
Grand Rapids Police and Fire Retirement System

Investment Performance Review
Period Ending September 30, 2024

MARINER

3rd Quarter 2024 Market Environment

The Economy

- The US Federal Reserve (the Fed) shifted its policy stance during the quarter and cut the fed funds rate by 0.50% for the first time in four years to a range of 4.75%-5.00%. Capital markets celebrated the move after struggling to predict the pace and timing of future Fed actions earlier in the year. In its press release for the September meeting, the Fed continued to assert its stance on fighting inflation, while also inserting that the committee is strongly committed to “supporting maximum employment.” Fed Chairman Jerome Powell signaled to the markets that the expectation is for the committee to shift to a more expansionary policy moving forward.
- The Fed’s September “Dot Plot” showed revised expectations from a single 0.25% rate cut for the remainder of 2024 to a low-end estimate of a 4.25%-4.50% range. The dots also showed the target rate range decreasing below 4.00% in 2025.
- Growth in the US labor market continued in the third quarter, albeit at a slower pace than previous quarters with growth coming in at 527,000 new jobs. However, the strength of the labor market during the previous year was undermined by the large downward revision (818,000) on the trailing one-year statistic.

Equity (Domestic and International)

- US equity results were sharply higher for the quarter, which also saw a significant broadening of returns across both the style and capitalization spectrum. The S&P 500 Index rose a solid 5.9% for the quarter and the small-cap Russell 2000 Index posted a higher gain of 9.3%. This quarter not only saw a significant rotation from large-cap to small-cap stocks but also from growth stocks to value stocks as value indexes outpaced their growth counterparts.
- Large-cap equity benchmarks continue to represent top-heavy concentration among a limited number of stocks. As of quarter end, the top 10 stocks in the S&P 500 Index made up nearly 35% of the index.
- International stocks continued delivering positive results during the third quarter and US Dollar (USD) denominated results were further helped by a weakening USD. USD performance of international stocks surged past local currency (LCL) returns in most regions for the quarter, albeit to varying degrees.

Fixed Income

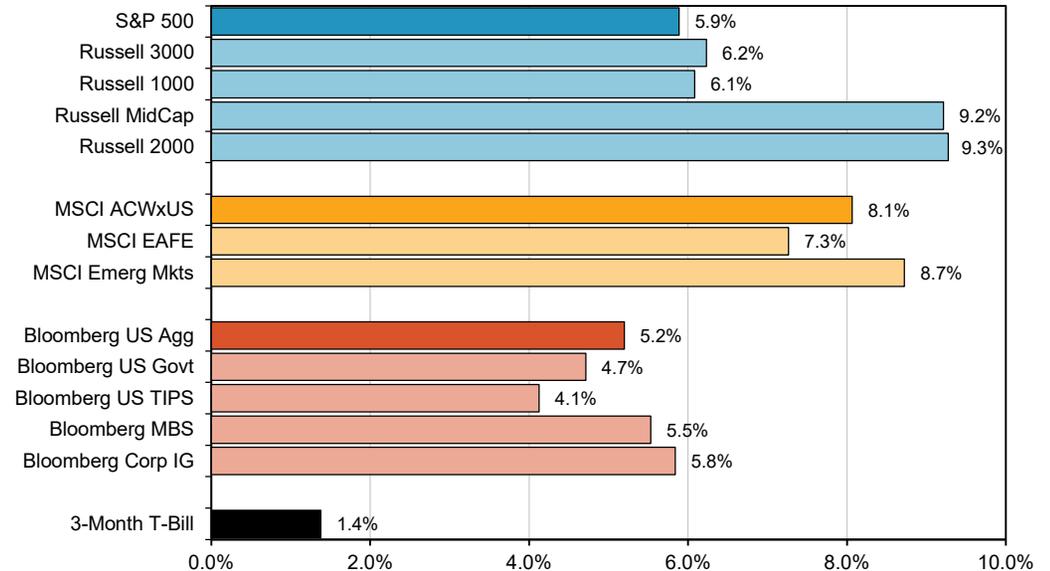
- Fixed-income markets traded higher during the quarter on the back of the Fed’s policy shift as Treasury yields fell. The inverse relationship between prices and yields resulted in the Bloomberg US Aggregate Bond Index advancing 5.2%. The yield on the bellwether 10-year Treasury declined by 0.55% during the quarter.
- High-yield bonds slightly outperformed the Bloomberg US Aggregate Bond Index for the quarter, largely due to higher coupons and partly due to narrowing option-adjusted spreads (OAS) for the Bloomberg US High-Yield index.
- Global bonds outpaced the domestic benchmarks, with the Bloomberg Global Aggregate ex-US returning 8.5% for the quarter in USD terms. Global bond performance was boosted by a weakening USD during the quarter.

Market Themes

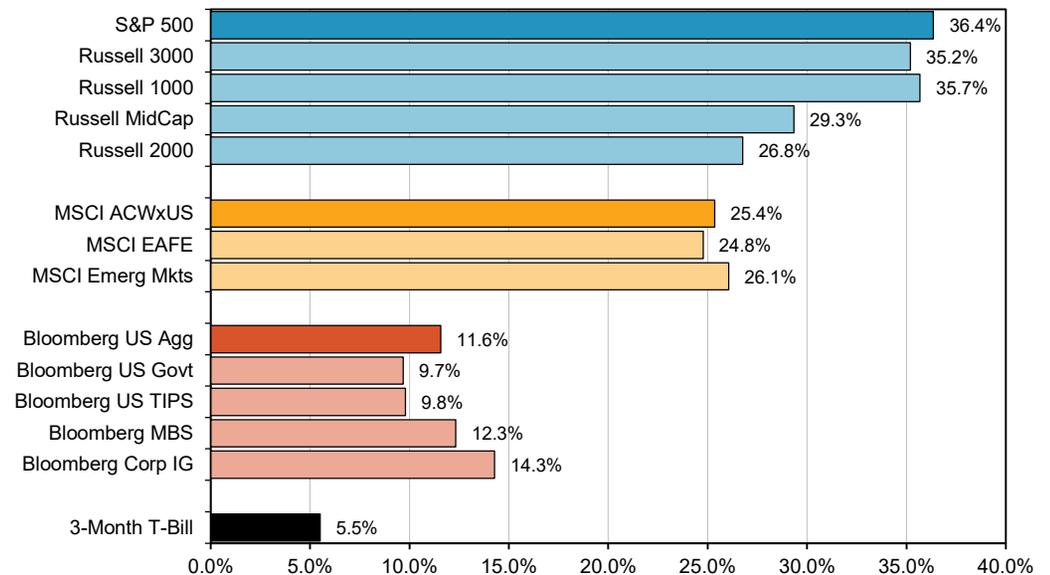
- Divergent monetary policies across regions led to increased volatility during the quarter. Most developed markets across the world kept rates at elevated levels as central banks continued their tight monetary stances. However, the Japanese Central Bank chose to raise its policy rates at the end of July, shortly before the Fed cut its policy rate in September. This divergence led to an unwinding of the systematic Yen carry trade, where investors quickly took action to cover short yen positions by taking down positions in various higher growth investments, including US equities. This subsequently led to a sharp decline in equity markets around the world in early August.
- Ongoing military conflicts in Ukraine and the Middle East, coupled with global economic uncertainty, continue to act as headwinds for international market results but they received a boost from the weakening USD. New escalations to existing conflicts have resulted in anticipated and unanticipated consequences. Domestic Defense companies have tended to trade higher on the news of developing escalations abroad while similarly putting upward pressure on oil prices and downward pressure on energy stocks as a result.

- Performance in the domestic equity markets was broadly positive after markets received a boost from the Fed's first rate cut in four years. Small-cap stocks outperformed their large-cap counterparts, with the Russell 2000 returning 9.3% versus a gain of 5.9% for the S&P 500. The all-cap Russell 3000, which is heavily weighted in its large-cap names, lagged the Russell 2000 Index by 3.1%, returning 6.2% for the quarter.
- International developed market equities realized similar results with both the MSCI ACWI ex US and MSCI EAFE indexes gaining during the quarter. The MSCI ACWI ex US Index posted a strong 8.1% for the quarter, while the MSCI EAFE Index returned a slightly lower 7.3%, both in USD terms. International emerging market (EM) equities were the best performing foreign segment, gaining 8.7% in for the quarter and outpacing their developed market counterparts. Much of the solid USD performance for EM can be attributed to the Far East index countries, particularly China, Taiwan, and Singapore.
- Broad fixed-income indexes added to their year-to-date results during the quarter, thanks in large part to the Fed's 0.50% rate cut on September 18th. The Bloomberg US Aggregate Index returned a solid 5.2% for the quarter. Investment-grade corporate bonds topped other US fixed-income sectors for the quarter, finishing with a return of 5.8%. The TIPS market, which is not part of the Aggregate Index, was the worst-performing bond benchmark during the quarter with a return of 4.1%, lagging the rest of the domestic fixed-income indexes.
- Large-cap US equity indexes built on their already massive returns over the trailing one-year period. The S&P 500 Index has gained 36.4%, while the Russell 1000 Index returned 35.7%. The weakest performing capitalization range of domestic equities for the year has been the small-cap Russell 2000 Index, which still posted a double-digit return of 26.8% over the last 12 months.
- Domestic bond indexes also produced strong, positive results for the year. Investment-grade corporate bonds continued to lead, returning an impressive 14.3% for the trailing one-year. The government bond index lagged for the year, but still returned a solid 9.7%.
- International markets also showcased healthy performance for the trailing one-year period. The MSCI EM Index was the best international performer, returning 26.1%, while the MSCI EAFE and MSCI ACWI ex US indexes posted returns of 24.8% and 25.4%, respectively.

Quarter Performance

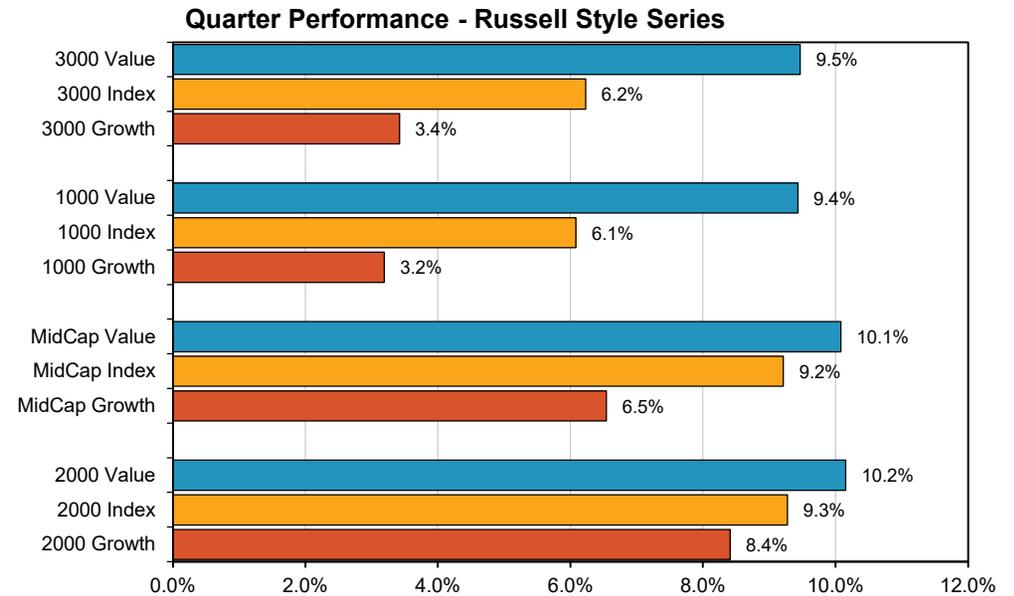


1-Year Performance

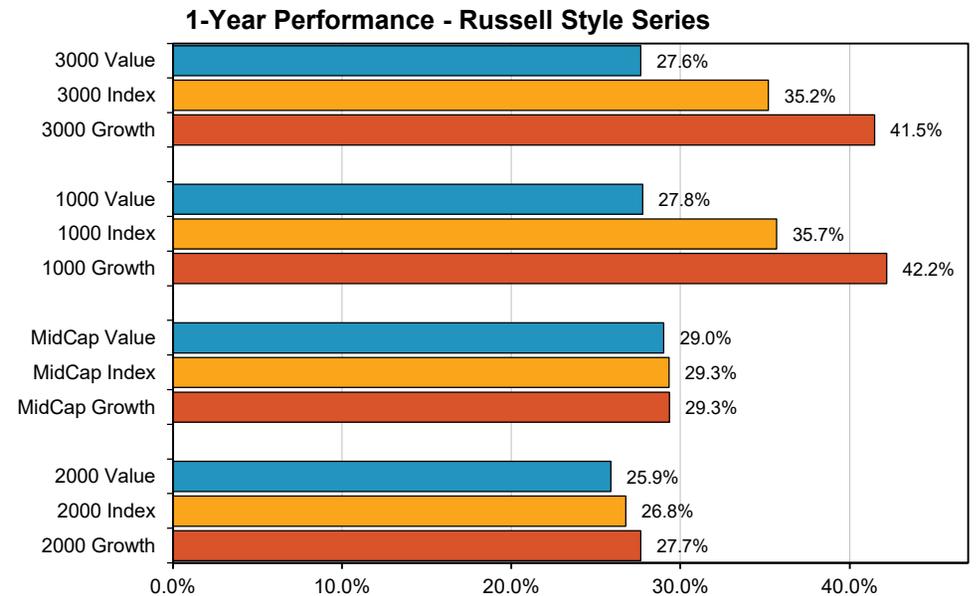


Source: Investment Metrics

- Domestic equity benchmarks posted strong absolute results across styles and market capitalization ranges. During the third quarter, value stocks outpaced their growth counterparts at each capitalization level for the first time since Q4 2022. The best-performing segment of the equity market was small-cap value, with the Russell 2000 Value Index advancing 10.2% for the quarter. Conversely, the large-cap growth Russell 1000 Growth Index produced the weakest relative equity performance, returning just 3.2%.
- The growth-oriented rally took a hiatus during the quarter with the broadest disparity visible in large-cap indexes. The Russell 1000 Value Index return of 9.4% surpassed the Russell 1000 Growth Index return by 6.2%. This quarter's results bucked the trend of large-cap growth stocks being the best-performing segment of the domestic equity market.



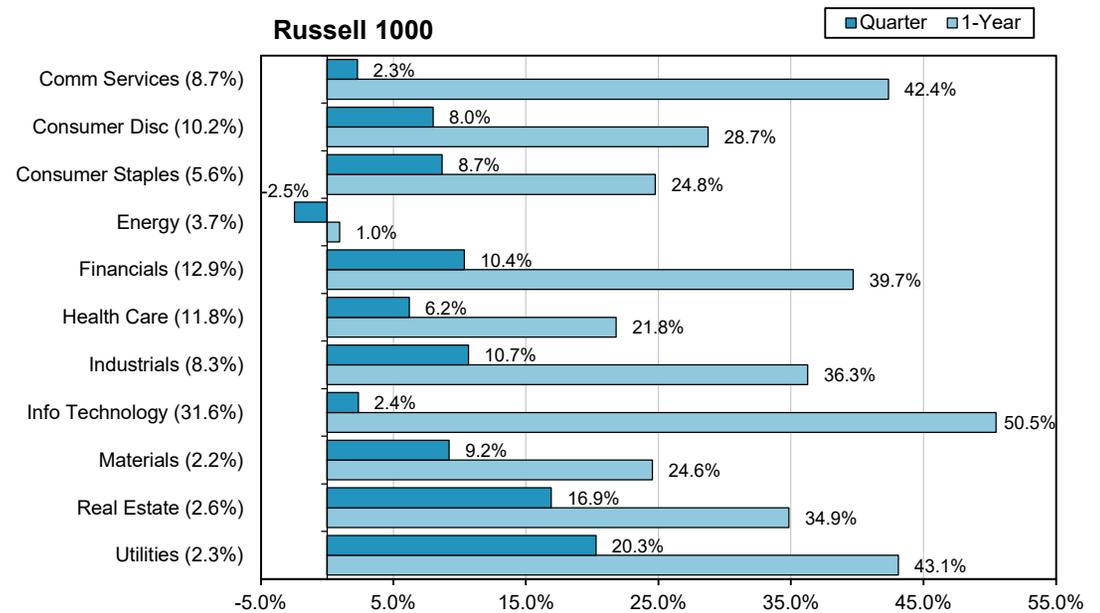
- This quarter's resurgence by the value indexes was not enough to bring them above growth indexes on a trailing one-year basis. The Russell 1000 Growth Index amassed a staggering 42.2%, leading the way among style and market capitalization classifications. Much of this strong performance has been attributable to the emergence of the "Magnificent 7" stocks (Alphabet, Amazon, Apple, Meta, Microsoft, Nvidia, and Tesla) which have dominated the large-cap core and growth indexes over the past several years. The 10 largest stocks in the Russell 1000 Index have contributed more than 50% of the index's total performance over the trailing 12-month period. The weakest performing index for the year was the Russell 2000 Value Index, which still posted an impressive 25.9%.
- The strength of growth sectors is evident in the chart with the broad-cap, large-cap, and small-cap benchmarks outpacing their value counterparts for the trailing one-year period. The gap between the Russell 1000 Growth Index and the Russell 1000 Value Index was in double-digits for the year, while the gaps for mid- and small-cap indexes were much narrower.



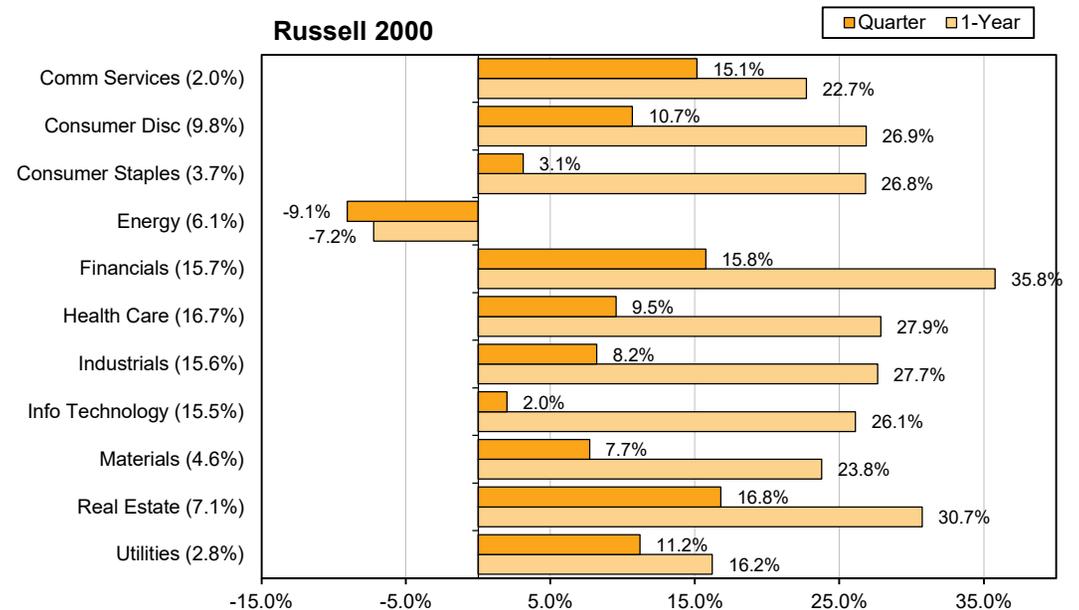
Source: Investment Metrics

- Economic sector performance was mostly positive during the third quarter, with 10 of the 11 economic sectors moving higher in both the large-cap and small-cap indexes. The quarter continued the previous trend in the domestic equities markets of broader participation in companies outside of the technology sector. Energy was the lone sector to slide during the quarter, posting a return of -2.5%.
- Third-quarter results for the large-cap benchmark added to already strong trailing one-year numbers, with all but one sector producing a return of greater than 20%. Similar to the quarter's results, the energy sector was the one to fall short, gaining just 1.0% over the trailing year. Of the 11 sectors, three (communication services, information technology, and utilities) were up by more than 40.0% for the past year. Financials, industrials, and real estate followed closely behind with gains of 39.7%, 36.3%, and 34.9%, respectively. Despite this strong sector performance, only five of the six leading sectors managed to outpace the Russell 1000 Index's return of 35.7%, which was lifted even higher by the strong results in the most heavily weighted sector, information technology.
- Small-cap stocks displayed similar strength, with 10 of the 11 small-cap economic sectors gaining value during the quarter. Real estate, financials, and communication services led the way with gains of more than 15% for the quarter. Similar to the large-cap benchmark, energy was the worst-performing sector for the quarter and produced the sole negative sector return, falling -9.1%.
- Small-cap stocks also had a strong performance for the trailing year. The same 10 small-cap sectors that advanced during the quarter moved higher over the trailing one-year period. Energy remains the weakest performing sector, with the most recent quarterly return dragging the sector's performance to -7.2% for the trailing year. Financials (up 35.8%), and seven other sectors earned more than 20%.

Russell 1000



Russell 2000



Source: Morningstar Direct
As a result of the GICS classification changes on 9/28/2018 and certain associated reporting limitations, sector performance represents backward looking performance for the prior year of each sector's current constituency, post creation of the Communication Services sector.

The Market Environment
Top 10 Index Weights & Quarterly Performance for the Russell 1000 & 2000
As of September 30, 2024

Top 10 Weighted Stocks				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Apple Inc	6.4%	10.8%	36.8%	Information Technology
Microsoft Corp	6.1%	-3.6%	37.3%	Information Technology
NVIDIA Corp	5.4%	-1.7%	179.3%	Information Technology
Amazon.com Inc	3.3%	-3.6%	46.6%	Consumer Discretionary
Meta Platforms Inc Class A	2.4%	13.6%	91.3%	Communication Services
Alphabet Inc Class A	1.8%	-8.8%	27.1%	Communication Services
Berkshire Hathaway Inc Class B	1.6%	13.1%	31.4%	Financials
Alphabet Inc Class C	1.6%	-8.7%	27.1%	Communication Services
Broadcom Inc	1.5%	7.8%	110.9%	Information Technology
Tesla Inc	1.4%	32.2%	4.6%	Consumer Discretionary

Top 10 Weighted Stocks				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Vaxcyte Inc Ordinary Shares	0.5%	51.3%	124.1%	Health Care
FTAI Aviation Ltd	0.5%	29.1%	281.0%	Industrials
Insmed Inc	0.4%	9.0%	189.1%	Health Care
Sprouts Farmers Market Inc	0.4%	32.0%	158.0%	Consumer Staples
Fabrinet	0.3%	-3.4%	41.9%	Information Technology
Applied Industrial Technologies Inc	0.3%	15.2%	45.4%	Industrials
Mueller Industries Inc	0.3%	30.5%	100.0%	Industrials
Fluor Corp	0.3%	9.6%	30.0%	Industrials
Ensign Group Inc	0.3%	16.3%	55.1%	Health Care
UFP Industries Inc	0.3%	17.5%	29.6%	Industrials

Top 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Exact Sciences Corp	0.0%	61.2%	-0.1%	Healthcare
Inspire Medical Systems Inc	0.0%	57.7%	6.4%	Healthcare
AppLovin Corp Ordinary Shares - A	0.1%	56.9%	226.7%	Information Technology
Doximity Inc Class A	0.0%	55.8%	105.3%	Healthcare
Ubiquiti Inc	0.0%	52.7%	55.3%	Information Technology
Vornado Realty Trust	0.0%	49.9%	75.4%	Real Estate
GE Vernova Inc	0.1%	48.7%	N/A	Utilities
VF Corp	0.0%	48.5%	15.5%	Communication Services
Palantir Technologies Inc Ordinary - A	0.1%	46.9%	132.5%	Technology
SharkNinja Inc	0.0%	44.7%	139.9%	Communication Services

Top 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Lumen Technologies Inc Ordinary	0.1%	545.5%	400.0%	Communication Services
CommScope Holding Co Inc	0.0%	396.7%	81.8%	Information Technology
Capricor Therapeutics Inc	0.0%	218.9%	344.7%	Health Care
Summit Therapeutics Inc Ordinary	0.0%	180.8%	1071.1%	Health Care
Q32 Bio Inc	0.0%	148.6%	N/A	Health Care
Intuitive Machines Inc Ordinary - A	0.0%	143.9%	120.5%	Industrials
IGM Biosciences Inc Ordinary	0.0%	140.8%	98.1%	Health Care
Cassava Sciences Inc	0.0%	138.3%	76.9%	Health Care
AST SpaceMobile Inc Ordinary - A	0.1%	125.2%	588.2%	Communication Services
Biomea Fusion Inc	0.0%	124.4%	-26.6%	Health Care

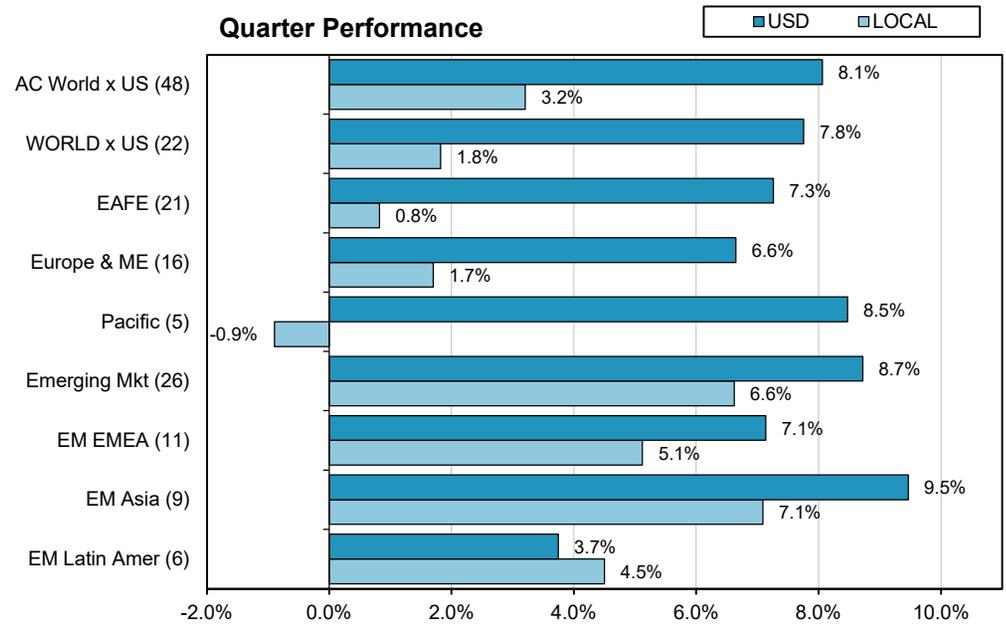
Bottom 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
New Fortress Energy Inc Class A	0.0%	-58.3%	-71.7%	Utilities
Wolfspeed Inc	0.0%	-57.4%	-74.5%	Information Technology
Trump Media & Technology Group Corp	0.0%	-50.9%	N/A	Communication Services
Super Micro Computer Inc	0.0%	-49.2%	51.8%	Information Technology
e.l.f. Beauty Inc	0.0%	-48.3%	-0.7%	Consumer Staples
Celsius Holdings Inc	0.0%	-45.1%	-45.2%	Consumer Staples
Moderna Inc	0.1%	-43.7%	-35.3%	Health Care
DexCom Inc	0.1%	-40.9%	-28.1%	Health Care
Advance Auto Parts Inc	0.0%	-38.2%	-29.1%	Communication Services
Dollar General Corp	0.0%	-35.7%	-18.6%	Consumer Staples

Bottom 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Conduit Pharmaceuticals Inc	0.0%	-88.8%	-98.0%	Health Care
HilleVax Inc	0.0%	-87.8%	-86.9%	Health Care
iLearningEngines Inc	0.0%	-81.6%	N/A	Information Technology
SolarMax Technology Inc	0.0%	-80.8%	N/A	Industrials
Verrica Pharmaceuticals Inc	0.0%	-80.1%	-62.7%	Health Care
Elevation Oncology Inc	0.0%	-77.8%	-9.5%	Health Care
Actinium Pharmaceuticals Inc	0.0%	-74.6%	-68.2%	Health Care
Renovaro Inc	0.0%	-72.4%	-89.2%	Health Care
B. Riley Financial Inc	0.0%	-70.2%	-86.1%	Financials
ALX Oncology Holdings Inc Ordinary	0.0%	-69.8%	-62.1%	Health Care

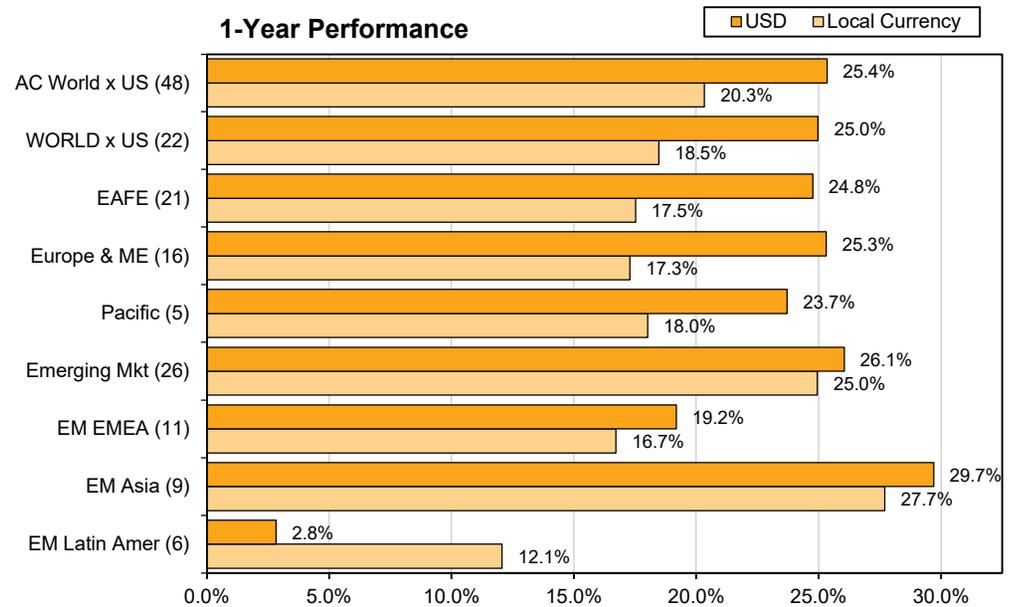
Source: Morningstar Direct

- Results in USD terms among the headline international equity indexes were sharply higher during the quarter, echoing the performance of major domestic equity benchmarks. The weakening USD relative to many major currencies during the quarter was a tailwind for the USD performance of most regional benchmarks' returns. The developed-market MSCI EAFE Index returned a muted 0.8% in LCL terms but rose 7.3% in USD terms. The MSCI Emerging Markets Index was the best-performing broad index, climbing 8.7% in USD and 6.6% in LCL terms for the quarter.
- Latin America lagged other regions during the quarter in USD terms, posting a return of 3.7%. Weakening currencies in the region put pressure on performance, making it the only region with USD performance that lagged LCL currency performance. The MSCI Pacific benchmark was the only regional benchmark to deliver negative performance in LCL teams (-0.9%), but USD weakness led to an 8.5% positive return in USD terms. Regional LCL currency performance struggles were led by the unwinding of the carry trade in the Japanese equity markets in early August which carried over to neighboring Pacific countries and US markets.
- China, which is the most heavily weighted country in the emerging market index, continued its rebound during the quarter posting a 23.5% gain in USD terms. Recently announced government stimulus for the Chinese economy helped lift equity markets in the country during the quarter. The Chinese economy has yet to expand at its pre-pandemic rate of roughly 5.0% primarily due to troubles in its commercial property and banking sectors, which have created challenges for growth in the region.
- Much like domestic markets, trailing one-year results for international developed and emerging markets benchmarks were strongly positive. Higher USD versus LCL returns for most international benchmarks demonstrate the USD's relative weakness over the trailing one-year period.
- All broad and regional indexes were positive for the trailing 12 months in both USD and LCL terms. The EM Latin America index, where weakening local currencies dragged the region's double-digit LCL performance to a muted 2.8% in USD terms. MSCI Asia Index led the way with a return of 27.7% in LCL terms for the trailing year. The relative weakening of the USD during the period further boosted returns in the region to 29.7% in USD terms.

Quarter Performance



1-Year Performance



Source: MSCI Global Index Monitor (Returns are Net)

The Market Environment
US Dollar International Index Attribution & Country Detail
As of September 30, 2024

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	4.3%	11.5%	27.1%
Consumer Discretionary	11.0%	4.8%	14.4%
Consumer Staples	8.7%	10.6%	10.9%
Energy	3.6%	-5.8%	-2.1%
Financials	20.6%	10.4%	36.0%
Health Care	13.3%	4.6%	20.4%
Industrials	17.3%	9.4%	33.8%
Information Technology	8.7%	-2.4%	35.6%
Materials	6.8%	10.7%	24.0%
Real Estate	2.2%	17.3%	27.6%
Utilities	3.4%	14.9%	25.4%
Total	100.0%	7.3%	24.8%

MSCI - ACWixUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	5.6%	13.6%	26.3%
Consumer Discretionary	11.3%	11.5%	20.4%
Consumer Staples	7.4%	10.5%	11.1%
Energy	5.0%	-1.7%	7.2%
Financials	22.5%	11.4%	33.2%
Health Care	9.4%	6.4%	20.4%
Industrials	13.8%	8.7%	30.5%
Information Technology	12.8%	-1.6%	38.3%
Materials	7.1%	9.4%	18.8%
Real Estate	1.9%	16.9%	23.5%
Utilities	3.2%	13.4%	27.7%
Total	100.0%	8.1%	25.4%

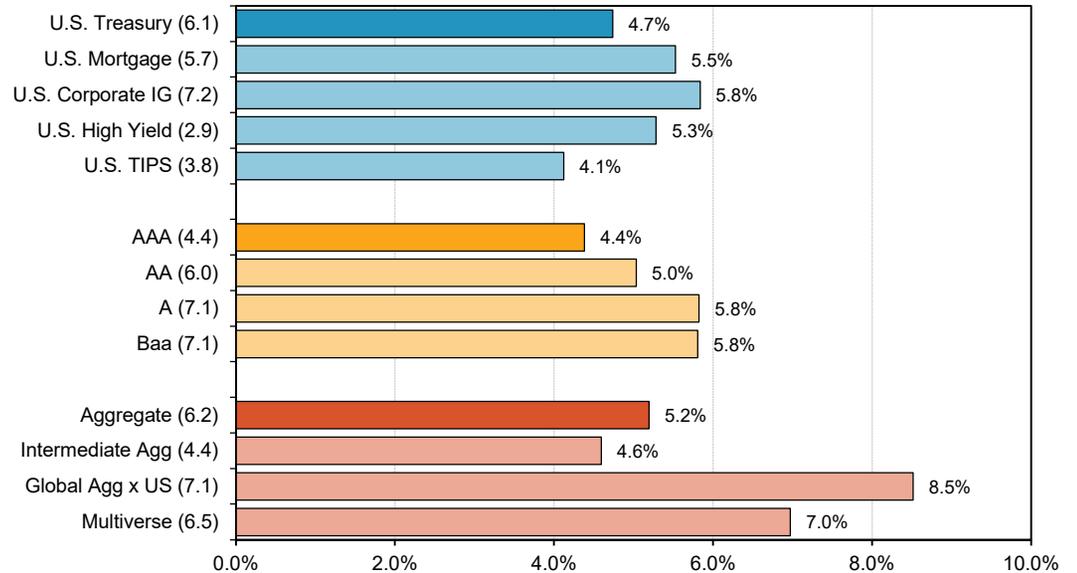
MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	9.4%	15.6%	26.2%
Consumer Discretionary	14.0%	25.0%	31.9%
Consumer Staples	5.2%	11.1%	9.6%
Energy	4.8%	-0.4%	17.4%
Financials	22.8%	10.4%	26.5%
Health Care	3.6%	22.9%	20.5%
Industrials	6.8%	7.0%	19.9%
Information Technology	22.2%	-2.6%	40.3%
Materials	6.6%	5.5%	5.5%
Real Estate	1.6%	14.8%	10.8%
Utilities	2.9%	9.3%	35.5%
Total	100.0%	8.7%	26.1%

Country	MSCI-EAFE Weight	MSCI-ACWixUS Weight	Quarter Return	1-Year Return
Japan	22.3%	14.0%	5.7%	21.6%
United Kingdom	14.7%	9.3%	7.9%	23.3%
France	11.4%	7.1%	7.7%	16.4%
Switzerland	9.9%	6.2%	8.5%	21.6%
Germany	9.0%	5.7%	10.7%	32.1%
Australia	7.8%	4.9%	11.5%	31.6%
Netherlands	4.8%	3.0%	-4.5%	38.7%
Denmark	3.4%	2.1%	-10.3%	24.5%
Sweden	3.4%	2.1%	8.4%	35.8%
Italy	2.7%	1.7%	8.6%	34.4%
Spain	2.8%	1.8%	13.7%	35.9%
Hong Kong	2.0%	1.3%	24.4%	14.8%
Singapore	1.5%	0.9%	17.6%	33.9%
Finland	1.0%	0.7%	8.1%	16.5%
Belgium	1.0%	0.6%	15.3%	25.9%
Israel	0.8%	0.5%	12.4%	32.4%
Norway	0.6%	0.4%	2.1%	4.5%
Ireland	0.3%	0.2%	13.9%	38.6%
Portugal	0.2%	0.1%	8.7%	11.3%
Austria	0.2%	0.1%	8.7%	28.3%
New Zealand	0.2%	0.1%	5.6%	20.1%
Total EAFE Countries	100.0%	62.7%	7.3%	24.8%
Canada		7.7%	12.0%	26.8%
Total Developed Countries		70.4%	7.8%	25.0%
China		8.2%	23.5%	23.9%
India		5.8%	7.3%	40.3%
Taiwan		5.2%	0.5%	52.7%
Korea		3.1%	-5.6%	9.3%
Brazil		1.4%	7.1%	2.6%
Saudi Arabia		1.1%	5.3%	11.2%
South Africa		0.9%	16.1%	36.7%
Mexico		0.6%	-3.4%	-3.4%
Indonesia		0.5%	15.3%	5.2%
Malaysia		0.4%	20.5%	35.6%
Thailand		0.4%	28.9%	17.0%
United Arab Emirates		0.3%	12.0%	6.4%
Poland		0.3%	-3.9%	45.7%
Turkey		0.2%	-12.6%	6.8%
Qatar		0.2%	10.6%	11.2%
Kuwait		0.2%	3.7%	8.9%
Philippines		0.2%	21.7%	22.7%
Greece		0.1%	10.4%	31.3%
Chile		0.1%	5.3%	5.8%
Peru		0.1%	7.9%	57.4%
Hungary		0.1%	6.3%	36.4%
Czech Republic		0.0%	5.1%	7.7%
Colombia		0.0%	-0.9%	25.4%
Egypt		0.0%	12.3%	-7.3%
Total Emerging Countries		29.6%	8.7%	26.1%
Total ACWixUS Countries		100.0%	8.1%	25.4%

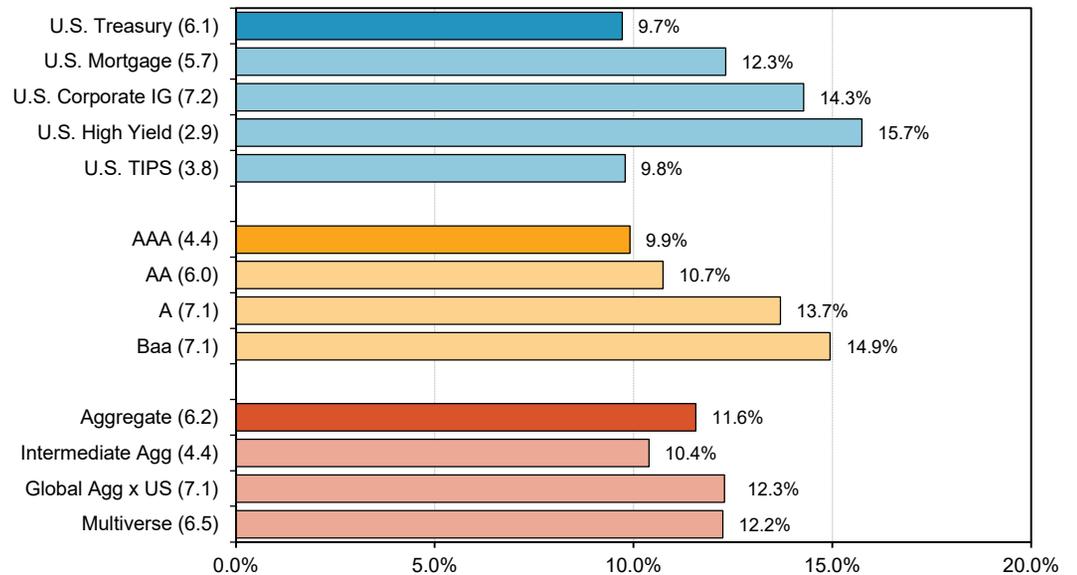
Source: Morningstar Direct, MSCI Global Index Monitor (Returns are Net in USD)
As a result of the GICS classification changes on 9/28/2018 and certain associated reporting limitations, sector performance represents backward looking performance for the prior year of each sector's current constituency, post creation of the Communication Services sector.

- Domestic fixed-income markets advanced during the third quarter. Although the Federal Reserve began to unwind its tight monetary policy stance that began in 2022 during the quarter, yields remained elevated. On September 18, the Fed reduced its target policy rate by 0.50%, a move that was celebrated in a performance boost by equity and bond markets alike.
- After a muted first half of 2024, which held the Bloomberg US Aggregate Bond Index slightly negative for the year, the index posted its best quarterly performance year-to-date, climbing 5.2% during the third quarter. Performance across the investment-grade index's segments was more favorable in the credit sectors, with the corporate investment-grade index rising 5.8%, outpacing the government and mortgage-backed-securities sectors. Lower quality issues also performed better, with A and BAA components of the index outpacing higher quality issues during the quarter.
- High Yield bonds underperformed investment grade issues as interest rates declined primarily due to the high-yield benchmark's lower duration. Despite their lower duration, below-investment grade issues continued to rise, posting a return of 5.3% for the quarter. The Bloomberg Global Aggregate ex-US Index outperformed all broad-market domestic indexes with a return of 8.5% for the quarter, aided by a weakening USD.
- Over the trailing one-year period, the Bloomberg US Aggregate Bond Index posted a solid 11.6% return. The benchmark's sub-components also posted positive performance over the trailing 12 months with the Bloomberg US Corporate Investment Grade Index rising a strong 14.3% and the US Mortgage Index returning 12.3%. US TIPS, which are excluded from the Bloomberg US Aggregate Bond Index, returned 9.8% for the trailing year.
- Among credit qualities, lower-quality issues (both within investment grade and below investment grade) have outperformed higher-quality bonds due to higher yields and credit spread compression over the last year. Higher yields mean larger coupon payments as well as greater sensitivity to changes in credit spreads, which narrowed. High-yield bonds have enjoyed a healthy 15.7% gain for the trailing year.
- The Bloomberg Global Aggregate ex-US Index moderately outpaced its domestic counterpart, the Bloomberg US Aggregate Bond Index, by 0.7% during the trailing year.

Quarter Performance



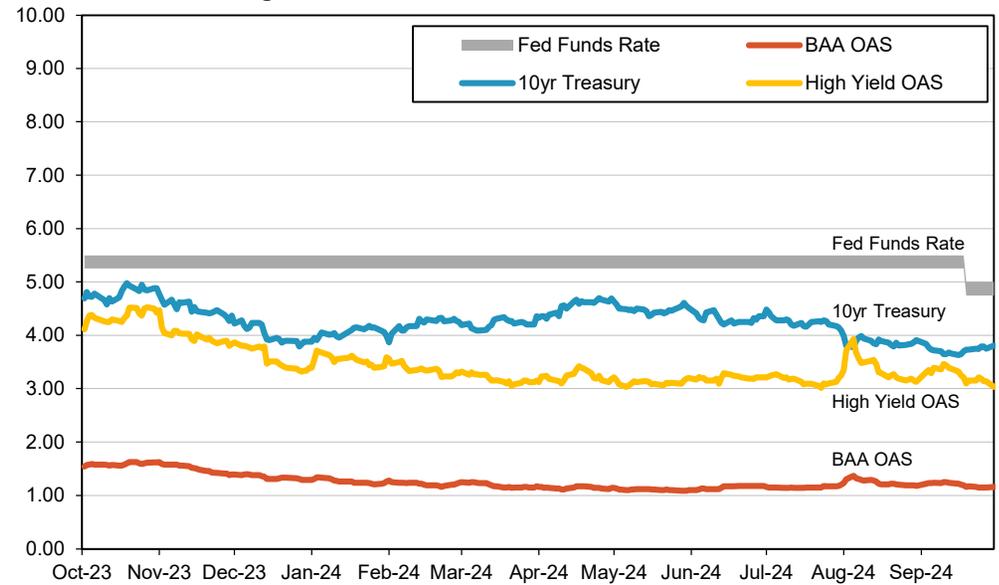
1-Year Performance



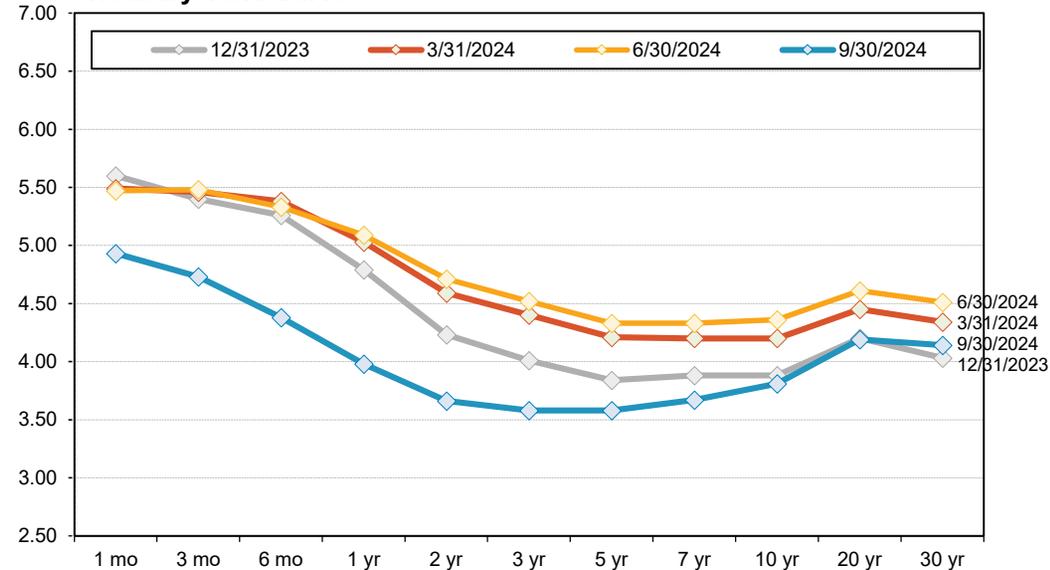
Source: Bloomberg

- The gray band across the graph illustrates the fed funds target rate range over the last 12 months. During the third quarter, the Federal Open Market Committee (FOMC) cut its policy rates by 0.50%, to a range of 4.75-5.00%. The last rate increase occurred at the FOMC's July 2023 meeting, and this was the first rate cut since March of 2020. With inflation declining and unemployment remaining largely stable, the Fed appears to be pivoting from a tight monetary policy stance. The most recent FOMC press release continued to emphasize economic data-dependent outcomes while placing renewed emphasis on the second part of the committee's dual mandate: full employment. The CME FedWatch tool, which forecasts rates based on fed fund futures pricing, showed a greater than 80% probability of a 0.25% rate decrease at the FOMC November meeting at the time of this writing. Fed officials and market participants continue to express concern that leaving rates at their current elevated levels for an extended period could tip the US economy into a recession. However, inflation remains above the FOMC's long-term 2.0% target level.
- The yield on the US 10-year Treasury (blue line of the top chart) fell roughly 0.55% during the quarter, attributable to Fed policy decisions and expectations of future rate actions. The bellwether benchmark rate opened the quarter at a yield of 4.36% and finished September at a yield of 3.81%. The 10-year Treasury benchmark's rate peaked in October 2023, cresting at a yield of just under 5.00% before pulling back during the remainder of the year.
- The red line in the top chart shows the option-adjusted spread (OAS) for BAA-rated corporate bonds. This measure quantifies the additional yield premium investors require to purchase and hold non-US Treasury issues with the lowest investment grade rating. During the quarter, the yield spread was relatively stable, beginning July at 1.18% and finishing September at 1.16%. High-yield OAS spreads (represented by the yellow line in the top chart) have also remained relatively unchanged, despite a sharp spike in early August spurred by an unwinding of the Yen carry trade. The high-yield OAS fell 0.18% over the quarter from 3.21% to 3.03%. The spread measure's relative stability over the trailing year results from steady economic growth, stable monetary policy, and falling inflation readings.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four quarters. For the first time since July 2022, the quarter-end yield on the 10-year Treasury was higher relative to the two-year Treasury. The yield curve has been inverted for each of the previous three quarter-end readings on the graph and for much of the last two years. This 2-10-year yield curve inversion is a common heuristic used to foretell a pending recession environment.

1-Year Trailing Market Rates



Treasury Yield Curve



Source: US Department of Treasury, FRED (Federal Reserve of St. Louis)

[CME FedWatch Tool - CME Group](#)

[Effective Federal Funds Rate - FEDERAL RESERVE BANK of NEW YORK \(newyorkfed.org\)](#)

[ICE BofA US High Yield Index Option-Adjusted Spread \(BAMLH0A0HYM2\) | FRED | St. Louis Fed \(stlouisfed.org\)](#)

[When will the Federal Reserve start cutting interest rates? | J.P. Morgan Asset Management \(jpmorgan.com\)](#)

[U.S. Department of the Treasury](#)

[China's Economy Limpes Into 2024 – WSJ Support Site - Global Index Lens: Index Returns – MSCI](#)

[Federal Reserve issues FOMC statement](#)

[Yen drops to 38-year low, U.S. dollar slumps after weak data \(cnbc.com\)](#)

[U.S. job growth revised down by the most since 2009. Why this time is different \(cnbc.com\)](#)

[The Fed - Meeting calendars and information \(federalreserve.gov\)](#)

[The Federal Reserve's latest dot plot, explained – and what it says about interest rates | Bankrate](#)

[Top 25 Stocks in the S&P 500 By Index Weight for July 2024 \(investopedia.com\)](#)

[Fed's Jerome Powell Declares 'Time Has Come' for Interest-Rate Cuts – WSJ](#)

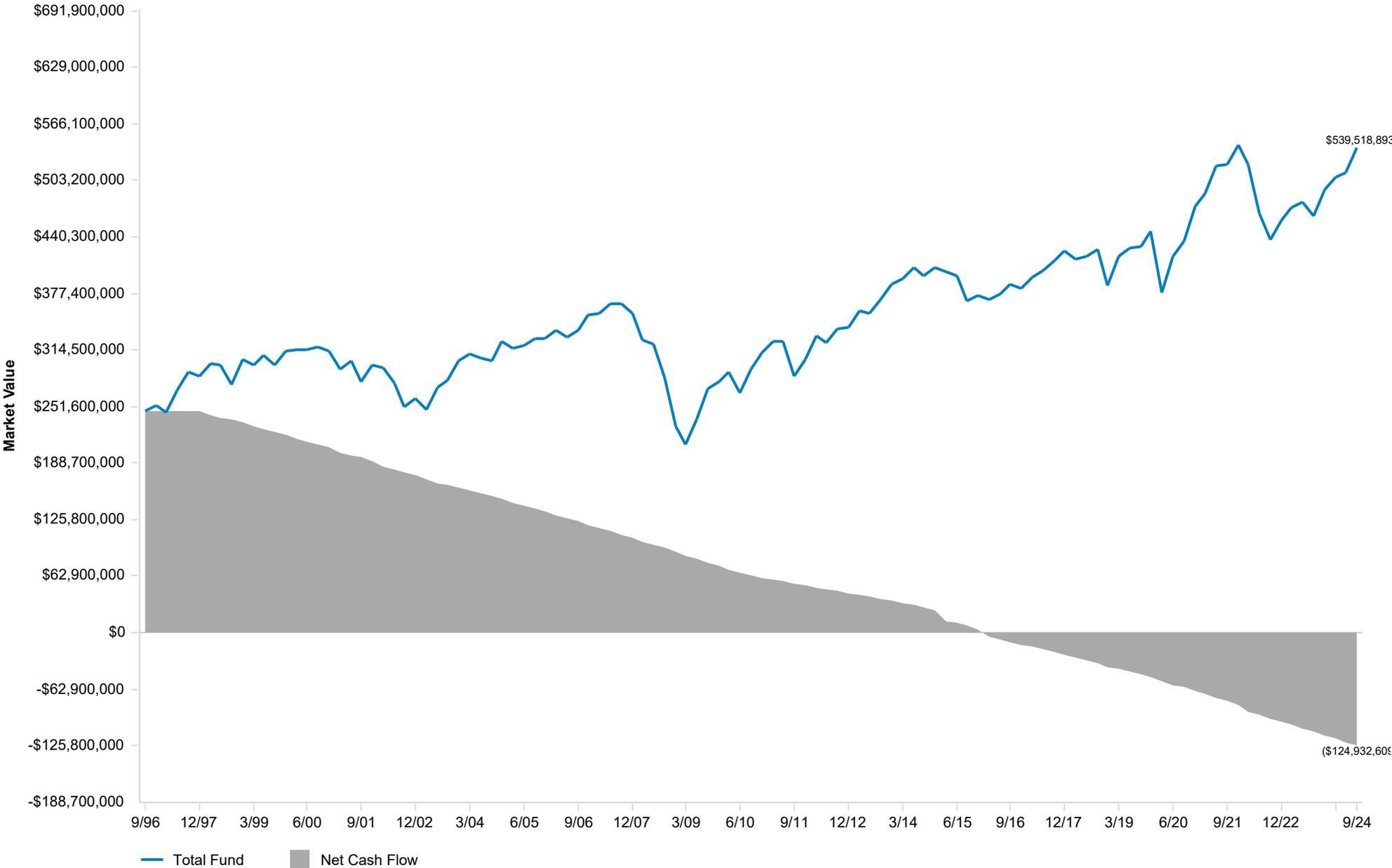
[Why Chinese banks are now vanishing \(economist.com\)](#)

[Fed rate cut: Here's what changed in the central bank's statement \(cnbc.com\)](#)

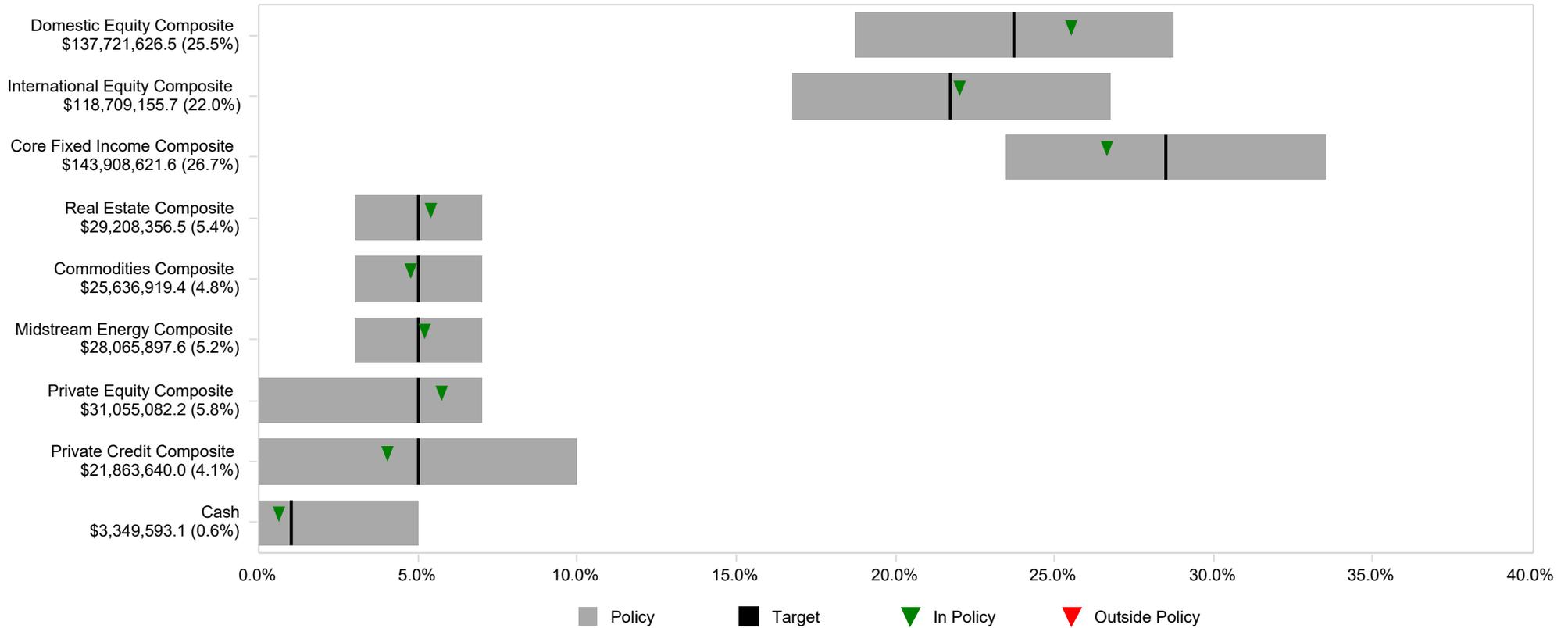
[10-Year Treasury Constant Maturity Minus 2-Year Treasury Constant Maturity \(T10Y2Y\) | FRED | St. Louis Fed \(stlouisfed.org\)](#)

**Grand Rapids Police and Fire Retirement
Schedule of Investable Assets
Since Inception Ending September 30, 2024**

Schedule of Investable Assets



Executive Summary

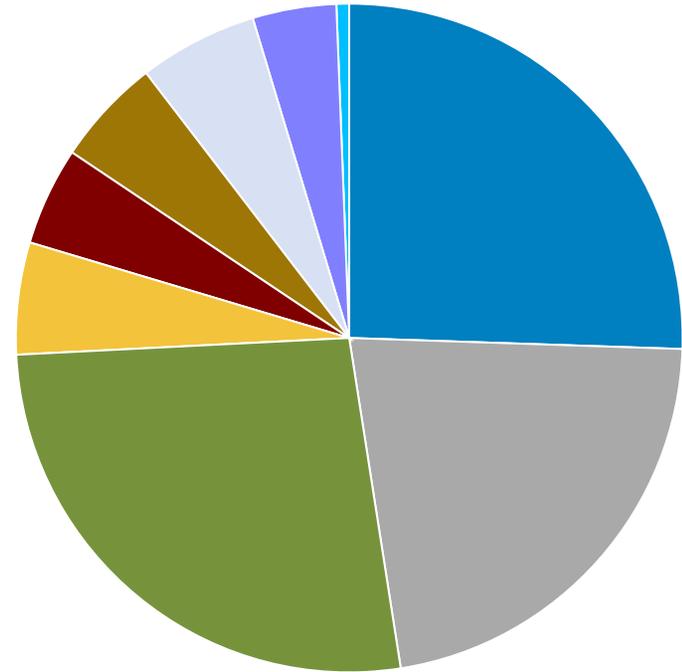
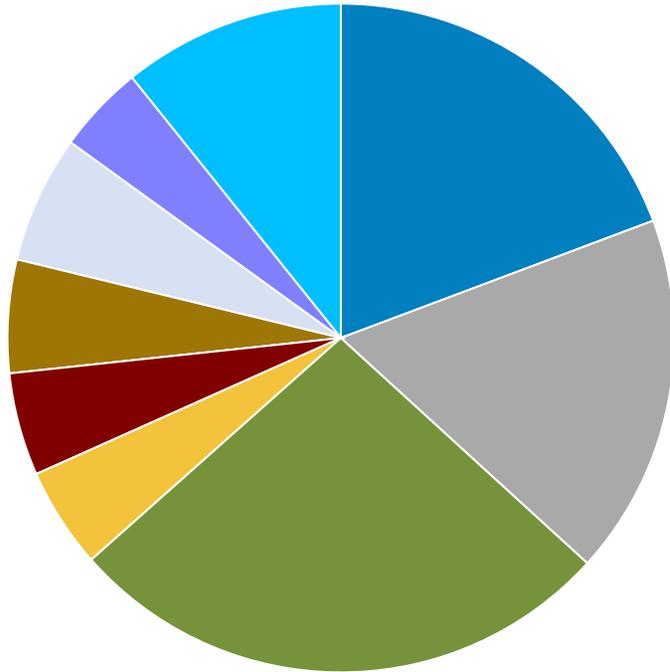


Asset Allocation Compliance

	Asset Allocation \$	Current Allocation (%)	Target Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)
Total Fund	539,518,893	100.0	100.0	N/A	N/A
Domestic Equity Composite	137,721,626	25.5	23.8	18.8	28.8
International Equity Composite	118,709,156	22.0	21.8	16.8	26.8
Core Fixed Income Composite	143,908,622	26.7	28.5	23.5	33.5
Real Estate Composite	29,208,357	5.4	5.0	3.0	7.0
Commodities Composite	25,636,919	4.8	5.0	3.0	7.0
Midstream Energy Composite	28,065,898	5.2	5.0	3.0	7.0
Private Equity Composite	31,055,082	5.8	5.0	0.0	7.0
Private Credit Composite	21,863,640	4.1	5.0	0.0	10.0
Cash	3,349,593	0.6	1.0	0.0	5.0

Jun-2024 : \$511,451,438

Sep-2024 : \$539,518,893

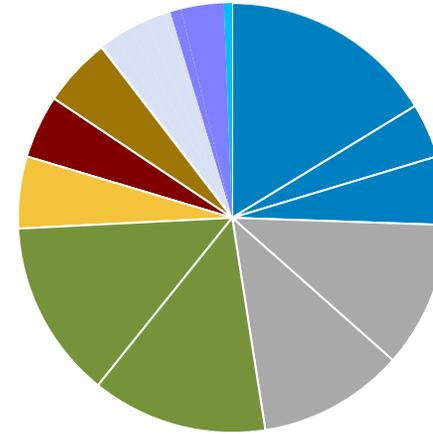
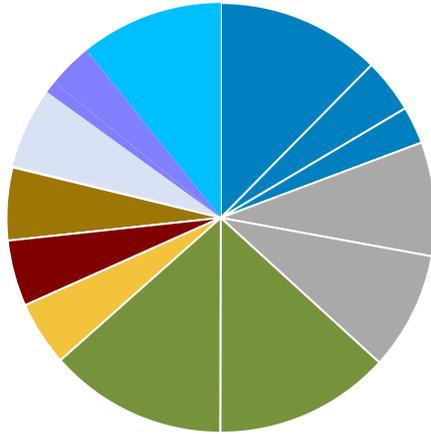


Allocation			Allocation		
	Market Value	Allocation		Market Value	Allocation
■ Domestic Equity Composite	98,685,855	19.3	■ Domestic Equity Composite	137,721,626	25.5
■ International Equity Composite	89,338,297	17.5	■ International Equity Composite	118,709,156	22.0
■ Core Fixed Income Composite	136,558,595	26.7	■ Core Fixed Income Composite	143,908,622	26.7
■ Real Estate Composite	24,896,637	4.9	■ Real Estate Composite	29,208,357	5.4
■ Commodities Composite	25,462,599	5.0	■ Commodities Composite	25,636,919	4.8
■ Midstream Energy Composite	27,983,949	5.5	■ Midstream Energy Composite	28,065,898	5.2
■ Private Equity Composite	31,563,947	6.2	■ Private Equity Composite	31,055,082	5.8
■ Private Credit Composite	21,821,038	4.3	■ Private Credit Composite	21,863,640	4.1
■ Cash	55,140,521	10.8	■ Cash	3,349,593	0.6

**Grand Rapids Police and Fire Retirement
Asset Allocation By Manager
As of September 30, 2024**

Jun-2024 : \$511,451,438

Sep-2024 : \$539,518,893



Allocation			Allocation		
	Market Value	Allocation		Market Value	Allocation
■ NTAM S&P 500	63,443,771	12.4	■ NTAM S&P 500	87,824,749	16.3
■ PIMCO Stock Plus	20,840,180	4.1	■ PIMCO Stock Plus	22,054,313	4.1
■ Wellington Small Cap	14,401,904	2.8	■ Wellington Small Cap	27,842,564	5.2
■ Harding Loevner	43,819,386	8.6	■ Harding Loevner	59,345,728	11.0
■ Neuberger Berman CIT	45,518,912	8.9	■ Neuberger Berman CIT	59,363,427	11.0
■ Baird Advisors	67,843,219	13.3	■ Baird Advisors	71,462,265	13.2
■ Western Asset Management	68,715,376	13.4	■ Western Asset Management	72,446,357	13.4
■ Centersquare	24,896,637	4.9	■ Centersquare	29,208,357	5.4
■ Wellington Commodities	25,462,599	5.0	■ Wellington Commodities	25,636,919	4.8
■ Harvest MLP	27,983,949	5.5	■ Harvest MLP	28,065,898	5.2
■ Adams Street 2010 Direct Fund	163,161	0.0	■ Adams Street 2010 Direct Fund	162,823	0.0
■ Adams Street 2010 EM Fund	341,802	0.1	■ Adams Street 2010 EM Fund	324,278	0.1
■ Adams Street 2010 Non-US Fund	516,797	0.1	■ Adams Street 2010 Non-US Fund	515,644	0.1
■ Adams Street 2010 US Fund	1,265,520	0.2	■ Adams Street 2010 US Fund	1,191,762	0.2
■ Adams Street 2013 Global Fund	4,411,868	0.9	■ Adams Street 2013 Global Fund	4,250,327	0.8
■ Adams Street 2015 Global	7,460,560	1.5	■ Adams Street 2015 Global	7,393,584	1.4
■ Adams Street 2017 Global Fund	7,317,570	1.4	■ Adams Street 2017 Global Fund	7,109,109	1.3
■ Adams Street 2019 Global	7,329,079	1.4	■ Adams Street 2019 Global	7,508,510	1.4
■ Aberdeen Global	2,757,590	0.5	■ Aberdeen Global	2,599,045	0.5
■ 50 South Capital Private Credit	4,698,570	0.9	■ 50 South Capital Private Credit	4,385,968	0.8
■ Grosvenor PC	17,122,468	3.3	■ Grosvenor PC	17,477,672	3.2
■ Cash	55,140,521	10.8	■ Cash	3,349,593	0.6

**Grand Rapids Police and Fire Retirement
Financial Reconciliation**

1 Quarter Ending September 30, 2024

Financial Reconciliation Quarter to Date								
	Market Value 07/01/2024	Net Transfers	Contributions	Distributions	Management Fees	Other Expenses	Return On Investment	Market Value 09/30/2024
Total Fund	511,451,438	-	6,839,442	-9,557,415	-273,702	-166,731	31,225,860	539,518,893
Domestic Equity Composite	98,685,855	30,022,780	-	-	-24,883	-	9,037,875	137,721,626
NTAM S&P 500	63,443,771	19,501,700	-	-	-3,102	-	4,882,380	87,824,749
PIMCO Stock Plus	20,840,180	-	-	-	-	-	1,214,134	22,054,313
Wellington Small Cap	14,401,904	10,521,081	-	-	-21,782	-	2,941,361	27,842,564
International Equity Composite	89,338,297	21,052,769	-	-	-54,171	-1,342	8,373,603	118,709,156
Harding Loevner	43,819,386	10,553,470	-	-	-54,171	-1,342	5,028,386	59,345,728
Neuberger Berman CIT	45,518,912	10,499,299	-	-	-	-	3,345,216	59,363,427
Core Fixed Income Composite	136,558,595	72,611	-	-	-72,611	-400	7,350,427	143,908,622
Baird Advisors	67,843,219	30,960	-	-	-30,960	-400	3,619,446	71,462,265
Western Asset Management	68,715,376	41,651	-	-	-41,651	-	3,730,981	72,446,357
Total Real Assets Composite	78,343,185	-1,127,963	-	-	-122,037	-330	5,818,319	82,911,174
Real Estate Composite	24,896,637	30,074	-	-	-30,074	-42	4,311,762	29,208,357
Centersquare	24,896,637	30,074	-	-	-30,074	-42	4,311,762	29,208,357
Commodities Composite	25,462,599	41,769	-	-	-41,769	-	174,320	25,636,919
Wellington Commodities	25,462,599	41,769	-	-	-41,769	-	174,320	25,636,919
Midstream Energy Composite	27,983,949	-1,199,806	-	-	-50,194	-288	1,332,237	28,065,898
Harvest MLP	27,983,949	-1,199,806	-	-	-50,194	-288	1,332,237	28,065,898

**Grand Rapids Police and Fire Retirement
Financial Reconciliation**

1 Quarter Ending September 30, 2024

	Market Value 07/01/2024	Net Transfers	Contributions	Distributions	Management Fees	Other Expenses	Return On Investment	Market Value 09/30/2024
Private Equity Composite	31,563,947	-765,466	-	-	-	-	256,601	31,055,082
Adams Street 2010 Direct Fund	163,161	-6,615	-	-	-	-	6,277	162,823
Adams Street 2010 EM Fund	341,802	-13,162	-	-	-	-	-4,362	324,278
Adams Street 2010 Non-US Fund	516,797	-	-	-	-	-	-1,153	515,644
Adams Street 2010 US Fund	1,265,520	-70,045	-	-	-	-	-3,713	1,191,762
Adams Street 2013 Global Fund	4,411,868	-179,649	-	-	-	-	18,108	4,250,327
Adams Street 2015 Global	7,460,560	-171,207	-	-	-	-	104,231	7,393,584
Adams Street 2017 Global Fund	7,317,570	-232,702	-	-	-	-	24,241	7,109,109
Adams Street 2019 Global	7,329,079	56,700	-	-	-	-	122,731	7,508,510
Aberdeen Global	2,757,590	-148,786	-	-	-	-	-9,759	2,599,045
Private Credit Composite	21,821,038	-201,340	-	-	-	-	243,942	21,863,640
50 South Capital Private Credit	4,698,570	-201,340	-	-	-	-	-111,262	4,385,968
Grosvenor PC	17,122,468	-	-	-	-	-	355,204	17,477,672
Cash	55,140,521	-49,053,391	6,839,442	-9,557,415	-	-164,658	145,094	3,349,593

**Grand Rapids Police and Fire Retirement
Financial Reconciliation**

January 1, 2024 To September 30, 2024

Financial Reconciliation Fiscal Year to Date								
	Market Value 01/01/2024	Net Transfers	Contributions	Distributions	Management Fees	Other Expenses	Return On Investment	Market Value 09/30/2024
Total Fund	492,446,000	-	18,216,483	-27,764,840	-813,350	-586,942	58,021,541	539,518,893
Domestic Equity Composite	91,240,272	25,393,070	-	-	-70,173	-	21,158,457	137,721,626
NTAM S&P 500	58,857,051	15,507,302	-	-	-8,704	-	13,469,100	87,824,749
PIMCO Stock Plus	18,615,110	-675,000	-	-	-	-	4,114,203	22,054,313
Wellington Small Cap	13,768,112	10,560,768	-	-	-61,469	-	3,575,154	27,842,564
International Equity Composite	85,679,303	21,159,802	-	-	-161,204	-4,471	12,035,726	118,709,156
Harding Loevner	42,728,959	10,660,503	-	-	-161,204	-4,471	6,121,942	59,345,728
Neuberger Berman CIT	42,950,345	10,499,299	-	-	-	-	5,913,784	59,363,427
Global Low Volatility Equity Composite	49,715,107	-52,474,419	-	-	-22,078	-	2,781,389	-
BlackRock MSCI ACWI Min Vol	49,715,107	-52,474,419	-	-	-22,078	-	2,781,389	-
Core Fixed Income Composite	115,447,798	22,325,593	-	-	-214,630	-1,163	6,351,023	143,908,622
Baird Advisors	59,060,771	9,040,051	-	-	-93,134	-1,163	3,455,740	71,462,265
Western Asset Management	56,387,027	13,285,543	-	-	-121,496	-	2,895,283	72,446,357
Total Real Assets Composite	94,191,871	-24,308,495	-	-	-352,468	-901	13,381,167	82,911,174
TIPS Composite	21,862,700	-22,110,963	-	-	-	-	248,264	-
Brown Brothers Harriman	21,862,700	-22,110,963	-	-	-	-	248,264	-
Real Estate Composite	24,732,801	88,464	-	-	-88,464	-135	4,475,691	29,208,357
Centersquare	24,732,801	88,464	-	-	-88,464	-135	4,475,691	29,208,357
Commodities Composite	23,469,682	119,169	-	-	-119,169	-	2,167,238	25,636,919
Wellington Commodities	23,469,682	119,169	-	-	-119,169	-	2,167,238	25,636,919
Midstream Energy Composite	24,126,689	-2,405,165	-	-	-144,835	-766	6,489,974	28,065,898
Harvest MLP	24,126,689	-2,405,165	-	-	-144,835	-766	6,489,974	28,065,898

**Grand Rapids Police and Fire Retirement
Financial Reconciliation**

January 1, 2024 To September 30, 2024

	Market Value 01/01/2024	Net Transfers	Contributions	Distributions	Management Fees	Other Expenses	Return On Investment	Market Value 09/30/2024
Private Equity Composite	33,280,710	-2,884,153	-	-	-	-4,464	662,990	31,055,082
Adams Street 2010 Direct Fund	161,473	-9,918	-	-	-	-	11,268	162,823
Adams Street 2010 EM Fund	401,961	-62,760	-	-	-	-	-14,923	324,278
Adams Street 2010 Non-US Fund	575,019	-60,611	-	-	-	-	1,236	515,644
Adams Street 2010 US Fund	1,398,036	-192,220	-	-	-	-	-14,054	1,191,762
Adams Street 2013 Global Fund	4,710,766	-486,034	-	-	-	-	25,595	4,250,327
Adams Street 2015 Global	7,732,564	-660,131	-	-	-	-	321,151	7,393,584
Adams Street 2017 Global Fund	7,478,679	-529,363	-	-	-	-	159,793	7,109,109
Adams Street 2019 Global	7,197,911	56,700	-	-	-	-	253,899	7,508,510
Aberdeen Global	3,624,301	-939,816	-	-	-	-4,464	-80,975	2,599,045
Private Credit Composite	21,126,480	-488,969	-	-	-	-	1,226,129	21,863,640
50 South Capital Private Credit	4,608,835	-488,969	-	-	-	-	266,102	4,385,968
Grosvenor PC	16,517,645	-	-	-	-	-	960,027	17,477,672
Cash	1,764,457	11,284,774	18,216,483	-27,764,840	-	-575,942	424,661	3,349,593

**Grand Rapids Police and Fire Retirement
Asset Allocation & Performance**

As of September 30, 2024

	Allocation		Performance(%)									
	Market Value \$	%	QTR	YTD	1 YR	3 YR	5 YR	7 YR	10 YR	Inception	Inception Date	
Total Fund (Gross)	539,518,893	100.0	6.10 (18)	11.90 (51)	20.19 (61)	5.03 (37)	8.55 (40)	7.62 (53)	7.19 (57)	8.28 (26)	Oct-1987	
Total Fund Composite Policy			6.15	11.51	19.59	4.70	7.53	6.80	6.11	7.84		
All Public Plans-Total Fund Median			5.42	11.90	21.21	4.54	8.31	7.66	7.31	7.68		
All Public Plans < \$1B-Total Fund Median			5.47	12.15	21.61	4.54	8.36	7.71	7.37	-		
Total Fund (Net)	539,518,893	100.0	6.05	11.72	19.93	4.79	8.31	7.37	6.94	8.07	Oct-1987	
Total Fund Composite Policy			6.15	11.51	19.59	4.70	7.53	6.80	6.11	7.84		
Domestic Equity Composite	137,721,626	25.5	7.01 (50)	21.63 (21)	36.22 (20)	10.83 (21)	15.69 (18)	13.91 (21)	13.23 (18)	10.37 (69)	Oct-1987	
Russell 3000 Index			6.23	20.63	35.19	10.29	15.26	13.74	12.83	10.37		
IM U.S. Equity (SA+CF) Median			6.91	15.33	28.23	7.83	12.16	10.65	10.38	10.67		
NTAM S&P 500	87,824,749	16.3	5.47 (57)	21.56 (37)	35.77 (39)	11.74 (29)	15.87 (23)	14.42 (15)	13.34 (18)	9.43 (16)	Apr-1998	
NTAM Policy			5.89	22.08	36.35	11.91	15.98	14.50	13.38	8.55		
IM U.S. Large Cap Core Equity (SA+CF) Median			5.63	20.59	34.40	10.46	14.62	13.12	12.40	8.46		
PIMCO Stock Plus	22,054,313	4.1	5.83 (44)	22.49 (26)	37.07 (27)	11.03 (42)	15.64 (27)	14.26 (17)	13.10 (24)	7.99 (63)	Jun-2000	
S&P 500 Index			5.89	22.08	36.35	11.91	15.98	14.50	13.38	7.94		
IM U.S. Large Cap Core Equity (SA+CF) Median			5.63	20.59	34.40	10.46	14.62	13.12	12.40	8.26		
Wellington Small Cap	27,842,564	5.2	11.83 (7)	16.66 (14)	32.37 (9)	5.35 (36)	12.83 (22)	10.77 (12)	11.80 (8)	11.40 (7)	Sep-1999	
Russell 2000 Index			9.27	11.17	26.76	1.84	9.39	7.36	8.78	8.24		
IM U.S. Small Cap Core Equity (SA+CF) Median			8.93	11.15	25.62	4.20	10.57	8.36	9.43	10.47		
International Equity Composite	118,709,156	22.0	7.55 (51)	12.01 (62)	24.38 (51)	2.54 (63)	8.56 (40)	6.12 (36)	6.64 (31)	7.91 (9)	Jan-1990	
International Equity Composite Policy			8.06	14.21	25.35	4.14	7.59	5.44	5.22	4.85		
IM Int'l Equity (SA+CF)			7.61	13.05	24.46	3.93	7.96	5.61	5.93	6.86		
Harding Loevner	59,345,728	11.0	9.17 (24)	11.68 (69)	25.65 (38)	2.91 (68)	8.70 (40)	6.07 (40)	-	6.54 (33)	Apr-2015	
MSCI AC World ex USA (Net)			8.06	14.21	25.35	4.14	7.59	5.44	-	5.56		
IM Int'l Large Cap Equity (SA+CF)			7.18	13.21	24.60	4.26	8.12	5.80	-	6.00		
Neuberger Berman CIT	59,363,427	11.0	5.99 (71)	12.33 (60)	23.14 (67)	2.17 (73)	8.34 (44)	-	-	6.52 (42)	Jul-2018	
MSCI AC World ex USA (Net)			8.06	14.21	25.35	4.14	7.59	-	-	5.93		
IM Int'l Large Cap Equity (SA+CF)			7.18	13.21	24.60	4.26	8.12	-	-	6.32		

See the disclosure page at the end of the report.

**Grand Rapids Police and Fire Retirement
Asset Allocation & Performance**

As of September 30, 2024

	Allocation		Performance(%)										Inception Date
	Market Value \$	%	QTR	YTD	1 YR	3 YR	5 YR	7 YR	10 YR	Inception			
Core Fixed Income Composite	143,908,622	26.7	5.33 (20)	4.26 (90)	12.50 (20)	-2.16 (98)	0.39 (72)	1.66 (54)	2.29 (22)	5.95 (24)		Oct-1987	
Blmbg. U.S. Aggregate Index			5.20	4.45	11.57	-1.39	0.33	1.47	1.84	5.57			
IM U.S. Broad Market Core FI (SA+CF)			5.19	4.76	12.02	-1.22	0.59	1.71	2.05	5.89			
Baird Advisors	71,462,265	13.2	5.29 (27)	4.86 (42)	12.34 (28)	-1.06 (29)	0.77 (31)	1.90 (23)	2.33 (18)	3.66 (41)		Dec-2002	
Blmbg. U.S. Aggregate Index			5.20	4.45	11.57	-1.39	0.33	1.47	1.84	3.39			
IM U.S. Broad Market Core FI (SA+CF)			5.19	4.76	12.02	-1.22	0.59	1.71	2.05	3.60			
Western Asset Management	72,446,357	13.4	5.37 (27)	3.64 (98)	12.67 (52)	-3.30 (99)	-0.03 (98)	1.37 (93)	2.21 (69)	3.98 (44)		Jan-2004	
Blmbg. U.S. Aggregate Index			5.20	4.45	11.57	-1.39	0.33	1.47	1.84	3.27			
IM U.S. Broad Market Core+ FI (SA+CF)			5.22	5.33	12.70	-0.92	1.14	2.14	2.48	3.86			
Total Real Assets Composite	82,911,174	15.4	7.30	15.80	22.37	10.40	9.82	7.71	-	5.16		Apr-2015	
Real Assets Composite Policy			5.21	11.22	17.18	8.49	8.63	6.90	-	4.58			
Real Estate Composite	29,208,357	5.4	17.19	17.69	36.79	5.71	6.82	7.07	6.16	8.66		Jun-2009	
Real Estate Policy Index			15.56	14.92	33.71	4.36	4.41	5.49	5.60	8.60			
Centersquare	29,208,357	5.4	17.19 (21)	17.69 (3)	36.79 (14)	5.71 (3)	6.85 (13)	-	-	6.85 (13)		Oct-2019	
Dow Jones U.S. Select REIT			15.56	14.92	33.71	4.36	4.41	-	-	4.41			
IM U.S. REIT (SA+CF) Median			15.92	15.16	33.81	3.60	5.78	-	-	5.78			
Commodities Composite	25,636,919	4.8	0.52	8.71	7.53	8.49	11.41	8.05	2.62	0.61		Feb-2013	
Bloomberg Commodity Index Total Return			0.68	5.86	0.96	3.66	7.79	4.87	0.03	-1.52			
Wellington Commodities	25,636,919	4.8	0.52	8.71	7.53	8.49	11.41	8.05	2.62	0.61		Feb-2013	
Bloomberg Commodity Index Total Return			0.68	5.86	0.96	3.66	7.79	4.87	0.03	-1.52			
Midstream Energy Composite	28,065,898	5.2	4.58	26.88	31.69	25.44	15.03	10.15	-	4.60		Feb-2015	
Alerian Midstream Energy Index			9.69	27.37	35.58	20.71	13.85	10.45	-	5.82			
Harvest MLP	28,065,898	5.2	4.58 (51)	26.88 (28)	31.69 (48)	25.44 (18)	15.03 (17)	10.15 (14)	-	4.56 (18)		Jan-2015	
Alerian Midstream Energy Index			9.69	27.37	35.58	20.71	13.85	10.45	-	5.26			
Energy Limited Partnership Median			4.60	25.12	31.53	21.40	12.68	8.18	-	3.03			
Total Cash Equivalents Composite	3,349,593	0.6											

See the disclosure page at the end of the report.

**Grand Rapids Police and Fire Retirement
Comparative Performance - IRR
As of September 30, 2024**

Comparative Performance - IRR

	Market Value \$ (\$)	%	QTR	YTD	1 YR	3 YR	5 YR	7 YR	10 YR	Inception	Inception Date
Private Equity Composite	31,055,082	5.8	0.81	2.06	-2.85	-0.18	17.11	17.51	15.76	14.94	04/30/2010
Adams Street 2010 Direct Fund	162,823	0.0	3.85	7.03	4.50	-5.75	6.74	10.43	9.18	11.62	04/30/2010
Adams Street 2010 EM Fund	324,278	0.1	-1.31	-4.08	-5.42	-10.63	6.46	9.45	10.74	9.39	01/03/2011
Adams Street 2010 Non-US Fund	515,644	0.1	-0.22	0.23	-3.66	-2.60	13.73	16.89	13.45	12.36	04/30/2010
Adams Street 2010 US Fund	1,191,762	0.2	-0.30	-1.07	-6.78	-1.85	21.96	20.49	16.69	15.83	04/30/2010
Adams Street 2013 Global Fund	4,250,327	0.8	0.41	0.56	-3.77	-3.02	13.50	15.07	12.64	12.41	07/03/2013
Adams Street 2015 Global	7,393,584	1.4	1.40	4.31	0.17	0.47	16.96	18.02	N/A	18.96	09/15/2015
Adams Street 2017 Global Fund	7,109,109	1.3	0.33	2.19	-0.20	5.74	17.14	16.10	N/A	16.02	06/22/2017
Adams Street 2019 Global	7,508,510	1.4	1.67	3.53	2.20	2.86	N/A	N/A	N/A	14.49	12/30/2019
Aberdeen Global	2,599,045	0.5	-0.35	-2.75	-20.66	-8.10	23.72	21.51	17.47	15.14	01/17/2012
Private Credit Composite	21,863,640	4.1	1.12	5.84	7.92	5.41	6.12	N/A	N/A	5.75	09/30/2018
50 South Capital Private Credit	4,385,968	0.8	-2.37	5.97	9.54	7.06	8.63	N/A	N/A	7.59	11/05/2018
Grosvenor PC	17,477,672	3.2	2.07	5.81	7.48	4.90	5.35	N/A	N/A	5.18	09/27/2018

**Grand Rapids Police and Fire Retirement
Asset Allocation & Performance**

As of September 30, 2024

Comparative Performance Fiscal Year Returns

	Performance(%)										
	Dec 2023	Dec 2022	Dec 2021	Dec 2020	Dec 2019	Dec 2018	Dec 2017	Dec 2016	Dec 2015	Dec 2014	
Total Fund (Gross)	11.38 (77)	-11.58 (24)	18.37 (6)	10.67 (79)	18.80 (55)	-5.76 (85)	14.49 (61)	7.41 (44)	-2.26 (89)	7.94 (10)	
Total Fund Composite Policy	11.07	-10.94	16.44	7.98	16.68	-5.24	12.32	7.24	-3.86	6.73	
All Public Plans-Total Fund Median	13.28	-13.83	13.79	12.96	19.18	-4.40	14.98	7.15	-0.23	6.11	
All Public Plans < \$1B-Total Fund Median	13.61	-14.37	13.57	13.40	19.63	-4.54	14.93	7.03	-0.25	6.19	
Total Fund (Net)	11.13	-11.79	18.12	10.42	18.50	-5.99	14.21	7.14	-2.50	7.67	
Total Fund Composite Policy	11.07	-10.94	16.44	7.98	16.68	-5.24	12.32	7.24	-3.86	6.73	
Domestic Equity Composite	25.74 (25)	-19.18 (62)	26.62 (41)	20.94 (37)	32.09 (24)	-6.05 (41)	21.53 (36)	14.02 (44)	0.38 (37)	13.07 (20)	
FT Wilshire 5000 Total Market TR Index	26.14	-19.04	26.70	20.82	31.02	-5.27	20.99	13.37	0.67	12.71	
IM U.S. Equity (SA+CF) Median	18.52	-17.03	25.05	15.58	28.07	-7.64	18.63	12.58	-1.27	8.82	
NTAM S&P 500	26.26 (30)	-18.11 (61)	28.67 (30)	18.42 (40)	31.51 (26)	-4.38 (32)	21.78 (45)	11.98 (24)	1.47 (42)	13.70 (31)	
NTAM Policy	26.29	-18.11	28.71	18.40	31.49	-4.38	21.83	11.96	1.38	13.69	
IM U.S. Large Cap Core Equity (SA+CF) Median	23.77	-16.96	26.87	15.94	29.49	-5.67	21.54	9.88	0.96	12.59	
PIMCO Stock Plus	27.16 (24)	-20.69 (87)	28.30 (34)	19.44 (35)	32.77 (13)	-5.32 (46)	22.80 (36)	12.65 (19)	-0.29 (67)	14.39 (27)	
S&P 500 Index	26.29	-18.11	28.71	18.40	31.49	-4.38	21.83	11.96	1.38	13.69	
IM U.S. Large Cap Core Equity (SA+CF) Median	23.77	-16.96	26.87	15.94	29.49	-5.67	21.54	9.88	0.96	12.59	
Wellington Small Cap	21.46 (14)	-21.90 (83)	15.77 (84)	28.78 (16)	33.24 (6)	-10.35 (48)	20.38 (13)	19.91 (50)	-2.39 (56)	9.67 (12)	
Russell 2000 Index	16.93	-20.44	14.82	19.96	25.53	-11.01	14.65	21.31	-4.41	4.89	
IM U.S. Small Cap Core Equity (SA+CF) Median	16.31	-16.83	23.25	17.93	24.76	-10.62	15.00	19.83	-2.13	5.81	
International Equity Composite	15.31 (64)	-19.74 (65)	11.05 (52)	18.54 (30)	26.11 (33)	-15.07 (48)	27.62 (53)	0.53 (62)	0.64 (49)	-1.91 (30)	
International Equity Composite Policy	15.62	-16.00	7.82	10.65	21.51	-14.20	27.19	4.50	-5.66	-3.87	
IM International Equity (SA+CF) Median	16.95	-17.05	11.19	11.15	22.95	-15.29	28.17	1.57	0.48	-3.83	
Harding Loevner	16.07 (64)	-19.49 (70)	9.69 (63)	20.58 (22)	22.55 (56)	-13.90 (41)	28.65 (38)	3.67 (27)	-	-	
MSCI AC World ex USA (Net)	15.62	-16.00	7.82	10.65	21.51	-14.20	27.19	4.50	-	-	
IM International Large Cap Equity (SA+CF) Median	17.35	-16.49	11.08	10.97	23.37	-14.85	26.96	1.11	-	-	
Neuberger Berman CIT	14.57 (79)	-19.99 (72)	12.39 (35)	16.23 (35)	29.50 (17)	-	-	-	-	-	
MSCI AC World ex USA (Net)	15.62	-16.00	7.82	10.65	21.51	-	-	-	-	-	
IM International Large Cap Equity (SA+CF) Median	17.35	-16.49	11.08	10.97	23.37	-	-	-	-	-	

See the disclosure page at the end of the report.

**Grand Rapids Police and Fire Retirement
Asset Allocation & Performance**

As of September 30, 2024

	Performance(%)									
	Dec 2023	Dec 2022	Dec 2021	Dec 2020	Dec 2019	Dec 2018	Dec 2017	Dec 2016	Dec 2015	Dec 2014
Global Low Volatility Equity Composite	8.34 (88)	-10.07 (27)	14.17 (76)	3.09 (83)	-	-	-	-	-	-
MSCI ACWI Minimum Volatility Index (Net)	7.74	-10.31	13.94	2.69	-	-	-	-	-	-
IM Global Equity (SA+CF) Median	19.45	-17.31	18.14	15.29	-	-	-	-	-	-
BlackRock MSCI ACWI Min Vol	8.34 (88)	-10.07 (27)	14.17 (76)	3.09 (83)	-	-	-	-	-	-
MSCI ACWI Minimum Volatility Index (Net)	7.74	-10.31	13.94	2.69	-	-	-	-	-	-
IM Global Equity (SA+CF) Median	19.45	-17.31	18.14	15.29	-	-	-	-	-	-
Core Fixed Income Composite	6.14 (24)	-15.27 (98)	-1.41 (47)	9.47 (14)	10.67 (6)	-0.47 (74)	5.39 (4)	4.57 (8)	0.45 (60)	7.34 (7)
Blmbg. U.S. Aggregate Index	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	5.80	-13.13	-1.47	8.03	8.82	-0.14	3.71	2.85	0.55	5.92
Baird Advisors	6.27 (18)	-12.97 (36)	-1.37 (44)	8.43 (37)	9.17 (34)	0.18 (19)	4.25 (20)	3.68 (21)	0.82 (23)	6.74 (14)
Blmbg. U.S. Aggregate Index	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	5.80	-13.13	-1.47	8.03	8.82	-0.14	3.71	2.85	0.55	5.92
Western Asset Management	5.99 (71)	-17.58 (98)	-1.46 (88)	10.47 (14)	12.16 (9)	-1.25 (69)	6.54 (12)	5.45 (27)	0.08 (45)	7.96 (4)
Blmbg. U.S. Aggregate Index	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median	6.48	-13.26	-0.54	8.70	9.59	-0.67	4.52	4.34	-0.09	5.77
Total Real Assets Composite	9.90	0.11	27.56	-2.63	12.46	-8.03	3.52	8.85	-	-
Real Assets Composite Policy	8.96	0.79	29.57	-4.50	9.85	-5.93	2.49	9.76	-	-
TIPS Composite	3.53 (63)	-12.08 (67)	5.74 (42)	10.41 (62)	8.42 (31)	-1.63 (65)	2.81 (61)	4.90 (24)	-	-
Bloomberg U.S. TIPS Index	3.90	-11.85	5.96	10.99	8.43	-1.26	3.01	4.68	-	-
IM U.S. TIPS (SA+CF) Median	3.80	-11.92	5.64	10.61	8.32	-1.42	2.96	4.62	-	-
Brown Brothers Harriman	3.53 (63)	-12.08 (67)	5.74 (42)	10.41 (62)	8.42 (31)	-1.63 (65)	2.81 (61)	4.90 (24)	-	-
Bloomberg U.S. TIPS Index	3.90	-11.85	5.96	10.99	8.43	-1.26	3.01	4.68	-	-
IM U.S. TIPS (SA+CF) Median	3.80	-11.92	5.64	10.61	8.32	-1.42	2.96	4.62	-	-
Real Estate Composite	14.21 (15)	-23.82 (6)	42.09 (41)	-4.23 (43)	20.65 (96)	-8.63 (89)	10.68 (9)	0.70 (100)	-1.37 (91)	14.04 (99)
Real Estate Policy Index	13.96	-25.96	45.91	-11.20	18.34	-5.63	10.36	4.06	-0.79	15.02
Real Estate Median	12.06	-26.29	41.44	-4.86	27.78	-5.81	5.37	6.07	2.98	29.82
Centersquare	14.21 (27)	-23.82 (14)	42.09 (47)	-4.23 (54)	-	-	-	-	-	-
Dow Jones U.S. Select REIT	13.96	-25.96	45.91	-11.20	-	-	-	-	-	-
IM U.S. REIT (SA+CF) Median	12.70	-25.70	41.99	-3.85	-	-	-	-	-	-
Commodities Composite	3.08	10.48	24.62	6.21	11.60	-12.50	9.05	15.03	-26.53	-14.20
Bloomberg Commodity Index Total Return	-7.91	16.09	27.11	-3.12	7.69	-11.25	1.70	11.77	-24.66	-17.01
Wellington Commodities	3.08 (1)	10.48 (76)	24.62 (87)	6.21 (12)	11.60 (28)	-12.50 (52)	9.05 (8)	15.03 (20)	-26.53 (75)	-14.20 (16)
Bloomberg Commodity Index Total Return	-7.91	16.09	27.11	-3.12	7.69	-11.25	1.70	11.77	-24.66	-17.01
Commodities Broad Basket Median	-6.86	15.14	30.52	-1.36	8.18	-12.48	3.16	12.19	-25.00	-17.67

See the disclosure page at the end of the report.

**Grand Rapids Police and Fire Retirement
Asset Allocation & Performance
As of September 30, 2024**

	Performance(%)									
	Dec 2023	Dec 2022	Dec 2021	Dec 2020	Dec 2019	Dec 2018	Dec 2017	Dec 2016	Dec 2015	Dec 2014
Midstream Energy Composite	18.35	29.67	40.87	-25.72	12.54	-13.80	-5.74	19.99	-	-
Alerian Midstream Energy Index	14.02	21.53	38.42	-23.36	24.04	-13.29	-2.41	33.83	-	-
Harvest MLP	18.35 (41)	29.67 (21)	40.87 (26)	-25.72 (51)	12.54 (45)	-13.80 (31)	-5.74 (40)	19.99 (68)	-30.88 (19)	-
Alerian Midstream Energy Index	14.02	21.53	38.42	-23.36	24.04	-13.29	-2.41	33.83	-37.31	-
Energy Limited Partnership Median	15.48	24.17	39.39	-25.50	11.84	-15.26	-6.57	25.18	-34.31	-

See the disclosure page at the end of the report.

**Grand Rapids Police and Fire Retirement
Total Fund | Total Fund Composite Policy
As of September 30, 2024**

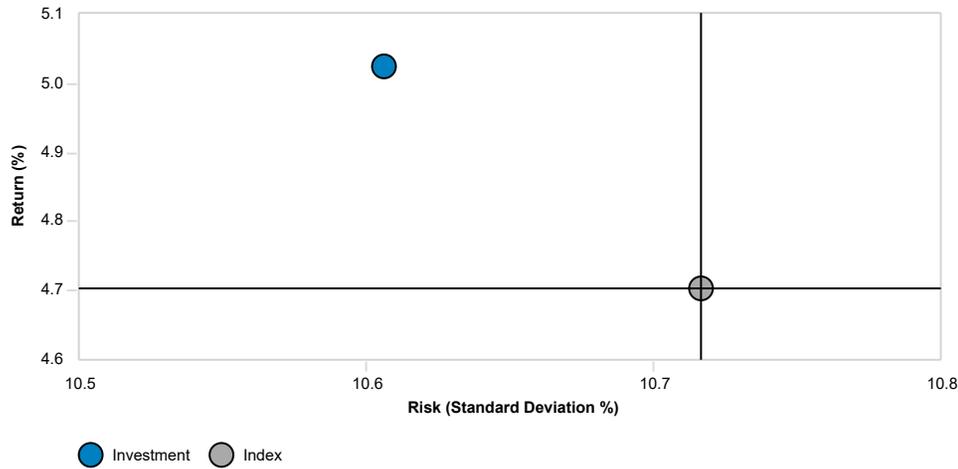
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	5.03	10.61	0.19	101.06	8	99.27	4
Index	4.70	10.72	0.16	100.00	8	100.00	4

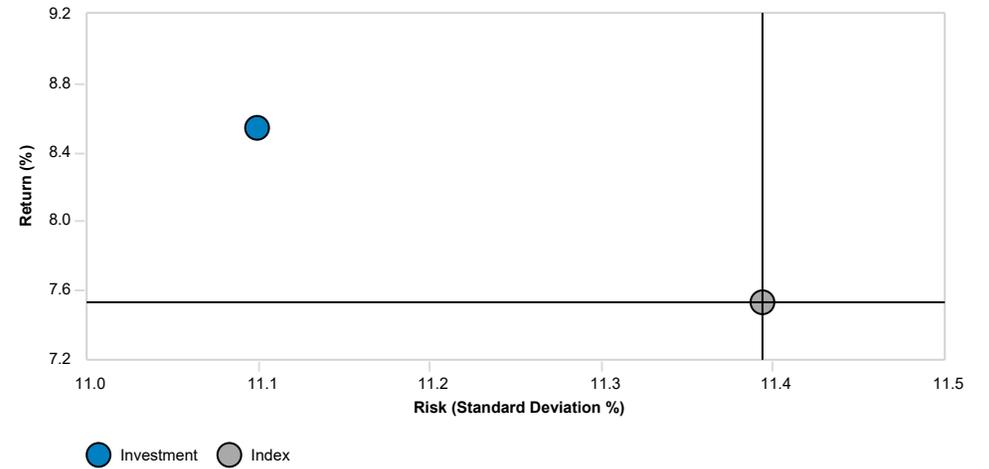
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	8.55	11.10	0.59	102.96	15	97.29	5
Index	7.53	11.39	0.49	100.00	15	100.00	5

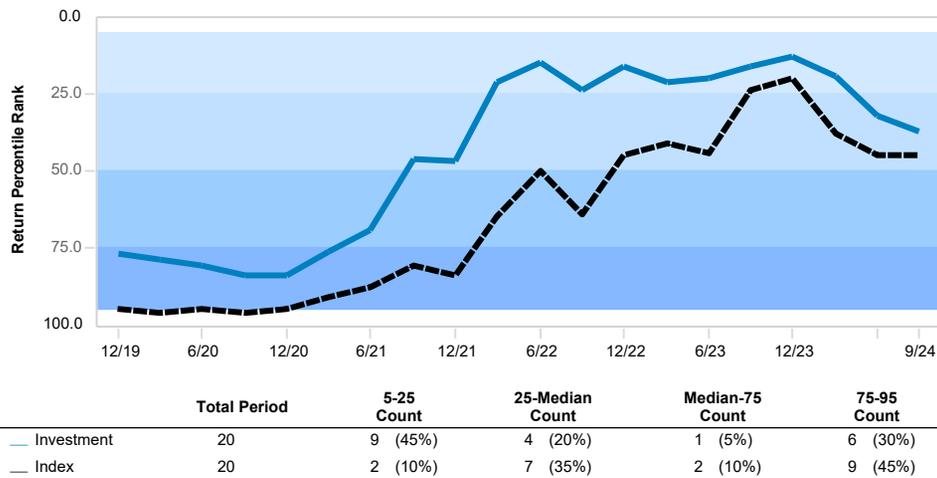
Risk and Return 3 Years



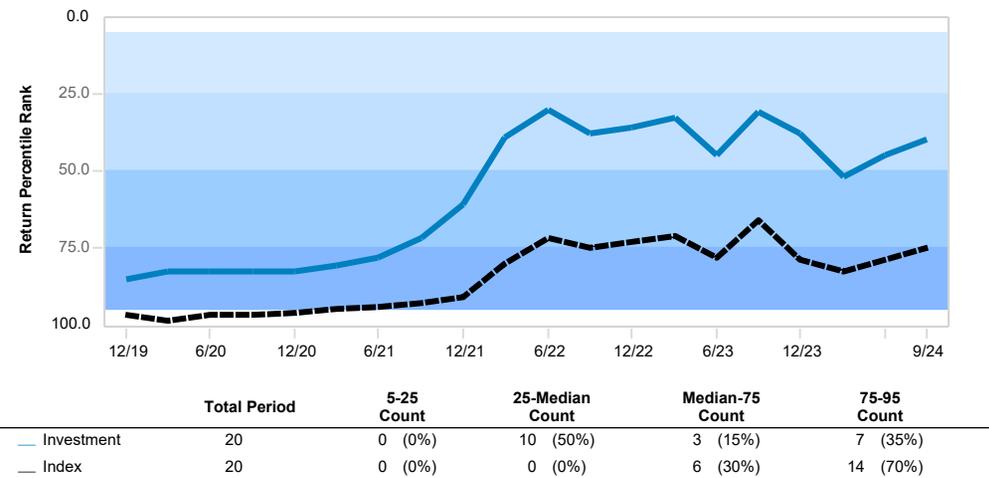
Risk and Return 5 Years



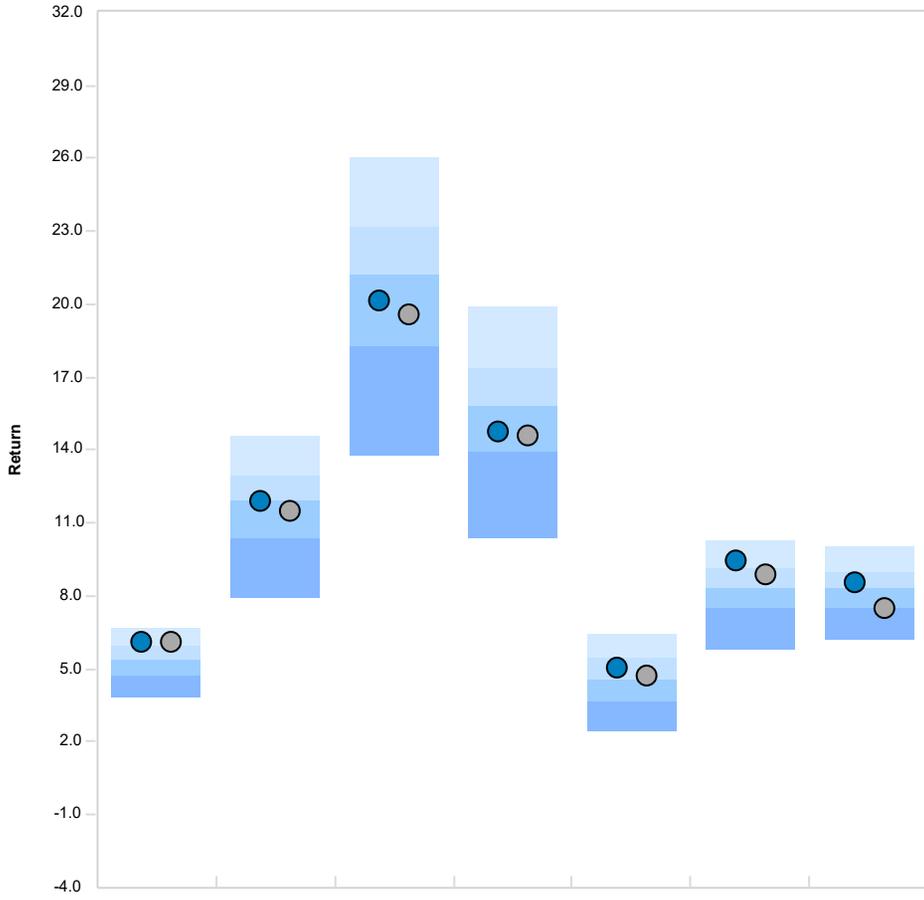
3 Year Rolling Percentile Rank All Public Plans-Total Fund



5 Year Rolling Percentile Rank All Public Plans-Total Fund

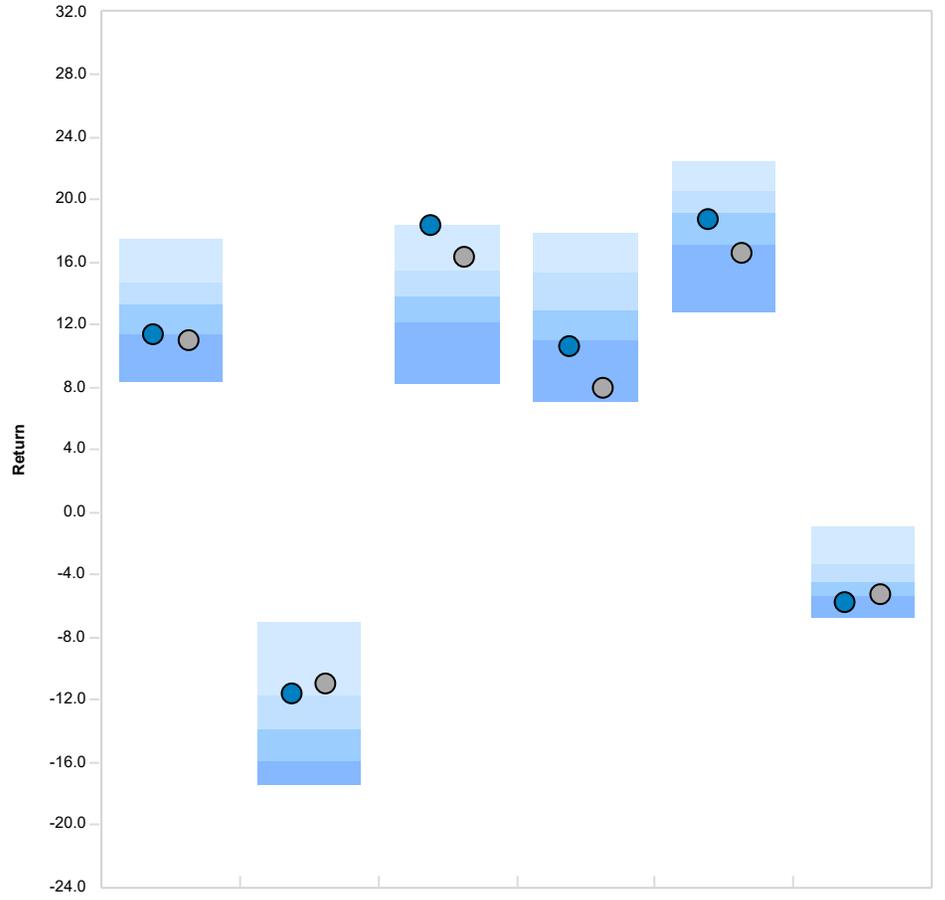


Plan Sponsor Peer Group Analysis vs. All Public Plans-Total Fund



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	6.10 (18)	11.90 (51)	20.19 (61)	14.81 (65)	5.03 (37)	9.43 (17)	8.55 (40)
● Index	6.15 (16)	11.51 (59)	19.59 (66)	14.58 (68)	4.70 (45)	8.87 (33)	7.53 (75)
Median	5.42	11.90	21.21	15.86	4.54	8.30	8.31

Plan Sponsor Peer Group Analysis vs. All Public Plans-Total Fund



	2023	2022	2021	2020	2019	2018
● Investment	11.38 (77)	-11.58 (24)	18.37 (6)	10.67 (79)	18.80 (55)	-5.76 (85)
● Index	11.07 (80)	-10.94 (19)	16.44 (16)	7.98 (93)	16.68 (81)	-5.24 (74)
Median	13.28	-13.83	13.79	12.96	19.18	-4.40

Comparative Performance

	1 Qtr Ending Jun-2024	1 Qtr Ending Mar-2024	1 Qtr Ending Dec-2023	1 Qtr Ending Sep-2023	1 Qtr Ending Jun-2023	1 Qtr Ending Mar-2023
Investment	1.59 (16)	3.82 (82)	7.40 (69)	-2.31 (27)	2.30 (89)	3.77 (74)
Index	1.37 (34)	3.63 (86)	7.24 (72)	-2.22 (24)	2.26 (90)	3.59 (80)
Median	1.15	4.88	8.18	-2.96	3.27	4.37

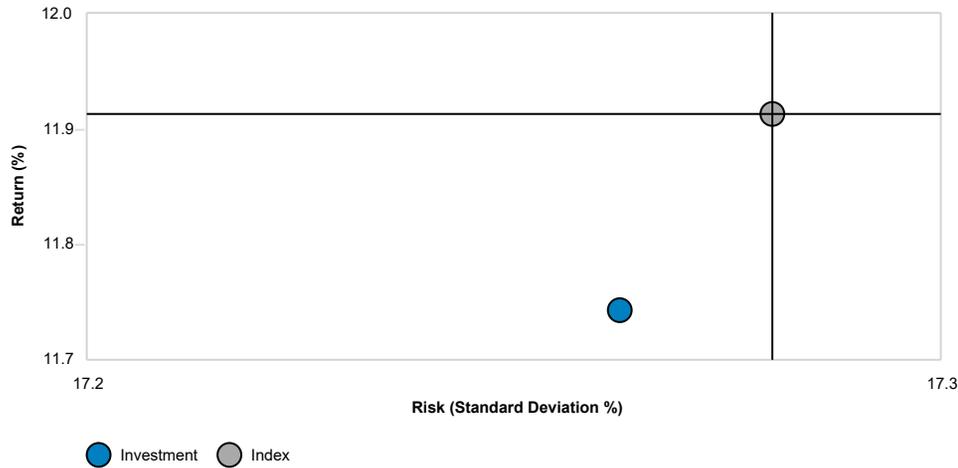
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	11.74	17.26	0.54	99.50	8	99.97	4
Index	11.91	17.28	0.55	100.00	8	100.00	4

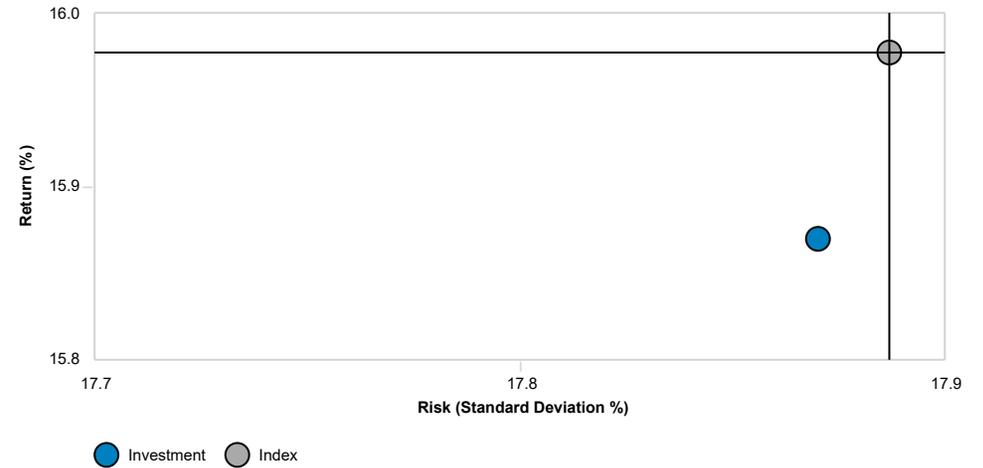
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	15.87	17.87	0.79	99.69	15	99.94	5
Index	15.98	17.89	0.79	100.00	15	100.00	5

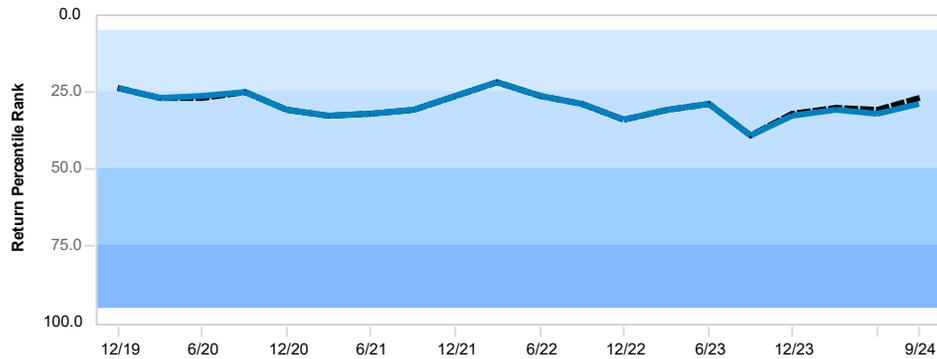
Risk and Return 3 Years



Risk and Return 5 Years

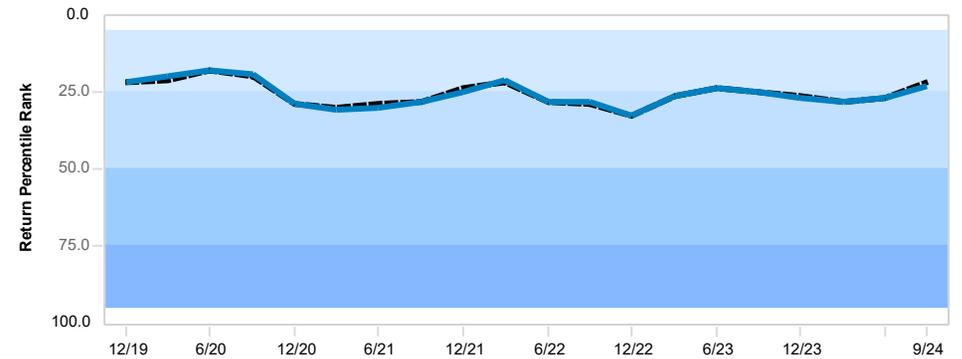


3 Year Rolling Percentile Rank IM U.S. Large Cap Core Equity (SA+CF)



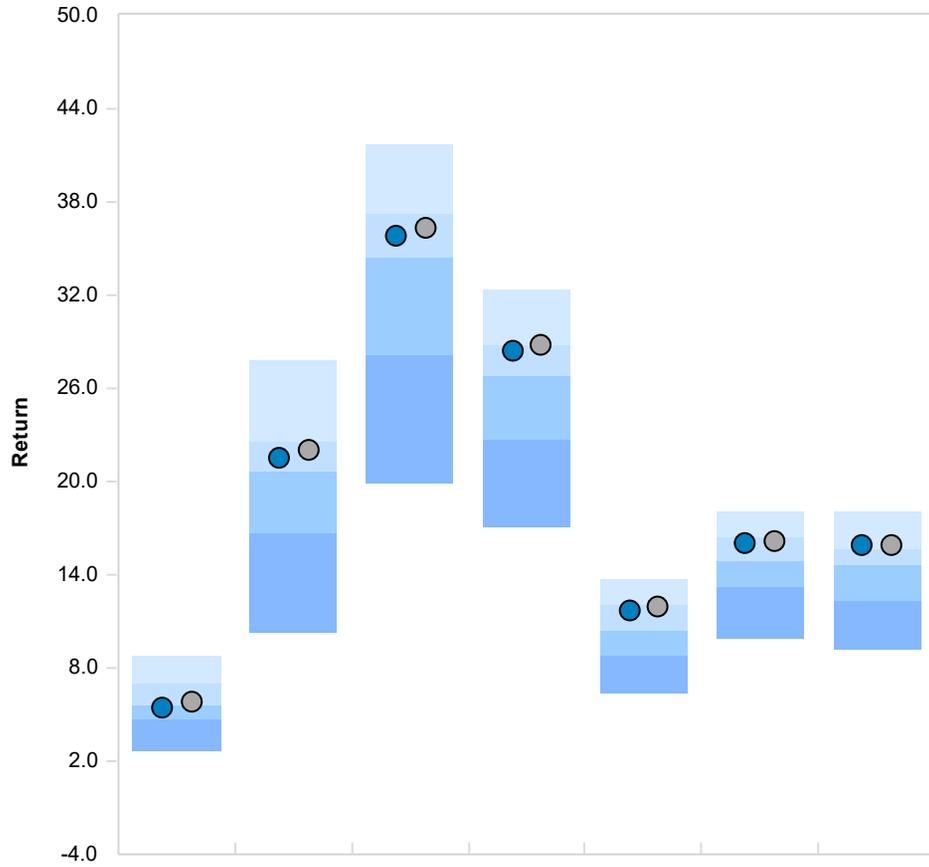
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	3 (15%)	17 (85%)	0 (0%)	0 (0%)
Index	20	3 (15%)	17 (85%)	0 (0%)	0 (0%)

5 Year Rolling Percentile Rank IM U.S. Large Cap Core Equity (SA+CF)



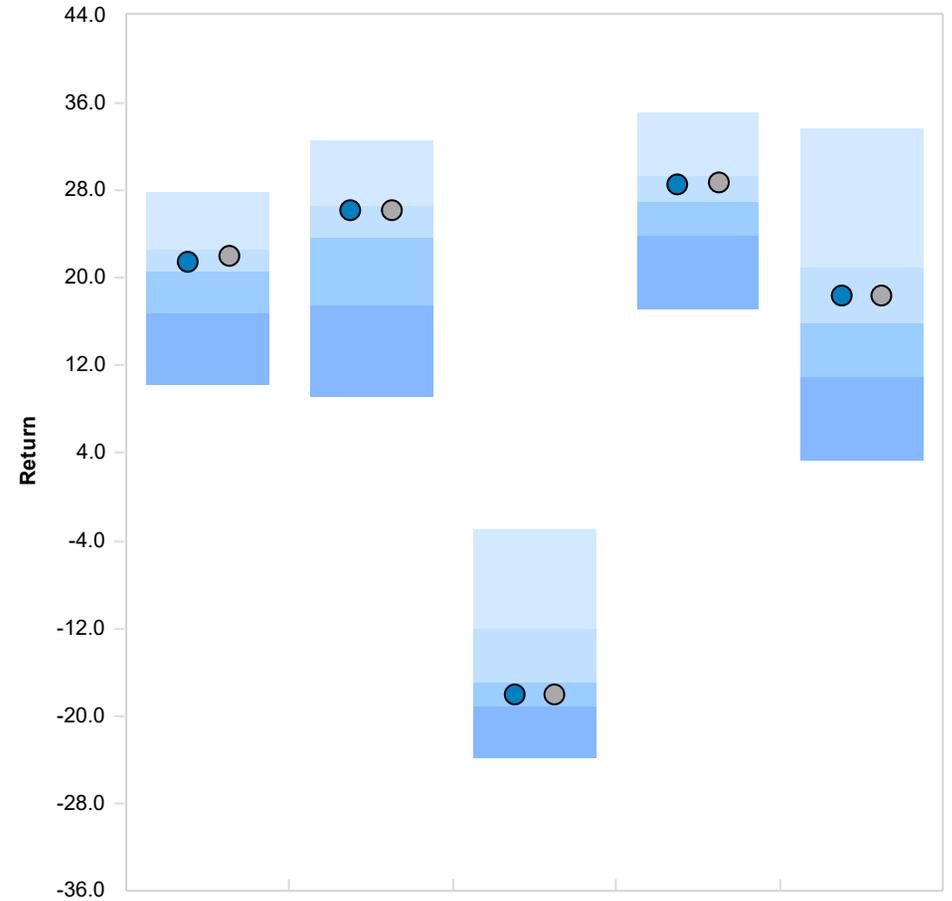
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	9 (45%)	11 (55%)	0 (0%)	0 (0%)
Index	20	9 (45%)	11 (55%)	0 (0%)	0 (0%)

Peer Group Analysis - IM U.S. Large Cap Core Equity (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	5.47 (57)	21.56 (37)	35.77 (39)	28.48 (30)	11.74 (29)	16.05 (31)	15.87 (23)
● Index	5.89 (41)	22.08 (31)	36.35 (30)	28.77 (27)	11.91 (27)	16.19 (27)	15.98 (22)
Median	5.63	20.59	34.40	26.70	10.46	14.90	14.62

Peer Group Analysis - IM U.S. Large Cap Core Equity (SA+CF)



	2024	2023	2022	2021	2020
● Investment	21.56 (37)	26.26 (30)	-18.11 (61)	28.67 (30)	18.42 (40)
● Index	22.08 (31)	26.29 (29)	-18.11 (61)	28.71 (29)	18.40 (41)
Median	20.59	23.77	-16.96	26.87	15.94

Comparative Performance

	1 Qtr Ending Jun-2024	1 Qtr Ending Mar-2024	1 Qtr Ending Dec-2023	1 Qtr Ending Sep-2023	1 Qtr Ending Jun-2023	1 Qtr Ending Mar-2023
Investment	4.27 (23)	10.54 (51)	11.68 (44)	-3.28 (67)	8.74 (24)	7.49 (22)
Index	4.28 (22)	10.56 (50)	11.69 (43)	-3.27 (66)	8.74 (24)	7.50 (22)
Median	2.99	10.55	11.49	-2.99	7.62	6.21

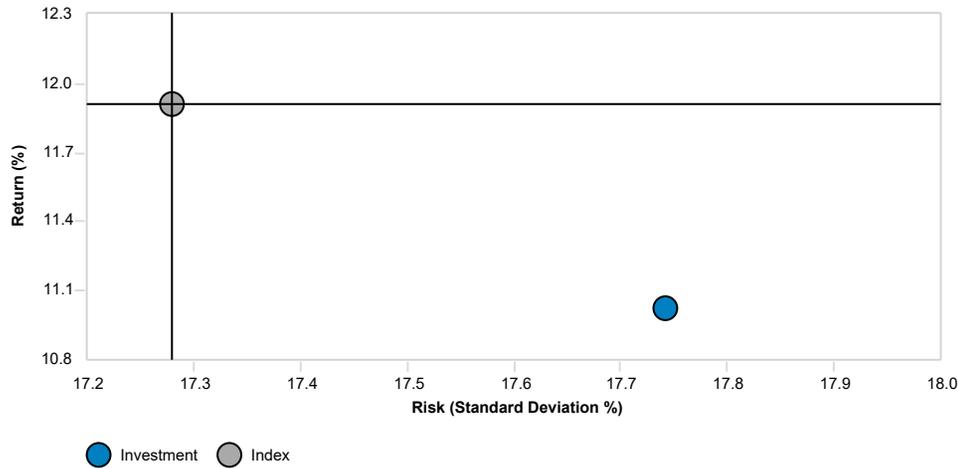
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	11.03	17.74	0.49	100.49	8	104.41	4
Index	11.91	17.28	0.55	100.00	8	100.00	4

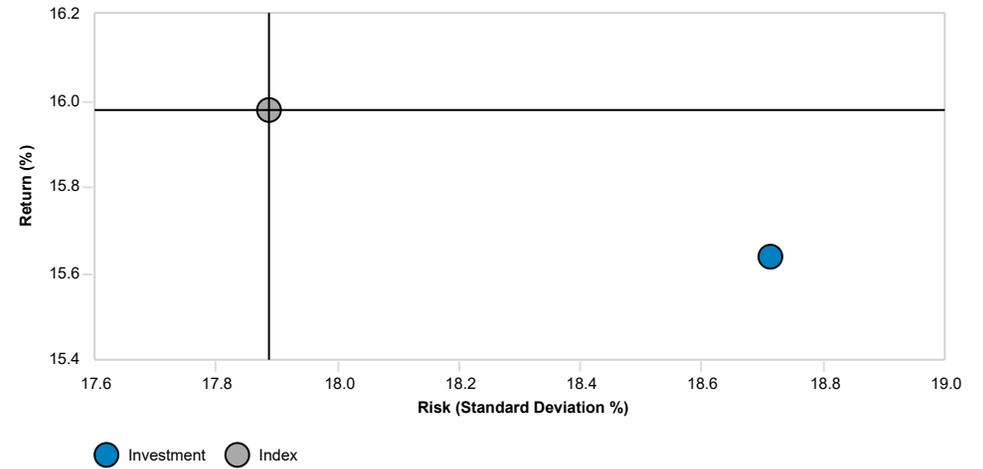
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	15.64	18.71	0.75	102.04	15	104.60	5
Index	15.98	17.89	0.79	100.00	15	100.00	5

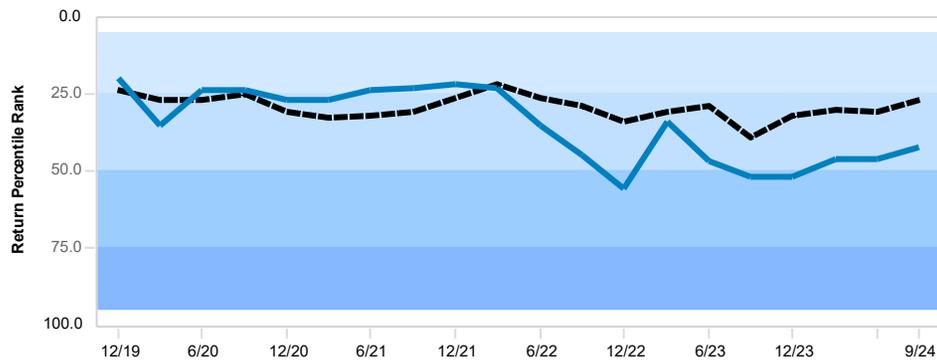
Risk and Return 3 Years



Risk and Return 5 Years

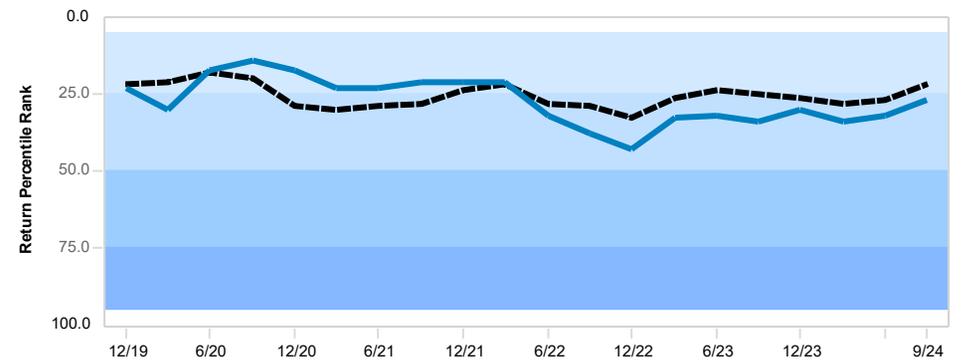


3 Year Rolling Percentile Rank IM U.S. Large Cap Core Equity (SA+CF)



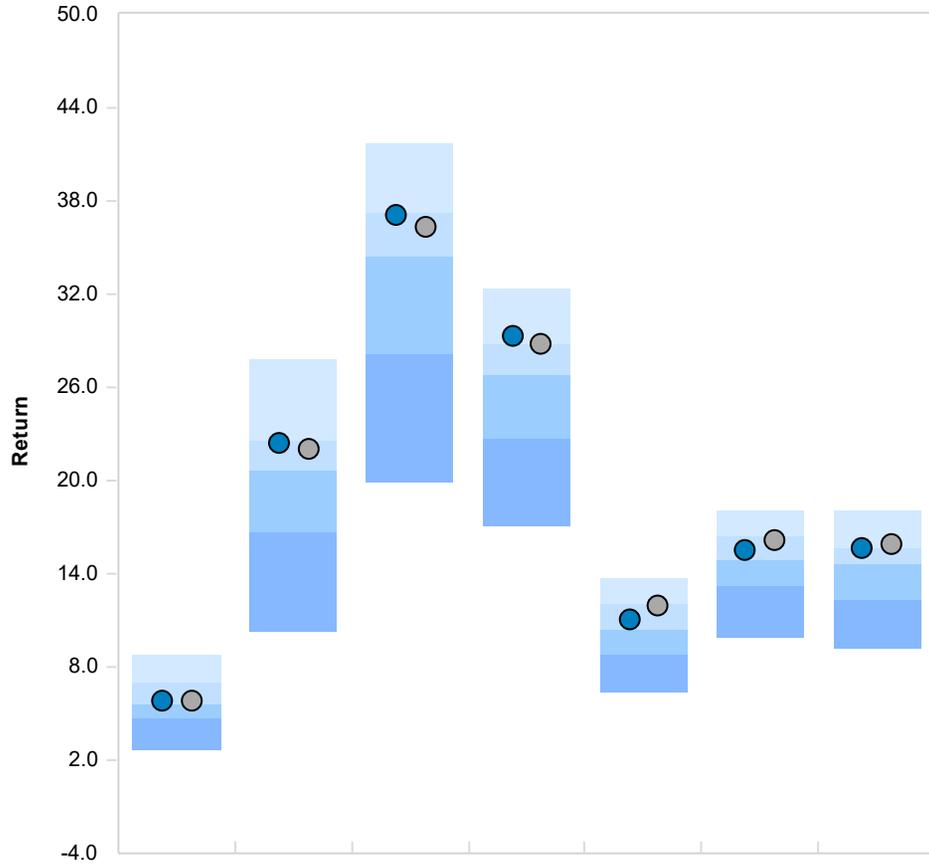
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	7 (35%)	10 (50%)	3 (15%)	0 (0%)
Index	20	3 (15%)	17 (85%)	0 (0%)	0 (0%)

5 Year Rolling Percentile Rank IM U.S. Large Cap Core Equity (SA+CF)



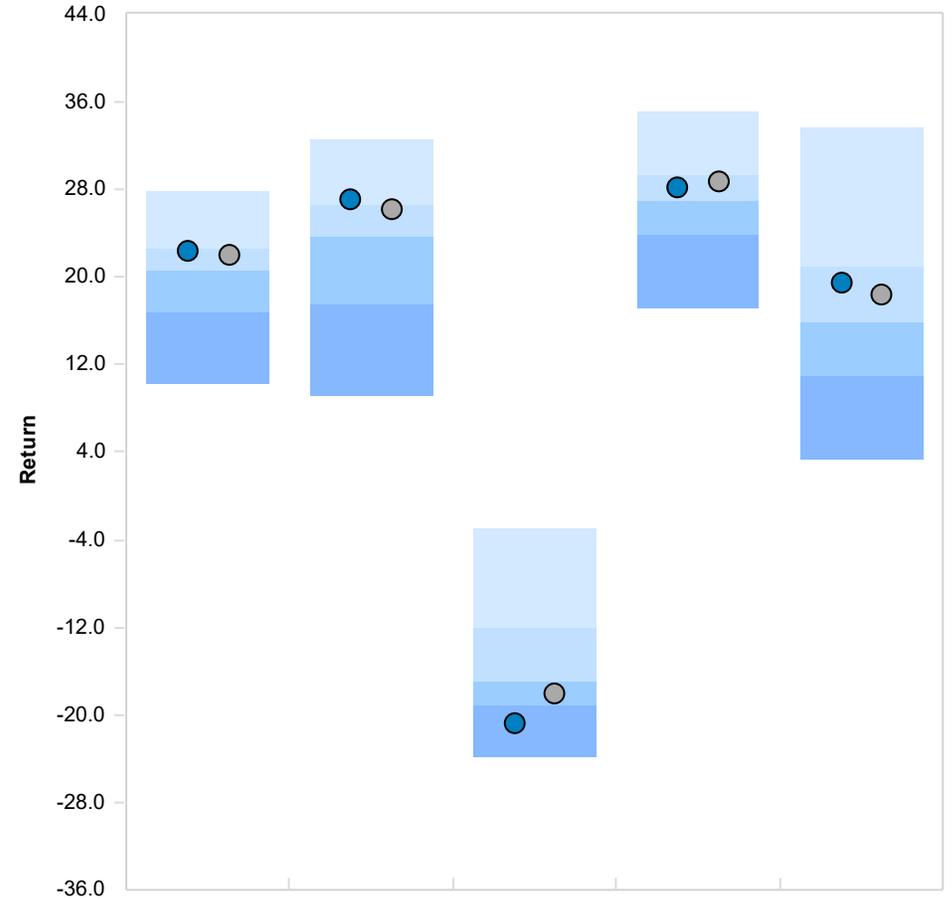
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	9 (45%)	11 (55%)	0 (0%)	0 (0%)
Index	20	9 (45%)	11 (55%)	0 (0%)	0 (0%)

Peer Group Analysis - IM U.S. Large Cap Core Equity (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	5.83 (44)	22.49 (26)	37.07 (27)	29.31 (21)	11.03 (42)	15.55 (39)	15.64 (27)
● Index	5.89 (41)	22.08 (31)	36.35 (30)	28.77 (27)	11.91 (27)	16.19 (27)	15.98 (22)
Median	5.63	20.59	34.40	26.70	10.46	14.90	14.62

Peer Group Analysis - IM U.S. Large Cap Core Equity (SA+CF)



	2024	2023	2022	2021	2020
● Investment	22.49 (26)	27.16 (24)	-20.69 (87)	28.30 (34)	19.44 (35)
● Index	22.08 (31)	26.29 (29)	-18.11 (61)	28.71 (29)	18.40 (41)
Median	20.59	23.77	-16.96	26.87	15.94

Comparative Performance

	1 Qtr Ending Jun-2024	1 Qtr Ending Mar-2024	1 Qtr Ending Dec-2023	1 Qtr Ending Sep-2023	1 Qtr Ending Jun-2023	1 Qtr Ending Mar-2023
Investment	4.23 (25)	11.04 (41)	11.91 (35)	-3.08 (53)	8.83 (23)	7.73 (19)
Index	4.28 (22)	10.56 (50)	11.69 (43)	-3.27 (66)	8.74 (24)	7.50 (22)
Median	2.99	10.55	11.49	-2.99	7.62	6.21

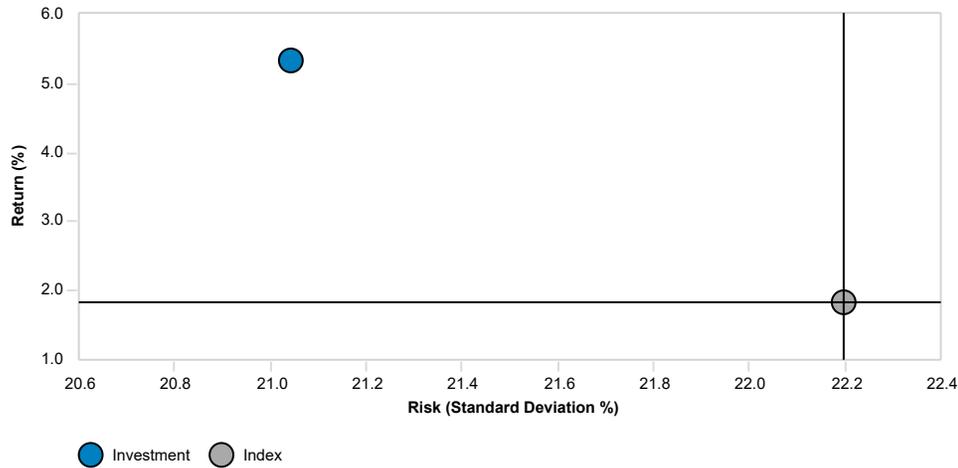
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	5.35	21.04	0.19	97.92	7	87.11	5
Index	1.84	22.20	0.04	100.00	7	100.00	5

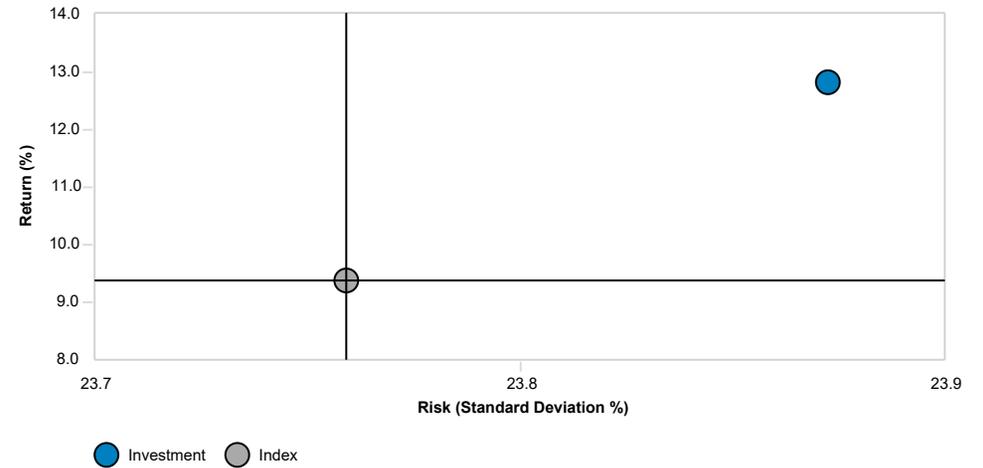
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	12.83	23.87	0.53	101.20	13	89.79	7
Index	9.39	23.76	0.40	100.00	13	100.00	7

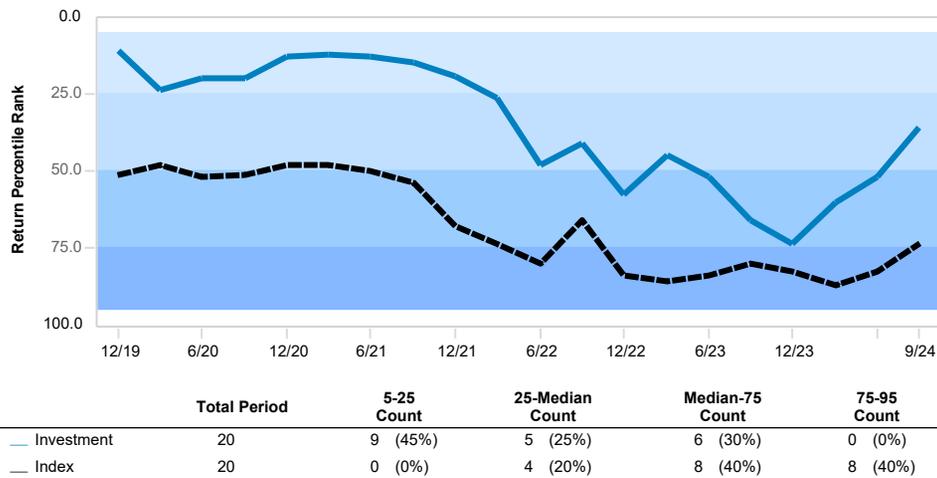
Risk and Return 3 Years



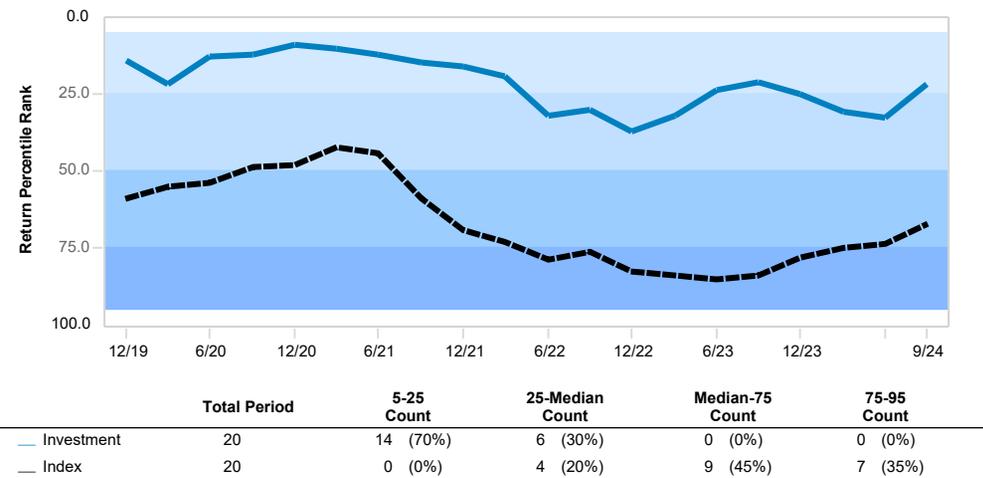
Risk and Return 5 Years



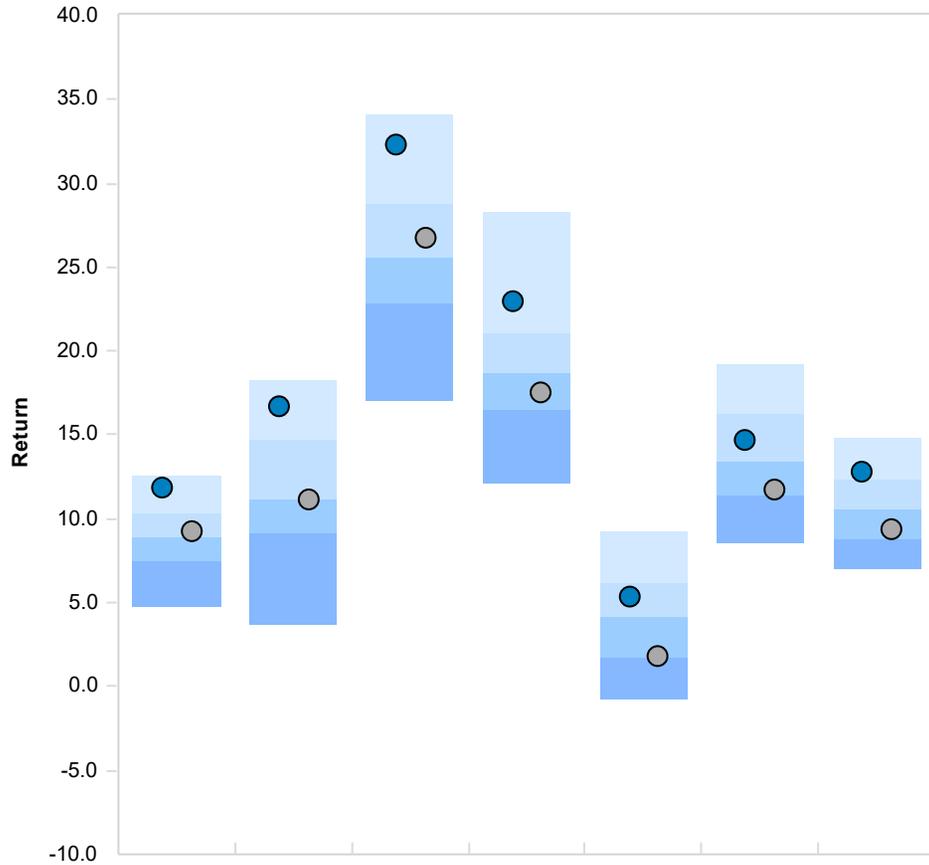
3 Year Rolling Percentile Rank IM U.S. Small Cap Core Equity (SA+CF)



5 Year Rolling Percentile Rank IM U.S. Small Cap Core Equity (SA+CF)

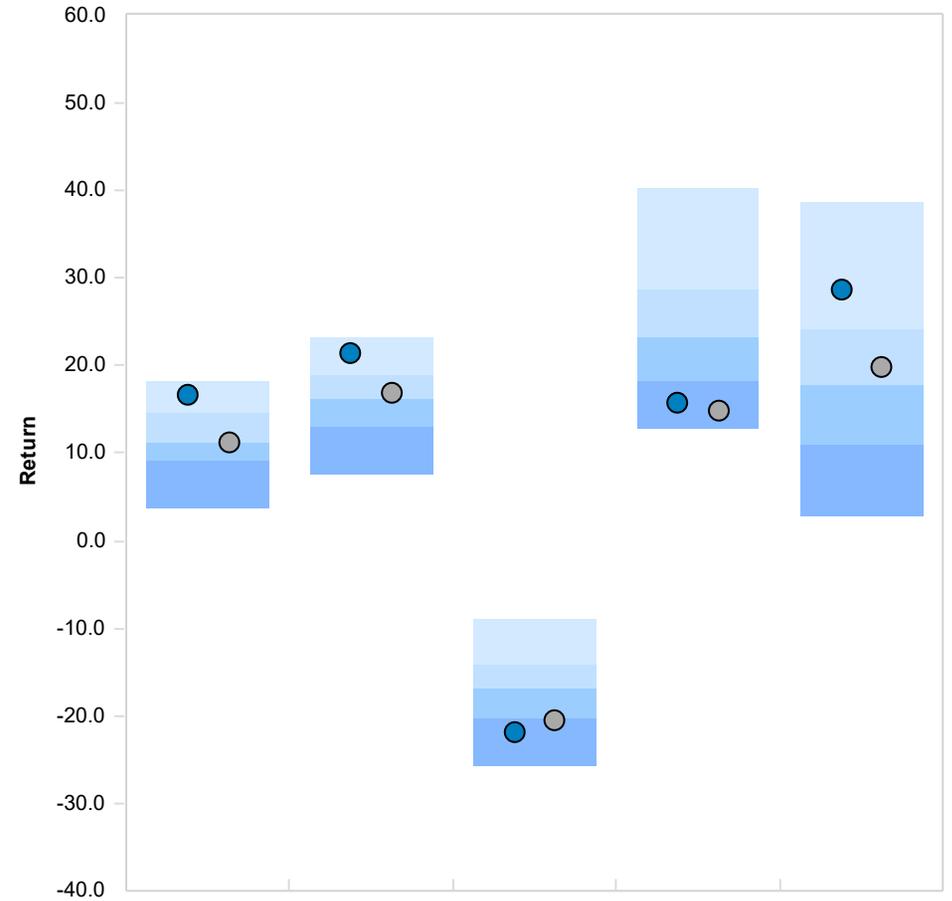


Peer Group Analysis - IM U.S. Small Cap Core Equity (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	11.83 (7)	16.66 (14)	32.37 (9)	22.94 (10)	5.35 (36)	14.70 (36)	12.83 (22)
● Index	9.27 (47)	11.17 (50)	26.76 (36)	17.51 (60)	1.84 (74)	11.76 (72)	9.39 (67)
Median	8.93	11.15	25.62	18.77	4.20	13.38	10.57

Peer Group Analysis - IM U.S. Small Cap Core Equity (SA+CF)



	2024	2023	2022	2021	2020
● Investment	16.66 (14)	21.46 (14)	-21.90 (83)	15.77 (84)	28.78 (16)
● Index	11.17 (50)	16.93 (43)	-20.44 (77)	14.82 (86)	19.96 (36)
Median	11.15	16.31	-16.83	23.25	17.93

Comparative Performance

	1 Qtr Ending Jun-2024	1 Qtr Ending Mar-2024	1 Qtr Ending Dec-2023	1 Qtr Ending Sep-2023	1 Qtr Ending Jun-2023	1 Qtr Ending Mar-2023
Investment	-1.31 (19)	5.70 (44)	13.47 (38)	-3.61 (27)	5.97 (19)	4.79 (29)
Index	-3.28 (51)	5.18 (55)	14.03 (24)	-5.13 (63)	5.21 (31)	2.74 (70)
Median	-3.21	5.54	12.66	-4.90	4.41	3.64

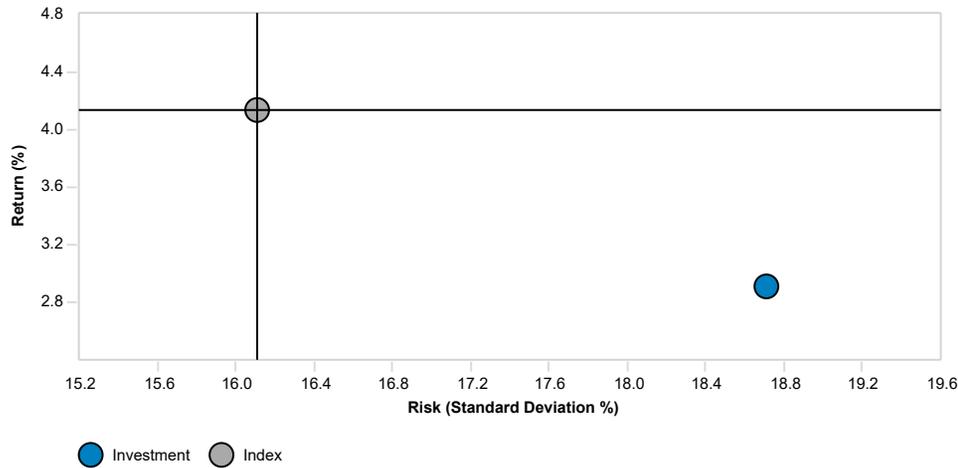
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.91	18.71	0.06	115.44	8	123.28	4
Index	4.14	16.11	0.12	100.00	8	100.00	4

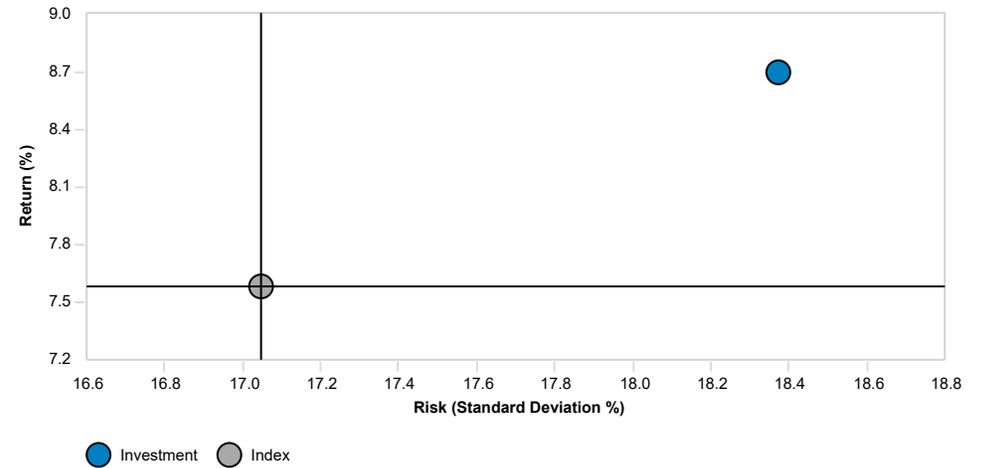
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	8.70	18.37	0.42	110.26	14	108.46	6
Index	7.59	17.05	0.38	100.00	14	100.00	6

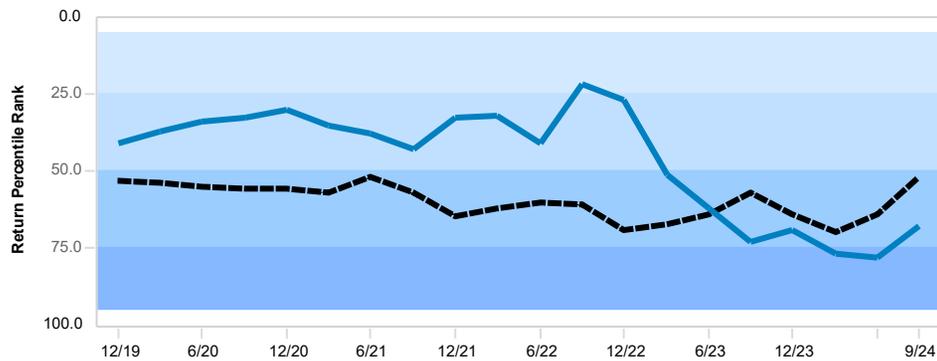
Risk and Return 3 Years



Risk and Return 5 Years

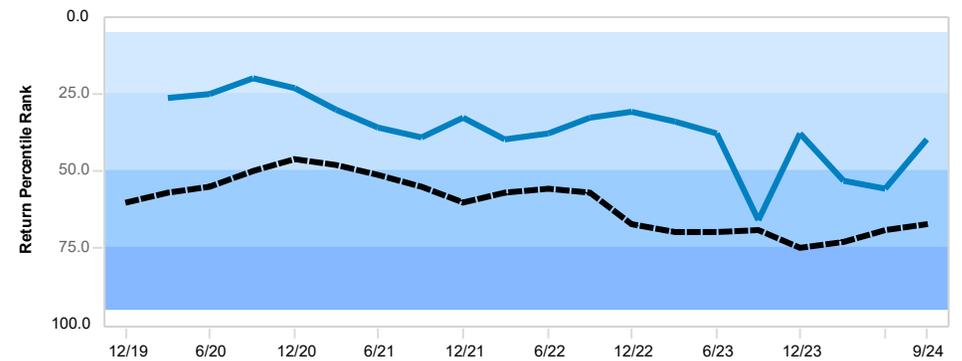


3 Year Rolling Percentile Rank IM International Large Cap Equity (SA+CF)



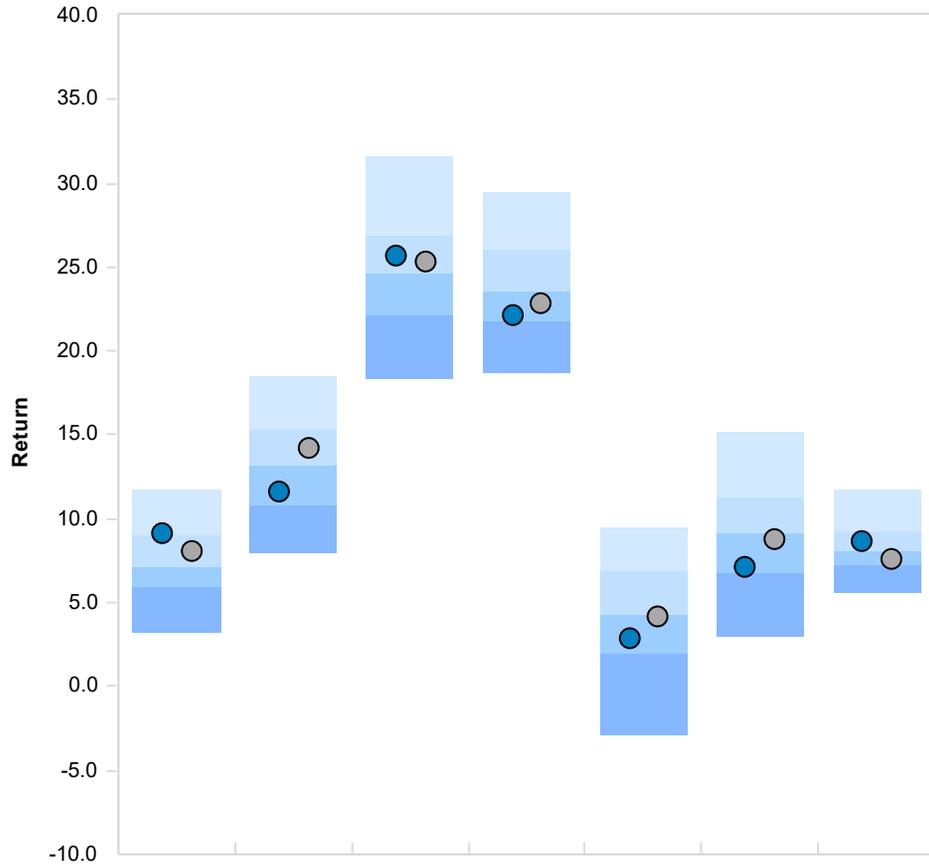
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	1 (5%)	12 (60%)	5 (25%)	2 (10%)
Index	20	0 (0%)	0 (0%)	20 (100%)	0 (0%)

5 Year Rolling Percentile Rank IM International Large Cap Equity (SA+CF)



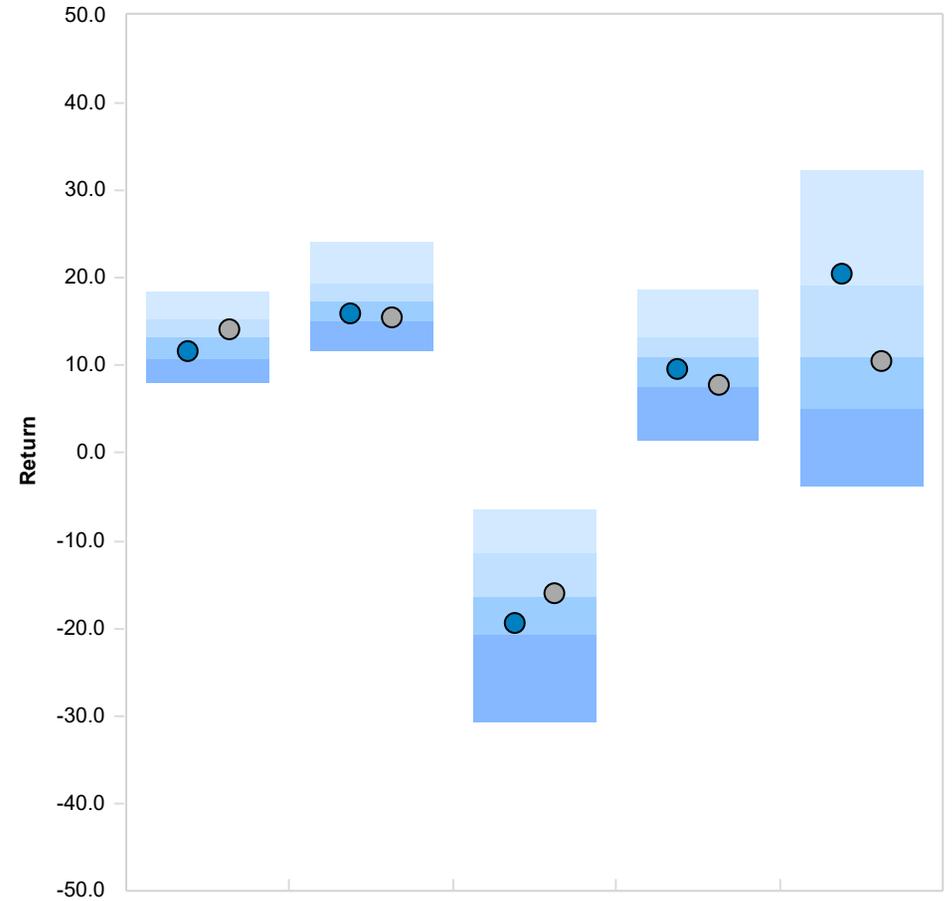
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	19	3 (16%)	13 (68%)	3 (16%)	0 (0%)
Index	20	0 (0%)	3 (15%)	17 (85%)	0 (0%)

Peer Group Analysis - IM International Large Cap Equity (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	9.17 (24)	11.68 (69)	25.65 (38)	22.13 (71)	2.91 (68)	7.09 (71)	8.70 (40)
● Index	8.06 (39)	14.21 (39)	25.35 (43)	22.85 (62)	4.14 (52)	8.76 (56)	7.59 (67)
Median	7.18	13.21	24.60	23.60	4.26	9.16	8.12

Peer Group Analysis - IM International Large Cap Equity (SA+CF)



	2024	2023	2022	2021	2020
● Investment	11.68 (69)	16.07 (64)	-19.49 (70)	9.69 (63)	20.58 (22)
● Index	14.21 (39)	15.62 (70)	-16.00 (48)	7.82 (73)	10.65 (52)
Median	13.21	17.35	-16.49	11.08	10.97

Comparative Performance

	1 Qtr Ending Jun-2024	1 Qtr Ending Mar-2024	1 Qtr Ending Dec-2023	1 Qtr Ending Sep-2023	1 Qtr Ending Jun-2023	1 Qtr Ending Mar-2023
Investment	0.31 (42)	1.99 (90)	12.50 (14)	-8.03 (86)	3.55 (34)	8.33 (54)
Index	0.96 (28)	4.69 (62)	9.75 (57)	-3.77 (40)	2.44 (70)	6.87 (78)
Median	0.11	5.30	10.11	-4.66	3.06	8.51

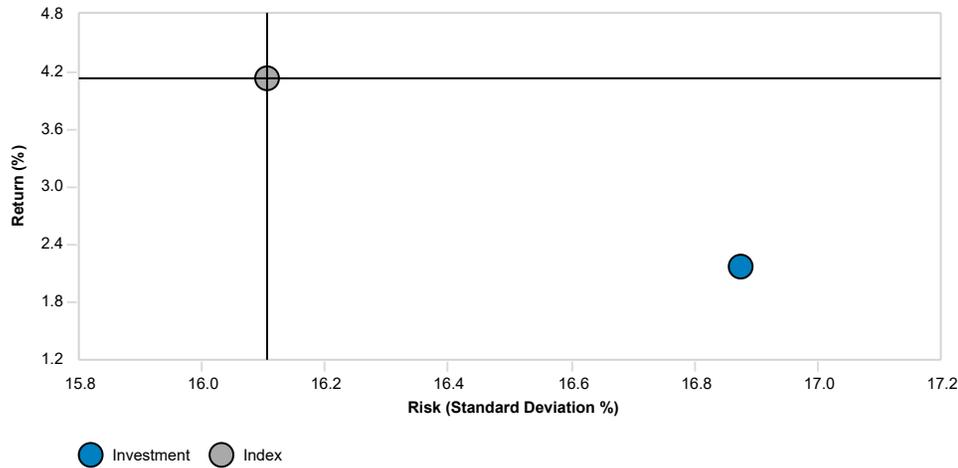
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.17	16.87	0.01	102.91	8	112.49	4
Index	4.14	16.11	0.12	100.00	8	100.00	4

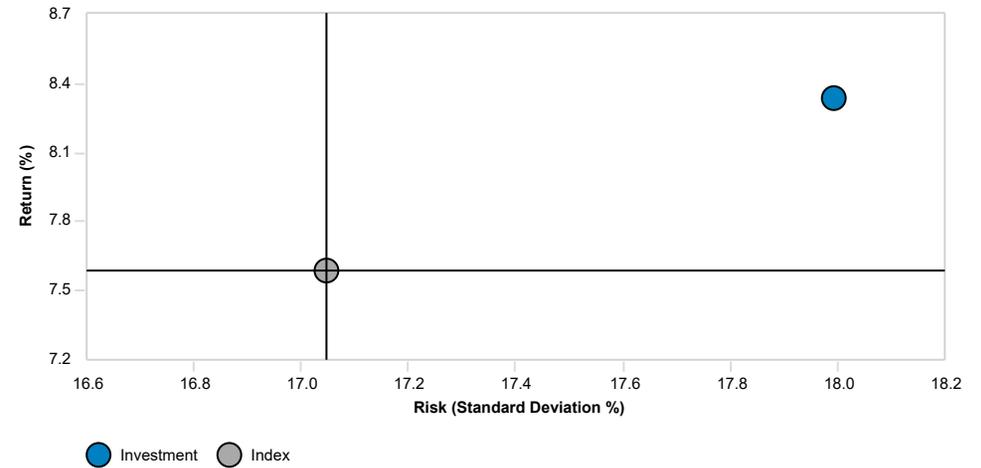
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	8.34	17.99	0.41	107.07	14	105.74	6
Index	7.59	17.05	0.38	100.00	14	100.00	6

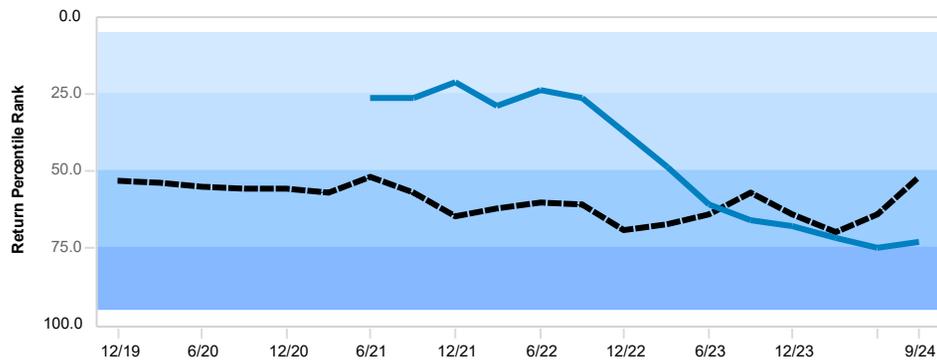
Risk and Return 3 Years



Risk and Return 5 Years

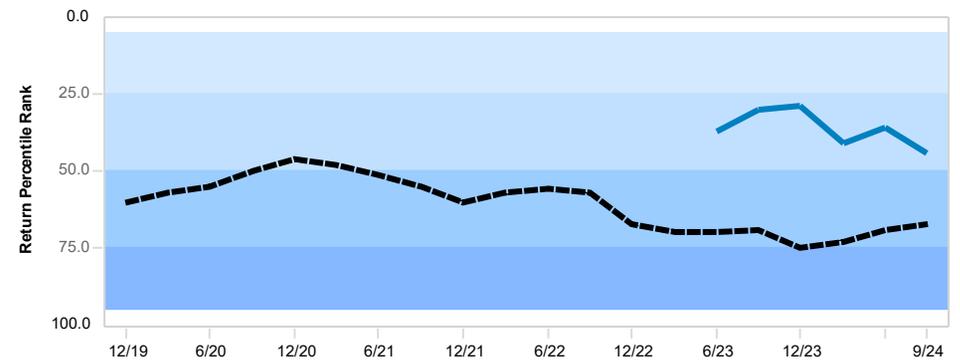


3 Year Rolling Percentile Rank IM International Large Cap Equity (SA+CF)



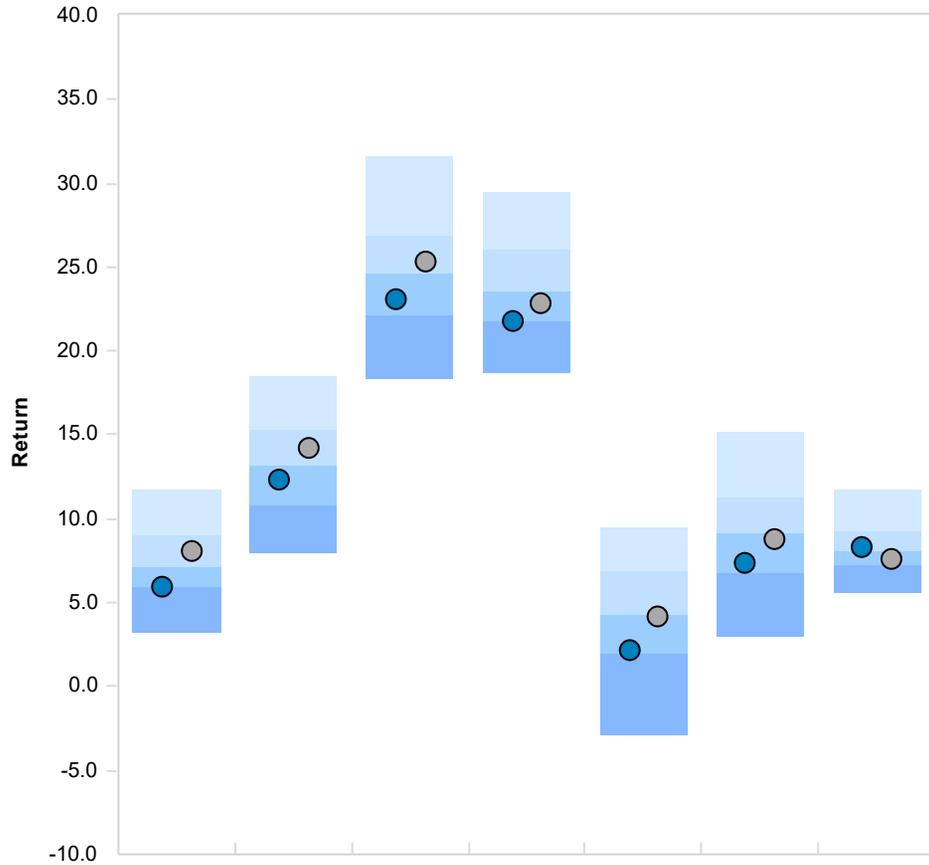
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	14	2 (14%)	6 (43%)	6 (43%)	0 (0%)
Index	20	0 (0%)	0 (0%)	20 (100%)	0 (0%)

5 Year Rolling Percentile Rank IM International Large Cap Equity (SA+CF)



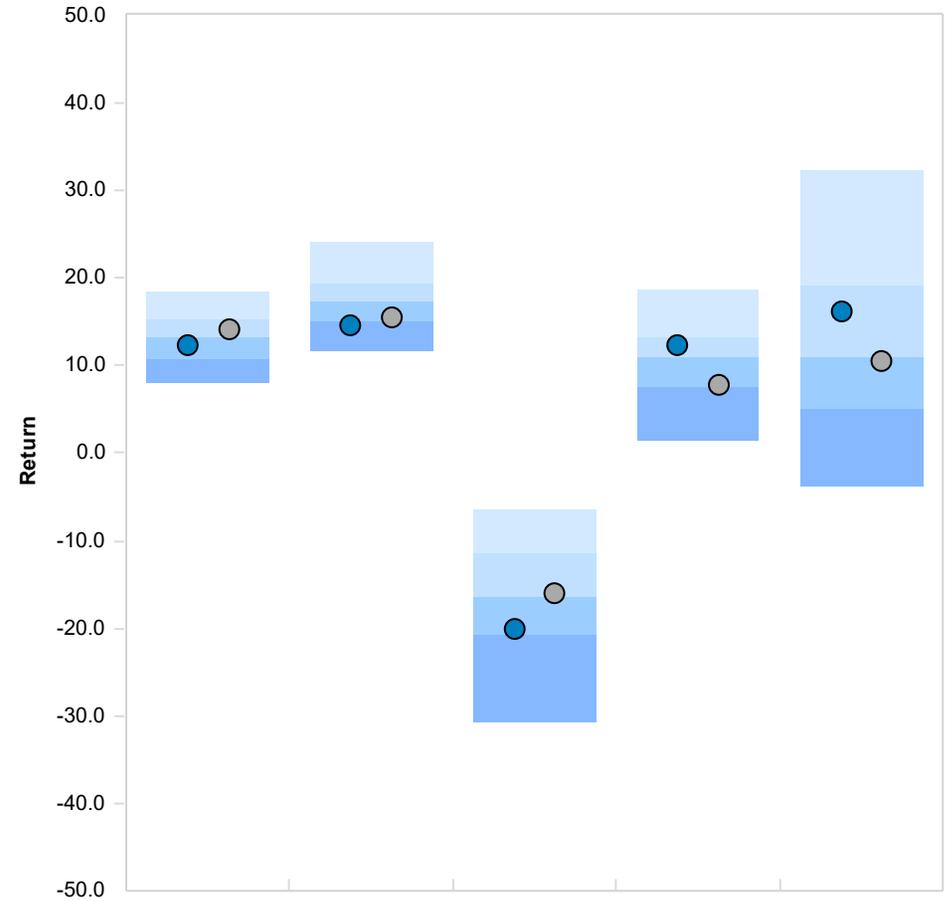
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	6	0 (0%)	6 (100%)	0 (0%)	0 (0%)
Index	20	0 (0%)	3 (15%)	17 (85%)	0 (0%)

Peer Group Analysis - IM International Large Cap Equity (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	5.99 (71)	12.33 (60)	23.14 (67)	21.75 (76)	2.17 (73)	7.40 (68)	8.34 (44)
● Index	8.06 (39)	14.21 (39)	25.35 (43)	22.85 (62)	4.14 (52)	8.76 (56)	7.59 (67)
Median	7.18	13.21	24.60	23.60	4.26	9.16	8.12

Peer Group Analysis - IM International Large Cap Equity (SA+CF)



	2024	2023	2022	2021	2020
● Investment	12.33 (60)	14.57 (79)	-19.99 (72)	12.39 (35)	16.23 (35)
● Index	14.21 (39)	15.62 (70)	-16.00 (48)	7.82 (73)	10.65 (52)
Median	13.21	17.35	-16.49	11.08	10.97

Comparative Performance

	1 Qtr Ending Jun-2024	1 Qtr Ending Mar-2024	1 Qtr Ending Dec-2023	1 Qtr Ending Sep-2023	1 Qtr Ending Jun-2023	1 Qtr Ending Mar-2023
Investment	1.38 (21)	4.54 (64)	9.63 (60)	-4.74 (52)	3.01 (53)	6.50 (83)
Index	0.96 (28)	4.69 (62)	9.75 (57)	-3.77 (40)	2.44 (70)	6.87 (78)
Median	0.11	5.30	10.11	-4.66	3.06	8.51

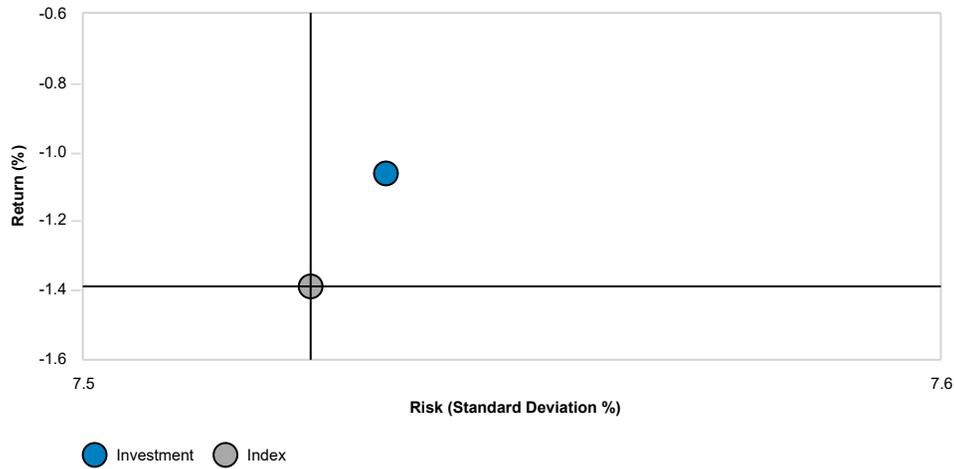
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	-1.06	7.54	-0.58	100.83	5	97.76	7
Index	-1.39	7.53	-0.62	100.00	6	100.00	6

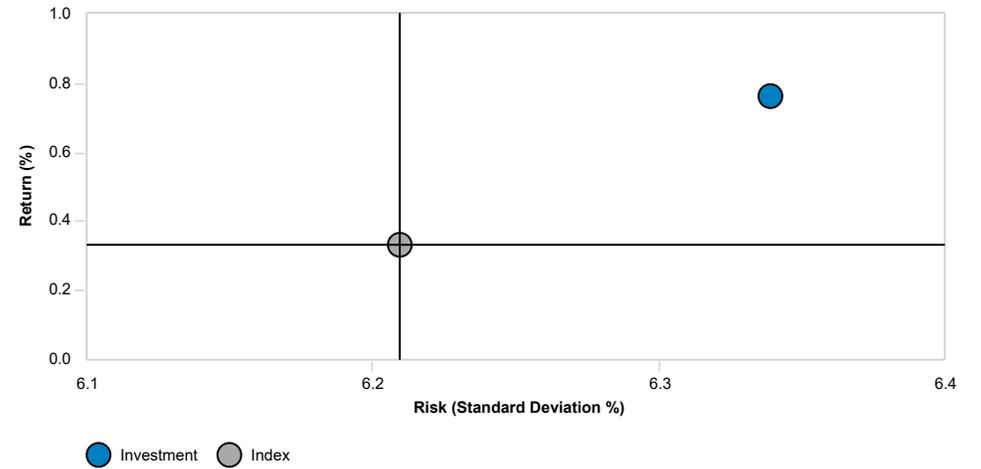
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	0.77	6.34	-0.21	105.13	12	99.98	8
Index	0.33	6.21	-0.29	100.00	13	100.00	7

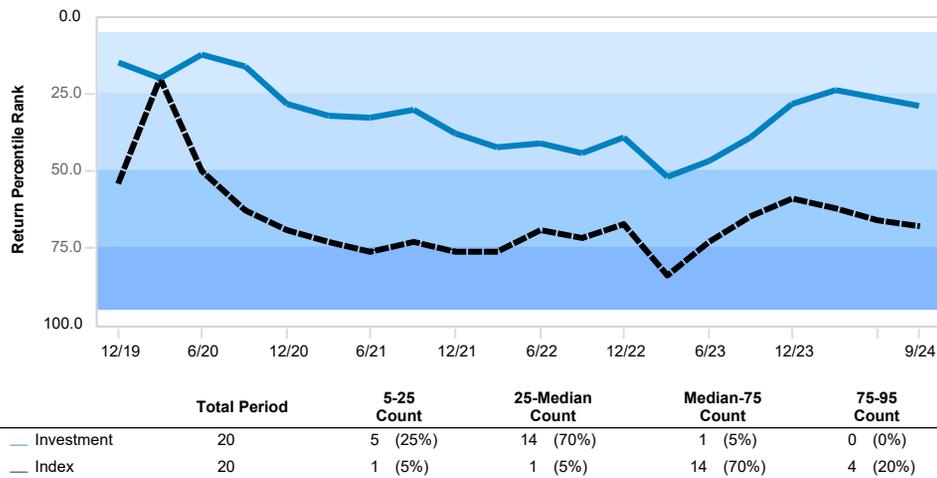
Risk and Return 3 Years



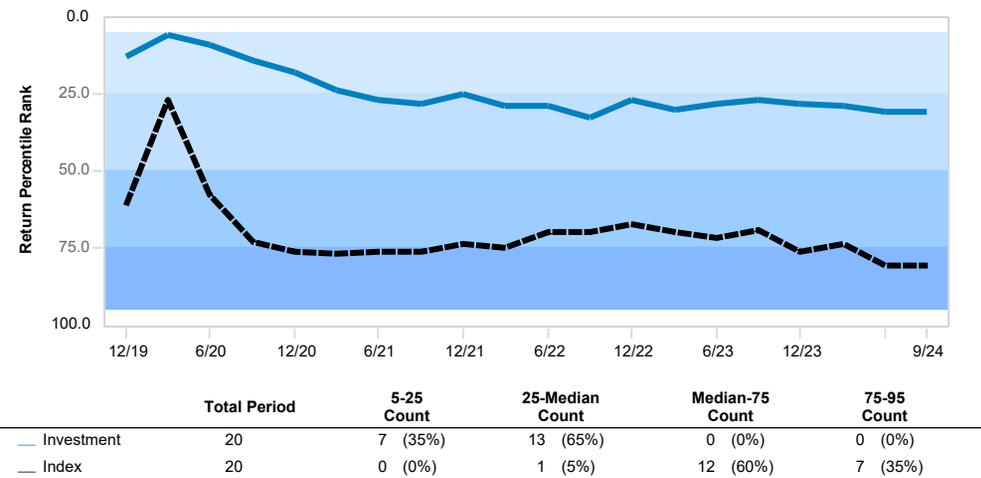
Risk and Return 5 Years



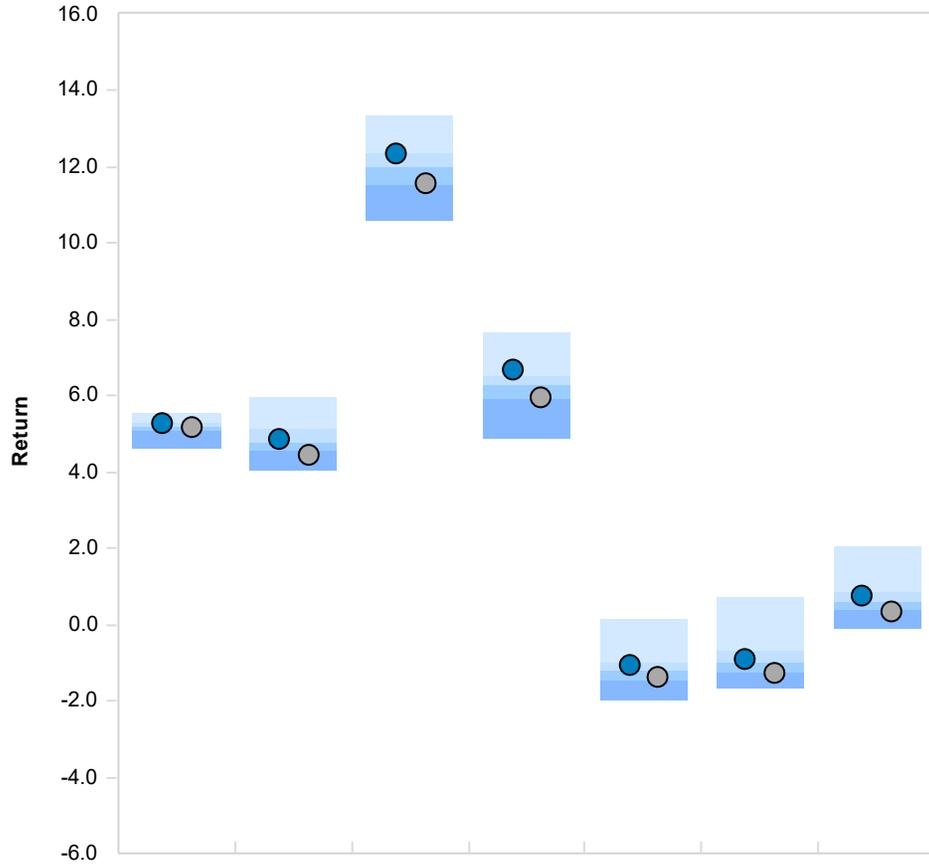
3 Year Rolling Percentile Rank IM U.S. Broad Market Core Fixed Income (SA+CF)



5 Year Rolling Percentile Rank IM U.S. Broad Market Core Fixed Income (SA+CF)

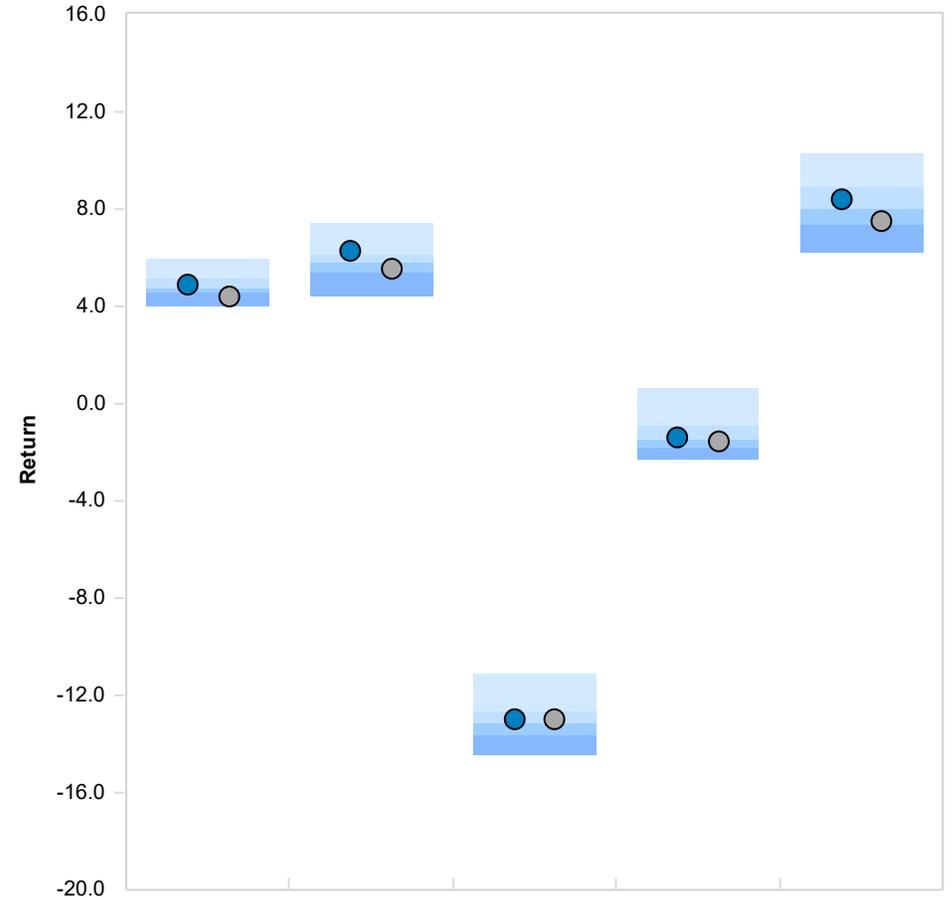


Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	5.29 (27)	4.86 (42)	12.34 (28)	6.67 (18)	-1.06 (29)	-0.90 (38)	0.77 (31)
● Index	5.20 (46)	4.45 (85)	11.57 (73)	5.97 (72)	-1.39 (68)	-1.27 (76)	0.33 (81)
Median	5.19	4.76	12.02	6.27	-1.22	-1.01	0.59

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



	2024	2023	2022	2021	2020
● Investment	4.86 (42)	6.27 (18)	-12.97 (36)	-1.37 (44)	8.43 (37)
● Index	4.45 (85)	5.53 (68)	-13.01 (37)	-1.55 (54)	7.51 (68)
Median	4.76	5.80	-13.13	-1.47	8.03

Comparative Performance

	1 Qtr Ending Jun-2024	1 Qtr Ending Mar-2024	1 Qtr Ending Dec-2023	1 Qtr Ending Sep-2023	1 Qtr Ending Jun-2023	1 Qtr Ending Mar-2023
Investment	0.13 (71)	-0.53 (50)	7.13 (15)	-3.07 (35)	-0.70 (41)	3.05 (60)
Index	0.07 (85)	-0.78 (81)	6.82 (43)	-3.23 (61)	-0.84 (65)	2.96 (71)
Median	0.17	-0.54	6.76	-3.18	-0.78	3.12

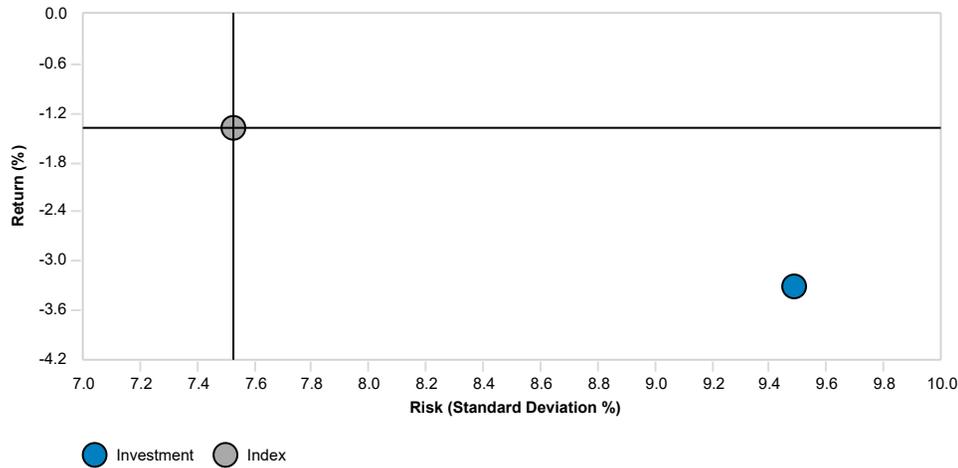
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	-3.30	9.49	-0.68	115.21	4	129.61	8
Index	-1.39	7.53	-0.62	100.00	6	100.00	6

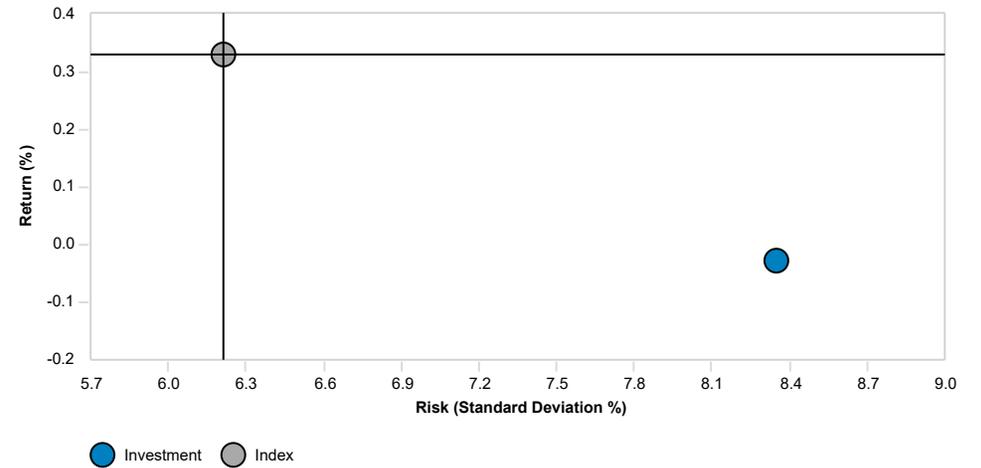
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	-0.03	8.35	-0.24	130.75	10	135.26	10
Index	0.33	6.21	-0.29	100.00	13	100.00	7

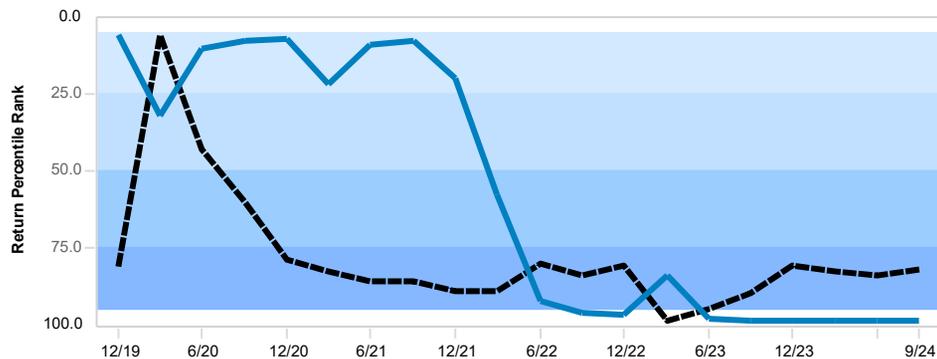
Risk and Return 3 Years



Risk and Return 5 Years

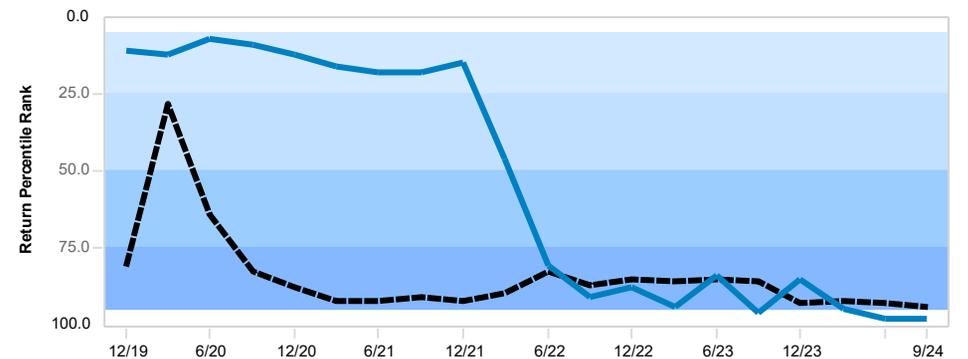


3 Year Rolling Percentile Rank IM U.S. Broad Market Core+ Fixed Income (SA+CF)



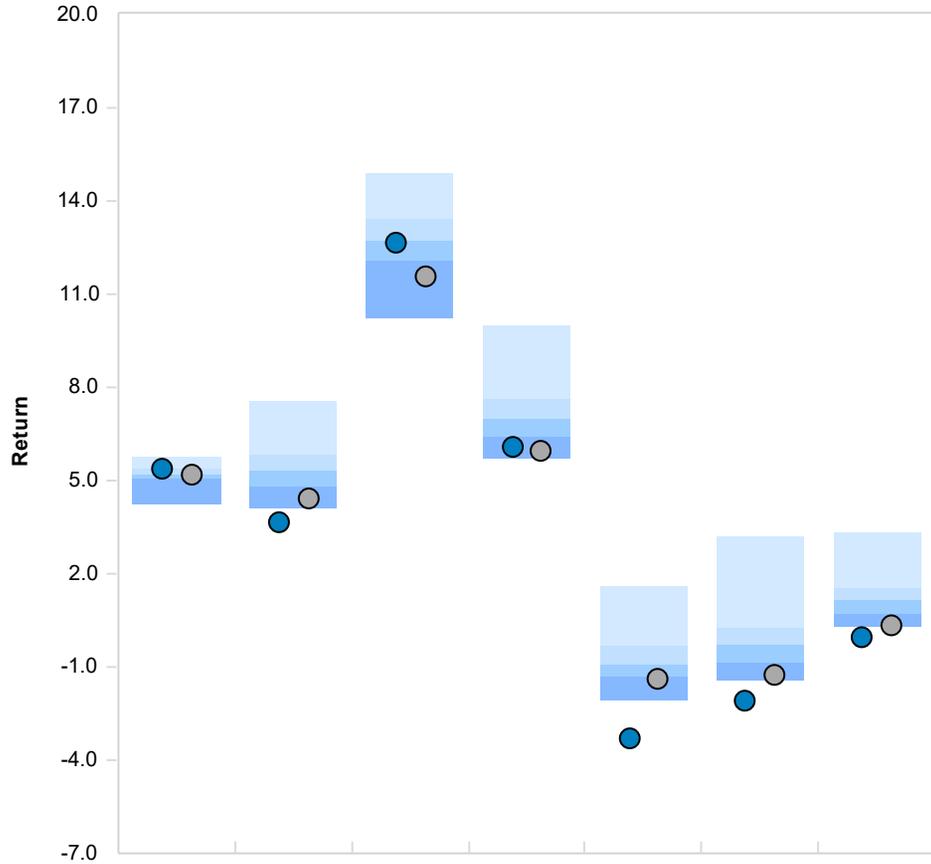
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	8 (40%)	1 (5%)	1 (5%)	10 (50%)
Index	20	1 (5%)	1 (5%)	1 (5%)	17 (85%)

5 Year Rolling Percentile Rank IM U.S. Broad Market Core+ Fixed Income (SA+CF)



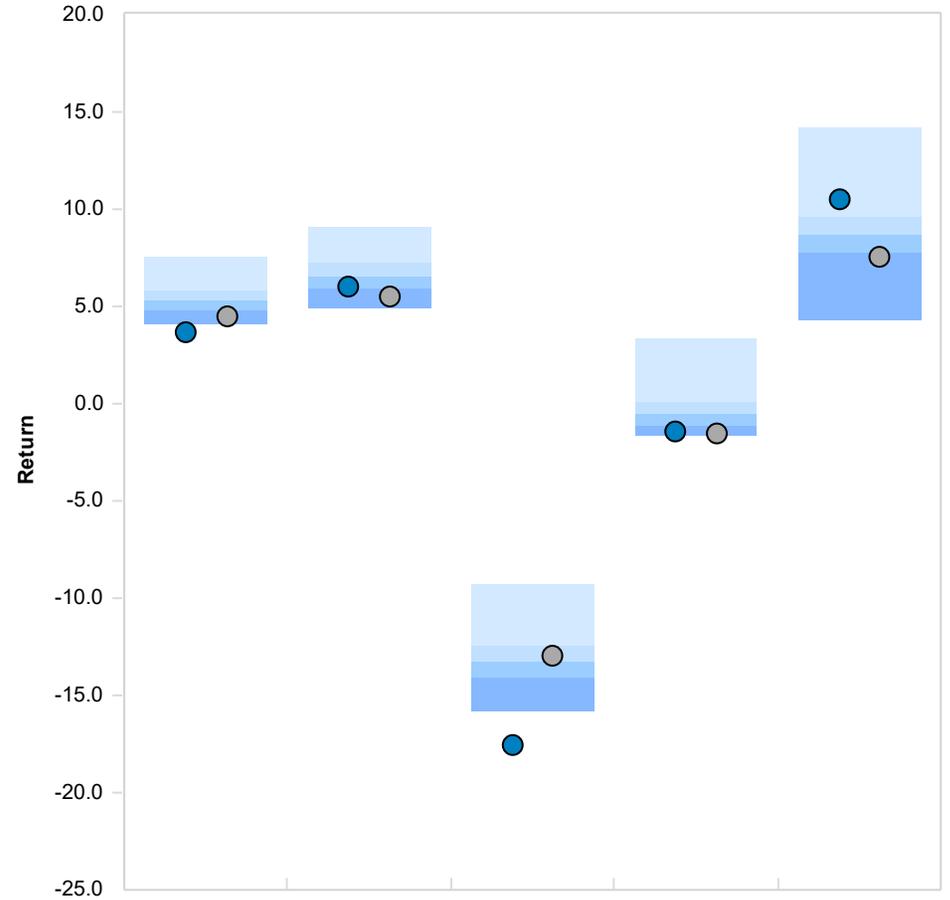
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	9 (45%)	1 (5%)	0 (0%)	10 (50%)
Index	20	0 (0%)	1 (5%)	1 (5%)	18 (90%)

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



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	5.37 (27)	3.64 (98)	12.67 (52)	6.07 (86)	-3.30 (99)	-2.07 (98)	-0.03 (98)
● Index	5.20 (56)	4.45 (92)	11.57 (87)	5.97 (90)	-1.39 (82)	-1.27 (93)	0.33 (94)
Median	5.22	5.33	12.70	6.96	-0.92	-0.27	1.14

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



	2024	2023	2022	2021	2020
● Investment	3.64 (98)	5.99 (71)	-17.58 (98)	-1.46 (88)	10.47 (14)
● Index	4.45 (92)	5.53 (86)	-13.01 (42)	-1.55 (90)	7.51 (80)
Median	5.33	6.48	-13.26	-0.54	8.70

Comparative Performance

	1 Qtr Ending Jun-2024	1 Qtr Ending Mar-2024	1 Qtr Ending Dec-2023	1 Qtr Ending Sep-2023	1 Qtr Ending Jun-2023	1 Qtr Ending Mar-2023
Investment	-0.53 (98)	-1.12 (97)	8.71 (2)	-4.54 (98)	-0.61 (60)	2.76 (82)
Index	0.07 (88)	-0.78 (91)	6.82 (63)	-3.23 (76)	-0.84 (82)	2.96 (67)
Median	0.33	-0.17	6.99	-2.93	-0.52	3.15

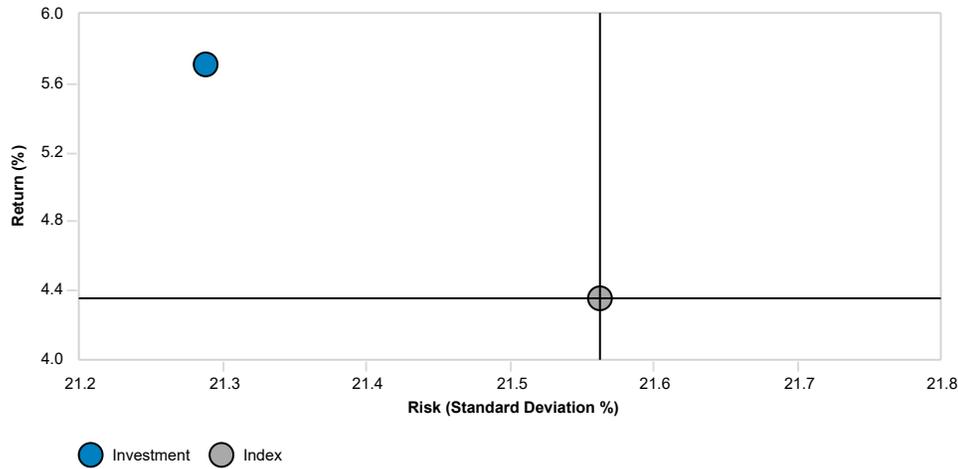
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	5.71	21.29	0.21	101.25	7	97.42	5
Index	4.36	21.56	0.15	100.00	6	100.00	6

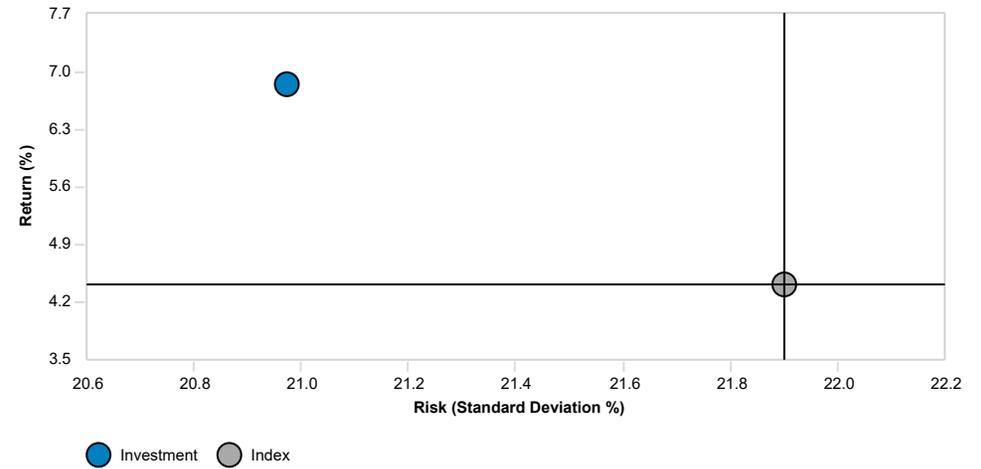
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	6.85	20.97	0.31	101.86	13	94.56	7
Index	4.41	21.90	0.20	100.00	12	100.00	8

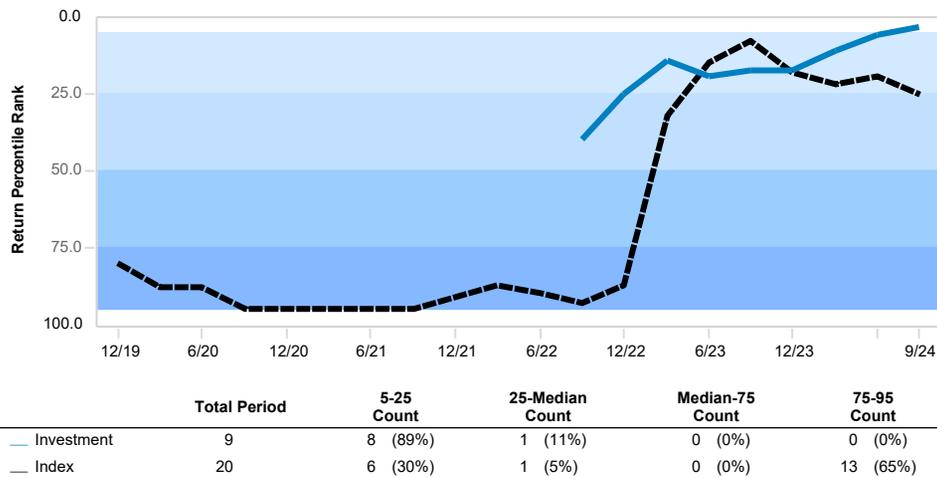
Risk and Return 3 Years



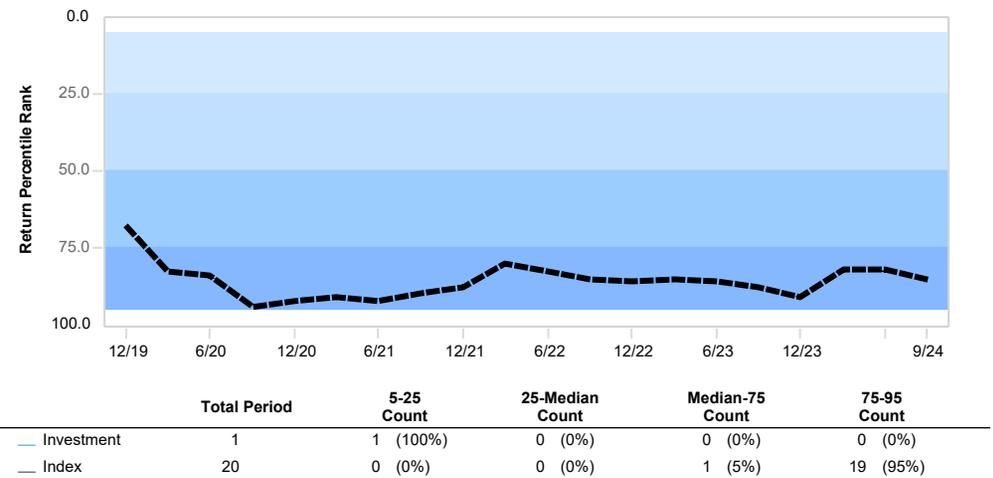
Risk and Return 5 Years



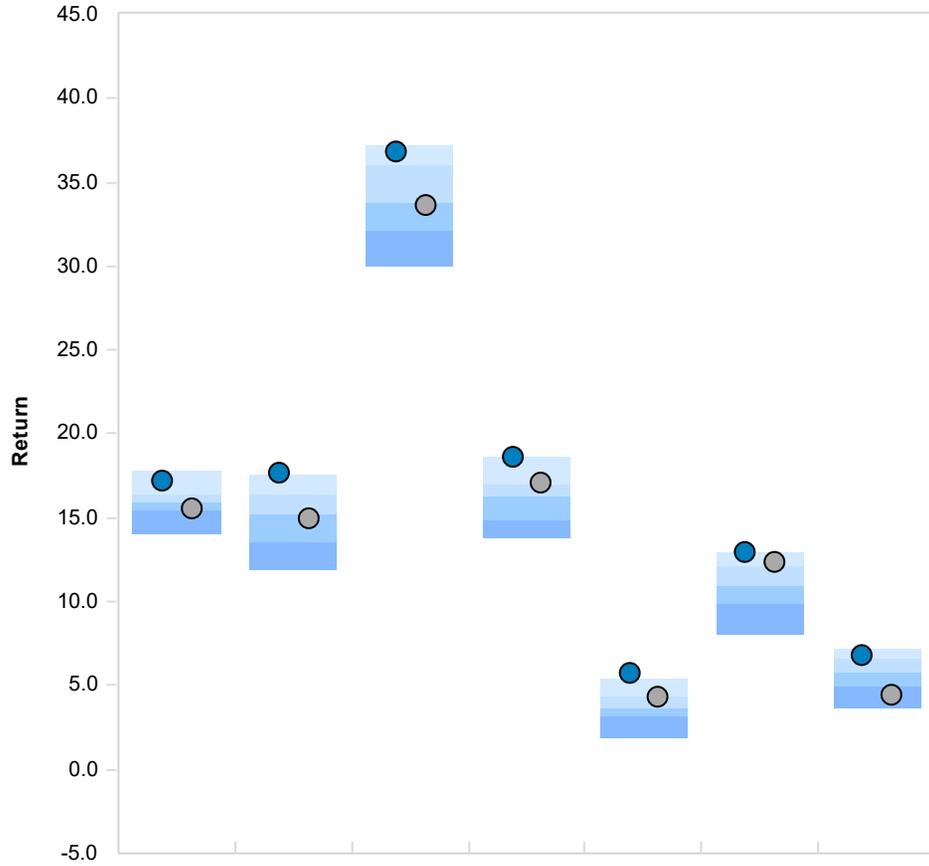
3 Year Rolling Percentile Rank IM U.S. REIT (SA+CF)



5 Year Rolling Percentile Rank IM U.S. REIT (SA+CF)

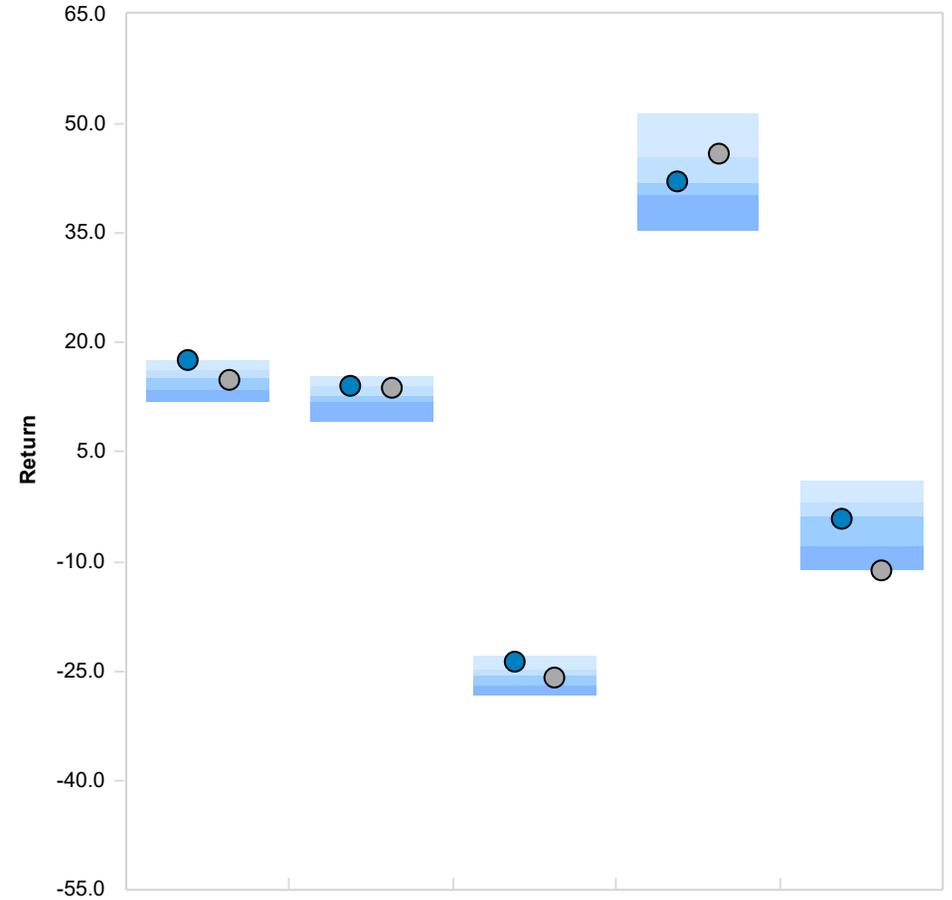


Peer Group Analysis - IM U.S. REIT (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	17.19 (21)	17.69 (3)	36.79 (14)	18.62 (5)	5.71 (3)	12.95 (7)	6.85 (13)
● Index	15.56 (74)	14.92 (55)	33.71 (54)	17.13 (21)	4.36 (25)	12.43 (16)	4.41 (85)
Median	15.92	15.16	33.81	16.23	3.60	10.95	5.78

Peer Group Analysis - IM U.S. REIT (SA+CF)



	2024	2023	2022	2021	2020
● Investment	17.69 (3)	14.21 (27)	-23.82 (14)	42.09 (47)	-4.23 (54)
● Index	14.92 (55)	13.96 (29)	-25.96 (53)	45.91 (20)	-11.20 (98)
Median	15.16	12.70	-25.70	41.99	-3.85

Comparative Performance

	1 Qtr Ending Jun-2024	1 Qtr Ending Mar-2024	1 Qtr Ending Dec-2023	1 Qtr Ending Sep-2023	1 Qtr Ending Jun-2023	1 Qtr Ending Mar-2023
Investment	0.79 (24)	-0.37 (14)	16.23 (61)	-7.29 (24)	3.15 (25)	2.75 (47)
Index	-0.16 (59)	-0.39 (15)	16.35 (53)	-7.40 (32)	2.92 (45)	2.77 (46)
Median	0.01	-1.06	16.40	-7.67	2.71	2.73

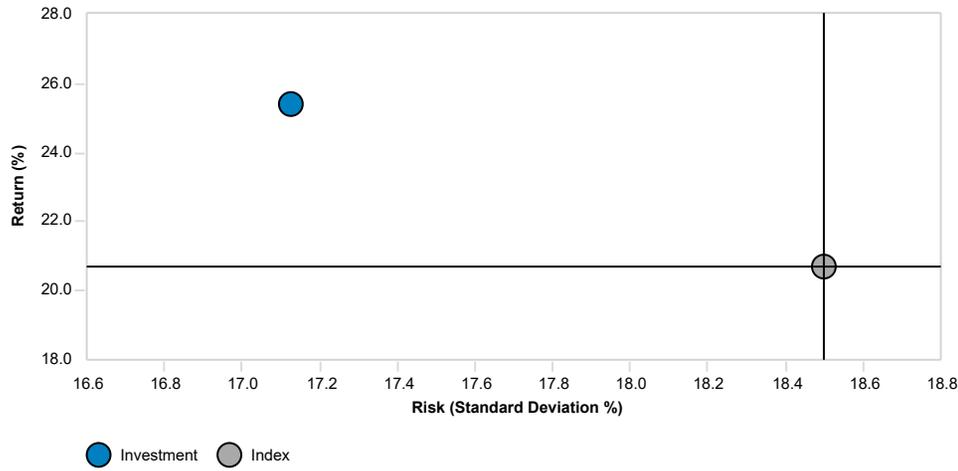
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	25.44	17.12	1.22	96.00	11	69.00	1
Index	20.71	18.50	0.93	100.00	9	100.00	3

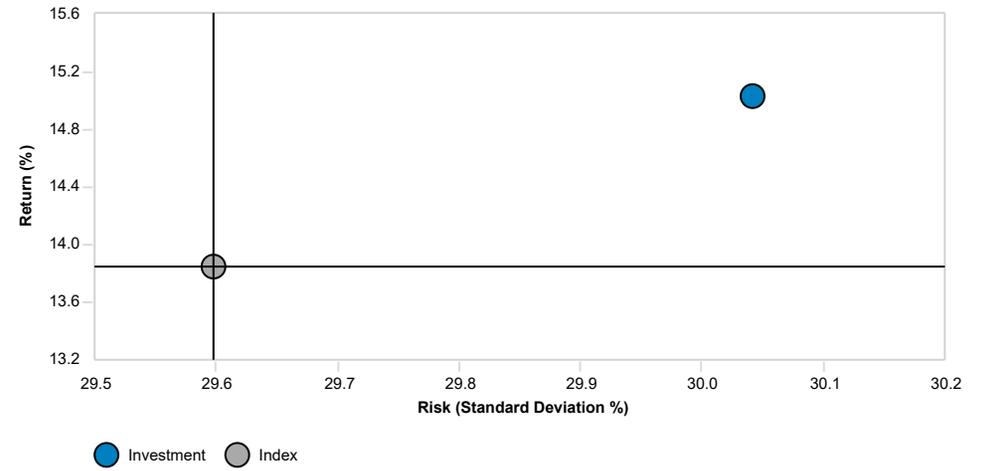
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	15.03	30.04	0.56	98.58	15	92.81	5
Index	13.85	29.60	0.52	100.00	14	100.00	6

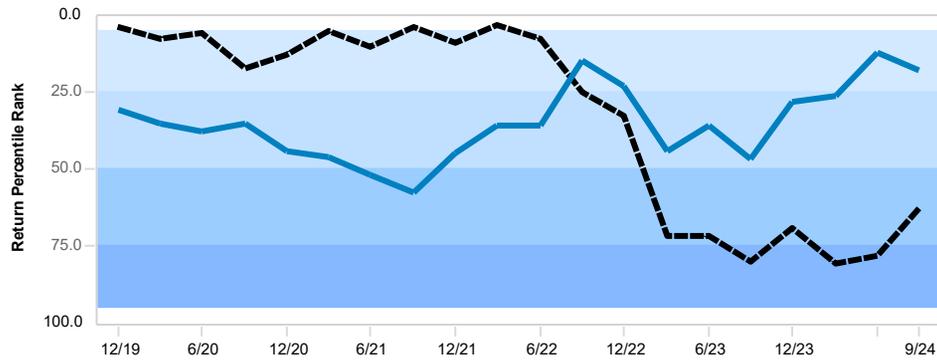
Risk and Return 3 Years



Risk and Return 5 Years

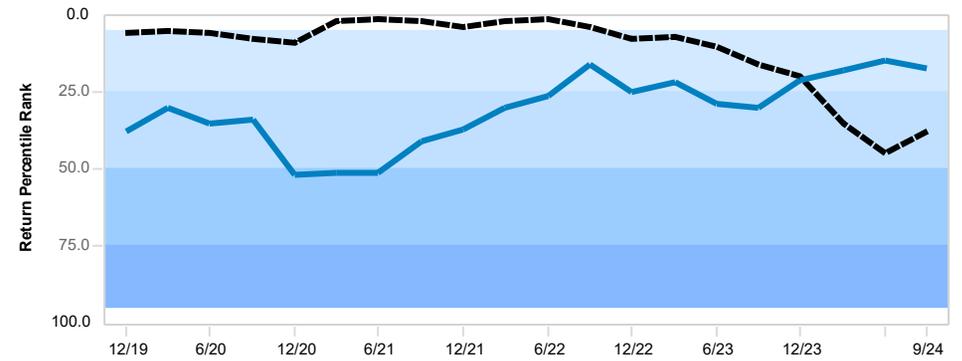


3 Year Rolling Percentile Rank Energy Limited Partnership



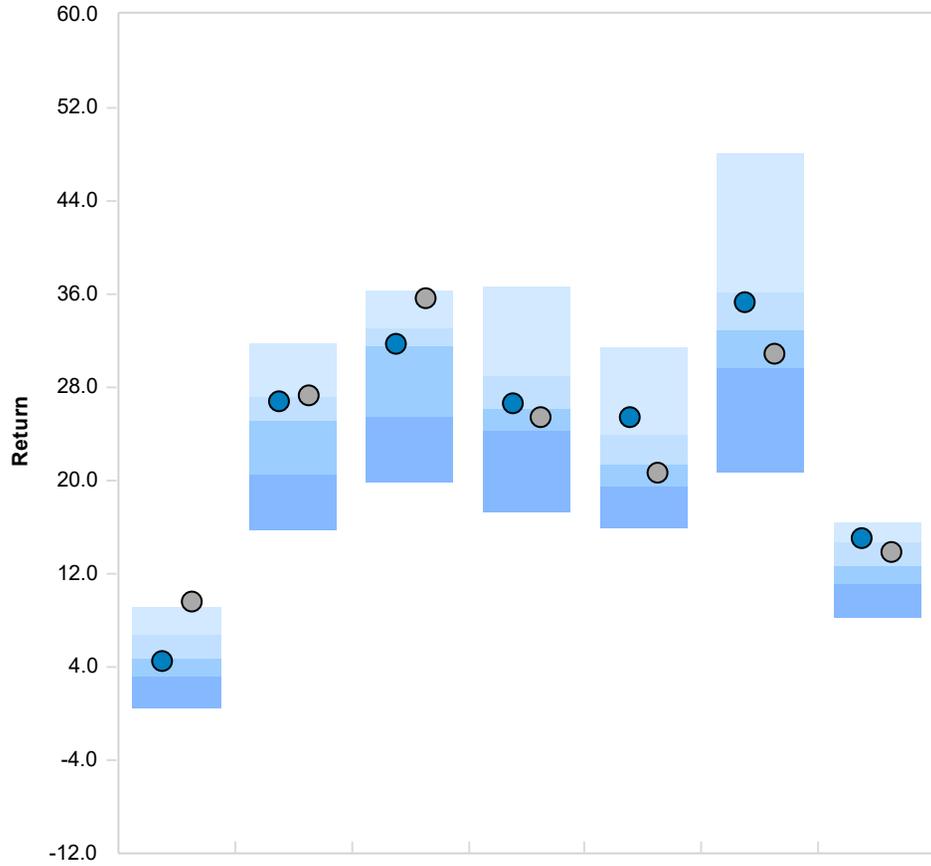
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	4 (20%)	14 (70%)	2 (10%)	0 (0%)
Index	20	12 (60%)	1 (5%)	4 (20%)	3 (15%)

5 Year Rolling Percentile Rank Energy Limited Partnership



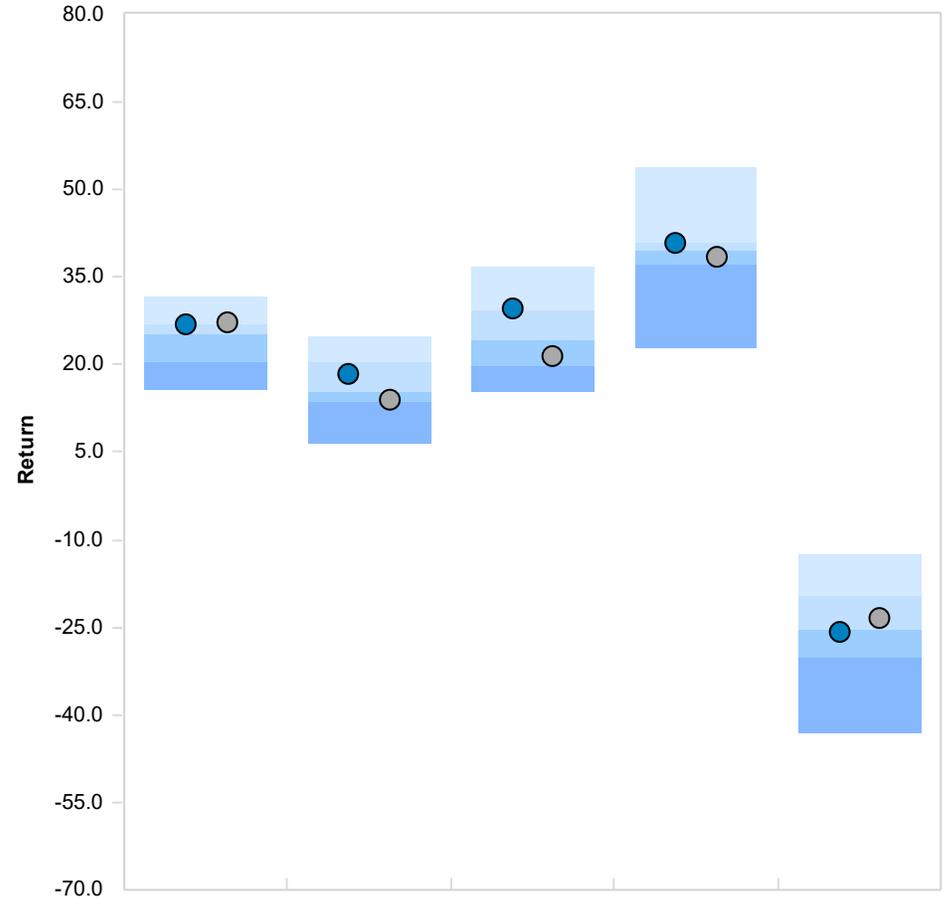
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	7 (35%)	10 (50%)	3 (15%)	0 (0%)
Index	20	17 (85%)	3 (15%)	0 (0%)	0 (0%)

Peer Group Analysis - Energy Limited Partnership



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	4.58 (51)	26.88 (28)	31.69 (48)	26.67 (40)	25.44 (18)	35.38 (32)	15.03 (17)
● Index	9.69 (2)	27.37 (21)	35.58 (7)	25.46 (61)	20.71 (63)	30.89 (69)	13.85 (38)
Median	4.60	25.12	31.53	26.18	21.40	33.01	12.68

Peer Group Analysis - Energy Limited Partnership



	2024	2023	2022	2021	2020
● Investment	26.88 (28)	18.35 (41)	29.67 (21)	40.87 (26)	-25.72 (51)
● Index	27.37 (21)	14.02 (70)	21.53 (61)	38.42 (65)	-23.36 (35)
Median	25.12	15.48	24.17	39.39	-25.50

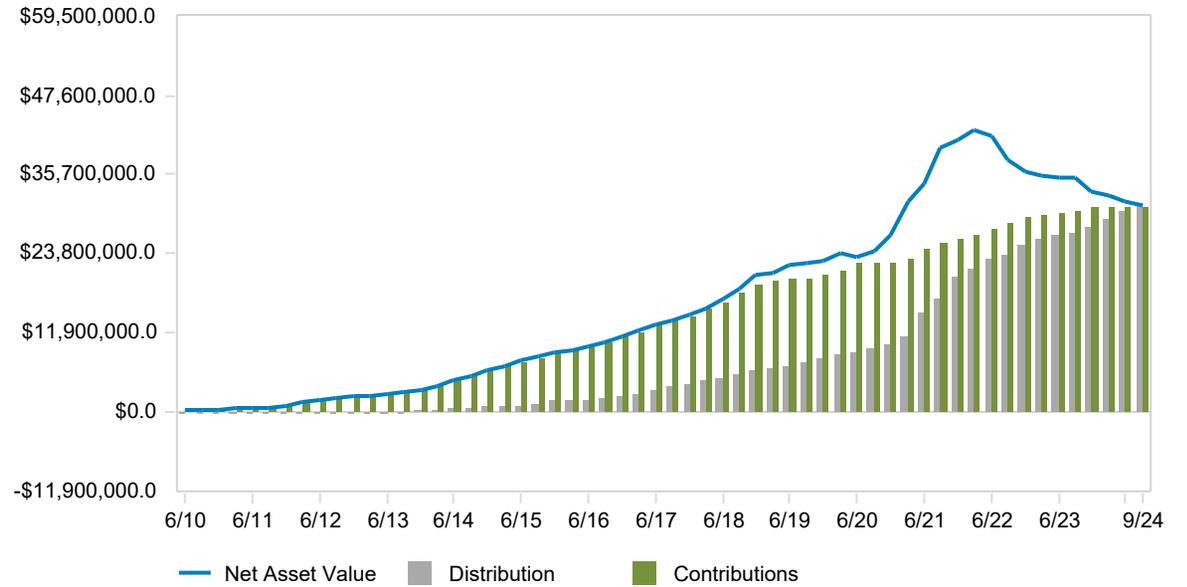
Comparative Performance

	1 Qtr Ending Jun-2024	1 Qtr Ending Mar-2024	1 Qtr Ending Dec-2023	1 Qtr Ending Sep-2023	1 Qtr Ending Jun-2023	1 Qtr Ending Mar-2023
Investment	6.38 (18)	14.04 (21)	3.79 (62)	7.63 (35)	2.26 (88)	3.61 (9)
Index	5.42 (44)	10.15 (88)	6.45 (5)	2.49 (85)	3.71 (68)	0.77 (47)
Median	5.09	12.18	4.46	5.75	4.29	0.51

Cash Flow Summary

Capital Committed:	\$34,500,000
Capital Invested:	\$9,643,928
Total Contributions:	\$30,916,916
Remaining Capital Commitment:	\$3,583,084
Total Distributions:	\$30,947,561
Market Value:	\$31,055,082
Inception Date:	05/01/2010
Inception IRR:	14.9
TVPI:	2.0

Cash Flow Analysis



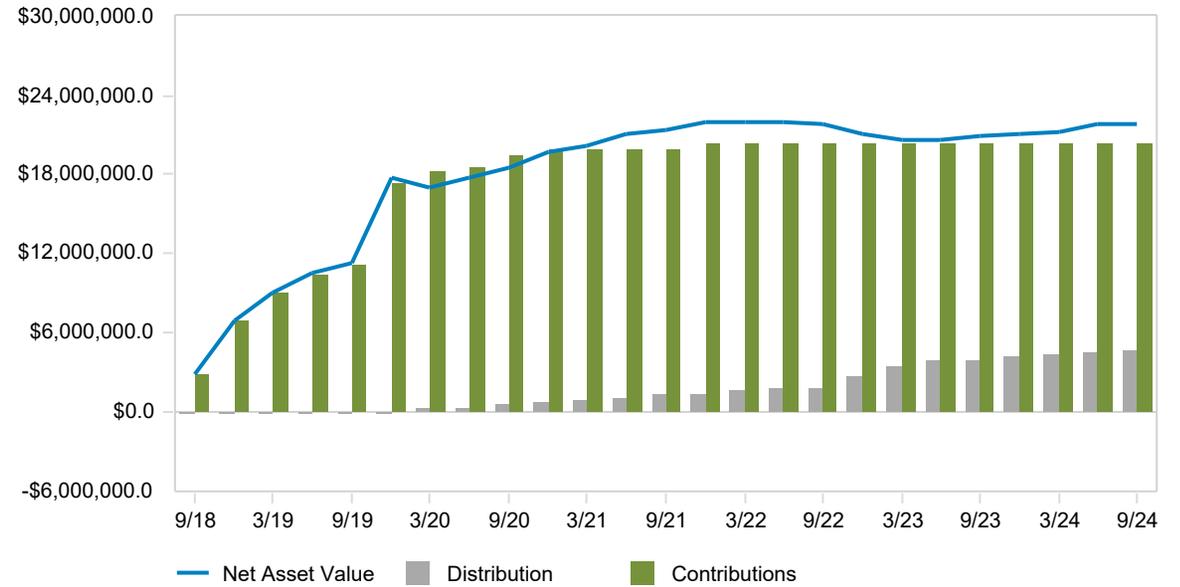
Private Equity Portfolio

Partnerships	Investment Type	Vintage Year	Investment Strategy	Capital Committed \$	Total Contribution \$	Total Distribution \$	Market Value \$	IRR	TVPI Multiple
Adams Street 2010 Direct Fund	Fund Of Funds	2010	Diversified	500,000	480,500	748,762	162,823	11.6	1.9
Adams Street 2010 EM Fund	Fund Of Funds	2010	Diversified	500,000	449,000	558,807	324,278	9.4	2.0
Adams Street 2010 Non-US Fund	Fund Of Funds	2010	Diversified	1,500,000	1,350,750	2,074,508	515,644	12.4	1.9
Adams Street 2010 US Fund	Fund Of Funds	2010	Diversified	2,500,000	2,202,500	4,277,682	1,191,762	15.8	2.5
Adams Street 2013 Global Fund	Fund Of Funds	2013	Diversified	5,000,000	4,634,201	5,290,551	4,250,327	12.4	2.1
Adams Street 2015 Global	Fund Of Funds	2015	Diversified	6,500,000	5,853,145	5,535,350	7,393,584	19.0	2.2
Adams Street 2017 Global Fund	Fund Of Funds	2017	Diversified	6,000,000	5,119,421	2,420,246	7,109,109	16.0	1.9
Aberdeen Global	Fund Of Funds	2011	Other	5,000,000	4,950,000	9,482,209	2,599,045	15.1	2.4
Adams Street 2019 Global	Fund Of Funds	2019	Diversified	7,000,000	5,877,399	559,446	7,508,510	14.5	1.4
Private Equity Composite				34,500,000	30,916,916	30,947,561	31,055,082	14.9	2.0

Cash Flow Summary

Capital Committed:	\$21,000,000
Capital Invested:	\$2,670,227
Total Contributions:	\$20,290,736
Remaining Capital Commitment:	\$709,264
Total Distributions:	\$4,661,773
Market Value:	\$21,863,640
Inception Date:	09/30/2018
Inception IRR:	5.8
TVPI:	1.3

Cash Flow Analysis



Private Equity Portfolio

Partnerships	Investment Type	Vintage Year	Investment Strategy	Capital Committed \$	Total Contribution \$	Total Distribution \$	Market Value \$	IRR	TVPI Multiple
50 South Capital Private Credit	Fund Of Funds	2018	Private Debt	7,000,000	6,290,736	3,854,634	4,385,968	7.6	1.3
Grosvenor PC	Other	2016	Other	14,000,000	14,000,000	807,139	17,477,672	5.2	1.3
Private Credit Composite				21,000,000	20,290,736	4,661,773	21,863,640	5.8	1.3

**Grand Rapids Police and Fire Retirement
Fee Schedule**

As of September 30, 2024

	Estimated Annual Fee (%)	Market Value (\$)	Estimated Annual Fee (\$)	Fee Schedule
Total Fund	0.40	539,518,893	2,183,265	
Domestic Equity Composite	0.13	137,721,626	184,620	
NTAM S&P 500	0.02	87,824,749	17,565	0.02 % of Assets
PIMCO Stock Plus		22,054,313	-	
Wellington Small Cap	0.60	27,842,564	167,055	0.60 % of Assets
International Equity Composite	0.54	118,709,156	643,882	
Harding Loevner	0.53	59,345,728	317,383	0.80 % of First \$20 M 0.40 % Thereafter
Neuberger Berman CIT	0.55	59,363,427	326,499	0.55 % of Assets
Core Fixed Income Composite	0.26	143,908,622	372,764	
Baird Advisors	0.22	71,462,265	155,425	0.25 % of First \$25 M 0.20 % Thereafter
Western Asset Management	0.30	72,446,357	217,339	0.30 % of First \$100 M 0.15 % Thereafter
Total Real Assets Composite	0.63	82,911,174	523,176	
Real Estate Composite	0.50	29,208,357	146,042	
Centersquare	0.50	29,208,357	146,042	0.50 % of First \$50 M 0.40 % Thereafter
Commodities Composite	0.65	25,636,919	166,640	
Wellington Commodities	0.65	25,636,919	166,640	0.65 % of Assets
Midstream Energy Composite	0.75	28,065,898	210,494	
Harvest MLP	0.75	28,065,898	210,494	0.75 % of Assets

See the disclosure page at the end of the report.

Fee information on this page is an illustrative estimate of management fees based on current reported portfolio values. Fee estimates do not reflect actual calculation methodologies or applicable carried interest.

**Grand Rapids Police and Fire Retirement
Fee Schedule**

As of September 30, 2024

	Estimated Annual Fee (%)	Market Value (\$)	Estimated Annual Fee (\$)	Fee Schedule
Private Equity Composite	0.94	31,055,082	292,686	
Adams Street 2010 Direct Fund	2.00	162,823	3,256	2.00 % of Assets
Adams Street 2010 EM Fund	1.00	324,278	3,243	1.00 % of Assets
Adams Street 2010 Non-US Fund	1.00	515,644	5,156	1.00 % of Assets
Adams Street 2010 US Fund	1.00	1,191,762	11,918	1.00 % of Assets
Adams Street 2013 Global Fund	1.00	4,250,327	42,503	1.00 % of Assets
Adams Street 2015 Global	1.00	7,393,584	73,936	1.00 % of Assets
Adams Street 2017 Global Fund	1.00	7,109,109	71,091	1.00 % of Assets
Adams Street 2019 Global	1.00	7,508,510	75,085	1.00 % of Assets
Aberdeen Global	0.25	2,599,045	6,498	0.25 % of Assets
Private Credit Composite	0.76	21,863,640	166,137	
50 South Capital Private Credit	0.60	4,385,968	26,316	0.60 % of Assets
Grosvenor PC	0.80	17,477,672	139,821	0.80 % of First \$25 M 0.70 % of Next \$25 M 0.60 % Thereafter
Cash		3,349,593	-	

See the disclosure page at the end of the report.
Fee information on this page is an illustrative estimate of management fees based on current reported portfolio values. Fee estimates do not reflect actual calculation methodologies or applicable carried interest.

Historical Hybrid Composition

Allocation Mandate	Weight (%)	Allocation Mandate	Weight (%)
Jan-1976			
FT Wilshire 5000 Total Market TR Index	55.00	FT Wilshire 5000 Total Market TR Index	45.00
Blmbg. U.S. Aggregate Index	40.00	Blmbg. U.S. Aggregate Index	30.00
MSCI EAFE (Net) Index	5.00	MSCI AC World ex USA (Net)	15.00
Jul-1998			
FT Wilshire 5000 Total Market TR Index	50.00	FTSE EPRA/NAREIT Developed Index (Net)	5.00
Blmbg. U.S. Aggregate Index	40.00	Private Equity Composite	5.00
MSCI EAFE (Net) Index	10.00	Jul-2010	
Oct-2002			
FT Wilshire 5000 Total Market TR Index	50.00	FT Wilshire 5000 Total Market TR Index	45.00
Blmbg. U.S. Aggregate Index	35.00	Blmbg. U.S. Aggregate Index	30.00
MSCI EAFE (Net) Index	15.00	MSCI AC World ex USA (Net)	15.00
Apr-2006			
FT Wilshire 5000 Total Market TR Index	55.00	FTSE EPRA/NAREIT Developed Index (Net)	5.00
Blmbg. U.S. Aggregate Index	30.00	Private Equity Policy Index	5.00
MSCI EAFE (Net) Index	15.00	Bloomberg Commodity Index Total Return	5.00
Jul-2006			
FT Wilshire 5000 Total Market TR Index	55.00	Jan-2013	
Blmbg. U.S. Aggregate Index	30.00	FT Wilshire 5000 Total Market TR Index	40.00
MSCI AC World ex USA (Net)	15.00	Blmbg. U.S. Aggregate Index	30.00
Jul-2009			
FT Wilshire 5000 Total Market TR Index	50.00	MSCI AC World ex USA (Net)	15.00
Blmbg. U.S. Aggregate Index	30.00	FTSE EPRA/NAREIT Developed Index (Net)	5.00
MSCI AC World ex USA (Net)	15.00	Private Equity Policy Index	5.00
FTSE EPRA/NAREIT Developed Index (Net)	5.00	Bloomberg Commodity Index Total Return	5.00
Apr-2010			
FT Wilshire 5000 Total Market TR Index	50.00	S&P MLP Index	5.00
Blmbg. U.S. Aggregate Index	30.00	Bloomberg U.S. TIPS Index	10.00
MSCI AC World ex USA (Net)	15.00	Apr-2015	
FTSE EPRA/NAREIT Developed Index (Net)	5.00	FT Wilshire 5000 Total Market TR Index	22.50
May-2010			
FT Wilshire 5000 Total Market TR Index	45.00	Blmbg. U.S. Aggregate Index	25.00
Blmbg. U.S. Aggregate Index	30.00	MSCI AC World ex USA (Net)	22.50
MSCI AC World ex USA (Net)	15.00	FTSE EPRA/NAREIT Developed Index (Net)	5.00
FTSE EPRA/NAREIT Developed Index (Net)	5.00	Private Equity Policy Index	5.00
Private Equity Composite	5.00	Bloomberg Commodity Index Total Return	5.00
Jul-2010			
FT Wilshire 5000 Total Market TR Index	45.00	S&P MLP Index	5.00
Blmbg. U.S. Aggregate Index	30.00	Bloomberg U.S. TIPS Index	10.00
MSCI AC World ex USA (Net)	15.00	Dec-2018	
FTSE EPRA/NAREIT Developed Index (Net)	5.00	FT Wilshire 5000 Total Market TR Index	22.50
Private Equity Policy Index	5.00	Blmbg. U.S. Aggregate Index	25.00
Bloomberg Commodity Index Total Return	5.00	MSCI AC World ex USA (Net)	22.50
S&P MLP Index	5.00	FTSE EPRA/NAREIT Developed Index (Net)	5.00
Bloomberg U.S. TIPS Index	10.00	Private Equity Policy Index	5.00
Jan-2013			
FT Wilshire 5000 Total Market TR Index	40.00	Bloomberg Commodity Index Total Return	5.00
Blmbg. U.S. Aggregate Index	30.00	S&P MLP Index	5.00
MSCI AC World ex USA (Net)	15.00	Bloomberg U.S. TIPS Index	10.00
FTSE EPRA/NAREIT Developed Index (Net)	5.00	Apr-2015	
Private Equity Policy Index	5.00	FT Wilshire 5000 Total Market TR Index	22.50
Bloomberg Commodity Index Total Return	5.00	Blmbg. U.S. Aggregate Index	25.00
S&P MLP Index	5.00	MSCI AC World ex USA (Net)	22.50
Bloomberg U.S. TIPS Index	10.00	FTSE EPRA/NAREIT Developed Index (Net)	5.00
Apr-2015			
FT Wilshire 5000 Total Market TR Index	22.50	Private Equity Policy Index	5.00
Blmbg. U.S. Aggregate Index	25.00	Bloomberg Commodity Index Total Return	5.00
MSCI AC World ex USA (Net)	22.50	S&P MLP Index	5.00
FTSE EPRA/NAREIT Developed Index (Net)	5.00	Bloomberg U.S. TIPS Index	10.00
Private Equity Policy Index	5.00	Dec-2018	
Bloomberg Commodity Index Total Return	5.00	FT Wilshire 5000 Total Market TR Index	22.50
S&P MLP Index	5.00	Blmbg. U.S. Aggregate Index	25.00
Bloomberg U.S. TIPS Index	10.00	MSCI AC World ex USA (Net)	22.50
Dec-2018			
FT Wilshire 5000 Total Market TR Index	22.50	FTSE EPRA/NAREIT Developed Index (Net)	5.00
Blmbg. U.S. Aggregate Index	25.00	Private Equity Policy Index	5.00
MSCI AC World ex USA (Net)	22.50	Bloomberg Commodity Index Total Return	5.00
FTSE EPRA/NAREIT Developed Index (Net)	5.00	S&P MLP Index	5.00
Private Equity Policy Index	5.00	Bloomberg U.S. TIPS Index	10.00
Bloomberg Commodity Index Total Return	5.00	Apr-2015	
S&P MLP Index	5.00	FT Wilshire 5000 Total Market TR Index	22.50
Bloomberg U.S. TIPS Index	10.00	Blmbg. U.S. Aggregate Index	25.00

**Grand Rapids Police and Fire Retirement
Total Fund Composite Policy
As of September 30, 2024**

Allocation Mandate	Weight (%)
Jul-2019	
FT Wilshire 5000 Total Market TR Index	17.75
Blmbg. U.S. Aggregate Index	24.50
MSCI AC World ex USA (Net)	17.75
FTSE EPRA/NAREIT Developed Index (Net)	5.00
Private Equity Policy Index	5.00
Bloomberg Commodity Index Total Return	5.00
Alerian MLP Index	5.00
Bloomberg U.S. TIPS Index	5.00
Morningstar LSTA US Leveraged Loan	5.00
MSCI ACWI Minimum Volatility Index (Net)	10.00

Oct-2019	
FT Wilshire 5000 Total Market TR Index	17.75
MSCI AC World ex USA (Net)	17.75
MSCI ACWI Minimum Volatility Index (Net)	10.00
Private Equity Policy Index	5.00
Morningstar LSTA US Leveraged Loan	5.00
Blmbg. U.S. Aggregate Index	24.50
Bloomberg U.S. TIPS Index	5.00
Dow Jones U.S. Select REIT	5.00
Bloomberg Commodity Index Total Return	5.00
Alerian MLP Index	5.00

Oct-2020	
FT Wilshire 5000 Total Market TR Index	17.75
MSCI AC World ex USA (Net)	17.75
Private Equity Policy Index	5.00
MSCI ACWI Minimum Volatility Index (Net)	10.00
Morningstar LSTA US Leveraged Loan	5.00
Blmbg. U.S. Aggregate Index	24.50
Bloomberg U.S. TIPS Index	5.00
Dow Jones U.S. Select REIT	5.00
Bloomberg Commodity Index Total Return	5.00
Alerian Midstream Energy Index	5.00

Allocation Mandate	Weight (%)
Jul-2024	
Russell 3000 Index	23.75
MSCI AC World ex USA (Net)	21.75
Private Equity Policy Index	5.00
Morningstar LSTA US Leveraged Loan	5.00
Blmbg. U.S. Aggregate Index	28.50
Dow Jones U.S. Select REIT	5.00
Bloomberg Commodity Index Total Return	5.00
Alerian Midstream Energy Index	5.00
90 Day U.S. Treasury Bill	1.00

NTAM S&P 500	
Historical Hybrid Composition	
Oct-1979	
Russell 1000 Index	100.00
Jul-2007	
S&P 500 Index	100.00

International Equity	
Historical Hybrid Composition	
Oct-1979	
MSCI EAFE (Net) Index	100.00
Jul-2006	
MSCI AC World ex USA (Net)	100.00

Real Assets	
Historical Hybrid Composition	
Mar-2005	
Bloomberg U.S. TIPS Index	
FTSE EPRA/NAREIT Developed Index (Net)	
S&P MLP Total Return Index	
Bloomberg Commodity Index Total Return	
Jul-2019	
Bloomberg U.S. TIPS Index	
FTSE EPRA/NAREIT Developed Index (Net)	
Alerian MLP Index	
Bloomberg Commodity Index Total Return	
Oct-2019	
Bloomberg U.S. TIPS Index	
Dow Jones U.S. Select REIT	
Alerian MLP Index	
Bloomberg Commodity Index Total Return	

Real Estate	
Historical Hybrid Composition	
Jun-2009	
FTSE EPRA/NAREIT Developed Index (Net)	100.00
Jul-2009	
FTSE EPRA/NAREIT Developed Index (Net)	100.00
Oct-2019	
Dow Jones U.S. Select REIT	100.00

Data prior to 2/1/2024 is from the previous consultant.

Performance is calculated using custodial statements as the investment book of record.

Returns for periods greater than one year are annualized.

Manager fees associated with money market or cash accounts are not tracked.

As of 4/1/2023, each of the underlying funds for Aberdeen (HighVista) have an annual management fee of .25%.

The PIMCO StocksPLUS LP A fee is performance based: 50% of the first .40% of the amount by which performance exceeds the total rate of return on the S&P 500 for the previous twelve month period. Thereafter, the fee is 20% of performance in excess of .40%.

Active Return	- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.
Alpha	- A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.
Beta	- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.
Consistency	- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.
Distributed to Paid In (DPI)	- The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.
Down Market Capture	- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance
Downside Risk	- A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.
Excess Return	- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.
Excess Risk	- A measure of the standard deviation of a portfolio's performance relative to the risk free return.
Information Ratio	- This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.
Public Market Equivalent (PME)	- Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.
R-Squared	- The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.
Return	- Compounded rate of return for the period.
Sharpe Ratio	- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.
Standard Deviation	- A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.
Total Value to Paid In (TVPI)	- The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life
Tracking Error	- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.
Treynor Ratio	- Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.
Up Market Capture	- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.

Mariner Institutional compiled this report for the sole use of the client for which it was prepared. Mariner Institutional is responsible for evaluating the performance results of the Total Fund along with the investment advisors by comparing their performance with indices and other related peer universe data that is deemed appropriate. Mariner Institutional uses the results from this evaluation to make observations and recommendations to the client.

Mariner Institutional uses time-weighted calculations which are founded on standards recommended by the CFA Institute. The calculations and values shown are based on information that is received from custodians. Mariner Institutional analyzes transactions as indicated on the custodian statements and reviews the custodial market values of the portfolio. As a result, this provides Mariner Institutional with a reasonable basis that the investment information presented is free from material misstatement. This methodology of evaluating and measuring performance provides Mariner Institutional with a practical foundation for our observations and recommendations. Nothing came to our attention that would cause Mariner Institutional to believe that the information presented is significantly misstated.

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Methodology for this Award: For the 2022 Greenwich Quality Award for Overall U.S. Investment Consulting – Midsize Consultants – Between February and November 2022, Coalition Greenwich conducted interviews with 727 individuals from 590 of the largest tax-exempt funds in the United States. These U.S.-based institutional investors are corporate and union funds, public funds, and endowment and foundation funds, with either pension or investment pool assets greater than \$150 million. Study participants were asked to provide quantitative and qualitative evaluations of their asset management and investment consulting providers, including qualitative assessments of those firms soliciting their business and detailed information on important market trends.

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