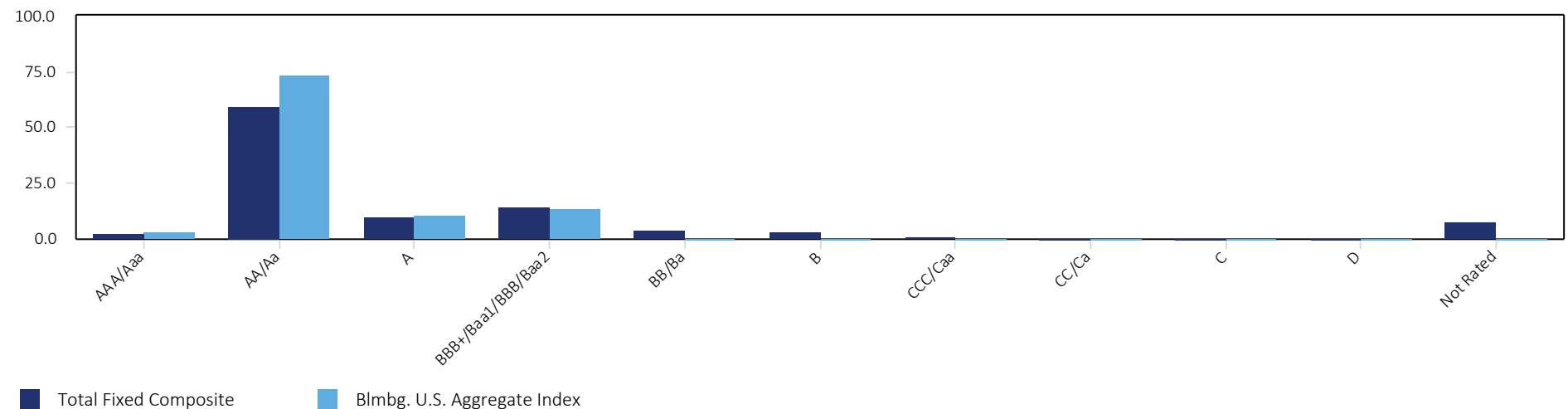
Total Fixed Composite vs Blmbg. U.S. Aggregate Index

Periods Ended As of December 31, 2024

Portfolio Characteristics

	Portfolio	Benchmark
Avg. Quality	AA	AA
Convexity	0.27	0.28
Coupon Rate (%)	3.74	3.54
Current Yield	3.77	4.88
Effective Duration	5.89	5.90
Yield To Maturity (%)	5.10	4.88
Years to Maturity	8.40	8.40
Holdings Count	15,048	13,630

Credit Quality Distribution (%)



Portfolio Characteristics

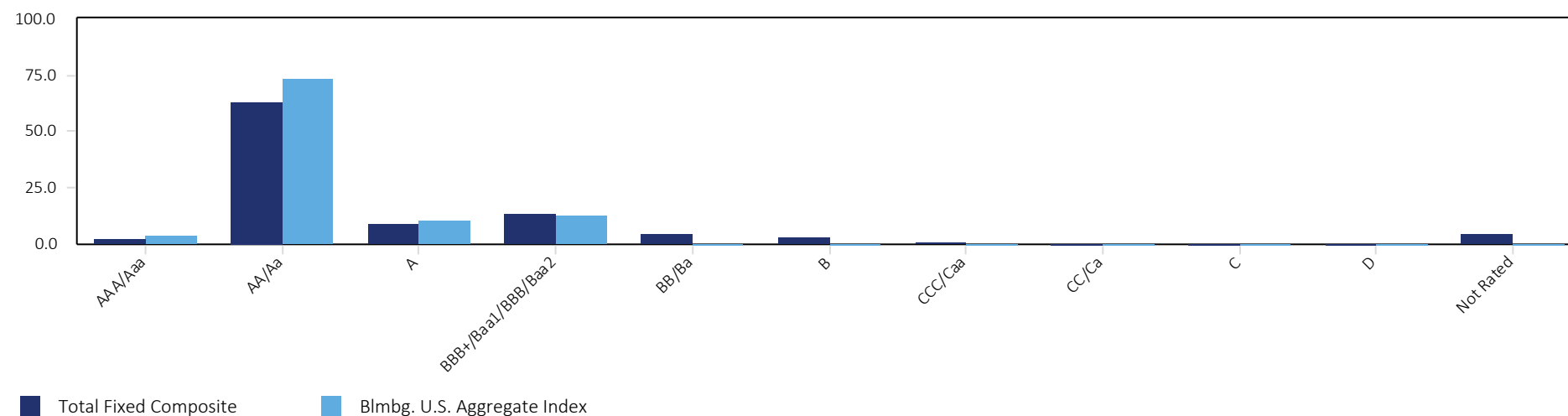
Total Fixed Composite vs Blmbg. U.S. Aggregate Index

Periods Ended As of March 31, 2025

Portfolio Characteristics

	Portfolio	Benchmark
Avg. Quality	AA	AA
Convexity	0.25	0.27
Coupon Rate (%)	3.87	3.61
Current Yield	3.85	4.58
Effective Duration	5.80	5.89
Yield To Maturity (%)	4.96	4.58
Years to Maturity	8.24	8.34
Holdings Count	15,147	13,783

Credit Quality Distribution (%)

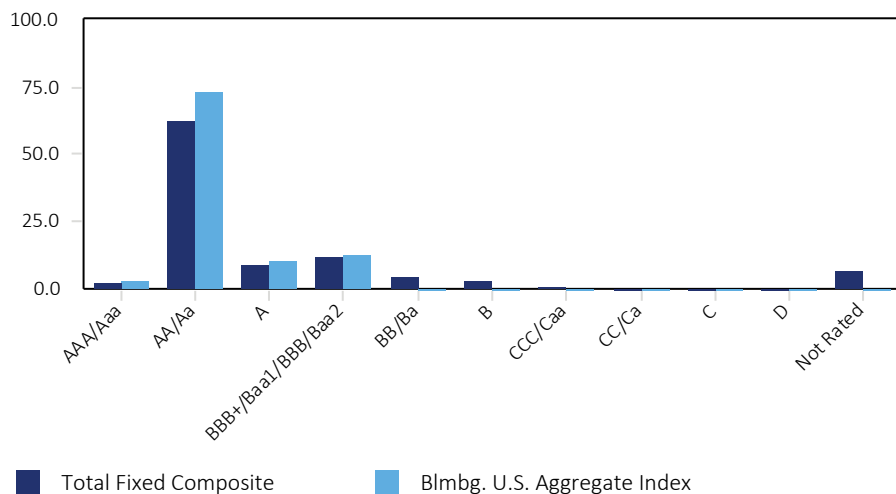


Portfolio Characteristics

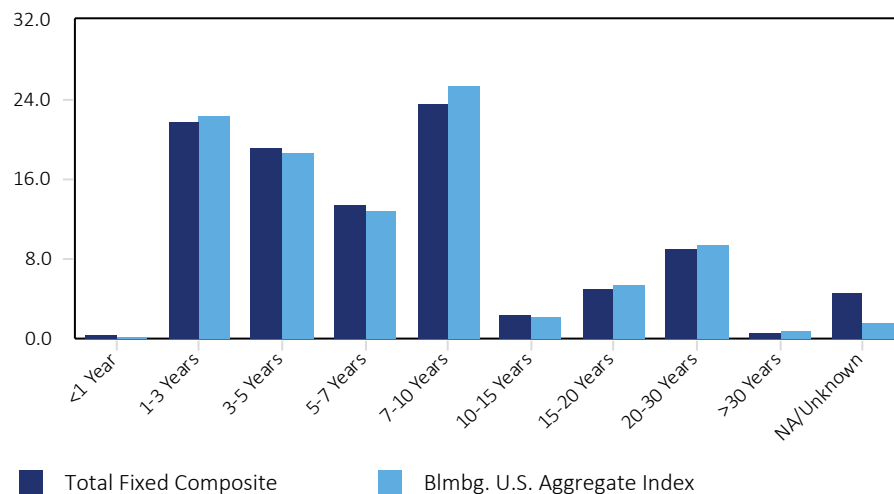
Total Fixed Composite vs Blmbg. U.S. Aggregate Index

Periods Ended As of June 30, 2025

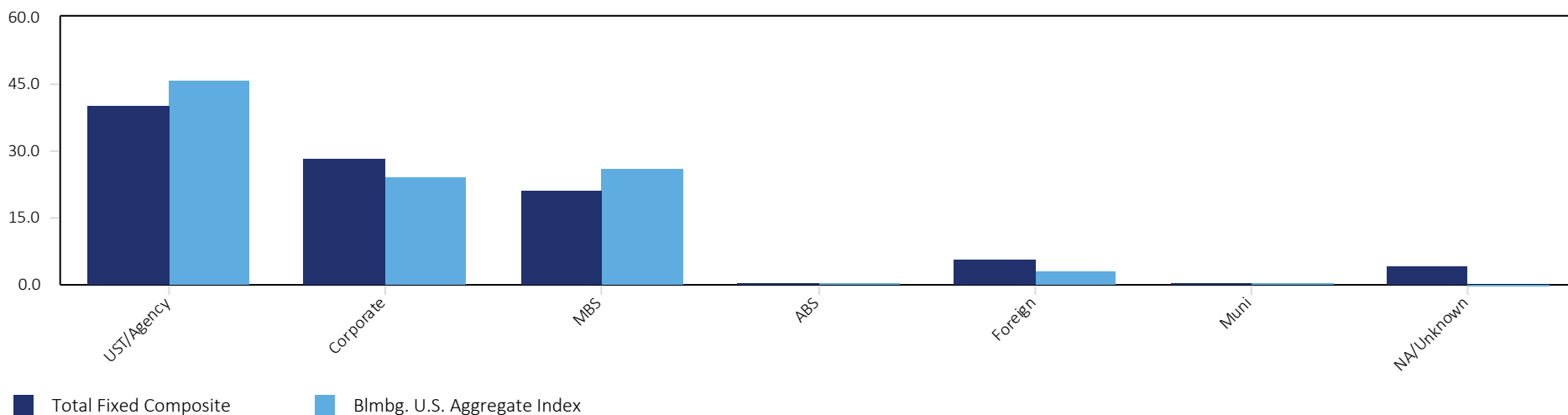
Credit Quality Distribution (%)



Maturity Distribution (%)



Sector Distribution (%)

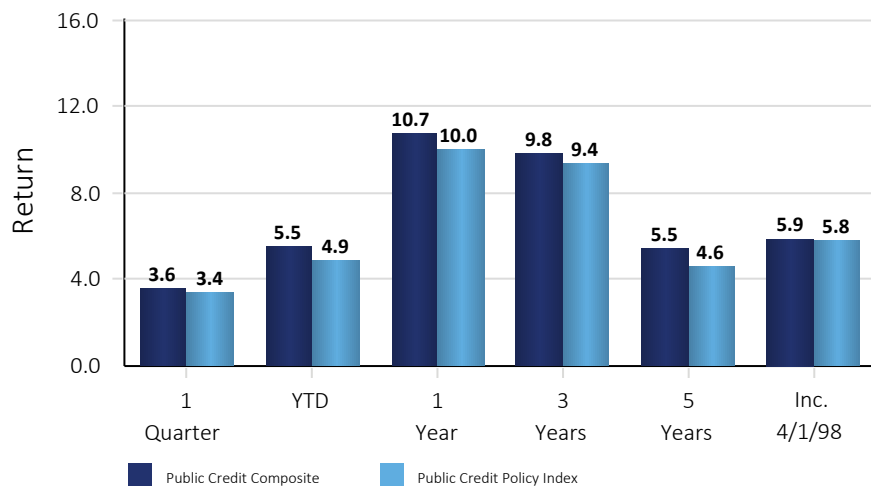


Manager Summary

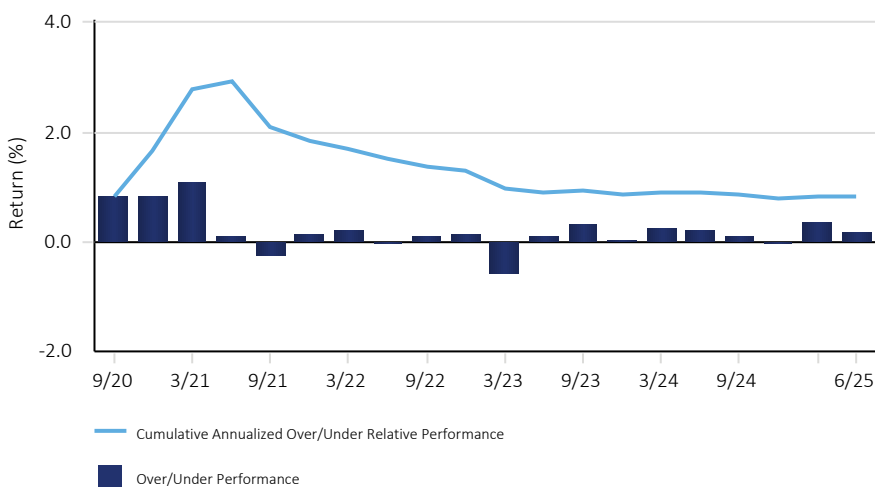
Public Credit Composite vs IM U.S. High Yield Bonds (SA+CF)

Periods Ended June 30, 2025

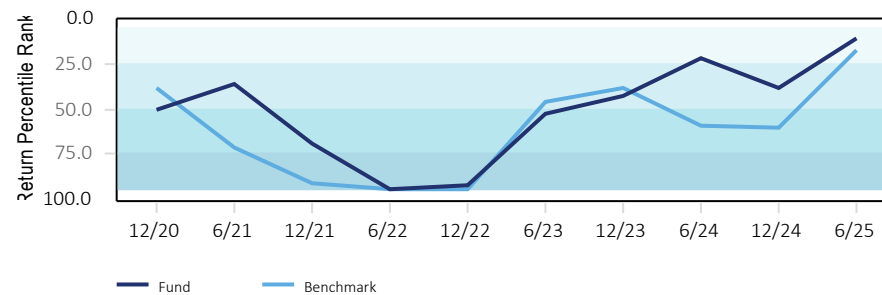
Comparative Performance



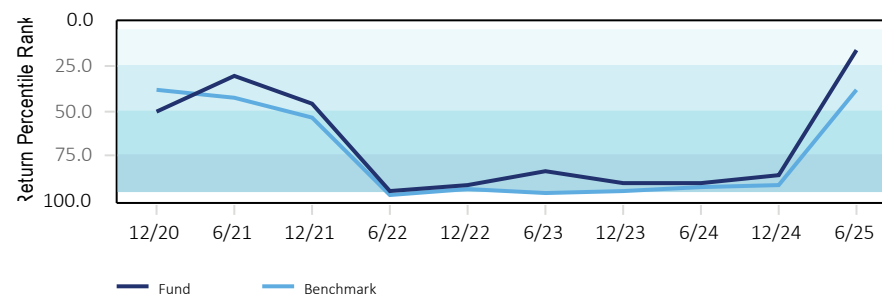
Relative Performance



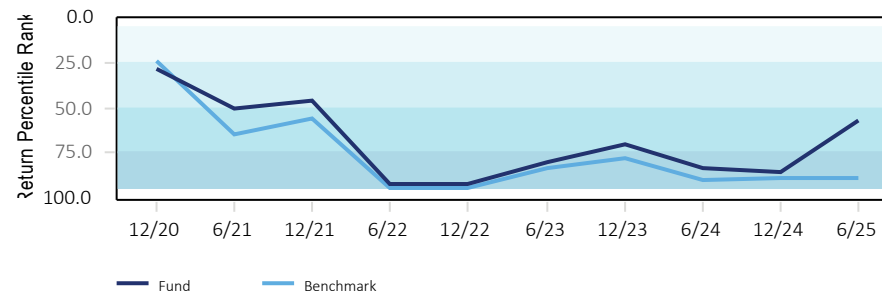
1 Year Rolling Percentile Ranking



3 Year Rolling Percentile Ranking



5 Year Rolling Percentile Ranking

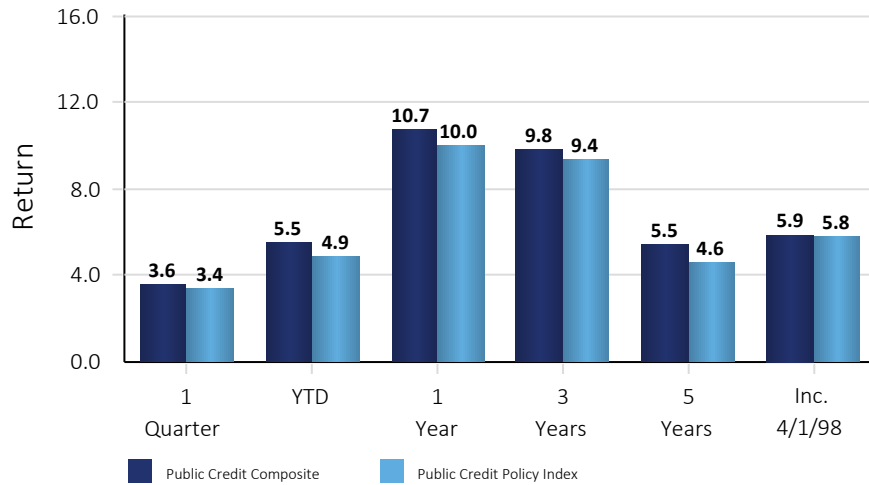


Manager Summary

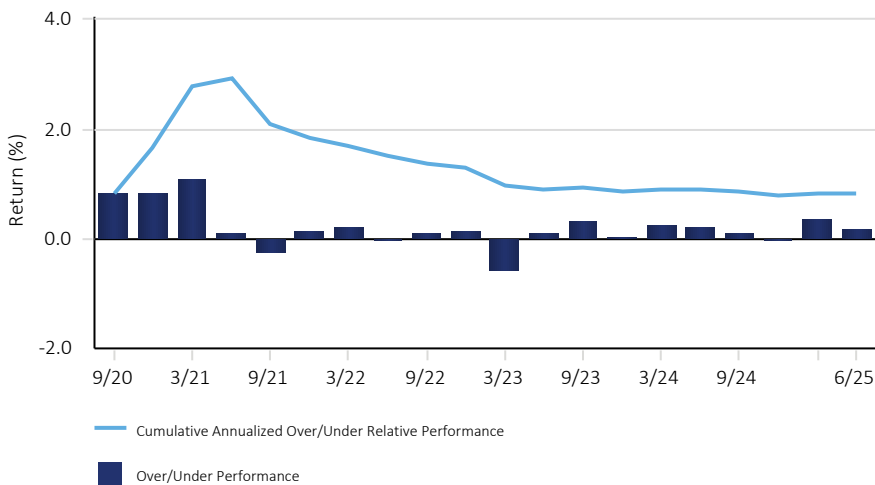
Public Credit Composite vs IM Emerging Markets Debt (SA+CF)

Periods Ended June 30, 2025

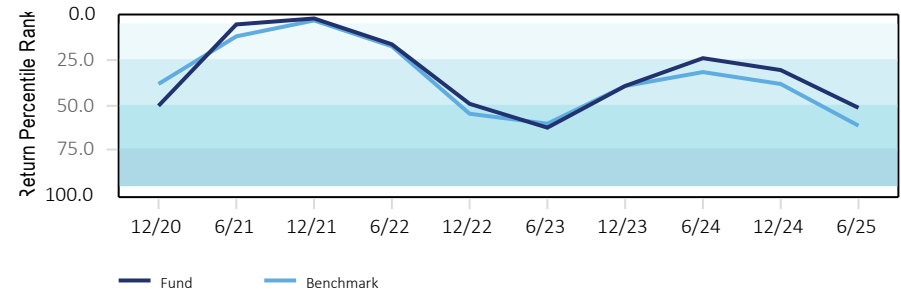
Comparative Performance



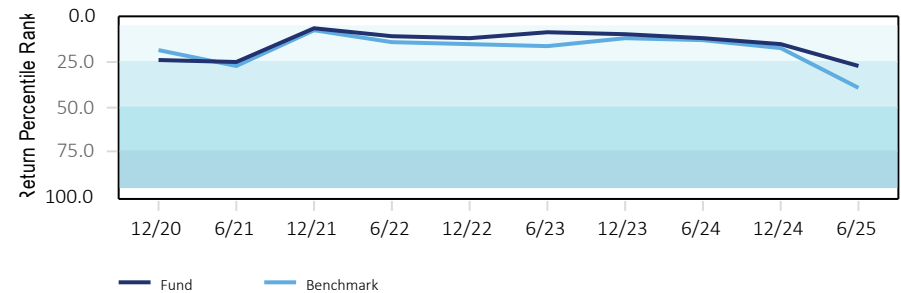
Relative Performance



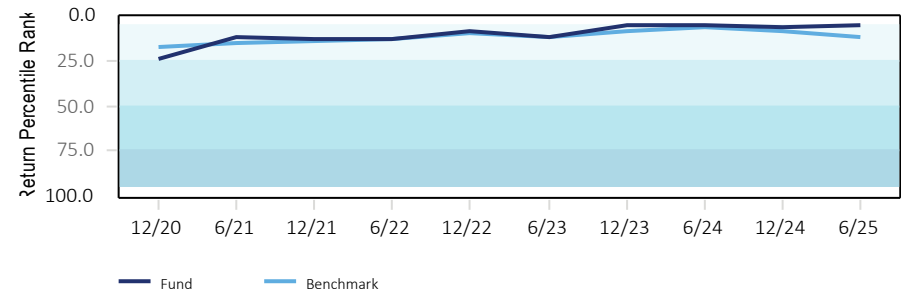
1 Year Rolling Percentile Ranking



3 Year Rolling Percentile Ranking



5 Year Rolling Percentile Ranking

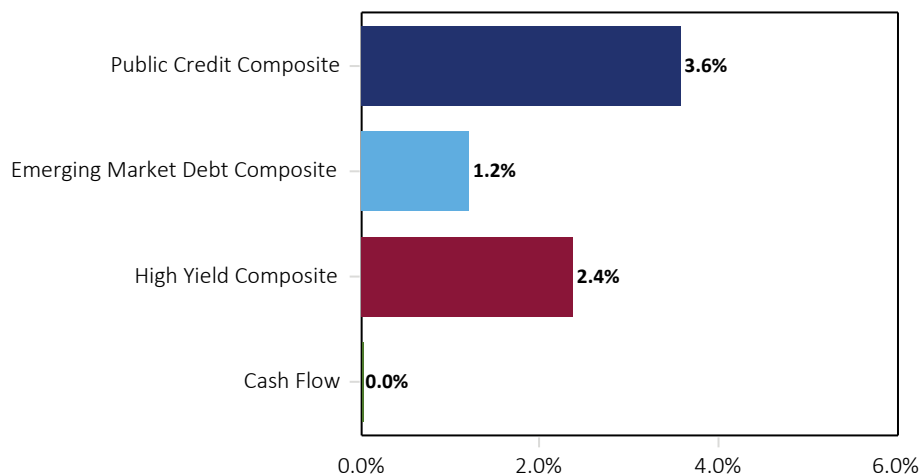


Return and Risk Contribution

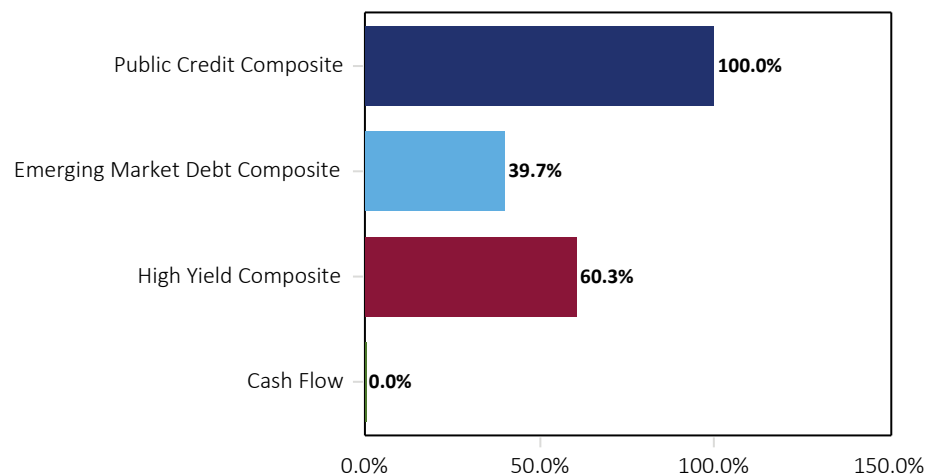
Public Credit Composite

Periods Ended 1 Quarter June 30, 2025

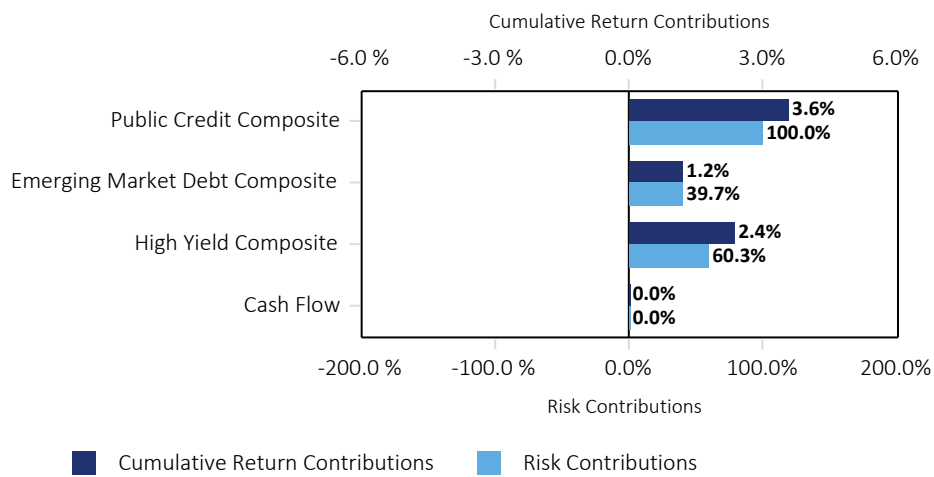
Cumulative Return Contributions



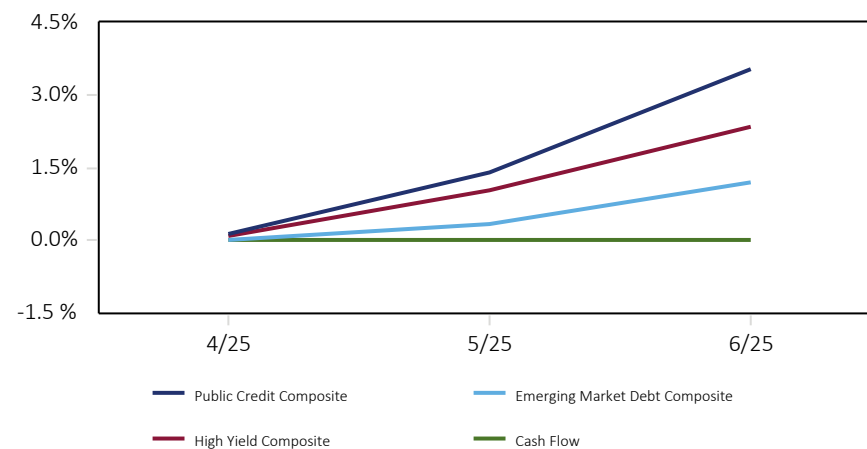
Risk Contributions



Cumulative Return and Risk Contributions



Cumulative Return Contributions History



Asset Allocation & Performance

Private Markets Composite

Periods Ended June 30, 2025

	Performance (%) Net of Fees									Market Value \$
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date	
Private Markets Composite	1.09	4.70	4.70	1.22	13.58			12.94	10/1/2016	13,943,174,243
Private Equity/Debt	0.86	4.22	4.22	1.46	16.76	15.12	15.03	12.73	10/1/1985	7,883,431,343
Private Equity Policy Index	0.86	4.22	4.22	1.46	16.76	15.12	13.01	14.28		
Private Credit Composite	1.89	7.89	7.89	7.32	8.08			7.53	10/1/2016	2,860,202,847
Private Credit Policy Index	1.89	7.89	7.89	7.32	8.08			7.53		
Private Real Assets Composite	0.94	3.06	3.06	-3.40	6.65			6.73	10/1/2016	3,199,540,052
Private Real Assets Policy Index	0.94	3.06	3.06	-3.40	6.65			6.73		
Russell 3000 + 3%	11.81	18.75	18.75	22.65	19.44	16.35	13.84	15.50	1/1/1979	
Morningstar LSTA US Leveraged Loan + 1%	2.57	8.36	8.36	10.78	8.52	6.19	6.11	6.16	1/1/1997	
NCREIF Fund Index-ODCE (VW) (Net)	0.81	2.67	2.67	-6.21	2.54	4.42	5.14	6.92	1/1/1978	

Asset Allocation & Performance

Private Credit Composite

Periods Ended June 30, 2025

	Performance (%) Net of Fees									Market Value \$
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date	
Private Credit Composite	1.89	7.89	7.89	7.32	8.08			7.53	10/1/2016	2,860,202,847
Private Corporate Debt Composite	1.56	7.60	7.60	7.16	8.24			7.36	1/1/2017	1,005,296,159
Tennenbaum CP Direct Lending	1.14	4.94	4.94	6.18	7.52			7.03	1/1/2017	323,525,092
Monroe Capital	1.51	7.77	7.77	6.97	8.18			7.41	4/1/2017	417,638,273
PPEF XXV B	2.18	11.30	11.30	9.89				9.20	3/1/2022	264,132,794
Private Real Asset Debt Composite	2.10	7.75	7.75	6.34	6.41	7.21		7.45	7/1/2013	712,970,858
Principal Real Estate Debt II	7.73	27.42	27.42	9.61	8.69			8.37	10/1/2017	1
PGIM Real Estate Global Debt	2.47	9.93	9.93	8.54	7.68			7.29	10/1/2018	107,707,598
Kayne Anderson Real Estate Debt IV	2.74	11.40	11.40	9.46				9.19	6/1/2022	78,626,505
Heitman Credit	1.45	0.17	0.17					-1.76	10/1/2022	95,899,835
IFM US Infrastructure Debt Fund	1.03	5.41	5.41					4.68	1/1/2023	94,908,511
JP Morgan Global Transport Income Fund	3.36	12.01	12.01					9.42	5/1/2023	104,617,991
ITE Rail Fund IA	1.83	8.36	8.36					9.77	9/1/2023	78,041,709
PGIM PREDS	1.88	7.11	7.11					5.46	12/1/2023	70,716,888
Oaktree RECIF	1.80	6.41	6.41					4.93	1/1/2024	65,064,815
Principal OEDF	1.23	6.77	6.77					4.97	4/1/2024	17,387,006
Opportunistic Credit Composite	2.05	8.27	8.27	8.31				8.14	8/1/2021	1,141,935,830
KKR Global Corporate Debt	1.82	9.30	9.30	7.84	8.66			7.99	4/1/2019	293,825,836
Crestline Opportunistic Credit	1.32	4.90	4.90	9.39				7.59	8/1/2021	173,214,654
ARES PCS II	1.63	10.21	10.21	7.42				6.94	10/1/2021	70,600,966
Audax Mezzanine Coinvest	3.58	15.66	15.66	12.57				12.60	11/1/2021	13,096,821
Marathon SPS	2.12	7.20	7.20	7.04				6.65	11/1/2021	240,483,220
Arrowmark	2.47	10.51	10.51	11.04				9.68	1/1/2022	222,303,251
Audax Mezzanine V	2.74	10.86	10.86	8.31				15.97	6/1/2022	42,073,810
Crestline Opportunistic Credit - Series 2	2.84	8.24	8.24					6.94	5/1/2024	86,337,274

Asset Allocation & Performance

Private Credit Composite

Periods Ended June 30, 2025

	Performance (%) Net of Fees									Market Value \$
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date	
Morningstar LSTA US Leveraged Loan + 1%	2.57	8.36	8.36	10.78	8.52	6.19	6.11	6.16	1/1/1997	

Asset Allocation & Performance

Private Real Assets Composite

Periods Ended June 30, 2025

	Performance (%) Net of Fees									Market Value \$
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date	
Private Real Assets Composite	0.94	3.06	3.06	-3.40	6.65			6.73	10/1/2016	3,199,540,052
Private Real Assets Policy Index	0.94	3.06	3.06	-3.40	6.65			6.73		
Private Real Estate Composite	0.82	3.20	3.20	-5.83	5.94	7.16	7.04	6.56	4/1/1987	2,410,453,305
Private Real Estate Policy Index	0.81	2.67	2.67	-6.21	2.54	4.42	6.33	7.94		
Private Other Real Assets Composite	1.33	2.48	2.48	7.31	6.57			5.29	10/1/2016	789,086,747
CPI + 5%	2.10	7.80	7.80	8.01	9.81			8.53		
NCREIF Fund Index-ODCE (VW) (Net)	0.81	2.67	2.67	-6.21	2.54	4.42	5.14	6.92	1/1/1978	
CPI - All Urban Consumers (Unadjusted)	0.86	2.67	2.67	2.87	4.58	3.06	2.56	3.16	2/1/1913	
CPI + 5%	2.10	7.80	7.80	8.01	9.81	8.21	7.69		2/1/1913	

Asset Allocation & Performance

Private Real Estate Composite (G)

Periods Ended June 30, 2025

	Performance (%) Net of Fees									Market Value \$
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date	
Private Real Estate Composite (G)	0.93	3.64	3.64	-5.43	6.40	7.69	7.78	7.39	4/1/1987	2,410,453,305
Private Real Estate Composite (N)	0.82	3.20	3.20	-5.83	5.94	7.16	7.04	6.56		
Private Real Estate Policy Index	0.81	2.67	2.67	-6.21	2.54	4.42	6.33	7.94		
Clarion Partners (G)	5.98	-8.72	-8.72	-17.65	-6.05	-0.92	3.81	3.81	7/1/2005	53,464,848
Clarion Partners (N)	5.98	-8.72	-8.72	-17.83	-6.35	-1.39	3.09	3.09		
Invesco Separate Account (G)	-0.06	3.29	3.29	-4.10	10.85	11.84	9.58	10.88	7/1/1996	858,225,247
Invesco Separate Account (N)	-0.18	2.80	2.80	-4.55	10.34	11.26	8.89	9.93		
RREEF America LLC (G)	0.93	3.43	3.43	-4.35	6.77	8.02	8.70	9.95	4/1/1997	970,133,899
RREEF America LLC (N)	0.85	3.06	3.06	-4.73	6.32	7.52	7.89	9.03		
UBS (G)	2.16	7.41	7.41	-0.32	10.47	10.99	9.51	10.29	10/1/1998	498,604,112
UBS (N)	2.06	6.97	6.97	-0.72	10.03	10.51	8.91	9.68		
KAREP VII (G)	0.07							-1.82	1/1/2025	30,025,199
KAREP VII (N)	-1.21							-4.90		
NCREIF Fund Index-ODCE (VW) (Net)	0.81	2.67	2.67	-6.21	2.54	4.42	5.14	6.92	1/1/1978	

Asset Allocation & Performance

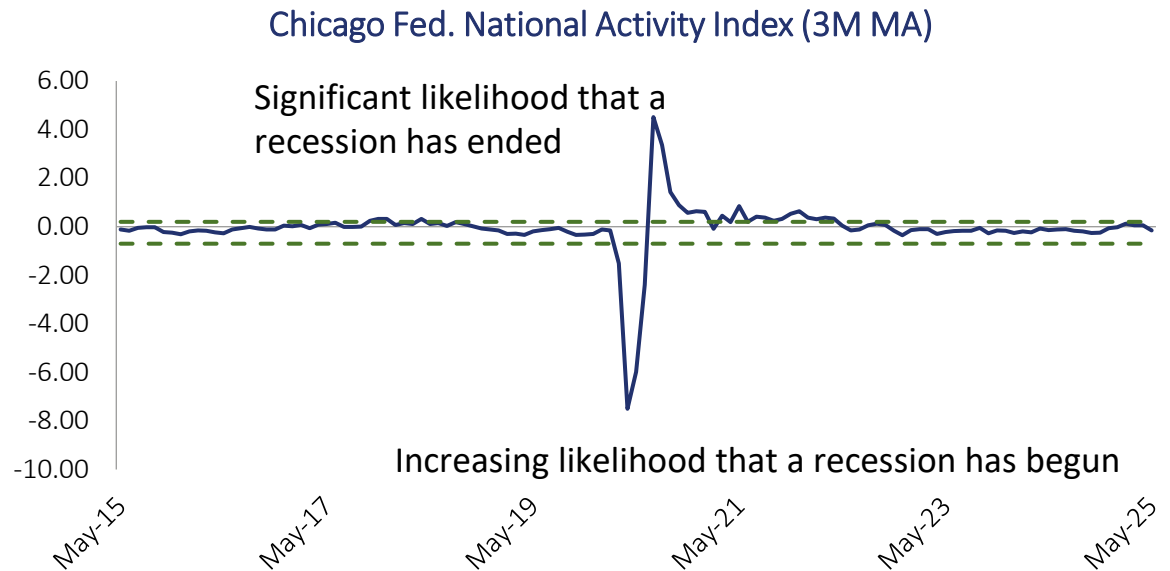
Private Other Real Assets Composite

Periods Ended June 30, 2025

	Performance (%) Net of Fees									Market Value \$
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	Since Inception	Inception Date	
Private Other Real Assets Composite CPI + 5%	1.33 2.10	2.48 7.80	2.48 7.80	7.31 8.01	6.57 9.81			5.29 8.53	10/1/2016	789,086,747
Forest Investment Associates CPI + 5%	1.19 2.10	-2.47 7.80	-2.47 7.80	6.90 8.01	6.79 9.81	4.98 8.21		5.73 7.79	7/1/2012	197,034,114
UBS Farmland Investors CPI + 5%	0.88 2.10	2.54 7.80	2.54 7.80	5.73 8.01	5.33 9.81			6.72 8.46	7/1/2016	111,691,458
Brookfield Super-Core Infrastructure CPI + 5%	2.12 2.10	6.51 7.80	6.51 7.80	8.22 8.01				7.56 8.78	4/1/2022	340,088,364
MIP VI CPI + 5%									7/1/2025	140,272,811
NCREIF Farmland Index	0.33	-1.17	-1.17	3.12	4.77	5.60	10.88	7.47	10/1/1980	
NCREIF Timberland Index	1.44	5.32	5.32	8.74	8.22	5.43	6.69	10.65	4/1/1987	

Economic/Market Activity

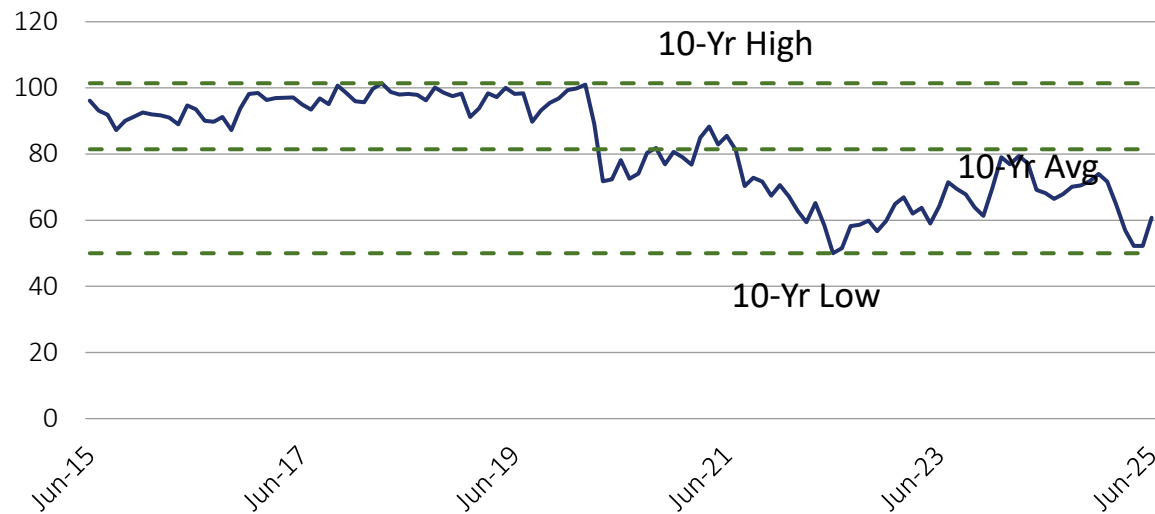
Economic Growth



Data Source: Bloomberg

Consumer Activity

University of Michigan: Consumer Sentiment



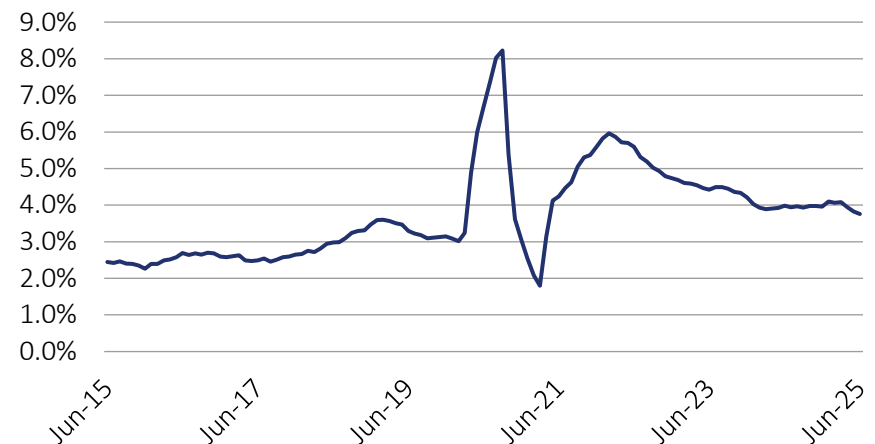
Real Personal Consumption Expenditures



Data Source: Bloomberg

— Real PCE (6-mo annualized)

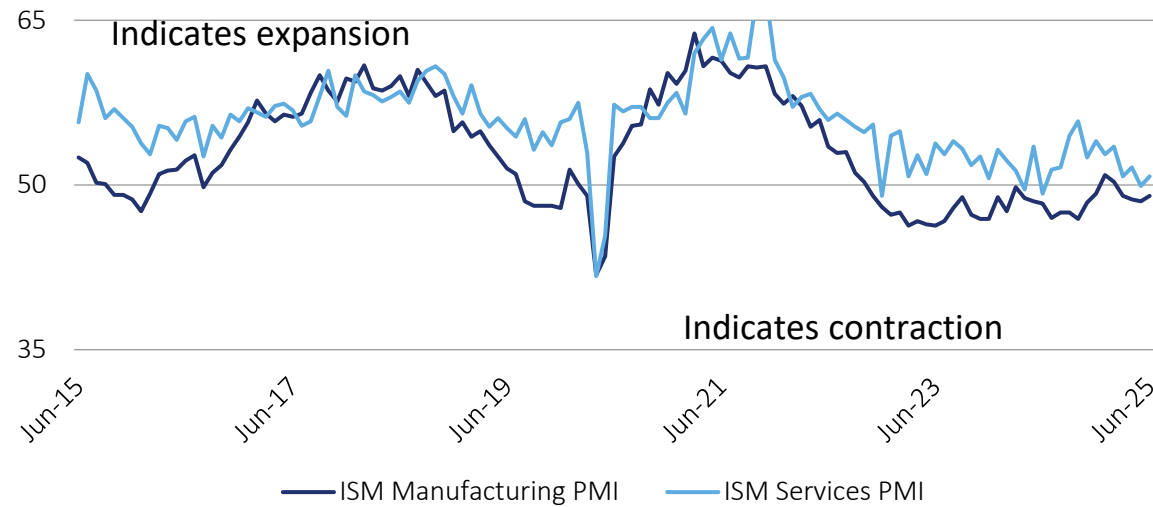
Average Hourly Earnings



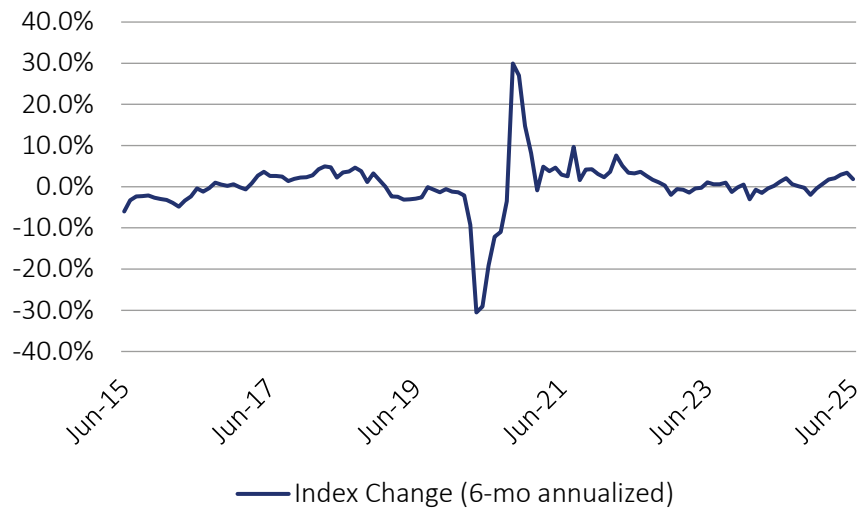
— Wage Growth (6-mo annualized)

Business Activity

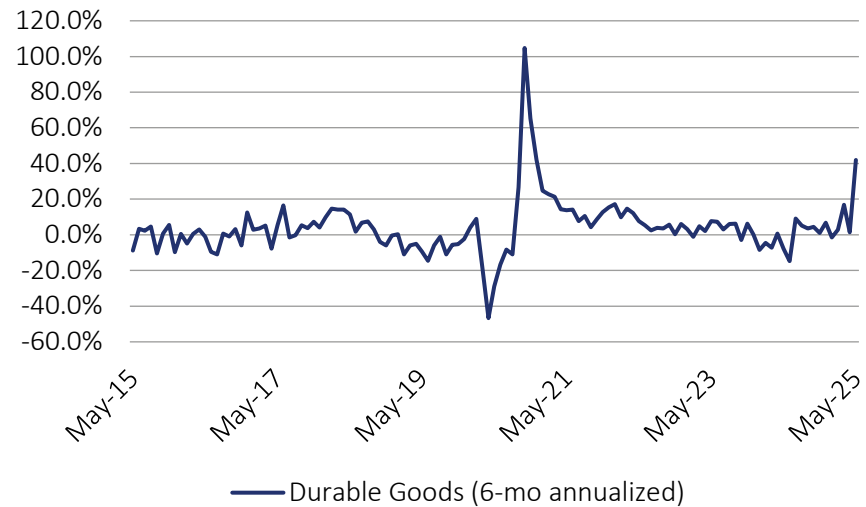
ISM Report on Business



Industrial Production Index



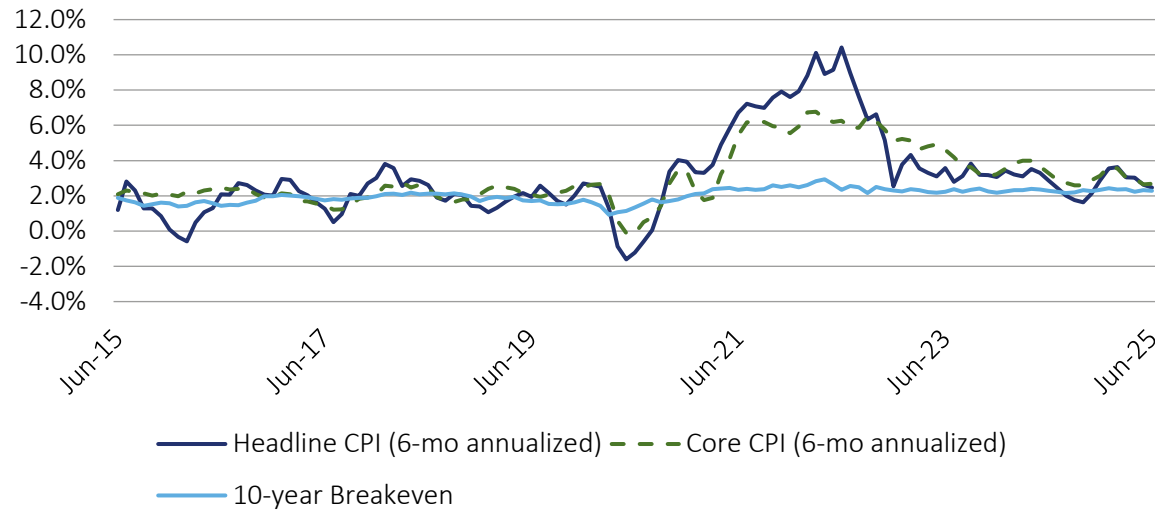
Durable Goods New Orders



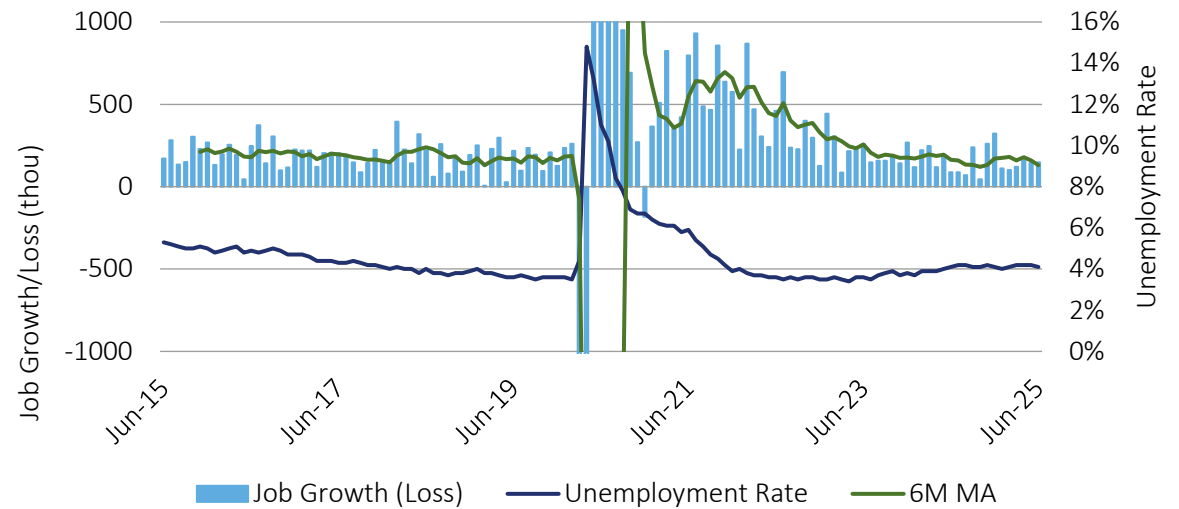
Data Source: Bloomberg

Inflation and Employment

Inflation: Actual & Expected



Employment Gains/Losses

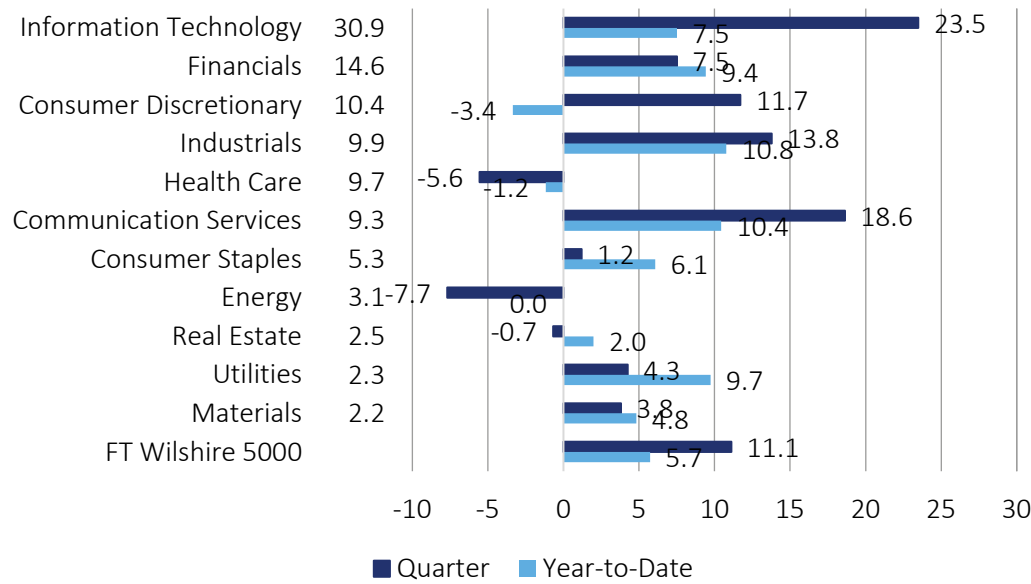


Data Source: Bloomberg

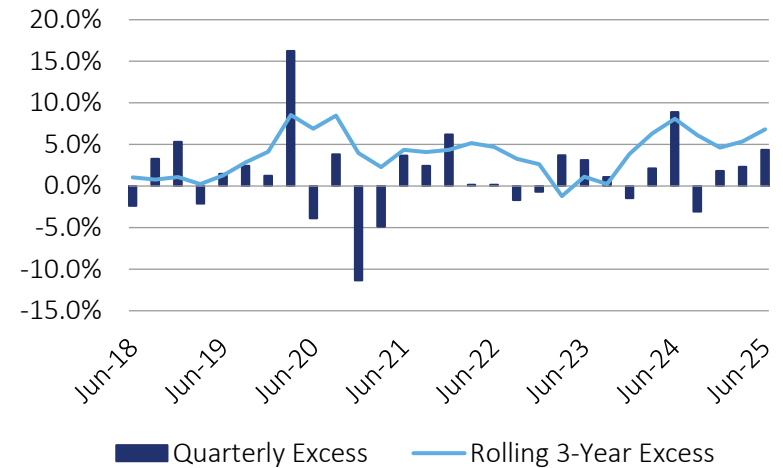
U.S. Equity Market

As of 6/30/2025	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	11.1	5.7	15.2	19.1	16.2	13.2
FT Wilshire U.S. Large Cap	11.7	6.6	16.0	20.2	16.7	13.8
FT Wilshire U.S. Small Cap	7.0	-0.1	10.1	12.5	12.4	8.9
FT Wilshire U.S. Large Growth	19.5	7.0	18.1	27.0	18.5	n/a
FT Wilshire U.S. Large Value	4.3	6.6	14.0	13.5	14.6	n/a
FT Wilshire U.S. Small Growth	9.3	-0.3	10.8	13.1	9.2	n/a
FT Wilshire U.S. Small Value	4.7	0.1	9.3	11.9	15.5	n/a
Wilshire REIT Index	-1.2	-0.2	9.1	5.7	8.7	6.3
MSCI USA Min. Vol. Index	0.6	6.5	13.8	12.1	11.0	11.0
FTSE RAFI U.S. 1000 Index	4.5	5.3	13.1	14.9	16.7	11.4

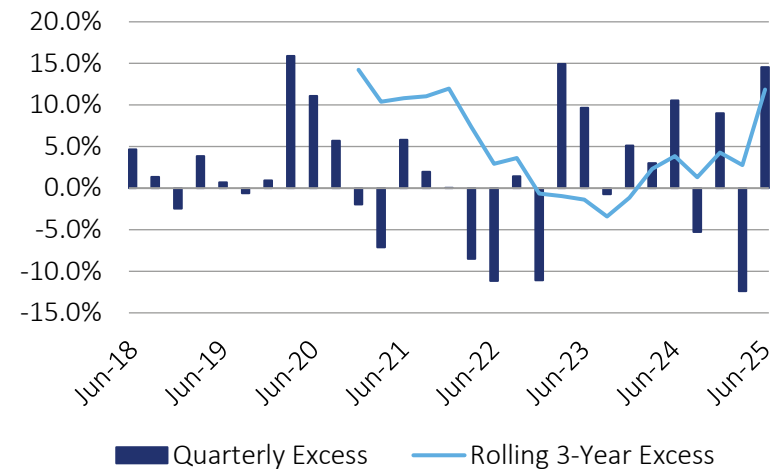
U.S. Sector Weight and Return (%)



Large Cap vs. Small Cap



Large Growth vs Large Value

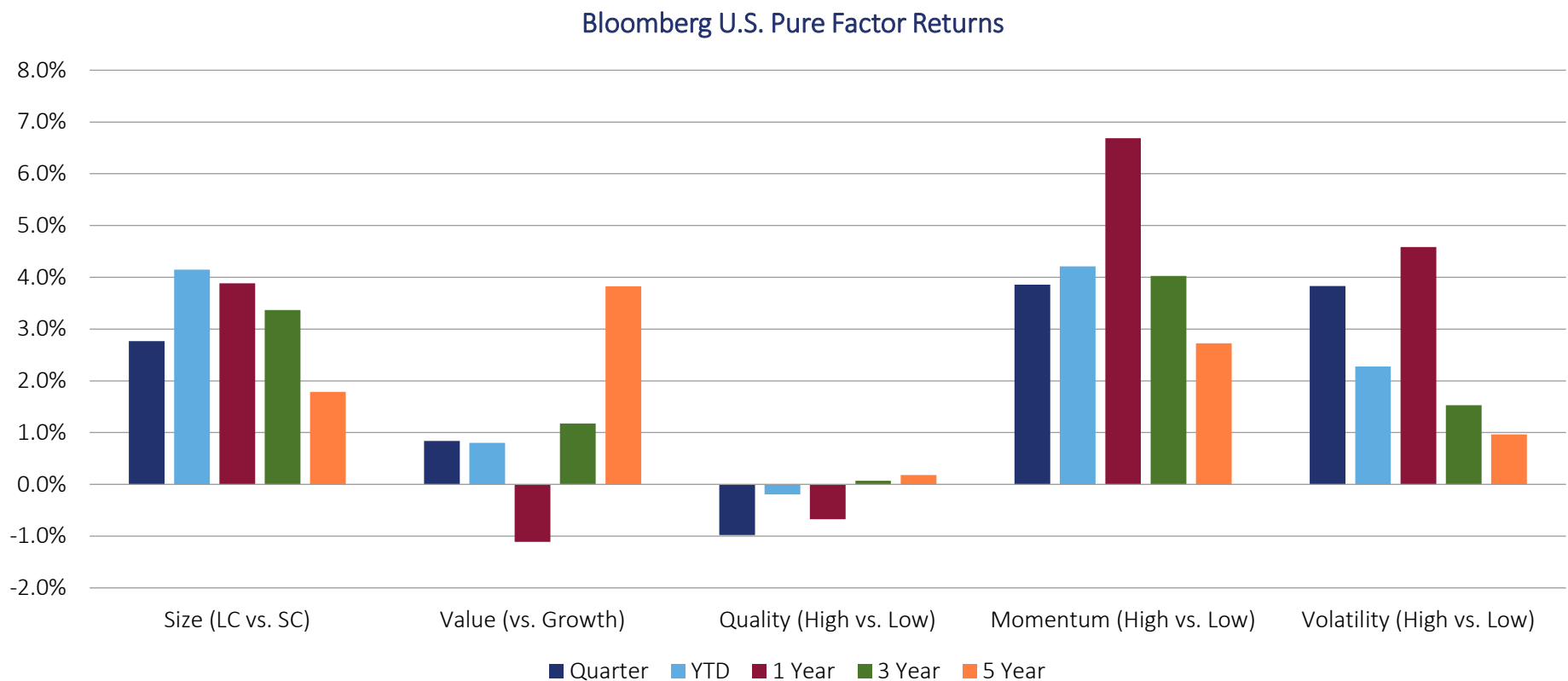


Data Sources: Bloomberg, Clearwater Wilshire Atlas

U.S. Factor Returns

Factor returns represent the contribution from large cap, value, etc. stocks within Bloomberg's Portfolio & Risk Analytics module

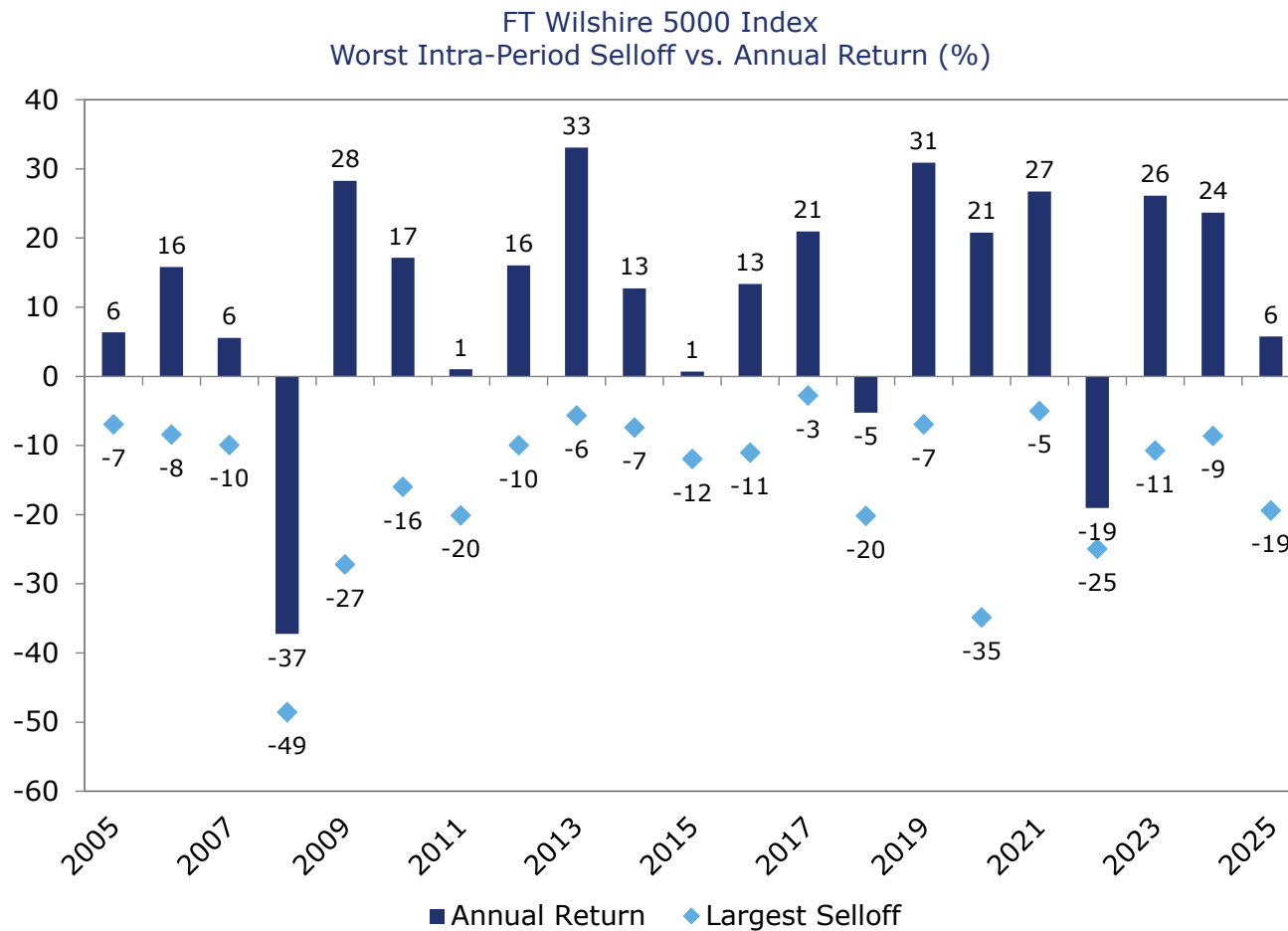
Size contributed positively for the quarter while quality was a detractor



Data Source: Bloomberg

Annual Equity Market Selloffs

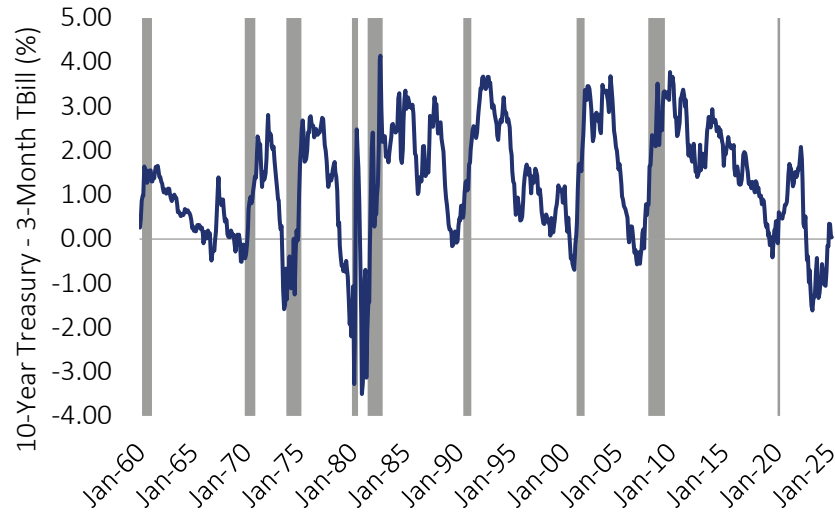
U.S. equity initially reached correction territory in mid-March and then worsened into April; strong recovery in May and June



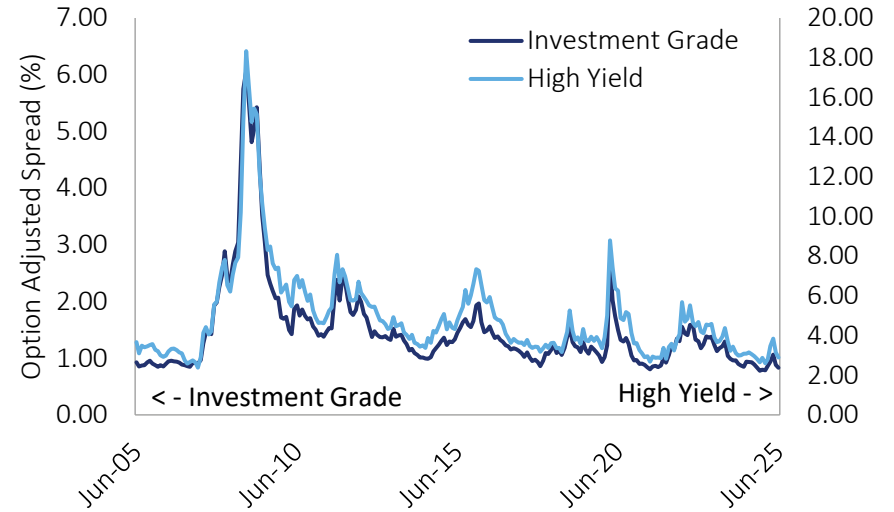
Data Sources: Wilshire Web, Bloomberg

Risk Monitor

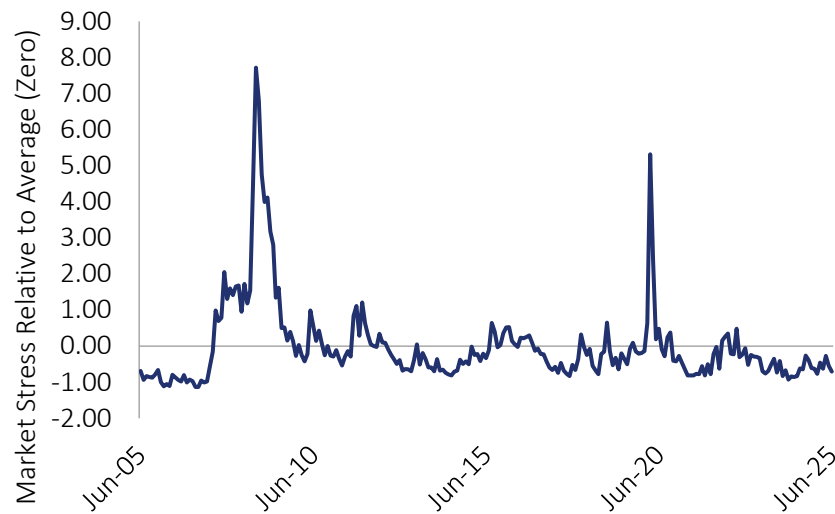
Yield Curve Slope vs Recessions (IN GRAY)



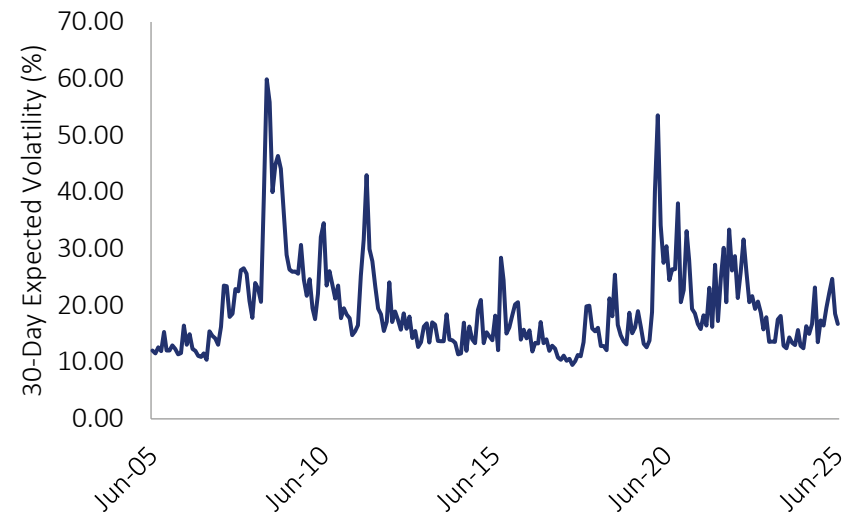
Bloomberg Credit Indexes



St. Louis Fed. Financial Stress Index



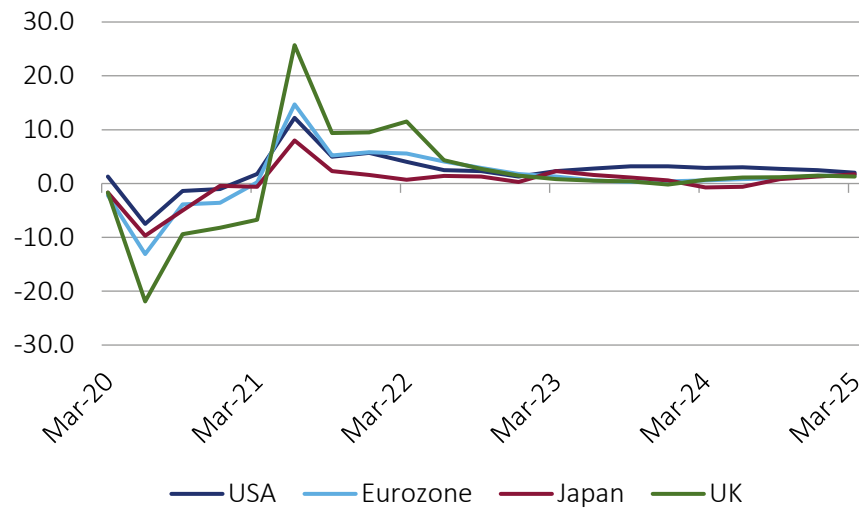
CBOE Volatility Index



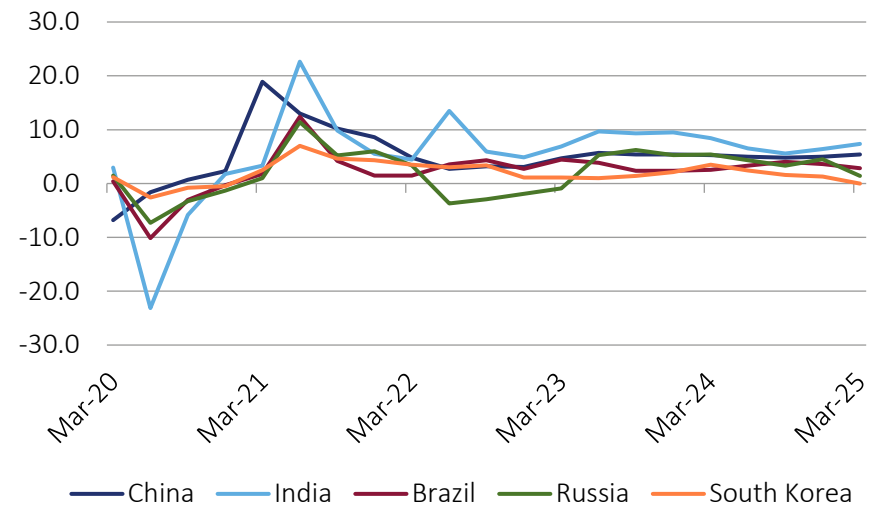
Data Source: Bloomberg

Non-U.S. Growth and Inflation

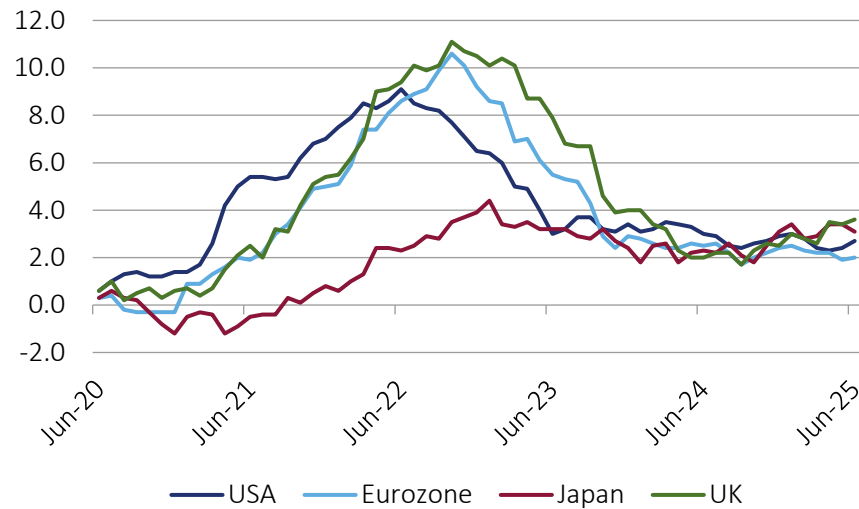
Developed Markets Real GDP Growth YoY (%)



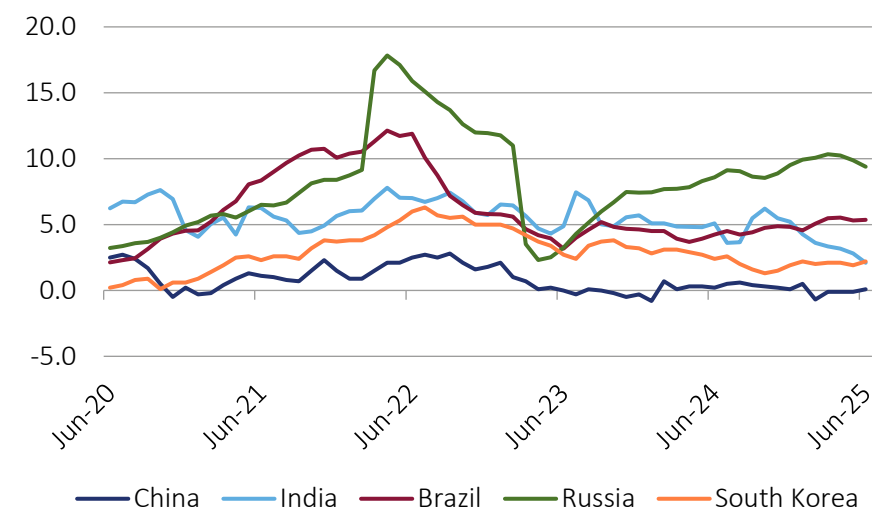
Emerging Markets Real GDP Growth YoY (%)



Developed Markets CPI Growth YoY (%)



Emerging Markets CPI Growth YoY (%)

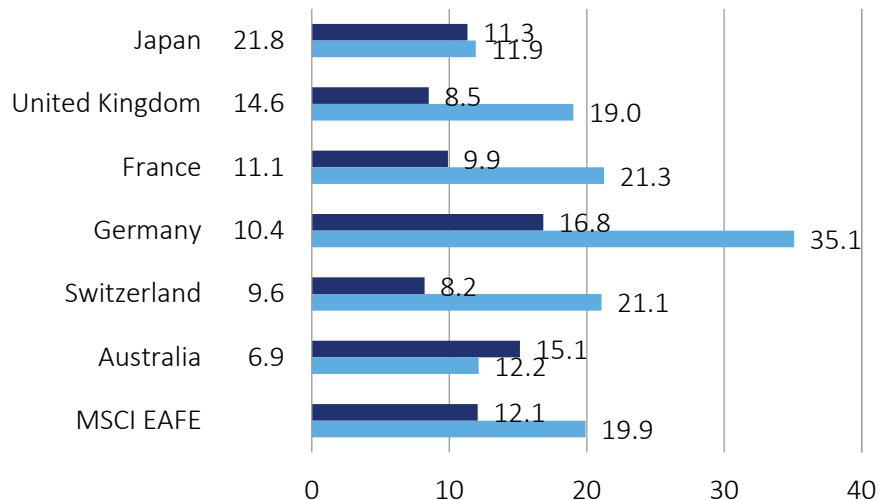


Data Source: Bloomberg

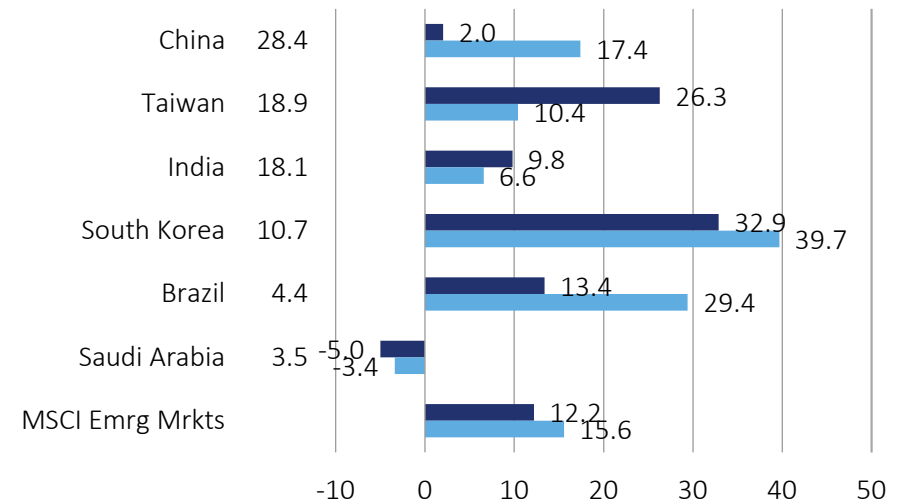
Non-U.S. Equity Market

As of 6/30/2025	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US (\$G)	12.3	18.3	18.4	14.6	10.7	6.6
MSCI EAFE (\$G)	12.1	19.9	18.3	16.6	11.7	7.0
MSCI Emerging Markets (\$G)	12.2	15.6	16.0	10.2	7.3	5.2
MSCI Frontier Markets (\$G)	11.0	18.7	22.3	12.5	8.5	2.9
MSCI ACWI ex-US Growth (\$G)	13.8	16.2	14.5	12.8	7.4	6.7
MSCI ACWI ex-US Value (\$G)	11.4	20.2	22.0	16.3	13.9	6.5
MSCI ACWI ex-US Small (\$G)	17.2	18.0	18.9	14.0	11.3	7.0
MSCI All Country World Index	11.7	10.3	16.7	17.9	14.2	10.5
MSCI ACWI Minimum Volatility	3.1	9.6	16.5	10.8	9.0	8.3
MSCI EAFE Minimum Volatility	10.3	21.0	25.5	13.7	8.2	6.1
FTSE RAFI Developed ex-US	11.8	21.9	21.8	17.3	14.8	7.2
MSCI EAFE LC (G)	5.1	8.3	8.6	14.1	12.2	7.6
MSCI Emerging Markets LC (G)	8.1	11.1	13.6	11.0	8.4	6.9

Developed Markets Weight and Return (%)



Emerging Markets Weight and Return (%)



Data Source: Bloomberg

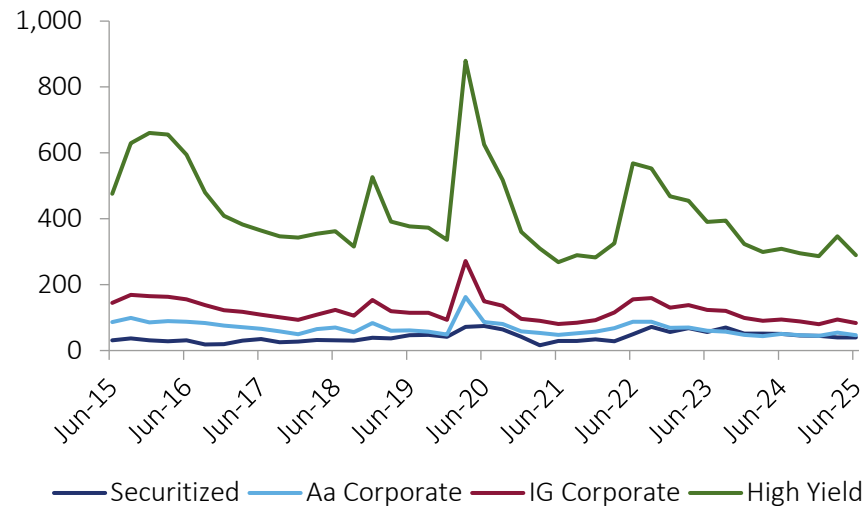
■ Quarter ■ Year-to-Date

■ Quarter ■ Year-to-Date

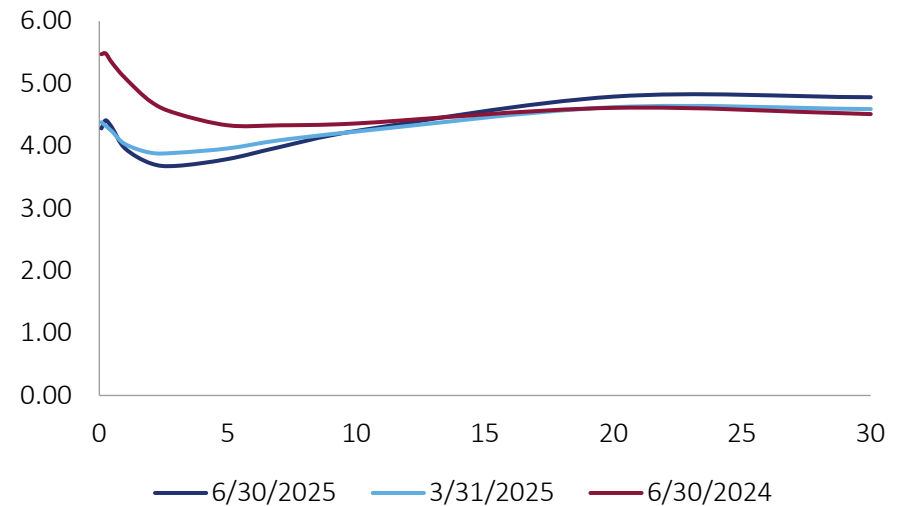
U.S. Fixed Income

As of 6/30/2025	YTW	Dur.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	4.5	6.1	1.2	4.0	6.1	2.5	-0.7	1.8
Bloomberg Treasury	4.0	5.9	0.8	3.8	5.3	1.5	-1.6	1.2
Bloomberg Gov't-Rel.	4.5	5.3	1.7	4.4	6.2	3.2	0.1	2.0
Bloomberg Securitized	4.9	5.8	1.2	4.2	6.6	2.4	-0.5	1.4
Bloomberg Corporate	5.0	6.8	1.8	4.2	6.9	4.3	0.1	2.9
Bloomberg LT Gov't/Credit	5.2	13.7	-0.2	3.4	3.3	-0.3	-4.9	1.8
Bloomberg LT Treasury	4.8	14.7	-1.5	3.1	1.6	-3.7	-8.2	0.1
Bloomberg LT Gov't-Rel.	5.8	11.5	1.4	4.7	4.6	2.2	-2.3	2.3
Bloomberg LT Corporate	5.7	12.7	1.2	3.6	5.2	2.8	-2.3	3.1
Bloomberg U.S. TIPS*	4.0	6.1	0.5	4.7	5.8	2.3	1.6	2.7
Bloomberg High Yield	7.1	2.8	3.5	4.6	10.3	9.9	6.0	5.4
S&P/LSTA Leveraged Loan	7.8	0.3	2.3	2.8	7.3	9.7	7.5	5.1
Treasury Bills	4.3	0.3	1.1	2.1	4.8	4.6	2.8	2.0

Fixed Income Option Adjusted Spread (bps)



Treasury Yield Curve (%)



*Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 5-10 Year Index.

Data Source: Bloomberg

Federal Reserve

The Federal Open Market Committee left their overnight rate unchanged during Q2

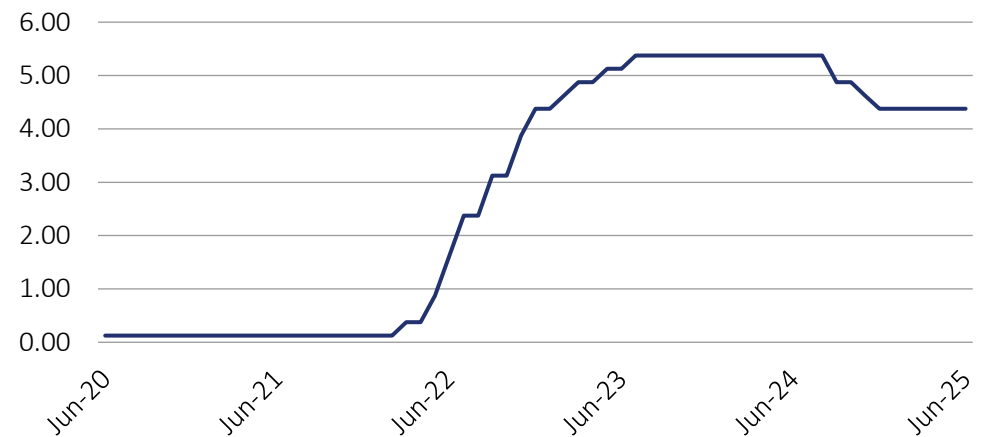
QE4 was larger than the 3 phases of quantitative easing – combined – following the global financial crisis

The Fed's balance sheet is roughly equal to its level following the COVID spike

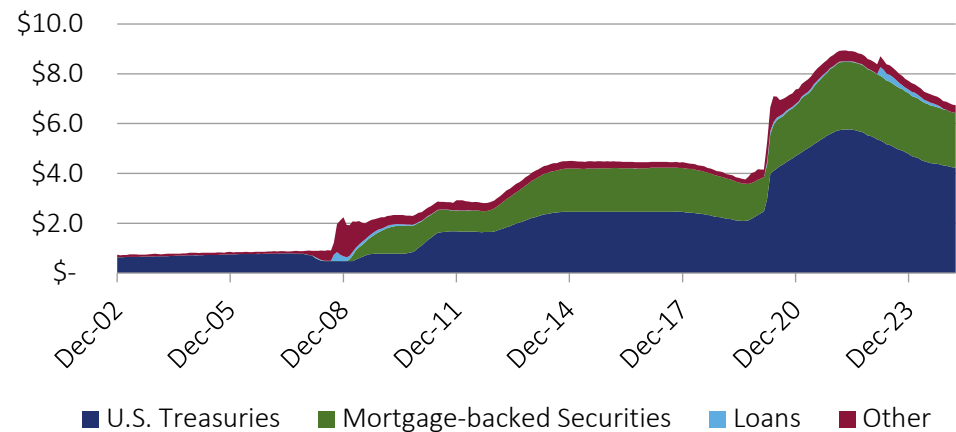
	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	\$1,403
QE2	11/3/2010	6/29/2012	\$568
QE3	9/13/2012	10/29/2014	\$1,674
QE4	3/23/2020	3/15/2022	\$4,779

Data Source: Bloomberg

Federal Funds Rate (Mid %)



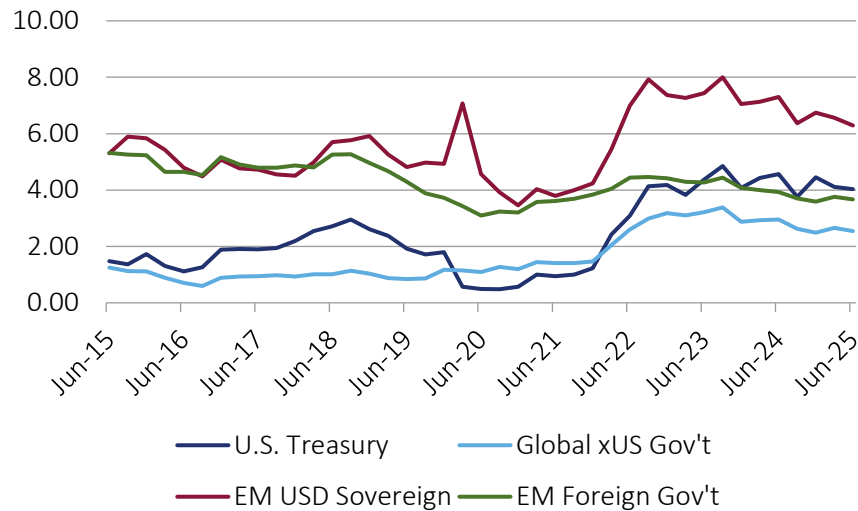
Federal Reserve Balance Sheet (\$T)



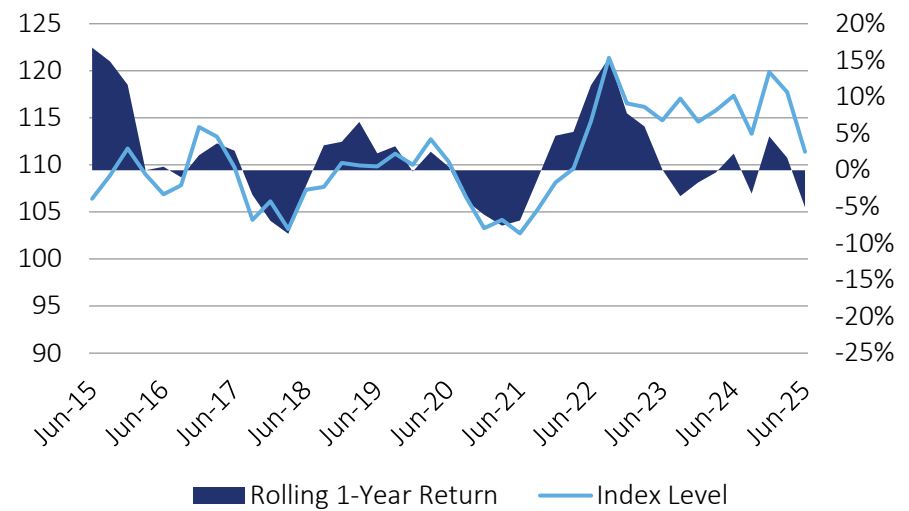
Non-U.S. Fixed Income

As of 6/30/2025	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Developed Markets						
Bloomberg Global Aggregate xUS	7.3	10.0	11.2	2.7	-1.6	0.6
Bloomberg Global Aggregate xUS*	1.9	1.8	6.1	4.3	0.9	2.7
Bloomberg Global Inflation Linked xUS	8.5	11.6	8.1	0.2	-2.8	-0.1
Bloomberg Global Inflation Linked xUS*	1.7	1.0	0.8	-1.4	-2.7	1.8
Emerging Markets (Hard Currency)						
Bloomberg EM USD Aggregate	2.5	4.9	9.4	7.7	1.7	3.4
Emerging Markets (Foreign Currency)						
Bloomberg EM Local Currency Gov't	5.4	7.1	10.3	5.4	2.7	2.7
Bloomberg EM Local Currency Gov't*	2.3	3.2	8.7	7.9	3.3	3.8
Euro vs. Dollar	9.0	13.8	10.0	4.0	1.0	0.6
Yen vs. Dollar	4.1	9.1	11.7	-2.0	-5.6	-1.6
Pound vs. Dollar	6.3	9.7	8.6	4.1	2.1	-1.3

Global Fixed Income Yield to Worst (%)



U.S. Dollar Index: Advanced Economies

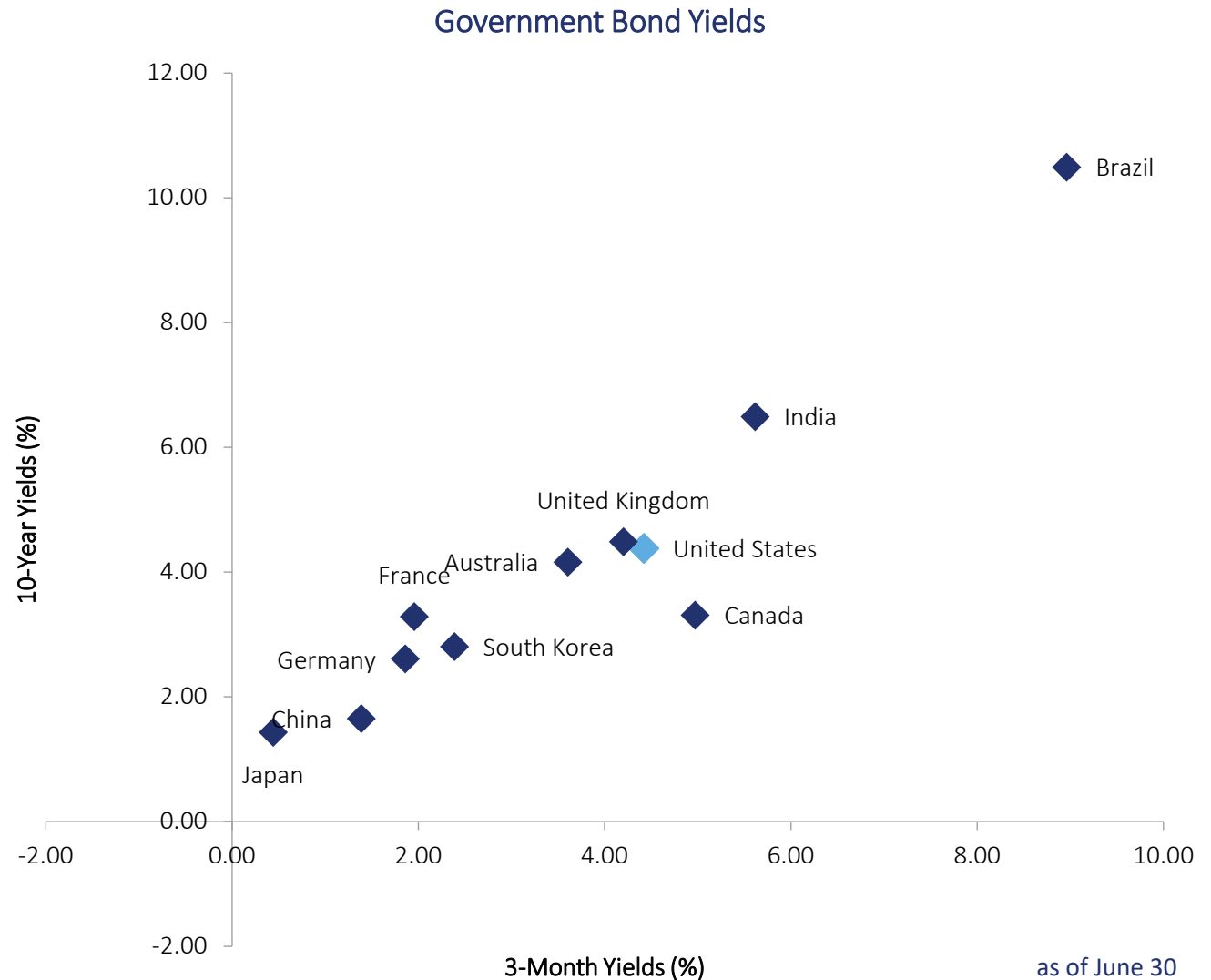


*Returns are reported in terms of local market investors, which removes currency effects.

Data Source: Bloomberg

Global Interest Rates

Short-term rates remain positive across the globe; longer-term rates above 4.0% in the U.S., U.K. and Australia

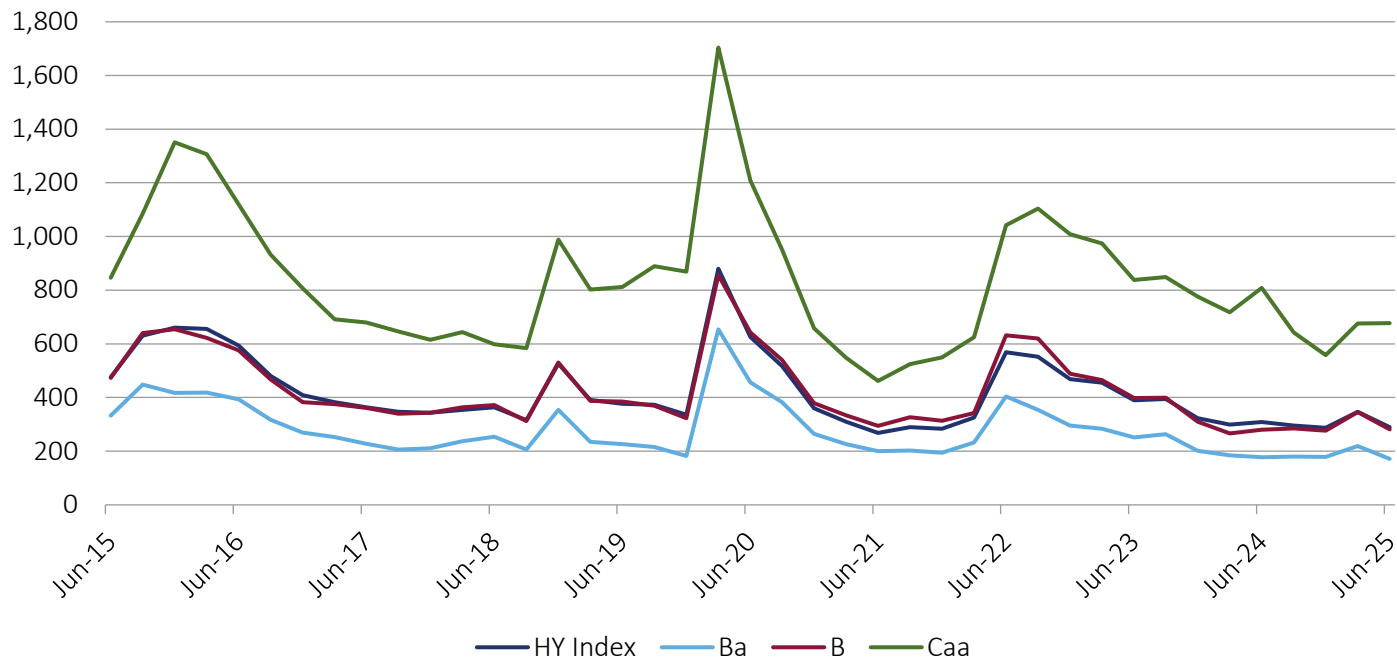


Data Source: Bloomberg

High Yield Bond Market

As of 6/30/2025	Weight	YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield		7.1	3.5	4.6	10.3	9.9	6.0	5.4
S&P LSTA Leveraged Loan		7.8	2.8	3.2	7.8	10.1	6.9	4.9
High Yield Quality Distribution								
Ba U.S. High Yield	51.3%	5.9	3.4	5.0	8.9	8.9	5.0	5.4
B U.S. High Yield	35.7%	7.0	3.6	4.4	9.5	10.0	5.8	5.0
Caa U.S. High Yield	11.6%	10.8	4.0	3.5	16.7	12.6	8.9	5.7
Ca to D U.S. High Yield	1.4%	20.8	0.6	2.2	27.9	24.9	20.5	7.6

Fixed Income Option Adjusted Spread (bps)



Data Source: Bloomberg

Glossary & Policy Definitions

Historical Hybrid Composition

Total Fund Policy Benchmark

Periods Ended June 30, 2025

Policy Index	Weight (%)
Apr-2025	
Russell 3000 Index	21.32
Blmbg. U.S. Aggregate Index	25.38
MSCI AC World ex USA (Net)	13.20
Global Smart Beta Policy Index	5.08
Private Equity Policy Index	17.72
90 Day U.S. Treasury Bill	1.01
Private Credit Policy Index	6.35
Private Real Assets Policy Index	6.90
Public Credit Policy Index	3.04
Jan-2025	
Russell 3000 Index	21.35
Blmbg. U.S. Aggregate Index	25.41
MSCI AC World ex USA (Net)	13.21
Global Smart Beta Policy Index	5.08
Private Equity Policy Index	17.75
90 Day U.S. Treasury Bill	1.02
Private Credit Policy Index	6.26
Private Real Assets Policy Index	6.87
Public Credit Policy Index	3.05

Policy Index	Weight (%)
Oct-2024	
Russell 3000 Index	21.39
Blmbg. U.S. Aggregate Index	25.98
MSCI AC World ex USA (Net)	13.24
Global Smart Beta Policy Index	5.09
Private Equity Policy Index	17.58
90 Day U.S. Treasury Bill	1.02
Private Credit Policy Index	5.92
Private Real Assets Policy Index	6.72
Public Credit Policy Index	3.06
Jul-2024	
Russell 3000 Index	21.04
Blmbg. U.S. Aggregate Index	25.54
MSCI AC World ex USA (Net)	13.02
Global Smart Beta Policy Index	5.01
Private Equity Policy Index	18.38
90 Day U.S. Treasury Bill	1.00
Private Credit Policy Index	5.93
Private Real Assets Policy Index	7.07
Public Credit Policy Index	3.01

Historical Hybrid Composition

Total Fund Policy Benchmark

Periods Ended June 30, 2025

Policy Index	Weight (%)
Apr-2024	
Russell 3000 Index	21.03
Blmbg. U.S. Aggregate Index	25.54
MSCI AC World ex USA (Net)	13.02
Global Smart Beta Policy Index	5.01
Private Equity Policy Index	18.34
90 Day U.S. Treasury Bill	1.00
Private Credit Policy Index	5.70
Private Real Assets Policy Index	7.35
Public Credit Policy Index	3.01
Jan-2024	
Russell 3000 Index	20.97
Blmbg. U.S. Aggregate Index	25.47
MSCI AC World ex USA (Net)	12.98
Global Smart Beta Policy Index	4.99
Private Equity Policy Index	18.58
90 Day U.S. Treasury Bill	1.00
Private Credit Policy Index	5.65
Private Real Assets Policy Index	7.36
Public Credit Policy Index	3.00

Policy Index	Weight (%)
Oct-2023	
Russell 3000 Index	20.41
Blmbg. U.S. Aggregate Index	24.79
MSCI AC World ex USA (Net)	12.64
Global Smart Beta Policy Index	4.86
Private Equity Policy Index	19.71
90 Day U.S. Treasury Bill	0.97
Private Credit Policy Index	5.69
Private Real Assets Policy Index	8.01
Public Credit Policy Index	2.92
Jul-2023	
Russell 3000 Index	20.75
Blmbg. U.S. Aggregate Index	21.74
MSCI AC World ex USA (Net)	16.30
Global Smart Beta Policy Index	4.94
Private Equity Policy Index	19.12
90 Day U.S. Treasury Bill	0.99
Private Credit Policy Index	5.30
Private Real Assets Policy Index	7.90
Public Credit Policy Index	2.96

Historical Hybrid Composition

Total Fund Policy Benchmark

Periods Ended June 30, 2025

Policy Index	Weight (%)
Apr-2023	
Russell 3000 Index	20.42
Blmbg. U.S. Universal Index	22.36
MSCI AC World ex USA (Net)	16.04
Global Smart Beta Policy Index	4.86
Private Equity Policy Index	19.22
90 Day U.S. Treasury Bill	0.97
Private Credit Policy Index	4.86
Private Real Assets Policy Index	8.35
Public Credit Policy Index	2.92
Jan-2023	
Russell 3000 Index	20.16
Blmbg. U.S. Universal Index	22.09
MSCI AC World ex USA (Net)	15.84
Global Smart Beta Policy Index	4.80
Private Equity Policy Index	19.81
90 Day U.S. Treasury Bill	0.96
Private Credit Policy Index	4.69
Private Real Assets Policy Index	8.77
Public Credit Policy Index	2.88

Policy Index	Weight (%)
Oct-2022	
Russell 3000 Index	19.68
Blmbg. U.S. Universal Index	21.56
MSCI AC World ex USA (Net)	15.46
Global Smart Beta Policy Index	4.69
Private Equity Policy Index	20.78
90 Day U.S. Treasury Bill	0.94
Private Credit Policy Index	4.66
Private Real Assets Policy Index	9.42
Public Credit Policy Index	2.81
Jul-2022	
Russell 3000 Index	19.35
Blmbg. U.S. Universal Index	21.54
MSCI AC World ex USA (Net)	15.39
Global Smart Beta Policy Index	5.28
Private Equity Policy Index	21.03
90 Day U.S. Treasury Bill	0.88
Private Credit Policy Index	4.15
Private Real Assets Policy Index	8.86
Public Credit Policy Index	3.52

Historical Hybrid Composition

Total Fund Policy Benchmark

Periods Ended June 30, 2025

Policy Index Weight (%)

Apr-2022

Russell 3000 Index	20.17
Blmbg. U.S. Universal Index	23.84
MSCI AC World ex USA (Net)	16.04
Global Smart Beta Policy Index	5.50
Private Equity Policy Index	19.65
90 Day U.S. Treasury Bill	0.92
Private Credit Policy Index	3.39
Private Real Assets Policy Index	6.82
Public Credit Policy Index	3.67

Jan-2022

Wilshire 5000 Total Market Index	20.77
Blmbg. U.S. Universal Index	24.55
MSCI AC World ex USA (Net)	16.52
Global Smart Beta Policy Index	5.67
Private Equity Policy Index	18.60
90 Day U.S. Treasury Bill	0.94
Private Credit Policy Index	3.04
Private Real Assets Policy Index	6.13
Public Credit Policy Index	3.78

Policy Index Weight (%)

Oct-2021

Wilshire 5000 Total Market Index	20.84
Blmbg. U.S. Universal Index	24.63
MSCI AC World ex USA (Net)	16.58
Global Smart Beta Policy Index	5.68
Private Equity Policy Index	18.90
90 Day U.S. Treasury Bill	0.95
Private Credit Policy Index	2.91
Private Real Assets Policy Index	5.72
Public Credit Policy Index	3.79

Jul-2021

Wilshire 5000 Total Market Index	21.37
Blmbg. U.S. Universal Index	25.25
MSCI AC World ex USA (Net)	17.00
Global Smart Beta Policy Index	5.83
Private Equity Policy Index	17.51
90 Day U.S. Treasury Bill	0.97
Private Credit Policy Index	2.68
Private Real Assets Policy Index	5.51
Public Credit Policy Index	3.88

Historical Hybrid Composition

Total Fund Policy Benchmark

Periods Ended June 30, 2025

Policy Index	Weight (%)
Apr-2021	
Wilshire 5000 Total Market Index	21.63
Blmbg. U.S. Universal Index	25.56
MSCI AC World ex USA (Net)	17.21
Global Smart Beta Policy Index	5.90
Private Equity Policy Index	16.74
90 Day U.S. Treasury Bill	0.98
Private Credit Policy Index	2.75
Private Real Assets Policy Index	5.30
Public Credit Policy Index	3.93
Jan-2021	
Wilshire 5000 Total Market Index	21.94
Blmbg. U.S. Universal Index	25.93
MSCI AC World ex USA (Net)	17.45
Global Smart Beta Policy Index	5.98
Private Equity Policy Index	15.49
90 Day U.S. Treasury Bill	1.00
Private Credit Policy Index	2.86
Private Real Assets Policy Index	5.36
Public Credit Policy Index	3.99

Policy Index	Weight (%)
Oct-2020	
Wilshire 5000 Total Market Index	21.78
Blmbg. U.S. Universal Index	25.74
MSCI AC World ex USA (Net)	17.32
Global Smart Beta Policy Index	5.94
Private Equity Policy Index	15.37
90 Day U.S. Treasury Bill	0.99
Private Credit Policy Index	3.04
Private Real Assets Policy Index	5.86
Public Credit Policy Index	3.96
Jul-2020	
Wilshire 5000 Total Market Index	21.38
Blmbg. U.S. Universal Index	27.22
MSCI AC World ex USA (Net)	17.01
Global Smart Beta Policy Index	5.83
Private Equity Policy Index	14.44
90 Day U.S. Treasury Bill	0.97
Private Credit Policy Index	3.15
Private Real Assets Policy Index	6.11
Public Credit Policy Index	3.89
Apr-1979	
Total Fund Policy Benchmark	100.00

* Policy weights prior to July 2020 available on following page

Iowa Public Employees' Retirement System – IPERS

Annual Asset Allocation Review

September 2025

Contents

Background & Overview

Asset Allocation Approach

Asset Allocation Inputs

Asset Liability Projections

Observations & Recommendations

Appendix

Background & Overview

Overview

- IPERS has liability discount rate assumption of 7.0% over the long term
- Analysis utilizes long term horizon asset class return expectations
- Evaluate potential opportunities to reduce the absolute and drawdown risk of the portfolio while meeting return objectives

History of Asset Allocation Decisions – Last 8 Years*

➤ 2019

1. Eliminate 7% allocation to public real assets (REITS, MLPs and TIPS)
2. International equities +2.5%, Global Smart Beta +3%
3. Core-plus Bond +1%, Public Credit +0.5%

➤ 2020

1. Core-plus Bond -8%
2. Private equity from +2%, Private credit +5%, Private real assets from +1%

➤ 2022

1. Core-plus Bond -1%, Public Credit -1%, All public equity allocations -1%
2. Private equity +4%, Private real assets +1%

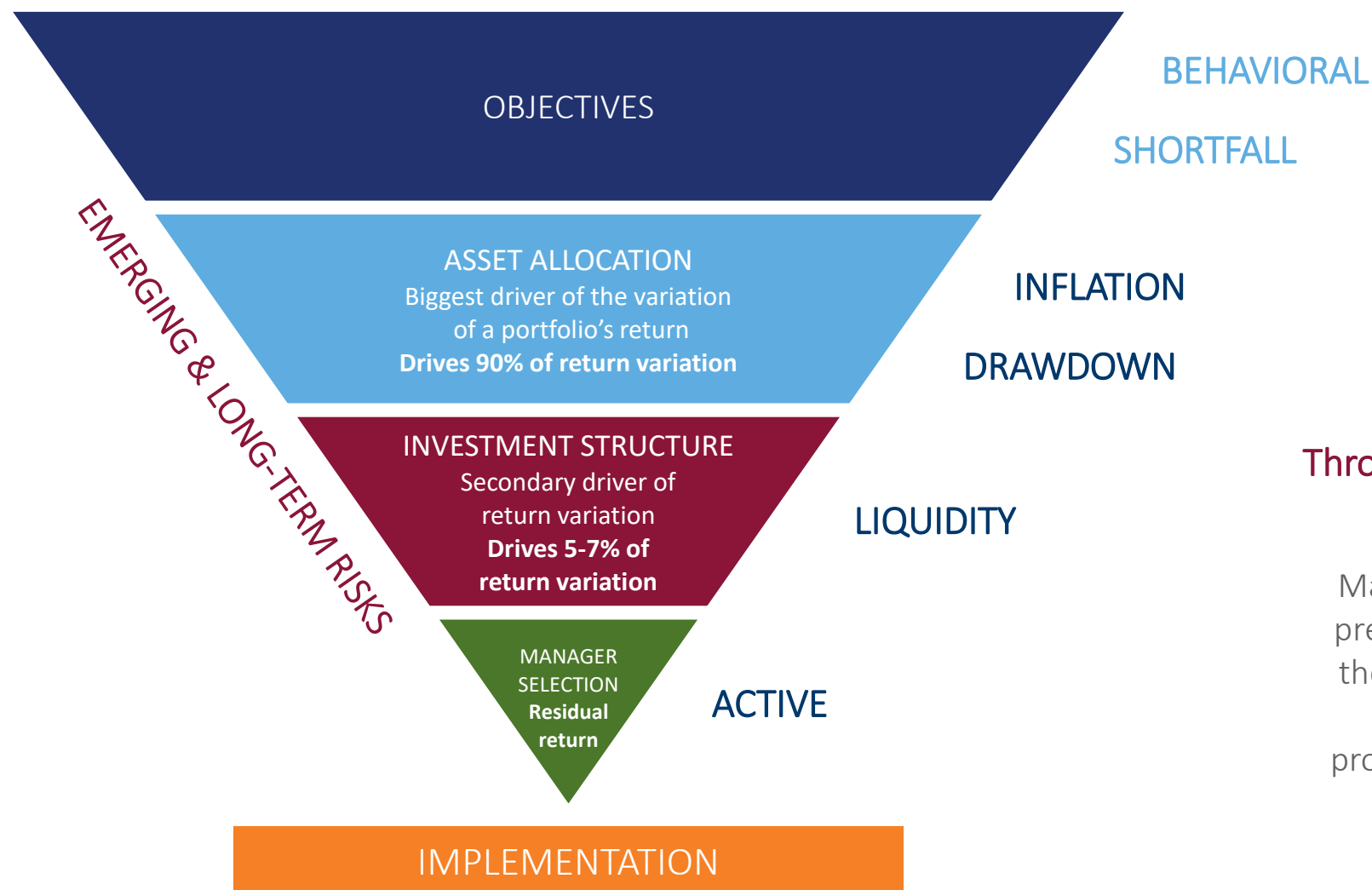
➤ 2023

1. Core-plus Bond +3.5%,
2. International equity -3.5%

*No Changes made to asset allocation in 2017, 2018, and 2021, 2024

Asset Allocation Approach

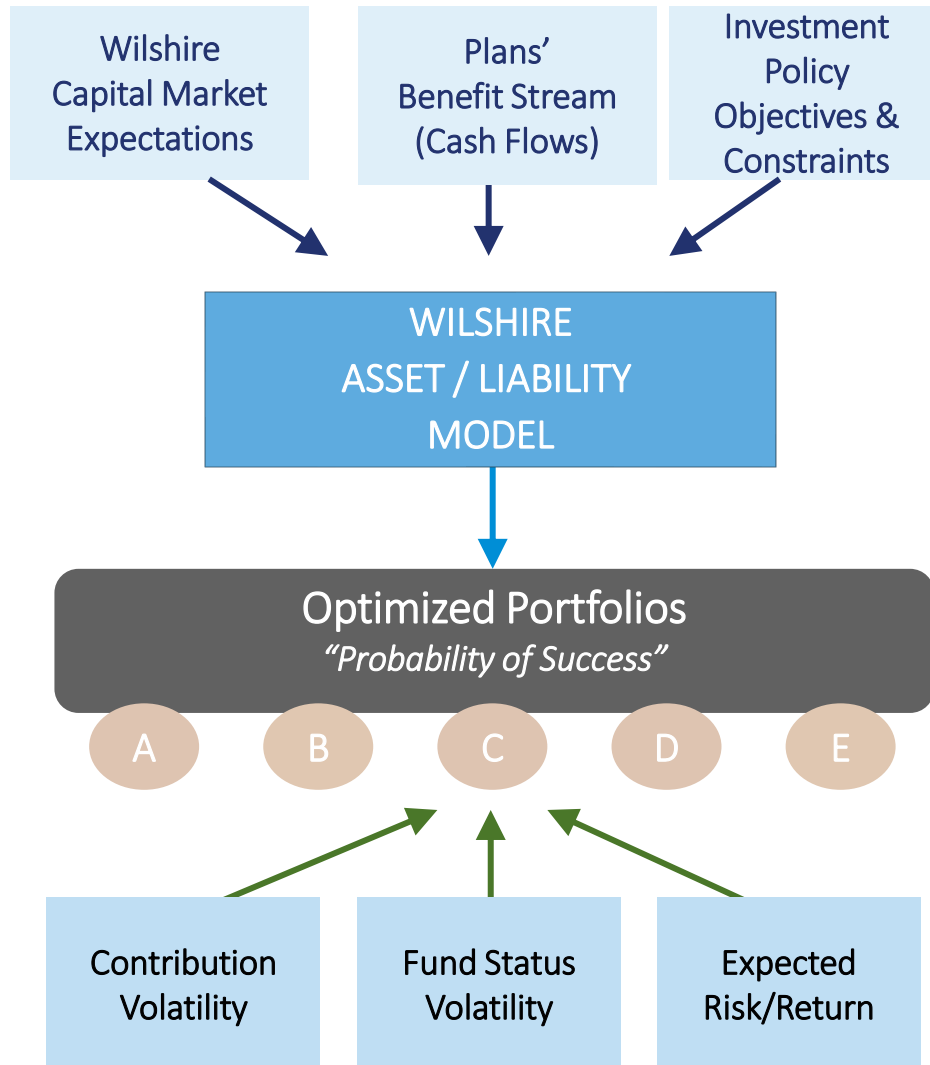
Focus on Decisions That are Most Impactful



Address Key Risks Throughout the Investment Process

Many of the six key risks are present at multiple points in the investment process, but each distinct step in the process is focused on one or two primary risks.

Asset Allocation Process



- The mission of a defined benefit plan is to fund benefits promised to participants
- The role of asset allocation is to manage risk in order to fulfill that core mission
 - **Maximize safety** of promised benefits
 - **Minimize cost** of funding these benefits
- Wilshire's Asset Liability Model provides methodology for selecting a target portfolio that considers both goals
- Rigorously developed capital market assumptions for risk and return (see appendix)
- Given that short-term volatility is also important, we identify the impact of the asset allocation decision on funded ratios, annual contribution requirements, and other metrics
- Strategic asset allocation is not a guide to outperforming in every market ... but it should provide a roadmap for success over a market cycle

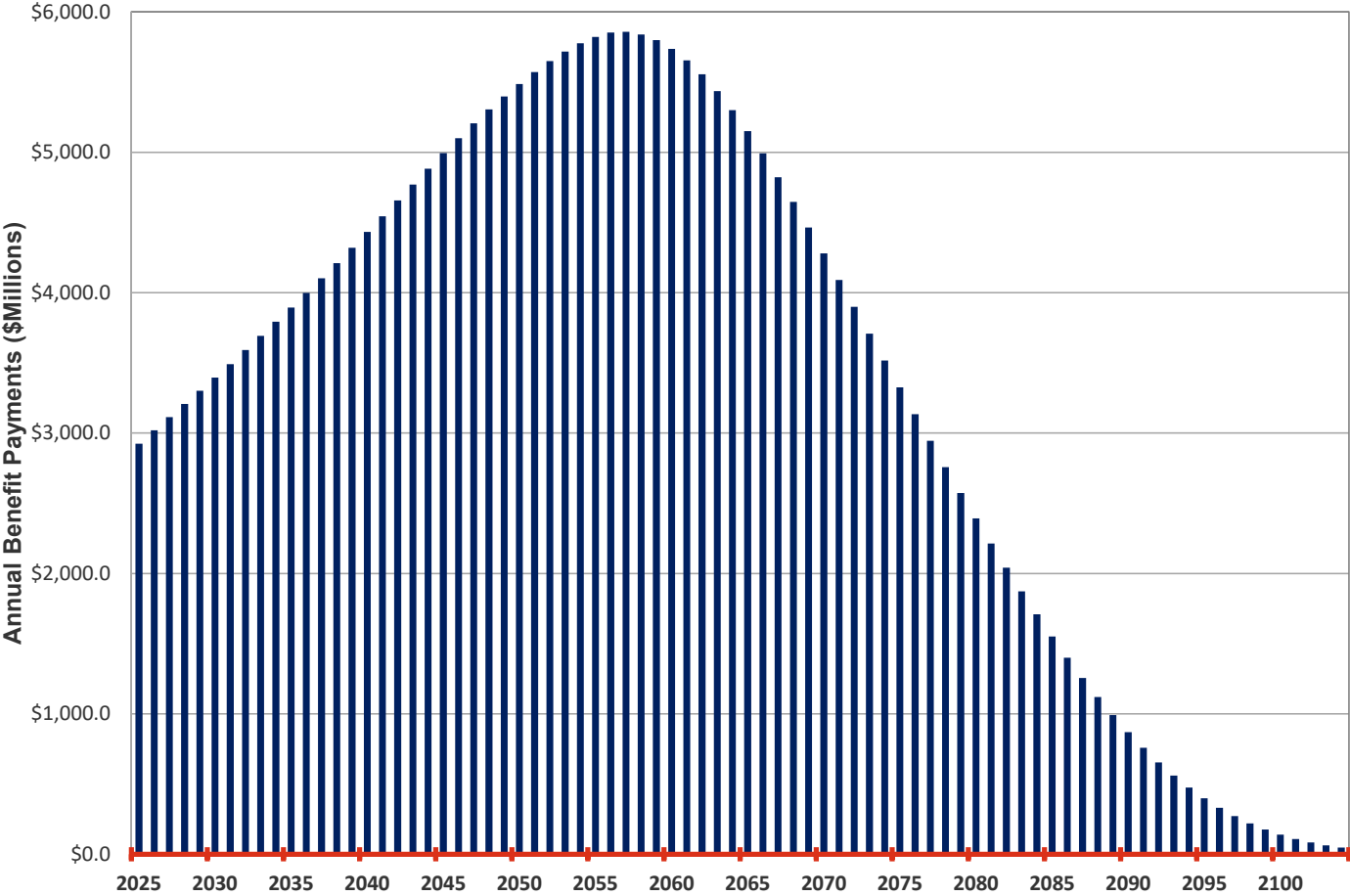
Asset Allocation Inputs

Plan Status

\$ - Billion	June 30, 2024	June 30, 2025
Asset and Liability Data		
1. Actuarial Accrued Liability (AAL)	47.3	48.8
2. <u>Market Value of Assets (MVA)</u>	<u>43.7</u>	<u>46.7</u>
3. AAL MVA Funded Status (Unfunded Liability) (1. - 2.)	3.6	2.1
4. <u>AAL MVA Funded Ratio (2. / 1.)</u>	<u>92.3%</u>	<u>95.6%</u>
5. Actuarial Value of Assets (AVA)	42.9	45.2
6. AAL AVA Funded Status (Unfunded Liability) (1. - 5.)	4.4	3.6
7. <u>AAL AVA Funded Ratio (5. / 1.)</u>	<u>90.8%</u>	<u>92.6%</u>
Economic Assumptions		
Investment Return	7.00%	7.00%

- June 30, 2024, data was provided in the actuarial valuation reports by the plan actuary.
- June 30, 2025, liability data was provided by the plan actuary. Asset data is provided and calculated by Wilshire using data from the report and additional metrics provided by the actuary.

Projected Benefit Payments

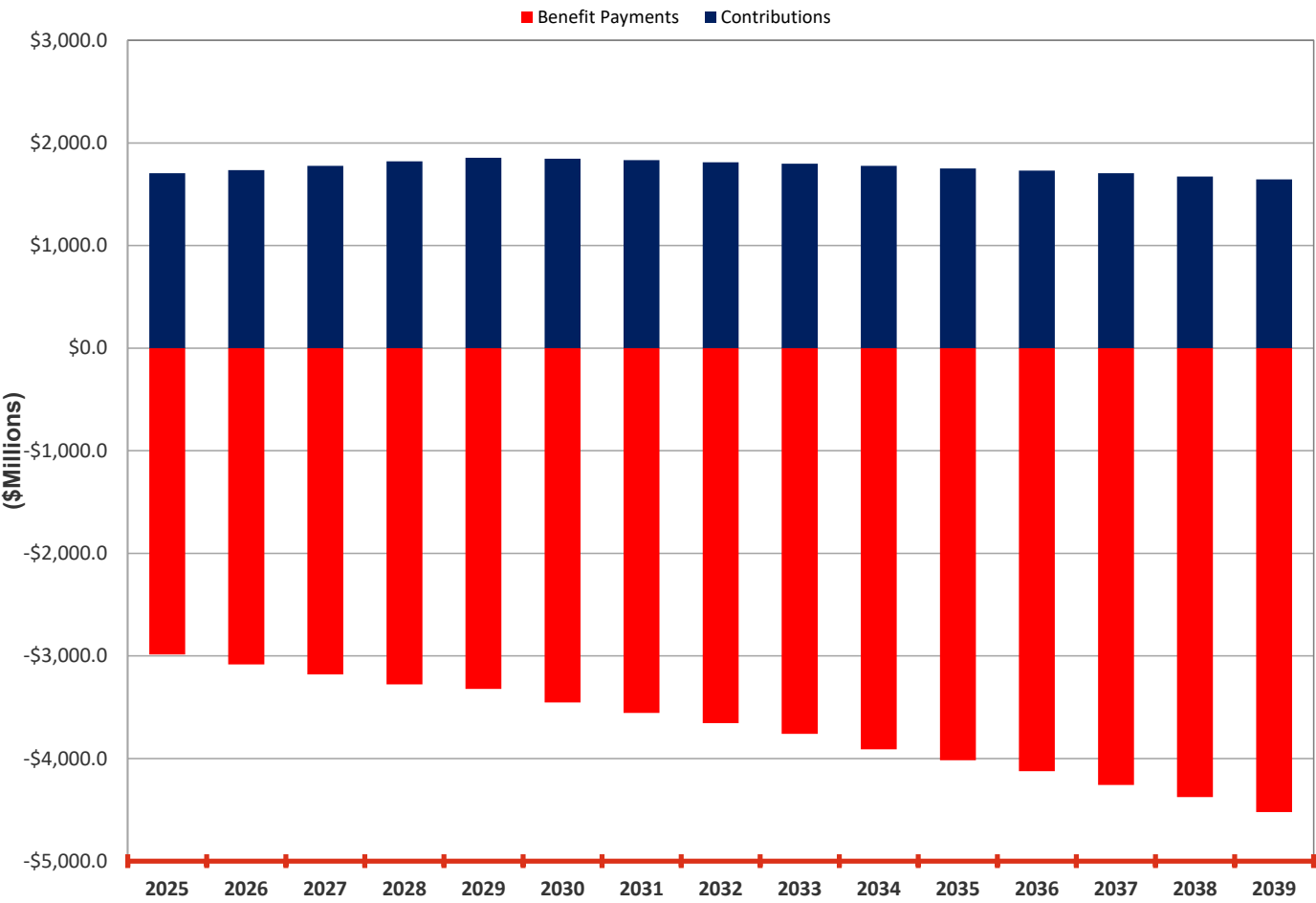


- *Benefit payments provided by plan actuary.*
- *Closed group population, i.e., no new entrants assumed*

Current cash flow needs

The peak in liquidity needs (cash flow provided by actuary) for the current membership is in 33 years, when projected annual benefit payments increase from \$2.9 billion to \$5.8 billion.

Projected Cash In and Outflows



Current cash flow needs

- Annual benefit payments are projected to increase, while annual contributions are projected to decrease over the long run
- The plan will remain cash flow negative over the foreseeable future
- This does not reflect any future contribution rate changes that may occur as funding status changes

Capital Market Assumptions

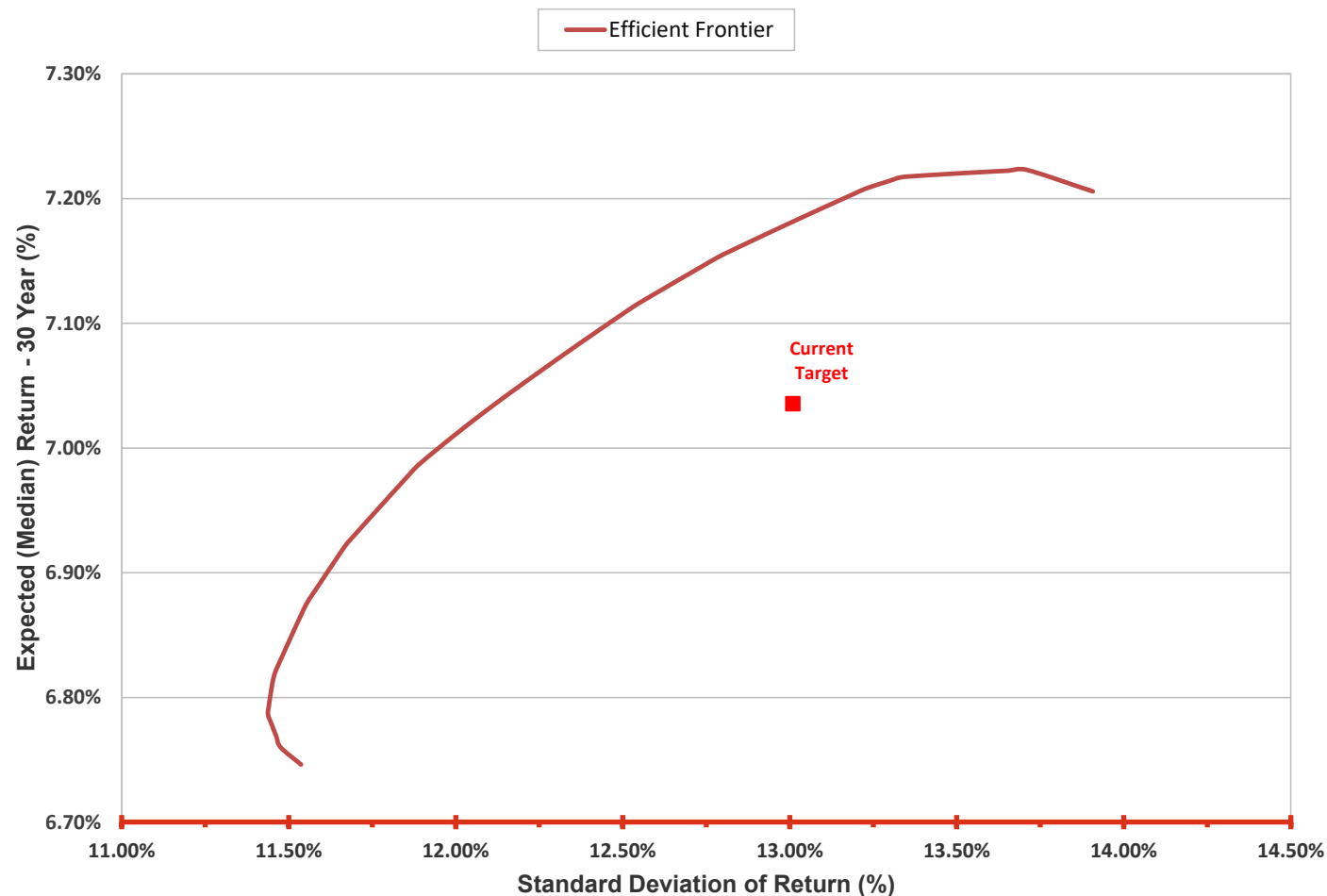
- Wilshire’s Capital Market Assumptions as of June 30, 2025
- Wilshire’s asset class return, risk and correlation assumptions are developed on multi-year forward looking expected rates of return and historical risk and correlation, adjusted to incorporate recent trends
- Public market return expectations represent a passive investment in the asset class (beta). They do not reflect value added from active management (alpha).

Asset Classes	Expected Return 30 Years	Risk	Cash Yield	Factor Exposure Growth	Factor Exposure Inflation	Liquidity Market Level	Liquidity Stressed Metric
U.S. Equity	6.10	17.00	1.25	8.00	-3.00	100	0
International Equity	6.90	19.05	2.80	8.00	0.15	90	0
Private Equity	7.95	29.65	0.00	14.00	-4.25	0	0
Global Smart Beta	6.45	17.00	1.75	8.00	-1.95	95	0
Public Credit	6.00	8.95	9.05	3.00	1.00	80	25
Private Credit	7.90	13.25	4.90	4.50	-1.50	0	0
Core (Plus) Fixed Income	4.90	4.75	5.75	-0.95	-2.60	100	80
Cash	3.40	0.75	3.55	0.00	0.00	100	100
Private Real Assets	6.85	13.45	3.60	4.80	2.10	0	0

- Growth – Assets with significant growth factor exposure, high expected returns and high risk
- Defensive Growth – Assets with positive growth factor exposure with moderate risk
- Defensive/Rate Sensitive – Assets whose value/return is sensitive to changes in interest rates
- Real Assets/Inflation Sensitive – Assets whose value/return is sensitive to inflation

Asset Only Efficient Frontier

- Given the asset classes and constraints, opportunities to enhance portfolio efficiency do exist



Portfolios Modeled

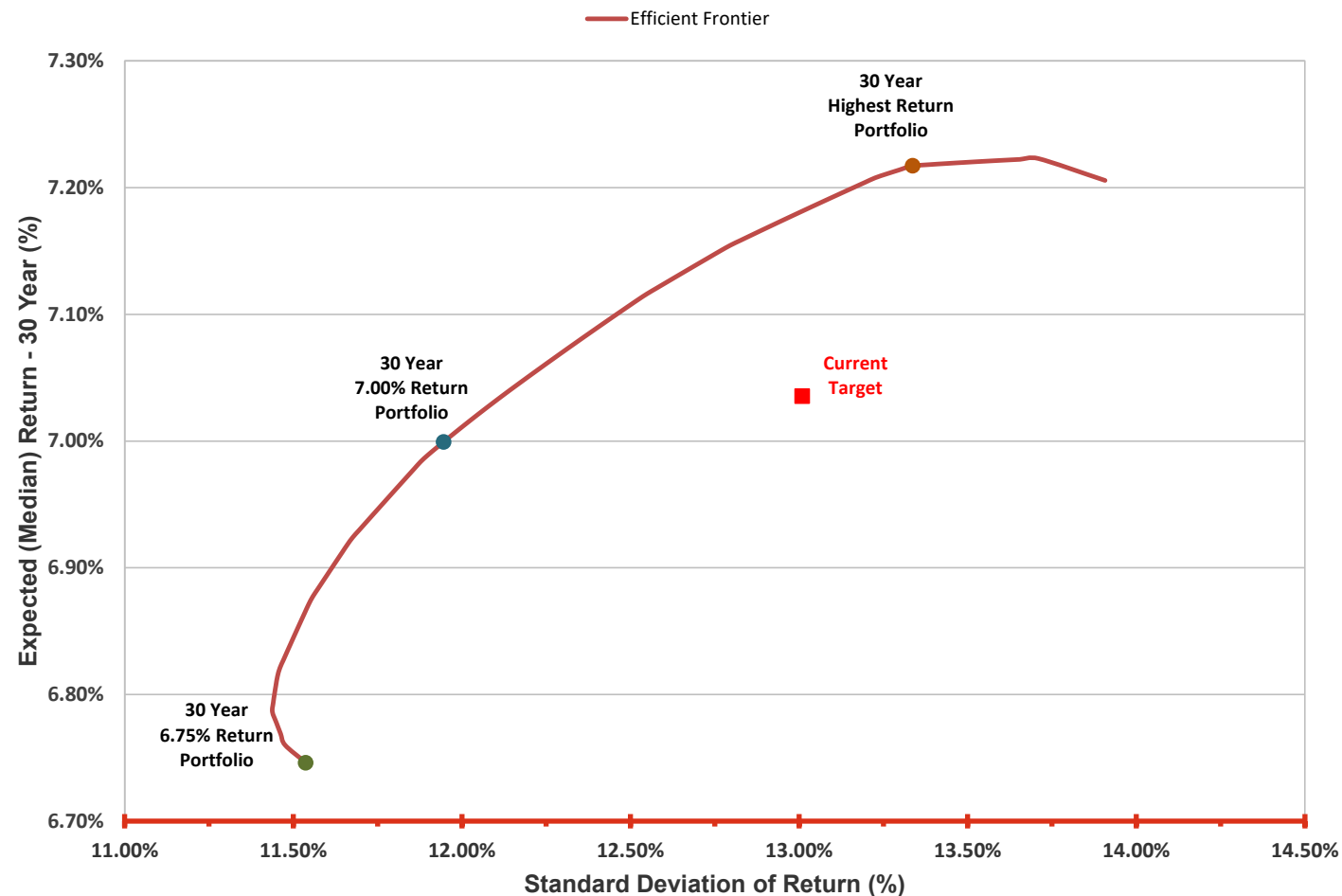
Asset Class	Current Target	Optimization Constraints	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio
U.S. Equity	21.00%	19% - 23%	23.00%	19.00%	19.00%
International Equity	13.00%	11% - 15%	11.00%	13.50%	15.00%
Private Equity	17.00%	15% - 19%	15.00%	15.50%	19.00%
Global Smart Beta	<u>5.00%</u>	<u>0% - 7%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Total Growth Assets	56.00%	48% - 64%	49.00%	48.00%	53.00%
Public Credit	3.00%	0% - 6%	6.00%	5.00%	4.00%
Private Credit	<u>8.00%</u>	<u>5% - 11%</u>	<u>5.00%</u>	<u>10.00%</u>	<u>11.00%</u>
Total Defensive Growth Assets	11.00%	6% - 16%	11.00%	15.00%	15.00%
Core (Plus) Fixed Income	22.50%	18.5% - 26.5%	26.50%	26.50%	18.50%
Cash	<u>1.00%</u>	<u>1% - 5%</u>	<u>5.00%</u>	<u>1.00%</u>	<u>1.00%</u>
Total Defensive / Rate Sensitive Assets	23.50%	15.5% - 31.5%	31.50%	27.50%	19.50%
Private Real Assets	<u>9.50%</u>	6.5% - 12.5%	<u>8.50%</u>	<u>9.50%</u>	<u>12.50%</u>
Total RA / Inflation Sensitive Assets	9.50%		8.50%	9.50%	12.50%
Total Assets	100.0%		100.0%	100.0%	100.0%
Expected Return - 30 Years (%)	7.04		6.75	7.00	7.22
Standard Deviation of Return (%)	13.01		11.54	11.95	13.34
+ / (-) in Expected Return - 30 Years (bps)			(29)	(4)	18
+ / (-) in SD of Return (bps)			(147)	(106)	33
Sharpe Ratio - 30 Years	0.28		0.29	0.30	0.29

Portfolios Modeled

Asset Class	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio
Total Growth Assets	56.00%	49.00%	48.00%	53.00%
Total Defensive Growth Assets	11.00%	11.00%	15.00%	15.00%
Total Defensive / Rate Sensitive Assets	23.50%	31.50%	27.50%	19.50%
<u>Total RA / Inflation Sensitive Assets</u>	<u>9.50%</u>	<u>8.50%</u>	<u>9.50%</u>	<u>12.50%</u>
Total Assets	100.0%	100.0%	100.0%	100.0%
Expected Return - 30 Years (%)	7.04	6.75	7.00	7.22
Standard Deviation of Return (%)	13.01	11.54	11.95	13.34
Contribution to Asset Volatility (%):				
Growth	82.7	81.2	77.5	78.5
Defensive Growth	6.8	6.9	10.2	9.2
Defensive/Rate Sensitive	2.8	4.1	3.8	2.2
RA/Inflation Sensitive	7.7	7.8	8.5	10.1
Cash Yield	3.0	3.4	3.5	3.1
Growth Factor	6.2	5.4	5.6	6.5
Inflation Factor	-1.9	-1.8	-1.8	-1.7
Liquidity				
Market	63.4	69.2	62.7	55.2
Stressed	19.8	27.7	23.5	16.8

Asset Only Efficient Frontier

- Given the asset classes and constraints, opportunities to enhance portfolio efficiency do exist



Are there other ways to get to 7%? (Not Practically)

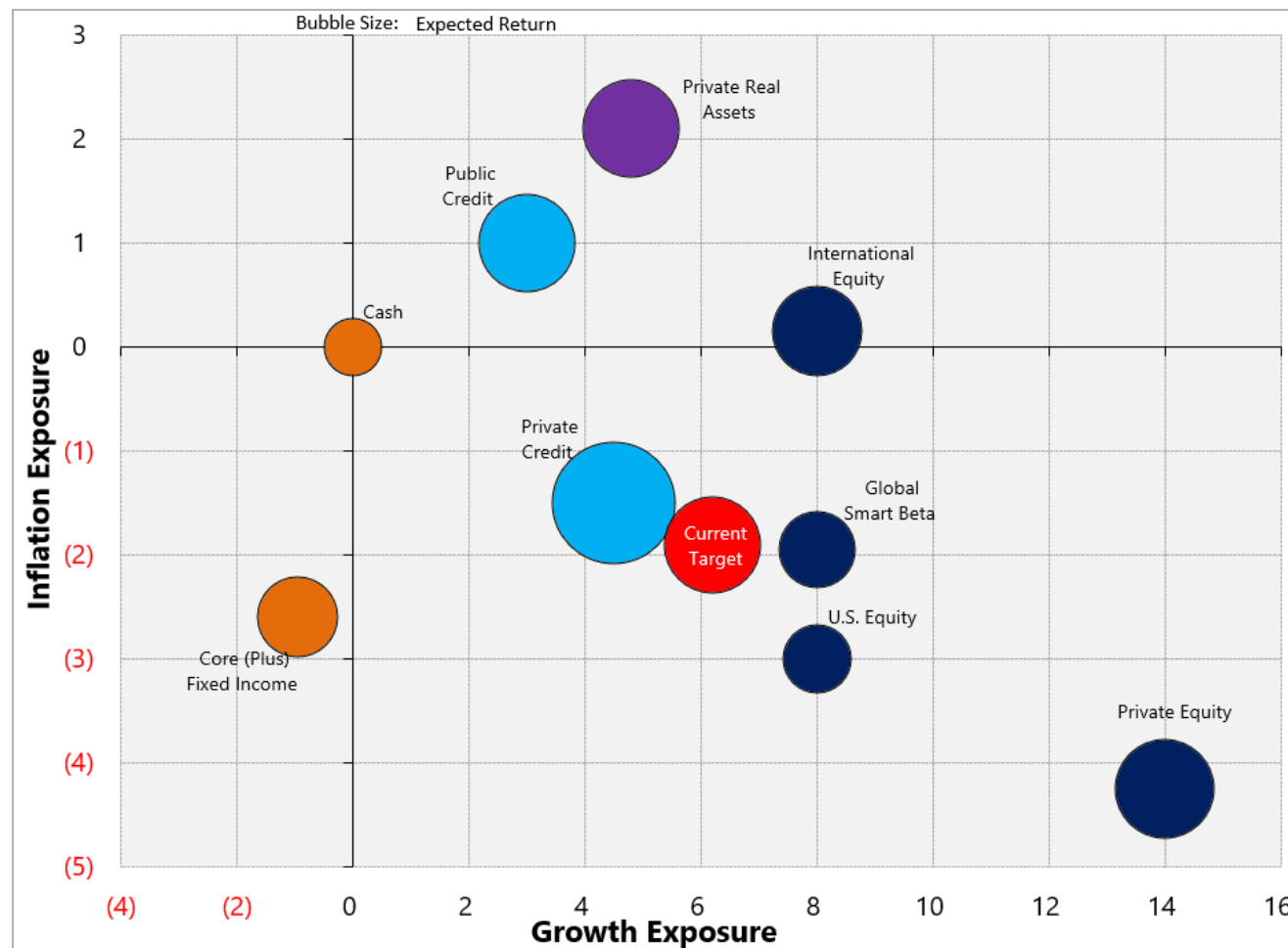
Asset Class	7% Portfolio with Minimum to Privates	Minimum Risk Portfolio 7% Target
U.S. Equity	0.00%	0.00%
International Equity	81.00%	0.00%
Private Equity	2.00%	7.00%
Global Smart Beta	<u>0.00%</u>	<u>0.00%</u>
Total Growth Assets	83.00%	7.00%
Public Credit	14.00%	0.00%
Private Credit	<u>2.00%</u>	<u>52.50%</u>
Total Defensive Growth Assets	16.00%	52.50%
Core (Plus) Fixed Income	0.00%	40.50%
Cash	<u>0.00%</u>	<u>0.00%</u>
Total Defensive / Rate Sensitive Assets	0.00%	40.50%
Private Real Assets	<u>1.00%</u>	<u>0.00%</u>
Total RA / Inflation Sensitive Assets	1.00%	0.00%
Total Assets	100.0%	100.0%
Expected Return - 30 Years (%)	7.00	7.00
Standard Deviation of Return (%)	16.90	8.70

- For hypothetical purposes we used the same asset classes and inputs and explored can we get to 7% in different ways by removing practical constraints:
- Using only liquids?
 - No, the current CMA assumptions do not allow you to get to a 7% return portfolio
- What is the minimum allocation to privates that gets to 7%
 - In the second column you can see that portfolio which allocates 5% to privates however it has 83% growth exposure and no defensive assets, along with higher vol
 - Zero liquidity in a stressed environment
- What is the minimum risk portfolio that gets us to 7%
 - In the third column you can see that portfolio with a total volatility of 8.7%
 - It allocates over 60% of the portfolio to private assets
 - Not diversified enough in a myriad of ways

Economic Factor Exposure – Asset Classes

Concentrated factor tilts can represent portfolio vulnerability (e.g., reliance on growth markets)

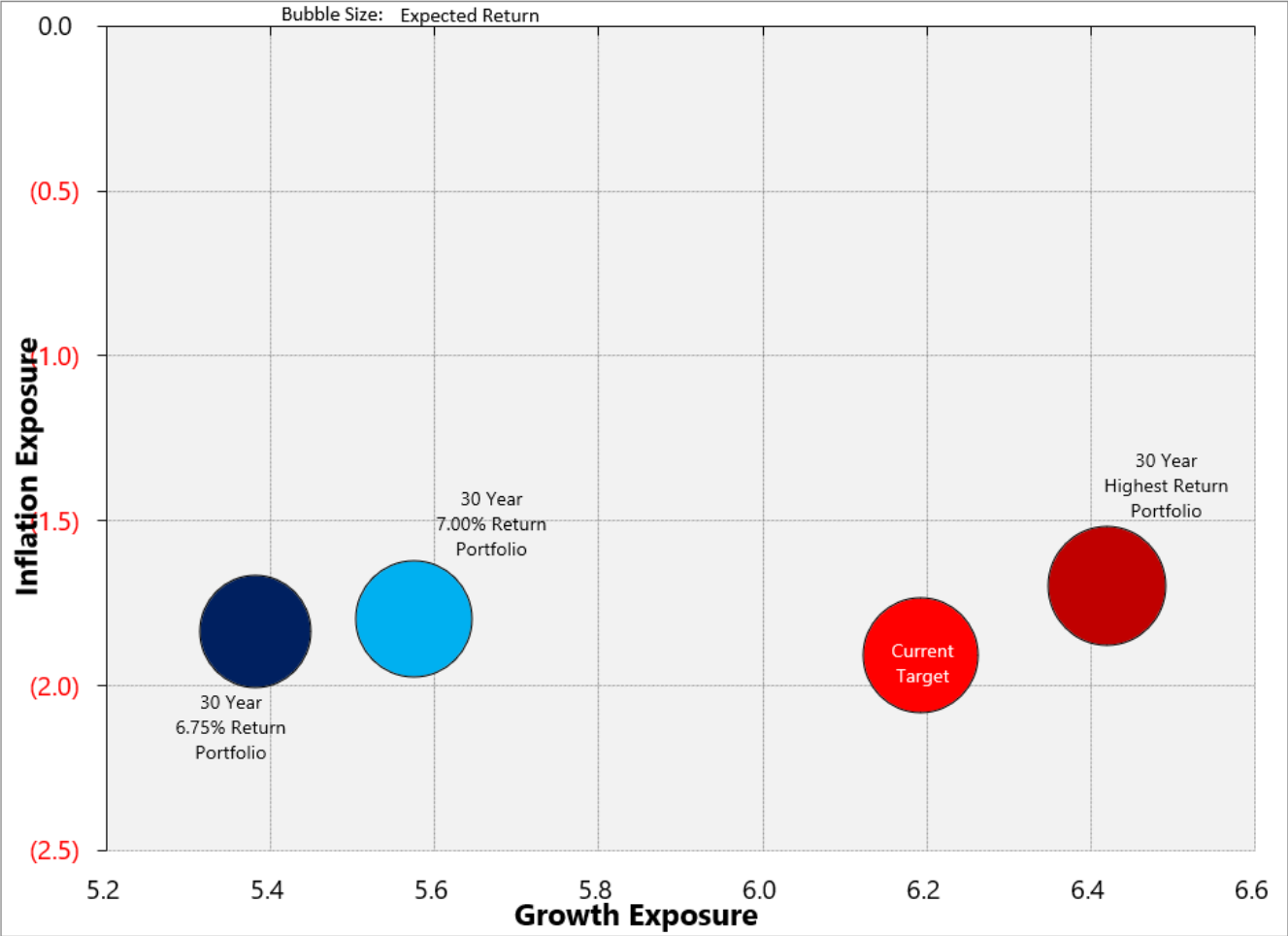
To the extent possible, a portfolio with factor neutrality is desirable for weathering unexpected future market environments



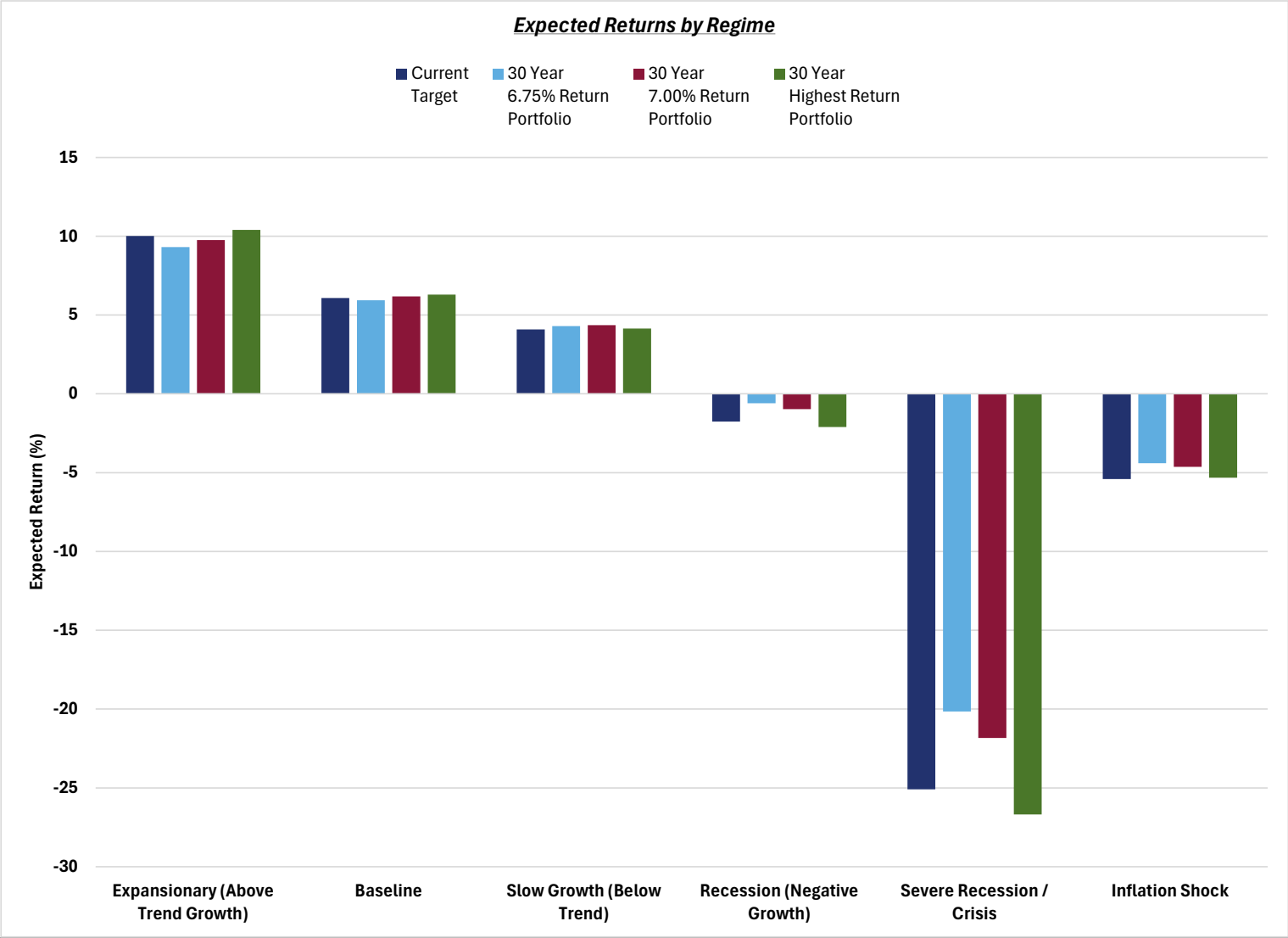
Economic Factor Exposure – Potential Portfolios Modeled

Concentrated factor tilts can represent portfolio vulnerability (e.g., reliance on growth markets)

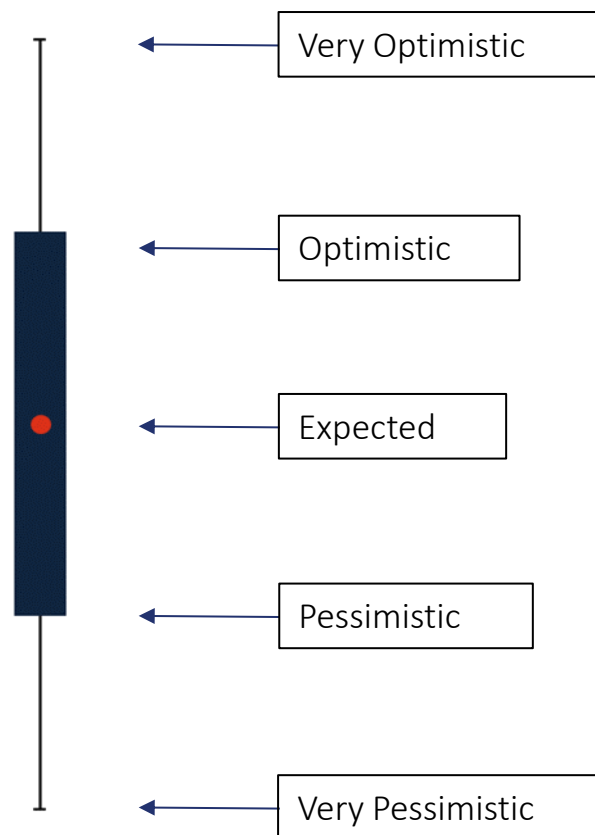
To the extent possible, a portfolio with factor neutrality is desirable for weathering unexpected future market environments



Stress Testing: Regime Assumptions



Box and Whisker Graphs



In each year of the simulation, there are 5,000 independent economic trial results.

Expected: 50% of the potential scenarios result in higher than this value and 50% results in lower

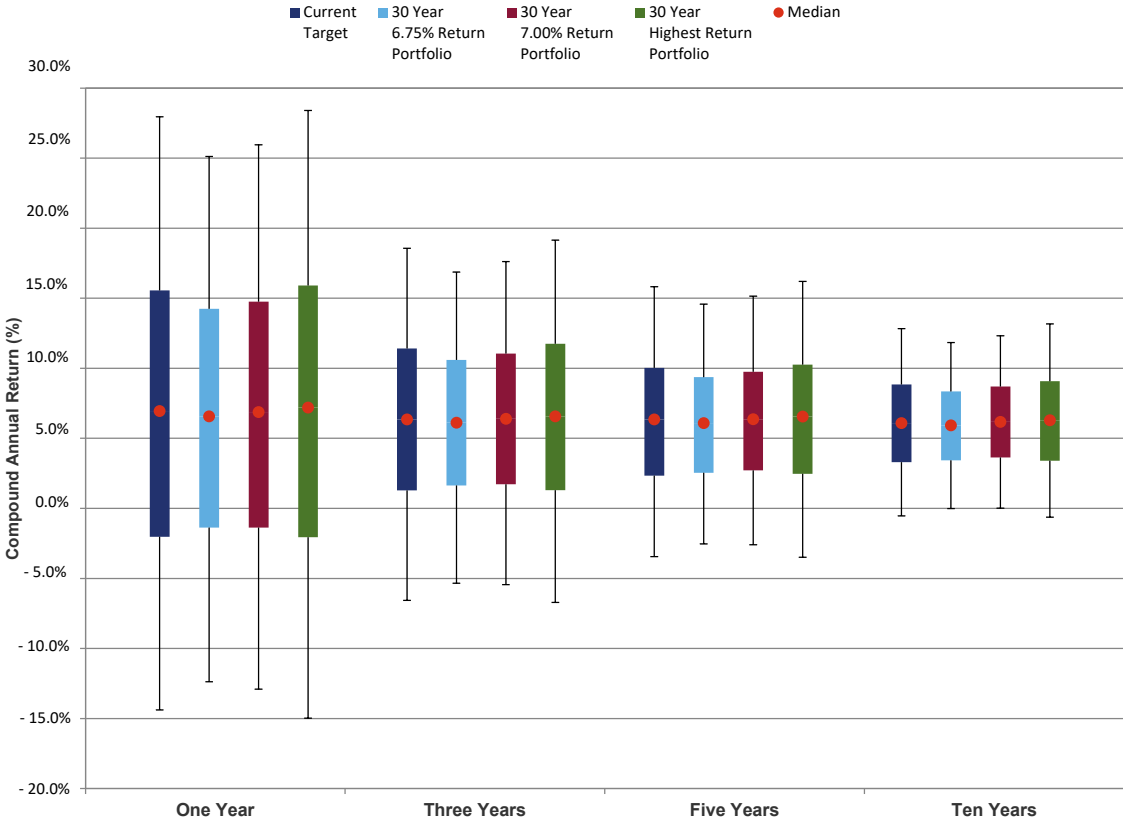
Very optimistic: Only 5% of the scenarios result in higher than this value and 95% result in lower

Optimistic: Only 25% of the scenarios result in higher than this value and 75% result in lower

Pessimistic: 75% of the scenarios results in higher than this value and 25% result in lower

Very pessimistic: 95% of the scenarios result in higher than this value and 5% result in lower

Distribution of Returns*

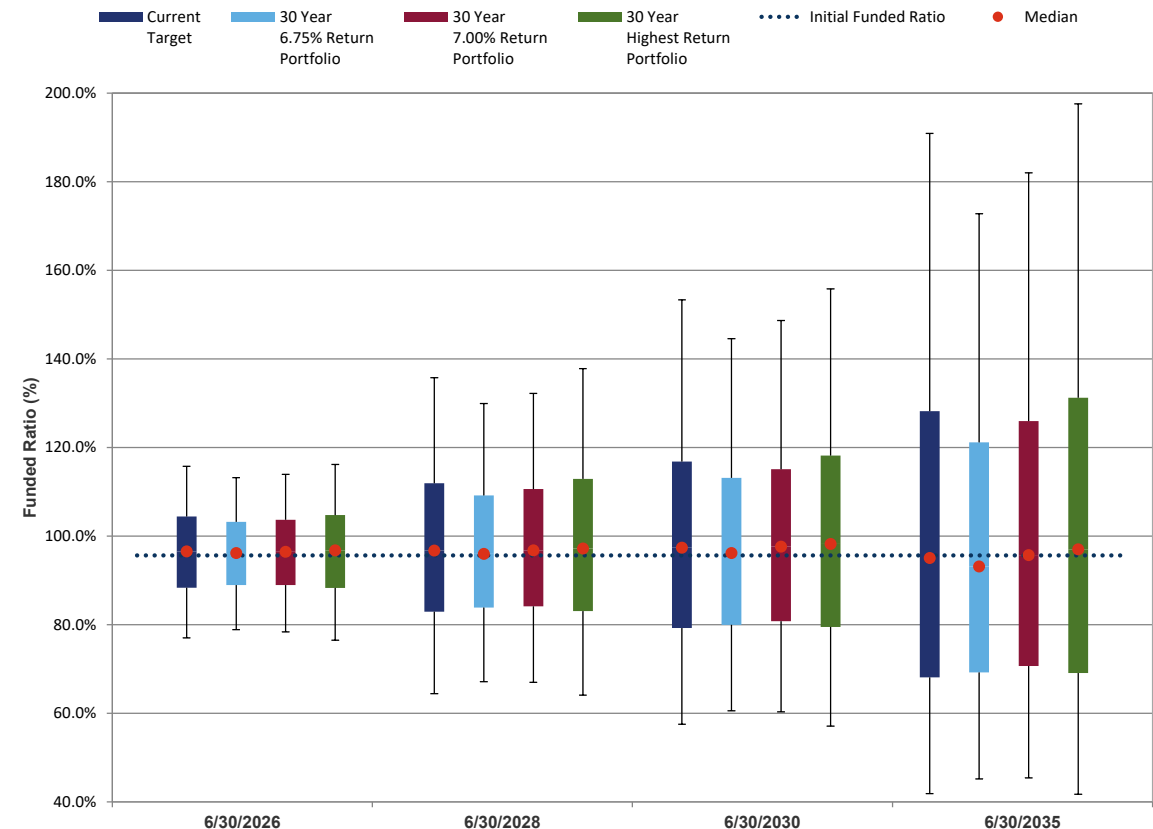


(%)	One Year				Three Years				Five Years				Ten Years			
	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio
Very Optimistic	27.95	25.12	25.95	28.40	18.56	16.87	17.62	19.15	15.82	14.58	15.15	16.21	12.82	11.84	12.32	13.16
Optimistic	15.55	14.24	14.76	15.92	11.42	10.59	11.05	11.76	10.03	9.37	9.76	10.27	8.84	8.34	8.70	9.08
Median (Expected)	6.94	6.57	6.87	7.20	6.35	6.12	6.40	6.56	6.35	6.09	6.37	6.55	6.08	5.93	6.18	6.29
Pessimistic	-2.02	-1.36	-1.37	-2.06	1.28	1.63	1.72	1.30	2.34	2.54	2.72	2.47	3.30	3.43	3.63	3.40
Very Pessimistic	-14.40	-12.37	-12.90	-14.98	-6.56	-5.34	-5.44	-6.72	-3.45	-2.54	-2.60	-3.49	-0.54	-0.02	0.01	-0.62

*For periods longer than one year, returns are compound annual.

Potential Portfolios – Asset and Liability Modeling

AAL MVA Funded Ratio



Shortfall Risk:

The potential for the current policy to have a lower median funded ratio than the alternative policies.

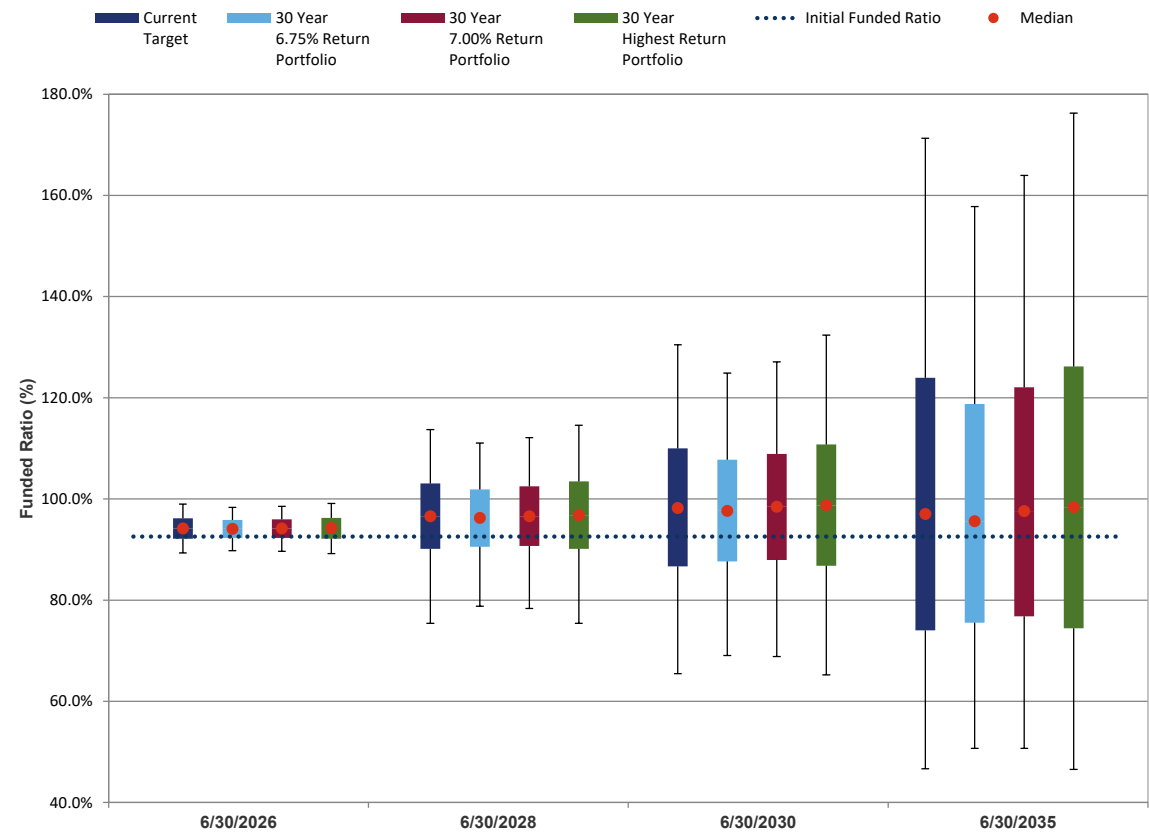
Drawdown Risk:

The potential for the current policy to have a lower “very pessimistic” funded ratio than the alternative policies.

Initial Funded Ratio = 95.6%

(%)	6/30/2026				6/30/2028				6/30/2030				6/30/2035			
	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio
Very Optimistic	115.8	113.2	113.9	116.2	135.7	129.9	132.2	137.8	153.3	144.6	148.7	155.8	190.9	172.8	182.0	197.6
Optimistic	104.4	103.2	103.7	104.8	111.9	109.2	110.6	112.9	116.8	113.2	115.1	118.2	128.2	121.2	126.0	131.2
Median (Expected)	96.5	96.2	96.5	96.8	96.7	96.0	96.8	97.2	97.4	96.2	97.6	98.2	95.1	93.2	95.7	97.0
Pessimistic	88.3	88.9	88.9	88.3	83.0	83.9	84.1	83.1	79.3	80.0	80.8	79.5	68.1	69.2	70.7	69.1
Very Pessimistic	77.0	78.9	78.4	76.5	64.5	67.1	67.0	64.1	57.6	60.6	60.3	57.1	41.9	45.2	45.4	41.8

AAL AVA Funded Ratio



Shortfall Risk:

The potential for the current policy to have a lower median funded ratio than the alternative policies.

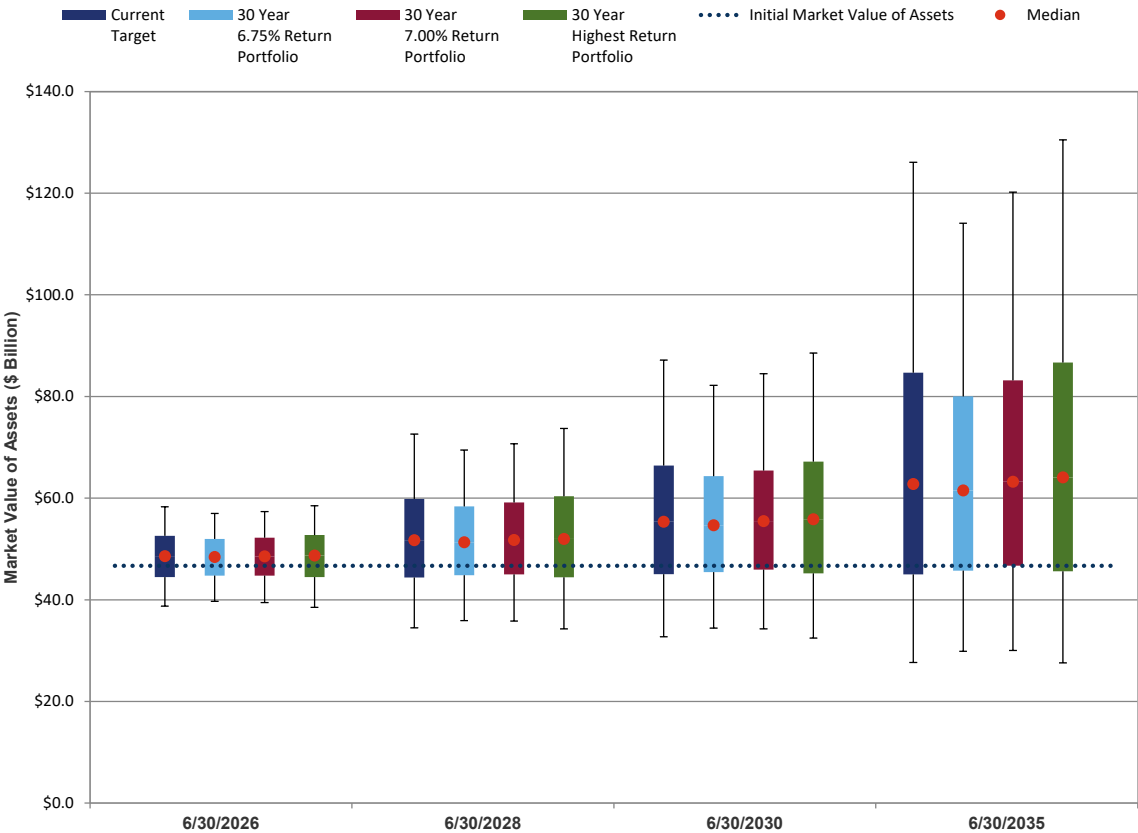
Drawdown Risk:

The potential for the current policy to have a lower “very pessimistic” funded ratio than the alternative policies.

Initial Funded Ratio = 92.6%

(%)	6/30/2026				6/30/2028				6/30/2030				6/30/2035			
	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio
Very Optimistic	99.0	98.4	98.5	99.1	113.7	111.0	112.1	114.6	130.5	124.9	127.1	132.4	171.3	157.8	163.9	176.3
Optimistic	96.2	95.9	96.0	96.2	103.1	101.9	102.5	103.5	110.0	107.8	108.9	110.8	124.0	118.7	122.1	126.2
Median (Expected)	94.2	94.1	94.2	94.3	96.6	96.2	96.6	96.8	98.2	97.6	98.5	98.7	97.1	95.6	97.6	98.4
Pessimistic	92.1	92.3	92.3	92.1	90.1	90.5	90.7	90.2	86.7	87.7	87.9	86.8	74.0	75.5	76.8	74.4
Very Pessimistic	89.3	89.8	89.7	89.2	75.4	78.8	78.4	75.4	65.5	69.1	68.9	65.2	46.7	50.7	50.7	46.5

Market Value of Assets – MVA



Shortfall Risk:

The potential for the current policy to have a lower median market value of assets than the alternative policies.

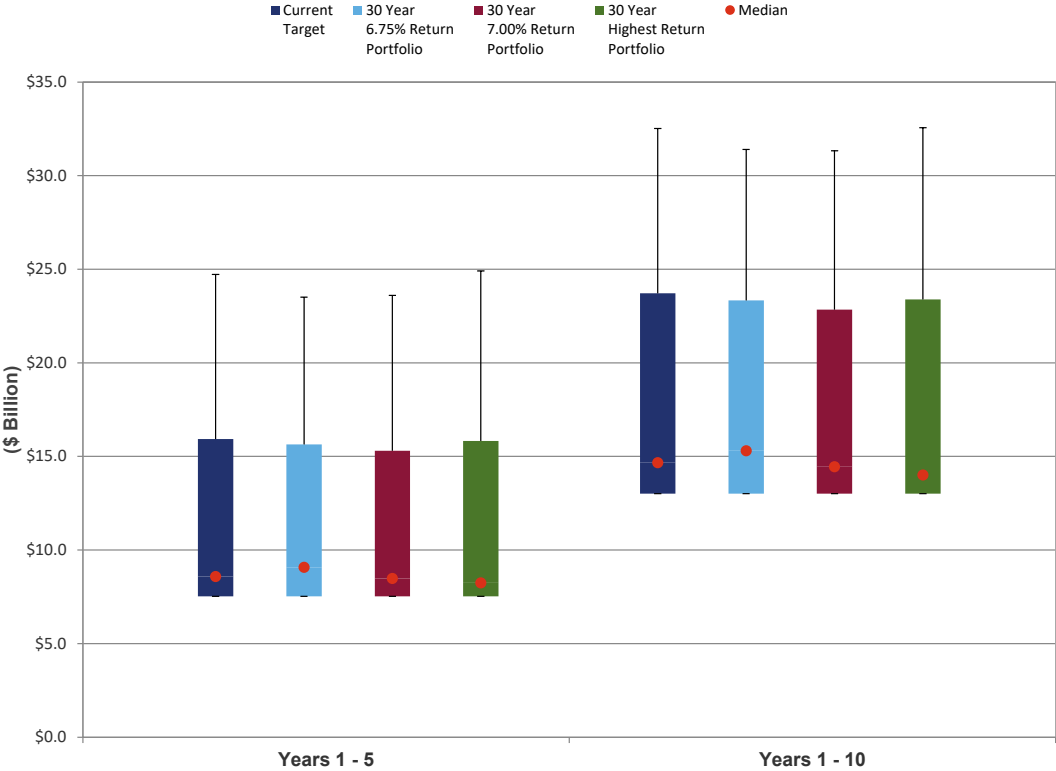
Drawdown Risk:

The potential for the current policy to have a lower “very pessimistic” market value of assets than the alternative policies.

Initial MVA = \$46.7 Billion

(\$ Billion)	6/30/2026				6/30/2028				6/30/2030				6/30/2035			
	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio
Very Optimistic	58.3	57.0	57.4	58.5	72.6	69.5	70.7	73.7	87.2	82.2	84.5	88.6	126.1	114.1	120.2	130.5
Optimistic	52.6	52.0	52.2	52.7	59.9	58.4	59.2	60.4	66.4	64.3	65.4	67.2	84.7	80.0	83.2	86.7
Median (Expected)	48.6	48.4	48.6	48.7	51.7	51.3	51.8	52.0	55.4	54.7	55.5	55.8	62.8	61.5	63.2	64.1
Pessimistic	44.5	44.8	44.8	44.5	44.4	44.9	45.0	44.4	45.1	45.5	45.9	45.2	45.0	45.7	46.7	45.6
Very Pessimistic	38.8	39.7	39.5	38.5	34.5	35.9	35.8	34.3	32.7	34.4	34.3	32.5	27.7	29.9	30.0	27.6

MVA Economic Cost



Shortfall Risk:
The potential for the current allocation to have a higher median economic cost than the alternative policies.

Drawdown Risk:
The potential for the current allocation to have a higher “very pessimistic” economic cost than the alternative policies.

EROA = 7.00%

Economic Cost is defined as the present value of contributions plus contributions necessary to fully fund the plan at the end of the projection period.

(\$ Billion)	Years 1 - 5				Years 1 - 10			
	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio	Current Target	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio
Very Pessimistic	24.7	23.5	23.6	24.9	32.5	31.4	31.3	32.6
Pessimistic	15.9	15.6	15.3	15.8	23.7	23.3	22.8	23.4
Median (Expected)	8.6	9.1	8.5	8.2	14.7	15.3	14.4	14.0
Optimistic	7.5	7.5	7.5	7.5	13.0	13.0	13.0	13.0
Very Optimistic	7.5	7.5	7.5	7.5	13.0	13.0	13.0	13.0

Observations & Recommendation

SAA Portfolio Checklist

- ☐ Provide IPERS participants with retirement benefits
 - Current portfolio has material liquidity using Wilshire liquidity model
 - Proposed 7% return portfolio improves liquidity from the current mix (20% -> 24%)
- ☐ Improve funded status of the plan for the sole purpose of providing benefits
 - Current portfolio has a median funded status of 96% in 30 years
 - Proposed 7% return portfolio slightly increases projected funded status to 97%
- ☐ Reduce potential for permanent impairment (drawdown)
 - Using Wilshire regime modeling the proposed 7% return portfolio outperforms relative to the current mix for the downside events that were modeled
 - IPERS current portfolio is efficient, well diversified, and provides ample liquidity
 - Given the current capital market landscape there are opportunities to rotate out of growth and decrease risk while also improving liquidity
 - **Wilshire views the proposed 7% return portfolio as a reasonable choice to select moving forward**

Appendix

Risk Assessment Framework

Wilshire's multi-dimensional view of risk integrates organizational and investment considerations into a comprehensive framework for evaluating strategic decisions.

Shortfall: Support distributions and long-term growth

Behavioral: Instill strong governance

Drawdown: Limit portfolio losses

Inflation: Preserve long-term purchasing power

Liquidity: Balance near-term needs, long-term opportunities

Active: Ensure unique exposures

Emerging & Long-Term: Environmental, Social & Governance risks, such as externalities, intangibles and reputation may be linked to various risk lenses



Background & Overview

- The asset allocation decision is the most important decision an investor can make
 - The asset allocation decision drives 90% of return variability among portfolios
- The appropriate asset allocation policy is determined by an investor's risk tolerance and return expectation requirements
- Each investor's risk tolerance and return requirements should be viewed in the context of the liabilities that the assets are supporting
- Wilshire recommends revisiting the asset allocation decision every three to five years, or sooner, as market conditions warrant
 - IPERS reviews asset allocation annually and last reviewed in September 2023
- IPERS has liability discount rate assumption of 7.0% over the long term

Capital Market Assumptions

- Wilshire’s Capital Market Assumptions as of June 30, 2025
- Wilshire’s asset class return, risk and correlation assumptions are developed on multi-year forward looking expected rates of return and historical risk and correlation, adjusted to incorporate recent trends
- Public market return expectations represent a passive investment in the asset class (beta). They do not reflect value added from active management (alpha).

Asset Classes	Expected Return 10 Years	Expected Return 20 Years	Expected Return 30 Years	Risk	Cash Yield	Factor Exposure Growth	Factor Exposure Inflation	Liquidity Market Level	Liquidity Stressed Metric
U.S. Equity	4.30	5.20	6.10	17.00	1.25	8.00	-3.00	100	0
International Equity	5.65	6.25	6.90	19.05	2.80	8.00	0.15	90	0
Private Equity	6.20	7.05	7.95	29.65	0.00	14.00	-4.25	0	0
Global Smart Beta	4.85	5.65	6.45	17.00	1.75	8.00	-1.95	95	0
Public Credit	6.15	6.10	6.00	8.95	9.05	3.00	1.00	80	25
Private Credit	7.75	7.80	7.90	13.25	4.90	4.50	-1.50	0	0
Core (Plus) Fixed Income	5.05	5.00	4.90	4.75	5.75	-0.95	-2.60	100	80
Cash	3.55	3.45	3.40	0.75	3.55	0.00	0.00	100	100
Private Real Assets	6.10	6.45	6.85	13.45	3.60	4.80	2.10	0	0

Portfolios Modeled

Asset Class	Current Target	Optimization Constraints	30 Year 6.75% Return Portfolio	30 Year 7.00% Return Portfolio	30 Year Highest Return Portfolio
U.S. Equity	21.00%	19% - 23%	23.00%	19.00%	19.00%
International Equity	13.00%	11% - 15%	11.00%	13.50%	15.00%
Private Equity	17.00%	15% - 19%	15.00%	15.50%	19.00%
Global Smart Beta	<u>5.00%</u>	<u>0% - 7%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Total Growth Assets	56.00%	48% - 64%	49.00%	48.00%	53.00%
Public Credit	3.00%	0% - 6%	6.00%	5.00%	4.00%
Private Credit	<u>8.00%</u>	<u>5% - 11%</u>	<u>5.00%</u>	<u>10.00%</u>	<u>11.00%</u>
Total Defensive Growth Assets	11.00%	6% - 16%	11.00%	15.00%	15.00%
Core (Plus) Fixed Income	22.50%	18.5% - 26.5%	26.50%	26.50%	18.50%
Cash	<u>1.00%</u>	<u>1% - 5%</u>	<u>5.00%</u>	<u>1.00%</u>	<u>1.00%</u>
Total Defensive / Rate Sensitive Assets	23.50%	15.5% - 31.5%	31.50%	27.50%	19.50%
Private Real Assets	<u>9.50%</u>	6.5% - 12.5%	<u>8.50%</u>	<u>9.50%</u>	<u>12.50%</u>
Total RA / Inflation Sensitive Assets	9.50%		8.50%	9.50%	12.50%
Total Assets	100.0%		100.0%	100.0%	100.0%
Expected Return - 10 Years (%)	6.08		5.93	6.18	6.29
Expected Return - 20 Years (%)	6.56		6.34	6.58	6.75
Expected Return - 30 Years (%)	7.04		6.75	7.00	7.22
Standard Deviation of Return (%)	13.01		11.54	11.95	13.34
+ / (-) in Expected Return - 10 Years (bps)			(15)	10	21
+ / (-) in Expected Return - 20 Years (bps)			(22)	2	19
+ / (-) in Expected Return - 30 Years (bps)			(29)	(4)	18
+ / (-) in SD of Return (bps)			(147)	(106)	33
Sharpe Ratio - 10 Years	0.19		0.21	0.22	0.21

Capital Market Assumptions

- Wilshire's Capital Market Assumptions as of June 30, 2025
- Wilshire's asset class return, risk and correlation assumptions are developed on multi-year forward looking expected rates of return and historical risk and correlation, adjusted to incorporate recent trends
- Public market return expectations represent a passive investment in the asset class (beta). They do not reflect value added from active management (alpha).

	U.S. Equity	International Equity	Private Equity	Global Smart Beta	Public Credit	Private Credit	Core (Plus) Fixed Income	Cash	Private Real Assets
Return - 10-Year (%)	4.30	5.65	6.20	4.85	6.15	7.75	5.05	3.55	6.10
Return - 20-Year (%)	5.20	6.25	7.05	5.65	6.10	7.80	5.00	3.45	6.45
Return - 30-Year (%)	6.10	6.90	7.95	6.45	6.00	7.90	4.90	3.40	6.85
Risk (%)	17.00	19.05	29.65	17.00	8.95	13.25	4.75	0.75	13.45
Correlations									
U.S. Equity	1.00								
International Equity	0.84	1.00							
Private Equity	0.72	0.66	1.00						
Global Smart Beta	0.98	0.93	0.73	1.00					
Public Credit	0.58	0.59	0.40	0.61	1.00				
Private Credit	0.71	0.62	0.50	0.70	0.73	1.00			
Core (Plus) Fixed Income	0.27	0.08	0.30	0.21	0.31	0.25	1.00		
Cash	-0.05	-0.08	0.00	-0.06	-0.08	0.01	0.18	1.00	
Private Real Assets	0.69	0.68	0.61	0.71	0.70	0.71	0.17	-0.06	1.00

Appendix – Asset Allocation Ranges

Allowable Asset Allocation Ranges

Wilshire's Asset Allocation Committee (WAAC) maintains standard asset allocation parameters which reflect generally observed market practices for institutional asset owners. While Wilshire expects most client portfolios will fall within these asset allocation ranges. Wilshire recognizes and occasionally recommends portfolio allocations that may diverge from these general ranges based on a client's particular circumstances, goals or needs.

Asset Segment	Corporate DB	Public DB	E&F
Total Equity (Public+Private)	0% - 80%		
Private Equity (Aggregate)	0% - 15%	0% - 20%	0% - 30%
Fixed Income (Core/High-quality - Liquid IG)	10% - 100%	10% - 50%	
Other Fixed Income/Credit (Aggregate)	0% - 25%		
Private/Illiquid Credit (Aggregate)	0% - 15%		
High Yield	0% - 10%		
Other: EMD, Loans, Convertibles	0% - 7.5%		
Total Real Assets (Public + Private)	0% - 25%		
Total Real Estate (Public + Private)	0% - 25%		
RA Other: Commodities, Gold, Infra, GLI, MLPs, O&G, Timber	0% - 5%		
Marketable Alternatives (Aggregate)	0% - 12.5%		0% - 20%
Cash	0% - 5%		
Leverage	0% - 20%		
Total Private/Illiquid	0% - 25%	0% - 35%	0% - 50%

These thresholds were informed by allocation information from Greenwich Associates, and Wilshire Advisors, LLC, universe data and will be reviewed for reasonableness from time to time.

**Last Updated 04/2024*

Appendix – Efficient Frontier

Efficient Frontier Portfolios

Asset Class	Current Target	Optimization Constraints	Minimum Risk	Portfolio 2	Portfolio 3	Portfolio 4	Portfolio 5	Portfolio 6	Portfolio 7	Portfolio 8	Portfolio 9	Maximum Risk
U.S. Equity	21.00%	19% - 23%	23.00%	19.00%	19.00%	19.00%	19.00%	19.00%	19.00%	19.00%	19.00%	19.00%
International Equity	13.00%	11% - 15%	11.00%	14.00%	12.00%	11.00%	11.00%	11.50%	13.50%	15.00%	15.00%	15.00%
Private Equity	17.00%	15% - 19%	15.00%	15.00%	17.00%	18.00%	18.00%	19.00%	19.00%	19.00%	19.00%	19.00%
Global Smart Beta	5.00%	0% - 7%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.50%	3.00%	7.00%
Total Growth Assets	56.00%	48% - 64%	49.00%	48.00%	48.00%	48.00%	48.00%	49.50%	51.50%	53.50%	56.00%	60.00%
Public Credit	3.00%	0% - 6%	6.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	3.50%	1.00%	0.00%
Private Credit	8.00%	5% - 11%	5.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%
Total Defensive Growth Assets	11.00%	6% - 16%	11.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	14.50%	12.00%	11.00%
Core (Plus) Fixed Income	22.50%	18.5% - 26.5%	26.50%	26.50%	26.50%	25.00%	22.50%	21.00%	19.00%	18.50%	18.50%	18.50%
Cash	1.00%	1% - 5%	5.00%	1.50%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Total Defensive / Rate Sensitive Assets	23.50%	15.5% - 31.5%	31.50%	28.00%	27.50%	26.00%	23.50%	22.00%	20.00%	19.50%	19.50%	19.50%
Private Real Assets	9.50%	6.5% - 12.5%	8.50%	8.00%	8.50%	10.00%	12.50%	12.50%	12.50%	12.50%	12.50%	9.50%
Total RA / Inflation Sensitive Assets	9.50%		8.50%	8.00%	8.50%	10.00%	12.50%	12.50%	12.50%	12.50%	12.50%	9.50%
Total Assets	100.0%		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Expected Return - 30 Years (%)	7.04		6.75	6.96	7.02	7.08	7.12	7.16	7.20	7.22	7.22	7.21
Standard Deviation of Return (%)	13.01		11.54	11.80	12.06	12.32	12.58	12.86	13.13	13.39	13.66	13.91
+ / (-) in Expected Return - 30 Years (bps)			(29)	(8)	(2)	4	8	12	16	18	18	17
+ / (-) in SD of Return (bps)			(147)	(121)	(95)	(69)	(43)	(15)	12	38	65	90
Sharpe Ratio - 30 Years	0.28		0.29	0.30	0.30	0.30	0.30	0.29	0.29	0.29	0.28	0.27

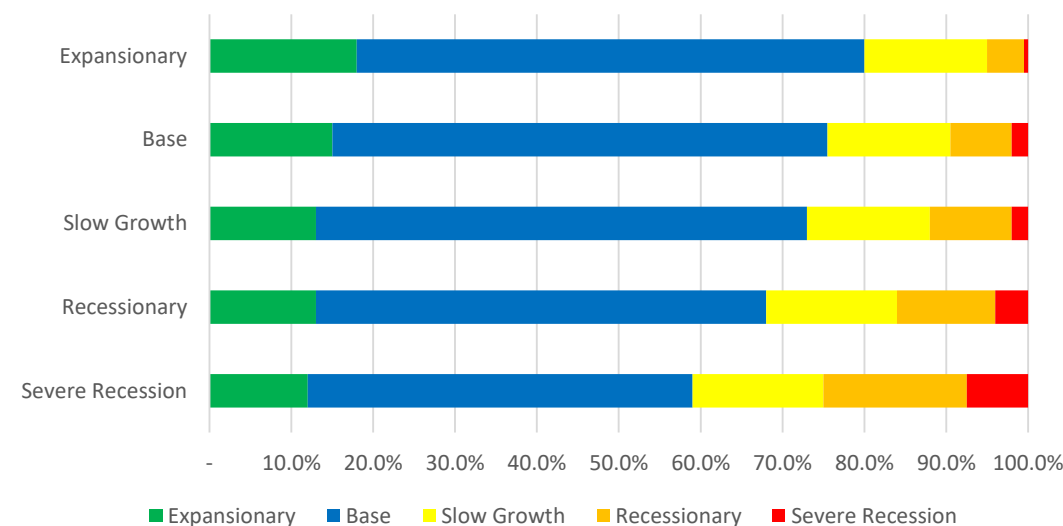
Appendix – Regimes

Efficient Frontier Portfolios

Managing drawdown risk – the “uncertainty around the uncertainty”

- Most simulation models assume returns are log-normally distributed*
- Though reasonable in most years, left-tail events occur more frequently than predicted
- A regime switching model can help us pre-experience uncomfortable return paths that fall outside a normal distribution’s field of view

	expansionary	base	slow growth	recessionary	severe recession
18.0%	62.0%	15.0%	4.5%	0.5%	
15.0%	60.5%	15.0%	7.5%	2.0%	
13.0%	60.0%	15.0%	10.0%	2.0%	
13.0%	55.0%	16.0%	12.0%	4.0%	
12.0%	47.0%	16.0%	17.5%	7.5%	



*Probability distribution of random outcomes whose logarithms are normally distributed with positive skewness versus those of a normal distribution with symmetry, equally distributed with both positive and negative

Stress Testing: Regime Assumptions

- In below trend and worse environments, the portfolio's return expectations is materially lower and the volatility is materially higher
- Volatility in the below trend and worse environments are left-skewed, i.e. negative-skewed

	US Stocks	Dev ex-US Stocks	Emg Mkt Stock	Private Equity	Cash	Core Bonds	LT Core Bonds	TIPS	High Yield Bonds	US RE Securities	Private RE	Commodities	Current Target
Expansionary/Above Trend Growth													
Return (%)	9.65	10.65	10.90	15.55	3.55	4.40	3.55	2.45	8.95	9.65	8.90	4.80	10.09
Risk (%)	12.00	13.00	21.00	22.15	0.75	5.25	10.90	6.50	8.00	13.50	10.75	16.00	10.47
Baseline/Trend Growth													
Return (%)	4.30	5.30	5.55	6.20	3.55	5.05	5.25	4.45	6.30	5.65	6.45	4.80	6.08
Risk (%)	17.00	18.00	26.00	29.65	0.75	4.75	9.90	6.00	10.00	17.50	13.95	16.00	13.01
Slow Growth/Below Trend													
Return (%)	1.65	2.65	2.90	1.55	3.55	5.35	6.10	5.45	4.95	3.65	5.20	4.80	4.16
Risk (%)	22.00	23.00	31.00	37.15	0.75	5.75	11.90	7.50	12.00	21.50	17.15	18.00	17.11
Recessionary/Negative Growth													
Return (%)	(5.70)	(4.70)	(4.45)	(11.30)	3.55	6.25	8.45	8.20	1.30	(1.85)	1.85	4.80	(1.68)
Risk (%)	27.00	28.00	36.00	44.65	0.75	6.75	13.90	9.00	15.00	27.50	21.95	21.00	22.18
Severe Recession/Crisis													
Return (%)	(43.70)	(42.70)	(42.45)	(50.00)	3.55	10.75	20.55	22.45	(17.70)	(30.35)	(15.75)	4.80	(25.01)
Risk (%)	42.00	43.00	51.00	54.65	0.75	14.75	29.90	21.00	20.00	42.50	33.95	26.00	28.74
Inflation Shock													
Return (%)	(11.20)	(5.20)	5.05	(18.45)	3.55	(0.50)	(9.55)	13.70	(0.20)	2.15	5.25	34.80	(5.33)
Risk (%)	31.00	32.00	40.00	44.65	0.75	9.05	18.50	10.75	18.75	34.00	27.15	21.00	24.11

Stress Testing: Regime Descriptions

Regime Descriptions

- **Expansionary/Above Trend Growth** – Regime when the economy is coming out of a recession, or the economy is running above long-run capacity. Wilshire does not project the economy to remain in this regime over longer periods.
- **Baseline/Trend Growth** – The long term expected state of the economy. Wilshire's capital market assumptions are based on this regime.
- **Slow Growth/Below Trend** – Regime when the economy is running at less than full capacity.
- **Recessionary/Negative Growth** – Regime when the economy has below zero growth. Wilshire expects the economy would be in a recession.
- **Severe Recession/Deflation** – Regime when the economy defined by significantly negative growth. Wilshire does not project the economy to remain in this regime over longer periods.

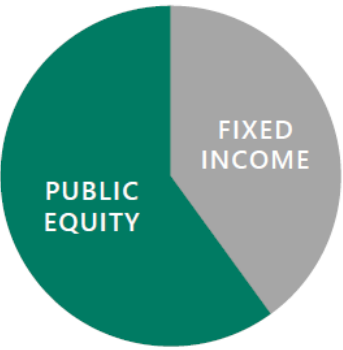
Appendix – Asset Allocation Evolution

Asset Allocation Evolution

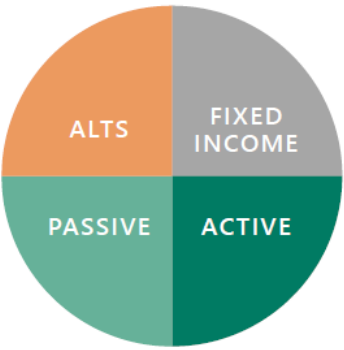
The evolution of asset allocation



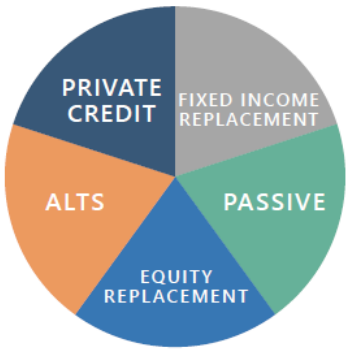
Foundations
1930s–1980



Age of 60/40
1980s–2000



Barbell Portfolio
2001–2020



Replacement
Now

Source: Apollo Chief Economist

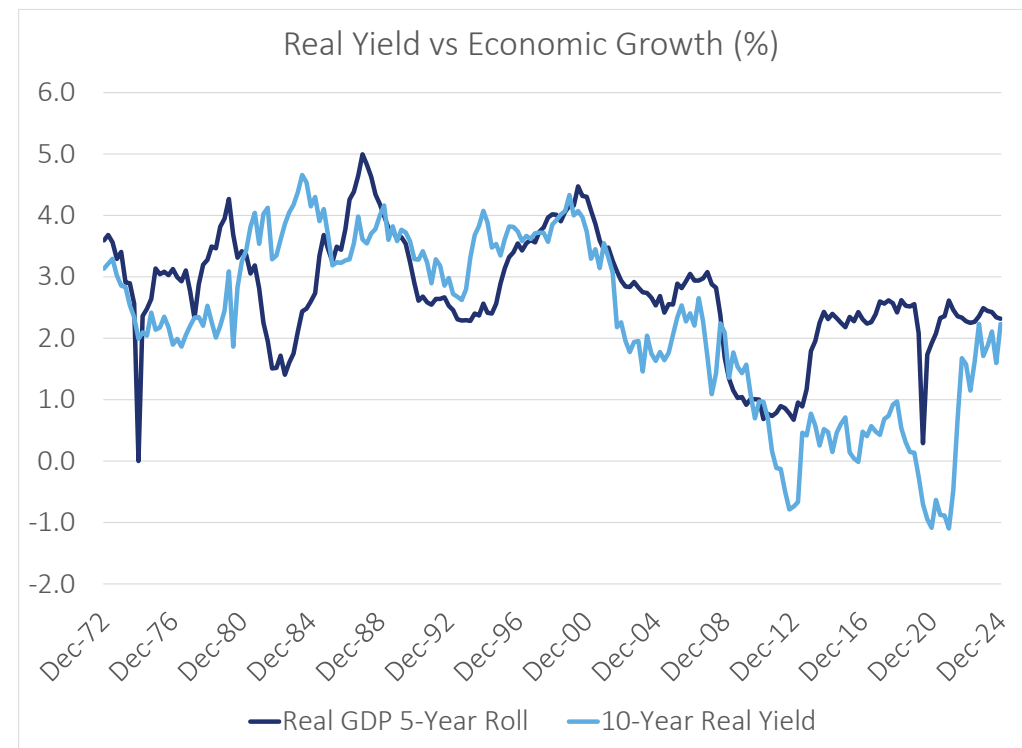
Appendix – Economic Factor Exposures

Why Introduce Factors?

- **Risk Assessment:** Including factors within the asset allocation process provides an opportunity to measure asset class (and portfolio) exposures to key economic factors
- **Economic Efficiency:** If the underlying economic activity that drives asset performance can be identified, perhaps it can be used to assist in building economically-efficient portfolios
- **Portfolio Stability:** Macroeconomic risk factors – when separated from the valuation component inherent in investment pricing – may exhibit more stable correlations and, therefore, can better inform the allocation process

Growth Proxy

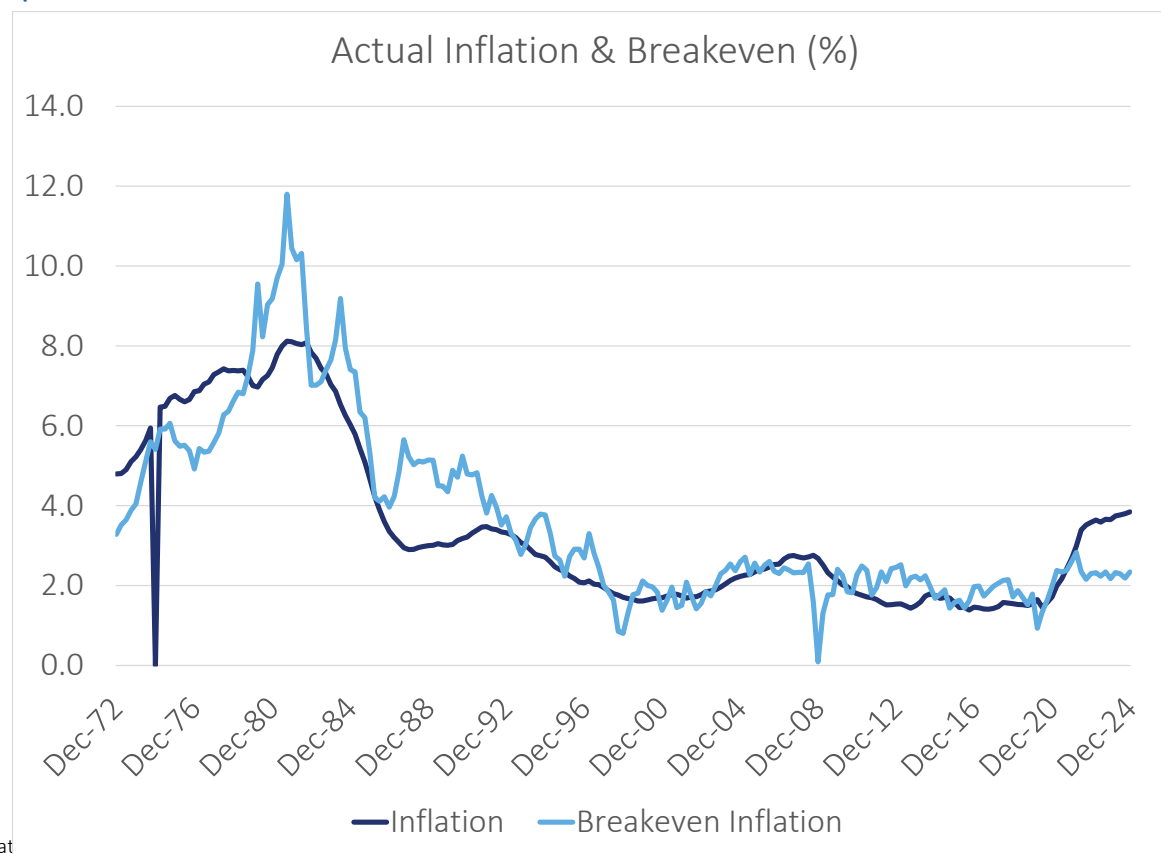
- Interest rates contain information and can reflect economic factors
- Nominal yields aggregate two important and distinct sources of economic information – real yields and expected inflation
- Disaggregating these factors should prove beneficial in developing a set of factors with improved explanatory power



Data Source: Federal Reserve, Bridgewater

Inflation Proxy

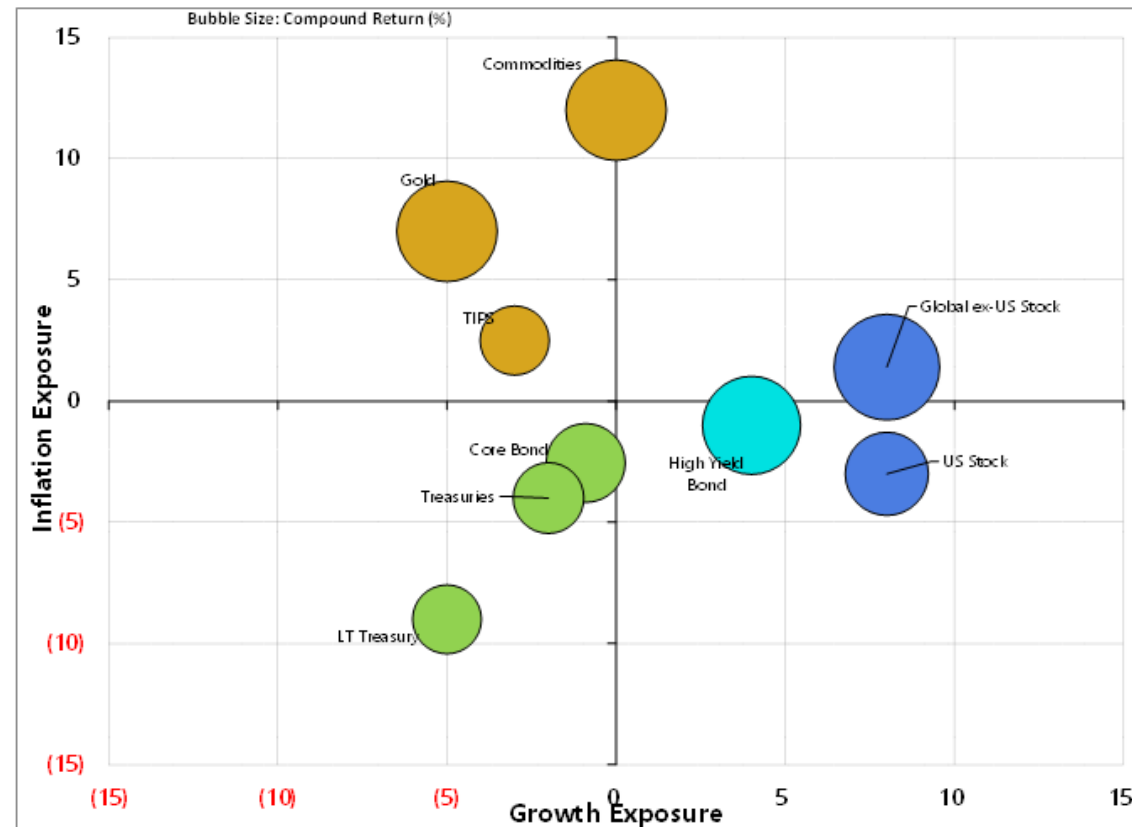
- Breakeven inflation is the market's expectation for inflation
- Tends to follow closely with actual, recent inflation and can act as a timely signal of trends in consumer prices



Data Source: Federal Reserve, Bridgewater

Wilshire's Approach

- Employ a 2-factor regression model (growth and inflation) to formulate factor assumptions
- Growth proxy is enhanced by high yield bond spreads to better capture shifts in growth forecasts



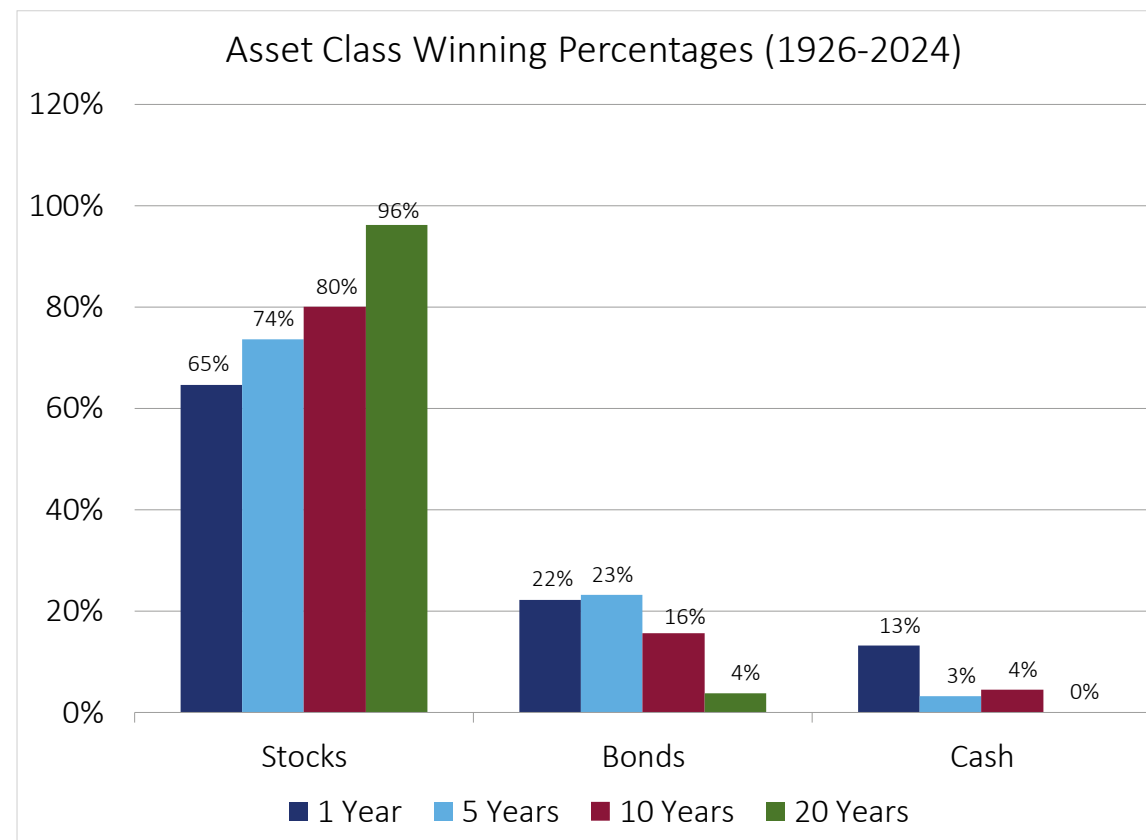
Appendix – Liquidity

Liquidity Risk: What Are The Consequences?

Default/Insolvency is the most severe outcome from having insufficient liquidity, but...

There are many other, more likely, disruptive impacts that a lack of liquidity can impose on an investment portfolio

- Liquidity breaches can rob an investor of their biggest advantage: a long-term investment horizon
- The timing and price of such sales dictated by liquidity needs rather than by explicit investment rationale
- Can destroy portfolio value and effectively strip a portfolio from its ability to recover from market sell-offs



Wilshire Liquidity Metric

Wilshire's Liquidity Metric framework has two levels:

- **Market Level of Liquidity**
- **Overall Level of Liquidity**

Market Level of Liquidity

- Quantified on scale from 0% (low liquidity) to 100% (high liquidity)
- Designed to capture general notion of marketable versus private/off-market transactions
 - Marketable asset classes typically reflect a 90% or 100%
 - Private asset classes reflect 0%
- Goal is to reflect the tradability of assets, which is helpful in connecting these values back to our definitional framework (i.e., to quantify the differences between Convertible Liquidity and Delayed Liquidity)

Wilshire Liquidity Metric

Wilshire's Liquidity Metric framework has two levels:

- **Market Level of Liquidity**
- **Overall Level of Liquidity**

Overall Liquidity Metric

Includes a penalty process to reflect the loss in practical liquidity due to asset class volatility and sensitivity to particular economic environments

Penalty components:

1. **Growth Penalty:**
 - Impacts asset classes with vulnerability to slowing growth
 - Recognizes the hit to liquidity that can occur during growth related bear markets
2. **Inflation Penalty:**
 - Impacts asset classes with vulnerability to rising inflation
 - Recognizes the hit to liquidity that can occur during inflation driven bear markets
3. **Volatility Penalty:**
 - Impacts higher volatility asset classes
 - Recognizes the hit to liquidity that can occur from any form of volatility

Wilshire Stressed Liquidity Metric

Stressed Level of Liquidity Metric

Asset Class	Market Liquidity	Liquidity Penalty Components			Applied Penalty	Stressed Liquidity
		Growth	Inflation	Volatility		
US Equity	100	50		24	50	0
Dev ex-US Equity	100	50		26	50	0
EM Equity	90	50		40	50	0
Private Equity	0	50		40	0	0
Cash Equivalents	100				0	100
Core Bonds	100		8		8	86
High Yield Bonds	80	40		10	40	0
US Real Estate Securities	90	50		24	50	0
Private Real Estate	0	50		18	0	0
Commodities	90			20	20	55

Applied Penalty = Min(Max(Growth + Inflation, Volatility), Market Liquidity)

Stressed Liquidity * = Market Liquidity - (1.75 x Applied Penalty)

** If less than 20, Stressed Liquidity is assumed to be 0*

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Investment Policy and Goal Statement

I. INTRODUCTION

The Iowa Public Employees' Retirement System (IPERS or System) is governed by Iowa Code chapter 97B. System assets are held in trust and invested for the exclusive purposes of providing benefits to participants and their beneficiaries, minimizing contributions, and defraying reasonable expenses of administering the System. The investment activities of the System are governed by the "prudent person" rules as defined in §97B.7A. The investment policy and the investment strategies will be periodically reviewed to ensure they conform to §§97B.7A and 97B.8A.

The Investment Board (Board) is the trustee of the IPERS Trust Fund (Fund). The Board shall establish the System's tolerance for investment risk, and shall diversify the System's investments to minimize the risk of unacceptable large losses and to maximize the rate of return, unless under the circumstances it is clearly not prudent to do so. The Board also adopts the actuarial assumptions and methods, approves the retention of service providers in matters relating to the actuarial valuation of the System's assets and liabilities, and adopts the System's contribution rate funding policy. A list of the statutory and administrative duties of Board and staff is provided in Appendix A.

The chief investment officer (CIO), under the supervision of the chief executive officer (CEO), is responsible for the administration of the System's investment program pursuant to the policies of the Board.

II. INVESTMENT OBJECTIVES

The investment activities will be designed to provide a return on the Fund that, when coupled with the periodic contributions of the membership and employers, will meet or exceed the benefit funding requirements of the plan over time while staying within the Board's tolerance for risk expressed in this policy.

The objective of the CIO is to execute the asset allocation policy established by the Board (the policy benchmark defined in this policy), and to attempt to add value relative to the policy benchmark while staying within the Board's tolerance for active risk.

III. DECISION MAKING

The Board is responsible for establishing broad policy guidelines and benchmarks that will enable the Fund to achieve its investment objectives. Board decisions are required in the following areas:

1. Establish asset allocation targets through adoption of a policy benchmark
2. Establish acceptable ranges around the policy benchmark targets

3. Establish the Fund- and program-level benchmarks
4. Establish the active risk budget

Beyond these broad policy decisions, the Board delegates to the CIO all other decision-making relating to the investment of IPERS assets, subject to the guidelines established in this policy and any statutory requirements or prohibitions.

The Board may utilize the services of investment consultants to assist them in their decision-making. Such services include, but are not limited to, conducting asset-liability and asset allocation studies, investment performance reviews, policy reviews and topical studies.

IV. ASSET ALLOCATION

The Board's asset allocation policy is established in the policy benchmark and the asset class ranges specified in Appendix B. The policy benchmark weights set the Board's target exposure to each asset class, measured on a market value basis, while the asset class ranges establish the ranges within which actual weights may fluctuate. Positioning within a specified asset class range is acceptable and constitutes compliance with the policy benchmark.

IPERS' assets are divided into two groups for allocation purposes: *private markets* and *public markets*. Private market assets are generally illiquid, infrequently priced investments with long horizons. The Board has established a private markets investment policy specifying investment objectives, benchmarks, etc. for these types of assets. (See Appendix C)

It is the responsibility of the CIO to manage the allocation weights within the public market asset class ranges and keep them close to target, unless the CIO decides to tactically over- or under-weight a particular public market asset class. However, staff cannot quickly rebalance private markets to target weights due to the illiquid nature of private market assets, so any excess or deficiency between actual and target allocation for private market assets as a whole will be proportionately reallocated across all public market asset classes when rebalancing occurs.

The policy benchmark return is the sum of the products of the policy benchmark weights and the respective policy benchmark index returns for the period, with the exception that IPERS' actual weights and actual returns for each private market asset class shall be used in the calculation. If staff utilizes derivatives for rebalancing or tactical allocation decisions, the notional amount of derivatives contracts shall be used in calculating compliance with policy benchmark weights and asset class ranges.

V. ACTIVE RISK ALLOCATION AND MANAGEMENT

“Alpha” is the excess return resulting from active management decisions. IPERS believes positive alpha can be earned by employing a combination of active strategies that have low return correlation with one another, exhibit low correlation with beta returns and higher correlation to liability returns.

The Board has established an active risk budget in Appendix B as a means of controlling the active risk in the IPERS Trust Fund. The active risk budget consists of two components: risk allocated for external active management and risk allocated for internal active management through tactical allocation decisions. Active risk is measured as tracking error, which is the standard deviation of excess returns.

IPERS will seek to maintain a diversified alpha portfolio, and may utilize any strategy that in the discretion of the CIO will enhance the risk-adjusted return of the alpha portfolio, including but not limited to traditional long-only, long/short, portable alpha, derivative overlay and leveraged strategies. The CIO must formally authorize any tactical allocation decisions, and each decision shall be documented and tracked for performance evaluation purposes. Tactical allocation decisions by staff shall not result in allocations that would violate the asset class ranges set by the Board.

IPERS’ investment in an investment manager’s actively managed strategies shall not exceed 20 percent of the manager’s total actively managed assets under management. The CIO shall have discretion to determine what types of similar products offered by a manager can be included in the definition of “actively managed strategies” for purposes of this calculation.

Cost efficiency is important, and the CIO should seek to implement active strategies with a high conversion ratio of active return (after fees) to the risk deployed. Active strategies shall use performance incentive fee structures, where appropriate, to ensure the economic interests of IPERS and the manager are properly aligned.

Investment staff has been granted the authority to buy and sell widely available, liquid and cost-efficient financial instruments, including but not limited to ETFs, futures, swaps and other derivatives for the purpose of implementing risk management or tactical asset allocation strategies. Tactical positions that are taken on assets that do not form a part of the policy will be accounted for in the Cash asset class on a net notional exposure basis. The Board authorizes staff to establish and maintain investment vehicles such as individually managed accounts, private limited partnerships, limited liability companies and other types of commingled fund structures to house the ARP Program and other authorized initiatives.

VI. EXTERNAL INVESTMENT MANAGEMENT

The Board shall approve the hiring of investment management and investment consulting services. The CIO has full authority to terminate investment manager contracts provided the Board is notified of the termination prior to the effective date of the termination. The CIO also has full authority to negotiate and renegotiate contract terms and fees.

The CIO is responsible for ensuring that adequate due diligence is being performed in the evaluation of potential and existing investment managers. The CIO may hire operational due diligence consultants, attorneys, auditors and other service providers as needed to assist in the due diligence and performance evaluation of external investment management firms.

External investment managers shall have full discretion to direct and manage the investment and reinvestment of assets allocated to their accounts in accordance with this document, applicable federal and state statutes and regulations, and the executed contracts. Each contract for a public market active management strategy shall clearly define investment objectives, permitted investments, concentration limits, risk budgeting parameters and performance benchmarks.

Investment managers shall have full discretion to establish and execute trades through accounts with one or more securities broker/dealers as the managers may select. However, the System may require investment managers to clear trades through clearing brokers that are under contract to IPERS in order to control risk and costs. Investment managers will attempt to obtain “best execution” with respect to all transactions. Best execution is defined as the process and price that results in the best overall performance impact, taking into account market conditions at the time of the trade. IPERS will generally discourage a manager’s use of soft dollar arrangements for IPERS’ account, but may allow it if the usage is regularly monitored for reasonableness.

The CIO will provide the Board a summary of active management performance at least quarterly, and will highlight any concerns regarding performance, personnel turnover, or changes in the organization or investment process. The investment consultant will provide the Board semi-annual performance reviews of total Fund, asset class, and manager performance. To the extent possible, investment results will be reviewed in the context of risk-adjusted returns.

Any voting rights of securities held in any separate account, or any collective, common, or pooled fund will be exercised by the manager, trustees, or agents of said account or fund in accordance with their own proxy voting policies, provided that such policies have been reviewed by the System and deemed to be in the best economic interests of IPERS. The System shall periodically review each investment manager’s proxy voting policy and its compliance with such policies.

VII. RISK MANAGEMENT

The Fund's risk management objectives are to: (1) maintain the asset allocation as close to the policy benchmark as possible through rebalancing, and (2) manage the active risk of the alpha portfolio such that its tracking error does not exceed the upper limit established in the active risk budget in Appendix B.

The CIO and Chief Risk Officer (CRO) shall develop appropriate policies and procedures for the measurement, monitoring, management and reporting of risk to the Board, CEO and staff. The CRO is responsible for obtaining and/or developing the appropriate systems, models, tools and reporting processes that will allow for the timely and efficient management of investment risk. The CRO shall report any breach of risk limits established in this policy to the Board as soon as possible after the discovery of any material breach.

VIII. CUSTODY

The Treasurer of the State of Iowa (Treasurer) is the custodian of the Fund. The Treasurer will hold the System's assets in a custody/recordkeeping account in a master custody bank located in a national money center and in the international sub-custodian banks under contract to the custodian bank. The Treasurer shall consult with the Board prior to selecting the master custody bank. A formal written agreement shall be established between the Treasurer and any third-party custodian. The custodian bank agreement shall be reviewed periodically by the CIO and Board.

Certain strategies involving derivatives may require the use of a prime broker or clearing broker who will hold the System's cash or securities per the terms of a collateral agreement or futures clearing agreement. IPERS shall seek to ensure that such brokers do not require IPERS to post margin amounts that materially exceed the minimum required margin amounts set by an exchange or the terms of a collateral agreement.

IX. SECURITIES LENDING

The primary objective of the securities lending program shall be to safely generate income from lending the System's securities to qualified borrowers. The program will only utilize lending agents that agree to indemnification provisions in the event of a counterparty insolvency.

Cash collateral received against loans of securities shall be prudently invested in a low-risk investment strategy that invests only in: (1) commingled funds or money market funds managed in accordance with the regulations and criteria specified in Rule 2(a)(7) promulgated under the Investment Company Act of 1940, or (2) separate accounts that have investment guidelines identical to those required of a 2(a)(7) fund, or (3) overnight repurchase agreements collateralized with obligations issued by the United States Treasury or obligations issued by agencies or government-sponsored entities of the

United States government. The key investment objectives for investing the cash collateral shall be to: (1) safeguard principal; (2) maintain adequate liquidity; and (3) consistent with the foregoing objectives, optimize the spread between the collateral earnings and the rebate paid to the borrower of securities.

The Investment Board may select its own securities lending agent or authorize the Treasurer to manage the securities lending program in accordance with the risk guidelines established herein. Staff shall execute a formal written agreement between any lending agent (or the Treasurer, as the case may be) and IPERS stipulating the risk parameters and performance benchmarks of the program, which shall be in accordance with these guidelines. The securities lending program will be annually reviewed by the Board, and the ongoing operation of such program shall be subject to periodic reauthorization by the Board.

X. DERIVATIVES

The System recognizes that derivative instruments can be useful tools in portfolio and risk management, but can also introduce unique risks. The CIO shall develop written policies and procedures to control the risks associated with derivatives, but at a minimum such procedures shall require: (1) a counterparty credit rating equivalent to at least “A” for over-the-counter derivatives; (2) payment netting arrangements; (3) daily marking-to-market; and (4) collateralization of net amounts owed under the contracts after meeting minimum threshold for transfers.

The CIO shall ensure that the derivatives policies and procedures are addressed in any external management services contract, as necessary. The CIO shall develop procedures for monitoring the use and exposure of derivatives within an investment manager’s account. Mortgage-backed and asset-backed securities are not derivatives for the purpose of this policy.

XI. OTHER POLICIES

A. Social Investing

As fiduciaries, the IPERS Investment Board, staff and investment managers must perform their duties for the exclusive benefit and in the best economic interest of the System’s members and beneficiaries. The System and the Board will not support investment policies or strategies which seek to promote specific social issues or agendas through investment or divestment of IPERS’ assets. To act otherwise could be construed as a violation of fiduciary duty and could endanger the System’s tax-exempt status.

B. Securities Monitoring and Litigation

IPERS has a fiduciary duty to preserve trust assets to meet the retirement promises made to its members. Included in this duty is the obligation to recover investments

in public securities that incur losses as a result of corporate mismanagement and/or fraud. To preserve trust assets, the Board has adopted a securities monitoring and litigation policy to guide the System's involvement in and monitoring of securities litigation. (See Appendix D)

C. Confidential Investment Information

Iowa Code §22.7 and §97B.17(2)e provide that certain records and information in IPERS' possession are considered confidential and thus are exceptions to Iowa's Open Records (chapter 22) laws. Included in the exceptions is information which, if released:

1. Could result in a loss to the System or to the provider of the information.
2. Would give advantage to competitors and serve no public purpose.
3. Would violate trade secrets which are recognized and protected by law.

While the staff shall provide the Board with all essential information about the investment program, communication of information that is confidential under the above Iowa Code provisions will be identified as such in the communication.

Iowa Code §97B.8A(5), an explicit exception to Iowa's Open Meetings (chapter 21) laws, reinforces the need and obligation to maintain the confidentiality of such information by expressly authorizing the Board to hold closed sessions for discussion of this information.

D. Ethics

Fiduciaries of the System must exercise the highest standards of care in acting for the exclusive benefit of the plan participants. IPERS has adopted an ethics policy to govern the activities of Board members, staff, consultants and managers as it relates to the System. (See Appendix E)

If the CEO, CIO, CRO, any investment officer, or any IPERS attorney is in possession of information which would lead a reasonable person familiar with such matters to conclude that an investment, a commitment to an investment, or a decision to engage or terminate a contracted service provider, contradicts the fiduciary duties of the party or parties having the final authority to take such actions, it is the Board's expectation that the issue will be placed on a Board meeting agenda for review.

E. Leverage

The CIO may utilize leverage within staff tactical decisions up to the maximum negative allocation allowed by the asset class ranges for cash as specified in Appendix B. The CIO may also allow the use of leverage within external active investment management strategies and products consistent with the active risk

budget. The private markets investment policy in Appendix C addresses the use of leverage for private market investments.

F. Board Meetings

Board meeting dates for the fiscal year shall be set by members of the Board at the first meeting of the fiscal year. At the first meeting in each fiscal year, the voting Board members shall elect a chair and vice chair.

Parties wishing to present items for the Board's next meeting agenda shall file a written request with the chair at least five business days prior to the meeting. To the extent there is no law, statute, or administrative rule governing a procedure, Board meetings shall be governed by the procedural rules established in the latest version of *Robert's Rules of Order*.

APPENDIX A
STATUTORY RESPONSIBILITIES OF THE INVESTMENT BOARD AND STAFF

1. The Board shall annually adopt an Investment Policy and Goal Statement. *Iowa Code §§97B.7A and 97B.8A*
2. The Board shall at least annually conduct a review of the investment policies and procedures utilized by the System. *Iowa Code §97B.8A.2(a)*
3. The Board shall at least annually conduct a public meeting to review the policies and the investment performance of the Fund. *Iowa Code §97B.8A.2(a)*
4. With the approval of the Board, the Treasurer of State may conduct a program of lending securities in the IPERS portfolio. *Iowa Code §12.8.3*
5. The Board shall review and approve the hiring of each investment manager and investment consultant. *Iowa Code §97B.4.3(f)*
6. The Board shall select the actuary for the System, and shall adopt the mortality tables and actuarial assumptions and methods the actuary will use for the annual actuarial valuation. *Iowa Code §§97B.4.3(c) and 97B.8A.3*
7. The CEO will consult with the Board prior to employing a CIO. *Iowa Code §97B.4.3(a)*
8. The Board shall participate in the annual performance evaluation of the CIO. *Iowa Code §97B.8A.2(c)*
9. The CEO shall consult with the Board on the budget program for the System. *Iowa Code §97B.4.2(c)*
10. The Treasurer of State shall consult with the Board prior to selecting any bank or other third party for purposes of investment asset safekeeping, other custody, or settlement services. *Iowa Code §97B.7.2*
11. The Board shall consist of seven voting members and four nonvoting members. Four voting members of the Board shall constitute a quorum. *Iowa Code §97B.8A*
12. Staff shall provide advance notice to the public of the time, date, tentative agenda and place of each Board meeting in compliance with Iowa Code chapter 21.
13. The Board shall set the salary of the CEO. *Iowa Code §97B.3.1*

APPENDIX B

ASSET ALLOCATION POLICY AND ACTIVE RISK BUDGET

I. Asset Allocation Policy¹

Asset Class	Asset Class Ranges	Policy Benchmark Weights	Policy Benchmark Index
Equities		39.32.5%	
Domestic Equities	+/- 3%	21.19%	Russell 3000
International Equities	+/- 3%	13.5%	MSCI ACWI ex-U.S. (Net)
Global Smart Beta Equities	+/- 3%	5%	Custom Index²
Fixed Income		32.529%	
Core Fixed Income	+/- 3%	26.5%	Bloomberg U.S. Aggregate
Public Credit	+/- 3%	3.5%	Custom Index ³¹
Cash	+/- 3%	1%	Merrill Lynch 91-Day T-Bill
TOTAL PUBLIC MARKETS		65.8.5%	
	Asset Class Targets	Policy Benchmark Weights	Policy Benchmark Index
Private Equity	15.57%	Actual ⁴²	Portfolio ⁵³
Private Credit	10.6%	Actual ⁴²	Portfolio ⁵³
Private Real Assets	9.5%	Actual ⁴²	Portfolio ⁵³
TOTAL PRIVATE MARKETS		35.2%	

¹On September 17, 2020, September 22, 2022, and September 28, 2023, the Investment Board revised the Asset Allocation Policy, as reflected in the table below. However, the Board stipulated that core fixed income assets should be reduced as needed to fund new allocations to the private markets. Therefore, beginning October 1, 2020 and revised as of October 1, 2022, and October 1, 2023, the target weight for private equity will be increased to 17 percent and core fixed income will be lowered to 22.5 percent, with target weights being adjusted quarterly in the future to reflect the progress in funding the increased allocations to private credit and private real assets.

Asset Class	Current Weight	Target Weight
Core Fixed Income	25%	22.5%
Private Credit	6%	8%
Private Real Assets	9%	9.5%

²This benchmark index is defined as 60 percent Russell 1000 Comprehensive Factor Index + 30 percent FTSE Developed ex U.S. Comprehensive Factor Index + 10 percent FTSE Emerging Comprehensive Factor Index.

¹³This benchmark index is defined as 67 percent Bloomberg U.S. High Yield 2% Issuer Capped Index + 33 percent JP Morgan EMBI Global Index.

²⁴The benchmark weight for each private market asset class is the actual percentage of each asset class relative to the total fund portfolio.

³⁵The benchmark index for each private market asset class is the return of the portfolio itself.

II. Active Risk Budget

	Target ⁶⁴	Upper Limit ⁶⁴
Total Fund	1.50%	3.00%
External Managers	1.00%	2.50%
Investment Staff	1.00%	2.50%

⁴⁶Measured as tracking error (the standard deviation of excess return) at the Total Fund level.

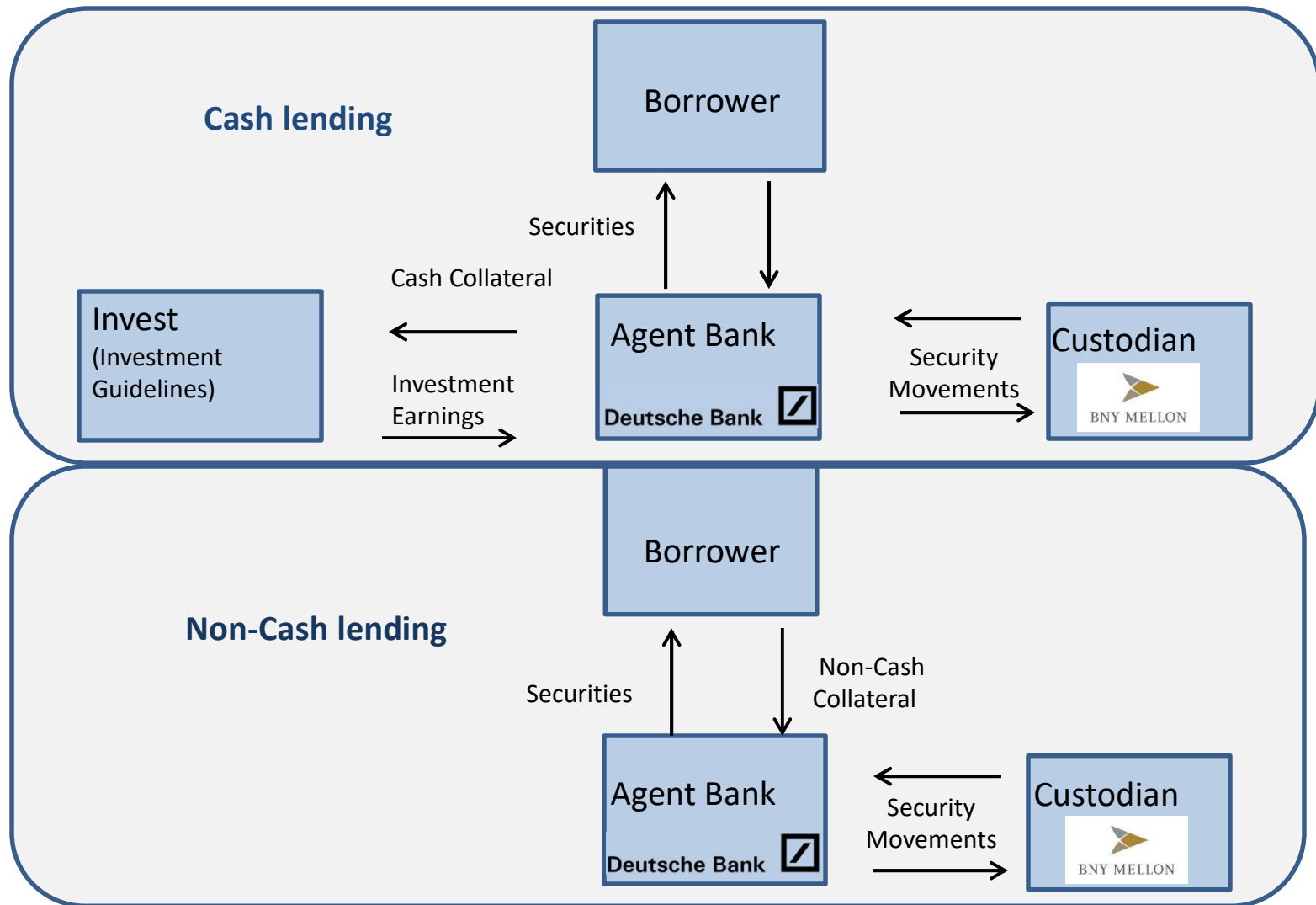


State of Iowa Treasurer's Office

Securities Lending Presentation
FY 25
Jina Bresson



State of Iowa Treasurer's Office





State of Iowa Treasurer's Office

Overview

- ☐ Lend only securities in actively managed accounts

	FY 24	FY 25
Lendable Balance	\$4,923,114,448	\$5,028,284,621
On Loan	\$366,447,393	\$346,300,957

- ☐ Provide incremental income to the portfolio
- ☐ Maximize investment return on existing securities
- ☐ Increase earnings without interrupting trade activities
- ☐ Split is 90/10 with IPERS/Deutsche Bank



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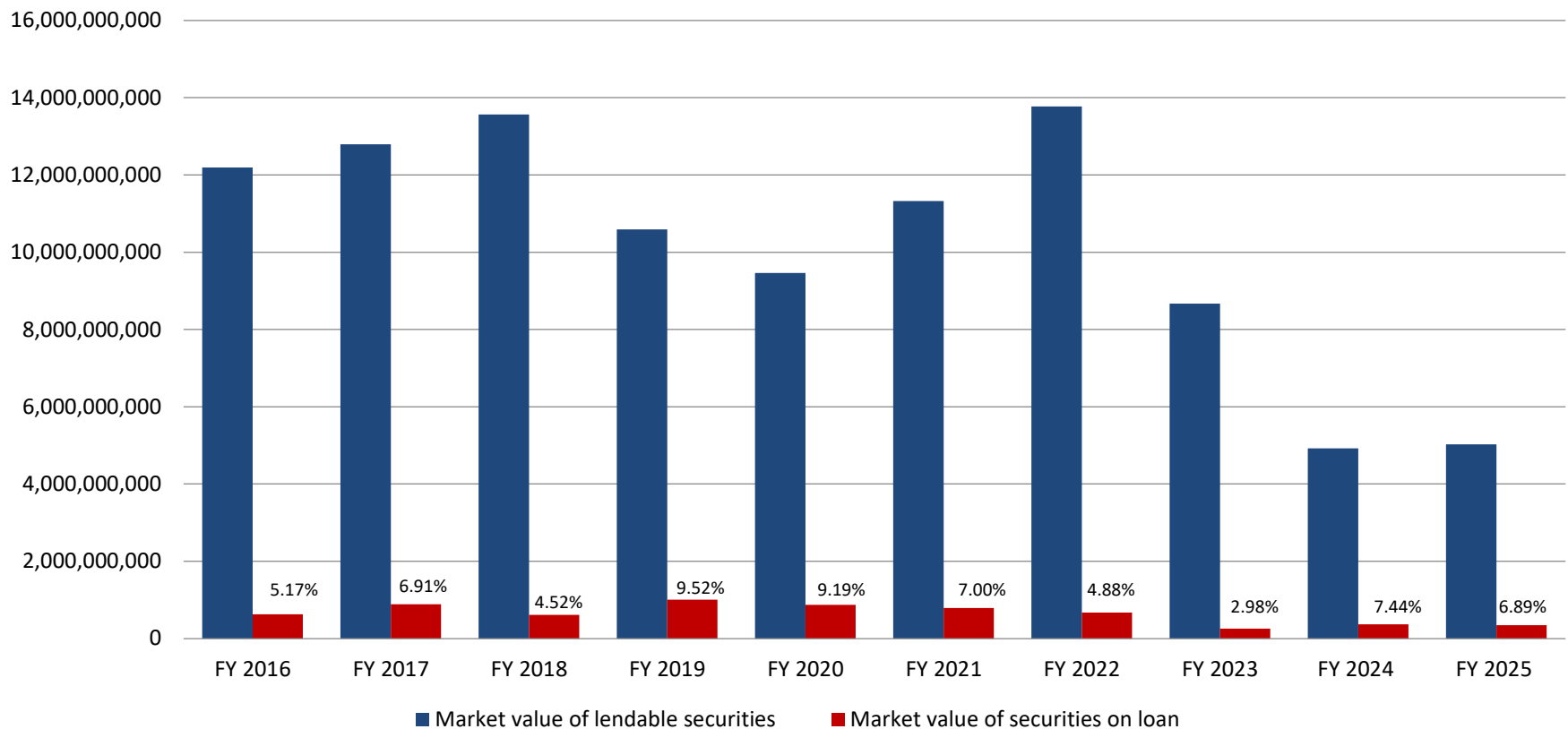
Investment Guidelines

- ☐ Invest according to IPERS' current low-risk investment strategy.
- ☐ Cash collateral is invested in:
 - ☐ Government money market funds
 - ☐ Overnight repurchase agreements collateralized with obligations issued by the United States Treasury or obligations issued by agencies or government-sponsored entities of the United States government
- ☐ Non-cash collateral
 - ☐ Treasuries



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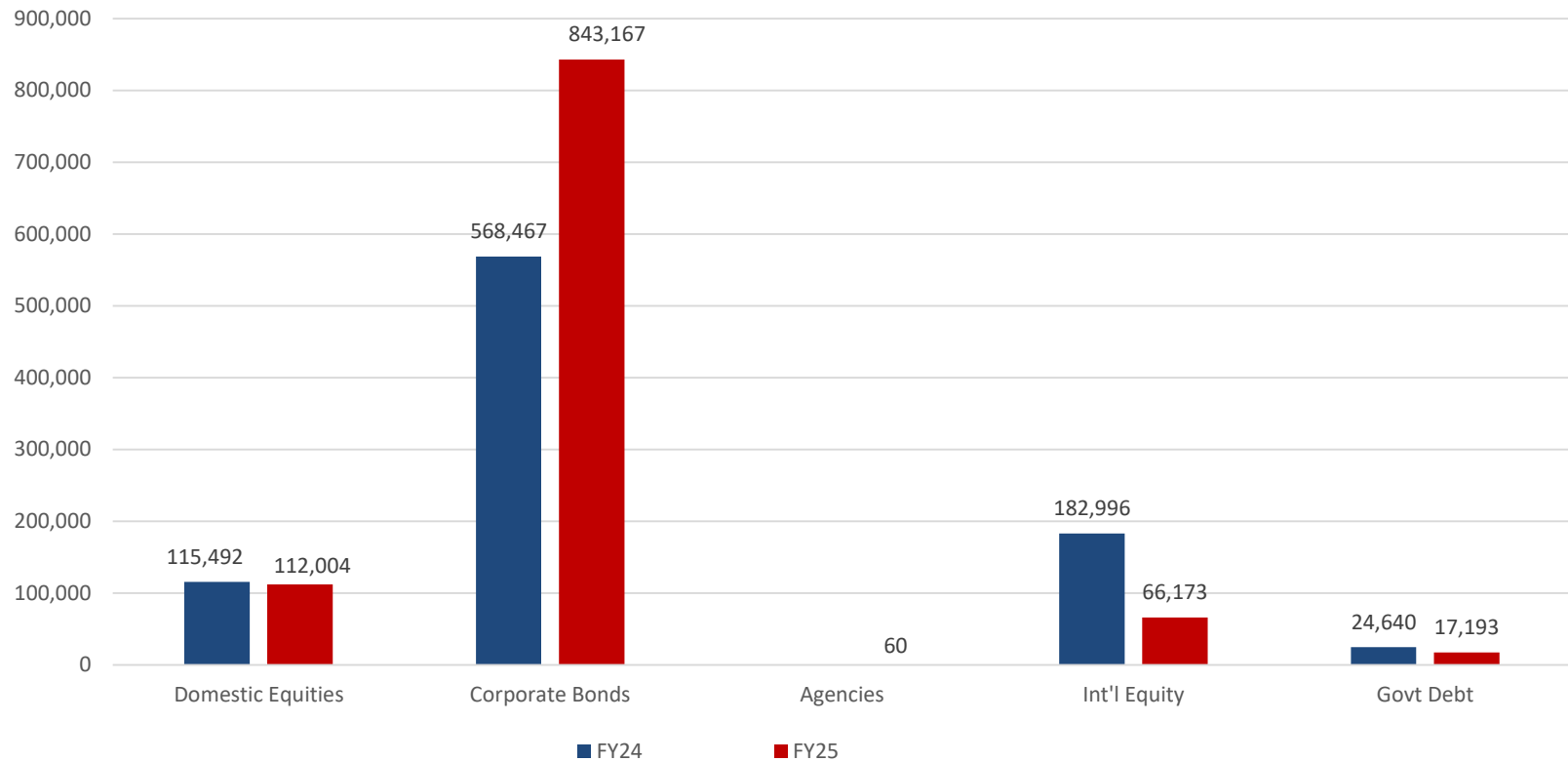
Percent of Lendable Securities on Loan





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Earnings by Asset Class

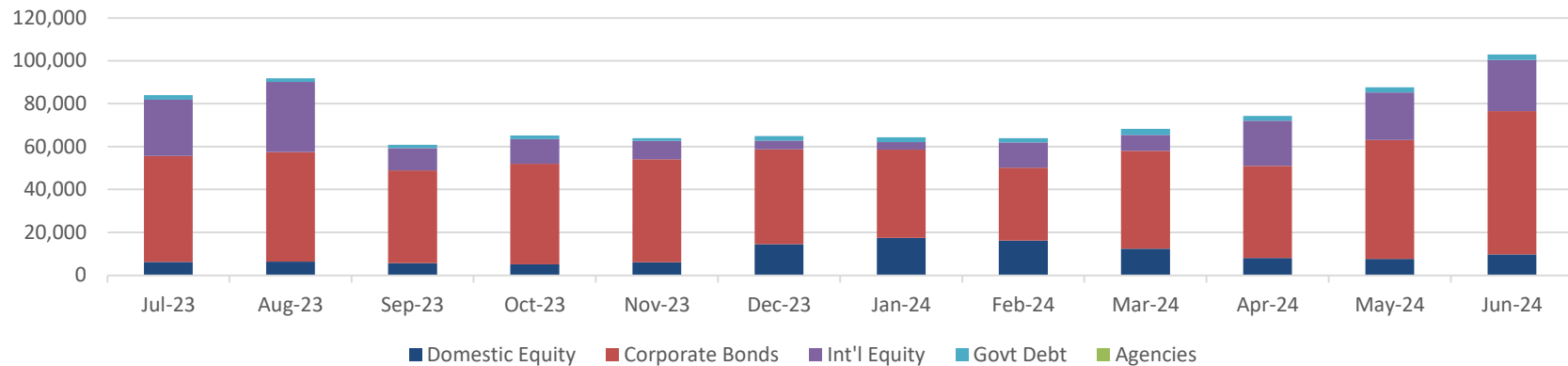




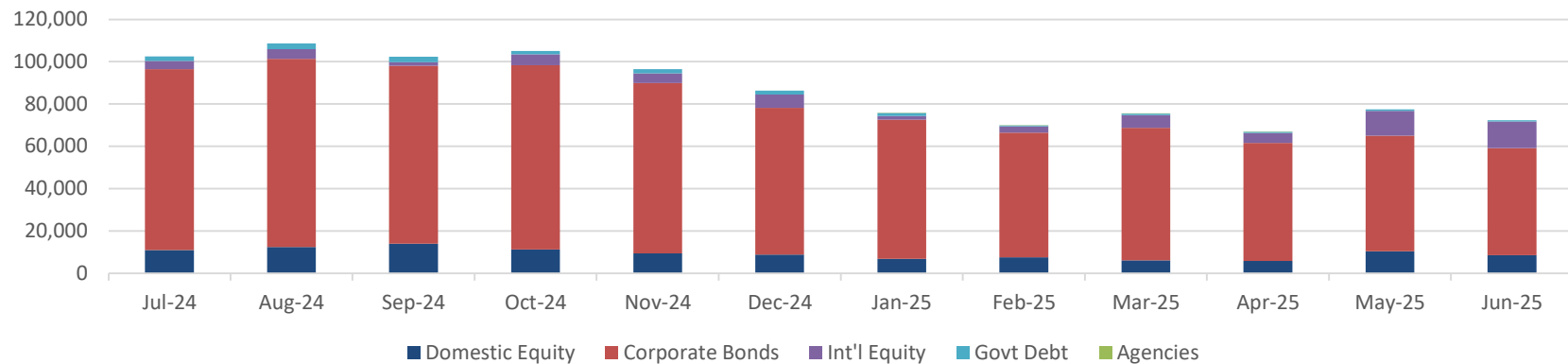
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Monthly Earnings by Asset Class

FY 24



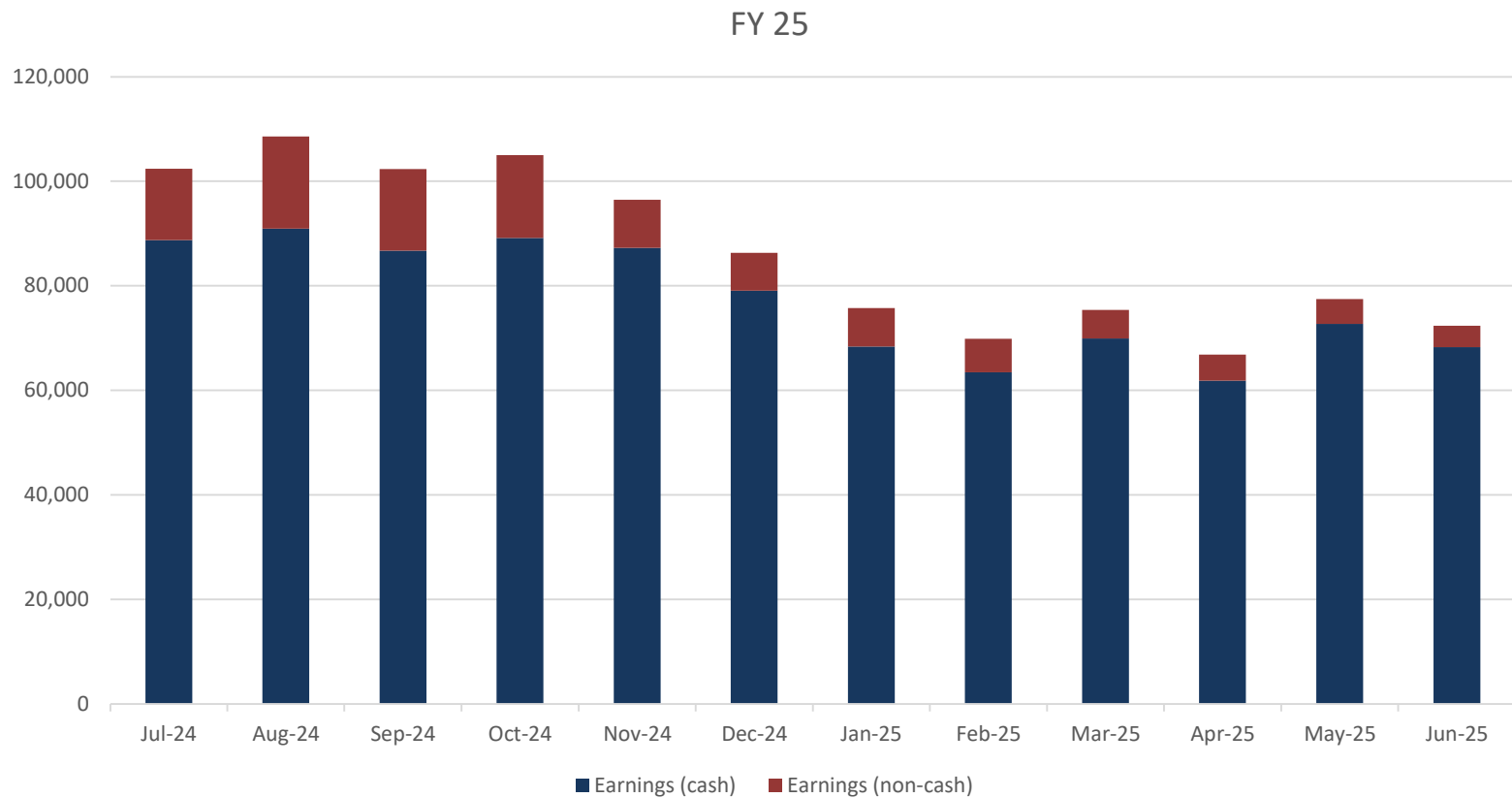
FY 25





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Cash and Non-Cash Earnings





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Top Earning Securities

Security	Asset Type	Client Earnings – FY 25
BGS 5 1/4 09/15/27 (B&G Foods)	Bond	\$82,890
CAR 8 2/15/31 (Avis)	Bond	\$67,724
HTZ 5 12/01/29 (Hertz)	Bond	\$60,523
ARGID 4 1/8 08/15/26 (Ardagh)	Bond	\$46,495
BHCCN 6 1/4 02/15/29 (Bausch)	Bond	\$41,987

Security	Asset Type	Client Earnings – FY 24
MAGN 4 3/4 11/15/29 (Magna Corp)	Bond	\$65,032
Equinor Asa	Equity	\$56,660
LVL 10 1/2 05/15/30 (Level 3 Fin)	Bond	\$35,603
BHCCN 8 1/2 01/31/27 (Bausch)	Bond	\$34,007
SAMHALLSBYGGNADSBOLAGET	Equity	\$32,851



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Borrower Attribution

Borrower – FY 25	Average On Loan	% of Total
JP Morgan	\$153,196,150	44.32%
Goldman Sachs	\$57,070,605	16.51%
Barclays	\$35,193,947	10.18%
Pershing	\$22,857,464	6.61%
Citigroup	\$12,699,128	3.67%



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Top Earnings by Fund

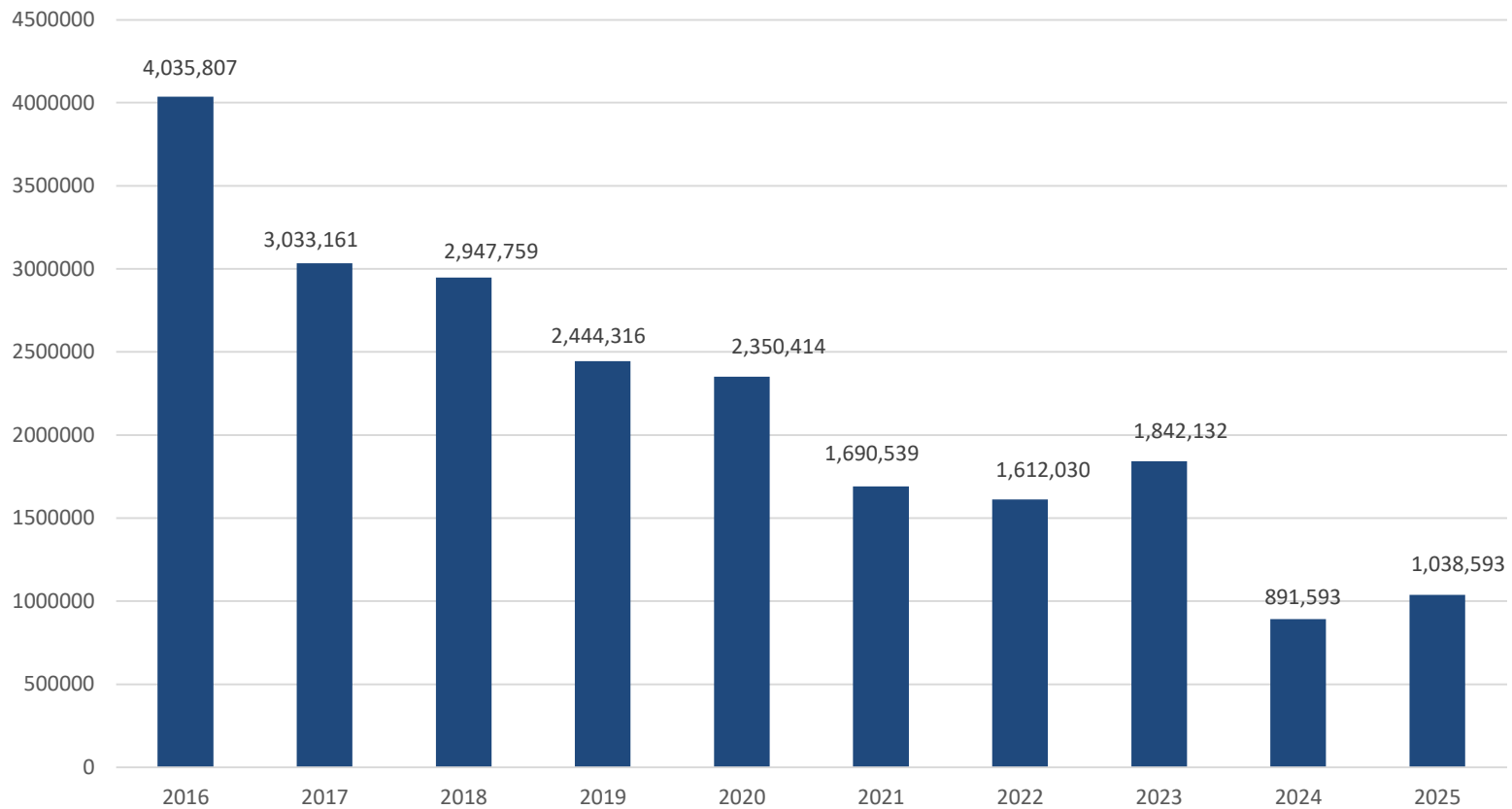
Fund Name	Client Earnings – FY 25
Aegon	\$481,536
PGIM High Yield	\$336,789
US Smart Beta	\$84,486
Developed Ex US Smart Beta	\$33,587
Prudential EMD	\$30,411

Fund Name	Client Earnings – FY 24
Aegon	\$357,835
PGIM High Yield	\$161,161
US Smart Beta	\$94,839
Panagora	\$76,402
Developed Ex US Smart Beta	\$58,694



State of Iowa Treasurer's Office

Earnings by Fiscal Year



BETA REPORT

IOWA PUBLIC EMPLOYEES' RETIREMENT SYSTEM PORTFOLIO

PRELIMINARY (Unreconciled) MARKET VALUES AT

9/12/2025

	Actual		Overlay		Total		Policy		Difference	
PUBLIC MARKETS										
Domestic	\$	10,503,107,981	\$	88,311,200	\$	10,591,419,181	\$	10,528,443,765	\$	62,975,416
International	\$	6,569,790,569	\$	30,332,117	\$	6,600,122,686	\$	6,516,006,274	\$	84,116,413
Global Smart Beta	\$	2,484,693,034			\$	2,484,693,034	\$	2,503,568,782	\$	(18,875,748)
Total Equities	\$	19,557,591,584			\$	19,676,234,901	\$	19,548,018,821	\$	128,216,080
Core Fixed Income	\$	12,449,805,544	\$	191,425,368	\$	12,641,230,912	\$	12,532,259,854	\$	108,971,059
Public Credit	\$	1,456,585,823			\$	1,456,585,823	\$	1,504,063,395	\$	(47,477,572)
Cash	\$	823,129,671	\$	(310,068,685)	\$	513,060,985	\$	499,752,694	\$	13,308,292
PRIVATE MARKETS	\$	13,766,030,988			\$	13,766,030,988	\$	13,969,048,847	\$	(203,017,860)
Private Equity	\$	7,711,196,138			\$	7,711,196,138	\$	7,827,857,094	\$	(116,660,956)
Private Credit	\$	2,865,812,538			\$	2,865,812,538	\$	2,902,409,874	\$	(36,597,336)
Private Real Assets	\$	3,189,022,312			\$	3,189,022,312	\$	3,238,781,879	\$	(49,759,567)
TOTAL FUND	\$	48,053,143,610					\$	48,053,143,610	\$	-

	Actual	Overlay	Total	Policy	Difference
PUBLIC MARKETS					
Domestic	21.86%	0.18%	22.04%	21.91%	0.13%
International	13.67%	0.06%	13.74%	13.56%	0.18%
Global Smart Beta	5.17%		5.17%	5.21%	-0.04%
Total Equities	40.70%		40.95%	40.68%	0.27%
Core Plus	25.91%	0.40%	26.31%	26.08%	0.23%
Public Credit	3.03%		3.03%	3.13%	-0.10%
Cash	1.71%	-0.65%	1.07%	1.04%	0.03%
PRIVATE MARKETS					
	28.65%		28.65%	29.07%	-0.42%
Private Equity	16.05%		16.05%	16.29%	-0.24%
Private Credit	5.96%		5.96%	6.04%	-0.08%
Private Real Assets	6.64%		6.64%	6.74%	-0.10%
TOTAL FUND	100.00%			100.00%	0.00%

BETA REPORT							
IOWA PUBLIC EMPLOYEES' RETIREMENT SYSTEM PORTFOLIO							
PRELIMINARY (Unreconciled) MARKET VALUES AT							
9/12/2025							
PUBLIC PORTFOLIO		71.35%	\$	34,287,112,622			
Manager Name	Manager % of Asset Class	Total Market Value		Manager Name	Manager % of Asset Class	Total Market Value	
Blackrock R2000 SAE	2.44%	\$	256,136,518	Western	0.05%	\$	5,672,623
Blackrock Russell 1000 Alpha Tilts	23.36%	\$	2,453,620,370	IPERS MESIROW EM CURRENCY	2.12%	\$	263,552,440
DOMESTIC EQUITY - ACTIVE	5.64%	\$	2,709,756,888	IPERS MAN EM GLOBAL MACRO	1.18%	\$	146,954,159
Mellon - Russell 1000 Index	71.86%	\$	7,547,677,524	Blackrock	0.00%	\$	18,124
Mellon - Russell 2000 Index	1.93%	\$	202,832,132	Principal Global Investors	0.00%	\$	156,360
Rhumbline Advisers	0.00%	\$	-	TCW	0.00%	\$	108,837
Parametric - Domestic Equity	0.41%	\$	42,841,436	Prudential	0.00%	\$	11,828
NT Transition Manager	0.00%	\$	-	BlackRock Universal Alpha	2.61%	\$	325,532,764
DOMESTIC EQUITY - PASSIVE	16.22%	\$	7,793,351,093	BlackRock Universal Beta	3.00%	\$	372,911,053
TOTAL DOMESTIC EQUITY	21.86%	\$	10,503,107,981	Mackay Shields	0.00%	\$	61
Blackrock - Canada	8.27%	\$	543,380,299	PGIM GLRV Alpha	2.38%	\$	296,907,424
Passive - Blackrock EAFE	31.15%	\$	2,046,508,303	PGIM GLRV Beta	2.24%	\$	279,089,693
Parametric - Int'l Equity	0.52%	\$	34,415,427	CORE PLUS - ACTIVE	3.52%	\$	1,690,915,366
Mellon Passive Emerging	17.71%	\$	1,163,588,844	Parametric - Fixed Income	0.27%	\$	33,126,010
INTERNATIONAL EQUITY - PASSIVE	7.88%	\$	3,787,892,872	Mellon SLH Agg	86.15%	\$	10,725,764,168
Blackrock EAFE SAE	22.53%	\$	1,480,142,140	CORE PLUS - PASSIVE	22.39%	\$	10,758,890,178
Blackrock EM SAE	7.52%	\$	493,935,697	TOTAL CORE PLUS	25.91%	\$	12,449,805,544
Blackrock Europe Alpha Tilt	0.06%	\$	4,080,329	Oaktree Capital Management	0.13%	\$	1,921,771
BMO EAFE	0.04%	\$	2,760,631	Aegon USA	32.84%	\$	478,410,677
International Equity Transition	0.01%	\$	341,218	Prudential EMD	33.72%	\$	491,184,273
Oechsle	0.01%	\$	796,798	PGIM High Yield	33.30%	\$	485,069,102
PanAgora Dynamic EAFE	7.12%	\$	467,518,570	TOTAL PUBLIC CREDIT	3.03%	\$	1,456,585,823
Columbia EAFE Equity	0.08%	\$	5,372,681	UBS - US	59.55%	\$	1,479,642,528
Wellington EM	4.98%	\$	326,949,632	UBS - Developed ex US	30.34%	\$	753,773,106
INTERNATIONAL EQUITY - ACTIVE	5.79%	\$	2,781,897,696	UBS - EM	10.11%	\$	251,277,400
TOTAL INTERNATIONAL EQUITY	13.67%	\$	6,569,790,569	TOTAL GLOBAL SMART BETA EQUITIES	5.17%	\$	2,484,693,034
				Cash Account	81.41%	\$	670,123,651
				LARS Liquid Assets	25.04%	\$	206,148,762
				Parametric - Directed Trades	5.69%	\$	46,857,258
				Parametric - Synthetic Cash	0.00%	\$	-
				Public Real Assets Cash	0.00%	\$	-
				Pending Cash	-12.15%	\$	(100,000,000)
				CASH ACCOUNT	1.71%	\$	823,129,671
PRIVATE PORTFOLIO		28.65%	\$	13,766,030,988			
Manager Name	Manager % of Asset Class	Total Market Value		Manager Name	Manager % of Asset Class	Total Market Value	
Legacy Portfolio	8.67%	\$	668,391,085	RREEF	40.34%	\$	970,133,898
Pathway PE Fund XXV	91.33%	\$	7,042,805,053	Clarion Partners	2.22%	\$	53,464,850
PRIVATE EQUITY	16.05%	\$	7,711,196,138	KARED VII	1.37%	\$	33,025,199
BlackRock	31.74%	\$	315,556,965	Invesco	35.49%	\$	853,348,195
Pathway XXV-B	26.92%	\$	267,666,446	UBS Realty	20.57%	\$	494,704,113
Monroe Capital	41.34%	\$	411,018,958	REAL ESTATE	5.00%	\$	2,404,676,254
DIRECT LENDING	2.07%	\$	994,242,368	Brookfield Super Core Infrastructure	43.07%	\$	337,797,057
ArrowMark	18.70%	\$	215,402,044	Macquarie Infrastructure	17.57%	\$	137,823,429
Crestline Opps Credit IA	15.49%	\$	178,363,169	Forest Invest	25.12%	\$	197,034,114
Crestline Opps Credit IA SRS	8.53%	\$	98,218,462	UBS Farmland Investors	14.24%	\$	111,691,457
Audax Mezzanine Fund V	3.99%	\$	45,914,931	OTHER REAL ASSETS	1.63%	\$	784,346,058
Marathon SPS IA Fund, L.P.	20.88%	\$	240,483,220	PRIVATE REAL ASSETS	6.64%	\$	3,189,022,312
KKR Goldfinch	24.98%	\$	287,755,944				
Ares Private Credit Solutions II	6.31%	\$	72,730,666				
Audax Mezzanine Coinvest IA	1.12%	\$	12,858,381				
OPPORTUNISTIC	2.40%	\$	1,151,726,816				
Oaktree RECIF	9.04%	\$	65,064,815				
IPERS Principal OEDF	3.37%	\$	24,293,982				
ITE	10.84%	\$	78,041,709				
IFM USIDF	13.00%	\$	93,594,174				
PGIM RE Global Debt	14.96%	\$	107,707,598				
IPERS PGIM PREDS	9.70%	\$	69,809,952				
Principal RE Debt II	0.00%	\$	-				
KARED IV	10.01%	\$	72,065,555				
IPERS GTIF	14.24%	\$	102,513,315				
Heitman Credit	14.83%	\$	106,752,253				
REAL ASSETS CREDIT	1.50%	\$	719,843,354				
PRIVATE CREDIT	5.96%	\$	2,865,812,538				
GRAND TOTAL		\$	48,053,143,610				
	PERCENT	DOLLARS					
PUBLIC MARKET	71.35%	\$	34,287,112,622				
PRIVATE MARKET	28.65%	\$	13,766,030,988				
TOTAL	100.00%	\$	48,053,143,610				

RECENT MARKET VALUES		
9/12/2025	\$	48,053,143,610
9/5/2025	\$	47,620,972,849
8/29/2025	\$	47,365,478,826
8/22/2025	\$	47,559,161,231
8/15/2025	\$	47,385,142,589
8/8/2025	\$	47,120,264,173
8/1/2025	\$	46,638,821,634
7/25/2025	\$	47,102,768,201
7/18/2025	\$	46,772,195,441
7/11/2025	\$	46,634,007,415

Alpha Report

For periods ending June 30, 2025

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IPERS' Active Manager Alpha Scorecard

Net of Fees as of 2Q25	2Q25	1 Year	3 Year	5 Year	SI	Perf	Org	People	Process
Domestic Equity									
BlackRock - Russell 1000 SAE	0.65%	-1.87%	0.14%	NA	0.20%				
BlackRock - Russell 2000 SAE	-0.39%	-0.81%	0.76%	0.60%	1.30%				
International Equity									
BlackRock - EAFE SAE	-0.36%	2.63%	2.88%	2.09%	1.63%				
PanAgora - Dynamic EAFE	0.07%	0.87%	1.93%	2.24%	0.99%				
Wellington - Emerging Markets	1.96%	-2.73%	0.24%	-0.04%	0.11%				
BlackRock - Emerging Markets SAE	-0.86%	-2.31%	-0.14%	-0.59%	-0.53%				
Core Fixed Income									
BlackRock - Universal	0.34%	-1.07%	0.71%	NA	0.92%				
PGIM - Universal	0.77%	2.35%	2.18%	NA	0.36%				
Man EM Global Macro	-1.80%	-8.24%	NA	NA	-12.28%				
Mesirow EM Currency	7.26%	7.92%	NA	NA	-1.88%				
Public Credit									
PGIM - High Yield	-0.27%	1.14%	0.07%	1.01%	0.72%				
Aegon USA - High Yield	0.31%	0.02%	-0.92%	0.22%	0.21%				
PGIM - Emerging Market Debt	0.57%	0.99%	2.00%	1.21%	0.89%				
LARS									
Aspect Capital	-6.87%	-14.08%	-0.20%	NA	1.43%				
Graham Capital Management	-5.07%	-15.58%	-5.51%	0.25%	1.96%				
P/E Global	-10.80%	-9.36%	-0.87%	0.03%	2.72%				
PIMCO	-3.55%	-10.77%	5.18%	NA	4.97%				
Welton Global	-6.81%	-15.27%	-11.58%	NA	-5.00%				
ARP	-3.17%	-2.81%	NA	NA	-2.37%				
DCM	4.25%	NA	NA	NA	13.09%				



No Concerns



Minor Concerns



Material Concerns

IPERS' Active Manager Listing

MANAGER	INCEPTION DATE	MANDATE	BENCHMARK
Domestic Equity			
BlackRock - Russell 1000 SAE	May 2022	Large Cap	Russell 1000
BlackRock - Russell 2000 SAE	May 2019	Small Cap	Russell 2000
International Equity			
BlackRock – EAFE SAE	May 2019	Developed EAFE	MSCI EAFE Index (net)
PanAgora - Dynamic EAFE	May 2019	Developed EAFE	MSCI EAFE Index (net)
Wellington - Emerging Markets	February 2009	Global Emerging Markets	MSCI Emerging Markets (net)
BlackRock - Emerging Markets SAE	May 2019	Global Emerging Markets	MSCI Emerging Markets (net)
Core Fixed Income			
BlackRock - Universal	November 2020	Relative Value	Bloomberg U.S. Aggregate
PGIM - Universal	March 2021	Relative Value	Bloomberg U.S. Aggregate
Man EM Global Macro	October 2023	Relative Value	Bloomberg U.S. Aggregate
Mesirow EM Currency	October 2023	Relative Value	Bloomberg U.S. Aggregate
Public Credit			
PGIM - High Yield	June 2019	High Yield	Bloomberg U.S. HY 2% Capped Index
Aegon USA - High Yield	February 2012	High Yield	High Yield Policy Index
PGIM - Emerging Market Debt	April 2016	Emerging Market Debt	JP Morgan EMBI Global
LARS			
Aspect Capital	March 2022	Diversified Trend	Absolute Return
Graham Capital Management	December 2016	Tactical Trend	Absolute Return
P/E Global	December 2016	FX Strategy	Absolute Return
PIMCO	July 2022	Commodity Alpha	Absolute Return
Welton Global	June 2021	Welton Global	Absolute Return
ARP	November 2022	Alternative Risk Premium	Absolute Return
DCM	March 2025	Diversified Alpha	Absolute Return

Private Market Program Manager Updates

For periods ending June 30, 2025

IOWA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

September 25, 2025



IPERS' PMP Manager Scorecard

	1 Year	5 Year	10 Year	SI	Performance	Organization	People	Process
Private Equity								
Multi-Strategy								
Pathway	4.22%	16.76%	15.12%	12.73%				
Private Credit								
Direct Lending								
BlackRock	4.94%	7.52%	N/A	7.03%				
Monroe Capital	7.77%	8.18%	N/A	7.41%				
Pathway XXV-B	11.30%	N/A	N/A	9.20%				
Opportunistic								
Arrowmark	10.51%	N/A	N/A	9.68%				
Ares Private Credit Solutions II	10.21%	N/A	N/A	6.94%				
Audax Mezzanine Fund V	10.86%	N/A	N/A	15.97%				
Audax Mezzanine Co-Invest IA	15.66%	N/A	N/A	12.60%				
Crestline Series I	4.90%	N/A	N/A	7.59%				
Crestline Series II	8.24%	N/A	N/A	6.94%				
KKR	9.30%	8.66%	N/A	7.99%				
Marathon	7.20%	N/A	N/A	6.65%				
Real Assets								
Heitman – CREDIT	0.17%	N/A	N/A	-1.76%				
IFM – USIDF	5.41%	N/A	N/A	4.68%				
PGIM Real Estate Global Debt	9.93%	7.68%	N/A	7.29%				
Principal – PREDF II	27.42%	8.69%	N/A	8.37%				
Kayne Anderson – KARED IV	11.40%	N/A	N/A	9.19%				
JP Morgan – GTIF	12.01%	N/A	N/A	9.42%				
ITE	8.36%	N/A	N/A	9.77%				
PGIM – PREDS	7.11%	N/A	N/A	5.46%				
Oaktree – RECIF	6.41%	N/A	N/A	4.93%				
Principal – OEDF	6.77%	N/A	N/A	4.97%				



No Concerns




Minor Concerns





Material Concerns

IPERS' PMP Manager Scorecard

	1 Year	5 Year	10 Year	SI	Performance	Organization	People	Process
Private Real Assets								
Real Estate								
Clarion Partners	-8.72%	-6.35%	-1.39%	3.09%				
Invesco	2.80%	10.34%	11.26%	9.93%				
RREEF	3.06%	6.32%	7.52%	9.03%				
UBS Realty	6.97%	10.03%	10.51%	9.68%				
Kayne Anderson – KAREP VII	N/A	N/A	N/A	-4.90%				
Other Real Assets								
Brookfield – BSIP	6.51%	N/A	N/A	7.56%				
Forest Investment Associates	-2.47%	6.79%	4.98%	5.73%				
UBS Farmland	2.54%	5.33%	N/A	6.72%				
Macquarie - MIP VI	N/A	N/A	N/A	N/A				

 No Concerns

 Minor Concerns

 Material Concerns

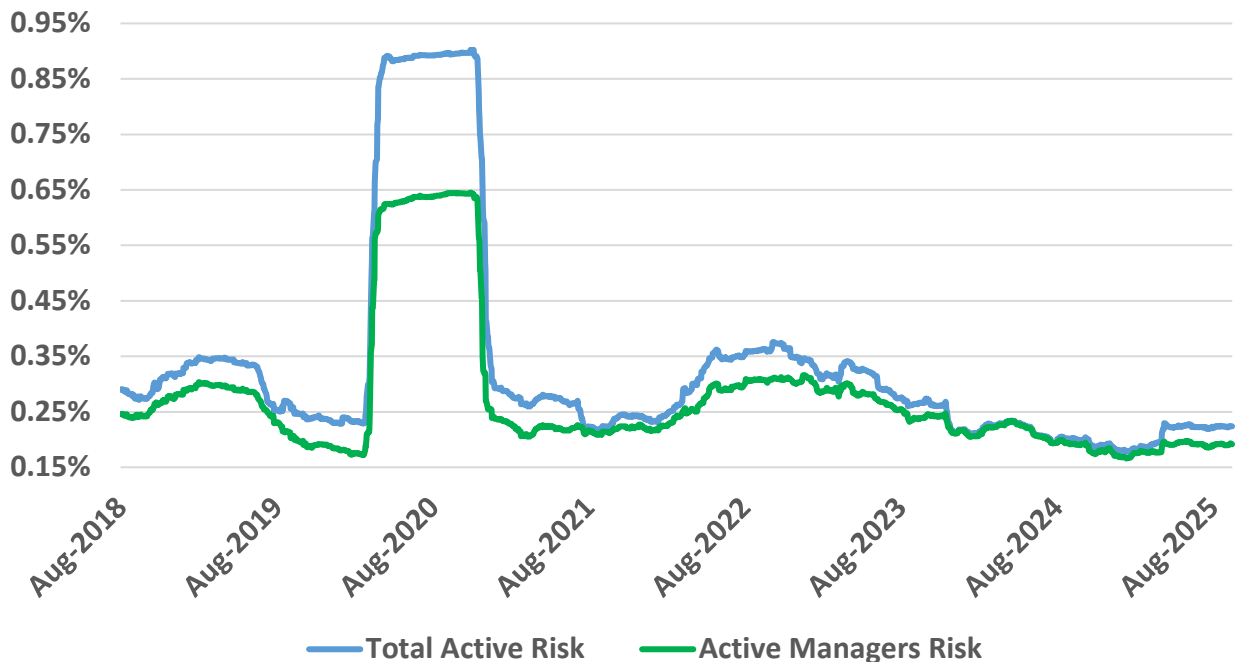
Active Risk –180 Days (Sep 2025)

	Active	Passive	Misfit	Total
Equities				
Domestic Equities	0.08%	0.09%	0.00%	0.12%
International Equities	0.09%	0.05%	0.00%	0.11%
Global Smart Beta Equities	-	0.00%	0.00%	0.00%
Fixed Income				
Core Fixed Income	0.10%	0.02%	0.00%	0.10%
Public Credit	0.03%	-	0.00%	0.03%
LARS (External)	0.05%	-	-	0.06%
Internal (ARP+SDT)	0.02%	-	-	0.02%
Asset Allocation	-	0.07%	-	0.07%
Total Public Markets	0.19%	0.14%	0.00%	0.23%

- Plan-level Total Active Risk at 0.23%
- We are now tracking ARP along with Staff directed trades under Internal
- We expect the passive risk to roll off towards the end of Q4 unless we need big physical rebal.

Target	1.50%
Upper Limit	3.00%

External Active Risk –180 Days (Sep 2025)



2026

Board Meetings

JANUARY						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

FEBRUARY						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

MARCH						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

JULY						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

AUGUST						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

OCTOBER						
S	M	T	W	T	F	S
			1	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

March 27, 2026

CY2025 Investment Performance

June 19, 2025

Private Markets Program Review

September 24-25, 2025

Continuing Education Session

FY2025 Investment Performance Review

Asset Allocation

Investment Policy & Goal Statement

December 5, 2025

Actuarial Valuation Presentation