

RVK

Quarterly Performance Report

Pennsylvania State Employees' Retirement System
Defined Contribution Plan

March 31, 2025

Table Of Contents

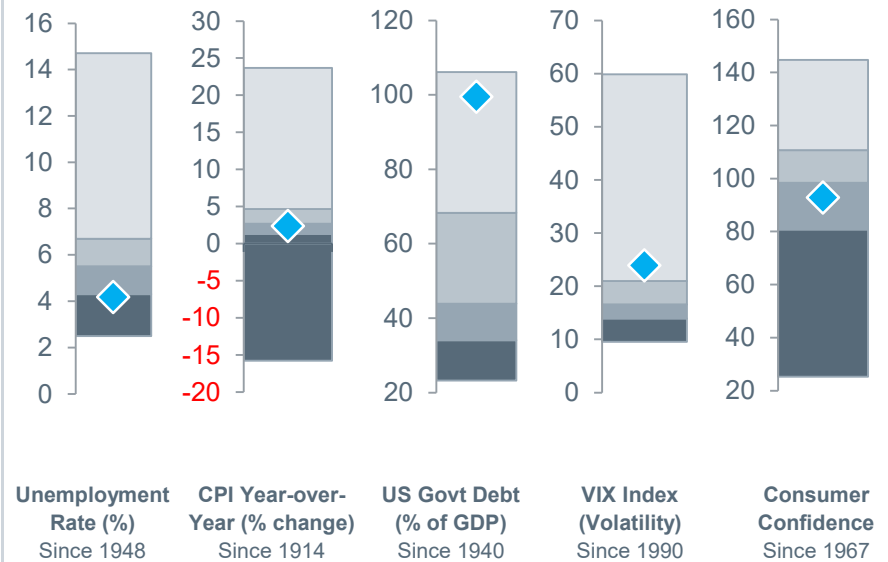
Capital Markets Review	Page 2
Plan Performance Review	Page 10
Plan Manager Review	Page 24
Addendum & Glossary	Page 34

Capital Markets Review

First Quarter Economic Environment

An upward trend in the US equity market during the beginning weeks of Q1 reversed sharply as the quarter progressed. The emergence of DeepSeek, an artificial intelligence (AI) tool developed in China, negatively impacted investor sentiment for companies at the top of the US equity market as well as other companies tied to the AI theme. The combination of the volatility among companies with valuations tied to AI and the looming risks regarding US tariff policy led to a negative quarter for US stocks. Equity markets in Europe and Japan were more resilient, while China stocks experienced a positive quarter. Aggregate bond markets delivered positive results in Q1, supported by declining Treasury yields, upward price movement among securitized debt and a generally positive outlook on corporate debt. However, Q1 trends were overshadowed by significant volatility after quarter-end. On April 2nd, the US announced a much broader and higher rate tariff policy than markets expected across a wide range of trading partners, causing further downward pressure on risk asset prices and heightened volatility. After the tariffs became effective on April 9th, a 90 day pause was announced, which led to a rebound in risk asset prices and relatively lower equity market volatility. While recession probabilities declined following the tariff pause, the market generally appears to expect current trade policies and the uncertainty of future related actions to be a drag on global economic growth.

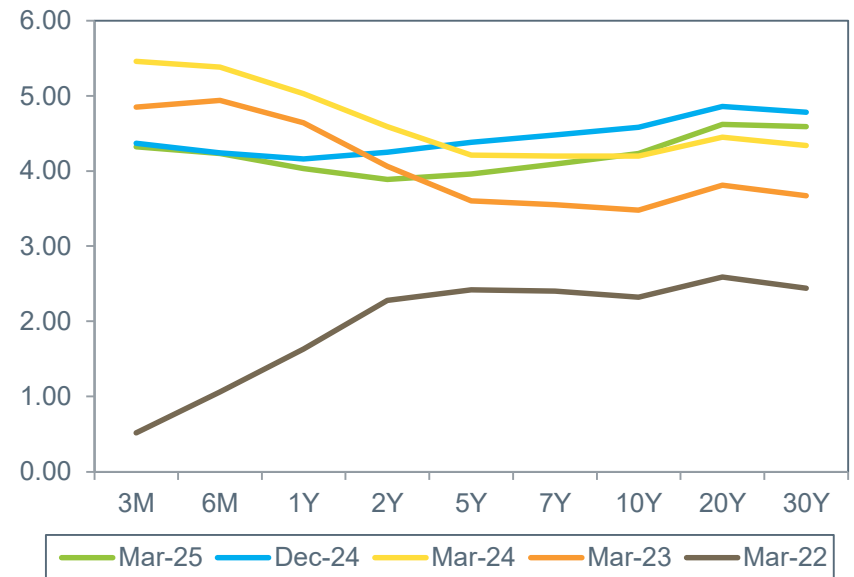
Key Economic Indicators

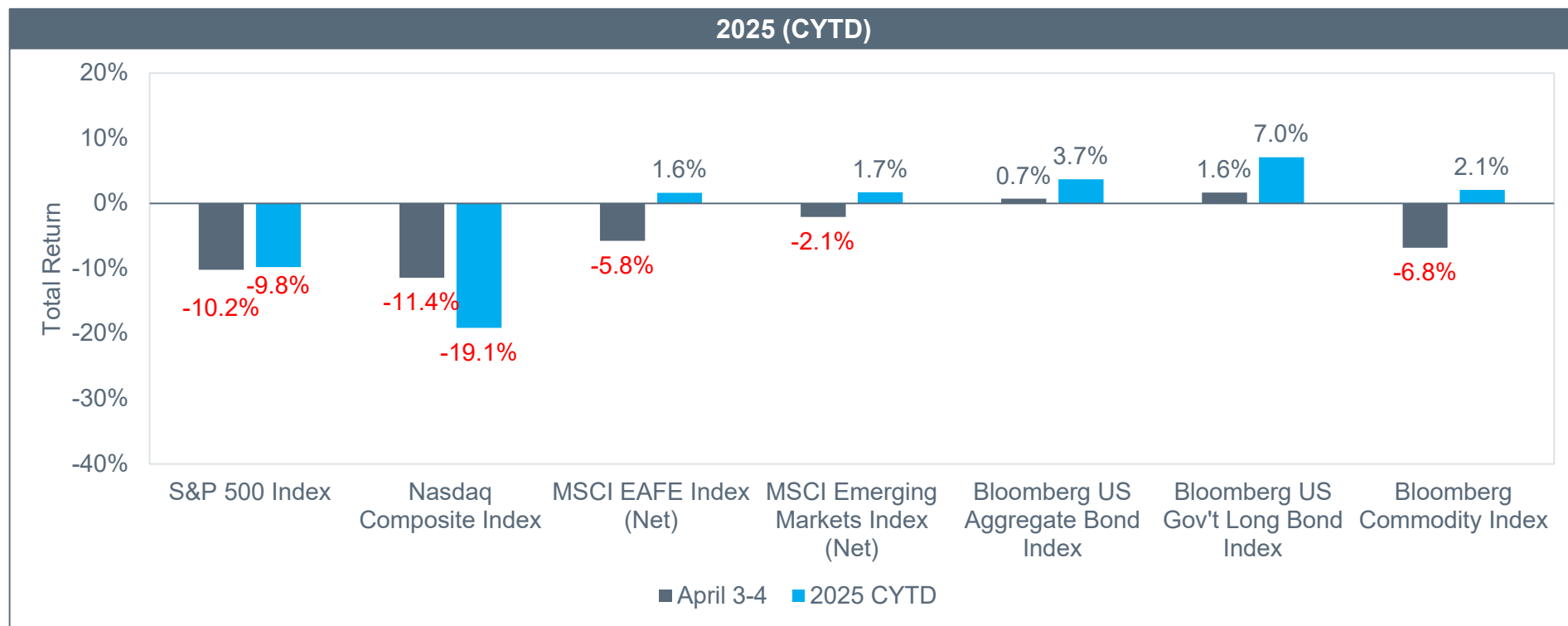


Economic Indicators	Mar-25	Dec-24	Mar-24	Mar-22	20 Yr
Federal Funds Rate (%)	4.33	4.33	5.33	0.33	1.70
Breakeven Infl. - 5 Yr (%)	2.63	2.37	2.44	3.43	1.93
Breakeven Infl. - 10 Yr (%)	2.37	2.33	2.32	2.83	2.08
CPI YoY (Headline) (%)	2.4	2.9	3.5	8.5	2.6
Unemployment Rate (%)	4.2	4.1	3.8	3.6	5.8
Real GDP YoY (%)	2.0	2.5	2.9	3.6	2.0
PMI - Manufacturing	49.0	49.2	50.3	57.1	52.8
USD Total Wtd Idx	126.94	129.49	121.41	115.35	104.63
WTI Crude Oil per Barrel (\$)	71.5	71.6	83.2	100.3	72.2
Gold Spot per Oz (\$)	3,118	2,612	2,230	1,937	1,364

Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	-4.27	-4.27	8.25	18.59	12.50
Russell 2000	-9.48	-9.48	-4.01	13.27	6.30
MSCI EAFE (Net)	6.86	6.86	4.88	11.77	5.40
MSCI EAFE SC (Net)	3.69	3.69	3.10	9.89	5.34
MSCI Emg Mkts (Net)	2.93	2.93	8.09	7.94	3.71
Bloomberg US Agg Bond	2.78	2.78	4.88	-0.40	1.46
ICE BofAML 3 Mo US T-Bill	1.02	1.02	4.97	2.56	1.87
NCREIF ODCE (Gross)	1.05	1.05	2.02	2.89	5.64
FTSE NAREIT Eq REIT (TR)	0.91	0.91	9.94	11.35	5.34
HFRI FOF Comp	-0.63	-0.63	4.11	7.05	3.47
Bloomberg Cmtty (TR)	8.88	8.88	12.28	14.51	2.77

Treasury Yield Curve (%)





- In uncertain times such as these, two foundational investment principles become paramount: diversification and strategic consistency.
- After two years (2023 and 2024) during which diversification was not rewarded, it was easy to lose sight of its demonstrated benefits through risk mitigation and long-term returns. 2025 has, thus far, been a year in which diversification could prove more valuable than the recent past.
- RVK continues to recommend disciplined adherence to asset allocation and potential rebalancing policies that have been carefully crafted in advance to help ensure strategic consistency through times of volatility reflective of a client's (1) purpose, (2) circumstances, and (3) appropriate time horizon.

First Quarter Review

Broad Market

In Q1, there was a pullback in US equity markets with the Russell 3000 Index declining -4.7% amid trade policy uncertainty and concerns around foreign competition for US companies tied to the AI theme. In a reverse of previous trends, the "Magnificent Seven" stocks were the negative contributors to Russell 1000 Index performance, with the two biggest detractors being NVIDIA (-19.3%) and Apple (-11.2%).

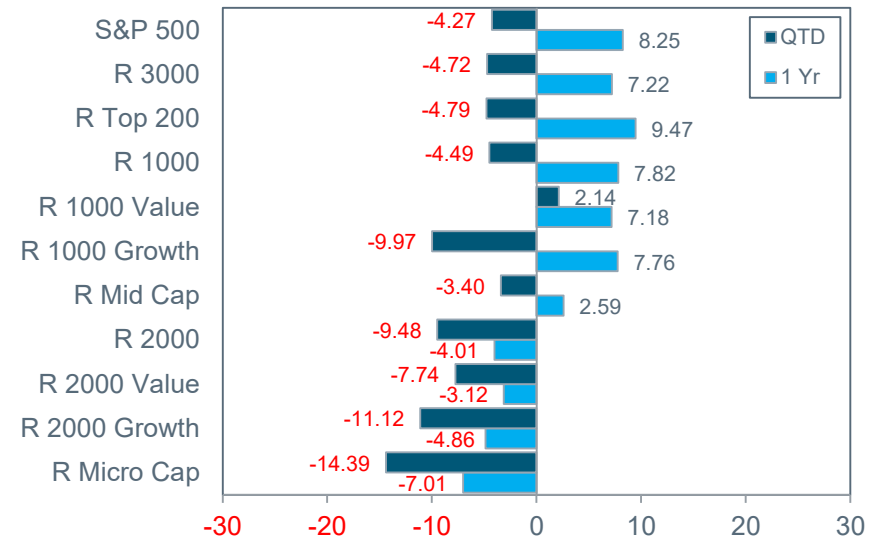
Market Cap

Growth stocks were hit particularly hard, with the Russell 1000 Growth Index and the Russell 2000 Growth Index returning -10.0% and -11.1%, respectively. The negative performance of the large-cap segment, represented by the Russell 1000 Index, was mostly attributable to a drop in the Information Technology and Consumer Discretionary sectors, down -12.7% and -10.1%, respectively.

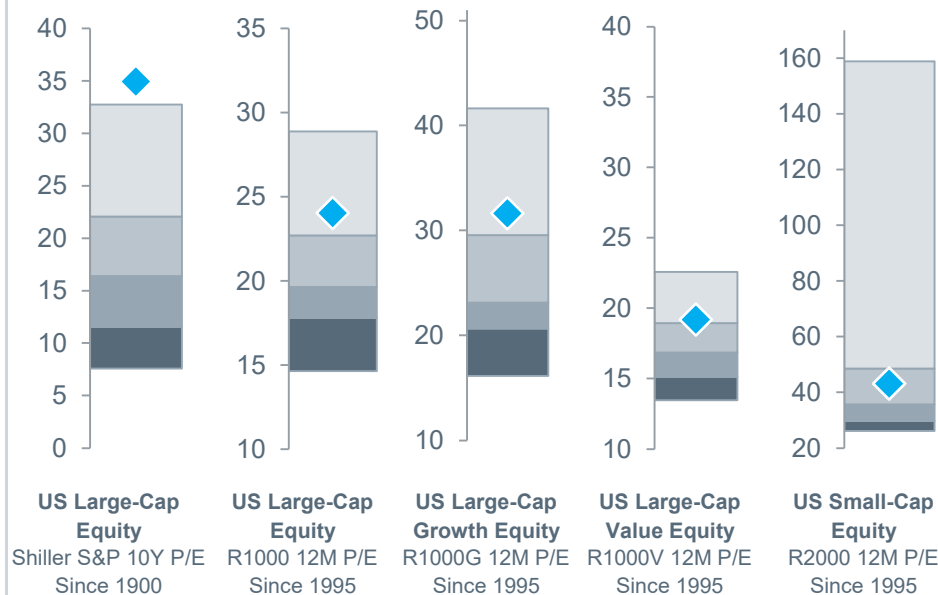
Style and Sector

Active managers fared well the quarter, with the median manager in large- and small-cap outperforming their respective benchmark. The only exception was large-cap value managers, who struggled to outperform a market index led more by rotations into less volatile, defensive companies than quality.

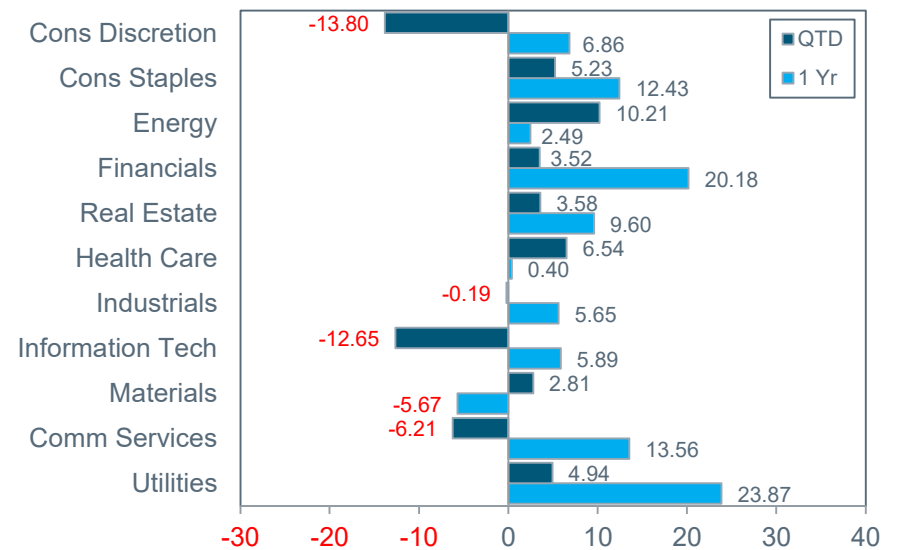
Style and Capitalization Market Performance (%)



Valuations



S&P 500 Index Sector Performance (%)



Valuation data courtesy of Bloomberg Professional Service and Robert J. Shiller, Irrational Exuberance, Second Edition.
P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.

First Quarter Review

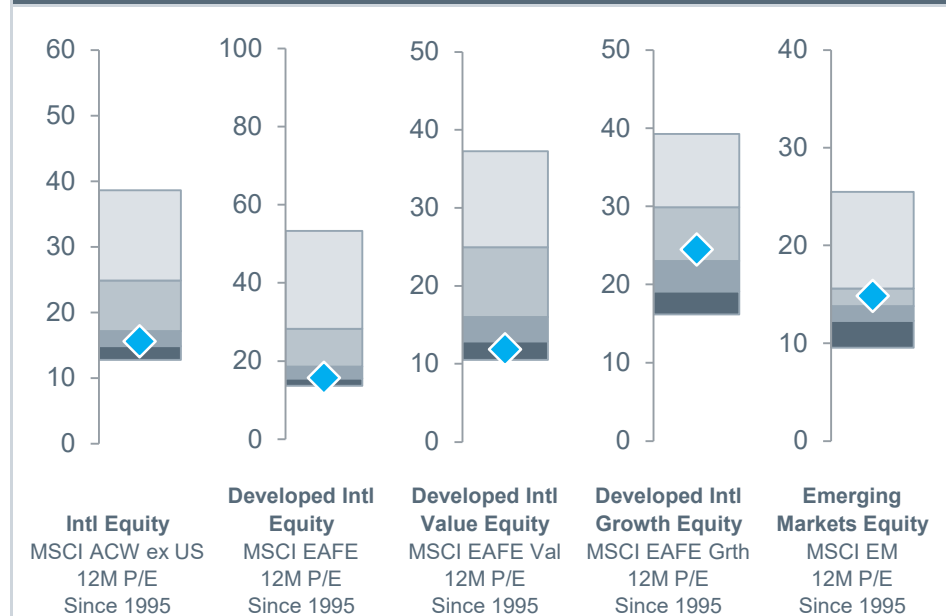
Developed Markets

Developed international markets significantly outperformed the US in Q1, with the MSCI EAFE Index posting a 6.9% return for the quarter. International value stocks continued to outperform growth stocks. Over the trailing 12 months, the MSCI EAFE Value Index has outperformed its growth counterpart by 15.9%. International small-cap continued to lag large-cap but remained in positive territory. Europe was the top-performing developed region in Q1, supported by substantial fiscal stimulus that expanded defense and infrastructure spending. Most active international managers outperformed in Q1 across all styles and market capitalizations.

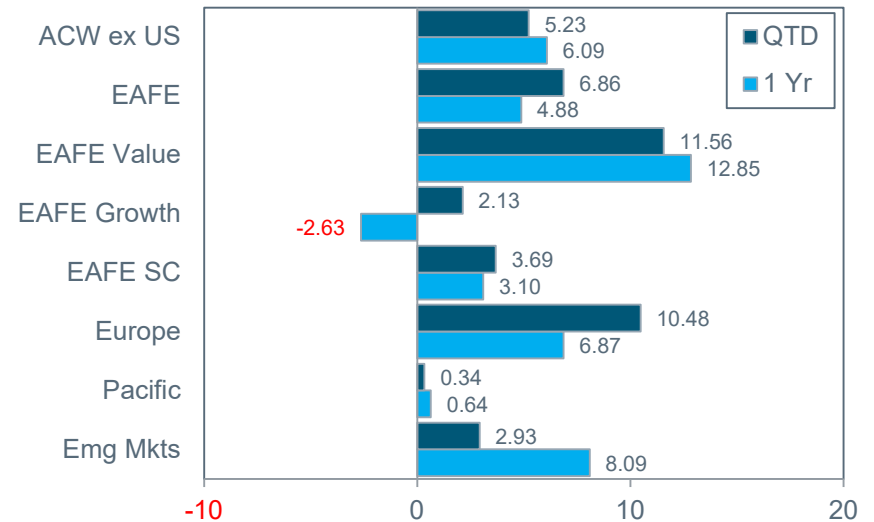
Emerging Markets

Emerging markets underperformed developed markets in Q1, with the MSCI Emerging Markets Index returning 2.9%. Within emerging markets, value stocks outperformed growth stocks, while large-cap stocks significantly outperformed small-cap stocks, each a reversal from the prior quarter. Emerging small-cap stocks were the one broad area of weakness in an otherwise positive international market landscape. Despite persistent structural challenges in the real estate sector and concerns about the impact of tariffs, China experienced a significant market rebound, led by the Technology sector, given optimism for the sector following the release of the DeepSeek model in late January.

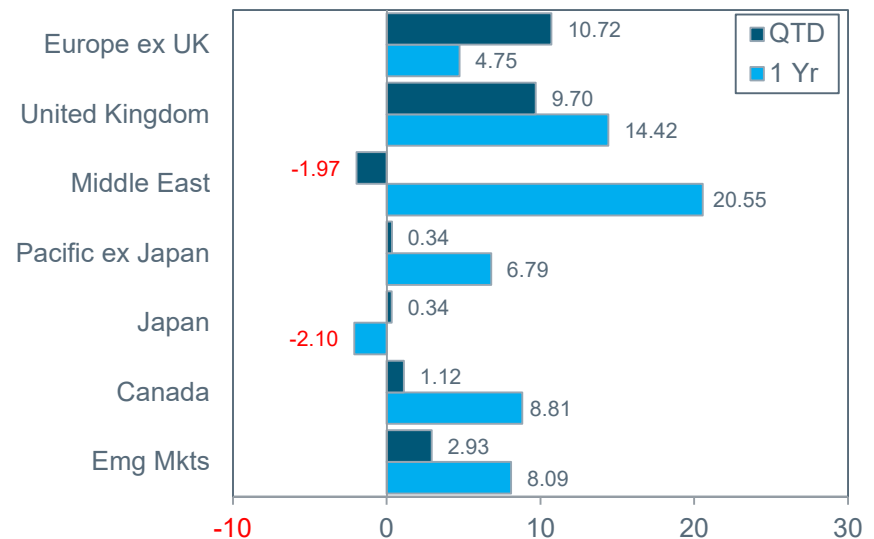
Valuations



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.

First Quarter Review

Broad Market

The first quarter was marked by broad fixed income market uncertainty, driven by mixed economic signals and the looming threat of US tariffs and related trade tensions. The US Federal Reserve held policy rates steady in March at 4.25%–4.50%, with mixed dot plot signals and a lowered 2025 GDP forecast reflecting differing economic expectations among FOMC members. The US Federal Reserve also slowed the balance sheet runoff by cutting monthly Treasury redemptions, while maintaining the cap for Agency MBS. Treasury yields mirrored the shifting sentiment, with the 10-year Treasury yield climbing to 4.79% in January before retreating to 4.23% by quarter-end. The Bloomberg US Aggregate Bond Index returned 2.8% during the quarter.

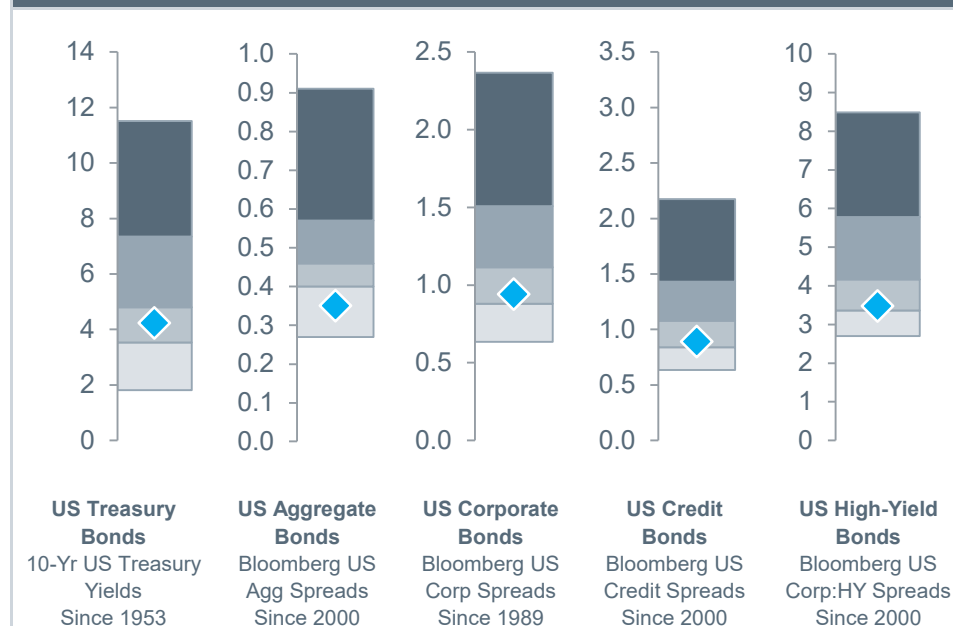
Credit Market

A risk-off tone led to a pullback in risk assets, with higher-quality bonds outperforming lower-quality ones. The Bloomberg US Corporate Investment Grade Index returned 2.3% in Q1, while the Bloomberg US Corporate High Yield Index gained 1.0%.

Emerging Market Debt

With the backdrop of a weaker US dollar relative to local EMD currencies, the JPMorgan EMBI Global Diversified Index (hard currency) returned 2.2%, underperforming the JPMorgan GBI-EM Global Diversified Index (local currency), which gained 4.3% for the quarter.

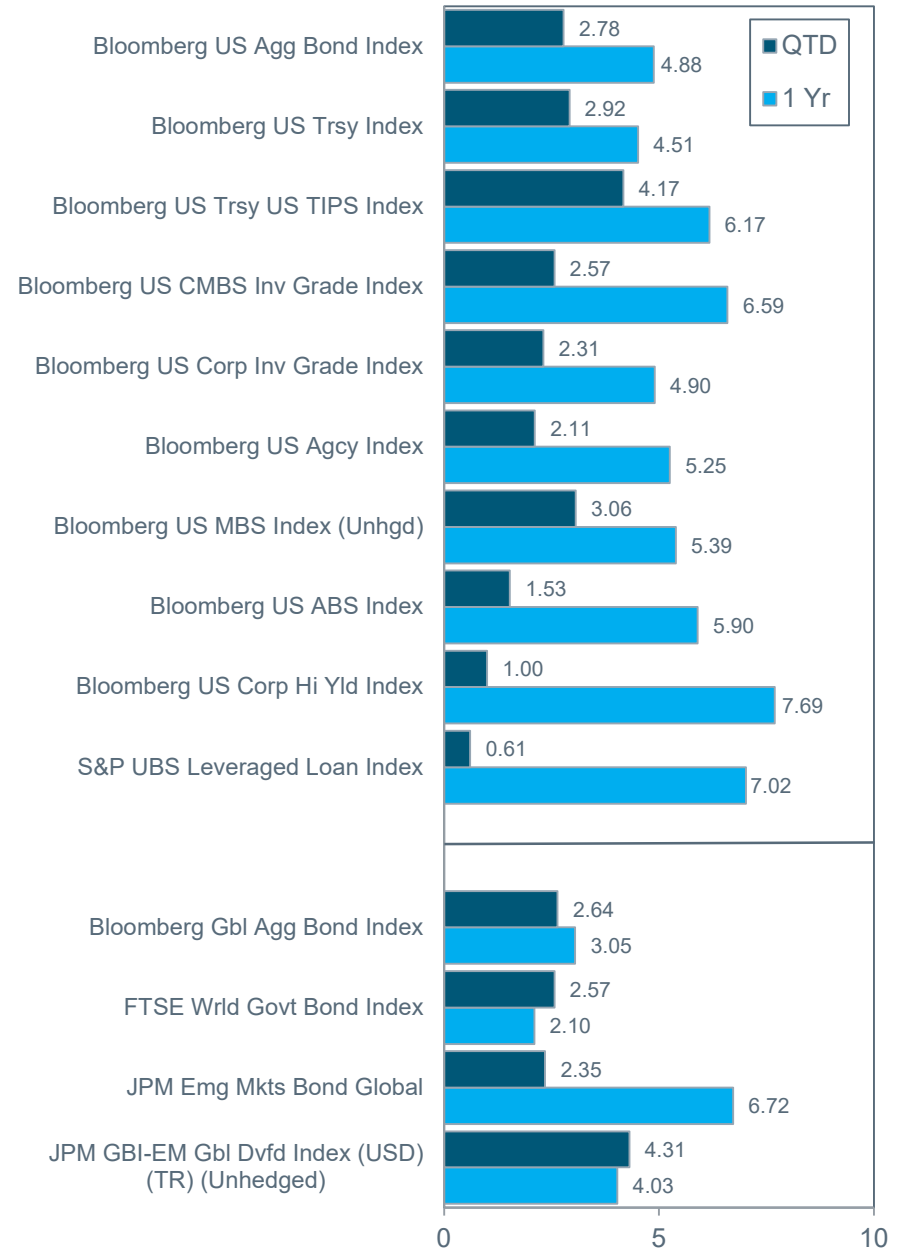
Valuations



Valuation data courtesy of Bloomberg Professional Service.

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

Fixed Income Performance (%)



First Quarter Review - Absolute Return

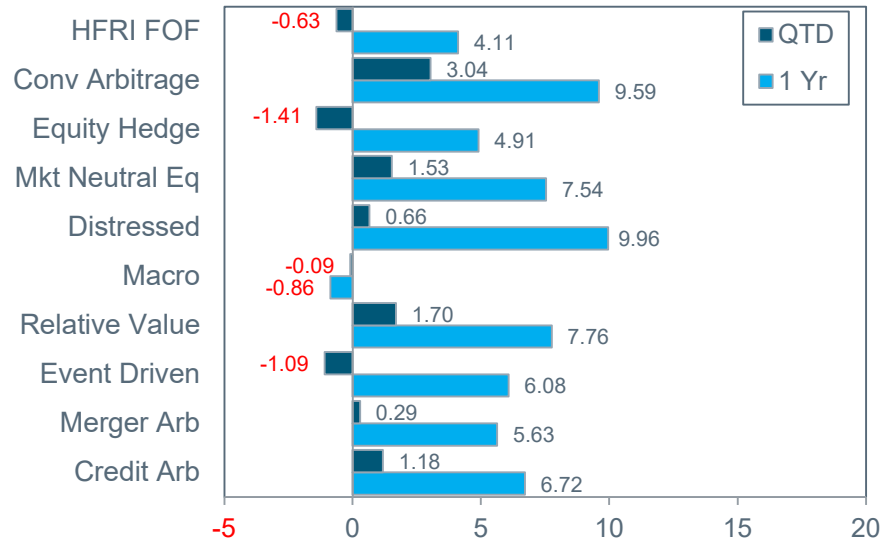
General Market - Hedge Funds

Hedge funds began the year with mixed results, as global markets experienced turbulence in March from rising fears of a trade war. Preliminary performance suggests that the HFRI Asset Weighted Composite Index finished the quarter with a modest positive return of 0.6%. Directional strategies generally suffered the most during the March sell-off, reversing many longer-term trends. The quarter generally resulted in losses for both long-biased hedged equity managers and trend-following managers. Equity Market Neutral and other relative value strategies fared much better than their directional peers.

General Market - Global Tactical Asset Allocation (GTAA)

Global Tactical Asset Allocation (GTAA) strategies that RVK follows closely generated disparate performance in the first quarter, but all outperformed a static, US centric blend of 60% equity and 40% fixed income (60/40 blend). The top performing long-biased GTAA strategies were those that featured a higher allocation to fixed income, particularly US Treasuries and international equities emphasizing a value orientation. Managers who trailed peers held higher exposures to US equities and growth-oriented stocks, particularly those in the Technology and Communication Services sectors.

HFRI Hedge Fund Performance (%)



First Quarter Review - Real Assets

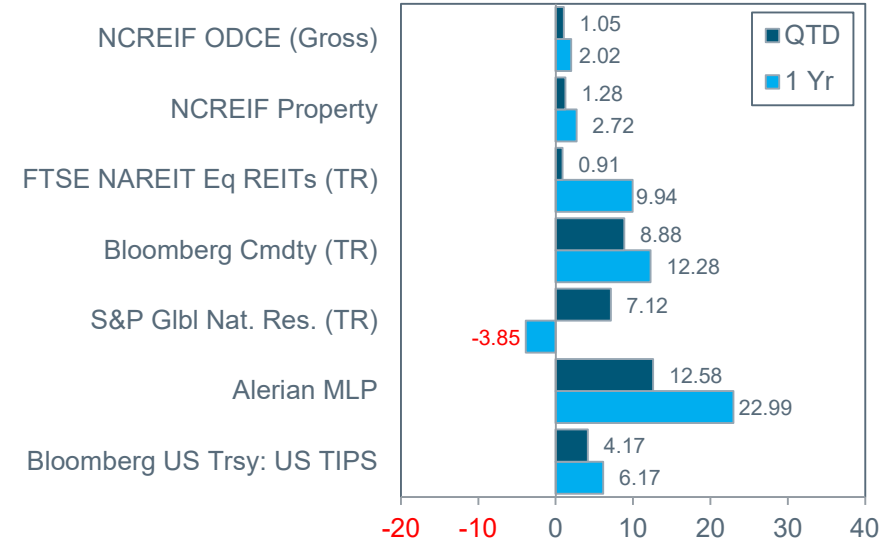
General Market - Diversified Inflation Strategies (DIS)

Diversified Inflation Strategy (DIS) managers tracked closely by RVK reported positive performance for the quarter and outperformed a 60/40 blend. The top performing managers held larger exposures to interest rate strategies in the US and Europe, as well as global listed infrastructure. Managers that lagged peers had higher exposure to global real estate and natural resource equities, particularly in the underlying Energy, Metals & Mining, and Agriculture sectors.

General Market - Real Estate

Core private real estate generated a positive 1.05% total return in Q1 (on a preliminary and gross of fee basis), as reported by the NFI-ODCE Index, with income and price appreciation contributing 1.01% and 0.04% to the total return, respectively. Q1 was the second consecutive quarter of positive appreciation returns after nine consecutive quarters of negative price appreciation for the NFI-ODCE. Investors of publicly traded real estate outperformed their private market counterparts. Publicly traded real estate delivered a first quarter total return of 2.9%, as measured by the FTSE/NAREIT All REITs Index. Negative price appreciation in institutional real estate continues to slow, and there are encouraging signs of stabilization with small levels of price appreciation.

Real Asset Performance (%)



Annual Asset Class Performance

As of March 31, 2025

<div>Best</div> <div>↑</div> <div>↓</div> <div>Worst</div>	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	YTD
	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	8.88
	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	6.86
	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	4.17
	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	3.69
	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	3.57
	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	2.93
	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	2.78
	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	1.05
	-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	1.02
	-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	1.00
	-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	0.91
	-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	-0.63
	-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	-4.27
	-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	-9.48
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 Trsry 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 BofAML 3 Mo T-Bill - Cash Equiv		

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

Plan Performance Review

Pennsylvania State Employees' Retirement System Defined Contribution Plan
Manager Monitoring Dashboard

As of March 31, 2025

Total: \$314,188,851		Investment Options	Total Operating Expense	Fee Ranking	Market Value (\$)	Market Value (%)	RVK's Manager Ranking	Style Discipline	Return Expectations
Fund Options: 10									
Target Date Funds	<div>Conservative</div> <div>↑</div> <div>↓</div> <div>Aggressive</div>	Post Retirement Date Fund	0.07%	1	\$12,887,992	4.10%	Positive	Multi-Asset	Track Index
		2030 Retirement Date Fund	0.07%	1	\$22,014,990	7.01%	Positive	Multi-Asset	Track Index
		2035 Retirement Date Fund	0.07%	1	\$27,688,933	8.81%	Positive	Multi-Asset	Track Index
		2040 Retirement Date Fund	0.07%	1	\$32,342,458	10.29%	Positive	Multi-Asset	Track Index
		2045 Retirement Date Fund	0.07%	1	\$33,925,083	10.80%	Positive	Multi-Asset	Track Index
		2050 Retirement Date Fund	0.07%	1	\$35,707,294	11.36%	Positive	Multi-Asset	Track Index
		2055 Retirement Date Fund	0.07%	1	\$37,400,208	11.90%	Positive	Multi-Asset	Track Index
		2060 Retirement Date Fund	0.07%	1	\$35,846,424	11.41%	Positive	Multi-Asset	Track Index
		2065 Retirement Date Fund	0.07%	1	\$32,496,687	10.34%	Positive	Multi-Asset	Track Index
		2070 Retirement Date Fund	0.07%	1	\$2,460,899	0.78%	Positive	Multi-Asset	Track Index
Core Options	Large Cap Equity	U.S. Large Company Stock Index Fund	0.0100%	2	\$13,749,267	4.38%	Positive	US Large Cap Equity	Track Index
	SMID Cap Equity	U.S. Small/Mid Company Stock Index Fund	0.0150%	1	\$4,218,940	1.34%	Positive	US SMID Cap Equity	Track Index
	All Cap Equity	U.S. All Company Stock Index Fund	0.0250%	2	\$3,936,869	1.25%	Positive	US All Cap Equity	Track Index
	International Equity	Global Non-U.S. Stock Index Fund	0.0350%	2	\$7,994,792	2.54%	Positive	Global Ex-US All Cap Equity	Track Index
	Fixed Income	U.S. Bond Index Fund	0.0125%	4	\$2,758,090	0.88%	Positive	Core Fixed Income	Track Index
	Short Term Fixed Income	U.S. Short Term Bond Index Fund	0.0175%	2	\$1,097,100	0.35%	Positive	Short Term Fixed Income	Track Index
	TIPS	U.S. Treasury Inflat Protected Sec Index Fund	0.0125%	6	\$822,078	0.26%	Positive	Inflation Protected Securities	Track Index
	Cash Equivalents	Short Term Investment Fund	0.0000%	N/A	\$5,361,751	1.71%	N/A	Cash	Exceed Index
Specialty Options	Brokerage Account	Charles Schwab Self-Directed Brokerage (SDB)	\$60 per year*	N/A	\$1,478,996	0.47%	N/A	N/A	N/A

Fee rankings are based on each fund's applicable mutual fund peer group and are intuitively ranked (i.e., a lower expense ratio yields a better percentile rank than a higher expense ratio). Funds with no applicable fee peer groups will show N/A for fee peer group ranking. Market value shown is as of the report date. The Target Retirement suite and Brokerage Account are each considered one fund option. For more information on RVK manager rankings, please see the Addendum.

*Empower charges \$60 in annual account maintenance fee. Additional charges and transaction fees may be assessed by Charles Schwab on individual participant accounts.

Pennsylvania State Employees' Retirement System Defined Contribution
Manager Monitoring Dashboard

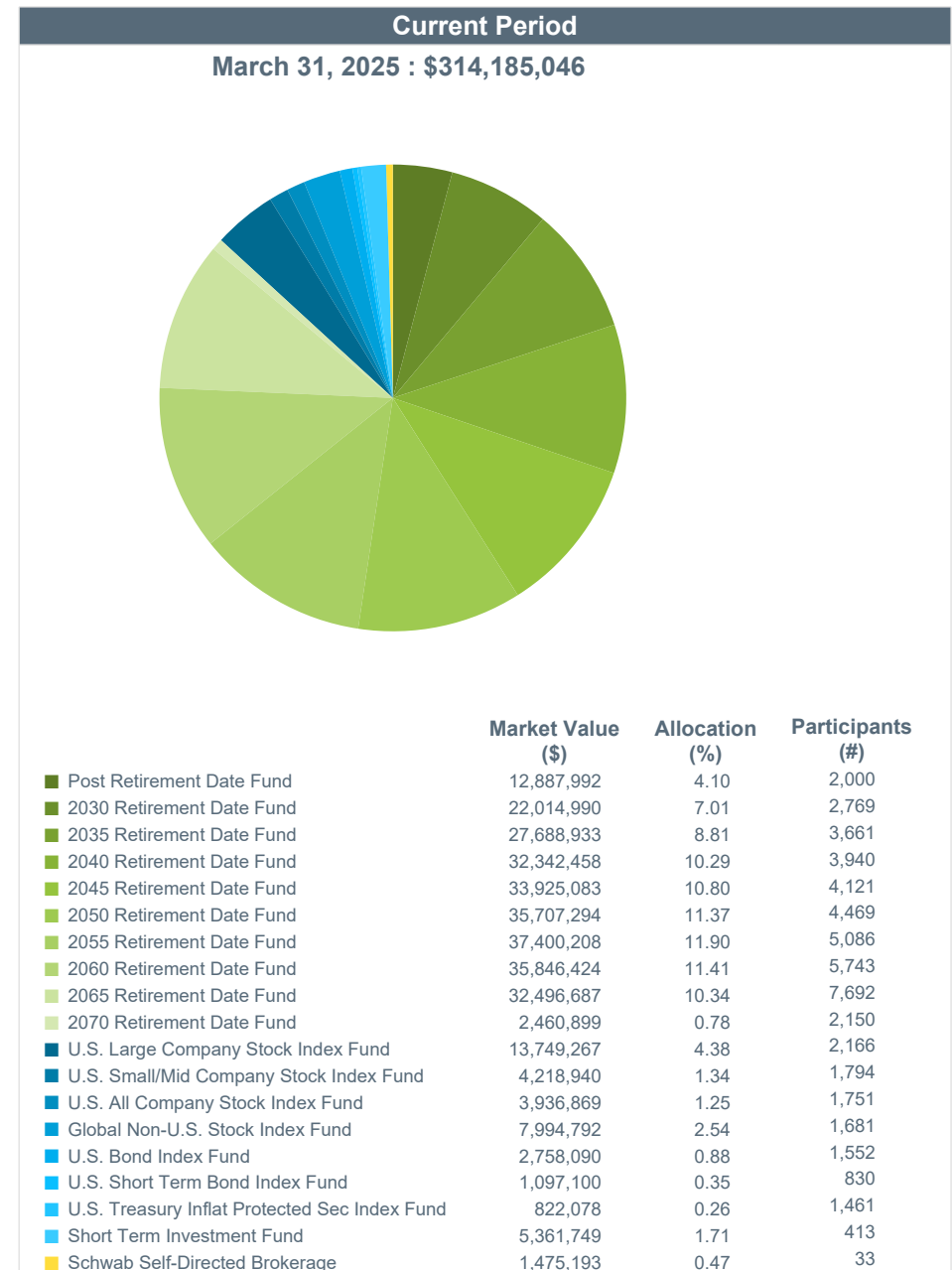
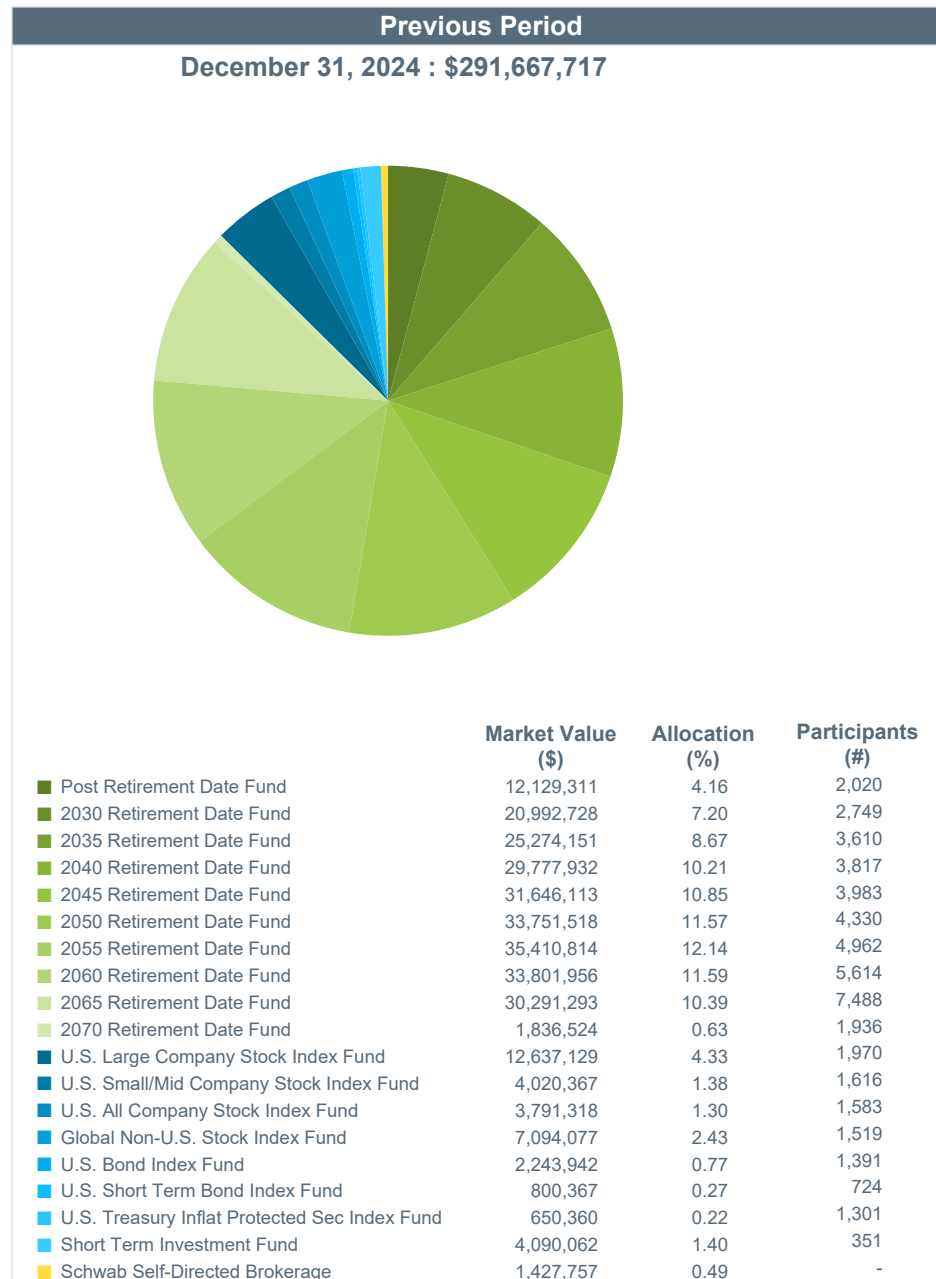
As of March 31, 2025

	Investment Options	Qualitative Evaluation	All Managers	Active Managers (Over 4 Consecutive Quarters)		Passive Managers	Watch Status
		No adverse Issues or Events?	Performance In Line with Expectations?	3 Year Return is Above Benchmark?	3 Year Return is Above Peer Group Median?	3 Year Return is in Line with Benchmark?	
Target Date Funds	Post Retirement Date Fund	✓	✓			✓	In Good Standing
	2030 Retirement Date Fund	✓	✓			✓	In Good Standing
	2035 Retirement Date Fund	✓	✓			✓	In Good Standing
	2040 Retirement Date Fund	✓	✓			✓	In Good Standing
	2045 Retirement Date Fund	✓	✓			✓	In Good Standing
	2050 Retirement Date Fund	✓	✓			✓	In Good Standing
	2055 Retirement Date Fund	✓	✓			✓	In Good Standing
	2060 Retirement Date Fund	✓	✓			✓	In Good Standing
	2065 Retirement Date Fund	✓	✓			✓	In Good Standing
	2070 Retirement Date Fund	✓	✓			N/A	In Good Standing
Core Options	U.S. Large Company Stock Index Fund	✓	✓			✓	In Good Standing
	U.S. Small/Mid Company Stock Index Fund	✓	✓			✓	In Good Standing
	U.S. All Company Stock Index Fund	✓	✓			✗	On Watch
	Global Non-U.S. Stock Index Fund	✓	✓			✓	In Good Standing
	U.S. Bond Index Fund	✓	✓			✓	In Good Standing
	U.S. Short Term Bond Index Fund	✓	✓			✓	In Good Standing
	U.S. Treasury Inflat Protected Sec Index Fund	✓	✓			✓	In Good Standing
	Short Term Investment Fund	✓	✓	✓	✓		In Good Standing
Specialty Options	Charles Schwab Self-Directed Brokerage (SDB)	✓	✓				In Good Standing

Performance shown is net of fees and product specific. Funds that do not have enough yearly data will show "N/A". Performance measurements are not applicable to the Self-Directed Brokerage Account.

Pennsylvania State Employees' Retirement System Defined Contribution Plan
Asset Allocation by Manager

As of March 31, 2025



Allocations shown may not sum to 100% exactly due to rounding. Market value shown for Short Term Investment Fund includes forfeiture balance. Participant count for Schwab SDB is unavailable as of 12/31/2024.

Pennsylvania State Employees' Retirement System Defined Contribution Plan
Annual Cash Flows

1 Year Ending March 31, 2025

	Beginning Market Value	Net Transfers	Contributions	Distributions	Fees	Gain / Loss	Ending Market Value
Tier I: Target Date Funds							
Post Retirement Date Fund	2,569,515	8,422,008	2,330,181	-603,259	-4,557	174,104	12,887,992
2025 Retirement Date Fund	6,993,726	-8,511,090	1,242,212	-201,185	-2,440	478,776	-
2030 Retirement Date Fund	17,023,047	-1,295,868	6,149,652	-977,113	-12,138	1,127,409	22,014,990
2035 Retirement Date Fund	18,736,677	-629,387	9,004,747	-719,638	-14,450	1,310,985	27,688,933
2040 Retirement Date Fund	22,003,287	-507,685	10,001,955	-705,042	-17,089	1,567,032	32,342,458
2045 Retirement Date Fund	23,610,421	-402,693	10,132,544	-1,079,792	-18,191	1,682,794	33,925,083
2050 Retirement Date Fund	25,315,610	-650,744	10,326,496	-1,056,341	-19,349	1,791,622	35,707,294
2055 Retirement Date Fund	26,307,128	-461,460	11,536,681	-1,868,530	-20,327	1,906,716	37,400,208
2060 Retirement Date Fund	24,782,566	-549,385	11,173,138	-1,306,309	-19,263	1,765,678	35,846,424
2065 Retirement Date Fund	21,569,899	-2,292,355	13,316,653	-1,683,657	-17,466	1,603,613	32,496,687
2070 Retirement Date Fund	-	1,769,244	798,623	-65,299	-421	-41,247	2,460,899
Total Target Date Funds	188,911,876	-5,109,414	86,012,882	-10,266,163	-145,693	13,367,480	272,770,968
Tier II: Core Options							
U.S. Large Company Stock Index Fund	8,732,925	1,378,344	3,390,825	-449,138	-18,370	714,682	13,749,267
U.S. Small/Mid Company Stock Index Fund	2,911,510	845,368	1,080,365	-141,537	-7,145	-46,936	4,218,940
U.S. All Company Stock Index Fund	2,744,214	83,287	1,050,949	-141,723	-5,377	205,519	3,936,869
Global Non-U.S. Stock Index Fund	4,626,952	1,351,811	1,905,304	-313,924	-22,114	446,762	7,994,792
U.S. Bond Index Fund	1,743,655	330,351	692,098	-101,886	-5,809	99,680	2,758,090
U.S. Short Term Bond Index Fund	672,568	143,175	290,499	-47,179	-2,283	40,320	1,097,100
U.S. Treasury Inflat Protected Sec Index Fund	687,160	-68,272	196,915	-30,847	-1,653	38,775	822,078
Short Term Investment Fund	924,221	293,585	266,762	-451,236	-193	44,485	1,077,625
Total Core Options	23,043,206	4,357,649	8,873,716	-1,677,470	-62,944	1,543,287	35,654,761
Tier III: Speciality Options							
Schwab Self-Directed Brokerage	250,794	1,174,448	-	-	-	49,951	1,475,193
Total Speciality Options	250,794	1,174,448	-	-	-	49,951	1,475,193
Total Fund Cash Flows	212,205,876	-	94,886,598	-11,943,632	-208,637	14,960,718	309,900,922

Cash flow data is provided by Empower. Market values for Short Term Investment Fund and Total Fund do not include forfeitures. Contributions include employee contributions, employer contributions, and rollovers. Distributions include death withdrawals and total distributions. Net transfers are the sum of transfers in and out.

Pennsylvania State Employees' Retirement System Defined Contribution Plan
Comparative Performance - Net

As of March 31, 2025

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	15 Years	20 Years	2024	2023	2022	2021	2020
Tier I : Target Date Funds														
Post Retirement Date Fund	1.53	1.53	6.07	2.82	6.01	4.85	4.59	5.33	N/A	7.08	11.13	-14.63	6.95	11.97
BlackRock LP Id Ret Lending Index	1.44	1.44	6.00	2.81	6.00	4.84	4.57	5.30	N/A	7.08	11.10	-14.54	7.04	11.80
Difference	0.10	0.10	0.07	0.02	0.01	0.01	0.02	0.03	N/A	0.00	0.03	-0.09	-0.08	0.17
IM Mixed-Asset Target Today (MF) Median	1.31	1.31	5.29	2.90	5.61	4.29	4.23	4.85	3.89	6.76	10.63	-12.92	6.16	9.50
Rank	34	34	10	56	37	18	28	28	N/A	41	30	82	28	7
2030 Retirement Date Fund	0.98	0.98	6.22	3.71	9.21	6.28	6.18	7.05	N/A	9.11	14.24	-15.97	11.43	12.88
BlackRock LP Id2030 Lending Index	0.86	0.86	6.12	3.64	9.19	6.25	6.13	6.99	N/A	9.12	14.24	-15.92	11.51	12.71
Difference	0.12	0.12	0.10	0.07	0.01	0.03	0.06	0.06	N/A	-0.01	0.00	-0.04	-0.08	0.17
IM Mixed-Asset Target 2030 (MF) Median	0.66	0.66	5.42	3.92	9.64	6.21	6.26	7.43	6.10	9.31	14.36	-16.21	11.46	12.85
Rank	28	28	21	65	69	47	54	68	N/A	59	55	46	51	50
2035 Retirement Date Fund	0.42	0.42	6.33	4.42	10.96	7.13	6.97	7.72	N/A	10.88	16.29	-16.67	13.80	13.57
BlackRock LP Id2035 Lending Index	0.26	0.26	6.18	4.30	10.93	7.09	6.88	7.63	N/A	10.89	16.29	-16.67	13.85	13.42
Difference	0.16	0.16	0.16	0.12	0.04	0.05	0.08	0.09	N/A	-0.01	0.00	0.00	-0.05	0.15
IM Mixed-Asset Target 2035 (MF) Median	0.24	0.24	5.46	4.67	11.27	7.02	6.98	8.04	6.41	11.08	16.30	-17.04	13.84	14.14
Rank	31	31	16	63	70	39	54	65	N/A	58	51	43	53	60
2040 Retirement Date Fund	-0.01	-0.01	6.56	5.17	12.63	7.93	7.68	8.31	N/A	12.61	18.30	-17.35	15.96	14.14
BlackRock LP Id2040 Lending Index	-0.21	-0.21	6.37	4.99	12.56	7.86	7.57	8.21	N/A	12.63	18.28	-17.38	15.99	13.98
Difference	0.20	0.20	0.19	0.17	0.07	0.07	0.10	0.10	N/A	-0.01	0.02	0.03	-0.03	0.16
IM Mixed-Asset Target 2040 (MF) Median	-0.25	-0.25	5.47	5.31	12.56	7.59	7.57	8.56	6.74	12.80	18.11	-17.85	15.68	14.73
Rank	31	31	11	59	46	30	45	59	N/A	59	46	39	40	58
2045 Retirement Date Fund	-0.51	-0.51	6.68	5.84	14.00	8.60	8.25	8.80	N/A	14.26	20.14	-17.90	17.71	14.82
BlackRock LP Id2045 Lending Index	-0.76	-0.76	6.47	5.64	13.91	8.51	8.12	8.69	N/A	14.32	20.12	-17.96	17.71	14.64
Difference	0.25	0.25	0.20	0.21	0.09	0.09	0.13	0.11	N/A	-0.06	0.01	0.07	0.00	0.18
IM Mixed-Asset Target 2045 (MF) Median	-0.54	-0.54	5.38	5.63	13.43	7.99	7.91	8.66	6.75	13.88	19.20	-18.15	16.69	15.35
Rank	48	48	10	37	15	21	28	41	N/A	31	19	44	21	56
2050 Retirement Date Fund	-0.96	-0.96	6.75	6.31	14.76	9.00	8.55	9.12	N/A	15.56	21.25	-18.21	18.67	15.20
BlackRock LP Id2050 Lending Index	-1.24	-1.24	6.56	6.08	14.66	8.90	8.42	8.99	N/A	15.66	21.23	-18.30	18.61	15.07
Difference	0.28	0.28	0.19	0.22	0.10	0.10	0.13	0.13	N/A	-0.10	0.01	0.09	0.05	0.13
IM Mixed-Asset Target 2050 (MF) Median	-0.67	-0.67	5.36	5.80	13.65	8.13	8.01	8.80	N/A	14.16	19.84	-18.30	17.00	15.52
Rank	63	63	9	18	4	6	18	30	N/A	12	8	46	14	55

Performance shown is net of fees. Performance is annualized for periods greater than one year. Funds that do not have enough history will show "N/A" for applicable periods.

Pennsylvania State Employees' Retirement System Defined Contribution Plan
Comparative Performance - Net

As of March 31, 2025

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	15 Years	20 Years	2024	2023	2022	2021	2020
Tier I : Target Date Funds														
2055 Retirement Date Fund	-1.17	-1.17	6.83	6.50	14.95	9.12	8.63	N/A	N/A	16.20	21.55	-18.28	18.83	15.32
BlackRock LP Id2055 Lending Index	-1.46	-1.46	6.63	6.28	14.87	9.02	8.51	N/A	N/A	16.31	21.57	-18.38	18.81	15.18
Difference	0.29	0.29	0.20	0.22	0.09	0.09	0.12	N/A	N/A	-0.11	-0.01	0.11	0.02	0.14
IM Mixed-Asset Target 2055 (MF) Median	-0.71	-0.71	5.29	5.84	13.75	8.16	8.06	9.13	N/A	14.29	19.95	-18.31	17.19	15.61
Rank	64	64	8	14	4	4	15	N/A	N/A	8	11	49	16	55
2060 Retirement Date Fund	-1.19	-1.19	6.82	6.50	14.95	9.11	8.63	N/A	N/A	16.22	21.57	-18.29	18.81	15.30
BlackRock LP Id2060 Lending Index	-1.49	-1.49	6.64	6.28	14.87	9.03	8.51	N/A	N/A	16.36	21.58	-18.39	18.80	15.18
Difference	0.30	0.30	0.18	0.21	0.08	0.08	0.12	N/A	N/A	-0.14	-0.01	0.10	0.01	0.13
IM Mixed-Asset Target 2060 (MF) Median	-0.74	-0.74	5.28	5.86	13.79	8.21	8.34	N/A	N/A	14.39	19.97	-18.33	17.27	15.70
Rank	61	61	9	16	4	5	24	N/A	N/A	10	14	49	18	54
2065 Retirement Date Fund	-1.19	-1.19	6.84	6.52	14.92	N/A	N/A	N/A	N/A	16.26	21.61	-18.31	18.77	15.14
BlackRock LP Id2065 Lending Index	-1.49	-1.49	6.64	6.29	14.87	N/A	N/A	N/A	N/A	16.37	21.59	-18.40	18.79	15.18
Difference	0.30	0.30	0.20	0.23	0.05	N/A	N/A	N/A	N/A	-0.11	0.02	0.09	-0.01	-0.04
IM Mixed-Asset Target 2065+ (MF) Median	-0.71	-0.71	5.18	5.88	13.87	N/A	N/A	N/A	N/A	14.39	20.18	-18.58	17.15	16.23
Rank	60	60	8	18	6	N/A	N/A	N/A	N/A	11	13	41	22	67
2070 Retirement Date Fund	-1.19	-1.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BlackRock LP Id2070 Lending Index	-1.49	-1.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Difference	0.30	0.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM Mixed-Asset Target 2065+ (MF) Median	-0.71	-0.71	5.18	5.88	13.87	N/A	N/A	N/A	N/A	14.39	20.18	-18.58	17.15	16.23
Rank	61	61	N/A	N/A	N/A	N/A	N/A	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. Funds that do not have enough history will show "N/A" for applicable periods.

Pennsylvania State Employees' Retirement System Defined Contribution Plan
Comparative Performance - Net

As of March 31, 2025

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	15 Years	20 Years	2024	2023	2022	2021	2020
Tier II : Core Options														
U.S. Large Company Stock Index Fund	-4.29	-4.29	8.22	9.05	18.58	13.25	12.51	13.16	10.26	25.00	26.28	-18.12	28.70	18.43
S&P 500 Index (Cap Wtd)	-4.27	-4.27	8.25	9.06	18.59	13.25	12.50	13.15	10.23	25.02	26.29	-18.11	28.71	18.40
Difference	-0.01	-0.01	-0.03	-0.02	-0.01	0.00	0.00	0.01	0.03	-0.02	-0.01	-0.01	-0.01	0.03
IM S&P 500 Index (MF) Median	-4.35	-4.35	7.94	8.76	18.26	12.92	12.13	12.72	9.88	24.67	25.96	-18.36	28.25	18.05
Rank	16	16	6	4	3	2	1	1	1	6	5	4	3	5
U.S. Small/Mid Company Stock Index Fund	-8.91	-8.91	-0.40	2.84	15.38	7.95	7.98	10.57	9.20	17.09	25.38	-26.13	12.88	32.02
DJ US Cmpl TSM Index	-8.95	-8.95	-0.50	2.53	15.05	7.66	7.73	10.34	8.97	16.88	24.97	-26.54	12.35	32.16
Difference	0.04	0.04	0.10	0.32	0.34	0.29	0.25	0.23	0.23	0.21	0.40	0.41	0.53	-0.15
IM U.S. SMID Cap Equity (SA+CF) Median	-6.86	-6.86	-3.14	2.60	15.16	8.03	7.97	10.49	9.33	12.34	16.47	-17.60	22.35	16.53
Rank	74	74	26	46	48	53	50	45	57	20	8	78	78	28
U.S. All Company Stock Index Fund	-4.73	-4.73	7.01	8.10	18.04	12.38	11.72	N/A	N/A	23.46	25.93	-19.25	25.59	21.17
DJ US TSM Index	-4.87	-4.87	7.09	8.11	18.08	12.37	11.72	12.72	10.11	23.88	26.06	-19.53	25.66	20.79
Difference	0.14	0.14	-0.07	-0.02	-0.04	0.01	0.00	N/A	N/A	-0.41	-0.13	0.28	-0.07	0.38
IM U.S. All Cap Equity (SA+CF) Median	-3.41	-3.41	4.70	6.71	16.38	10.38	9.73	11.09	8.94	17.18	20.60	-17.50	24.21	14.26
Rank	63	63	30	30	31	22	22	N/A	N/A	24	32	63	42	35
Global Non-U.S. Stock Index Fund	5.96	5.96	6.82	4.96	11.40	4.73	5.27	5.16	N/A	5.51	16.05	-15.94	7.94	11.13
MSCI ACW Ex US IM Index (USD) (Net)	4.59	4.59	5.50	3.99	11.02	4.29	5.02	5.02	5.34	5.23	15.62	-16.58	8.53	11.12
Difference	1.36	1.36	1.32	0.98	0.38	0.45	0.25	0.14	N/A	0.28	0.43	0.64	-0.58	0.01
IM All ACWI Ex US (SA+CF) Median	5.61	5.61	7.04	5.09	11.34	4.82	5.53	6.03	5.86	6.02	16.29	-17.50	8.56	14.66
Rank	47	47	52	52	50	53	61	73	N/A	54	53	42	59	57

Performance shown is net of fees. Performance is annualized for periods greater than one year. Funds that do not have enough history will show "N/A" for applicable periods.

Pennsylvania State Employees' Retirement System Defined Contribution Plan
Comparative Performance - Net

As of March 31, 2025

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	15 Years	20 Years	2024	2023	2022	2021	2020
Tier II : Core Options														
U.S. Bond Index Fund	2.79	2.79	4.89	0.51	-0.42	1.57	1.44	2.40	3.14	1.24	5.53	-12.94	-1.66	7.55
Bloomberg US Agg Bond Index	2.78	2.78	4.88	0.52	-0.40	1.58	1.46	2.44	3.18	1.25	5.53	-13.01	-1.55	7.51
Difference	0.01	0.01	0.01	-0.01	-0.02	0.00	-0.02	-0.03	-0.04	-0.01	0.00	0.07	-0.11	0.04
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	2.75	2.75	5.00	0.70	0.21	1.81	1.68	2.71	3.35	1.62	5.79	-13.14	-1.47	8.02
Rank	32	32	64	70	84	77	81	87	75	83	68	36	67	67
U.S. Short Term Bond Index Fund	1.61	1.61	5.63	3.08	1.54	2.17	N/A	N/A	N/A	4.38	4.58	-3.70	-0.53	3.35
Bloomberg US Govt Crdt 1-3 Yr Bond Index	1.63	1.63	5.61	3.10	1.56	2.19	1.73	1.60	2.33	4.36	4.61	-3.69	-0.47	3.33
Difference	-0.01	-0.01	0.02	-0.01	-0.02	-0.02	N/A	N/A	N/A	0.02	-0.03	-0.01	-0.06	0.02
IM U.S. Short Duration Fixed Income (SA+CF) Median	1.67	1.67	5.77	3.45	2.39	2.46	1.92	1.94	2.51	4.83	5.08	-3.67	-0.37	3.62
Rank	65	65	64	74	82	77	N/A	N/A	N/A	71	87	51	63	67
U.S. Treasury Inflat Protected Sec Index Fund	4.17	4.17	6.17	0.07	2.35	3.03	N/A	N/A	N/A	1.83	3.89	-11.77	5.86	10.99
Bloomberg US Trsy US TIPS Index	4.17	4.17	6.17	0.06	2.36	3.04	2.51	3.10	3.53	1.84	3.90	-11.85	5.96	10.99
Difference	0.01	0.01	0.00	0.01	0.00	-0.01	N/A	N/A	N/A	0.00	0.00	0.07	-0.09	0.00
IM U.S. TIPS (SA+CF) Median	4.09	4.09	6.19	0.02	2.35	2.97	2.49	2.97	3.47	1.86	3.80	-11.87	5.71	10.61
Rank	30	30	56	47	51	39	N/A	N/A	N/A	52	39	41	32	30
Short Term Investment Fund	1.06	1.06	4.96	4.27	2.61	2.49	1.96	1.38	1.79	5.20	5.00	1.59	0.07	0.65
ICE BofAML 3 Mo US T-Bill Index	1.02	1.02	4.97	4.23	2.56	2.45	1.87	1.27	1.68	5.25	5.02	1.46	0.05	0.67
Difference	0.04	0.04	-0.01	0.04	0.06	0.04	0.09	0.10	0.11	-0.05	-0.02	0.14	0.02	-0.02
IM U.S. Cash Equivalents (SA+CF)	1.18	1.18	5.35	4.33	2.72	2.61	2.06	1.51	1.94	5.36	5.32	0.32	0.01	1.44
Rank	82	82	86	54	66	66	71	68	67	75	90	10	42	85

Performance shown is net of fees. Performance is annualized for periods greater than one year. Funds that do not have enough history will show "N/A" for applicable periods.

Pennsylvania State Employees' Retirement System Defined Contribution Plans
Comparative Performance - Gross

As of March 31, 2025

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	15 Years	20 Years	2024	2023	2022	2021	2020
Tier I: Target Date Funds														
Post Retirement Date Fund	1.55	1.55	6.14	2.89	6.08	4.92	4.66	5.40	N/A	7.15	11.21	-14.57	7.03	12.04
BlackRock LP Id Ret Lending Index	1.44	1.44	6.00	2.81	6.00	4.84	4.57	5.30	N/A	7.08	11.10	-14.54	7.04	11.80
Difference	0.11	0.11	0.14	0.09	0.08	0.08	0.09	0.10	N/A	0.07	0.11	-0.03	-0.01	0.24
2030 Retirement Date Fund	0.99	0.99	6.29	3.78	9.28	6.35	6.26	7.13	N/A	9.19	14.32	-15.91	11.50	12.96
BlackRock LP Id2030 Lending Index	0.86	0.86	6.12	3.64	9.19	6.25	6.13	6.99	N/A	9.12	14.24	-15.92	11.51	12.71
Difference	0.13	0.13	0.18	0.14	0.09	0.10	0.13	0.14	N/A	0.07	0.08	0.01	0.00	0.25
2035 Retirement Date Fund	0.44	0.44	6.41	4.50	11.04	7.21	7.04	7.79	N/A	10.95	16.37	-16.61	13.88	13.65
BlackRock LP Id2035 Lending Index	0.26	0.26	6.18	4.30	10.93	7.09	6.88	7.63	N/A	10.89	16.29	-16.67	13.85	13.42
Difference	0.18	0.18	0.23	0.19	0.11	0.12	0.16	0.16	N/A	0.07	0.08	0.06	0.03	0.23
2040 Retirement Date Fund	0.00	0.00	6.63	5.24	12.71	8.00	7.75	8.39	N/A	12.69	18.38	-17.29	16.04	14.22
BlackRock LP Id2040 Lending Index	-0.21	-0.21	6.37	4.99	12.56	7.86	7.57	8.21	N/A	12.63	18.28	-17.38	15.99	13.98
Difference	0.21	0.21	0.26	0.25	0.14	0.14	0.18	0.17	N/A	0.06	0.10	0.09	0.05	0.24
2045 Retirement Date Fund	-0.49	-0.49	6.75	5.92	14.08	8.68	8.32	8.88	N/A	14.34	20.22	-17.84	17.79	14.90
BlackRock LP Id2045 Lending Index	-0.76	-0.76	6.47	5.64	13.91	8.51	8.12	8.69	N/A	14.32	20.12	-17.96	17.71	14.64
Difference	0.27	0.27	0.28	0.28	0.17	0.16	0.20	0.19	N/A	0.02	0.09	0.12	0.08	0.26
2050 Retirement Date Fund	-0.94	-0.94	6.82	6.38	14.84	9.07	8.63	9.19	N/A	15.64	21.33	-18.15	18.75	15.28
BlackRock LP Id2050 Lending Index	-1.24	-1.24	6.56	6.08	14.66	8.90	8.42	8.99	N/A	15.66	21.23	-18.30	18.61	15.07
Difference	0.30	0.30	0.26	0.30	0.18	0.17	0.20	0.20	N/A	-0.02	0.10	0.15	0.13	0.21
2055 Retirement Date Fund	-1.15	-1.15	6.91	6.57	15.03	9.19	8.71	N/A	N/A	16.28	21.64	-18.22	18.91	15.40
BlackRock LP Id2055 Lending Index	-1.46	-1.46	6.63	6.28	14.87	9.02	8.51	N/A	N/A	16.31	21.57	-18.38	18.81	15.18
Difference	0.31	0.31	0.27	0.30	0.17	0.17	0.20	N/A	N/A	-0.03	0.07	0.17	0.11	0.22
2060 Retirement Date Fund	-1.17	-1.17	6.89	6.57	15.03	9.19	8.71	N/A	N/A	16.30	21.65	-18.23	18.90	15.38
BlackRock LP Id2060 Lending Index	-1.49	-1.49	6.64	6.28	14.87	9.03	8.51	N/A	N/A	16.36	21.58	-18.39	18.80	15.18
Difference	0.31	0.31	0.25	0.29	0.16	0.16	0.20	N/A	N/A	-0.06	0.08	0.16	0.10	0.21
2065 Retirement Date Fund	-1.18	-1.18	6.92	6.59	15.00	N/A	N/A	N/A	N/A	16.34	21.70	-18.25	18.85	15.22
BlackRock LifePath 2065 Index - Lending	-1.49	-1.49	6.64	6.29	14.87	N/A	N/A	N/A	N/A	16.37	21.59	-18.40	18.79	15.18
Difference	0.31	0.31	0.27	0.31	0.13	N/A	N/A	N/A	N/A	-0.03	0.11	0.15	0.07	0.04
2070 Retirement Date Fund	-1.18	-1.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BlackRock LifePath 2070 Index - Lending	-1.49	-1.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Difference	0.31	0.31	N/A	N/A	N/A	N/A	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. Funds that do not have enough history will show "N/A" for applicable periods.

Pennsylvania State Employees' Retirement System Defined Contribution Plans
Comparative Performance - Gross

As of March 31, 2025

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	15 Years	20 Years	2024	2023	2022	2021	2020
Tier II: Core Options														
U.S. Large Company Stock Index Fund	-4.29	-4.29	8.22	9.05	18.58	13.25	12.51	13.16	10.26	25.00	26.28	-18.12	28.70	18.43
S&P 500 Index (Cap Wtd)	-4.27	-4.27	8.25	9.06	18.59	13.25	12.50	13.15	10.23	25.02	26.29	-18.11	28.71	18.40
Difference	-0.01	-0.01	-0.03	-0.02	-0.01	0.00	0.00	0.01	0.03	-0.02	-0.01	-0.01	-0.01	0.03
U.S. Small/Mid Company Stock Index Fund	-8.91	-8.91	-0.40	2.84	15.38	7.95	7.98	10.57	9.20	17.09	25.38	-26.13	12.88	32.02
DJ US Cmpl TSM Index	-8.95	-8.95	-0.50	2.53	15.05	7.66	7.73	10.34	8.97	16.88	24.97	-26.54	12.35	32.16
Difference	0.04	0.04	0.10	0.32	0.34	0.29	0.25	0.23	0.23	0.21	0.40	0.41	0.53	-0.15
U.S. All Company Stock Index Fund	-4.73	-4.73	7.01	8.10	18.04	12.38	11.72	N/A	N/A	23.46	25.93	-19.25	25.59	21.17
DJ US TSM Index	-4.87	-4.87	7.09	8.11	18.08	12.37	11.72	12.72	10.11	23.88	26.06	-19.53	25.66	20.79
Difference	0.14	0.14	-0.07	-0.02	-0.04	0.01	0.00	N/A	N/A	-0.41	-0.13	0.28	-0.07	0.38
Global Non-U.S. Stock Index Fund	5.96	5.96	6.82	4.96	11.40	4.73	5.27	5.16	N/A	5.51	16.05	-15.94	7.94	11.13
MSCI ACW Ex US IM Index (USD) (Net)	4.59	4.59	5.50	3.99	11.02	4.29	5.02	5.02	5.34	5.23	15.62	-16.58	8.53	11.12
Difference	1.36	1.36	1.32	0.98	0.38	0.45	0.25	0.14	N/A	0.28	0.43	0.64	-0.58	0.01
U.S. Bond Index Fund	2.79	2.79	4.89	0.51	-0.42	1.57	1.44	2.40	3.14	1.24	5.53	-12.94	-1.66	7.55
Bloomberg US Agg Bond Index	2.78	2.78	4.88	0.52	-0.40	1.58	1.46	2.44	3.18	1.25	5.53	-13.01	-1.55	7.51
Difference	0.01	0.01	0.01	-0.01	-0.02	0.00	-0.02	-0.03	-0.04	-0.01	0.00	0.07	-0.11	0.04
U.S. Short Term Bond Index Fund	1.61	1.61	5.63	3.08	1.54	2.17	N/A	N/A	N/A	4.38	4.58	-3.70	-0.53	3.35
Bloomberg US Govt Crdt 1-3 Yr Bond Index	1.63	1.63	5.61	3.10	1.56	2.19	1.73	1.60	2.33	4.36	4.61	-3.69	-0.47	3.33
Difference	-0.01	-0.01	0.02	-0.01	-0.02	-0.02	N/A	N/A	N/A	0.02	-0.03	-0.01	-0.06	0.02
U.S. Treasury Inflat Protected Sec Index Fund	4.17	4.17	6.17	0.07	2.35	3.03	N/A	N/A	N/A	1.83	3.89	-11.77	5.86	10.99
Bloomberg US Trsy US TIPS Index	4.17	4.17	6.17	0.06	2.36	3.04	2.51	3.10	3.53	1.84	3.90	-11.85	5.96	10.99
Difference	0.01	0.01	0.00	0.01	0.00	-0.01	N/A	N/A	N/A	0.00	0.00	0.07	-0.09	0.00
Short Term Investment Fund	1.06	1.06	4.96	4.27	2.61	2.49	1.96	1.38	1.79	5.20	5.00	1.59	0.07	0.65
ICE BofAML 3 Mo US T-Bill Index	1.02	1.02	4.97	4.23	2.56	2.45	1.87	1.27	1.68	5.25	5.02	1.46	0.05	0.67
Difference	0.04	0.04	-0.01	0.04	0.06	0.04	0.09	0.10	0.11	-0.05	-0.02	0.14	0.02	-0.02

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Funds that do not have enough history will show "N/A" for applicable periods.

Pennsylvania State Employee's Retirement System Defined Contribution Plan
Fund Fees Peer Group Analysis

As of March 31, 2025



Fund Expense Ratios are intuitively ranked (i.e., a lower expense ratio yields a better percentile rank than a higher expense ratio).
The fee peer groups consist of only institutional mutual fund share classes.

Pennsylvania State Employee's Retirement System Defined Contribution Plan
Fund Fees Peer Group Analysis

As of March 31, 2025



Fund Expense Ratios are intuitively ranked (i.e., a lower expense ratio yields a better percentile rank than a higher expense ratio).
The fee peer groups consist of only institutional mutual fund share classes.

**Pennsylvania State Employees' Retirement System Defined Contribution Plan
Fee Analysis**

As of March 31, 2025

	Fee Schedule	Market Value As of 03/31/2025 (\$)	Estimated Annual Fee (\$)
Post Retirement Date Fund	0.0700 % of Assets	12,887,992	9,022
2030 Retirement Date Fund	0.0700 % of Assets	22,014,990	15,410
2035 Retirement Date Fund	0.0700 % of Assets	27,688,933	19,382
2040 Retirement Date Fund	0.0700 % of Assets	32,342,458	22,640
2045 Retirement Date Fund	0.0700 % of Assets	33,925,083	23,748
2050 Retirement Date Fund	0.0700 % of Assets	35,707,294	24,995
2055 Retirement Date Fund	0.0700 % of Assets	37,400,208	26,180
2060 Retirement Date Fund	0.0700 % of Assets	35,846,424	25,093
2065 Retirement Date Fund	0.0700 % of Assets	32,496,687	22,748
2070 Retirement Date Fund	0.0700 % of Assets	2,460,899	1,723
U.S. Large Company Stock Index Fund	0.0100 % of Assets	13,749,267	1,375
U.S. Small/Mid Company Stock Index Fund	0.0150 % of Assets	4,218,940	633
U.S. All Company Stock Index Fund	0.0250 % of Assets	3,936,869	984
Global Non-U.S. Stock Index Fund	0.0350 % of Assets	7,994,792	2,798
U.S. Bond Index Fund	0.0125 % of Assets	2,758,090	345
U.S. Short Term Bond Index Fund	0.0175 % of Assets	1,097,100	192
U.S. Treasury Inflat Protected Sec Index Fund	0.0125 % of Assets	822,078	103
Short Term Investment Fund	0.0000 % of Assets	5,361,749	-

Fees represent total annual operating expense (including investment management and administrative fee caps) for the funds. Fees are sourced from Empower

Plan Manager Review

Product Profile

Management Style: Passive

Average Passive Allocation: 100%

Inflation Focused Investments: REITs, Commodities, TIPS, Listed Infrastructure

Tactical Asset Allocation: Non-Discretionary

Underlying Funds Mgd By TDF Provider: 100%

To vs. Through Glide Path: To

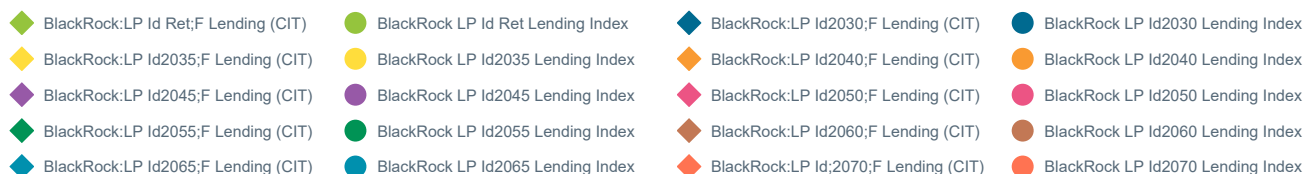
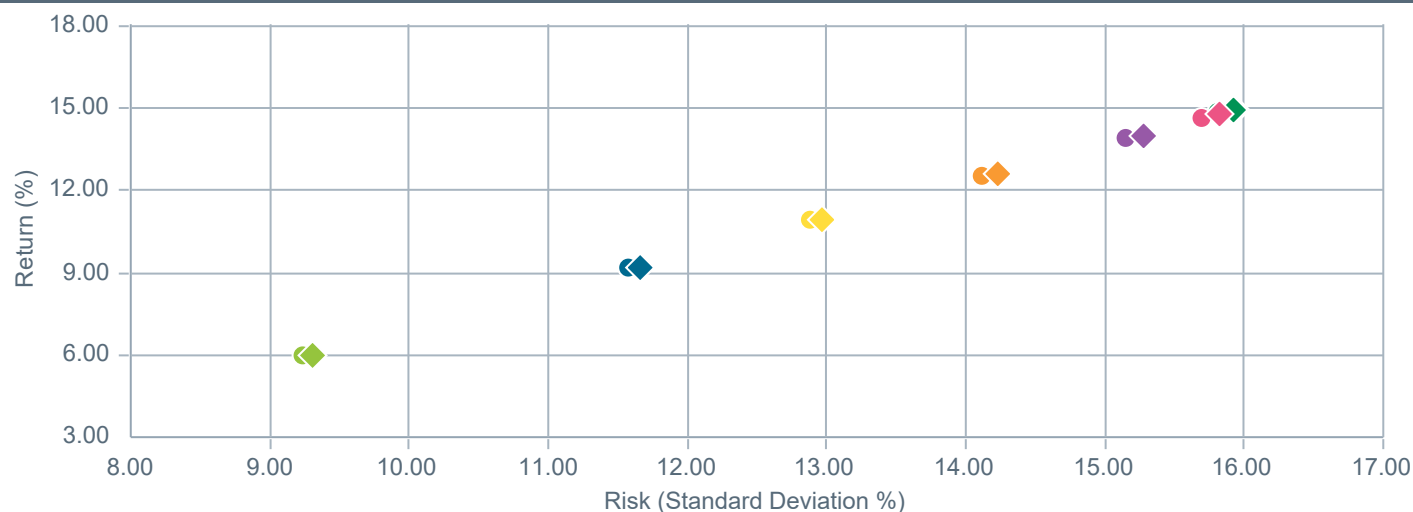
Equity Starting: 99%

Equity at Retirement: 40%

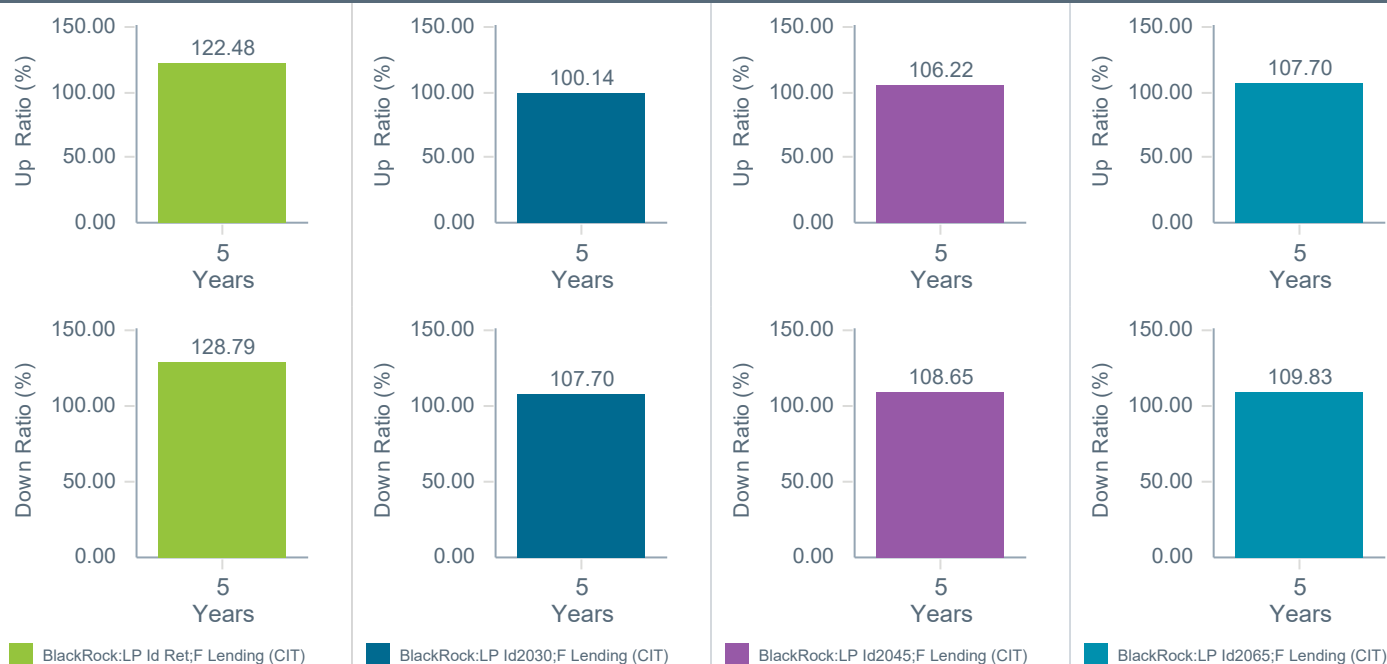
Equity Landing: 40%

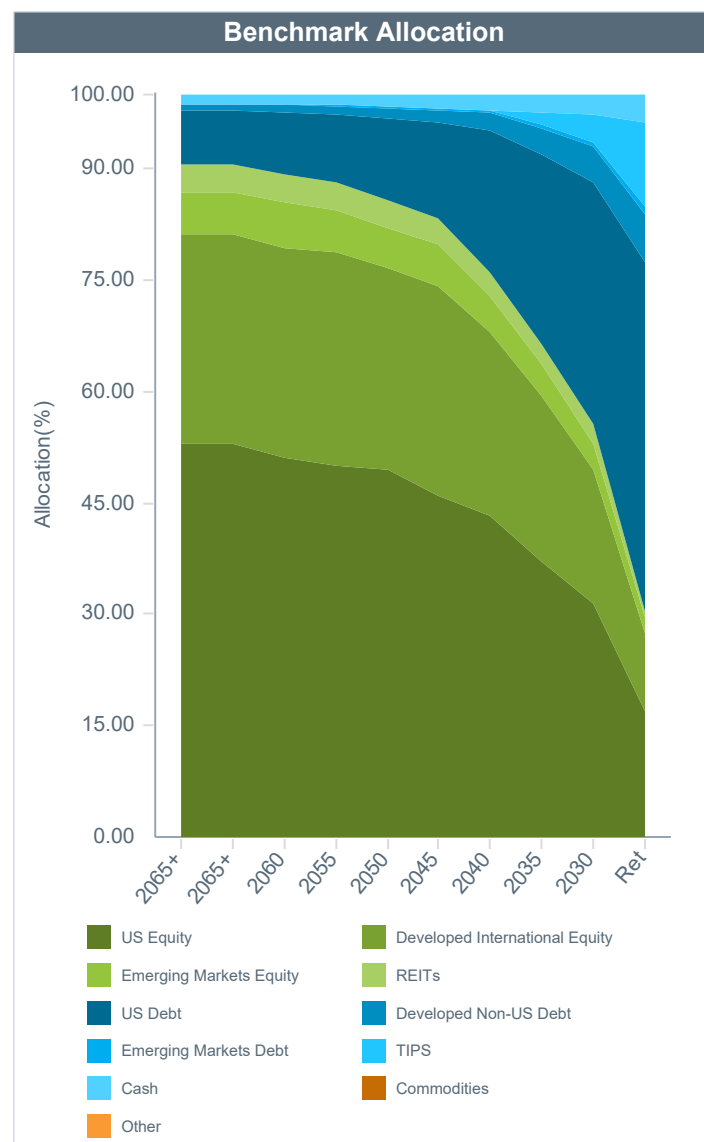
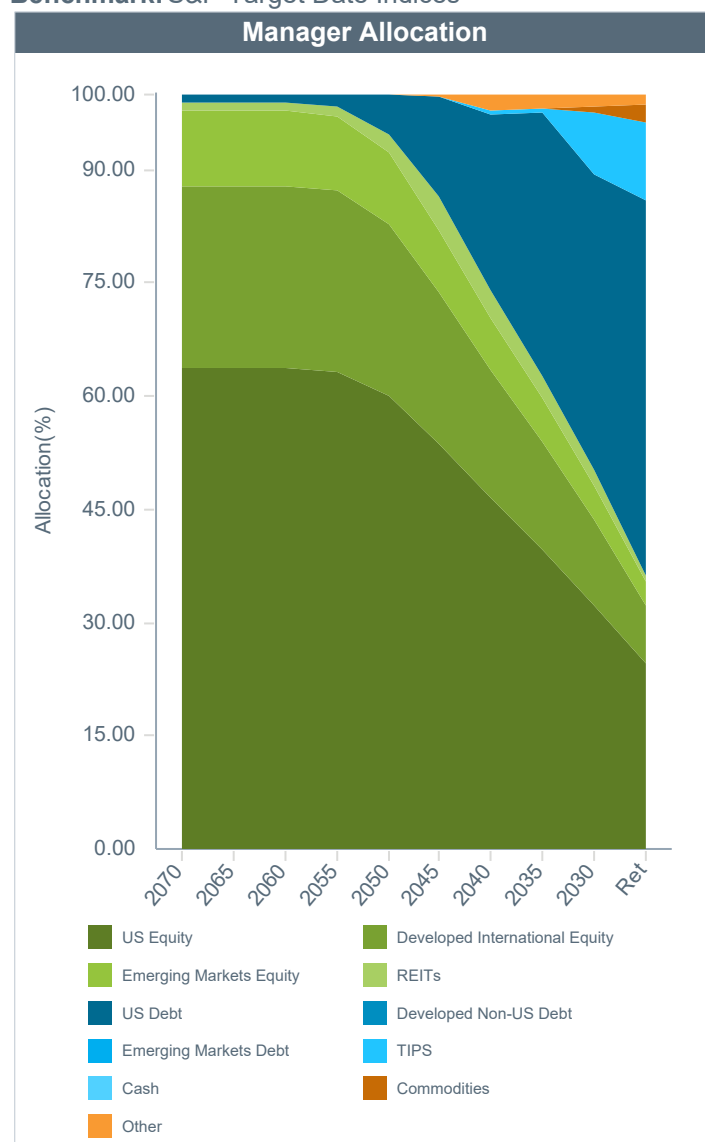
Yrs Roll Down After Retirement: N/A

Risk & Return Scattergram - 5 Years



Up/Down Market Capture Ratio (%) vs. Relevant S&P Tgt Date Idx

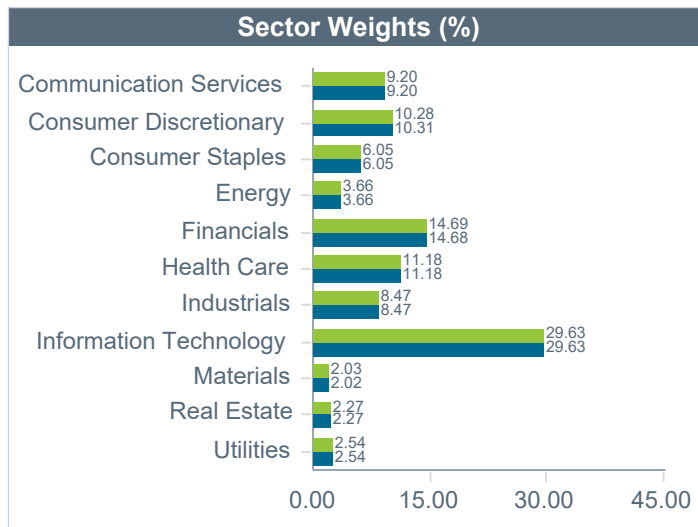
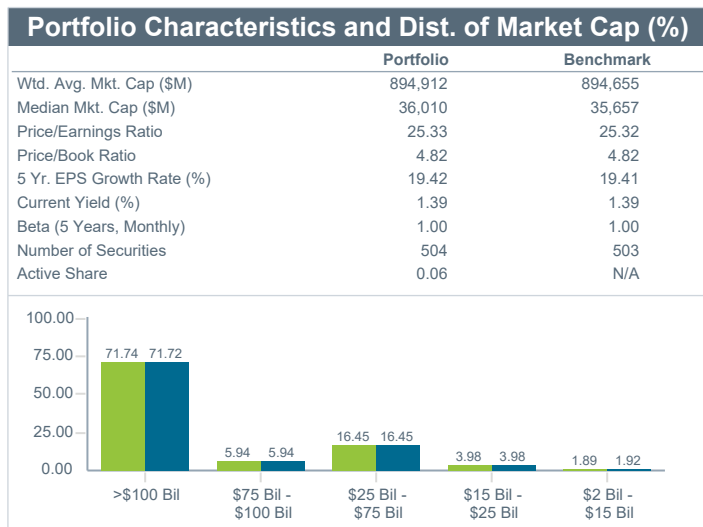
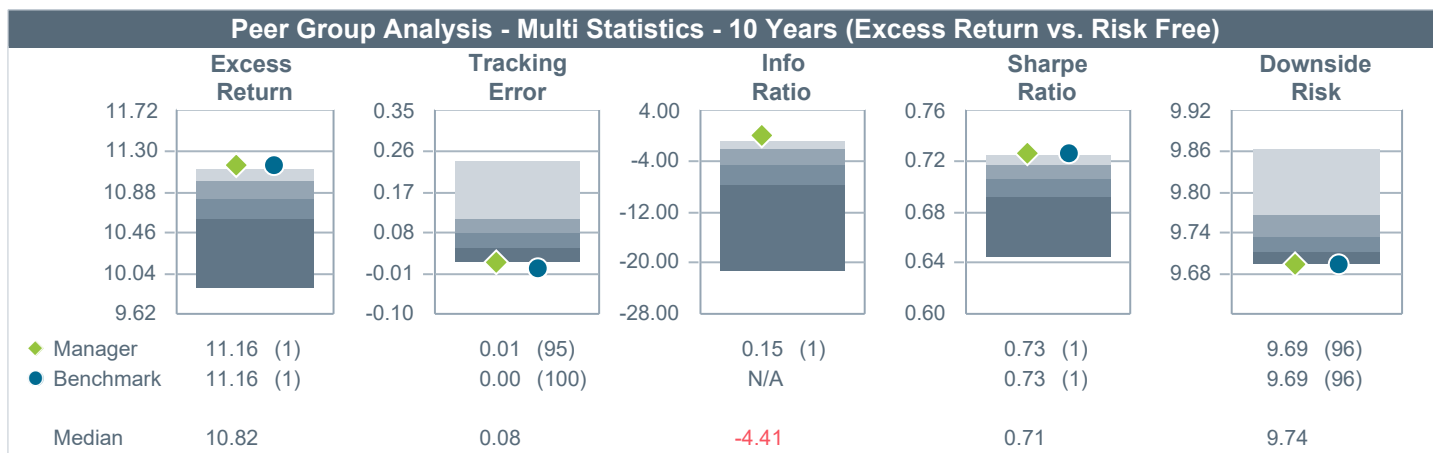
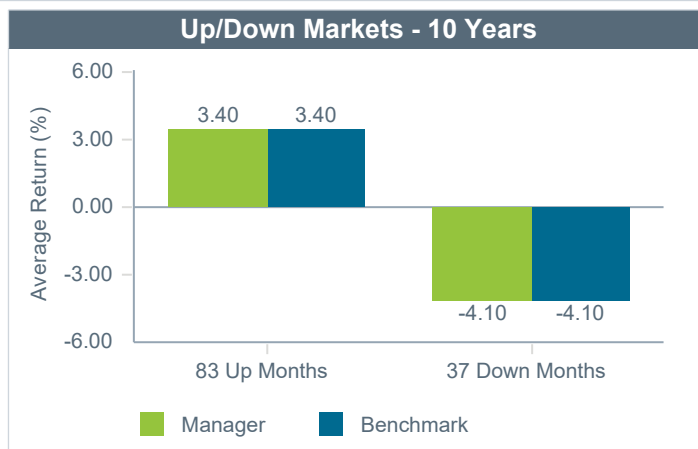
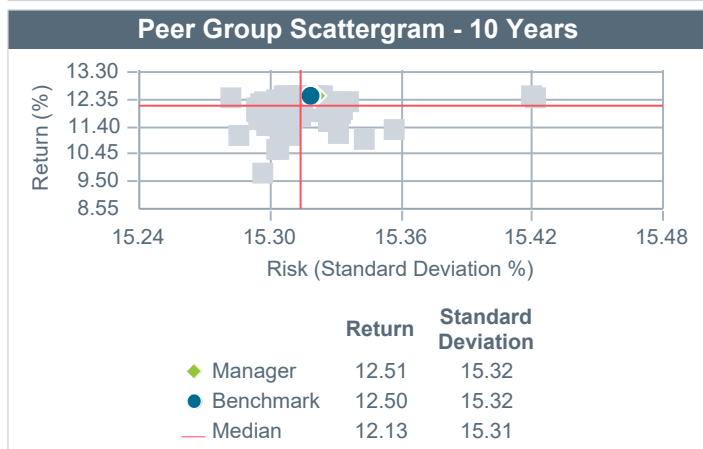




	2070	2065	2060	2055	2050	2045	2040	2035	2030	Ret
US Equity	63.67	63.67	63.66	63.10	59.98	53.57	46.46	39.70	32.35	24.50
Developed International Equity	24.25	24.25	24.24	24.10	22.86	20.26	17.05	14.31	11.24	7.80
Emerging Markets Equity	9.93	9.93	9.93	9.87	9.36	8.30	6.98	5.86	4.60	3.19
REITs	1.09	1.09	1.11	1.37	2.38	4.25	3.52	2.84	2.07	0.76
US Debt	1.06	1.06	1.06	1.57	5.41	13.28	23.44	34.87	39.24	49.83
Developed Non-US Debt	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emerging Markets Debt	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TIPS	0.00	0.00	0.00	0.00	0.00	0.03	0.52	0.59	8.22	10.35
Cash	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commodities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.81	2.20
Other	0.00	0.00	0.00	0.00	0.00	0.31	2.03	1.83	1.48	1.37
Total Equity	98.94	98.94	98.93	98.43	94.59	86.38	74.01	62.70	50.26	36.25
Difference From Benchmark	8.40	8.40	9.70	10.21	8.76	3.15	-2.14	-3.64	-5.34	5.79
Total Fixed Income	1.06	1.06	1.07	1.57	5.41	13.31	23.96	35.46	47.46	60.17
Difference From Benchmark	-8.40	-8.40	-9.70	-10.21	-8.76	-3.46	0.11	1.80	3.05	-9.37
Total Other	0.00	0.00	0.00	0.00	0.00	0.31	2.03	1.84	2.29	3.58
Difference From Benchmark	0.00	0.00	0.00	0.00	0.00	0.31	2.03	1.84	2.29	3.58

Allocations shown may not sum up to 100% exactly due to rounding. Developed International Equity allocation includes Emerging Markets Equity. Allocation to "Other" contains unmapped securities or derivatives including swaps, options, forwards/futures, and T-Bills. Due to chart limitations, allocations less than 0.15% will not appear in the chart.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	-4.29	8.22	9.05	18.58	13.25	12.51	25.00	26.28	-18.12	28.70	18.43
Benchmark	-4.27	8.25	9.06	18.59	13.25	12.50	25.02	26.29	-18.11	28.71	18.40
Difference	-0.01	-0.03	-0.02	-0.01	0.00	0.00	-0.02	-0.01	-0.01	-0.01	0.03
Peer Group Median	-4.35	7.94	8.76	18.26	12.92	12.13	24.67	25.96	-18.36	28.25	18.05
Rank	16	6	4	3	2	1	6	5	4	3	5
Population	112	112	112	110	107	94	112	115	117	117	116



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

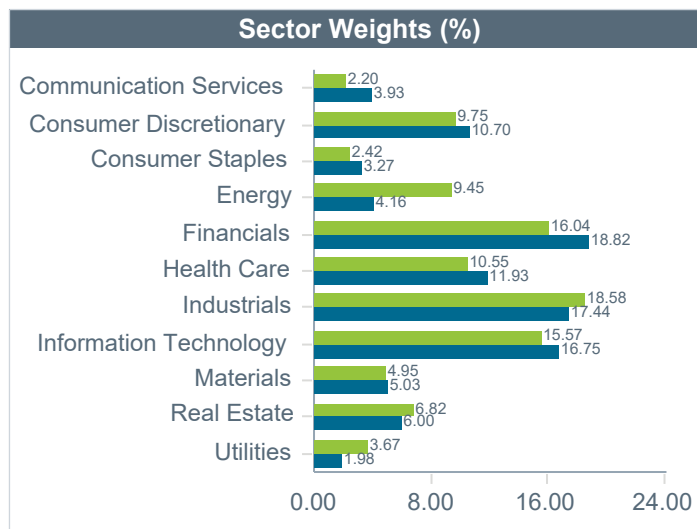
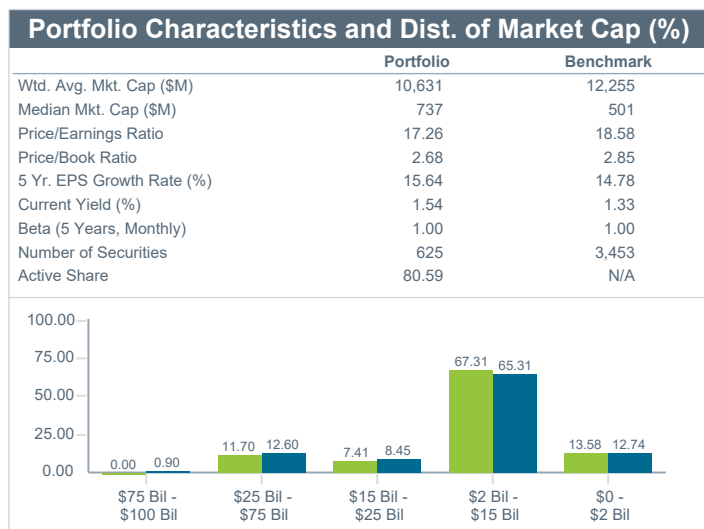
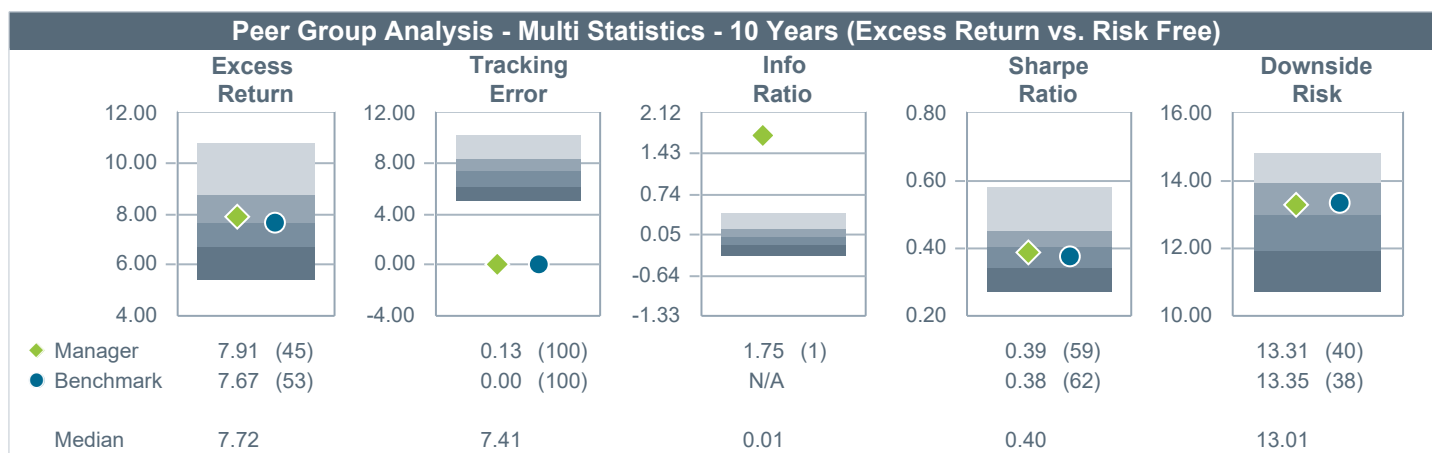
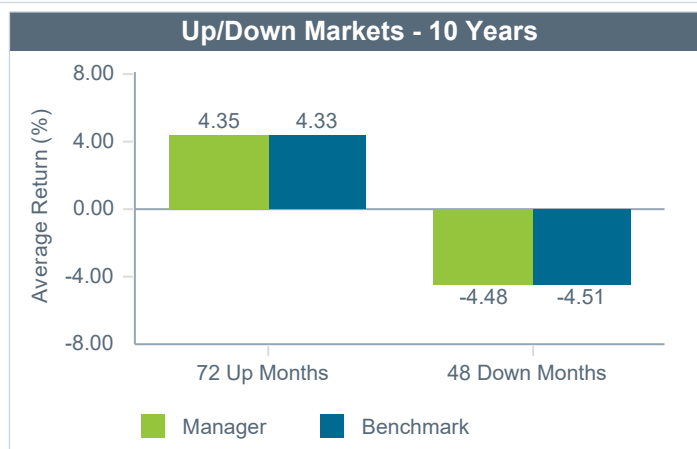
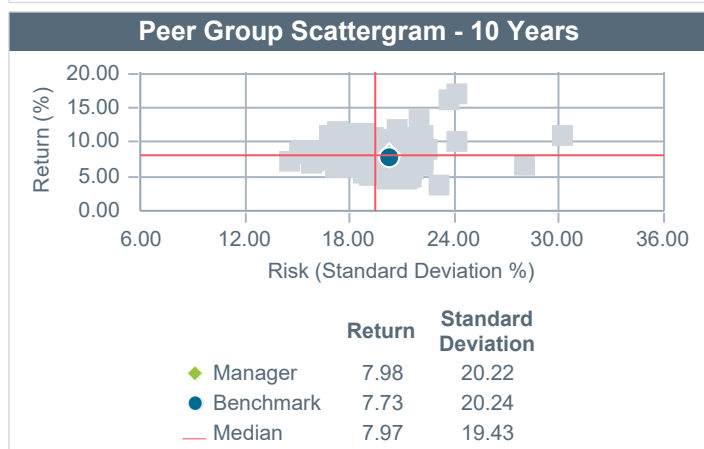
Manager: U.S. Small/Mid Company Stock Index Fund

As of March 31, 2025

Benchmark: DJ US Cmpl TSM Index

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

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	-8.91	-0.40	2.84	15.38	7.95	7.98	17.09	25.38	-26.13	12.88	32.02
Benchmark	-8.95	-0.50	2.53	15.05	7.66	7.73	16.88	24.97	-26.54	12.35	32.16
Difference	0.04	0.10	0.32	0.34	0.29	0.25	0.21	0.40	0.41	0.53	-0.15
Peer Group Median	-6.86	-3.14	2.60	15.16	8.03	7.97	12.34	16.47	-17.60	22.35	16.53
Rank	74	26	46	48	53	50	20	8	78	78	28
Population	184	184	181	173	153	127	188	198	203	206	212



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

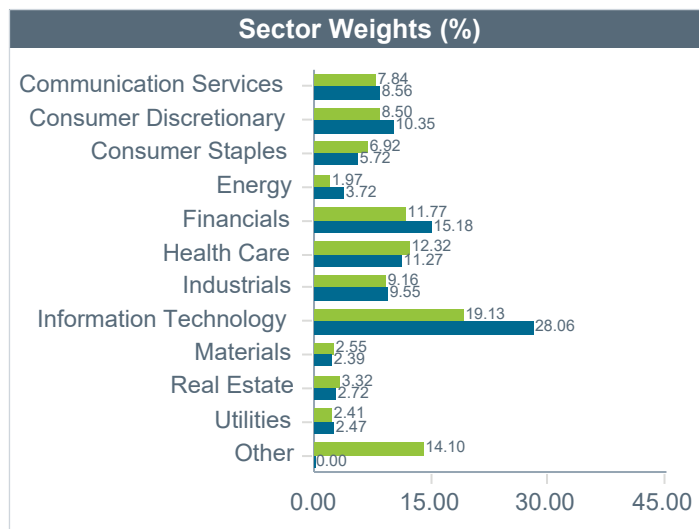
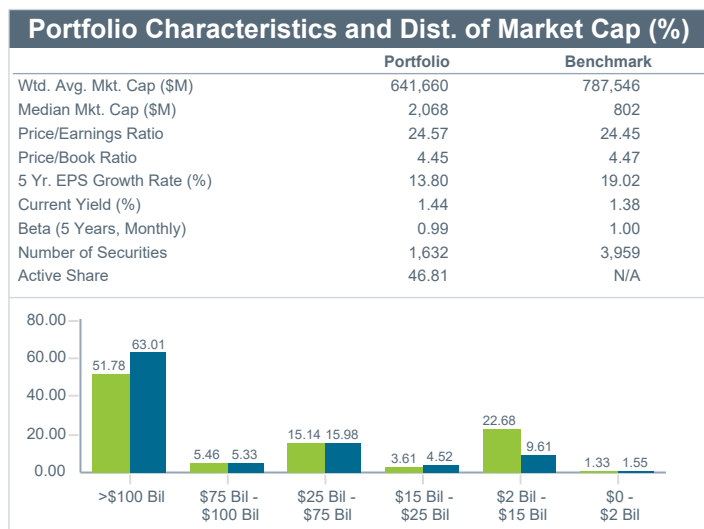
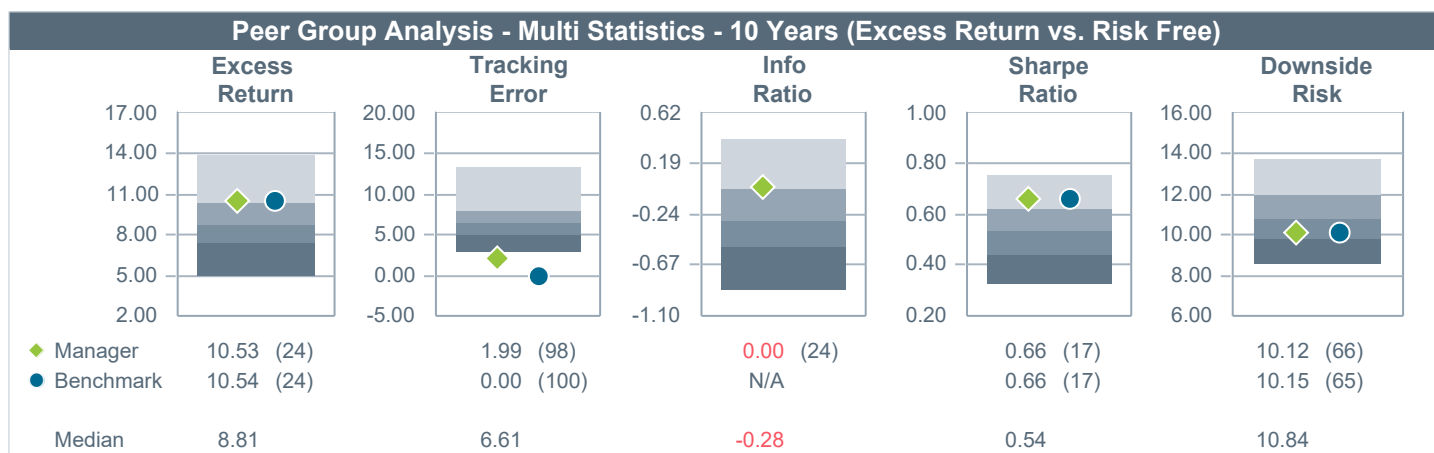
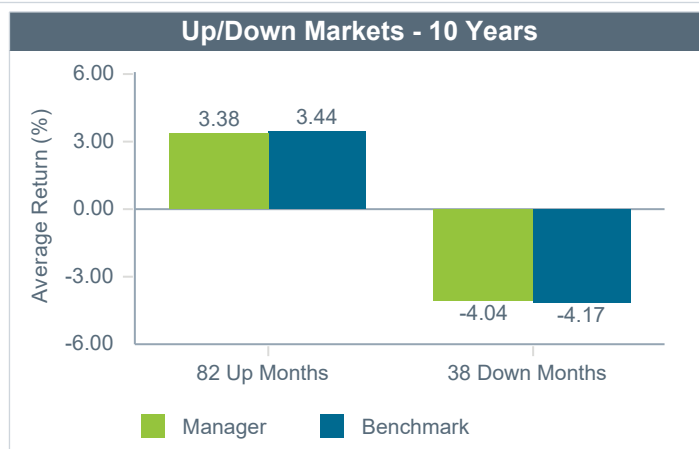
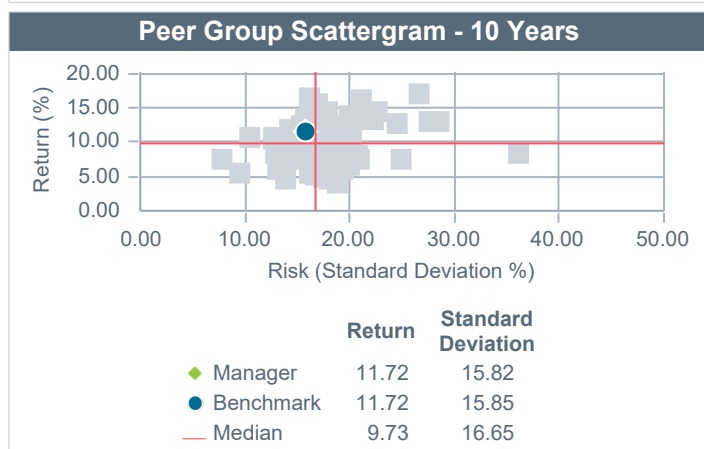
Manager: U.S. All Company Stock Index Fund

As of March 31, 2025

Benchmark: DJ US TSM Index

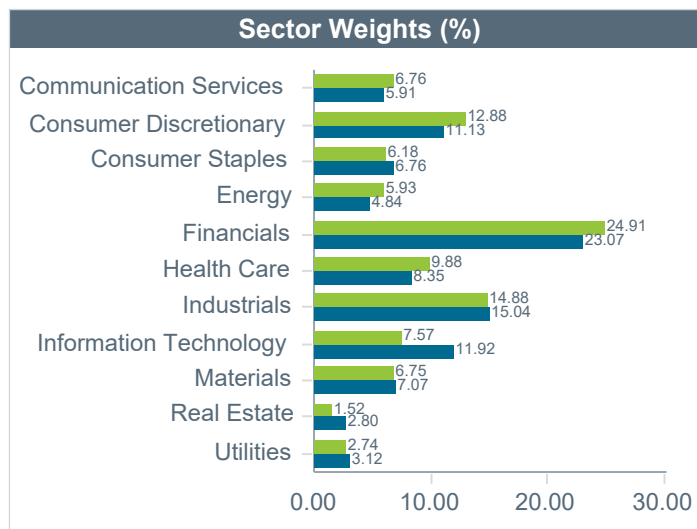
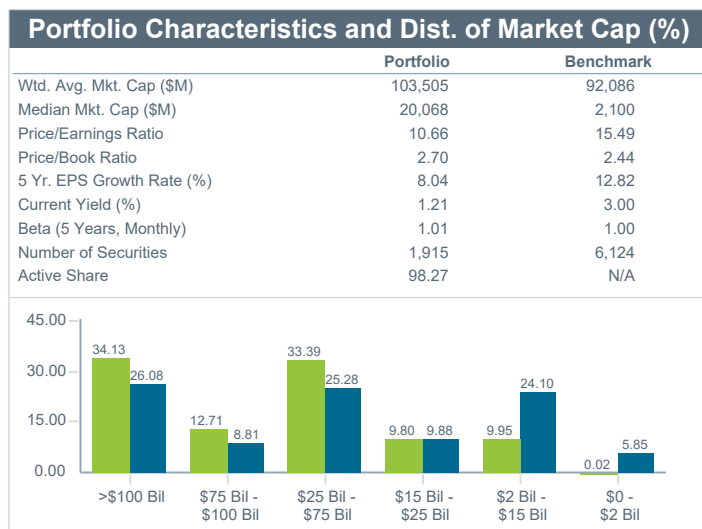
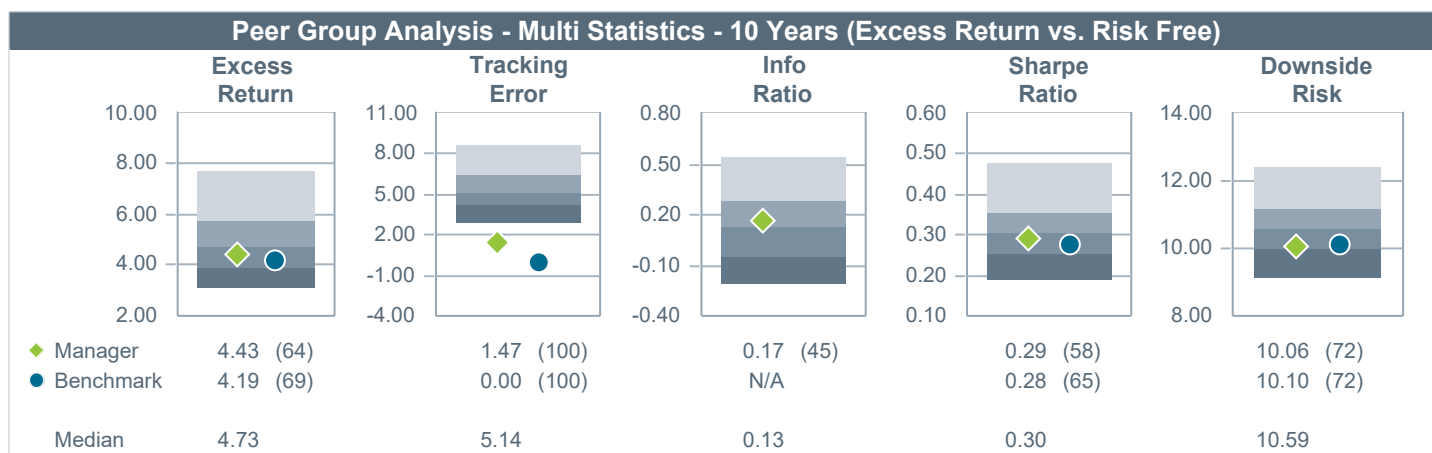
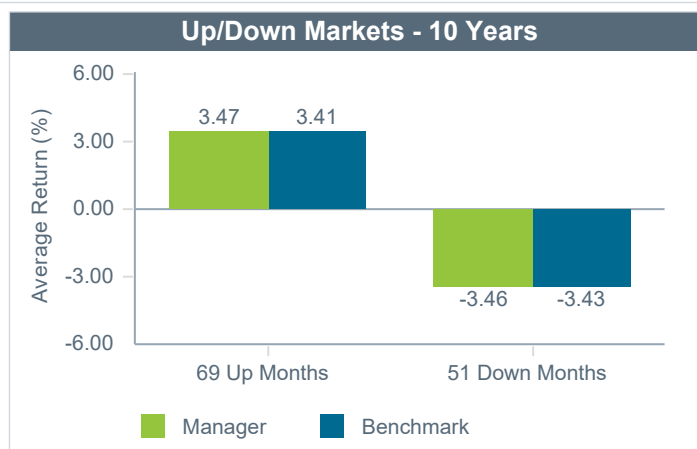
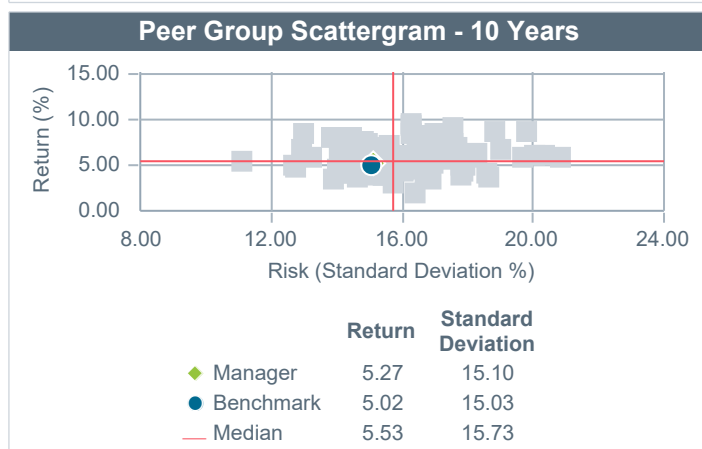
Peer Group: IM U.S. All Cap Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	-4.73	7.01	8.10	18.04	12.38	11.72	23.46	25.93	-19.25	25.59	21.17
Benchmark	-4.87	7.09	8.11	18.08	12.37	11.72	23.88	26.06	-19.53	25.66	20.79
Difference	0.14	-0.07	-0.02	-0.04	0.01	0.00	-0.41	-0.13	0.28	-0.07	0.38
Peer Group Median	-3.41	4.70	6.71	16.38	10.38	9.73	17.18	20.60	-17.50	24.21	14.26
Rank	63	30	30	31	22	22	24	32	63	42	35
Population	191	191	186	178	170	156	201	213	214	222	247



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

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	5.96	6.82	4.96	11.40	4.73	5.27	5.51	16.05	-15.94	7.94	11.13
Benchmark	4.59	5.50	3.99	11.02	4.29	5.02	5.23	15.62	-16.58	8.53	11.12
Difference	1.36	1.32	0.98	0.38	0.45	0.25	0.28	0.43	0.64	-0.58	0.01
Peer Group Median	5.61	7.04	5.09	11.34	4.82	5.53	6.02	16.29	-17.50	8.56	14.66
Rank	47	52	52	50	53	61	54	53	42	59	57
Population	123	123	121	120	120	117	125	128	136	141	152



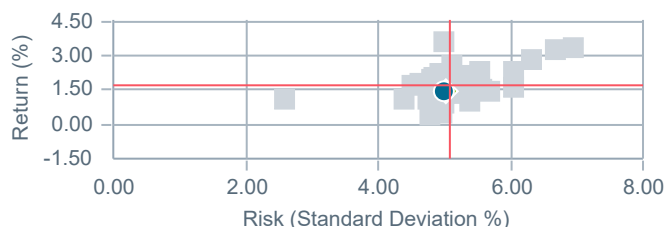
Performance shown is net of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Manager: U.S. Bond Index Fund

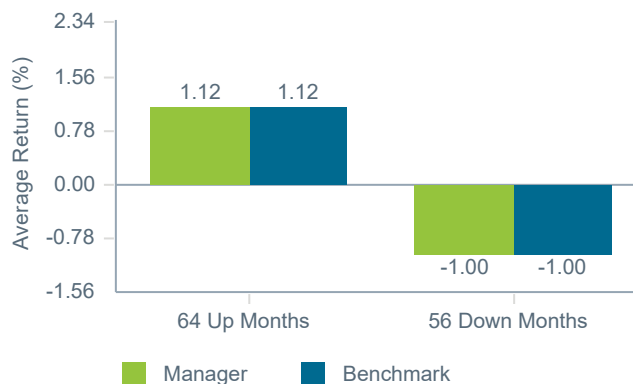
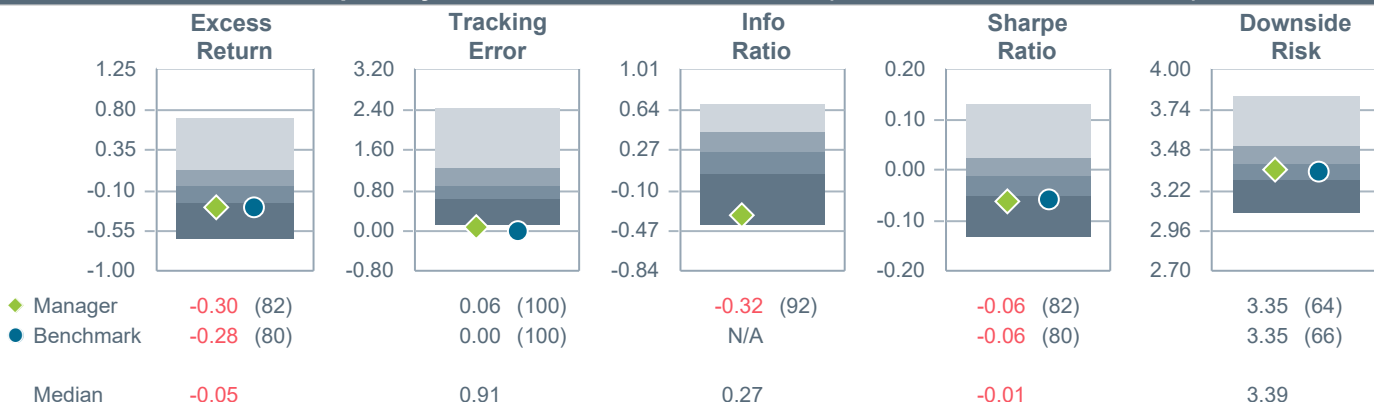
As of March 31, 2025

Benchmark: Bloomberg US Agg Bond Index**Peer Group:** IM U.S. Broad Market Core Fixed Income (SA+CF)

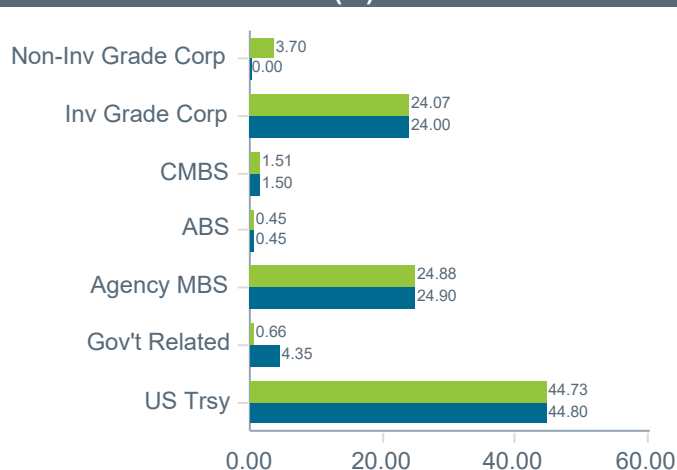
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	2.79	4.89	0.51	-0.42	1.57	1.44	1.24	5.53	-12.94	-1.66	7.55
Benchmark	2.78	4.88	0.52	-0.40	1.58	1.46	1.25	5.53	-13.01	-1.55	7.51
Difference	0.01	0.01	-0.01	-0.02	0.00	-0.02	-0.01	0.00	0.07	-0.11	0.04
Peer Group Median	2.75	5.00	0.70	0.21	1.81	1.68	1.62	5.79	-13.14	-1.47	8.02
Rank	32	64	70	84	77	81	83	68	36	67	67
Population	117	117	110	106	101	94	124	129	133	133	135

Peer Group Scattergram - 10 Years

	Return	Standard Deviation
◆ Manager	1.44	5.01
● Benchmark	1.46	5.00
— Median	1.68	5.08

Up/Down Markets - 10 Years**Peer Group Analysis - Multi Statistics - 10 Years (Excess Return vs. Risk Free)****Portfolio Characteristics (%) - As of 03/31/2025**

	Portfolio	Benchmark
Effective Duration	5.91	6.09
Spread Duration	3.40	5.96
Avg. Maturity	8.39	8.38
Avg. Quality	Aa2	Aa2/Aa3
Yield To Maturity (%)	4.63	4.60
Coupon Rate (%)	3.51	3.50
Current Yield (%)	3.81	N/A
Holdings Count	985	13,783

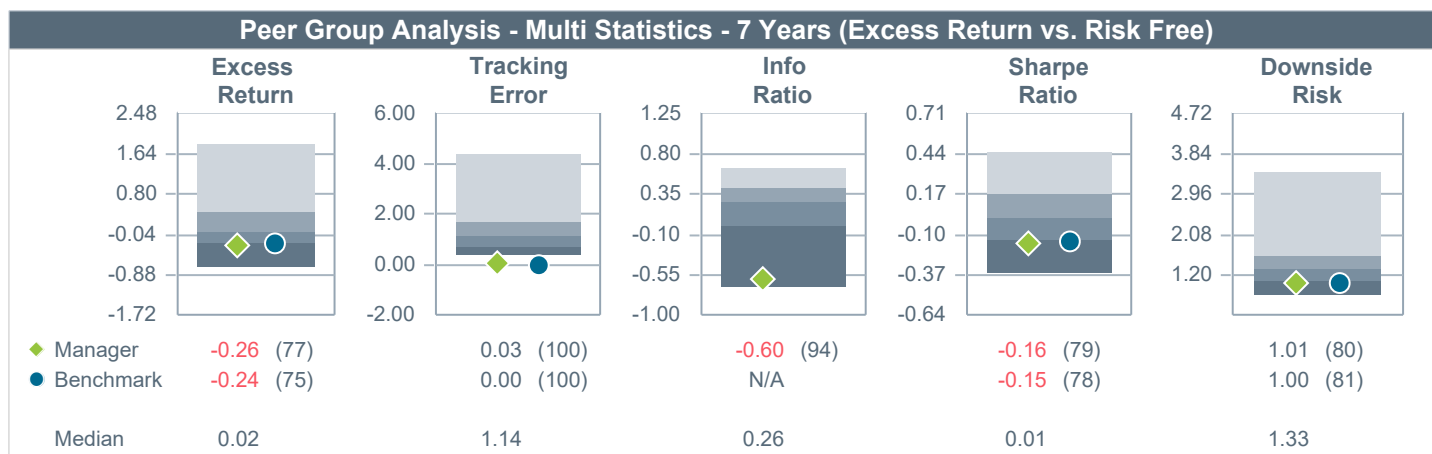
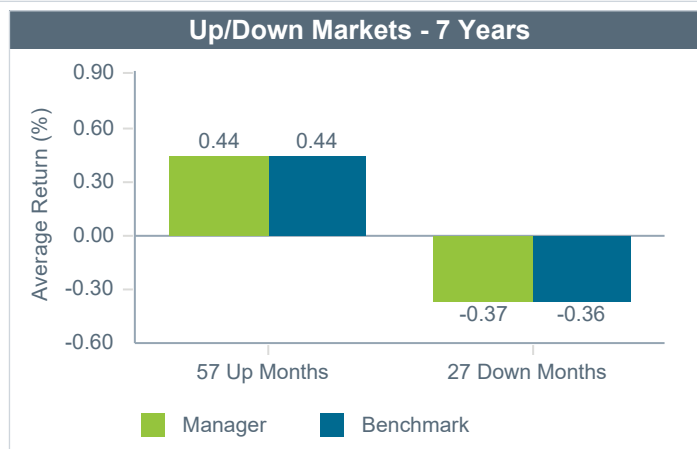
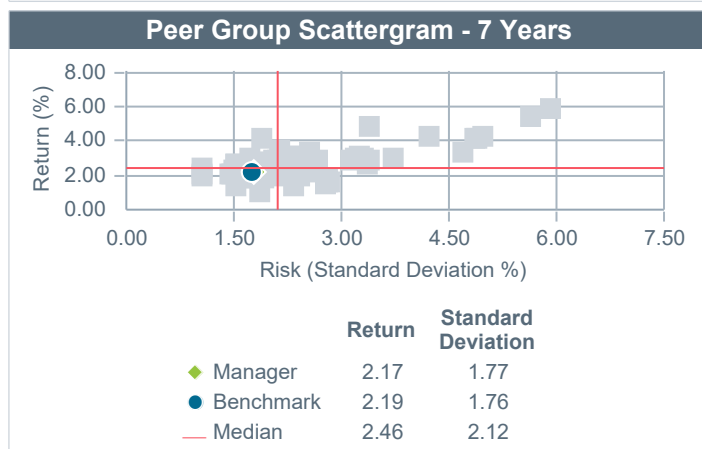
Sector Distribution (%) - As of 03/31/2025

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

Manager: U.S. Short Term Bond Index Fund
As of March 31, 2025
Benchmark: Bloomberg US Govt Crdt 1-3 Yr Bond Index

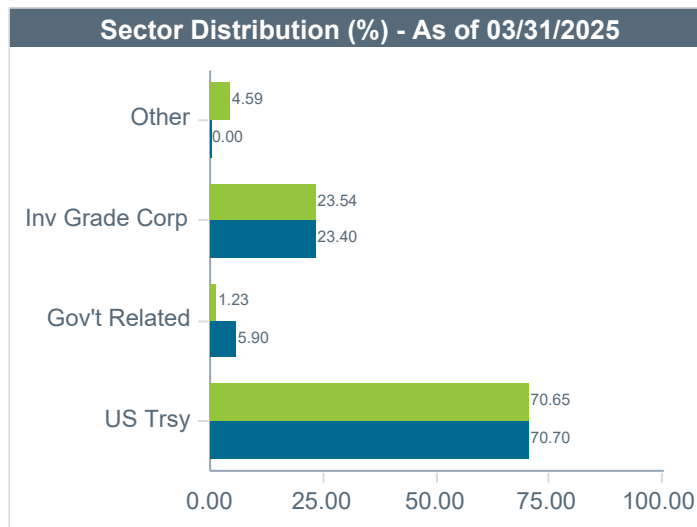
Peer Group: IM U.S. Short Duration Fixed Income (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	1.61	5.63	3.08	1.54	2.17	N/A	4.38	4.58	-3.70	-0.53	3.35
Benchmark	1.63	5.61	3.10	1.56	2.19	1.73	4.36	4.61	-3.69	-0.47	3.33
Difference	-0.01	0.02	-0.01	-0.02	-0.02	N/A	0.02	-0.03	-0.01	-0.06	0.02
Peer Group Median	1.67	5.77	3.45	2.39	2.46	1.92	4.83	5.08	-3.67	-0.37	3.62
Rank	65	64	74	82	77	N/A	71	87	51	63	67
Population	110	110	107	100	98	85	114	126	129	128	133



Portfolio Characteristics (%) - As of 03/31/2025

	Portfolio	Benchmark
Effective Duration	1.88	1.87
Spread Duration	0.56	1.89
Avg. Maturity	2.06	1.98
Avg. Quality	Aa2	Aa2/Aa3
Yield To Maturity (%)	4.16	4.09
Coupon Rate (%)	3.29	3.13
Current Yield (%)	3.34	N/A
Holdings Count	413	1,996

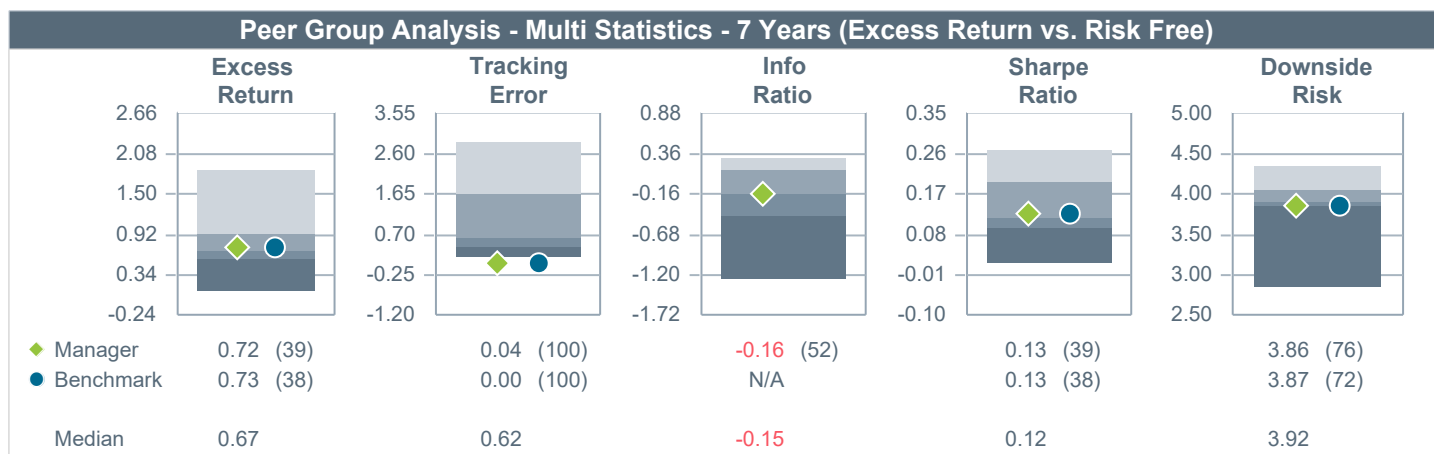
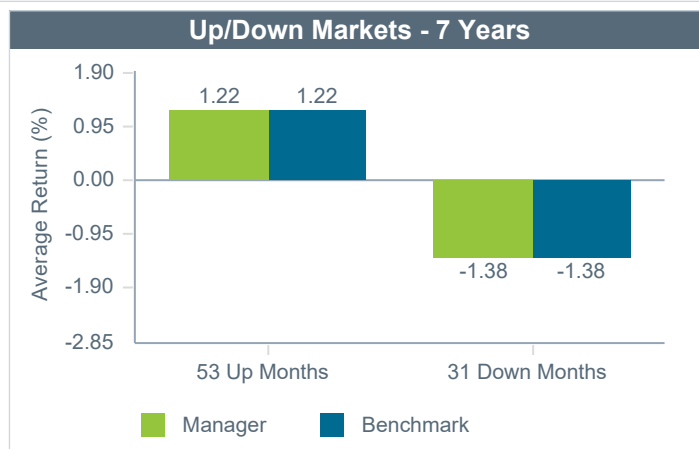
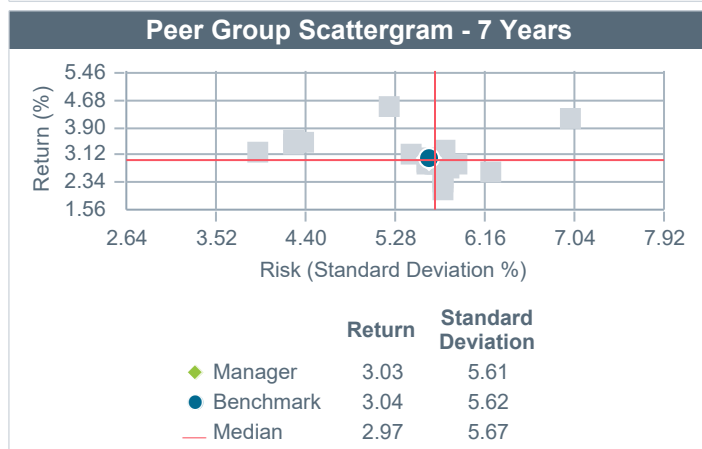


Performance shown is net of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Manager: U.S. Treasury Inflat Protected Sec Index Fund
As of March 31, 2025
Benchmark: Bloomberg US Trsy US TIPS Index

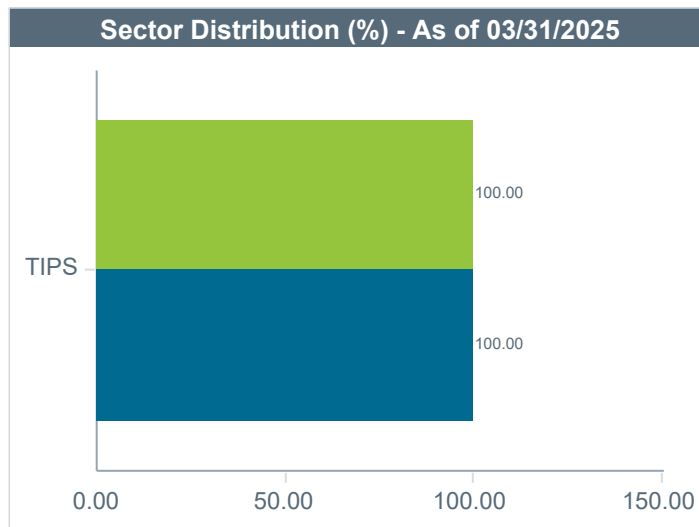
Peer Group: IM U.S. TIPS (SA+CF)

	Performance										
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2024	2023	2022	2021	2020
Manager	4.17	6.17	0.07	2.35	3.03	N/A	1.83	3.89	-11.77	5.86	10.99
Benchmark	4.17	6.17	0.06	2.36	3.04	2.51	1.84	3.90	-11.85	5.96	10.99
Difference	0.01	0.00	0.01	0.00	-0.01	N/A	0.00	0.00	0.07	-0.09	0.00
Peer Group Median	4.09	6.19	0.02	2.35	2.97	2.49	1.86	3.80	-11.87	5.71	10.61
Rank	30	56	47	51	39	N/A	52	39	41	32	30
Population	28	28	24	23	22	19	31	31	30	29	29



Portfolio Characteristics (%) - As of 03/31/2025

	Portfolio	Benchmark
Effective Duration	6.61	4.87
Spread Duration	N/A	4.87
Avg. Maturity	7.33	7.33
Avg. Quality	Aa1	Aa1
Yield To Maturity (%)	4.05	4.22
Coupon Rate (%)	1.04	1.05
Current Yield (%)	1.10	N/A
Holdings Count	48	48



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

Addendum & Glossary

BlackRock:LP Id;F Lending (CIT) Index Compositions

As of March 31, 2025

BlackRock LP Ret Lending Index consists of 22.4% Russell 1000 Index, 2.3% Russell 2000 Index, 12.0% MSCI ACW Ex US IM Index (USD) (Net), 20.1% Bloomberg US Gov't Int Trm Bond Index, 6.4% Bloomberg US Gov't Lng Trm Bond Index, 10.0% Bloomberg US Crdt Int Trm Index, 2.2% Bloomberg US Lng Crdt Index, 0.0% FTSE 3 Mo T-Bill Index, 5.8% Bloomberg US Trsy US TIPS Index, 15.6% Bloomberg US Sec: MBS, ABS, & CMBS Index, 1.8% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), and 1.6% Bloomberg Cmdty Index (TR).

BlackRock LP 2030 Lending Index consists of 31.8% Russell 1000 Index, 2.4% Russell 2000 Index, 17.7% MSCI ACW Ex US IM Index (USD) (Net), 10.5% Bloomberg US Gov't Int Trm Bond Index, 6.0% Bloomberg US Gov't Lng Trm Bond Index, 7.4% Bloomberg US Crdt Int Trm Index, 4.1% Bloomberg US Lng Crdt Index, 0.0% FTSE 3 Mo T-Bill Index, 4.9% Bloomberg US Trsy US TIPS Index, 11.3% Bloomberg US Sec: MBS, ABS, & CMBS Index, 2.6% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), and 1.3% Bloomberg Cmdty Index (TR).

BlackRock LP 2035 Lending Index consists of 38.9% Russell 1000 Index, 2.5% Russell 2000 Index, 22.0% MSCI ACW Ex US IM Index (USD) (Net), 6.7% Bloomberg US Gov't Int Trm Bond Index, 4.4% Bloomberg US Gov't Lng Trm Bond Index, 4.9% Bloomberg US Crdt Int Trm Index, 4.2% Bloomberg US Lng Crdt Index, 0.0% FTSE 3 Mo T-Bill Index, 4.0% Bloomberg US Trsy US TIPS Index, 8.2% Bloomberg US Sec: MBS, ABS, & CMBS Index, 3.2% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), and 1.1% Bloomberg Cmdty Index (TR).

BlackRock LP 2040 Lending Index consists of 45.6% Russell 1000 Index, 2.6% Russell 2000 Index, 26.1% MSCI ACW Ex US IM Index (USD) (Net), 3.3% Bloomberg US Gov't Int Trm Bond Index, 2.9% Bloomberg US Gov't Lng Trm Bond Index, 2.8% Bloomberg US Crdt Int Trm Index, 4.0% Bloomberg US Lng Crdt Index, 0.0% FTSE 3 Mo T-Bill Index, 2.9% Bloomberg US Trsy US TIPS Index, 5.3% Bloomberg US Sec: MBS, ABS, & CMBS Index, 3.8% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), and 0.8% Bloomberg Cmdty Index (TR).

BlackRock LP 2045 Lending Index consists of 51.8% Russell 1000 Index, 2.7% Russell 2000 Index, 29.9% MSCI ACW Ex US IM Index (USD) (Net), 0.6% Bloomberg US Gov't Int Trm Bond Index, 1.1% Bloomberg US Gov't Lng Trm Bond Index, 0.7% Bloomberg US Crdt Int Trm Index, 4.1% Bloomberg US Lng Crdt Index, 0.0% FTSE 3 Mo T-Bill Index, 1.8% Bloomberg US Trsy US TIPS Index, 2.7% Bloomberg US Sec: MBS, ABS, & CMBS Index, 4.3% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), and 0.5% Bloomberg Cmdty Index (TR).

BlackRock LP 2050 Lending Index consists of 56.1% Russell 1000 Index, 2.8% Russell 2000 Index, 32.6% MSCI ACW Ex US IM Index (USD) (Net), 0.0% Bloomberg US Gov't Int Trm Bond Index, 0.1% Bloomberg US Gov't Lng Trm Bond Index, 0.0% Bloomberg US Crdt Int Trm Index, 3.2% Bloomberg US Lng Crdt Index, 0.0% FTSE 3 Mo T-Bill Index, 0.7% Bloomberg US Trsy US TIPS Index, 0.0% Bloomberg US Sec: MBS, ABS, & CMBS Index, 4.3% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), and 0.2% Bloomberg Cmdty Index (TR).

BlackRock LP 2055 Lending Index consists of 58.0% Russell 1000 Index, 2.9% Russell 2000 Index, 33.8% MSCI ACW Ex US IM Index (USD) (Net), 0.0% Bloomberg US Gov't Int Trm Bond Index, 0.0% Bloomberg US Gov't Lng Trm Bond Index, 0.0% Bloomberg US Crdt Int Trm Index, 0.8% Bloomberg US Lng Crdt Index, 0.0% FTSE 3 Mo T-Bill Index, 0.2% Bloomberg US Trsy US TIPS Index, 0.0% Bloomberg US Sec: MBS, ABS, & CMBS Index, 4.3% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), and 0.1% Bloomberg Cmdty Index (TR).

BlackRock LP 2060 Lending Index consists of 58.0% Russell 1000 Index, 2.9% Russell 2000 Index, 33.8% MSCI ACW Ex US IM Index (USD) (Net), 0.0% Bloomberg US Gov't Int Trm Bond Index, 0.0% Bloomberg US Gov't Lng Trm Bond Index, 0.0% Bloomberg US Crdt Int Trm Index, 0.9% Bloomberg US Lng Crdt Index, 0.0% FTSE 3 Mo T-Bill Index, 0.1% Bloomberg US Trsy US TIPS Index, 0.0% Bloomberg US Sec: MBS, ABS, & CMBS Index, 4.3% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), and 0.0% Bloomberg Cmdty Index (TR).

BlackRock LP 2065 Lending Index consists of 58.0% Russell 1000 Index, 2.9% Russell 2000 Index, 33.8% MSCI ACW Ex US IM Index (USD) (Net), 0.0% Bloomberg US Gov't Int Trm Bond Index, 0.0% Bloomberg US Gov't Lng Trm Bond Index, 0.0% Bloomberg US Crdt Int Trm Index, 1.0% Bloomberg US Lng Crdt Index, 0.0% FTSE 3 Mo T-Bill Index, 0.0% Bloomberg US Trsy US TIPS Index, 0.0% Bloomberg US Sec: MBS, ABS, & CMBS Index, 4.3% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), and 0.0% Bloomberg Cmdty Index (TR).

BlackRock LP 2070 Lending Index consists of 58.0% Russell 1000 Index, 2.9% Russell 2000 Index, 33.8% MSCI ACW Ex US IM Index (USD) (Net), 0.0% Bloomberg US Gov't Int Trm Bond Index, 0.0% Bloomberg US Gov't Lng Trm Bond Index, 0.0% Bloomberg US Crdt Int Trm Index, 1.0% Bloomberg US Lng Crdt Index, 0.0% FTSE 3 Mo T-Bill Index, 0.0% Bloomberg US Trsy US TIPS Index, 0.0% Bloomberg US Sec: MBS, ABS, & CMBS Index, 4.3% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), and 0.0% Bloomberg Cmdty Index (TR).

Allocations shown are updated annually and may not sum up to 100% exactly due to rounding.

General Comments

- RVK began monitoring the assets of the Pennsylvania State Employees' Retirement System Defined Contribution Plans as of 02/01/2025. Prior historical data was provided by Empower and investment managers.

Performance Comments

- Performance shown is gross of fees, except where noted, and product specific.

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

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.

Book Value Return - Used by stable value and Guaranteed Investment Contracts (GIC) investments that are not valued daily. Book value returns are calculated based on the crediting rate set by the fund and guaranteed by the insurance wrap provider.

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.

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.

Glossary

- 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."
- 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 BofAML 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.
- 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.
- Market Capitalization** - The total dollar market value of a company's outstanding shares.
- Market to Book Value** - A ratio of the market value of all fund assets relative to the book value of those assets for a stable value fund. Wrap contracts provide for the payment of individual participant benefits at book value under normal circumstances.
- Market Value Return** - The returns associated with the underlying assets of a portfolio used to support the book value return provided to investors. For stable value investments, the market value return is representative of the performance of the portfolio as a daily-valued investment, but is purely for illustrative purposes. The investor instead earns the stated book value return.
- 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.

Glossary

Peer Groups -

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 - Performance shown is provided by the investment managers and 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).

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.

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

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 BofAML 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.

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

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 BofAML 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 the product's historical risk-adjusted performance.

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. This document is provided for the client's internal use only. 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.