

RVK

Quarterly Performance Report

Pennsylvania State Employees' Retirement System
Defined Benefit Plan

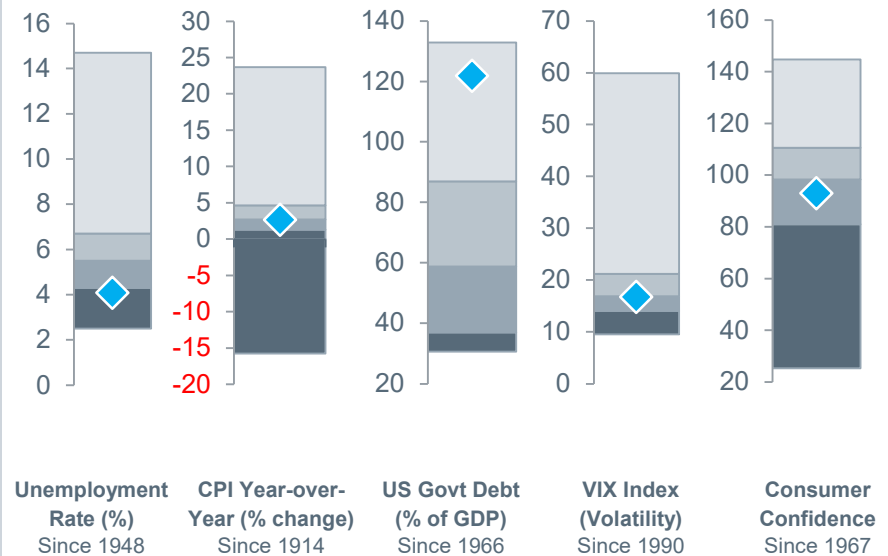
June 30, 2025

Capital Markets Review

Second Quarter Economic Environment

The US tariff policy negotiations were front and center for investors throughout Q2. On April 2nd, the unexpected breadth and scale of the announced tariffs triggered a sharp drop in equity markets and contributed to significant dislocations in the US Treasury market. A 90-day tariff pause was declared on April 9th, reducing tariffs for most countries to the previously established 10% rate. This, along with subsequent progression in trade deals, contributed to a rebound in risk assets that continued through the latter half of the quarter. Global equity markets finished Q2 with returns of 11.6%, as measured by the MSCI All Country World Investable Market Index. Non-US developed and emerging market regional returns outpaced the US equity market with contributions from a weakening US Dollar and economic stimulus within major countries. Global bond markets, amid the volatility in Q2, delivered positive performance during the quarter, as inflationary pressures have remained subdued despite initial concerns that tariffs would cause a significant one-time shock. However, the Organisation for Economic Cooperation and Development (OECD) projected headline inflation for OECD countries of 4.2% in 2025, up from forecasts of 3.7% released in December 2024. The US Federal Open Market Committee (FOMC) maintained its policy rate range. At present, the FOMC forecasts indicate a continued expectation for rate reductions totaling 50 basis points in 2025.

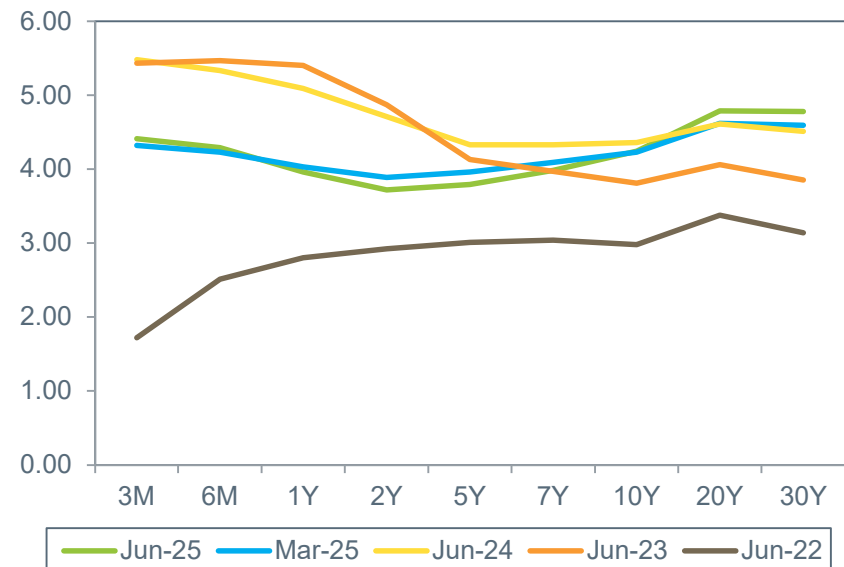
Key Economic Indicators

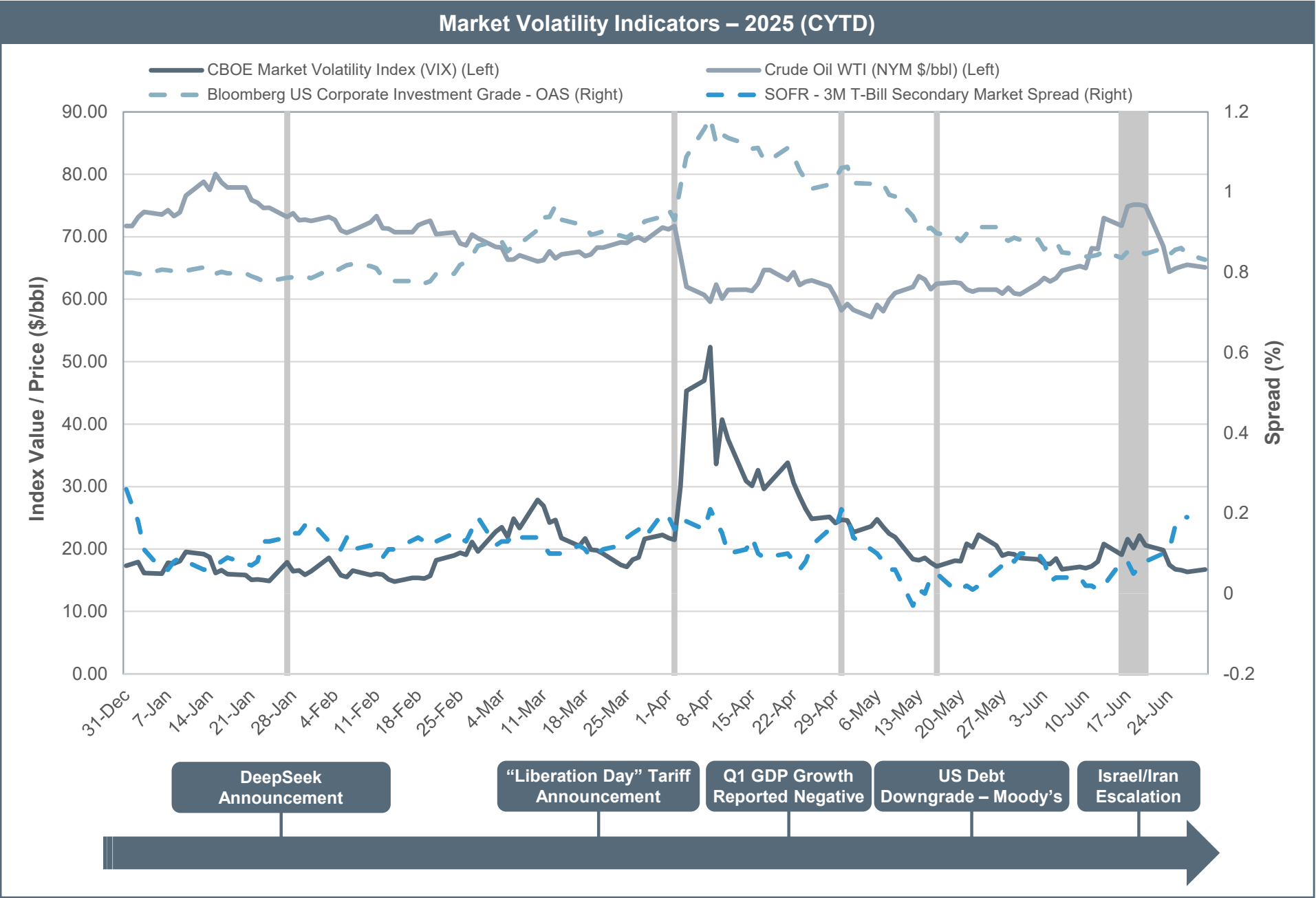


Economic Indicators	Jun-25	Mar-25	Jun-24	Jun-22	20 Yr
Federal Funds Rate (%)	4.33	4.33	5.33	1.58	1.72
Breakeven Infl. - 5 Yr (%)	2.31 ▼	2.63	2.24	2.62	1.92
Breakeven Infl. - 10 Yr (%)	2.28 ▼	2.37	2.27	2.34	2.08
CPI YoY (Headline) (%)	2.7 ▲	2.4	3.0	9.1	2.6
Unemployment Rate (%)	4.1 ▼	4.2	4.1	3.6	5.8
Real GDP YoY (%)	3.0 ▲	2.0	3.0	1.9	1.9
PMI - Manufacturing	49.0	49.0	48.5	53.0	52.8
USD Total Wtd Idx	119.83 ▼	126.94	124.52	121.05	104.92
WTI Crude Oil per Barrel (\$)	65.1 ▼	71.5	81.5	105.8	72.3
Gold Spot per Oz (\$)	3,303 ▲	3,118	2,337	1,807	1,400

Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	10.94	6.20	15.16	16.64	13.65
Russell 2000	8.50	-1.79	7.68	10.04	7.12
MSCI EAFE (Net)	11.78	19.45	17.73	11.16	6.51
MSCI EAFE SC (Net)	16.59	20.89	22.46	9.28	6.51
MSCI Emg Mkts (Net)	11.99	15.27	15.29	6.81	4.81
Bloomberg US Agg Bond	1.21	4.02	6.08	-0.73	1.76
ICE BofA 3 Mo US T-Bill	1.04	2.07	4.68	2.76	1.97
NCREIF ODCE (Gross)	1.03	2.10	3.54	3.43	5.35
FTSE NAREIT Eq REIT (TR)	-1.16	-0.25	8.60	8.63	6.32
HFRI FOF Comp	3.33	2.93	7.15	6.19	3.81
Bloomberg Cmtty (TR)	-3.08	5.53	5.77	12.68	1.99

Treasury Yield Curve (%)





Second Quarter Review

Broad Market

The US tariff policy announcement caused a significant market drawdown to start Q2. However, following the initial tariff pause and other positive developments, market volatility waned and market returns rebounded with the Russell 3000 Index returning 11.0% in Q2.

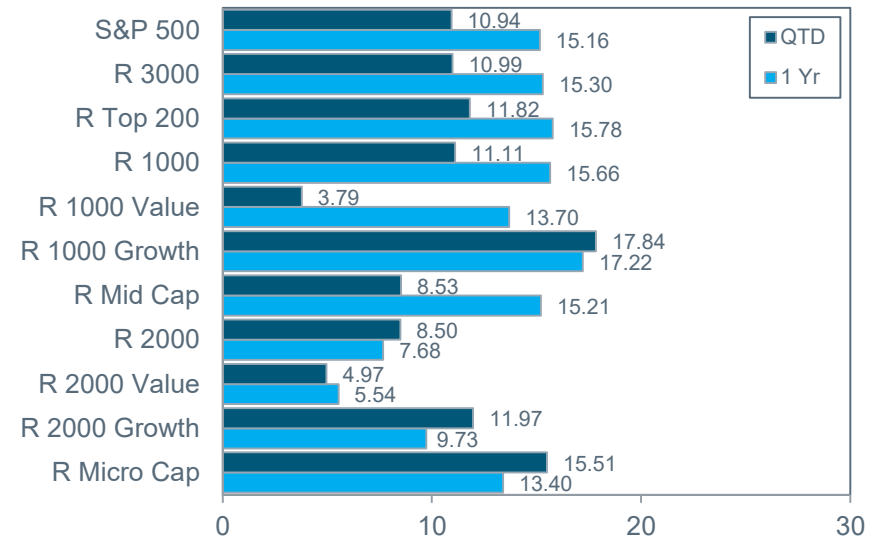
Market Cap

Growth stocks outperformed value stocks with the Russell 3000 Growth Index returning 17.6% while the Russell 3000 Value Index was more muted at 3.8%. Large-cap outperformed small-cap as measured by the Russell 1000 and Russell 2000 returning 11.1% and 8.5%, respectively. The primary contributor to the performance of the Russell 3000 Index was the recovery of the information technology sector which returned 23.7% in Q2.

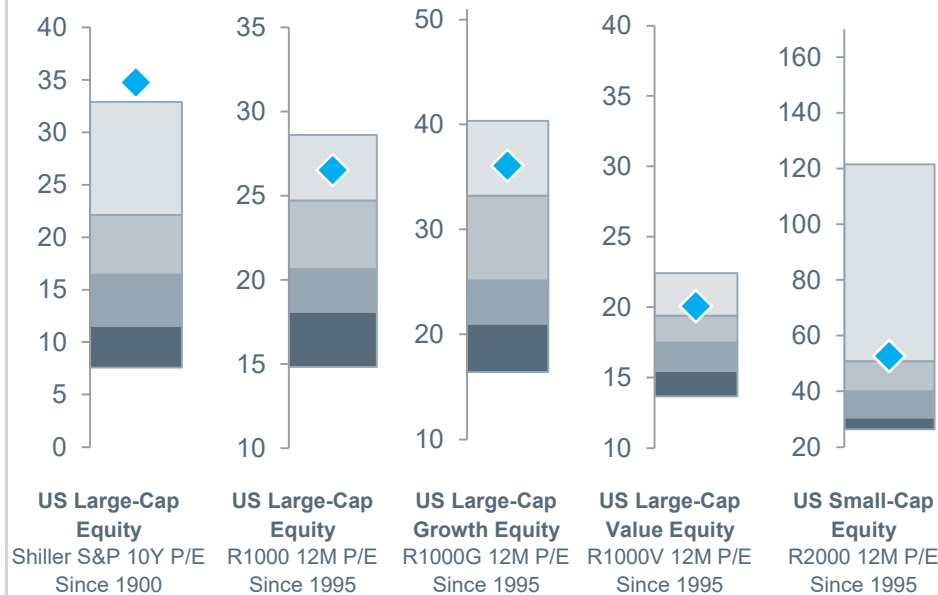
Style and Sector

Active value managers across the cap spectrum tended to have an easier time outperforming their benchmark than active growth managers. As in past quarters characterized by strong mega-cap growth performance, the strong absolute performance and concentration of growth indexes again played a role in the difficulty experienced by active growth managers.

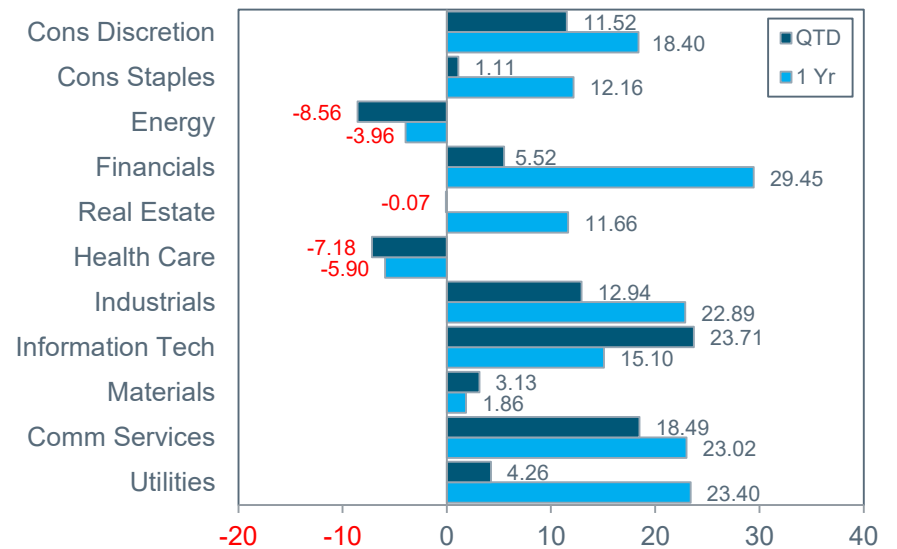
Style and Capitalization Market Performance (%)



Valuations



S&P 500 Index Sector Performance (%)



Second Quarter Review

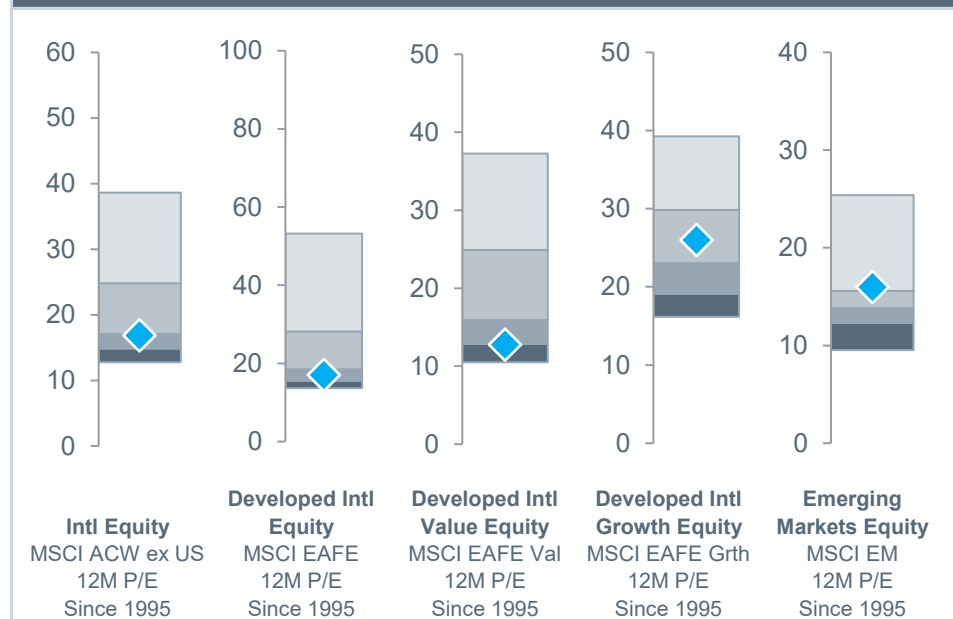
Developed Markets

Developed international markets delivered double digit returns that slightly outpaced their US counterparts in Q2, with the MSCI EAFE Index posting an 11.8% return during the quarter. This was driven, in part, by a weakening US Dollar and stimulus measures from foreign governments. Growth stocks outperformed value stocks in Q2, but remain significantly behind on a year-to-date basis. Small-cap stocks outperformed large-cap stocks during the quarter. All countries in the space posted positive returns for the quarter, while energy was the only sector with a negative return.

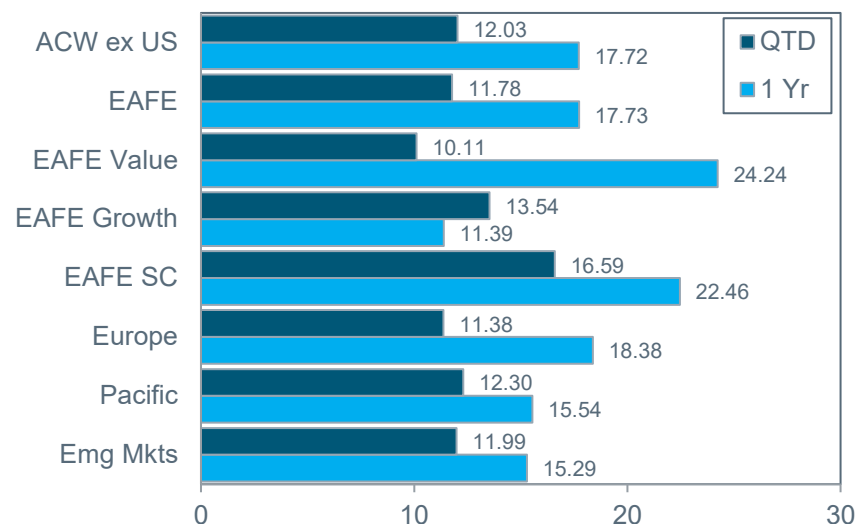
Emerging Markets

Emerging markets also experienced double digit returns in Q2, with the MSCI Emerging Markets Index returning 12.0% during the quarter. Growth stocks in emerging markets outpaced value stocks in Q2 with the group now outpacing their value counterparts for the year-to-date period. Small-cap stocks outperformed large-cap stocks during the quarter. Among the largest countries in the region, the top performers were South Korea and Taiwan, which benefited from renewed positive sentiment around companies contributing to AI development, and India, which rebounded from a more difficult Q1. China delivered positive market returns for Q2, but lagged other stronger performing countries.

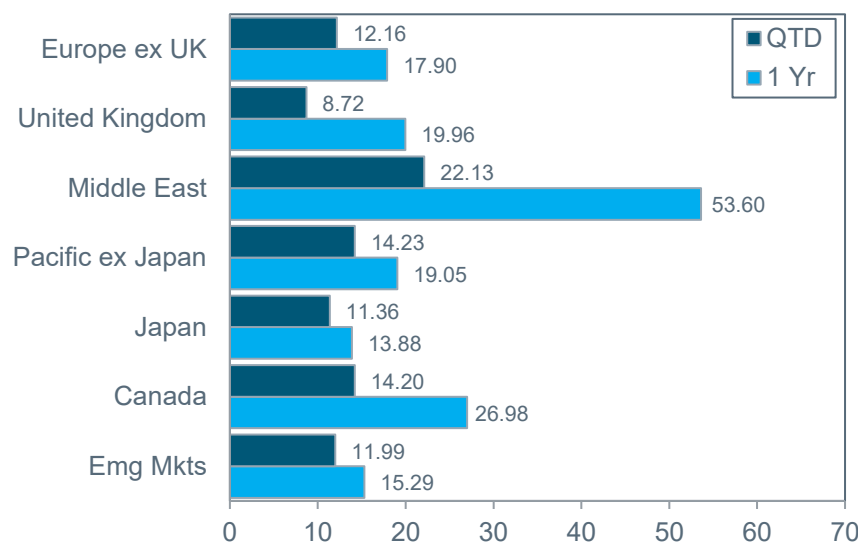
Valuations



MSCI Style and Capitalization Market Performance (%)



MSCI Region Performance (%)



Valuation data courtesy of Bloomberg Professional Service.

P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.

All returns are shown net of foreign taxes on dividends.

Second Quarter Review

Broad Market

In Q2, the US yield curve steepened as short-term Treasury yields declined while long-term yields rose. The spread between 2-year and 10-year Treasuries widened by 18 basis points. The 10-year Treasury yield ended the quarter at 4.24%, essentially flat with the prior quarter-end, after fluctuating between 4.00% and 4.60% amid market volatility. These market movements reflected investor reactions to proposed tariffs, tax policy uncertainty and increased concerns over fiscal deficit, and tensions in the Middle East. The FOMC held its policy rate steady at 4.25%–4.50%, signaling a patient approach as it monitors the key economic data points and evolving policy dynamics. The Bloomberg US Aggregate Bond Index returned 1.2%.

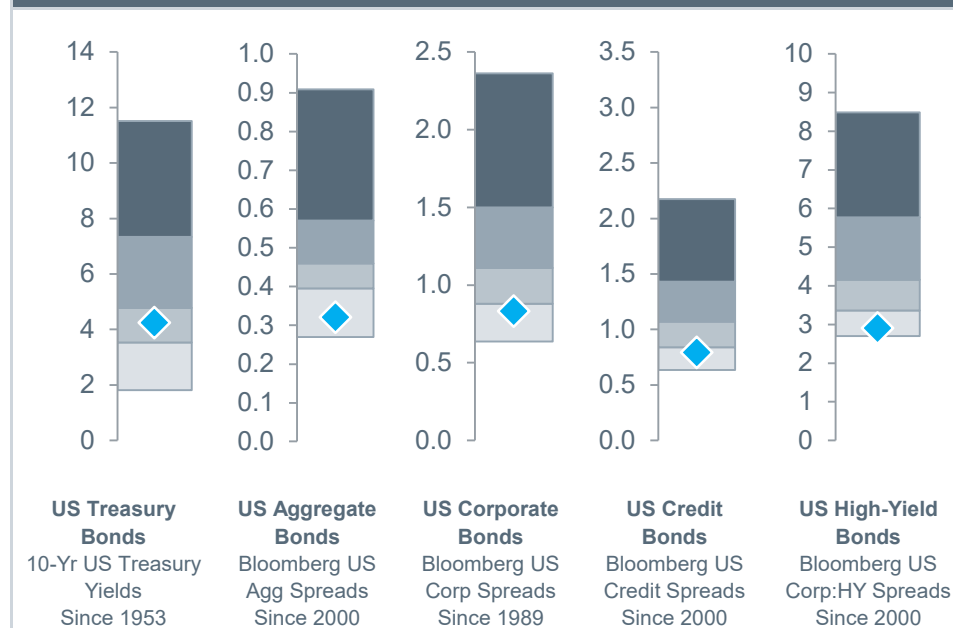
Credit Market

Risk sentiment improved during the quarter, fueling a strong rally in credit markets. The Bloomberg US Corporate Investment Grade Index gained 1.8%, while the Bloomberg US Corporate High Yield Index surged 3.5%.

Emerging Market Debt

Emerging market debt also saw strong performance, helped by a weaker US dollar. Local currency bonds outpaced hard currency issues: the JPMorgan GBI-EM Global Diversified Index rose 7.6%, versus a 3.3% gain for the JPMorgan EMBI Global Diversified Index.

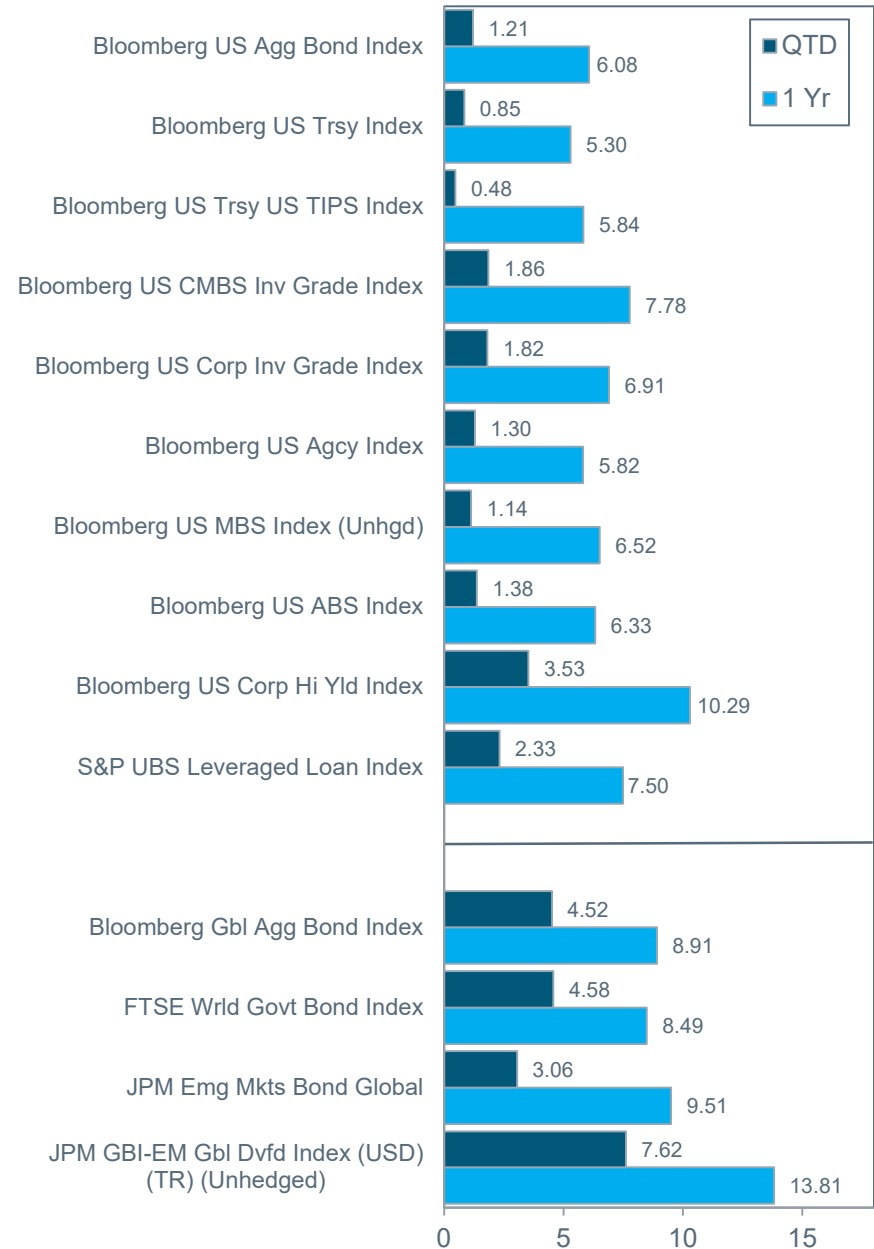
Valuations



Valuation data courtesy of Bloomberg Professional Service.

Valuations shown represent the 5th through 95th percentiles to minimize the effect of outliers.

Fixed Income Performance (%)



Second Quarter Review - Absolute Return

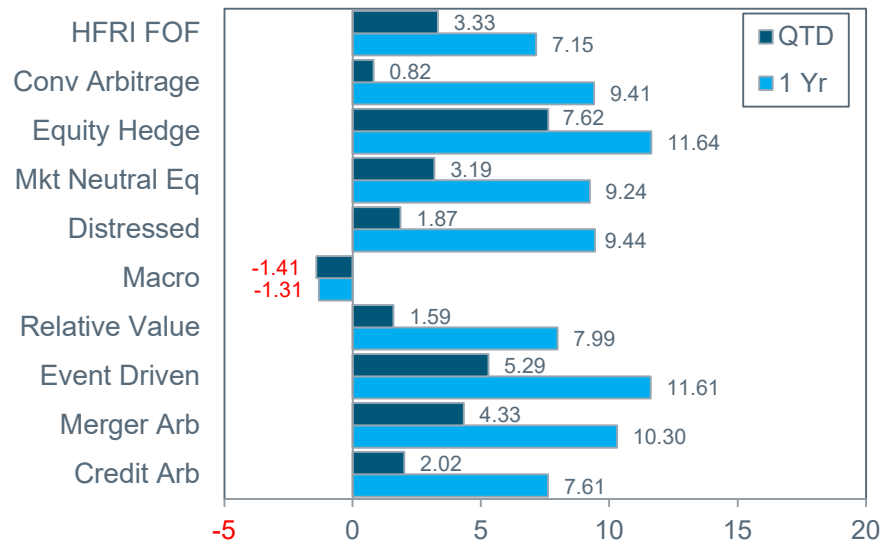
General Market - Hedge Funds

Hedge Fund returns were broadly positive in Q2 amid elevated macroeconomic uncertainty. Preliminary performance suggests that the HFRI Asset Weighted Composite Index finished the quarter with a 2.0% return, bringing its year-to-date return to 2.5%. Equity oriented managers were top performers. Alpha generation was strong, particularly on the long side, as global equities recovered sharply from their April lows and implied volatility declined from its April highs. Event Driven strategies were particularly strong in Q2 following a muted Q1. Macro strategies delivered mixed results with some properly positioned to capitalize on the volume of economic events. Diversified strategies remained consistently positive during Q2.

General Market - Global Tactical Asset Allocation (GTAA)

Global Tactical Asset Allocation (GTAA) strategies that RVK follows closely generated positive performance in Q2 with some outperforming a US centric blend of 60% equity and 40% fixed income (60/40 blend). The top performing long-biased GTAA strategies benefited from allocations to developed international equities, particularly European stocks, as well as industrials and information technology sectors. Managers that trailed peers held higher exposures to long duration bonds and MLPs. Alternative Risk Premia strategies posted disparate returns.

HFRI Hedge Fund Performance (%)



Second Quarter Review - Real Assets

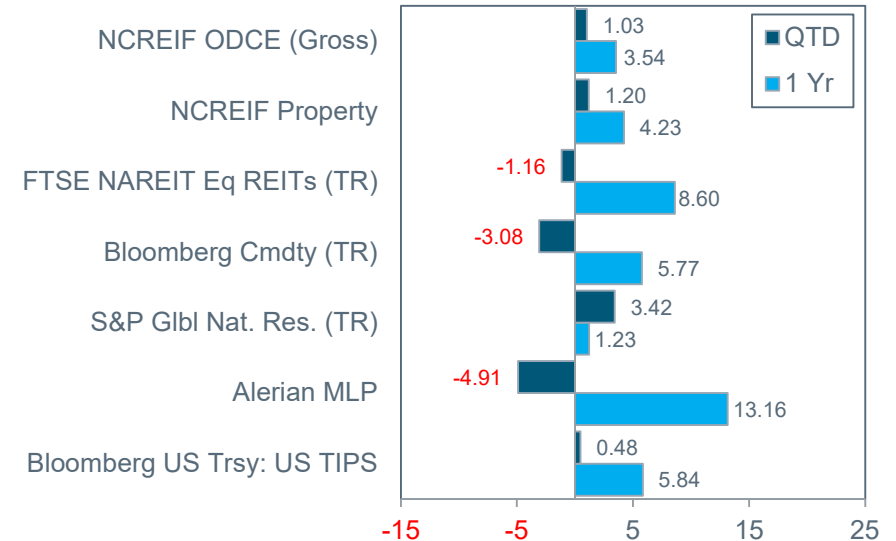
General Market - Diversified Inflation Strategies (DIS)

Diversified Inflation Strategy (DIS) managers tracked closely by RVK reported positive performance for the quarter but underperformed a 60/40 blend. The top performing managers benefited from larger exposures to listed infrastructure and precious metals within commodities. Managers that lagged peers had higher exposure to energy and soft commodities as supply and production expanded. Allocations to REITs detracted as returns were negatively impacted by investor uncertainty around US policy shifts, elevated interest rates, and volatility from geopolitical conflicts.

General Market - Real Estate

Core private real estate generated a positive 1.0% total return in Q2 (on a preliminary and gross of fee basis), as reported by the NFI-ODCE Index, driven primarily from a 1.0% return from income with price appreciation being incrementally positive. Investors in publicly traded real estate underperformed their private market counterparts. Publicly traded real estate delivered a total return of -1.1%, as measured by FTSE/NAREIT All REITs Index, however it remains positive year-to-date with returns of 1.7%. There continues to be encouraging signs of price stabilization across commercial real estate.

Real Asset Performance (%)



NCREIF Property Index is shown N/A until available.

Annual Asset Class Performance

As of June 30, 2025

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	YTD
Best	22.49	20.00	38.82	30.14	15.02	21.31	37.28	8.35	31.49	19.96	43.24	16.09	26.29	25.02	20.89
	15.99	18.23	32.39	19.31	9.59	17.13	33.01	1.87	26.00	18.40	28.71	7.47	18.24	11.54	19.45
	13.56	18.06	29.30	13.69	3.20	11.96	25.03	0.01	25.53	18.31	27.11	1.46	16.93	9.15	15.27
	8.29	17.32	22.78	12.50	1.38	11.77	21.83	-1.26	24.96	16.12	22.17	-5.31	13.73	8.73	6.20
	7.84	16.35	13.94	5.97	0.55	11.19	14.65	-2.08	22.01	12.34	14.82	-11.19	13.45	8.19	5.53
	4.98	16.00	8.96	4.89	0.05	8.77	10.71	-4.02	19.59	10.99	11.26	-11.85	13.16	7.50	4.67
	2.11	15.81	7.44	3.64	-0.27	8.52	7.77	-4.38	18.42	10.88	10.10	-13.01	9.83	5.38	4.57
	0.10	10.94	2.47	3.37	-0.81	6.67	7.62	-4.62	14.32	7.82	6.17	-14.45	7.13	5.25	4.02
	-4.18	8.78	0.07	2.45	-1.44	4.68	7.50	-4.68	8.72	7.51	5.96	-18.11	6.07	3.82	3.38
	-5.72	6.98	-2.02	0.04	-3.30	2.65	5.23	-11.01	8.43	7.11	5.28	-20.09	5.53	1.84	2.93
	-12.14	4.79	-2.60	-2.19	-4.41	2.18	3.54	-11.25	8.39	1.19	0.05	-20.44	5.02	1.82	2.10
	-13.32	4.21	-8.61	-4.90	-4.47	1.00	3.01	-13.79	7.69	0.67	-1.55	-21.39	3.90	1.25	2.07
	-15.94	0.11	-8.83	-4.95	-14.92	0.51	1.70	-14.57	5.34	-3.12	-2.52	-24.34	-7.91	-1.43	-0.25
Worst	-18.42	-1.06	-9.52	-17.01	-24.66	0.33	0.86	-17.89	2.28	-8.00	-2.54	-27.09	-12.02	-4.15	-1.79
	S&P 500 - US Large Cap	R 2000 - US Small Cap	MSCI EAFE (Net) - Int'l Dev.	MSCI EAFE SC (Net) - Int'l SC	MSCI EM (Net) - Int'l Emg Mkts	Bloombrg US Agg Bond - FI	Bloombrg US Corp Hi Yield - FI	Bloombrg US Trsy US TIPS - FI	Bloombrg US Gov Credit Lng - FI	NCREIF ODCE (Gross) - Real Estate	FTSE NAREIT Eq REITs Index (TR)	HFRI FOF Comp Index - ARS	Bloombrg Cmdty (TR) - Commod.	ICE BofA 3 Mo T-Bill - Cash Equiv	

NCREIF ODCE (Gross) performance is reported quarterly; performance is shown N/A in interim-quarter months.

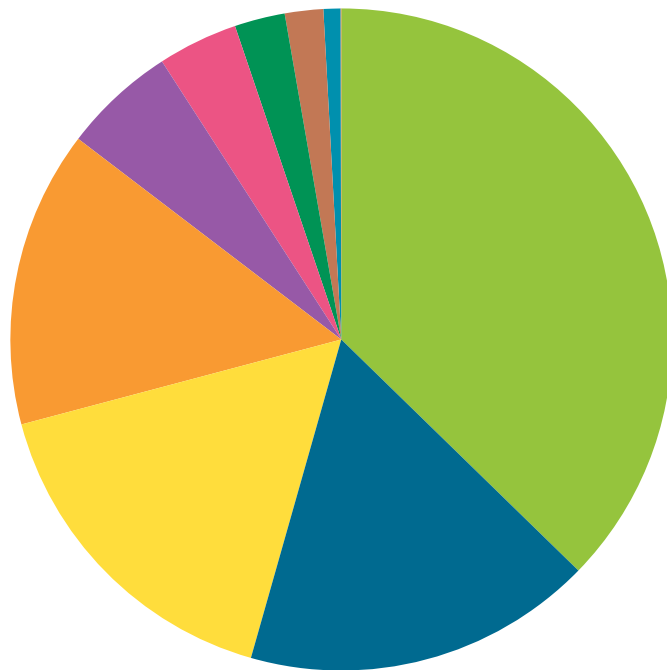
Total Fund

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation by Composite & SIA

As of June 30, 2025

Asset Allocation

June 30, 2025 : \$40,424,796,896



	Market Value (\$)	Allocation (%)
U.S. Equity	15,075,579,187	37.29
Fixed Income	6,916,932,241	17.11
Private Equity	6,657,542,062	16.47
International Developed Markets Equity	5,860,872,999	14.50
Real Estate	2,227,532,228	5.51
Cash	1,582,857,348	3.92
Inflation Protection (TIPS)	994,077,306	2.46
Emerging Markets Equity	759,984,419	1.88
Legacy Private Credit	333,146,679	0.82
Legacy Hedge Funds	15,209,784	0.04
Northern Trust Equity Transition	1,062,642	0.00
Northern Trust Fixed Income Transition	-	0.00
Liquidated Holdings	-	0.00

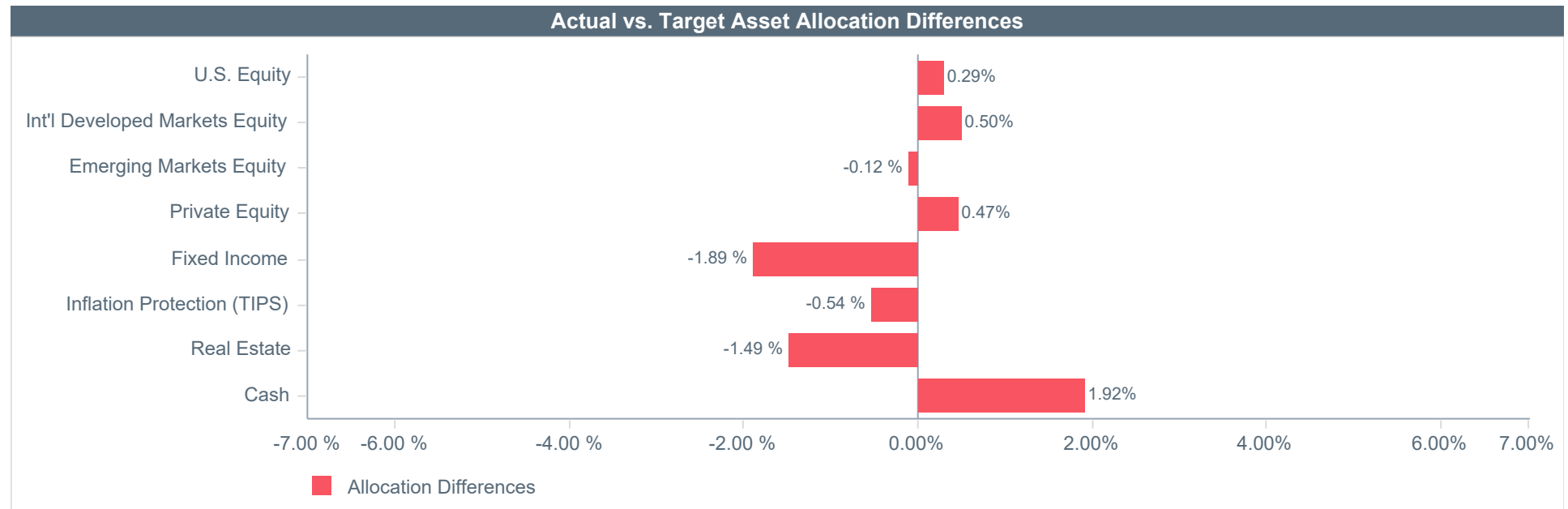
Schedule of Investable Assets

Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return
CYTD	38,683,276,868	-669,547,410	2,411,067,438	40,424,796,896	6.29

Performance shown is net of fees.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Total Fund Asset Allocation vs. Target Allocation

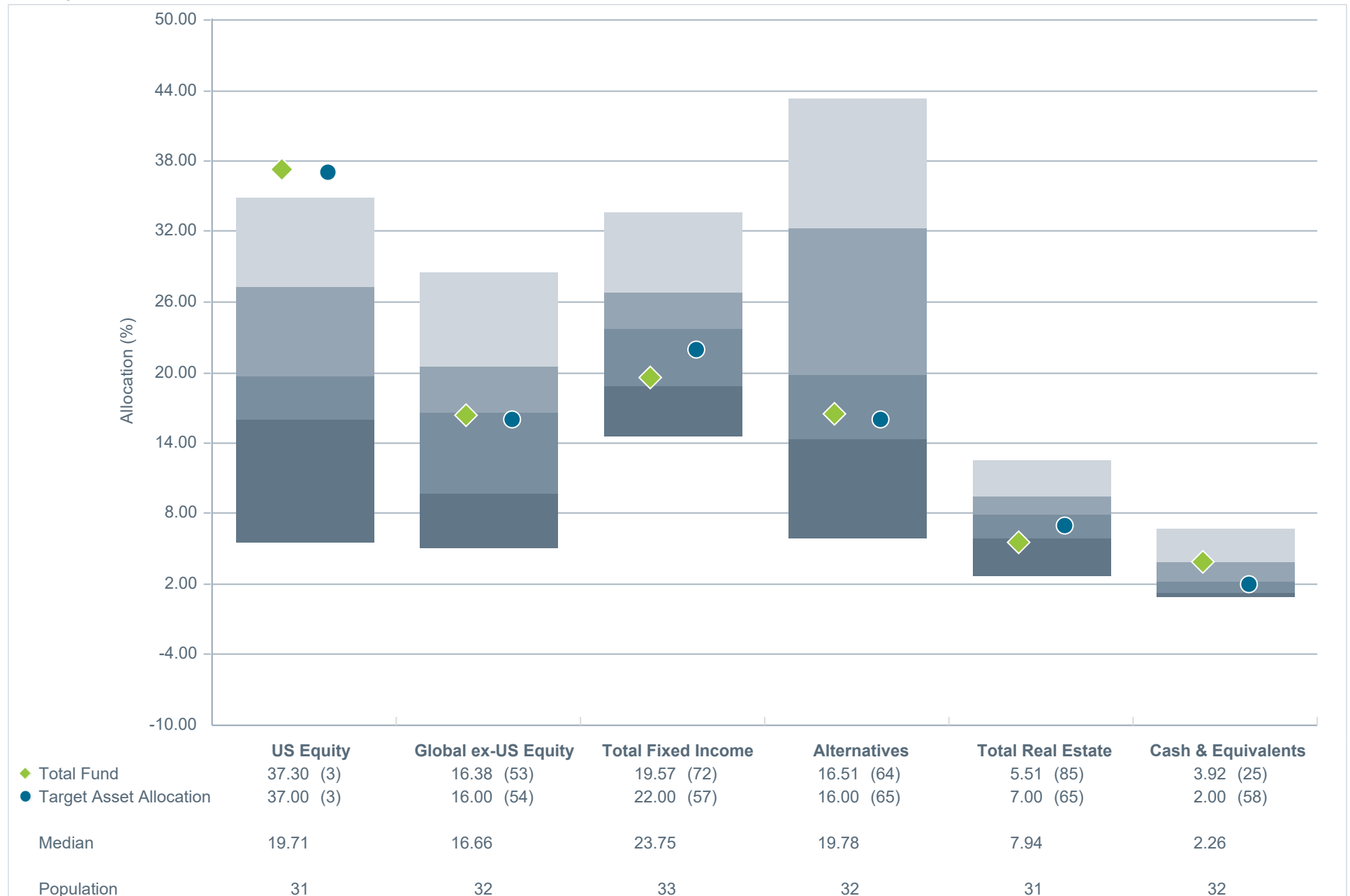
As of June 30, 2025



Asset Allocation vs. Target					
	Asset Allocation (\$000)	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)
Total Fund	40,424,797	100.00	-	-	100.00
U.S. Equity	15,075,579	37.29	32.00	42.00	37.00
International Developed Markets Equity	5,860,873	14.50	9.00	19.00	14.00
Emerging Markets Equity	759,984	1.88	0.00	4.00	2.00
Fixed Income	6,916,932	17.11	14.00	24.00	19.00
Inflation Protection (TIPS)	994,077	2.46	0.00	6.00	3.00
Private Equity	6,657,542	16.47	14.00	18.00	16.00
Real Estate	2,227,532	5.51	3.00	11.00	7.00
Cash	1,582,857	3.92	0.00	7.00	2.00

Pennsylvania State Employees' Retirement System Defined Benefit Plan
All Public DB Plans (>\$10B) (Custom PG)
Plan Sponsor TF Asset Allocation

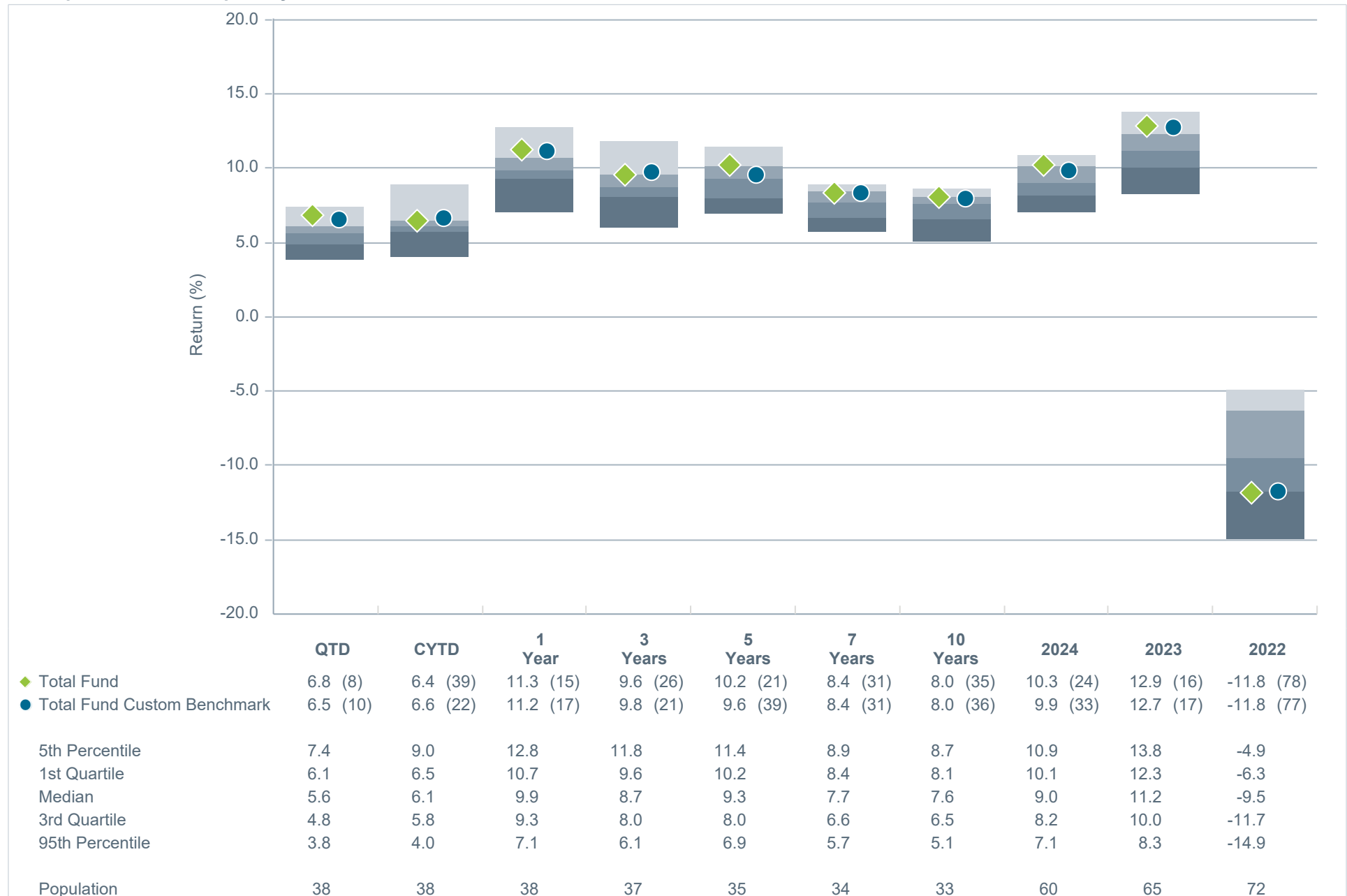
As of June 30, 2025



Parentheses contain percentile ranks. Allocation to "Alternatives" includes Private Equity, Legacy Private Credit, and Legacy Hedge Funds.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
All Public DB Plans (>\$10B) (Custom PG)
Plan Sponsor Peer Group Analysis

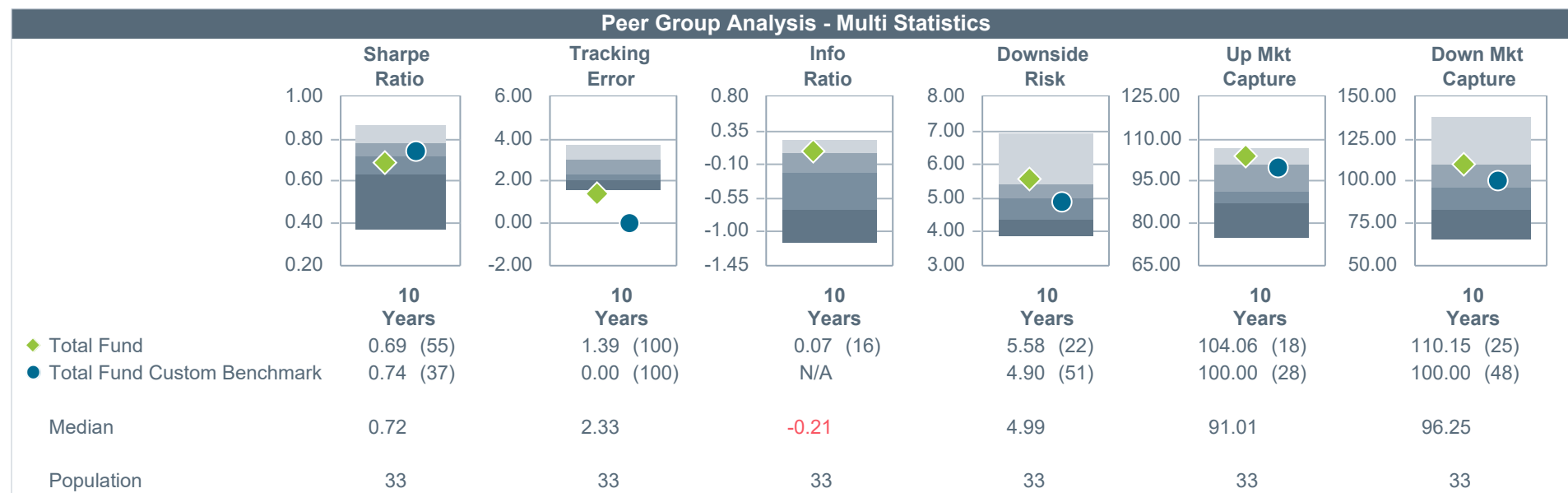
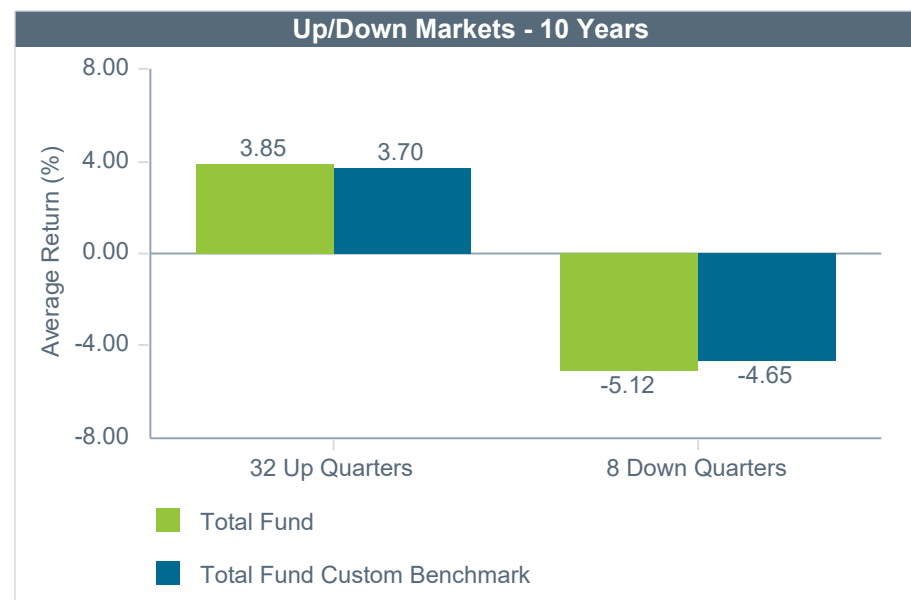
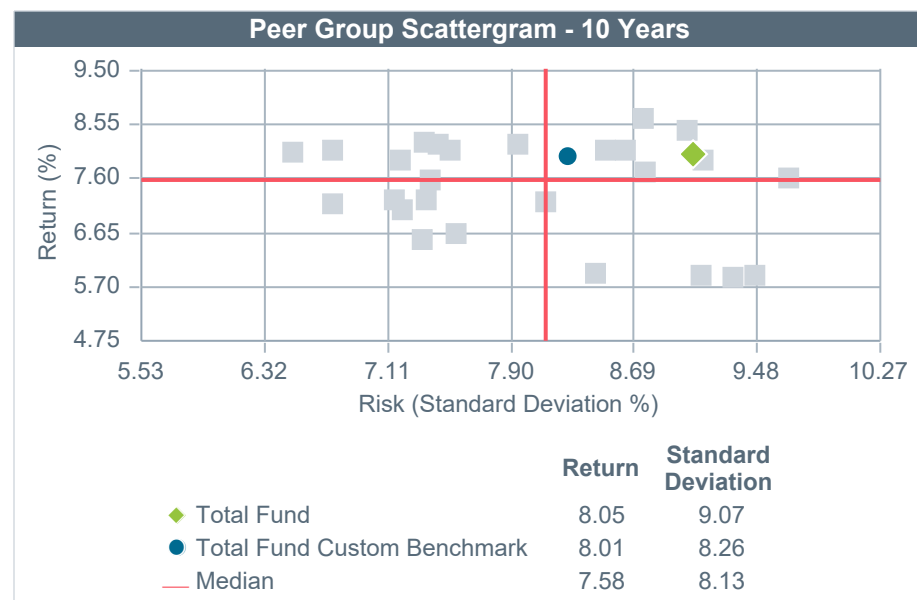
As of June 30, 2025



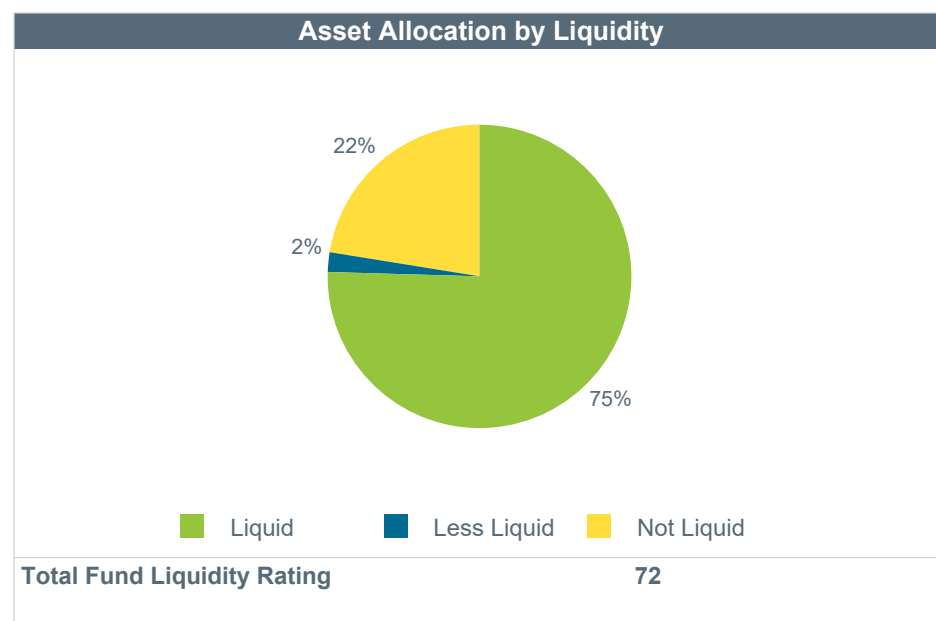
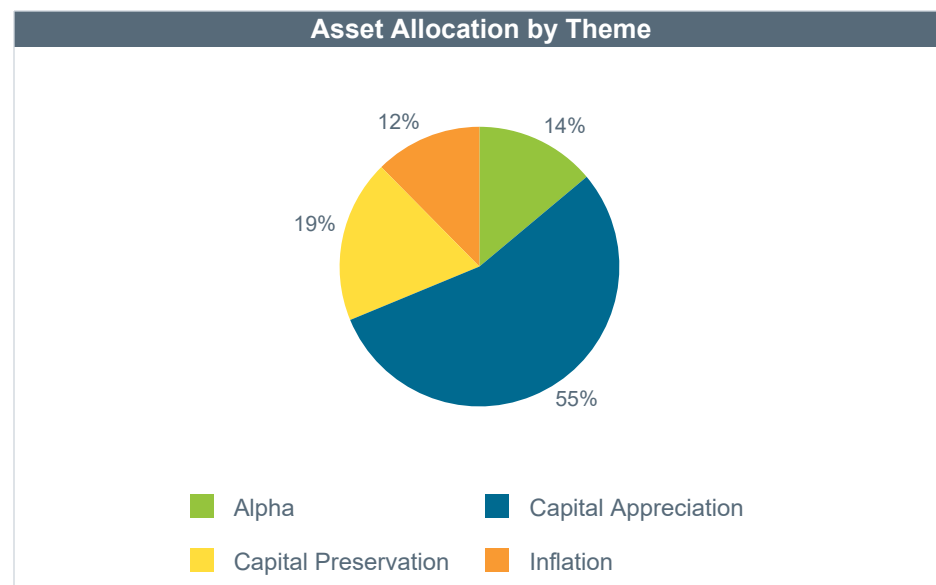
Performance shown is gross of fees. Parentheses contain percentile ranks.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Total Fund vs. All Public DB Plans (>\$10B) (Custom PG)

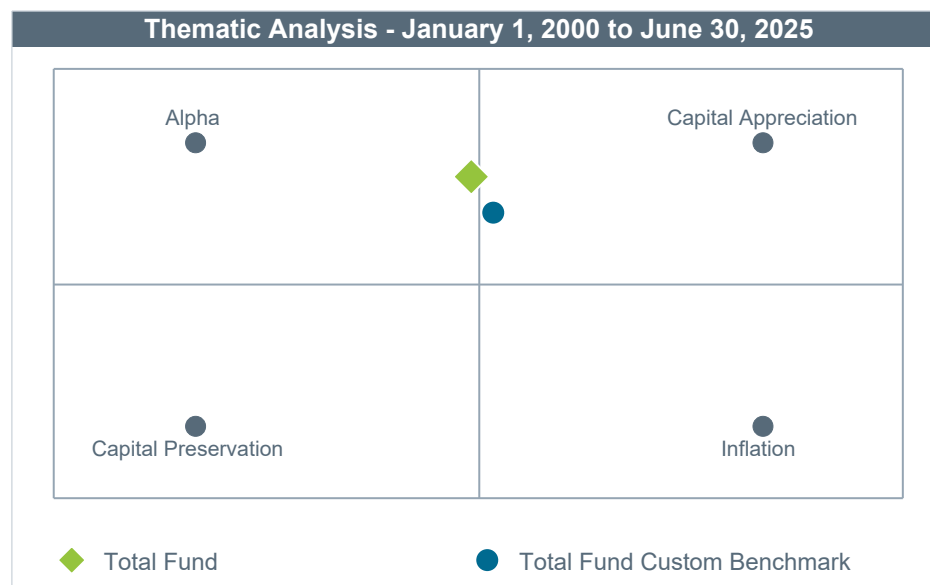
As of June 30, 2025



Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.



Asset Allocation by theme is based on dedicated manager allocations; as such, thematic allocations are approximations. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating. Please see the Glossary for additional information regarding liquidity, thematic and custom index descriptions.



Correlation Matrix - 10 Years

	A	B	C	D
A	1.00			
B	0.47	1.00		
C	-0.14	0.16	1.00	
D	0.42	0.80	0.23	1.00

A = HFRI EH: Equity Market Neutral Index (Alpha)
 B = MSCI ACW Index (USD) (Gross) (Capital Appreciation)
 C = Bloomberg US Govt Bond Index (Capital Preservation)
 D = Real Return Custom Index (Inflation)

**Pennsylvania State Employees' Retirement System Defined Benefit Plan
Projected Risk, Liquidity, and Correlation**

As of June 30, 2025

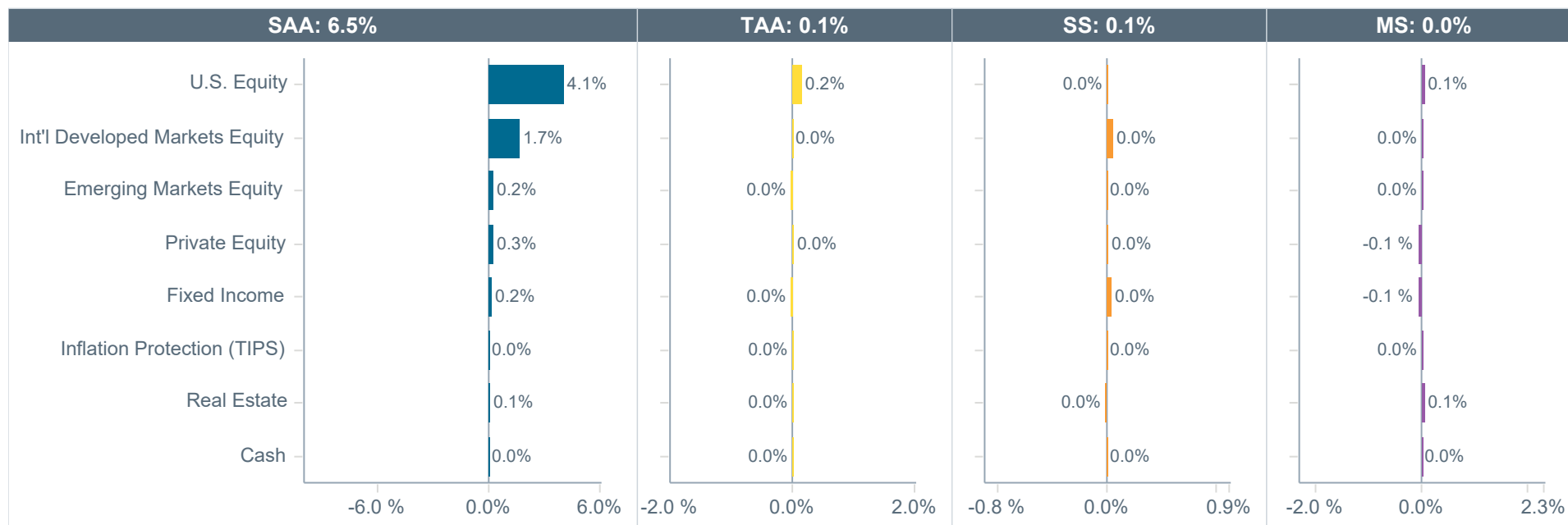
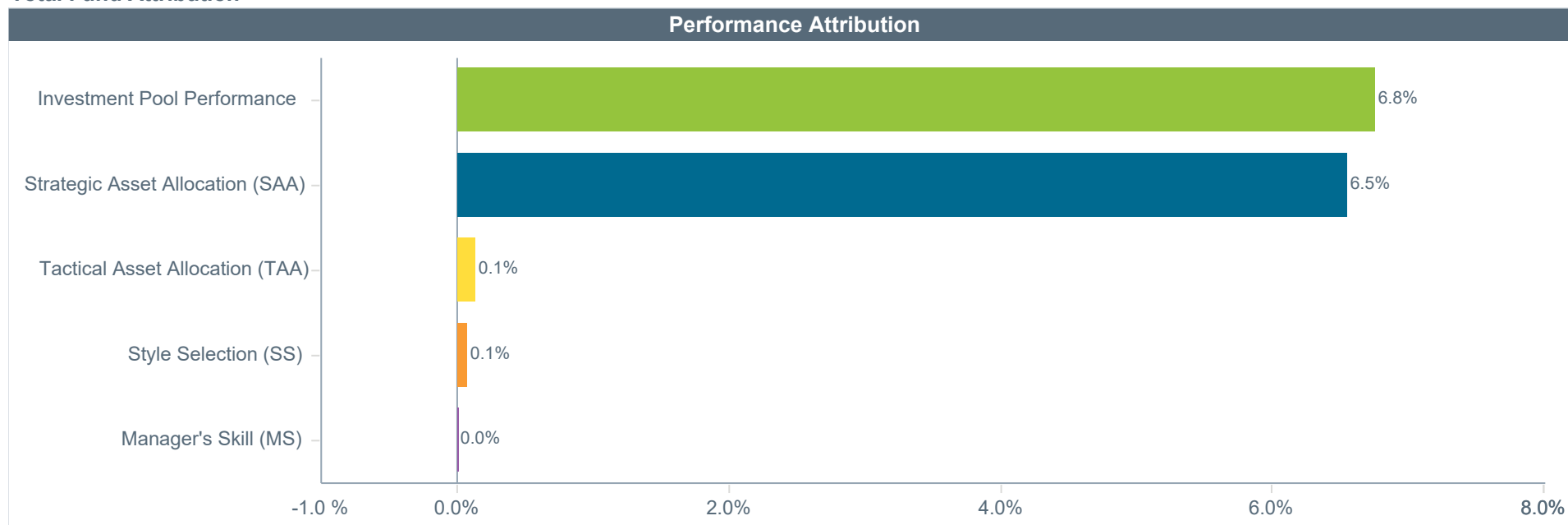
Capital Preservation Assets					Return Seeking Assets					
	Cash	Inflation Protection (TIPS)	Core Fixed Income	Nominal U.S. Treasuries	U.S. Equity	Int'l Developed Markets Equity	Emerging Markets Equity	Opportunistic Fixed Income	Real Estate	Private Equity
Policy Target Asset Allocation	2%	3%	12%	5%	37%	14%	2%	2%	7%	16%
Projected Returns (Geometric)*	2.73%	3.85%	4.38%	3.91%	4.84%	7.54%	8.03%	6.49%	6.34%	7.61%
Projected Risk (Standard Deviation)*	2.00%	5.50%	5.00%	4.41%	16.04%	18.47%	25.00%	10.50%	17.62%	22.00%
Liquidity	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Less Liquid	Not Liquid	Not Liquid
Correlation to U.S. Equity*	-0.05	0.35	0.27	-0.05	1	0.87	0.73	0.77	0.26	0.67
Months of Benefit Payments**	4.6	2.9	12.4	5.2						
Months of Benefit Payments (Includes EE & ER contributions)**	13.7	8.6	37.0	15.6						
Cumulative Months of Benefit Payments (Includes EE & ER Contributions)**		74.9								

*RVK 2025 Capital Market Assumptions

**Provided by SERS IO as of 6/30/2025

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Total Fund Attribution

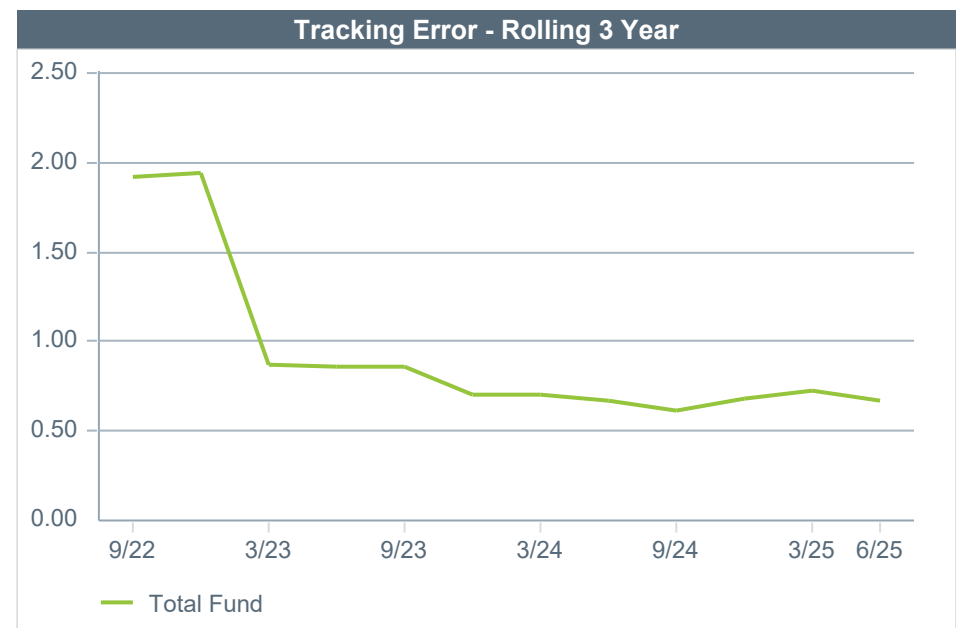
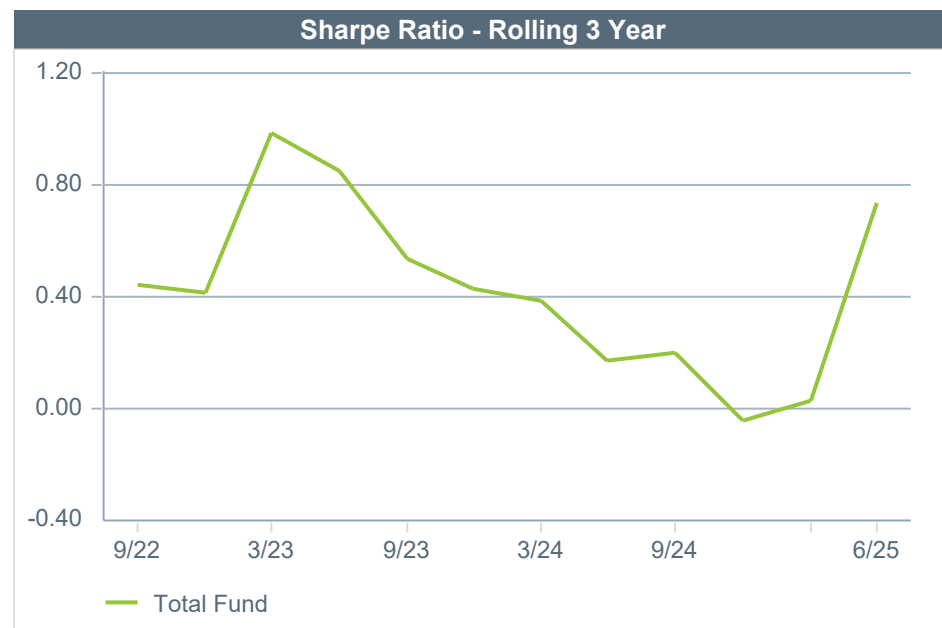
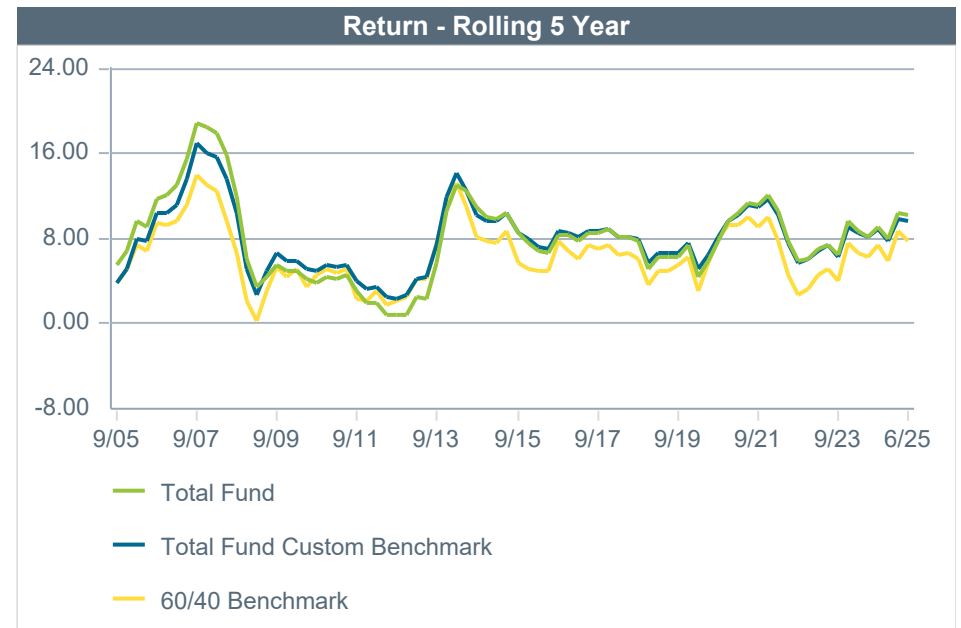
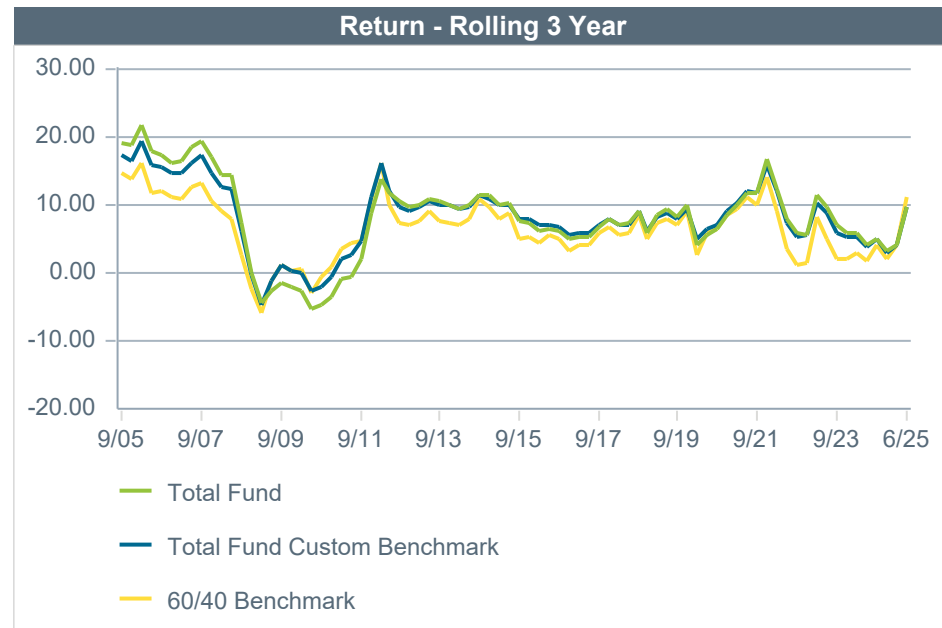
1 Quarter Ending June 30, 2025



Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Total Fund - Rolling Stats

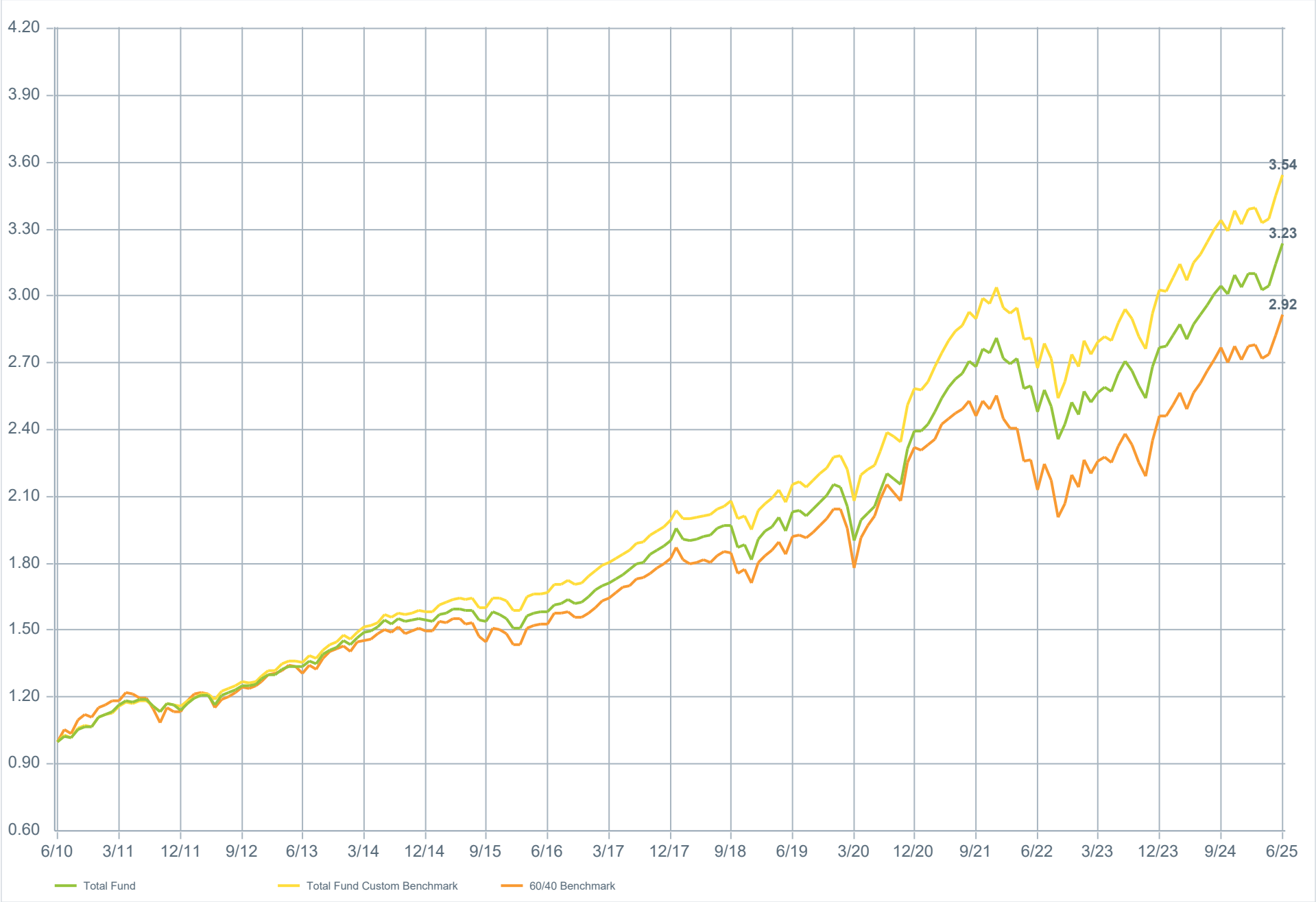
As of June 30, 2025



Performance shown is gross of fees. Calculations for the top charts are based on monthly periodicity. Calculations for the bottom charts are based on quarterly periodicity. Tracking Error is calculated using the Total Fund Custom Benchmark.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Growth of \$1

15 Years Ending June 30, 2025



Calculation is based on monthly periodicity.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Total Fund	40,424,796,896	100.00	6.75	6.29	10.96	9.22	9.46	7.36	8.14	6.92	6.19	9.31	01/01/1981
Total Fund Custom Benchmark			6.55	6.64	11.17	9.78	9.62	8.01	8.80	7.89	6.77	N/A	
Difference			0.20	-0.35	-0.21	-0.56	-0.16	-0.65	-0.66	-0.97	-0.57	N/A	
Public Market Equivalent Custom Benchmark			6.17	6.23	12.24	12.05	10.27	8.37	9.20	9.55	7.83	N/A	
Difference			0.58	0.06	-1.28	-2.82	-0.81	-1.01	-1.06	-2.63	-1.64	N/A	
60/40 Benchmark			7.39	7.57	11.98	11.04	7.73	6.70	7.40	6.42	5.69	N/A	
Difference			-0.64	-1.28	-1.03	-1.82	1.73	0.66	0.73	0.49	0.50	N/A	
U.S. Equity	15,075,579,187	37.29	11.20	5.90	15.71	18.93	16.03	12.15	14.06	9.67	7.76	11.07	01/01/1981
Russell 3000 Index*			10.99	5.75	15.30	19.08	15.96	12.96	14.46	10.53	8.04	11.37	
Difference			0.21	0.15	0.41	-0.15	0.07	-0.81	-0.41	-0.86	-0.28	-0.30	
International Developed Markets Equity	5,860,872,999	14.50	12.30	17.58	17.40	15.78	11.97	7.23	8.31	6.07	N/A	6.88	01/01/2002
MSCI Wrld Ex US Index (USD) (Net)*			12.05	18.99	18.70	15.22	11.15	6.59	7.47	5.99	4.79	6.83	
Difference			0.25	-1.42	-1.30	0.56	0.81	0.64	0.84	0.07	N/A	0.05	
Emerging Markets Equity	759,984,419	1.88	11.86	14.51	14.56	10.97	7.34	5.98	4.71	5.01	N/A	6.99	01/01/2002
MSCI Emg Mkts Index (USD) (Net)*			11.99	15.27	15.29	10.55	7.80	5.04	4.65	6.68	6.74	8.66	
Difference			-0.13	-0.76	-0.72	0.42	-0.46	0.94	0.06	-1.68	N/A	-1.67	
Private Equity	6,657,542,062	16.47	1.45	2.32	5.03	2.84	16.09	11.72	11.82	11.71	8.53	11.24	01/01/1986
Burgiss All Pvt Equity Custom Index (1 Qtr Lag)			1.79	2.55	6.56	2.86	15.55	12.72	13.09	12.76	10.09	19.22	
Difference			-0.34	-0.23	-1.53	-0.02	0.54	-1.00	-1.27	-1.05	-1.56	-7.98	
Fixed Income	6,916,932,241	17.11	1.07	3.84	6.25	2.95	0.33	1.88	3.06	3.76	4.59	7.40	01/01/1981
Bloomberg US Agg Bond Index			1.21	4.02	6.08	2.55	-0.73	1.76	2.29	3.09	3.94	6.71	
Difference			-0.14	-0.18	0.17	0.40	1.06	0.12	0.78	0.67	0.65	0.69	
Inflation Protection (TIPS)	994,077,306	2.46	0.50	4.76	6.09	2.23	1.23	2.47	2.28	2.99	N/A	2.99	02/01/2003
Bloomberg US Trsy US TIPS Index			0.48	4.67	5.84	2.34	1.61	2.67	2.88	3.40	4.69	3.87	
Difference			0.02	0.09	0.24	-0.11	-0.37	-0.20	-0.60	-0.42	N/A	-0.87	
Real Estate	2,227,532,228	5.51	1.86	1.89	-1.49	-7.71	0.60	1.85	4.81	3.88	5.20	7.25	03/01/1984
Real Estate Custom Benchmark			0.84	1.69	0.78	-5.24	2.30	4.38	7.34	5.45	6.37	N/A	
Difference			1.03	0.20	-2.27	-2.47	-1.70	-2.53	-2.53	-1.57	-1.17	N/A	
CPI (All Urban Consumers) +3% (1 Qtr Lag)			2.08	2.94	5.46	6.72	7.51	6.17	5.68	5.63	5.61	5.91	
Difference			-0.22	-1.04	-6.95	-14.43	-6.91	-4.32	-0.86	-1.74	-0.41	1.34	
Legacy Private Credit	333,146,679	0.82	1.98	3.34	8.46	8.88	12.08	N/A	N/A	N/A	N/A	10.09	04/01/2018
S&P Leverage Loan Index +1% (1 Qtr Lag)			0.86	3.43	8.09	8.17	9.99	6.03	6.16	5.91	5.99	6.36	
Difference			1.12	-0.08	0.37	0.71	2.09	N/A	N/A	N/A	N/A	3.73	

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Cash	1,582,857,348	3.92	1.07	2.20	4.94	4.75	2.89	2.18	1.57	1.96	2.31	3.50	01/01/1987
ICE BofA 3 Mo US T-Bill Index			1.04	2.07	4.68	4.56	2.76	1.97	1.34	1.69	1.88	3.24	
Difference			0.03	0.12	0.26	0.20	0.13	0.20	0.23	0.27	0.43	0.26	
Legacy Hedge Funds	15,209,784	0.04											
Liquidated Holdings	-	0.00											

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total Fund	40,424,796,896	100.00	9.82	12.22	-12.15	17.24	11.11	18.75	-4.55	15.08	6.51	0.40	6.35	13.61	11.96
Total Fund Custom Benchmark			9.88	12.74	-11.78	17.51	13.50	16.81	-2.09	14.46	6.81	2.85	7.32	14.13	11.66
Difference			-0.05	-0.53	-0.37	-0.27	-2.40	1.94	-2.46	0.62	-0.30	-2.45	-0.97	-0.52	0.30
Public Market Equivalent Custom Benchmark			15.19	17.12	-13.69	13.64	13.24	16.28	-1.02	16.07	8.44	0.60	7.59	15.52	15.71
Difference			-5.36	-4.91	1.55	3.60	-2.13	2.47	-3.53	-0.99	-1.92	-0.21	-1.24	-1.91	-3.75
60/40 Benchmark			10.14	15.03	-16.04	10.03	13.56	19.28	-5.93	15.39	6.22	-0.88	4.77	12.74	11.63
Difference			-0.32	-2.81	3.90	7.21	-2.45	-0.53	1.39	-0.31	0.29	1.27	1.58	0.87	0.33
U.S. Equity	15,075,579,187	37.29	23.38	25.56	-19.06	24.62	21.28	30.37	-7.48	20.54	11.17	-0.53	11.22	34.14	17.37
Russell 3000 Index*			23.81	25.96	-19.21	25.66	20.89	31.02	-5.24	21.13	12.74	0.48	12.56	33.55	16.42
Difference			-0.43	-0.39	0.15	-1.04	0.39	-0.65	-2.24	-0.59	-1.57	-1.01	-1.34	0.58	0.95
International Developed Markets Equity	5,860,872,999	14.50	4.97	18.99	-15.17	14.48	9.62	23.90	-14.83	29.12	2.05	-1.88	-4.85	23.65	18.52
MSCI Wrld Ex US Index (USD) (Net)*			4.15	17.18	-15.26	12.40	8.32	22.91	-14.68	25.17	2.95	-1.95	-4.45	21.57	16.55
Difference			0.81	1.81	0.08	2.08	1.30	1.00	-0.15	3.95	-0.90	0.07	-0.39	2.08	1.97
Emerging Markets Equity	759,984,419	1.88	8.64	11.40	-22.84	-0.45	24.45	21.32	-15.82	41.38	10.32	-12.38	-5.93	-1.09	17.02
MSCI Emg Mkts Index (USD) (Net)*			7.43	11.67	-19.83	-0.28	18.39	17.65	-15.05	36.83	9.90	-13.86	-1.79	-2.20	18.69
Difference			1.21	-0.27	-3.00	-0.17	6.05	3.67	-0.78	4.55	0.42	1.48	-4.14	1.10	-1.67
Private Equity	6,657,542,062	16.47	6.28	6.59	-5.06	52.83	18.37	9.55	11.90	12.83	6.79	6.42	13.15	12.56	11.42
Burgiss All Pvt Equity Custom Index (1 Qtr Lag)			8.21	4.42	-1.47	49.70	15.73	9.21	16.83	15.69	8.94	8.71	16.61	15.96	12.65
Difference			-1.93	2.16	-3.58	3.13	2.64	0.35	-4.93	-2.86	-2.15	-2.28	-3.46	-3.40	-1.22
Fixed Income	6,916,932,241	17.11	2.48	5.57	-12.34	-0.75	5.78	9.51	-0.99	4.68	5.62	-2.73	6.21	-1.37	10.01
Bloomberg US Agg Bond Index			1.25	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97	-2.02	4.21
Difference			1.23	0.04	0.67	0.79	-1.72	0.80	-1.01	1.13	2.97	-3.28	0.25	0.66	5.79
Inflation Protection (TIPS)	994,077,306	2.46	1.81	3.85	-12.99	5.16	11.04	8.36	-1.75	3.89	4.64	-1.71	3.87	-8.12	5.01
Bloomberg US Trsy US TIPS Index			1.84	3.90	-11.85	5.96	10.99	8.43	-1.26	3.01	4.68	-1.44	3.64	-8.61	6.98
Difference			-0.02	-0.05	-1.15	-0.79	0.05	-0.07	-0.49	0.89	-0.05	-0.27	0.23	0.49	-1.97
Real Estate	2,227,532,228	5.51	-12.25	-11.91	6.02	18.04	2.11	10.98	-2.34	2.02	3.23	9.92	10.94	13.70	9.89
Real Estate Custom Benchmark			-8.44	-13.08	17.38	17.48	0.25	4.75	7.24	5.61	9.87	12.86	11.38	12.41	12.82
Difference			-3.81	1.17	-11.36	0.56	1.86	6.23	-9.57	-3.59	-6.65	-2.94	-0.44	1.29	-2.94
CPI (All Urban Consumers) +3% (1 Qtr Lag)			5.51	6.81	11.45	8.55	4.41	4.76	5.35	5.30	4.51	2.96	4.71	4.22	5.05
Difference			-17.76	-18.72	-5.42	9.49	-2.30	6.22	-7.68	-3.28	-1.28	6.96	6.23	9.48	4.83
Legacy Private Credit	333,146,679	0.82	10.50	10.85	8.00	21.24	3.26	8.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P Leverage Loan Index +1% (1 Qtr Lag)			10.75	13.60	-1.65	9.54	1.84	4.14	6.63	6.42	6.40	2.25	5.35	6.89	11.84
Difference			-0.25	-2.75	9.65	11.70	1.42	4.21	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Cash	1,582,857,348	3.92	5.44	5.14	1.65	0.06	0.64	2.32	2.10	1.49	0.63	0.72	0.41	0.19	0.38
ICE BofA 3 Mo US T-Bill Index			5.25	5.02	1.46	0.05	0.67	2.28	1.87	0.86	0.33	0.05	0.04	0.07	0.11
Difference			0.19	0.12	0.19	0.01	-0.03	0.04	0.22	0.63	0.30	0.67	0.38	0.12	0.27
Legacy Hedge Funds	15,209,784	0.04													
Liquidated Holdings	-	0.00													

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Total Fund	40,424,796,896	100.00	6.75	6.29	10.96	9.22	9.46	7.36	8.14	6.92	6.19	9.31	01/01/1981
Total Fund Custom Benchmark			6.55	6.64	11.17	9.78	9.62	8.01	8.80	7.89	6.77	N/A	
Difference			0.20	-0.35	-0.21	-0.56	-0.16	-0.65	-0.66	-0.97	-0.57	N/A	
Public Market Equivalent Custom Benchmark			6.17	6.23	12.24	12.05	10.27	8.37	9.20	9.55	7.83	N/A	
Difference			0.58	0.06	-1.28	-2.82	-0.81	-1.01	-1.06	-2.63	-1.64	N/A	
60/40 Benchmark			7.39	7.57	11.98	11.04	7.73	6.70	7.40	6.42	5.69	N/A	
Difference			-0.64	-1.28	-1.03	-1.82	1.73	0.66	0.73	0.49	0.50	N/A	
U.S. Equity	15,075,579,187	37.29	11.20	5.90	15.71	18.93	16.03	12.15	14.06	9.67	7.76	11.07	01/01/1981
Russell 3000 Index*			10.99	5.75	15.30	19.08	15.96	12.96	14.46	10.53	8.04	11.37	
Difference			0.21	0.15	0.41	-0.15	0.07	-0.81	-0.41	-0.86	-0.28	-0.30	
S&P 1500 Comp Index			10.57	5.61	14.48	19.02	16.35	13.23	14.61	10.63	8.16	N/A	
Difference			0.63	0.29	1.23	-0.09	-0.32	-1.08	-0.55	-0.97	-0.40	N/A	
MCM Russell 1000 Index (SA)	14,240,428,381	35.23	11.09	6.14	15.62	19.59	16.41	13.41	N/A	N/A	N/A	14.56	01/01/2012
Russell 1000 Index			11.11	6.12	15.66	19.59	16.30	13.35	14.74	10.71	8.07	14.54	
Difference			-0.02	0.02	-0.04	0.01	0.11	0.06	N/A	N/A	N/A	0.02	
S&P 500 Index (Cap Wtd)			10.94	6.20	15.16	19.71	16.64	13.65	14.86	10.73	7.98	14.68	
Difference			0.15	-0.07	0.46	-0.12	-0.23	-0.23	N/A	N/A	N/A	-0.12	
MCM Russell 2000 Core Index (SA)	99,508,784	0.25	8.62	-1.62	7.74	10.25	10.54	N/A	N/A	N/A	N/A	7.67	12/01/2016
Russell 2000 Index			8.50	-1.79	7.68	10.00	10.04	7.12	10.35	7.76	7.35	7.42	
Difference			0.12	0.17	0.06	0.25	0.50	N/A	N/A	N/A	N/A	0.25	
S&P Sm Cap 600 Index (Cap Wtd)			4.90	-4.46	4.60	7.65	11.68	8.02	11.39	8.65	9.02	7.61	
Difference			3.72	2.85	3.14	2.60	-1.14	N/A	N/A	N/A	N/A	0.06	
MCM Russell 2000 Val Index (SA)	313,761,879	0.78	5.04	-3.07	5.64	7.52	12.55	N/A	N/A	N/A	N/A	6.04	12/01/2016
Russell 2000 Val Index			4.97	-3.16	5.54	7.45	12.47	6.72	9.35	6.80	8.60	6.00	
Difference			0.08	0.09	0.11	0.07	0.08	N/A	N/A	N/A	N/A	0.04	
S&P Sm Cap 600 Val Index			2.52	-7.65	4.26	5.75	12.53	7.24	10.55	7.85	9.12	6.42	
Difference			2.52	4.57	1.39	1.76	0.02	N/A	N/A	N/A	N/A	-0.39	
Emerald Advisers Div Sm Cap Grth (SA)	421,880,143	1.04	20.52	6.14	16.87	17.34	10.17	N/A	N/A	N/A	N/A	10.67	12/01/2016
Russell 2000 Grth Index			11.97	-0.48	9.73	12.38	7.42	7.14	11.06	8.49	5.76	8.41	
Difference			8.55	6.62	7.15	4.95	2.75	N/A	N/A	N/A	N/A	2.25	
S&P Sm Cap 600 Grth Index			7.25	-1.29	4.75	9.41	10.64	8.61	12.09	9.33	8.60	8.57	
Difference			13.27	7.44	12.12	7.92	-0.47	N/A	N/A	N/A	N/A	2.10	

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
International Developed Markets Equity	5,860,872,999	14.50	12.30	17.58	17.40	15.78	11.97	7.23	8.31	6.07	N/A	6.88	01/01/2002
MSCI Wrld Ex US Index (USD) (Net)*			12.05	18.99	18.70	15.22	11.15	6.59	7.47	5.99	4.79	6.83	
Difference			0.25	-1.42	-1.30	0.56	0.81	0.64	0.84	0.07	N/A	0.05	
BlackRock MSCI World ex US Index (CF)	4,496,462,583	11.12	12.25	19.63	19.14	16.19	11.98	N/A	N/A	N/A	N/A	7.78	06/01/2017
MSCI Wrld Ex US Index (USD) (Net)			12.05	18.99	18.70	15.73	11.51	6.65	7.42	5.90	4.63	7.32	
Difference			0.21	0.63	0.44	0.46	0.48	N/A	N/A	N/A	N/A	0.46	
Walter Scott & Ptnrs Gbl Gr Eq (SA)	882,143,499	2.18	10.05	6.15	7.31	14.46	11.48	11.32	11.72	N/A	N/A	9.61	10/01/2006
MSCI Wrld Index (USD) (Net)			11.47	9.47	16.26	18.31	14.55	10.66	11.47	8.50	6.29	7.93	
Difference			-1.42	-3.32	-8.95	-3.84	-3.07	0.66	0.26	N/A	N/A	1.68	
Xponance Non-US Small Cap (CIT)	292,068,000	0.72	17.17	18.78	17.70	14.04	10.21	N/A	N/A	N/A	N/A	5.74	10/01/2018
MSCI ACW Ex US Sm Cap Index (USD) (Net)			16.93	17.68	18.34	13.46	10.74	6.54	7.59	6.96	7.02	6.42	
Difference			0.24	1.10	-0.64	0.58	-0.53	N/A	N/A	N/A	N/A	-0.68	
Harris Assoc Int'l SCV (SA)	186,869,509	0.46	17.22	26.31	26.22	18.94	15.68	7.37	8.87	8.48	N/A	10.55	07/01/2003
MSCI Wrld Ex US Sm Cap Index (USD) (Net)			16.82	20.79	22.92	13.40	9.82	6.64	8.11	6.47	7.08	8.71	
Difference			0.40	5.52	3.30	5.53	5.86	0.73	0.76	2.01	N/A	1.84	
MSCI Wrld Ex US Sm Val Index (USD) (Net)			14.72	21.40	23.72	14.61	12.50	6.49	7.84	6.61	8.05	8.90	
Difference			2.50	4.91	2.50	4.32	3.19	0.88	1.02	1.86	N/A	1.66	
Emerging Markets Equity	759,984,419	1.88	11.86	14.51	14.56	10.97	7.34	5.98	4.71	5.01	N/A	6.99	01/01/2002
MSCI Emg Mkts Index (USD) (Net)*			11.99	15.27	15.29	10.55	7.80	5.04	4.65	6.68	6.74	8.66	
Difference			-0.13	-0.76	-0.72	0.42	-0.46	0.94	0.06	-1.68	N/A	-1.67	
BlackRock MSCI Emg Mkts Index (CF)	759,863,149	1.88	11.86	15.23	14.96	9.32	6.48	N/A	N/A	N/A	N/A	4.65	07/01/2017
MSCI Emg Mkts Index (USD) (Net)			11.99	15.27	15.29	9.70	6.81	4.81	4.44	6.45	6.64	4.94	
Difference			-0.13	-0.04	-0.32	-0.39	-0.32	N/A	N/A	N/A	N/A	-0.29	

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Private Equity	6,657,542,062	16.47	1.45	2.32	5.03	2.84	16.09	11.72	11.82	11.71	8.53	11.24	01/01/1986
Burgiss All Pvt Equity Custom Index (1 Qtr Lag)			1.79	2.55	6.56	2.86	15.55	12.72	13.09	12.76	10.09	19.22	
Difference			-0.34	-0.23	-1.53	-0.02	0.54	-1.00	-1.27	-1.05	-1.56	-7.98	
Global Equity+3% (1 Qtr Lag)			-1.52	-0.89	9.50	11.04	20.13	14.44	15.63	15.01	12.07	N/A	
Difference			2.97	3.21	-4.47	-8.21	-4.05	-2.72	-3.82	-3.30	-3.54	N/A	
Buyouts	3,716,454,039	9.19	1.47	2.31	4.52	3.16	15.50	12.28	13.01	13.29	10.51	13.09	04/01/1986
Burgiss Buyout Custom Index (1 Qtr Lag)			1.61	1.54	6.09	5.20	17.23	13.73	13.62	13.60	11.82	19.00	
Difference			-0.14	0.77	-1.58	-2.04	-1.72	-1.46	-0.60	-0.31	-1.31	-5.90	
Special Situations	1,704,592,152	4.22	1.60	3.07	7.65	6.99	18.02	12.77	12.27	12.73	12.76	12.99	01/01/1995
Burgiss Special Situations Custom Index (1 Qtr Lag)			1.98	2.63	7.49	7.16	10.87	7.78	8.76	8.84	9.58	10.13	
Difference			-0.38	0.45	0.16	-0.17	7.16	4.99	3.51	3.89	3.18	2.86	
Growth Equity	1,092,802,195	2.70	1.60	3.55	6.47	-0.82	19.23	14.79	13.00	10.10	3.52	8.46	01/01/1986
Burgiss Venture Capital Custom Index (1 Qtr Lag)			2.06	4.70	6.72	-4.29	14.89	13.76	15.53	12.95	6.30	13.90	
Difference			-0.46	-1.15	-0.25	3.47	4.33	1.02	-2.53	-2.85	-2.78	-5.44	
Keystone Legacy	143,693,677	0.36	-1.88	-12.74	-17.33	-11.47	-3.45	N/A	N/A	N/A	N/A	-5.55	07/01/2018
Fixed Income	6,916,932,241	17.11	1.07	3.84	6.25	2.95	0.33	1.88	3.06	3.76	4.59	7.40	01/01/1981
Bloomberg US Agg Bond Index			1.21	4.02	6.08	2.55	-0.73	1.76	2.29	3.09	3.94	6.71	
Difference			-0.14	-0.18	0.17	0.40	1.06	0.12	0.78	0.67	0.65	0.69	
Core Fixed Income	4,265,563,549	10.55	1.08	3.91	6.07	2.74	-0.33	2.01	2.88	3.45	N/A	3.85	01/01/2002
Bloomberg US Agg Bond Index			1.21	4.02	6.08	2.55	-0.73	1.76	2.29	3.09	3.94	3.52	
Difference			-0.12	-0.12	-0.01	0.19	0.40	0.25	0.59	0.36	N/A	0.33	
MCM Bond Index (SA)	3,680,603,755	9.10	1.20	3.99	6.06	2.65	-0.71	1.73	2.22	3.01	3.89	6.21	04/01/1984
Bloomberg US Agg Bond Index*			1.21	4.02	6.08	2.55	-0.73	1.76	2.29	3.09	3.98	6.45	
Difference			-0.01	-0.03	-0.01	0.11	0.01	-0.03	-0.07	-0.08	-0.09	-0.24	
PIMCO Core Bond Fund (SA)	584,959,794	1.45	1.47	4.54	7.35	3.58	0.21	2.26	N/A	N/A	N/A	2.08	01/01/2013
Bloomberg US Aggregate ex Treasury			1.51	4.22	6.69	3.30	-0.15	2.09	2.62	3.38	4.19	2.03	
Difference			-0.04	0.32	0.66	0.28	0.35	0.18	N/A	N/A	N/A	0.05	

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Opportunistic Fixed Income	831,257,919	2.06	1.49	3.55	9.33	8.23	9.86	5.53	N/A	N/A	N/A	5.68	10/01/2012
HFRI FOF Comp Index			3.20	2.82	7.03	6.46	6.17	3.80	3.90	3.51	3.69	4.26	
Difference			-1.72	0.73	2.30	1.77	3.69	1.73	N/A	N/A	N/A	1.42	
Blackstone Keystone Fund (CF)	831,257,919	2.06	1.49	3.55	9.33	8.23	10.44	6.11	N/A	N/A	N/A	7.62	07/01/2012
HFRI FOF Comp Index			3.20	2.82	7.03	6.46	6.17	3.80	3.90	3.51	3.69	4.37	
Difference			-1.72	0.73	2.30	1.77	4.27	2.31	N/A	N/A	N/A	3.26	
Nominal U.S. Treasuries	1,792,767,557	4.43	0.82	3.77	5.27	-0.25	-3.83	0.59	N/A	N/A	N/A	1.00	09/01/2011
Bloomberg US Trsy Bellwethers 10 Yr Index			1.04	5.08	5.40	0.33	-3.34	0.69	1.82	2.67	3.61	1.20	
Difference			-0.22	-1.31	-0.13	-0.57	-0.49	-0.10	N/A	N/A	N/A	-0.19	
MCM US Treas Index (SA)	1,792,767,557	4.43	0.82	3.77	5.27	N/A	N/A	N/A	N/A	N/A	N/A	6.72	05/01/2024
Bloomberg US Trsy Index			0.85	3.79	5.30	1.53	-1.60	1.20	1.71	2.62	3.48	6.74	
Difference			-0.02	-0.02	-0.03	N/A	N/A	N/A	N/A	N/A	N/A	-0.03	
Legacy Fixed Income	27,343,216	0.07	2.20	7.62	12.65	5.77	N/A	N/A	N/A	N/A	N/A	5.77	07/01/2022
Bloomberg US CMBS Ex AAA Index			1.75	4.61	7.91	3.31	2.39	2.81	4.71	0.84	N/A	3.31	
Difference			0.45	3.01	4.74	2.46	N/A	N/A	N/A	N/A	N/A	2.46	
Fidelity HY CMBS (SA)	27,343,216	0.07	2.20	7.61	12.88	6.04	6.00	3.46	6.84	5.42	6.91	7.36	04/01/1997
Bloomberg US CMBS Ex AAA Index*			1.75	4.61	7.91	3.31	2.39	2.81	4.71	5.91	6.26	6.08	
Difference			0.45	3.00	4.98	2.73	3.62	0.64	2.13	-0.48	0.64	1.28	
Inflation Protection (TIPS)	994,077,306	2.46	0.50	4.76	6.09	2.23	1.23	2.47	2.28	2.99	N/A	2.99	02/01/2003
Bloomberg US Trsy US TIPS Index			0.48	4.67	5.84	2.34	1.61	2.67	2.88	3.40	4.69	3.87	
Difference			0.02	0.09	0.24	-0.11	-0.37	-0.20	-0.60	-0.42	N/A	-0.87	
NISA Inv Adv TIPS (SA)	485,802,403	1.20	0.47	4.72	5.86	2.37	1.62	2.67	2.28	N/A	N/A	2.97	04/01/2007
Bloomberg US Trsy US TIPS Index*			0.48	4.67	5.84	2.34	1.61	2.67	2.27	N/A	N/A	N/A	
Difference			-0.01	0.05	0.02	0.03	0.01	0.00	0.00	N/A	N/A	N/A	
Brown Brothers TIPS (SA)	508,268,735	1.26	0.54	4.80	5.86	2.30	1.49	2.63	N/A	N/A	N/A	2.00	02/01/2012
Bloomberg US Trsy US TIPS Index			0.48	4.67	5.84	2.34	1.61	2.67	2.88	3.40	4.69	1.94	
Difference			0.06	0.13	0.02	-0.04	-0.12	-0.04	N/A	N/A	N/A	0.06	

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Real Estate	2,227,532,228	5.51	1.86	1.89	-1.49	-7.71	0.60	1.85	4.81	3.88	5.20	7.25	03/01/1984
Real Estate Custom Benchmark			0.84	1.69	0.78	-5.24	2.30	4.38	7.34	5.45	6.37	N/A	
Difference			1.03	0.20	-2.27	-2.47	-1.70	-2.53	-2.53	-1.57	-1.17	N/A	
CPI (All Urban Consumers) +3% (1 Qtr Lag)			2.08	2.94	5.46	6.72	7.51	6.17	5.68	5.63	5.61	5.91	
Difference			-0.22	-1.04	-6.95	-14.43	-6.91	-4.32	-0.86	-1.74	-0.41	1.34	
Real Estate Securities	144,952,861	0.36	-0.97	-0.48	10.45	5.56	9.09	4.79	7.45	7.27	9.43	9.03	04/01/1996
FTSE NAREIT Eq REITs Index (TR)			-1.16	-0.25	8.60	5.35	8.63	6.32	8.91	6.66	9.29	9.18	
Difference			0.19	-0.22	1.85	0.22	0.45	-1.53	-1.47	0.61	0.14	-0.15	
CenterSquare (SA)	144,950,773	0.36	-0.97	-0.49	10.44	5.85	9.21	7.28	9.97	8.14	N/A	10.04	05/01/2002
FTSE NAREIT Eq REITs Index (TR)			-1.16	-0.25	8.60	5.35	8.63	6.32	8.91	6.66	9.29	8.51	
Difference			0.19	-0.23	1.84	0.50	0.58	0.96	1.06	1.47	N/A	1.53	
Core/Core Plus Real Estate Funds	1,074,299,553	2.66	2.56	2.81	0.82	-2.75	3.65	5.22	8.03	6.08	6.65	6.53	09/01/1986
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			0.84	1.69	0.78	-5.24	2.26	5.00	7.71	5.36	5.97	5.52	
Difference			1.72	1.12	0.04	2.49	1.39	0.21	0.32	0.72	0.68	1.01	
Value Add/Opportunistic SMA	235,626,745	0.58	1.02	2.03	-17.20	-27.35	-13.88	-6.16	-1.38	-0.91	0.71	2.37	06/01/1988
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			0.84	1.69	0.78	-5.24	2.26	5.00	7.71	5.36	5.97	5.52	
Difference			0.19	0.34	-17.98	-22.11	-16.14	-11.16	-9.09	-6.26	-5.27	-3.14	
Value Add/Opportunistic Funds	772,653,068	1.91	1.70	1.04	-1.01	-5.94	3.14	4.38	7.94	4.90	6.46	7.10	03/01/1984
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			0.84	1.69	0.78	-5.24	2.26	5.00	7.71	5.36	5.97	5.81	
Difference			0.87	-0.65	-1.80	-0.71	0.88	-0.62	0.22	-0.46	0.49	1.30	
Legacy Private Credit	333,146,679	0.82	1.98	3.34	8.46	8.88	12.08	N/A	N/A	N/A	N/A	10.09	04/01/2018
S&P Leveraged Loan Index +1.0% (1 Qtr Lag)			0.86	3.43	8.09	8.17	9.99	6.03	6.16	5.91	5.99	6.36	
Difference			1.12	-0.08	0.37	0.71	2.09	N/A	N/A	N/A	N/A	3.73	
Cash	1,582,857,348	3.92	1.07	2.20	4.94	4.75	2.89	2.18	1.57	1.96	2.31	3.50	01/01/1987
ICE BofA 3 Mo US T-Bill Index			1.04	2.07	4.68	4.56	2.76	1.97	1.34	1.69	1.88	3.24	
Difference			0.03	0.12	0.26	0.20	0.13	0.20	0.23	0.27	0.43	0.26	

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total Fund	40,424,796,896	100.00	9.82	12.22	-12.15	17.24	11.11	18.75	-4.55	15.08	6.51	0.40	6.35	13.61	11.96
Total Fund Custom Benchmark			9.88	12.74	-11.78	17.51	13.50	16.81	-2.09	14.46	6.81	2.85	7.32	14.13	11.66
Difference			-0.05	-0.53	-0.37	-0.27	-2.40	1.94	-2.46	0.62	-0.30	-2.45	-0.97	-0.52	0.30
Public Market Equivalent Custom Benchmark			15.19	17.12	-13.69	13.64	13.24	16.28	-1.02	16.07	8.44	0.60	7.59	15.52	15.71
Difference			-5.36	-4.91	1.55	3.60	-2.13	2.47	-3.53	-0.99	-1.92	-0.21	-1.24	-1.91	-3.75
60/40 Benchmark			10.14	15.03	-16.04	10.03	13.56	19.28	-5.93	15.39	6.22	-0.88	4.77	12.74	11.63
Difference			-0.32	-2.81	3.90	7.21	-2.45	-0.53	1.39	-0.31	0.29	1.27	1.58	0.87	0.33
U.S. Equity	15,075,579,187	37.29	23.38	25.56	-19.06	24.62	21.28	30.37	-7.48	20.54	11.17	-0.53	11.22	34.14	17.37
Russell 3000 Index*			23.81	25.96	-19.21	25.66	20.89	31.02	-5.24	21.13	12.74	0.48	12.56	33.55	16.42
Difference			-0.43	-0.39	0.15	-1.04	0.39	-0.65	-2.24	-0.59	-1.57	-1.01	-1.34	0.58	0.95
S&P 1500 Comp Index			23.95	25.47	-17.78	28.44	17.92	30.90	-4.96	21.13	13.03	1.01	13.08	32.80	16.17
Difference			-0.57	0.10	-1.28	-3.83	3.36	-0.54	-2.51	-0.59	-1.86	-1.55	-1.87	1.34	1.20
MCM Russell 1000 Index (SA)	14,240,428,381	35.23	24.43	26.60	-18.88	26.66	20.85	31.37	-4.63	21.62	12.15	0.94	13.20	33.12	16.04
Russell 1000 Index			24.51	26.53	-19.13	26.45	20.96	31.43	-4.78	21.69	12.05	0.92	13.24	33.11	16.42
Difference			-0.08	0.07	0.25	0.21	-0.11	-0.06	0.15	-0.07	0.10	0.02	-0.04	0.01	-0.38
S&P 500 Index (Cap Wtd)			25.02	26.29	-18.11	28.71	18.40	31.49	-4.38	21.83	11.96	1.38	13.69	32.39	16.00
Difference			-0.59	0.31	-0.77	-2.04	2.45	-0.12	-0.25	-0.21	0.19	-0.44	-0.49	0.73	0.04
MCM Russell 2000 Core Index (SA)	99,508,784	0.25	12.00	17.03	-20.33	17.16	19.04	25.52	-11.04	14.62	N/A	N/A	N/A	N/A	N/A
Russell 2000 Index			11.54	16.93	-20.44	14.82	19.96	25.53	-11.01	14.65	21.31	-4.41	4.89	38.82	16.35
Difference			0.46	0.10	0.11	2.35	-0.92	-0.01	-0.03	-0.02	N/A	N/A	N/A	N/A	N/A
S&P Sm Cap 600 Index (Cap Wtd)			8.70	16.05	-16.10	26.82	11.29	22.78	-8.48	13.23	26.56	-1.97	5.76	41.31	16.33
Difference			3.30	0.98	-4.23	-9.65	7.75	2.74	-2.56	1.39	N/A	N/A	N/A	N/A	N/A
MCM Russell 2000 Val Index (SA)	313,761,879	0.78	8.08	14.69	-14.32	28.33	4.66	22.36	-12.90	7.79	N/A	N/A	N/A	N/A	N/A
Russell 2000 Val Index			8.05	14.65	-14.48	28.27	4.63	22.39	-12.86	7.84	31.74	-7.47	4.22	34.52	18.05
Difference			0.02	0.05	0.17	0.06	0.02	-0.04	-0.04	-0.05	N/A	N/A	N/A	N/A	N/A
S&P Sm Cap 600 Val Index			7.56	14.89	-11.04	30.95	2.53	24.54	-12.64	11.51	31.32	-6.67	7.54	39.98	18.21
Difference			0.52	-0.19	-3.27	-2.61	2.12	-2.18	-0.26	-3.73	N/A	N/A	N/A	N/A	N/A
Emerald Advisers Div Sm Cap Grth (SA)	421,880,143	1.04	19.85	18.59	-24.10	3.31	36.46	30.17	-11.14	26.09	N/A	N/A	N/A	N/A	N/A
Russell 2000 Grth Index			15.15	18.66	-26.36	2.83	34.63	28.48	-9.31	22.17	11.32	-1.38	5.60	43.30	14.59
Difference			4.69	-0.07	2.26	0.47	1.83	1.69	-1.83	3.92	N/A	N/A	N/A	N/A	N/A
S&P Sm Cap 600 Grth Index			9.63	17.10	-21.08	22.62	19.60	21.13	-4.05	14.79	22.16	2.78	3.87	42.69	14.56
Difference			10.22	1.49	-3.02	-19.32	16.86	9.04	-7.08	11.30	N/A	N/A	N/A	N/A	N/A

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
International Developed Markets Equity	5,860,872,999	14.50	4.97	18.99	-15.17	14.48	9.62	23.90	-14.83	29.12	2.05	-1.88	-4.85	23.65	18.52
MSCI Wrld Ex US Index (USD) (Net)*			4.15	17.18	-15.26	12.40	8.32	22.91	-14.68	25.17	2.95	-1.95	-4.45	21.57	16.55
Difference			0.81	1.81	0.08	2.08	1.30	1.00	-0.15	3.95	-0.90	0.07	-0.39	2.08	1.97
BlackRock MSCI World ex US Index (CF)	4,496,462,583	11.12	4.82	18.40	-13.85	13.11	8.01	22.99	-13.76	N/A	N/A	N/A	N/A	N/A	N/A
MSCI Wrld Ex US Index (USD) (Net)			4.70	17.94	-14.29	12.62	7.59	22.49	-14.09	24.21	2.75	-3.04	-4.32	21.02	16.41
Difference			0.12	0.46	0.44	0.48	0.42	0.50	0.33	N/A	N/A	N/A	N/A	N/A	N/A
Walter Scott & Ptnrs Gbl Gr Eq (SA)	882,143,499	2.18	9.16	22.91	-19.26	20.11	21.14	31.07	-0.62	27.04	6.37	2.35	3.86	22.26	19.01
MSCI Wrld Index (USD) (Net)			18.67	23.79	-18.14	21.82	15.90	27.67	-8.71	22.40	7.51	-0.87	4.94	26.68	15.83
Difference			-9.51	-0.87	-1.12	-1.70	5.24	3.40	8.09	4.64	-1.14	3.23	-1.07	-4.42	3.19
Xponance Non-US Small Cap (CIT)	292,068,000	0.72	4.78	15.89	-22.67	11.78	9.38	22.82	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI ACW Ex US Sm Cap Index (USD) (Net)			3.36	15.66	-19.97	12.93	14.24	22.42	-18.20	31.65	3.91	2.60	-4.03	19.73	18.52
Difference			1.43	0.23	-2.70	-1.15	-4.86	0.40	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Harris Assoc Int'l SCV (SA)	186,869,509	0.46	-2.22	20.11	-14.34	19.02	7.32	32.78	-23.53	27.48	7.28	0.98	-6.81	31.25	19.16
MSCI Wrld Ex US Sm Cap Index (USD) (Net)			2.76	12.62	-20.59	11.14	12.78	25.41	-18.07	31.04	4.32	5.46	-5.35	25.55	17.48
Difference			-4.99	7.49	6.25	7.88	-5.46	7.37	-5.46	-3.55	2.96	-4.48	-1.46	5.70	1.69
MSCI Wrld Ex US Sm Val Index (USD) (Net)			2.95	14.70	-14.00	13.27	2.58	22.83	-18.38	27.93	7.87	1.06	-5.87	27.73	19.51
Difference			-5.18	5.41	-0.34	5.76	4.74	9.96	-5.15	-0.44	-0.59	-0.08	-0.94	3.52	-0.35
Emerging Markets Equity	759,984,419	1.88	8.64	11.40	-22.84	-0.45	24.45	21.32	-15.82	41.38	10.32	-12.38	-5.93	-1.09	17.02
MSCI Emg Mkts Index (USD) (Net)*			7.43	11.67	-19.83	-0.28	18.39	17.65	-15.05	36.83	9.90	-13.86	-1.79	-2.20	18.69
Difference			1.21	-0.27	-3.00	-0.17	6.05	3.67	-0.78	4.55	0.42	1.48	-4.14	1.10	-1.67
BlackRock MSCI Emg Mkts Index (CF)	759,863,149	1.88	7.13	9.25	-20.20	-2.75	17.85	18.12	-14.75	N/A	N/A	N/A	N/A	N/A	N/A
MSCI Emg Mkts Index (USD) (Net)			7.50	9.83	-20.09	-2.54	18.31	18.42	-14.57	37.28	11.19	-14.92	-2.19	-2.60	18.23
Difference			-0.38	-0.57	-0.11	-0.21	-0.46	-0.30	-0.18	N/A	N/A	N/A	N/A	N/A	N/A

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Private Equity	6,657,542,062	16.47	6.28	6.59	-5.06	52.83	18.37	9.55	11.90	12.83	6.79	6.42	13.15	12.56	11.42
Burgiss All Pvt Equity Custom Index (1 Qtr Lag)			8.21	4.42	-1.47	49.70	15.73	9.21	16.83	15.69	8.94	8.71	16.61	15.96	12.65
Difference			-1.93	2.16	-3.58	3.13	2.64	0.35	-4.93	-2.86	-2.15	-2.28	-3.46	-3.40	-1.22
Global Equity+3% (1 Qtr Lag)			35.89	24.90	-15.48	33.88	15.55	6.65	20.71	21.76	18.22	2.71	20.90	24.74	33.54
Difference			-29.61	-18.31	10.43	18.95	2.82	2.91	-8.81	-8.93	-11.43	3.72	-7.76	-12.18	-22.12
Buyouts	3,716,454,039	9.19	4.14	7.61	-0.41	41.70	20.77	8.69	13.04	15.32	10.85	7.77	15.31	13.75	20.67
Burgiss Buyout Custom Index (1 Qtr Lag)			9.60	9.39	2.55	46.58	13.19	8.40	16.06	18.97	12.07	6.23	15.08	16.58	13.44
Difference			-5.46	-1.78	-2.95	-4.88	7.58	0.30	-3.02	-3.65	-1.23	1.54	0.23	-2.83	7.22
Special Situations	1,704,592,152	4.22	10.74	8.78	10.74	48.46	9.32	17.28	7.55	17.50	1.13	1.67	9.00	16.79	8.32
Burgiss Special Situations Custom Index (1 Qtr Lag)			9.95	9.96	3.62	18.86	2.26	3.95	8.92	10.47	5.89	4.43	11.97	13.83	14.25
Difference			0.78	-1.19	7.12	29.60	7.06	13.33	-1.37	7.04	-4.75	-2.77	-2.97	2.96	-5.93
Growth Equity	1,092,802,195	2.70	8.86	1.36	-15.66	81.31	37.49	22.47	23.49	4.36	1.25	6.09	9.93	6.07	7.73
Burgiss Venture Capital Custom Index (1 Qtr Lag)			4.08	-8.91	-10.64	78.31	30.87	14.74	25.41	10.28	3.30	25.40	28.88	15.38	6.03
Difference			4.79	10.27	-5.02	3.00	6.62	7.73	-1.92	-5.92	-2.05	-19.31	-18.96	-9.31	1.70
Keystone Legacy	143,693,677	0.36	-7.77	1.83	-41.45	57.71	-6.30	-1.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fixed Income	6,916,932,241	17.11	2.48	5.57	-12.34	-0.75	5.78	9.51	-0.99	4.68	5.62	-2.73	6.21	-1.37	10.01
Bloomberg US Agg Bond Index			1.25	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97	-2.02	4.21
Difference			1.23	0.04	0.67	0.79	-1.72	0.80	-1.01	1.13	2.97	-3.28	0.25	0.66	5.79
Core Fixed Income	4,265,563,549	10.55	1.69	5.76	-11.94	-1.58	6.86	9.64	-0.60	4.34	3.54	-0.02	5.98	-2.10	8.07
Bloomberg US Agg Bond Index			1.25	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97	-2.02	4.21
Difference			0.44	0.23	1.07	-0.03	-0.65	0.93	-0.62	0.80	0.89	-0.57	0.01	-0.08	3.85
MCM Bond Index (SA)	3,680,603,755	9.10	1.48	5.62	-13.00	-1.76	7.42	8.65	0.01	3.54	2.51	0.51	5.98	-2.25	3.76
Bloomberg US Agg Bond Index*			1.25	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97	-2.02	4.21
Difference			0.23	0.09	0.01	-0.21	-0.08	-0.07	0.00	0.00	-0.14	-0.04	0.02	-0.23	-0.46
PIMCO Core Bond Fund (SA)	584,959,794	1.45	2.50	6.80	-13.21	-0.86	7.65	9.80	-0.79	4.98	3.48	0.14	5.87	-2.75	N/A
Bloomberg US Aggregate ex Treasury			1.76	6.58	-13.35	-1.08	6.85	9.93	-0.51	4.26	3.58	0.39	6.47	-1.61	5.46
Difference			0.73	0.22	0.14	0.22	0.81	-0.13	-0.29	0.72	-0.10	-0.25	-0.60	-1.14	N/A

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Opportunistic Fixed Income	831,257,919	2.06	10.94	7.62	6.46	8.01	2.87	10.84	-2.08	6.52	11.11	-8.50	7.44	5.75	N/A
HFRI FOF Comp Index			9.15	6.07	-5.31	6.17	10.88	8.39	-4.02	7.77	0.51	-0.27	3.37	8.96	4.79
Difference			1.79	1.55	11.77	1.84	-8.01	2.45	1.93	-1.25	10.59	-8.23	4.07	-3.21	N/A
Blackstone Keystone Fund (CF)	831,257,919	2.06	10.94	7.62	6.67	11.00	2.54	11.18	-0.34	7.94	2.92	2.29	9.51	15.72	N/A
HFRI FOF Comp Index			9.15	6.07	-5.31	6.17	10.88	8.39	-4.02	7.77	0.51	-0.27	3.37	8.96	4.79
Difference			1.79	1.55	11.98	4.82	-8.34	2.79	3.68	0.16	2.41	2.56	6.14	6.76	N/A
Nominal U.S. Treasuries	1,792,767,557	4.43	0.11	3.55	-17.68	-5.71	11.12	8.78	0.60	2.42	0.48	1.18	10.39	-7.46	4.17
Bloomberg US Trsy Bellwethers 10 Yr Index			-1.73	3.21	-16.33	-3.60	10.61	8.90	0.00	2.14	-0.16	0.91	10.74	-7.81	4.13
Difference			1.84	0.34	-1.35	-2.11	0.51	-0.12	0.60	0.28	0.64	0.27	-0.36	0.34	0.04
MCM US Treas Index (SA)	1,792,767,557	4.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg US Trsy Index			0.58	4.05	-12.46	-2.32	8.00	6.86	0.86	2.31	1.04	0.84	5.05	-2.75	1.99
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Legacy Fixed Income	27,343,216	0.07	16.46	-3.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg US CMBS Ex AAA Index			6.04	3.63	-13.65	2.86	4.13	10.39	2.05	6.03	4.57	0.07	3.89	1.43	15.53
Difference			10.42	-7.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fidelity HY CMBS (SA)	27,343,216	0.07	17.36	-4.14	-7.37	8.10	-5.48	8.11	3.45	5.68	3.13	3.89	10.37	10.70	23.13
Bloomberg US CMBS Ex AAA Index*			6.04	3.63	-13.65	2.86	4.13	10.39	2.05	6.03	4.57	0.07	3.89	1.43	15.53
Difference			11.32	-7.78	6.28	5.24	-9.61	-2.29	1.41	-0.36	-1.44	3.82	6.48	9.28	7.61
Inflation Protection (TIPS)	994,077,306	2.46	1.81	3.85	-12.99	5.16	11.04	8.36	-1.75	3.89	4.64	-1.71	3.87	-8.12	5.01
Bloomberg US Trsy US TIPS Index			1.84	3.90	-11.85	5.96	10.99	8.43	-1.26	3.01	4.68	-1.44	3.64	-8.61	6.98
Difference			-0.02	-0.05	-1.15	-0.79	0.05	-0.07	-0.49	0.89	-0.05	-0.27	0.23	0.49	-1.97
NISA Inv Adv TIPS (SA)	485,802,403	1.20	2.05	3.81	-11.90	5.95	10.89	8.35	-1.32	3.12	4.70	-1.39	3.61	-8.69	3.85
Bloomberg US Trsy US TIPS Index*			1.84	3.90	-11.85	5.96	10.99	8.43	-1.26	3.01	4.68	-1.44	3.64	-8.61	3.81
Difference			0.22	-0.08	-0.06	-0.01	-0.10	-0.08	-0.05	0.12	0.02	0.05	-0.03	-0.08	0.03
Brown Brothers TIPS (SA)	508,268,735	1.26	1.88	3.51	-11.67	5.79	10.64	8.42	-1.36	2.90	4.93	-1.09	3.79	-8.44	N/A
Bloomberg US Trsy US TIPS Index			1.84	3.90	-11.85	5.96	10.99	8.43	-1.26	3.01	4.68	-1.44	3.64	-8.61	6.98
Difference			0.04	-0.38	0.18	-0.17	-0.36	0.00	-0.10	-0.11	0.24	0.35	0.15	0.16	N/A

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Real Estate	2,227,532,228	5.51	-12.25	-11.91	6.02	18.04	2.11	10.98	-2.34	2.02	3.23	9.92	10.94	13.70	9.89
Real Estate Custom Benchmark			-8.44	-13.08	17.38	17.48	0.25	4.75	7.24	5.61	9.87	12.86	11.38	12.41	12.82
Difference			-3.81	1.17	-11.36	0.56	1.86	6.23	-9.57	-3.59	-6.65	-2.94	-0.44	1.29	-2.94
CPI (All Urban Consumers) +3% (1 Qtr Lag)			5.51	6.81	11.45	8.55	4.41	4.76	5.35	5.30	4.51	2.96	4.71	4.22	5.05
Difference			-17.76	-18.72	-5.42	9.49	-2.30	6.22	-7.68	-3.28	-1.28	6.96	6.23	9.48	4.83
Real Estate Securities	144,952,861	0.36	11.26	13.21	-23.73	42.47	-4.20	26.81	-3.52	-4.74	13.96	4.63	8.44	12.02	27.90
FTSE NAREIT Eq REITs Index (TR)			8.73	13.73	-24.34	43.24	-8.00	26.00	-4.62	5.23	8.52	3.20	30.14	2.47	18.06
Difference			2.53	-0.52	0.61	-0.76	3.80	0.81	1.10	-9.97	5.44	1.43	-21.70	9.55	9.84
CenterSquare (SA)	144,950,773	0.36	11.26	14.14	-23.73	42.15	-4.20	26.80	-5.00	6.33	8.46	4.95	32.21	3.24	17.14
FTSE NAREIT Eq REITs Index (TR)			8.73	13.73	-24.34	43.24	-8.00	26.00	-4.62	5.23	8.52	3.20	30.14	2.47	18.06
Difference			2.53	0.40	0.61	-1.09	3.80	0.80	-0.37	1.10	-0.06	1.76	2.07	0.77	-0.92
Core/Core Plus Real Estate Funds	1,074,299,553	2.66	-7.13	-6.17	14.63	12.91	2.11	4.00	8.80	5.91	9.89	12.19	11.28	12.74	13.12
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			-8.44	-13.08	21.68	14.83	0.89	5.26	7.89	6.93	9.69	13.82	11.44	11.46	10.69
Difference			1.32	6.91	-7.05	-1.92	1.21	-1.26	0.91	-1.02	0.20	-1.63	-0.16	1.28	2.42
Value Add/Opportunistic SMA	235,626,745	0.58	-43.83	-31.23	0.88	12.67	8.22	15.76	-12.22	1.57	-2.35	11.44	9.43	14.65	3.91
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			-8.44	-13.08	21.68	14.83	0.89	5.26	7.89	6.93	9.69	13.82	11.44	11.46	10.69
Difference			-35.39	-18.15	-20.80	-2.15	7.33	10.50	-20.11	-5.37	-12.04	-2.38	-2.01	3.19	-6.78
Value Add/Opportunistic Funds	772,653,068	1.91	-6.96	-10.80	12.11	23.05	-1.54	5.60	8.98	8.03	6.01	9.46	16.34	15.37	12.04
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			-8.44	-13.08	21.68	14.83	0.89	5.26	7.89	6.93	9.69	13.82	11.44	11.46	10.69
Difference			1.48	2.28	-9.57	8.22	-2.44	0.34	1.09	1.10	-3.68	-4.36	4.90	3.91	1.35
Legacy Private Credit	333,146,679	0.82	10.50	10.85	8.00	21.24	3.26	8.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P Leveraged Loan Index +1.0% (1 Qtr Lag)			10.75	13.60	-1.65	9.54	1.84	4.14	6.63	6.42	6.40	2.25	5.35	6.89	11.84
Difference			-0.25	-2.75	9.65	11.70	1.42	4.21	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cash	1,582,857,348	3.92	5.44	5.14	1.65	0.06	0.64	2.32	2.10	1.49	0.63	0.72	0.41	0.19	0.38
ICE BofA 3 Mo US T-Bill Index			5.25	5.02	1.46	0.05	0.67	2.28	1.87	0.86	0.33	0.05	0.04	0.07	0.11
Difference			0.19	0.12	0.19	0.01	-0.03	0.04	0.22	0.63	0.30	0.67	0.38	0.12	0.27

Performance shown is net of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net
MWBE Managers

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Xponance Non-US Small Cap (CIT)	292,068,000		17.17	18.78	17.70	14.04	10.21	N/A	N/A	N/A	N/A	5.74	10/01/2018
MSCI ACW Ex US Sm Cap Index (USD) (Net)			16.93	17.68	18.34	13.46	10.74	6.54	7.59	6.96	7.02	6.42	
Difference			0.24	1.10	-0.64	0.58	-0.53	N/A	N/A	N/A	N/A	-0.68	

Performance shown is net of fees. Performance is annualized for periods greater than one year.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Net
MWBE Managers

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Xponance Non-US Small Cap (CIT)	292,068,000		4.78	15.89	-22.67	11.78	9.38	22.82	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI ACW Ex US Sm Cap Index (USD) (Net)			3.36	15.66	-19.97	12.93	14.24	22.42	-18.20	31.65	3.91	2.60	-4.03	19.73	18.52
Difference			1.43	0.23	-2.70	-1.15	-4.86	0.40	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Performance shown is net of fees. Performance is annualized for periods greater than one year.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Total Fund	40,427,587,309	100.00	6.84	6.44	11.31	9.59	10.25	N/A	N/A	N/A	N/A	8.39	01/01/2020
Total Fund Custom Benchmark			6.55	6.64	11.17	9.78	9.62	8.01	8.80	7.89	6.77	8.35	
Difference			0.29	-0.20	0.14	-0.19	0.63	N/A	N/A	N/A	N/A	0.04	
Public Market Equivalent Custom Benchmark			6.17	6.23	12.24	12.05	10.27	8.37	9.20	9.55	7.83	8.82	
Difference			0.67	0.21	-0.93	-2.46	-0.02	N/A	N/A	N/A	N/A	-0.43	
60/40 Benchmark			7.39	7.57	11.98	11.04	7.73	6.70	7.40	6.42	5.69	6.71	
Difference			-0.55	-1.13	-0.67	-1.45	2.52	N/A	N/A	N/A	N/A	1.68	
Total Fund Estimated Gross History			6.84	6.44	11.31	9.59	10.25	8.05	8.85	7.70	6.96	8.48	01/01/1996
U.S. Equity	15,076,187,620	37.29	11.20	5.91	15.73	18.96	16.06	12.23	14.16	9.80	7.88	11.14	01/01/1981
Russell 3000 Index*			10.99	5.75	15.30	19.08	15.96	12.96	14.46	10.53	8.04	11.37	
Difference			0.21	0.16	0.43	-0.12	0.10	-0.73	-0.30	-0.73	-0.17	-0.23	
International Developed Markets Equity	5,862,159,316	14.50	12.33	17.65	17.56	15.92	12.11	7.40	8.53	6.33	N/A	7.16	01/01/2002
MSCI Wrld Ex US Index (USD) (Net)*			12.05	18.99	18.70	15.22	11.15	6.59	7.47	5.99	4.79	6.83	
Difference			0.28	-1.35	-1.15	0.70	0.96	0.81	1.06	0.34	N/A	0.33	
Emerging Markets Equity	760,083,311	1.88	11.87	14.54	14.69	11.34	7.79	6.47	5.15	5.44	N/A	7.37	01/01/2002
MSCI Emg Mkts Index (USD) (Net)*			11.99	15.27	15.29	10.55	7.80	5.04	4.65	6.68	6.74	8.66	
Difference			-0.12	-0.73	-0.59	0.80	-0.01	1.43	0.50	-1.25	N/A	-1.29	
Private Equity	6,657,542,062	16.47	1.69	2.81	6.20	4.05	20.14	N/A	N/A	N/A	N/A	17.06	01/01/2020
Burgiss All Pvt Equity Custom Index (1 Qtr Lag)			1.79	2.55	6.56	2.86	15.55	12.72	13.09	12.76	10.09	13.20	
Difference			-0.10	0.25	-0.37	1.20	4.59	N/A	N/A	N/A	N/A	3.85	
Fixed Income	6,917,348,985	17.11	1.08	3.89	6.38	3.09	0.48	2.08	3.29	3.98	4.82	6.72	01/01/1985
Bloomberg US Agg Bond Index			1.21	4.02	6.08	2.55	-0.73	1.76	2.29	3.09	3.94	5.91	
Difference			-0.13	-0.13	0.31	0.54	1.21	0.33	1.01	0.89	0.88	0.80	
Inflation Protection (TIPS)	994,299,392	2.46	0.53	4.81	6.19	2.33	1.34	2.59	2.40	3.11	N/A	3.11	02/01/2003
Bloomberg US Trsy US TIPS Index			0.48	4.67	5.84	2.34	1.61	2.67	2.88	3.40	4.69	3.87	
Difference			0.05	0.14	0.34	-0.01	-0.27	-0.08	-0.48	-0.30	N/A	-0.75	
Real Estate	2,227,690,169	5.51	2.26	2.49	-0.47	-7.20	1.60	N/A	N/A	N/A	N/A	1.20	01/01/2020
Real Estate Custom Benchmark			0.84	1.69	0.78	-5.24	2.30	4.38	7.34	5.45	6.37	2.06	
Difference			1.42	0.80	-1.25	-1.97	-0.70	N/A	N/A	N/A	N/A	-0.87	
CPI (All Urban Consumers) +3% (1 Qtr Lag)			2.08	2.94	5.46	6.72	7.51	6.17	5.68	5.63	5.61	7.19	
Difference			0.18	-0.45	-5.93	-13.92	-5.91	N/A	N/A	N/A	N/A	-6.00	
Legacy Private Credit	333,146,679	0.82	2.77	4.13	10.59	11.05	15.09	N/A	N/A	N/A	N/A	13.11	01/01/2020
S&P Leverage Loan Index +1% (1 Qtr Lag)			0.86	3.43	8.09	8.17	9.99	6.03	6.16	5.91	5.99	6.69	
Difference			1.90	0.70	2.50	2.88	5.10	N/A	N/A	N/A	N/A	6.42	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Cash	1,582,857,348	3.92	1.07	2.20	4.94	4.75	2.90	2.18	1.57	1.98	2.18	3.85	01/01/1987
ICE BofA 3 Mo US T-Bill Index			1.04	2.07	4.68	4.56	2.76	1.97	1.34	1.69	1.88	3.24	
Difference			0.03	0.12	0.26	0.20	0.13	0.20	0.23	0.28	0.30	0.61	
Legacy Hedge Funds	15,209,784	0.04											
Liquidated Holdings	-	0.00											

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total Fund	40,427,587,309	100.00	10.25	12.86	-11.82	19.08	12.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Fund Custom Benchmark			9.88	12.74	-11.78	17.51	13.50	16.81	-2.09	14.46	6.81	2.85	7.32	14.13	11.66
Difference			0.37	0.11	-0.04	1.56	-1.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Public Market Equivalent Custom Benchmark			15.19	17.12	-13.69	13.64	13.24	16.28	-1.02	16.07	8.44	0.60	7.59	15.52	15.71
Difference			-4.93	-4.27	1.88	5.44	-1.22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
60/40 Benchmark			10.14	15.03	-16.04	10.03	13.56	19.28	-5.93	15.39	6.22	-0.88	4.77	12.74	11.63
Difference			0.11	-2.17	4.23	9.05	-1.54	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Fund Estimated Gross History			10.25	12.86	-11.82	19.08	12.01	19.26	-3.97	15.77	7.15	1.00	7.06	14.34	12.75
U.S. Equity	15,076,187,620	37.29	23.41	25.59	-19.04	24.67	21.35	30.47	-7.41	20.62	11.46	-0.40	11.42	34.27	17.48
Russell 3000 Index*			23.81	25.96	-19.21	25.66	20.89	31.02	-5.24	21.13	12.74	0.48	12.56	33.55	16.42
Difference			-0.40	-0.37	0.17	-0.99	0.47	-0.55	-2.16	-0.51	-1.28	-0.88	-1.13	0.72	1.07
International Developed Markets Equity	5,862,159,316	14.50	5.12	19.13	-15.06	14.62	9.84	24.01	-14.75	29.42	2.31	-1.61	-4.50	23.93	18.84
MSCI Wrld Ex US Index (USD) (Net)*			4.15	17.18	-15.26	12.40	8.32	22.91	-14.68	25.17	2.95	-1.95	-4.45	21.57	16.55
Difference			0.96	1.95	0.19	2.23	1.52	1.10	-0.07	4.25	-0.65	0.35	-0.05	2.36	2.29
Emerging Markets Equity	760,083,311	1.88	8.97	11.87	-22.43	0.10	25.10	21.74	-15.40	42.31	10.86	-12.06	-5.18	-0.98	17.13
MSCI Emg Mkts Index (USD) (Net)*			7.43	11.67	-19.83	-0.28	18.39	17.65	-15.05	36.83	9.90	-13.86	-1.79	-2.20	18.69
Difference			1.54	0.20	-2.60	0.38	6.70	4.09	-0.35	5.49	0.96	1.81	-3.39	1.21	-1.56
Private Equity	6,657,542,062	16.47	8.08	8.95	-4.38	66.14	23.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Burgiss All Pvt Equity Custom Index (1 Qtr Lag)			8.21	4.42	-1.47	49.70	15.73	9.21	16.83	15.69	8.94	8.71	16.61	15.96	12.65
Difference			-0.13	4.52	-2.91	16.44	7.91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fixed Income	6,917,348,985	17.11	2.64	5.73	-12.23	-0.60	6.05	9.72	-0.80	4.97	5.94	-2.48	6.51	-1.18	10.34
Bloomberg US Agg Bond Index			1.25	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97	-2.02	4.21
Difference			1.39	0.20	0.78	0.95	-1.46	1.01	-0.82	1.42	3.30	-3.03	0.55	0.85	6.13
Inflation Protection (TIPS)	994,299,392	2.46	1.92	3.96	-12.90	5.27	11.20	8.51	-1.63	4.02	4.77	-1.57	3.99	-7.98	5.15
Bloomberg US Trsy US TIPS Index			1.84	3.90	-11.85	5.96	10.99	8.43	-1.26	3.01	4.68	-1.44	3.64	-8.61	6.98
Difference			0.08	0.06	-1.05	-0.69	0.20	0.08	-0.37	1.01	0.09	-0.14	0.35	0.62	-1.83
Real Estate	2,227,690,169	5.51	-12.29	-11.25	8.27	19.96	3.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Real Estate Custom Benchmark			-8.44	-13.08	17.38	17.48	0.25	4.75	7.24	5.61	9.87	12.86	11.38	12.41	12.82
Difference			-3.85	1.82	-9.11	2.48	2.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CPI (All Urban Consumers) +3% (1 Qtr Lag)			5.51	6.81	11.45	8.55	4.41	4.76	5.35	5.30	4.51	2.96	4.71	4.22	5.05
Difference			-17.81	-18.06	-3.18	11.41	-1.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Legacy Private Credit	333,146,679	0.82	13.97	13.01	9.76	25.98	6.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P Leverage Loan Index +1% (1 Qtr Lag)			10.75	13.60	-1.65	9.54	1.84	4.14	6.63	6.42	6.40	2.25	5.35	6.89	11.84
Difference			3.22	-0.59	11.41	16.44	4.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Cash	1,582,857,348	3.92	5.44	5.14	1.65	0.07	0.64	2.32	2.10	1.49	0.63	0.72	0.41	0.19	0.38
ICE BofA 3 Mo US T-Bill Index			5.25	5.02	1.46	0.05	0.67	2.28	1.87	0.86	0.33	0.05	0.04	0.07	0.11
Difference			0.19	0.12	0.19	0.02	-0.03	0.04	0.22	0.63	0.30	0.67	0.38	0.12	0.27
Legacy Hedge Funds	15,209,784	0.04													
Liquidated Holdings	-	0.00													

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Total Fund	40,427,587,309	100.00	6.84	6.44	11.31	9.59	10.25	N/A	N/A	N/A	N/A	8.39	01/01/2020
Total Fund Custom Benchmark			6.55	6.64	11.17	9.78	9.62	8.01	8.80	7.89	6.77	8.35	
Difference			0.29	-0.20	0.14	-0.19	0.63	N/A	N/A	N/A	N/A	0.04	
Public Market Equivalent Custom Benchmark			6.17	6.23	12.24	12.05	10.27	8.37	9.20	9.55	7.83	8.82	
Difference			0.67	0.21	-0.93	-2.46	-0.02	N/A	N/A	N/A	N/A	-0.43	
60/40 Benchmark			7.39	7.57	11.98	11.04	7.73	6.70	7.40	6.42	5.69	6.71	
Difference			-0.55	-1.13	-0.67	-1.45	2.52	N/A	N/A	N/A	N/A	1.68	
Total Fund Estimated Gross History			6.84	6.44	11.31	9.59	10.25	8.05	8.85	7.70	6.96	8.48	01/01/1996
U.S. Equity	15,076,187,620	37.29	11.20	5.91	15.73	18.96	16.06	12.23	14.16	9.80	7.88	11.14	01/01/1981
Russell 3000 Index*			10.99	5.75	15.30	19.08	15.96	12.96	14.46	10.53	8.04	11.37	
Difference			0.21	0.16	0.43	-0.12	0.10	-0.73	-0.30	-0.73	-0.17	-0.23	
S&P 1500 Comp Index			10.57	5.61	14.48	19.02	16.35	13.23	14.61	10.63	8.16	N/A	
Difference			0.63	0.30	1.25	-0.06	-0.29	-1.00	-0.45	-0.84	-0.28	N/A	
MCM Russell 1000 Index (SA)	14,240,565,615	35.22	11.09	6.14	15.63	19.60	16.42	13.42	N/A	N/A	N/A	14.56	01/01/2012
Russell 1000 Index			11.11	6.12	15.66	19.59	16.30	13.35	14.74	10.71	8.07	14.54	
Difference			-0.02	0.02	-0.04	0.01	0.11	0.07	N/A	N/A	N/A	0.02	
S&P 500 Index (Cap Wtd)			10.94	6.20	15.16	19.71	16.64	13.65	14.86	10.73	7.98	14.68	
Difference			0.15	-0.06	0.46	-0.11	-0.22	-0.23	N/A	N/A	N/A	-0.11	
MCM Russell 2000 Core Index (SA)	99,513,668	0.25	8.62	-1.61	7.77	10.28	10.57	N/A	N/A	N/A	N/A	7.69	12/01/2016
Russell 2000 Index			8.50	-1.79	7.68	10.00	10.04	7.12	10.35	7.76	7.35	7.42	
Difference			0.12	0.18	0.09	0.28	0.53	N/A	N/A	N/A	N/A	0.27	
S&P Sm Cap 600 Index (Cap Wtd)			4.90	-4.46	4.60	7.65	11.68	8.02	11.39	8.65	9.02	7.61	
Difference			3.72	2.86	3.17	2.63	-1.11	N/A	N/A	N/A	N/A	0.08	
MCM Russell 2000 Val Index (SA)	313,777,301	0.78	5.05	-3.06	5.66	7.54	12.58	N/A	N/A	N/A	N/A	6.06	12/01/2016
Russell 2000 Val Index			4.97	-3.16	5.54	7.45	12.47	6.72	9.35	6.80	8.60	6.00	
Difference			0.08	0.10	0.13	0.09	0.11	N/A	N/A	N/A	N/A	0.06	
S&P Sm Cap 600 Val Index			2.52	-7.65	4.26	5.75	12.53	7.24	10.55	7.85	9.12	6.42	
Difference			2.53	4.58	1.41	1.79	0.05	N/A	N/A	N/A	N/A	-0.37	
Emerald Advisers Div Sm Cap Grth (SA)	422,331,036	1.04	20.64	6.39	17.41	17.87	10.69	N/A	N/A	N/A	N/A	11.19	12/01/2016
Russell 2000 Grth Index			11.97	-0.48	9.73	12.38	7.42	7.14	11.06	8.49	5.76	8.41	
Difference			8.67	6.87	7.68	5.49	3.27	N/A	N/A	N/A	N/A	2.77	
S&P Sm Cap 600 Grth Index			7.25	-1.29	4.75	9.41	10.64	8.61	12.09	9.33	8.60	8.57	
Difference			13.39	7.68	12.66	8.46	0.05	N/A	N/A	N/A	N/A	2.62	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
International Developed Markets Equity	5,862,159,316	14.50	12.33	17.65	17.56	15.92	12.11	7.40	8.53	6.33	N/A	7.16	01/01/2002
MSCI Wrld Ex US Index (USD) (Net)*			12.05	18.99	18.70	15.22	11.15	6.59	7.47	5.99	4.79	6.83	
Difference			0.28	-1.35	-1.15	0.70	0.96	0.81	1.06	0.34	N/A	0.33	
BlackRock MSCI World ex US Index (CF)	4,496,569,690	11.12	12.25	19.63	19.16	16.20	11.99	N/A	N/A	N/A	N/A	7.79	06/01/2017
MSCI Wrld Ex US Index (USD) (Net)			12.05	18.99	18.70	15.73	11.51	6.65	7.42	5.90	4.63	7.32	
Difference			0.21	0.64	0.45	0.47	0.49	N/A	N/A	N/A	N/A	0.47	
Walter Scott & Ptnrs Gbl Gr Eq (SA)	882,985,729	2.18	10.15	6.35	7.73	14.91	11.92	11.80	12.19	N/A	N/A	10.07	10/01/2006
MSCI Wrld Index (USD) (Net)			11.47	9.47	16.26	18.31	14.55	10.66	11.47	8.50	6.29	7.93	
Difference			-1.32	-3.12	-8.53	-3.40	-2.64	1.14	0.72	N/A	N/A	2.14	
Xponance Non-US Small Cap (CIT)	292,068,000	0.72	17.36	19.18	18.49	14.81	10.96	N/A	N/A	N/A	N/A	6.38	10/01/2018
MSCI ACW Ex US Sm Cap Index (USD) (Net)			16.93	17.68	18.34	13.46	10.74	6.54	7.59	6.96	7.02	6.42	
Difference			0.43	1.49	0.15	1.35	0.22	N/A	N/A	N/A	N/A	-0.04	
Harris Assoc Int'l SCV (SA)	187,206,488	0.46	17.41	26.75	27.16	19.85	16.66	8.23	9.69	9.29	N/A	11.37	07/01/2003
MSCI Wrld Ex US Sm Cap Index (USD) (Net)			16.82	20.79	22.92	13.40	9.82	6.64	8.11	6.47	7.08	8.71	
Difference			0.59	5.96	4.23	6.45	6.84	1.59	1.58	2.83	N/A	2.66	
MSCI Wrld Ex US Sm Val Index (USD) (Net)			14.72	21.40	23.72	14.61	12.50	6.49	7.84	6.61	8.05	8.90	
Difference			2.69	5.35	3.43	5.24	4.16	1.74	1.84	2.68	N/A	2.47	
Emerging Markets Equity	760,083,311	1.88	11.87	14.54	14.69	11.34	7.79	6.47	5.15	5.44	N/A	7.37	01/01/2002
MSCI Emg Mkts Index (USD) (Net)*			11.99	15.27	15.29	10.55	7.80	5.04	4.65	6.68	6.74	8.66	
Difference			-0.12	-0.73	-0.59	0.80	-0.01	1.43	0.50	-1.25	N/A	-1.29	
BlackRock MSCI Emg Mkts Index (CF)	759,962,041	1.88	11.87	15.25	15.01	9.37	6.53	N/A	N/A	N/A	N/A	4.72	07/01/2017
MSCI Emg Mkts Index (USD) (Net)			11.99	15.27	15.29	9.70	6.81	4.81	4.44	6.45	6.64	4.94	
Difference			-0.11	-0.02	-0.27	-0.33	-0.28	N/A	N/A	N/A	N/A	-0.22	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Private Equity	6,657,542,062	16.47	1.69	2.81	6.20	4.05	20.14	N/A	N/A	N/A	N/A	17.06	01/01/2020
Burgiss All Pvt Equity Custom Index (1 Qtr Lag)			1.79	2.55	6.56	2.86	15.55	12.72	13.09	12.76	10.09	13.20	
Difference			-0.10	0.25	-0.37	1.20	4.59	N/A	N/A	N/A	N/A	3.85	
Global Equity+3% (1 Qtr Lag)			-1.52	-0.89	9.50	11.04	20.13	14.44	15.63	15.01	12.07	15.41	
Difference			3.21	3.70	-3.30	-6.99	0.01	N/A	N/A	N/A	N/A	1.65	
Buyouts	3,716,454,039	9.19	1.63	2.95	5.98	4.52	19.91	N/A	N/A	N/A	N/A	16.92	01/01/2020
Burgiss Buyout Custom Index (1 Qtr Lag)			1.61	1.54	6.09	5.20	17.23	13.73	13.62	13.60	11.82	14.15	
Difference			0.03	1.42	-0.11	-0.68	2.68	N/A	N/A	N/A	N/A	2.77	
Special Situations	1,704,592,152	4.22	2.09	3.67	9.10	8.86	22.52	N/A	N/A	N/A	N/A	19.50	01/01/2020
Burgiss Special Situations Custom Index (1 Qtr Lag)			1.98	2.63	7.49	7.16	10.87	7.78	8.76	8.84	9.58	8.46	
Difference			0.10	1.05	1.61	1.70	11.66	N/A	N/A	N/A	N/A	11.05	
Growth Equity	1,092,802,195	2.70	1.75	3.38	6.37	-0.63	22.75	N/A	N/A	N/A	N/A	20.81	01/01/2020
Burgiss Venture Capital Custom Index (1 Qtr Lag)			2.06	4.70	6.72	-4.29	14.89	13.76	15.53	12.95	6.30	14.14	
Difference			-0.31	-1.32	-0.35	3.67	7.86	N/A	N/A	N/A	N/A	6.67	
Keystone Legacy	143,693,677	0.36	-1.53	-12.43	-16.76	-10.92	-0.84	N/A	N/A	N/A	N/A	-3.55	01/01/2020
Fixed Income	6,917,348,985	17.11	1.08	3.89	6.38	3.09	0.48	2.08	3.29	3.98	4.82	6.72	01/01/1985
Bloomberg US Agg Bond Index			1.21	4.02	6.08	2.55	-0.73	1.76	2.29	3.09	3.94	5.91	
Difference			-0.13	-0.13	0.31	0.54	1.21	0.33	1.01	0.89	0.88	0.80	
Core Fixed Income	4,265,882,019	10.55	1.09	3.92	6.10	2.78	-0.28	2.09	3.00	3.59	N/A	3.99	01/01/2002
Bloomberg US Agg Bond Index			1.21	4.02	6.08	2.55	-0.73	1.76	2.29	3.09	3.94	3.52	
Difference			-0.12	-0.10	0.03	0.23	0.45	0.33	0.72	0.50	N/A	0.47	
MCM Bond Index (SA)	3,680,709,127	9.10	1.20	3.99	6.07	2.67	-0.70	1.75	2.24	3.04	3.93	4.40	10/01/1993
Bloomberg US Agg Bond Index*			1.21	4.02	6.08	2.55	-0.73	1.76	2.29	3.09	3.98	4.42	
Difference			-0.01	-0.03	0.00	0.12	0.03	-0.01	-0.04	-0.05	-0.05	-0.02	
PIMCO Core Bond Fund (SA)	585,172,892	1.45	1.50	4.61	7.59	3.79	0.46	2.49	N/A	N/A	N/A	2.29	01/01/2013
Bloomberg US Aggregate ex Treasury			1.51	4.22	6.69	3.30	-0.15	2.09	2.62	3.38	4.19	2.03	
Difference			0.00	0.40	0.89	0.49	0.61	0.40	N/A	N/A	N/A	0.26	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated. The Keystone Legacy Private Equity Fund has an active partnership count of 32 as of 06/30/2025.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Opportunistic Fixed Income	831,257,919	2.06	1.56	3.89	10.28	9.10	10.79	6.31	N/A	N/A	N/A	6.43	10/01/2012
HFRI FOF Comp Index			3.20	2.82	7.03	6.46	6.17	3.80	3.90	3.51	3.69	4.26	
Difference			-1.65	1.08	3.24	2.63	4.62	2.51	N/A	N/A	N/A	2.17	
Blackstone Keystone Fund (CF)	831,257,919	2.06	1.56	3.89	10.28	9.10	11.37	6.63	N/A	N/A	N/A	8.04	07/01/2012
HFRI FOF Comp Index			3.20	2.82	7.03	6.46	6.17	3.80	3.90	3.51	3.69	4.37	
Difference			-1.65	1.08	3.24	2.63	5.20	2.83	N/A	N/A	N/A	3.67	
Nominal U.S. Treasuries	1,792,818,444	4.43	0.83	3.77	5.28	-0.23	-3.74	0.69	N/A	N/A	N/A	1.10	09/01/2011
Bloomberg US Trsy Bellwethers 10 Yr Index			1.04	5.08	5.40	0.33	-3.34	0.69	1.82	2.67	3.61	1.20	
Difference			-0.22	-1.30	-0.12	-0.56	-0.40	0.00	N/A	N/A	N/A	-0.10	
MCM US Treas Index (SA)	1,792,818,444	4.43	0.83	3.77	5.28	N/A	N/A	N/A	N/A	N/A	N/A	6.73	05/01/2024
Bloomberg US Trsy Index			0.85	3.79	5.30	1.53	-1.60	1.20	1.71	2.62	3.48	6.74	
Difference			-0.02	-0.02	-0.02	N/A	N/A	N/A	N/A	N/A	N/A	-0.02	
Legacy Fixed Income	27,390,604	0.07	2.37	7.98	13.41	6.47	N/A	N/A	N/A	N/A	N/A	6.47	07/01/2022
Bloomberg US CMBS Ex AAA Index			1.75	4.61	7.91	3.31	2.39	2.81	4.71	0.84	N/A	3.31	
Difference			0.63	3.37	5.50	3.16	N/A	N/A	N/A	N/A	N/A	3.16	
Fidelity HY CMBS (SA)	27,390,604	0.07	2.37	7.97	13.65	6.74	6.66	4.14	7.54	6.11	7.61	8.04	04/01/1997
Bloomberg US CMBS Ex AAA Index*			1.75	4.61	7.91	3.31	2.39	2.81	4.71	5.91	6.26	6.08	
Difference			0.63	3.36	5.74	3.43	4.28	1.33	2.83	0.21	1.34	1.96	
Inflation Protection (TIPS)	994,299,392	2.46	0.53	4.81	6.19	2.33	1.34	2.59	2.40	3.11	N/A	3.11	02/01/2003
Bloomberg US Trsy US TIPS Index			0.48	4.67	5.84	2.34	1.61	2.67	2.88	3.40	4.69	3.87	
Difference			0.05	0.14	0.34	-0.01	-0.27	-0.08	-0.48	-0.30	N/A	-0.75	
NISA Inv Adv TIPS (SA)	485,923,303	1.20	0.49	4.77	5.97	2.47	1.73	2.78	2.38	N/A	N/A	3.07	04/01/2007
Bloomberg US Trsy US TIPS Index*			0.48	4.67	5.84	2.34	1.61	2.67	2.27	N/A	N/A	N/A	
Difference			0.01	0.11	0.13	0.13	0.12	0.11	0.11	N/A	N/A	N/A	
Brown Brothers TIPS (SA)	508,369,921	1.26	0.56	4.84	5.95	2.38	1.57	2.74	N/A	N/A	N/A	2.11	02/01/2012
Bloomberg US Trsy US TIPS Index			0.48	4.67	5.84	2.34	1.61	2.67	2.88	3.40	4.69	1.94	
Difference			0.08	0.17	0.10	0.04	-0.04	0.07	N/A	N/A	N/A	0.17	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	Inception Date
Real Estate	2,227,690,169	5.51	2.26	2.49	-0.47	-7.20	1.60	N/A	N/A	N/A	N/A	1.20	01/01/2020
Real Estate Custom Benchmark			0.84	1.69	0.78	-5.24	2.30	4.38	7.34	5.45	6.37	2.06	
Difference			1.42	0.80	-1.25	-1.97	-0.70	N/A	N/A	N/A	N/A	-0.87	
CPI (All Urban Consumers) +3% (1 Qtr Lag)			2.08	2.94	5.46	6.72	7.51	6.17	5.68	5.63	5.61	7.19	
Difference			0.18	-0.45	-5.93	-13.92	-5.91	N/A	N/A	N/A	N/A	-6.00	
Real Estate Securities	145,110,803	0.36	-0.86	-0.26	10.92	6.00	9.51	N/A	N/A	N/A	N/A	5.39	01/01/2020
FTSE NAREIT Eq REITs Index (TR)			-1.16	-0.25	8.60	5.35	8.63	6.32	8.91	6.66	9.29	3.83	
Difference			0.29	-0.01	2.31	0.66	0.88	N/A	N/A	N/A	N/A	1.55	
CenterSquare (SA)	145,108,715	0.36	-0.86	-0.27	10.91	6.32	9.66	7.74	10.46	8.63	N/A	10.53	05/01/2002
FTSE NAREIT Eq REITs Index (TR)			-1.16	-0.25	8.60	5.35	8.63	6.32	8.91	6.66	9.29	8.51	
Difference			0.29	-0.02	2.30	0.97	1.02	1.42	1.54	1.97	N/A	2.02	
Core/Core Plus Real Estate Funds	1,074,299,553	2.66	2.80	3.22	1.62	-2.28	4.44	N/A	N/A	N/A	N/A	3.85	01/01/2020
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			0.84	1.69	0.78	-5.24	2.26	5.00	7.71	5.36	5.97	2.43	
Difference			1.97	1.53	0.84	2.96	2.17	N/A	N/A	N/A	N/A	1.43	
Value Add/Opportunistic SMA	235,626,745	0.58	1.46	2.94	-15.77	-27.06	-13.43	N/A	N/A	N/A	N/A	-11.52	01/01/2020
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			0.84	1.69	0.78	-5.24	2.26	5.00	7.71	5.36	5.97	2.43	
Difference			0.63	1.26	-16.55	-21.83	-15.69	N/A	N/A	N/A	N/A	-13.94	
Value Add/Opportunistic Funds	772,653,068	1.91	2.36	1.86	0.23	-5.14	5.51	N/A	N/A	N/A	N/A	4.66	01/01/2020
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			0.84	1.69	0.78	-5.24	2.26	5.00	7.71	5.36	5.97	2.43	
Difference			1.52	0.18	-0.56	0.10	3.25	N/A	N/A	N/A	N/A	2.24	
Legacy Private Credit	333,146,679	0.82	2.77	4.13	10.59	11.05	15.09	N/A	N/A	N/A	N/A	13.11	01/01/2020
S&P Leveraged Loan Index +1.0% (1 Qtr Lag)			0.86	3.43	8.09	8.17	9.99	6.03	6.16	5.91	5.99	6.69	
Difference			1.90	0.70	2.50	2.88	5.10	N/A	N/A	N/A	N/A	6.42	
Cash	1,582,857,348	3.92	1.07	2.20	4.94	4.75	2.90	2.18	1.57	1.98	2.18	3.85	01/01/1987
ICE BofA 3 Mo US T-Bill Index			1.04	2.07	4.68	4.56	2.76	1.97	1.34	1.69	1.88	3.24	
Difference			0.03	0.12	0.26	0.20	0.13	0.20	0.23	0.28	0.30	0.61	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total Fund	40,427,587,309	100.00	10.25	12.86	-11.82	19.08	12.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Fund Custom Benchmark			9.88	12.74	-11.78	17.51	13.50	16.81	-2.09	14.46	6.81	2.85	7.32	14.13	11.66
Difference			0.37	0.11	-0.04	1.56	-1.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Public Market Equivalent Custom Benchmark			15.19	17.12	-13.69	13.64	13.24	16.28	-1.02	16.07	8.44	0.60	7.59	15.52	15.71
Difference			-4.93	-4.27	1.88	5.44	-1.22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
60/40 Benchmark			10.14	15.03	-16.04	10.03	13.56	19.28	-5.93	15.39	6.22	-0.88	4.77	12.74	11.63
Difference			0.11	-2.17	4.23	9.05	-1.54	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Fund Estimated Gross History			10.25	12.86	-11.82	19.08	12.01	19.26	-3.97	15.77	7.15	1.00	7.06	14.34	12.75
U.S. Equity	15,076,187,620	37.29	23.41	25.59	-19.04	24.67	21.35	30.47	-7.41	20.62	11.46	-0.40	11.42	34.27	17.48
Russell 3000 Index*			23.81	25.96	-19.21	25.66	20.89	31.02	-5.24	21.13	12.74	0.48	12.56	33.55	16.42
Difference			-0.40	-0.37	0.17	-0.99	0.47	-0.55	-2.16	-0.51	-1.28	-0.88	-1.13	0.72	1.07
S&P 1500 Comp Index			23.95	25.47	-17.78	28.44	17.92	30.90	-4.96	21.13	13.03	1.01	13.08	32.80	16.17
Difference			-0.55	0.12	-1.26	-3.78	3.43	-0.44	-2.44	-0.51	-1.57	-1.41	-1.66	1.47	1.32
MCM Russell 1000 Index (SA)	14,240,565,615	35.22	24.44	26.61	-18.87	26.67	20.86	31.38	-4.63	21.62	12.16	0.95	13.21	33.13	16.05
Russell 1000 Index			24.51	26.53	-19.13	26.45	20.96	31.43	-4.78	21.69	12.05	0.92	13.24	33.11	16.42
Difference			-0.07	0.08	0.26	0.21	-0.10	-0.05	0.16	-0.06	0.11	0.03	-0.03	0.02	-0.38
S&P 500 Index (Cap Wtd)			25.02	26.29	-18.11	28.71	18.40	31.49	-4.38	21.83	11.96	1.38	13.69	32.39	16.00
Difference			-0.58	0.32	-0.76	-2.04	2.46	-0.11	-0.24	-0.21	0.20	-0.44	-0.48	0.74	0.04
MCM Russell 2000 Core Index (SA)	99,513,668	0.25	12.03	17.05	-20.30	17.18	19.07	25.55	-11.03	14.64	N/A	N/A	N/A	N/A	N/A
Russell 2000 Index			11.54	16.93	-20.44	14.82	19.96	25.53	-11.01	14.65	21.31	-4.41	4.89	38.82	16.35
Difference			0.49	0.12	0.14	2.36	-0.89	0.03	-0.02	-0.01	N/A	N/A	N/A	N/A	N/A
S&P Sm Cap 600 Index (Cap Wtd)			8.70	16.05	-16.10	26.82	11.29	22.78	-8.48	13.23	26.56	-1.97	5.76	41.31	16.33
Difference			3.33	1.00	-4.20	-9.64	7.79	2.77	-2.55	1.41	N/A	N/A	N/A	N/A	N/A
MCM Russell 2000 Val Index (SA)	313,777,301	0.78	8.10	14.72	-14.29	28.36	4.68	22.39	-12.89	7.80	N/A	N/A	N/A	N/A	N/A
Russell 2000 Val Index			8.05	14.65	-14.48	28.27	4.63	22.39	-12.86	7.84	31.74	-7.47	4.22	34.52	18.05
Difference			0.05	0.07	0.19	0.09	0.05	-0.01	-0.03	-0.03	N/A	N/A	N/A	N/A	N/A
S&P Sm Cap 600 Val Index			7.56	14.89	-11.04	30.95	2.53	24.54	-12.64	11.51	31.32	-6.67	7.54	39.98	18.21
Difference			0.54	-0.17	-3.25	-2.59	2.15	-2.15	-0.25	-3.71	N/A	N/A	N/A	N/A	N/A
Emerald Advisers Div Sm Cap Grth (SA)	422,331,036	1.04	20.40	19.14	-23.70	3.83	37.18	30.75	-10.72	26.60	N/A	N/A	N/A	N/A	N/A
Russell 2000 Grth Index			15.15	18.66	-26.36	2.83	34.63	28.48	-9.31	22.17	11.32	-1.38	5.60	43.30	14.59
Difference			5.24	0.48	2.66	0.99	2.55	2.26	-1.41	4.43	N/A	N/A	N/A	N/A	N/A
S&P Sm Cap 600 Grth Index			9.63	17.10	-21.08	22.62	19.60	21.13	-4.05	14.79	22.16	2.78	3.87	42.69	14.56
Difference			10.77	2.04	-2.62	-18.80	17.58	9.62	-6.67	11.81	N/A	N/A	N/A	N/A	N/A

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
International Developed Markets Equity	5,862,159,316	14.50	5.12	19.13	-15.06	14.62	9.84	24.01	-14.75	29.42	2.31	-1.61	-4.50	23.93	18.84
MSCI Wrld Ex US Index (USD) (Net)*			4.15	17.18	-15.26	12.40	8.32	22.91	-14.68	25.17	2.95	-1.95	-4.45	21.57	16.55
Difference			0.96	1.95	0.19	2.23	1.52	1.10	-0.07	4.25	-0.65	0.35	-0.05	2.36	2.29
BlackRock MSCI World ex US Index (CF)	4,496,569,690	11.12	4.83	18.41	-13.84	13.12	8.02	23.01	-13.75	N/A	N/A	N/A	N/A	N/A	N/A
MSCI Wrld Ex US Index (USD) (Net)			4.70	17.94	-14.29	12.62	7.59	22.49	-14.09	24.21	2.75	-3.04	-4.32	21.02	16.41
Difference			0.13	0.47	0.45	0.49	0.44	0.52	0.34	N/A	N/A	N/A	N/A	N/A	N/A
Walter Scott & Ptnrs Gbl Gr Eq (SA)	882,985,729	2.18	9.59	23.39	-18.92	20.57	21.89	31.56	-0.23	27.52	6.80	2.77	4.39	22.75	19.40
MSCI Wrld Index (USD) (Net)			18.67	23.79	-18.14	21.82	15.90	27.67	-8.71	22.40	7.51	-0.87	4.94	26.68	15.83
Difference			-9.08	-0.39	-0.78	-1.24	5.99	3.89	8.48	5.12	-0.71	3.64	-0.55	-3.93	3.57
Xponance Non-US Small Cap (CIT)	292,068,000	0.72	5.50	16.67	-22.14	12.54	10.19	23.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI ACW Ex US Sm Cap Index (USD) (Net)			3.36	15.66	-19.97	12.93	14.24	22.42	-18.20	31.65	3.91	2.60	-4.03	19.73	18.52
Difference			2.14	1.02	-2.16	-0.39	-4.06	0.76	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Harris Assoc Int'l SCV (SA)	187,206,488	0.46	-1.45	21.04	-13.62	19.99	8.70	33.60	-22.97	28.29	8.01	1.69	-6.01	32.09	19.71
MSCI Wrld Ex US Sm Cap Index (USD) (Net)			2.76	12.62	-20.59	11.14	12.78	25.41	-18.07	31.04	4.32	5.46	-5.35	25.55	17.48
Difference			-4.22	8.41	6.97	8.85	-4.08	8.19	-4.90	-2.74	3.70	-3.77	-0.66	6.54	2.24
MSCI Wrld Ex US Sm Val Index (USD) (Net)			2.95	14.70	-14.00	13.27	2.58	22.83	-18.38	27.93	7.87	1.06	-5.87	27.73	19.51
Difference			-4.41	6.34	0.37	6.73	6.12	10.78	-4.59	0.37	0.15	0.63	-0.14	4.36	0.21
Emerging Markets Equity	760,083,311	1.88	8.97	11.87	-22.43	0.10	25.10	21.74	-15.40	42.31	10.86	-12.06	-5.18	-0.98	17.13
MSCI Emg Mkts Index (USD) (Net)*			7.43	11.67	-19.83	-0.28	18.39	17.65	-15.05	36.83	9.90	-13.86	-1.79	-2.20	18.69
Difference			1.54	0.20	-2.60	0.38	6.70	4.09	-0.35	5.49	0.96	1.81	-3.39	1.21	-1.56
BlackRock MSCI Emg Mkts Index (CF)	759,962,041	1.88	7.18	9.31	-20.16	-2.72	18.02	18.25	-14.71	N/A	N/A	N/A	N/A	N/A	N/A
MSCI Emg Mkts Index (USD) (Net)			7.50	9.83	-20.09	-2.54	18.31	18.42	-14.57	37.28	11.19	-14.92	-2.19	-2.60	18.23
Difference			-0.32	-0.52	-0.07	-0.17	-0.28	-0.17	-0.14	N/A	N/A	N/A	N/A	N/A	N/A

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Private Equity	6,657,542,062	16.47	8.08	8.95	-4.38	66.14	23.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Burgiss All Pvt Equity Custom Index (1 Qtr Lag)			8.21	4.42	-1.47	49.70	15.73	9.21	16.83	15.69	8.94	8.71	16.61	15.96	12.65
Difference			-0.13	4.52	-2.91	16.44	7.91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Global Equity+3% (1 Qtr Lag)			35.89	24.90	-15.48	33.88	15.55	6.65	20.71	21.76	18.22	2.71	20.90	24.74	33.54
Difference			-27.81	-15.95	11.10	32.26	8.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Buyouts	3,716,454,039	9.19	5.80	9.89	0.84	53.77	27.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Burgiss Buyout Custom Index (1 Qtr Lag)			9.60	9.39	2.55	46.58	13.19	8.40	16.06	18.97	12.07	6.23	15.08	16.58	13.44
Difference			-3.80	0.50	-1.70	7.19	14.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Special Situations	1,704,592,152	4.22	13.64	11.44	13.52	61.12	10.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Burgiss Special Situations Custom Index (1 Qtr Lag)			9.95	9.96	3.62	18.86	2.26	3.95	8.92	10.47	5.89	4.43	11.97	13.83	14.25
Difference			3.69	1.48	9.90	42.26	8.71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Growth Equity	1,092,802,195	2.70	9.86	3.87	-17.86	102.15	44.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Burgiss Venture Capital Custom Index (1 Qtr Lag)			4.08	-8.91	-10.64	78.31	30.87	14.74	25.41	10.28	3.30	25.40	28.88	15.38	6.03
Difference			5.79	12.78	-7.21	23.84	13.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Keystone Legacy	143,693,677	0.36	-7.19	2.49	-37.46	64.25	-4.23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fixed Income	6,917,348,985	17.11	2.64	5.73	-12.23	-0.60	6.05	9.72	-0.80	4.97	5.94	-2.48	6.51	-1.18	10.34
Bloomberg US Agg Bond Index			1.25	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97	-2.02	4.21
Difference			1.39	0.20	0.78	0.95	-1.46	1.01	-0.82	1.42	3.30	-3.03	0.55	0.85	6.13
Core Fixed Income	4,265,882,019	10.55	1.73	5.78	-11.90	-1.52	6.95	9.74	-0.49	4.45	3.70	0.07	6.08	-2.02	8.34
Bloomberg US Agg Bond Index			1.25	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97	-2.02	4.21
Difference			0.48	0.26	1.11	0.02	-0.56	1.03	-0.51	0.91	1.06	-0.48	0.11	0.00	4.13
MCM Bond Index (SA)	3,680,709,127	9.10	1.49	5.63	-12.99	-1.73	7.44	8.68	0.03	3.56	2.56	0.53	6.01	-2.23	3.79
Bloomberg US Agg Bond Index*			1.25	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97	-2.02	4.21
Difference			0.24	0.10	0.02	-0.19	-0.06	-0.04	0.02	0.02	-0.09	-0.02	0.05	-0.20	-0.43
PIMCO Core Bond Fund (SA)	585,172,892	1.45	2.76	6.92	-12.95	-0.59	8.06	9.97	-0.56	5.12	3.71	0.27	6.05	-2.62	N/A
Bloomberg US Aggregate ex Treasury			1.76	6.58	-13.35	-1.08	6.85	9.93	-0.51	4.26	3.58	0.39	6.47	-1.61	5.46
Difference			1.00	0.34	0.40	0.49	1.21	0.04	-0.05	0.86	0.13	-0.12	-0.42	-1.00	N/A

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated. The Keystone Legacy Private Equity Fund has an active partnership count of 32 as of 06/30/2025.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Opportunistic Fixed Income	831,257,919	2.06	12.11	8.58	7.13	9.13	3.51	11.43	-1.60	7.26	11.86	-7.94	8.15	6.17	N/A
HFRI FOF Comp Index			9.15	6.07	-5.31	6.17	10.88	8.39	-4.02	7.77	0.51	-0.27	3.37	8.96	4.79
Difference			2.96	2.50	12.44	2.95	-7.37	3.04	2.42	-0.51	11.35	-7.67	4.78	-2.79	N/A
Blackstone Keystone Fund (CF)	831,257,919	2.06	12.11	8.58	7.34	12.14	3.16	11.67	-0.34	7.94	2.92	2.29	9.51	15.72	N/A
HFRI FOF Comp Index			9.15	6.07	-5.31	6.17	10.88	8.39	-4.02	7.77	0.51	-0.27	3.37	8.96	4.79
Difference			2.96	2.50	12.65	5.96	-7.72	3.28	3.68	0.16	2.41	2.56	6.14	6.76	N/A
Nominal U.S. Treasuries	1,792,818,444	4.43	0.12	3.57	-17.63	-5.38	11.23	8.88	0.69	2.52	0.61	1.26	10.52	-7.40	4.25
Bloomberg US Trsy Bellwethers 10 Yr Index			-1.73	3.21	-16.33	-3.60	10.61	8.90	0.00	2.14	-0.16	0.91	10.74	-7.81	4.13
Difference			1.85	0.36	-1.30	-1.78	0.61	-0.02	0.70	0.38	0.76	0.35	-0.22	0.41	0.12
MCM US Treas Index (SA)	1,792,818,444	4.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg US Trsy Index			0.58	4.05	-12.46	-2.32	8.00	6.86	0.86	2.31	1.04	0.84	5.05	-2.75	1.99
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Legacy Fixed Income	27,390,604	0.07	17.23	-3.27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg US CMBS Ex AAA Index			6.04	3.63	-13.65	2.86	4.13	10.39	2.05	6.03	4.57	0.07	3.89	1.43	15.53
Difference			11.19	-6.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fidelity HY CMBS (SA)	27,390,604	0.07	18.14	-3.48	-6.82	8.68	-4.73	8.94	3.94	6.51	3.81	4.40	11.08	11.41	24.23
Bloomberg US CMBS Ex AAA Index*			6.04	3.63	-13.65	2.86	4.13	10.39	2.05	6.03	4.57	0.07	3.89	1.43	15.53
Difference			12.10	-7.11	6.82	5.82	-8.86	-1.46	1.89	0.48	-0.76	4.33	7.19	9.98	8.70
Inflation Protection (TIPS)	994,299,392	2.46	1.92	3.96	-12.90	5.27	11.20	8.51	-1.63	4.02	4.77	-1.57	3.99	-7.98	5.15
Bloomberg US Trsy US TIPS Index			1.84	3.90	-11.85	5.96	10.99	8.43	-1.26	3.01	4.68	-1.44	3.64	-8.61	6.98
Difference			0.08	0.06	-1.05	-0.69	0.20	0.08	-0.37	1.01	0.09	-0.14	0.35	0.62	-1.83
NISA Inv Adv TIPS (SA)	485,923,303	1.20	2.16	3.92	-11.81	6.07	11.02	8.48	-1.24	3.23	4.81	-1.29	3.71	-8.59	3.98
Bloomberg US Trsy US TIPS Index*			1.84	3.90	-11.85	5.96	10.99	8.43	-1.26	3.01	4.68	-1.44	3.64	-8.61	3.81
Difference			0.32	0.02	0.03	0.11	0.03	0.05	0.02	0.22	0.12	0.15	0.07	0.01	0.17
Brown Brothers TIPS (SA)	508,369,921	1.26	1.96	3.60	-11.59	5.87	10.76	8.55	-1.23	3.02	5.06	-0.93	3.89	-8.30	N/A
Bloomberg US Trsy US TIPS Index			1.84	3.90	-11.85	5.96	10.99	8.43	-1.26	3.01	4.68	-1.44	3.64	-8.61	6.98
Difference			0.12	-0.30	0.25	-0.08	-0.23	0.13	0.03	0.02	0.37	0.51	0.25	0.31	N/A

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Real Estate	2,227,690,169	5.51	-12.29	-11.25	8.27	19.96	3.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Real Estate Custom Benchmark			-8.44	-13.08	17.38	17.48	0.25	4.75	7.24	5.61	9.87	12.86	11.38	12.41	12.82
Difference			-3.85	1.82	-9.11	2.48	2.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CPI (All Urban Consumers) +3% (1 Qtr Lag)			5.51	6.81	11.45	8.55	4.41	4.76	5.35	5.30	4.51	2.96	4.71	4.22	5.05
Difference			-17.81	-18.06	-3.18	11.41	-1.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Real Estate Securities	145,110,803	0.36	11.74	13.68	-23.44	42.94	-3.76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FTSE NAREIT Eq REITs Index (TR)			8.73	13.73	-24.34	43.24	-8.00	26.00	-4.62	5.23	8.52	3.20	30.14	2.47	18.06
Difference			3.01	-0.05	0.90	-0.30	4.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CenterSquare (SA)	145,108,715	0.36	11.74	14.71	-23.44	42.61	-3.76	27.29	-4.73	6.97	8.83	5.47	32.83	3.75	17.70
FTSE NAREIT Eq REITs Index (TR)			8.73	13.73	-24.34	43.24	-8.00	26.00	-4.62	5.23	8.52	3.20	30.14	2.47	18.06
Difference			3.01	0.98	0.90	-0.63	4.24	1.29	-0.10	1.74	0.31	2.27	2.69	1.28	-0.36
Core/Core Plus Real Estate Funds	1,074,299,553	2.66	-6.39	-6.37	16.30	14.38	2.29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			-8.44	-13.08	21.68	14.83	0.89	5.26	7.89	6.93	9.69	13.82	11.44	11.46	10.69
Difference			2.06	6.71	-5.38	-0.45	1.40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Value Add/Opportunistic SMA	235,626,745	0.58	-44.81	-30.04	2.56	14.08	9.71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			-8.44	-13.08	21.68	14.83	0.89	5.26	7.89	6.93	9.69	13.82	11.44	11.46	10.69
Difference			-36.37	-16.97	-19.12	-0.75	8.82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Value Add/Opportunistic Funds	772,653,068	1.91	-7.24	-9.28	17.27	27.38	0.33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NCREIF ODCE Index (EWA) (Net) (Monthly) (1 Qtr Lag)			-8.44	-13.08	21.68	14.83	0.89	5.26	7.89	6.93	9.69	13.82	11.44	11.46	10.69
Difference			1.20	3.80	-4.41	12.56	-0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Legacy Private Credit	333,146,679	0.82	13.97	13.01	9.76	25.98	6.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P Leveraged Loan Index +1.0% (1 Qtr Lag)			10.75	13.60	-1.65	9.54	1.84	4.14	6.63	6.42	6.40	2.25	5.35	6.89	11.84
Difference			3.22	-0.59	11.41	16.44	4.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cash	1,582,857,348	3.92	5.44	5.14	1.65	0.07	0.64	2.32	2.10	1.49	0.63	0.72	0.41	0.19	0.38
ICE BofA 3 Mo US T-Bill Index			5.25	5.02	1.46	0.05	0.67	2.28	1.87	0.86	0.33	0.05	0.04	0.07	0.11
Difference			0.19	0.12	0.19	0.02	-0.03	0.04	0.22	0.63	0.30	0.67	0.38	0.12	0.27

Performance shown is gross of fees. Performance is annualized for periods greater than one year. *See addendum for custom benchmark definitions. The Total Fund Estimated Gross History performance was calculated by BNY Mellon using a gross-up methodology through 12/31/2019. Starting 01/01/2020, gross performance is calculated for all asset classes and the Total Fund, including Private Equity, Legacy Private Credit, and Real Estate, for which gross history was not previously calculated.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross
MWBE Managers

As of June 30, 2025

	Allocation		Performance (%)										Inception Date
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	Since Incep.	
Xponance Non-US Small Cap (CIT)	292,068,000		17.36	19.18	18.49	14.81	10.96	N/A	N/A	N/A	N/A	6.38	10/01/2018
MSCI ACW Ex US Sm Cap Index (USD) (Net)			16.93	17.68	18.34	13.46	10.74	6.54	7.59	6.96	7.02	6.42	
Difference			0.43	1.49	0.15	1.35	0.22	N/A	N/A	N/A	N/A	-0.04	

Performance shown is gross of fees. Performance is annualized for periods greater than one year.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Asset Allocation & Performance - Gross
MWBE Managers

As of June 30, 2025

	Allocation		Performance (%)												
	Market Value (\$)	%	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Xponance Non-US Small Cap (CIT)	292,068,000		5.50	16.67	-22.14	12.54	10.19	23.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI ACW Ex US Sm Cap Index (USD) (Net)			3.36	15.66	-19.97	12.93	14.24	22.42	-18.20	31.65	3.91	2.60	-4.03	19.73	18.52
Difference			2.14	1.02	-2.16	-0.39	-4.06	0.76	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Performance shown is gross of fees. Performance is annualized for periods greater than one year.

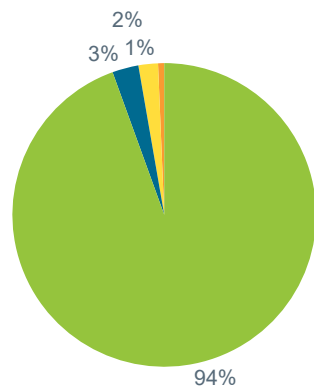
Investment Manager & Composite Profiles

U.S. Equity

Pennsylvania State Employees' Retirement System Defined Benefit Plan
U.S. Equity - Asset Allocation by Manager and Risk & Return Scatter

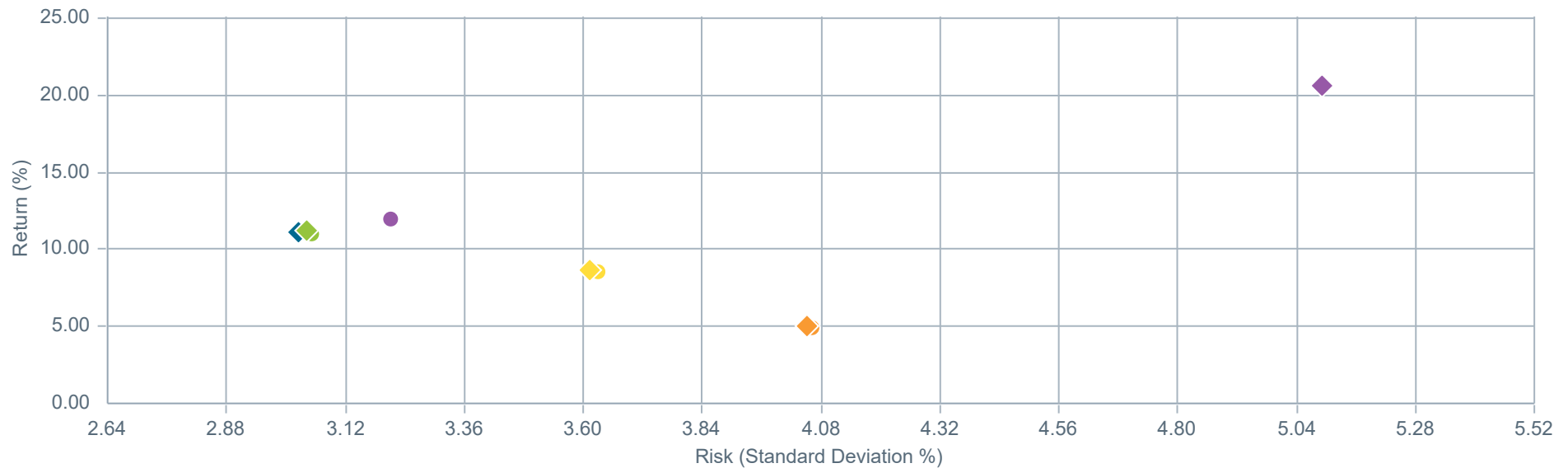
As of June 30, 2025

Asset Allocation by Manager



	Market Value (\$)	Allocation (%)
MCM Russell 1000 Index (SA)	14,240,428,381	94.46
Emerald Advisers Div Sm Cap Grth (SA)	421,880,143	2.80
MCM Russell 2000 Val Index (SA)	313,761,879	2.08
MCM Russell 2000 Core Index (SA)	99,508,784	0.66

Risk & Return - QTD



- U.S. Equity
- Russell 3000 Index*
- MCM Russell 1000 Index (SA)
- Russell 1000 Index
- MCM Russell 2000 Core Index (SA)
- Russell 2000 Index
- MCM Russell 2000 Val Index (SA)
- Russell 2000 Val Index
- Emerald Advisers Div Sm Cap Grth (SA)
- Russell 2000 Grth Index

Performance shown is gross of fees. Calculation is based on monthly periodicity. Allocations shown may not sum up to 100% due to rounding.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
IM U.S. Equity (SA+CF)
Peer Group Analysis

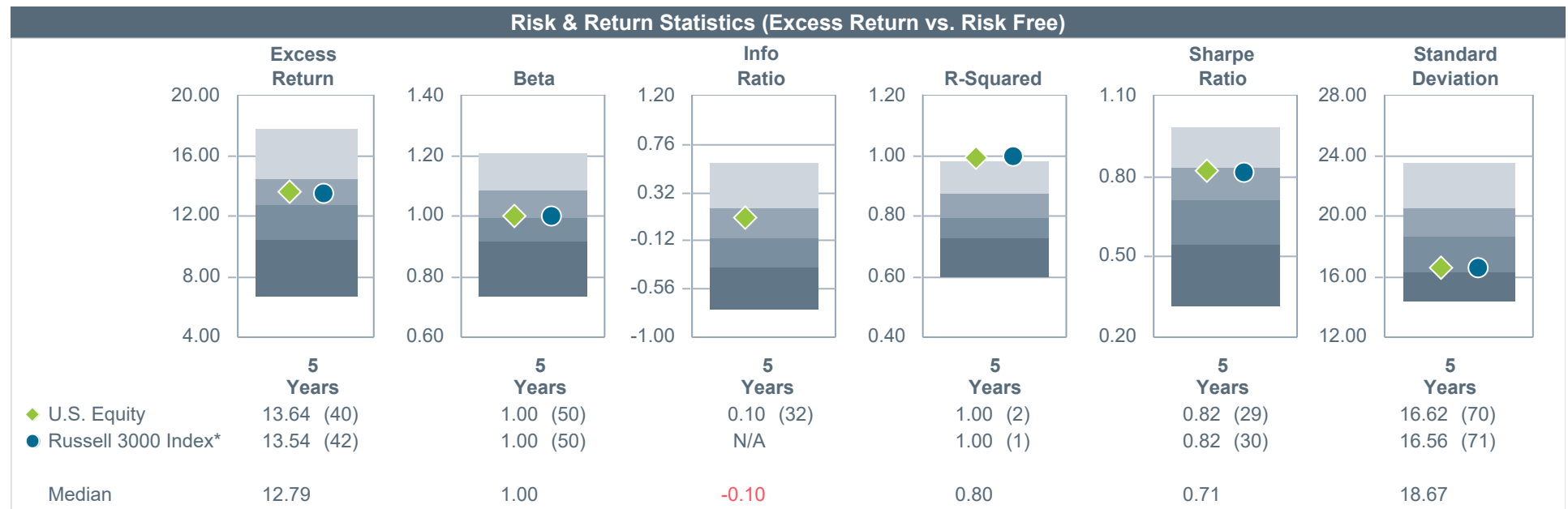
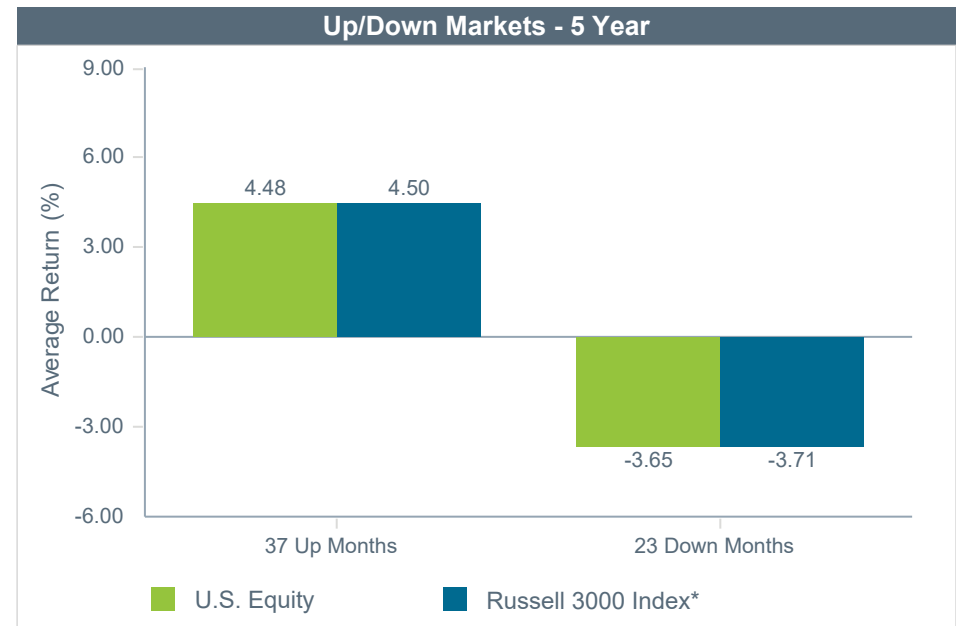
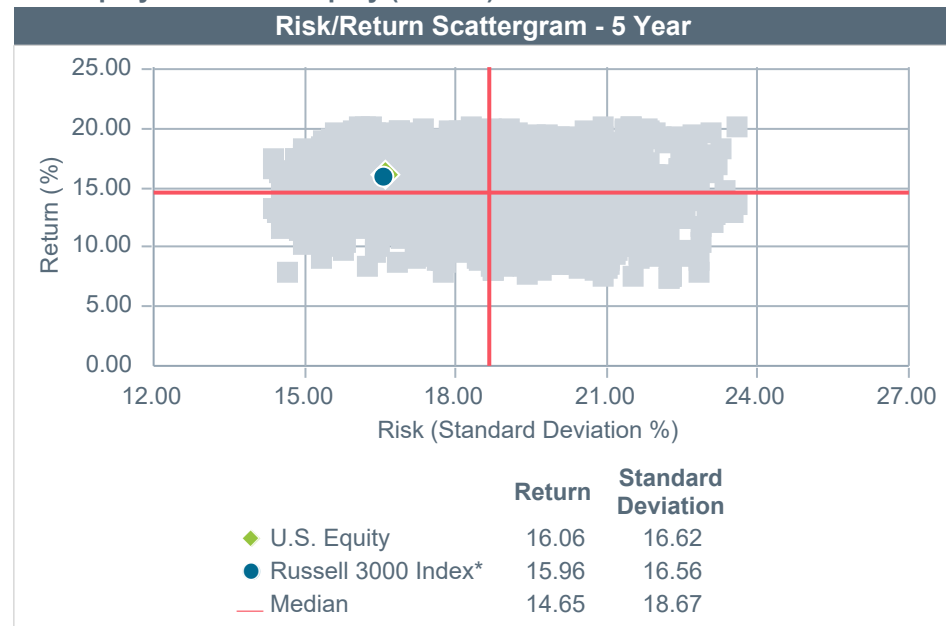
As of June 30, 2025



Performance shown is gross of fees. Parentheses contain percentile ranks.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
U.S. Equity vs. IM U.S. Equity (SA+CF)

As of June 30, 2025



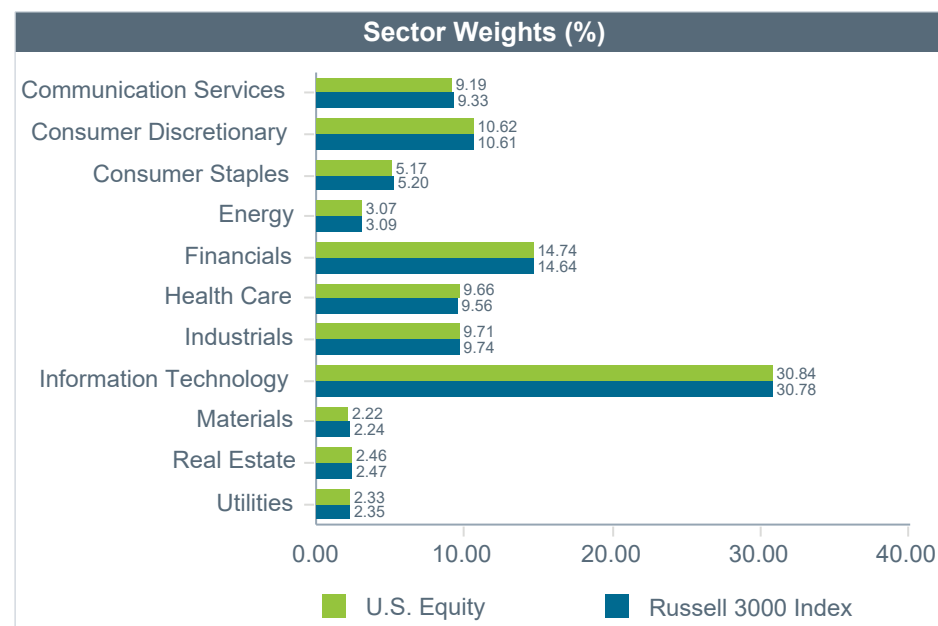
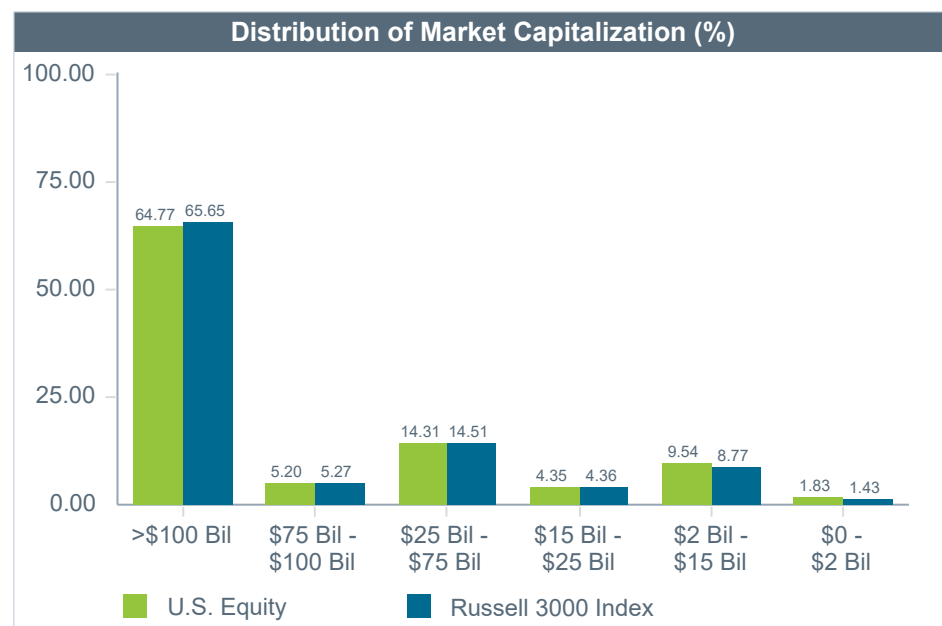
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parenthesis contain percentile rank.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
U.S. Equity vs. Russell 3000 Index
Portfolio Characteristics

As of June 30, 2025

Top Ten Equity Holdings			
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)
NVIDIA Corporation	6.10	6.19	-0.09
Microsoft Corp	6.09	6.17	-0.08
Apple Inc	4.99	5.06	-0.07
Amazon.com Inc	3.47	3.52	-0.05
Meta Platforms Inc	2.66	2.70	-0.04
Broadcom Inc	2.10	2.13	-0.03
Alphabet Inc	1.69	1.71	-0.02
Berkshire Hathaway Inc	1.48	1.50	-0.02
Tesla Inc	1.47	1.49	-0.02
Alphabet Inc	1.39	1.40	-0.01
% of Portfolio	31.44	31.87	-0.43
Quarterly Return (%)			
			45.78
			32.75
			-7.52
			15.31
			28.16
			65.03
			14.10
			-8.79
			22.57
			13.68

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	971,250	984,447
Median Mkt. Cap (\$M)	2,043	2,043
Price/Earnings Ratio	26.67	26.64
Price/Book Ratio	4.82	4.86
5 Yr. EPS Growth Rate (%)	23.06	23.02
Current Yield (%)	1.25	1.25
Beta (5 Years, Monthly)	1.00	1.00
Number of Securities	2,998	3,004



Google's Class A and Class C shares are both recognized as "Alphabet Inc.".

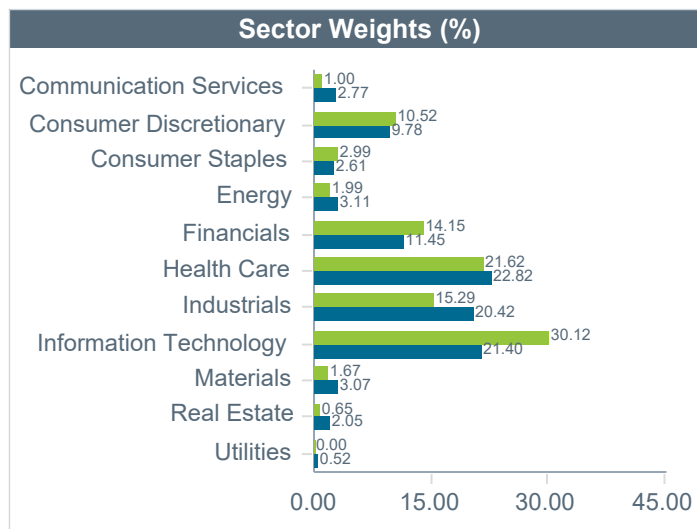
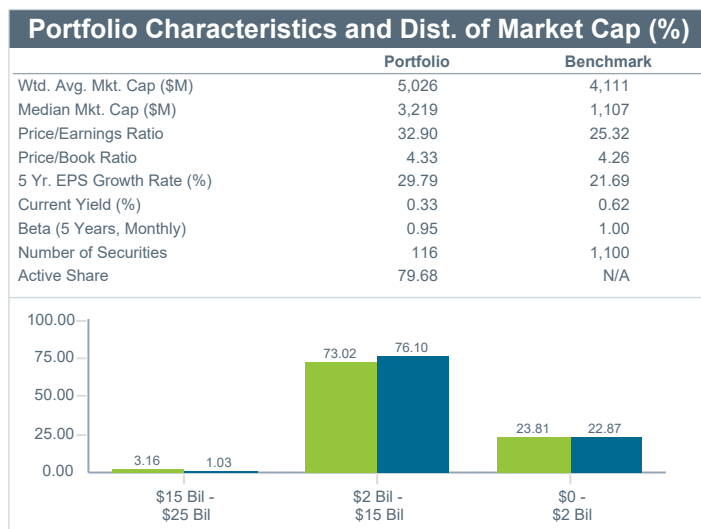
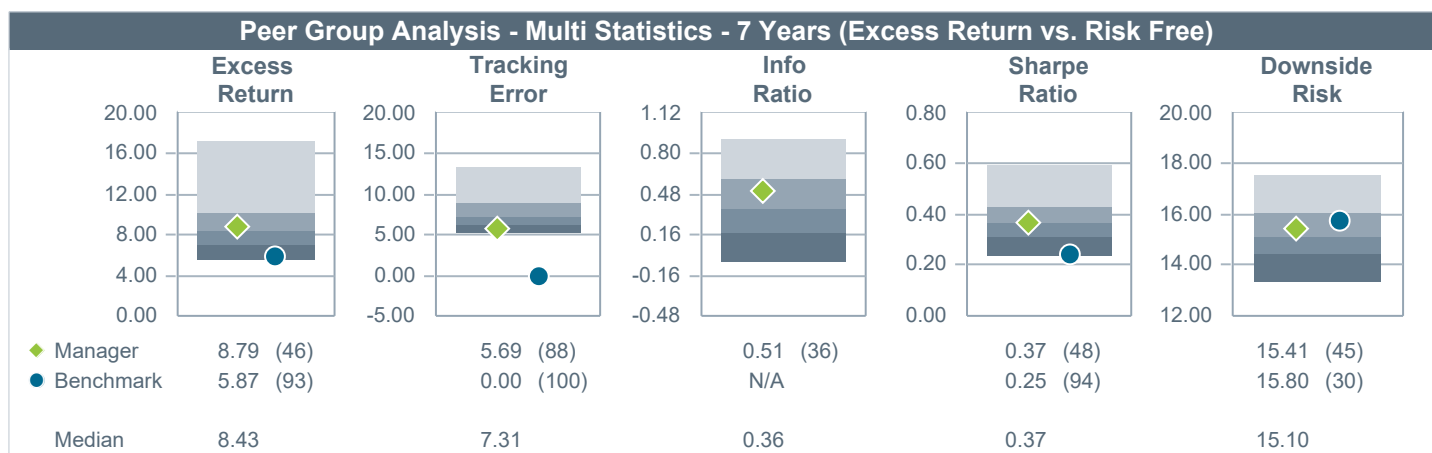
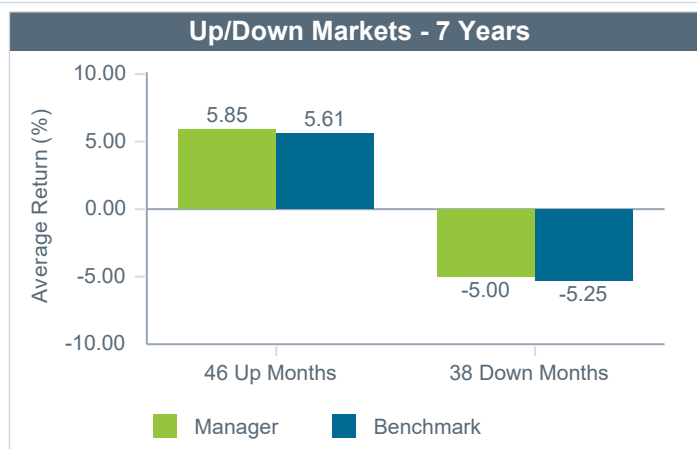
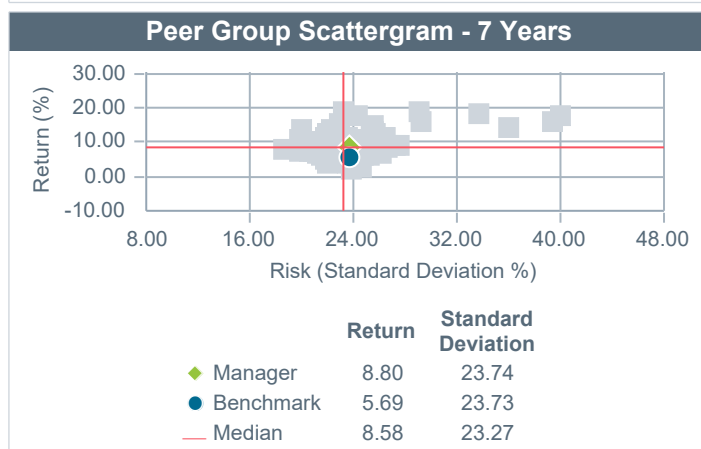
Manager: Emerald Advisers Div Sm Cap Grth (SA)

As of June 30, 2025

Benchmark: Russell 2000 Grth Index

Peer Group: IM U.S. Small Cap Growth Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	20.64	17.41	17.87	10.69	8.80	N/A	20.40	19.14	-23.70	3.83	37.18
Benchmark	11.97	9.73	12.38	7.42	5.69	7.14	15.15	18.66	-26.36	2.83	34.63
Difference	8.67	7.68	5.49	3.27	3.11	N/A	5.24	0.48	2.66	0.99	2.55
Peer Group Median	10.86	7.85	12.12	9.17	8.58	10.11	15.64	19.07	-27.36	12.12	43.32
Rank	9	15	14	36	48	N/A	25	48	28	84	62
Population	118	118	117	114	112	107	125	134	138	140	143



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

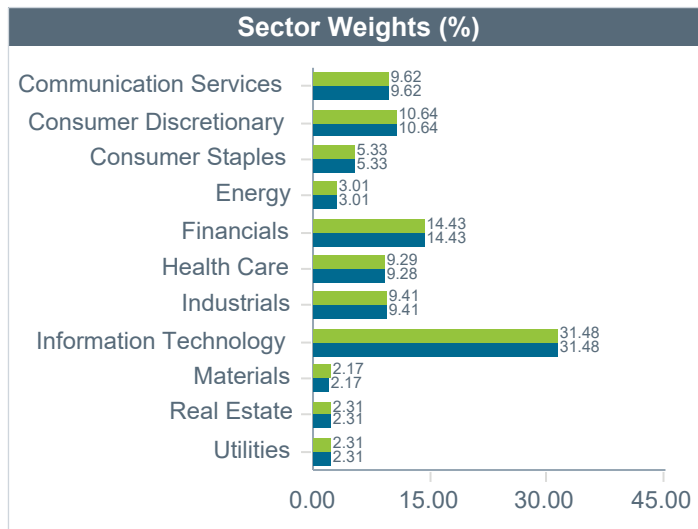
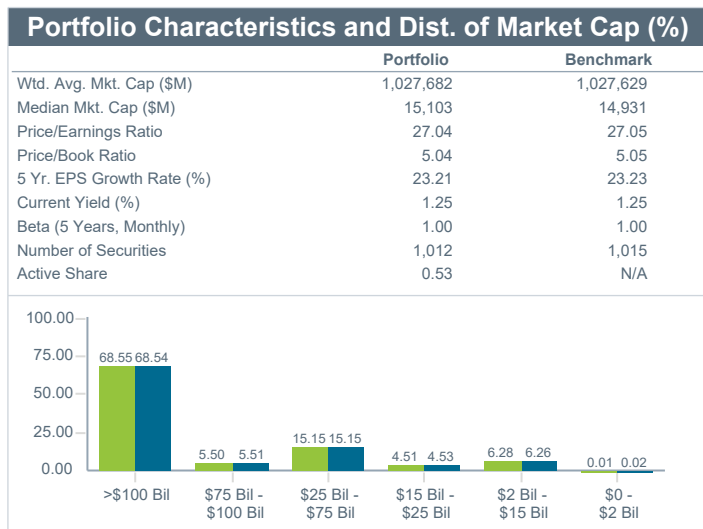
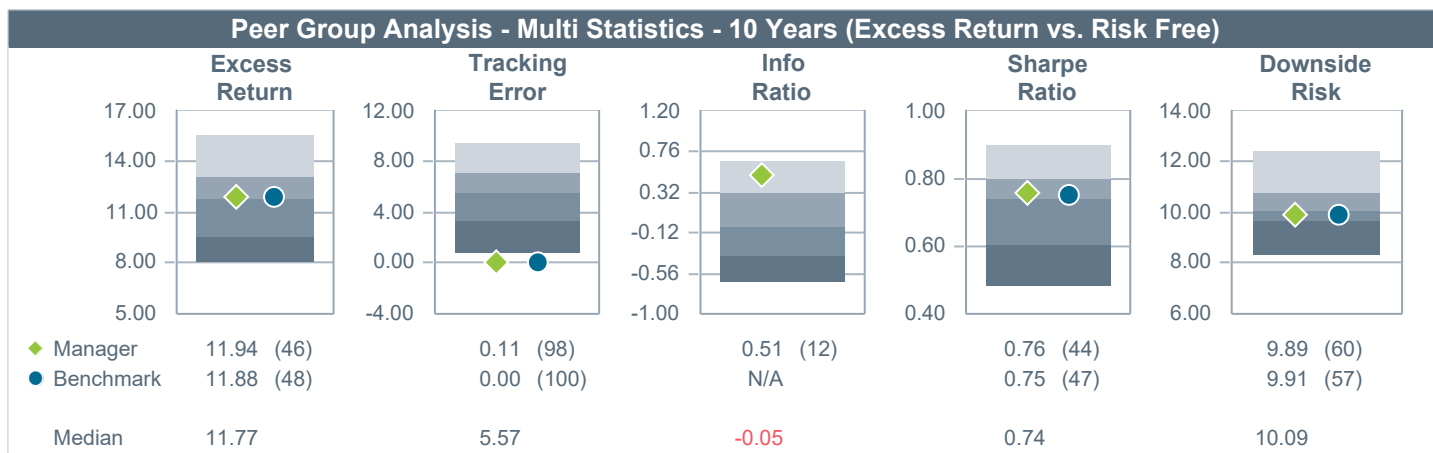
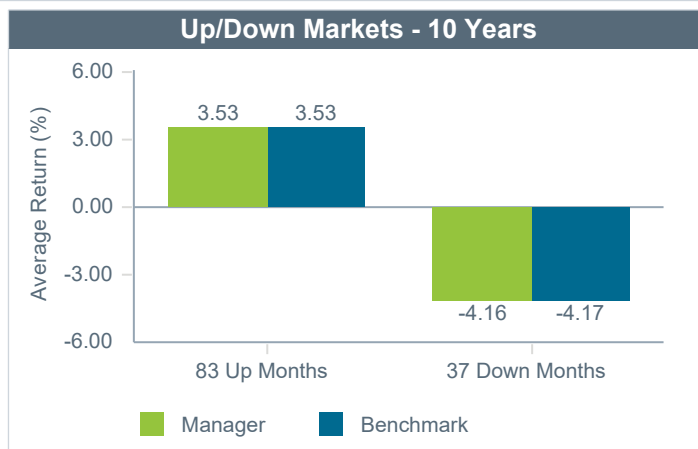
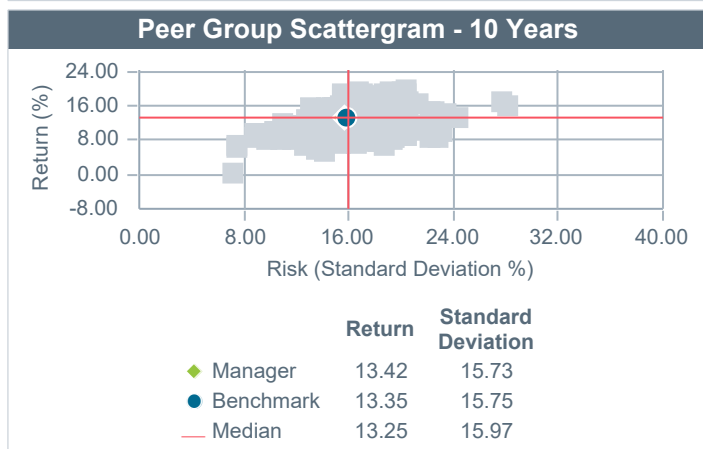
Manager: MCM Russell 1000 Index (SA)

As of June 30, 2025

Benchmark: Russell 1000 Index

Peer Group: IM U.S. Large Cap Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	11.09	15.63	19.60	16.42	14.16	13.42	24.44	26.61	-18.87	26.67	20.86
Benchmark	11.11	15.66	19.59	16.30	14.09	13.35	24.51	26.53	-19.13	26.45	20.96
Difference	-0.02	-0.04	0.01	0.11	0.07	0.07	-0.07	0.08	0.26	0.21	-0.10
Peer Group Median	10.84	14.87	19.08	16.26	13.67	13.25	22.93	25.10	-16.99	27.38	18.37
Rank	43	36	44	45	44	46	45	37	63	55	39
Population	749	747	742	715	697	656	780	830	860	881	935



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

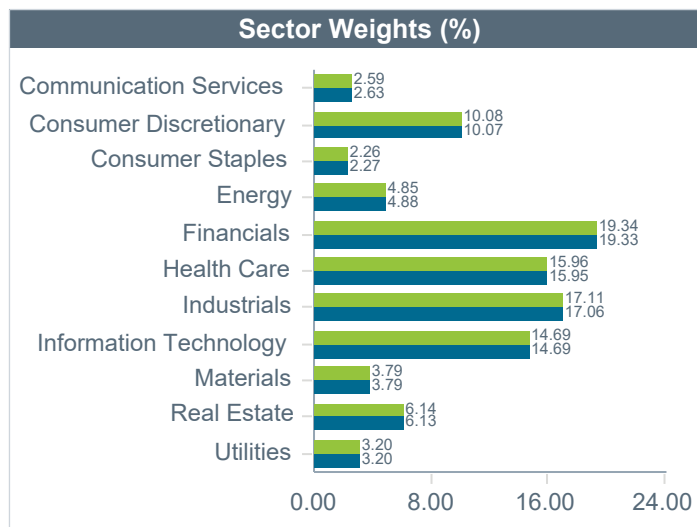
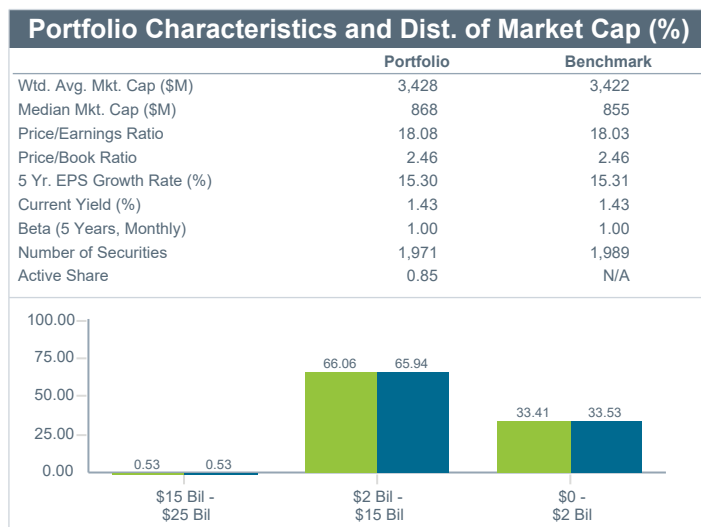
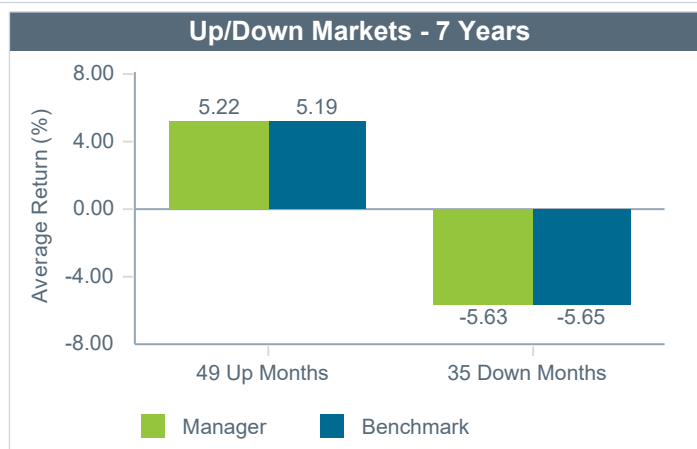
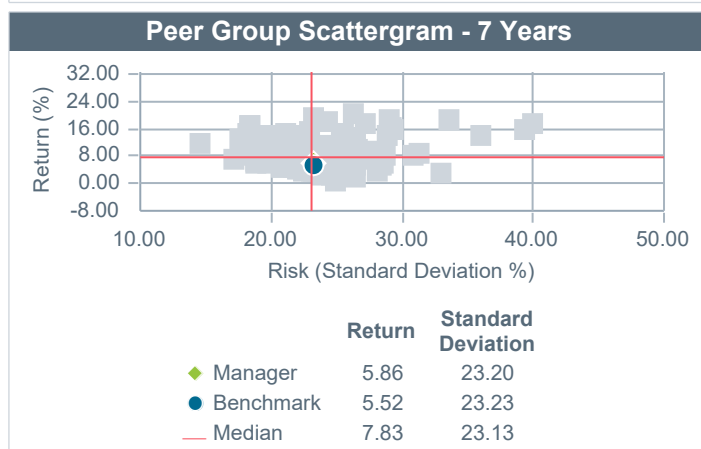
Manager: MCM Russell 2000 Core Index (SA)

As of June 30, 2025

Benchmark: Russell 2000 Index

Peer Group: IM U.S. Small Cap Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	8.62	7.77	10.28	10.57	5.86	N/A	12.03	17.05	-20.30	17.18	19.07
Benchmark	8.50	7.68	10.00	10.04	5.52	7.12	11.54	16.93	-20.44	14.82	19.96
Difference	0.12	0.09	0.28	0.53	0.34	N/A	0.49	0.12	0.14	2.36	-0.89
Peer Group Median	7.63	7.62	11.25	12.41	7.83	8.95	12.54	17.59	-16.60	23.76	17.65
Rank	37	47	60	71	83	N/A	56	57	64	71	48
Population	447	446	443	431	424	403	467	504	516	534	562

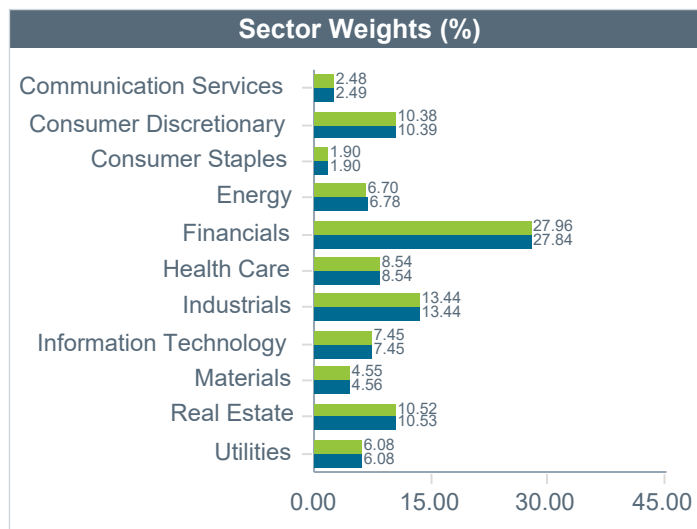
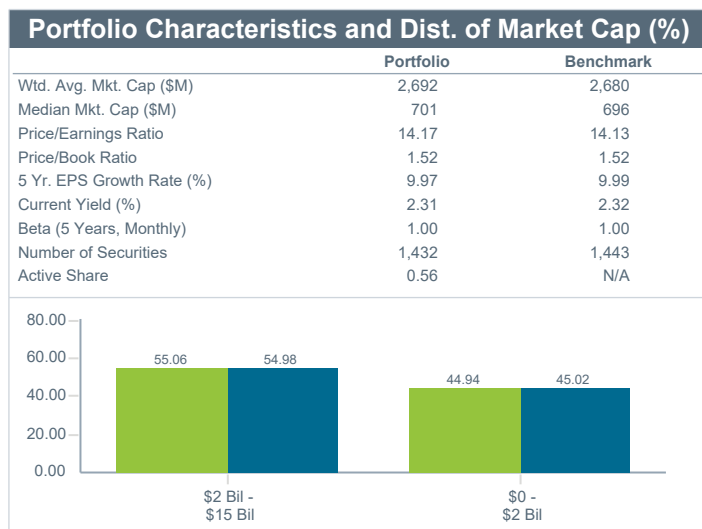
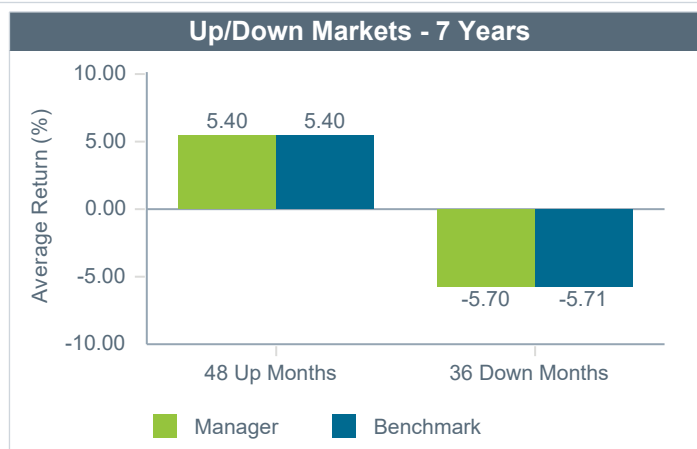
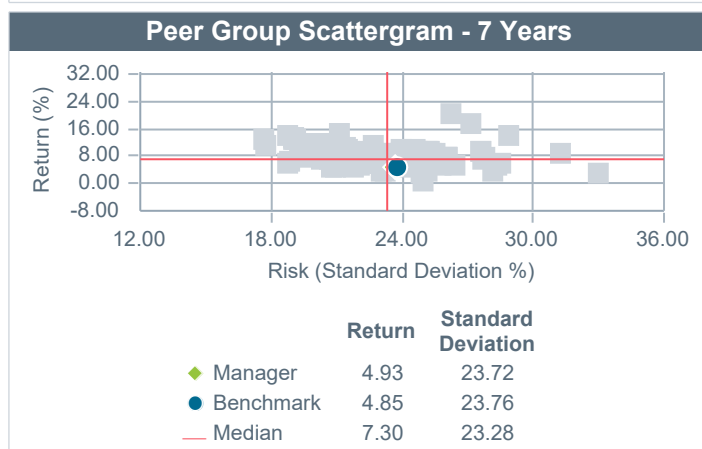


Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Manager: MCM Russell 2000 Val Index (SA)
Benchmark: Russell 2000 Val Index
Peer Group: IM U.S. Small Cap Value Equity (SA+CF)

As of June 30, 2025

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	5.05	5.66	7.54	12.58	4.93	N/A	8.10	14.72	-14.29	28.36	4.68
Benchmark	4.97	5.54	7.45	12.47	4.85	6.72	8.05	14.65	-14.48	28.27	4.63
Difference	0.08	0.13	0.09	0.11	0.09	N/A	0.05	0.07	0.19	0.09	0.05
Peer Group Median	5.13	6.38	10.61	14.76	7.30	8.44	11.44	17.23	-10.61	29.80	5.20
Rank	51	55	82	80	93	N/A	73	72	79	58	52
Population	147	147	147	144	142	134	151	168	175	179	193



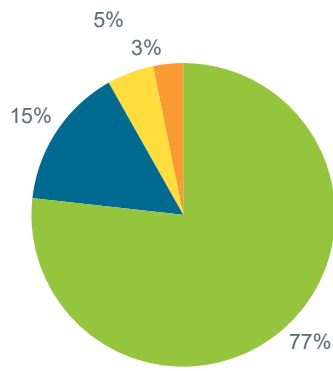
Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

International Developed Markets Equity

Pennsylvania State Employees' Retirement System Defined Benefit Plan
International Developed Markets Equity - Asset Allocation by Manager and Risk & Return Scatter

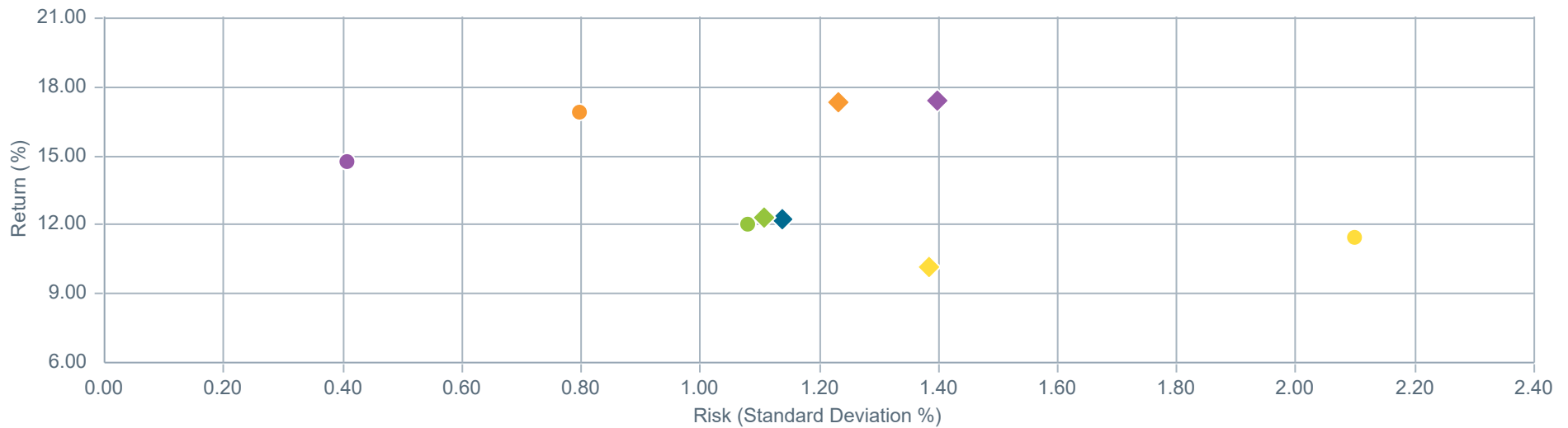
As of June 30, 2025

Asset Allocation by Manager



	Market Value (\$)	Allocation (%)
BlackRock MSCI World ex US Index (CF)	4,496,462,583	76.76
Walter Scott & Ptnrs Gbl Gr Eq (SA)	882,143,499	15.06
Xponance Non-US Small Cap (CIT)	292,068,000	4.99
Harris Assoc Int'l SCV (SA)	186,869,509	3.19

Risk & Return - QTD

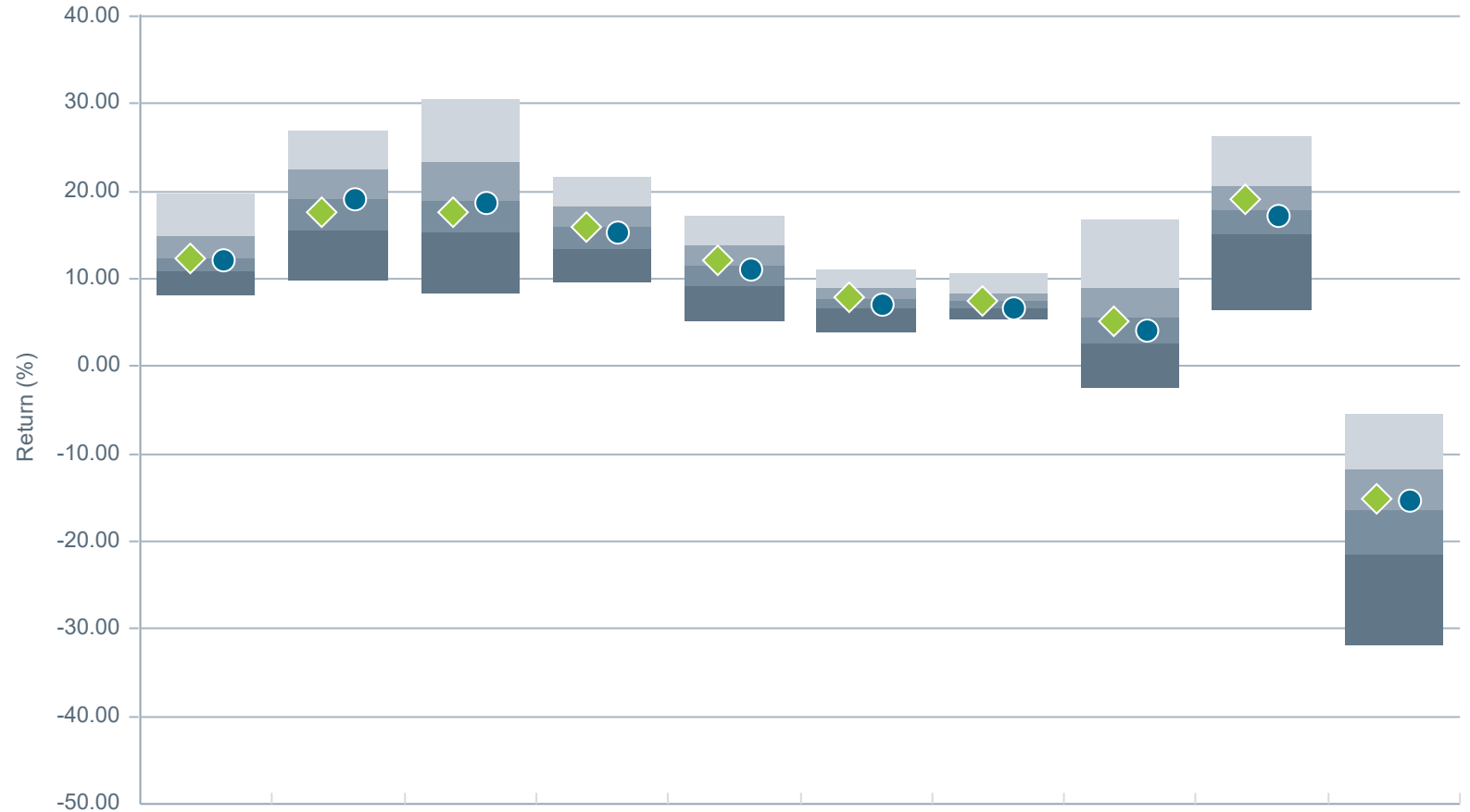


- International Developed Markets Equity
- MSCI Wrld Ex US Index (USD) (Net)
- Xponance Non-US Small Cap (CIT)
- MSCI Wrld Ex US Sm Val Index (USD) (Net)
- MSCI Wrld Ex US Index (USD) (Net)*
- Walter Scott & Ptnrs Gbl Gr Eq (SA)
- MSCI ACW Ex US Sm Cap Index (USD) (Net)
- BlackRock MSCI World ex US Index (CF)
- MSCI Wrld Index (USD) (Net)
- Harris Assoc Int'l SCV (SA)

Performance shown is gross of fees. Calculation is based on monthly periodicity. Allocations shown may not sum up to 100% due to rounding.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
IM International Equity Developed Markets (SA+CF)
Peer Group Analysis

As of June 30, 2025

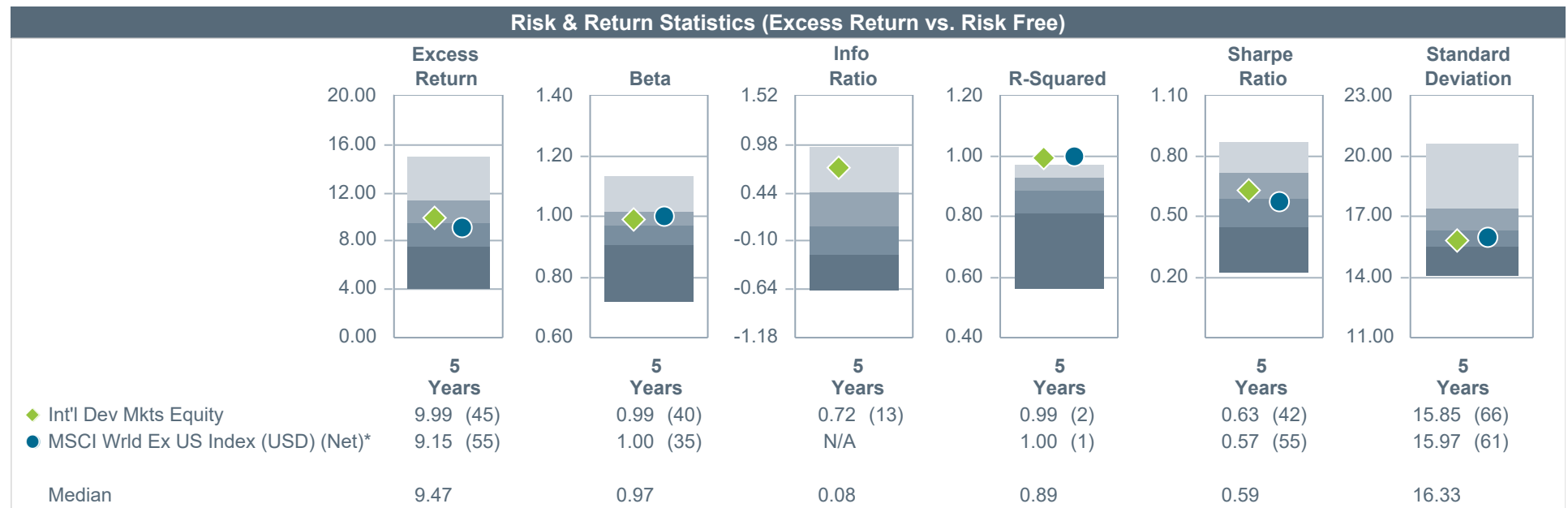
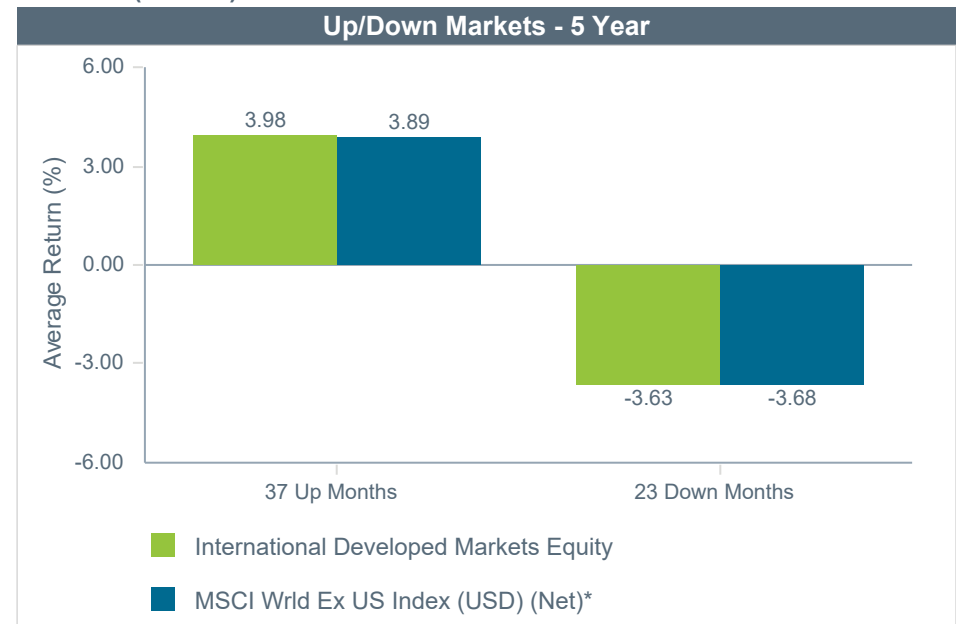
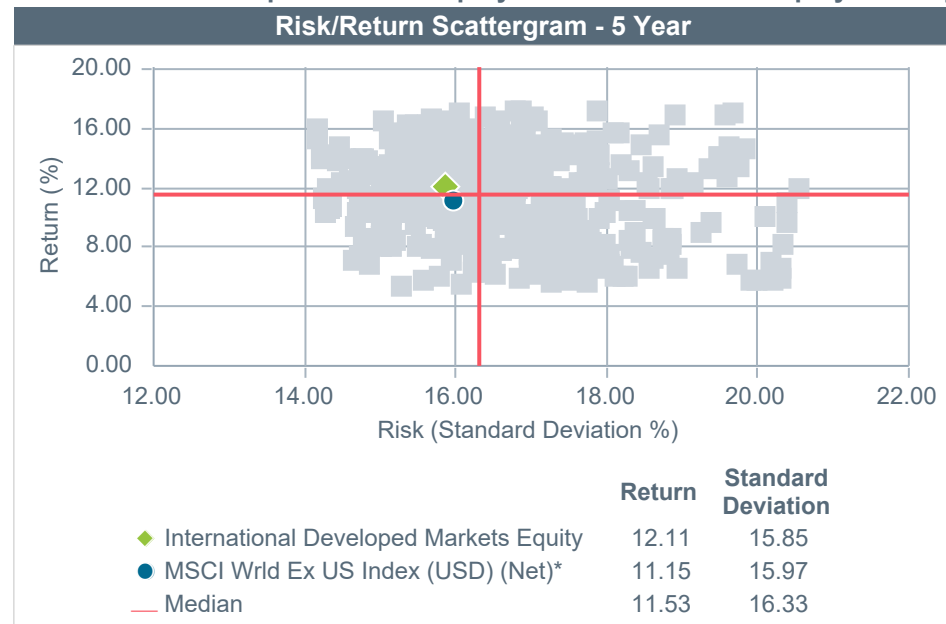


	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022
◆ Int'l Dev Mkts Equity	12.33 (51)	17.65 (64)	17.56 (63)	15.92 (51)	12.11 (43)	7.96 (45)	7.40 (50)	5.12 (54)	19.13 (39)	-15.06 (42)
● MSCI Wrld Ex US Index (USD) (Net)*	12.05 (58)	18.99 (51)	18.70 (53)	15.22 (59)	11.15 (55)	7.07 (64)	6.59 (75)	4.15 (62)	17.18 (56)	-15.26 (43)
5th Percentile	19.66	26.96	30.47	21.56	17.18	11.10	10.66	16.73	26.22	-5.45
1st Quartile	14.84	22.44	23.37	18.17	13.70	8.99	8.36	8.90	20.66	-11.75
Median	12.42	19.04	18.94	15.95	11.53	7.64	7.38	5.46	17.85	-16.36
3rd Quartile	10.81	15.55	15.37	13.49	9.06	6.57	6.57	2.51	15.04	-21.39
95th Percentile	8.18	9.82	8.27	9.57	5.24	3.91	5.37	-2.46	6.42	-31.75
Population	651	650	646	631	606	576	523	675	705	740

Performance shown is gross of fees. Parentheses contain percentile ranks.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
International Developed Markets Equity vs. IM International Equity Developed Markets (SA+CF)

As of June 30, 2025



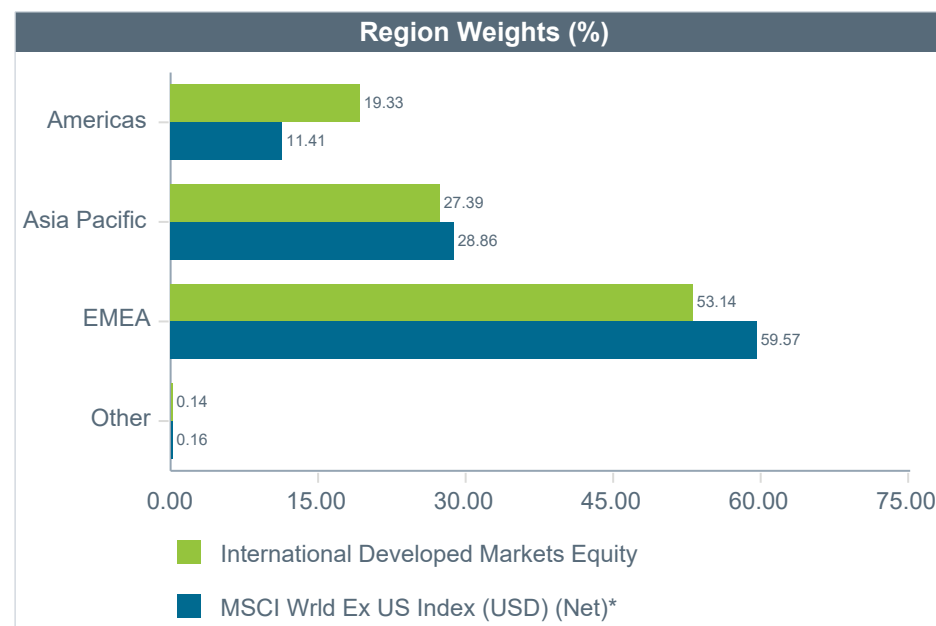
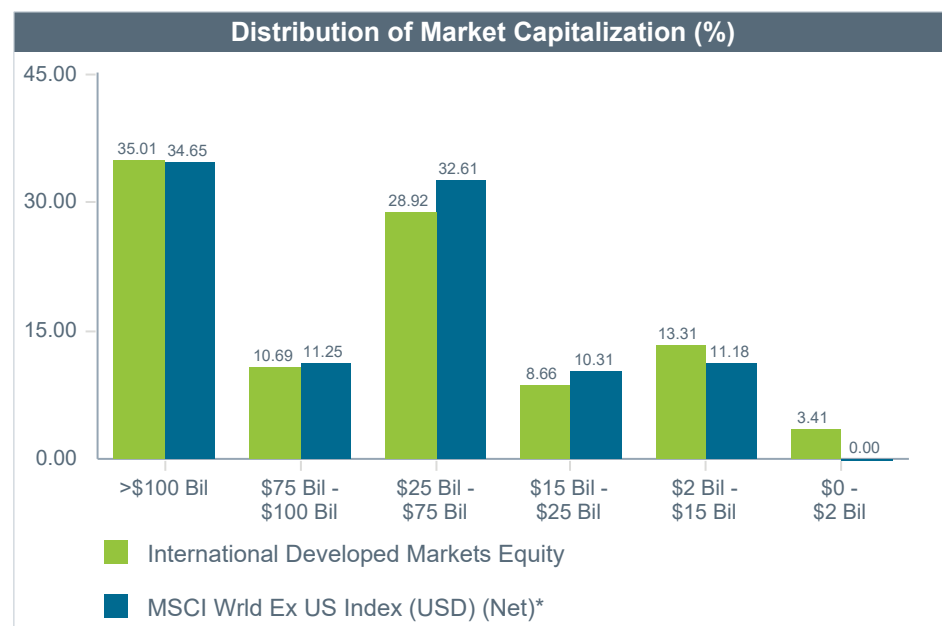
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parenthesis contain percentile rank.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
International Developed Markets Equity vs. MSCI Wrld Ex US Index (USD) (Net)*
Portfolio Characteristics

As of June 30, 2025

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
ASML Holding NV	1.61	1.48	0.13	21.89
Novo Nordisk A/S	1.14	1.05	0.09	1.68
SAP AG Systeme Anwendungen	1.10	1.50	-0.40	15.83
Roche Holding AG	0.99	1.08	-0.09	-1.13
Nestle SA, Cham Und Vevey	0.90	1.23	-0.33	1.53
AIA Group Ltd	0.86	0.45	0.41	21.53
Novartis AG	0.80	1.09	-0.29	9.25
Lvmh Moet Hennessy Louis Vuitton	0.79	0.68	0.11	-14.22
Astrazeneca PLC	0.79	1.02	-0.23	-4.53
HSBC Holdings PLC	0.78	1.01	-0.23	8.08
% of Portfolio	9.76	10.59	-0.83	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	130,626	92,526
Median Mkt. Cap (\$M)	5,150	18,574
Price/Earnings Ratio	18.21	17.15
Price/Book Ratio	2.77	2.48
5 Yr. EPS Growth Rate (%)	14.14	13.92
Current Yield (%)	2.75	3.02
Beta (5 Years, Monthly)	0.99	1.00
Number of Securities	1,831	778



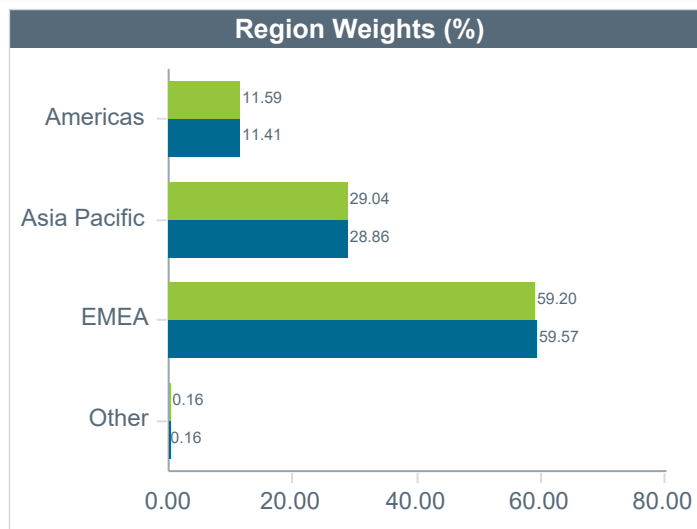
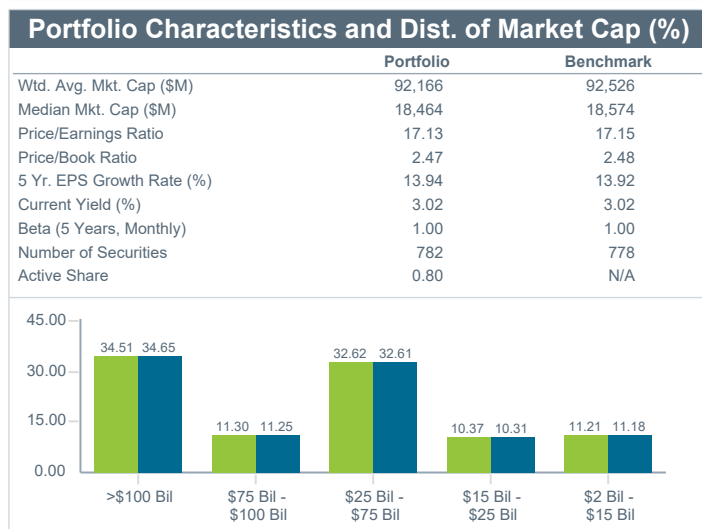
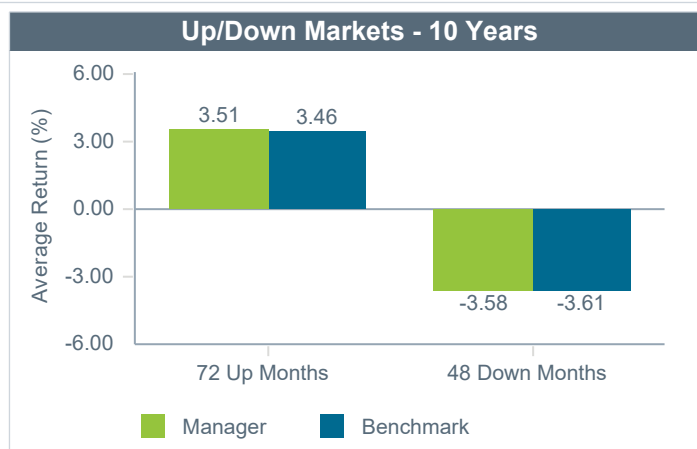
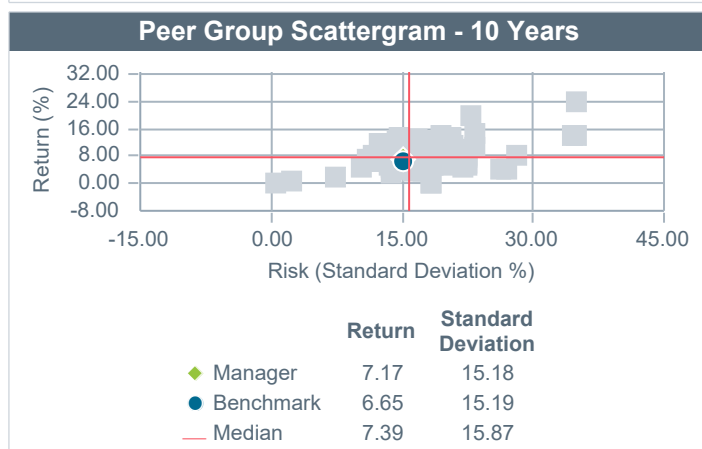
Manager: BlackRock MSCI World Ex US Index (CF)

As of June 30, 2025

Benchmark: MSCI Wrld Ex US Index (USD) (Net)

Peer Group: IM International Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	12.25	19.16	16.20	11.99	7.88	7.17	4.83	18.41	-13.84	13.10	8.01
Benchmark	12.05	18.70	15.73	11.51	7.43	6.65	4.70	17.94	-14.29	12.62	7.59
Difference	0.21	0.46	0.47	0.48	0.45	0.52	0.13	0.47	0.45	0.47	0.42
Peer Group Median	12.31	18.82	15.89	11.56	7.63	7.39	5.55	17.72	-16.27	11.82	11.54
Rank	52	48	45	45	45	57	57	44	35	40	67
Population	698	693	677	651	618	562	729	763	802	817	878



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

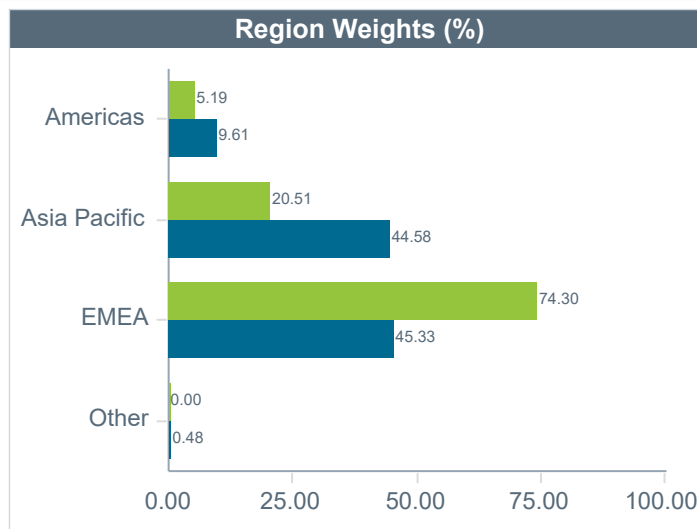
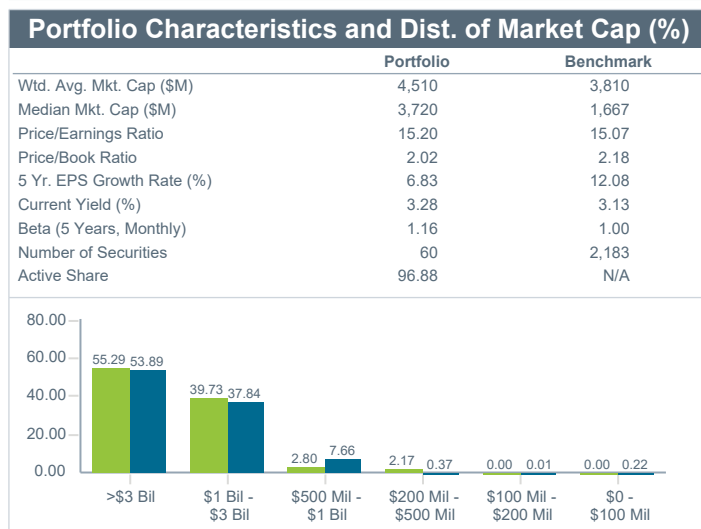
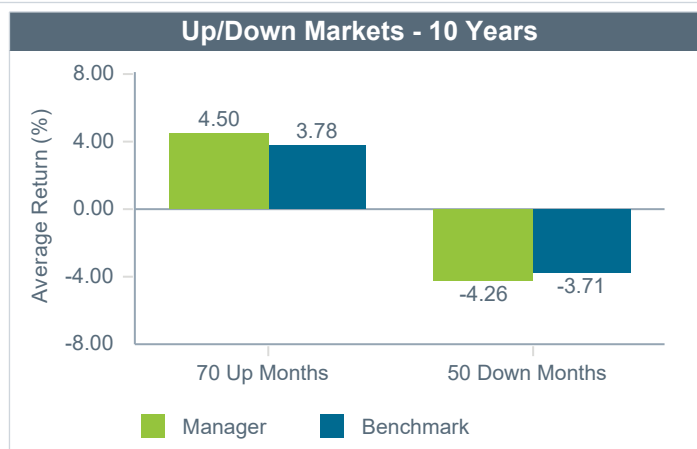
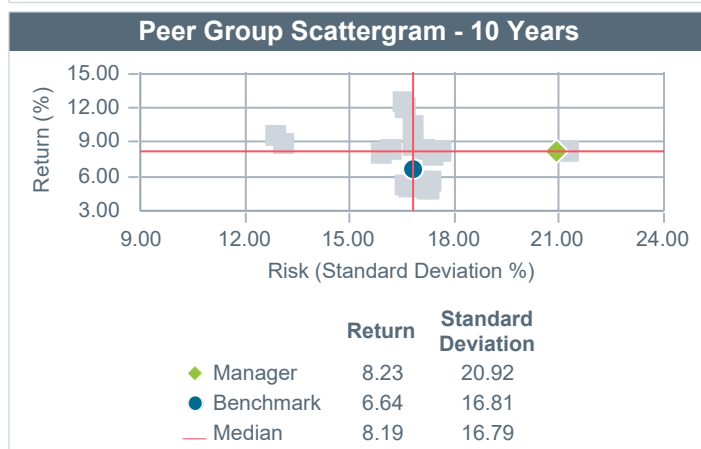
Manager: Harris Assoc Int'l SCV (SA)

As of June 30, 2025

Benchmark: MSCI Wld Ex US Sm Cap Index (USD) (Net)

Peer Group: IM International Small Cap Value Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	17.41	27.16	19.85	16.66	8.89	8.23	-1.45	21.04	-13.62	19.99	8.70
Benchmark	16.82	22.92	13.40	9.82	5.46	6.64	2.76	12.62	-20.59	11.14	12.78
Difference	0.59	4.23	6.45	6.84	3.43	1.59	-4.22	8.41	6.97	8.85	-4.08
Peer Group Median	16.43	23.86	19.13	15.95	7.83	8.19	6.59	18.76	-11.08	13.53	7.06
Rank	31	37	45	40	30	47	84	31	60	6	37
Population	27	27	27	26	25	18	27	28	30	31	32



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

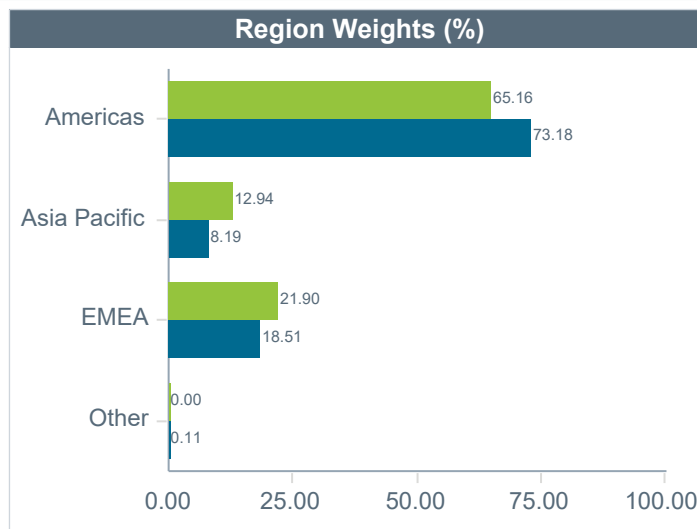
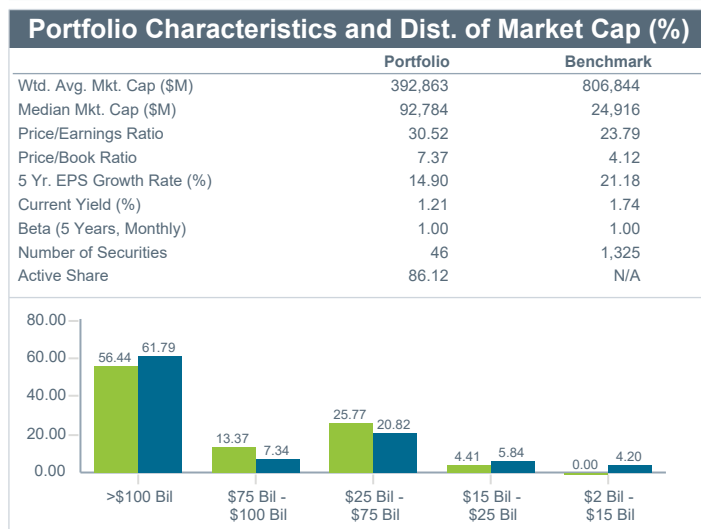
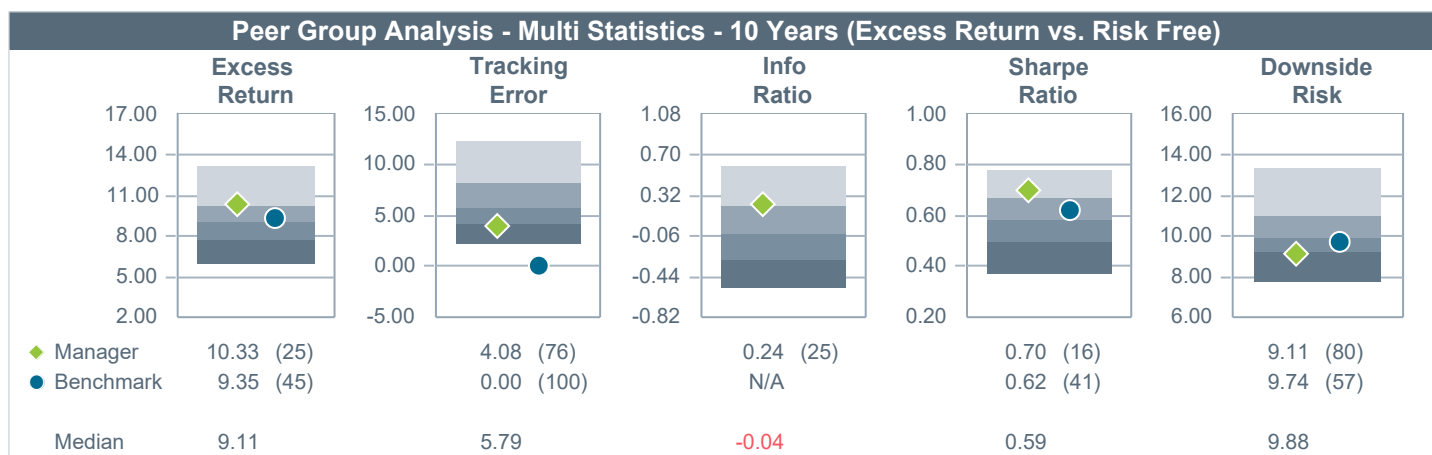
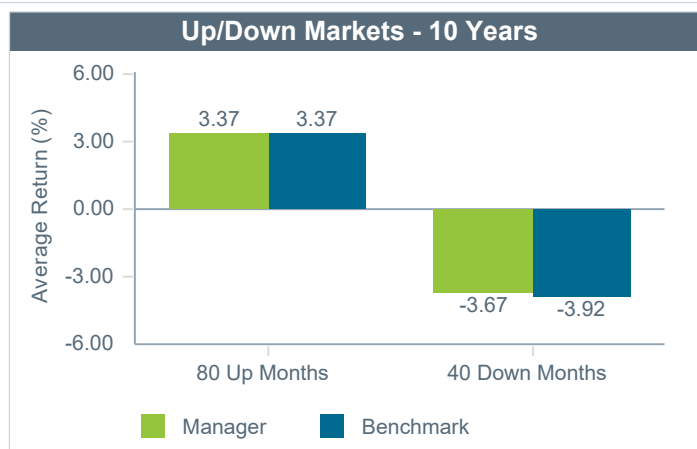
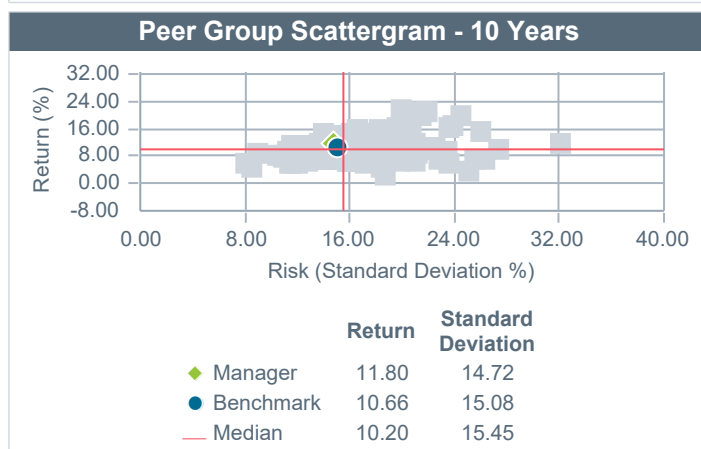
Manager: Walter Scott & Ptnrs Gbl Gr Eq (SA)

As of June 30, 2025

Benchmark: MSCI Wrld Index (USD) (Net)

Peer Group: IM Global Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	10.15	7.73	14.91	11.92	11.50	11.80	9.59	23.39	-18.92	20.57	21.89
Benchmark	11.47	16.26	18.31	14.55	11.61	10.66	18.67	23.79	-18.14	21.82	15.90
Difference	-1.32	-8.53	-3.40	-2.64	-0.11	1.14	-9.08	-0.39	-0.78	-1.24	5.99
Peer Group Median	10.72	15.14	15.59	13.25	10.57	10.20	12.53	20.16	-16.65	19.09	15.88
Rank	56	89	57	65	36	22	67	33	62	38	31
Population	496	492	477	446	409	343	533	568	583	578	609



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

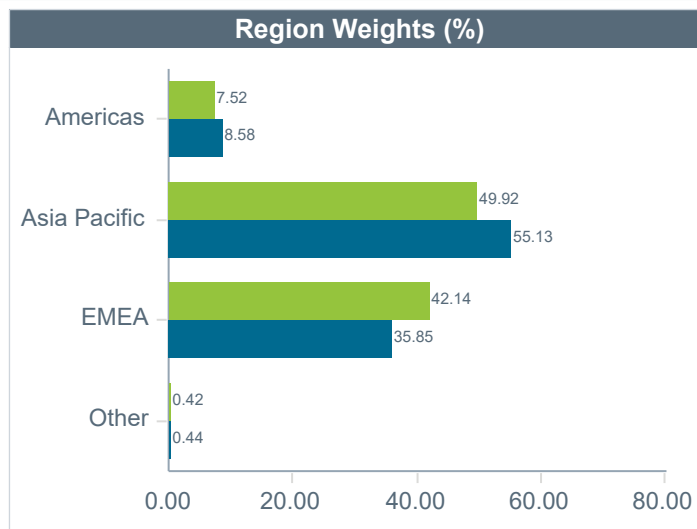
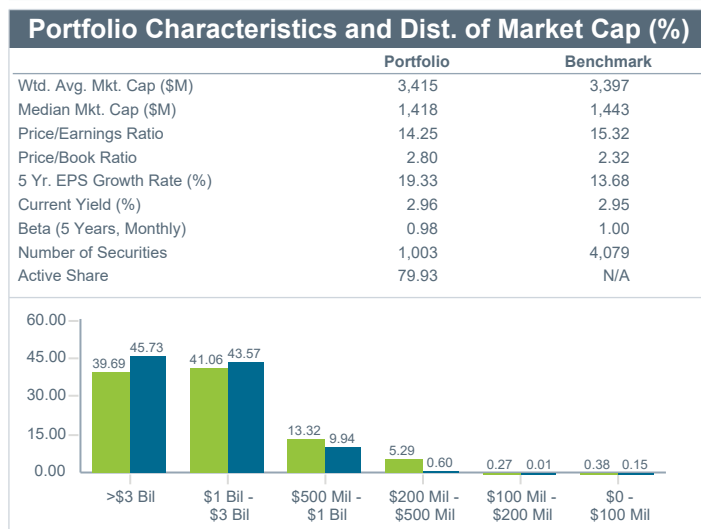
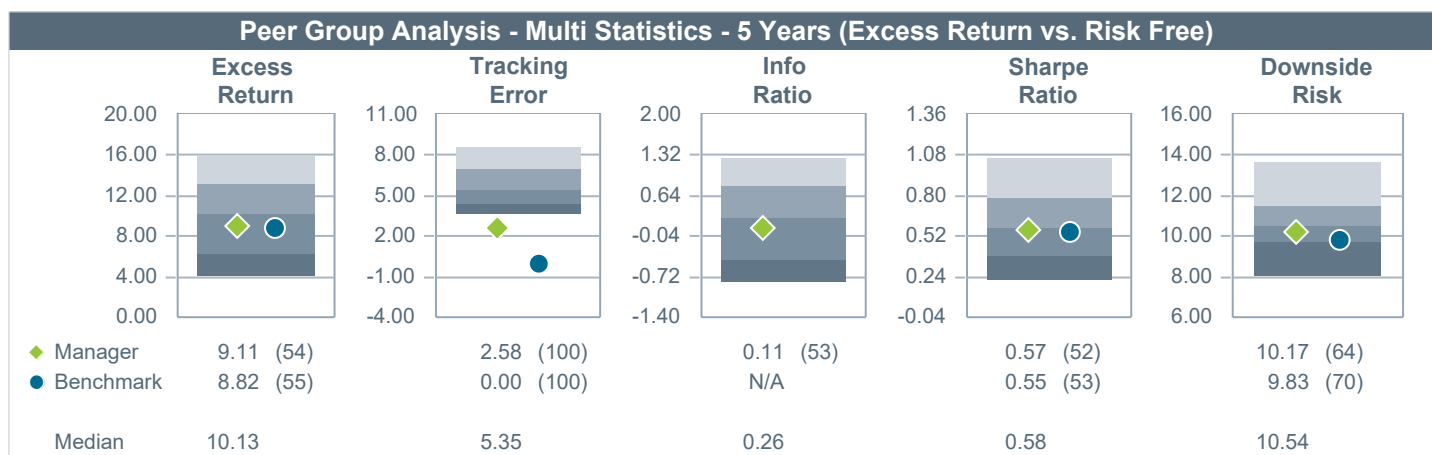
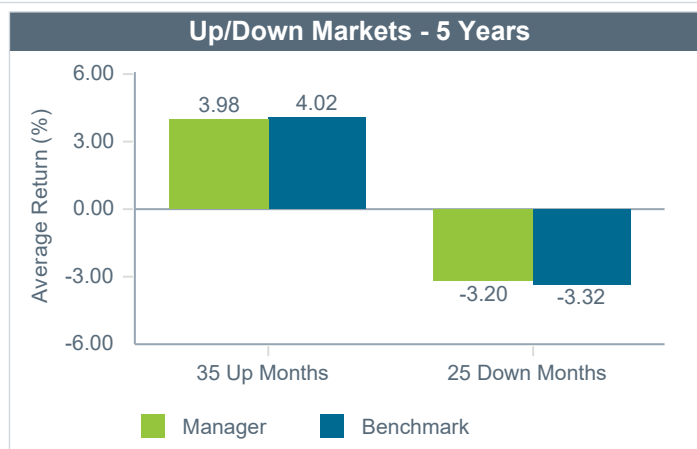
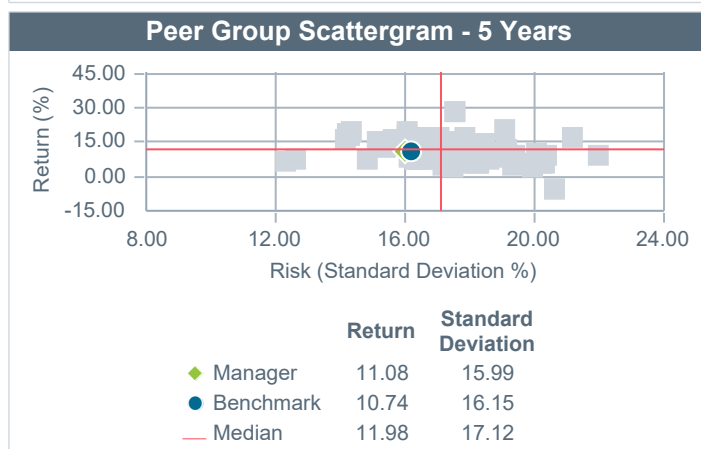
Manager: Xponance Intl SC (CIT)

As of June 30, 2025

Benchmark: MSCI ACW Ex US Sm Cap Index (USD) (Net)

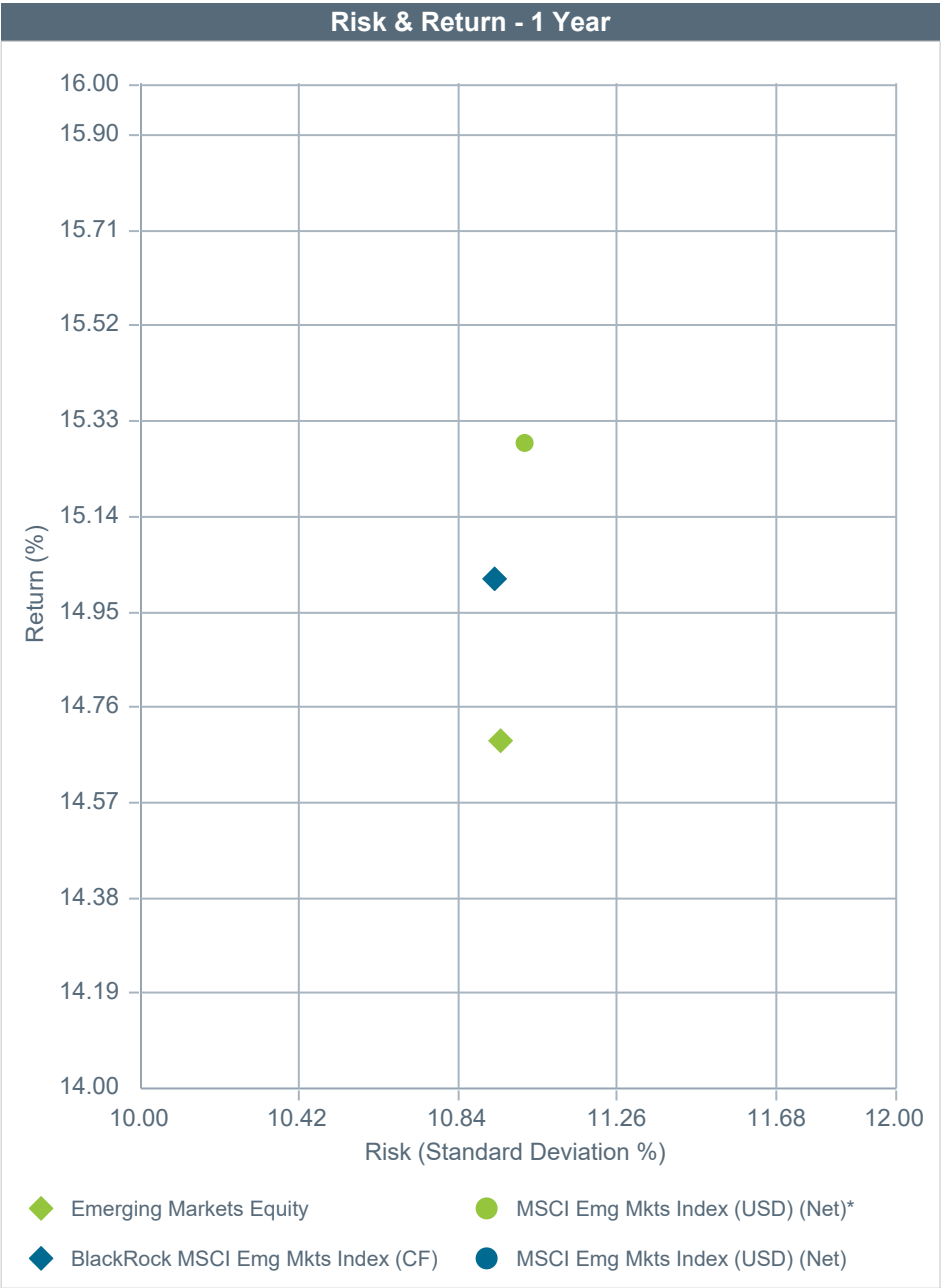
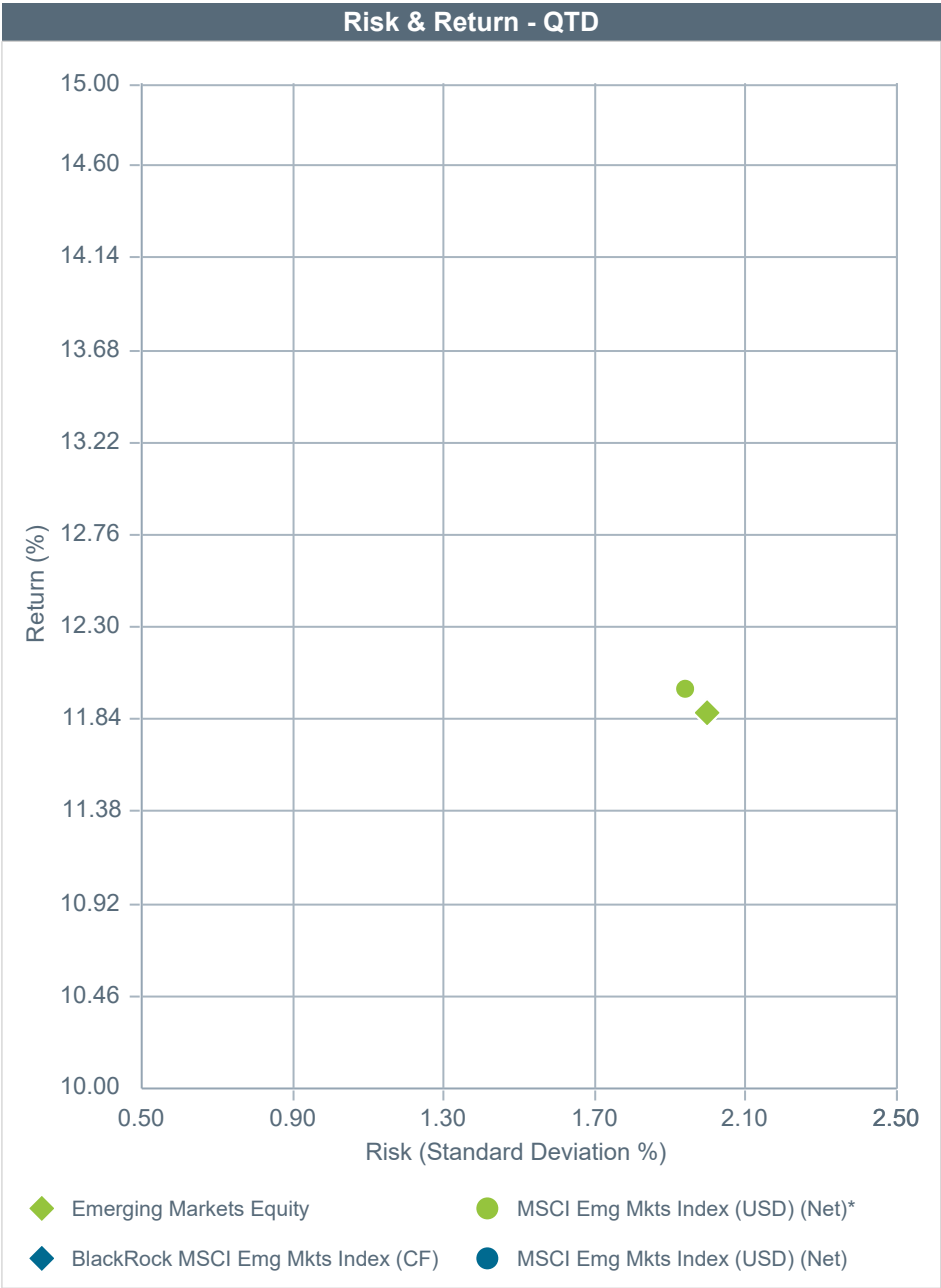
Peer Group: IM International Small Cap Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	17.38	18.61	14.94	11.08	N/A	N/A	5.64	16.78	-22.03	12.64	10.25
Benchmark	16.93	18.34	13.46	10.74	5.95	6.54	3.36	15.66	-19.97	12.93	14.24
Difference	0.45	0.27	1.47	0.34	N/A	N/A	2.28	1.12	-2.06	-0.28	-3.99
Peer Group Median	17.38	23.18	15.76	11.98	7.09	8.21	4.13	15.13	-21.45	13.74	13.73
Rank	51	73	53	53	N/A	N/A	45	39	56	58	60
Population	106	104	103	98	90	75	107	113	127	125	132



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

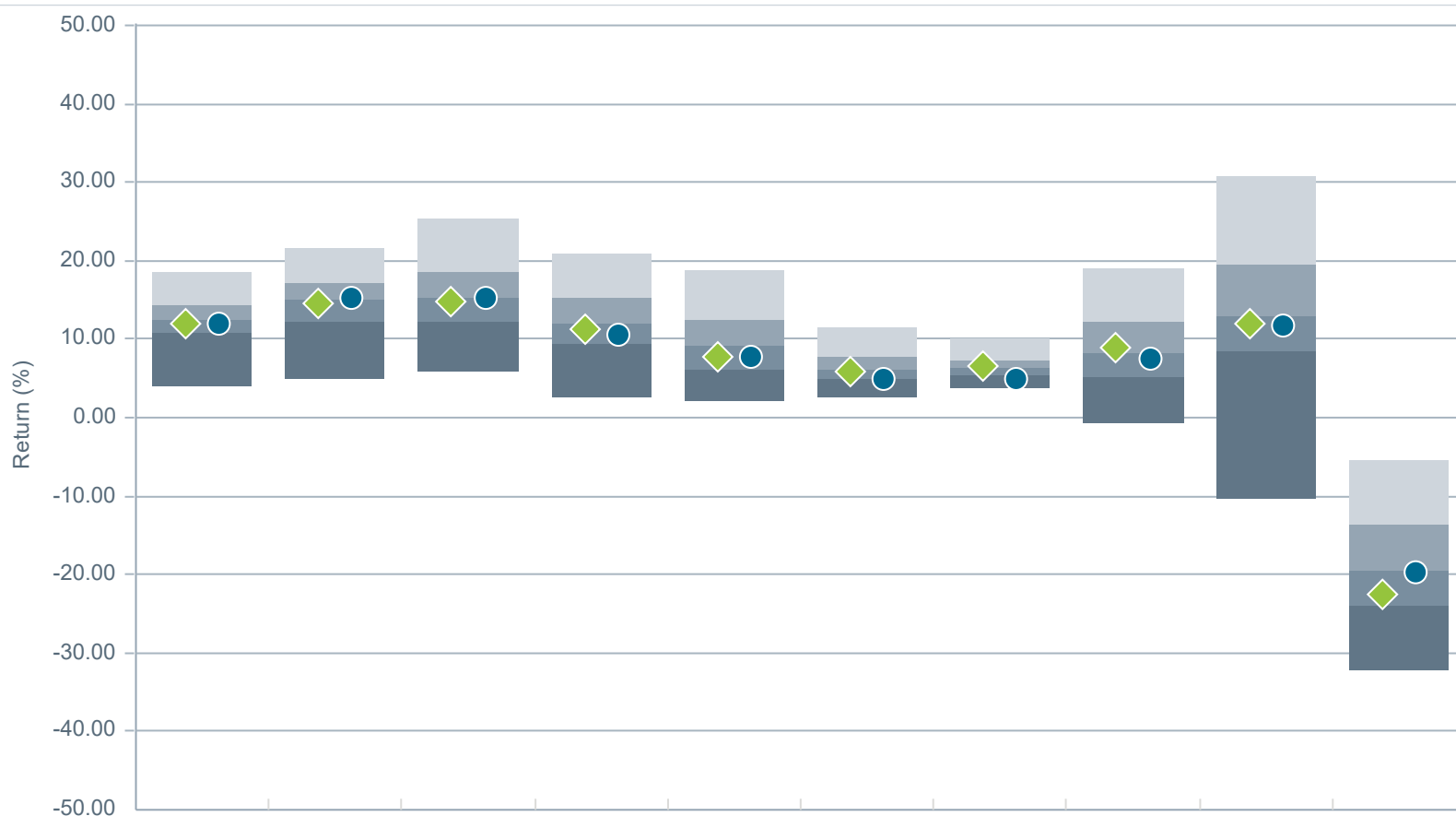
Emerging Markets Equity



Performance shown in gross of fees. Calculation is based on monthly periodicity.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
IM Emerging Markets Equity (SA+CF)
Peer Group Analysis

As of June 30, 2025

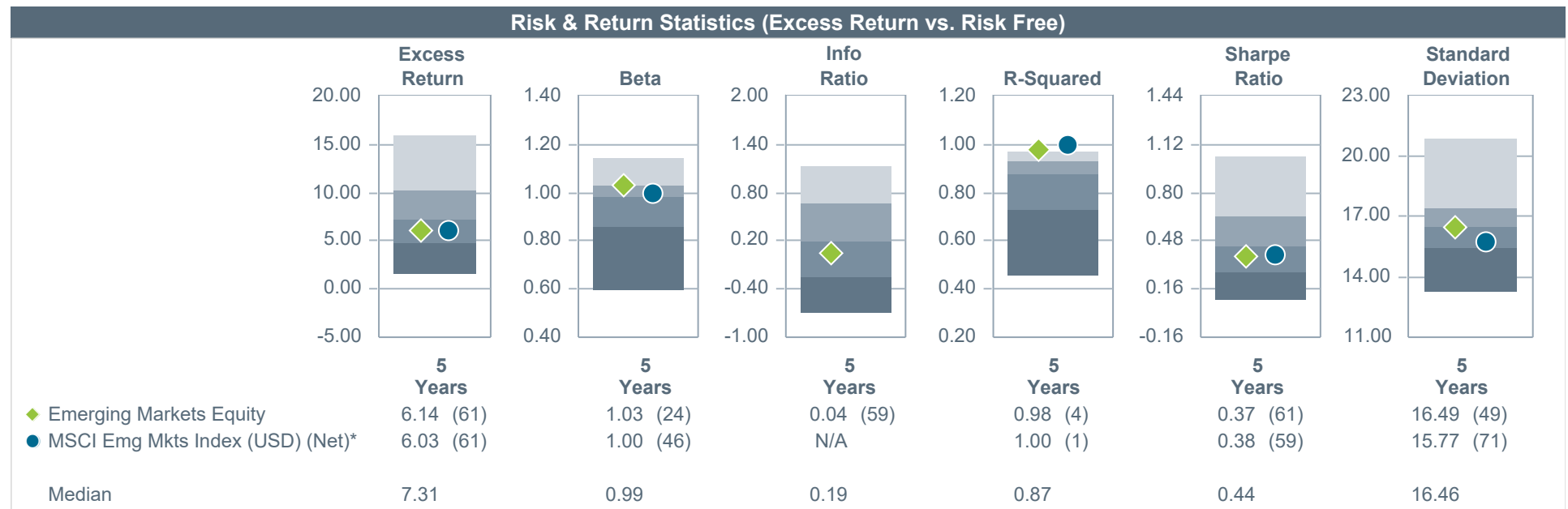
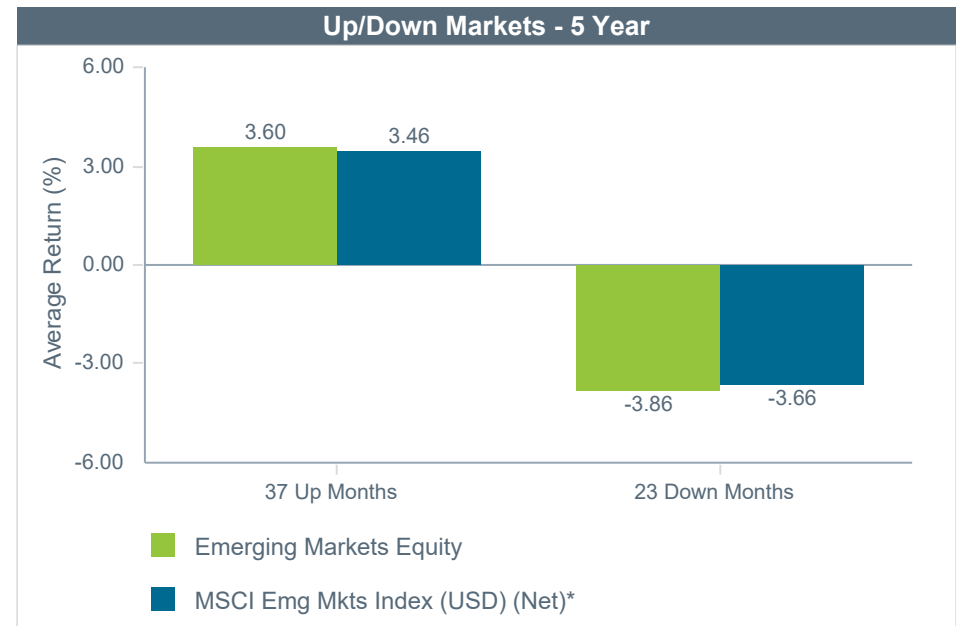
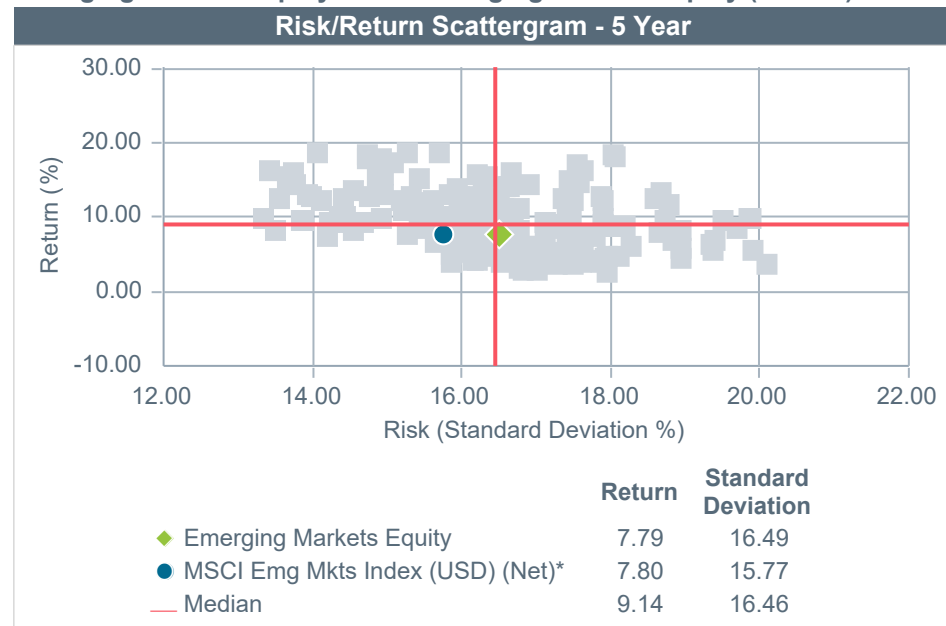


	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022
◆ Emerging Markets Equity	11.87 (63)	14.54 (56)	14.69 (57)	11.35 (57)	7.79 (61)	5.90 (57)	6.47 (43)	8.97 (42)	11.87 (59)	-22.43 (68)
● MSCI Emg Mkts Index (USD) (Net)*	11.99 (60)	15.27 (48)	15.29 (52)	10.55 (64)	7.80 (61)	4.97 (74)	5.04 (82)	7.43 (57)	11.67 (60)	-19.83 (53)
5th Percentile	18.66	21.48	25.30	20.80	18.86	11.45	10.02	19.06	30.66	-5.43
1st Quartile	14.31	17.15	18.51	15.22	12.40	7.84	7.34	12.26	19.49	-13.57
Median	12.54	15.13	15.35	12.02	9.14	6.18	6.26	8.13	12.91	-19.50
3rd Quartile	10.78	12.18	12.23	9.36	6.08	4.86	5.34	5.20	8.40	-24.02
95th Percentile	3.93	4.93	5.75	2.52	2.05	2.69	3.87	-0.69	-10.31	-32.27
Population	281	281	279	271	253	227	200	295	323	332

Performance shown is gross of fees. Parentheses contain percentile ranks.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Emerging Markets Equity vs. IM Emerging Markets Equity (SA+CF)

As of June 30, 2025



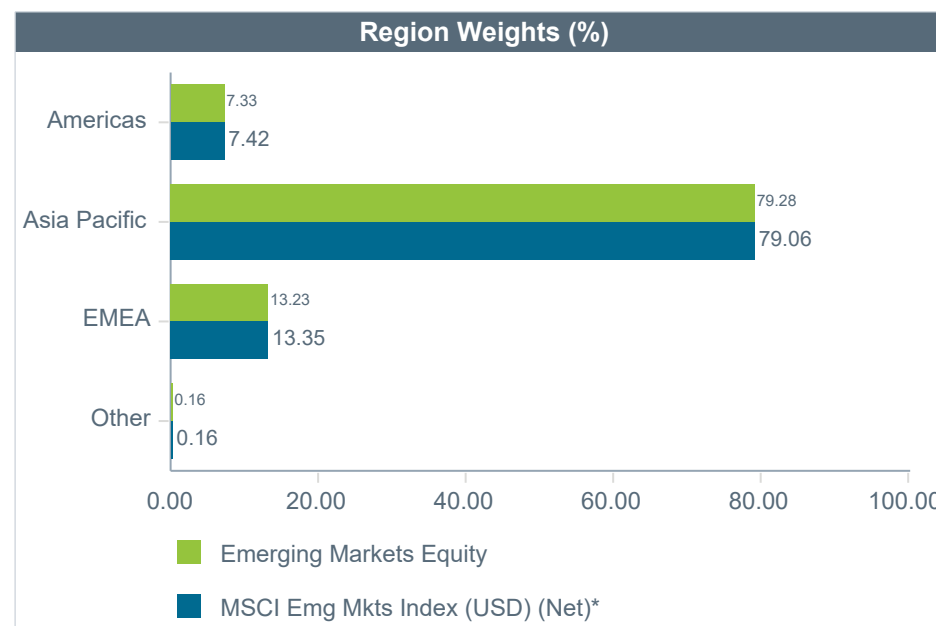
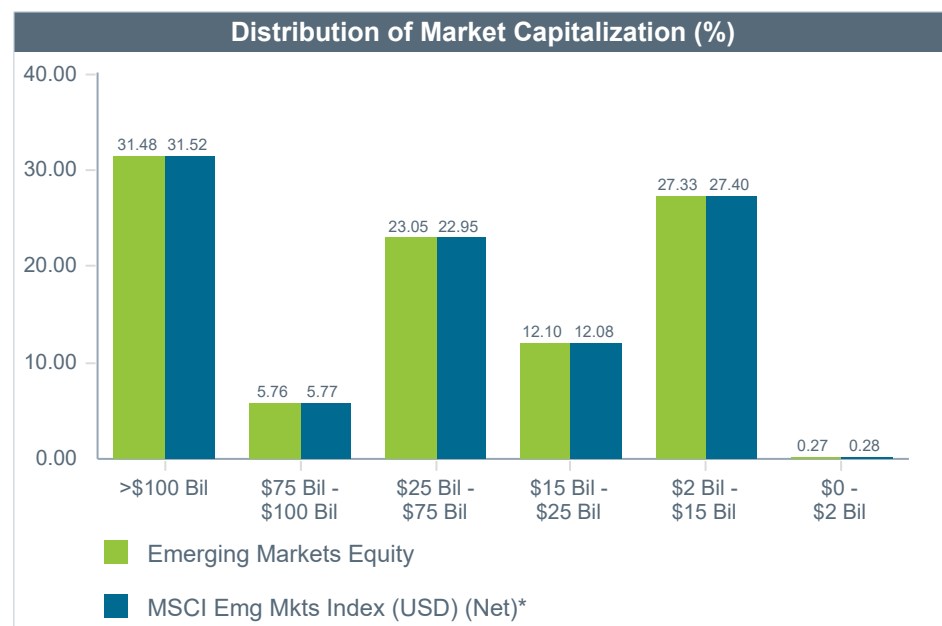
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parenthesis contain percentile rank.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Emerging Markets Equity vs. MSCI Emg Mkts Index (USD) (Net)*
Portfolio Characteristics

As of June 30, 2025

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Taiwan Semiconductor Mfg	10.10	10.20	-0.10	32.97
Tencent Holdings LTD	4.66	4.71	-0.05	1.20
Alibaba Group Holding Ltd	2.71	2.75	-0.04	-13.57
Samsung Electronics Co Ltd	2.38	2.40	-0.02	12.88
HDFC Bank Limited	1.58	1.51	0.07	10.30
Xiaomi Corporation	1.47	1.49	-0.02	20.77
SK Hynix Inc	1.34	1.35	-0.01	67.36
Reliance Industries Ltd	1.28	1.22	0.06	17.29
China Construction Bank Corp	1.10	1.11	-0.01	18.06
ICICI Bank Ltd	1.07	1.01	0.06	6.87
% of Portfolio	27.69	27.75	-0.06	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	182,425	183,581
Median Mkt. Cap (\$M)	8,699	8,662
Price/Earnings Ratio	14.08	14.02
Price/Book Ratio	2.87	2.87
5 Yr. EPS Growth Rate (%)	20.97	20.82
Current Yield (%)	2.77	2.79
Beta (5 Years, Monthly)	1.03	1.00
Number of Securities	1,214	1,203



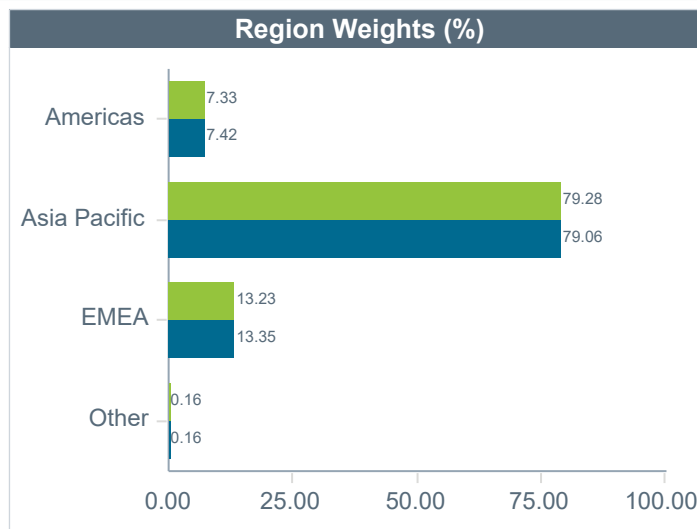
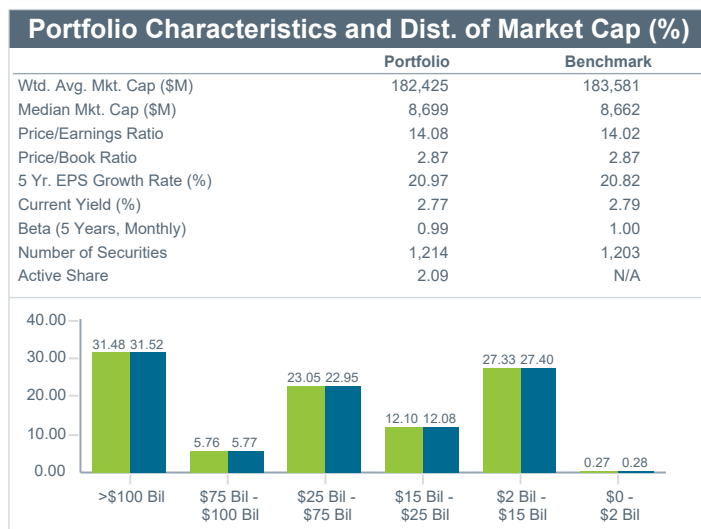
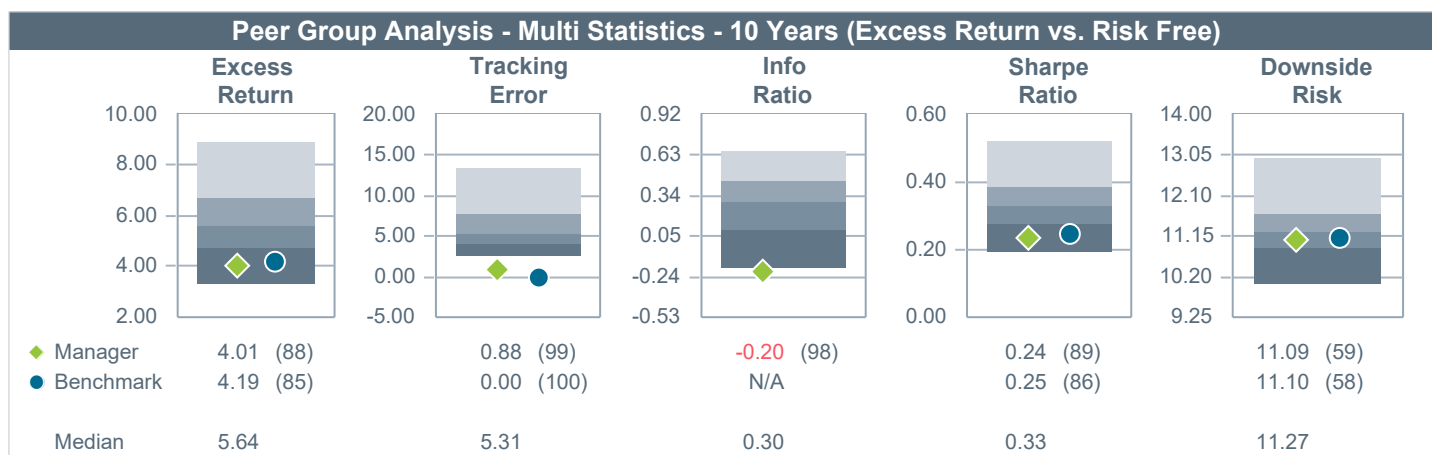
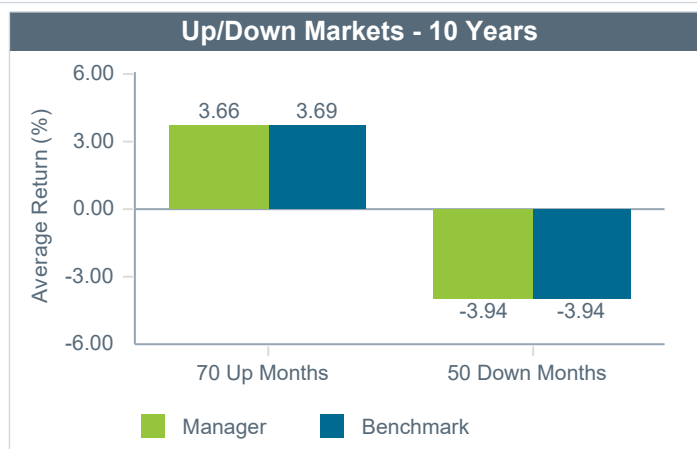
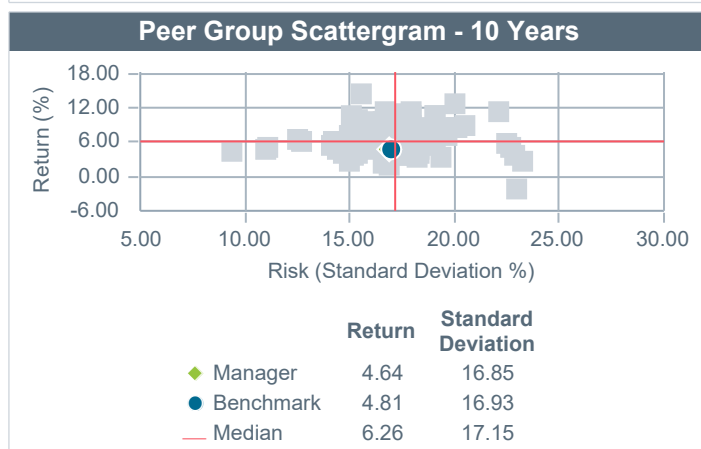
Manager: BlackRock MSCI Emerging Markets (CF)

As of June 30, 2025

Benchmark: MSCI Emg Mkts Index (USD) (Net)

Peer Group: IM Emerging Markets Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	11.88	15.02	9.36	6.52	4.26	4.64	7.16	9.30	-20.16	-2.71	18.02
Benchmark	11.99	15.29	9.70	6.81	4.48	4.81	7.50	9.83	-20.09	-2.54	18.31
Difference	-0.11	-0.26	-0.34	-0.28	-0.22	-0.17	-0.34	-0.53	-0.07	-0.17	-0.28
Peer Group Median	12.54	15.35	12.02	9.14	6.18	6.26	8.13	12.91	-19.50	1.15	18.31
Rank	62	54	76	71	83	89	60	71	56	68	53
Population	281	279	271	253	227	200	295	323	332	339	362

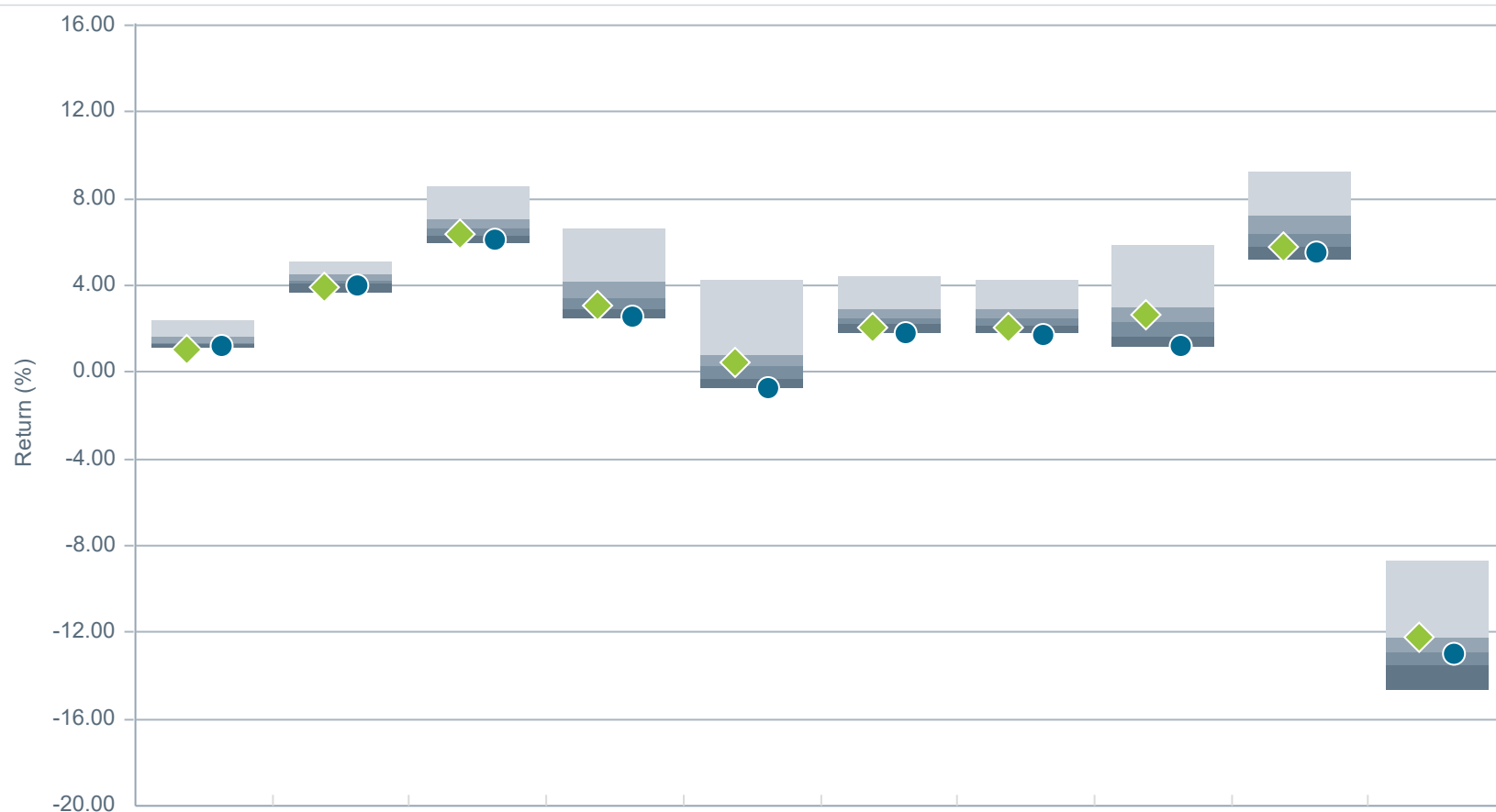


Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Total Fixed Income

Pennsylvania State Employees' Retirement System Defined Benefit Plan
IM U.S. Broad Market Fixed Income (SA+CF)
Peer Group Analysis

As of June 30, 2025

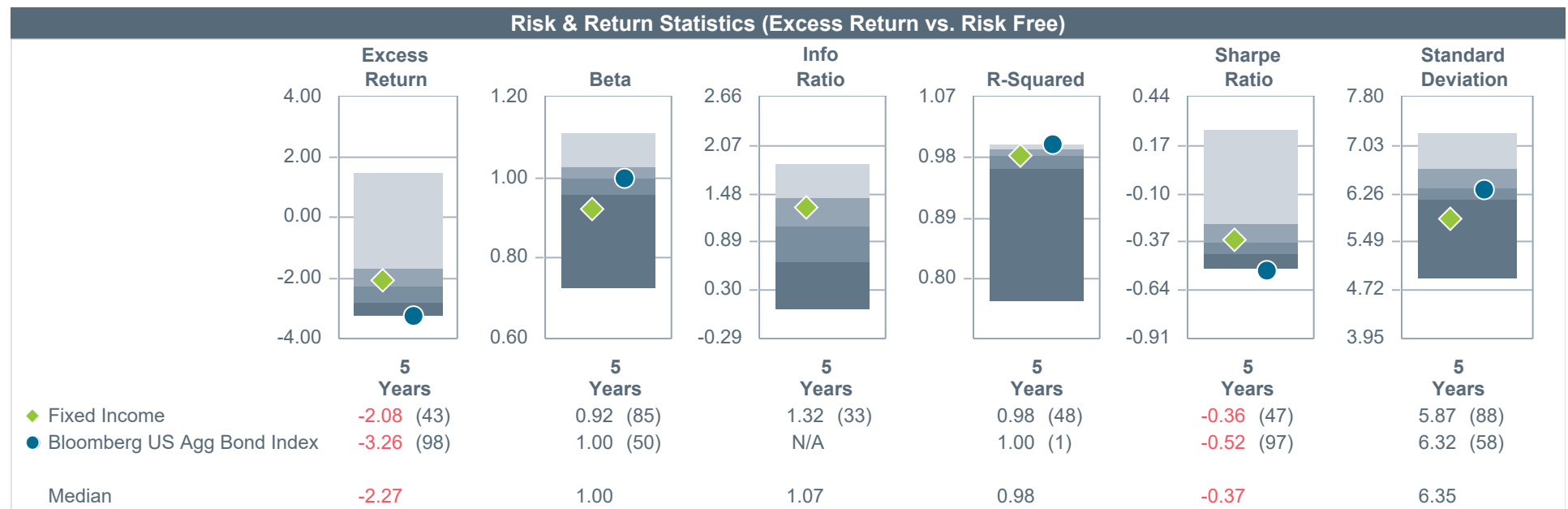
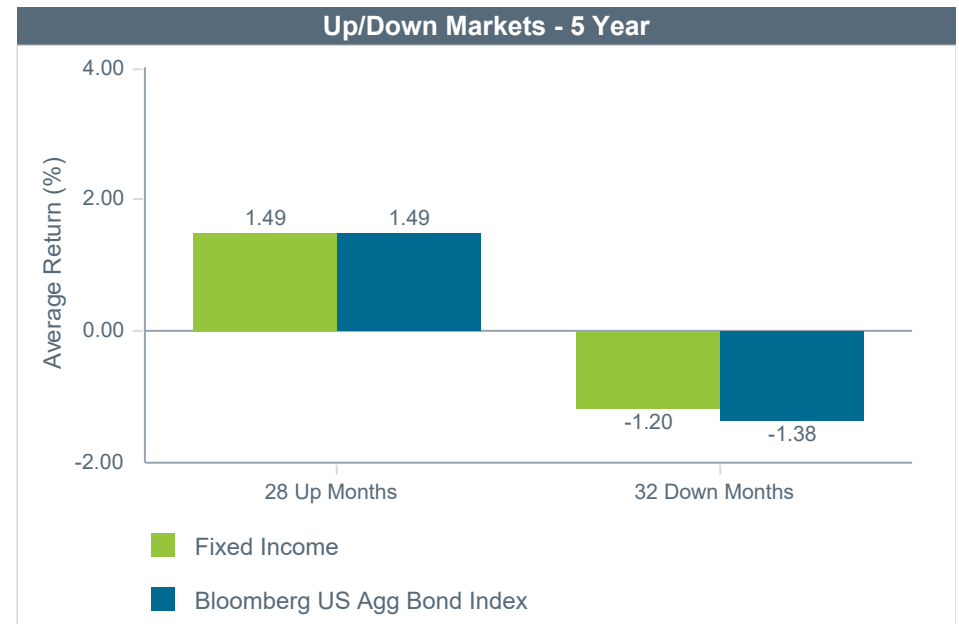
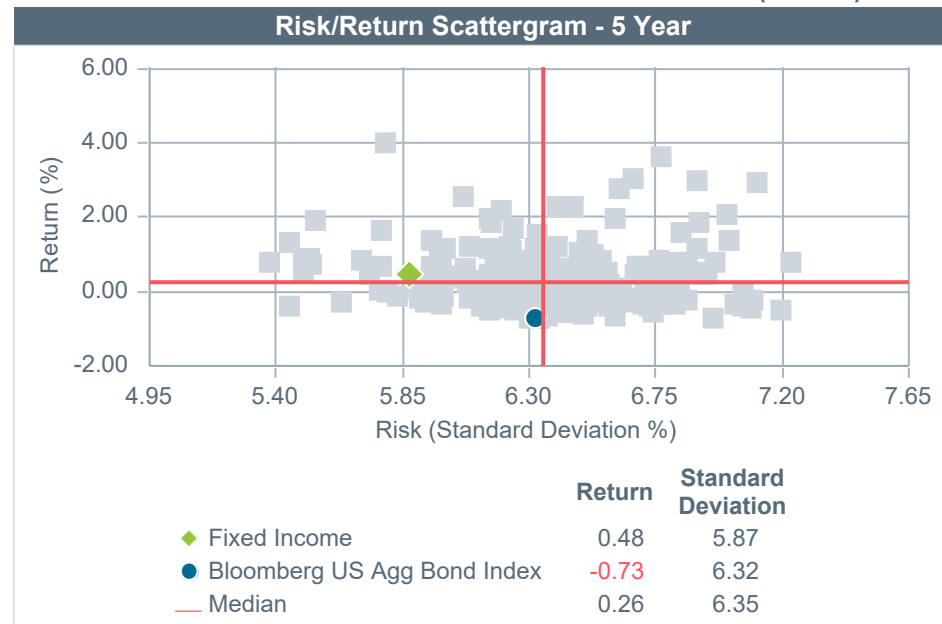


	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022
◆ Fixed Income	1.08 (97)	3.89 (93)	6.38 (71)	3.09 (66)	0.48 (42)	2.04 (86)	2.08 (83)	2.64 (38)	5.73 (77)	-12.23 (27)
● Bloomberg US Agg Bond Index	1.21 (89)	4.02 (84)	6.08 (92)	2.55 (95)	-0.73 (97)	1.77 (99)	1.76 (99)	1.25 (94)	5.53 (89)	-13.01 (55)
5th Percentile	2.42	5.06	8.57	6.64	4.22	4.43	4.26	5.89	9.28	-8.64
1st Quartile	1.62	4.47	7.05	4.15	0.83	2.91	2.86	2.98	7.17	-12.22
Median	1.41	4.24	6.62	3.41	0.26	2.51	2.48	2.32	6.38	-12.93
3rd Quartile	1.26	4.06	6.32	2.93	-0.28	2.22	2.17	1.65	5.77	-13.48
95th Percentile	1.13	3.69	5.97	2.46	-0.72	1.81	1.79	1.19	5.20	-14.70
Population	296	296	294	290	284	275	262	311	335	349

Performance shown is gross of fees. Parentheses contain percentile ranks.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Total Fixed Income vs. IM U.S. Broad Market Fixed Income (SA+CF)

As of June 30, 2025

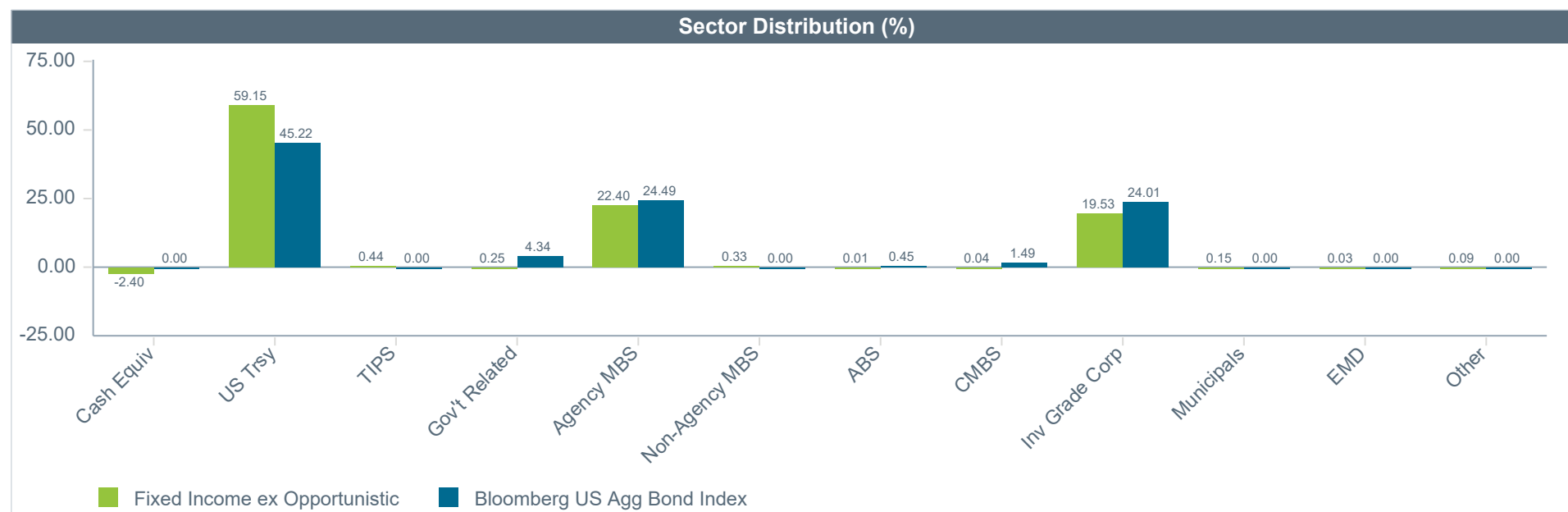


Performance shown is gross of fees. Calculation is based on monthly periodicity. Parenthesis contain percentile rank.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Fixed Income ex Opportunistic vs. Bloomberg US Agg Bond Index
Portfolio Characteristics

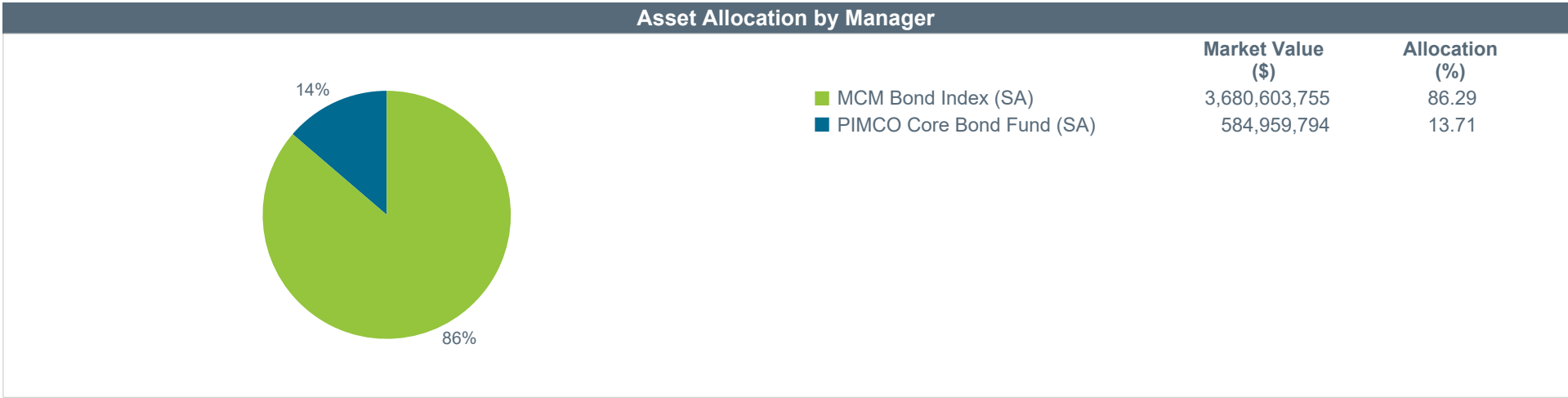
As of June 30, 2025

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	5.86	6.06
Avg. Maturity	8.17	8.33
Avg. Quality	Aa2	Aa2/Aa3
Yield To Maturity (%)	4.47	4.51
Coupon Rate (%)	3.47	3.56



Data shown does not include opportunistic fixed income, liquidating accounts, and fixed income transition accounts.

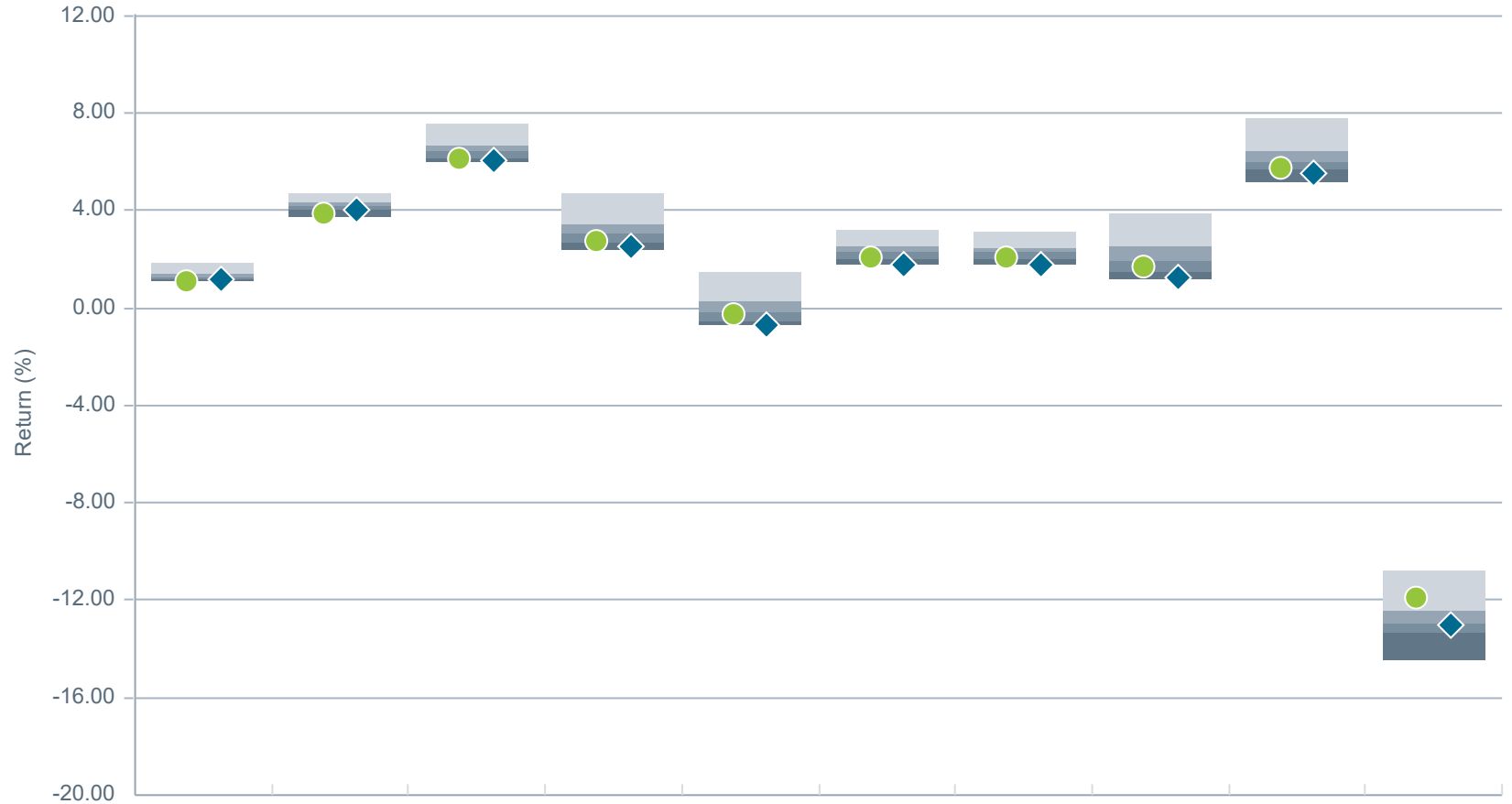
Core Fixed Income



Performance shown is gross of fees. Calculation is based on monthly periodicity. Allocations shown may not sum up to 100% due to rounding.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
IM U.S. Broad Market Core Fixed Income (SA+CF)
Peer Group Analysis

As of June 30, 2025

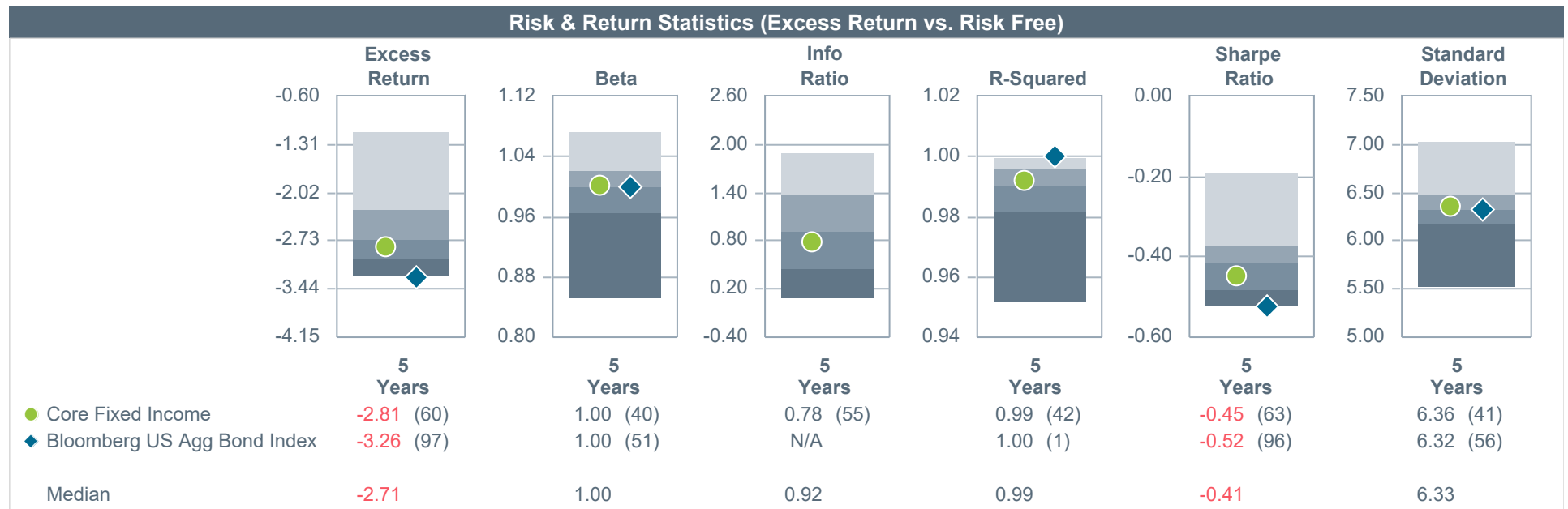
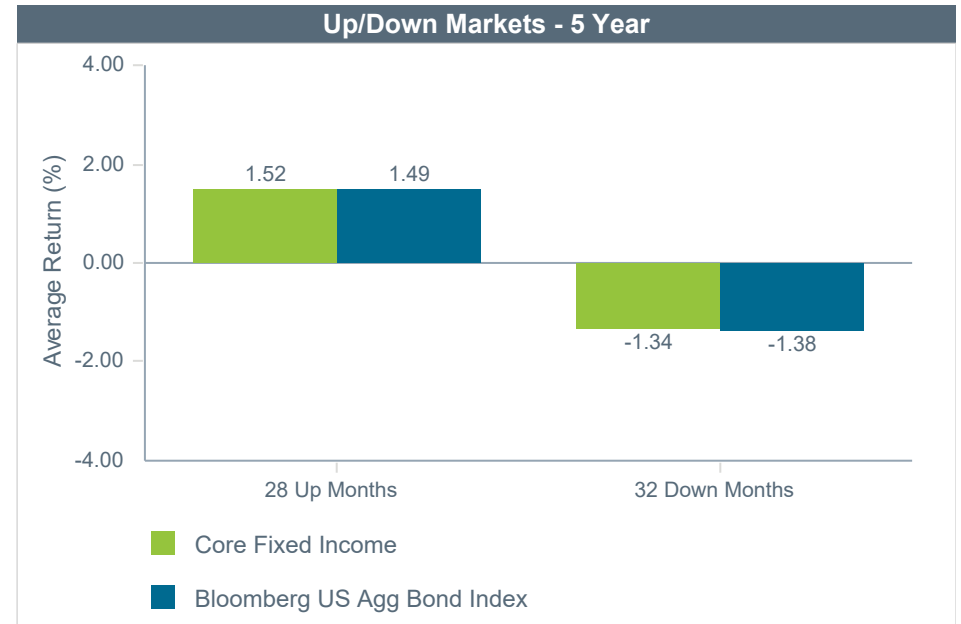
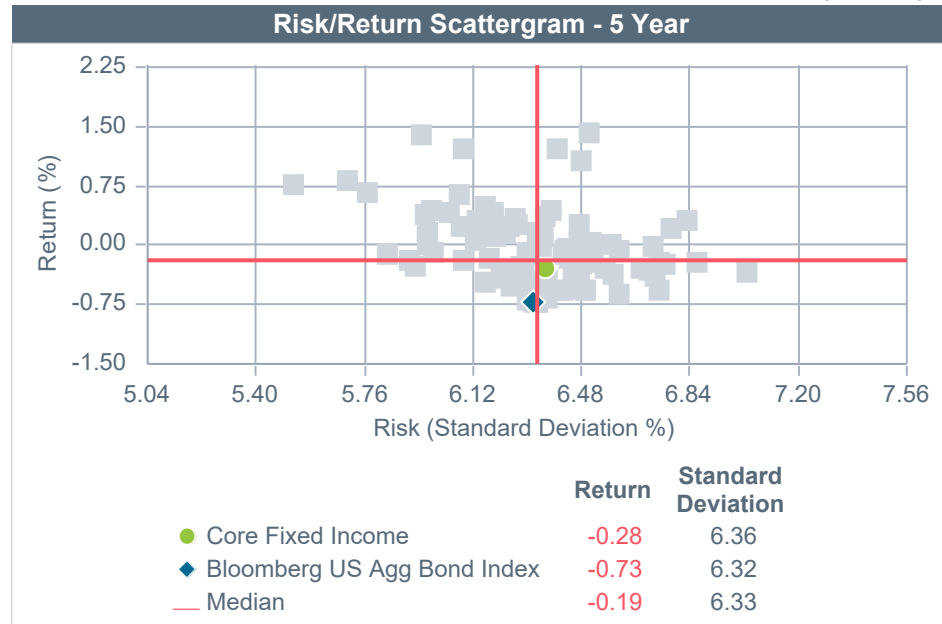


	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022
● Core Fixed Income	1.09 (97)	3.92 (92)	6.10 (89)	2.78 (73)	-0.28 (59)	2.06 (72)	2.09 (70)	1.73 (60)	5.78 (63)	-11.90 (14)
◆ Bloomberg US Agg Bond Index	1.21 (84)	4.02 (84)	6.08 (92)	2.55 (92)	-0.73 (97)	1.77 (98)	1.76 (98)	1.25 (93)	5.53 (85)	-13.01 (54)
5th Percentile	1.88	4.73	7.59	4.72	1.51	3.19	3.12	3.88	7.81	-10.75
1st Quartile	1.42	4.37	6.69	3.45	0.27	2.55	2.49	2.51	6.44	-12.42
Median	1.28	4.16	6.42	3.06	-0.19	2.31	2.28	1.91	6.00	-12.95
3rd Quartile	1.22	4.04	6.16	2.70	-0.51	2.04	2.03	1.48	5.66	-13.28
95th Percentile	1.11	3.77	6.02	2.35	-0.72	1.79	1.78	1.17	5.16	-14.47
Population	123	123	123	122	121	118	116	133	143	151

Performance shown is gross of fees. Parentheses contain percentile ranks.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Core Fixed Income vs. IM U.S. Broad Market Core Fixed Income (SA+CF)

As of June 30, 2025

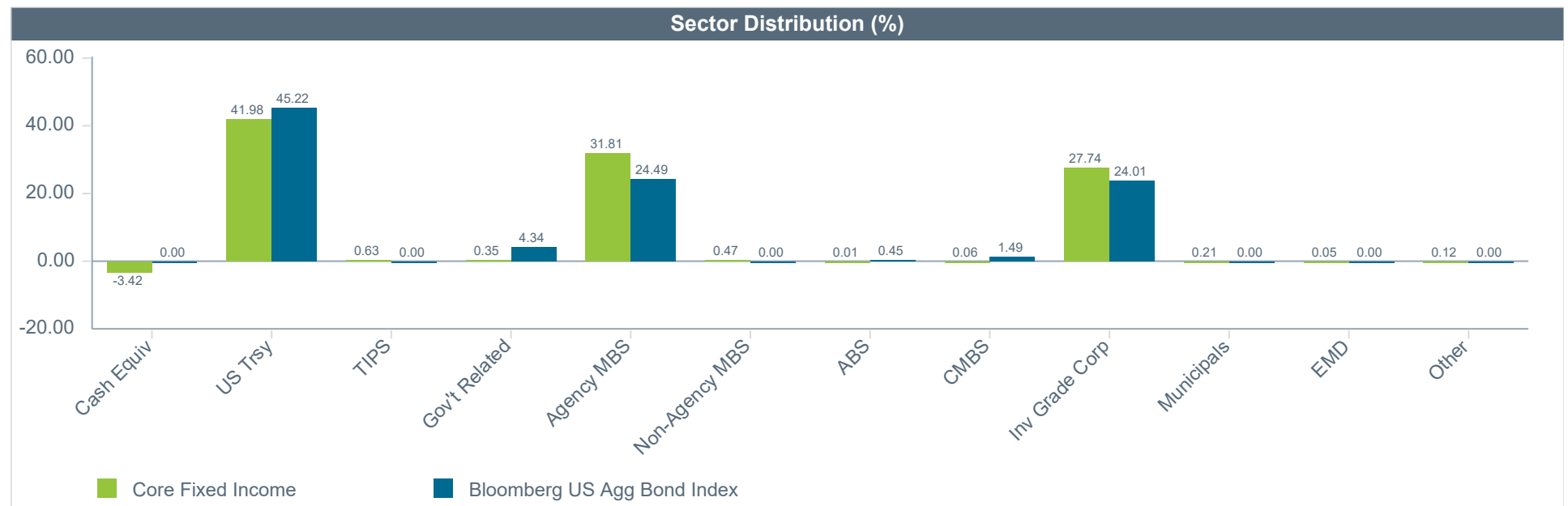


Performance shown is gross of fees. Calculation is based on monthly periodicity. Parenthesis contain percentile rank.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Core Fixed Income vs. Bloomberg US Agg Bond Index
Portfolio Characteristics

As of June 30, 2025

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	5.90	6.06
Avg. Maturity	8.37	8.33
Avg. Quality	Aa2/Aa3	Aa2/Aa3
Yield To Maturity (%)	4.65	4.51
Coupon Rate (%)	3.58	3.56



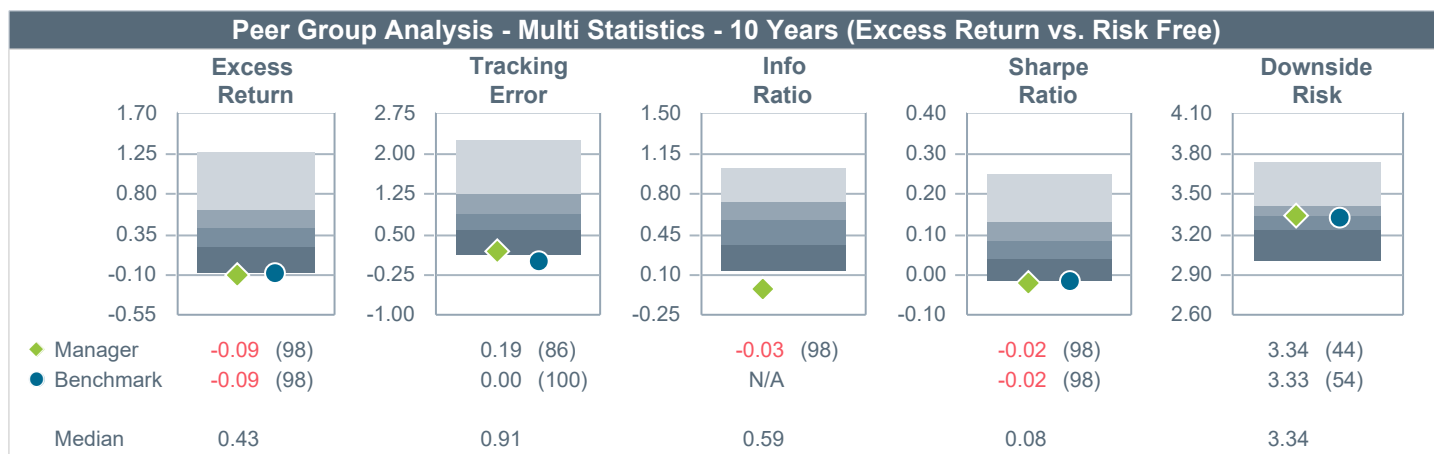
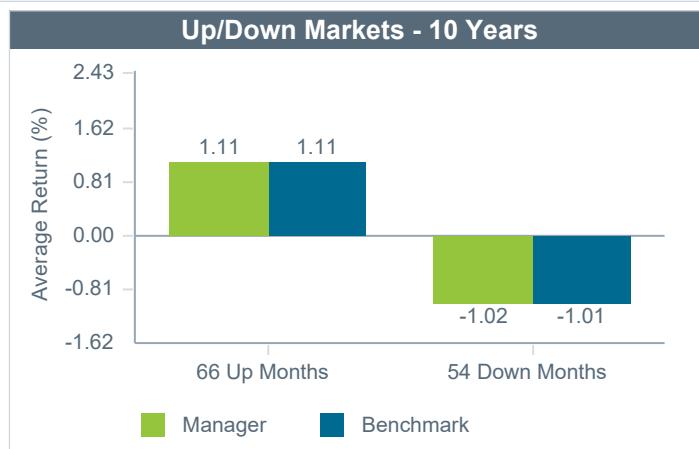
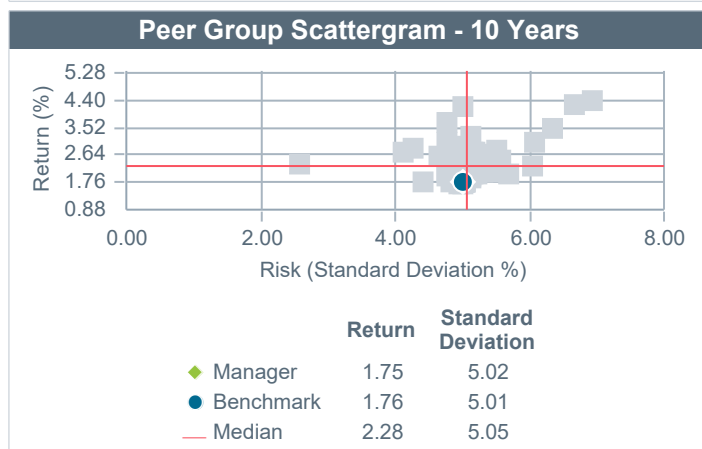
Manager: MCM Bond Index (SA)

As of June 30, 2025

Benchmark: Bloomberg US Agg Bond Index*

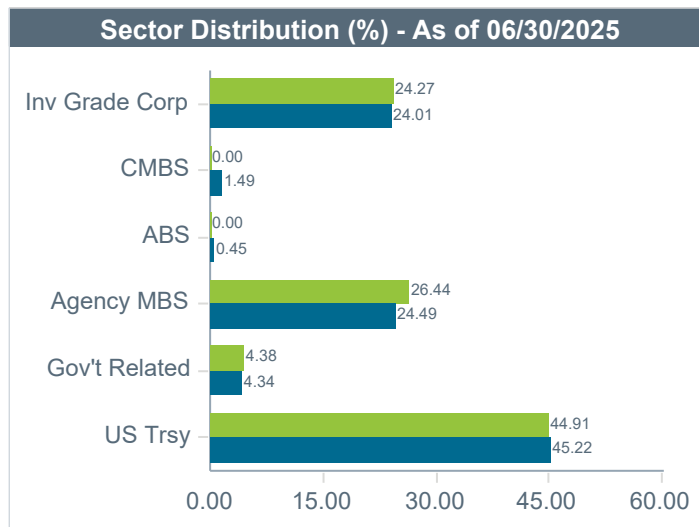
Peer Group: IM U.S. Broad Market Core Fixed Income (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	1.20	6.07	2.67	-0.70	1.78	1.75	1.49	5.63	-12.99	-1.73	7.44
Benchmark	1.21	6.08	2.55	-0.73	1.77	1.76	1.25	5.53	-13.01	-1.55	7.51
Difference	-0.01	0.00	0.12	0.03	0.01	-0.01	0.24	0.10	0.02	-0.19	-0.06
Peer Group Median	1.28	6.42	3.06	-0.19	2.31	2.28	1.91	6.00	-12.95	-1.23	8.34
Rank	85	92	76	92	97	98	75	78	53	89	88
Population	123	123	122	121	118	116	133	143	151	157	164



Portfolio Characteristics (%) - As of 06/30/2025

	Portfolio	Benchmark
Effective Duration	5.86	6.06
Spread Duration	N/A	5.88
Avg. Maturity	8.30	8.33
Avg. Quality	Aa2/Aa3	Aa2/Aa3
Yield To Maturity (%)	4.55	4.51
Coupon Rate (%)	3.56	3.56
Current Yield (%)	N/A	N/A
Holdings Count	4,308	13,874



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

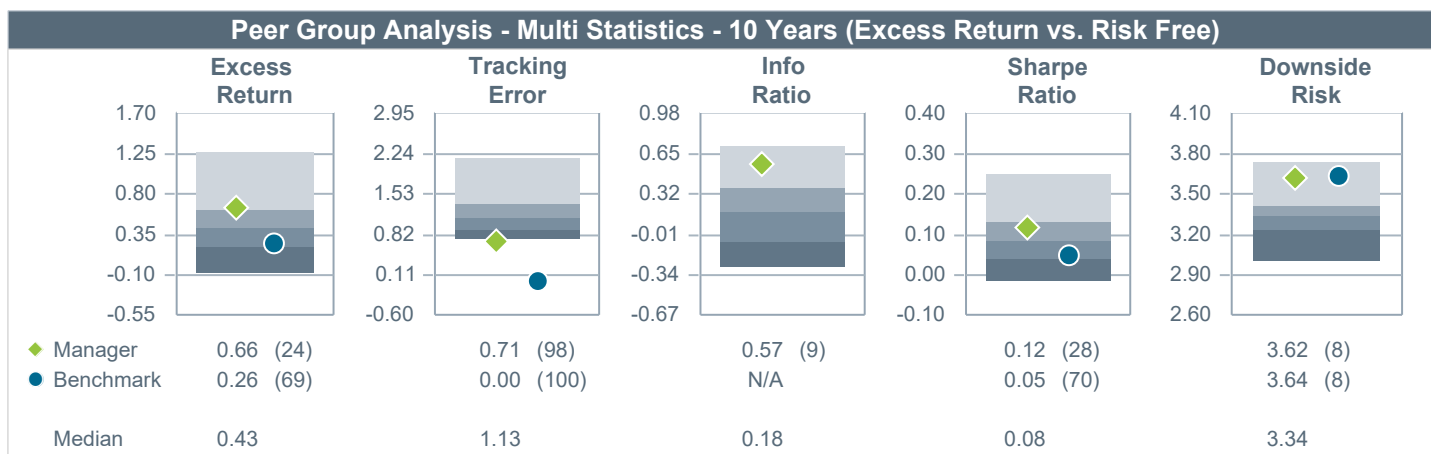
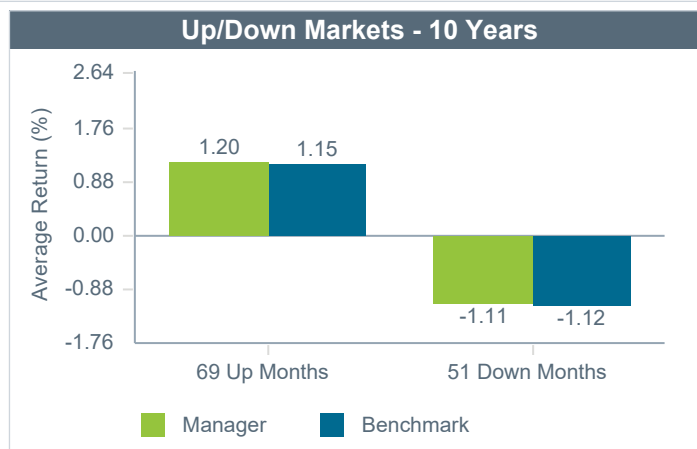
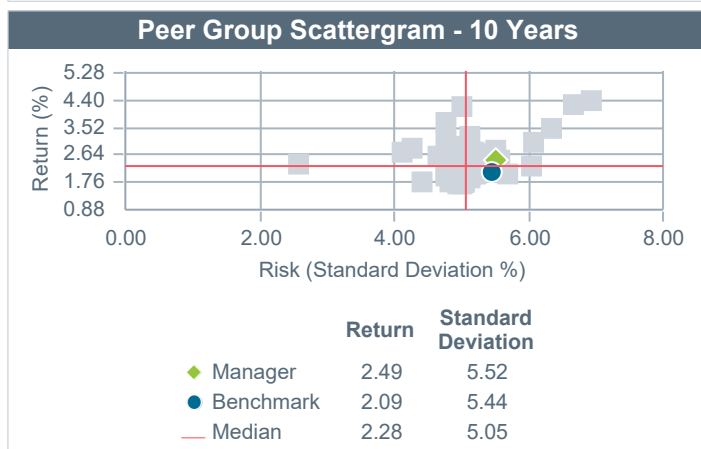
Manager: PIMCO Core Bond Fund (SA)

As of June 30, 2025

Benchmark: Bloomberg U.S. Aggregate ex Treasury

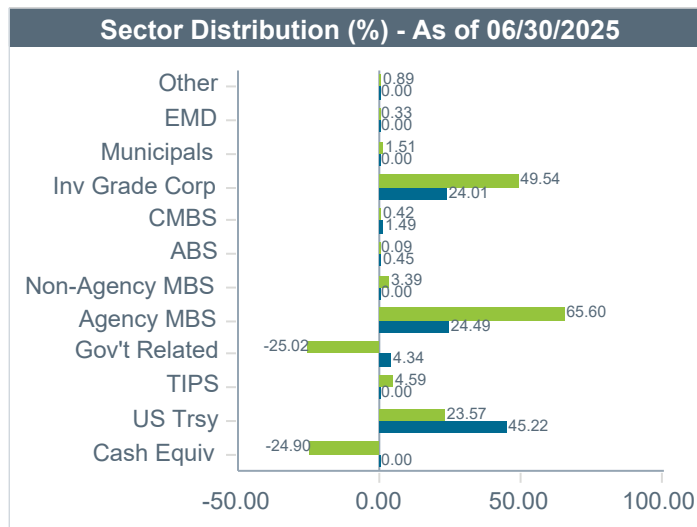
Peer Group: IM U.S. Broad Market Core Fixed Income (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	1.50	7.59	3.79	0.46	2.59	2.49	2.76	6.92	-12.95	-0.59	8.06
Benchmark	1.51	6.69	3.30	-0.15	2.07	2.09	1.76	6.58	-13.35	-1.08	6.85
Difference	0.00	0.89	0.49	0.61	0.52	0.40	1.00	0.34	0.40	0.49	1.21
Peer Group Median	1.28	6.42	3.06	-0.19	2.31	2.28	1.91	6.00	-12.95	-1.23	8.34
Rank	13	6	14	16	22	25	14	14	51	26	59
Population	123	123	122	121	118	116	133	143	151	157	164



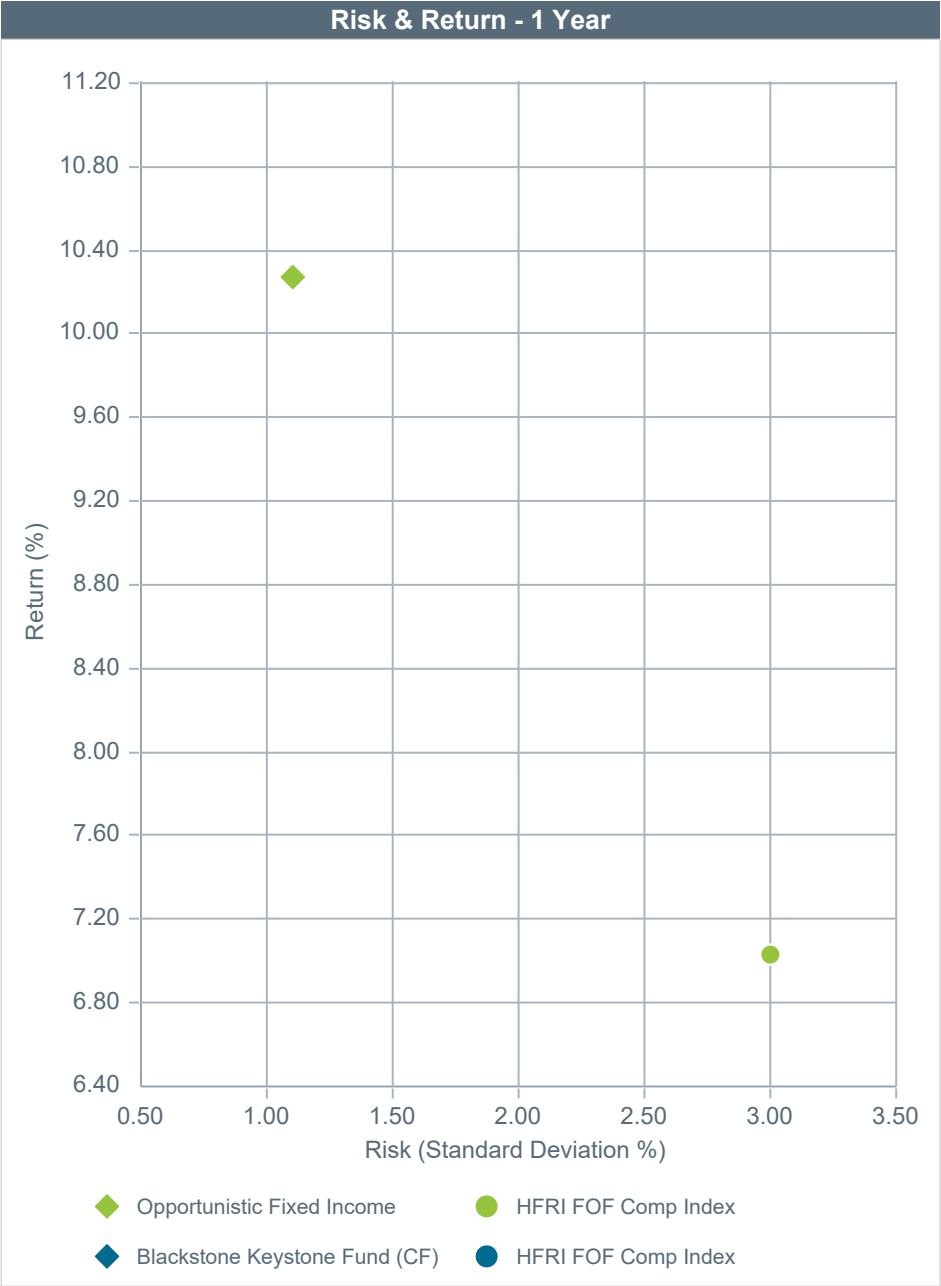
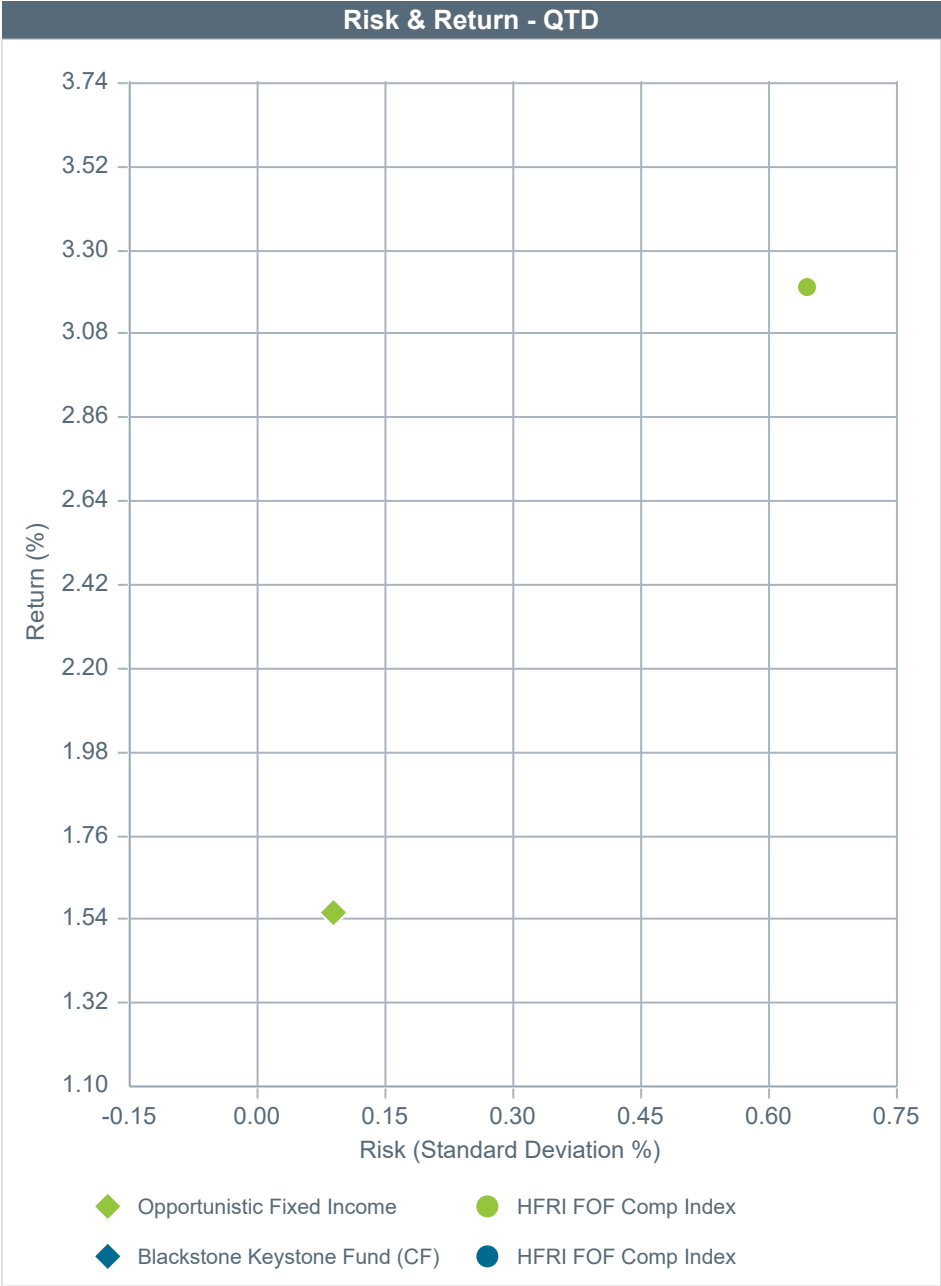
Portfolio Characteristics (%) - As of 06/30/2025

	Portfolio	Benchmark
Effective Duration	6.18	6.06
Spread Duration	6.67	5.88
Avg. Maturity	8.84	8.33
Avg. Quality	Aa3	Aa2/Aa3
Yield To Maturity (%)	5.27	4.51
Coupon Rate (%)	3.71	3.56
Current Yield (%)	3.81	N/A
Holdings Count	512	13,874



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.
Bloomberg US Aggregate Index portfolio characteristics and sector allocations used as a proxy for Bloomberg U.S. Aggregate Ex Treasury Index.

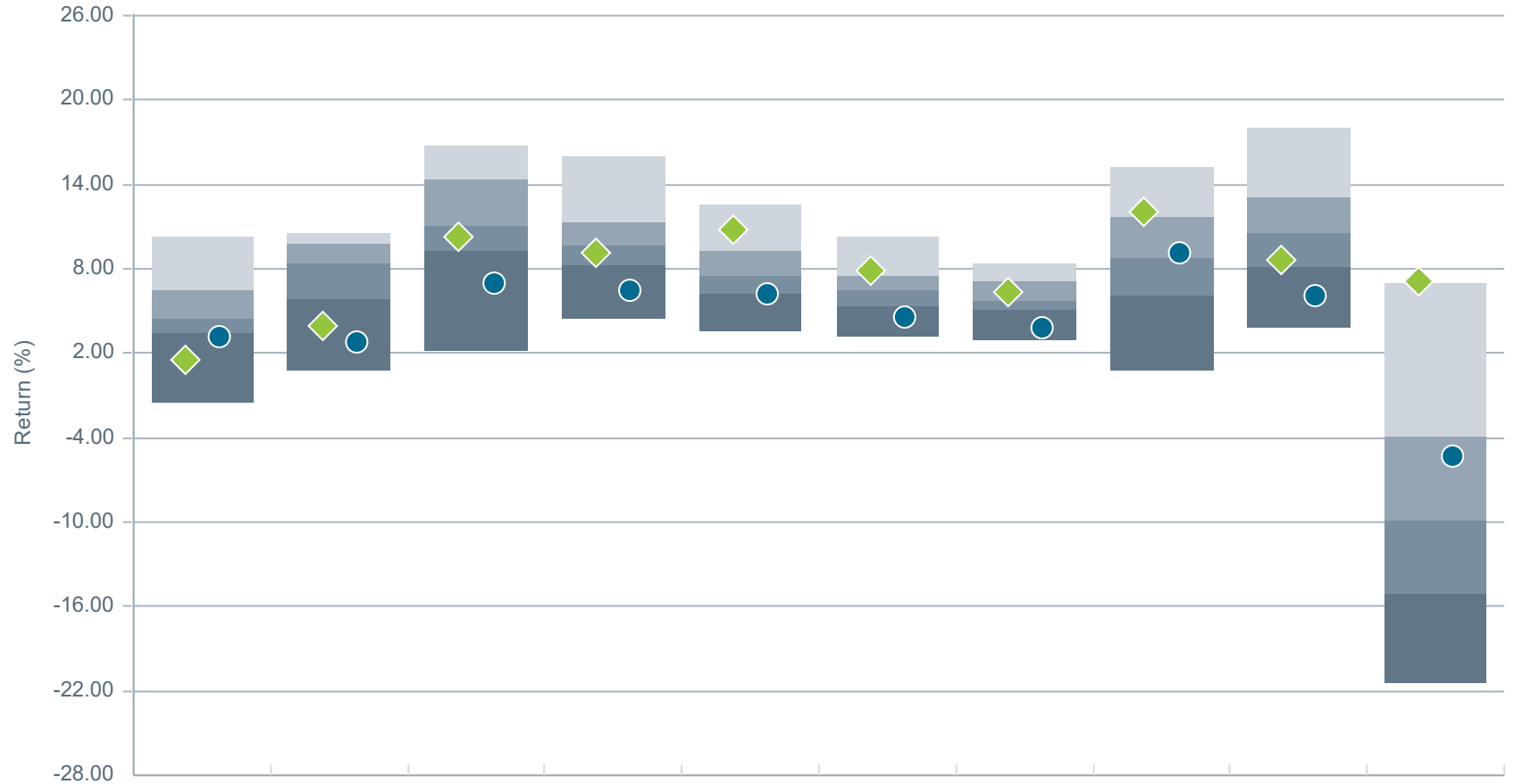
Opportunistic Fixed Income



Performance shown in gross of fees. Calculation is based on monthly periodicity.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
IM Alternative Global Macro (MF)
Peer Group Analysis

As of June 30, 2025

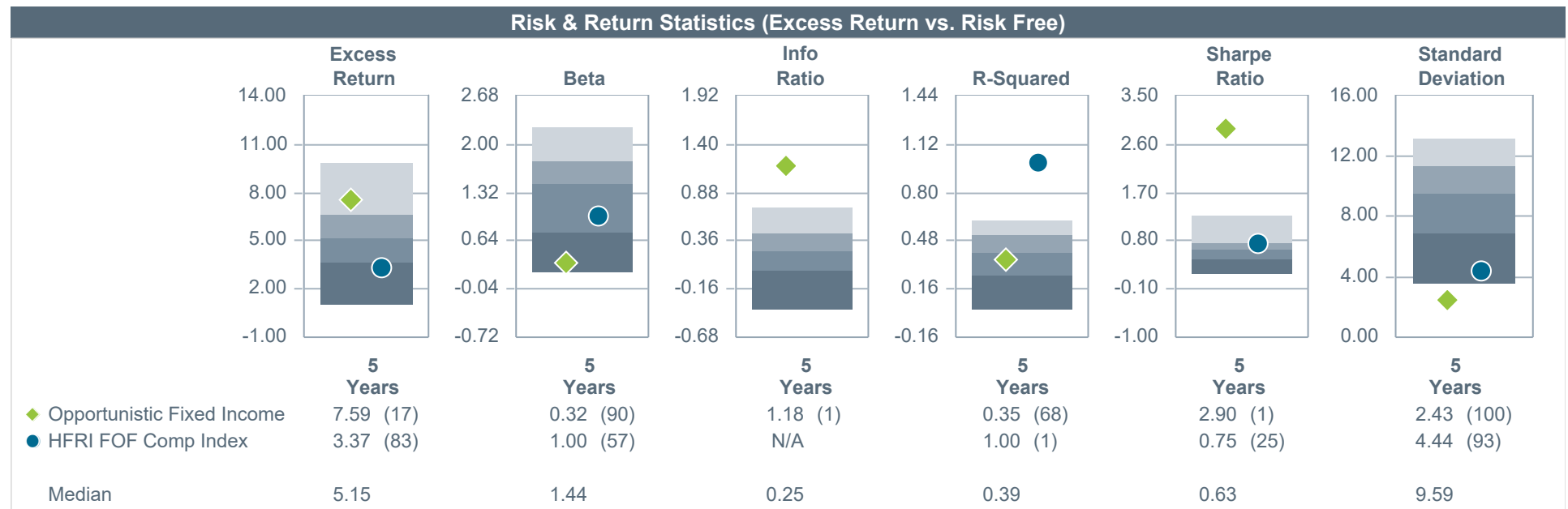
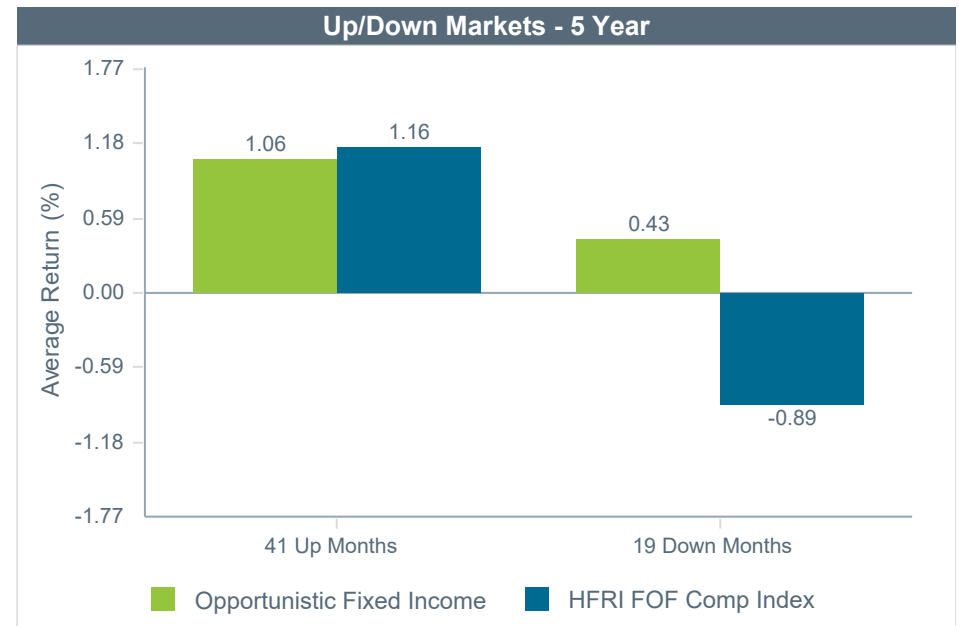
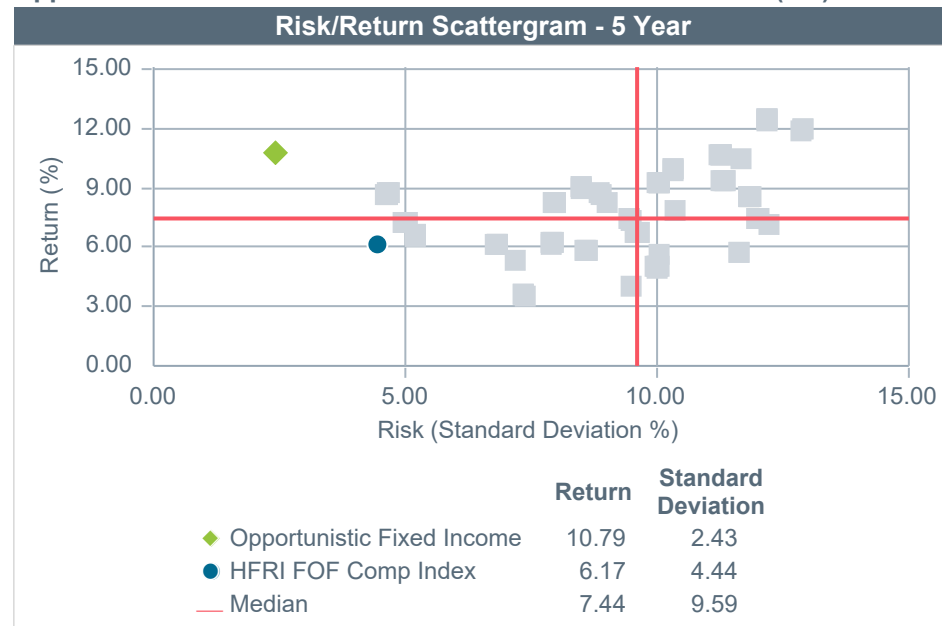


	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022
◆ Opportunistic Fixed Income	1.56 (89)	3.89 (85)	10.28 (71)	9.10 (65)	10.79 (11)	7.89 (23)	6.31 (39)	12.11 (23)	8.58 (73)	7.13 (4)
● HFRI FOF Comp Index	3.20 (78)	2.82 (91)	7.03 (83)	6.46 (87)	6.17 (79)	4.61 (82)	3.80 (91)	9.15 (47)	6.07 (85)	-5.31 (36)
5th Percentile	10.32	10.56	16.69	16.01	12.52	10.24	8.41	15.20	18.05	7.00
1st Quartile	6.53	9.79	14.32	11.30	9.26	7.50	7.15	11.66	13.06	-3.87
Median	4.47	8.40	11.09	9.71	7.44	6.42	5.69	8.70	10.51	-9.82
3rd Quartile	3.47	5.90	9.32	8.23	6.23	5.28	5.08	6.07	8.19	-15.06
95th Percentile	-1.55	0.80	2.17	4.45	3.56	3.16	2.88	0.79	3.83	-21.36
Population	153	149	148	132	131	127	117	143	159	176

Performance shown is gross of fees. Parentheses contain percentile ranks.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Opportunistic Fixed Income vs. IM Alternative Global Macro (MF)

As of June 30, 2025



Performance shown is gross of fees. Calculation is based on monthly periodicity. Parenthesis contain percentile rank.

Investment Strategy

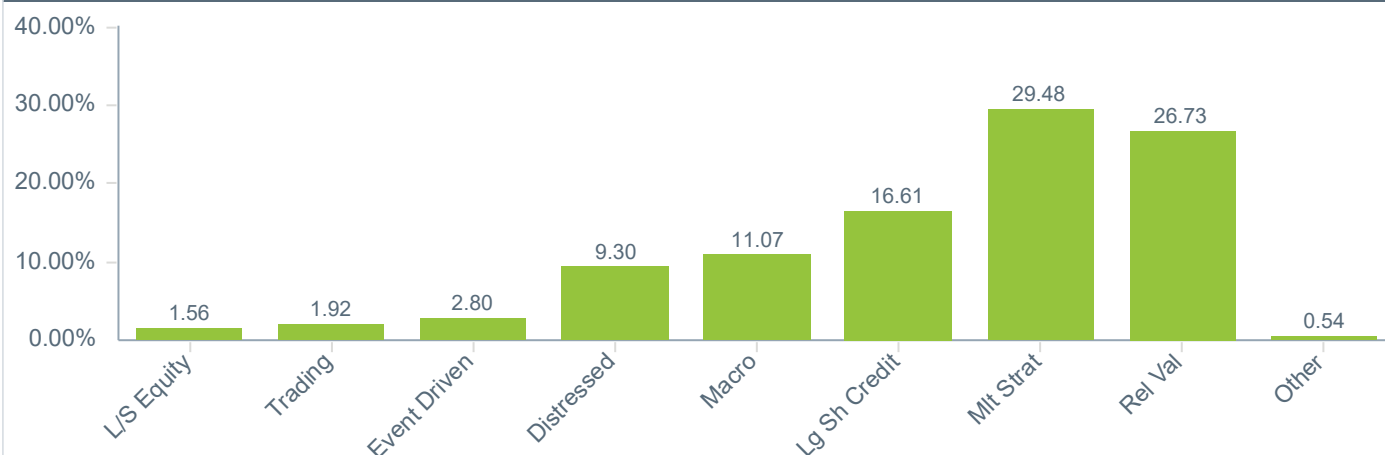
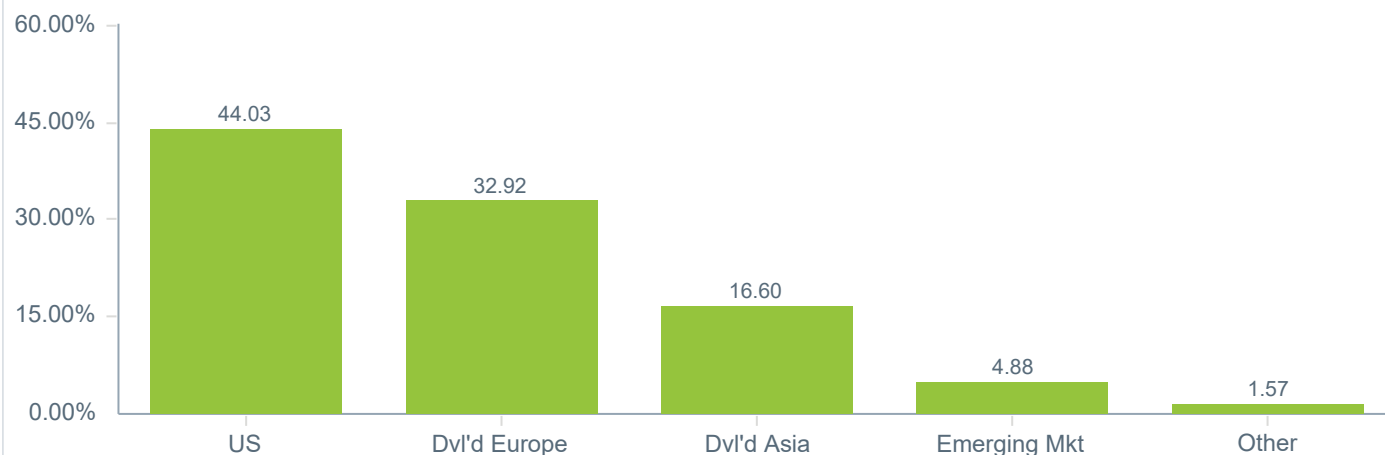
BXMA manages a custom discretionary Keystone fund on the behalf of Commonwealth of Pennsylvania State Employees' Retirement System (PA SERS). The Keystone Fund seeks to produce attractive long-term, risk adjusted returns while seeking low volatility and low beta to traditional assets.

Firm Statistics - As of 12/31/2024

Year Firm Established	1990
Firm AUM (\$M) (\$)	87,762,903,596
Percentage Employee Owned %	41.90

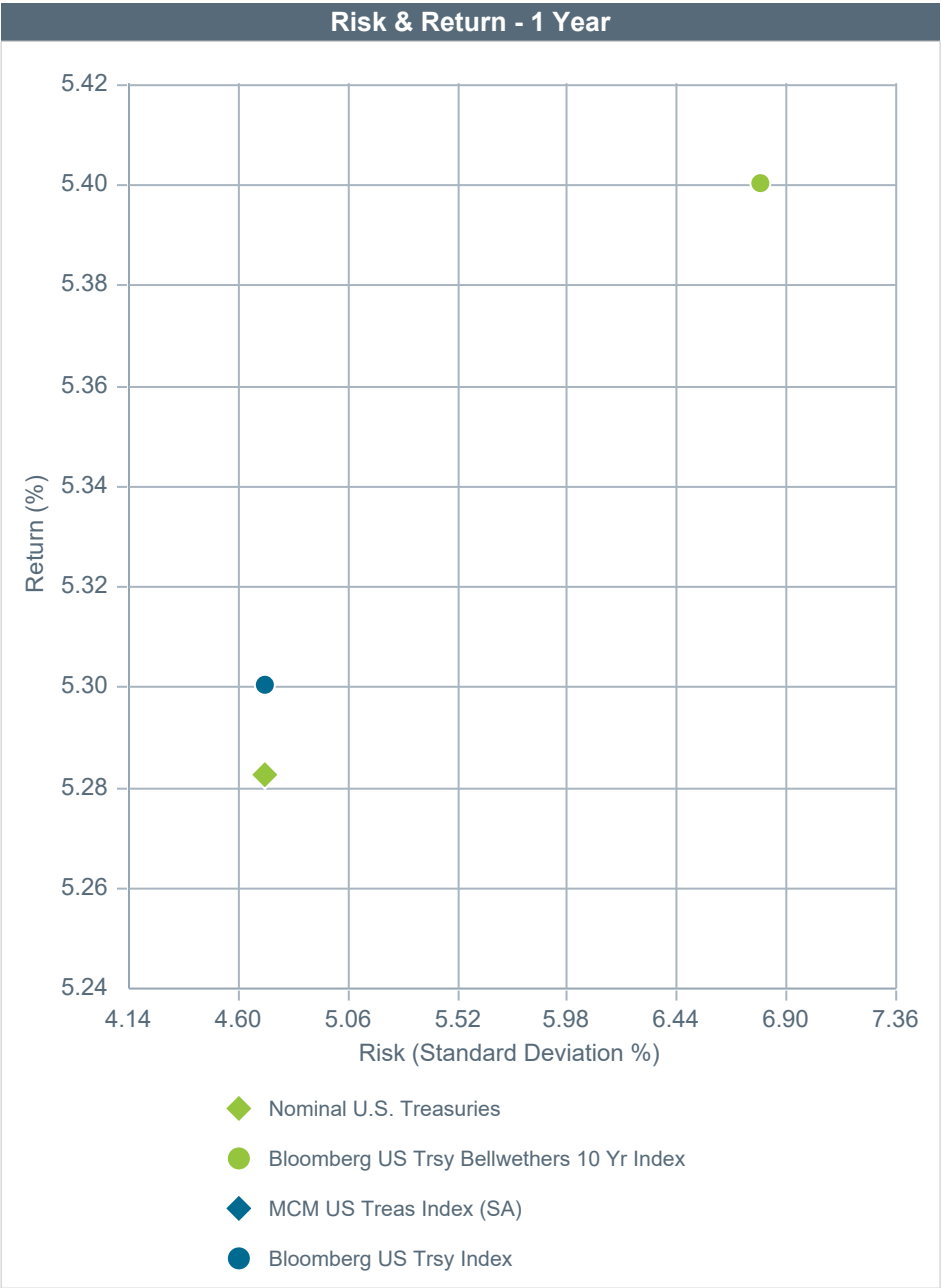
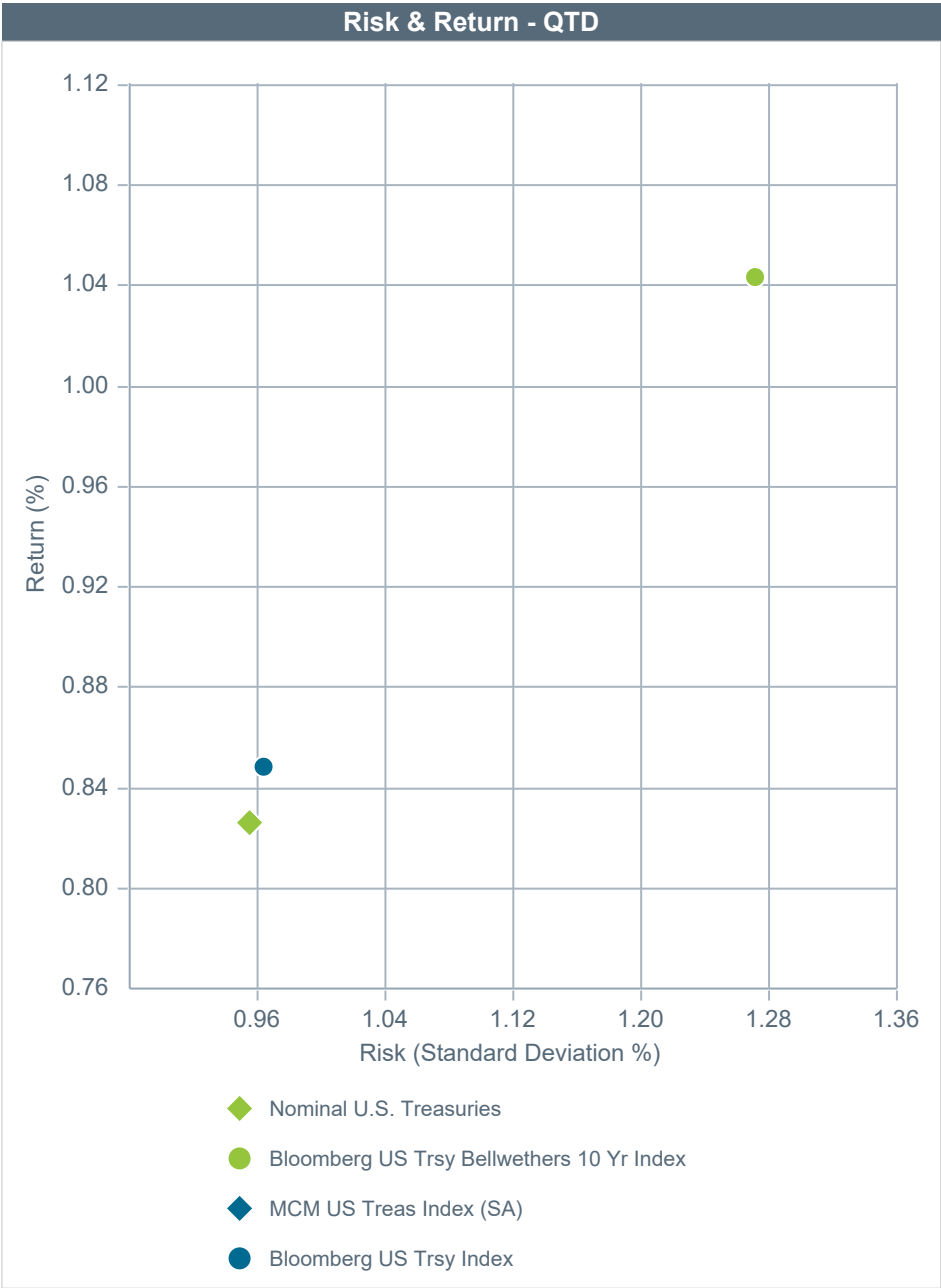
Fund Statistics - As of 12/31/2024

Fund Inception	2012
Fund Size(\$M) (\$)	820
Number of Underlying Managers	43
Maximum Weighting of an Underlying Manager %	10.60
Current Leverage (Assets/Equity)	3.86
Annual Manager Turnover %	17.50
Annual Management Fee %	0.65
Performance Fee %	100
Hurdle %	8
Initial Lock-Up Periods	12
Redemption Frequency	Quarterly
Notification Period	95 Days

Strategy Allocation (%) - As of 12/31/2024**Geographic Allocation (%) - As of 12/31/2024**

Performance shown as gross of fees and client specific. After reaching 8% hurdle, BXMA receives 100% excess profits until the annual effective fee, including the management fee for that year, equals 1.05% of weighted average NAVs as of the end of each calendar quarter during such year.

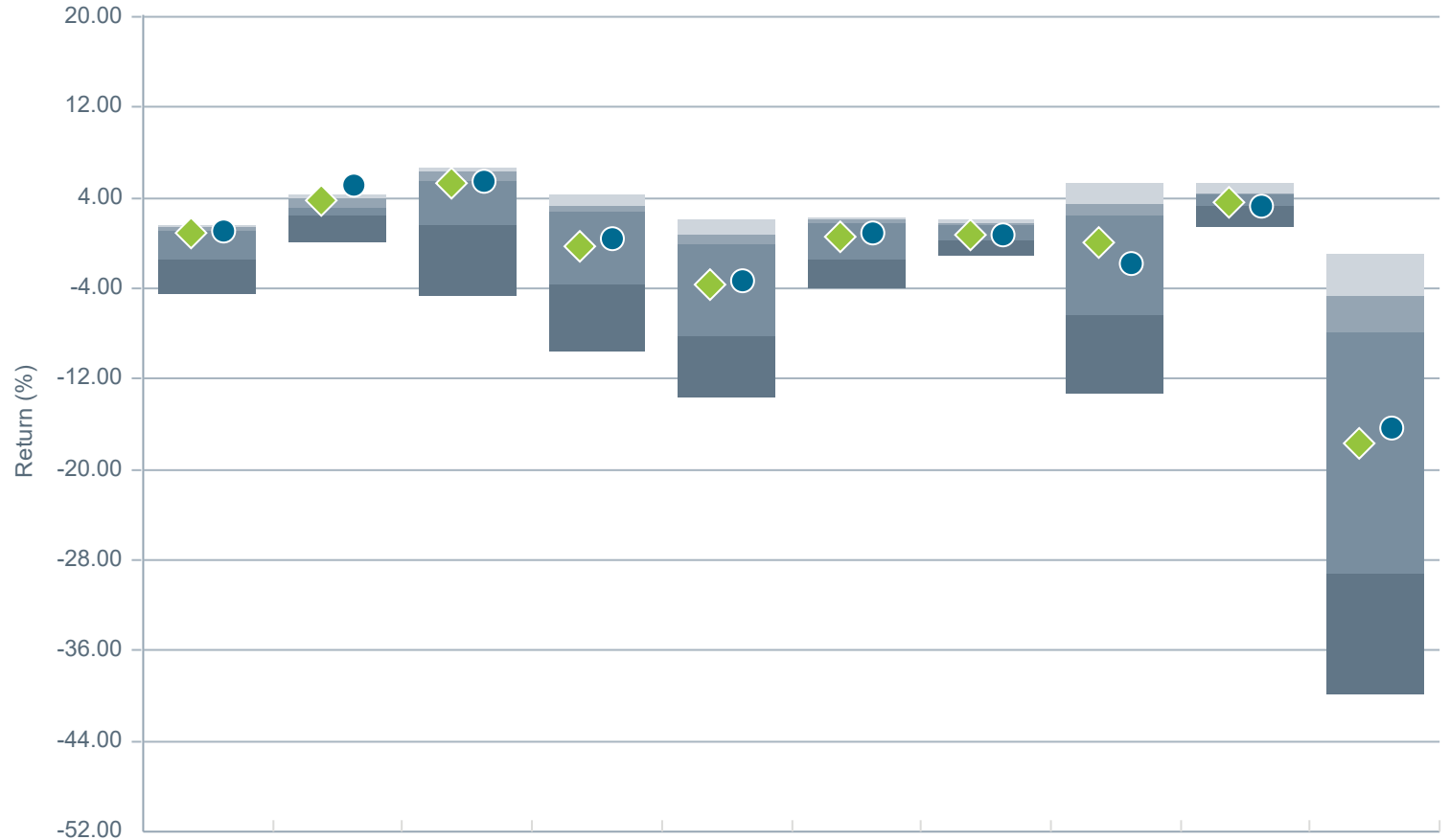
Nominal US Treasuries



Performance shown in gross of fees. Calculation is based on monthly periodicity.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
IM U.S. Government Bonds (SA+CF)
Peer Group Analysis

As of June 30, 2025

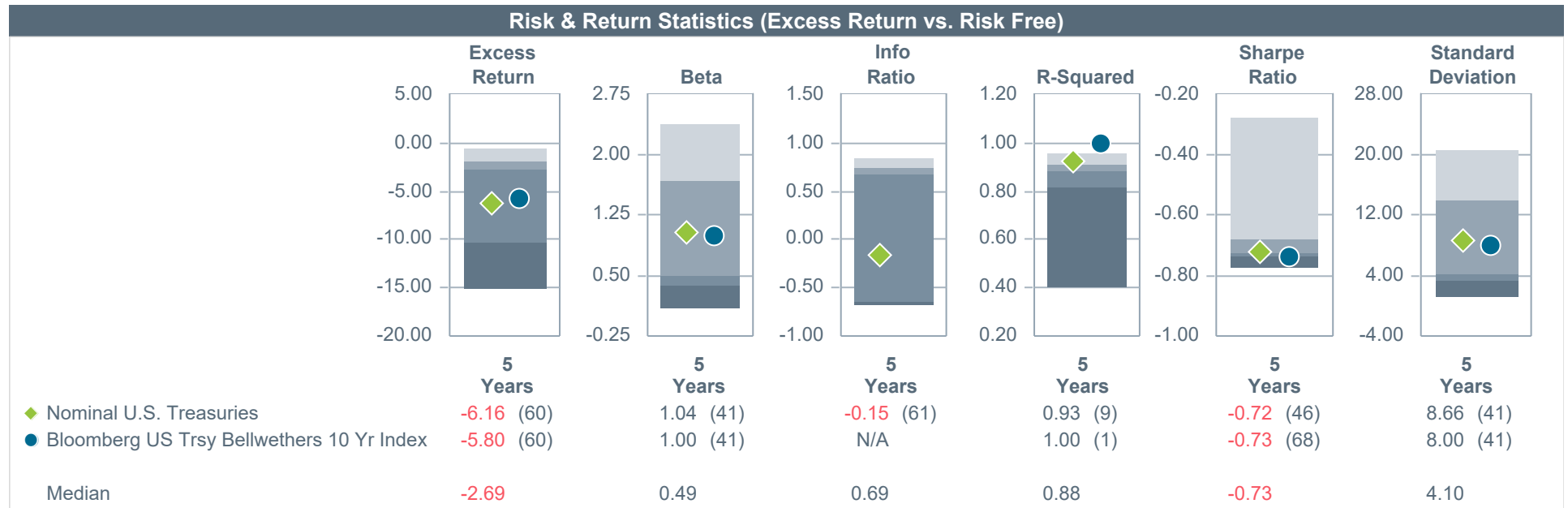
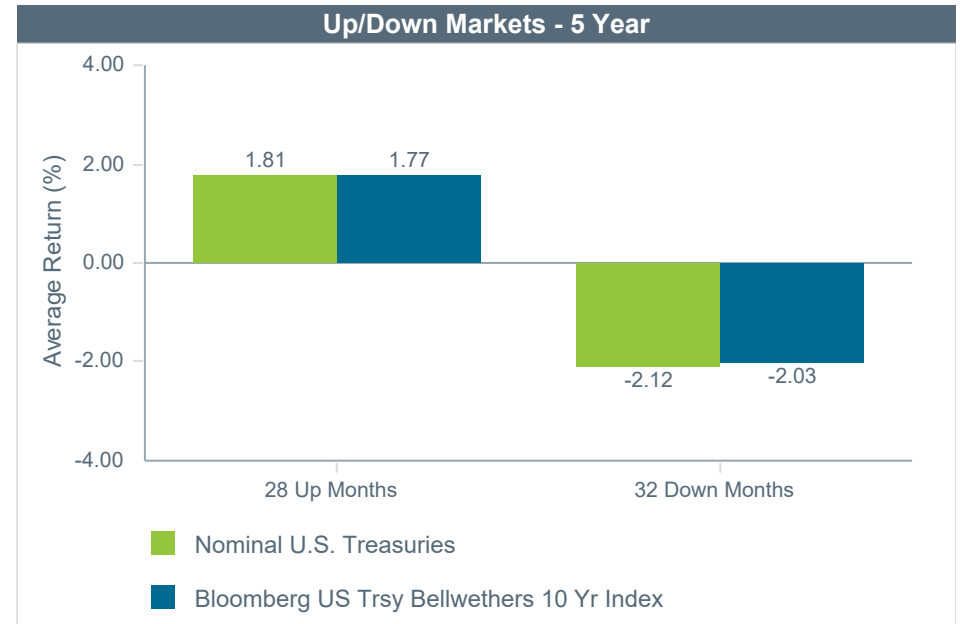
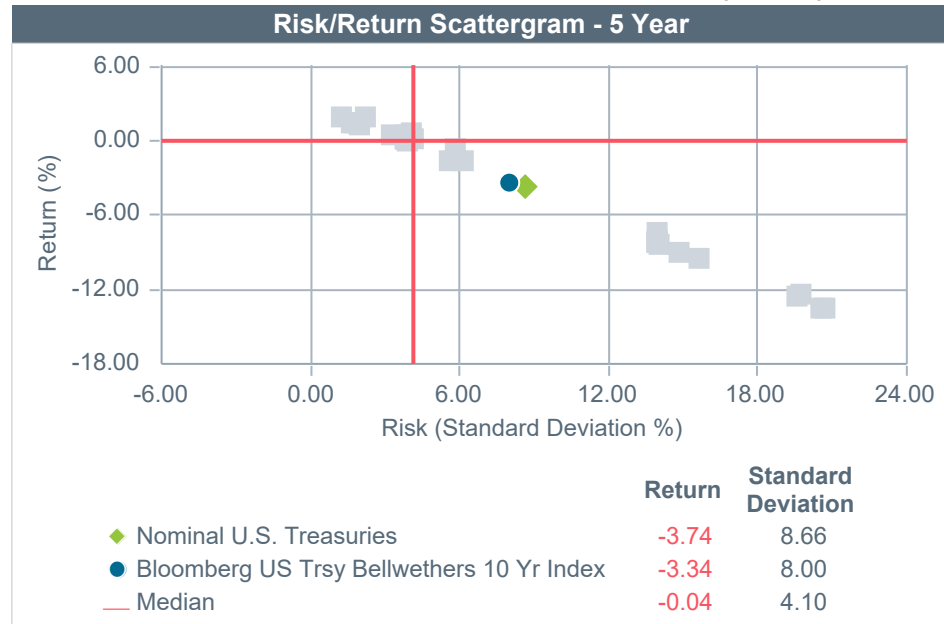


	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022
◆ Nominal U.S. Treasuries	0.83 (62)	3.77 (39)	5.28 (54)	-0.23 (62)	-3.74 (60)	0.62 (60)	0.69 (67)	0.12 (63)	3.57 (66)	-17.63 (66)
● Bloomberg US Trsy Bellwethers 10 Yr Index	1.04 (57)	5.08 (1)	5.40 (51)	0.33 (62)	-3.34 (60)	0.89 (59)	0.69 (67)	-1.73 (64)	3.21 (77)	-16.33 (65)
5th Percentile	1.58	4.34	6.69	4.28	2.16	2.31	2.01	5.28	5.22	-0.94
1st Quartile	1.45	3.98	6.29	3.31	0.76	2.11	1.72	3.39	4.51	-4.73
Median	1.14	3.09	5.50	2.74	-0.04	1.81	1.51	2.38	4.31	-7.86
3rd Quartile	-1.52	2.45	1.58	-3.70	-8.27	-1.38	0.18	-6.34	3.29	-29.18
95th Percentile	-4.58	0.13	-4.61	-9.55	-13.56	-4.04	-1.16	-13.34	1.45	-39.89
Population	40	40	40	39	37	37	34	44	45	46

Performance shown is gross of fees. Parentheses contain percentile ranks.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Nominal U.S. Treasuries vs. IM U.S. Government Bonds (SA+CF)

As of June 30, 2025



Performance shown is gross of fees. Calculation is based on monthly periodicity. Parenthesis contain percentile rank.

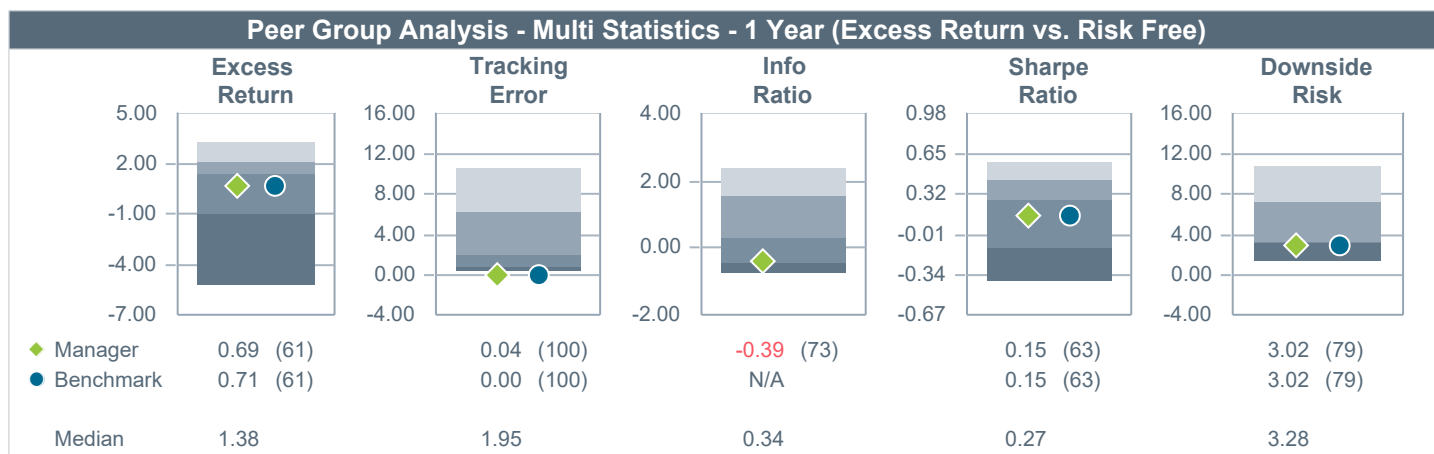
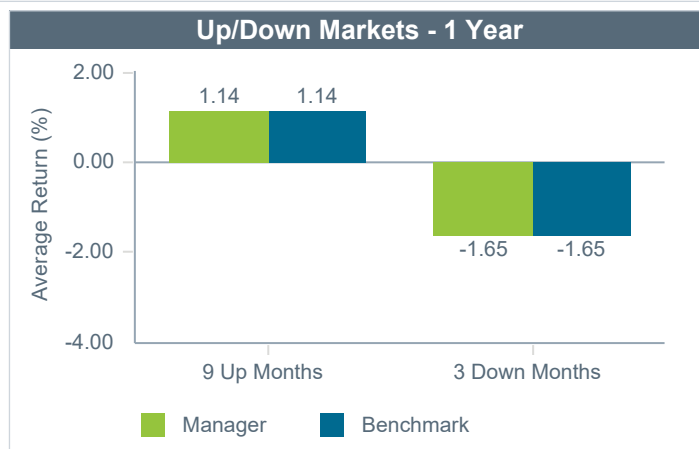
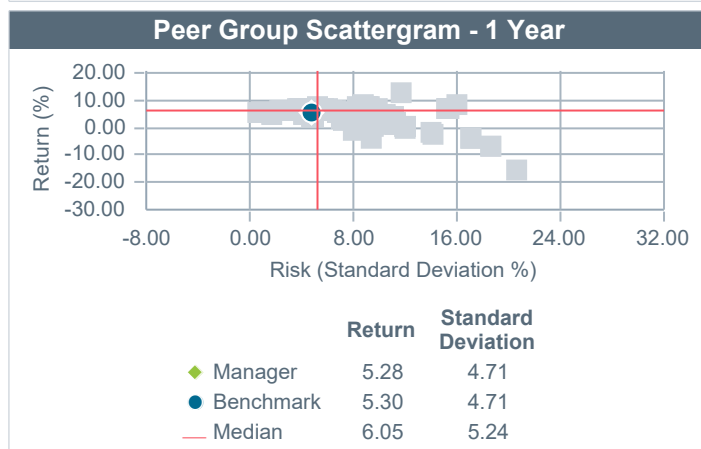
Manager: MCM US Treas Index (SA)

As of June 30, 2025

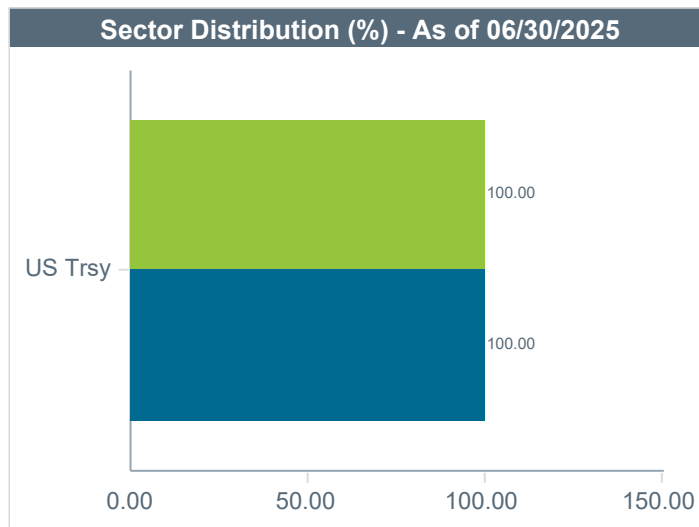
Benchmark: Bloomberg US Trsy Index

Peer Group: IM U.S. Long Term Treasury/Govt Bond (MF)

	Performance										
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	0.83	5.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benchmark	0.85	5.30	1.53	-1.60	1.28	1.20	0.58	4.05	-12.46	-2.32	8.00
Difference	-0.02	-0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Peer Group Median	1.04	6.05	1.95	-1.00	1.53	1.59	1.08	4.13	-12.29	-2.14	7.95
Rank	61	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Population	170	156	112	99	89	75	139	138	124	120	112

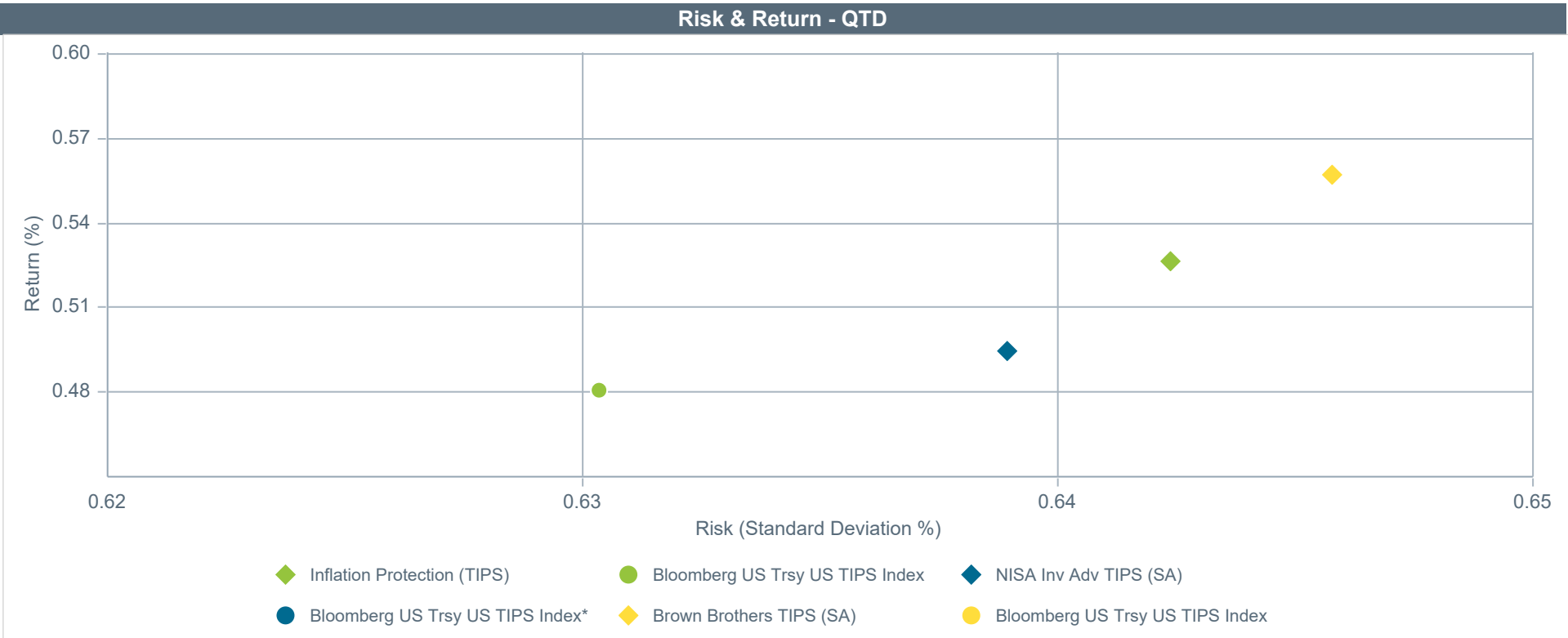
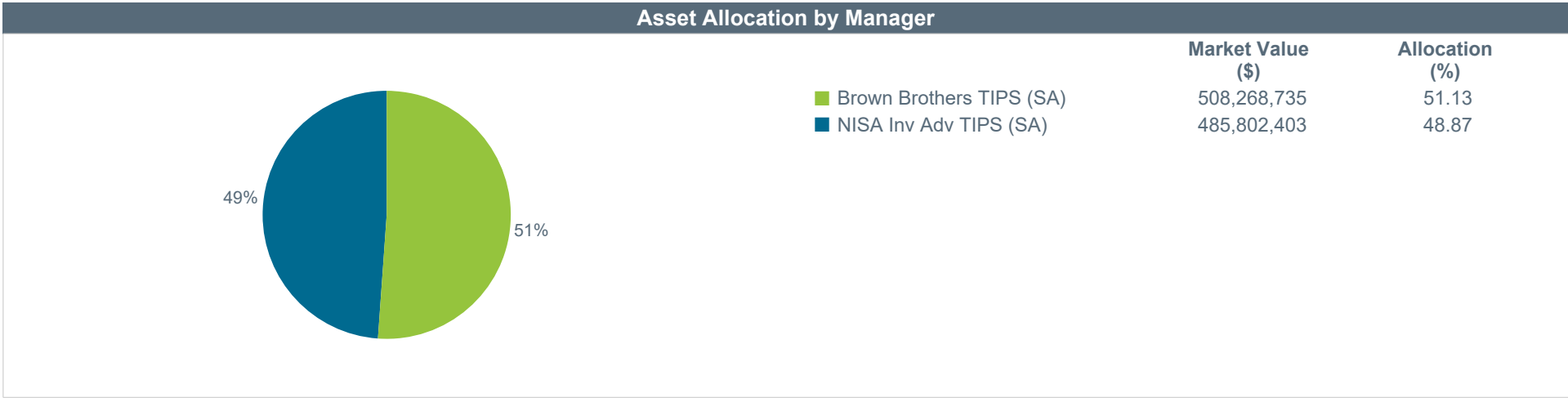


Portfolio Characteristics (%) - As of 06/30/2025		
	Portfolio	Benchmark
Effective Duration	5.75	5.87
Spread Duration	N/A	5.74
Avg. Maturity	7.67	7.68
Avg. Quality	Aa1	Aa1
Yield To Maturity (%)	4.03	4.03
Coupon Rate (%)	3.19	3.15
Current Yield (%)	N/A	N/A
Holdings Count	291	293



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

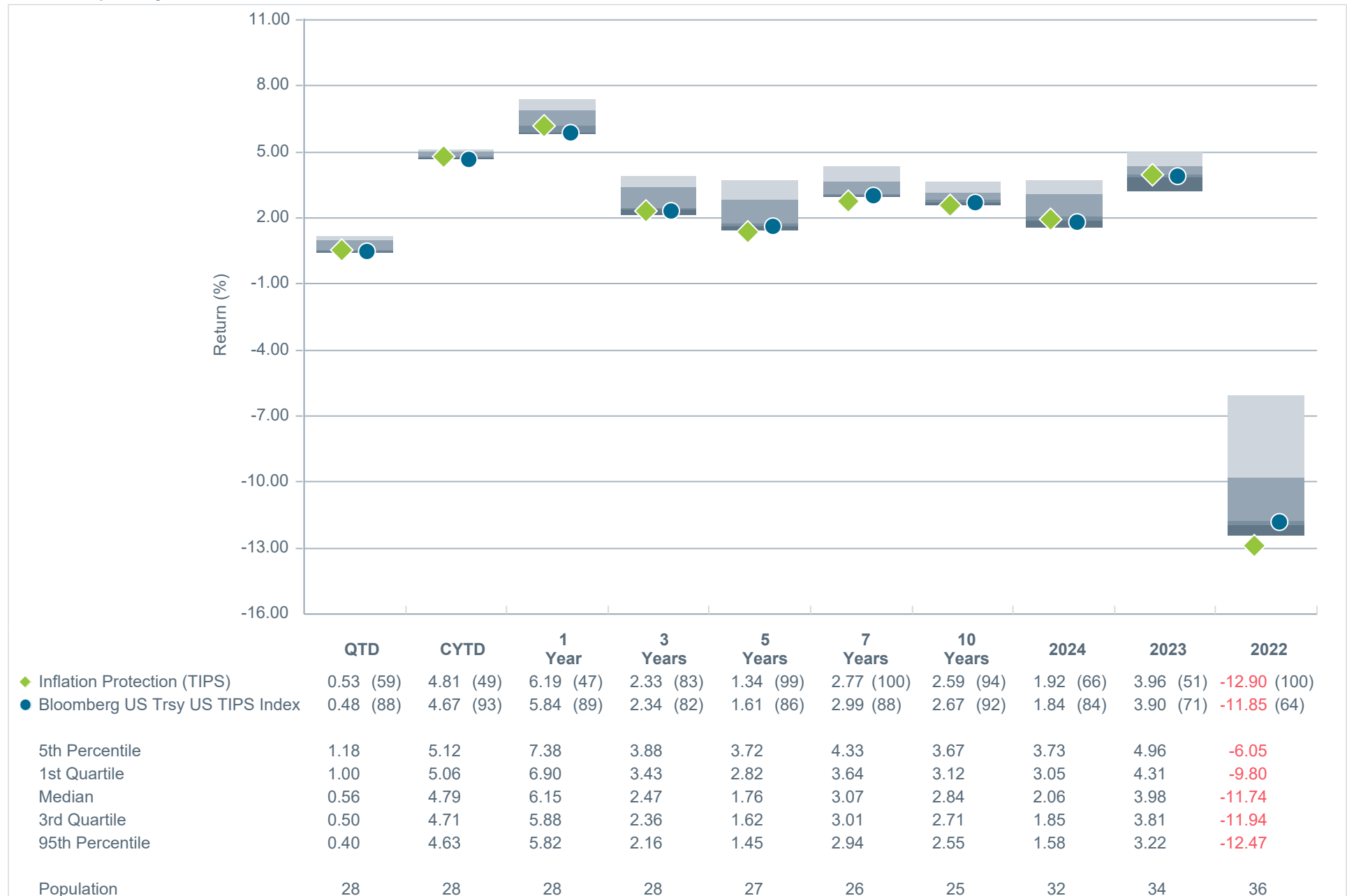
Inflation Protection (TIPS)



Performance shown is gross of fees. Calculation is based on monthly periodicity. Allocations shown may not sum up to 100% due to rounding.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
IM U.S. TIPS (SA+CF)
Peer Group Analysis

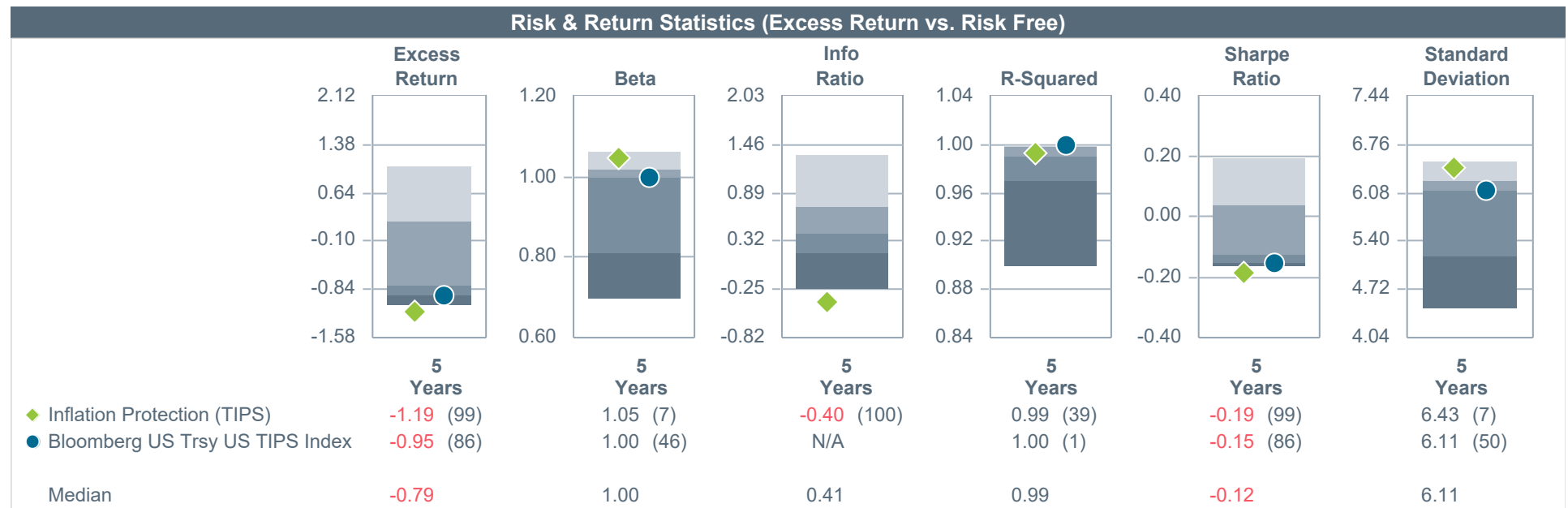
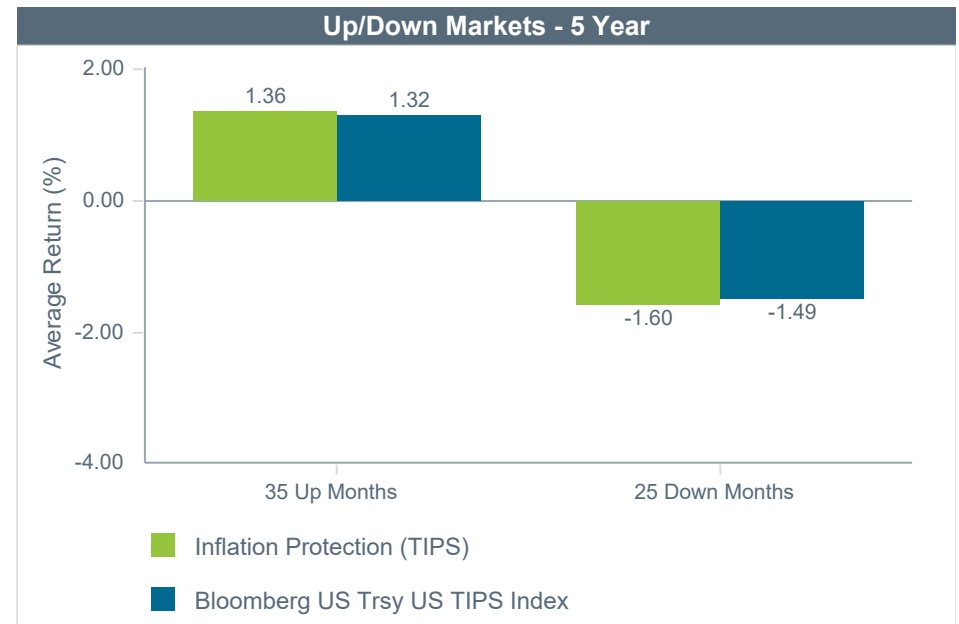
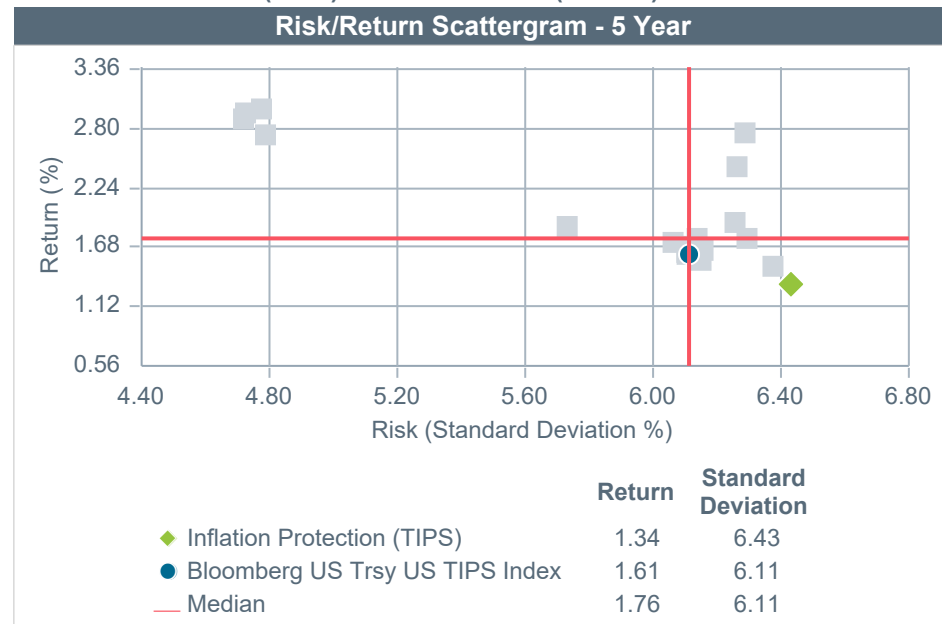
As of June 30, 2025



Performance shown is gross of fees. Parentheses contain percentile ranks.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Inflation Protection (TIPS) vs. IM U.S. TIPS (SA+CF)

As of June 30, 2025

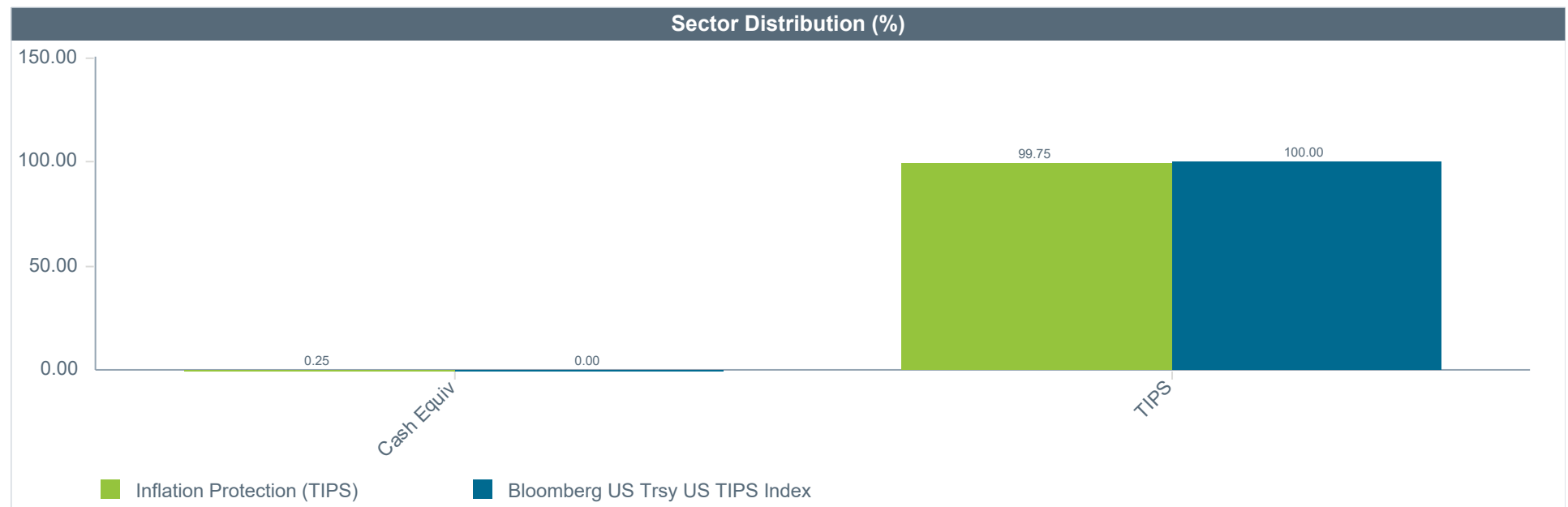


Performance shown is gross of fees. Calculation is based on monthly periodicity. Parenthesis contain percentile rank.

Pennsylvania State Employees' Retirement System Defined Benefit Plan
Inflation Protection (TIPS) vs. Bloomberg US Trsy US TIPS Index
Portfolio Characteristics

As of June 30, 2025

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	5.79	4.88
Avg. Maturity	7.62	7.09
Avg. Quality	Aa1	Aa1
Yield To Maturity (%)	4.12	4.13
Coupon Rate (%)	1.36	1.10



Data shown does not include liquidating accounts and fixed income transition accounts.

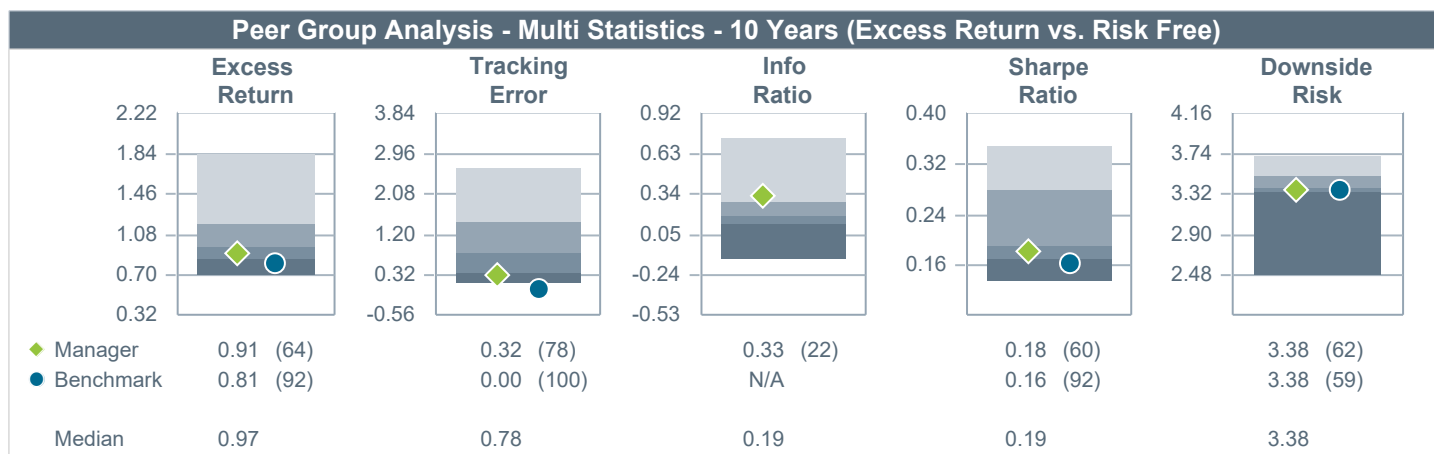
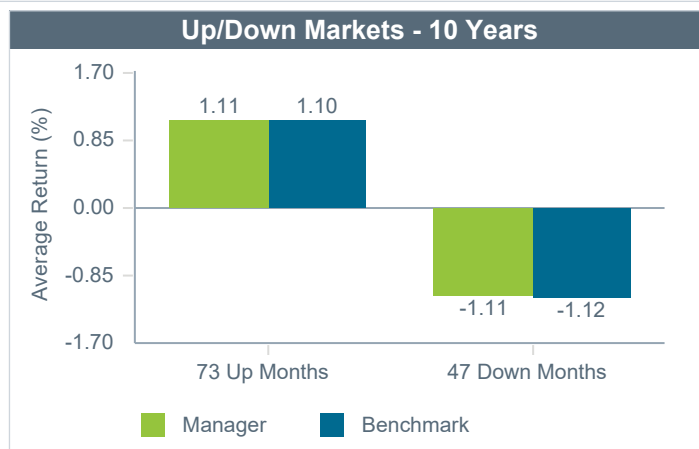
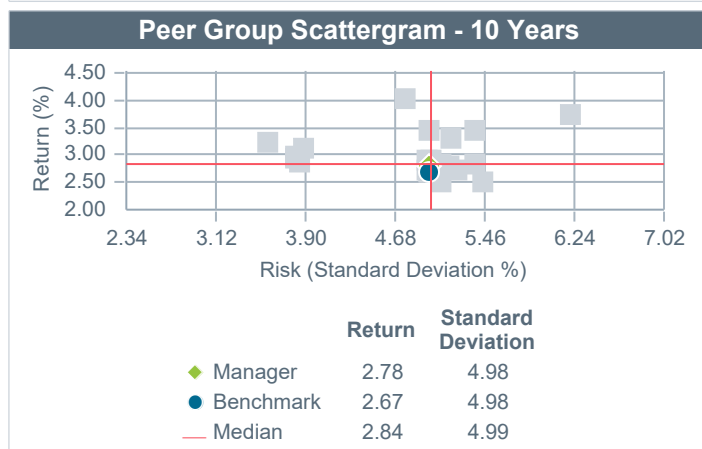
Manager: NISA Inv Adv TIPS (SA)

As of June 30, 2025

Benchmark: Bloomberg US Trsy US TIPS Index

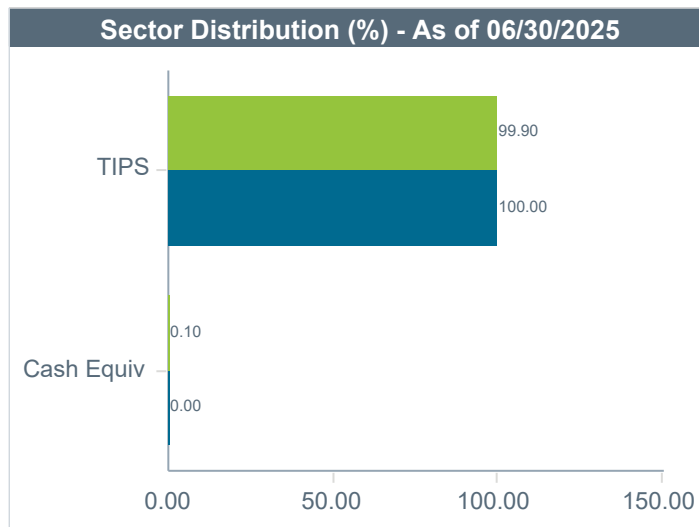
Peer Group: IM U.S. TIPS (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	0.49	5.97	2.47	1.73	3.09	2.78	2.16	3.92	-11.81	6.07	11.02
Benchmark	0.48	5.84	2.34	1.61	2.99	2.67	1.84	3.90	-11.85	5.96	10.99
Difference	0.01	0.13	0.13	0.12	0.09	0.11	0.32	0.02	0.03	0.11	0.03
Peer Group Median	0.56	6.15	2.47	1.76	3.07	2.84	2.06	3.98	-11.74	5.92	11.00
Rank	82	58	51	56	48	63	40	68	61	21	37
Population	28	28	28	27	26	25	32	34	36	35	37



Portfolio Characteristics (%) - As of 06/30/2025

	Portfolio	Benchmark
Effective Duration	4.88	4.88
Spread Duration	0.00	4.88
Avg. Maturity	7.67	7.09
Avg. Quality	Aa1	Aa1
Yield To Maturity (%)	4.13	4.13
Coupon Rate (%)	1.05	1.10
Current Yield (%)	1.11	N/A
Holdings Count	48	48



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

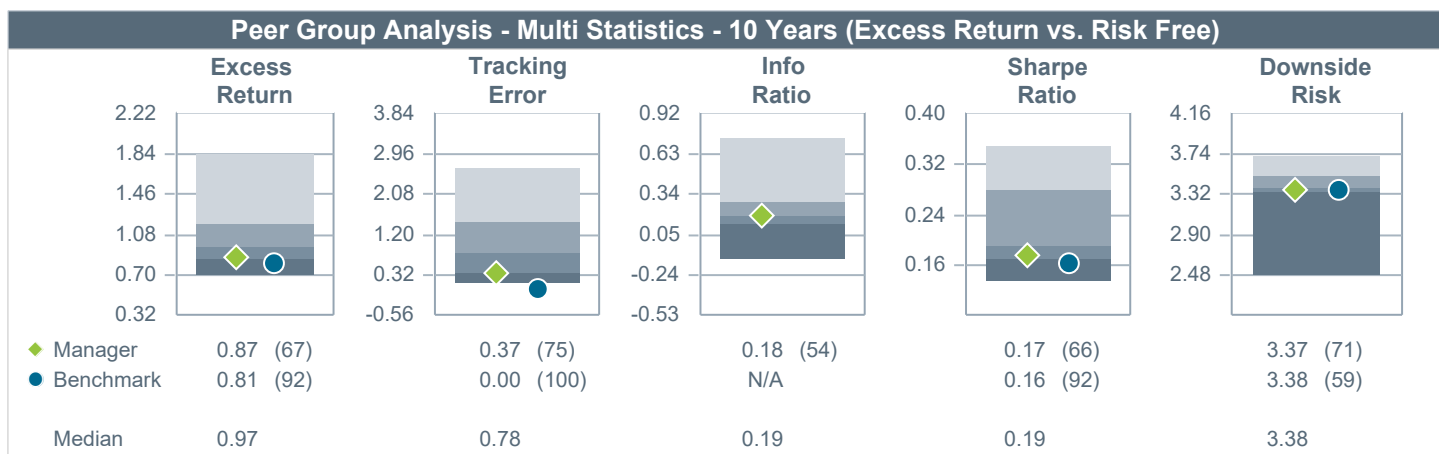
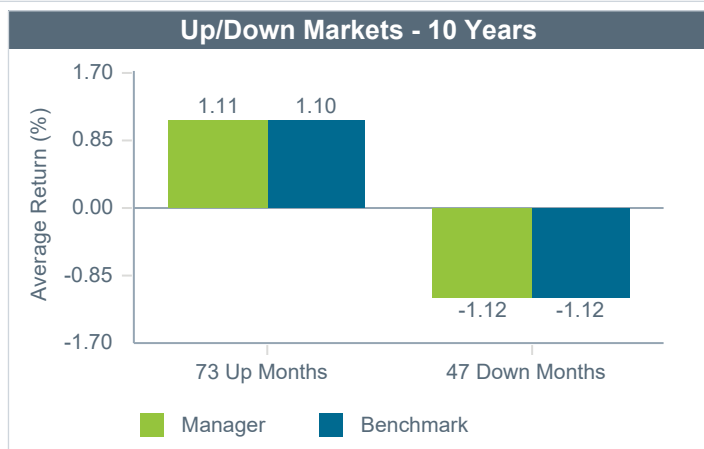
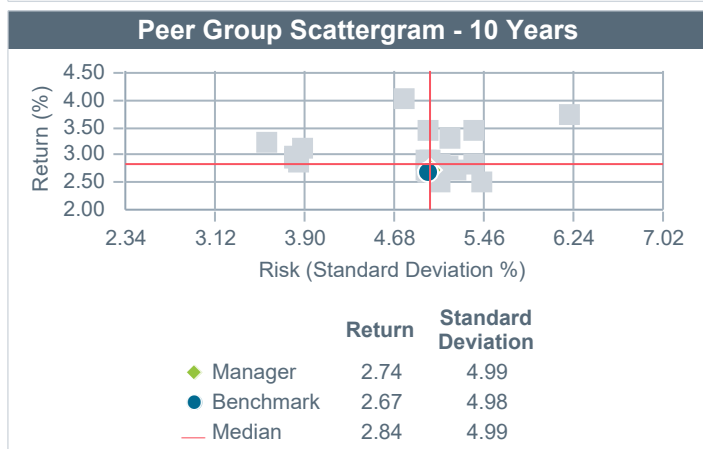
Manager: Brown Brothers TIPS (SA)

As of June 30, 2025

Benchmark: Bloomberg US Trsy US TIPS Index

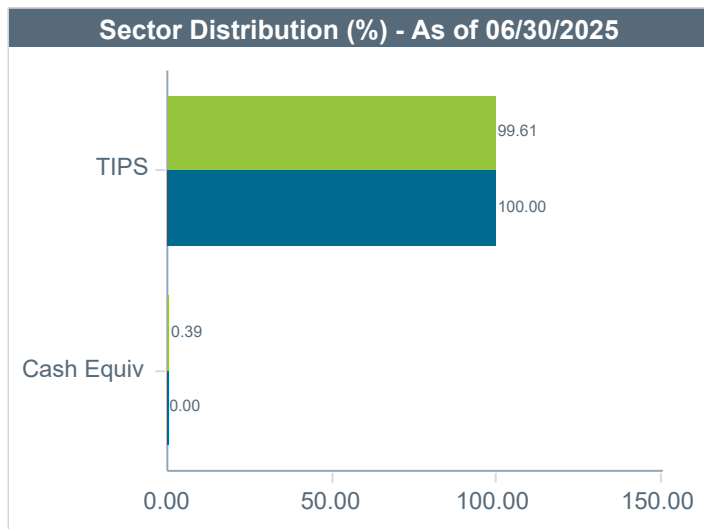
Peer Group: IM U.S. TIPS (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	0.56	5.95	2.38	1.57	3.02	2.74	1.96	3.60	-11.59	5.87	10.76
Benchmark	0.48	5.84	2.34	1.61	2.99	2.67	1.84	3.90	-11.85	5.96	10.99
Difference	0.08	0.10	0.04	-0.04	0.02	0.07	0.12	-0.30	0.25	-0.08	-0.23
Peer Group Median	0.56	6.15	2.47	1.76	3.07	2.84	2.06	3.98	-11.74	5.92	11.00
Rank	53	60	63	88	71	66	61	88	40	63	66
Population	28	28	28	27	26	25	32	34	36	35	37



Portfolio Characteristics (%) - As of 06/30/2025

	Portfolio	Benchmark
Effective Duration	6.65	4.88
Spread Duration	0.00	4.88
Avg. Maturity	7.57	7.09
Avg. Quality	Aa1	Aa1
Yield To Maturity (%)	4.10	4.13
Coupon Rate (%)	1.65	1.10
Current Yield (%)	1.65	N/A
Holdings Count	13	48



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Appendix

**Pennsylvania State Employees' Retirement System Defined Benefit Plan
Addendum**

As of June 30, 2025

Performance Related Comments:

- Performance and accounting data are provided by BNY Mellon.
- Market Values shown are net of accrued fees.
- Performance for the Burgiss Custom Indices is available 1 quarter in arrears, 0.00% return is assumed for inter-quarter months and until available.

Custom Benchmark Definitions:

- Total Fund Custom Benchmark currently consists of 19% Bloomberg U.S. Aggregate Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex U.S. (Net), 7% NCREIF ODCE Index (EWA) (Net) (1 Qtr Lag), 2% MSCI Emerging Markets (Net), 3% Bloomberg U.S. TIPS Index, and 2% ICE BofA 3 Month U.S. T-Bill. Total Fund Custom Benchmark returns prior to 12/31/2024 were provided by Callan.
- Public Market Equivalent Custom Benchmark currently consists of 19% Bloomberg U.S. Aggregate Index, 37% Russell 3000 Index, 14% MSCI World ex U.S. (Net), 12% Russell 3000 Index +3% (1 Qtr Lag), 7% Consumer Price Index (All Urban Consumers) +3% (1 Qtr Lag), 3% Bloomberg U.S. TIPS Index, 2% MSCI Emerging Markets (Net), 4% MSCI World ex U.S. (Net) +3% (1 Qtr Lag), and 2% ICE BofA 3 Month U.S. T-Bill. Public Market Equivalent Custom Benchmark returns prior to 12/31/2024 were provided by Callan.
- 60/40 Benchmark consists of 60% MSCI AC World IMI Index (Net) and 40% Bloomberg U.S. Aggregate Index.
- Russell 3000 Index* currently consists of 100% Russell 3000 Index. Prior to 12/31/1998, the benchmark consisted of 100% Wilshire 5000 Value Weighted Total Index.
- MSCI Wrld Ex US Index (USD) (Net)* currently consists of 100% MSCI World ex U.S. (Net). Prior to 6/30/2024, the benchmark consisted of 100% MSCI World ex U.S. IMI Index (Net).
- MSCI Emg Mkts Index (USD) (Net)* currently consists of 100% MSCI Emerging Markets (Net). Prior to 6/30/2024, the benchmark consisted of 100% MSCI Emerging Markets IMI (Net).
- Global Equity +3% (1 Qtr Lag) currently consists of 75% Russell 3000 Index +3% (1 Qtr Lag) and 25% MSCI World ex U.S. (Net) (1 Qtr Lag). Global Equity +3% (1 Qtr Lag) returns prior to 12/31/2024 were provided by Callan.
- Bloomberg US Agg Bond Index* currently consists of 100% Bloomberg U.S. Aggregate Index. Prior to 12/31/2002, the benchmark consisted of 20% Bloomberg U.S. Government: Intermediate Index, 30% Bloomberg U.S. Government: Long Term Bond Index, 25% Bloomberg U.S. Corporate Investment Grade Index, and 25% Bloomberg U.S. Mortgage Backed Securities.
- Bloomberg US CMBS Ex AAA Index* currently consists of 100% Bloomberg U.S. CMBS ex AAA Index. Prior to 12/31/2009, the benchmark consisted of 100% FTSE High Yield Market Index.
- Bloomberg US Trsy US TIPS Index* currently consists of 100% Bloomberg U.S. TIPS Index. Prior to 12/31/2012, the benchmark was a custom blend of TIPS based on the following: 1) Identify all TIPS with real durations between 4 and 6 years and find the average duration of all such; 2) Identify all TIPS with real durations between 2 and 4 years and find the average duration of all such securities 3) Weight each of the buckets created in steps 1 and 2 such that the weighted average real duration of all included securities is 4.0 years. If there are less than two securities identified in #1 above, the two TIPS with real durations immediately above 4 years will be identified. If there are less than two securities identified in #2 above, the two TIPS with real durations immediately below 4 years will be identified.
- Real Estate Custom Benchmark currently consists of 100% NCREIF ODCE Index (EWA) (Net) (1 Qtr Lag). Real Estate Custom Benchmark returns prior to 12/31/2024 were provided by Callan.

Glossary

Active Return - The difference between the investment manager/composite performance relative to the performance of an appropriate market benchmark.

Active Share - Measures the degree to which the holdings of a fund differ from the holdings of the benchmark. Active share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the fund versus the weight of each holding in the benchmark and dividing by two.

Alpha - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market or a portfolio's non-systematic return.

Alpha Ratio - A measure of a portfolio's non-systematic return per unit of downside risk. It is measured by dividing the alpha of a portfolio by the downside risk. The non-systematic return is a measure of a portfolio's historical performance not explained by movements of the market.

Average Quality - Bond quality ratings are reported using the investment managers' and the index providers' preferred rating agency. *Average Quality for managers unable to provide this statistic is instead provided by Morningstar; if unavailable on Morningstar, it has been estimated using a credit quality distribution provided by the manager.* There are two primary rating agencies in the US. *Moody's* assigns ratings on a system that employs up to four symbols (consisting of letters and numbers), such as, Aaa, Aa2, etc., with Aaa being the highest or safest rating. *Standard & Poor's (S&P)* employs a system that uses + and - along with letters, such as AAA, AA+, etc. The two rating agencies' systems are summarized below:

<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>	<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>
Higher Credit Quality – Investment Grade			Lower Credit Quality – Below Investment Grade		
AAA	Aaa	Prime/Highest credit quality	BB+	Ba1	Speculative/Low credit quality
AA+	Aa1	High credit quality	BB	Ba2	
AA	Aa2		BB-	Ba3	
AA-	Aa3		B+	B1	Highly speculative
A+	A1	Upper-medium credit quality	B	B2	
A	A2		B-	B3	
A-	A3		CCC+	Caa1	Substantial credit/default risk
BBB+	Baa1	Lower-medium credit quality	CCC	Caa2	Extremely speculative
BBB	Baa2		CCC-	Caa3	
BBB-	Baa3		CC	Ca	Vulnerable to default
			C	Ca	
			D	C	In default

Benchmark Effect - The difference between the blended return of each respective managers' benchmark within a composite and the composite's benchmark return.

Beta - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

Box Plots - A graphical representation of the distribution of observations. From top to bottom, the four boxes represent the spread between the maximum value and the minimum value in each quartile. A quartile represents the values that divide the observations into four quarters (i.e., 1st quartile, 2nd quartile, 3rd quartile, and 4th quartile). The median observation is where the 2nd quartile and 3rd quartile meet.

Buy and Hold Attribution - At the beginning of the time period under analysis, the manager and benchmark portfolios are broken down into segments (i.e., styles, sectors, countries, and regions) based on the desired type of attribution. The formula assumes zero turn-over to the manager and benchmark portfolios throughout the period and calculates the segment returns ("buy and hold returns") to arrive at performance attribution. Due to portfolio turnover, buy and hold attribution may not accurately represent quarterly performance relative to the benchmark. Country, region, sector, and style allocations are as of the date one quarter prior to the reporting date, and the returns shown are for those segments throughout the quarter reported. Due to disclosure guidelines set by each investment manager, equity characteristics shown are as of the most recent date available. The following is the methodology for segment classification:

Sector - Attribution is calculated using the Global Industry Classification Standard (GICS), which is a detailed and comprehensive structure for sector and industry analysis. Stocks are classified by their primary sector as defined by S&P Capital IQ data. Attribution to "Other" is the result of securities based in industries that do not fit into any GICS classification.

Country/Region - Attribution is calculated using the Morgan Stanley Capital International (MSCI) region standards. Stocks are classified by their domicile country/region, as defined by S&P Capital IQ data, and thus may differ from the classification of the investment manager and/or index provider. Attribution to "EMEA" represents securities based in Europe, the Middle East, and Africa. Attribution to "Other" is the result of securities based in countries/regions that do not fit into any MSCI classification.

Style - Stocks are classified into the following style boxes: large/mid/small vs. growth/neutral/value. Stocks are classified along large/mid/small categories at the time of the Russell index rebalancing, using the index market cap boundaries as cutoff points. Stocks are classified along growth/neutral/value categories at the time of the Russell index rebalancing, using the price/book ratio as supplied by S&P Capital IQ. Stocks in the Russell 3000 Index portfolio are sorted by price/book ratio; names with the highest price/book ratio that make up 1/3 of the total market capitalization are assigned to the growth category, and names that make up the subsequent 1/3 of the total market capitalization are assigned to the neutral category, while the balance of the names are assigned to the value category. Stocks are unclassified when there is not enough data to determine a size and style metric.

Portfolio Characteristics and Buy and Hold Attribution reports utilize product-specific data for all mutual funds and commingled funds.

Glossary

Capital Markets Review -

Breakeven Inflation - Measures the expected inflation rate at each stated maturity by taking the difference between the real yield of the inflation-linked maturity curve and the yield of the closest nominal Treasury maturity.

Consumer Confidence - Measures domestic consumer confidence as defined by the degree of optimism on the state of the economy that consumers express through saving and spending.

Consumer Price Index (CPI) - Measures the change in the price level of consumer goods and services.

Federal Funds Rate - The interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. It is one of the most influential interest rates in the US economy, since it affects monetary and financial conditions, which in turn have a bearing on key aspects of the broad economy including employment, growth and inflation.

Option-Adjusted Spread - Measures the flat spread of an index or bond to the Treasury yield curve after removing the effect of any embedded options.

Purchasing Managers Index (PMI) - Measures economic activity by surveying purchasing managers on a monthly basis as to whether business conditions have improved, worsened, or stayed the same.

Real Gross Domestic Product (Real GDP) - An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year.

Unemployment Rate - The percentage of the total labor force that is unemployed but actively seeking employment.

US Dollar Total Weighted Index - Measures the value of the US Dollar relative to a basket of other world currencies. It is calculated as the weighted geometric mean of the dollar's value versus the EUR, GBP, CAD, SEK, CHF, and JPY.

VIX - Measures the implied volatility of S&P 500 Index options by looking at the market's expectation of the S&P 500 Index volatility over the next 30 day period. Commonly referred to as the "fear index" or the "fear gauge."

Cash Flow Effect – The composite's active return minus the sum of each managers' active return minus the benchmark effect.

Consistency - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.

Convexity - A measure of the shape of the curve that describes the relationship between bond prices and bond yields.

Correlation - A statistical measure of the relationship between asset class returns. A value of 1.00 is a perfect correlation; that is, the asset classes always move in the same direction. A value of -1.00 indicates a perfect negative correlation, in which the asset classes always move in opposite directions of each other. A value of 0 indicates there is no relationship between the direction of returns of the two asset classes. Correlation calculations only consider the direction of changes relative to two variables and not the magnitude of those changes.

Coupon Rate - The percentage rate of interest paid on a bond or fixed income security; it is typically paid twice per year.

Current Yield - The annual income of a security divided by the security's current price.

Down Market Capture - Down market by definition is negative benchmark return and down market capture represents the ratio in % terms of the average portfolios return over the benchmark during the down market period. The lower the value of the down market capture the better the product's performance.

Downside Risk - A measure similar to standard deviation that focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative returns for the selected periodicity. The higher the factor, the riskier the product.

Earnings Per Share - It is backward looking, calculated using the one year current EPS divided by the one year EPS five years ago.

Effective Duration - The approximate percentage change in a bond's price for a 100 basis point change in yield.

Excess Return vs. Market - Average of the monthly arithmetic difference between the manager's return and the benchmark return over a specified time period, shown on an annualized basis.

Excess Return vs. Risk Free - Average of the monthly arithmetic difference between the manager's return and the risk-free return (i.e., ICE BofA 3 Mo US T-Bill Index unless specified otherwise) over a specified time period, shown on an annualized basis.

Excess Risk - A measure of the standard deviation of a portfolio's performance relative to the risk-free return.

Expense Ratios - Morningstar is the source for mutual fund expense ratios.

Gain/Loss - The net increase or decrease in the market value of a portfolio excluding its Net Cash Flow for a given period.

Indices - All indices and related information are considered intellectual property and are licensed by each index provider. The indices may not be copied, used, or distributed without the index provider's prior written approval. Index providers make no warranties and bear no liability with respect to the indices, any related data, their quality, accuracy, suitability, and/or completeness.

Information Ratio - Measured by dividing the active rate of return by the tracking error. The higher the information ratio, the more value-added contribution by the manager.

Glossary

Liability Driven Investing (LDI) - A method to optimally structure asset investments relative to liabilities. The change in liabilities is estimated by the Ryan Labs Generic PPA Index of appropriate duration for that Plan. This benchmark is based on generic data and is therefore an approximation. RVK is not an actuarial firm, and does not have actuarial expertise.

Estimated Funded Status - The estimated ratio of a Plan's assets relative to its future liabilities. This is calculated by dividing the Plan's asset market value by the estimated present value of its liabilities. The higher the estimated funded status, the better the Plan's ability to cover its projected benefit obligations. An estimated funded status of 100% indicates a Plan that is fully funded.

Estimated PV of Liabilities - An estimate of a Plan's future liabilities in present value terms. The beginning of the period liability is provided by the Plan's actuary. The period-end present value liability estimate provided in this report is derived by applying the estimated percentage change generated using the Ryan Labs Generic PPA Index with duration similar to that reported on the most recent actuarial valuation report.

Duration of Liabilities - The sensitivity of the value of a Plan's liabilities to changes in interest rates, as calculated by the Plan's actuary.

Duration of Assets - The dollar-weighted average duration of all the individual Plan assets.

Estimated Plan Hedge Ratio - The estimate of how well a Plan's investment portfolio is hedged against changes in interest rates - a primary driver of funded status movements. This is calculated by dividing the dollar-weighted values of both the Plan asset duration by the liability duration and multiplying by the estimated funded status. An estimated plan hedge ratio of zero indicates that the Plan's liabilities have not been hedged, whereas a value of one indicates fully hedged.

Modified Duration - The approximate percentage change in a bond's price for a 100 basis point change in yield, assuming the bonds' expected cash flows do not change.

Mutual Fund Performance - Whenever possible, manager performance is extended for any share class that does not have 10 years of history. Using Morningstar's methodology, a single ticker within the same fund family (often the oldest share class) is chosen to append historical performance.

Net Cash Flow - The sum, in dollars, of a portfolio's contributions and withdrawals. This includes all management fees and expenses only when performance shown is gross of fees.

Peer Groups -

Plan Sponsor Peer Groups - RVK utilizes the Mellon Analytical Solutions Trust Universe along with the Investment Metrics Plan Sponsor Universe. The combined Mellon Analytical Solutions Trust Universe and Investment Metrics Plan Sponsor Universe is used for comparison of total fund composite results and utilizes actual client performance compiled from consultant and custodian data. The Plan Sponsor Peer Group database includes performance and other quantitative data for over 2,100 plans which include corporate, endowment, foundation, public, and Taft Hartley plans.

Investment Manager Peer Groups - RVK utilizes Investment Metrics' Peer Groups for investment manager peer comparison and ranking. The Investment Metrics Peer Group database includes performance and other quantitative data for over 840 investment management firms and 29,000 investments products, across more than 160 standard peer groups. Mutual Fund Peer Groups are net of fees.

Percentile Rankings - Percentile rank compares an individual fund's performance with those of other funds within a defined peer group of managers possessing a similar investment style. Percentile rank identifies the percentage of a fund's peer group that has a higher return (or other comparative measurement) than the fund being ranked. Conversely, 100 minus the individual fund's ranking will identify the percentage of funds within the peer group that have a lower return than the fund being ranked.

1 - Highest Statistical Value

100 - Lowest Statistical Value

Example: American Funds AMCP;R-4 (RAFEX) is ranked in the 4th percentile within the IM US Equity Large-Cap Growth Funds (MF) Peer Group for the Sharpe Ratio. Within the IM US Equity Large-Cap Growth Funds peer group, 4% of the other funds performed better than American Funds AMCP;R-4 (RAFEX), while 96% of the funds performed worse.

Performance Methodology - RVK calculates performance for investment managers and composites using different methodologies.

Investment Managers - Performance is calculated for interim periods between all large external cash flows for a given month and geometrically linked to calculate period returns. An external cash flow is defined as cash, securities, or assets that enter or exit a portfolio. RVK defines a "large cash flow" as a net aggregate cash flow of $\geq 10\%$ of the beginning-period portfolio market value or any cash flow that causes RVK calculated performance to deviate from manager/custodian reported performance in excess of 5 basis points for a given month.

Composites - The Modified Dietz methodology is utilized to calculate asset class, sub-asset class, and total fund composite performance. The Modified Dietz method calculates a time-weighted total rate of return that considers the timing of external cash flows; however, it does not utilize interim period performance to mitigate the impact of significant cash in- and outflows to the composite.

RVK calculates performance beginning with the first full month following inception. Since inception performance may vary from manager reported performance due to RVK using the first full month of returns as the inception date. Performance for both managers and composites is annualized for periods greater than one year.

Portfolio Characteristics & Distribution (%) - Due to disclosure guidelines set by each investment manager, portfolio characteristics and distribution percentages shown are as of the most recent date available.

Price to Earnings Ratio - The ratio valuing a company's current share price relative to its trailing 12-month per-share earnings (EPS).

Private Equity Quartile Ranks - Private Equity quartile ranks are generated using vintage year peer group data provided by Thomson Reuters, and are based on each fund's annualized, since inception internal rate of return (IRR). Three Private Equity peer groups are available via Thomson Reuters: Buyout, Venture, and All Private Equity. Ranks are available quarterly, at a one-quarter lag.

R-Squared - The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

Return - Compounded rate of return for the period.

% Return - The time-weighted rate of return of a portfolio for a given period.

Risk Free Benchmark - ICE BofA 3 Mo US T-Bill Index unless specified otherwise.

Glossary

RVK Liquidity Rating - A qualitative method for determining the relative amount of liquidity in a portfolio. The characteristics considered when determining relative liquidity include trading volume, gates for redemption, leverage, nature of transactions, and pricing mechanisms. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating.

<u>Asset Class</u>	<u>RVK Liquidity Rating</u>	<u>Asset Class</u>	<u>RVK Liquidity Rating</u>
<u>Liquid Investments</u>		<u>Less Liquid Investments</u>	
T-Bills and Treasuries	100	Fixed Income Plus Sector	50
Cash Equivalents	98	Stable Value (Plan Sponsor Directed)	50
TIPS	95	Hedge Funds of Funds	35
US Large Cap Equity	95		
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Global Equity	90	<u>Not Liquid Investments</u>	
Non-US Large Cap Equity	90	Core Real Estate	25
Global Tactical Asset Allocation	88	Core Plus Real Estate	15
MLPs	85	Non-Core Real Estate	5
US Mid Cap Equity	85	Private Equity	5
US SMid Cap Equity	85	Private Credit	5
US Small Cap Equity	85		
REITs	85		
Non-US Small Cap Equity	85		
Emerging Markets Equity	85		
Core Fixed Income	85		
Core Plus Fixed Income	80		

Sector Allocation - Negative fixed income sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps. An allocation to "Other" is the result of securities that do not fit into RVK's standardized classification, such as Catastrophe, CLOs, Common Stock, Convertibles, CRTs, Derivatives, Direct Loans, Emerging Markets Local Corporates, ETFs, FX Forwards, Infrastructure Debt, Reverse Repo, Swaps, Trade Finance, Unsecured Bonds, and Other Assets.

Sharpe Ratio - Represents the excess rate of return over the risk-free return (i.e., ICE BofA 3 Mo US T-Bill Index unless specified otherwise), divided by the standard deviation of the excess return to the risk free asset. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.

Simple Alpha - The difference between the manager's return and the benchmark's return.

Spread Duration - The approximate percentage change in a bond's price for a 100 basis point change in its spread over a Treasury of the same maturity.

Standard Deviation - A statistical measure of the range of a portfolio's performance. The variability of a return around its average return over a specified time period.

Thematic Classification - Represents dedicated manager allocations; as such, thematic allocations are approximations. RVK categorizes the following asset classes as Alpha, Capital Appreciation, Capital Preservation, and Inflation:

<u>Alpha</u>	<u>Capital Appreciation</u>	<u>Capital Preservation</u>	<u>Inflation</u>
Absolute Return Strategies	Public Equity	Core Fixed Income	TIPS
Currency Overlay	Private Equity	CMBS Fixed Income	Bank Loans
	Preferred Securities	Asset Backed Fixed Income	Core Real Estate
	High Yield	Domestic Core Plus Fixed Income	Real Return
	Convertible Fixed Income	Mortgage Backed Fixed Income	Inflation Hedges
	TALF Funds	International Developed Fixed Income	REITs
	Distressed Debt	Cash Equivalents	Commodities
	Emerging Market Fixed Income	Stable Value	
	Value Added Real Estate		
	Opportunistic Real Estate		

Time Period Abbreviations - QTD - Quarter-to-Date. CYTD - Calendar Year-to-Date. FYTD - Fiscal Year-to-Date. YOY - Year Over Year.

Total Fund Attribution - The Investment Decision Process (IDP) model provides an approach to evaluating investment performance that applies to all asset classes and investment styles. The IDP model is based on a top-down hierarchy framework of investment decisions, with each decision contributing to the overall profit or loss. The IDP approach starts from the strategic asset allocation and follows the flow of the investments down to the manager's skill.

Strategic Asset Allocation (SAA) - The percentage return gained or lost from the long-term strategic asset allocation decision, the most significant determinant of long-term performance. SAA is the product of the target asset allocation multiplied by the corresponding benchmark returns.

Tactical Asset Allocation (TAA) - The percentage return gained or lost from not having been precisely allocated at the target asset allocation mix, whether by deviations that are tactical in nature or a by-product of moving towards the target mix. TAA is the product of the actual asset allocation multiplied by the broad asset class benchmarks, less the SAA.

Style Selection (SS) - The percentage return gained or lost from intentional style biases within each asset class (e.g. value rather than core or overweight to emerging markets relative to benchmark). SS is the product of the actual manager allocation within each asset class multiplied by their specific benchmark, less TAA.

Manager's Skill (MS) - The percentage return gained or lost from manager value added relative to their specific benchmark. MS is the product of the actual manager allocation multiplied by their achieved excess return.

Glossary

Total Fund Beta - Total Fund Beta is calculated using the S&P 500 as the benchmark. It represents a measure of the sensitivity of the total fund to movements in the S&P 500 and is a measure of the Total Fund's non-diversifiable or systematic risk.

Tracking Error - A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.

Treynor Ratio - Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Treynor ratio represents the excess rate of return over the risk-free rate (i.e., ICE BofA 3 Mo US T-Bill Index unless specified otherwise) divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better historical risk-adjusted performance.

Unit Value - The dollar value of a portfolio, assuming an initial nominal investment of \$100, growing at the compounded rate of %Return for a given period.

Up Market Capture - Up market by definition is positive benchmark return and up market capture represents the ratio in % terms of the average portfolio's return over the benchmark during the up market period. The higher the value of the up market capture the better the product's performance.

Yield to Maturity - The rate of return achieved on a bond or other fixed income security assuming the security is bought and held to maturity and that the coupon interest paid over the life of the bond will be reinvested at the same rate of return. The 30-Day SEC Yield is similar to the Yield to Maturity and is reported for mutual funds.

Yield to Worst - The bond yield calculated by using the worst possible yield taking into consideration all call, put, and optional sink dates.

RVK

Disclaimer of Warranties and Limitation of Liability - This document was prepared by RVK, Inc. (RVK) and may include information and data from some or all of the following sources: client staff; custodian banks; investment managers; specialty investment consultants; actuaries; plan administrators/record-keepers; index providers; as well as other third-party sources as directed by the client or as we believe necessary or appropriate. RVK has taken reasonable care to ensure the accuracy of the information or data, but makes no warranties and disclaims responsibility for the accuracy or completeness of information or data provided or methodologies employed by any external source. It should not be construed as legal or tax advice. It does not constitute a recommendation by RVK or an offer of, or a solicitation for, any particular security and it is not intended to convey any guarantees as to the future performance of the investment products, asset classes, or capital markets. This document should not be construed as investment advice: it does not reflect all potential risks with regard to the client's investments and should not be used to make investment decisions without additional considerations or discussions about the risks and limitations involved. Any decision, investment or otherwise, made on the basis of this document is the sole responsibility of the client or intended recipient.