Operating Engineers Local No. 77 JATC

Investment Performance Report

Period Ended
December 31, 2024

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Operating Engineers Local No. 77 JATC Fund

Market Discussion Q4 | 2024

Financial Market Performance – Periods Ending December 31, 2024

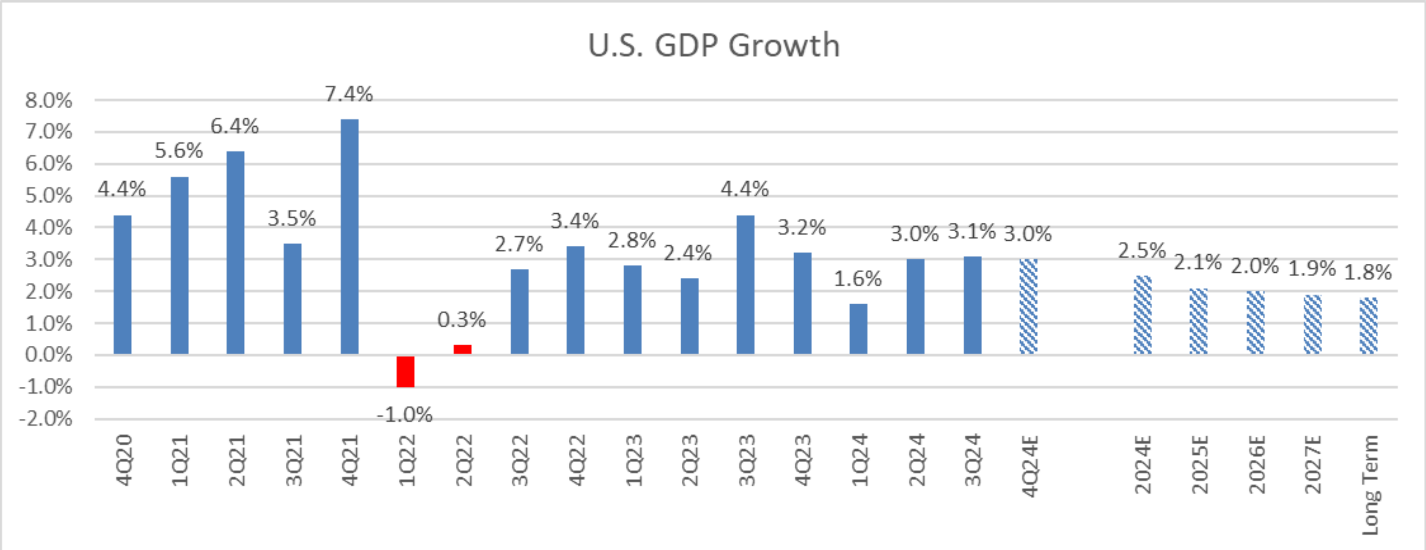
Strategy	Sector	Index	QTR	YTD	2023	2022	2021	2020	2019	2018	1-Yr	3-Yr	5-Yr	10-Yr	20-Yr
Stocks	US Large Cap	S&P 500	2.4%	24.9%	26.3%	-18.1%	28.7%	18.4%	31.5%	-4.4%	24.9%	8.9%	14.5%	13.1%	10.3%
	US Large Cap Growth	Russell 1000 Growth	7.1%	33.2%	42.7%	-29.1%	27.6%	38.5%	36.4%	-1.5%	33.2%	10.5%	18.9%	16.8%	12.5%
	US Large Cap Value	Russell 1000 Value	-2.0%	14.3%	11.4%	-7.6%	25.1%	2.8%	26.5%	-8.3%	14.3%	5.6%	8.6%	8.5%	7.9%
	US Small Cap	Russell 2000	0.3%	11.5%	16.9%	-20.5%	14.8%	19.9%	25.5%	-11.0%	11.5%	1.2%	7.4%	7.8%	7.8%
	Non-US Developed	MSCI EAFE (net)	-8.1%	3.8%	18.2%	-14.5%	11.3%	7.8%	22.0%	-13.8%	3.8%	1.6%	4.7%	5.2%	4.8%
	Emerging Markets	MSCI EM (net)	-8.0%	7.5%	9.8%	-20.1%	-2.5%	18.3%	18.4%	-14.6%	7.5%	-1.9%	1.7%	3.6%	6.0%
	Int'l Small Cap	MSCI EAFE Small Cap (net)	-8.4%	1.8%	13.2%	-21.4%	10.1%	12.3%	25.0%	-17.9%	1.8%	-3.2%	2.3%	5.5%	5.8%
Bonds	Treasury	Bloomberg US Govt	-3.1%	0.6%	4.1%	-12.3%	-2.3%	7.9%	6.8%	0.9%	0.6%	-2.8%	-0.6%	0.9%	2.6%
	Broad Market	Bloomberg Aggregate	-3.1%	1.2%	5.5%	-13.0%	-1.5%	7.5%	8.7%	0.0%	1.2%	-2.4%	-0.3%	1.3%	3.0%
	Intermediate	Bloomberg Gov/Credit Int.	-1.6%	3.0%	5.2%	-8.2%	-1.4%	6.4%	6.8%	0.9%	3.0%	-0.2%	0.9%	1.7%	2.9%
	High Yield	Bloomberg HY BaB 2% IC	-0.2%	6.7%	12.6%	-10.6%	4.6%	7.7%	15.2%	-1.9%	6.7%	2.4%	3.9%	5.0%	6.1%
	Short Duration HY	ICE BofA 1-3 Yrs BB US Cash Pay HY	0.8%	6.7%	8.9%	-3.1%	3.2%	5.4%	8.7%	1.3%	6.7%	4.0%	4.1%	4.4%	5.5%
	Global Bonds	FTSE WGBI	-5.4%	-2.9%	5.2%	-18.3%	-7.0%	10.1%	5.9%	-0.8%	-2.9%	-5.8%	-3.1%	-0.6%	1.2%
GTAA	Unconstrained	65% MSCI World /35% FTSE WGBI	-2.0%	10.8%	17.0%	-18.1%	11.0%	14.6%	19.9%	-5.8%	10.8%	2.1%	6.2%	6.4%	5.8%
Real Estate	Core	NCREIF ODCE Equal Weighted (net)	0.8%	-2.4%	-2.4%	7.6%	21.9%	0.8%	5.2%	7.3%	-2.4%	-3.1%	2.2%	5.2%	5.6%
Hedge Fund of Funds	Diversified FOFs	HFRI FOF Composite	2.6%	9.7%	6.1%	-5.3%	6.2%	10.9%	8.4%	-4.0%	9.7%	3.3%	5.4%	3.8%	3.5%
	Equity Long-Short	HFRI Equity Hedge	1.8%	12.3%	11.4%	-10.1%	11.7%	17.9%	13.7%	-7.1%	12.3%	4.0%	8.2%	6.3%	5.6%
Commodities	Commodities	Goldman Sachs Commodity	3.8%	9.2%	-4.3%	26.0%	40.4%	-23.7%	17.6%	-13.8%	9.2%	9.6%	7.1%	1.2%	-1.8%

Asset Class Performance “Quilt”

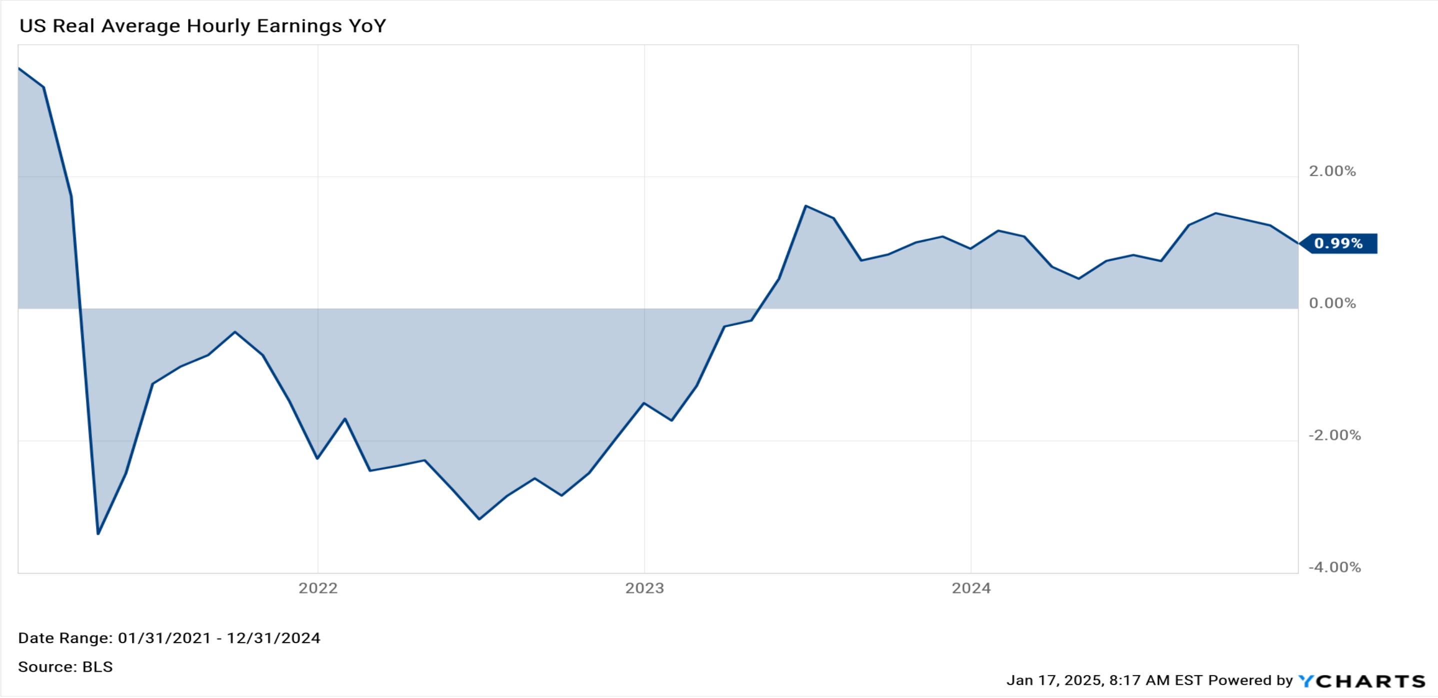
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Small Cap 26.9%	RE 15.0%	EM Equity 18.2%	Small Cap 38.8%	Large Cap 13.7%	RE 14.2%	Small Cap 21.3%	EM Equity 37.3%	RE 7.3%	Large Cap 31.5%	Small Cap 20.0%	Large Cap 28.7%	RE 7.6%	Large Cap 26.3%	Large Cap 25.0%
Mid Cap 25.5%	Fx Inc 7.8%	Int'l 17.3%	Mid Cap 34.8%	Mid Cap 13.2%	Return 7.0%	HY 17.5%	Int'l 25.0%	Return 7.0%	Mid Cap 30.5%	Large Cap 18.4%	Mid Cap 22.6%	Return 7.0%	Int'l 18.2%	Mid Cap 12.0%
EM Equity 18.9%	Return 7.0%	Mid Cap 17.3%	Large Cap 32.4%	RE 11.4%	Large Cap 1.4%	Mid Cap 13.8%	Large Cap 21.8%	SD HY 1.4%	Small Cap 25.5%	EM Equity 18.3%	RE 21.9%	SD HY -3.1%	Mid Cap 17.2%	Small Cap 11.5%
HY 15.2%	HY 4.4%	Small Cap 16.3%	Int'l 22.8%	Return 7.0%	SD HY 1.2%	Large Cap 12.0%	Mid Cap 18.5%	Fx Inc 0.0%	Int'l 22.0%	Mid Cap 17.1%	Small Cap 14.8%	HFoF -5.2%	GTAA 17.0%	GTAA 10.8%
RE 15.1%	SD HY 4.4%	Large Cap 16.1%	GTAA 15.3%	Fx Inc 6.0%	Fx Inc 0.6%	EM Equity 11.2%	GTAA 17.0%	HY -2.3%	GTAA 19.8%	GTAA 15.2%	Int'l 11.3%	HY -11.2%	Small Cap 16.9%	HFoF 9.7%
Large Cap 15.1%	Large Cap 2.1%	HY 15.6%	RE 12.4%	Small Cap 4.9%	HFoF -0.3%	SD HY 8.5%	Small Cap 14.7%	HFoF -4.0%	EM Equity 18.4%	HFoF 10.3%	GTAA 11.1%	Fx Inc -13.0%	HY 13.5%	EM Equity 7.5%
SD HY 11.7%	GTAA -0.9%	GTAA 10.9%	HFoF 9.0%	HFoF 3.4%	Int'l -0.8%	RE 8.4%	HFoF 7.8%	Large Cap -4.4%	HY 14.4%	Int'l 7.8%	Return 7.0%	Int'l -14.5%	EM Equity 9.8%	Return 7.0%
GTAA 9.8%	Mid Cap -1.6%	SD HY 10.2%	HY 7.4%	GTAA 3.0%	GTAA -1.6%	Return 7.0%	HY 7.5%	GTAA -5.7%	Fx Inc 8.7%	Fx Inc 7.5%	HFoF 6.0%	Mid Cap -17.3%	SD HY 8.9%	HY 6.8%
Int'l 7.8%	Small Cap -4.2%	RE 9.9%	Return 7.0%	HY 2.5%	Mid Cap -2.4%	GTAA 5.6%	Return 7.0%	Mid Cap -9.1%	SD HY 8.7%	Return 7.0%	HY 5.4%	GTAA -18.1%	Return 7.0%	SD HY 6.7%
Return 7.0%	HFoF -5.7%	Return 7.0%	SD HY 5.6%	SD HY 1.9%	Small Cap -4.4%	Fx Inc 2.7%	RE 6.9%	Small Cap -11.0%	HFoF 8.4%	HY 6.2%	SD HY 4.3%	Large Cap -18.1%	HFoF 6.6%	Int'l 3.8%
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%	Return 7.0%	SD HY 5.4%	Fx Inc -1.5%	EM Equity -20.1%	Fx Inc 5.5%	Fx Inc 1.3%
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%	RE -2.4%

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



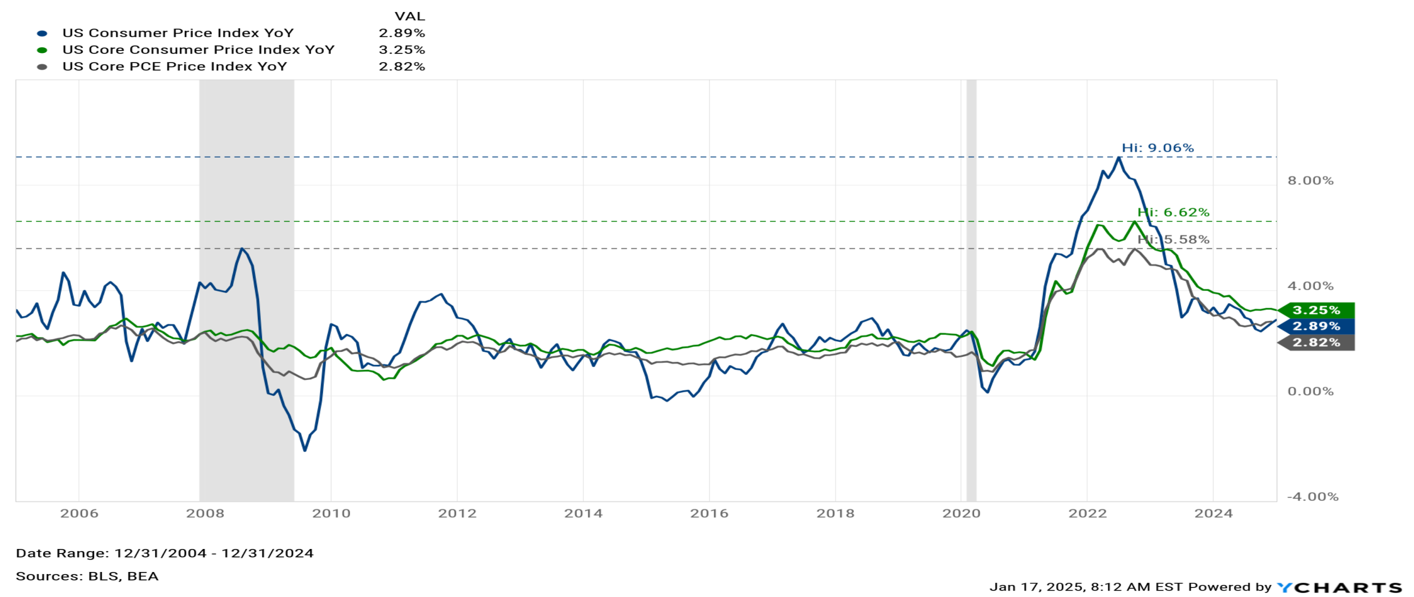
Sources: U.S. Bureau of Economic Analysis, Federal Reserve, Atlanta Federal Reserve

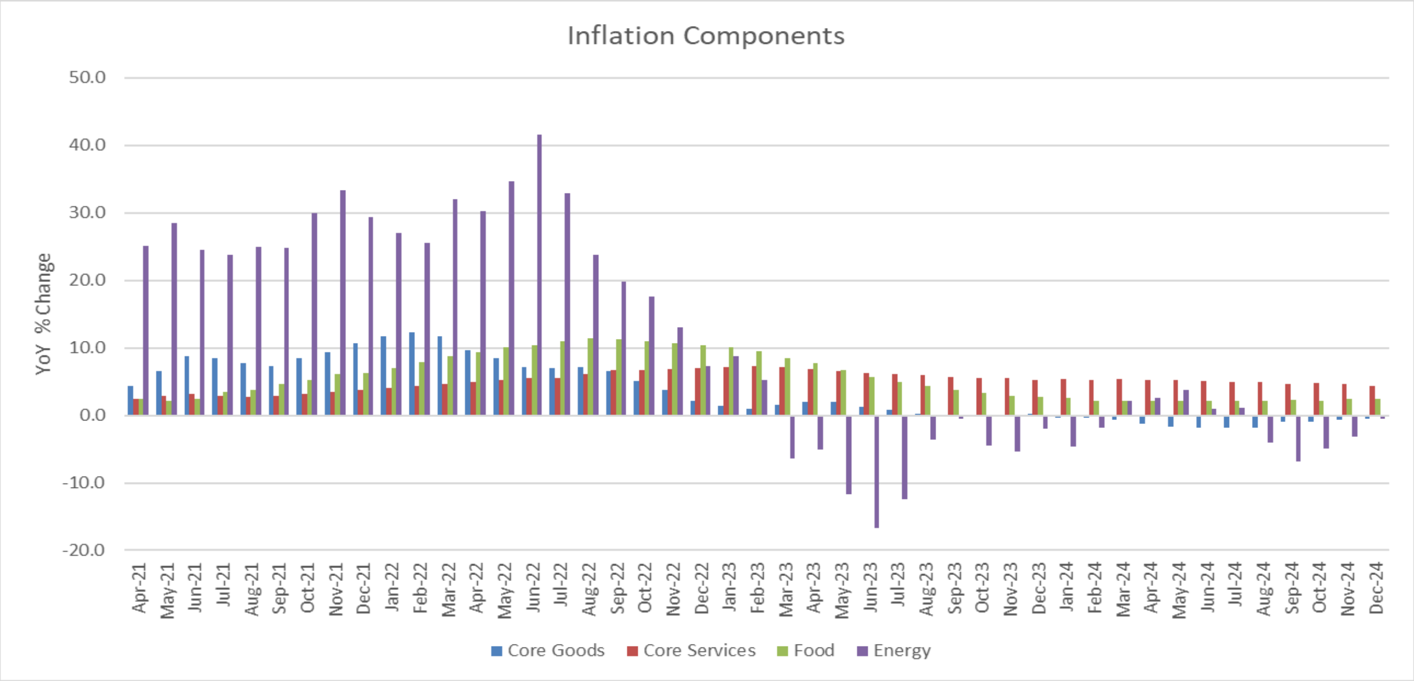


U.S. Economic Growth Continues Above Trend

- U.S. GDP growth remains above trend, with 3.1% growth in Q3 2024. GDP growth has exceeded 2.0% in eight of the last nine quarters.
- Compared to Q2 2024, the acceleration in real GDP primarily reflected strong growth in consumer spending, which expanded by 3.5%, the most since Q1 2023.
- Increases in exports and government spending also contributed to the increase in overall growth.
- As of January 17, the Atlanta Federal Reserve is projecting GDP growth of 3.0% for Q4 2024.
- After 25 consecutive months of negative real wage growth for U.S. workers, higher wage and slowing inflation have more recently resulted in 20 consecutive months of real earnings growth, supporting robust economic growth.

U.S. Economy

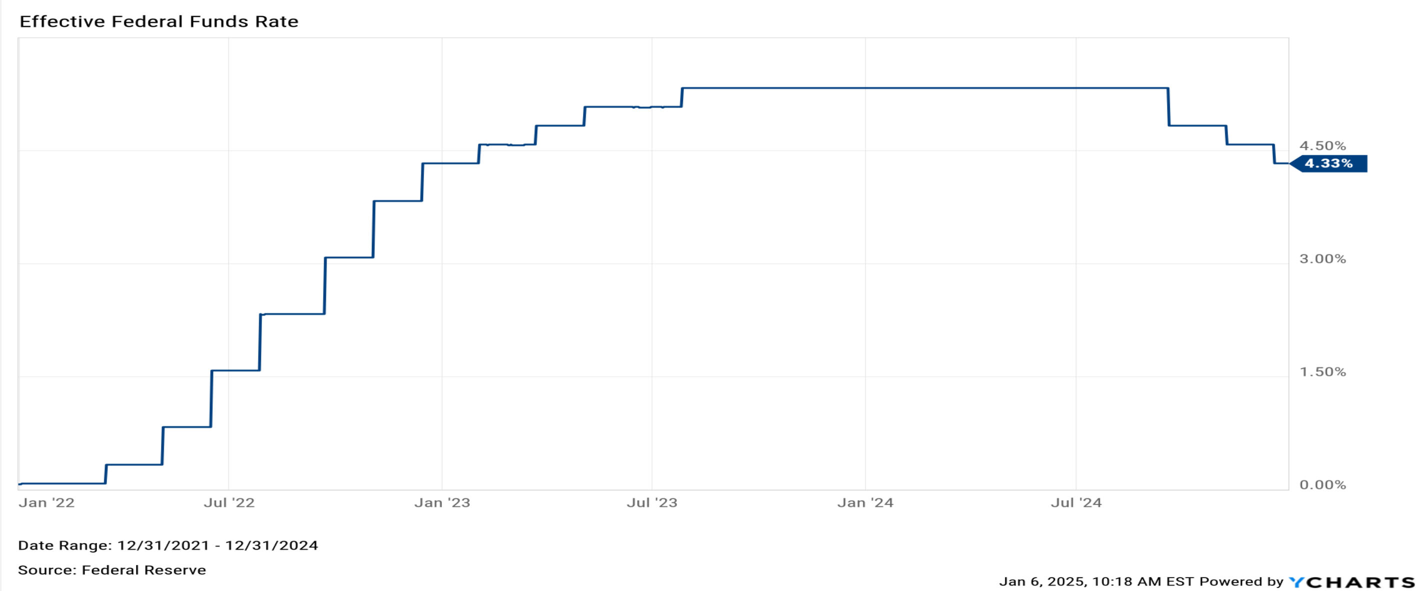


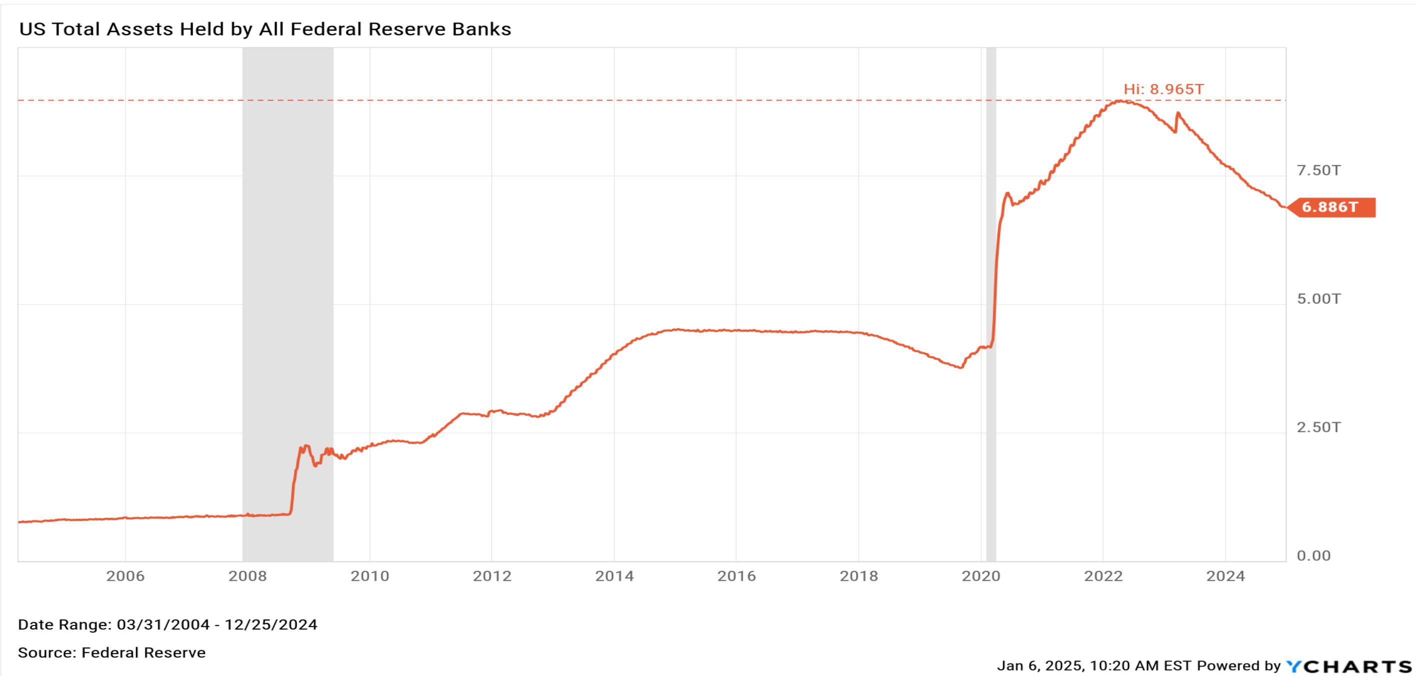


Inflation Remains Above the Fed's Target

- December CPI increased 0.4% month-over-month, the largest increase since March 2024. Year-over-year, headline CPI was 2.9%, down from 4.1% in 2023.
- A 2.6% jump in the cost of energy prices in December accounted for more than 40% of the increase in the CPI month-over-month. For the full year, energy prices declined 0.5%.
- Excluding food and energy, core inflation increased by 3.25% vs. a year ago, the lowest level since April 2021.
- Year-over-year core goods inflation was negative for all twelve months of 2024, driven by falling used car prices.
- Service inflation remains elevated, driven by shelter and auto insurance.
- Core Personal Consumption Expenditures (PCE), the Fed's preferred inflation measure, increased by 2.8% over the last year through December, down from a peak of 5.6% in 2022.

U.S. Economy

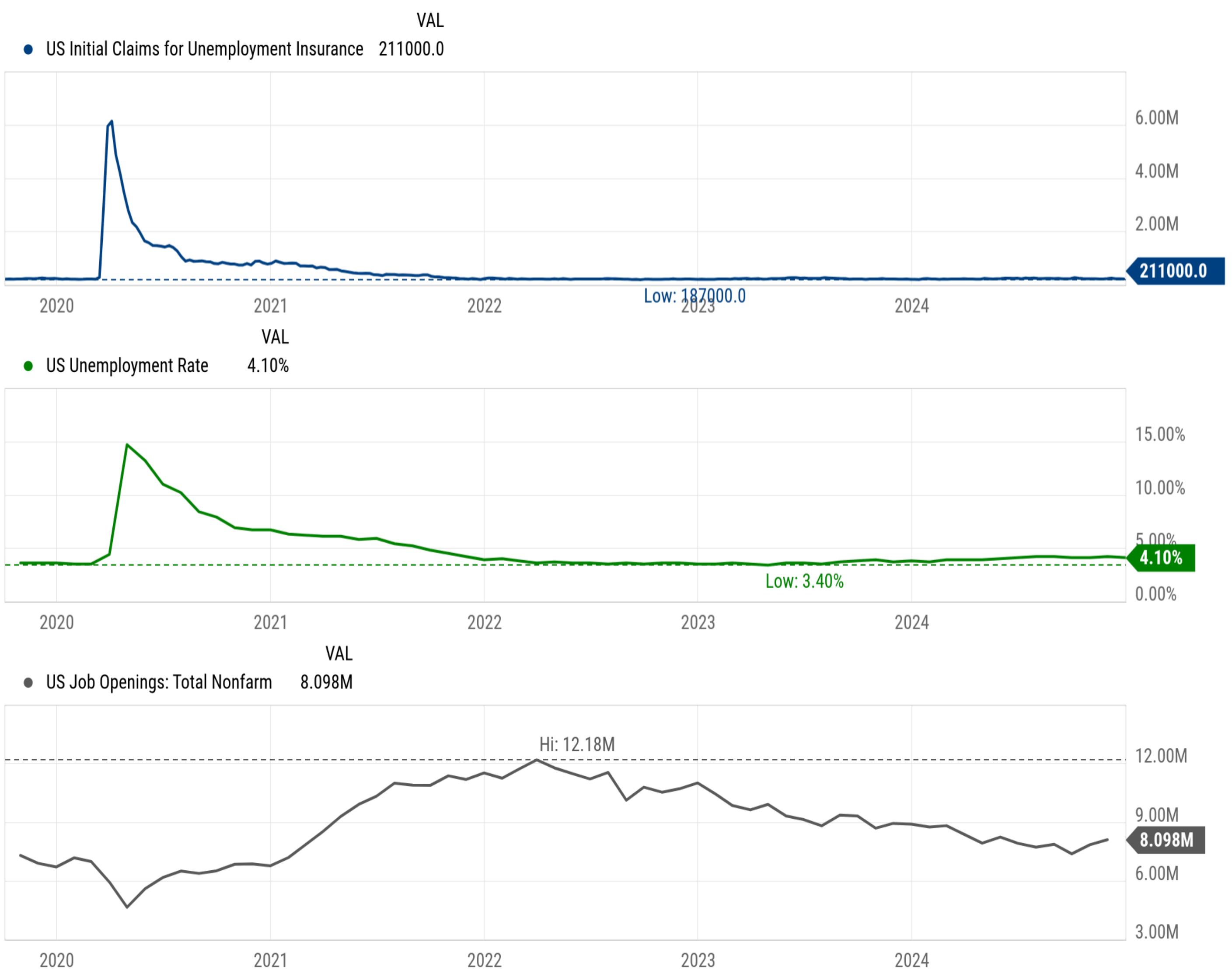




Fed Cuts Rates by 0.50% in 4Q 2024

- Despite inflation remaining above target, the Fed cut interest rates by 100 bps from September through December, including a 0.25% reduction at their final meeting of the year in December.
- The Effective Fed Funds Rate is now at the lowest level since January 2023.
- Forward guidance from the Fed at the December meeting suggests 0.50% in cuts in 2025 followed by an additional 0.50% in cuts in 2026.
- The Fed reduced the size of the balance sheet through quantitative tightening by approximately $2.1 trillion since the peak in April 2022.
- The balance sheet is at the lowest level since May 2020, but remains significantly larger than pre-COVID.

U.S. Economy



Date Range: 10/05/2019 - 12/31/2024

Sources: DoL, BLS

Jan 17, 2025, 8:19 AM EST Powered by YCHARTS

Labor Market Ends 2024 on a Strong Note

- Nonfarm payrolls surged by 256,000 in December, up from 212,000 in November and above the forecast of 155,000.
- There were an average of 186,000 jobs added per month in 2024, down from an average of 251,000 in 2023.
- Weekly claims for unemployment averaged 225,864 in Q4 2024 compared to 231,153 in Q3 2024.
- The unemployment rate has been at or above 4.0% since May 2024, following 27 consecutive months of unemployment below 4.0%.
- Despite an uptick in Q4 2024, job openings are approximately 4.0 million below the peak in 2022 of 12.2 million.

U.S. Equity Market

	Index	4Q24	YTD	2023	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year
Large Cap	S&P 500	2.4%	24.9%	26.3%	-18.1%	28.7%	18.4%	31.5%	-4.4%	24.9%	8.9%	14.5%	13.1%
	Russell 1000	2.7%	24.4%	26.5%	-19.1%	26.4%	21.0%	31.4%	-4.8%	24.4%	8.4%	14.2%	12.8%
	Russell 1000 Value	-2.0%	14.3%	11.4%	-7.6%	25.1%	2.8%	26.5%	-8.3%	14.3%	5.6%	8.6%	8.5%
	Russell 1000 Growth	7.1%	33.2%	42.7%	-29.1%	27.6%	38.5%	36.4%	-1.5%	33.2%	10.5%	18.9%	16.8%
Mid Cap	Russell Mid-Cap	0.6%	15.3%	17.2%	-17.3%	22.6%	17.1%	30.5%	-9.1%	15.3%	3.8%	9.9%	9.6%
	Russell Mid-Cap Value	-1.8%	13.0%	12.7%	-12.1%	28.3%	5.0%	27.0%	-12.3%	13.0%	3.9%	8.6%	8.1%
	Russell Mid-Cap Growth	8.1%	22.0%	25.9%	-26.7%	12.7%	35.6%	35.5%	-4.8%	22.0%	4.0%	11.5%	11.5%
Small Cap	Russell 2000	0.3%	11.5%	16.9%	-20.5%	14.8%	19.9%	25.5%	-11.0%	11.5%	1.2%	7.4%	7.8%
	Russell 2000 Value	-1.1%	8.0%	14.6%	-14.5%	28.2%	4.6%	22.4%	-12.9%	8.0%	1.9%	7.2%	7.1%
	Russell 2000 Growth	1.7%	15.1%	18.6%	-26.4%	2.8%	34.6%	28.4%	-9.3%	15.1%	0.2%	6.8%	8.1%
Total Market	Wilshire 5000	2.6%	23.7%	26.1%	-19.0%	26.7%	20.8%	31.0%	-5.3%	23.7%	8.1%	14.1%	12.7%
	Russell 3000	2.6%	23.7%	25.9%	-19.2%	25.6%	20.9%	31.0%	-5.2%	23.7%	8.0%	13.8%	12.5%

Major Index Total Return as of December 31, 2024

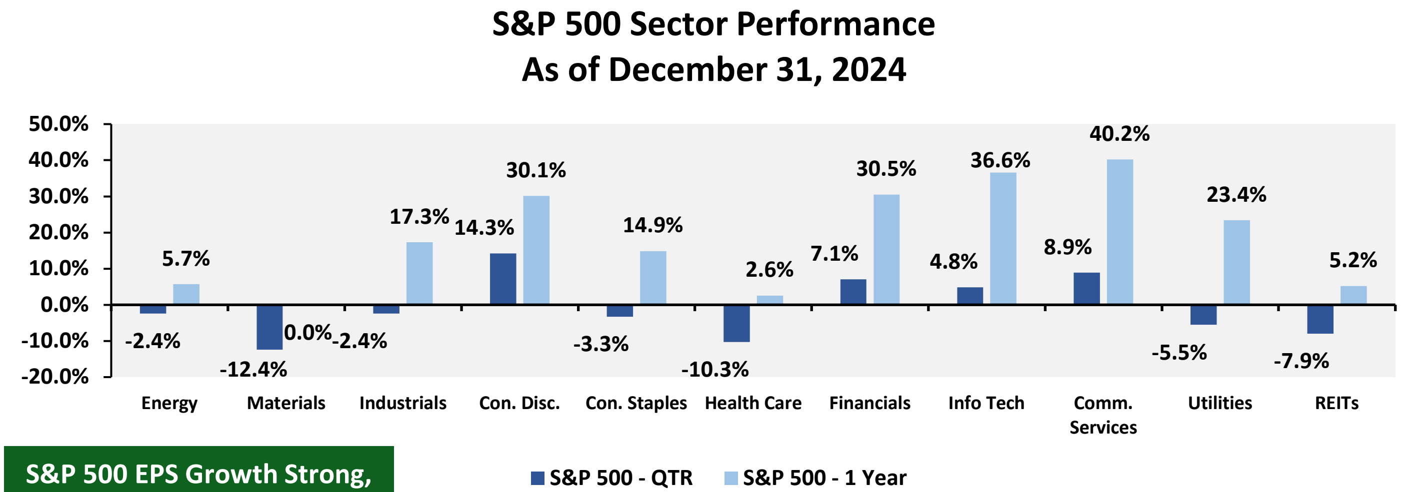
Asset Class	Name	4Q24	% off Low	% Off All Time High
U.S. Large Cap	S&P 500	2.4%	70.1%	-3.4%
U.S. Mid Cap	Russell Midcap	0.6%	47.8%	-7.1%
U.S. Smid Cap	Russell 2500	0.6%	41.8%	-7.9%
U.S. Small Cap	Russell 2000	0.3%	39.1%	-8.5%
International Large Cap	MSCI EAFE	-8.1%	46.8%	-9.5%
International Small Cap	MSCI EAFE Small Cap (gross)	-0.6%	37.1%	-13.0%
Emerging Markets	MSCI Emerging Markets	-7.9%	35.9%	-16.6%
Global Equity	MSCI World (gross)	-0.1%	63.6%	-3.7%

- The U.S. stock market posted strong gains in 2024, despite a December selloff resulting in muted Q4 performance. Major U.S. benchmarks provided double-digit returns for the year, powered by strong corporate earnings growth and easing global monetary policies.

- The S&P 500 Index reached 57 record highs in 2024 and delivered annual returns exceeding 20% for two consecutive years, a milestone not achieved since 1998.

- In several respects, 2024 mirrored 2023, with the majority of gains concentrated in large-cap growth stocks, as fewer than 30% of S&P 500 Index stocks outperformed the index for the second straight year. Accordingly, the past two years saw one of the most significant periods of outperformance of growth stocks over value.

U.S. Equity Market

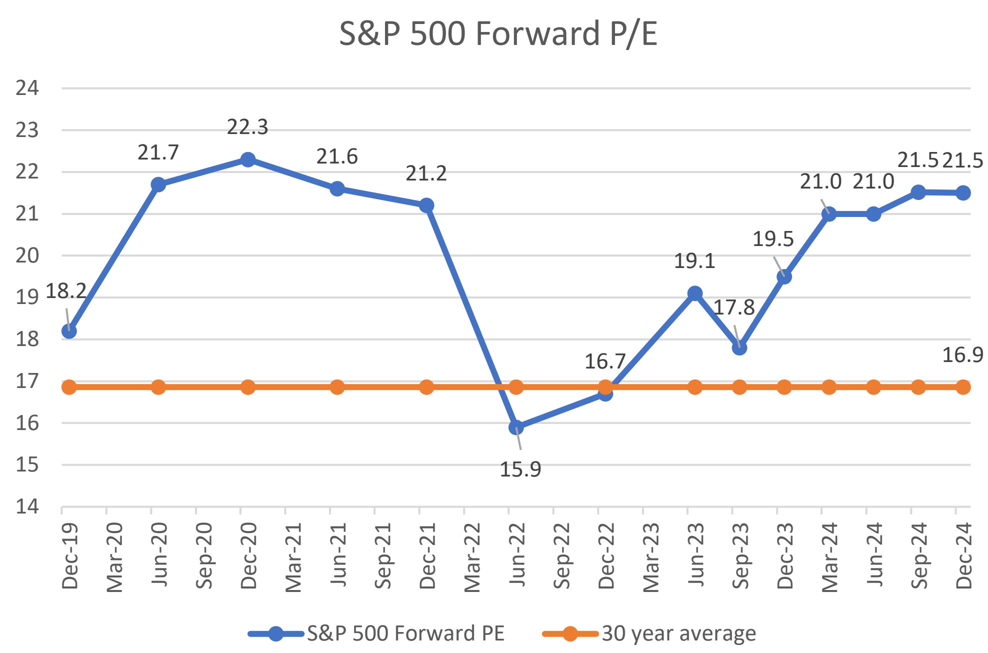


2024 Sector Gains Strong In Light of Mixed Q4

- Q4 featured mixed performance across sectors. At the end of November, all sectors were trending positively for the quarter following the election, but December proved challenging after the Fed's hawkish FOMC meeting, which triggered a sharp market reversal. As a result, 7 of the 11 sectors closed Q4 in the red.
- Notwithstanding this, for FY 2024, 10 out of 11 large-cap sectors saw gains, with four sectors rising by over 30%. The top performers were communications (+40.2%), IT (+36.6%), financials (+30.5%), and consumer discretionary (+30.1%).
- All 11 sectors would have been positive for the year if not for a weak December for materials, resulting in a slightly negative year for the sector. Healthcare (+2.6%) and REITs (+5.2%) were weaker performers, though still positive for the year.

S&P 500 EPS Growth Strong, P/E Ratio Remains Elevated

- S&P 500 EPS is expected to grow 11.9% in Q4, the strongest quarter since Q4 2021.
- For FY 2024, EPS growth is forecast at 9.4%, with 5.1% revenue growth, while FY 2025 EPS growth is projected to rise 14.8% on 5.8% revenue growth.
- The S&P 500's forward P/E ratio remains above its historical average, driven by tech companies' higher multiples due to wide operating margins, market dominance, and index weighting.

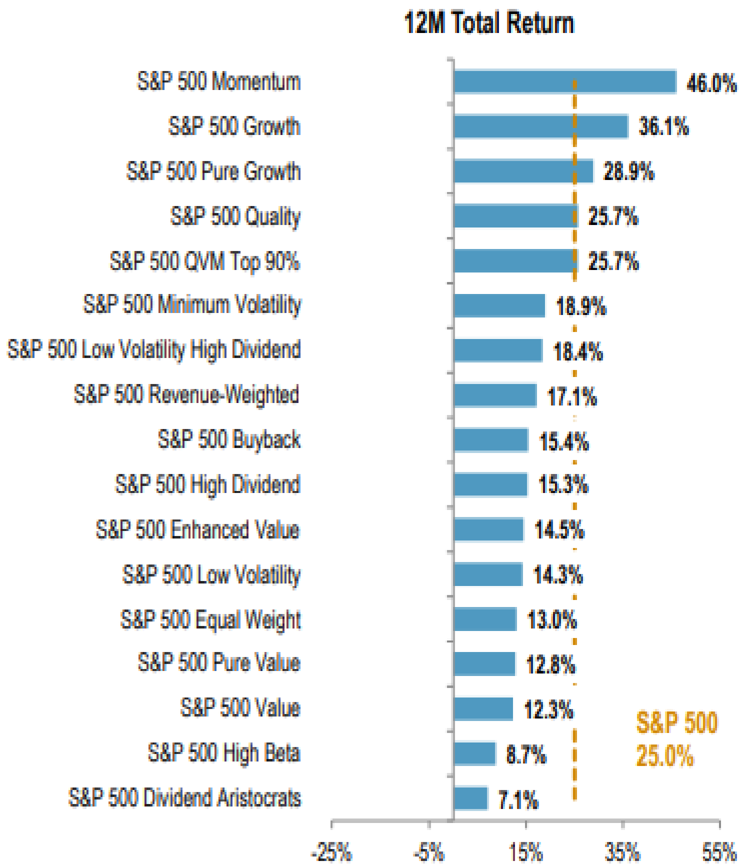


Source: J.P. Morgan Asset Management

U.S. Equity Market

Momentum Dominates Over the Past Two Years

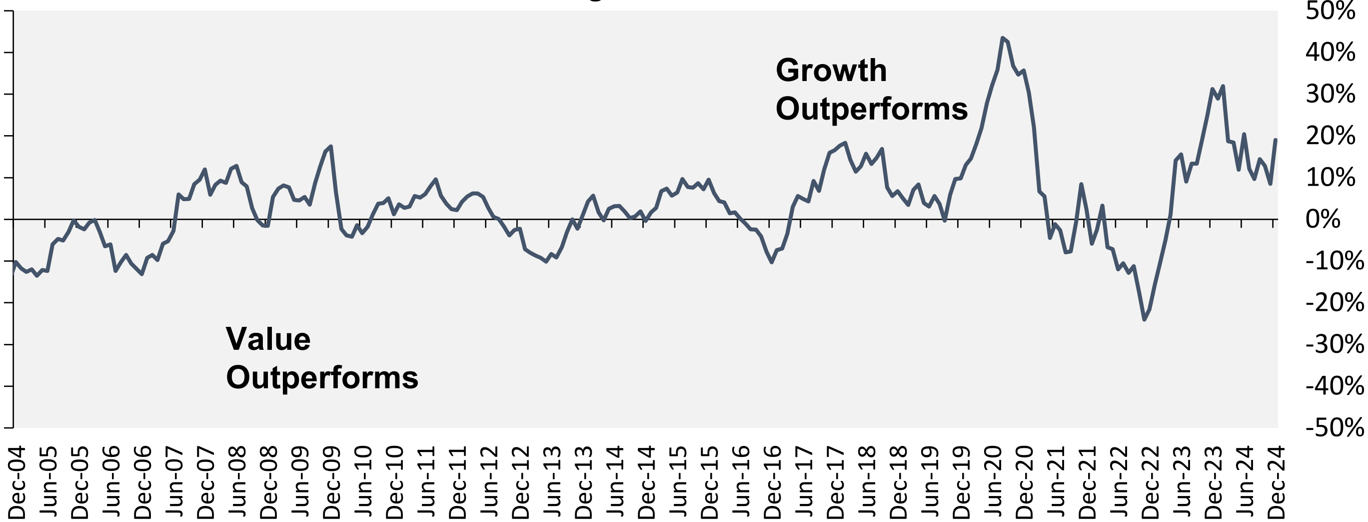
- In hindsight, the formula for stock-picking success over the past two years was clear: invest in momentum. In both 2023 and 2024, stocks with strong recent performance continued to outperform, reflecting the power of the momentum factor relative to anything else.
- While much of this was attributed to the Magnificent 7, the momentum factor excess performance was not limited to just these stocks or the U.S.; it was a broad, worldwide trend.



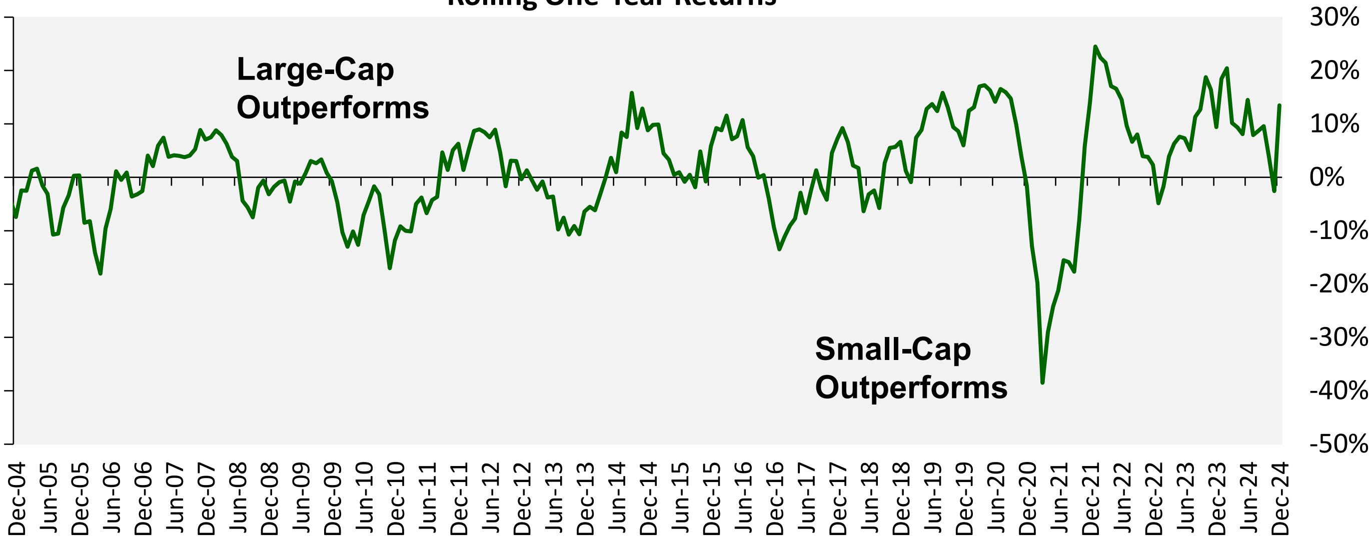
Source: S&P Dow Jones Indices LLC, FTSE Russell & LSEG

U.S. Equity Market

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



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

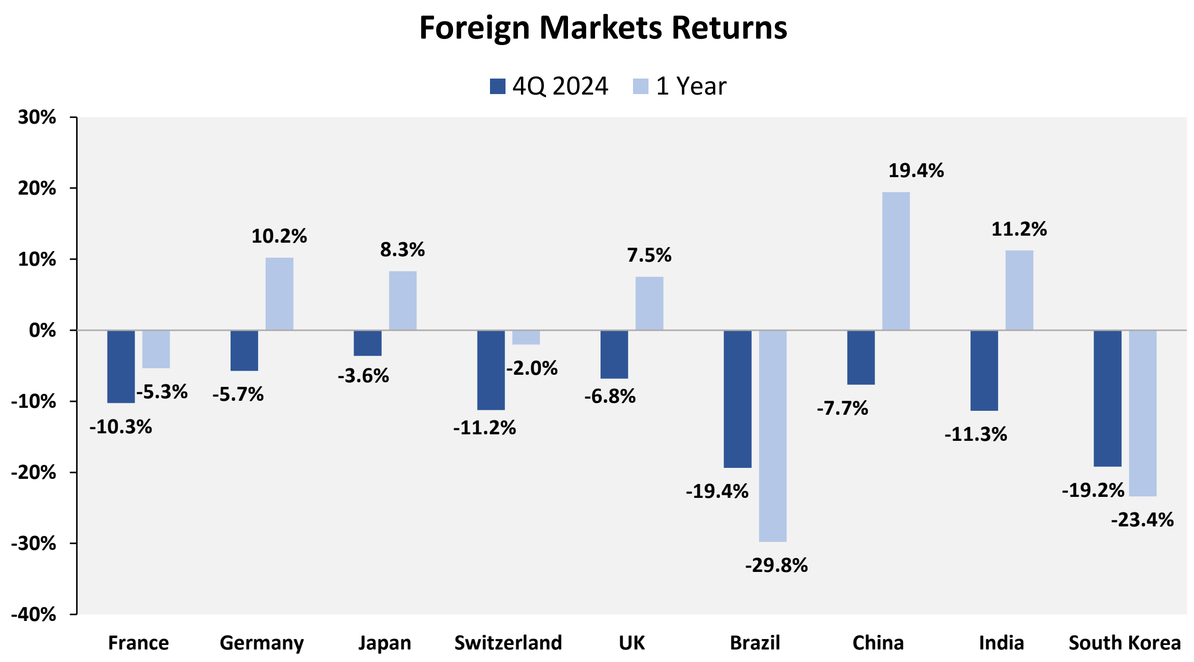


Large-Cap Trends Overshadow, Leaving Small-Caps Behind

- The two-year calendar period of 2023 and 2024 marked the strongest relative outperformance of Russell 1000 Growth over Russell 1000 Value since inception.
- Small-cap equities achieved strong absolute returns in 2024, but experienced an abrupt whipsaw in Q4, with November's impressive rally fully reversed by December's decline.
- Over the past twenty years, the Russell 2000 (small caps) has outperformed the Russell 1000 (large caps) in only five calendar years, with the most recent occurrence in 2016.
- The close of 2024 marks the longest stretch of calendar-year underperformance for the Russell 2000 relative to the Russell 1000 since the indices were established in 1978.

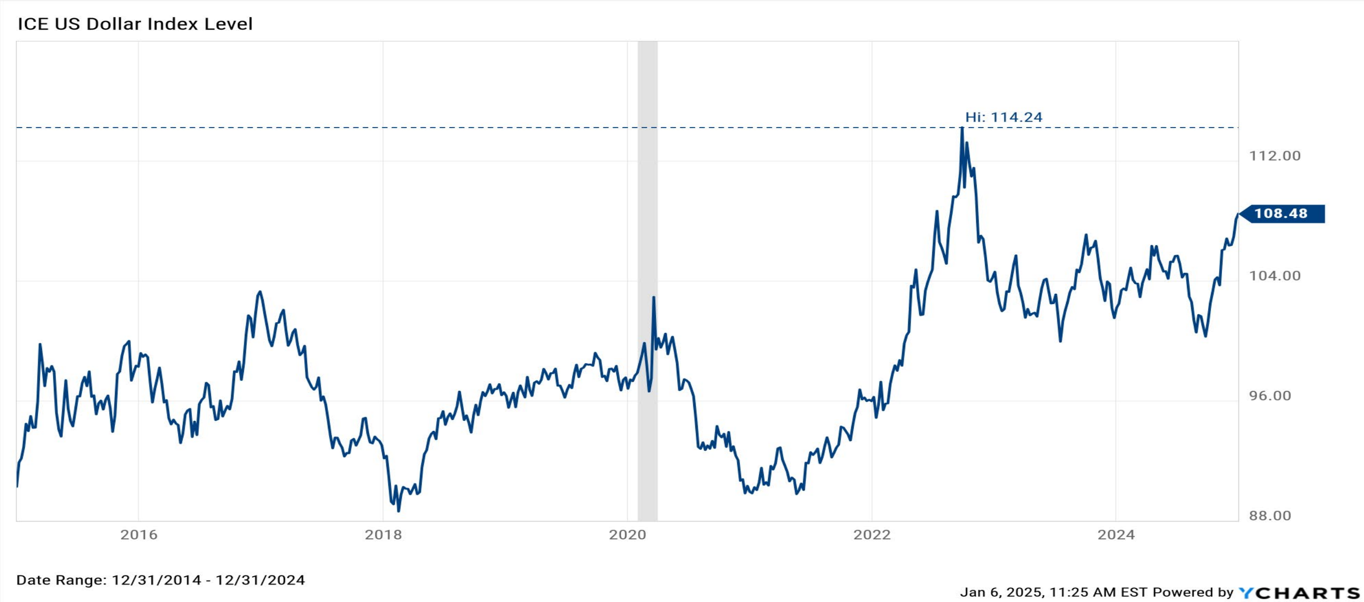
International Equity Market

	Index	4Q24	YTD	2023	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year
Global	MSCI AC World Index (net)	-1.0%	17.4%	22.2%	-18.4%	18.5%	16.3%	26.6%	-9.4%	17.4%	5.4%	10.1%	9.2%
	MSCI World Small Cap (net)	-2.6%	8.1%	15.8%	-18.8%	15.8%	16.0%	26.2%	-13.9%	8.1%	0.6%	6.4%	7.4%
	MSCI World ex US (net)	-7.4%	4.7%	17.9%	-14.3%	12.6%	7.6%	22.5%	-14.1%	4.7%	1.9%	5.1%	5.3%
	MSCI World ex US Small Cap (net)	-7.9%	2.8%	12.6%	-20.6%	11.1%	12.8%	25.4%	-18.1%	2.8%	-2.8%	2.9%	5.5%
Developed ex US	MSCI EAFE (net)	-8.1%	3.8%	18.2%	-14.5%	11.3%	7.8%	22.0%	-13.8%	3.8%	1.6%	4.7%	5.2%
	MSCI EAFE Value (net)	-7.1%	5.7%	19.0%	-5.6%	10.9%	-2.6%	16.1%	-14.8%	5.7%	5.9%	5.1%	4.3%
	MSCI EAFE Growth (net)	-9.1%	2.0%	17.6%	-22.9%	11.3%	18.3%	27.9%	-12.8%	2.0%	-2.6%	4.0%	5.8%
	MSCI EAFE Small Cap (net)	-8.4%	1.8%	13.2%	-21.4%	10.1%	12.3%	25.0%	-17.9%	1.8%	-3.2%	2.3%	5.5%
Emerging Markets	MSCI Emerging Markets (net)	-8.0%	7.5%	9.8%	-20.1%	-2.5%	18.3%	18.4%	-14.6%	7.5%	-1.9%	1.7%	3.6%

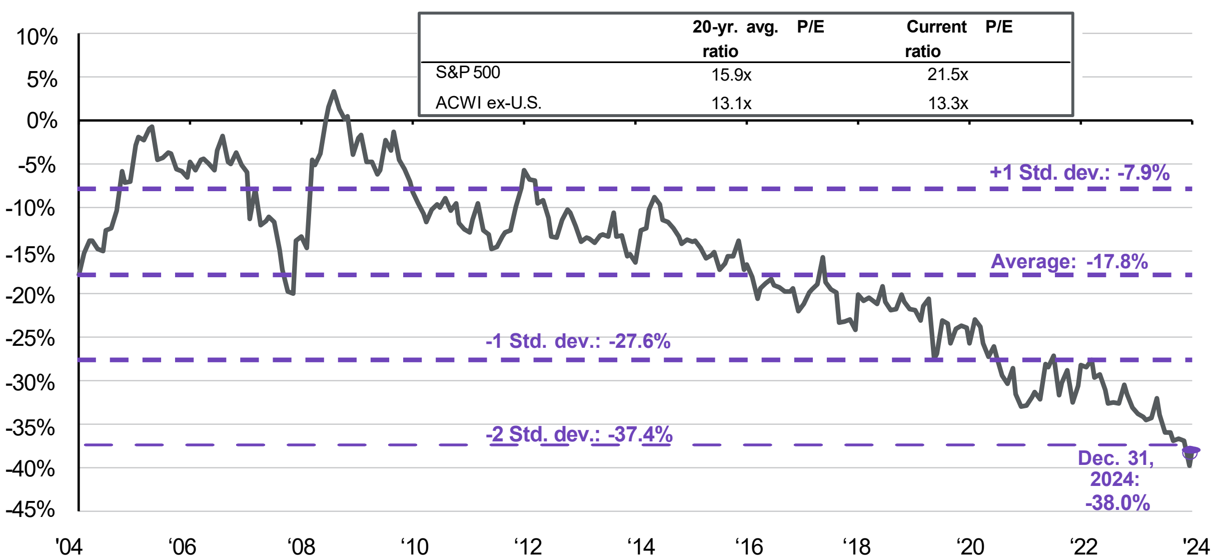


- Q4 presented challenges for many international regions, as the strengthening U.S. dollar and the weakening of foreign currencies significantly affected unhedged returns.
- European shares declined in Q4 amid recession fears, political instability in France and Germany, and concerns over trade wars following Donald Trump's U.S. presidential victory.
- The Japanese equity market posted a 5.4% gain in yen terms during Q4, but currency fluctuations led to a decline in dollar terms, resulting in a loss for U.S. investors.
- Emerging markets also faced headwinds, with the index falling in U.S. dollar terms due to concerns over proposed tariffs, mainly on Chinese goods. The dollar was further supported by the Fed’s signals of fewer rate cuts in 2025, while China’s ongoing deflationary spiral compounded the pressure on the broader emerging markets.

International Equity Market & Currencies



International: Price-to-earnings discount vs. U.S.
MSCI All Country World ex-U.S. vs. S&P 500, next 12 months



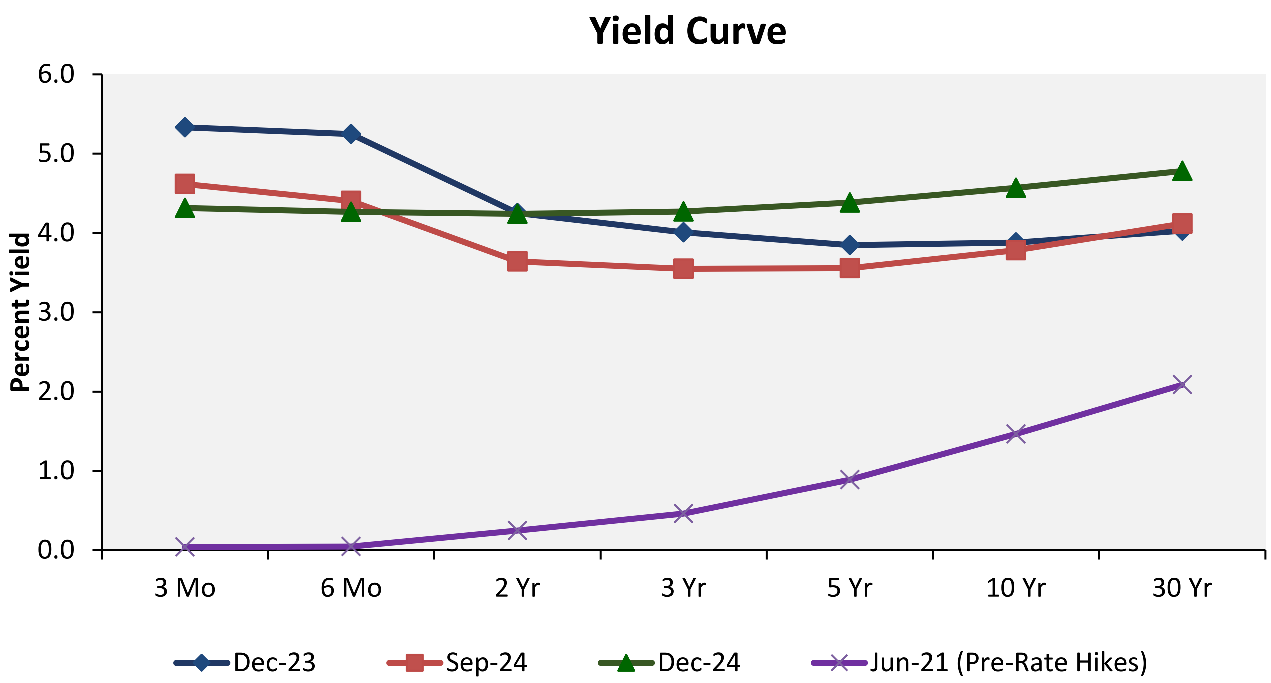
Source: J.P. Morgan Asset Management.

Dollar Strengthens Amid Tariff Uncertainties

- The dollar posted one of its strongest quarters in recent times, driven by uncertainties surrounding President Trump's tariff policies. The shift in the U.S. trade stance is expected to prompt central banks globally to hasten rate cuts in support of their economies. In contrast, the Fed has adopted a more cautious tone toward further interest rate reductions. This divergence helps support the dollar in the short term.
- The dollar has not significantly affected U.S. multinational stocks yet, but it could constrain broader earnings growth, as multinationals have led the earnings recovery over the past two years. While substantial dollar gains are usually required to impact profits, the dollar has had a more instantaneous negative effect on international stocks compared to U.S. equities.
- Gold had its best year since 2010, even with traditional influences like real rates and dollar strength playing a limited role. Much of the return can be attributed to central bank demand, particularly from China. Global central bank buying helped maintain a floor for gold prices.

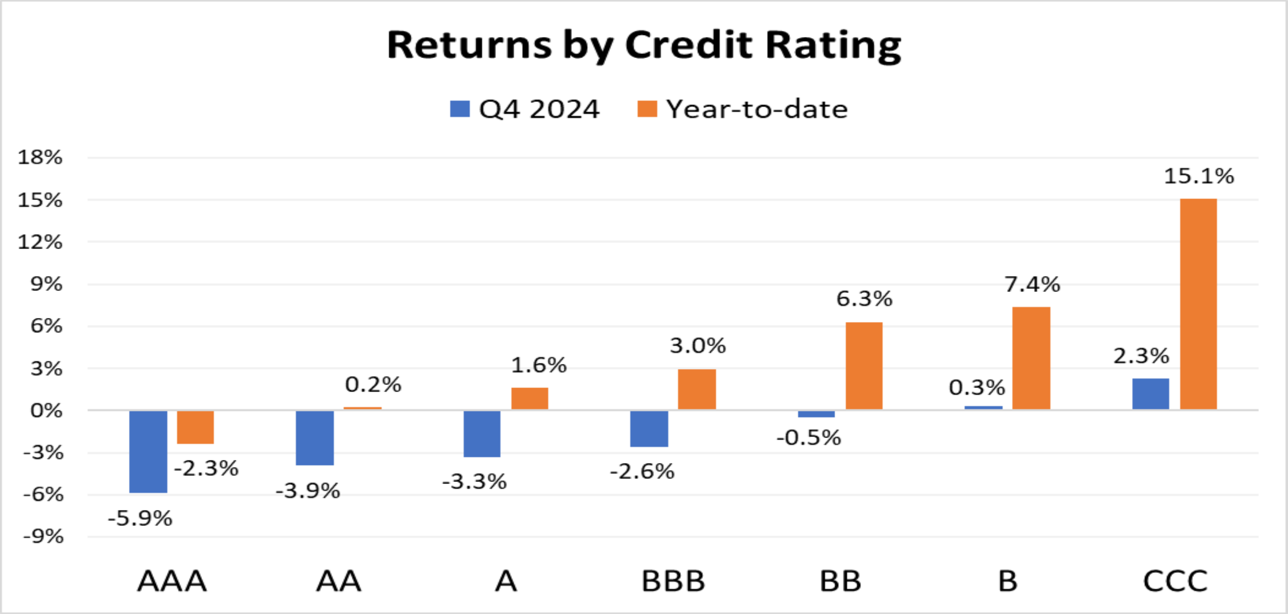
Bond Market

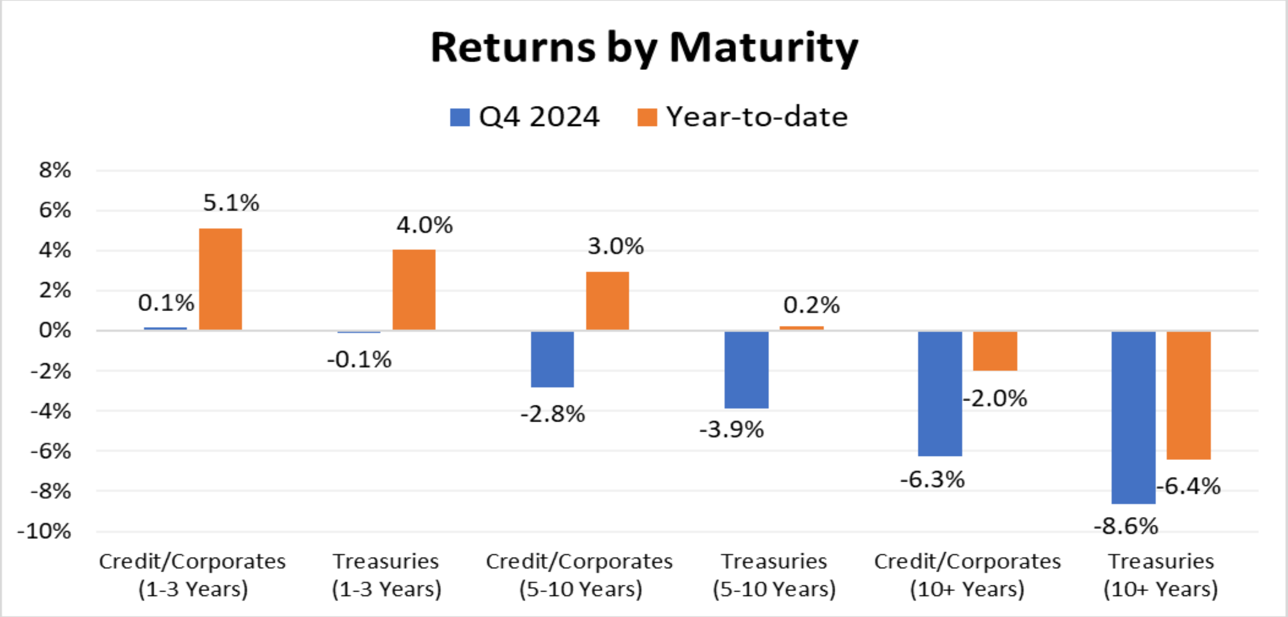
Index	Duration (years)	Yield	4Q24	YTD	2023	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year
Bloomberg Aggregate	6.1	4.91%	-3.1%	1.2%	5.5%	-13.0%	-1.5%	7.5%	8.7%	0.0%	1.2%	-2.4%	-0.3%	1.3%
Bloomberg Govt/Credit	6.2	4.78%	-3.1%	1.2%	5.7%	-13.6%	-1.7%	8.9%	9.7%	-0.4%	1.2%	-2.6%	-0.2%	1.5%
Bloomberg Int Agg	4.4	4.81%	-2.1%	2.5%	5.2%	-9.5%	-1.3%	5.6%	6.7%	0.9%	2.5%	-0.8%	0.3%	1.5%
Bloomberg Int Govt/Credit	3.8	4.60%	-1.6%	3.0%	5.2%	-8.2%	-1.4%	6.4%	6.8%	0.9%	3.0%	-0.2%	0.9%	1.7%
Bloomberg U.S. Corporate	7.0	5.33%	-3.0%	2.1%	8.5%	-15.8%	-1.0%	9.9%	14.5%	-2.5%	2.1%	-2.3%	0.3%	2.4%
Bloomberg HY Ba/B 2% IC	3.5	6.82%	-0.2%	6.7%	12.6%	-10.6%	4.6%	7.7%	15.2%	-1.9%	6.7%	2.4%	3.9%	5.0%
ICE BofA 1-3 Yrs BB US Cash Pay HY	1.8	6.12%	0.8%	6.7%	8.9%	-3.1%	3.2%	5.4%	8.7%	1.3%	6.7%	4.0%	4.1%	4.4%
Bloomberg Mortgage	5.8	5.27%	-3.2%	1.2%	5.0%	-11.8%	-1.0%	3.9%	6.4%	1.0%	1.2%	-2.1%	-0.7%	0.9%
Bloomberg Treasury	5.9	4.45%	-3.1%	0.6%	4.1%	-12.5%	-2.3%	8.0%	6.9%	0.9%	0.6%	-2.9%	-0.7%	0.8%
Bloomberg US TIPS	6.5	4.59%	-2.9%	1.8%	3.9%	-11.8%	6.0%	11.0%	8.4%	-1.3%	1.8%	-2.3%	1.9%	2.2%
BofA ML 91 day T-Bills	0.2	4.33%	1.2%	5.3%	5.2%	1.5%	0.0%	0.7%	2.3%	1.9%	5.3%	4.0%	2.5%	1.8%



- In Q4 2024, the U.S. Treasury yield curve normalized (uninverted) for the first time since July 2022. Short-term interest rates dropped modestly, while interest rates from 5-30 years rose by 60-80 bps, resulting in losses across most bond markets.
- Longer duration bonds were the worst performing areas in fixed income while shorter maturity/duration bonds proved more resilient.
- Bond markets finished 2024 with positive returns, led by higher yielding, riskier credit. Shorter maturity bonds proved more resilient to the interest rate volatility experienced throughout the year, outperforming longer maturity bonds.

Bond Market

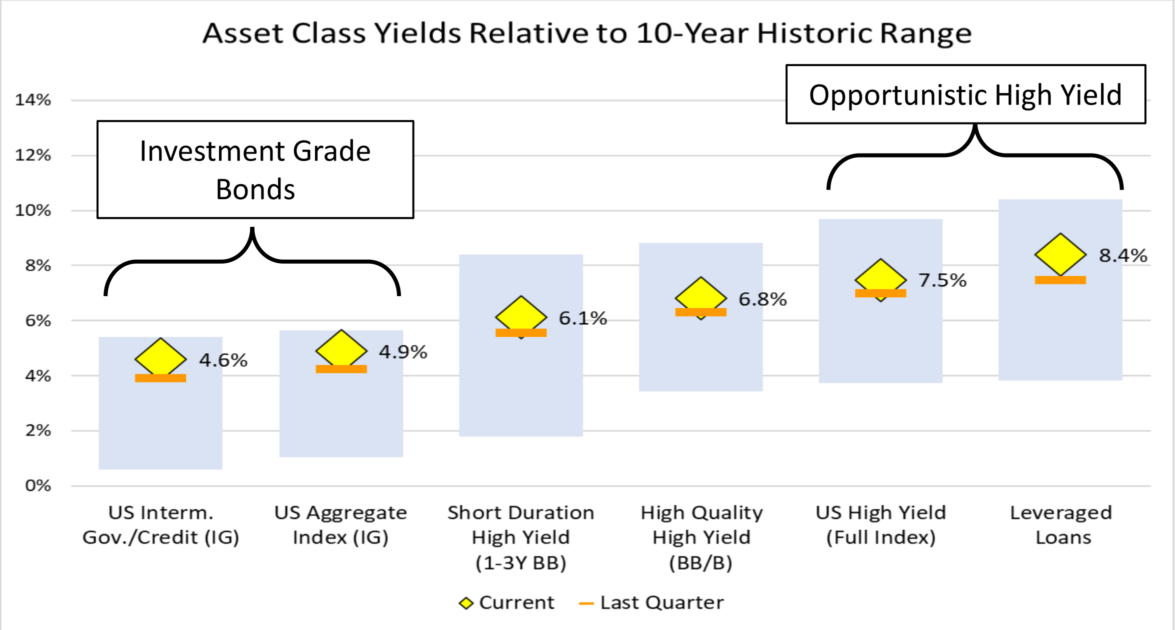


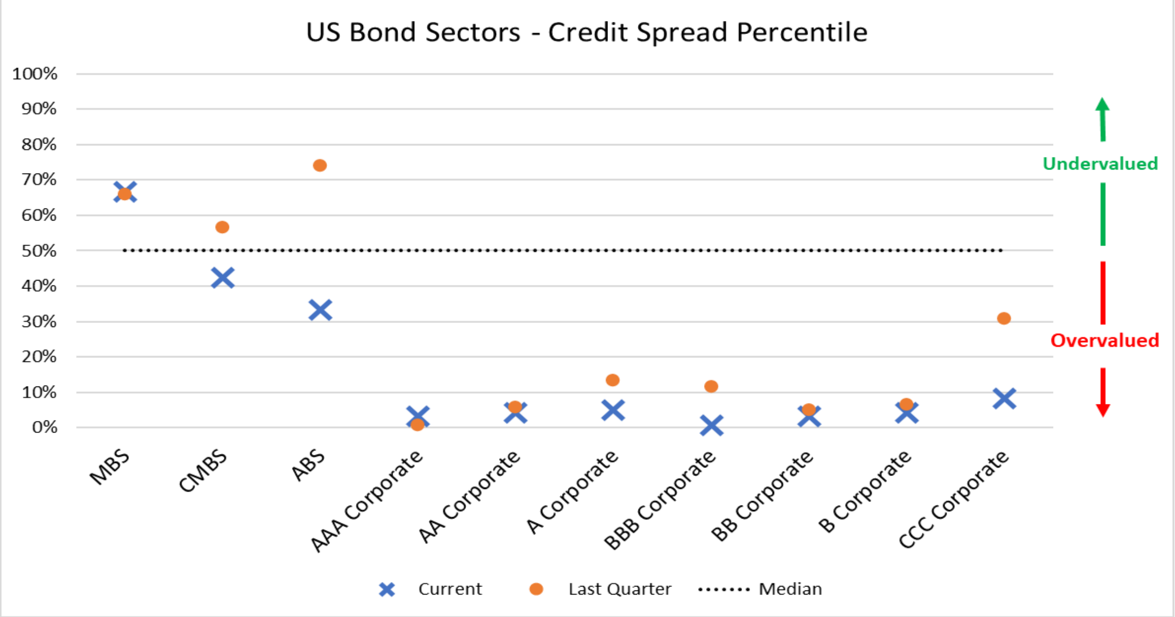


Rising Treasury Rates Negatively Impact Fixed Income Returns in Q4

- U.S. Treasury yields rose in Q4 2024, leading to negative performance across most fixed income markets.
- Longer maturity/duration bonds experienced large losses in Q4, pushing 2024 calendar year returns into negative territory.
- Lower-quality high yield bonds (CCC & below) were an outlier in Q4, generating a return of 2.3% for the quarter. The lower quality credit in the high yield market continues to experience spread tightening, bringing valuations more in-line with the rest of the corporate credit universe.
- Bonds with shorter maturities and shorter durations (i.e., high yield) generally outperformed in 2024. These bonds have remained isolated from the volatility in interest rates and benefited from an inverted yield curve for most of 2024.

Bond Market





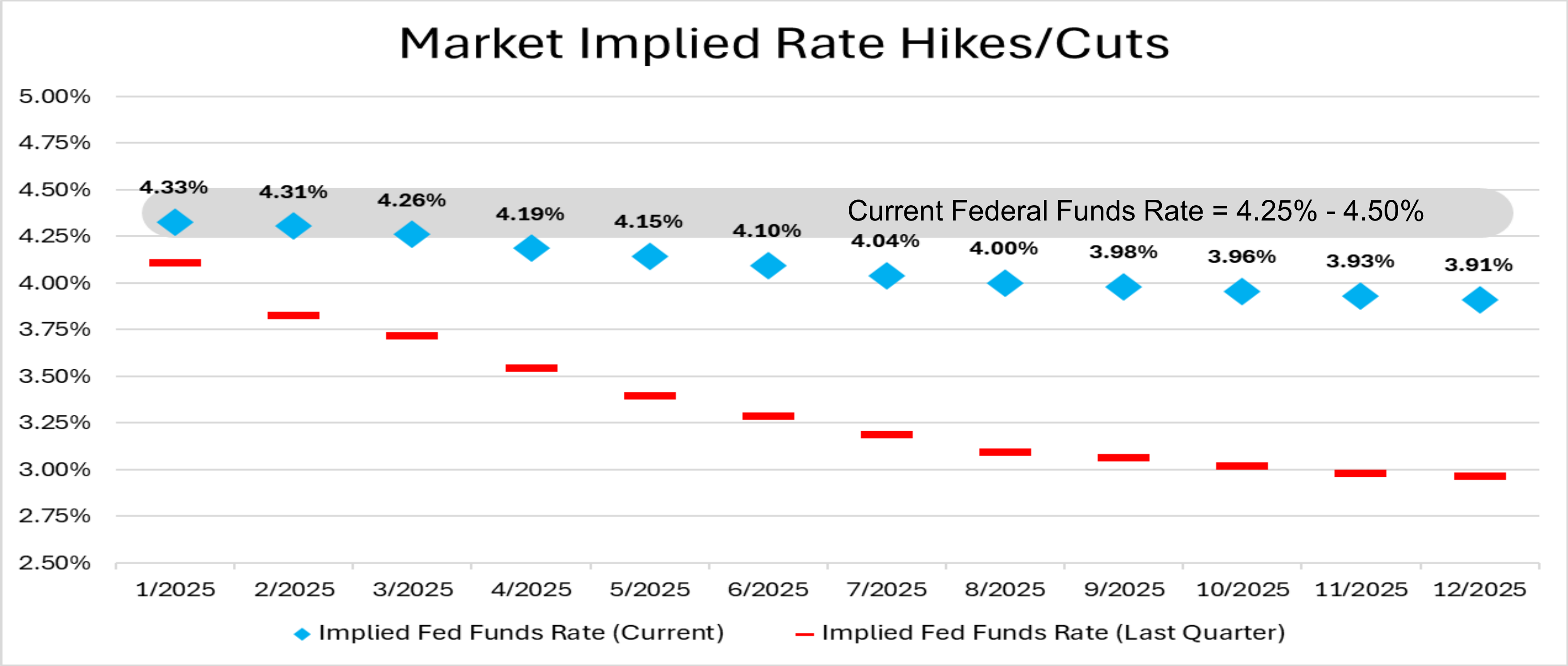
Bond Yields

- Bond yields rose in Q4 2024, largely driven by higher treasury rates.
- Investment grade (IG) bonds now yield between 4.5% and 5.0%, while non-IG credit yields range from 6% to 8.5%.
- Yields across fixed income continue to sit at the higher end of their historical 10-year range, despite historically tight credit spreads.
- While credit valuations continue to remain elevated, the all-in yield offered to investors remains attractive due to the cushion provided by elevated base rates.

Credit Spreads/Valuations

- Corporate credit spreads continue to grind lower, with both IG & non-IG credit spreads sitting near historical lows.
- Spreads in structured credit (MBS, CMBS, ABS) remain elevated, continuing to trade cheaper relative to the past decade.
- The reduction in corporate credit spreads appear to show some complacency by credit investors. However, the higher level of bond yields in 2024 provide additional protection for bond investors in the event credit spreads widen. Particularly for high yield investors, credit spreads would need to widen roughly 200 bps before investors would begin to experience losses.

Bond Market

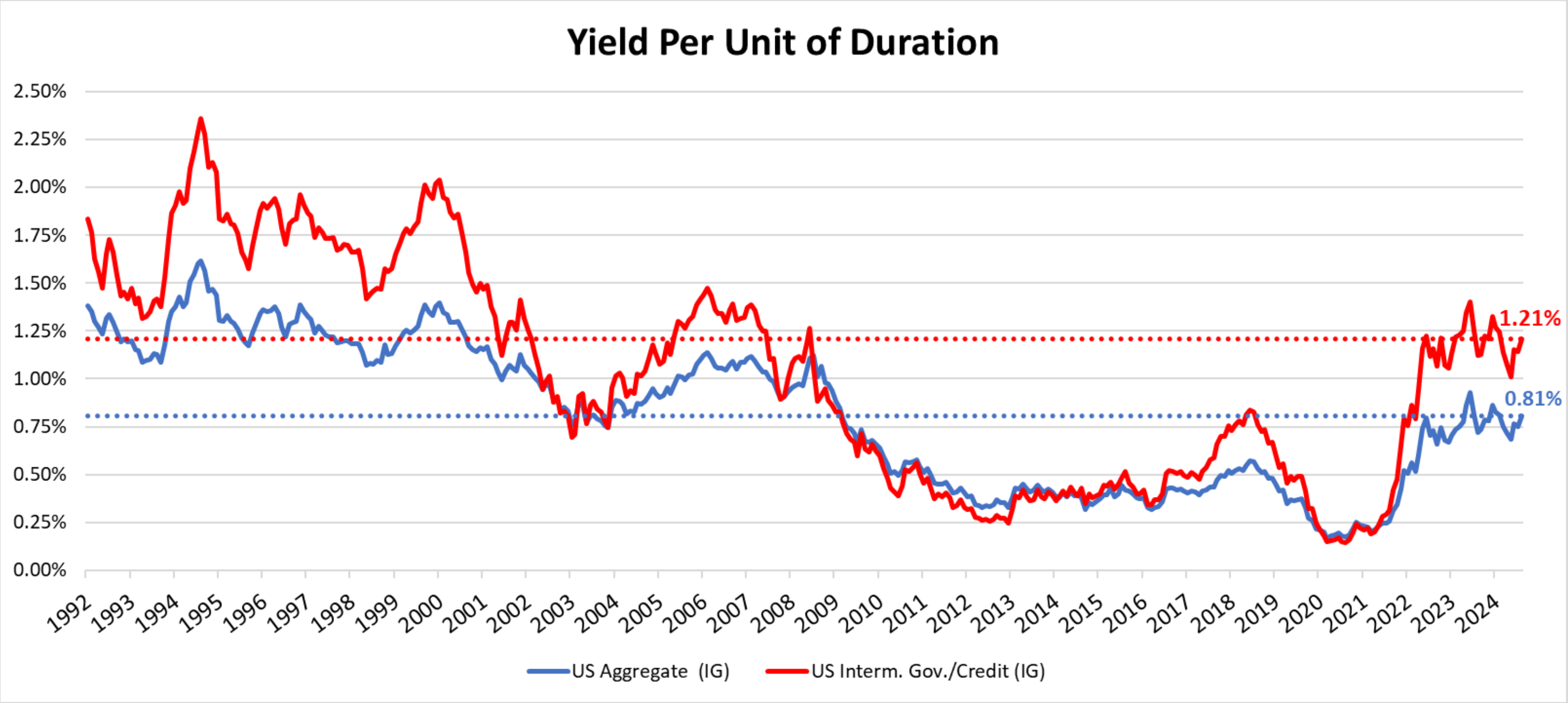


As of 12/31/24

- The FOMC lowered the Fed Funds target rate by 50 bps in Q4 2024, with 25 bps cuts at the November and December FOMC meetings. The current target Federal Funds rate sits at 4.25% - 4.50%.
- Since September, the FOMC has reduced the Fed Funds rate by 1%. The FOMC's decision to reduce the Fed Funds rate comes on the back of a gradual decline in the U.S. inflation rate since its recent peak in 2022. Policymakers have also expressed concerns over a gradual increase in the U.S. unemployment rate, implying some level of fear that the current level of interest rates is overly restrictive to economic growth.
- Following the initial 50 bps cut in September, markets began to immediately price in a more aggressive rate-cutting cycle. Those expectations dissipated in Q4 2024, contributing to some of the interest rate volatility experienced in the recent quarter. As of the end of Q4 2024, the Fed Funds futures market is pricing in an additional 50 bps reduction in the Fed Funds rate through 2025.

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 ~80 bps higher over a one-year period before core bond investors (U.S. Aggregate Index) start to realize negative returns on their portfolio while intermediate investment grade investors can withstand a ~120 bps rise in interest rates over a one-year period before realizing losses on their portfolio.
- Given yields are roughly equal for the U.S. Intermediate Gov./Credit Index and the U.S. 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 (U.S. Aggregate) can provide more upside if interest rates fall but have less protection in the event interest rates continue to rise.

Interest Rate Sensitivity

12 Month Holding Period - Annualized Returns as of 12/31/2024

Yield Change	US Treasuries Bloomberg Treasury	Short-Term IG Bloomberg 1-3 Yr US Govt/Credit	Intermediate IG Bloomberg Interm Govt/Credit	Core Bond Bloomberg Aggregate	Short Duration HY ICE BofA 1-3 Yrs BB US Cash Pay HY	High-Quality HY Bloomberg HY BB/B 2% Capped	Full High Yield Bloomberg US Corporate HY
-300	25.45%	10.21%	16.92%	25.68%	10.59%	16.59%	17.22%
-250	21.49%	9.22%	14.74%	21.86%	9.97%	15.07%	15.69%
-200	17.72%	8.24%	12.61%	18.19%	9.30%	13.51%	14.13%
-150	14.13%	7.26%	10.53%	14.66%	8.58%	11.90%	12.53%
-100	10.72%	6.30%	8.50%	11.27%	7.81%	10.25%	10.89%
-75	9.08%	5.82%	7.51%	9.62%	7.41%	9.41%	10.05%
-50	7.50%	5.35%	6.53%	8.02%	6.99%	8.56%	9.21%
-25	5.95%	4.87%	5.55%	6.44%	6.56%	7.69%	8.35%
0	4.45%	4.40%	4.60%	4.91%	6.12%	6.82%	7.49%
25	3.00%	3.93%	3.65%	3.40%	5.67%	5.93%	6.61%
50	1.60%	3.47%	2.72%	1.93%	5.20%	5.03%	5.73%
75	0.24%	3.00%	1.80%	0.50%	4.72%	4.13%	4.83%
100	-1.08%	2.54%	0.89%	-0.90%	4.23%	3.21%	3.93%
150	-3.57%	1.63%	-0.89%	-3.59%	3.21%	1.34%	2.09%
200	-5.87%	0.72%	-2.62%	-6.14%	2.14%	-0.58%	0.21%
250	-8.00%	-0.17%	-4.31%	-8.54%	1.02%	-2.54%	-1.71%
300	-9.94%	-1.06%	-5.94%	-10.81%	-0.15%	-4.54%	-3.66%
Duration	5.90	1.88	3.81	6.08	1.79	3.52	3.48
Convexity	0.73	0.04	0.20	0.56	-0.20	-0.18	-0.16

FOR ILLUSTRATIVE PURPOSES ONLY: For each index the current yield to worst as of 12/31/2024 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 12/31/2024 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 12/31/2024, 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.

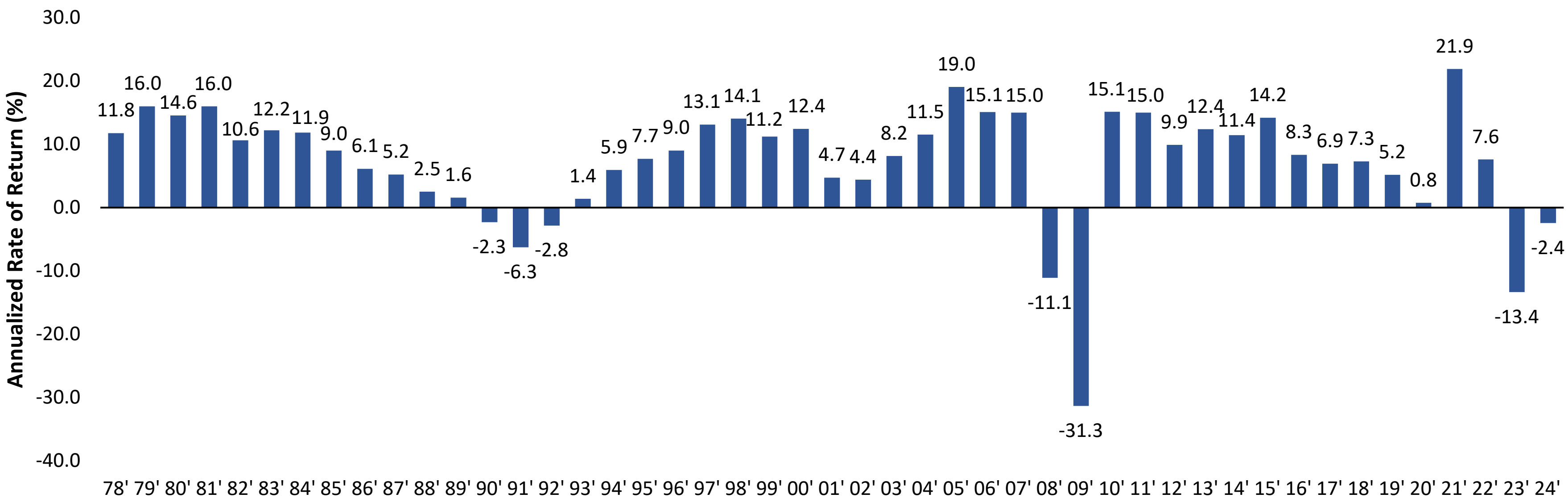
Real Estate Market

Sector	Index	4Q24	YTD	2023	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year	15-Year	20-Year
US Private	NCREIF ODCE Equal Weighted (net)	0.8%	-2.4%	-13.4%	7.6%	21.9%	0.8%	5.2%	7.3%	-2.4%	-3.1%	2.2%	5.2%	7.7%	5.5%
	NCREIF ODCE EW Income Index	1.0%	4.0%	3.5%	3.5%	4.1%	3.6%	3.5%	3.5%	4.0%	3.7%	3.9%	4.2%	4.0%	4.2%
	NCREIF ODCE EW Appreciation Index	0.0%	-5.5%	-15.8%	4.8%	18.3%	-2.1%	1.7%	3.7%	-5.5%	-5.9%	-0.8%	1.9%	3.8%	1.5%

- After eight consecutive negative quarters, the NCREIF ODCE Equal Weighted Index (net) posted a positive return in the fourth quarter, up +0.84% and finished the year down -2.44%. As shown in the chart below, 2024 was the seventh negative return year for the index since inception.

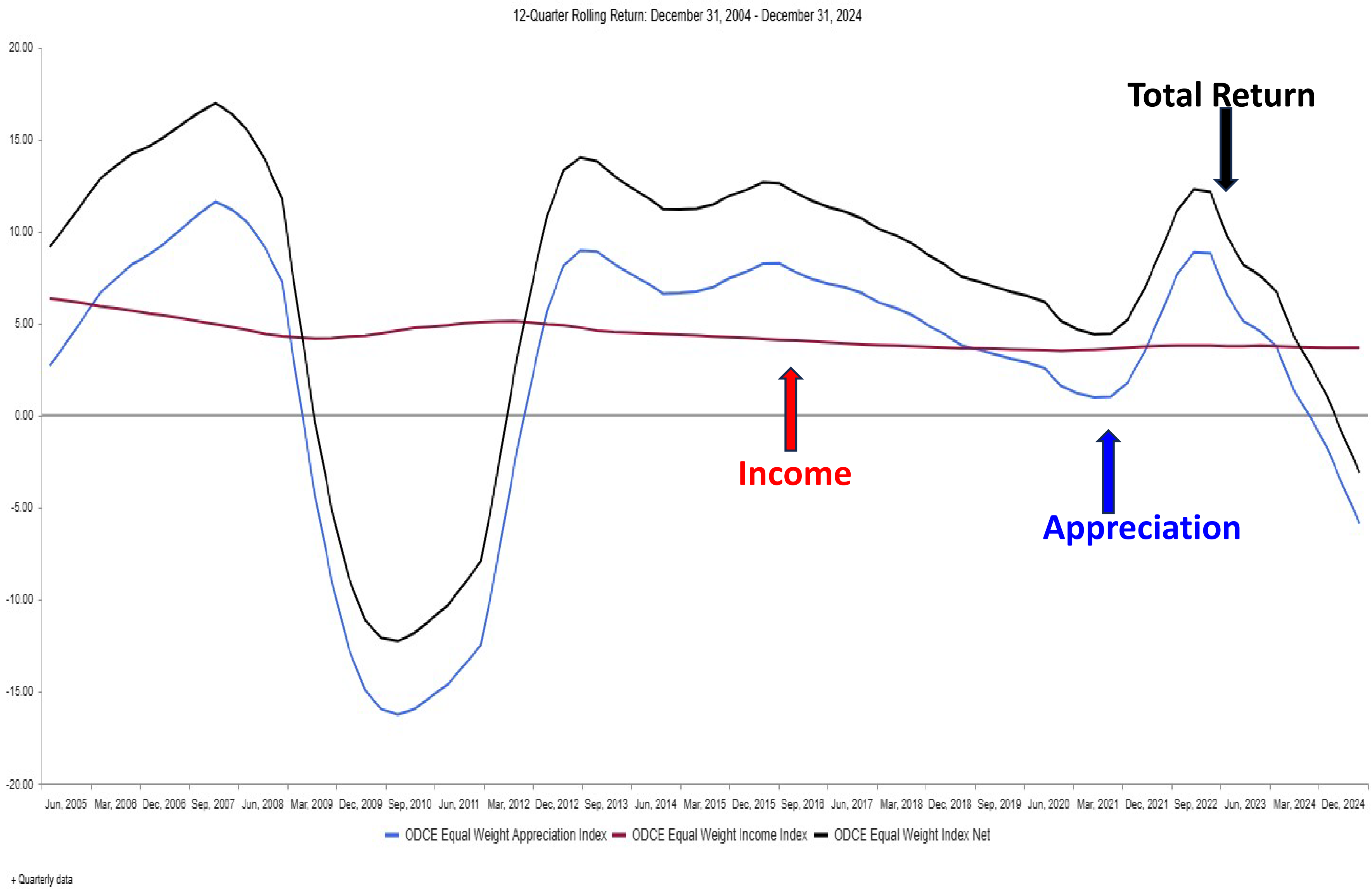
- Fundamentals across most commercial real estate sectors continue to improve, though uncertainty remains around the direction of interest rates, inflation and the impact of a new U.S. presidential administration on the U.S. economy, all of which may impact demand and pricing for commercial real estate assets.

Historical NCREIF ODCE Equal Weight Total Net Performance



Real Estate Market

- The income component of real estate returns continues to remain stable, at approximately 1% per quarter. Appreciation in the ODCE was flat (+0.03%) in Q4 2024, rather than negative as it has been over the previous eight quarters, helping to stabilize the overall index return.

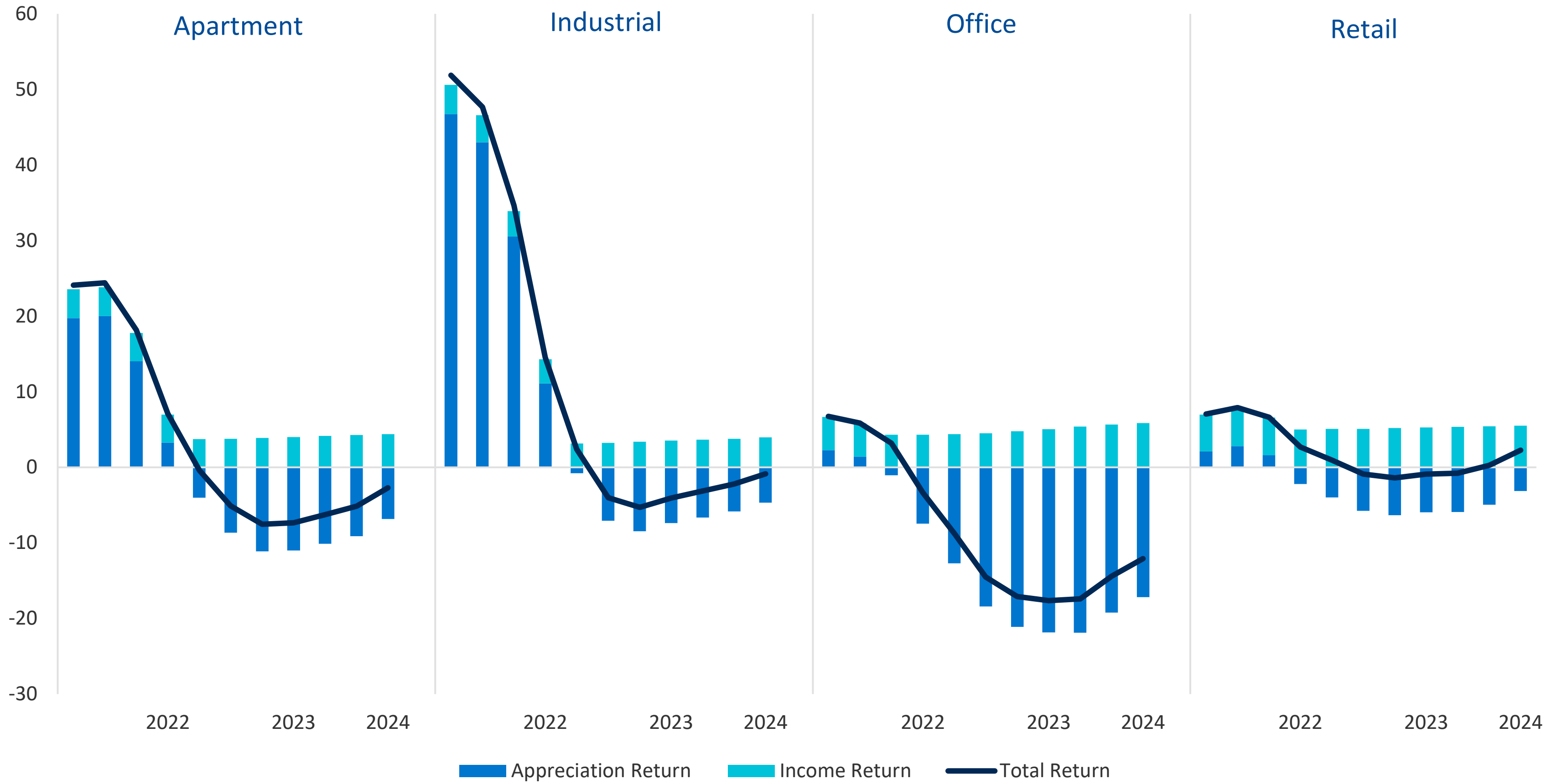


Real Estate Market

- A recovery in valuations across the major sectors of the commercial real estate market appears to be underway, with total returns trending upwards at the end of 2024. Income returns have remained relatively stable across sectors, as shown below.

- While total returns across sectors followed a similar trendline over the last two years, retail sector returns held up relatively well. The office sector saw the largest negative capital appreciation, and though year-over-year returns for office are trending upwards, the sector is still facing significant headwinds relative to other sectors of the real estate market.

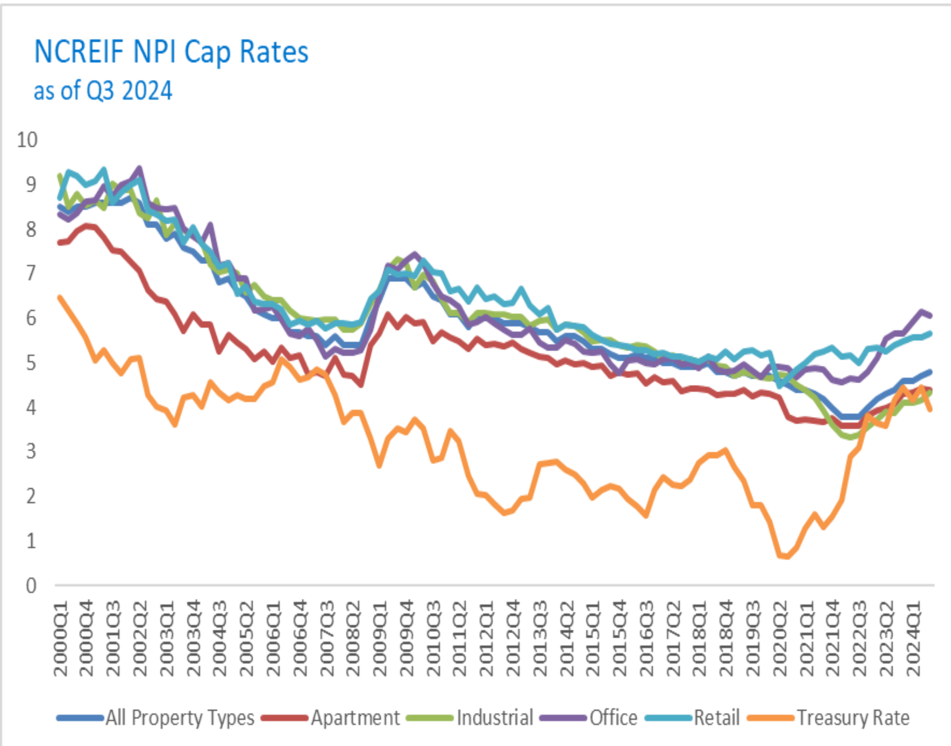
Property Sector Returns, quarter, Y/Y %



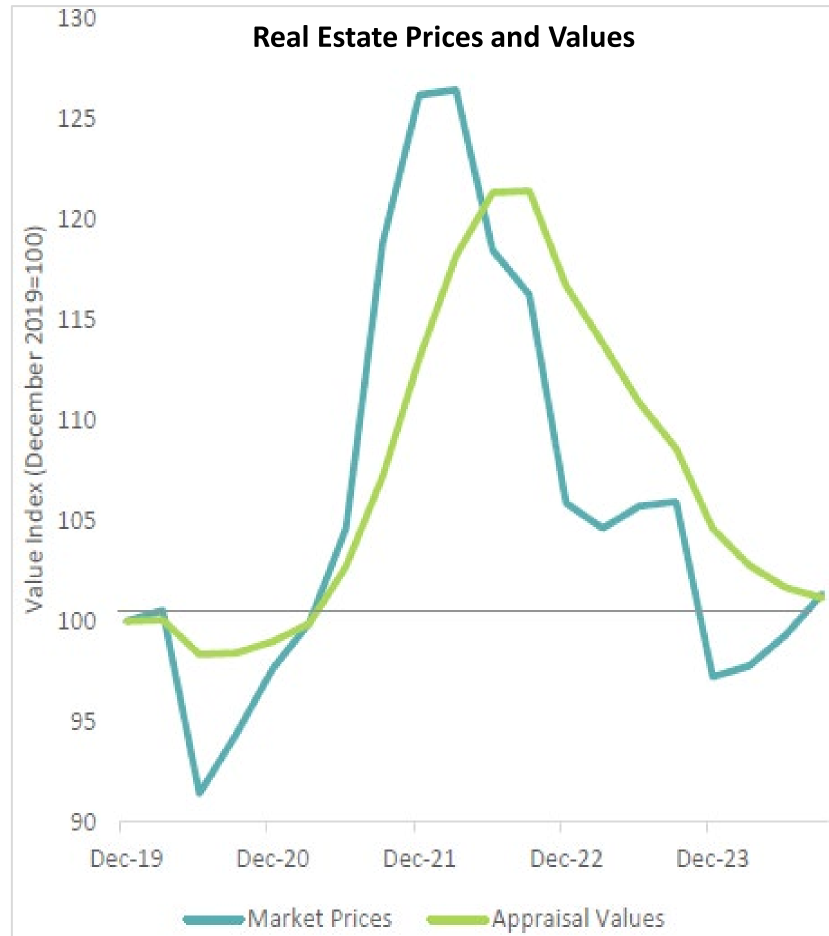
Source: NCREIF NPI, Principal Real Estate, Q3 2024.

Real Estate Market

- Cap rate expansion across real estate sectors appears to be stabilizing, suggesting the widespread downward repricing in valuations may be coming to an end.
- Market prices and appraisal values have converged (assets are transacting at or near appraisal values), further suggesting that future downward valuations of real estate properties should be minimal.



Source: NCREIF via Principal.



Source: GSA (market prices); NCREIF (appraisal values); via DWS.

Operating Engineers Local No. 77 JATC Fund

Investment Performance Report

Period Ended

December 31, 2024

Total Fund Growth of Assets

	Fourth Quarter	Fiscal Year-To-Date	Three Years	Five Years	Inception 11/30/19
Beginning Market Value	$3,114,035	$3,193,838	$3,147,062	$2,824,832	--
Net Cash Flow	$57,103	-$237,814	-$272,393	-$321,427	$2,463,799
Net Investment Change	$17,873	$232,986	$314,342	$685,605	$725,212
Ending Market Value	$3,189,011	$3,189,011	$3,189,011	$3,189,011	$3,189,011

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

Performance Summary (Gross of Fees) - Annualized

			Ending December 31, 2024					
	Market Value	% of Portfolio	2024 Q4	Fiscal YTD	3 Yrs	5 Yrs	Inception	Inception Date
Total Fund	**$3,189,011**	**100.0%**	**0.6%**	**7.7%**	**3.3%**	**4.3%**	**4.5%**	**Nov-19**
Total Domestic Large Cap Equity	**$438,439**	**13.7%**	**2.4%**	**25.0%**	**8.9%**	**14.5%**	**14.9%**	**Nov-19**
Total Investment Grade Fixed Income	**$1,322,787**	**41.5%**	**0.1%**	**4.8%**	**2.5%**	**2.3%**	**2.3%**	**Nov-19**
Total Short Duration High Yield Fixed Income	**$1,221,333**	**38.3%**	**0.4%**	**6.3%**	**3.9%**	**--**	**3.6%**	**Jul-21**
Total Cash Equivalents	**$206,451**	**6.5%**	**1.4%**	**5.0%**	**3.4%**	**2.0%**	**2.1%**	**Nov-19**

Performance Summary

	Fiscal Year Ending December 31st (Gross of Fees)			
	2024	2023	2022	2021
Total Fund	**7.7%**	**8.7%**	**-5.8%**	**6.1%**
Total Fund Benchmark	*7.6%*	*10.0%*	*-5.4%*	*5.6%*

	Fiscal Year Ending December 31st (Net of Fees)			
	2024	2023	2022	2021
Total Fund	**7.4%**	**8.4%**	**-6.0%**	**6.0%**
Total Fund Benchmark	*7.6%*	*10.0%*	*-5.4%*	*5.6%*

Current vs. Policy

	Current	Current	Policy	Policy Range	Difference	Difference
Domestic Large Cap Equity	$438,439	13.7%	10.0%	5.0% - 15.0%	3.7%	$119,538
Investment Grade Fixed Income	$1,322,787	41.5%	40.0%	35.0% - 45.0%	1.5%	$47,183
Short Duration High Yield Fixed Income	$1,221,333	38.3%	35.0%	30.0% - 40.0%	3.3%	$105,180
Cash Equivalents	$206,451	6.5%	15.0%	10.0% - 20.0%	-8.5%	-$271,901
Total	**$3,189,011**	**100.0%**	**100.0%**			

- Policy adopted May 2023; effective July 2023.

Performance Detail (Net of Fees) - Annualized

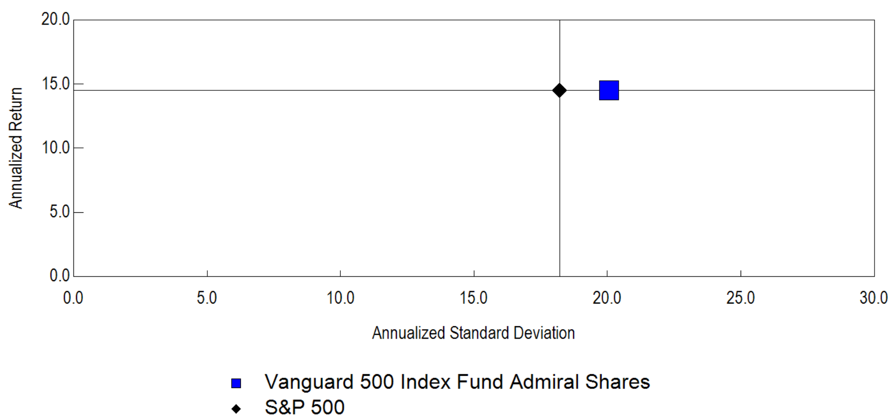
	Market Value	% of Portfolio	Ending December 31, 2024					
			2024 Q4	Fiscal YTD	3 Yrs	5 Yrs	Inception	Inception Date
Total Fund	**$3,189,011**	**100.0%**	**0.6%**	**7.4%**	**3.1%**	**4.1%**	**4.3%**	**Nov-19**
Total Domestic Large Cap Equity	**$438,439**	**13.7%**	**2.4%**	**25.0%**	**8.9%**	**14.5%**	**14.9%**	**Nov-19**
Vanguard 500 Index Fund Admiral Shares	$438,439	13.7%	2.4%	25.0%	8.9%	14.5%	14.9%	Nov-19
S&P 500			*2.4%*	*25.0%*	*8.9%*	*14.5%*	*14.9%*	*Nov-19*
Total Investment Grade Fixed Income	**$1,322,787**	**41.5%**	**0.1%**	**4.6%**	**2.3%**	**2.1%**	**2.1%**	**Nov-19**
Chartwell Investment Partners	$1,322,787	41.5%	0.1%	4.6%	2.3%	2.1%	2.1%	Dec-19
Bloomberg US Credit 1-3 Yr TR			*0.1%*	*5.1%*	*2.2%*	*2.0%*	*2.0%*	*Dec-19*
Total Short Duration High Yield Fixed Income	**$1,221,333**	**38.3%**	**0.3%**	**5.8%**	**3.4%**	**--**	**3.1%**	**Jul-21**
Carillon Chartwell SDHY Fund	$1,221,333	38.3%	0.3%	5.8%	3.4%	--	3.1%	Jul-21
ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR			*0.8%*	*6.7%*	*4.0%*	*--*	*3.8%*	*Jul-21*
Total Cash Equivalents	**$206,451**	**6.5%**	**1.4%**	**5.0%**	**3.4%**	**2.0%**	**2.1%**	**Nov-19**
PNC Cash	$206,451	6.5%	1.4%	5.0%	3.4%	2.0%	2.1%	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, 2024

	Fourth Quarter	Inception 11/30/19
Beginning Market Value	$428,162	--
Net Cash Flow	$0	$54,281
Net Investment Change	$10,277	$384,158
Ending Market Value	$438,439	$438,439

Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2024



3 Years Ending December 31, 2024

	Anlzd Return	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard 500 Index Fund Admiral Shares	8.9%	16.4%	35.6%	31.6%
S&P 500	8.9%	17.4%	100.0%	100.0%

5 Years Ending December 31, 2024

	Anlzd Return	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard 500 Index Fund Admiral Shares	14.5%	20.1%	37.7%	40.0%
S&P 500	14.5%	18.2%	100.0%	100.0%

Calendar Years

	2024 Q4	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	2024	Rank	2023	Rank	2022	Rank	2021	Rank	2020	Rank	Inception	Inception Date
Vanguard 500 Index Fund Admiral Shares	2.4%	33	25.0%	24	25.0%	24	8.9%	22	14.5%	23	25.0%	24	26.2%	27	-18.1%	50	28.7%	23	18.4%	39	14.9%	Nov-19
S&P 500	*2.4%*	*31*	*25.0%*	*24*	*25.0%*	*24*	*8.9%*	*20*	*14.5%*	*21*	*25.0%*	*24*	*26.3%*	*25*	*-18.1%*	*48*	*28.7%*	*22*	*18.4%*	*38*	*14.9%*	*Nov-19*

Note: Returns are net of fees.

Account Information

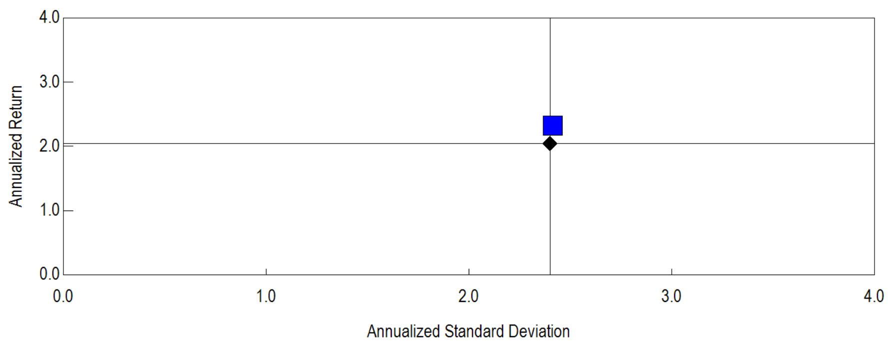
Account Name	**Chartwell Investment Partners**
Account Structure	**Separate Account**
Investment Style	**Active**
Inception Date	**12/31/19**
Account Type	**Investment Grade Fixed Income**
Benchmark	**Bloomberg US Credit 1-3 Yr TR**
Universe	

Chartwell Investment Partners

Ending December 31, 2024

	Fourth Quarter	Inception 12/31/19
Beginning Market Value	$1,321,176	--
Net Cash Flow	$0	$1,150,564
Net Investment Change	$1,611	$172,222
Ending Market Value	$1,322,787	$1,322,787

Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2024



■ Chartwell Investment Partners
◆ Bloomberg US Credit 1-3 Yr TR

3 Years Ending December 31, 2024

	Anlzd Return	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Chartwell Investment Partners	2.5%	2.3%	94.5%	82.9%
Bloomberg US Credit 1-3 Yr TR	2.2%	2.6%	100.0%	100.0%

5 Years Ending December 31, 2024

	Anlzd Return	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Chartwell Investment Partners	2.3%	2.4%	101.7%	90.9%
Bloomberg US Credit 1-3 Yr TR	2.0%	2.4%	100.0%	100.0%

	2024 Q4	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	Calendar Years 2024	2023	2022	2021	2020	Inception	Inception Date
Chartwell Investment Partners	0.1%	4.8%	4.8%	2.5%	2.3%	4.8%	5.7%	-2.8%	0.0%	4.2%	2.3%	Dec-19
Bloomberg US Credit 1-3 Yr TR	*0.1%*	*5.1%*	*5.1%*	*2.2%*	*2.0%*	*5.1%*	*5.3%*	*-3.4%*	*-0.2%*	*3.7%*	*2.0%*	*Dec-19*

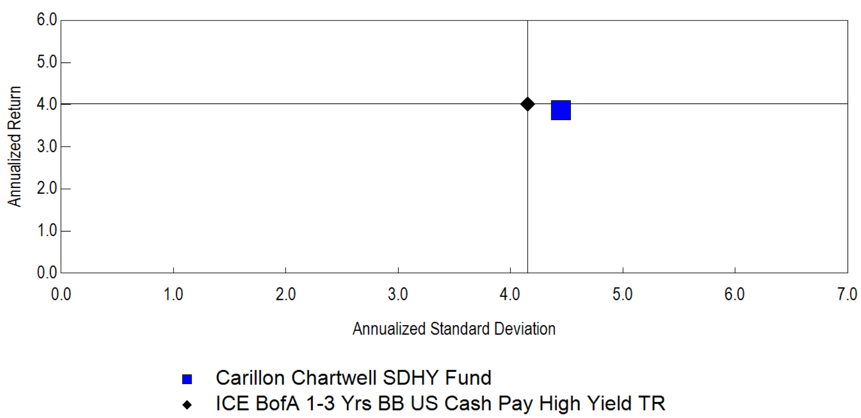
Note: Returns are gross of fees.

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, 2024

	Fourth Quarter	Inception 7/31/21
Beginning Market Value	$1,217,401	$0
Net Cash Flow	$0	$1,100,000
Net Investment Change	$3,933	$121,333
Ending Market Value	$1,221,333	$1,221,333

Annualized Return vs. Annualized Standard Deviation
3 Years Ending December 31, 2024



3 Years Ending December 31, 2024

	Anlzd Return	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Carillon Chartwell SDHY Fund	3.9%	4.4%	56.1%	20.1%
ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR	4.0%	4.1%	100.0%	100.0%

	2024 Q4	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	Calendar Years 2024	2023	2022	2021	2020	Inception	Inception Date
Carillon Chartwell SDHY Fund	0.3%	5.8%	5.8%	3.4%	--	5.8%	7.8%	-3.2%	--	--	3.1%	Jul-21
ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR	*0.8%*	*6.7%*	*6.7%*	*4.0%*	--	*6.7%*	*8.8%*	*-3.1%*	--	--	*3.8%*	*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, 2024

	Fourth Quarter	**Inception 11/30/19**
Beginning Market Value	$147,296	--
Net Cash Flow	$57,103	$159,220
Net Investment Change	$2,052	$47,231
Ending Market Value	$206,451	$206,451

Current Yield as of December 31, 2024: 4.39%

						Calendar Years						
	2024 Q4	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	2024	2023	2022	2021	2020	Inception	Inception Date
PNC Cash	1.4%	5.0%	5.0%	3.4%	2.0%	5.0%	4.0%	1.2%	0.1%	0.0%	2.1%	Nov-19

Note: Returns are gross of fees.

Operating Engineers Local No. 77 JATC Fund

Appendix

Performance Detail (Gross of Fees) - Annualized

	Market Value	% of Portfolio	Ending December 31, 2024					
			2024 Q4	Fiscal YTD	3 Yrs	5 Yrs	Inception	Inception Date
Total Fund	**$3,189,011**	**100.0%**	**0.6%**	**7.7%**	**3.3%**	**4.3%**	**4.5%**	**Nov-19**
Total Domestic Large Cap Equity	**$438,439**	**13.7%**	**2.4%**	**25.0%**	**8.9%**	**14.5%**	**14.9%**	**Nov-19**
Vanguard 500 Index Fund Admiral Shares	$438,439	13.7%	2.4%	25.0%	8.9%	14.5%	14.9%	Nov-19
S&P 500			*2.4%*	*25.0%*	*8.9%*	*14.5%*	*14.9%*	*Nov-19*
Total Investment Grade Fixed Income	**$1,322,787**	**41.5%**	**0.1%**	**4.8%**	**2.5%**	**2.3%**	**2.3%**	**Nov-19**
Chartwell Investment Partners	$1,322,787	41.5%	0.1%	4.8%	2.5%	2.3%	2.3%	Dec-19
Bloomberg US Credit 1-3 Yr TR			*0.1%*	*5.1%*	*2.2%*	*2.0%*	*2.0%*	*Dec-19*
Total Short Duration High Yield Fixed Income	**$1,221,333**	**38.3%**	**0.4%**	**6.3%**	**3.9%**	**--**	**3.6%**	**Jul-21**
Carillon Chartwell SDHY Fund	$1,221,333	38.3%	0.4%	6.3%	3.9%	--	3.6%	Jul-21
ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR			*0.8%*	*6.7%*	*4.0%*	*--*	*3.8%*	*Jul-21*
Total Cash Equivalents	**$206,451**	**6.5%**	**1.4%**	**5.0%**	**3.4%**	**2.0%**	**2.1%**	**Nov-19**
PNC Cash	$206,451	6.5%	1.4%	5.0%	3.4%	2.0%	2.1%	Nov-19

Account	Fee Schedule	Market Value As of 12/31/2024	% of Portfolio	Estimated Annual Fee ($)	Estimated Annual Fee (%)
Total Domestic Large Cap Equity	**-**	**$438,439**	**13.7%**	**--**	**--**
Vanguard 500 Index Fund Admiral Shares	0.04% of Assets	$438,439	13.7%	$175	0.04%
Total Investment Grade Fixed Income	**-**	**$1,322,787**	**41.5%**	**--**	**--**
Chartwell Investment Partners	0.18% of Assets	$1,322,787	41.5%	$2,381	0.18%
Total Short Duration High Yield Fixed Income	**-**	**$1,221,333**	**38.3%**	**--**	**--**
Carillon Chartwell SDHY Fund	0.49% of Assets	$1,221,333	38.3%	$5,985	0.49%
Total Cash Equivalents	**-**	**$206,451**	**6.5%**	**--**	**--**
PNC Cash	-	$206,451	6.5%	--	--
Investment Management Fee		**$3,189,011**	**100.0%**	**$8,541**	**0.27%**

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.

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 May 2023, $300K was withdrawn from domestic large cap equity (Vanguard 500 Index Fund Admiral Shares).
- 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).

- 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 2025

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	6.75%	15.50
U.S. Mid Cap	7.00%	18.00
U.S. Smid Cap	7.00%	19.50
U.S. Small Cap	7.00%	21.00
International Large Cap	7.00%	17.00
International Small Cap	7.75%	19.50
Emerging Markets	8.00%	21.00
Global Equity	7.00%	16.75

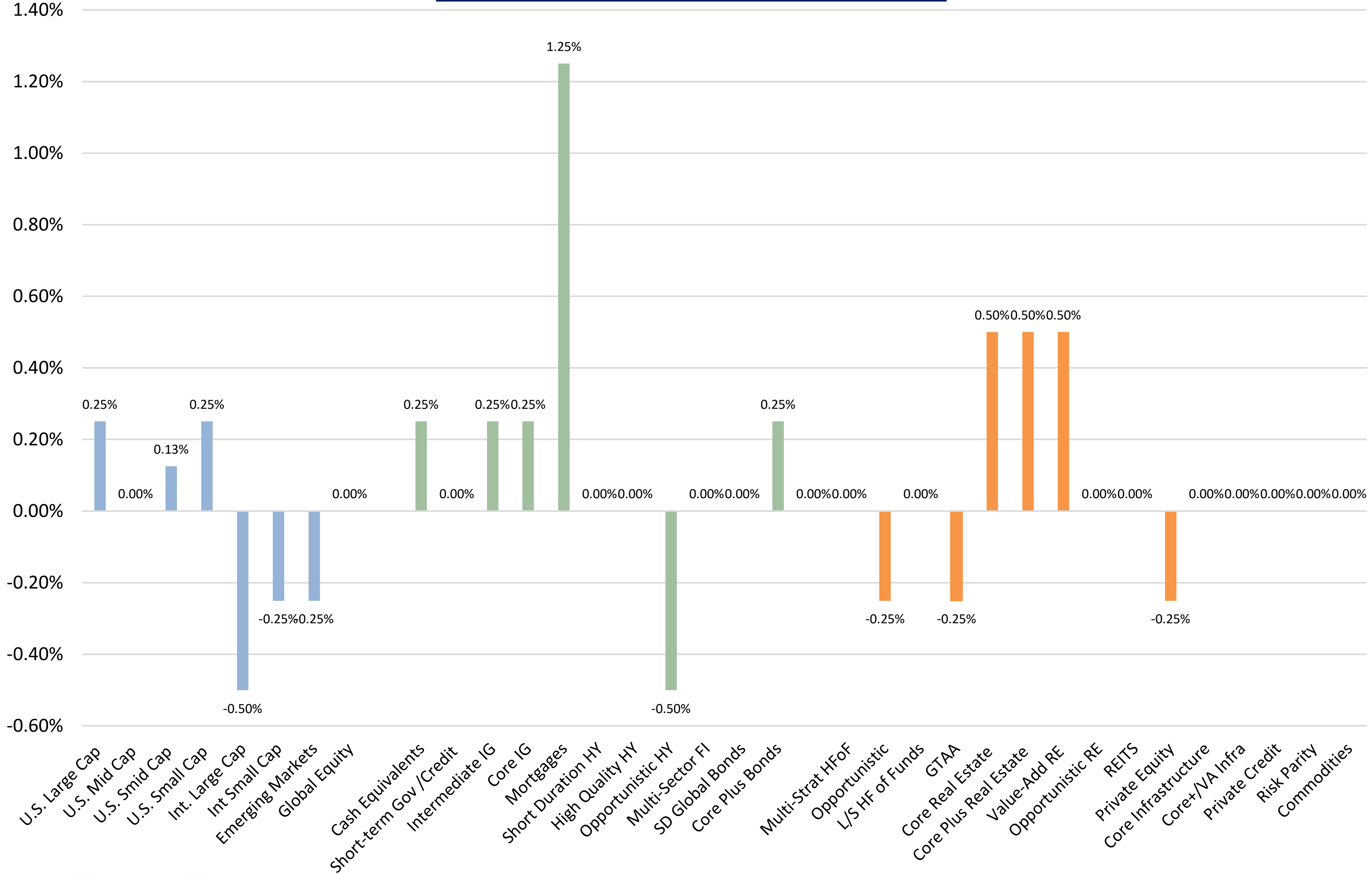
Fixed Income Asset Class	Return	Risk
Cash Equivalents	3.25%	1.00
Short-term Gov /Credit	3.75%	2.25
Intermediate Investment Grade	4.50%	3.75
Core Investment Grade	4.75%	5.00
Mortgages	6.00%	6.50
Short Duration High Yield	6.00%	6.00
High Quality High Yield	6.50%	7.00
Opportunistic High Yield	7.25%	9.00
Multi-Sector Fixed Income	3.50%	6.25
Short Duration Global Bonds	2.50%	5.00
Core Plus Bonds	5.00%	5.75

Alternatives Asset Class	Return	Risk
Multi-Strategy Hedge Fund of Funds	5.00%	6.00
Opportunistic Strategies	7.25%	15.00
L/S Hedge Fund of Funds	5.00%	9.00
Global Tactical Asset Allocation	6.25%	12.50
Core Real Estate	6.50%	10.50
Core Plus Real Estate	7.00%	12.50
Value-Add Real Estate	7.50%	14.00
Opportunistic Real Estate	9.00%	17.00
REITS	6.00%	20.00
Diversified Private Equity	9.50%	21.00
Core Infrastructure	6.25%	11.75
Core+/Value Add Infrastructure	8.25%	15.75
Private Credit	9.00%	13.50
Risk Parity	5.50%	16.00
Commodities	3.75%	17.00

INVESTMENT PERFORMANCE SERVICES, LLC

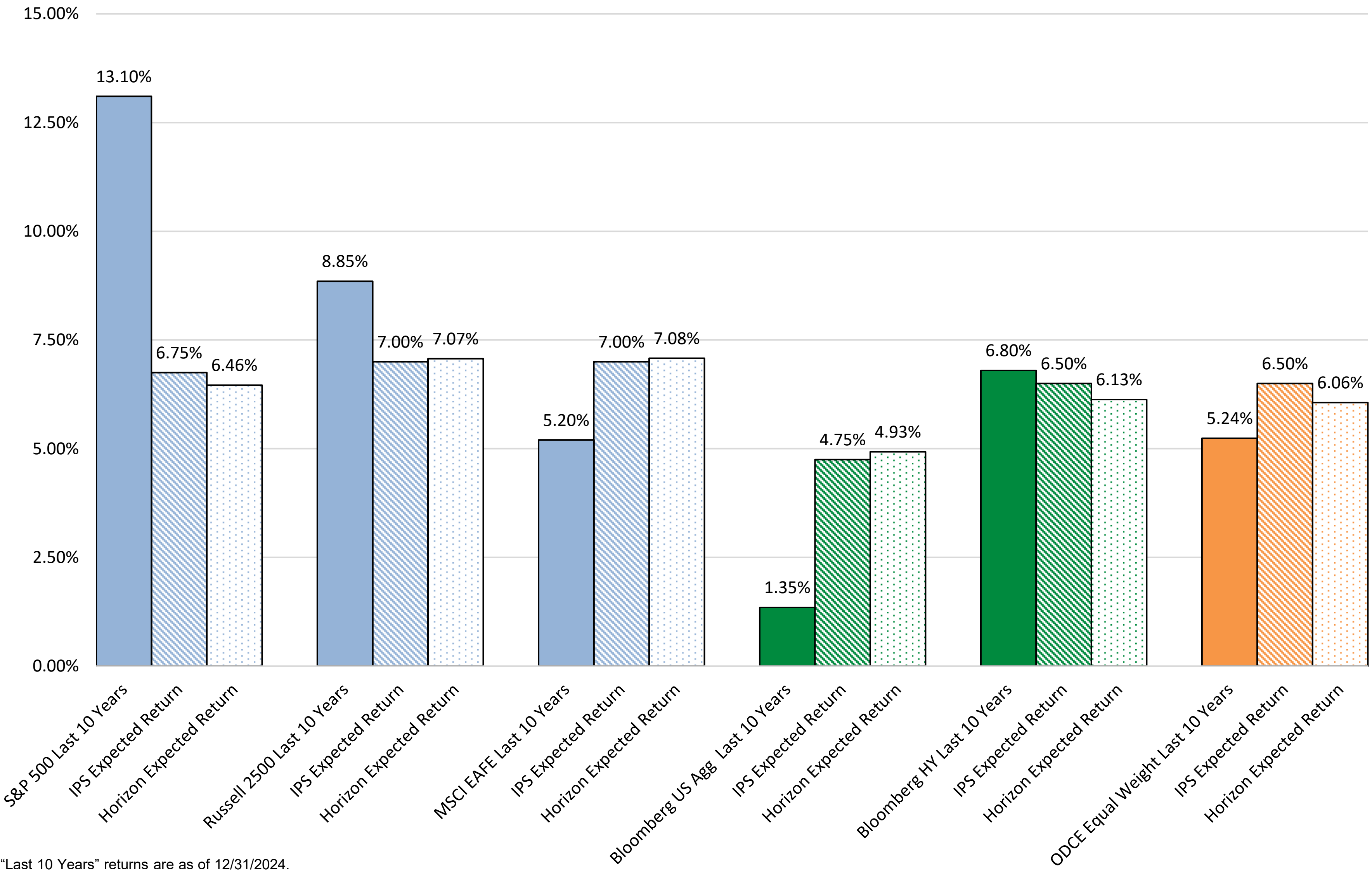
- IPS Investment Committee January 2025.
- Inflation expectation 2.5%.

Change in Expected Returns[1]



1 January 2025 vs. January 2024

Historical Returns vs. Forward Looking Assumptions



- “Last 10 Years” returns are as of 12/31/2024.
- “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 2024 edition.

Asset Class Constraints

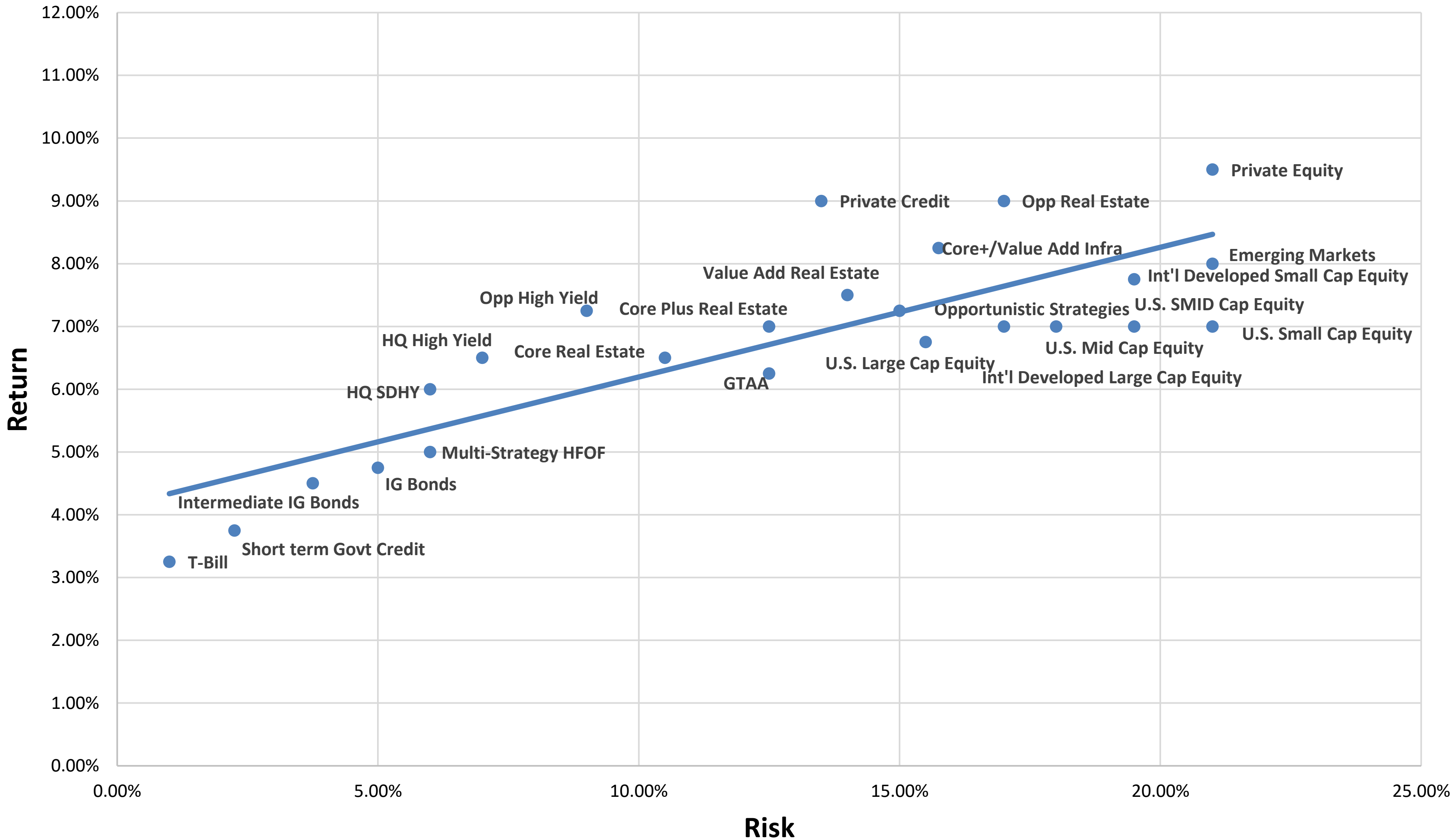
Total Domestic Equity	**20%**	**Max**
Cash	**5%**	**Max**
Fixed Investment Grade (Includes Short Term & Intermediate)	**20%**	**Min**
High Quality High Yield Bonds (Includes Short Duration)	**30%**	**Max**
Real Estate – Core	**10%**	**Max**
Real Estate – Core Plus	**5%**	**Max**
Real Estate – Value Add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

IPS Investment Committee January 2025.

2025 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	Mortgages	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	-0.06	-0.09	-0.09	-0.09	0.00	-0.08	0.01	1.00																
Short Term Govt / Credit	0.15	0.10	0.07	0.05	0.13	0.13	0.17	0.33	1.00															
Int. Investment Grade	0.30	0.25	0.20	0.17	0.22	0.23	0.25	0.11	0.87	1.00														
Core Investment Grade	0.35	0.30	0.25	0.20	0.30	0.22	0.24	0.08	0.81	0.98	1.00													
Mortgages	0.16	0.14	0.11	0.09	0.18	0.20	0.18	0.12	0.25	0.50	0.60	1.00												
Short Duration High Yield	0.65	0.72	0.67	0.62	0.66	0.71	0.65	-0.09	0.30	0.40	0.37	0.22	1.00											
High Yield	0.73	0.79	0.75	0.70	0.74	0.76	0.70	-0.09	0.25	0.40	0.42	0.26	0.93	1.00										
Opp. High Yield	0.70	0.77	0.73	0.69	0.70	0.73	0.67	-0.10	0.10	0.20	0.25	0.07	0.90	0.95	1.00									
Real Estate Core	0.28	0.20	0.20	0.30	0.20	0.12	0.16	-0.09	-0.37	-0.33	-0.28	0.40	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	-0.09	-0.37	-0.33	-0.28	0.40	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	-0.09	-0.37	-0.33	-0.28	0.40	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	-0.11	-0.06	0.03	0.03	0.05	0.53	0.60	0.60	0.25	0.30	0.35	1.00					
HFoF Multi-Strategy	0.73	0.78	0.76	0.71	0.78	0.83	0.76	-0.01	0.01	0.07	0.08	0.01	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	-0.04	-0.28	-0.16	-0.17	-0.23	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	-0.07	-0.02	0.05	0.05	0.03	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	-0.01	0.23	0.35	0.35	0.30	0.69	0.77	0.70	-0.01	-0.01	-0.01	0.77	0.75	0.62	0.78	1.00	
Infrastructure	0.60	0.55	0.54	0.50	0.62	0.57	0.55	0.00	0.18	0.31	0.32	0.26	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.88	10.42	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	5.00	5.00	0.00	0.00	0.00	0.00
Short Term Govt / Credit	85.06	76.15	60.26	40.17	20.04	0.00	0.00	0.00	0.00	0.00
Int. Investment Grade	0.00	0.00	10.40	25.62	39.93	54.12	52.28	20.14	0.00	0.00
Core Investment Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.98	39.58	30.00
Short Duration High Yield	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
High Yield	0.00	6.64	10.58	14.21	20.03	25.88	30.00	30.00	30.00	30.00
Real Estate Core	9.94	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Real Estate Core Plus	0.00	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Real Estate Value Add	0.00	0.00	3.76	5.00	5.00	5.00	5.00	5.00	5.00	5.00
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
Infrastructure	0.00	0.00	0.00	0.00	0.00	0.00	2.72	5.00	5.00	5.00
Return	**4.05**	**4.34**	**4.62**	**4.89**	**5.17**	**5.44**	**5.71**	**5.96**	**6.20**	**6.43**
Risk	**1.82**	**1.98**	**2.28**	**2.64**	**3.05**	**3.51**	**4.02**	**4.75**	**5.66**	**6.72**
Return/Risk	**2.22**	**2.19**	**2.03**	**1.86**	**1.69**	**1.55**	**1.42**	**1.26**	**1.10**	**0.96**

Compound annual return.

Asset Allocation Policy History

	2019	2021	2022	2023	2024
U.S. Large Cap	20.0%	20.0%	20.0%	10.0%	10.0%
Intermediate Fixed	65.0%	35.0%	35.0%	40.0%	40.0%
SD High Yield	--	30.0%	30.0%	35.0%	35.0%
Cash	15.0%	15.0%	15.0%	15.0%	15.0%
Expected Return	**3.84%**	**3.48%**	**4.91%**	**5.08%**	**5.02%**
Expected Risk	**4.07%**	**4.55%**	**4.59%**	**3.91%**	**3.98%**

	Increase allocation
	Decrease allocation
	New asset class
	Reclassification

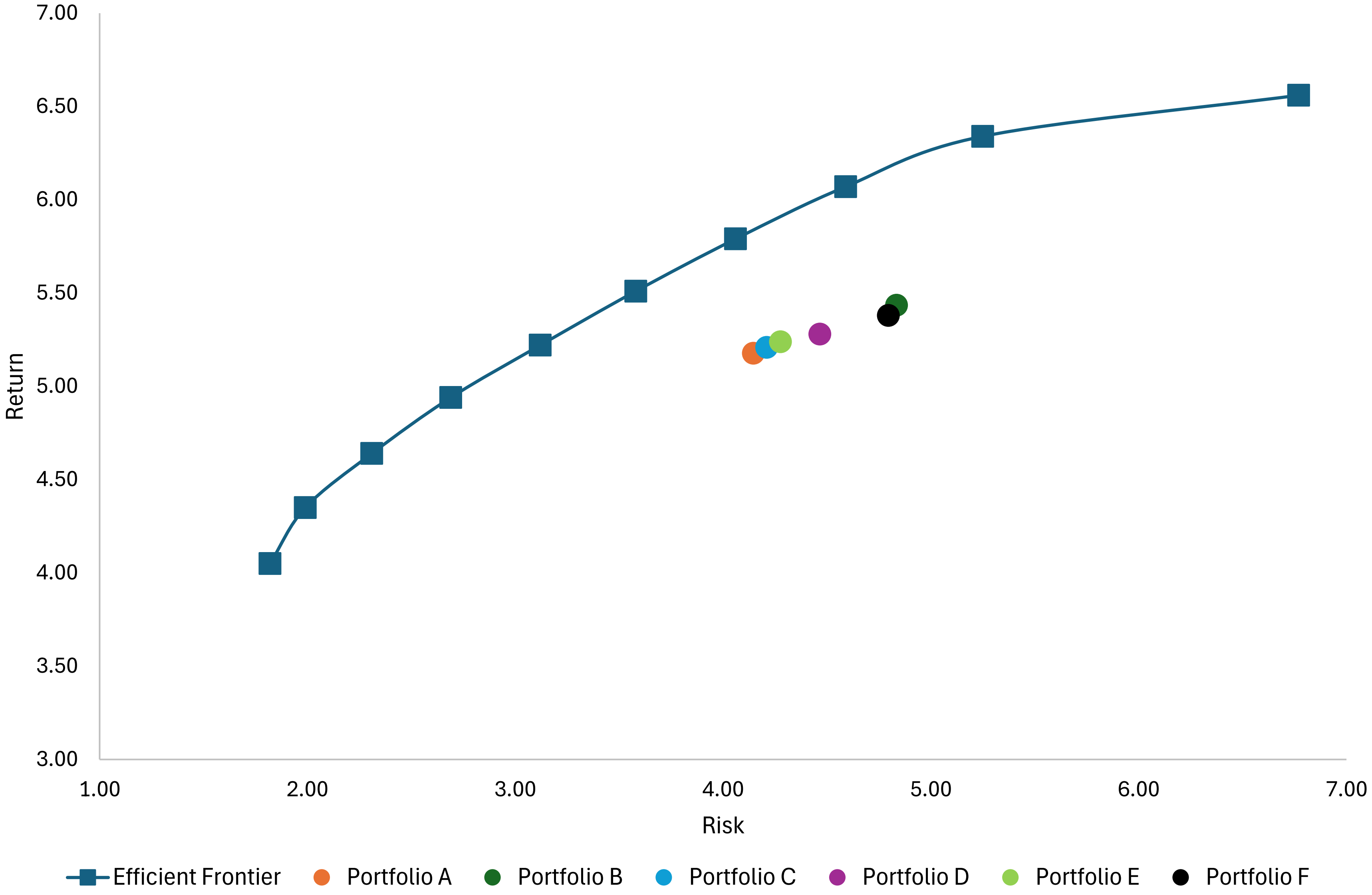
Current Policy Comparison

		% Equity Target	% Fixed Income Target					
		US LC Equity	Fixed Income Interm	SDHY	Cash	Expected Return (net of fees)	Risk	Comments
		10% Equity	75% Fixed Income					
1	Operating Engineers Local No. 77 JATC Fund	10.0	40.0	35.0	15.0	5.18%	4.15	Current Policy
2	Portfolio B	13.7	41.5	38.3	6.5	5.43%	4.84	Allocation as of December 31, 2024
3	Portfolio C	% Equity 10.0	% Fixed Income 42.5	35.0	12.5	5.21%	4.21	Decrease Cash. Increase IG.
4	Portfolio D	% Equity 12.5	% Fixed Income 40.0	35.0	12.5	5.28%	4.47	Decrease Cash. Increase US LC equity.
5	Portfolio E	% Equity 10.0	% Fixed Income 45.0	35.0	10.0	5.24%	4.28	Decrease Cash. Increase IG.
6	Portfolio F	% Equity 15.0	% Fixed Income 40.0	35.0	10.0	5.38%	4.80	Decrease Cash. Increase US LC equity.

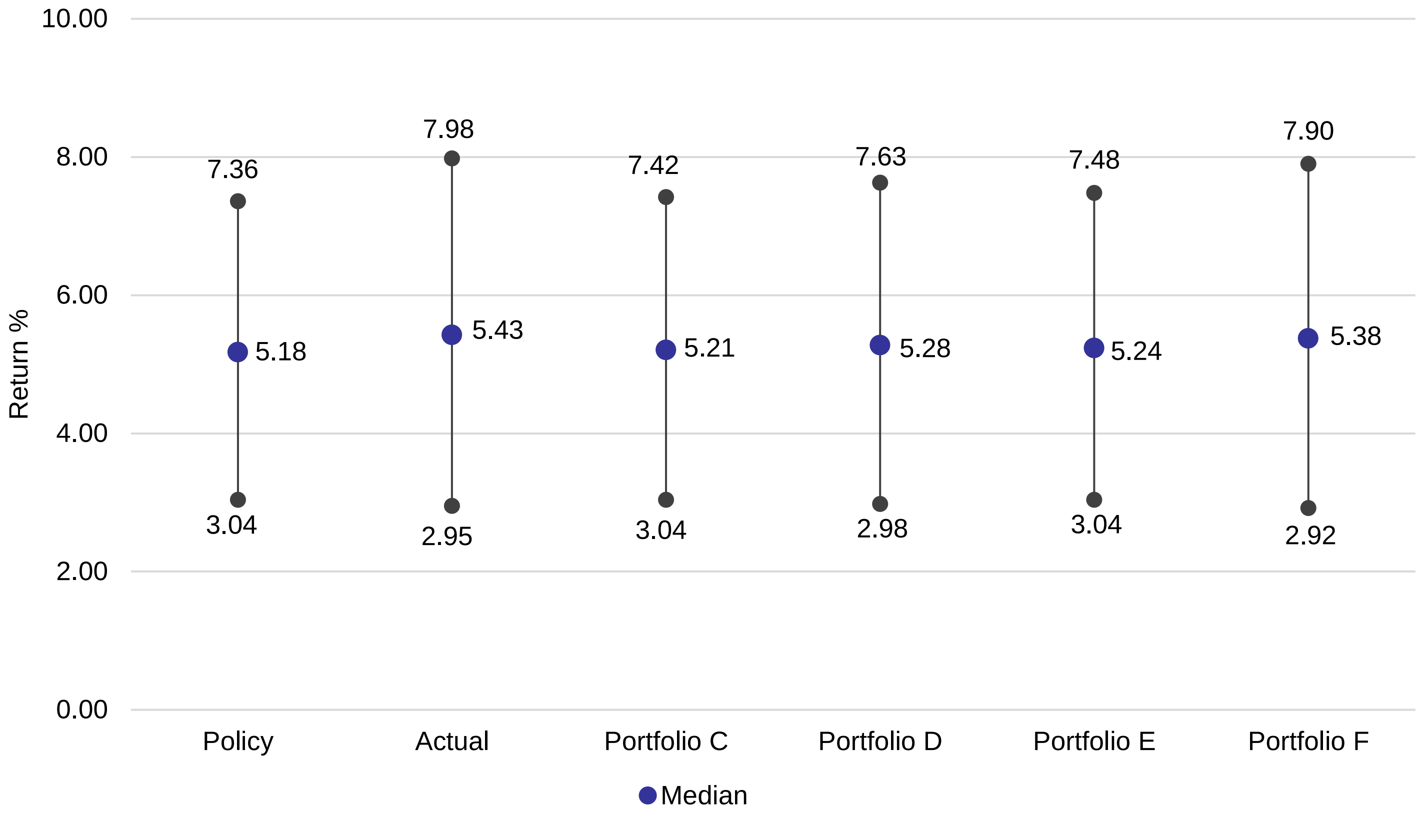
Scenarios are shown for illustrative purposes.

(green)	Increase allocation
(red)	Decrease allocation
(light blue)	New asset class
(purple)	Reclassification

Efficient Frontier Comparison

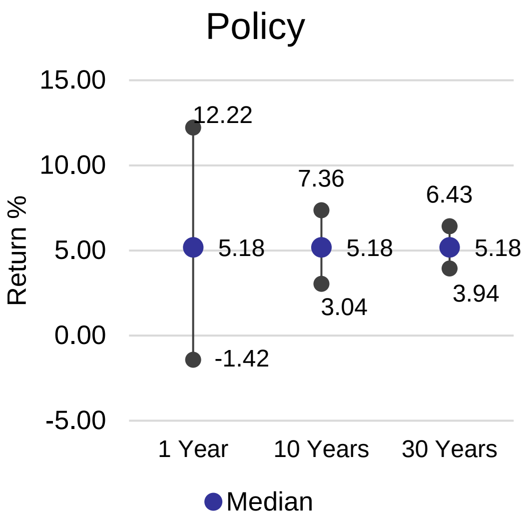


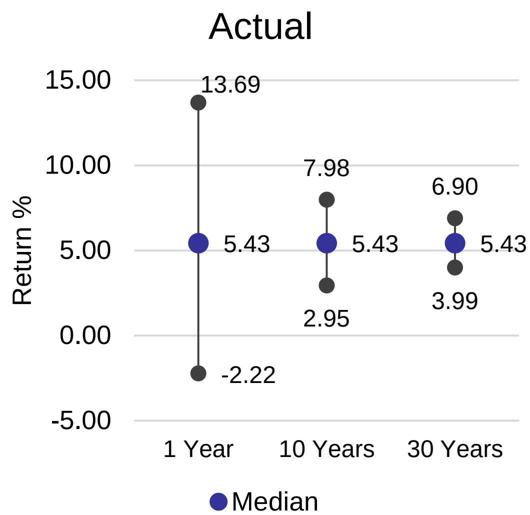
Potential Distribution of Returns – 10 Year Horizon

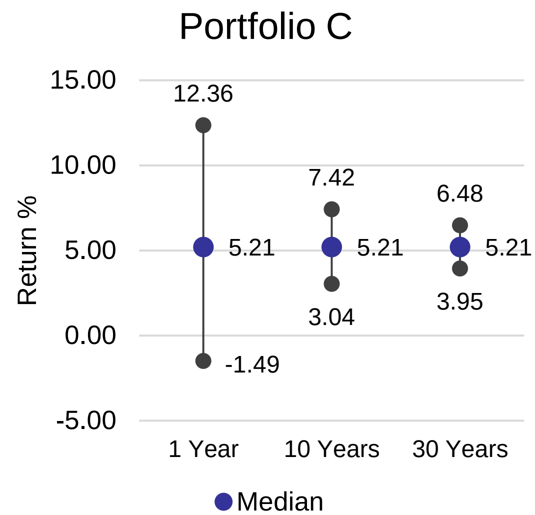


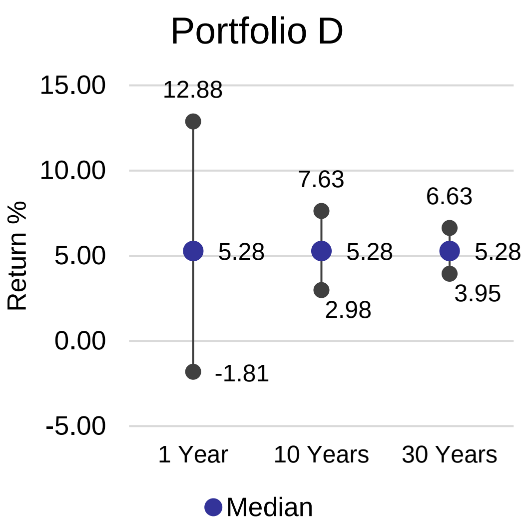
Potential distribution of returns is based on the Parametric Method. Best and worst outcomes are based on the 5th and 95th percentile, respectively.

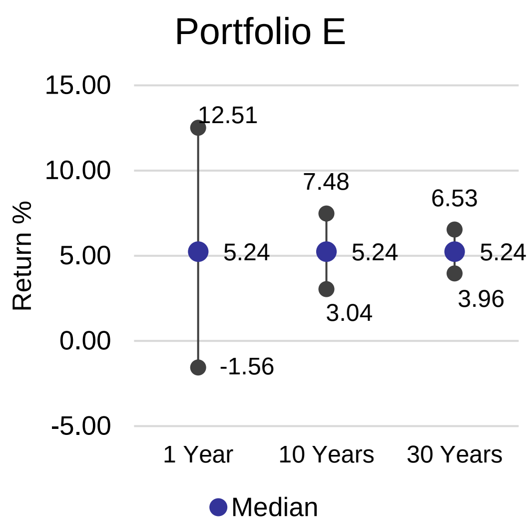
Potential Distribution of Returns

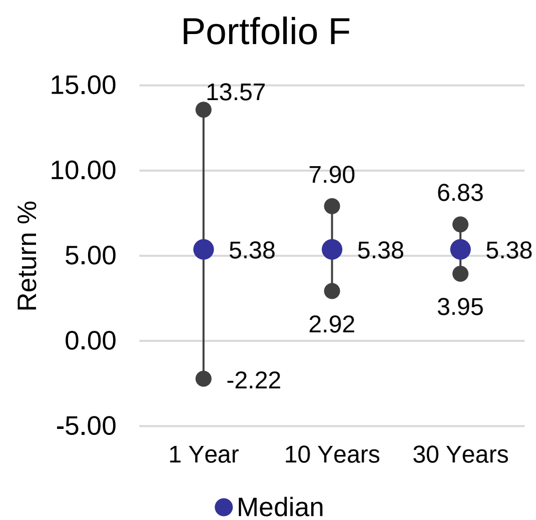












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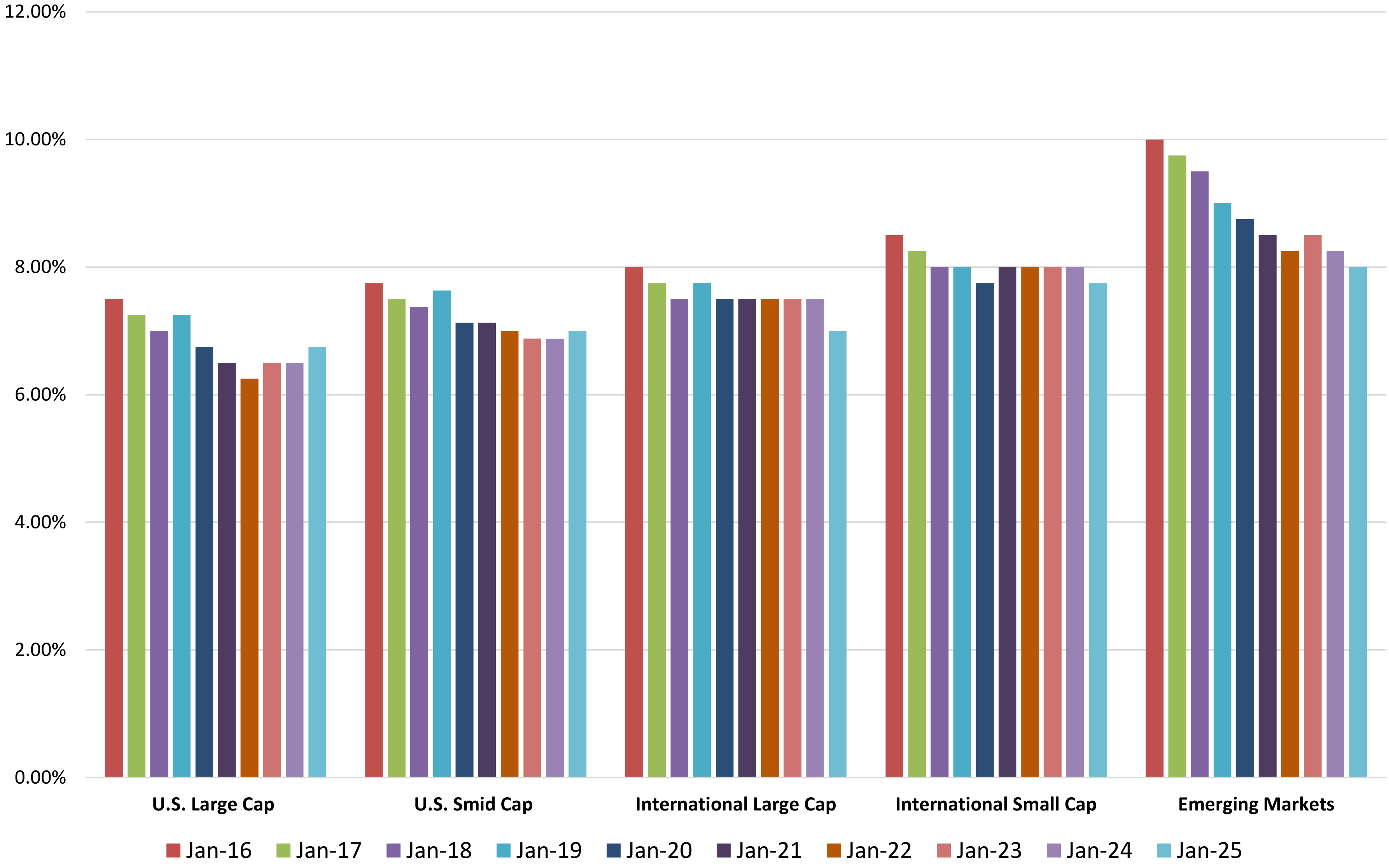
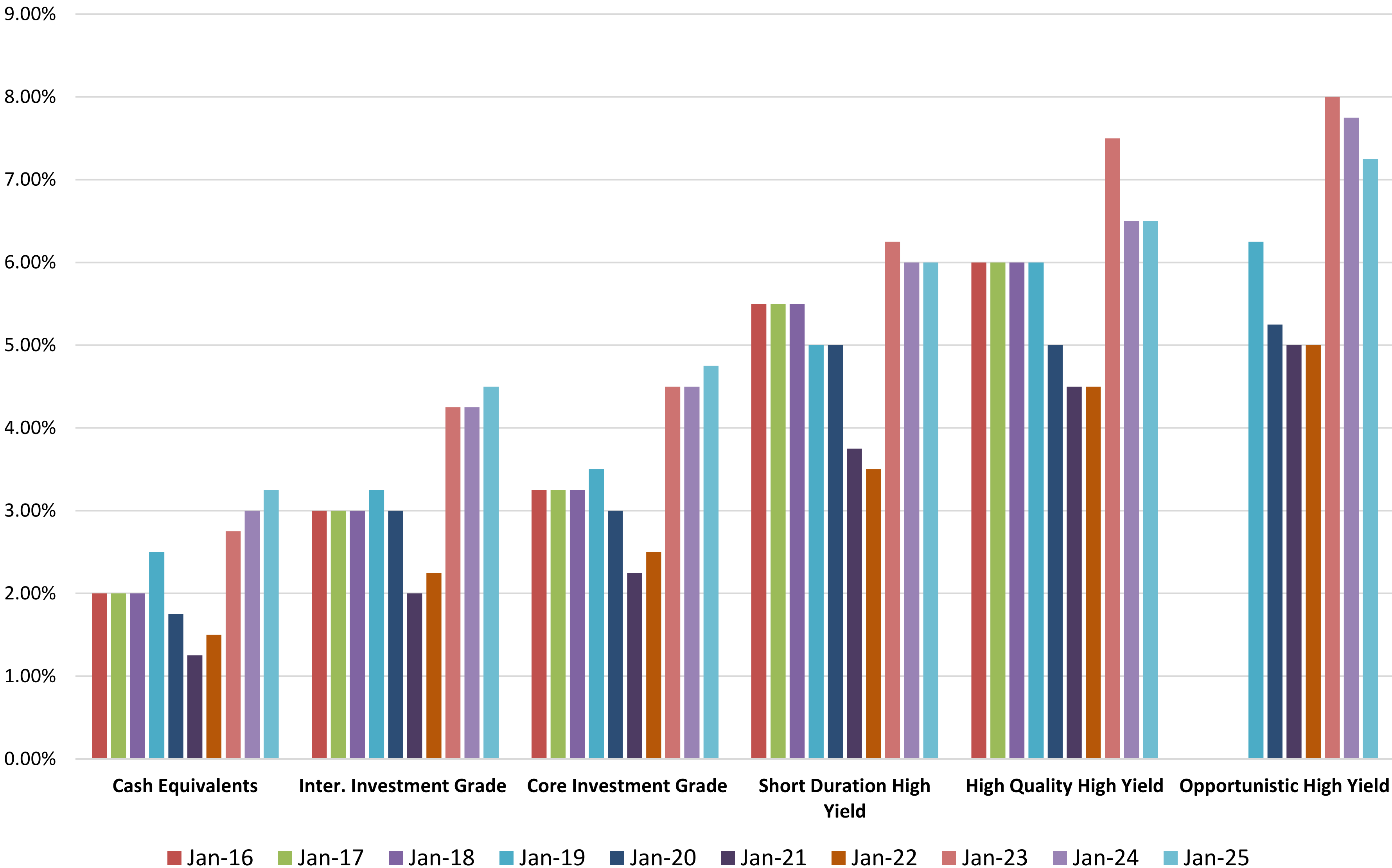
APPENDIX

Public Equity – IPS Historical Capital Market Assumptions

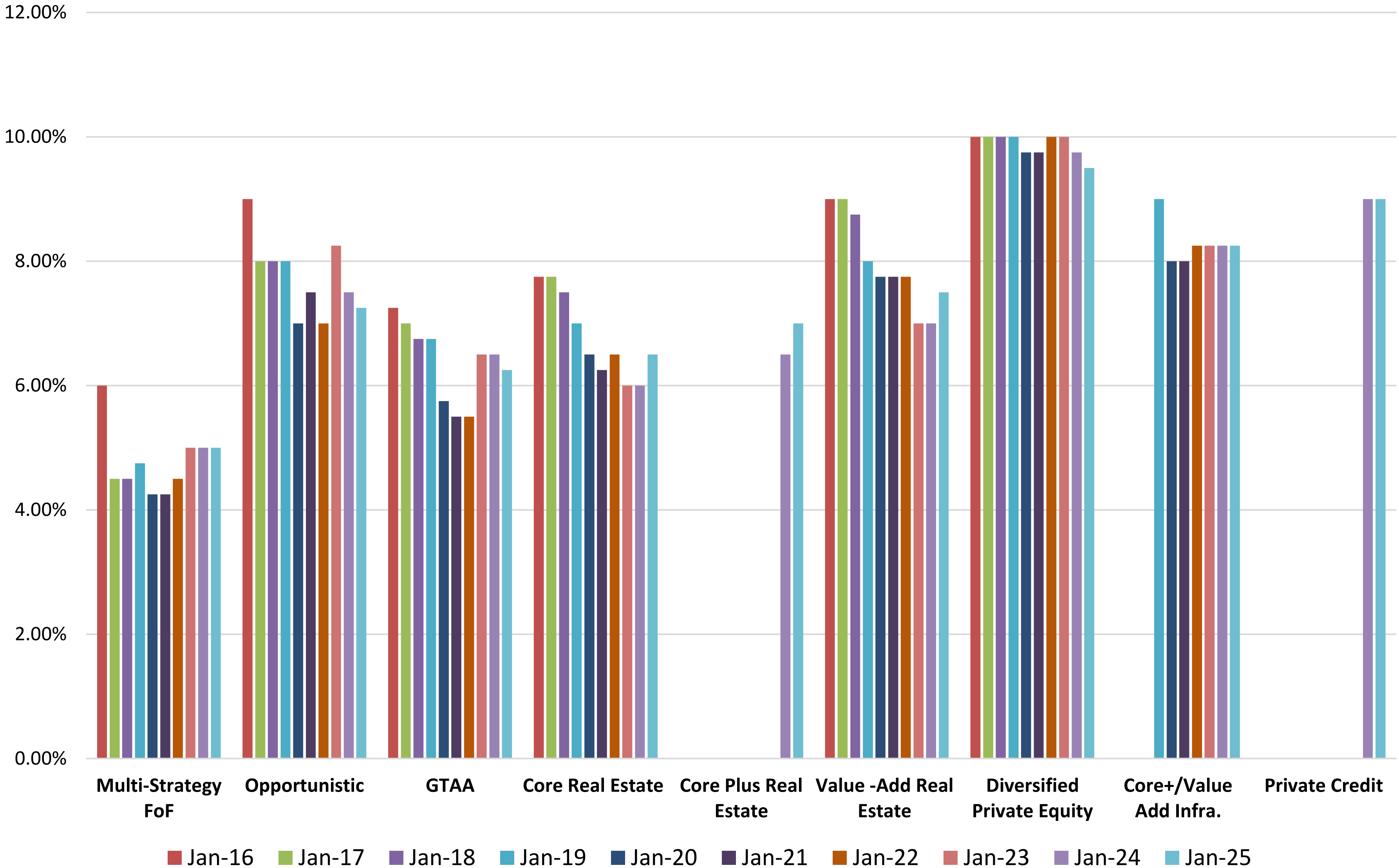


Fixed Income – IPS Historical Capital Market Assumptions



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

Alternative Investments – IPS Historical Capital Market Assumptions



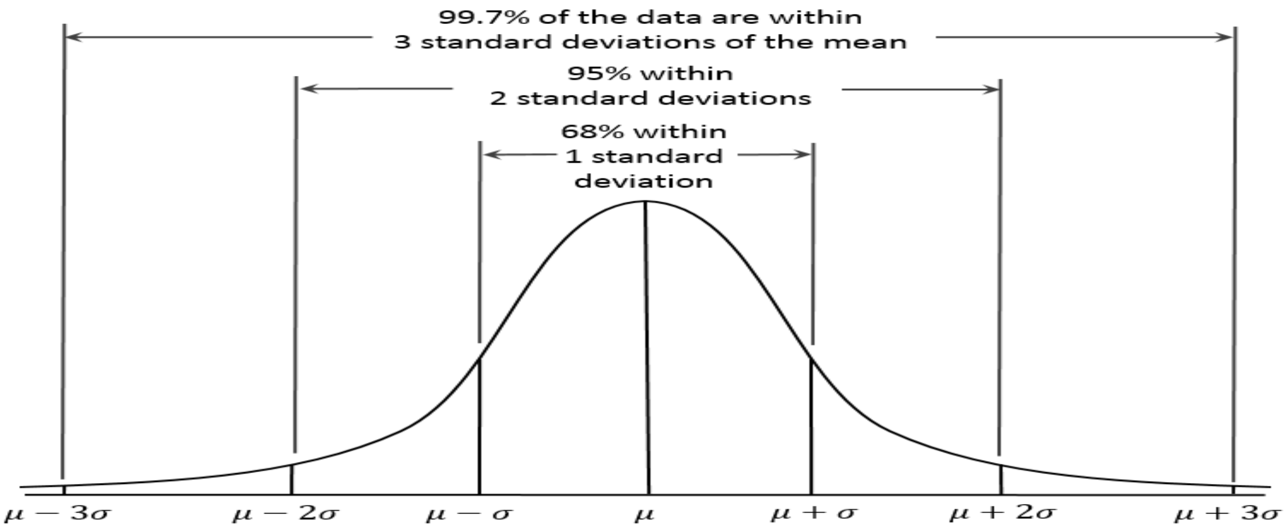
IPS began setting capital market assumptions for Core+/Value Add Infrastructure in January 2019 and for Core Plus Real Estate and Private Credit in January 2024.

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

Alpha

The amount of an investment's return that is independent of the return of the market. Alpha is generated by active management through security selection and may be positive or negative relative to a given benchmark.

Beta

A 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.

Capture Ratio

A measurement (usually based on monthly or quarterly time periods) of an investment manager's performance relative to their benchmark in a rising or falling market. Upside capture illustrates how a manager has performed when their benchmark index is positive. In a rising market, a percentage over 100% indicates the manager exceeded the benchmark, while a percentage below 100% indicates the manager lagged the benchmark. Downside capture illustrates how a manager has performed when their benchmark index is negative. In a falling market, a percentage of less than 100% indicates that the manager lost less than the benchmark, while a percentage above 100% indicates the manager lost more than the market. Index funds, in theory, should have 100% upside and downside capture ratios before fees.

Compound Annual Returns

A time-weighted measure of the annual investment return, assuming the investment grew at a constant rate.

Correlation

A statistical measure of how two investments perform in relation to each other. Investments with a correlation of 1.0 have perfect positive correlation (exactly the same). Investments with perfect negative correlation of -1.0 will perform equally but in opposite directions.

Distribution to Paid-In (DPI)

The value of all distributions to limited partners divided by the amount limited partners have contributed to the fund. Often expressed as a ratio, DPI plus the unrealized value of limited partners' investments (RPI) equals the Total Value to Paid In (TVPI) multiple. A DPI of 1 indicates the investor has received capital back equal to what they invested while a DPI over 1 indicates an investor has received more capital back than they invested. DPI is most relevant for closed-end fund structures such as private equity.

Efficient Frontier

Represents the set of possible portfolios that have the greatest expected return for each level of risk (standard deviation of returns).

Glossary of Investment Terminology

Geometric Return	A calculation used when determining an annualized investment return, which 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.
Internal Rate of Return (IRR)	The discount rate at which the net present value of an investment's cash flows is equal to zero (0). IRR is commonly used to gauge fund performance.
Market Cap	The dollar value of a corporation, which is calculated by multiplying the share price of the stock by the number of outstanding shares.
Residual to Paid-In (RPI)	The unrealized value of limited partners' investments divided by the amount limited partners have contributed to the fund. Often expressed as a ratio, RPI plus the amount distributed back to investors (DPI) equals the total value to paid in (TVPI) multiple.
Return/Risk Ratio	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.
Standard Deviation	A statistical measurement of the dispersion of a set of data from its mean. The more spread apart the data is, the greater the standard deviation. Standard deviation is the most commonly cited measure of volatility or "risk" in investment returns. It measures total volatility, meaning it does not differentiate "bad" volatility associated with negative returns from "good" volatility associated with positive returns.
Total Return	The annual return on an investment, including appreciation, depreciation and income (interest, dividends, net operating income).
Total Value to Paid in Multiple (TVPI)	A measure of return that expresses how much a fund has made relative to how much was contributed. It is calculated by dividing the sum of the amount of capital distributed to investors and the amount of remaining value by the amount of invested capital. A TVPI below 1 indicates the current value of the investment plus the capital returned to the investor is less than the investor contributed. A TVPI greater than 1 indicates the current value of the investment plus the capital returned to the investor is more than the investor contributed. For closed-end funds such as private equity, DPI and TVPI will be the same at the end of the fund's life.

Impact of Negative Cash Flows

- Most defined benefit pension funds payout more in benefits and expenses than they take in via contributions, resulting in **negative net cash flows** on an annual basis.
- Plans with negative net cash flows require a much higher return in Year 2 following a loss in Year 1 to get back to the starting fund value.
- For example, a plan with a neutral net cash flow that returns -10.0% in Year 1 would require an **11.0% return in Year 2 to break even**.
- A plan with -5.0% net cash flows that experiences a -10.0% return in Year 1 would require a **24.0% return in Year 2 to breakeven (Year 2B).**
- An 11.0% return for a -5.0% net cash flow plan in Year 2 following a -10.0% return in Year 1 would result in an ending value **that is $10.5 million less (Year 2A)** than the neutral cash flow plan, assuming a starting value of $100 million.

Return Needed in Year 2 to Breakeven

Year 1 Return	Cash Flow as Percentage of Beginning Assets: 0.0%	-2.5%	-5.0%	-7.5%	-10.0%
0.0%	0%	5%	11%	16%	22%
-5.0%	5%	11%	17%	23%	29%
-10.0%	**11%**	17%	**24%**	30%	38%
-15.0%	18%	24%	31%	39%	47%
-20.0%	25%	32%	40%	48%	57%

	Neutral Cash Flow Fund		Negative Cash Flow Fund		
	Year 1	Year 2	Year 1	Year 2A	Year 2B
Beginning Assets	$100,00,000	$90,000,000	$100,000,000	$85,000,000	$85,000,000
Net Cash Flows	NA	NA	($5,000,000)	($5,000,000)	($5,000,000)
Investment Return (%)	-10%	11%	-10%	11%	24%
Investment Return ($)	($10,000,000)	$10,000,000	($10,000,000)	$9,444,350	$20,000,000
Ending Value	**$90,000,000**	**$100,000,000**	**$85,000,000**	**89,444,350**	**$100,000,000**

Common Market Capitalization Categories for Equities

Mega Cap	Greater than $250 Billion
Large Cap	$50 Billion to $250 Billion
Mid Cap	$10 Billion to $50 Billion
Small Cap	$1 Billion to $10 Billion
Micro Cap	Less than $1 Billion

Bond Ratings & Classifications

Classification	Standard & Poor's	Moody's
Investment Grade	AAA	Aaa
	AA	Aa
	A	A
	BBB	Baa
High Quality High Yield	BB	Ba
	B	B
Low Quality High Yield	CCC	Caa
	CC	Ca
	C	C

Real Estate Asset Class

Higher Returns

More Risk

Core

Diversified, high quality, mature holdings with little debt and high income.

- Diversified tenant base
- Well-leased properties
- Minimal capital expenditures
- Stable cash flows
- Market rents
- Class A & B properties
- 0-35% leverage

Core-Plus

Core, with higher leverage and/or small allocations to value-add strategies.

- Stable cash flows
- Light renovations
- May include construction/development with a cap
- 30-40% leverage

Value-Add

Focus on potential of upgrading individual properties.

- Development/redevelopment
- Light/heavy renovation
- Property repositioning and/or operational improvements
- Substantial initial or near-term vacancy
- Construction and/or lease-up risk
- Low initial yield
- May require major capital expenditures
- Lower income but higher appreciation potential
- 40-75% leverage

Opportunistic

Highest risk/return strategy that encompasses a variety of opportunities which are often cyclical.

- Strategies may include new development, major renovations, distressed properties
- May invest across geographies and property types
- Prioritizes upside/appreciation, with limited/no income
- 75-90% leverage

High Yield Credit Asset Class

Higher Returns

More Risk

Below Investment Grade (High Yield)

Investment Grade

"High Quality" High Yield

Primarily corporate bonds and loans rated BB/B

- Focused on public market issuers
- Readily liquid ("tradable credit")

Opportunistic High Yield

Broader mandate to invest across high yield bonds, loans, structured products, lower-quality securities and non-US issuers

- Primarily publicly traded credit securities
- Larger companies with higher levels of debt
- Complex debt structures that require expertise to evaluate
- May invest opportunistically in private loans

Private Credit

Privately negotiated loans or debt transactions made directly to companies or non-corporate borrowers.

- Non-traded, private loans/debt
- Debt unable to be financed by banks due to regulatory reasons or complexity
- Smaller companies or unconventional lending situations
- Smaller loans typically made by a single lender or a small group
- Loans typically held to maturity by the original lender

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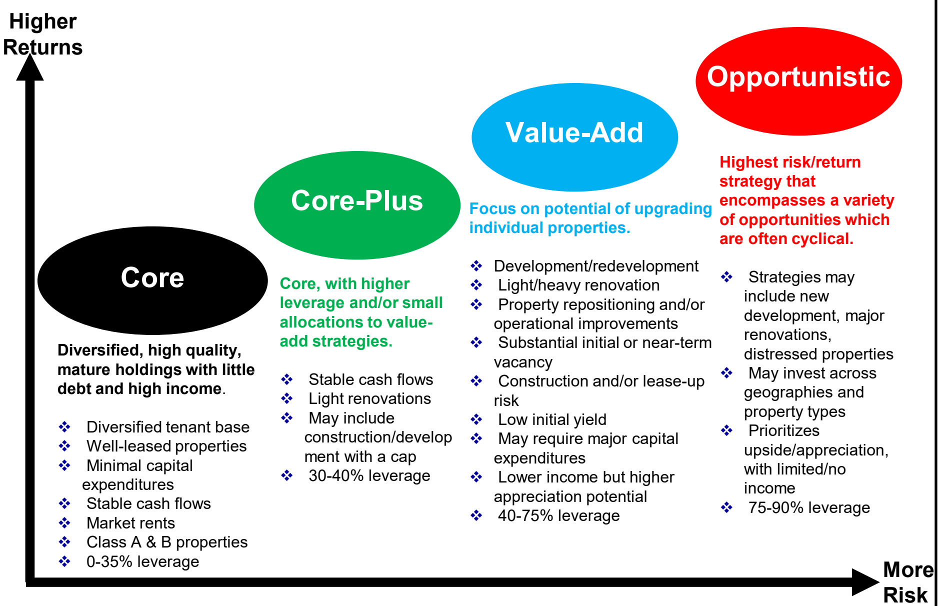
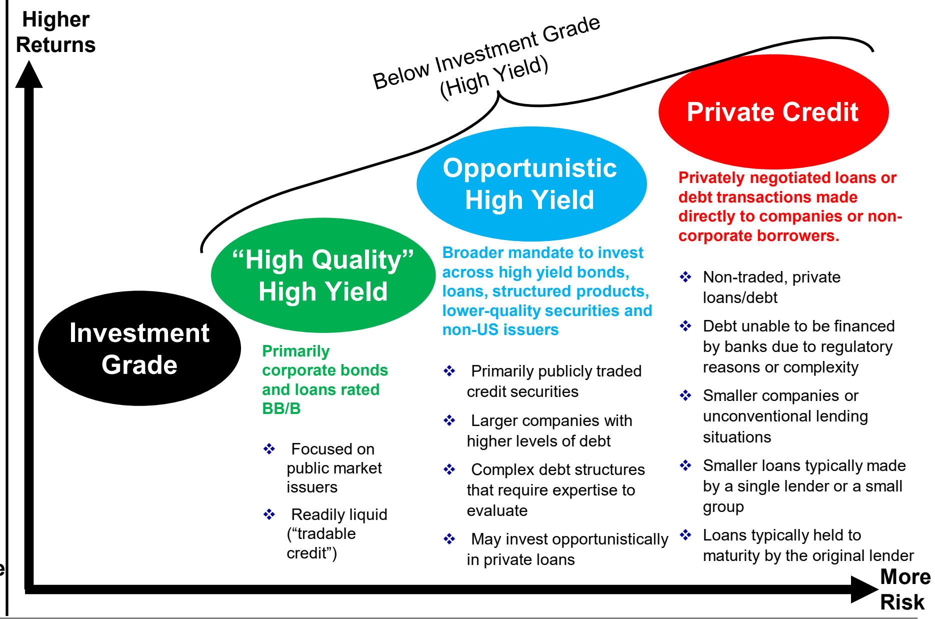
	A	A
	BBB	Baa
High Quality High Yield	BB	Ba
	B	B
Low Quality High Yield	CCC	Caa
	CC	Ca
	C	C

Real Estate Asset Class



High Yield Credit Asset Class



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EPIC

April 30 - May 3, 2024

The following investment managers and providers attended and helped to defray the cost of IPS' annual conference EPIC. EPIC is an educational conference addressing various issues related to employee benefit plans. IPS does not give preferential treatment to investment managers or any other provider that pays to attend EPIC.

400 Capital Management
Alliance Bernstein
Amalgamated Bank of Chicago
Amalgamated Bank of NY
American Realty Advisors
Apogem Capital
Arena Capital
Aristotle
ASB Real Estate Investments
Atlanta Capital Management
Barrow Hanley Global Investors
BentallGreenOak
Blackstone Infrastructure
BNY Mellon Investment Management
Boston Partners
Boyd Watterson Asset Management
BPEA Private Equity
Brown Advisory
Chartwell Investment Partners
Christenson Investment Partners
Columbia Threadneedle Investments
Constitutional Capital Partners
Corbin Capital Partners
Crux Point
Dana Investment Advisors
Earnest Partners
Empower
EnTrust Global
F/M Investments
Fidelity Investments
First Eagle Investments
Fisher Investments
Foundry Partners
Fred Alger Management
GCM Grosvenor
Glouston Capital Partners
GoldenTree Asset Management
Great Lakes Advisors
Hamilton Lane Advisors
Hardman Johnston Global Advisors
HPS Investment Partners
Income Research & Management
Intercontinental Real Estate Corp.
Invesco Advisors, Inc.
Janus Henderson Investors
John Hancock
JP Morgan Asset Management
Kearney Capital LLC
Kelson Group
Lazard Asset Management
Loomis, Sayles & Company
Lord Abbett & Co.
LSV Asset Management
Lyrical Asset Management
MacKay Shields
McMorgan & Company
Manulife
MGG Investment Group
Mesirow Private Equity
National Investment Services
National Real Estate Advisors
Neuberger Berman
Northern Trust Asset Management
Nuveen Investment Group
Oaktree Capital Management
Old Glory Asset Management
One America Financial
Partners Group
Patriot Financial Partners
PNC Capital Advisors
Portfolio Advisors LLC
Post Advisory Group
Principal Financial Group
Principal Life Insurance
Richmond Capital Management
Schroders Investment Management
Segall Bryant & Hamill
Sierra Investment Partners
Siguler Guff & Company, LP
State Street Global Advisors
Stonepeak Partners
Ullico Investment Company
Victory Capital Management
Wasatch Global Investors
Washington Capital Management
WEDGE Capital Management
Wellington Management Company
Westfield Capital Management
Westport Capital Partners
William Blair & Company
Xponance