



Operating Engineers Local No. 77 JATC

Investment Performance Report

**Period Ended
December 31, 2023**

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Market Discussion

4Q | 2023



Financial Market Performance

Periods Ending December 31, 2023

Strategy	Sector	Index	QTR	YTD	2022	2021	2020	2019	2018	2017	1-Yr	3-Yr	5-Yr	10-Yr	20-Yr
Stocks	US Large Cap	S&P 500	11.7%	26.3%	-18.1%	28.7%	18.4%	31.5%	-4.4%	21.8%	26.3%	10.0%	15.7%	12.0%	9.7%
	US Small Cap	Russell 2000	14.0%	16.9%	-20.5%	14.8%	19.9%	25.5%	-11.0%	14.6%	16.9%	2.2%	9.9%	7.1%	8.1%
	All Country	MSCI All Country World (net)	11.0%	22.2%	-18.4%	18.5%	16.3%	26.6%	-9.4%	24.0%	22.2%	5.7%	11.7%	7.9%	7.5%
	Non-US Developed	MSCI EAFE (net)	10.4%	18.2%	-14.5%	11.3%	7.8%	22.0%	-13.8%	25.0%	18.2%	4.0%	8.2%	4.3%	5.6%
	Emerging Markets	MSCI EM (net)	7.9%	9.8%	-20.1%	-2.5%	18.3%	18.4%	-14.6%	37.3%	9.8%	-5.1%	3.7%	2.7%	6.8%
	Int'l Small Cap	MSCI EAFE Small Cap (net)	11.1%	13.2%	-21.4%	10.1%	12.3%	25.0%	-17.9%	33.0%	13.2%	-0.7%	6.6%	4.8%	7.1%
Bonds	Treasury	Bloomberg US Govt	5.6%	4.1%	-12.3%	-2.3%	7.9%	6.8%	0.9%	2.3%	4.1%	-3.7%	0.6%	1.3%	2.7%
	Broad Market	Bloomberg Aggregate	6.8%	5.5%	-13.0%	-1.5%	7.5%	8.7%	0.0%	3.5%	5.5%	-3.3%	1.1%	1.8%	3.2%
	Intermediate	Bloomberg Gov/Credit Int.	4.6%	5.2%	-8.2%	-1.4%	6.4%	6.8%	0.9%	2.1%	5.2%	-1.6%	1.6%	1.7%	2.9%
	High Yield	Bloomberg HY BaB 2% IC	7.2%	12.6%	-10.6%	4.6%	7.7%	15.2%	-1.9%	6.9%	12.6%	1.7%	5.5%	4.6%	6.2%
	Short Duration HY	ICE BofA 1-3 Yrs BB US Cash Pay HY	4.0%	8.9%	-3.1%	3.2%	5.4%	8.7%	1.3%	3.6%	8.9%	2.9%	4.5%	3.9%	5.4%
	Global Bonds	FTSE WGBI	8.1%	5.2%	-18.3%	-7.0%	10.1%	5.9%	-0.8%	7.5%	5.2%	-7.2%	-1.4%	-0.3%	1.9%
GTAA	Unconstrained	65% MSCI World /35% FTSE WGBI	10.3%	17.0%	-18.1%	11.0%	14.6%	19.9%	-5.8%	17.0%	17.0%	2.2%	7.9%	5.6%	6.0%
Real Estate	Core	NCREIF ODCE Equal Weighted (net)	-5.4%	-13.4%	7.6%	21.9%	0.8%	5.2%	7.3%	6.9%	-13.4%	4.3%	3.8%	6.7%	6.2%
Hedge Fund of Funds	Diversified FOFs	HFRI FOF Composite	3.6%	6.6%	-5.3%	6.2%	10.9%	8.4%	-4.0%	7.8%	6.6%	2.3%	5.2%	3.3%	3.3%
	Equity Long-Short	HFRI Equity Hedge	5.6%	10.5%	-10.1%	11.7%	17.9%	13.7%	-7.1%	13.3%	10.5%	3.5%	8.3%	5.2%	5.2%
Commodities	Commodities	Goldman Sachs Commodity	-10.7%	-4.3%	26.0%	40.4%	-23.7%	17.6%	-13.8%	5.8%	-4.3%	19.2%	8.7%	-3.6%	-1.5%

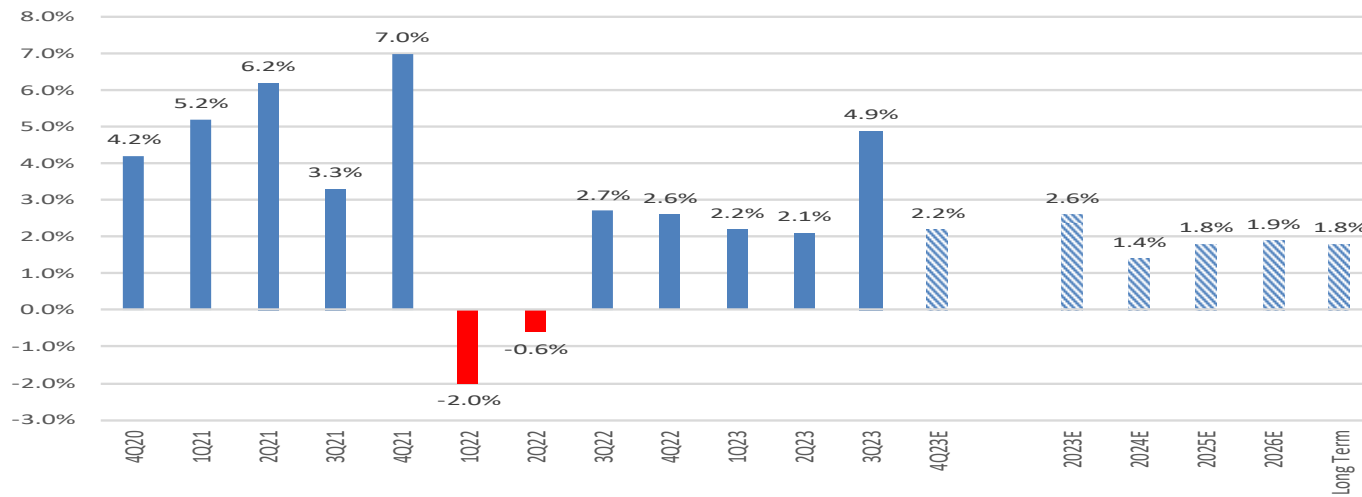
Asset Class Performance “Quilt”

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
EM Equity 78.5%	Small Cap 26.9%	RE 15.0%	EM Equity 18.2%	Small Cap 38.8%	Large Cap 13.7%	RE 14.2%	Small Cap 21.3%	EM Equity 37.3%	RE 7.3%	Large Cap 31.5%	Small Cap 20.0%	Large Cap 28.7%	RE 7.6%	Large Cap 26.3%
HY 57.5%	Mid Cap 25.5%	Fx Inc 7.8%	Int'l 17.3%	Mid Cap 34.8%	Mid Cap 13.2%	Large Cap 1.4%	HY 17.5%	Int'l 25.0%	SD HY 1.4%	Mid Cap 30.5%	Large Cap 18.4%	Mid Cap 22.6%	SD HY -3.1%	Int'l 18.2%
Mid Cap 40.5%	EM Equity 18.9%	HY 4.4%	Mid Cap 17.3%	Large Cap 32.4%	RE 11.4%	SD HY 1.2%	Mid Cap 13.8%	Large Cap 21.8%	Fx Inc 0.0%	Small Cap 25.5%	EM Equity 18.3%	RE 21.9%	HFoF -5.2%	Mid Cap 17.2%
SD HY 36.1%	HY 15.2%	SD HY 4.4%	Small Cap 16.3%	Int'l 22.8%	Fx Inc 6.0%	Fx Inc 0.6%	Large Cap 12.0%	Mid Cap 18.5%	HY -2.3%	Int'l 22.0%	Mid Cap 17.1%	Small Cap 14.8%	HY -11.2%	GTAA 17.0%
Int'l 31.8%	RE 15.1%	Large Cap 2.1%	Large Cap 16.1%	GTAA 15.3%	Small Cap 4.9%	HFoF -0.3%	EM Equity 11.2%	GTAA 17.0%	HFoF -4.0%	GTAA 19.8%	GTAA 15.2%	Int'l 11.3%	Fx Inc -13.0%	Small Cap 16.9%
Small Cap 27.2%	Large Cap 15.1%	GTAA -0.9%	HY 15.6%	RE 12.4%	HFoF 3.4%	Int'l -0.8%	SD HY 8.5%	Small Cap 14.7%	Large Cap -4.4%	EM Equity 18.4%	HFoF 10.3%	GTAA 11.1%	Int'l -14.5%	HY 13.5%
Large Cap 26.5%	SD HY 11.7%	Mid Cap -1.6%	GTAA 10.9%	HFoF 9.0%	GTAA 3.0%	GTAA -1.6%	RE 8.4%	HFoF 7.8%	GTAA -5.7%	HY 14.4%	Int'l 7.8%	HFoF 6.0%	Mid Cap -17.3%	EM Equity 9.8%
GTAA 20.1%	GTAA 9.8%	Small Cap -4.2%	SD HY 10.2%	HY 7.4%	HY 2.5%	Mid Cap -2.4%	GTAA 5.6%	HY 7.5%	Mid Cap -9.1%	Fx Inc 8.7%	Fx Inc 7.5%	HY 5.4%	GTAA -18.1%	SD HY 8.9%
HFoF 11.5%	Int'l 7.8%	HFoF -5.7%	RE 9.9%	SD HY 5.6%	SD HY 1.9%	Small Cap -4.4%	Fx Inc 2.7%	RE 6.9%	Small Cap -11.0%	SD HY 8.7%	HY 6.2%	SD HY 4.3%	Large Cap -18.1%	HFoF 6.6%
Fx Inc 5.9%	Fx Inc 6.5%	Int'l -12.1%	HFoF 4.8%	Fx Inc -2.0%	EM Equity -2.2%	HY -4.6%	Int'l 1.0%	SD HY 3.6%	Int'l -13.8%	HFoF 8.4%	SD HY 5.4%	Fx Inc -1.5%	EM Equity -20.1%	Fx Inc 5.5%
RE -31.3%	HFoF 5.7%	EM Equity -18.4%	Fx Inc 4.2%	EM Equity -2.6%	Int'l -4.9%	EM Equity -14.9%	HFoF 0.5%	Fx Inc 3.5%	EM Equity -14.6%	RE 5.2%	RE 0.8%	EM Equity -2.5%	Small Cap -20.5%	RE -13.4%

Source: NCREIF, Bloomberg, Wilshire. Large Cap Equity: S&P 500 Index, Mid Cap Equity: Russell Midcap Index, Small Cap Equity: Russell 2000 Index, International Equity: MSCI EAFE Index, Emerging Markets: MSCI EM Index, Fixed Income: Bloomberg Aggregate Index, High Yield Fixed Income: ICE BofA US High Yield Index, Short Duration High Yield Fixed Income: ICE BofA High Yield Cash Pay 1-3 Yr BB Index, Real Estate: NCREIF ODCE Equal Weighted Index, Hedge Fund of Funds: HFRI FOF Index, Global Tactical Asset Allocation: 65%MSCI World Equity/35% FTSE World Gov't Bond Index. Past performance is not indicative of future returns.

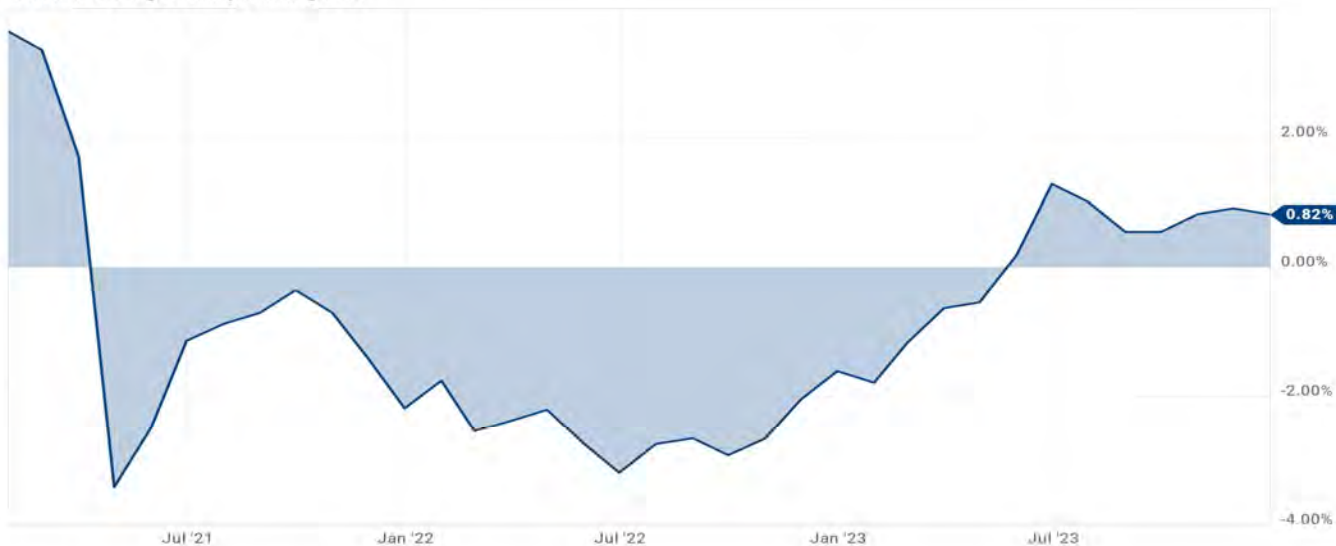
U.S. Economy

U.S. GDP Growth



Sources: U.S. Bureau of Economic Analysis, Federal Reserve, Atlanta Federal Reserve

US Real Average Hourly Earnings YoY



Date Range: 01/31/2021 - 12/31/2023

Source: BLS

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U.S Economic Growth Exceeds Expectations

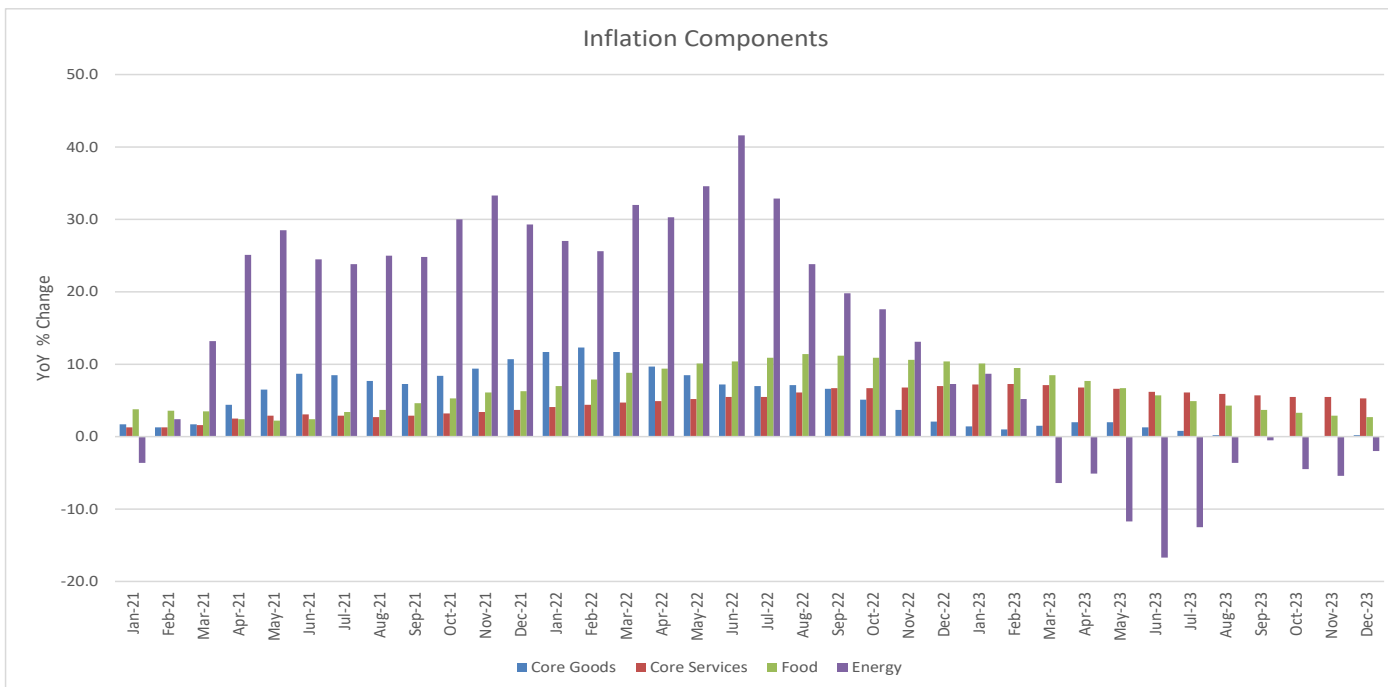
- Despite widespread predictions at the start of 2023 that a recession was imminent, U.S. economic growth has remained positive, with GDP increasing by over 2.0% in each of the first three quarters of 2023.
- Economic growth accelerated in Q3 2023 to 4.9%, the highest level since Q4 2021.
- In their most recent projections, the U.S. Federal Reserve increased projected growth for 2023 from 2.1% to 2.6% and reduced 2024 from 1.5% to 1.4%.
- Rising inflation resulted in 25 consecutive months of negative real wage growth for U.S. workers through early 2023. Beginning in 2Q 2023, higher earnings and slowing inflation have more recently resulted in eight consecutive months of real earnings growth, which has helped fuel stronger than expected economic growth.

U.S. Economy



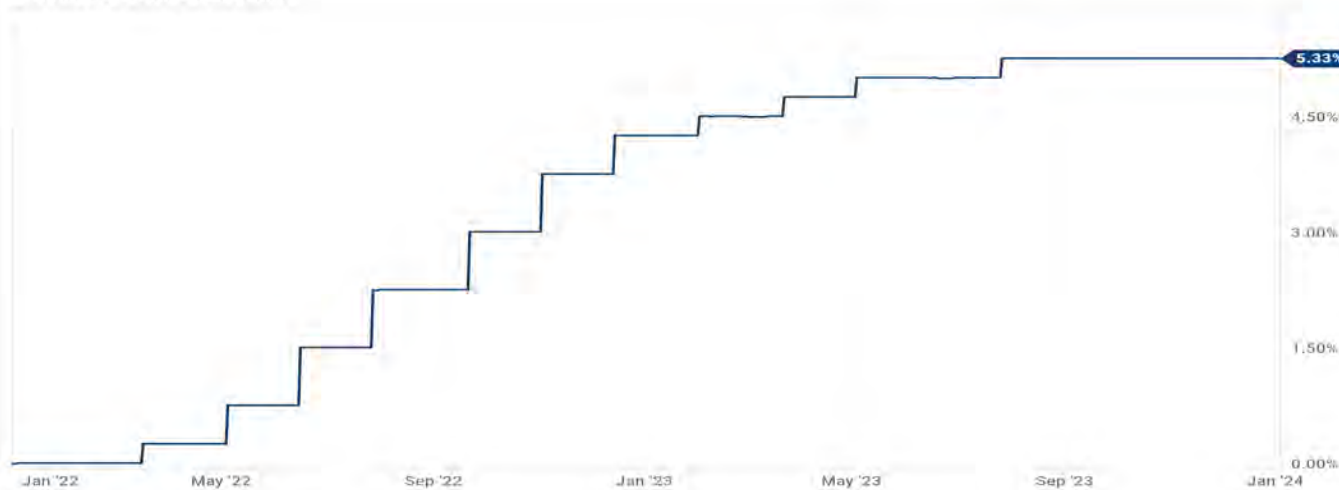
Inflation Continues Downward Trend but Remains Above Target

- Inflation continues to trend downward with year-over-year CPI of 3.4% in December, down from the peak of 9.1% in June 2022.
- Excluding food and energy, core inflation increased by 3.9% vs. a year ago, the lowest level of increase since May 2021.
- Falling energy prices are the primary driver of the dispersion between headline and core inflation.
- Year-over-year core goods inflation has been below 1% for six consecutive months driven by lower used car prices.
- Service inflation remains elevated, driven by the shelter component, which tends to lag real time prices.
- Personal Consumption Expenditures (PCE), the Fed's preferred inflation measure, increased by 3.2% over the last year through November, the lowest level since March of 2021.



U.S. Economy

Effective Federal Funds Rate



Date Range: 12/31/2021 - 01/04/2024
Source: Federal Reserve

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US Total Assets Held by All Federal Reserve Banks



Date Range: 10/22/2003 - 01/03/2024
Source: Federal Reserve

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Fed Remains on Hold; Rate Cuts Forecasted for 2024

- The U.S. Federal Reserve raised rates from 0.0% to 5.25% since the beginning of 2022, with the most recent 0.25% increase occurring at the July meeting, leaving the effective Fed Funds Rate at 5.33%, the highest level since 2007.
- The Fed left rates unchanged at each of the final three meetings of 2023.
- Forward guidance from the Fed at the December meeting suggests three 0.25% cuts in 2024.
- The reduction in the size of the Fed's balance sheet that began in 2022 was briefly interrupted in March 2023 when the Fed provided a liquidity injection to banks following three of the four largest bank failures in history.
- By the end of Q2 2023, the increase was reversed by resuming the quantitative tightening program with the balance sheet at the lowest level since March 2021.

U.S. Economy

Employment Remains Resilient

- Despite significant increases in the Fed Funds rate, various measures suggest the labor market remains strong.
- Weekly unemployment claims averaged 214,000 in Q4 2023, compared to 226,000 in Q3 2023 and an average of 225,000 for calendar year 2023.
- The U.S. labor market added 216,000 jobs in December. In total, 2.7 million jobs were added in 2023 while the unemployment rate increased from 3.5% at the start of the year to 3.7% at year end.
- U.S. job openings declined to the lowest level since May 2021, but remain elevated by historical standards at 8.8 million. There are approximately 1.4 openings for every unemployed person.

● US Initial Claims for Unemployment Insurance



● US Unemployment Rate



● US Job Openings: Total Nonfarm



Date Range: 12/31/2018 - 12/31/2023

Sources: DoL, BLS

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U.S. Equity Market

Sector	Index	4Q23	YTD	2022	2021	2020	2019	2018	2017	1-Year	3-Year	5-Year	10-Year
Large Cap	S&P 500	11.7%	26.3%	-18.1%	28.7%	18.4%	31.5%	-4.4%	21.8%	26.3%	10.0%	15.7%	12.0%
	Russell 1000	12.0%	26.5%	-19.1%	26.4%	21.0%	31.4%	-4.8%	21.7%	26.5%	9.0%	15.5%	11.8%
	Russell 1000 Value	9.5%	11.4%	-7.6%	25.1%	2.8%	26.5%	-8.3%	13.6%	11.4%	8.8%	10.9%	8.4%
Mid Cap	Russell 1000 Growth	14.2%	42.7%	-29.1%	27.6%	38.5%	36.4%	-1.5%	30.2%	42.7%	8.9%	19.5%	14.9%
	Russell Mid-Cap	12.8%	17.2%	-17.3%	22.6%	17.1%	30.5%	-9.1%	18.5%	17.2%	5.9%	12.7%	9.4%
	Russell Mid-Cap Value	12.1%	12.7%	-12.1%	28.3%	5.0%	27.0%	-12.3%	13.3%	12.7%	8.3%	11.1%	8.2%
Small Cap	Russell Mid-Cap Growth	14.5%	25.9%	-26.7%	12.7%	35.6%	35.5%	-4.8%	25.3%	25.9%	1.3%	13.8%	10.6%
	Russell 2000	14.0%	16.9%	-20.5%	14.8%	19.9%	25.5%	-11.0%	14.6%	16.9%	2.2%	9.9%	7.1%
	Russell 2000 Value	15.2%	14.6%	-14.5%	28.2%	4.6%	22.4%	-12.9%	7.8%	14.6%	7.9%	10.0%	6.7%
Total Market	Russell 2000 Growth	12.7%	18.6%	-26.4%	2.8%	34.6%	28.4%	-9.3%	22.1%	18.6%	-3.5%	9.2%	7.1%
	Wilshire 5000	12.1%	26.1%	-19.0%	26.7%	20.8%	31.0%	-5.3%	21.0%	26.1%	9.0%	15.4%	11.7%
	Russell 3000	12.1%	25.9%	-19.2%	25.6%	20.9%	31.0%	-5.2%	21.1%	25.9%	8.5%	15.1%	11.5%

Major Index Total Return as of December 31, 2023

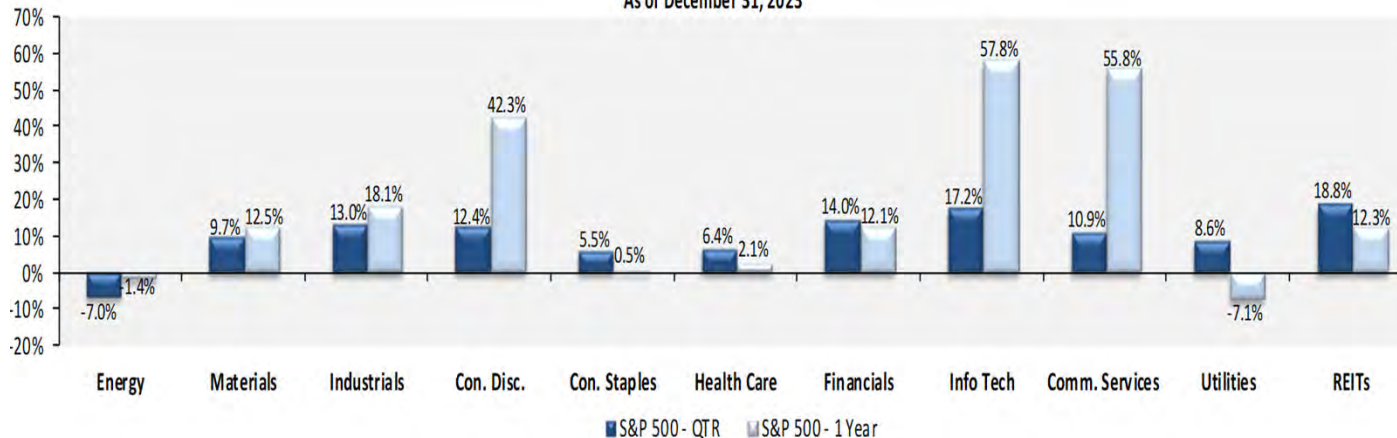
Asset Class	Name	2023 YTD	% off Low	% Off All Time High
U.S. Large Cap	S&P 500	26.3%	36.1%	-0.3%
U.S. Mid Cap	Russell Midcap	17.2%	28.1%	-5.3%
U.S. Smid Cap	Russell 2500	17.4%	26.6%	-9.1%
U.S. Small Cap	Russell 2000	16.9%	24.7%	-14.3%
International Large Cap	MSCI EAFE	18.2%	39.9%	-1.3%
International Small Cap	MSCI EAFE Small Cap (gross)	13.7%	34.0%	-15.0%
Emerging Markets	MSCI Emerging Markets	9.8%	25.2%	-23.7%
Global Equity	MSCI World (gross)	24.4%	37.3%	-0.3%

- The S&P 500 concluded 2023 with a nine-week winning streak, matching a feat last achieved two decades ago and finishing just below its all-time high.
- Additionally, the late 2023 interest rate reversal helped significantly broaden market breadth, prompting a shift toward previously lagging sectors in the equity market. Starting in early November, small-cap stocks outpaced their larger counterparts and the equal-weight S&P 500 index outperformed the cap-weighted version.
- While the "Magnificent Seven" significantly influenced the S&P 500 returns due to their substantial index weighting, it is important to highlight that in 2023, 322 stocks within the S&P 500 registered positive gains.

U.S. Equity Market

S&P 500 Sector Performance

As of December 31, 2023

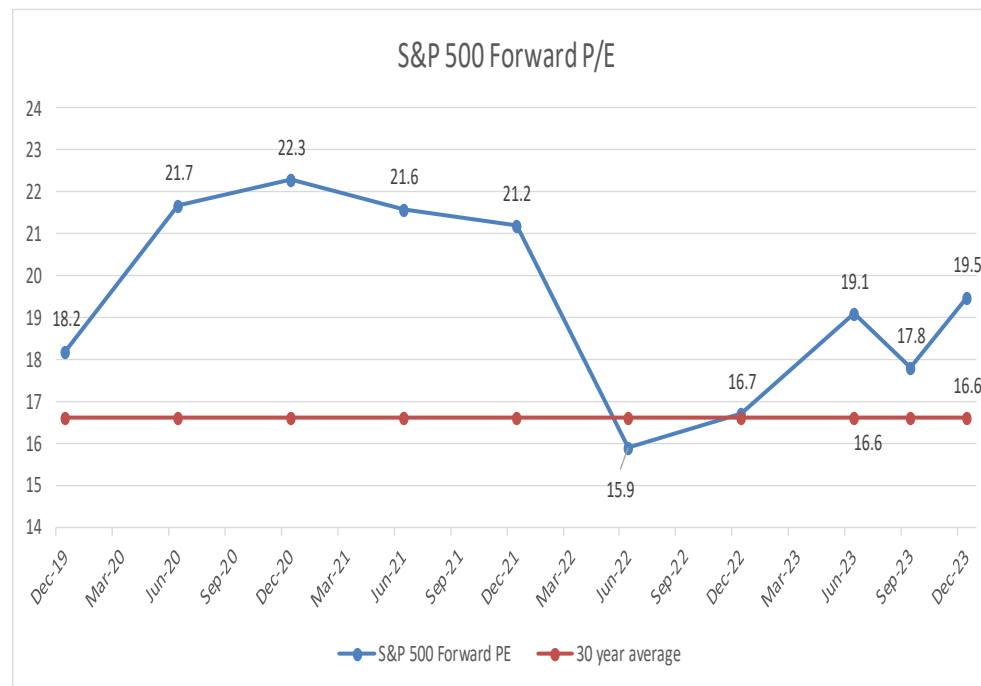


Mag 7 Propels Tech, Comms & Consumer; Defensive Sectors Lag Behind

- Technology (+57.8%), communications (+55.8%), and consumer discretionary (+42.3%) significantly outperformed in 2023, driven largely by the robust gains and substantial weighting of the "Magnificent Seven." The Bloomberg Magnificent Seven Index achieved an impressive 107% return in 2023.
- Defensive sectors such as utilities (-7.1%), staples (+0.5%), and healthcare (+2.1%) lagged due to diminishing appeal in "high-dividend" stocks amidst money markets yielding over 5%. The underperformance is attributed to the heightened sensitivity of these sectors to short-term Federal Funds rates.
- In 2023, energy declined -1.4%, reversing its standout +59% gain in 2022, which made it the sole S&P 500 sector to register growth that year. Despite this setback, energy ended the two-year period with a gain of over 50%.

Earnings Growth Streak?

- The S&P 500 is expected to post 1.4% year-over-year earnings growth for Q4 2023. This would mark its second consecutive quarter of year-over-year earnings growth.
- The S&P 500's forward P/E ratio rose last quarter due to increased stock prices and modest growth in earnings expectations. Currently, it sits at 19.5x forward earnings, surpassing its 30-year average.



Source: J.P. Morgan Asset Management

U.S. Equity Market

2023's Standouts: The Magnificent Seven

- The Magnificent Seven—Alphabet (Google), Amazon, Apple, Meta (formerly Facebook), Microsoft, NVIDIA, and Tesla—garnered praise from the financial press for their remarkable 105% average total return last year. As a cohort, they constituted over 60% of the S&P 500's 26.3% total return in 2023, offsetting the previous year's -45% average loss for this closely monitored group of stocks.
- Despite the positive trend in 2023, Amazon and Tesla, remain in the red since year-end 2021. Examining returns over two years, the Magnificent Seven has a relatively subdued impact. Over this period, the S&P 500 achieved a 3.42% total return, with the Magnificent Seven contributing 2.05%, resulting in a 1.37% gain for the index without their influence.

Magnificent Seven-Led Rally Cooled in Second Half of 2023 Ratio Between Mag 7 and S&P 500 Index Has Stabilized Since June



Source: Bloomberg, DoubleLine

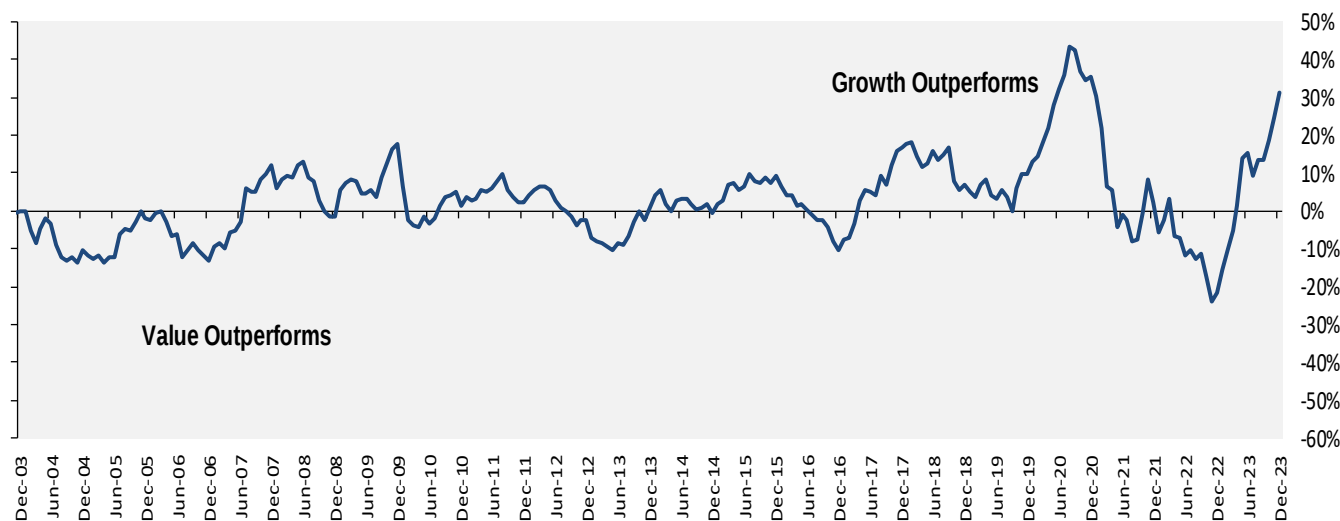
Securities discussed are not recommendations and are presented as examples of issue selection or portfolio management processes. They have been picked for comparison or illustration purposes only. No security presented within is either offered for sale or purchase. Please see the Appendix for index definitions. Magnificent Seven refers to Apple, Microsoft, Alphabet, Amazon, Nvidia, Tesla and Meta. You cannot invest directly in an index.

Perceived AI Vectors: Mega-Caps

- Artificial Intelligence's (AI) potential steered asset flows primarily toward the Magnificent Seven. The market anticipated these companies to be the primary beneficiaries of substantial capital allocated for AI initiatives.
- Additionally, these mega-cap stocks capitalized on pandemic-induced low interest rates by securing long-term fixed-rate bonds. As interest rates rose in 2023, this astute move played a pivotal role in fortifying cash reserves, reflecting positively on the bottom line of the income statement.
- While a concentrated percentage (28%) of stocks outperformed the S&P 500 this year, it extended beyond seven stocks. Despite media focus on the Magnificent Seven, a broader set of 141 companies achieved this feat within the S&P 500.

U.S. Equity Market

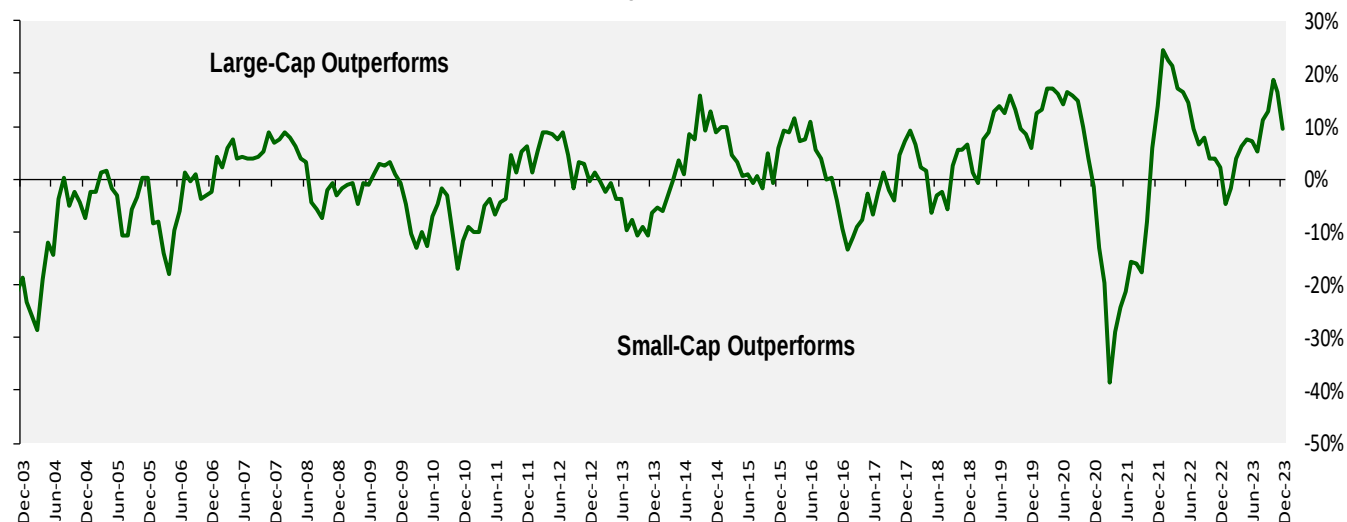
Russell 1000 Growth vs. Russell 1000 Value
Rolling One-Year Returns



Yearly Reversals: Growth vs. Value Flip-Flop

- The Russell 1000 Growth index made a strong comeback, outperforming the Russell Value index by over 31% in 2023, the second-highest margin since its 35% outperformance in 2020. This reversal follows 2022, where the value shined, outperforming growth by over 21%, its second-best performance since 1978. The growth to value ratio (RLG / RLV) hit a low in January 2023, before expanding significantly through mid-November, almost matching the widest spreads recorded in August 2020 and December 2021.

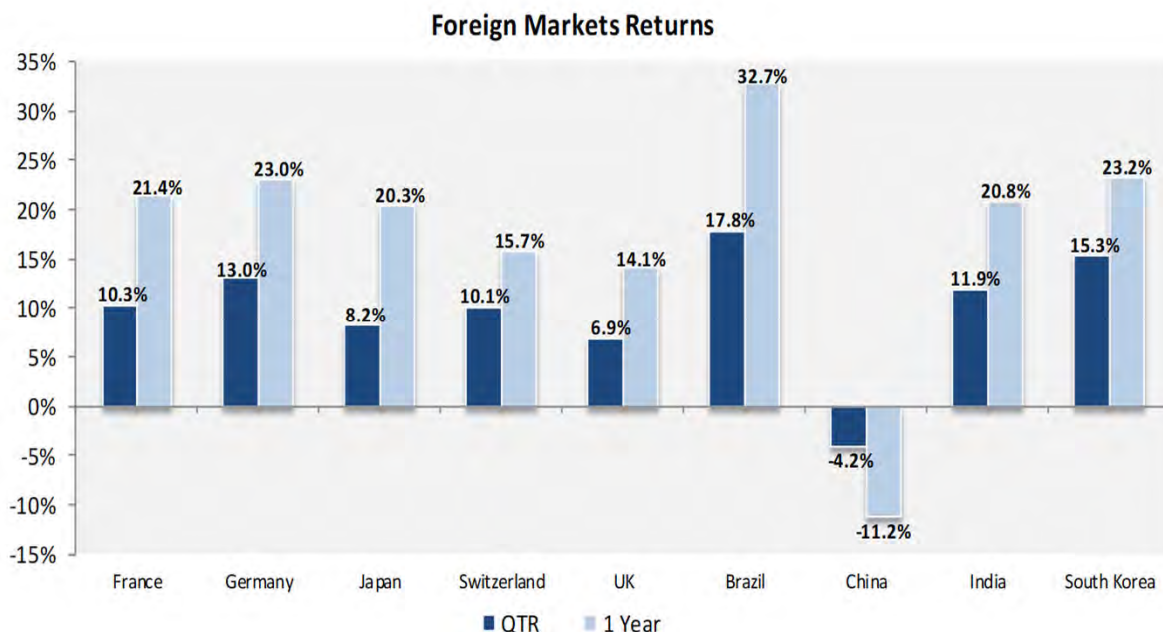
S&P 500 vs. Russell 2000
Rolling One-Year Returns



- Despite the Russell 2000/small-cap index rebounding from bear market status by the close of 2023, it remains significantly below its November 2021 peak. The Russell 2000 experienced its current cycle low over 18 months ago, marking the third-longest period without recovering the previous peak on record.

International Equity Market

Sector	Index	4Q23	YTD	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year
Global	MSCI AC World Index (net)	11.0%	22.2%	-18.4%	18.5%	16.3%	26.6%	-9.4%	22.2%	5.7%	11.7%	7.9%
	MSCI World Small Cap (net)	12.5%	15.8%	-18.8%	15.8%	16.0%	26.2%	-13.9%	15.8%	2.9%	9.8%	6.8%
	MSCI World ex US (net)	10.5%	17.9%	-14.3%	12.6%	7.6%	22.5%	-14.1%	17.9%	4.4%	8.4%	4.3%
Developed ex US	MSCI World ex US Small Cap (net)	10.6%	12.6%	-20.6%	11.1%	12.8%	25.4%	-18.1%	12.6%	-0.2%	7.0%	4.6%
	MSCI EAFE (net)	10.4%	18.2%	-14.5%	11.3%	7.8%	22.0%	-13.8%	18.2%	4.0%	8.2%	4.3%
	MSCI EAFE Value (net)	8.2%	19.0%	-5.6%	10.9%	-2.6%	16.1%	-14.8%	19.0%	7.6%	7.1%	3.2%
	MSCI EAFE Growth (net)	12.7%	17.6%	-22.9%	11.3%	18.3%	27.9%	-12.8%	17.6%	0.3%	8.8%	5.1%
	MSCI EAFE Small Cap (net)	11.1%	13.2%	-21.4%	10.1%	12.3%	25.0%	-17.9%	13.2%	-0.7%	6.6%	4.8%
Emerging Markets	MSCI Emerging Markets (net)	7.9%	9.8%	-20.1%	-2.5%	18.3%	18.4%	-14.6%	9.8%	-5.1%	3.7%	2.7%



- Foreign stocks gained momentum in Q4 2023 as subdued inflation figures in both Europe and the U.S. fueled optimism, suggesting that not only have interest rates likely peaked, but there is anticipation of potential cuts in 2024.
- The Tokyo Stock Exchange's recent corporate governance reforms have spurred listed companies to demonstrate efficient capital utilization under the threat of delisting. This marks a notable shift, as Japan's corporate governance appears to be making progress after being perceived as a "value trap" for years, prompting a positive response in Japanese stocks.
- Doubts continue to linger over the Chinese government's ability to boost growth in the second-largest global economy. The persistent real estate crisis, regulatory uncertainties, and a lack of new foreign direct investment have intensified negative sentiment toward Chinese equities.

International Equity Market



Dollar's Dovish Descent

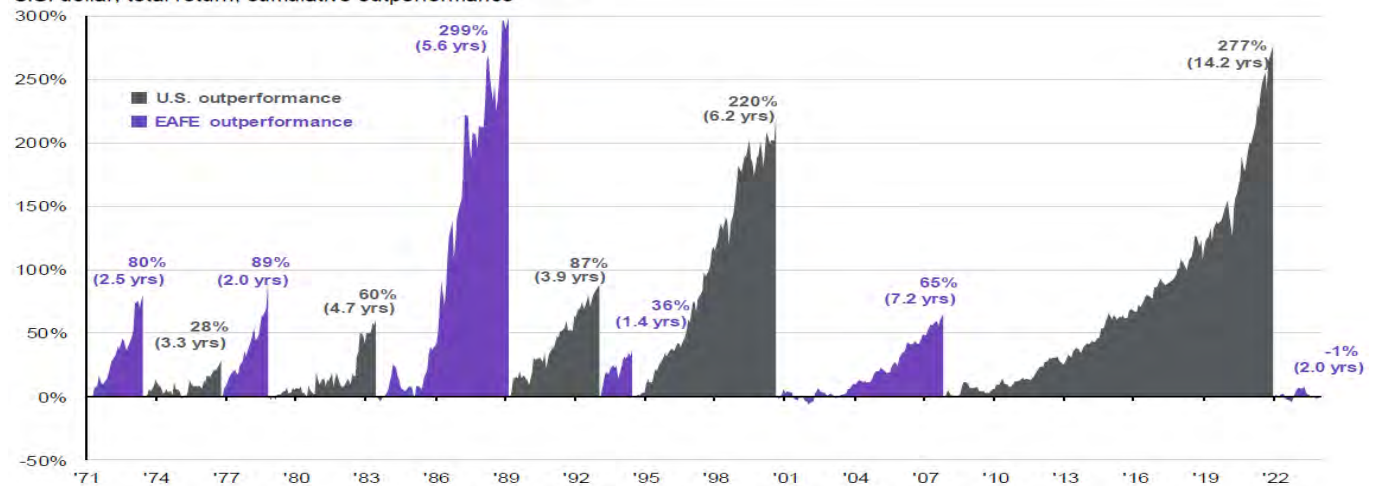
- After a steady rise against other currencies in 3Q 2023, the U.S. Dollar encountered a setback in Q4 due to dovish remarks from multiple Fed officials.
- November saw a prominent 3.0% drop in the U.S. Dollar Index (DXY), wiping out all yearly gains and marking its most substantial monthly decline in a year. The Fed is currently perceived as more dovish in comparison to other major central banks.

Two-Year Stalemate: U.S. and Developed International Markets

- U.S. equity markets outperformed international markets by 277% over 14.2 years, marking the longest duration of outperformance in 50 years; however, this trend may have ended by the close of 2021.
- Over the last two years, U.S. and international developed markets have exhibited a sawtooth pattern, with no clear trend and a minimal spread between them.

MSCI EAFE and MSCI USA relative performance

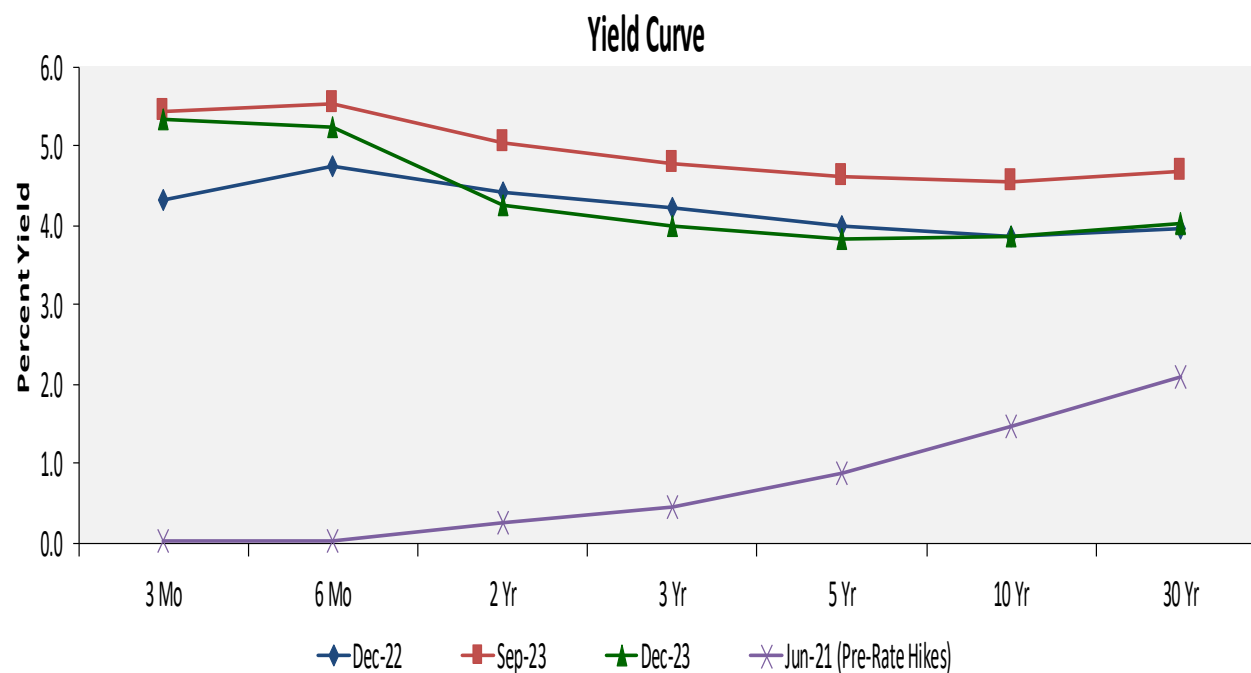
U.S. dollar, total return, cumulative outperformance



Source: J.P. Morgan Asset Management

Bond Market

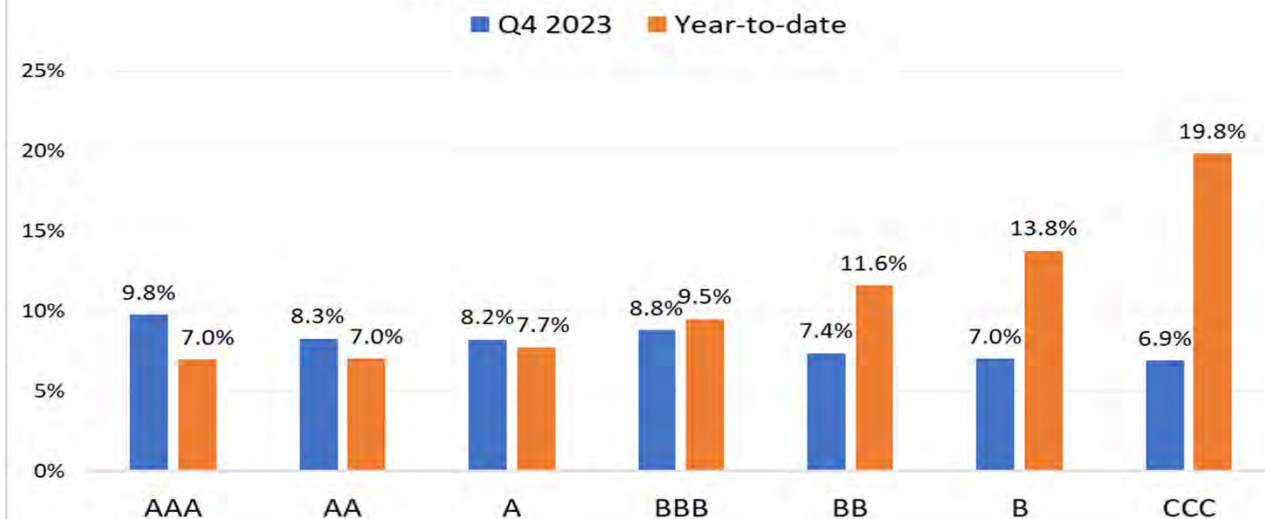
Index	Duration (years)	Yield	4Q23	YTD	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year
Bloomberg Aggregate	6.3	4.53%	6.8%	5.5%	-13.0%	-1.5%	7.5%	8.7%	0.0%	5.5%	-3.3%	1.1%	1.8%
Bloomberg Govt/Credit	6.6	4.45%	6.6%	5.7%	-13.6%	-1.7%	8.9%	9.7%	-0.4%	5.7%	-3.5%	1.4%	2.0%
Bloomberg Int Agg	4.5	4.49%	5.5%	5.2%	-9.5%	-1.3%	5.6%	6.7%	0.9%	5.2%	-2.1%	1.1%	1.6%
Bloomberg Int Govt/Credit	3.9	4.37%	4.6%	5.2%	-8.2%	-1.4%	6.4%	6.8%	0.9%	5.2%	-1.6%	1.6%	1.7%
Bloomberg U.S. Corporate	7.3	5.06%	8.5%	8.5%	-15.8%	-1.0%	9.9%	14.5%	-2.5%	8.5%	-3.3%	2.6%	3.0%
Bloomberg HY Ba/B 2% IC	3.8	6.90%	7.2%	12.6%	-10.6%	4.6%	7.7%	15.2%	-1.9%	12.6%	1.7%	5.5%	4.6%
ICE BofA 1-3 Yrs BB US Cash Pay HY	1.8	6.21%	4.0%	8.9%	-3.1%	3.2%	5.4%	8.7%	1.3%	8.9%	2.9%	4.5%	3.9%
Bloomberg Mortgage	5.7	4.68%	7.5%	5.0%	-11.8%	-1.0%	3.9%	6.4%	1.0%	5.0%	-2.9%	0.3%	1.4%
Bloomberg Treasury	6.3	4.08%	5.7%	4.1%	-12.5%	-2.3%	8.0%	6.9%	0.9%	4.1%	-3.8%	0.5%	1.3%
Bloomberg US TIPS	6.7	4.24%	4.7%	3.9%	-11.8%	6.0%	11.0%	8.4%	-1.3%	3.9%	-1.0%	3.2%	2.4%
BofA ML 91 day T-Bills	0.2	5.28%	1.4%	5.2%	1.5%	0.0%	0.7%	2.3%	1.9%	5.2%	2.2%	1.9%	1.3%



- The U.S. treasury yield curve shifted downward in Q4 2023 with treasury yields falling approximately 75 bps across the curve.
- The yield curve remains heavily inverted, reflecting a view that future economic growth and/or inflation will be lower and the Federal Reserve may begin cutting short-term rates in upcoming years.
- Returns for the U.S. bond market were positive in Q4 2023. The shift down in yields led to a large outperformance in long duration bonds in Q4, bringing year-to-date performance well into positive territory. Lower quality, higher yielding credit generally led markets for calendar year 2023.

Bond Market

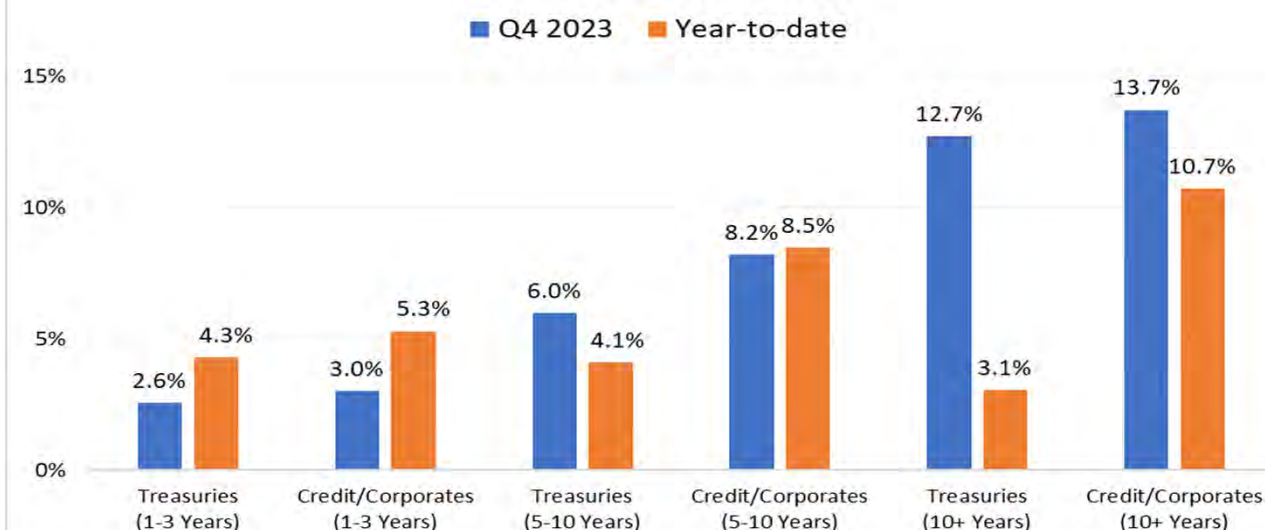
Returns by Credit Rating



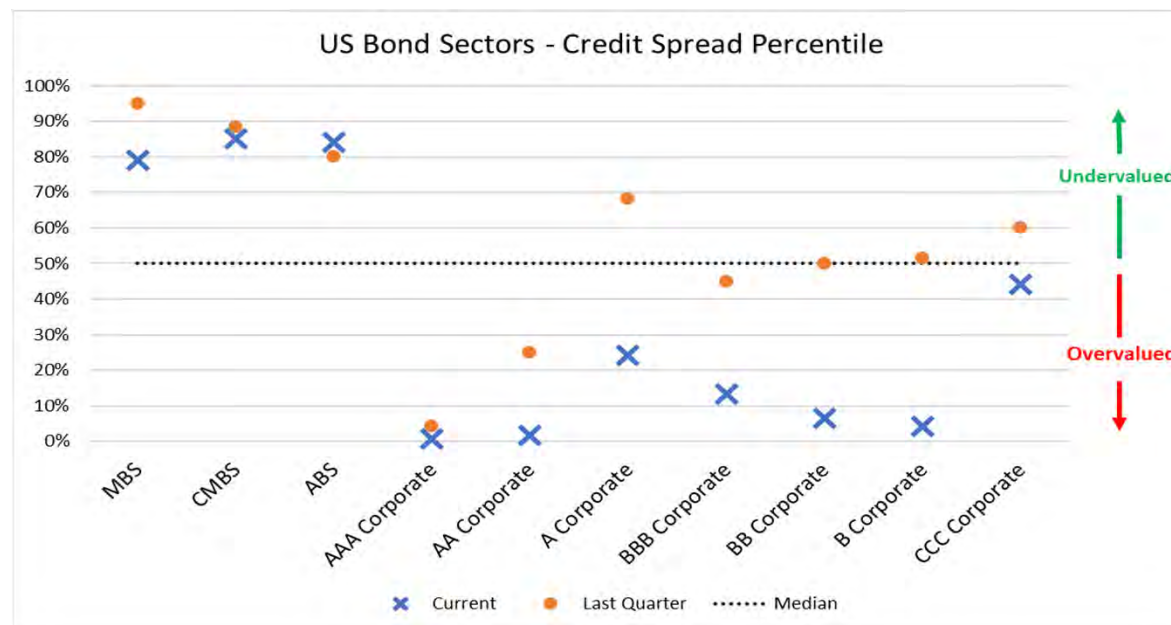
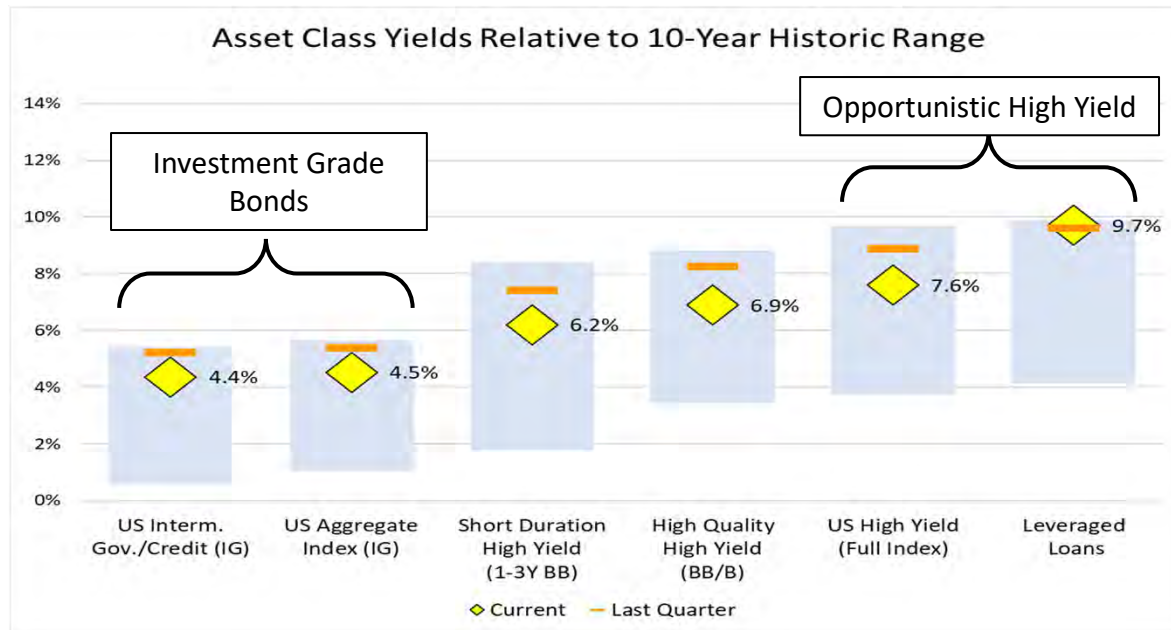
Falling interest rates in Q4 2023 led to outperformance in long duration bonds.

- The decline in treasury yields was the largest driver of bond returns in Q4 2023, with tightening credit spread adding additional gains.
- Longer maturity bonds experienced the largest outperformance in Q4 2023, bringing their year-to-date returns well into positive territory.
- High yield bonds saw gains of ~7% in Q4 2023 due to a combination of falling interest rates and credit spread compression. Investment grade bonds outperformed high yield bonds due to longer their duration.
- For calendar year 2023, lower quality credit outperformed higher quality credit due to higher levels of interest income and relatively low levels of defaults.
- The large decline in interest rates in Q4 caused longer maturity/duration credit to outperform shorter maturity/duration credit in 2023. Shorter duration credit outperformed longer duration credit for the majority of 2023 with significantly less volatility.

Returns by Maturity



Bond Market



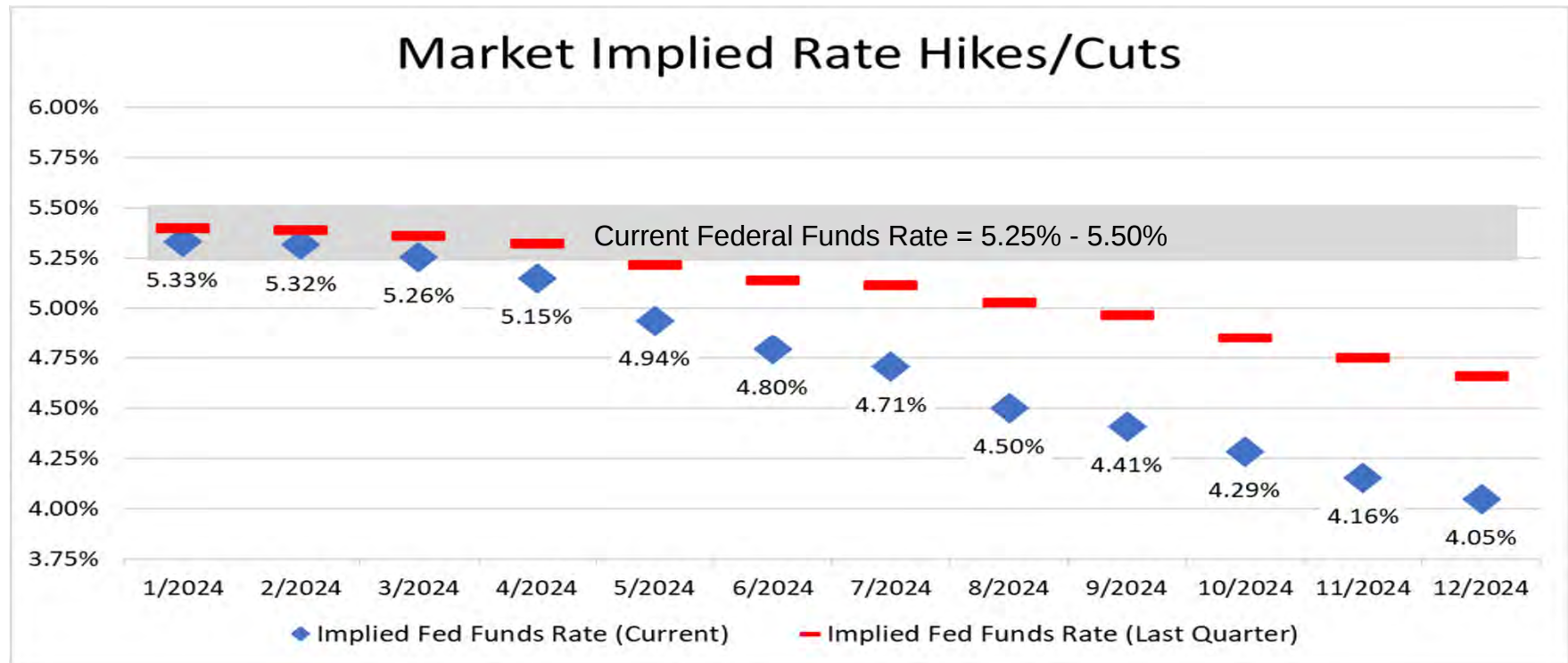
Bond Yields

- Due to a combination of falling treasury rates and spread tightening, yields across bond sectors moved lower in Q4 2023.
- Bonds across maturities and credit quality have rallied in 2023, lowering yields off their recent highs.
- Investment grade bonds are currently yielding 4.5-5.5% while yields for high yield range between 6-8% with CCC-rated bonds yielding ~13%.
- Leveraged Loans offer a current yield of ~10%; however, this is largely driven by the current 5.4% SOFR rate. Future rate cuts would reduce this yield as SOFR should mirror the Fed Funds rate.

Credit Spreads/Valuations

- Spreads on corporate bonds tightened in Q4 2023. High yield bonds experienced the largest spread compression during the quarter as sentiment appears to have shifted materially with positive economic data and increased expectations of future rate cuts by the Fed.
- Most corporate bond spreads are tight relative to their 10-year histories.
- Spreads in structured credit (MBS, CMBS, ABS) remain elevated. MBS are trading at the widest spreads experienced in the past decade.

Bond Market

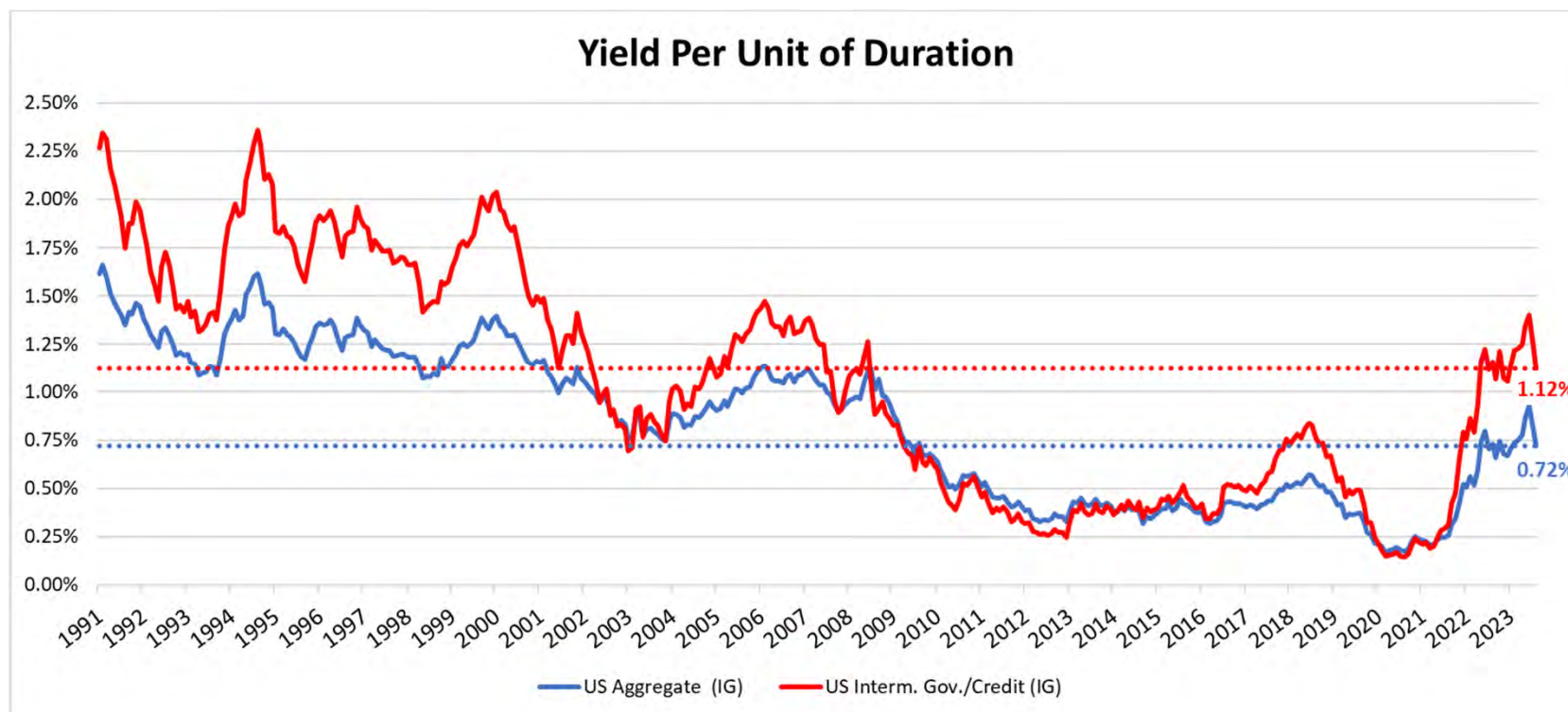


As of 1/8/23

- The FOMC held the Fed Funds rate at its current level for both their October and December meetings. The current target Federal Funds rate remains at 5.25-5.50%, up from 4.25-4.50% in Q4 2022.
- Pricing in the Fed Funds rate futures market implies an expectation that the Federal Reserve will hold rates constant through Q1 2024, with the expectation of a 50 bps cut by the end of Q2 2024 and a 100 bps cut from the current level by the end of Q3 2024.
- The market implied Fed Funds rate at the end of Q3 2024 would bring the Fed Funds target rate to 4.25-4.50%, back to the level where it started 2023.
- Although the Federal Reserve has not deliberately signaled a plan to cut rates in the near term, the December 2023 Federal Reserve dot plot, which represents each policymaker's projection of the future path of interest rates, shows the majority of individual Fed members are expecting the Fed Funds rate to be between 4.25% and 5% by the end of 2024, with the median expectation placing the Fed Funds rate between 4.5%-4.75%. Based on the dot plot, only 2 out of 19 policymakers expect the Fed Funds rate to stay at its current level by the end of 2024.

Bond Market

Investment Grade Investors Are Now Compensated For Duration Risk



- Investment grade bond returns were susceptible to a rise in interest rates for most of the past decade. With the recent surge higher in bond yields, investment grade bond investors are now being adequately compensated for duration risk.
- Interest rates can now move ~70 bps higher before core bond investors (US Aggregate Index) start to realize negative returns on their portfolio in the near-term while intermediate investment grade investors can withstand a ~110 bps rise in interest rates before realizing losses on their portfolio.
- Given yields are equal for the US Intermediate Gov./Credit Index and the US Aggregate Index, intermediate investment grade bonds (US Interm. Gov./Credit) are seemingly better positioned to limit downside risk in the near-term while core bonds (US Aggregate) can provide more upside if interest rates fall but have less protection in the event interest rates continue to rise.

Bond Market

Interest Rate Sensitivity

12 Month Holding Period - Annualized Returns as of 12/31/2023							
Yield Change (bps)	10 Year Treasury	Bloomberg Aggregate	Bloomberg Int Govt/Credit	ICE BofA Gov/Corp Master	ICE BofA 1-3 yr Gov/Corp	Defensive ICE BofA US HY BB/B ND	Short Duration ICE BofA US HY BB/B 1-3 yr
-300	31.06	26.04	16.96	27.93	10.21	17.72	11.56
-250	26.06	22.10	14.74	23.48	9.25	15.96	10.91
-200	21.25	18.30	12.56	19.24	8.29	14.18	10.22
-150	16.63	14.64	10.44	15.23	7.35	12.38	9.49
-100	12.19	11.13	8.36	11.43	6.42	10.57	8.72
-75	10.05	9.42	7.35	9.62	5.95	9.65	8.33
-50	7.95	7.76	6.34	7.86	5.49	8.73	7.92
-25	5.89	6.13	5.35	6.15	5.03	7.80	7.50
0	3.89	4.53	4.37	4.50	4.58	6.87	7.08
25	1.93	2.97	3.40	2.91	4.12	5.93	6.64
50	0.01	1.45	2.45	1.37	3.67	4.99	6.20
75	-1.85	-0.04	1.51	-0.12	3.22	4.04	5.74
100	-3.67	-1.49	0.58	-1.55	2.78	3.09	5.28
150	-7.17	-4.29	-1.23	-4.25	1.89	1.17	4.33
200	-10.48	-6.94	-3.00	-6.72	1.01	-0.76	3.33
250	-13.60	-9.45	-4.71	-8.98	0.15	-2.72	2.30
300	-16.53	-11.82	-6.38	-11.01	-0.71	-4.70	1.23
Duration	7.93	6.31	3.89	6.49	1.82	3.74	1.72
Convexity	0.75	0.57	0.21	0.88	0.04	-0.08	-0.15

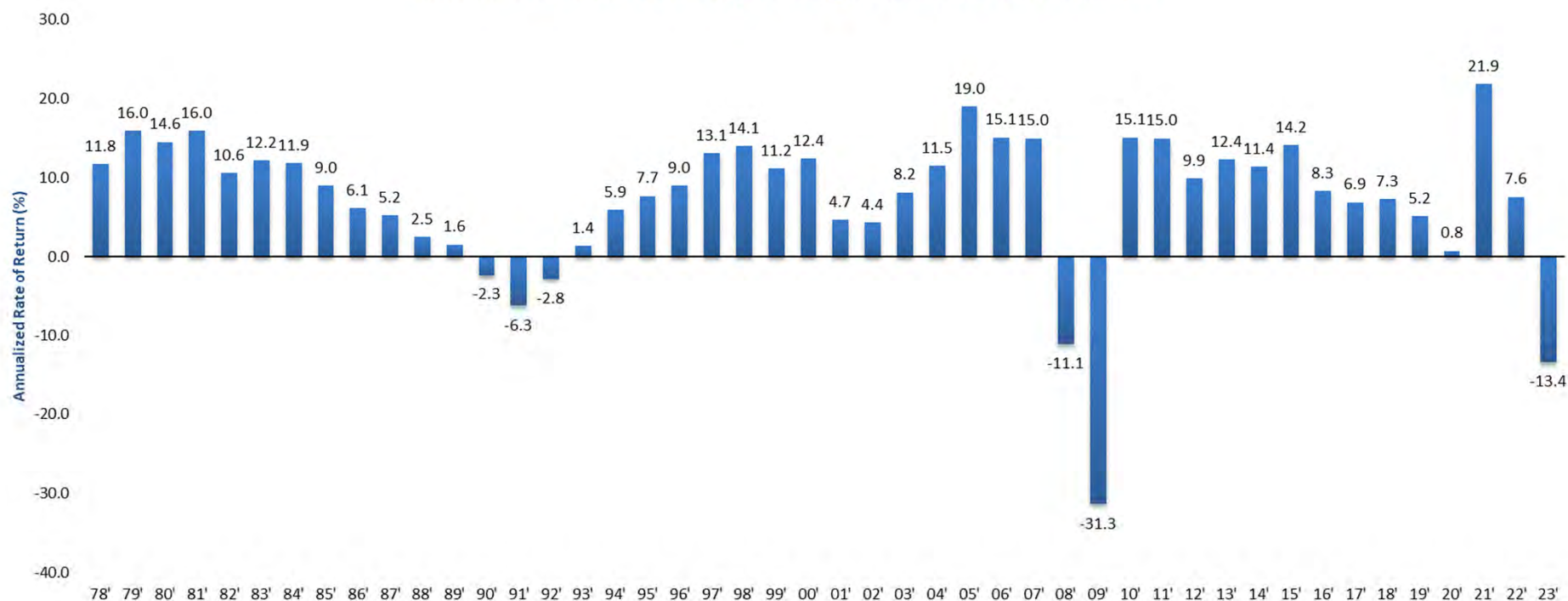
FOR ILLUSTRATIVE PURPOSES ONLY: For each index the current yield to worst as of 12/31/2023 was used as the base case annualized return. The annualized return sensitivity to a uniform increase or decrease in the yield curve was calculated by taking the index's Option-Adjusted Duration as of 12/31/2023 multiplied by the percentage point change in the yield curve (basis point change divided by 100), while adjusting for convexity effects using the index's Option-Adjusted Convexity as of 12/31/2023, and then appropriately adding or subtracting this implied percentage change in the value of the index (due to the shift in the yield curve) to the base case annualized return. This is a rough approximation of the annual return sensitivity to parallel shifts in the yield curve.

Real Estate Market

Sector	Index	4Q23	YTD	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year
US Private	NCREIF ODCE Equal Weighted (net)	-5.4%	-13.4%	7.6%	21.9%	0.8%	5.2%	7.3%	-13.4%	4.3%	3.8%	6.7%
	NCREIF ODCE EW Income Index	0.9%	3.5%	3.5%	4.1%	3.6%	3.5%	3.5%	3.5%	3.7%	3.7%	3.7%
	NCREIF ODCE EW Appreciation Index	-6.1%	-15.8%	4.8%	18.3%	-2.1%	1.7%	3.7%	-15.8%	1.4%	0.7%	3.1%

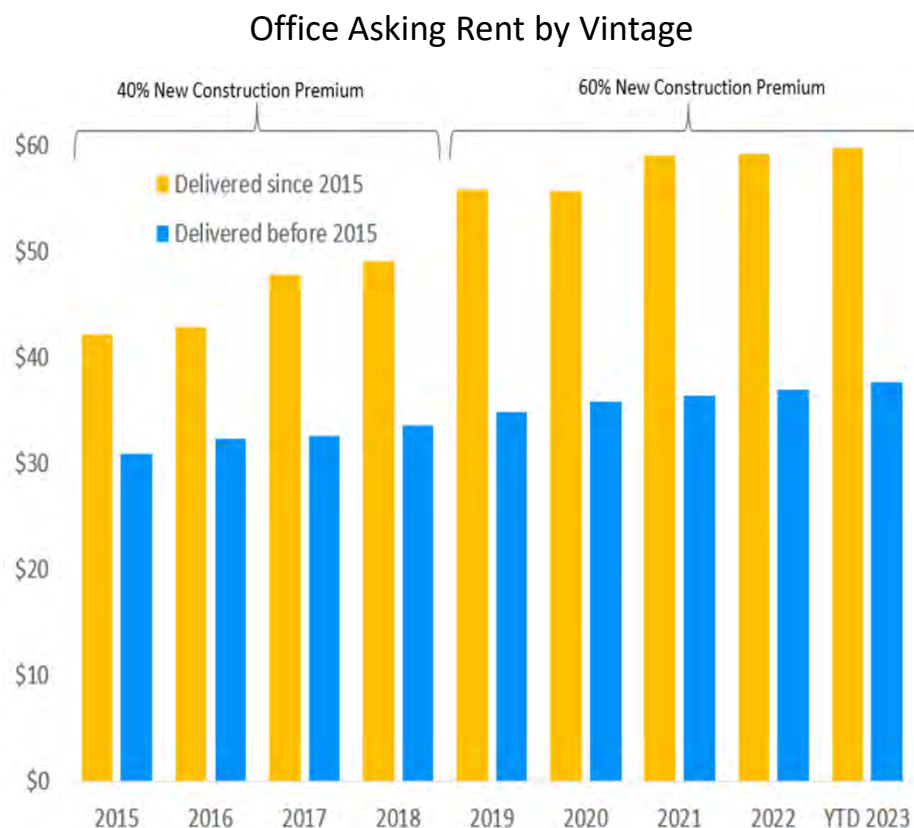
- The NCREIF ODCE Equal Weighted Index (net) declined for the fifth quarter in a row, generating a return of -5.4% in Q4 2023 and -13.4% in 2023.
- The post-pandemic headwinds faced by the commercial real estate market have driven the most significant repricing of real estate since the Global Financial Crisis in 2008-2009. 2023 is the sixth negative calendar year for the NCREIF ODCE index since 1978 and first since 2009, when the index declined by more than -31%.

Historical NCREIF ODCE Equal Weight Total Net Performance



Real Estate Market

- Higher borrowing costs and less access to debt financing continue to weigh on properties across markets and sectors.
- Low levels of demand for office properties due to companies' changing need for office space amid higher levels of remote work continues to weigh on valuations in the sector. An increasing level of transactions on office properties has illustrated significant dispersion between appraisal and transaction values, suggesting further declines on office asset valuations going forward.
- Not all office properties are suffering, however. Newly constructed and/or highly amenitized office assets are drawing a significant premium in rents vs. older stock., as shown in the chart below.

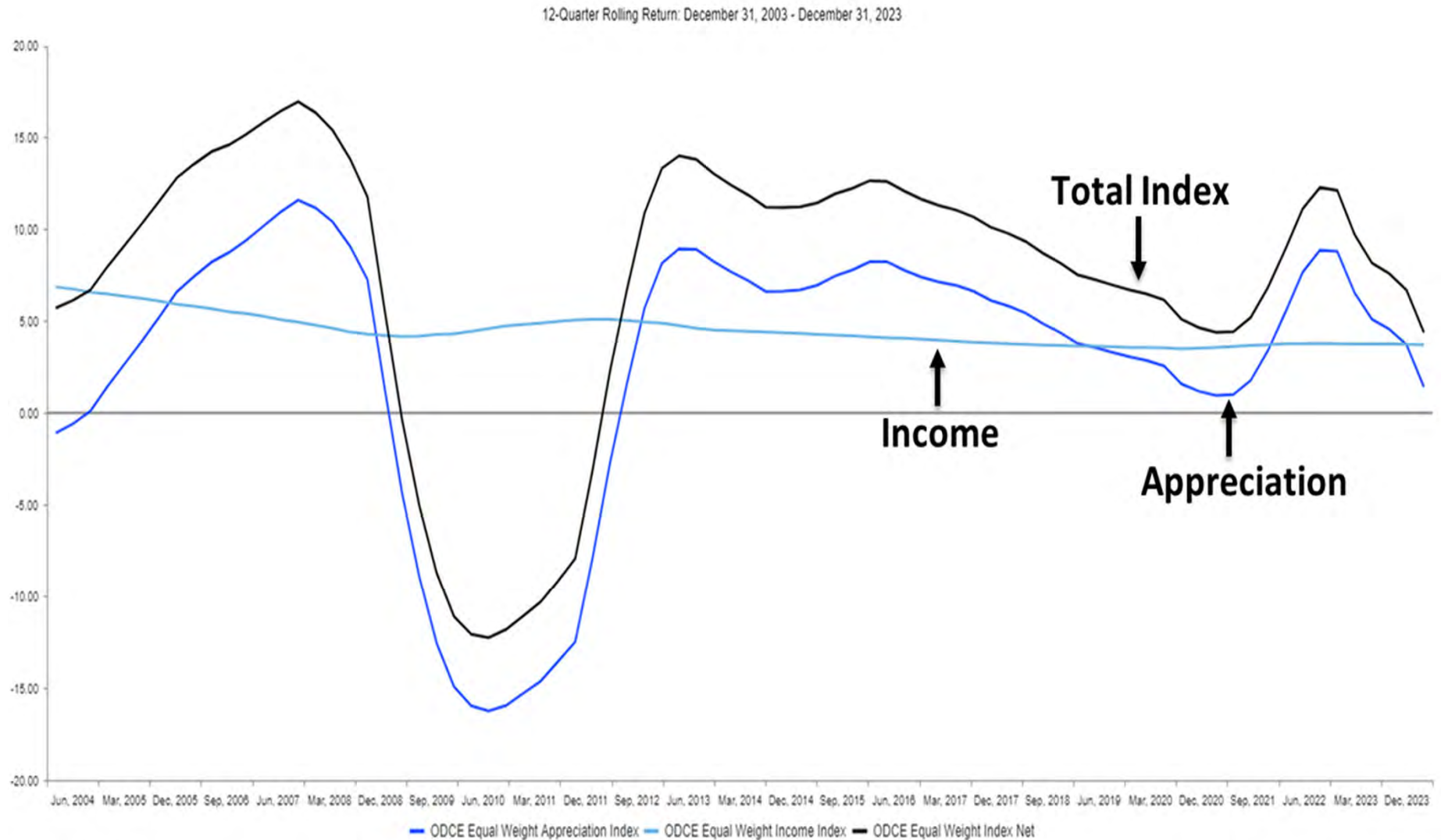


Source: JLL, J.P. Morgan Asset Management; as of 9/30/2023 .

- While lack of demand plagues the office sector, supply dynamics are putting downward pressure on valuations in industrial and multifamily properties, which have been two of the relatively better-performing sectors during the downturn. However, both sectors are experiencing downward pressure on valuations and slowing rent growth in some markets due to oversupply. A substantial amount of construction of industrial and multifamily properties began in the last few years, with those completed buildings coming to market and pressuring rents, occupancy and valuations on existing buildings.
- New construction starts, particularly in the multifamily sector, are limited, which should benefit fundamentals moving forward.
- While declining values present a headwind for existing investments, they do provide an opportunity to acquire assets at attractive prices. Investors are hopeful that declining borrowing costs over the course of 2024 and relatively strong industry fundamentals (outside of the office sector) will drive a recovery in valuations later this year.

Real Estate Market

- The income component of real estate returns continues to remain stable, providing a buffer against the recent periods of negative appreciation. Real estate valuations have been in decline for five consecutive quarters dating to Q4 2022, driving declines in total returns for the NCREIF ODCE Index.



* Quarterly data

Hedge Fund Market

Strategy	Index	4Q23	YTD	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year
Fund of Funds	HFRI FOF Composite	3.6%	6.6%	-5.3%	6.2%	10.9%	8.4%	-4.0%	6.6%	2.3%	5.2%	3.3%
Equity Long-Short	HFRI Equity Hedge	5.6%	10.5%	-10.1%	11.7%	17.9%	13.7%	-7.1%	10.5%	3.5%	8.3%	5.2%
Event Driven	HFRI Event Driven	5.4%	10.4%	-4.8%	12.4%	9.3%	7.5%	-2.1%	10.4%	5.7%	6.8%	4.6%
Global Macro	HFRI Macro Index	-1.1%	-0.6%	9.0%	7.7%	5.4%	6.5%	-4.1%	-0.6%	5.3%	5.5%	3.1%
Relative Value	HFRI Relative Value	2.6%	7.0%	-0.7%	7.6%	3.4%	7.4%	-0.4%	7.0%	4.6%	4.9%	4.0%
Credit	HFRI Credit Index	3.1%	7.8%	-2.6%	7.9%	6.3%	6.5%	-0.0%	7.8%	4.3%	5.1%	4.2%

Hedge Fund Strategy Performance



- Hedge fund strategies were mostly positive in Q4 2023 amidst a backdrop of strongly positive returns across global equity and fixed income markets. The HFRI Fund of Funds Composite generated a 3.6% return in Q4 2023 and closed the year up an estimated 6.6%.
- Gains during the quarter were broad-based, as most sub-strategies, aside from global macro, generated positive performance.
- Equity hedge and event-driven strategies led gains for the quarter, with both the HFRI Equity Hedge and HFRI Event Driven indices up more than 5%, even after posting losses during a volatile month of October. Declines in interest rates and inflation provided a substantial tailwind to equity-oriented strategies in November, with both of the aforementioned indices posting their best-performing month since February 2021. Both indices were strongly positive in December to close the year.
- After starting the quarter with a positive result in October, the HFRI Macro index finished the quarter down -1.1%, driven by lower commodity prices and declining interest rates. Macro strategies are typically utilized as diversifying strategies within hedge fund portfolios and often exhibit low or negative correlations to equity and fixed income indices.



Operating Engineers Local No. 77 JATC Fund

Investment Performance Report

Period Ended

December 31, 2023

Operating Engineers Local No. 77 JATC Fund
Investment Performance Report as of December 31, 2023

Total Fund Growth of Assets

	Fourth Quarter	Fiscal Year-To-Date	Three Years	Inception 11/30/19
Beginning Market Value	\$3,083,459	\$2,837,503	\$3,387,022	--
Net Cash Flow	-\$10,625	\$96,024	-\$463,365	\$2,701,612
Net Investment Change	\$121,005	\$260,311	\$270,181	\$492,226
Ending Market Value	\$3,193,838	\$3,193,838	\$3,193,838	\$3,193,838

- The Fund's fiscal year end is December 31st.

Operating Engineers Local No. 77 JATC Fund

Investment Performance Report as of December 31, 2023

Performance Summary (Gross of Fees) - Annualized

	Market Value	% of Portfolio	Ending December 31, 2023				
			2023 Q4	Fiscal YTD	3 Yrs	Inception	Inception Date
Total Fund	\$3,193,838	100.0%	3.9%	8.7%	2.8%	3.7%	Nov-19
Total Domestic Large Cap Equity	\$350,844	11.0%	11.7%	26.3%	10.0%	12.6%	Nov-19
Total Investment Grade Fixed Income	\$1,262,002	39.5%	2.8%	5.7%	0.9%	1.7%	Nov-19
Total Short Duration High Yield Fixed Income	\$1,154,607	36.2%	4.1%	8.3%	--	2.5%	Jul-21
Total Cash Equivalents	\$426,386	13.4%	1.1%	4.0%	1.7%	1.3%	Nov-19

Operating Engineers Local No. 77 JATC Fund
Investment Performance Report as of December 31, 2023

Performance Summary

	Fiscal Year Ending December 31st (Gross of Fees)			
	2023	2022	2021	2020
Total Fund	8.7%	-5.8%	6.1%	5.7%
<i>Total Fund Benchmark</i>	<i>10.0%</i>	<i>-5.4%</i>	<i>5.6%</i>	<i>6.5%</i>

	Fiscal Year Ending December 31st (Net of Fees)			
	2023	2022	2021	2020
Total Fund	8.4%	-6.0%	6.0%	5.6%
<i>Total Fund Benchmark</i>	<i>10.0%</i>	<i>-5.4%</i>	<i>5.6%</i>	<i>6.5%</i>

Operating Engineers Local No. 77 JATC Fund
Investment Performance Report as of December 31, 2023

Current vs. Policy						
	Current	Current	Policy	Policy Range	Difference	Difference
Domestic Large Cap Equity	\$350,844	11.0%	10.0%	5.0% - 15.0%	1.0%	\$31,460
Investment Grade Fixed Income	\$1,262,002	39.5%	40.0%	35.0% - 45.0%	-0.5%	-\$15,534
Short Duration High Yield Fixed Income	\$1,154,607	36.2%	35.0%	30.0% - 40.0%	1.2%	\$36,764
Cash Equivalents	\$426,386	13.4%	15.0%	10.0% - 20.0%	-1.6%	-\$52,690
Total	\$3,193,838	100.0%	100.0%			

- Policy adopted May 2023; effective July 2023.

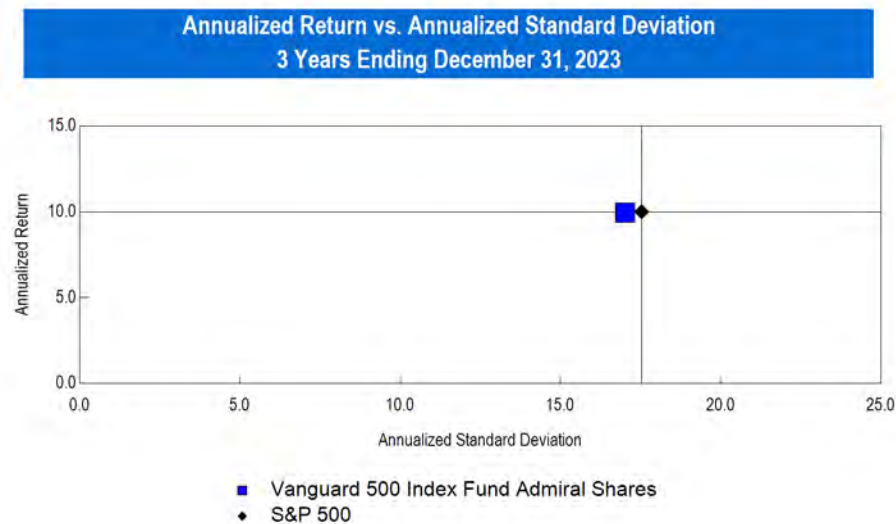
Operating Engineers Local No. 77 JATC Fund
Investment Performance Report as of December 31, 2023

Performance Detail (Net of Fees) - Annualized

	Market Value	% of Portfolio	Ending December 31, 2023				
			2023 Q4	Fiscal YTD	3 Yrs	Inception	Inception Date
Total Fund	\$3,193,838	100.0%	3.8%	8.4%	2.6%	3.5%	Nov-19
Total Domestic Large Cap Equity	\$350,844	11.0%	11.7%	26.2%	10.0%	12.6%	Nov-19
Vanguard 500 Index Fund Admiral Shares	\$350,844	11.0%	11.7%	26.2%	10.0%	12.6%	Nov-19
S&P 500			11.7%	26.3%	10.0%	12.6%	Nov-19
Total Investment Grade Fixed Income	\$1,262,002	39.5%	2.8%	5.5%	0.7%	1.5%	Nov-19
Chartwell Investment Partners	\$1,262,002	39.5%	2.8%	5.5%	0.7%	1.5%	Dec-19
Bloomberg US Credit 1-3 Yr TR			3.0%	5.3%	0.5%	1.3%	Dec-19
Total Short Duration High Yield Fixed Income	\$1,154,607	36.2%	3.9%	7.8%	--	2.0%	Jul-21
Carillon Chartwell SDHY Fund	\$1,154,607	36.2%	3.9%	7.8%	--	2.0%	Jul-21
ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR			4.0%	8.8%	--	2.6%	Jul-21
Total Cash Equivalents	\$426,386	13.4%	1.1%	4.0%	1.7%	1.3%	Nov-19
PNC Cash	\$426,386	13.4%	1.1%	4.0%	1.7%	1.3%	Nov-19

Account Information	
Account Name	Vanguard 500 Index Fund Admiral Shares
Account Structure	Mutual Fund
Investment Style	Passive
Inception Date	11/30/19
Account Type	Domestic Large Cap Core Equity
Benchmark	S&P 500
Universe	Large Blend MStar MF

Vanguard 500 Index Fund Admiral Shares		
Ending December 31, 2023		
	Fourth Quarter	Inception 11/30/19
Beginning Market Value	\$314,149	--
Net Cash Flow	\$0	\$54,281
Net Investment Change	\$36,695	\$296,563
Ending Market Value	\$350,844	\$350,844



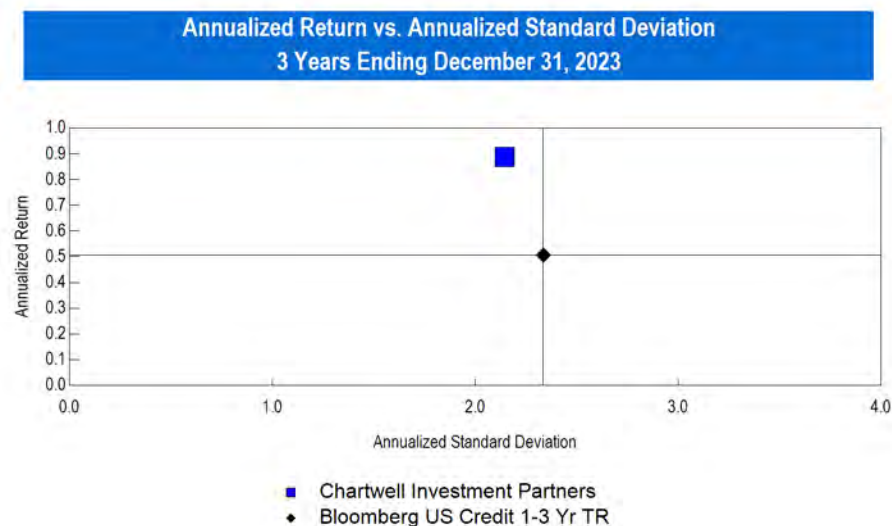
3 Years Ending December 31, 2023				
	Anlzd Return	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard 500 Index Fund Admiral Shares	10.0%	17.0%	39.3%	35.2%
S&P 500	10.0%	17.5%	100.0%	100.0%

								Calendar Years												
	2023 Q4	Rank	Fiscal YTD	Rank	3 Yrs	Rank	5 Yrs	Rank	2023	Rank	2022	Rank	2021	Rank	2020	Rank	2019	Rank	Inception	Inception Date
Vanguard 500 Index Fund Admiral Shares	11.7%	49	26.2%	27	10.0%	29	--	--	26.2%	27	-18.1%	50	28.7%	23	18.4%	39	--	--	12.6%	Nov-19
S&P 500	11.7%	48	26.3%	25	10.0%	27	--	--	26.3%	25	-18.1%	48	28.7%	22	18.4%	38	--	--	12.6%	Nov-19

Note: Returns are net of fees.

Account Information	
Account Name	Chartwell Investment Partners
Account Structure	Separate Account
Investment Style	Active
Inception Date	12/31/19
Account Type	Investment Grade Fixed Income
Benchmark	Bloomberg US Credit 1-3 Yr TR
Universe	

Chartwell Investment Partners		
Ending December 31, 2023		
	Fourth Quarter	Inception 12/31/19
Beginning Market Value	\$1,227,405	--
Net Cash Flow	\$0	\$1,150,564
Net Investment Change	\$34,597	\$111,437
Ending Market Value	\$1,262,002	\$1,262,002



3 Years Ending December 31, 2023				
	Anlzd Return	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Chartwell Investment Partners	0.9%	2.1%	96.7%	83.1%
Bloomberg US Credit 1-3 Yr TR	0.5%	2.3%	100.0%	100.0%

	Calendar Years										Inception Date
	2023 Q4	Fiscal YTD	3 Yrs	5 Yrs	2023	2022	2021	2020	2019	Inception	
Chartwell Investment Partners	2.8%	5.7%	0.9%	--	5.7%	-2.8%	0.0%	4.2%	--	1.7%	Dec-19
Bloomberg US Credit 1-3 Yr TR	3.0%	5.3%	0.5%	--	5.3%	-3.4%	-0.2%	3.7%	--	1.3%	Dec-19

Note: Returns are gross of fees.

Account Information	
Account Name	Carillon Chartwell SDHY Fund
Account Structure	Mutual Fund
Investment Style	Active
Inception Date	7/31/21
Account Type	Short Duration High Yield Fixed Income
Benchmark	ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR
Universe	

Carillon Chartwell SDHY Fund		
Ending December 31, 2023		
	Fourth Quarter	Inception 7/31/21
Beginning Market Value	\$1,110,801	\$0
Net Cash Flow	\$0	\$1,100,000
Net Investment Change	\$43,806	\$54,607
Ending Market Value	\$1,154,607	\$1,154,607

					Calendar Years							
	2023 Q4	Fiscal YTD	3 Yrs	5 Yrs	2023	2022	2021	2020	2019	Inception	Inception Date	
Carillon Chartwell SDHY Fund	3.9%	7.8%	--	--	7.8%	-3.2%	--	--	--	2.0%	Jul-21	
ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR	4.0%	8.8%	--	--	8.8%	-3.1%	--	--	--	2.6%	Jul-21	

Note: Returns are net of fees.

Account Information	
Account Name	PNC Cash
Account Structure	Separate Account
Investment Style	Active
Inception Date	11/30/19
Account Type	Cash Equivalents
Benchmark	
Universe	

PNC Cash		
Ending December 31, 2023		
	Fourth Quarter	Inception 11/30/19
Beginning Market Value	\$431,104	--
Net Cash Flow	-\$10,625	\$397,034
Net Investment Change	\$5,907	\$29,352
Ending Market Value	\$426,386	\$426,386

					Calendar Years							
	2023 Q4	Fiscal YTD	3 Yrs	5 Yrs	2023	2022	2021	2020	2019	Inception	Inception Date	
PNC Cash	1.1%	4.0%	1.7%	--	4.0%	1.2%	0.1%	0.0%	--	1.3%	Nov-19	

Note: Returns are gross of fees.



Operating Engineers Local No. 77 JATC Fund

Appendix

Operating Engineers Local No. 77 JATC Fund
Investment Performance Report as of December 31, 2023

Performance Detail (Gross of Fees) - Annualized

	Market Value	% of Portfolio	Ending December 31, 2023				
			2023 Q4	Fiscal YTD	3 Yrs	Inception	Inception Date
Total Fund	\$3,193,838	100.0%	3.9%	8.7%	2.8%	3.7%	Nov-19
Total Domestic Large Cap Equity	\$350,844	11.0%	11.7%	26.3%	10.0%	12.6%	Nov-19
Vanguard 500 Index Fund Admiral Shares	\$350,844	11.0%	11.7%	26.3%	10.0%	12.6%	Nov-19
S&P 500			11.7%	26.3%	10.0%	12.6%	Nov-19
Total Investment Grade Fixed Income	\$1,262,002	39.5%	2.8%	5.7%	0.9%	1.7%	Nov-19
Chartwell Investment Partners	\$1,262,002	39.5%	2.8%	5.7%	0.9%	1.7%	Dec-19
Bloomberg US Credit 1-3 Yr TR			3.0%	5.3%	0.5%	1.3%	Dec-19
Total Short Duration High Yield Fixed Income	\$1,154,607	36.2%	4.1%	8.3%	--	2.5%	Jul-21
Carillon Chartwell SDHY Fund	\$1,154,607	36.2%	4.1%	8.3%	--	2.5%	Jul-21
ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR			4.0%	8.8%	--	2.6%	Jul-21
Total Cash Equivalents	\$426,386	13.4%	1.1%	4.0%	1.7%	1.3%	Nov-19
PNC Cash	\$426,386	13.4%	1.1%	4.0%	1.7%	1.3%	Nov-19

Operating Engineers Local No. 77 JATC Fund
Investment Performance Report as of December 31, 2023

Account	Fee Schedule	Market Value As of 12/31/2023	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Total Domestic Large Cap Equity	-	\$350,844	11.0%	--	--
Vanguard 500 Index Fund Admiral Shares	0.04% of Assets	\$350,844	11.0%	\$140	0.04%
Total Investment Grade Fixed Income	-	\$1,262,002	39.5%	--	--
Chartwell Investment Partners	0.18% of Assets	\$1,262,002	39.5%	\$2,272	0.18%
Total Short Duration High Yield Fixed Income	-	\$1,154,607	36.2%	--	--
Carillon Chartwell SDHY Fund	0.49% of Assets	\$1,154,607	36.2%	\$5,658	0.49%
Total Cash Equivalents	-	\$426,386	13.4%	--	--
PNC Cash	-	\$426,386	13.4%	--	--
Investment Management Fee		\$3,193,838	100.0%	\$8,070	0.25%

Note: The above fee schedules may not include incentive fees, operating expenses, custodian fees, or other administrative costs.

Note: The above information utilizes net expense ratio for any mutual fund investment. Management fee is used for all other investment types.

Operating Engineers Local No. 77 JATC Fund
Investment Performance Report as of December 31, 2023

Benchmark History		
Total Fund		
7/1/2023	Present	S&P 500 10% / Bloomberg US Credit 1-3 Yr TR 40% / ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR 35% / 91 Day T-Bills 15%
7/1/2021	6/30/2023	S&P 500 20% / Bloomberg US Credit 1-3 Yr TR 35% / ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR 30% / 91 Day T-Bills 15%
11/30/2019	6/30/2021	S&P 500 20% / Bloomberg US Credit 1-3 Yr TR 65% / 91 Day T-Bills 15%

Index Disclosures

- Total Fund Benchmark - The Total Fund Benchmark is comprised of the respective market indices for each asset class weighted at the percentage the asset class represents in the Policy. It is important to acknowledge that not all asset classes have a corresponding market index due to the specialized nature of the asset class (i.e. private equity, private debt, infrastructure, hedge funds) and/or the specialized nature of the investment (opportunistic investments, global tactical asset allocation, absolute return strategies). In such cases, a traditional asset class index may be used as a proxy in the Total Fund Benchmark. The Total Fund Benchmark illustrates how an indexed portfolio with a similar allocation to that of the Policy would have performed during a specific period. The Total Fund Benchmark does not account for ongoing changes in the allocation percentages of the Total Fund resulting from market gains/losses, cash flows, and rebalancing during the same period. While a useful tool in examining performance, due to the static nature of the allocation percentages in the Total Fund Benchmark, the fact that not all asset classes have a representative index, and considering that some indices in the Total Fund Benchmark are not investable, the Total Fund Benchmark should not be used as the primary measure of a Total Fund's success or failure.

Footnotes

- Values, flows, and returns for all commingled funds, mutual funds, partnerships, and all other alternative assets are provided by the firm managing the assets and cannot be independently verified by IPS. Separately managed account returns are calculated by IPS using custodian data.
- The net of fees returns in this report are estimated. Fees do not include: The investment consulting fee paid to IPS, custodian fees, or other administrative costs.
- The information contained in this report is proprietary and confidential information. You are hereby notified that any dissemination, distribution, or copying of this document is strictly prohibited.
- Effective 4Q 2021, mutual fund returns are calculated utilizing the net expense ratio. Prior to 4Q 2021, mutual fund returns were calculated utilizing the mutual fund's management fee.
- In December 2019, \$1.75M was transferred from PNC Cash to investment grade fixed income (Chartwell Investment Partners) for initial funding.
- In December 2019, \$450K was transferred from domestic large cap equity (Vanguard 500 Index Fund Admiral Shares) to PNC Cash.
- In December 2019, Federated Short Term Bond was terminated and all assets transferred to PNC Cash.
- In July 2021, \$1.0M was transferred from domestic large cap equity (Vanguard 500 Index Fund Admiral Shares - \$200K) and investment grade fixed income (Chartwell Investment Partners - 800K) to short duration high yield fixed income (Carillon Chartwell SDHY Fund) for initial funding.
- In May 2023, \$300K was withdrawn from domestic large cap equity (Vanguard 500 Index Fund Admiral Shares).

Operating Engineers Local No. 77 JATC Fund
Investment Performance Report as of December 31, 2023

- In June 2023, \$200K was transferred from PNC Cash to investment grade fixed income (Chartwell Investment Partners).
- In June 2023, \$100K was transferred from PNC Cash to short duration high yield fixed income (Carillon Chartwell SDHY Fund).



ASSET ALLOCATION REVIEW

Operating Engineers Local No. 77 JATC Fund

February 2024



Asset Allocation Overview

- The asset allocation review is provided to assist the Trustees in identifying portfolios that meet the investment objectives, risk tolerance, and liquidity requirements of the Fund.
- The IPS Investment Committee develops and utilizes capital market assumptions for various asset classes to help determine the optimal mix of assets for an investment portfolio. These assumptions are forward-looking projections of an asset class' expected return and risk as measured by standard deviation or volatility of returns.
- All return assumptions are "net of fee" market or index returns and do not include alpha or excess return expected to be generated through active management. Return assumptions are the average expected return over the next 10 – 20 years and not the expected return in any given year.
- IPS capital market assumptions are compared with various assumptions from other providers and published resources for reasonableness. The IPS Investment Committee reviews the assumptions on a semiannual basis but may adjust at anytime, as needed, based on severe market dislocations, sudden changes in interest rates, or extreme events that impact global markets, economic development, and the business cycle.
- IPS capital market assumptions are not a guarantee of future performance. Actual results may differ from the projections included in this review.
- The asset allocation modeling requires the mathematical construction of an efficient frontier of various portfolios with distinct asset allocations and risk and return characteristics. The modeling process also requires the imposition of constraints, so that the efficient frontier represents a prudently diversified portfolio with adequate consideration of the liquidity needs and investment time horizon. Unconstrained optimization frequently generates allocations that have superior risk/reward characteristics, but the resulting allocations may not be adequately diversified and/or may have inappropriate allocations to illiquid investments.
- The cashflows and liquidity constraints of the fund for which this asset allocation review is being presented were considered when developing the portfolios presented for consideration.
- IPS utilizes the Wilshire Compass system for asset allocation modeling and all returns are based on geometric calculation.

Annualized Expected Returns over 10-20 years

Equity Asset Class	Return	Risk
U.S. Large Cap	6.50%	15.50
U.S. Mid Cap	7.00%	17.50
U.S. Smid Cap	6.88%	19.00
U.S. Small Cap	6.75%	20.50
International Large Cap	7.50%	16.75
International Small Cap	8.00%	19.25
Emerging Markets	8.25%	20.50
Global Equity	7.00%	16.75

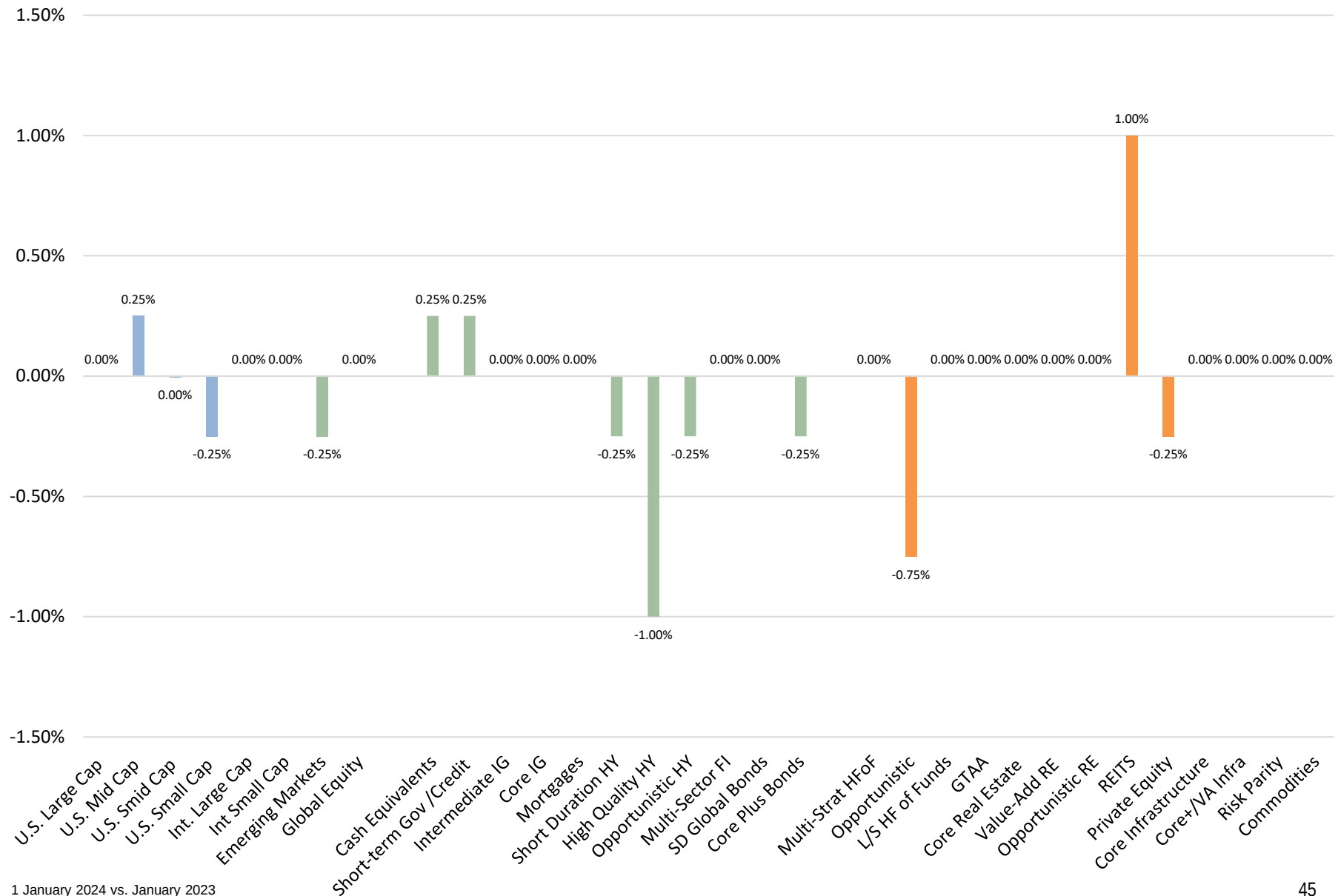
Fixed Income Asset Class	Return	Risk
Cash Equivalents	3.00%	0.50
Short-term Gov /Credit	3.75%	2.00
Intermediate Investment Grade	4.25%	3.50
Core Investment Grade	4.50%	4.00
Mortgages	4.75%	5.00
Short Duration High Yield	6.00%	6.00
High Quality High Yield	6.50%	8.00
Opportunistic High Yield	7.75%	8.50
Multi-Sector Fixed Income	3.50%	6.00
Short Duration Global Bonds	2.50%	5.00
Core Plus Bonds	4.75%	5.25

Alternatives Asset Class	Return	Risk
Multi-Strategy Hedge Fund of Funds	5.00%	6.00
Opportunistic Strategies	7.50%	15.00
L/S Hedge Fund of Funds	5.00%	9.00
Global Tactical Asset Allocation	6.50%	12.00
Core Real Estate	6.00%	9.00
Core Plus Real Estate	6.50%	10.25
Value-Add Real Estate	7.00%	11.50
Opportunistic Real Estate	9.00%	15.00
REITS	6.00%	20.00
Diversified Private Equity	9.75%	21.00
Core Infrastructure	6.25%	11.50
Core+/Value Add Infrastructure	8.25%	15.00
Private Credit	9.00%	13.00
Risk Parity	5.50%	16.00
Commodities	3.75%	17.00



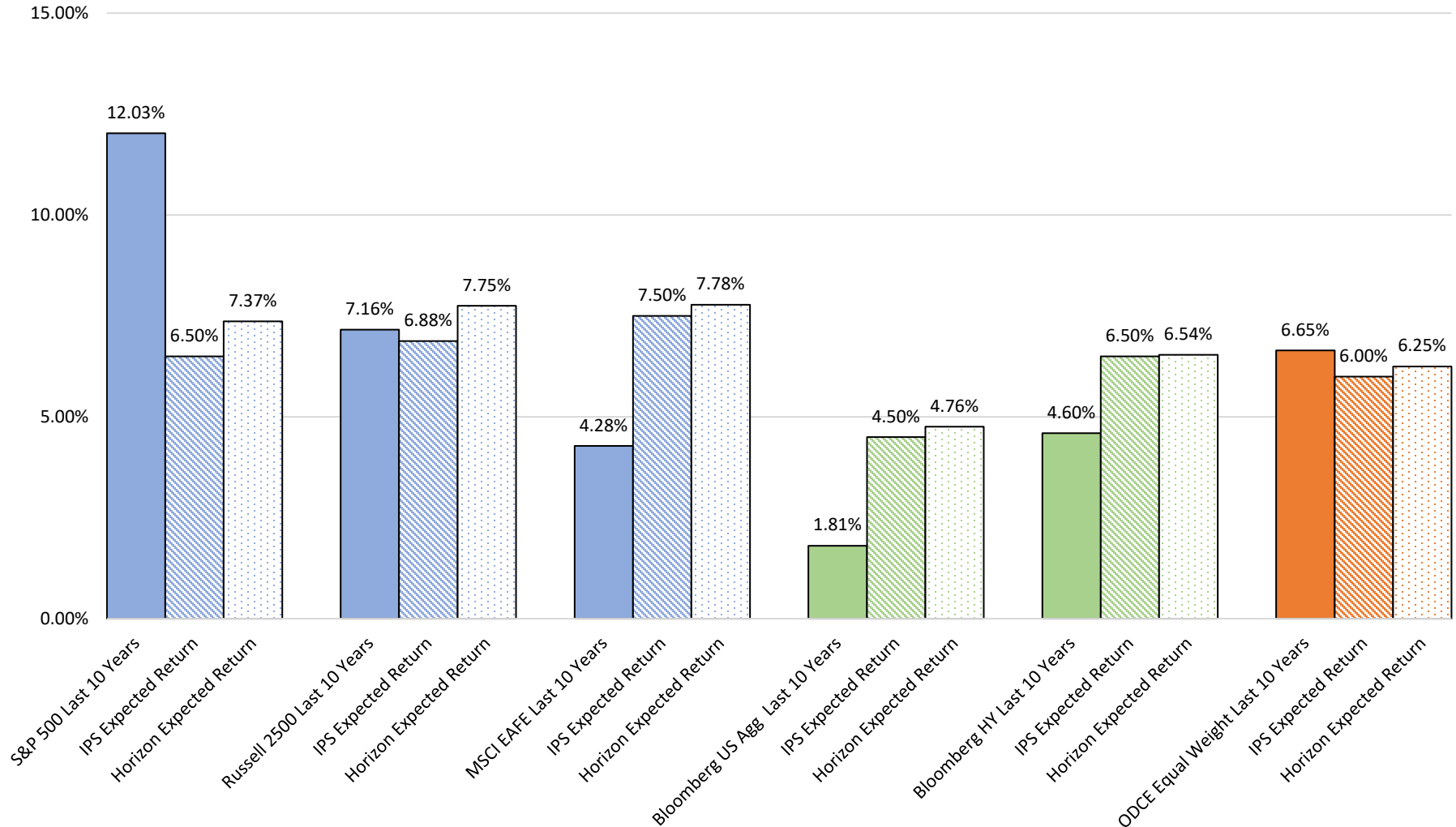
- IPS Investment Committee January 2024.
- Inflation expectation 2.5%.

Change in Expected Returns¹



¹ 1 January 2024 vs. January 2023

Historical Returns vs. Forward Looking Assumptions



- "Last 10 Years" returns are as of 12/31/2023.

- "Horizon Expected Returns" are sourced from the Survey of Capital Market Assumptions (20-year horizon) published by Horizon Actuarial Services, LLC published in the August 2023 edition.

Asset Class Constraints

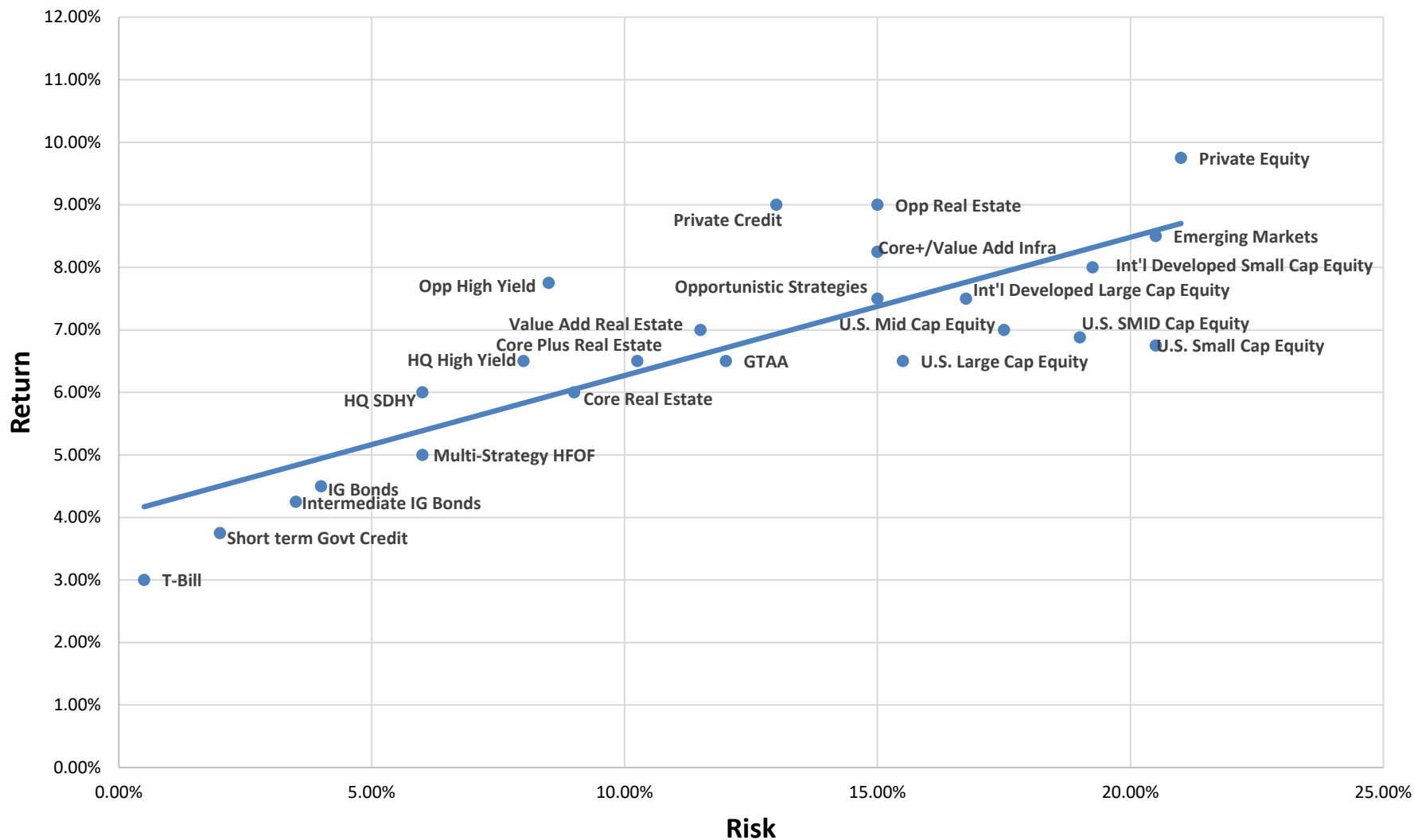


Total Domestic Equity	20%	Max
Cash	5%	Max
Fixed Investment Grade (Includes Short Term & Intermediate)	20%	Min
High Quality High Yield Bonds (Includes Short Duration)	30%	Max
Real Estate – Core	10%	Max
Real Estate – Core Plus	5%	Max
Real Estate – Value Add	5%	Max
Total Real Estate	15%	Max

The Asset Allocation modeling requires the mathematical construction of an efficient frontier of various portfolios with distinct asset allocations and risk and return characteristics. The modeling process also requires the imposition of constraints, so that the efficient frontier represents a prudently diversified portfolio with adequate consideration of the liquidity needs and investment time horizon. Unconstrained optimization frequently generates allocations that have superior risk/reward characteristics, but the resulting allocations may not be adequately diversified and/or may have high allocations to illiquid investments.

The constraints shown are used for modeling purposes only. They should not be construed as suggested or recommended allocations, or limits on allocations, to any asset class or investment strategy. Each client fund has different facts, circumstances, time horizon, risk tolerance levels, return objectives, investment preferences, cash flows, and liquidity requirements. As such, each client's investment policy may differ materially from the constraints shown above.

2024 Capital Market Assumptions





Asset Class Correlations

Assumption table:	US Large Cap Equity	US Mid Cap Equity	US Smid Cap Equity	US Small Cap Equity	Int'l Large Cap Equity	Int'l Small Cap Equity	Emerging Markets Equity	Cash	Short Term Govt / Credit	Interm. Invest. Grade	Core Invest. Grade	Short Duration High Yield	High Yield	Opp High Yield	Real Estate Core	Real Estate Core Plus	Real Estate Value Add	Private Equity	HFoF Multi-Strategy	Private Credit	Opp. Strategies	GTAA	Infrastructure
US Large Cap Equity	1.00																						
US Mid Cap Equity	0.96	1.00																					
US Smid Cap Equity	0.93	0.98	1.00																				
US Small Cap Equity	0.90	0.95	0.99	1.00																			
Int'l Equity	0.87	0.86	0.82	0.78	1.00																		
Int'l Small Cap Equity	0.84	0.87	0.83	0.79	0.95	1.00																	
Emerging Markets Equity	0.74	0.76	0.72	0.69	0.86	0.85	1.00																
Cash	-0.11	-0.13	-0.13	-0.13	-0.03	-0.10	0.00	1.00															
Short Term Govt / Credit	0.05	0.04	0.00	-0.03	0.13	0.13	0.17	0.36	1.00														
Int. Investment Grade	0.18	0.16	0.12	0.07	0.22	0.23	0.25	0.14	0.87	1.00													
Core Investment Grade	0.19	0.17	0.12	0.08	0.22	0.22	0.24	0.10	0.81	0.98	1.00												
Short Duration High Yield	0.65	0.72	0.67	0.62	0.66	0.71	0.65	-0.12	0.25	0.35	0.34	1.00											
High Yield	0.73	0.79	0.75	0.70	0.74	0.76	0.70	-0.12	0.23	0.37	0.37	0.93	1.00										
Opp. High Yield	0.70	0.77	0.73	0.69	0.70	0.73	0.67	-0.14	0.06	0.18	0.18	0.90	0.95	1.00									
Real Estate Core	0.28	0.20	0.20	0.30	0.20	0.12	0.16	0.06	-0.37	-0.33	-0.28	0.28	0.20	0.12	1.00								
Real Estate Core Plus	0.28	0.20	0.20	0.30	0.20	0.12	0.16	0.06	-0.37	-0.33	-0.28	0.28	0.20	0.12	1.00	1.00							
Real Estate Value Add	0.28	0.20	0.20	0.30	0.20	0.12	0.16	0.06	-0.37	-0.33	-0.28	0.28	0.20	0.12	1.00	1.00	1.00						
Private Equity	0.76	0.81	0.86	0.88	0.67	0.69	0.59	-0.15	-0.06	0.03	0.03	0.53	0.60	0.60	0.20	0.20	0.20	1.00					
HFoF Multi-Strategy	0.73	0.78	0.76	0.71	0.78	0.83	0.76	-0.06	0.01	0.07	0.08	0.64	0.67	0.71	0.08	0.08	0.08	0.70	1.00				
Private Credit	0.69	0.75	0.71	0.68	0.65	0.64	0.64	-0.09	-0.28	-0.16	-0.17	0.71	0.74	0.80	0.28	0.28	0.28	0.65	0.76	1.00			
Opportunistic Strategies	0.79	0.85	0.85	0.82	0.81	0.85	0.76	-0.12	-0.02	0.05	0.05	0.72	0.76	0.81	-0.02	-0.02	-0.02	0.82	0.91	0.82	1.00		
GTAA	0.94	0.91	0.87	0.83	0.95	0.92	0.83	-0.04	0.23	0.35	0.35	0.69	0.77	0.70	-0.01	-0.01	-0.01	0.77	0.75	0.62	0.78	1.00	
Infrastructure	0.62	0.60	0.56	0.52	0.67	0.62	0.57	-0.01	0.18	0.31	0.32	0.53	0.59	0.54	0.40	0.40	0.40	0.60	0.63	0.56	0.66	0.68	1.00

A correlation of 1.00 indicates two series move perfectly together while a -1.00 shows they move perfectly opposite one another.

Efficient Frontier Analysis



Efficient Frontier Report										
Asset	Portfolio 1	Portfolio 2	Portfolio 3	Portfolio 4	Portfolio 5	Portfolio 6	Portfolio 7	Portfolio 8	Portfolio 9	Portfolio 10
US Large Cap Equity	0.48	0.09	0.00	0.11	2.16	4.38	6.60	11.18	15.30	20.00
US Mid Cap Equity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
US Smid Cap Equity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
US Small Cap Equity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int'l Equity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int'l Small Cap Equity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emerging Markets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cash	5.00	5.00	5.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
Short Term Govt / Credit	92.47	82.75	73.21	61.60	50.85	30.95	11.05	0.00	0.00	0.00
Int. Investment Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Core Investment Grade	0.00	0.00	0.00	3.30	16.99	34.67	52.34	58.82	54.70	50.00
Short Duration High Yield	2.05	12.17	21.79	30.00	30.00	30.00	30.00	30.00	13.62	0.00
High Yield	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.38	30.00
Real Estate Core	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Real Estate Core Plus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Real Estate Value Add	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Private Equity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HFoF Multi-Strategy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opp. Strategies	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GTAA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Return	3.78	4.01	4.23	4.45	4.67	4.88	5.09	5.30	5.49	5.68
Risk	1.90	1.98	2.20	2.52	2.94	3.41	3.93	4.50	5.21	6.01
Return/Risk	1.99	2.02	1.93	1.76	1.59	1.43	1.29	1.18	1.05	0.94

Compound annual return.

Asset Allocation Policy History

	2019	2021	2022	2023
U.S. Large Cap	20.0%	20.0%	20.0%	10.0%
Intermediate Fixed	65.0%	35.0%	35.0%	40.0%
SD High Yield	--	30.0%	30.0%	35.0%
Cash	15.0%	15.0%	15.0%	15.0%
Expected Return	3.84%	3.48%	4.91%	5.08%
Expected Risk	4.07%	4.55%	4.59%	3.91%

Green	Increase allocation
Red	Decrease allocation
Blue	New asset class

Current Policy Comparison

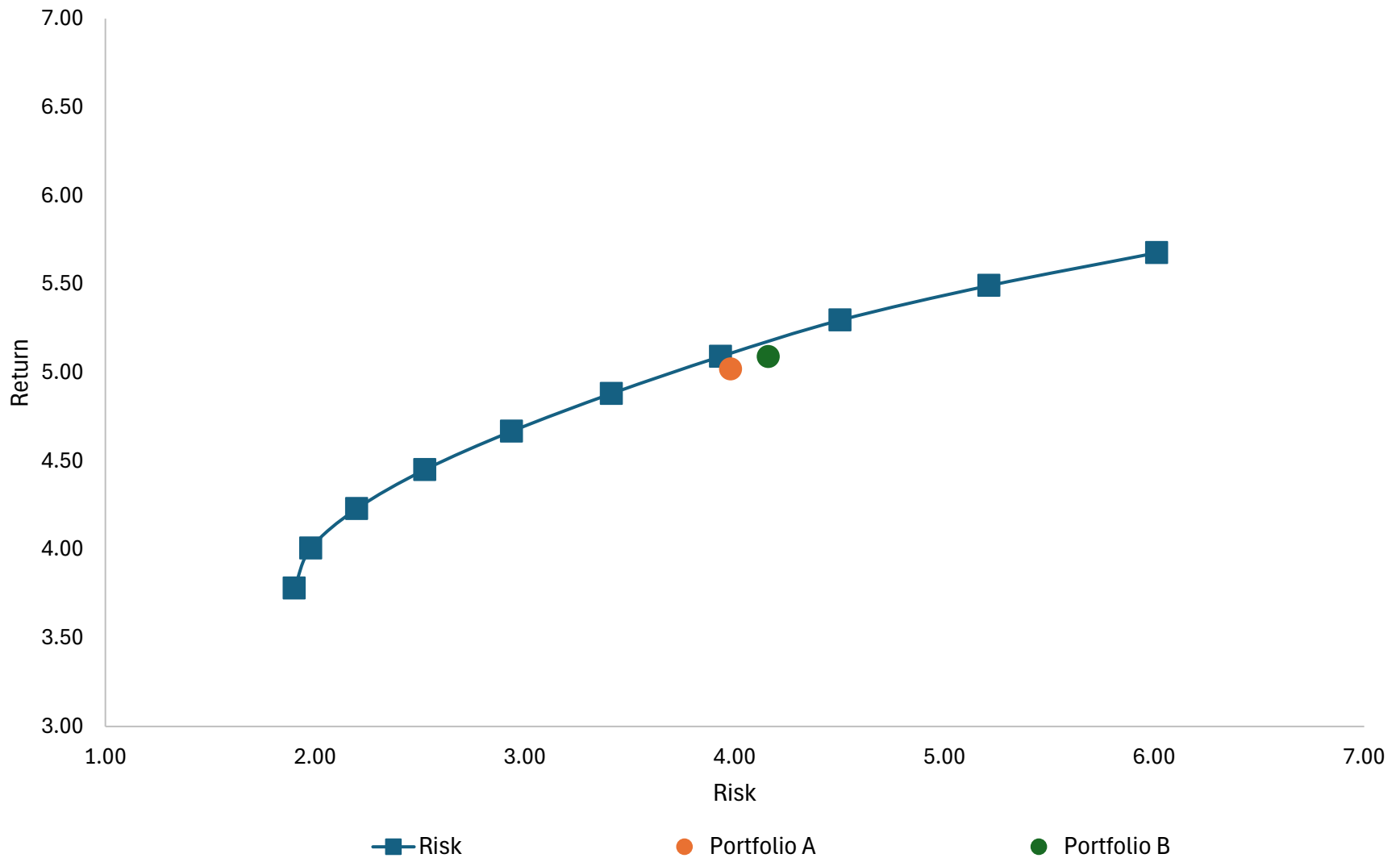


		% Equity Target	% Fixed Income Target		Cash	Expected Return (net of fees)	Risk	Comments
		US LC Equity	Fixed Income Interm	Short Duration High Yield				
1	Operating Engineers Local No. 77 JATC Fund Portfolio A	10.0	40.0	35.0	15.0	5.02%	3.98	Current Policy
2	Portfolio B	11.0	39.5	36.2	13.4	5.09%	4.16	Allocation as of December 31, 2023.

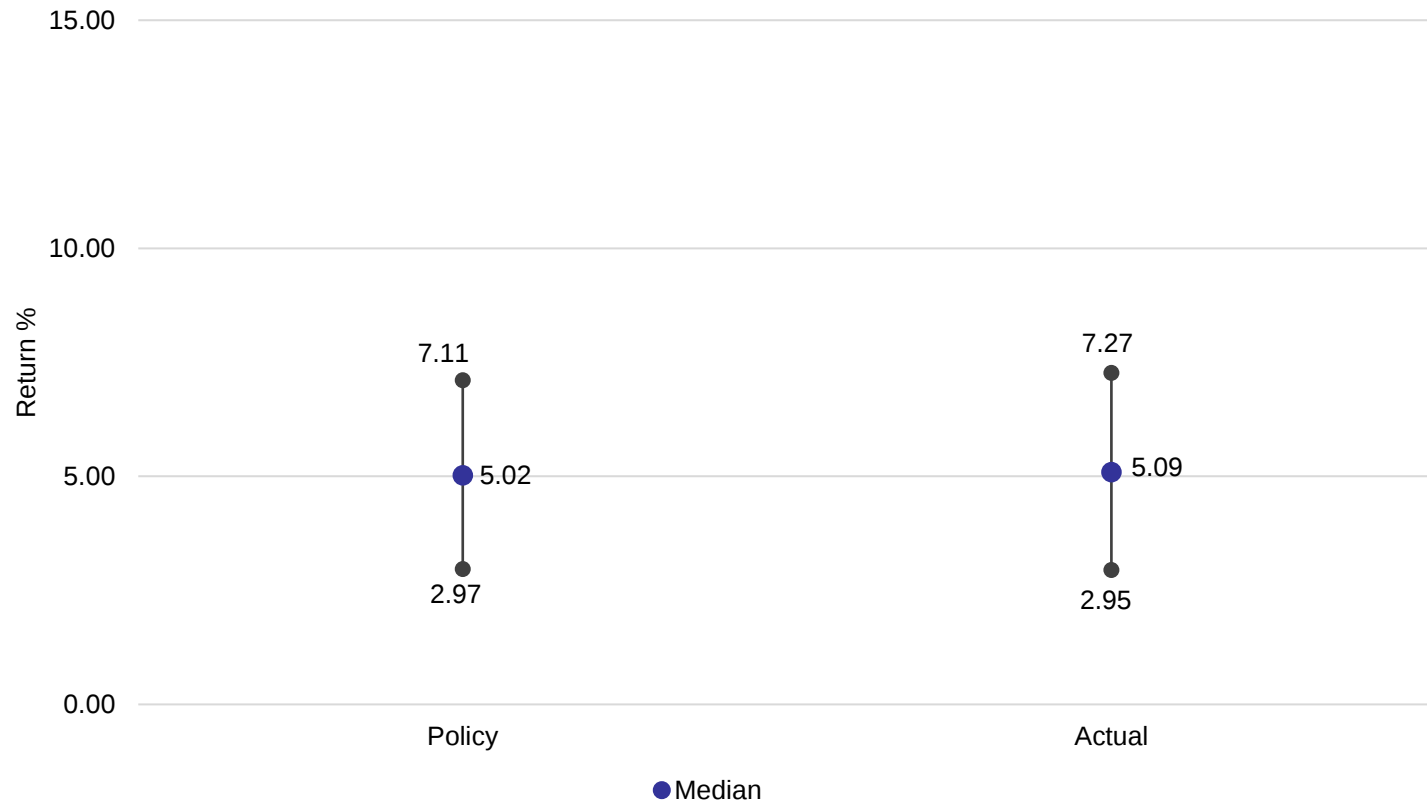
Scenarios are shown for illustrative purposes.

Green	Increase allocation
Red	Decrease allocation
Blue	New asset class

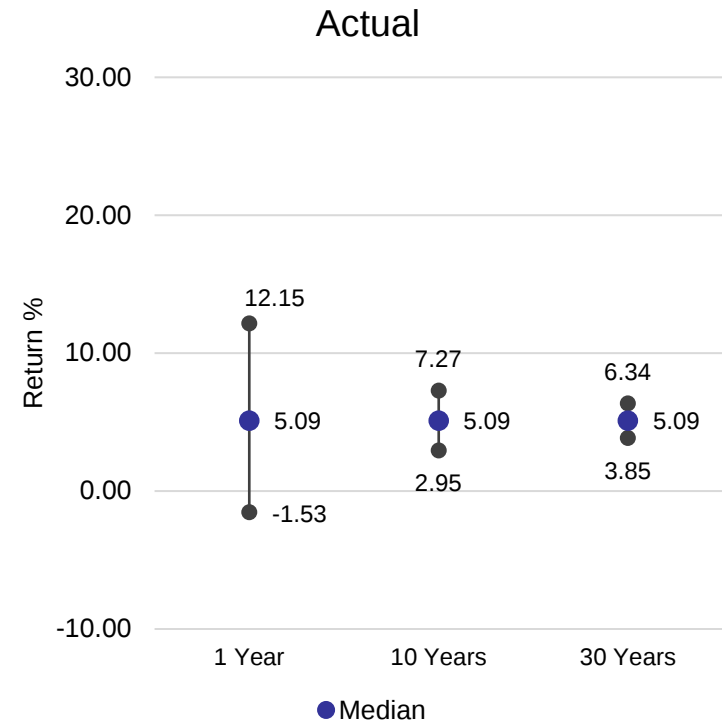
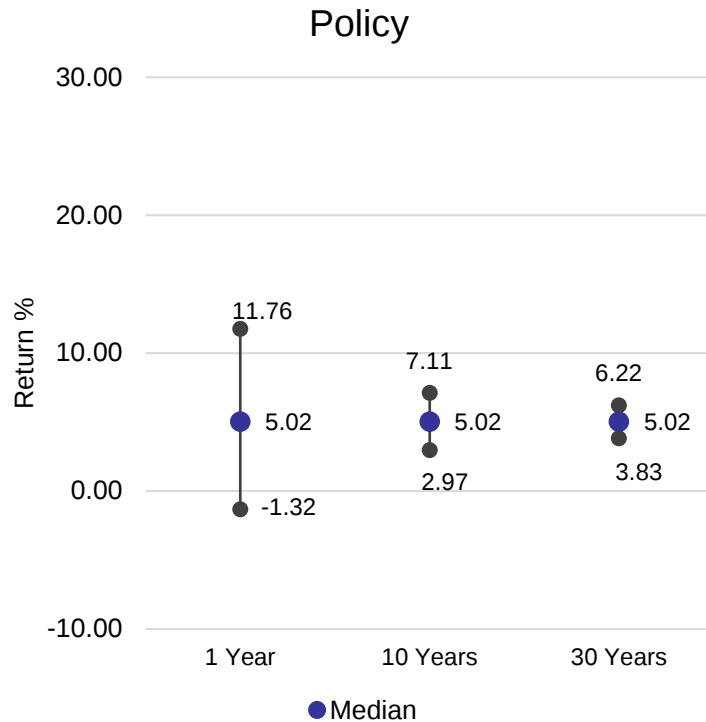
Efficient Frontier Comparison



Potential Distribution of Returns – 10 Year Horizon

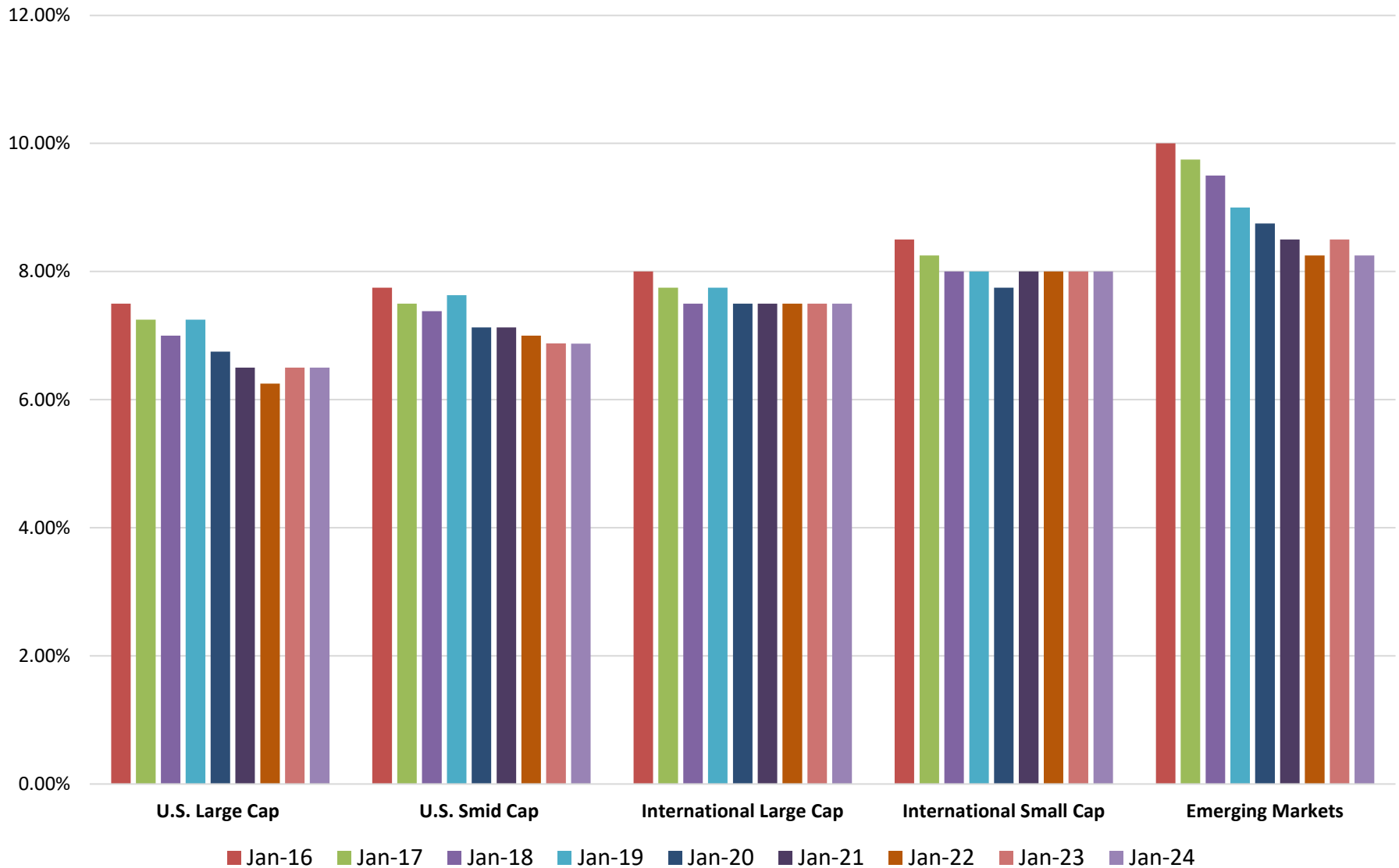


Potential Distribution of Returns

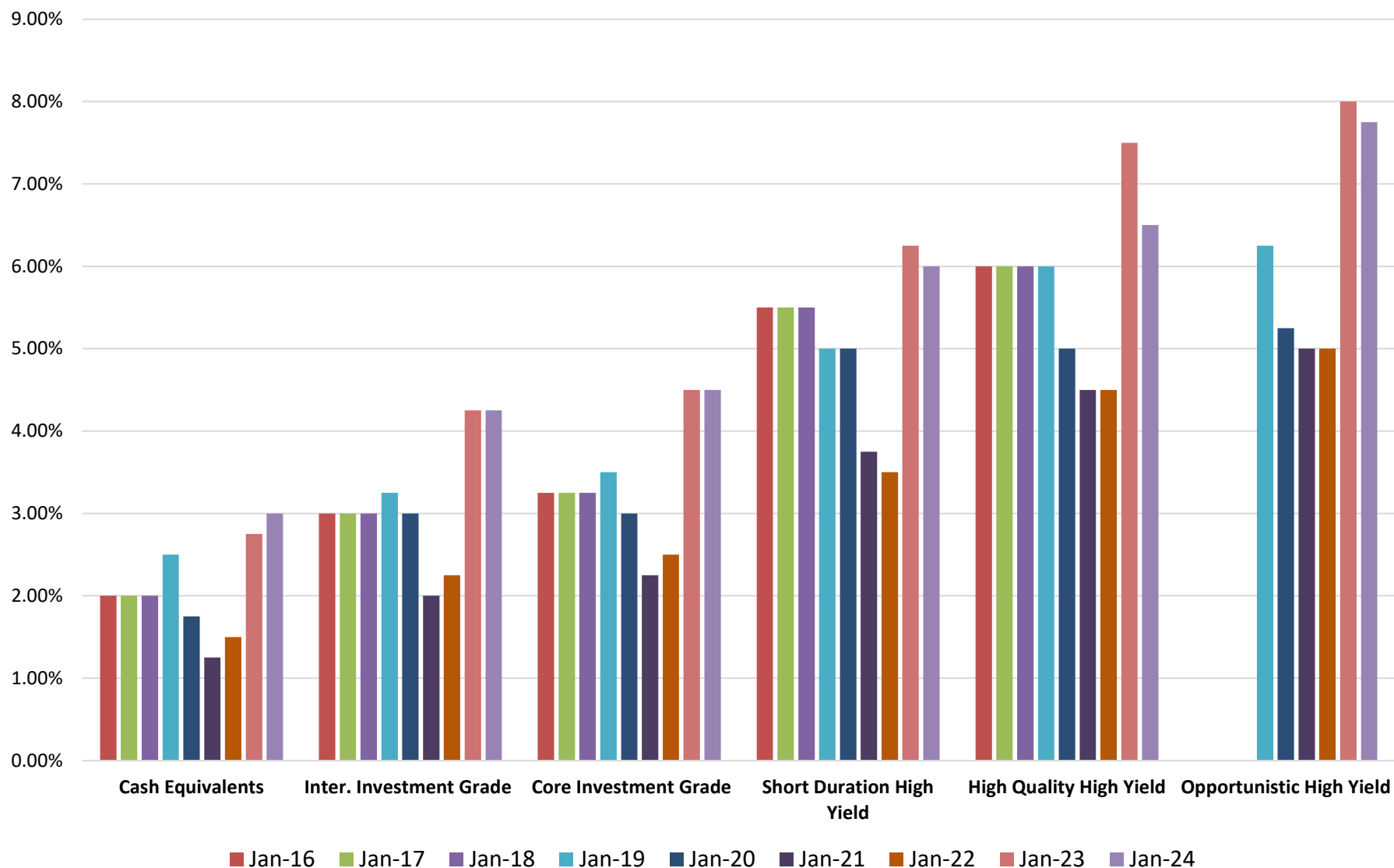


APPENDIX

Public Equity – IPS Historical Capital Market Assumptions

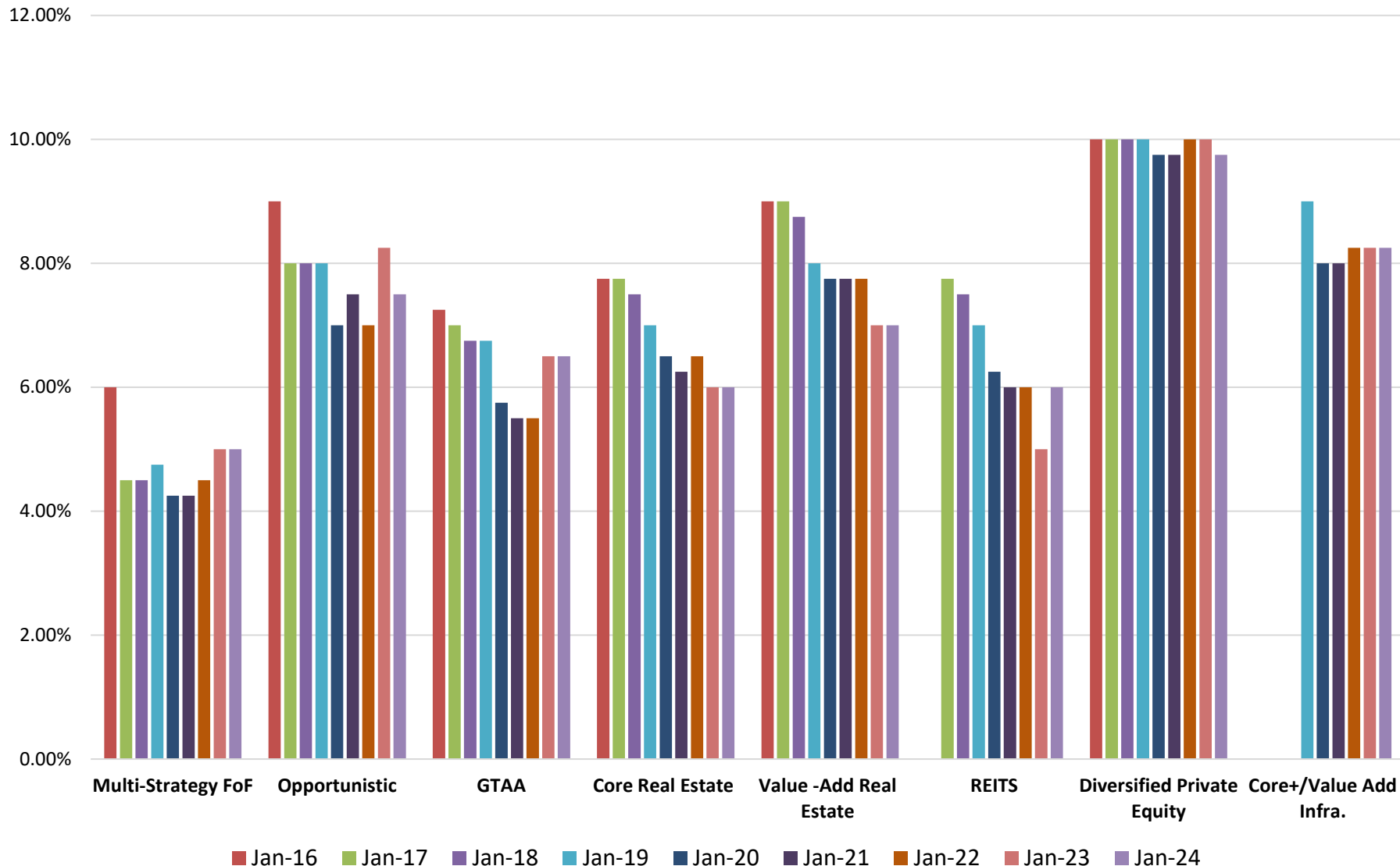


Fixed Income – IPS Historical Capital Market Assumptions



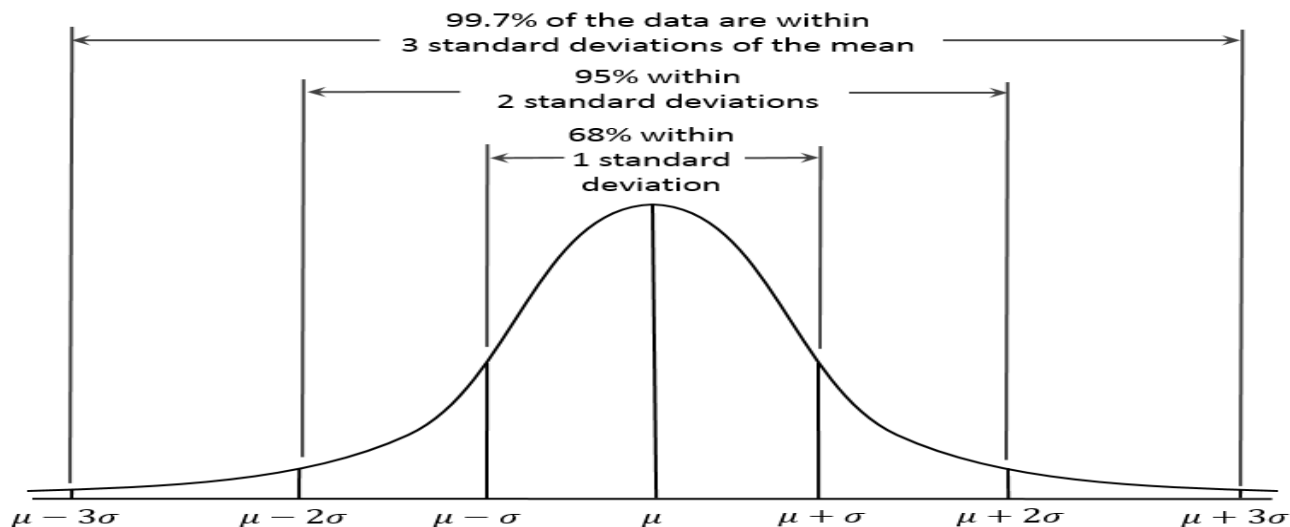
IPS began setting a capital market assumption for Opportunistic High Yield in January 2019.

Alternative Investments – IPS Historical Capital Market Assumptions



Explanation of Methodology

- The analysis in this presentation utilizes the parametric method, also known as the variance-covariance method
- The parametric method assumes a normal distribution of returns, commonly referred to as a bell-shaped curve.
 - For a normal distribution, 68% of the observations are within +/- one standard deviation, 95% are within +/- two standard deviations, and 99.7% are within +/- three standard deviations
- The chart below shows a normal distribution



- In reality, financial returns are not “normal;” they exhibit positive skewness (you get more positive returns above the mean than a normal distribution would predict) and kurtosis (the extreme “tails” of both positive and negative returns occur more often and are more extreme than a normal distribution would predict).

Glossary of Investment Terminology

Total Return	The annual return on an investment including appreciation, depreciation and income (interest, dividends, net operating income).
Alpha	The excess return (positive or negative) generated by active portfolio management and security selection, relative to a benchmark.
Beta	A historical measure of an investment's volatility relative to the market. The beta of the market is 1.0 (as represented by a benchmark such as the S&P 500 Index). A beta of greater than 1.0 indicates an investment with greater volatility than the benchmark. A beta of less than 1.0 indicates less volatility than the benchmark.
Standard Deviation	Standard deviation is a statistical measurement of the dispersion of a set of data from its mean. The more spread apart the data are, the greater the standard deviation.
Risk	For an investment portfolio, risk is typically defined as the volatility of the returns, as measured by calculating the standard deviation. The risk does not necessarily indicate the risk of loss, but does indicate the risk of inconsistent returns.
Capture Ratio	Calculates how well a manager performs in a rising or falling market as a percentage of a benchmark. In a rising market, a percentage of 100 or better is preferred, and indicates the manager exceeded the benchmark (upside capture ratio). In a falling market, a percentage of less than 100 is preferred, indicating that the manager lost less than the benchmark (downside capture ratio).
Correlation	A statistical measure of how two asset classes perform in relation to each other. Asset classes with a correlation of 1.0 have perfect positive correlation (exactly the same). Assets with perfect negative correlation of -1.0 will perform equally but in opposite directions.
Efficient Frontier	A series of portfolios with the maximum expected return for any level of risk, which is calculated based on assumptions of risk, return and correlation. These portfolios are shown graphically on a risk and return chart, and represent the most efficient tradeoff between risk and return.
Market Cap	The dollar value of a corporation, which is calculated by multiplying the share price and the number of outstanding shares.
Large Cap	Stocks which typically have a market capitalization of \$10 billion or higher.
Mid Cap	Stocks which typically have a market capitalization of \$2 to \$10 billion.
Small Cap	Stocks which typically have a market capitalization of \$2 billion or less.
Geometric Calculation	Geometric Calculations are used when determining an annualized investment return and tends to dampen the effect of very high or very low values. The result is a number that is smaller than (or equal to) the arithmetic average of the values.
Compound Annual Returns	Compound annual returns show the annual investment return, assuming the investment grew at a constant rate, and reflects the impact of the time in the calculation of an investment return.
Return/Risk Ratio	The return/risk ratio is the expected return of an investment divided by the expected standard deviation (risk). When comparing return/risk ratios a higher value is presumed to be better than a lower value

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EPIC

May 3-5, 2023

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Barrow Hanley Global Investors
BentallGreenOak
BNY Mellon Asset Management (Mellon)
Boston Partners Global Investors
Boyd Watterson Asset Management
Capital Group
Chartwell Investment Partners
Christenson Investment Partners
Columbia Threadneedle Investments
Constitution Capital Equity Partners
Corbin Capital Partners
Earnest Partners
Empower
EnTrust Global
Fidelity Investments
First Eagle Investment Mgmt.
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GoldenTree Asset Management
Great Lakes Advisors
Hamilton Lane Advisors
Hardman Johnston Global Advisors
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Oaktree Capital Management
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Partners Group
Patriot Financial Partners
PNC Capital Advisors
Post Advisory Group
Principal Financial Group
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Raymond James Investment Management
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Sierra Investment Partners
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State Street Global Advisors
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Vista Underwriting
Washington Capital Management
WEDGE Capital Management
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