

Pennsylvania Municipal Retirement System

Quarterly Performance Report
As of March 31, 2025



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Marquette Update

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Marquette Update

2Q 2025



Our 1Q 2025 Market Insights webinar hosted by our research team will be held live on Wednesday, April 16 at 1:00pm CT, analyzing the first quarter across the economy and various asset classes. Reach out to our team with any questions or for registration information at clientservice@marquetteassociates.com. We'll post the recording to our website and YouTube channel on April 17.

\$407B

assets under advisement

99%

client retention rate

39th

year in business

100%

employee-owned

24

partners

140+

employees

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UPCOMING SPEAKING ENGAGEMENTS

- ▶ Greg Leonberger, Jessica Noviskis, Frank Valle, Evan Frazier, and James Torgerson speaking at 2025 Midwest Institutional Forum 4/9
- ▶ Tim Burdick and Nat Kellogg speaking at Community Foundation of Middle Tennessee Event 4/9
- ▶ Kweku Obed speaking at Titan Investors Atlanta Institutional Active Exchange 4/16
- ▶ Amy Miller speaking at Pensions & Investments 2025 Private Markets Conference 4/16
- ▶ Sarah Wilson and Brad Hampton speaking at PSACC Spring Conference 4/23
- ▶ Pat Wing speaking at City of London Investment Group Roundtable 4/29
- ▶ Greg Leonberger and Frank Valle speaking at Institutional Investor Redefining Fixed Income Forum 5/13
- ▶ Amy Miller speaking at NASP 2025 Annual Financial Services Conference 6/3

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Annie Huang

Research Analyst

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Bayley Miozzi

Client Analyst

Eric Drew

Client Analyst



Client data as of December 31, 2024; firm data as of April 2025. Client retention rate calculated 2014–2023. Owned by current and former employees. Marquette is an independent investment adviser registered under the Investment Advisers Act of 1940, as amended. Registration does not imply a certain level of skill or training. More information about Marquette including our investment strategies, fees and objectives can be found in our ADV Part 2, which is available upon request and on our website.

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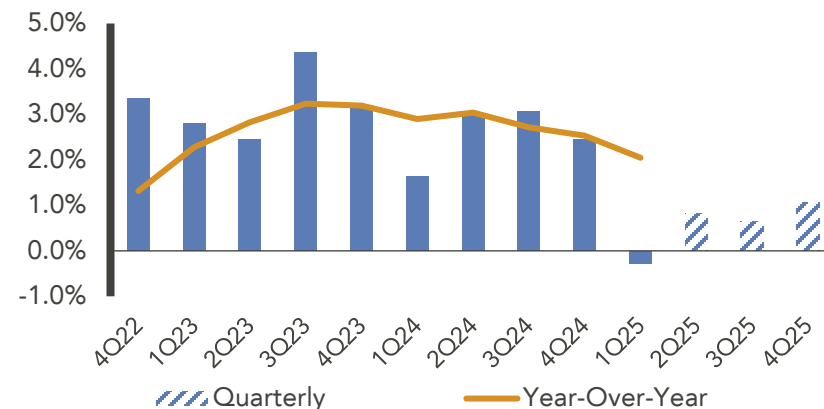


Market Environment

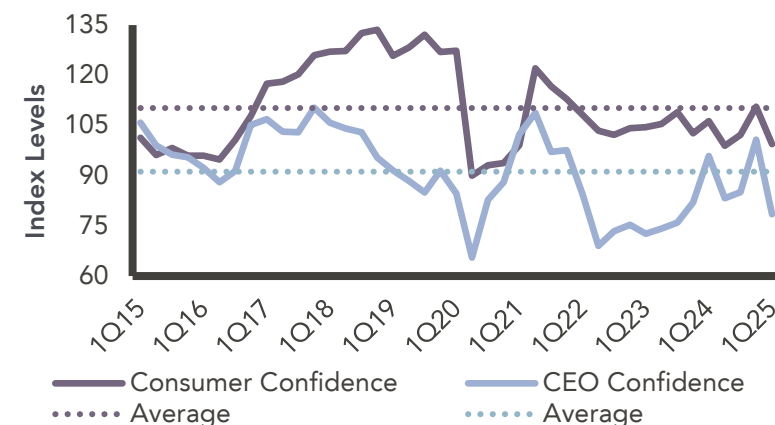
U.S. Economy

- The U.S. economy contracted in Q1, with real GDP declining at an annualized pace of -0.3%. This marked the first negative GDP print since Q1 2022, though the headline number likely overstates economic weakness during the quarter. Net exports were a large drag on growth, detracting 4.8 percentage points. Goods imports surged as firms attempted to front-run additional tariffs scheduled for early April. Consumer spending, meanwhile, decelerated from Q4 but topped economist forecasts.
- Looking ahead, many economists have revised down their economic growth expectations for the remainder of 2025, due in large part to policy uncertainty related to tariffs and the fiscal outlook. More specifically, real GDP growth for the year is now seen at just 0.8%, down from a forecast of 2.0% only three months ago.
- Amid this uncertainty, both consumer and corporate confidence declined precipitously in Q1. The latter may eventually lead to slower hiring, which in turn could impact consumer spending, and capital expenditures.

U.S. Real GDP Growth¹



Consumer and CEO Confidence



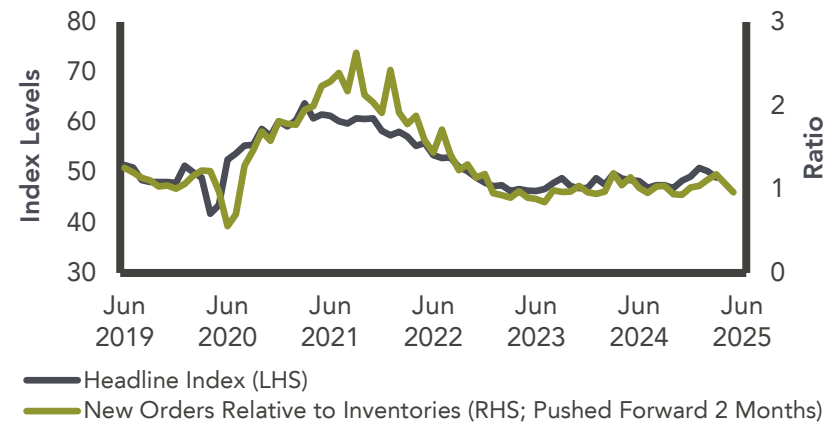
Source: Refinitiv, Vantage, The Wall Street Journal

¹Striped bars reflect economist estimates from The Wall Street Journal Economic Forecasting Survey

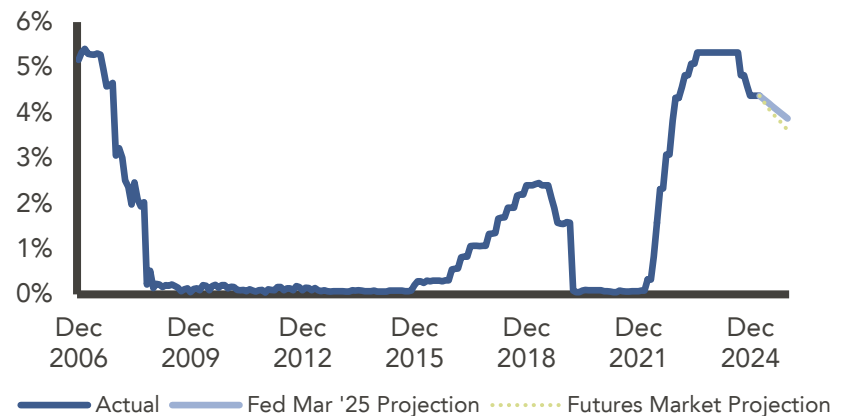
U.S. Economy

- CEO confidence tends to be a strong leading indicator of the ISM surveys, which suggests the recent recovery in manufacturing may prove fleeting. The decline in the survey's new orders index relative to its inventories index also points to a manufacturing slowdown in the coming months.
- Amid signs of an economic deceleration, recent inflation reports have been better-than-expected. That said, consumer inflation expectations have risen over the past few months, while one-year inflation swaps have surged to a two-year high. The latter likely reflects expectations of a short-term increase in prices due to tariffs.
- Amid these crosscurrents, the Federal Reserve ("Fed") held rates steady during the quarter, opting for a "wait and see" approach. Its revised Summary of Economic Projections ("SEP") continued to show a base case of 50 basis points ("bps") of cuts in 2025. Markets, meanwhile, are now pricing in more than three full rate cuts in 2025, betting that the Fed will attempt to support the economy and look past any tariff-related inflation in the coming months.

ISM Manufacturing Survey



Short-Term Interest Rates

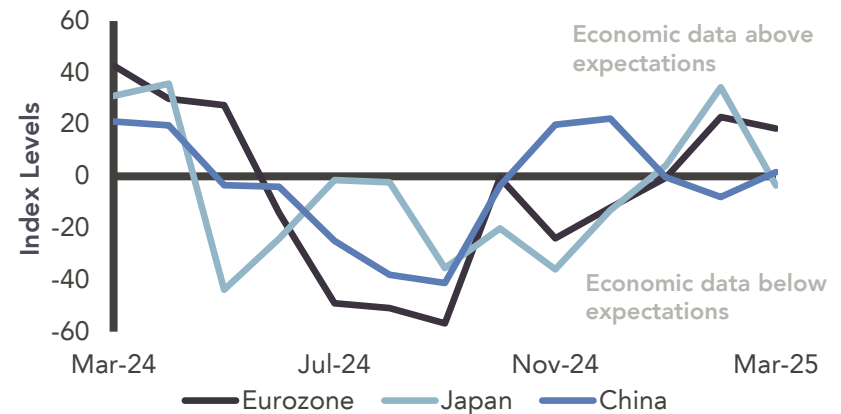


Source: Refinitiv

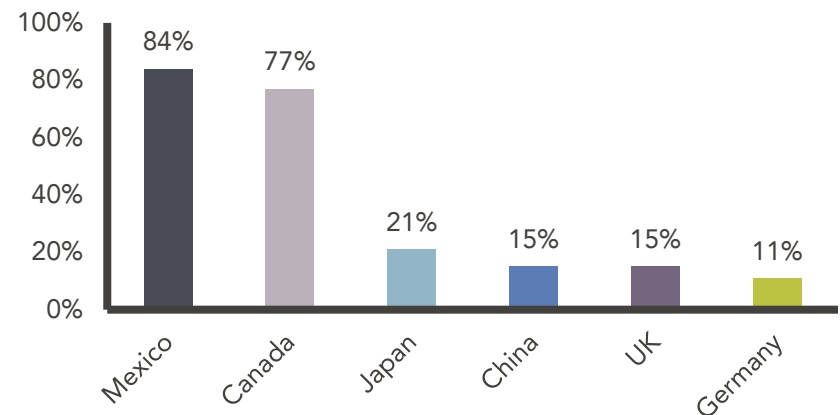
Global Economy

- Prior to the recent surge in global economic policy uncertainty, economic data outside the U.S. was showing signs of improvement relative to expectations, particularly in Europe.
- Within Europe, Germany's approval of a €500 billion spending package marked a historic departure from its post-financial crisis austerity. This new program includes substantial infrastructure and defense spending and is expected to improve Germany's economic outlook.
- That said, near-term economic growth is likely to decelerate amid the shift in trade policy. While Mexico and Canada are highly leveraged to U.S. trade relations, other major economies—such as, Japan, China, and the U.K.—also have material export exposure to the U.S. Outside of China, it is unclear how changes in trade will unfold in the coming months given the 90-day pause in reciprocal tariffs announced in early April.

Citigroup Economic Surprise Indices



% of Total Exports to U.S.

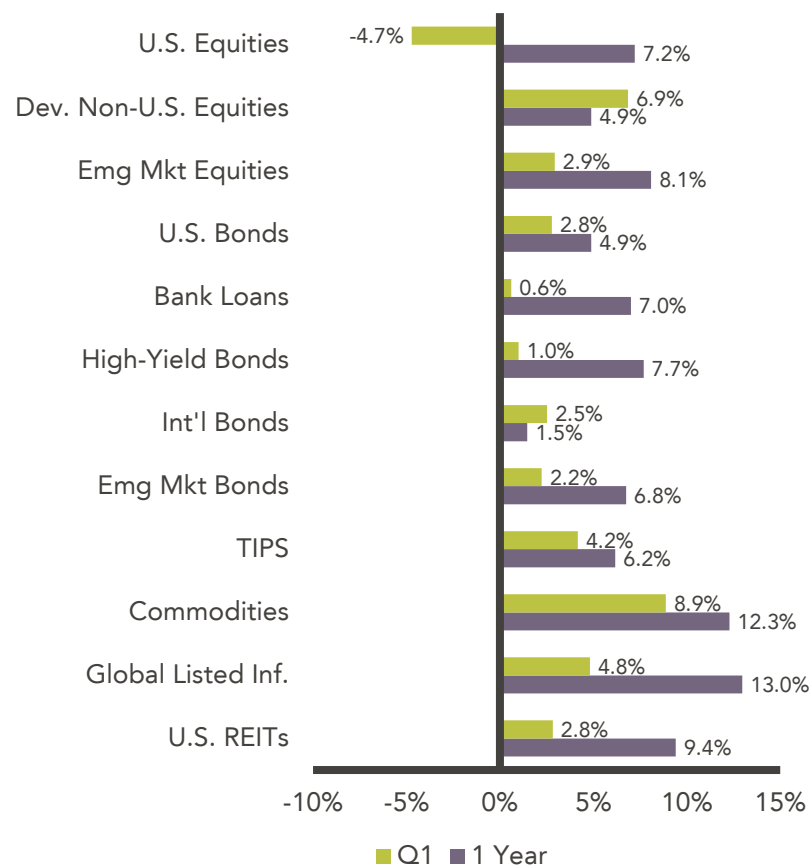


Source: Refinitiv, United Nations COMTRADE Database

Global Asset Class Performance

- Global equities posted a marginal decline for the second consecutive quarter in Q1. Relative regional returns, however, were radically different than Q4 due in part to potential fiscal austerity and expansion in the U.S. and non-U.S., particularly Germany, respectively. U.S. equities were firmly in the red and underperformed developed non-U.S. and emerging markets. U.S. dollar weakness contributed to gains for unhedged U.S.-based investors, adding approximately 4.0 and 0.3 percentage points, respectively, to non-U.S. developed and emerging markets returns.
- Fixed income markets were broadly positive amid declining rates. Investment-grade bonds were in the black as rates fell across most maturities. Sub-investment grade debt, meanwhile, posted modest gains, with high-yield debt topping bank loans given their fixed-rate characteristics.
- Inflation-sensitive assets also posted solid gains in Q1. TIPS bested their nominal government bond counterparts amid rising inflation expectations. Global listed infrastructure and REITs topped broad equity markets amid lower rates. Commodities were one of the best-performing asset classes, despite flat oil prices, thanks to a surge in precious metals.

Asset Class Returns: Select Asset Class Performance

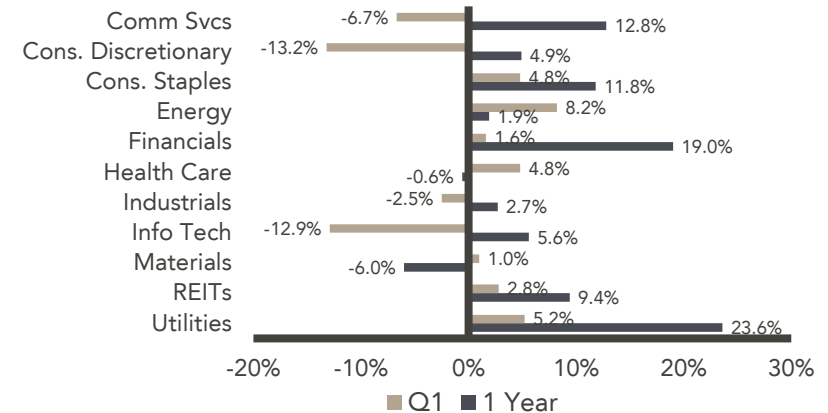


Source: Refinitiv

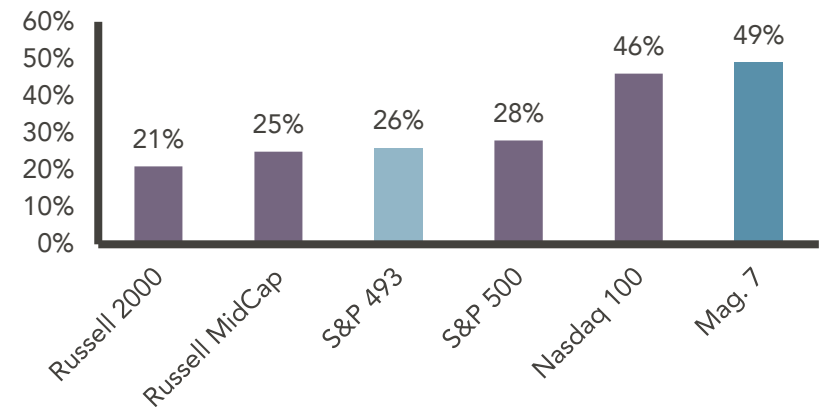
U.S. Equity Markets

- Economic sector performance was mixed in the quarter, with most sectors in the green, despite broad market losses. Energy and Utilities were the best-performing sectors. At the other end of the spectrum, Consumer Discretionary was the worst performer, followed by Information Technology.
- From a style perspective, mega-cap growth stocks notably lagged the broad market likely due to several reasons. Most notably, investors saw the emergence of a low-cost Chinese AI model as a threat to the dominance of U.S. AI leaders.
- Investors may also be considering the impact of U.S. tariffs, as these mega-cap companies have the highest exposure to (as defined by share of sales) international demand for their products and services. While non-U.S. jurisdictions may not enact tariffs on services, it's unclear how non-U.S. demand will change amid the shift in trade policy. Put differently, there is a risk that some choose to "buy local" at the margin instead of U.S. products and services moving forward.

Sector Returns



Share of Sales Derived from Outside the U.S.

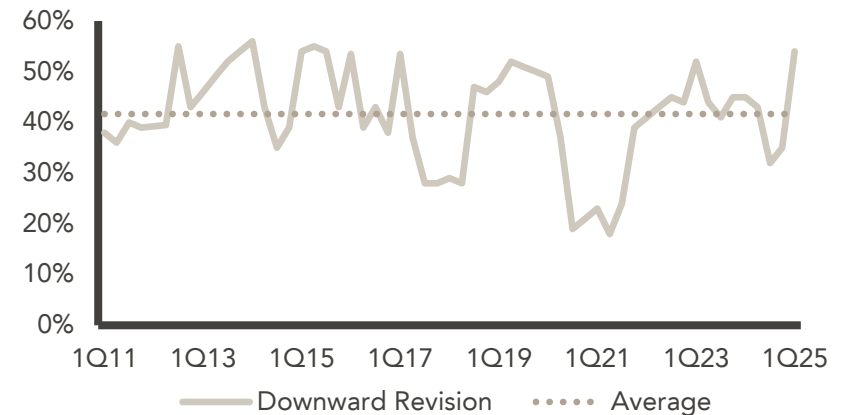


Source: Goldman Sachs, Refinitiv

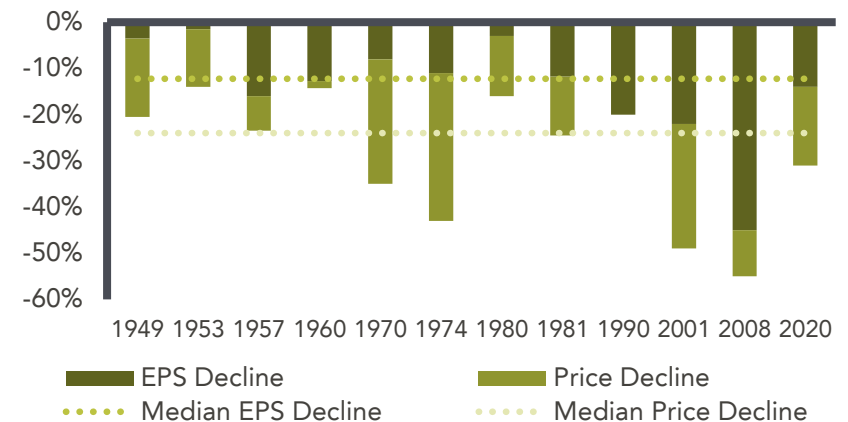
U.S. Equity Markets

- Even prior to the tariff announcements on April 2, the proportion of Q1 negative EPS guidance revisions relative to all guidance (which also includes positive and unchanged) was 54%. This marked the highest proportion of negative guidance since Q1 2015.
- Should the current economic slowdown eventually turn into a recession, history shows that EPS tends to decline by a median of 11% amid post-WWII economic contractions.
- Amid these periods, valuations also tend to contract, leaving the median price decline for the S&P 500 at 24%.
- While the peak-to-trough decline was relatively moderate at the end of Q1, the S&P 500 approached the median post-WWII price decline in early April in the wake of tariff announcements by the U.S. and retaliatory measures by other countries, particularly China.

EPS Guidance: Downward Revisions by S&P 500 Companies



S&P 500 Declines Around Post-WWII Recessions

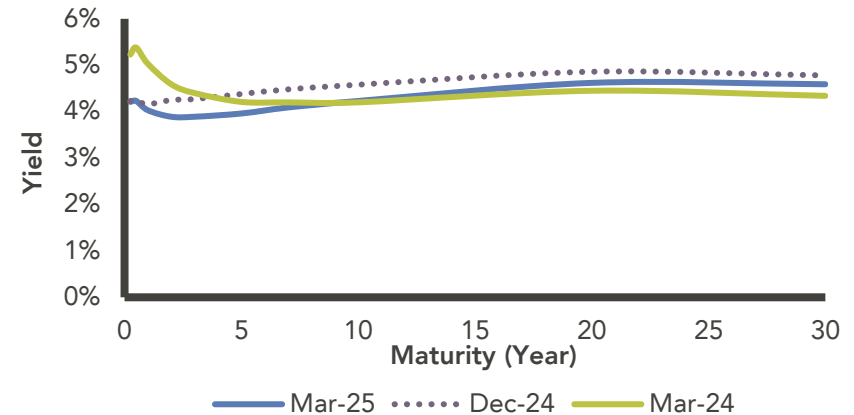


Source: Goldman Sachs, Jefferies

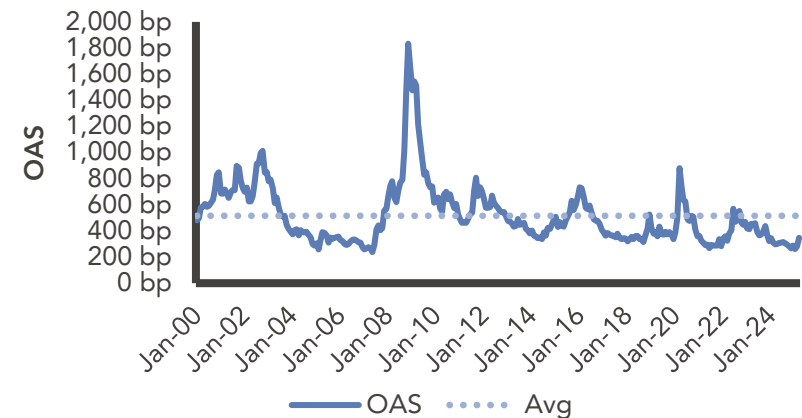
U.S. Fixed Income

- Treasury yields fell across most maturities in Q1. While the Fed paused its rate-cutting cycle, bond investors were likely somewhat pleased that the Fed's SEP continued to show a base case of 50 bps of cuts in 2025, despite the high likelihood in the coming months of a tariff-related increase in inflation.
- Further, economic policy uncertainty and downward revisions to economic growth forecasts put downward pressure on intermediate- and long-term yields.
- Given the move in rates, the broad investment-grade bond market returned 2.8% in Q1. Sub-investment grade debt posted marginal gains, lagging their investment-grade counterparts, with high-yield debt topping bank loans given their fixed-rate characteristics. High-yield spreads ended Q1 at 347 basis points—60 basis points above year-end levels, though still comfortably below the long-term average.

Yield Curve



High Yield Spread



Source: Refinitiv

Global Index Returns

DOMESTIC EQUITY	QTR	YTD	1 Year	3 Year	5 Year	10 Year
S&P 500 Index	(4.3)	(4.3)	8.3	9.1	18.6	12.5
Russell 3000 Index	(4.7)	(4.7)	7.2	8.2	18.2	11.8
Russell 3000 Growth Index	(10.0)	(10.0)	7.1	9.6	19.6	14.5
Russell 3000 Value Index	1.6	1.6	6.7	6.3	16.1	8.6
Russell TOP 200 Index	(4.8)	(4.8)	9.5	10.0	19.2	13.4
Russell TOP 200 Growth Index	(10.3)	(10.3)	8.5	10.8	21.2	16.5
Russell TOP 200 Value Index	4.5	4.5	9.9	8.2	15.9	9.4
Russell 1000 Index	(4.5)	(4.5)	7.8	8.7	18.5	12.2
Russell 1000 Growth Index	(10.0)	(10.0)	7.7	8.7	20.1	15.1
Russell 1000 Value Index	2.1	2.1	7.2	6.6	16.1	8.8
Russell Mid-Cap Index	(3.4)	(3.4)	2.6	4.6	16.3	8.8
Russell Mid-Cap Growth Index	(7.1)	(7.1)	3.6	6.2	14.9	10.1
Russell Mid-Cap Value Index	(2.1)	(2.1)	2.3	3.8	16.7	7.6
Russell 2000 Index	(9.5)	(9.5)	(4.0)	0.5	13.3	6.3
Russell 2000 Growth Index	(11.1)	(11.1)	(4.9)	0.8	10.8	6.1
Russell 2000 Value Index	(7.7)	(7.7)	(3.1)	0.0	15.3	6.1
DOMESTIC EQUITY BY SECTOR (MSCI)						
Communication Services	(6.7)	(6.7)	12.8	10.0	16.3	10.4
Consumer Discretionary	(13.2)	(13.2)	4.9	3.1	17.8	11.6
Consumer Staples	4.8	4.8	11.8	7.1	13.0	8.8
Energy	8.2	8.2	1.9	10.6	32.7	5.4
Financials	1.6	1.6	19.0	11.0	21.4	11.7
Health Care	4.8	4.8	(0.6)	2.9	11.4	8.6
Industrials	(2.5)	(2.5)	2.7	10.0	19.2	10.6
Information Technology	(12.9)	(12.9)	5.6	12.1	23.0	19.4
Materials	1.0	1.0	(6.0)	1.0	16.6	7.8
Real Estate	2.8	2.8	9.4	(1.6)	9.6	5.6
Utilities	5.2	5.2	23.6	5.3	10.5	9.4

Source: Refinitiv

Global Index Returns

INTERNATIONAL/GLOBAL EQUITY	QTR	YTD	1 Year	3 Year	5 Year	10 Year
MSCI EAFE (Net)	6.9	6.9	4.9	6.1	11.8	5.4
MSCI EAFE Growth (Net)	2.1	2.1	(2.6)	2.4	8.5	5.5
MSCI EAFE Value (Net)	11.6	11.6	12.8	9.7	14.8	5.1
MSCI EAFE Small Cap (Net)	3.7	3.7	3.1	0.9	9.9	5.3
MSCI AC World Index (Net)	(1.3)	(1.3)	7.2	6.9	15.2	8.8
MSCI AC World Index Growth (Net)	(6.8)	(6.8)	5.7	6.8	15.4	10.6
MSCI AC World Index Value (Net)	4.8	4.8	8.6	6.6	14.4	6.7
MSCI Europe ex UK (Net)	10.7	10.7	4.7	7.1	13.0	6.0
MSCI United Kingdom (Net)	9.7	9.7	14.4	7.9	13.8	4.9
MSCI Pacific ex Japan (Net)	0.3	0.3	6.8	0.4	10.1	4.1
MSCI Japan (Net)	0.3	0.3	(2.1)	5.3	8.8	5.3
MSCI Emerging Markets (Net)	2.9	2.9	8.1	1.4	7.9	3.7

Source: Refinitiv

Global Index Returns

FIXED INCOME	QTR	YTD	1 Year	3 Year	5 Year	10 Year
Merrill Lynch 3-month T-Bill	1.0	1.0	5.0	4.2	2.6	1.9
Barclays Intermediate Gov't./Credit	2.4	2.4	5.7	2.2	0.9	1.8
Barclays Aggregate Bond	2.8	4.9	0.5	(0.4)	1.5	1.3
Barclays Short Government	1.6	1.6	5.4	2.9	1.2	1.5
Barclays Intermediate Government	2.5	2.5	5.3	1.8	(0.0)	1.4
Barclays Long Government	4.7	4.7	1.3	(7.2)	(7.8)	(0.5)
Barclays Investment Grade Corp.	2.3	2.3	4.9	1.1	1.5	2.4
Barclays High Yield Corp. Bond	1.0	1.0	7.7	5.0	7.3	5.0
Credit Suisse Leveraged Loan	0.6	0.6	7.0	7.1	8.9	5.0
JPMorgan Global ex US Bond	2.5	2.5	1.5	(3.5)	(2.4)	(0.2)
JPMorgan Emerging Market Bond	2.2	2.2	6.8	3.4	3.5	3.2
INFLATION SENSITIVE						
Consumer Price Index	1.3	1.3	2.4	3.6	4.4	3.1
BC TIPS	4.2	4.2	6.2	0.1	2.4	1.5
Commodities	8.9	8.9	12.3	(0.8)	14.5	2.8
Gold	18.2	18.2	39.4	16.3	13.2	9.2
FTSE Nareit All Equity REITs	2.8	2.8	9.2	(1.7)	9.6	5.7
FTSE EPRA/NAREIT Global REITs	1.4	1.4	3.6	(4.5)	5.2	1.8
NCREIF ODCE*	0.8	0.8	1.2	(5.1)	2.0	4.7

*Data are preliminary.

Source: Refinitiv



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Portfolio Overview

Observations

- Market Value as of March 31, 2025, was \$3.53 billion
- Q1-25 Return: Total Fund 0.8% (net) vs. Policy Index 0.5%; investment gain of \$29.9 million
- Contributors to Q1-25 Performance:
 - Higher Quality Equity
 - Minimum Volatility Equity
 - Active International Large Cap Equity
 - Real Estate
- Detractors from Q1-25 Performance:
 - Small Cap Equity
 - Growth Equity
 - Timberland
 - Opportunistic Credit
- Longer term performance has been strong:
 - 5-Year Return: 10.2% (net) vs. Policy Index 10.4%; investment gain of \$1.45 billion - *31st percentile*
 - 10-Year Return: 6.9% (net) vs. Policy Index 6.9%; investment gain of \$1.91 billion – *26th percentile*
- Low Investment Management Fees: 0.28%

Recent Changes / Looking Ahead

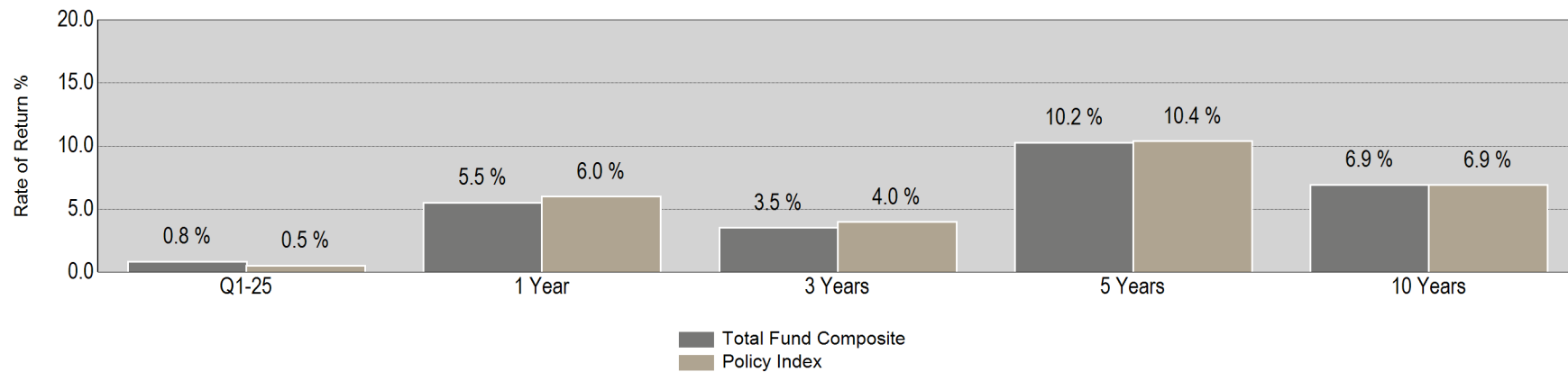
- Boston Partners Int'l Value funded in January
- Rebalance executed in January
- Ongoing search activity: US Large Cap Growth Equity, Private Credit, Private Infrastructure

As of March 31, 2025

Summary of Cash Flows

	First Quarter	One Year	Three Years	Five Years	Ten Years
Beginning Market Value	\$3,523,888,102	\$3,417,098,147	\$3,377,194,550	\$2,358,476,552	\$2,086,866,093
Net Cash Flow	-\$20,590,170	-\$70,741,232	-\$195,491,733	-\$277,036,363	-\$460,318,592
Net Investment Change	\$29,980,580	\$186,921,597	\$351,575,695	\$1,451,838,323	\$1,906,731,011
Ending Market Value	\$3,533,278,512	\$3,533,278,512	\$3,533,278,512	\$3,533,278,512	\$3,533,278,512

Return Summary (Net)



Asset Allocation vs. Target

	Current	Policy	Difference*	Policy Range	Within Range
U.S. Equity	31.4%	32.5%	-\$37,398,742	27.0% - 38.0%	Yes
Global Equity	5.4%	5.0%	\$13,794,681	0.0% - 10.0%	Yes
Non-U.S. Equity	18.9%	17.5%	\$49,032,559	12.0% - 23.0%	Yes
Timberland/Farmland	4.7%	5.0%	-\$11,187,050	0.0% - 10.0%	Yes
Private Real Estate	9.3%	10.0%	-\$24,473,894	5.0% - 15.0%	Yes
High Yield	5.5%	5.0%	\$18,083,465	0.0% - 10.0%	Yes
U.S. Fixed Income	24.4%	24.0%	\$13,310,033	19.0% - 29.0%	Yes
Cash Equivalent	0.4%	1.0%	-\$21,161,052	0.0% - 5.0%	Yes
Total	100.0%	100.0%			

*Difference between Policy and Current Allocation

Pennsylvania Municipal Retirement System

Market Value Summary

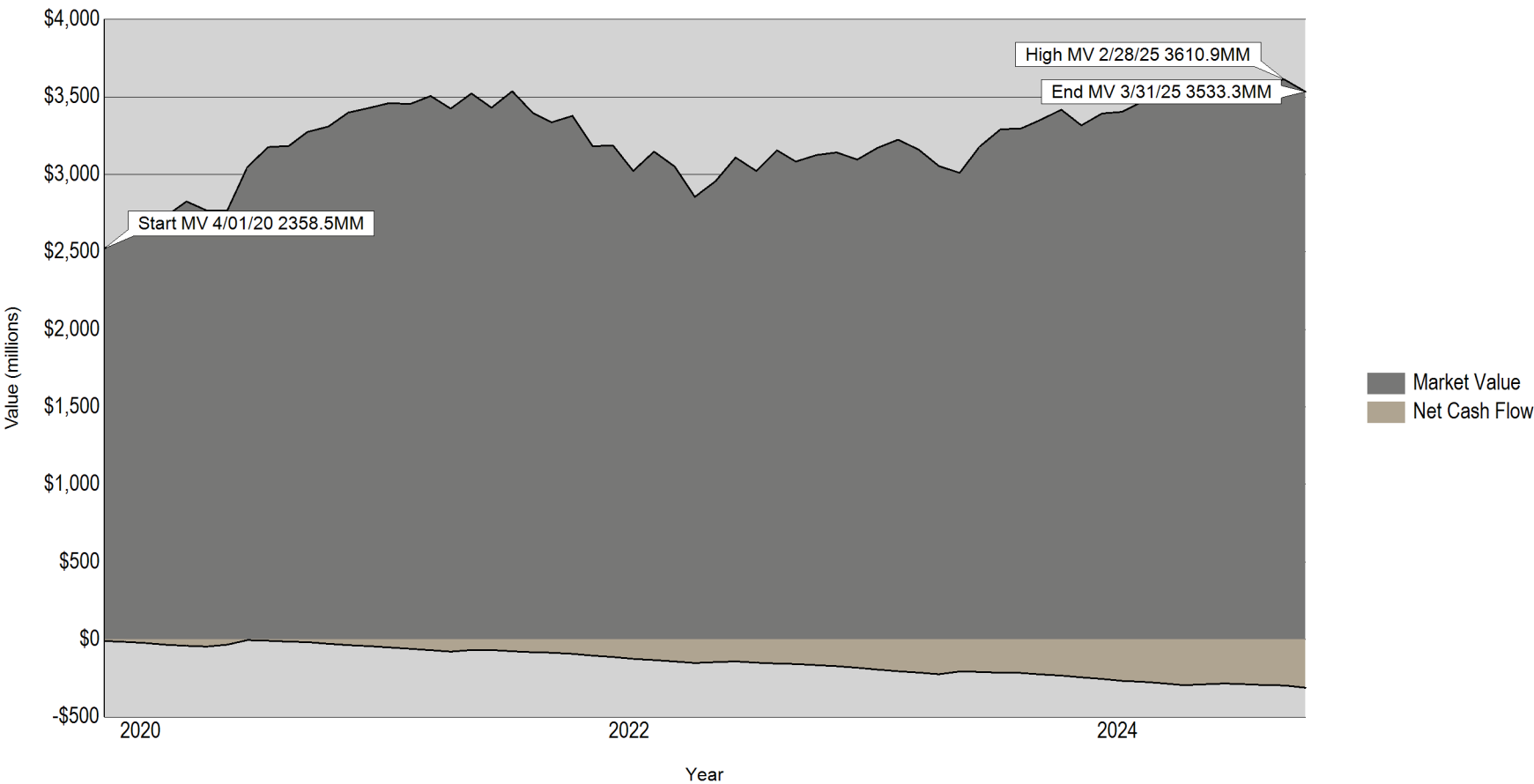
As of March 31, 2025

Cash Flow Summary by Manager From January 01, 2025 to March 31, 2025

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
MFS Large Cap Value	\$155,174,670	\$0	\$6,093,889	\$161,268,559
Xponance S&P 500	\$341,187,456	-\$45,000,000	-\$11,441,446	\$284,746,010
Northern Trust S&P 500	\$335,480,886	-\$44,996,654	-\$11,198,674	\$279,285,558
Polen Focus Growth	\$134,184,971	\$0	-\$7,745,873	\$126,439,098
Northern Trust Dow Jones Completion Index	\$131,685,771	-\$9,995,001	-\$10,360,410	\$111,330,360
Copeland SMID Cap Dividend Growth	\$57,315,537	\$0	-\$2,702,556	\$54,612,981
Emerald Small Cap Growth	\$52,330,697	\$0	-\$6,199,720	\$46,130,976
Channing Capital Management Small Cap Value	\$53,480,636	\$0	-\$6,382,441	\$47,098,195
Dana Inv. Advisors Small Cap Value	\$5,038	\$0	\$0	\$5,038
Rhumblin Global Min. Volatility	\$178,915,119	\$0	\$11,543,488	\$190,458,607
SSGA MSCI World ex US	\$290,595,350	-\$79,970,432	\$15,556,496	\$226,181,413
Hardman Johnston Int'l Equity	\$113,247,645	\$0	\$7,694,833	\$120,942,478
Hudson Edge Int'l Equity	\$110,454,525	\$0	\$10,276,201	\$120,730,726
Jarislowsky, Fraser Limited	\$117,900	\$0	\$5,089	\$122,989
Boston Partners Int'l Value Equity	\$0	\$110,000,000	\$7,859,709	\$117,859,709
SSGA MSCI Emerging Markets Index	\$78,611,120	\$9,941	\$2,897,922	\$81,518,983
Forest Investment Associates	\$166,827,781	-\$689,304	-\$661,601	\$165,476,876
PRISA LP	\$54,524,533	-\$462,696	\$580,458	\$54,642,294
PRISA II	\$110,664,224	-\$597,273	\$1,134,547	\$111,201,498
PennMuni-Nuveen U.S. Real Estate Fund	\$161,788,654	\$0	\$0	\$161,788,654
1721 N. Front Street, LLC	\$1,221,511	\$0	\$0	\$1,221,511
SSGA US Aggregate Bond Index	\$407,602,870	\$12,012,700	\$11,592,413	\$431,207,983
Federated Hermes Core Aggregate Strategy	\$361,893,572	\$58,000,000	\$10,195,322	\$430,088,893
Ares Global Multi-Asset Credit	\$193,866,225	\$0	\$881,165	\$194,747,390
Cash Management	\$32,711,413	-\$18,901,450	\$361,770	\$14,171,733
Total	\$3,523,888,102	-\$20,590,170	\$29,980,580	\$3,533,278,512

*Penn-Muni Nuveen and 1721 N. Front St. as of 12/31/2024

Market Value History



Pennsylvania Municipal Retirement System

Asset Allocation Summary

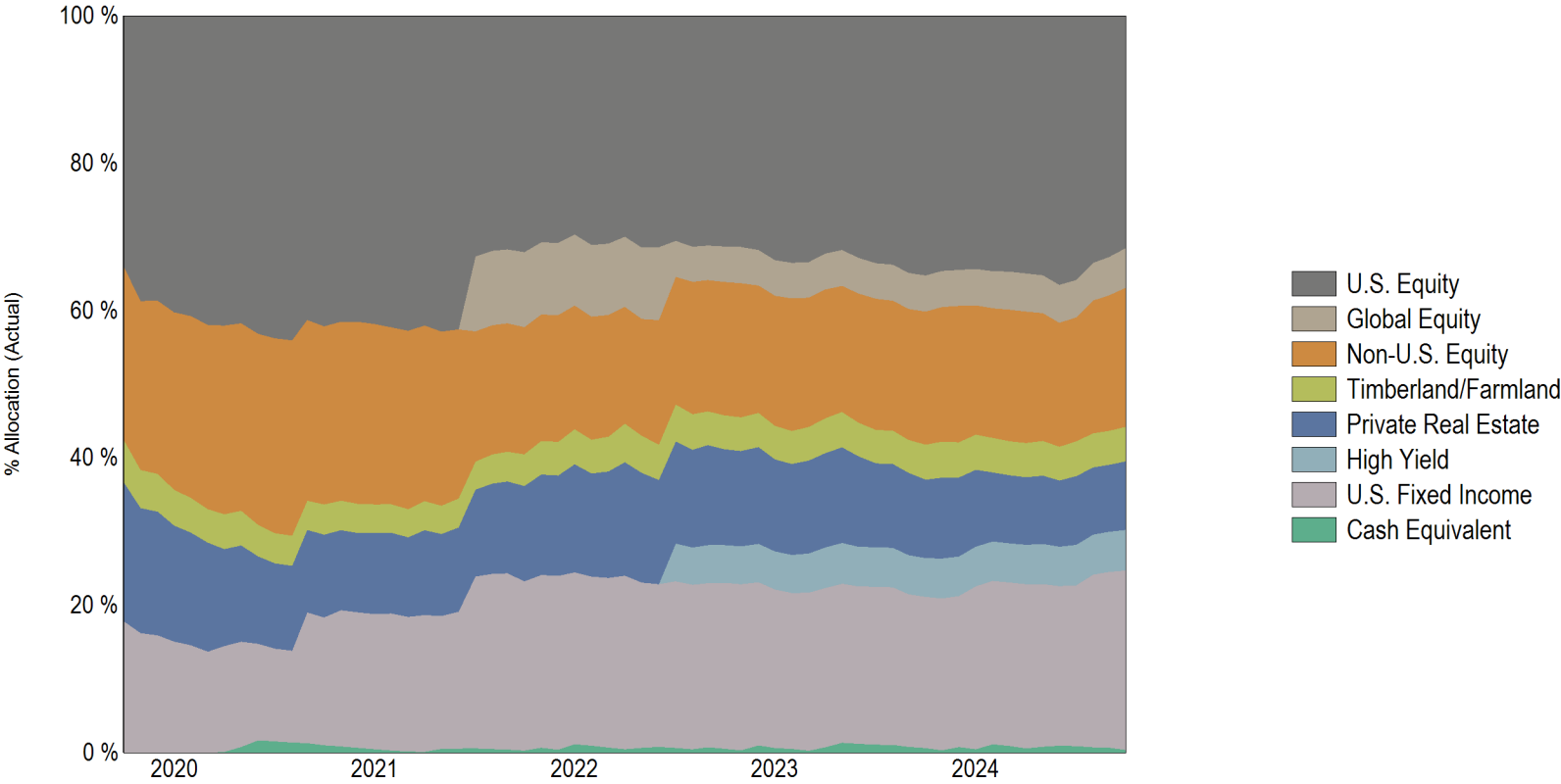
As of March 31, 2025

	Market Value	% of Portfolio	Policy %	Policy Difference
Total Fund Composite	3,533,278,512	100.0	100.0	0
Total Equity Composite	1,968,731,679	55.7	55.0	25,428,498
U.S. Equity Composite	1,110,916,774	31.4	32.5	-37,398,742
MFS Large Cap Value	161,268,559	4.6		
Xponance S&P 500	284,746,010	8.1		
Northern Trust S&P 500	279,285,558	7.9		
Polen Focus Growth	126,439,098	3.6		
Northern Trust Dow Jones Completion Index	111,330,360	3.2		
Copeland SMID Cap Dividend Growth	54,612,981	1.5		
Emerald Small Cap Growth	46,130,976	1.3		
Channing Capital Management Small Cap Value	47,098,195	1.3		
Global Equity Composite	190,458,607	5.4	5.0	13,794,681
Rhumblin Global Min. Volatility	190,458,607	5.4		
Non-U.S Equity Composite	667,356,298	18.9	17.5	49,032,559
SSGA MSCI World ex US	226,181,413	6.4		
Hardman Johnston Int'l Equity	120,942,478	3.4		
Hudson Edge Int'l Equity	120,730,726	3.4		
Boston Partners Int'l Value Equity	117,859,709	3.3		
SSGA MSCI Emerging Markets Index	81,518,983	2.3		
Real Assets Composite	494,330,833	14.0	15.0	-35,660,944
Forest Investment Associates	165,476,876	4.7		
PRISA LP	54,642,294	1.5		
PRISA II	111,201,498	3.1		
PennMuni-Nuveen U.S. Real Estate Fund	161,788,654	4.6		
1721 N. Front Street, LLC	1,221,511	0.0		
Total Fixed Income Composite	1,056,044,266	29.9	29.0	31,393,498
SSGA US Aggregate Bond Index	431,207,983	12.2		
Federated Hermes Core Aggregate Strategy	430,088,893	12.2		
Ares Global Multi-Asset Credit	194,747,390	5.5		
Cash Composite	14,171,733	0.4	1.0	-21,161,052

*Penn-Muni Nuveen and 1721 N. Front St. as of 12/31/2024.

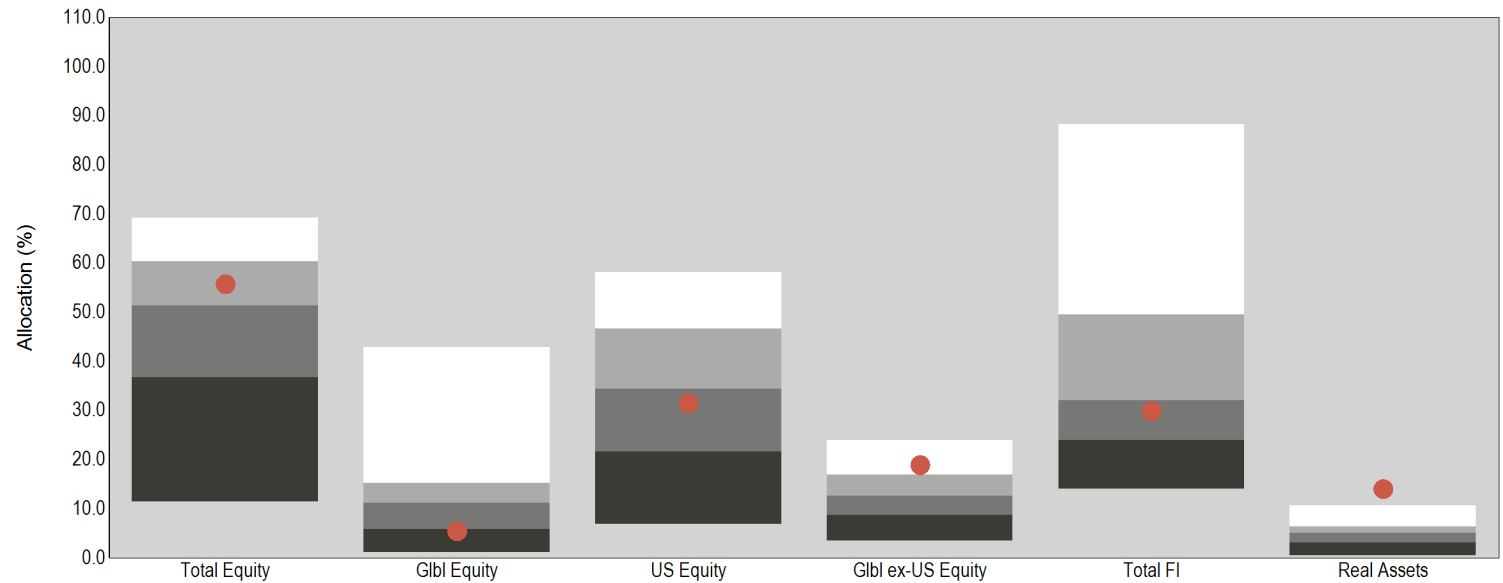
*Residual value for Jarislowsky (approx. \$123k), and Dana (approx. \$5k) included in Non-US Equity, US Equity and Total Fund Composite values.

Asset Allocation History



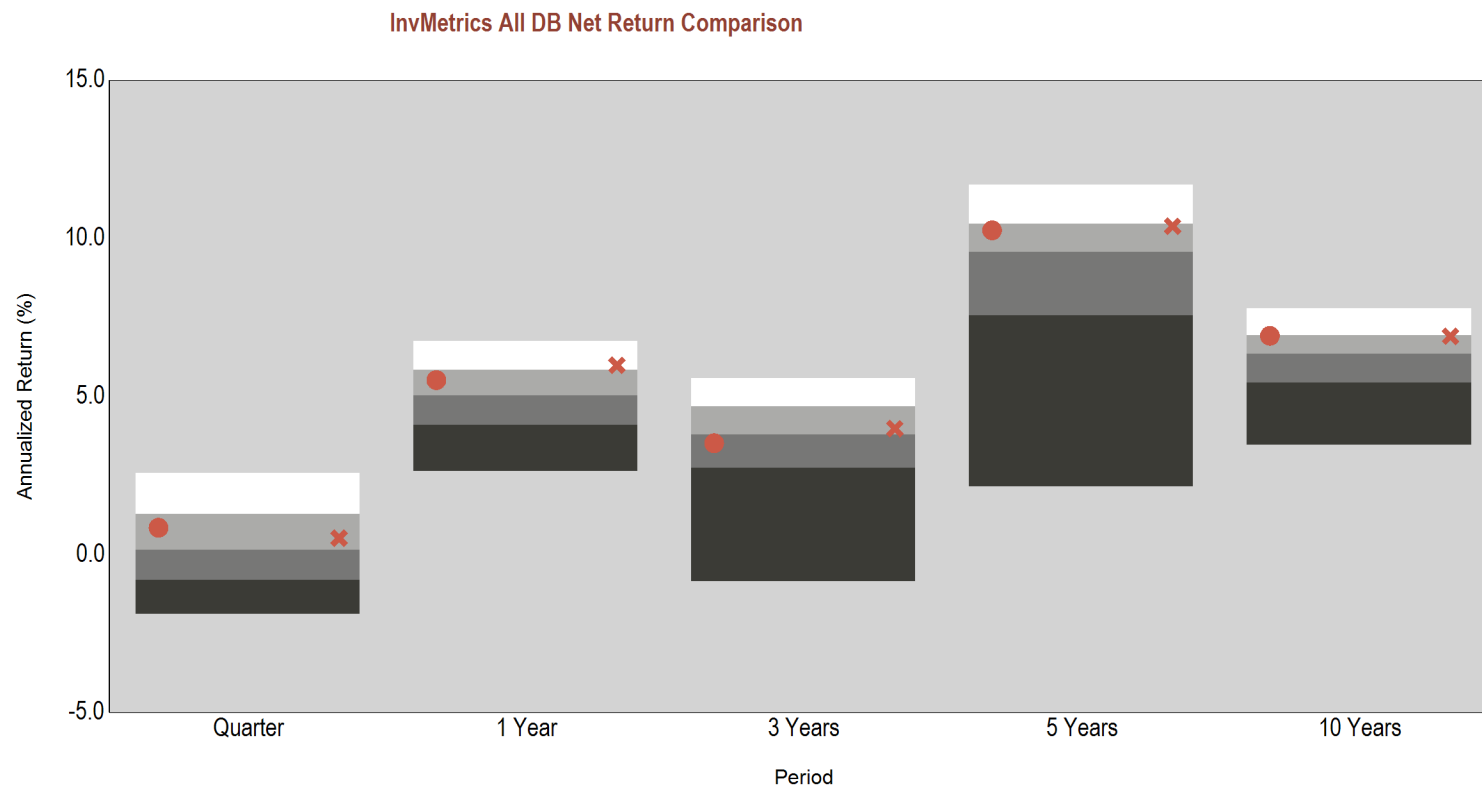
As of March 31, 2025

Total Plan Allocation vs. InvMetrics All DB Net
As of March 31, 2025



Allocation (Rank)

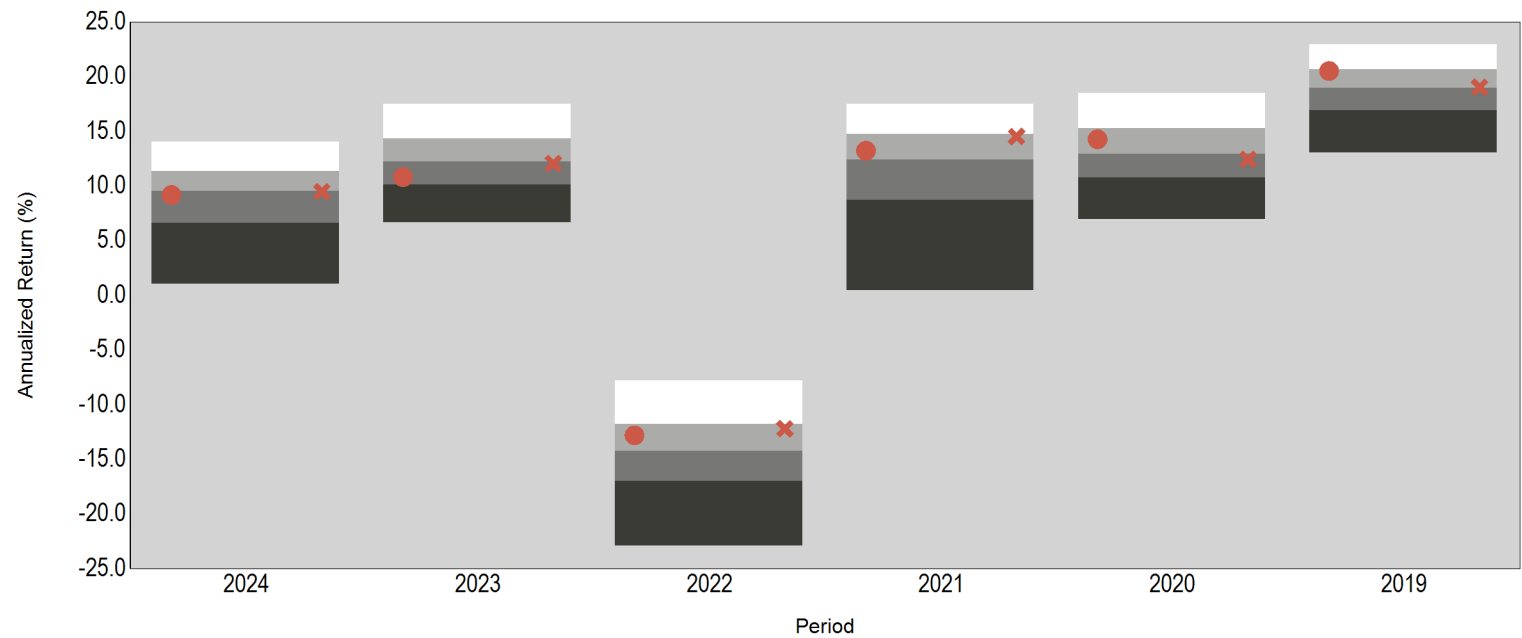
5th Percentile	69.2	42.9	58.2	23.9	88.2	10.7						
25th Percentile	60.4	15.2	46.6	16.9	49.6	6.4						
Median	51.3	11.1	34.4	12.6	32.0	5.0						
75th Percentile	36.7	5.8	21.6	8.7	23.9	3.1						
95th Percentile	11.4	1.2	6.9	3.4	14.0	0.5						
# of Portfolios	1,420	308	1,357	1,231	1,474	355						
Total Fund Composite	55.7	(38)	5.4	(78)	31.4	(56)	18.9	(18)	29.9	(57)	14.0	(3)



	Return (Rank)									
5th Percentile	2.6		6.8		5.6		11.7		7.8	
25th Percentile	1.3		5.8		4.7		10.5		6.9	
Median	0.1		5.0		3.8		9.6		6.3	
75th Percentile	-0.8		4.1		2.7		7.5		5.4	
95th Percentile	-1.9		2.6		-0.8		2.1		3.5	
# of Portfolios	1,570		1,551		1,482		1,427		1,234	
● Total Fund Composite	0.8	(33)	5.5	(36)	3.5	(58)	10.2	(31)	6.9	(26)
▲ Policy Index	0.5	(41)	6.0	(21)	4.0	(45)	10.4	(27)	6.9	(26)

As of March 31, 2025

InvMetrics All DB Net Return Comparison



	Return (Rank)											
5th Percentile	14.1		17.5		-7.8		17.5		18.5		23.0	
25th Percentile	11.4		14.3		-11.8		14.7		15.3		20.7	
Median	9.6		12.2		-14.2		12.4		12.9		18.9	
75th Percentile	6.6		10.1		-17.0		8.7		10.8		16.9	
95th Percentile	1.1		6.7		-22.9		0.5		7.0		13.0	
# of Portfolios	1,478		1,452		1,531		1,646		1,745		1,580	
● Total Fund Composite	9.2	(55)	10.8	(68)	-12.8	(35)	13.2	(42)	14.3	(36)	20.5	(27)
▲ Policy Index	9.5	(51)	12.1	(53)	-12.2	(30)	14.5	(27)	12.4	(56)	19.0	(49)

As of March 31, 2025

RISK RETURN STATISTICS
April 01, 2020 Through March 31, 2025

	Total Fund Composite	Policy Index
RETURN SUMMARY STATISTICS		
Number of Periods	20	20
Maximum Return	13.40	12.26
Minimum Return	-9.63	-9.89
Annualized Return	10.25	10.38
Total Return	62.88	63.83
Annualized Excess Return Over Risk Free	7.70	7.83
Annualized Excess Return	-0.13	0.00

RISK SUMMARY STATISTICS

Beta	1.03	1.00
Upside Deviation	7.66	6.86
Downside Deviation	6.63	6.84

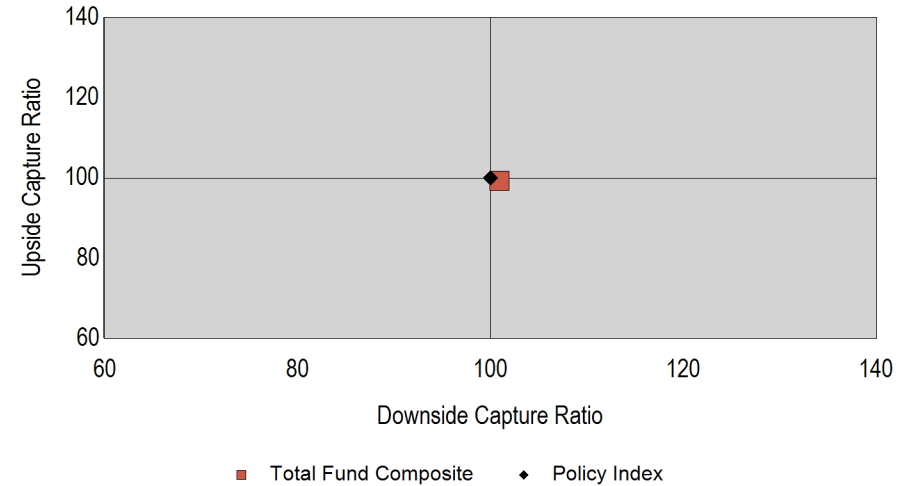
RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	11.22	10.88
Alpha	-0.09	0.00
Sharpe Ratio	0.69	0.72
Excess Return Over Market / Risk	-0.01	0.00
Tracking Error	1.31	0.00
Information Ratio	-0.10	--

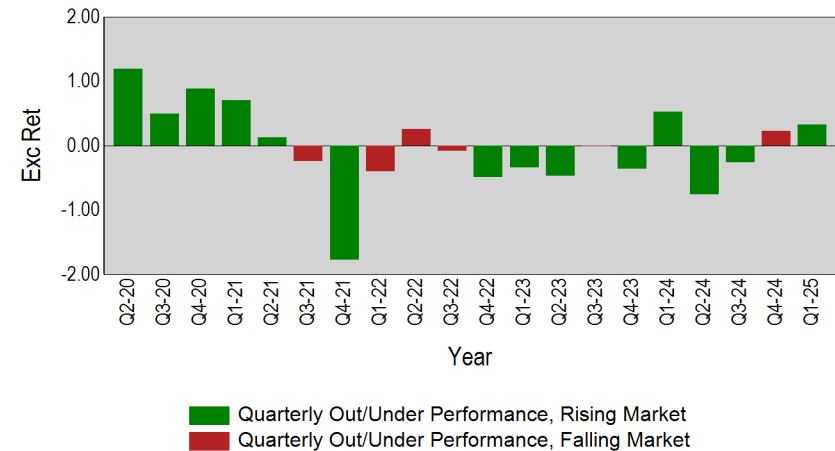
CORRELATION STATISTICS

R-Squared	0.99	1.00
Correlation	0.99	1.00

Upside Capture Ratio vs. Downside Capture Ratio
5 Years Ending March 31, 2025



Quarterly Excess Performance
Total Fund Composite vs. Policy Index



As of March 31, 2025

RISK RETURN STATISTICS
April 01, 2020 Through March 31, 2025

	Total Fund Composite	Policy Index
RETURN SUMMARY STATISTICS		
Number of Periods	60	60
Maximum Return	8.96	8.97
Minimum Return	-6.12	-6.49
Annualized Return	10.25	10.38
Total Return	62.88	63.83
Annualized Excess Return Over Risk Free	7.70	7.83
Annualized Excess Return	-0.13	0.00

RISK SUMMARY STATISTICS

Beta	0.94	1.00
Upside Deviation	6.14	6.48
Downside Deviation	4.97	5.14

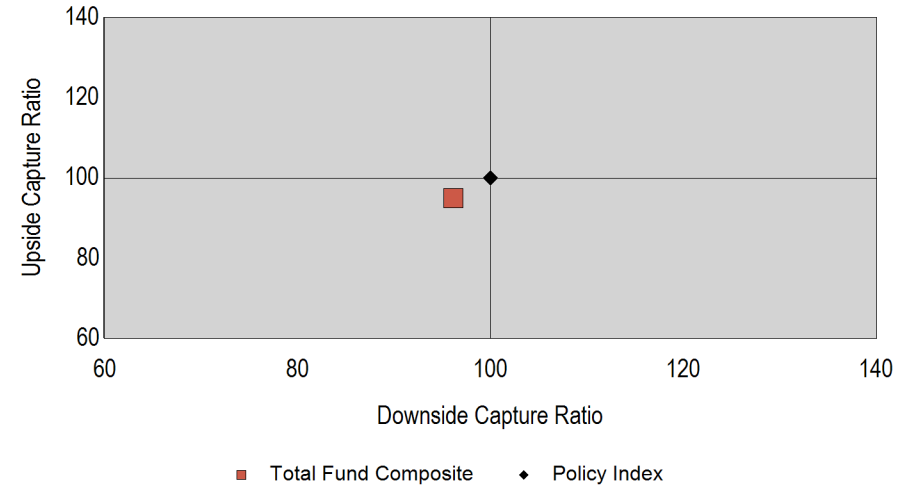
RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	10.19	10.45
Alpha	0.04	0.00
Sharpe Ratio	0.76	0.75
Excess Return Over Market / Risk	-0.01	0.00
Tracking Error	2.83	0.00
Information Ratio	-0.04	--

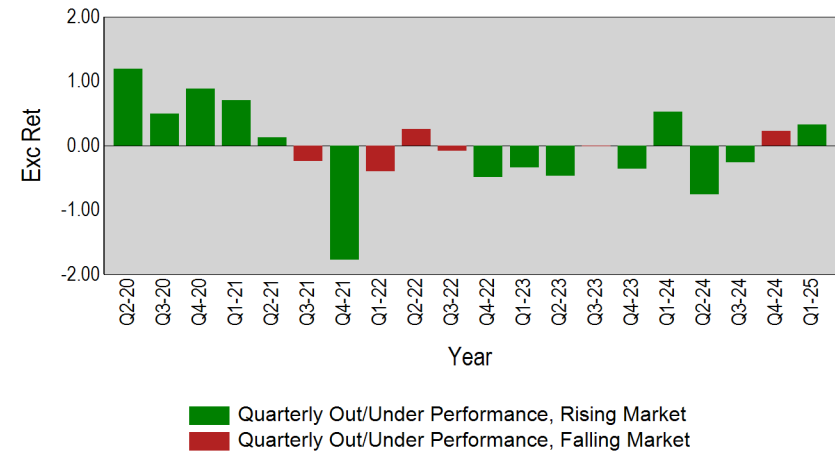
CORRELATION STATISTICS

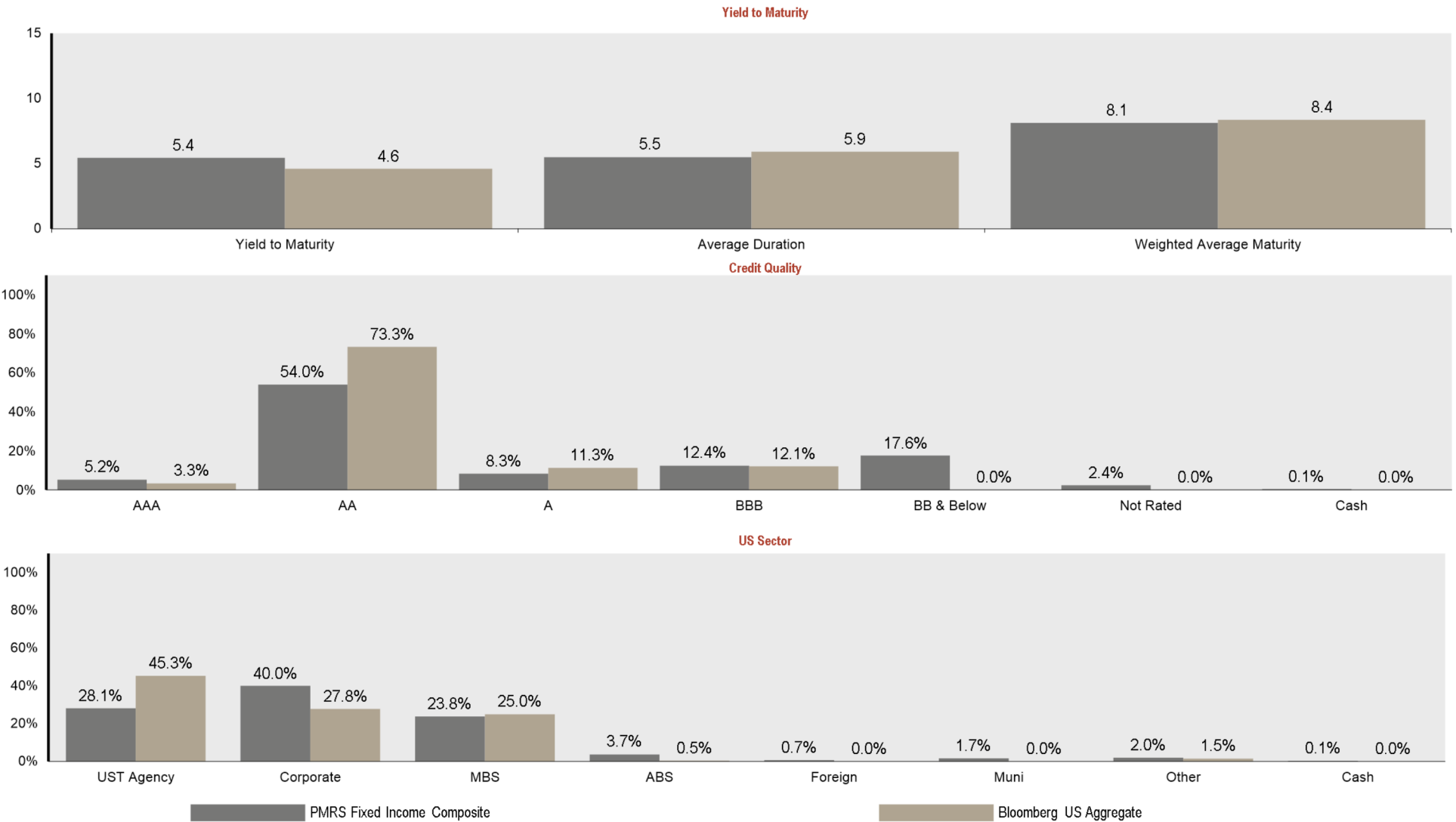
R-Squared	0.93	1.00
Correlation	0.96	1.00

Upside Capture Ratio vs. Downside Capture Ratio
5 Years Ending March 31, 2025



Quarterly Excess Performance
Total Fund Composite vs. Policy Index





Pennsylvania Municipal Retirement System

Performance Summary (Net)

As of March 31, 2025

	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	Market Value	Inception	Inception Date
Total Fund Composite	0.8	5.5	3.5	10.2	6.9	3,533,278,512	8.4	Jan-86
Policy Index	0.5	6.0	4.0	10.4	6.9		8.9	Jan-86
InvMetrics All DB Net Rank	33	36	58	31	26		28	Jan-86
Total Equity Composite	0.2	6.6	6.4	--	--	1,968,731,679	10.7	Oct-20
MSCI ACWI IMI Net USD	-1.6	6.3	6.3	--	--		10.3	Oct-20
U.S. Equity Composite	-4.5	4.7	6.8	17.6	10.6	1,110,916,774	9.1	Jan-06
Russell 3000	-4.7	7.2	8.2	18.2	11.8		10.0	Jan-06
InvMetrics Public DB US Eq Net Rank	48	62	65	49	50		61	Jan-06
MFS Large Cap Value	3.9	7.0	--	--	--	161,268,559	12.1	Jun-22
Russell 1000 Value	2.1	7.2	--	--	--		12.5	Jun-22
eV US Large Cap Value Equity Net Rank	15	41	--	--	--		56	Jun-22
Xponance S&P 500	-4.3	8.2	9.0	--	--	284,746,010	6.8	Dec-21
S&P 500	-4.3	8.3	9.1	--	--		6.8	Dec-21
eV US Large Cap Core Equity Net Rank	51	22	33	--	--		31	Dec-21
Northern Trust S&P 500	-4.3	8.3	9.1	--	--	279,285,558	6.8	Dec-21
S&P 500	-4.3	8.3	9.1	--	--		6.8	Dec-21
eV US Large Cap Core Equity Net Rank	51	22	32	--	--		31	Dec-21
Polen Focus Growth	-5.8	0.8	3.0	12.5	12.9	126,439,098	14.1	Oct-10
Russell 1000 Growth	-10.0	7.8	10.1	20.1	15.1		15.9	Oct-10
eV US Large Cap Growth Equity Net Rank	23	84	94	94	52		48	Oct-10
Northern Trust Dow Jones Completion Index	-8.9	-0.5	2.6	--	--	111,330,360	-0.6	Dec-21
Dow Jones U.S. Completion Total Stock Market	-8.9	-0.5	2.5	--	--		-0.7	Dec-21
eV US Small-Mid Cap Core Equity Net Rank	88	23	53	--	--		70	Dec-21
Copeland SMID Cap Dividend Growth	-4.7	-8.0	2.4	13.4	--	54,612,981	7.9	Sep-17
Russell 2500	-7.5	-3.1	1.5	14.0	--		5.9	Sep-17
Russell 2000	-9.5	-4.0	0.5	13.3	--		5.5	Sep-17
eV US Small Cap Core Equity Net Rank	11	82	51	77	--		32	Sep-17
Emerald Small Cap Growth	-11.8	-1.0	1.8	12.4	7.7	46,130,976	9.8	Oct-98
Russell 2000 Growth	-11.1	-4.9	0.8	10.8	6.1		7.3	Oct-98
eV US Small Cap Growth Equity Net Rank	64	22	27	47	61		49	Oct-98
Channing Capital Management Small Cap Value	-11.9	--	--	--	--	47,098,195	-11.6	Aug-24
Russell 2000 Value	-7.7	--	--	--	--		-8.7	Aug-24
eV US Small Cap Value Equity Net Rank	95	--	--	--	--		88	Aug-24

Pennsylvania Municipal Retirement System

Performance Summary (Net)

As of March 31, 2025

	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	Market Value	Inception	Inception Date
Global Equity Composite	6.5	13.8	5.5	--	--	190,458,607	3.6	Dec-21
Global Equity Policy Index	6.2	12.9	4.8	--	--		3.0	Dec-21
InvMetrics Public DB Gbl Eq Net Rank	2	3	93	--	--		79	Dec-21
Rhumblin Global Min. Volatility	6.5	13.8	6.1	--	--	190,458,607	4.6	Dec-21
MSCI ACWI Minimum Volatility Index	6.2	12.9	5.6	--	--		4.2	Dec-21
MSCI ACWI	-1.3	7.1	6.9	--	--		4.6	Dec-21
eV Global Low Volatility Equity Net Rank	32	16	56	--	--		61	Dec-21
Non-U.S Equity Composite	7.3	7.3	5.2	11.9	6.2	667,356,298	7.2	May-12
MSCI ACWI ex USA IMI	4.6	5.5	4.0	11.0	5.0		6.6	May-12
InvMetrics Public DB ex-US Eq Net Rank	12	27	37	28	26		35	May-12
SSGA MSCI World ex US	6.3	5.6	6.0	12.5	5.8	226,181,413	6.5	Apr-12
MSCI World ex USA	6.2	5.3	5.7	12.2	5.5		6.1	Apr-12
eV ACWI ex-US Large Cap Equity Net Rank	45	54	41	40	51		40	Apr-12
Hardman Johnston Int'l Equity	6.8	13.3	4.6	11.3	7.4	120,942,478	8.0	Apr-12
MSCI EAFE	6.9	4.9	6.1	11.8	5.4		6.2	Apr-12
eV EAFE All Cap Equity Net Rank	53	10	78	57	12		12	Apr-12
Hudson Edge Int'l Equity	9.3	2.2	4.7	13.4	7.3	120,730,726	8.6	Feb-12
MSCI EAFE	6.9	4.9	6.1	11.8	5.4		6.6	Feb-12
eV EAFE All Cap Equity Net Rank	25	86	77	32	12		9	Feb-12
Boston Partners Int'l Value Equity	--	--	--	--	--	117,859,709	5.6	Jan-25
MSCI EAFE Value	--	--	--	--	--		6.1	Jan-25
Foreign Large Value MStar MF Rank	--	--	--	--	--		49	Jan-25
SSGA MSCI Emerging Markets Index	3.7	8.3	1.7	8.0	3.6	81,518,983	6.4	Nov-08
MSCI Emerging Markets	2.9	8.1	1.4	7.9	3.7		6.6	Nov-08
eV Emg Mkts Equity Net Rank	27	29	57	68	70		78	Nov-08

Pennsylvania Municipal Retirement System

Performance Summary (Net)

As of March 31, 2025

	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	Market Value	Inception	Inception Date
Real Assets Composite	0.2	0.9	-1.8	2.7	4.7	494,330,833	6.9	Apr-93
Real Assets Policy Index	0.8	2.6	-0.5	4.7	6.1		7.2	Apr-93
Forest Investment Associates	-0.4	2.0	8.1	7.7	5.4	165,476,876	4.6	Mar-99
NCREIF Timberland Property Index	0.8	5.6	8.9	7.9	5.3		6.4	Mar-99
PRISA LP	1.1	1.5	-4.7	2.1	5.0	54,642,294	5.8	Jan-86
NFI-ODCE	0.8	1.2	-5.1	2.0	4.7		5.7	Jan-86
InvMetrics Public DB Real Estate Priv Net Rank	39	43	52	58	15		--	Jan-86
PRISA II	1.0	0.9	-5.6	1.7	5.3	111,201,498	3.2	Jul-07
NFI-ODCE	0.8	1.2	-5.1	2.0	4.7		3.9	Jul-07
InvMetrics Public DB Real Estate Priv Net Rank	40	57	70	71	14		--	Jul-07
PennMuni-Nuveen U.S. Real Estate Fund	0.0	-0.2	-5.3	0.2	4.5	161,788,654	4.4	Dec-08
NFI-ODCE	0.8	1.2	-5.1	2.0	4.7		4.6	Dec-08
InvMetrics Public DB Real Estate Priv Net Rank	76	85	61	95	17		--	Dec-08
1721 N. Front Street, LLC	0.0	-10.1	-12.4	-9.9	--	1,221,511	-8.1	Sep-16
Consumer Price Index	1.3	2.4	3.6	4.4	--		3.4	Sep-16
Total Fixed Income Composite	2.2	5.7	1.2	0.1	1.7	1,056,044,266	5.6	Jan-86
Bloomberg US Aggregate TR	2.8	4.9	0.5	-0.4	1.5		5.5	Jan-86
InvMetrics Public DB US Fix Inc Net Rank	90	27	65	90	91		--	Jan-86
SSGA US Aggregate Bond Index	2.8	5.0	0.5	-0.4	1.5	431,207,983	4.3	Apr-97
Bloomberg US Aggregate TR	2.8	4.9	0.5	-0.4	1.5		4.3	Apr-97
eV US Core Fixed Inc Net Rank	38	52	75	90	82		78	Apr-97
Federated Hermes Core Aggregate Strategy	2.5	5.1	--	--	--	430,088,893	2.4	Jul-22
Bloomberg US Aggregate TR	2.8	4.9	--	--	--		2.3	Jul-22
eV US Core Fixed Inc Net Rank	90	41	--	--	--		76	Jul-22
Ares Global Multi-Asset Credit	0.5	8.3	--	--	--	194,747,390	10.8	Dec-22
50% Bloomberg HY / 50% CSFB Lev Loans	0.8	7.4	--	--	--		10.1	Dec-22
eV US High Yield Fixed Inc Net Rank	82	8	--	--	--		5	Dec-22
Cash Composite						14,171,733		

*Penn-Muni Nuveen and 1721 N. Front St. as of 12/31/2024.

As of March 31, 2025

Investment Manager	Asset Class	Status	Reason
MFS Large Cap Value	US Stock Large Cap Value	In Compliance	---
Xponance S&P 500	US Stock Large Cap Core	In Compliance	---
Northern Trust S&P 500	US Stock Large Cap Core	In Compliance	---
Polen Focus Growth	US Stock Large Cap Growth	In Compliance	---
Northern Trust Dow Jones Completion Index	US Stock SMID Cap Core	In Compliance	---
Channing Capital Small Cap Value	US Stock Small Cap Value	In Compliance	---
Copeland SMID Cap Dividend Growth	US Stock SMID Cap Core	In Compliance	---
Emerald Small Cap Growth	US Stock Small Cap Growth	In Compliance	---
Rhumblin Global Min. Volatility	Global Stock Low Volatility	In Compliance	---
SSGA MSCI World ex US	Non-US Stock All Cap Core	In Compliance	---
Hardman Johnston Int'l Equity	Non-US Stock All Cap Core	In Compliance	---
HGK Int'l Equity	Non-US Stock All Cap Core	In Compliance	---
SSGA MSCI Emerging Markets Index	Non-US Stock Emerging	In Compliance	---
Forest Investment Associates	Real Assets - Timberland	In Compliance	---
PRISA LP	Real Estate	In Compliance	---
PRISA II	Real Estate	In Compliance	---
PennMuni-Nuveen U.S. Real Estate Fund	Real Estate	In Compliance	---
1721 N. Front St., LLC	Real Estate	In Compliance	---
SSGA US Aggregate Bond Index	US Fixed Income Core	In Compliance	---
Federated Hermes Core Aggregate Strategy	US Fixed Income Core	In Compliance	---
Ares Global Multi-Asset Credit Fund	Opportunistic Credit	In Compliance	---

Investment Manager Evaluation Terminology

The following terminology has been developed by Marquette Associates to facilitate efficient communication between the investment program's responsible parties. Each term signifies a particular status with the investment program.

In Compliance – Marquette has not been notified of any issues or changes to the investment manager that would materially impede upon its ability to execute the investment strategy or adhere to any applicable investment guidelines.

Alert – The investment manager has experienced a problem in performance (usually relative to a benchmark), a change in investment characteristics, an alteration in management style, ownership, or key investment professionals, and/or any other irregularities that may impede upon its ability to execute the investment strategy or adhere to any applicable investment guidelines.

On Notice – The investment manager has experienced continued concern with one or more Alert issues. Failure to improve upon stated issues within a certain time frame may justify termination.

Termination – The investment manager has been terminated and transition plans are in place.

Policy Index History

Total Fund Composite		
12/1/2022	Present	32.5% Russell 3000 / 5% Global Equity Policy Index / 17.5% MSCI ACWI ex USA IMI / 15% Real Assets Policy Index / 29% Bloomberg US Aggregate TR / 1% 91 Day T-Bills
1/1/2022	11/30/2022	32.5% Russell 3000 / 10% Global Equity Policy Index / 17.5% MSCI ACWI ex USA IMI / 15% Real Assets Policy Index / 24% Bloomberg US Aggregate TR / 1% 91 Day T-Bills
10/1/2020	12/31/2021	25% S&P 500 / 15% Russell 2000 / 15% MSCI EAFE / 10% MSCI Emerging Markets / 20% NFI-ODCE / 15% Bloomberg US Aggregate TR
Total Equity Composite		
10/1/2020	Present	MSCI ACWI IMI Net USD
U.S. Equity Composite		
1/1/2006	Present	Russell 3000
Large Cap U.S. Equity Composite		
1/1/1986	Present	S&P 500
SMID Cap U.S. Equity Composite		
1/1/1993	Present	Russell 2000
Global Equity Composite		
12/1/2022	Present	100% MSCI ACWI Minimum Volatility Index
1/1/2022	11/30/2022	50% MSCI ACWI / 50% MSCI ACWI Minimum Volatility Index
Non-U.S. Equity Composite		
5/31/2012	Present	MSCI ACWI ex USA IMI
Developed Non-U.S. Equity Composite		
1/1/1993	Present	MSCI EAFE
Emerging Markets Composite		
1/1/2009	Present	MSCI Emerging Markets
Real Assets Composite		
4/1/2025	Present	0.0
1/1/2022	3/31/2025	66.67% NFI-ODCE / 33.33% NCREIF Timberland Property Index
4/1/1993	12/31/2021	100% NFI-ODCE
Total Fixed Income Composite		
1/31/1986	Present	Bloomberg US Aggregate TR
Cash Composite		
	Present	91 Day T-Bills

Pennsylvania Municipal Retirement System

Fee Summary

As of March 31, 2025

Account	Fee Schedule	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
MFS Large Cap Value	0.35% of First 100.0 Mil, 0.33% Thereafter	4.6%	\$549,123	0.34%
Xponance S&P 500	0.02% of Assets	8.1%	\$56,949	0.02%
Northern Trust S&P 500	0.00% of Assets	7.9%	\$11,171	0.00%
Polen Focus Growth	0.50% of First 100.0 Mil, 0.40% Thereafter	3.6%	\$605,756	0.48%
Northern Trust Dow Jones Completion Index	0.02% of Assets	3.2%	\$16,700	0.02%
Copeland SMID Cap Dividend Growth	0.50% of Assets	1.6%	\$273,065	0.50%
Emerald Small Cap Growth	0.53% of Assets	1.3%	\$244,494	0.53%
Channing Capital Management Small Cap Value	0.65% of First 25.0 Mil, 0.60% of Next 75.0 Mil, 0.50% Thereafter	1.3%	\$295,089	0.63%
Rhumblin Global Min. Volatility	0.07% of Assets	5.4%	\$123,798	0.06%
SSGA MSCI World ex US	0.04% of Assets	6.4%	\$90,473	0.04%
Hardman Johnston Int'l Equity	0.75% of First 25.0 Mil, 0.60% Thereafter	3.4%	\$763,155	0.63%
Hudson Edge Int'l Equity	0.65% of Assets	3.4%	\$784,750	0.65%
Boston Partners Int'l Value Equity	0.45% of Assets	3.3%	\$530,369	0.45%
SSGA MSCI Emerging Markets Index	0.05% of Assets	2.3%	\$40,759	0.05%
Forest Investment Associates	0.75% of Assets	4.7%	\$1,241,077	0.75%
PRISA LP	1.00% of First 25.0 Mil, 0.95% of Next 25.0 Mil, 0.85% of Next 50.0 Mil, 0.75% of Next 100.0 Mil, 0.70% of Next 100.0 Mil, 0.65% Thereafter	1.6%	\$526,960	0.96%

Pennsylvania Municipal Retirement System

Fee Summary

As of March 31, 2025

Account	Fee Schedule	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
PRISA II	1.20% of First 25.0 Mil, 1.15% of Next 25.0 Mil, 1.05% of Next 50.0 Mil, 0.95% of Next 100.0 Mil, 0.90% of Next 100.0 Mil, 0.85% Thereafter	3.2%	\$1,218,914	1.10%
PennMuni-Nuveen U.S. Real Estate Fund	0.85% of Assets	4.6%	\$1,375,204	0.85%
1721 N. Front Street, LLC	0.85% of Assets	0.0%	\$10,383	0.85%
SSGA US Aggregate Bond Index	0.02% of First 100.0 Mil, 0.01% of Next 300.0 Mil, 0.01% Thereafter	12.3%	\$52,341	0.01%
Federated Hermes Core Aggregate Strategy	0.12% of First 100.0 Mil, 0.10% of Next 400.0 Mil, 0.07% Thereafter	12.2%	\$450,089	0.10%
Ares Global Multi-Asset Credit	0.35% of Assets	5.5%	\$681,616	0.35%
Investment Management Fee		100.0%	\$9,942,233	0.28%

Pennsylvania Municipal Retirement System

Total Equity Composite

As of March 31, 2025

Characteristics

	Portfolio	MSCI ACWI IMI Net USD
Number of Holdings	5,661	8,341
Weighted Avg. Market Cap. (\$B)	380.4	545.6
Median Market Cap. (\$B)	6.7	2.3
Price To Earnings	20.3	20.6
Price To Book	3.3	3.5
Price To Sales	1.8	2.0
Return on Equity (%)	19.0	19.2
Yield (%)	1.9	2.0

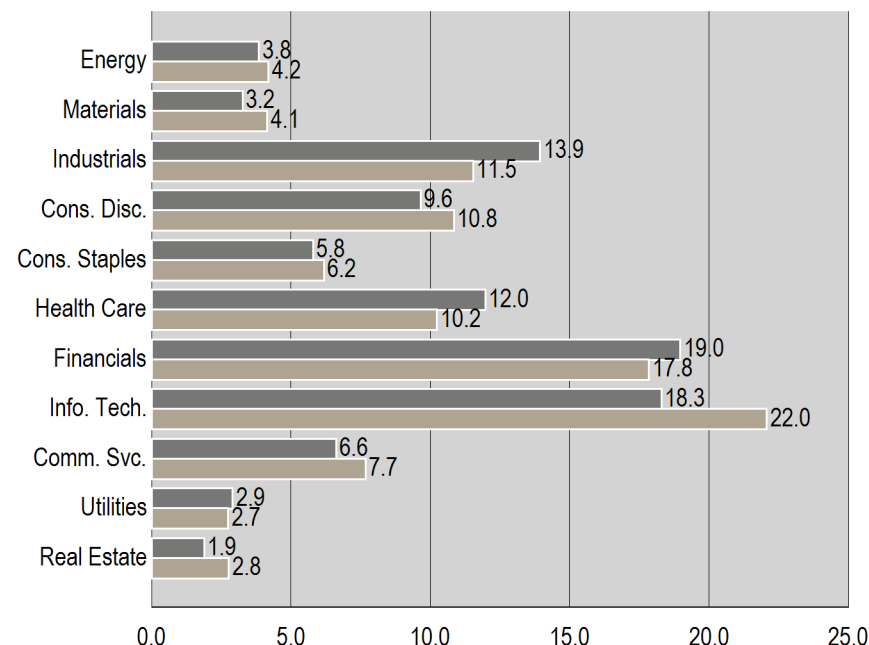
Top Holdings

MICROSOFT CORP	2.3%
APPLE INC	2.2%
NVIDIA CORPORATION	1.6%
AMAZON.COM INC	1.5%
ISHARES MSCI EMERGING MARKETS MIN VOL FACTOR ETF	1.0%
VISA INC	0.9%
ELI LILLY AND CO	0.8%
META PLATFORMS INC	0.8%
JPMORGAN CHASE & CO	0.8%
ALPHABET INC	0.7%
Total	12.5%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Total Equity Composite	16.8%	17.3%	60.0%	6.0%
MSCI ACWI IMI Net USD	17.4%	15.9%	66.7%	0.0%
Weight Over/Under	-0.6%	1.4%	-6.7%	6.0%

Sector Allocation (%) vs MSCI ACWI IMI Net USD



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	3.6%	2.8%	0.7%
United States	61.4%	63.3%	-1.9%
Europe Ex U.K.	15.4%	11.4%	4.0%
United Kingdom	4.7%	3.5%	1.2%
Pacific Basin Ex Japan	2.0%	2.6%	-0.5%
Japan	5.7%	5.5%	0.2%
Emerging Markets	6.2%	10.6%	-4.3%
Other	1.0%	0.4%	0.6%
Total	100.0%	100.0%	0.0%

Pennsylvania Municipal Retirement System

U.S. Equity Composite

As of March 31, 2025

Characteristics

	Portfolio	Russell 3000
Number of Holdings	3,587	2,943
Weighted Avg. Market Cap. (\$B)	582.1	805.2
Median Market Cap. (\$B)	2.9	2.5
Price To Earnings	23.7	24.5
Price To Book	4.0	4.3
Price To Sales	2.3	2.7
Return on Equity (%)	22.2	23.4
Yield (%)	1.5	1.4

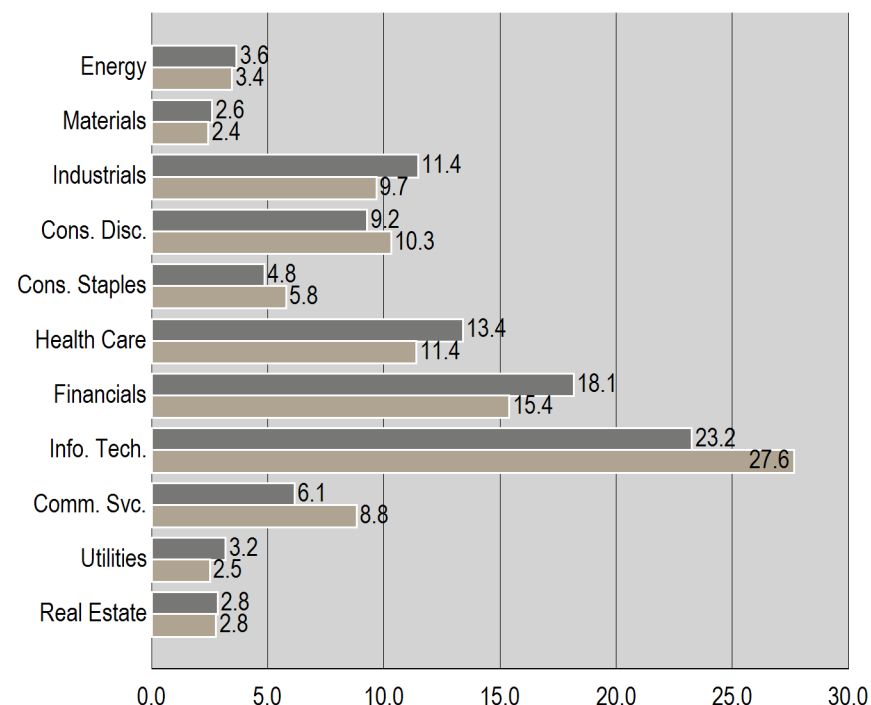
Top Holdings

MICROSOFT CORP	3.8%
APPLE INC	3.8%
NVIDIA CORPORATION	2.8%
AMAZON.COM INC	2.7%
VISA INC	1.4%
META PLATFORMS INC	1.4%
JPMORGAN CHASE & CO	1.3%
ELI LILLY AND CO	1.3%
ALPHABET INC	1.2%
MASTERCARD INC	1.1%
Total	21.0%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
U.S. Equity Composite	22.8%	27.0%	45.8%	4.4%
Russell 3000	11.7%	24.2%	64.0%	0.0%
<i>Weight Over/Under</i>	<i>11.1%</i>	<i>2.7%</i>	<i>-18.2%</i>	<i>4.4%</i>

Sector Allocation (%) vs Russell 3000



Common Holdings Matrix

	MFS Large Cap Value		Xponance S&P 500		Northern Trust S&P 500		Polen Focus Growth		Northern Trust Dow Jones Completion Index		Copeland SMID Cap Dividend Growth		Emerald Small Cap Growth		Channing Capital Management Small Cap Value		Dana Inv. Advisors Small Cap Value	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
MFS Large Cap Value	--	--	65	17	65	17	3	12	2	1	0	0	0	0	0	0	0	0
Xponance S&P 500	65	95	--	--	502	100	24	92	5	0	9	13	0	0	0	0	0	0
Northern Trust S&P 500	65	95	502	100	--	--	24	92	11	1	9	13	0	0	0	0	0	0
Polen Focus Growth	3	5	24	27	24	27	--	--	1	0	0	0	0	0	0	0	0	0
Northern Trust Dow Jones Completion Index	2	1	5	0	11	0	1	2	--	--	56	81	102	92	43	98	0	0
Copeland SMID Cap Dividend Growth	0	0	9	0	9	0	0	0	56	5	--	--	3	2	5	12	0	0
Emerald Small Cap Growth	0	0	0	0	0	0	0	0	102	5	3	4	--	--	8	14	0	0
Channing Capital Management Small Cap Value	0	0	0	0	0	0	0	0	43	3	5	6	8	6	--	--	0	0
Dana Inv. Advisors Small Cap Value	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--

Characteristics

	Portfolio	MSCI ACWI IMI Net USD
Number of Holdings	276	8,341
Weighted Avg. Market Cap. (\$B)	131.0	545.6
Median Market Cap. (\$B)	27.4	2.3
Price To Earnings	19.8	20.6
Price To Book	3.3	3.5
Price To Sales	1.4	2.0
Return on Equity (%)	21.3	19.2
Yield (%)	2.5	2.0

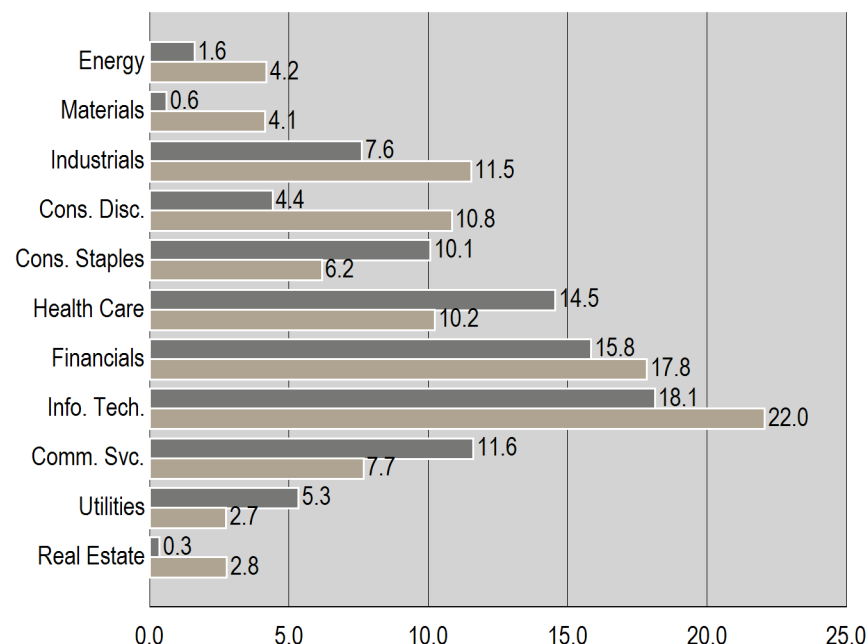
Top Holdings

ISHARES MSCI EMERGING MARKETS MIN VOL FACTOR ETF	9.8%
T-MOBILE US INC	1.6%
MCKESSON CORP	1.5%
REPUBLIC SERVICES INC.	1.4%
CISCO SYSTEMS INC	1.4%
ROPER TECHNOLOGIES INC	1.4%
WALMART INC	1.3%
MOTOROLA SOLUTIONS INC	1.3%
WASTE MANAGEMENT INC.	1.2%
CENCORA INC	1.2%
Total	22.0%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Global Equity Composite	16.8%	28.4%	54.2%	0.5%
MSCI ACWI IMI Net USD	17.4%	15.9%	66.7%	0.0%
Weight Over/Under	-0.6%	12.5%	-12.4%	0.5%

Sector Allocation (%) vs MSCI ACWI IMI Net USD



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	1.4%	2.8%	-1.5%
United States	68.5%	63.3%	5.2%
Europe Ex U.K.	7.0%	11.4%	-4.4%
United Kingdom	0.6%	3.5%	-2.8%
Pacific Basin Ex Japan	3.2%	2.6%	0.6%
Japan	9.3%	5.5%	3.7%
Emerging Markets	8.3%	10.6%	-2.2%
Other	1.7%	0.4%	1.3%
Total	100.0%	100.0%	0.0%

Pennsylvania Municipal Retirement System

Non-U.S Equity Composite

As of March 31, 2025

Characteristics

	Portfolio	MSCI ACWI ex USA IMI
Number of Holdings	2,071	6,063
Weighted Avg. Market Cap. (\$B)	99.5	95.1
Median Market Cap. (\$B)	11.1	2.0
Price To Earnings	15.9	15.8
Price To Book	2.4	2.4
Price To Sales	1.3	1.3
Return on Equity (%)	13.9	13.9
Yield (%)	2.6	3.0

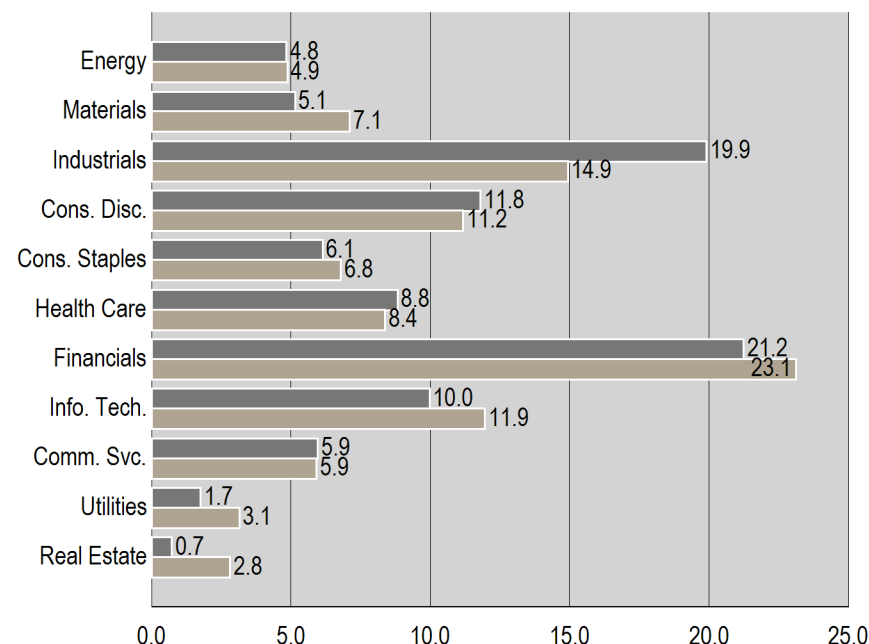
Top Holdings

RHEINMETALL	2.0%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.9%
SUZUKI MOTOR CORP	1.8%
ASTRAZENECA PLC	1.8%
BAE SYSTEMS PLC	1.6%
SONY GROUP CORPORATION	1.6%
PROSUS ORD	1.5%
ASML HOLDING NV	1.3%
DEUTSCHE TELEKOM AG	1.2%
SAFRAN SA	1.2%
Total	15.9%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Non-U.S Equity Composite	15.5%	26.6%	47.8%	10.1%
MSCI ACWI ex USA IMI	28.7%	22.8%	48.5%	0.0%
Weight Over/Under	-13.2%	3.8%	-0.7%	10.1%

Sector Allocation (%) vs MSCI ACWI ex USA IMI



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	8.9%	7.7%	1.2%
United States	2.9%	0.0%	2.9%
Europe Ex U.K.	39.6%	31.1%	8.5%
United Kingdom	11.2%	9.4%	1.8%
Pacific Basin Ex Japan	4.9%	7.0%	-2.1%
Japan	14.5%	15.0%	-0.6%
Emerging Markets	16.2%	28.7%	-12.5%
Other	1.8%	1.0%	0.8%
Total	100.0%	100.0%	0.0%

Common Holdings Matrix

	<i>SSGA MSCI World ex US</i>		<i>Hardman Johnston Int'l Equity</i>		<i>Hudson Edge Int'l Equity</i>		<i>Boston Partners Int'l Value Equity</i>	
	#	%	#	%	#	%	#	%
SSGA MSCI World ex US	--	--	17	76	24	75	46	56
Hardman Johnston Int'l Equity	17	7	--	--	3	12	4	6
Hudson Edge Int'l Equity	24	4	3	13	--	--	5	9
Boston Partners Int'l Value Equity	46	12	4	17	5	19	--	--



Investment Managers

As of March 31, 2025

Manager Summary: Active strategy holding diversified portfolio of 70-80 stocks. Stock selection focuses on bottom-up company analysis seeking to identify high quality undervalued stocks that have durable franchises, significant free cash flow, solid balance sheets and strong management teams.

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	72	864
Weighted Avg. Market Cap. (\$B)	159.3	194.9
Median Market Cap. (\$B)	89.8	14.1
Price To Earnings	20.2	20.0
Price To Book	3.1	2.7
Price To Sales	1.9	1.9
Return on Equity (%)	23.0	16.1
Yield (%)	2.3	2.1

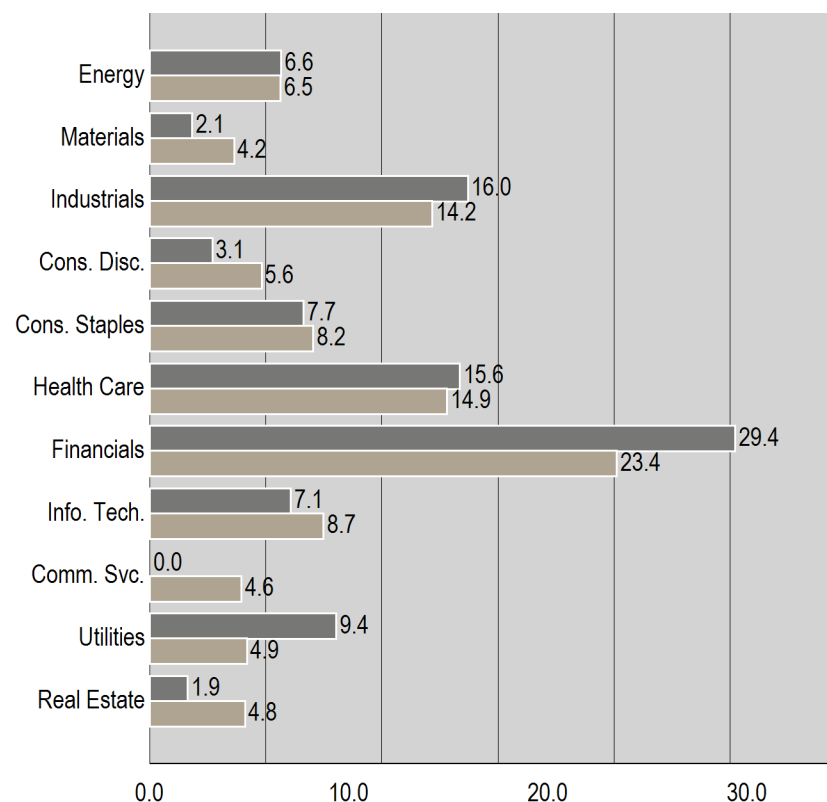
Top Holdings

PROGRESSIVE CORP (THE)	4.6%
JPMORGAN CHASE & CO	4.1%
THE CIGNA GROUP	3.4%
MCKESSON CORP	3.2%
MARSH & MCLENNAN COMPANIES INC	2.6%
JOHNSON & JOHNSON	2.3%
CONOCOPHILLIPS	2.2%
DUKE ENERGY CORP	2.2%
EXXON MOBIL CORP	2.2%
RTX CORP	2.2%
Total	28.9%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
MFS Large Cap Value	0.3%	63.5%	36.1%
Russell 1000 Value	11.5%	37.7%	50.8%
Weight Over/Under	-11.2%	25.9%	-14.7%

Sector Allocation (%) vs Russell 1000 Value



Pennsylvania Municipal Retirement System

Xponance S&P 500

As of March 31, 2025

Manager Summary: Passive strategy that seeks to replicate the return of the Standard & Poor's 500 index. This strategy is a low-cost option to gain diversified exposure to U.S. domiciled companies by owning the 500 largest companies by market capitalization in the U.S.

Characteristics

	Portfolio	S&P 500
Number of Holdings	505	503
Weighted Avg. Market Cap. (\$B)	904.3	893.2
Median Market Cap. (\$B)	35.7	35.4
Price To Earnings	25.3	25.3
Price To Book	4.8	4.8
Price To Sales	3.1	3.1
Return on Equity (%)	34.0	33.8
Yield (%)	1.4	1.4

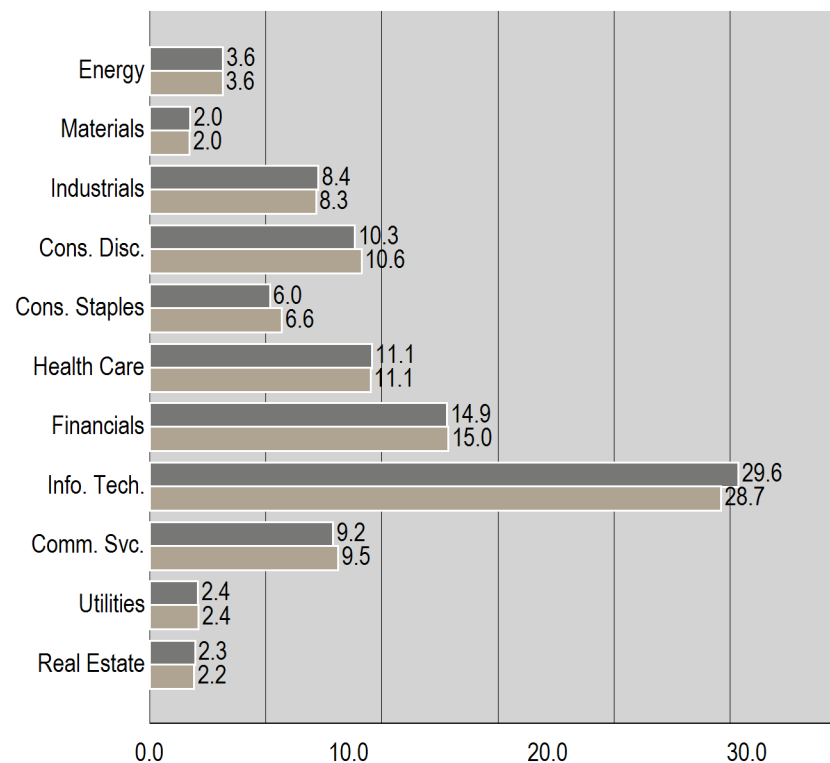
Top Holdings

APPLE INC	7.0%
MICROSOFT CORP	5.9%
NVIDIA CORPORATION	5.6%
AMAZON.COM INC	3.8%
META PLATFORMS INC	2.6%
BERKSHIRE HATHAWAY INC	2.0%
ALPHABET INC	1.9%
BROADCOM INC	1.6%
ALPHABET INC	1.6%
TESLA INC	1.5%
Total	33.5%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Xponance S&P 500	5.8%	28.2%	66.0%
S&P 500	2.5%	24.6%	72.9%
<i>Weight Over/Under</i>	3.3%	3.6%	-6.9%

Sector Allocation (%) vs S&P 500



Pennsylvania Municipal Retirement System

Northern Trust S&P 500

As of March 31, 2025

Manager Summary: Passive strategy that seeks to replicate the return of the Standard & Poor's 500 index. This strategy is a low-cost option to gain diversified exposure to U.S. domiciled companies by owning the 500 largest companies by market capitalization in the U.S.

Characteristics

	Portfolio	S&P 500
Number of Holdings	506	503
Weighted Avg. Market Cap. (\$B)	904.4	893.2
Median Market Cap. (\$B)	34.4	35.4
Price To Earnings	25.3	25.3
Price To Book	4.7	4.8
Price To Sales	3.1	3.1
Return on Equity (%)	34.0	33.8
Yield (%)	1.4	1.4

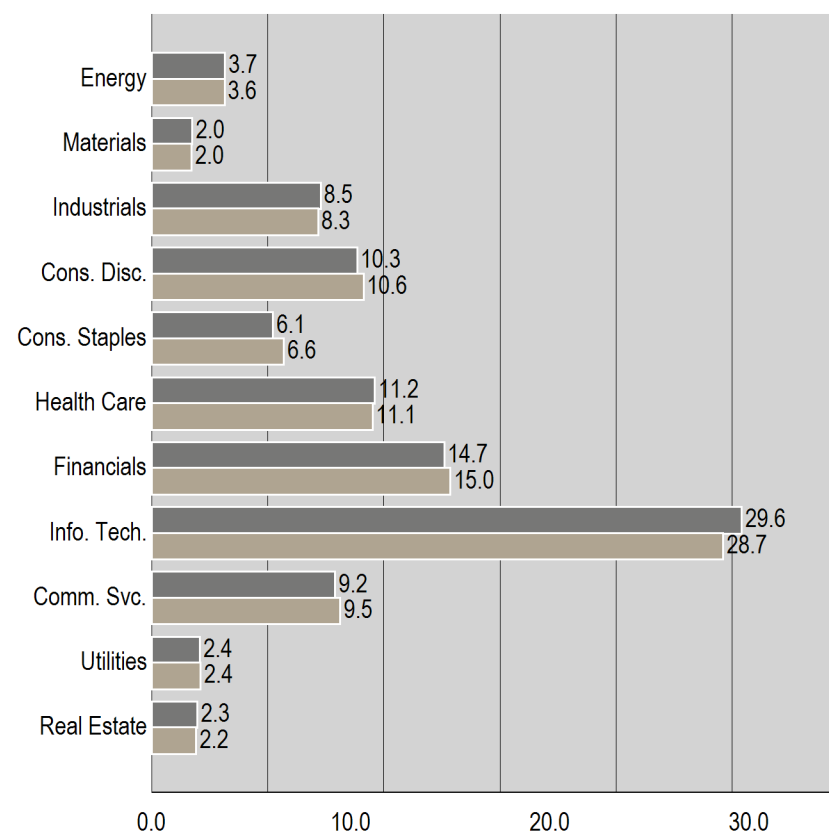
Top Holdings

APPLE INC	7.0%
MICROSOFT CORP	5.9%
NVIDIA CORPORATION	5.6%
AMAZON.COM INC	3.8%
META PLATFORMS INC	2.7%
BERKSHIRE HATHAWAY INC	2.1%
ALPHABET INC	1.9%
BROADCOM INC	1.6%
ALPHABET INC	1.6%
TESLA INC	1.5%
Total	33.6%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Northern Trust S&P 500	5.8%	28.3%	65.9%
S&P 500	2.5%	24.6%	72.9%
Weight Over/Under	3.3%	3.8%	-7.0%

Sector Allocation (%) vs S&P 500



As of March 31, 2025

Manager Summary: Concentrated U.S. large cap growth portfolio with 20-30 names. Investment process begins with negative screening, only including names with robust financials, strong management and attractive earnings growth potential. Then team of generalists perform bottom-up fundamental analysis reviewing industry dynamics, competitive advantage, free cash flow modeling, meet with mgmt. and perform worst case scenarios. High active share. Position limit: 50% limit on sector exposure. Low portfolio turnover (30%).

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	26	393
Weighted Avg. Market Cap. (\$B)	735.2	1,439.9
Median Market Cap. (\$B)	211.7	19.5
Price To Earnings	33.9	32.1
Price To Book	10.0	11.2
Price To Sales	6.9	5.7
Return on Equity (%)	46.5	52.0
Yield (%)	0.7	0.7

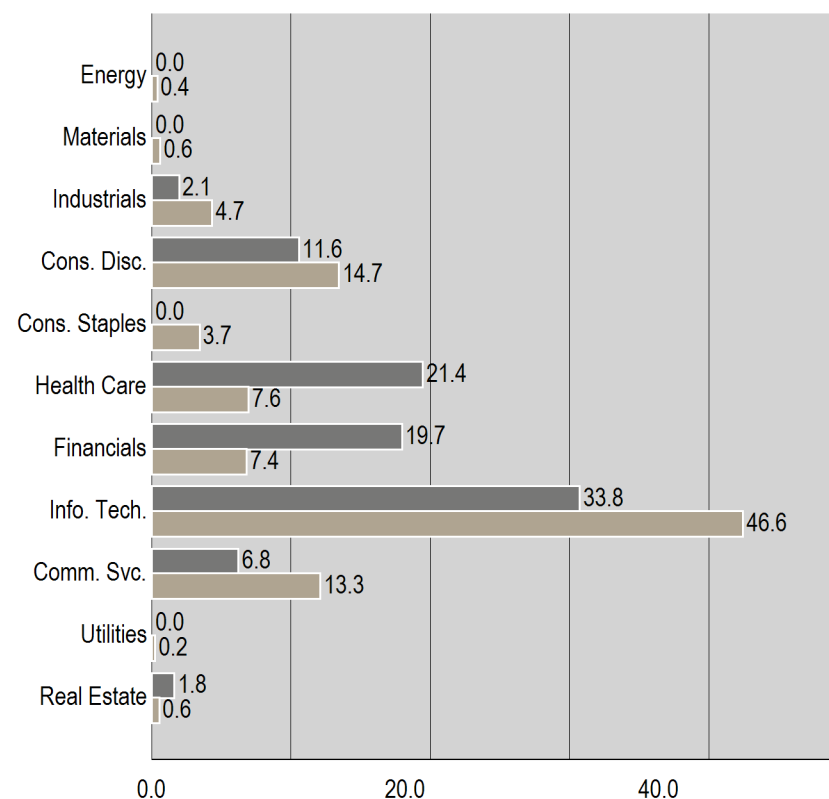
Top Holdings

MICROSOFT CORP	7.6%
VISA INC	7.2%
AMAZON.COM INC	6.7%
ORACLE CORP	6.1%
MASTERCARD INC	6.0%
ELI LILLY AND CO	5.5%
ABBOTT LABORATORIES	5.2%
ZOETIS INC	5.1%
SHOPIFY INC	4.9%
THERMO FISHER SCIENTIFIC INC	4.1%
Total	58.4%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Polen Focus Growth	2.3%	26.2%	71.6%
Russell 1000 Growth	4.1%	13.7%	82.2%
<i>Weight Over/Under</i>	<i>-1.9%</i>	<i>12.5%</i>	<i>-10.6%</i>

Sector Allocation (%) vs Russell 1000 Growth



As of March 31, 2025

Manager Summary: The fund employs a replication technique in order to approximate the risk and return characteristics of the Dow Jones U.S. Completion Total Stock Market Index. This Index is commonly used to represent the small and mid cap segments of the U.S. equity market. The 'completion' index is a sub-set of the DJ US Total Stock Market Index that excludes components of the S&P500.

Characteristics

	Portfolio	Dow Jones U.S. Completion Total Stock Market
Number of Holdings	3,060	3,411
Weighted Avg. Market Cap. (\$B)	11.3	11.3
Median Market Cap. (\$B)	0.7	0.7
Price To Earnings	18.7	18.7
Price To Book	2.7	2.7
Price To Sales	1.5	1.5
Return on Equity (%)	5.0	4.9
Yield (%)	1.5	1.5

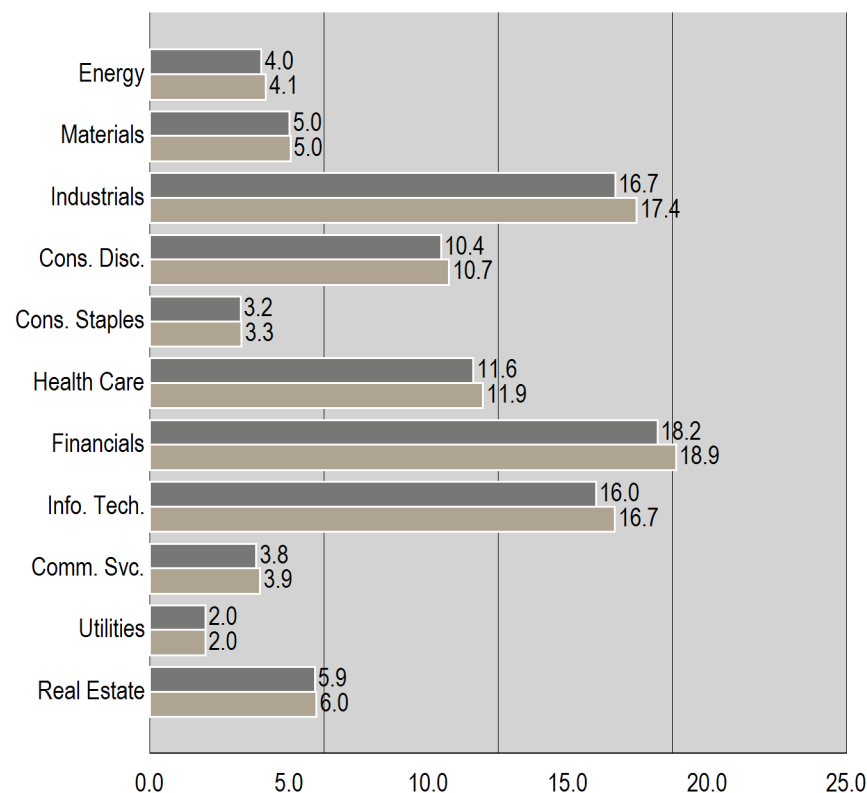
Top Holdings

MICROSTRATEGY INC	1.0%
CRH PLC	0.9%
APPLOVIN CORP	0.9%
MARVELL TECHNOLOGY INC	0.8%
CHENIERE ENERGY INC	0.8%
SNOWFLAKE INC	0.7%
FLUTTER ENTERTAINMENT PLC DI COMMON STOCK EUR.09	0.6%
COINBASE GLOBAL INC CL A	0.6%
ALNYLAM PHARMACEUTICALS INC	0.5%
ATLASSIAN CORP	0.5%
Total	7.4%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Northern Trust Dow Jones Completion Index	89.0%	11.0%	0.0%
Dow Jones U.S. Completion Total Stock Market	78.3%	21.7%	0.0%
<i>Weight Over/Under</i>	<i>10.7%</i>	<i>-10.7%</i>	<i>0.0%</i>

Sector Allocation (%) vs Dow Jones U.S. Completion Total Stock Market



Pennsylvania Municipal Retirement System

Channing Capital Management Small Cap Value

Manager Summary: Minority-owned investment management firm with fundamental bottom-up process. Stocks are first screened based on earnings, book value, and cash flow criteria with fundamental analysis performed on the top 20% within each respective sector. Sell candidates are companies that have dropped to the bottom 40% of their screen. The strategy holds 50-75 positions and is typically within plus/minus 5% of index sector weightings.

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	44	1,416
Weighted Avg. Market Cap. (\$B)	5.1	2.9
Median Market Cap. (\$B)	4.7	0.7
Price To Earnings	16.6	14.5
Price To Book	2.0	1.5
Price To Sales	1.4	1.0
Return on Equity (%)	16.2	2.9
Yield (%)	2.0	2.4

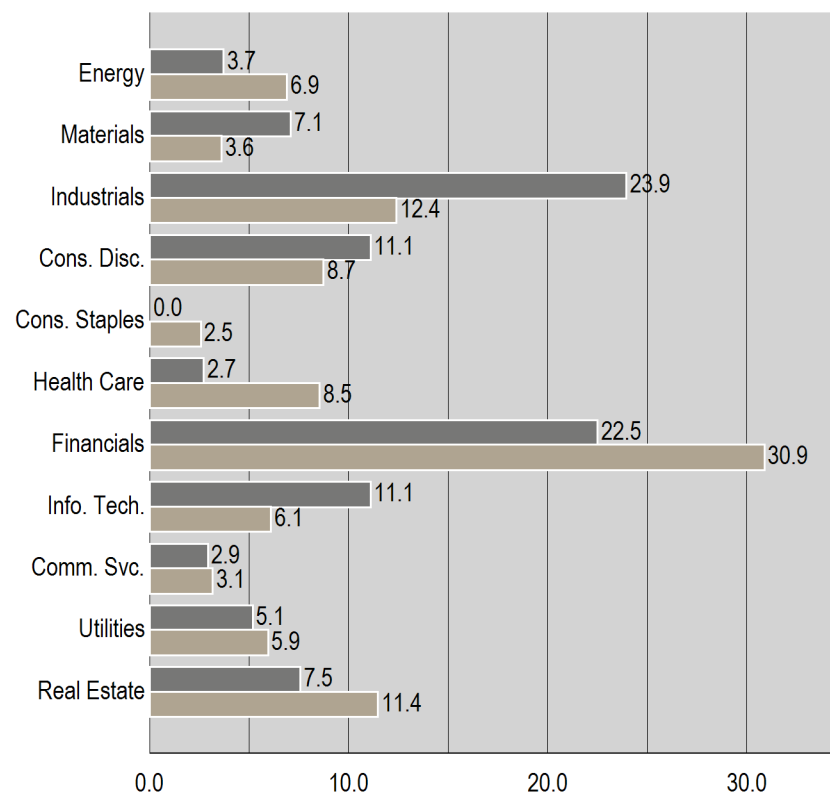
Top Holdings

NEXSTAR MEDIA GROUP INC.	2.9%
BRINK'S CO (THE)	2.9%
AFFILIATED MANAGERS GROUP INC.	2.8%
GATES INDUSTRIAL CORPORATION PLC	2.8%
SYNOVUS FINANCIAL CORP.	2.8%
STAG INDUSTRIAL INC	2.7%
COPT DEFENSE PROPERTIES	2.7%
HERC HOLDINGS INC	2.7%
INTEGER HOLDINGS CORP	2.7%
PORTLAND GENERAL ELECTRIC CO	2.7%
Total	27.6%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Channing Capital Management Small Cap Value	100.0%	0.0%	0.0%
Russell 2000 Value	99.5%	0.5%	0.0%
Weight Over/Under	0.5%	-0.5%	0.0%

Sector Allocation (%) vs Russell 2000 Value



As of March 31, 2025

Manager Summary: A bottom-up fundamental manager who views dividend growth as a litmus test for earnings quality and focuses on attributes such as dividend coverage, cash flow strength, earnings growth, and return on capital. Fundamental research is focused on identifying companies with strong competitive positions that support steadily rising dividends. Strategy invests in larger, more established small cap firms while tending to underweight the lower market cap ranges. The strategy seeks sector diversification with 45-60 holdings.

Characteristics

	Portfolio	Russell 2500
Number of Holdings	70	2,435
Weighted Avg. Market Cap. (\$B)	8.4	7.5
Median Market Cap. (\$B)	6.5	1.4
Price To Earnings	21.7	18.6
Price To Book	3.2	2.5
Price To Sales	1.6	1.4
Return on Equity (%)	17.0	9.7
Yield (%)	1.7	1.7

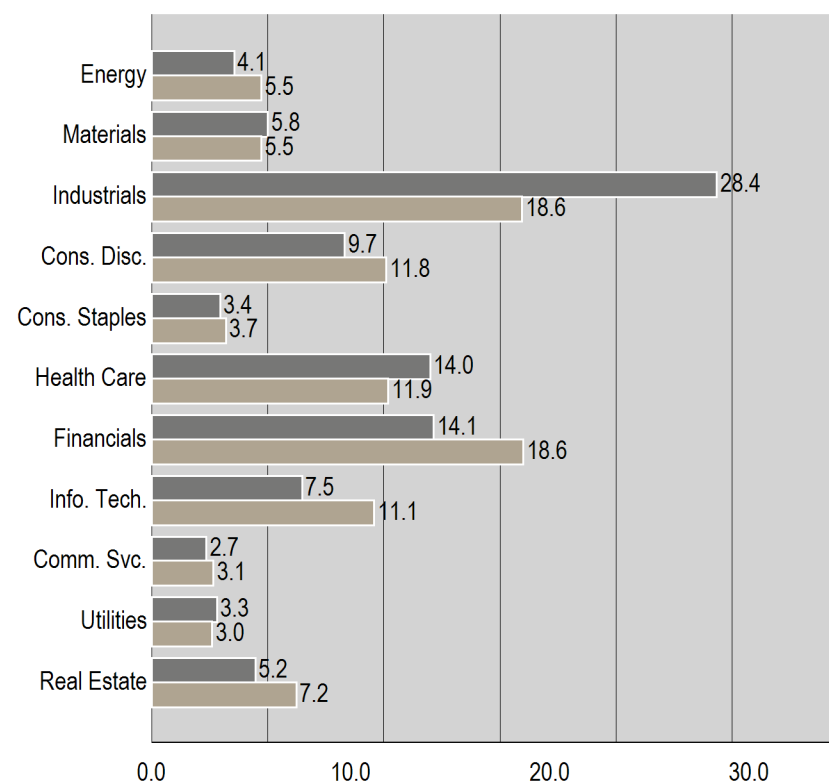
Top Holdings

ENCOMPASS HEALTH CORP	2.6%
ENSIGN GROUP INC (THE)	2.2%
KINSALE CAPITAL GROUP INC	2.2%
HAMILTON LANE INC	2.2%
CASEY'S GENERAL STORES INC.	2.1%
RELIANCE INC	2.1%
HOME BANCSHARES INC	1.8%
HENRY (JACK) & ASSOCIATES INC	1.8%
CHEMED CORP	1.8%
AIR LEASE CORP	1.8%
Total	20.5%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Copeland SMID Cap Dividend Growth	98.9%	1.1%	0.0%
Russell 2500	87.7%	12.3%	0.0%
Weight Over/Under	11.2%	-11.2%	0.0%

Sector Allocation (%) vs Russell 2500



Pennsylvania Municipal Retirement System

Emerald Small Cap Growth

As of March 31, 2025

Manager Summary: Core growth strategy, fundamental, bottom-up process seeking companies with a competitive advantage, market leadership, growth rates exceeding peers, differentiated growth drivers, and low research coverage. Analysts work across the market cap spectrum supporting small, mid, and all-cap strategies with coverage of dynamic sectors. The strategy holds 110-125 companies and portfolio construction limits of no more than 15% in any one industry group.

Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	112	1,107
Weighted Avg. Market Cap. (\$B)	4.4	4.3
Median Market Cap. (\$B)	3.3	1.1
Price To Earnings	27.8	21.7
Price To Book	3.9	3.7
Price To Sales	2.6	1.8
Return on Equity (%)	-9.4	3.4
Yield (%)	0.4	0.7

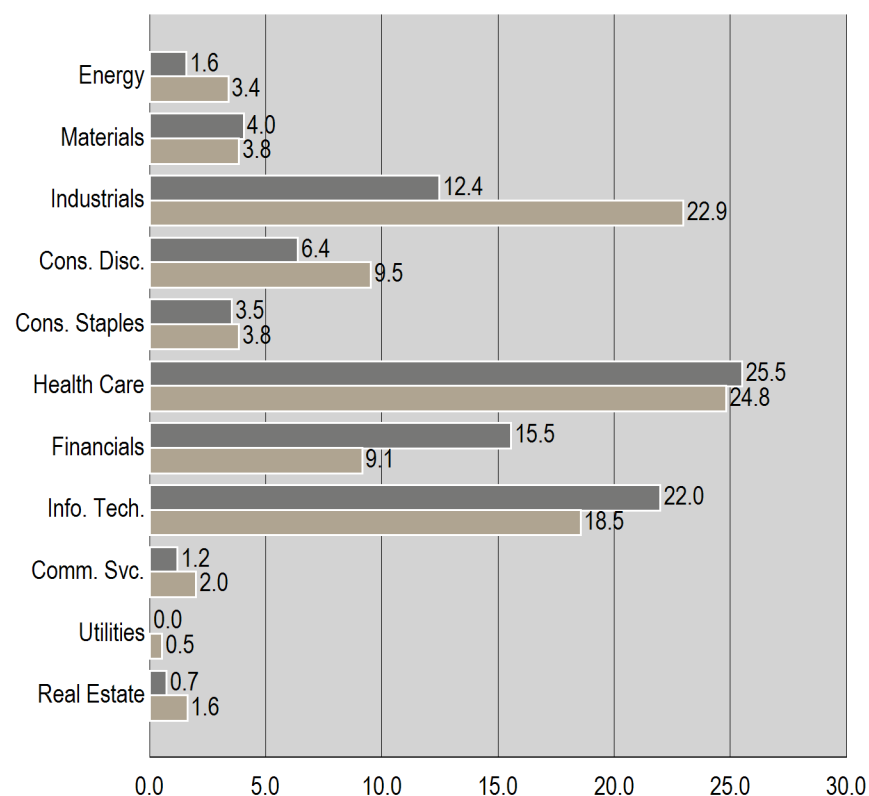
Top Holdings

FTAI AVIATION LTD	2.5%
PALOMAR HOLDINGS INC	2.4%
CREDO TECHNOLOGY GROUP HOLDING	2.3%
INSMED INC	2.1%
SKYWARD SPECIALTY INSURANCE GR	2.0%
KRATOS DEFENSE & SECURITY SOLUTIONS INC	2.0%
SOLENO THERAPEUTICS INC	2.0%
FRESHPET INC	1.9%
Q2 HOLDINGS INC	1.9%
BRIDGEBIO PHARMA INC	1.8%
Total	20.9%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Emerald Small Cap Growth	100.0%	0.0%	0.0%
Russell 2000 Growth	97.6%	2.4%	0.0%
Weight Over/Under	2.4%	-2.4%	0.0%

Sector Allocation (%) vs Russell 2000 Growth



Pennsylvania Municipal Retirement System

Rhumblin Global Min. Volatility

As of March 31, 2025

Manager Summary: The fund invests primarily in U.S. and foreign stocks that are expected to minimize volatility relative to the global equity market. To reduce volatility, the fund will consider stocks' risk and diversification characteristics and seek to hedge away most of the currency exposure resulting from its foreign stock holdings.

Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	276	2,553
Weighted Avg. Market Cap. (\$B)	131.0	604.9
Median Market Cap. (\$B)	27.4	15.5
Price To Earnings	19.8	21.2
Price To Book	3.3	3.7
Price To Sales	1.4	2.2
Return on Equity (%)	21.3	22.1
Yield (%)	2.5	2.0

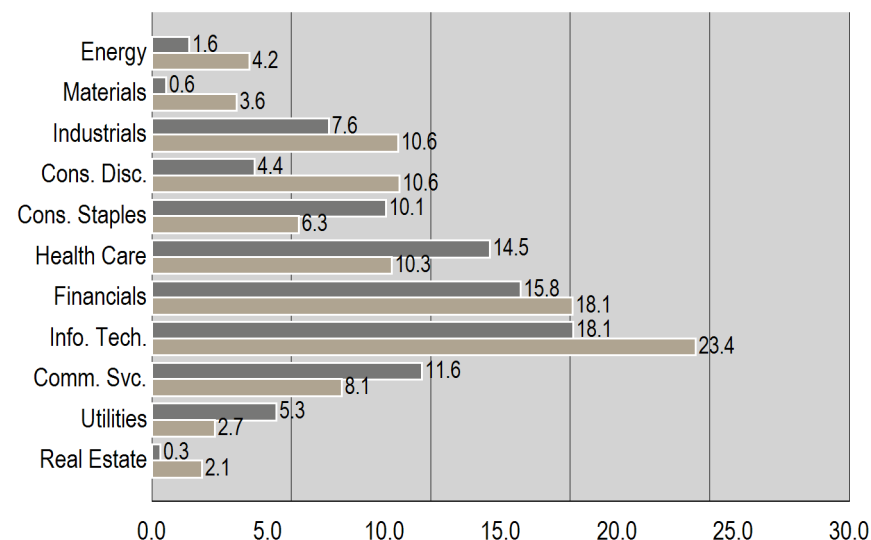
Top Holdings

ISHARES MSCI EMERGING MARKETS MIN VOL FACTOR ETF	9.8%
T-MOBILE US INC	1.6%
MCKESSON CORP	1.5%
REPUBLIC SERVICES INC.	1.4%
CISCO SYSTEMS INC	1.4%
ROPER TECHNOLOGIES INC	1.4%
WALMART INC	1.3%
MOTOROLA SOLUTIONS INC	1.3%
WASTE MANAGEMENT INC.	1.2%
CENCORA INC	1.2%
Total	22.0%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Rhumblin Global Min. Volatility	16.8%	28.4%	54.2%	0.5%
MSCI ACWI	8.0%	17.4%	74.6%	0.0%
Weight Over/Under	8.9%	11.0%	-20.4%	0.5%

Sector Allocation (%) vs MSCI ACWI



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	1.4%	2.8%	-1.4%
United States	68.5%	64.6%	3.9%
Europe Ex U.K.	7.0%	11.6%	-4.6%
United Kingdom	0.6%	3.4%	-2.7%
Pacific Basin Ex Japan	3.2%	2.3%	0.9%
Japan	9.3%	4.8%	4.4%
Emerging Markets	8.3%	10.2%	-1.9%
Other	1.7%	0.3%	1.4%
Total	100.0%	100.0%	0.0%

Pennsylvania Municipal Retirement System

SSGA MSCI World ex US

As of March 31, 2025

Manager Summary: Passive strategy that seeks to replicate the returns of the MSCI ACWI ex US index. This strategy is a low-cost option to gain diversified exposure to internationally based companies.

Characteristics

	Portfolio	MSCI World ex USA
Number of Holdings	797	773
Weighted Avg. Market Cap. (\$B)	84.8	87.9
Median Market Cap. (\$B)	14.1	16.1
Price To Earnings	17.3	17.0
Price To Book	2.4	2.4
Price To Sales	1.5	1.5
Return on Equity (%)	13.8	14.1
Yield (%)	3.0	3.1

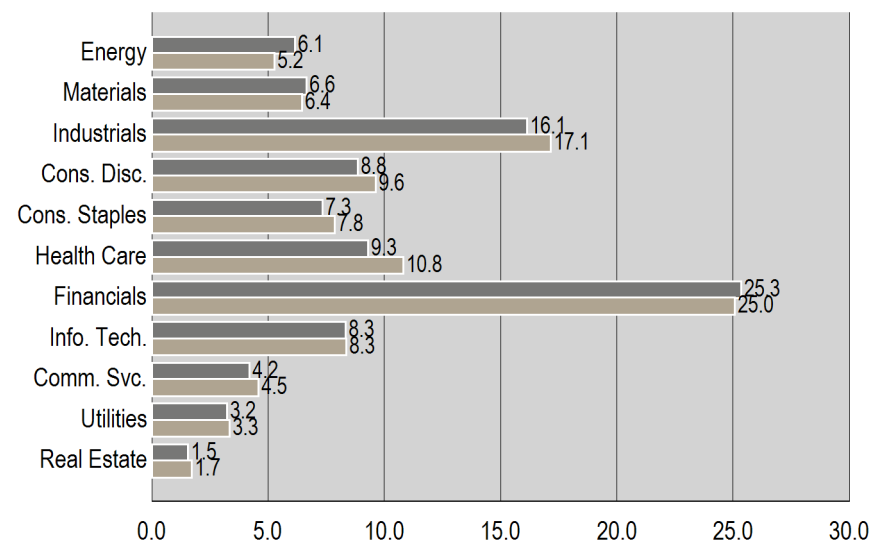
Top Holdings

ROYAL BANK OF CANADA	1.4%
SAP SE	1.3%
NESTLE SA, CHAM UND VEVEY	1.3%
ASML HOLDING NV	1.2%
ROCHE HOLDING AG	1.1%
ASTRAZENECA PLC	1.1%
SHELL PLC	1.1%
NOVO NORDISK A/S	1.1%
NOVARTIS AG	1.0%
SHOPIFY INC	1.0%
Total	11.6%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
SSGA MSCI World ex US	9.4%	26.1%	56.9%	7.6%
MSCI World ex USA	11.3%	27.1%	61.6%	0.0%
<i>Weight Over/Under</i>	<i>-1.9%</i>	<i>-1.0%</i>	<i>-4.7%</i>	<i>7.6%</i>

Sector Allocation (%) vs MSCI World ex USA



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	18.2%	11.1%	7.1%
United States	2.9%	0.0%	2.9%
Europe Ex U.K.	42.8%	45.9%	-3.1%
United Kingdom	9.8%	13.5%	-3.7%
Pacific Basin Ex Japan	8.1%	9.3%	-1.3%
Japan	17.4%	19.3%	-2.0%
Emerging Markets	0.0%	0.0%	0.0%
Other	0.8%	0.8%	-0.1%
Total	100.0%	100.0%	0.0%

Pennsylvania Municipal Retirement System

Hardman Johnston Int'l Equity

As of March 31, 2025

Manager Summary: Concentrated portfolio (20-30 names). Utilizes fundamental research invests in quality companies with 10% EPS growth and market leaders, invest at attractive valuation. Turnover is between 20-30%. Maximum position is 5%. Given the concentrated nature of the portfolio, high idiosyncratic risk in the portfolio and sizable tracking error. High active share (around 90-95%). No currency hedge.

Characteristics

	Portfolio	MSCI EAFE
Number of Holdings	26	691
Weighted Avg. Market Cap. (\$B)	140.1	91.4
Median Market Cap. (\$B)	104.2	15.8
Price To Earnings	18.1	16.7
Price To Book	3.9	2.4
Price To Sales	1.5	1.4
Return on Equity (%)	16.6	14.6
Yield (%)	1.5	3.1

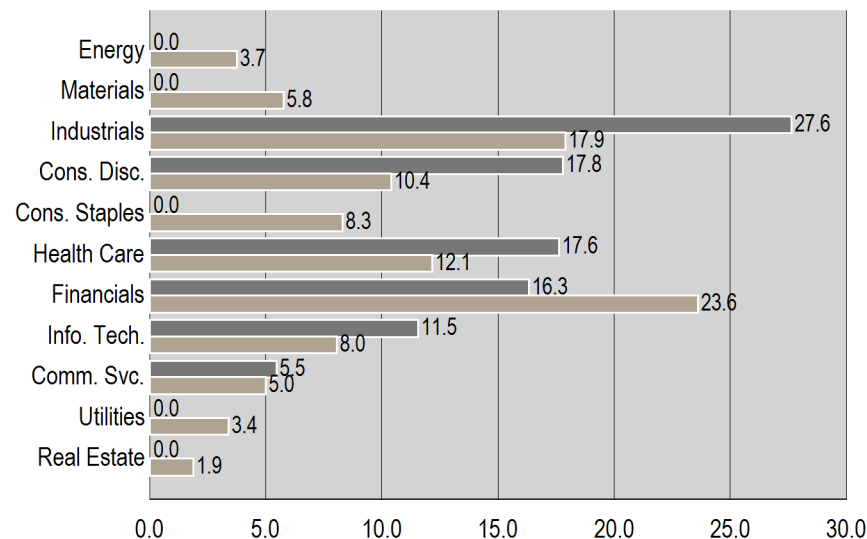
Top Holdings

PROSUS ORD	6.0%
SAFRAN SA	5.9%
MITSUBISHI HEAVY INDUSTRIES LTD	5.8%
AIRBUS SE	5.8%
DEUTSCHE TELEKOM AG	5.7%
STANDARD CHARTERED PLC	5.6%
DAI-ICHI LIFE HOLDINGS INC	5.6%
SUZUKI MOTOR CORP	5.3%
RHEINMETALL	5.2%
ASTRAZENECA PLC	5.1%
Total	55.8%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Hardman Johnston Int'l Equity	7.4%	22.0%	57.5%	13.1%
MSCI EAFE	11.4%	26.8%	61.8%	0.0%
<i>Weight Over/Under</i>	<i>-4.0%</i>	<i>-4.9%</i>	<i>-4.3%</i>	<i>13.1%</i>

Sector Allocation (%) vs MSCI EAFE



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	0.0%	0.0%	0.0%
United States	4.5%	0.0%	4.5%
Europe Ex U.K.	53.4%	51.6%	1.8%
United Kingdom	10.7%	15.2%	-4.5%
Pacific Basin Ex Japan	1.8%	10.5%	-8.7%
Japan	16.6%	21.7%	-5.1%
Emerging Markets	10.2%	0.0%	10.2%
Other	2.7%	0.9%	1.8%
Total	100.0%	100.0%	0.0%

As of March 31, 2025

Manager Summary: Bottom-up fundamental manager looking for businesses that are undergoing structural change. Analysts are generalists who are unconstrained in their candidates. Looking for upside over a time horizon of 2-3 years through assessing and predicting earnings estimates. Concentrated portfolio: 25-35 names equally weighted with a max of 5% initial allocation. Sector and countries limits of 30%. Turnover is roughly 30-40%.

Characteristics

	Portfolio	MSCI EAFE
Number of Holdings	32	691
Weighted Avg. Market Cap. (\$B)	79.1	91.4
Median Market Cap. (\$B)	24.4	15.8
Price To Earnings	17.0	16.7
Price To Book	2.1	2.4
Price To Sales	1.5	1.4
Return on Equity (%)	11.0	14.6
Yield (%)	2.2	3.1

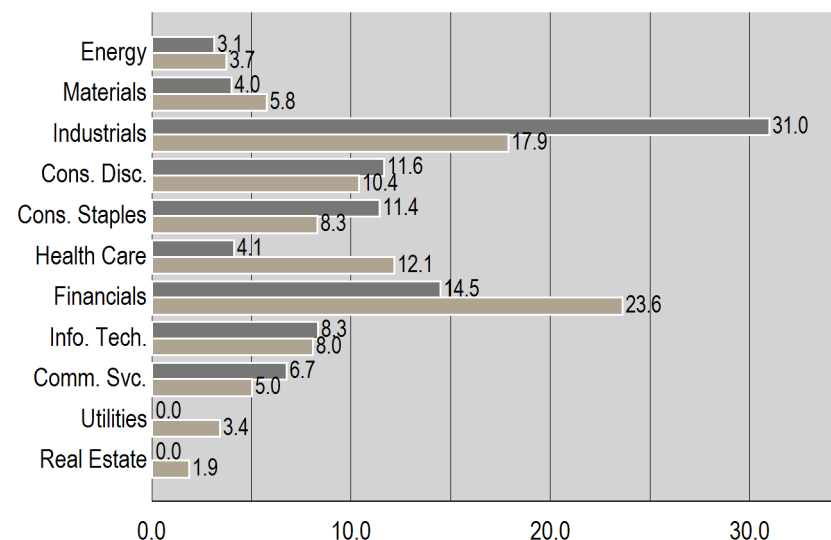
Top Holdings

RHEINMETALL	5.3%
BAE SYSTEMS PLC	5.2%
SONY GROUP CORPORATION	5.2%
THALES SA	4.4%
FRANCO-NEVADA CORP	4.2%
HDFC BANK LIMITED	4.0%
UNIVERSAL MUSIC GROUP INC	3.7%
SAMSUNG ELECTRONICS CO LTD	3.6%
NEXT PLC	3.6%
SUZUKI MOTOR CORP	3.5%
Total	42.7%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Hudson Edge Int'l Equity	11.7%	35.8%	35.6%	16.8%
MSCI EAFE	11.4%	26.8%	61.8%	0.0%
<i>Weight Over/Under</i>	<i>0.3%</i>	<i>9.0%</i>	<i>-26.1%</i>	<i>16.8%</i>

Sector Allocation (%) vs MSCI EAFE



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	7.6%	0.0%	7.6%
United States	0.0%	0.0%	0.0%
Europe Ex U.K.	45.7%	51.6%	-5.9%
United Kingdom	15.1%	15.2%	-0.1%
Pacific Basin Ex Japan	3.0%	10.5%	-7.5%
Japan	15.9%	21.7%	-5.9%
Emerging Markets	12.7%	0.0%	12.7%
Other	0.0%	0.9%	-0.9%
Total	100.0%	100.0%	0.0%

Pennsylvania Municipal Retirement System

Boston Partners Int'l Value Equity

As of March 31, 2025

Manager Summary: Boston Partners uses a bottom up approach to create a relatively concentrated portfolio of value stocks using their "three circles" philosophy of identifying companies trading at the intersection of attractive valuation, strong business fundamentals and exhibiting positive business momentum.

Characteristics

	Portfolio	MSCI EAFE Value
Number of Holdings	84	421
Weighted Avg. Market Cap. (\$B)	61.9	82.4
Median Market Cap. (\$B)	15.2	15.5
Price To Earnings	13.5	12.6
Price To Book	1.8	1.7
Price To Sales	1.2	1.0
Return on Equity (%)	13.1	12.0
Yield (%)	2.8	4.3

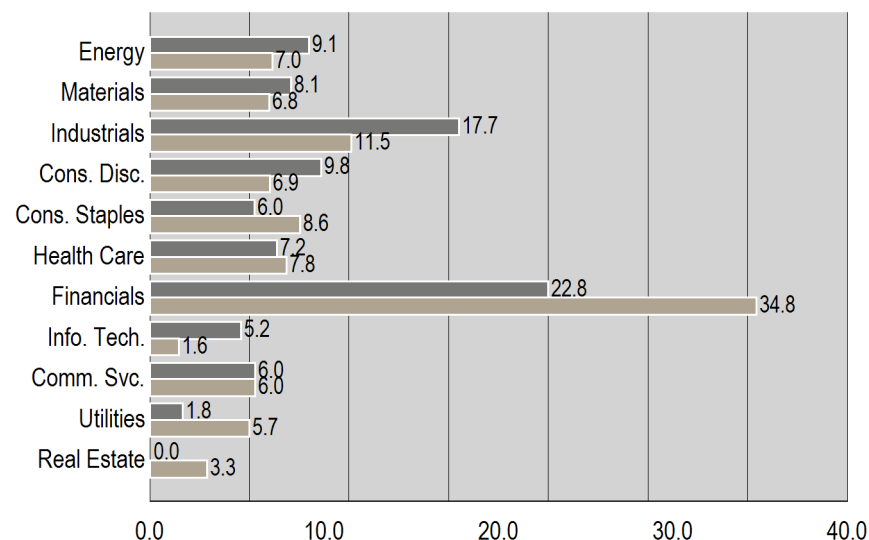
Top Holdings

BAE SYSTEMS PLC	3.6%
SHELL PLC	2.8%
HISCOX LTD	2.7%
ASTRAZENECA PLC	2.6%
WEIR GROUP PLC	2.5%
SONY GROUP CORPORATION	2.5%
ALIBABA GROUP HOLDING LTD	2.4%
PRUDENTIAL PLC	2.1%
NOVARTIS AG	2.1%
NAVER CORP	2.0%
Total	25.3%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
Boston Partners Int'l Value Equity	34.1%	24.2%	34.4%	7.3%
MSCI EAFE Value	12.6%	28.2%	59.2%	0.0%
Weight Over/Under	21.5%	-4.0%	-24.8%	7.3%

Sector Allocation (%) vs MSCI EAFE Value



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	7.2%	0.0%	7.2%
United States	3.3%	0.0%	3.3%
Europe Ex U.K.	40.5%	50.3%	-9.8%
United Kingdom	18.8%	16.8%	2.0%
Pacific Basin Ex Japan	2.9%	9.9%	-7.0%
Japan	15.4%	22.1%	-6.7%
Emerging Markets	7.2%	0.0%	7.2%
Other	4.6%	0.9%	3.7%
Total	100.0%	100.0%	0.0%

Manager Summary: Passive strategy that seeks to replicate the return of the MSCI Emerging Markets index. This strategy is a low-cost option to gain diversified exposure to emerging market based companies.

Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	1,242	1,204
Weighted Avg. Market Cap. (\$B)	165.7	165.1
Median Market Cap. (\$B)	8.6	8.7
Price To Earnings	14.0	14.1
Price To Book	2.7	2.7
Price To Sales	1.3	1.3
Return on Equity (%)	15.4	15.5
Yield (%)	2.9	2.9

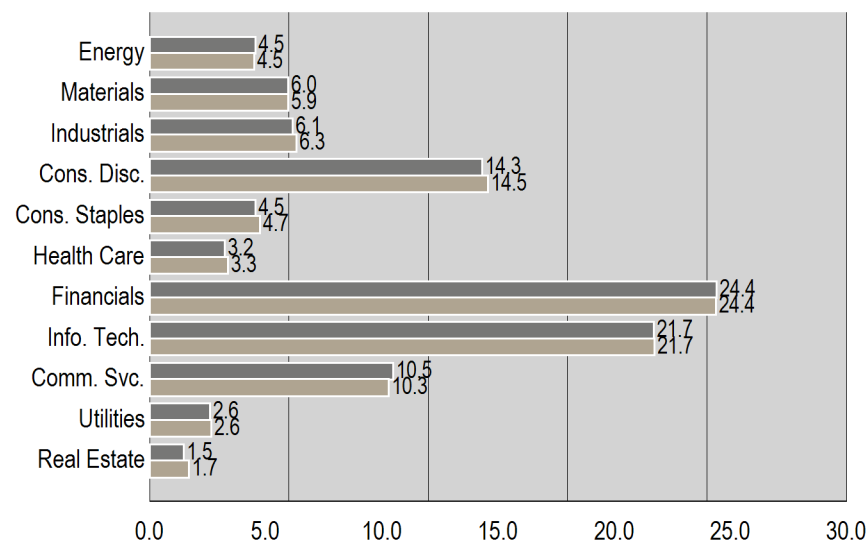
Top Holdings

TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	8.7%
TENCENT HOLDINGS LTD	5.3%
ALIBABA GROUP HOLDING LTD	3.4%
SAMSUNG ELECTRONICS CO LTD	2.4%
HDFC BANK LIMITED	1.6%
XIAOMI CORPORATION	1.3%
MEITUAN	1.3%
RELIANCE INDUSTRIES LTD	1.2%
CHINA CONSTRUCTION BANK CORP	1.1%
ICICI BANK	1.1%
Total	27.4%

Market Capitalization

	Small Cap	Mid Cap	Large Cap	Unclassified
SSGA MSCI Emerging Markets Index	8.0%	27.2%	57.5%	7.2%
MSCI Emerging Markets	16.9%	26.8%	56.3%	0.0%
<i>Weight Over/Under</i>	-8.9%	0.4%	1.3%	7.2%

Sector Allocation (%) vs MSCI Emerging Markets



Region Allocation Summary

Region	% of Total	% of Bench	% Diff
North America ex U.S.	0.0%	0.0%	0.0%
United States	3.9%	0.0%	3.9%
Europe Ex U.K.	1.0%	0.6%	0.4%
United Kingdom	0.0%	0.0%	0.0%
Pacific Basin Ex Japan	5.6%	0.0%	5.6%
Japan	0.0%	0.0%	0.0%
Emerging Markets	87.5%	98.6%	-11.1%
Other	2.0%	0.8%	1.1%
Total	100.0%	100.0%	0.0%

Characteristics

Fund GAV (\$MM)	\$28,643.0
Fund NAV (\$MM)	\$21,992.0
Cash (% of NAV)	0.3%
# of Investments	291
% in Top 10 by NAV	18.0%
Leverage %	25.2%
Occupancy	91.8%
# of MSAs	50
1-Year Dividend Yield	3.6%
As of Date	31-Mar-25

Strategy Breakdown

	% of Portfolio
Pre-Development	1.1%
Development	1.4%
Initial Leasing	0.5%
Operating	96.9%
Re-Development	
Other	
<u>Queue In:</u>	
Contribution Queue (\$MM)	\$0.00
Anticipated Drawdown (Months)	

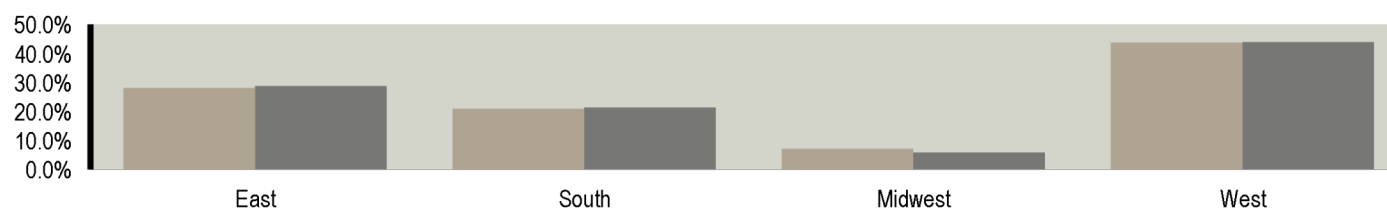
Top Five Metro Areas % of NAV

Los Angeles-Long Beach, CA	22.4%
New York-Newark, NY-NJ-CT-F	12.5%
Washington-Baltimore-Arlington	8.7%
San Jose-San Francisco-Oakland	6.7%
Atlanta-Athens-Clarke County-	6.2%

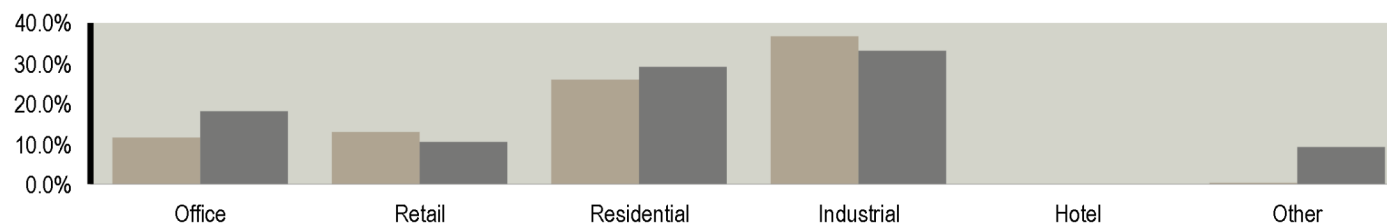
Queue Out:

Redemption Queue (\$MM)	\$1,829.29
Anticipated Payout (Months)	

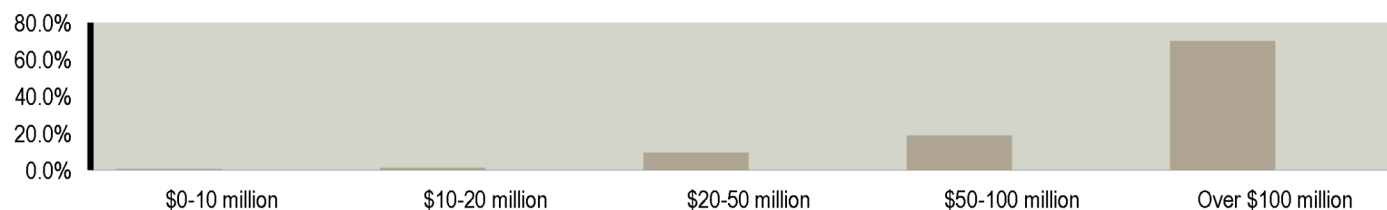
Regional Breakdown by NAV (Excluding Cash & Debt)



Property Type Breakdown by NAV (Excluding Cash & Debt)



Property Size Breakdown by NAV (Excluding Cash & Debt)



■ PRISA ■ NFI-ODCE

Pennsylvania Municipal Retirement System

PRISA II

As of March 31, 2025

Characteristics

Fund GAV (\$MM)	\$15,192.7
Fund NAV (\$MM)	\$8,518.0
Cash (% of NAV)	0.7%
# of Investments	126
% in Top 10 by NAV	24.5%
Leverage %	41.6%
Occupancy	87.7%
# of MSAs	50
1-Year Dividend Yield	2.3%
As of Date	31-Mar-25

Strategy Breakdown

	% of Portfolio
Pre-Development	5.9%
Development	9.1%
Initial Leasing	6.8%
Operating	73.3%
Re-Development	
Other	4.9%

Queue In:

Contribution Queue (\$MM)	
Anticipated Drawdown (Months)	

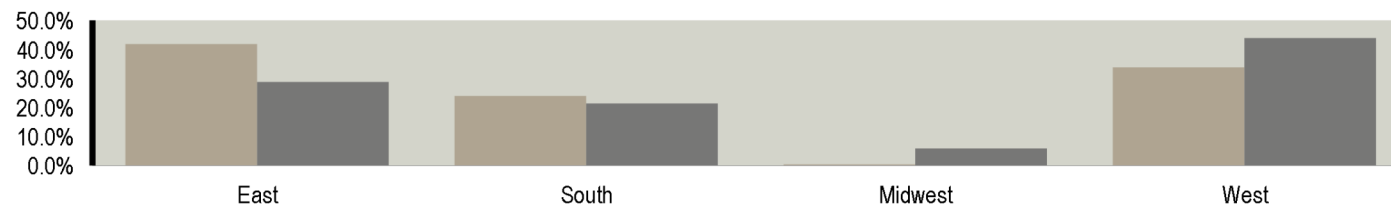
Top Five Metro Areas

	% of NAV
Northern NJ	10.5%
Riverside	8.1%
Boston	7.2%
San Francisco	7.2%
Jersey City	5.3%

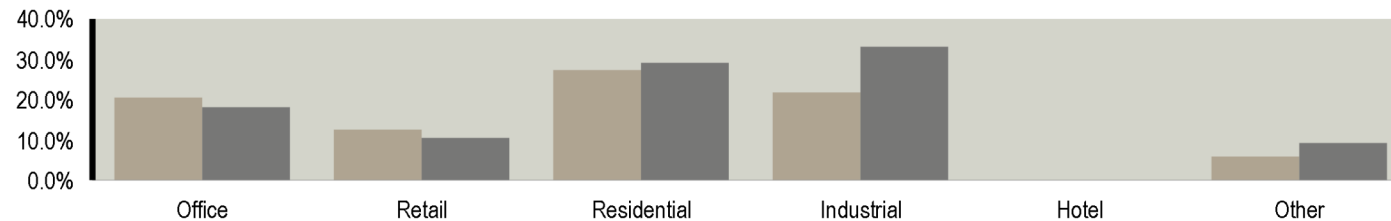
Queue Out:

Redemption Queue (\$MM)	\$1,112.40
Anticipated Payout (Months)	

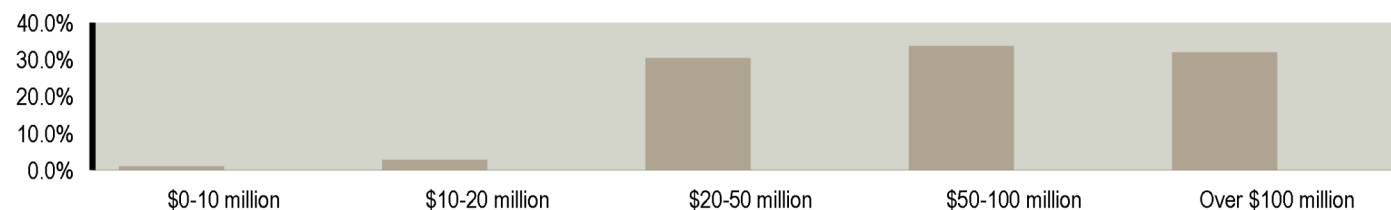
Regional Breakdown by NAV (Excluding Cash & Debt)



Property Type Breakdown by NAV (Excluding Cash & Debt)



Property Size Breakdown by NAV (Excluding Cash & Debt)



■ PRISA II ■ NFI-ODCE

As of March 31, 2025

Characteristics

Fund NAV (\$MM)	\$216,327.0
Cash (% of NAV)	1.9%
# of Investments	7
Occupancy	90.4%
NOI	3.9%
Loan to Value	7.1%
As of Date	6/30/2024

Asset Summary

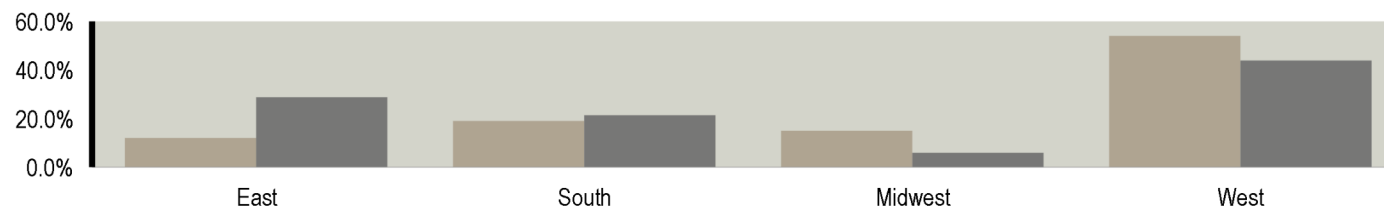
Property	Acquisition
Copley Corporate Center	2010
SR Ranch	2011
708 Uptown	2014
Fairway Center II	2016
Republic Distribution Center	2013
526 Route 46	2014
Shoppes at Monarch Lakes	2010

Portfolio Allocation

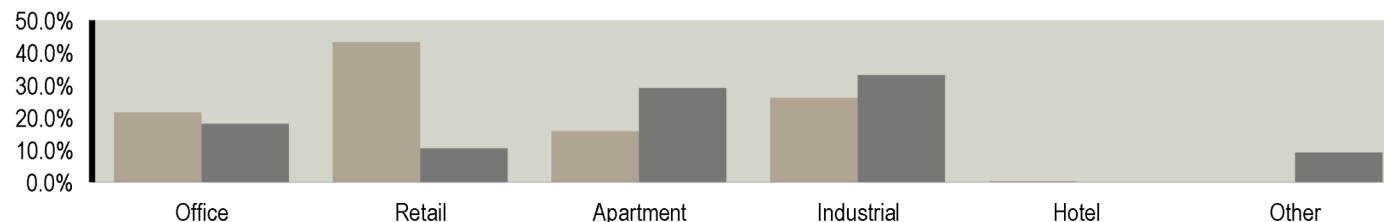
#	Property	Type	Location	% of Fund NAV
1	Copley Corporate Center	Office	San Diego, CA	11.3%
2	SR Ranch	Retail	San Diego, CA	23.2%
3	708 Uptown	Apartment	Seattle, WA	17.4%
4	Fairway Center II	Office	Brea, CA	13.0%
5	Republic Distribution Center	Industrial	Houston, TX	15.1%
6	526 Route 46	Industrial	Teterboro, NJ	13.3%
7	Shoppes at Monarch Lakes	Retail	Miramar, FL	6.7%

Total 100.0%

Regional Breakdown by NAV



Property Type Breakdown by NAV



Net Assets (\$MM) \$165.1

Portfolio Allocation

#	Property	Type	Location	% of Fund NAV
1	Bear Island	Pine	Virginia	5.3%
2	Fitz-Weller	Pine	New York	3.2%
3	Carter Pasture	Douglas Fir/Cedar	Texas	9.4%
4	Dupont	Douglas Fir/Hemlock	Georgia	19.3%
5	Black River	Pine	South Carolina	18.1%
6	Coquille	Pine	Oregon	16.7%
7	Bucktails	Pine	Pennsylvania	8.5%
8	North River	Maple/Oak	Washington	19.5%
Total				100.0%

Regional Breakdown by NAV



Pennsylvania Municipal Retirement System

SSGA US Aggregate Bond Index

As of March 31, 2025

