Operating Engineers Local No. 77 JATC

Investment Performance Report

Period Ended
June 30, 2024

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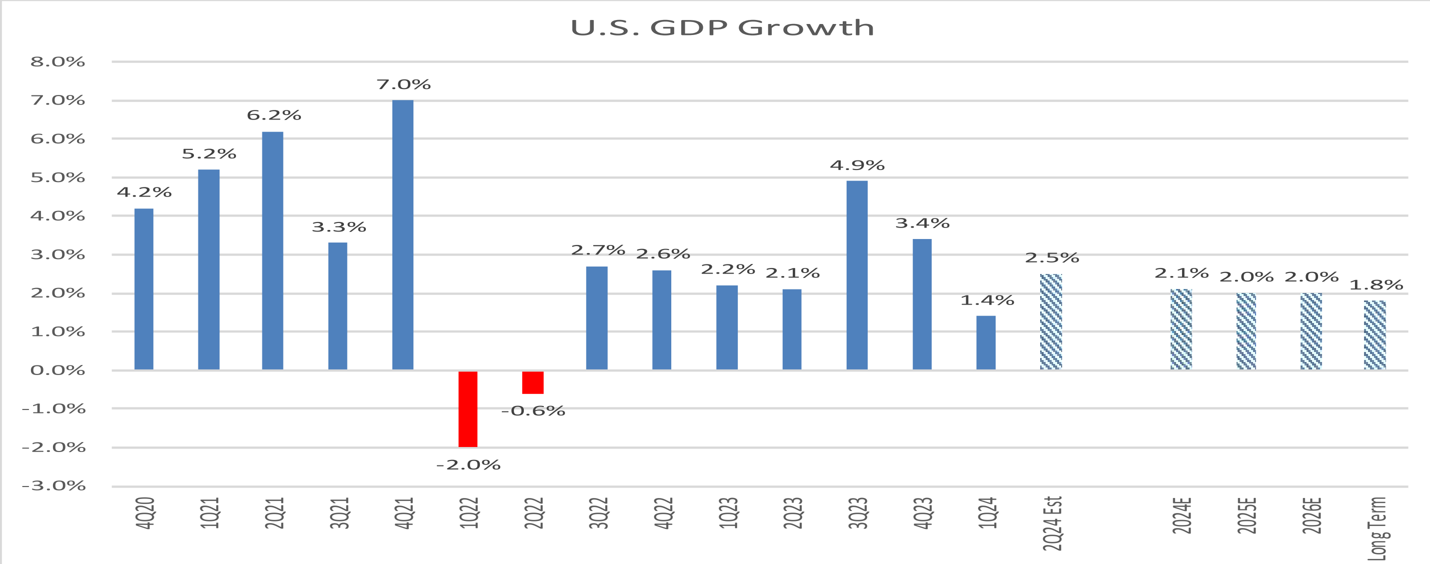
Market Discussion Q2 | 2024

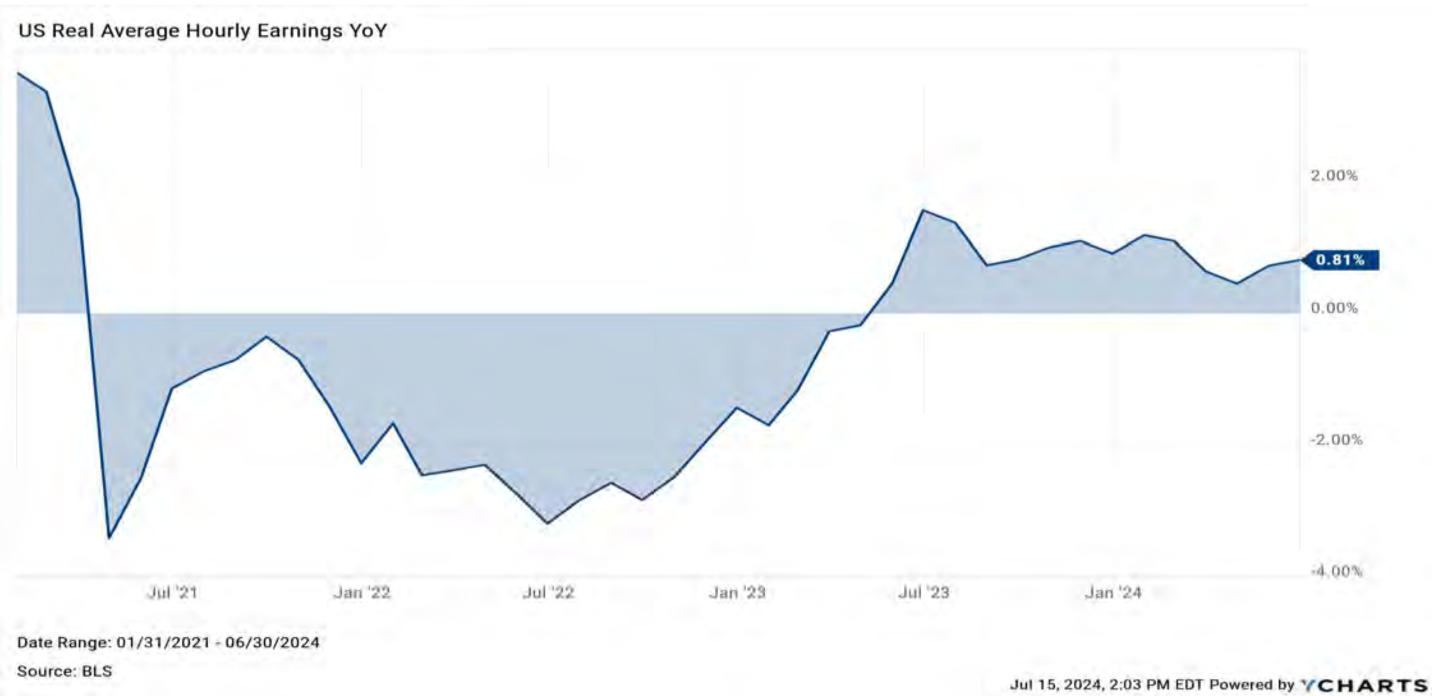
Financial Market Performance – Periods Ending June 30, 2024

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	4.3%	15.3%	26.3%	-18.1%	28.7%	18.4%	31.5%	-4.4%	24.5%	10.0%	15.0%	12.8%	10.3%
	US Large Cap Growth	Russell 1000 Growth	8.3%	20.7%	42.7%	-29.1%	27.6%	38.5%	36.4%	-1.5%	33.4%	11.3%	19.3%	16.3%	12.2%
	US Large Cap Value	Russell 1000 Value	-2.2%	6.6%	11.4%	-7.6%	25.1%	2.8%	26.5%	-8.3%	13.0%	5.5%	9.0%	8.2%	8.1%
	US Small Cap	Russell 2000	-3.3%	1.7%	16.9%	-20.5%	14.8%	19.9%	25.5%	-11.0%	10.0%	-2.6%	6.9%	7.0%	7.8%
	Non-US Developed	MSCI EAFE (net)	-0.4%	5.3%	18.2%	-14.5%	11.3%	7.8%	22.0%	-13.8%	11.5%	2.9%	6.5%	4.3%	5.6%
	Emerging Markets	MSCI EM (net)	5.0%	7.5%	9.8%	-20.1%	-2.5%	18.3%	18.4%	-14.6%	12.5%	-5.1%	3.1%	2.8%	7.3%
	Int'l Small Cap	MSCI EAFE Small Cap (net)	-1.8%	0.5%	13.2%	-21.4%	10.1%	12.3%	25.0%	-17.9%	7.8%	-3.3%	4.2%	4.3%	6.5%
Bonds	Treasury	Bloomberg US Govt	0.1%	-0.8%	4.1%	-12.3%	-2.3%	7.9%	6.8%	0.9%	1.6%	-3.2%	-0.6%	0.9%	2.7%
	Broad Market	Bloomberg Aggregate	0.1%	-0.7%	5.5%	-13.0%	-1.5%	7.5%	8.7%	0.0%	2.6%	-3.0%	-0.2%	1.3%	3.1%
	Intermediate	Bloomberg Gov/Credit Int.	0.6%	0.5%	5.2%	-8.2%	-1.4%	6.4%	6.8%	0.9%	4.2%	-1.2%	0.7%	1.5%	2.9%
	High Yield	Bloomberg HY BaB 2% IC	1.2%	2.5%	12.6%	-10.6%	4.6%	7.7%	15.2%	-1.9%	10.0%	1.6%	3.9%	4.3%	6.3%
	Short Duration HY	ICE BofA 1-3 Yrs BB US Cash Pay HY	1.4%	2.8%	8.9%	-3.1%	3.2%	5.4%	8.7%	1.3%	8.1%	3.1%	4.0%	4.0%	5.5%
	Global Bonds	FTSE WGBI	-1.6%	-4.0%	5.2%	-18.3%	-7.0%	10.1%	5.9%	-0.8%	-0.6%	-6.9%	-3.2%	-1.2%	1.8%
GTAA	Unconstrained	65% MSCI World /35% FTSE WGBI	1.2%	6.0%	17.0%	-18.1%	11.0%	14.6%	19.9%	-5.8%	12.6%	2.0%	6.6%	5.7%	6.2%
Real Estate	Core	NCREIF ODCE Equal Weighted (net)	-0.8%	-3.2%	-13.4%	7.6%	21.9%	0.8%	5.2%	7.3%	-10.4%	1.1%	2.6%	5.8%	5.8%
Hedge Fund of Funds	Diversified FOFs	HFRI FOF Composite	0.4%	4.6%	6.1%	-5.3%	6.2%	10.9%	8.4%	-4.0%	8.5%	2.1%	4.8%	3.5%	3.5%
	Equity Long-Short	HFRI Equity Hedge	1.0%	6.1%	11.4%	-10.1%	11.7%	17.9%	13.7%	-7.1%	11.8%	1.9%	7.8%	5.6%	5.5%
Commodities	Commodities	Goldman Sachs Commodity	0.7%	11.1%	-4.3%	26.0%	40.4%	-23.7%	17.6%	-13.8%	15.0%	12.7%	8.3%	-3.1%	-1.5%

U.S. Economy



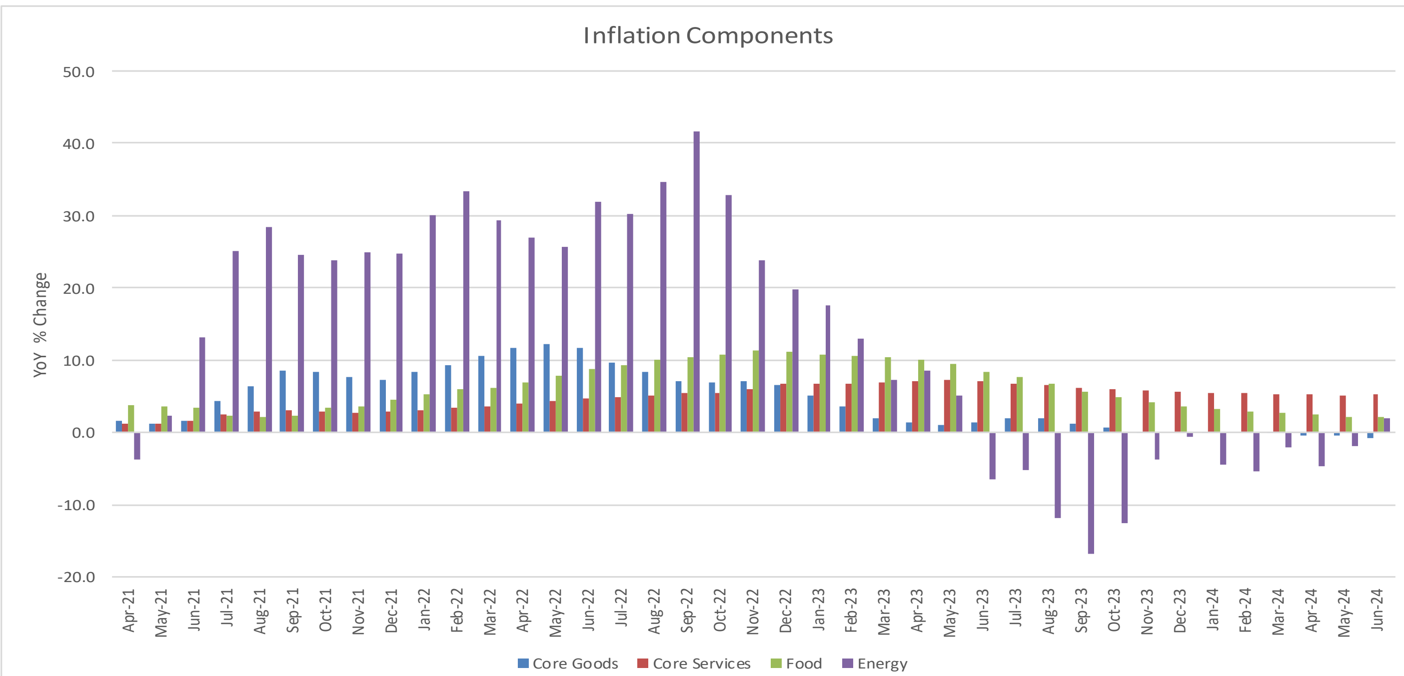
Sources: U.S. Bureau of Economic Analysis, Federal Reserve, Atlanta Federal Reserve



U.S. Economic Growth Slows

- U.S. GDP growth slowed from 3.4% in Q4 2023 to 1.4% in 1Q 2024, the slowest pace of growth since Q2 2021 as consumer spending softened.
- Compared to Q4 2023, the deceleration in real GDP primarily reflected lower growth in consumer spending (2.0% vs. 3.3% in Q4 2023), exports, and state and local government spending, and a downturn in federal government spending. These movements were partly offset by an acceleration in residential fixed investment and imports.
- As of July 16th, the Atlanta Federal Reserve is projecting GDP growth has accelerated to 2.5% in Q2 2024.
- After 25 consecutive months of negative real wage growth for U.S. workers, higher earnings and slowing inflation have more recently resulted in 14 consecutive months of real earnings growth.

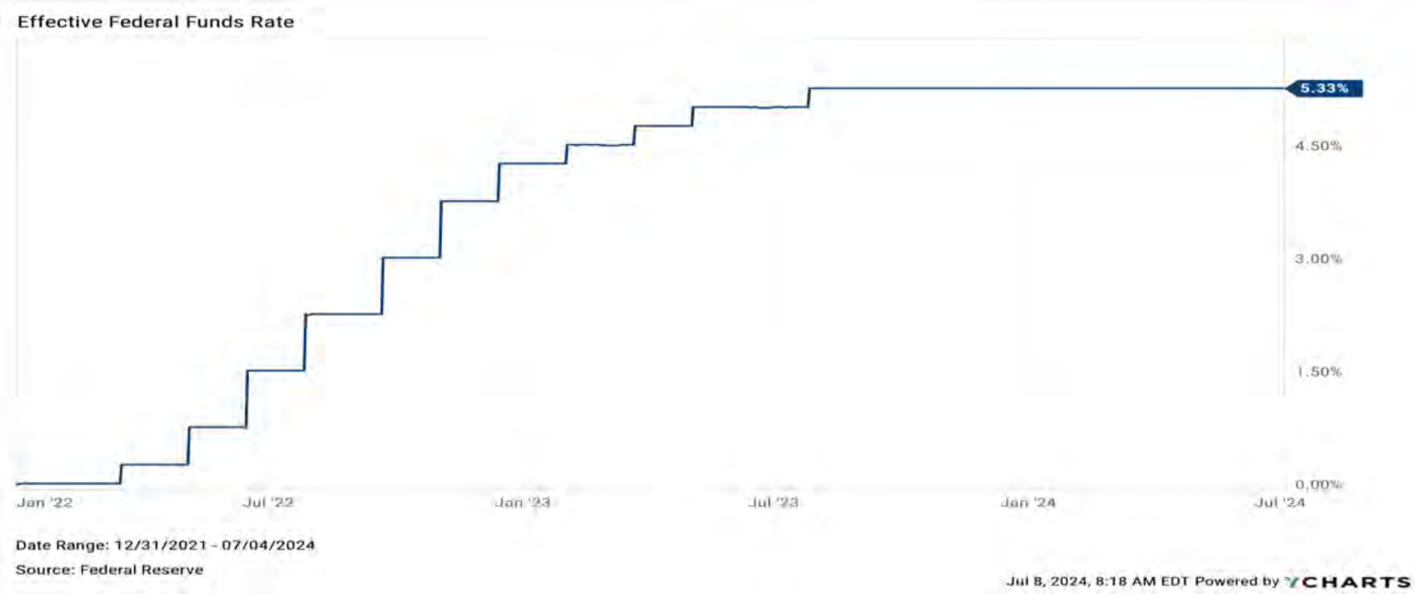
U.S. Economy

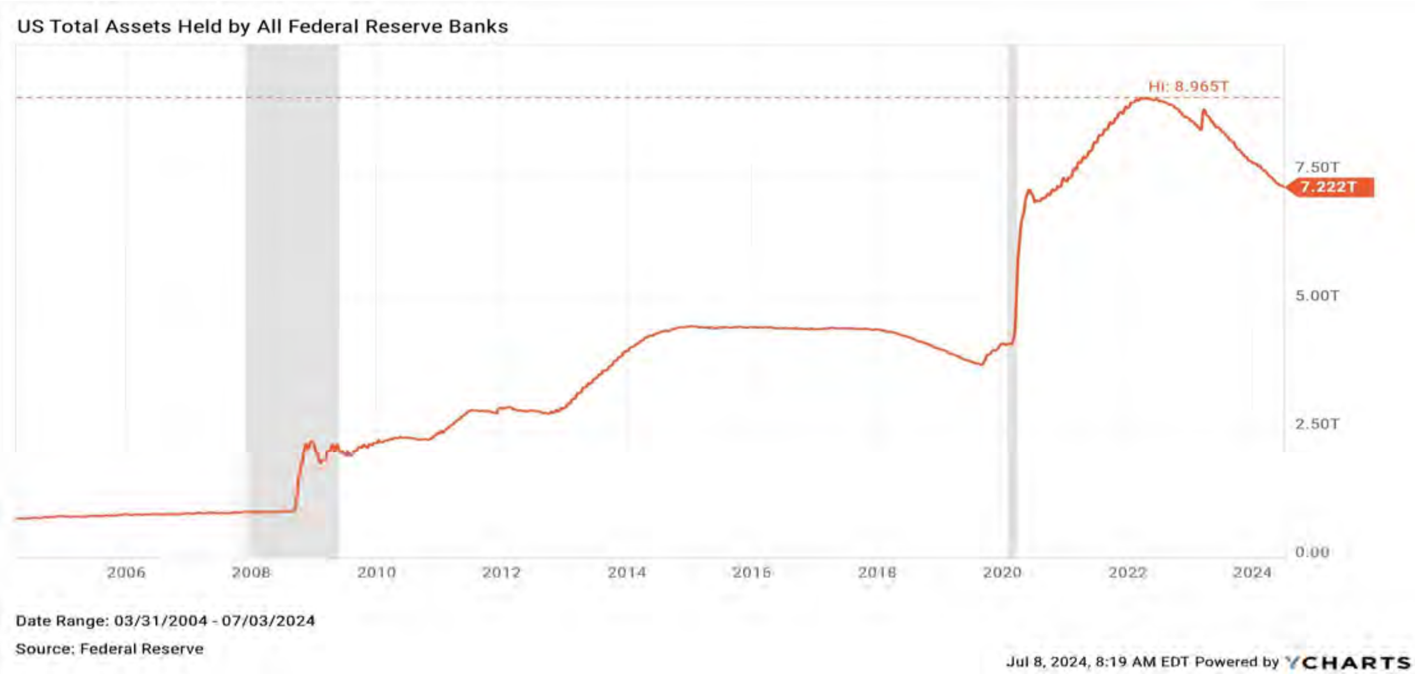


Progress Towards Inflation Target Continues

- June CPI fell 0.1% month-over-month, the largest decline since May 2020. Year-over-year, headline CPI moved below 3.0% to the lowest level since March 2021.
- Shelter costs rose by 5.2% in June, the smallest increase since April 2022 for the component which represents over one third of headline CPI.
- Excluding food and energy, core inflation increased by 3.3% vs. a year ago, the lowest level since April 2021.
- Year-over-year core goods inflation has been negative for all six months of 2024, driven by falling used car prices.
- Service inflation remains above 5.0%, driven by shelter and auto insurance, which is up over 20.0% in the last year.
- Core Personal Consumption Expenditures (PCE), the Fed's preferred inflation measure, increased by 2.6% over the last year through May, the lowest level since March of 2021.

U.S. Economy

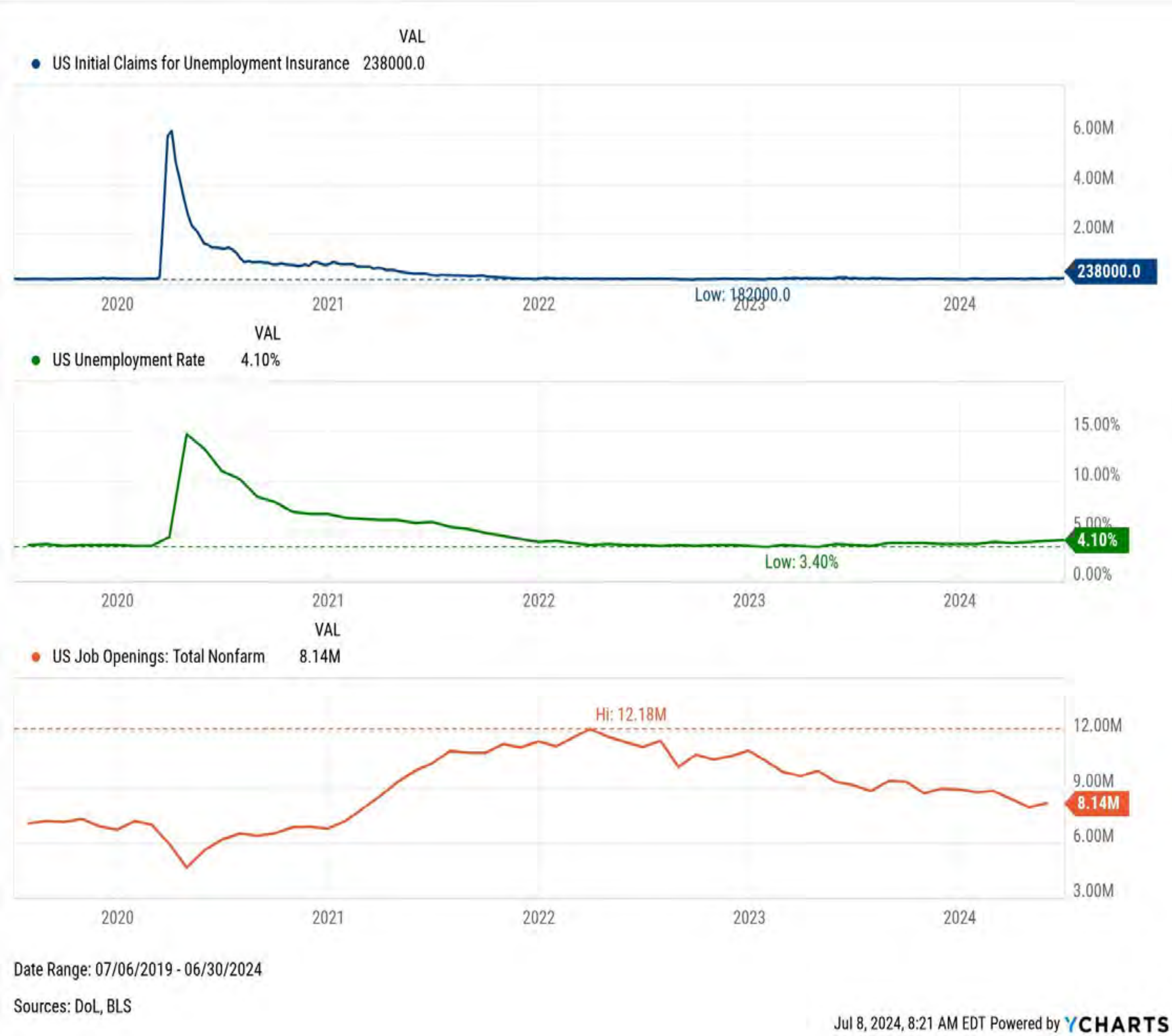




Fed Remains on Hold But First Rate Cut May Be Near

- 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 2023 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 and the first four meetings of 2024.
- Forward guidance from the Fed at the June meeting suggests one 0.25% cut in 2024, down from three in the December 2023 projections. Following the June inflation report, the market is now anticipating three 0.25% rate cuts in 2024.
- The Fed reduced the size of the balance sheet through quantitative tightening by approximately $1.7 trillion since the peak in April 2022.
- The balance sheet is at the lowest level since December 2020; but remains sufficiently larger than pre-COVID.

U.S. Economy



Labor Market Beginning to Show Softness

- While the labor market has remained resilient in the face of higher interest rates, signs of weakness have begun to emerge.
- There were an average of 177,000 jobs added in Q2 2024, down from an average of 269,000 in the previous quarter.
- Weekly claims for unemployment averaged 224,385 in Q2 2024 compared to 211,000 in 1Q 2024.
- The unemployment rate breached 4.0% in May for the first time since January 2022 and has increased by 0.60% since the low of 3.4% in April 2023. The unemployment rate is at the highest level in almost three years.
- U.S. job openings declined in 2024 by approximately 700k and are down by approximately four million from the peak in 2022.

U.S. Equity Market

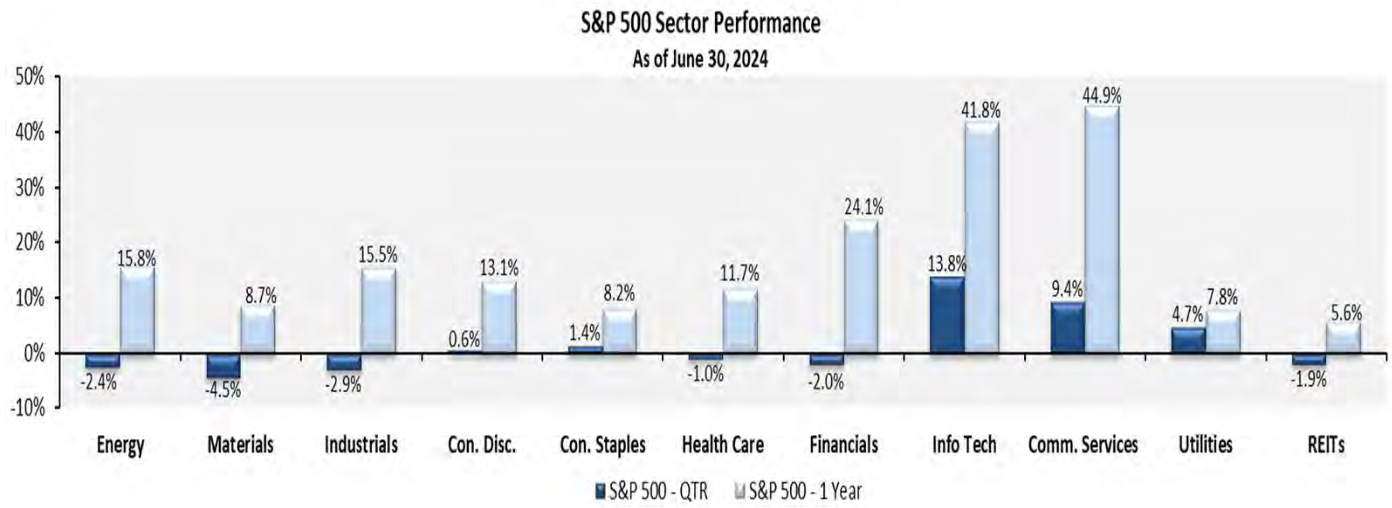
Sector	Index	2Q24	YTD	2023	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year
Large Cap	S&P 500	4.3%	15.3%	26.3%	-18.1%	28.7%	18.4%	31.5%	-4.4%	24.5%	10.0%	15.0%	12.8%
	Russell 1000	3.6%	14.2%	26.5%	-19.1%	26.4%	21.0%	31.4%	-4.8%	23.8%	8.7%	14.6%	12.5%
	Russell 1000 Value	-2.2%	6.6%	11.4%	-7.6%	25.1%	2.8%	26.5%	-8.3%	13.0%	5.5%	9.0%	8.2%
	Russell 1000 Growth	8.3%	20.7%	42.7%	-29.1%	27.6%	38.5%	36.4%	-1.5%	33.4%	11.3%	19.3%	16.3%
Mid Cap	Russell Mid-Cap	-3.3%	5.0%	17.2%	-17.3%	22.6%	17.1%	30.5%	-9.1%	12.8%	2.4%	9.4%	9.0%
	Russell Mid-Cap Value	-3.4%	4.5%	12.7%	-12.1%	28.3%	5.0%	27.0%	-12.3%	11.9%	3.6%	8.5%	7.6%
	Russell Mid-Cap Growth	-3.2%	6.0%	25.9%	-26.7%	12.7%	35.6%	35.5%	-4.8%	15.0%	-0.1%	9.9%	10.5%
Small Cap	Russell 2000	-3.3%	1.7%	16.9%	-20.5%	14.8%	19.9%	25.5%	-11.0%	10.0%	-2.6%	6.9%	7.0%
	Russell 2000 Value	-3.6%	-0.9%	14.6%	-14.5%	28.2%	4.6%	22.4%	-12.9%	10.8%	-0.6%	7.0%	6.2%
	Russell 2000 Growth	-2.9%	4.4%	18.6%	-26.4%	2.8%	34.6%	28.4%	-9.3%	9.1%	-4.9%	6.1%	7.4%
Total Market	Wilshire 5000	3.3%	13.6%	26.1%	-19.0%	26.7%	20.8%	31.0%	-5.3%	23.1%	8.4%	14.4%	12.3%
	Russell 3000	3.2%	13.6%	25.9%	-19.2%	25.6%	20.9%	31.0%	-5.2%	23.0%	8.0%	14.1%	12.1%

Major Index Total Return as of June 30, 2024

Asset Class	Name	2Q24	% off Low	% Off All Time High
U.S. Large Cap	S&P 500	4.3%	56.9%	-0.5%
U.S. Mid Cap	Russell Midcap	-3.4%	34.5%	-3.4%
U.S. Smid Cap	Russell 2500	-4.3%	29.6%	-7.0%
U.S. Small Cap	Russell 2000	-3.3%	26.8%	-12.9%
International Large Cap	MSCI EAFE	-0.1%	48.9%	-2.9%
International Small Cap	MSCI EAFE Small Cap (gross)	-1.2%	35.2%	-14.3%
Emerging Markets	MSCI Emerging Markets	5.4%	35.4%	-16.9%
Global Equity	MSCI World (gross)	2.8%	53.8%	-0.3%

- The first half of 2024 concluded positively for major equity benchmarks, marked by broad gains in Q1 that contrast sharply with a narrower market in Q2.
- Strong market breadth led to all major indices finishing in the green in Q1, with the S&P 500 equal-weight index reaching an all time high.
- Q2 saw a divergence, characterized by weaker breadth and varied performance across indices. Select mega-cap growth stocks drove substantial gains, significantly boosting the Russell 1000 Growth and S&P 500 indices to strong double-digit returns for the year's first half. This performance outpaced value, mid-cap, and small-cap benchmarks.

U.S. Equity Market

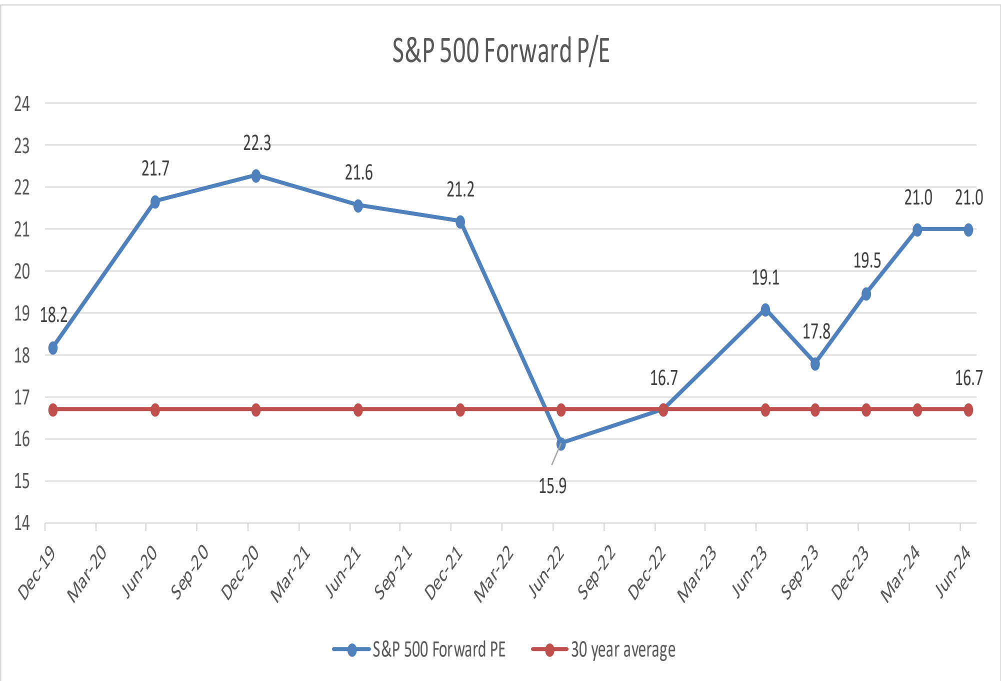


Divided Market: AI Gains Momentum as Cyclicals Stall

- In Q1, market returns were broad-based, but in Q2, positive returns were heavily centered on AI-related companies. The IT (+13.8%) and communication services (+9.4%) sectors maintained their dominance, with utilities (+4.7%) also showing surprisingly positive performance.
- Traditionally viewed as a defensive play due to their regulated nature, utilities are now being reassessed in the AI era. This shift is highlighted by Amazon Web Services' 2024 acquisition of its first nuclear-powered data center, placing utilities at the intersection of AI and energy needs — a perception gaining traction in the equity market.
- Meanwhile, cyclical stocks saw widespread declines, led by losses in materials (-4.5%). Economically sensitive sectors like energy and industrials, which had enjoyed double-digit gains in the first quarter, fell. High interest rates continued to pressure REITs.

Analysts Still Bullish on Earnings Growth

- Analysts forecast the S&P 500 will achieve 11.3% earnings growth in 2024 and 14.4% in 2025. Should these projections materialize, it would represent the third instance in the last 15 years of the index achieving consecutive years of double-digit earnings growth.
- In Q2 2024, the S&P 500's forward P/E ratio held steady at its highest levels since late 2021, indicating that rising stock prices have corresponded proportionally with earnings forecasts.



Source: J.P. Morgan Asset Management

U.S. Equity Market

Tech Giants’ CAPEX Boost Rewards Nvidia

- Tech giants Amazon, Google, Meta, and Microsoft are increasing investments in chips and data centers to bolster their AI capabilities. This capital expenditure has been well-received by the market, driving up their stock prices as investors bet on their potential to lead in AI and spur growth.

- The current regulatory landscape has also intensified scrutiny of mergers and acquisitions within Big Tech, prompting these companies to allocate their cash flow towards capital expenditures and other strategic purposes.

- According to Goldman Sachs research, total capital expenditures and R&D for the Magnificent 7 are expected to be nearly $348 billion this year, a remarkable 61% of their operating free cash flow. By comparison, that is three times the amount spent by the other 493 companies S&P 500 companies.

- Nvidia has significantly benefited from this trend, with its graphic processing units (GPUs) chips deemed essential for AI applications. Its leadership in GPU technology has positioned Nvidia as a primary supplier of AI infrastructure, driving substantial revenue growth from Big Tech’s CAPEX spend and boosting its own stock price.

- This has elevated Nvidia into an elite tier alongside Microsoft and Apple, as they each vied for the title of the world's largest company, by market cap, all surpassing $3 trillion in valuation during Q2.

Exhibit 1: Capex Estimates for Alphabet, Meta and Amazon ($ bn)

Combined we estimate capex of three companies to increase 35% y/y (up $37bn y/y) in 2024 to $145bn.

Source: Company Filings, BofA Global Research Estimates

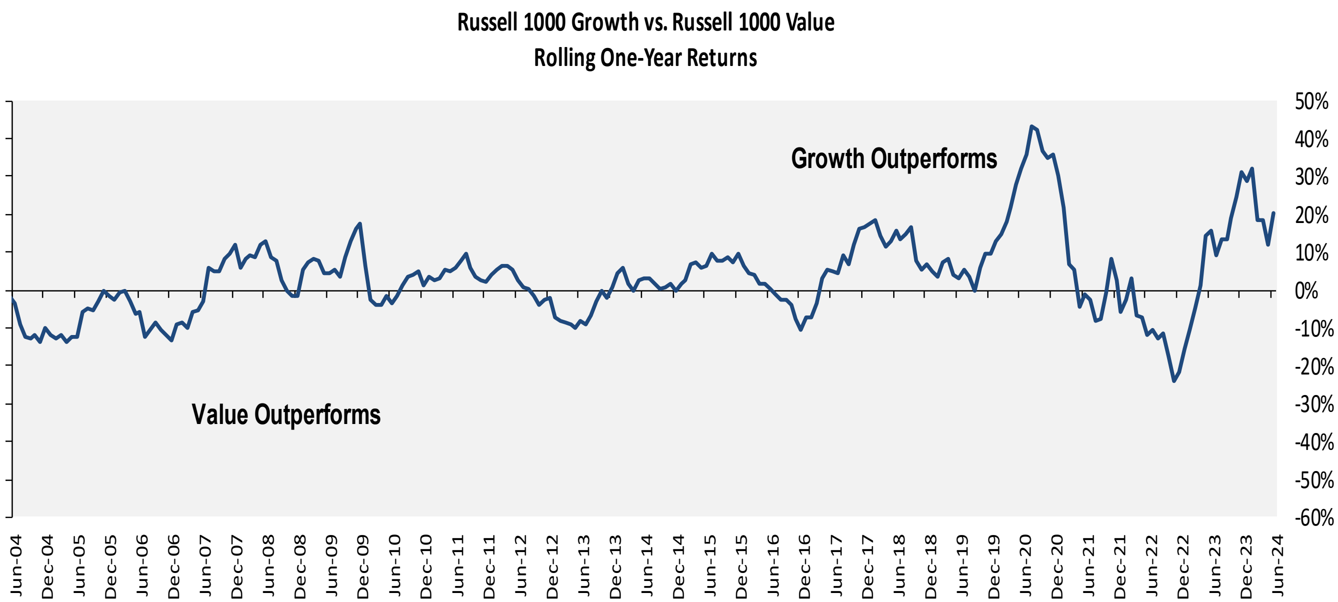
BofA GLOBAL RESEARCH

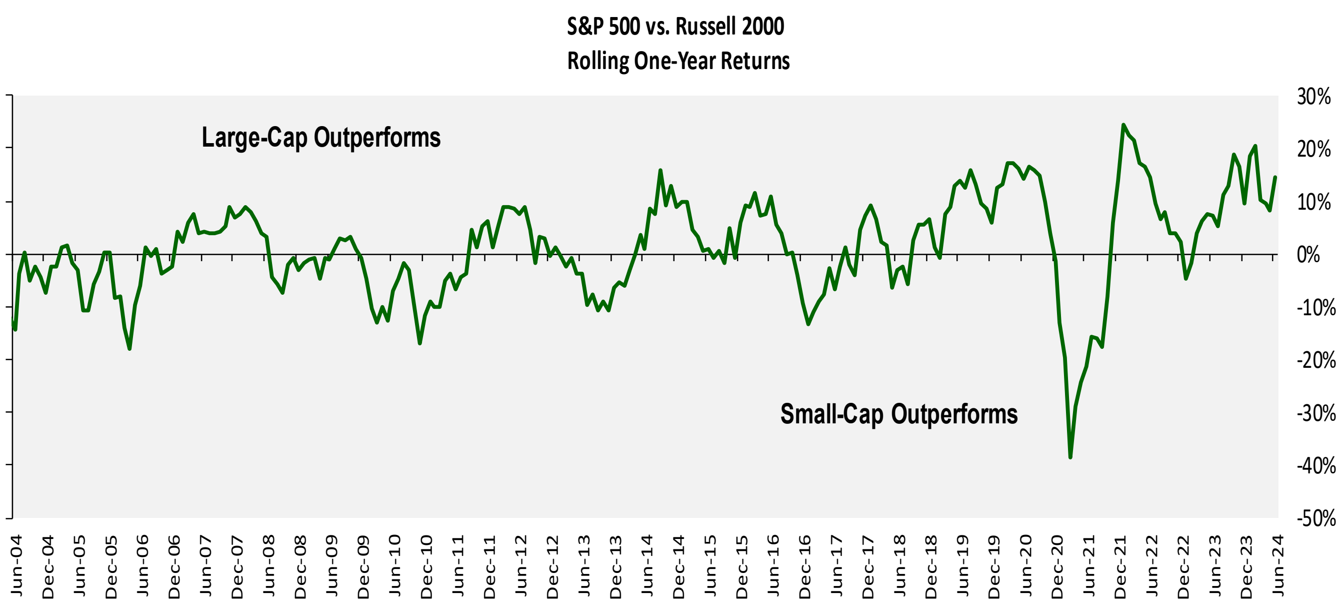
U.S. Equity Market

Harnessing Momentum Has Prevailed Leaving Value, Dividends, and Low Volatility Behind

- The term momentum in finance refers to the tendency of assets that have performed well (or poorly) in the recent past to continue to perform similarly in the near future.
- For example, the S&P 500 Momentum Index selects stocks from the S&P 500 Index and assigns higher weights based on their positive momentum. Generally, stocks are weighted in this subset index based on their performance over the past 12 months minus the performance over the last one month. This calculation helps gauge the longer-term trend while considering short-term fluctuations in momentum.
- The chart below displays the trailing 12-month excess return of the S&P 500 Momentum Index and the S&P 500 Equal-Weighted Index compared to the widely used market capitalization-weighted S&P 500.
- Two notable observations: first, since the Global Financial Crisis (GFC), this is the first instance where momentum has achieved a 33% outperformance surge over 12 months. Second, the relationship between momentum and equal-weight outperformance seems nearly inverse.
- Across global equity markets, investing in larger companies with strong momentum has proven effective, albeit to varying degrees. Regardless of the region—US, UK, Europe, Japan, or emerging markets — the momentum factor has contributed to relative outperformance in 1H2024.

U.S. Equity Market





Market Driven by AI Titans; Small Companies Face Challenges

- AI enthusiasm continued to propel growth stocks, driven primarily by a handful of mega-cap leaders in 2024. The “Magnificent 7” saw varied results in Q2 but now constitutes a record 32% of the S&P 500. Five key megacap companies - Nvidia, Microsoft, Amazon, Meta, and Apple - accounted for a remarkable 60% of the year-to-date S&P 500 advance with Nvidia driving 31% of the index's gains in the first half of the year.
- The Russell 2000 (small caps) lagged its large-cap counterpart by nearly 13% year-to-date through the end of Q2, marking its worst first half-year performance compared to large caps since the Russell indices' inception in 1979.
- Meanwhile, the Russell 1000 hit new highs 11 times in Q2 2024, while in contrast the Russell 2000 ended Q2 -12.9% below its peak from nearly three years ago.

International Equity Market

Sector	Index	2Q24	YTD	2023	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year
Global	MSCI AC World Index (net)	2.9%	11.3%	22.2%	-18.4%	18.5%	16.3%	26.6%	-9.4%	19.3%	5.4%	10.7%	8.4%
	MSCI World Small Cap (net)	-2.8%	1.5%	15.8%	-18.8%	15.8%	16.0%	26.2%	-13.9%	9.1%	-1.3%	6.9%	6.3%
	MSCI World ex US (net)	-0.6%	5.0%	17.9%	-14.3%	12.6%	7.6%	22.5%	-14.1%	11.2%	2.8%	6.5%	4.3%
	MSCI World ex US Small Cap (net)	-1.6%	1.0%	12.6%	-20.6%	11.1%	12.8%	25.4%	-18.1%	7.8%	-3.0%	4.7%	4.0%
Developed ex US	MSCI EAFE (net)	-0.4%	5.3%	18.2%	-14.5%	11.3%	7.8%	22.0%	-13.8%	11.5%	2.9%	6.5%	4.3%
	MSCI EAFE Value (net)	0.0%	4.5%	19.0%	-5.6%	10.9%	-2.6%	16.1%	-14.8%	13.7%	5.5%	6.1%	3.0%
	MSCI EAFE Growth (net)	-0.8%	6.2%	17.6%	-22.9%	11.3%	18.3%	27.9%	-12.8%	9.4%	0.1%	6.5%	5.4%
	MSCI EAFE Small Cap (net)	-1.8%	0.5%	13.2%	-21.4%	10.1%	12.3%	25.0%	-17.9%	7.8%	-3.3%	4.2%	4.3%
Emerging Markets	MSCI Emerging Markets (net)	5.0%	7.5%	9.8%	-20.1%	-2.5%	18.3%	18.4%	-14.6%	12.5%	-5.1%	3.1%	2.8%

- In Q2, European equities declined due to uncertainty surrounding the elections in France and diminishing expectations for substantial interest rate cuts. The IT sector saw gains while the consumer discretionary sector faced declines from weaknesses in automotive and luxury goods.
- Several Japanese equity market indices posted marginal gains in Q2; however, yen depreciation, driven by a strong U.S. dollar, turned U.S. dollar-based returns negative.
- In Q2, emerging market equities outperformed developed markets. Optimism about Chinese government support for the housing sector, coupled with low equity valuations, attracted investors and stabilized the Chinese equity market. Taiwan achieved double-digit gains due to strong investor enthusiasm for IT stocks, particularly AI-related companies like Taiwan Semiconductor. Indian benchmark indices hit record highs, driven by gains in the media and banking sectors.

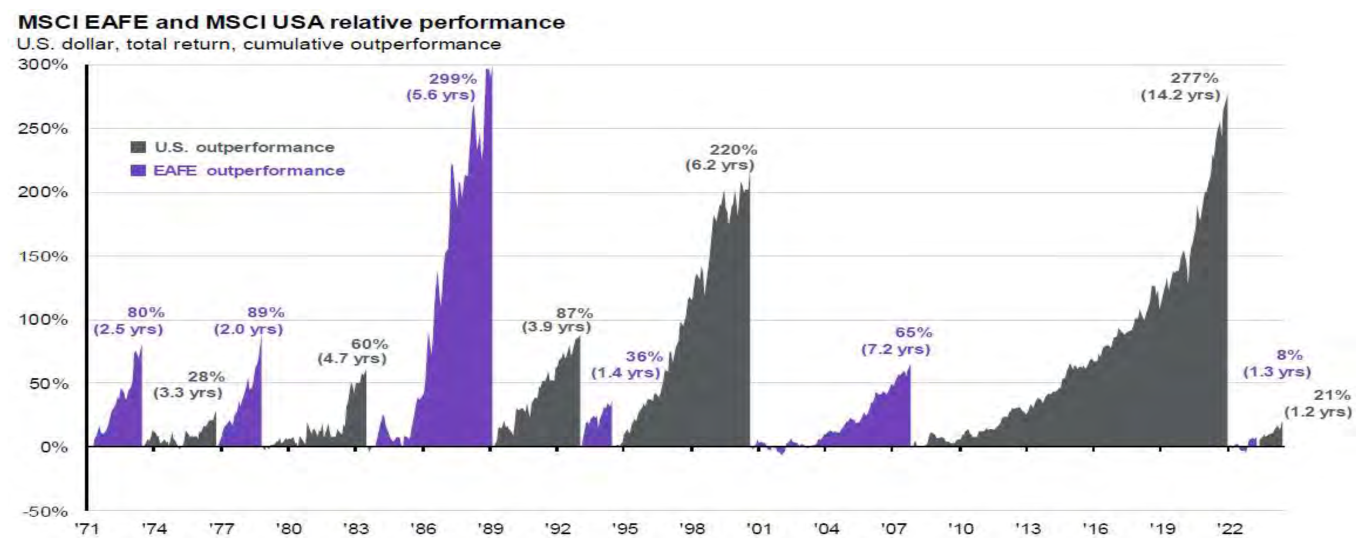
International Equity Market

Japanese Yen Hits Record Lows, Stirs Intervention Debate

- The Japanese Yen closed Q2 at its lowest level against the U.S. dollar since 1986 and reached an all-time low against the Euro. The sell-off is triggering speculation that authorities may intervene once again to stabilize the currency.
- This depreciation is driving up import costs, which is adversely affecting Japanese consumers. As such, the Yen warrants close attention due to Japan's outsized weighting in widely followed international benchmarks.

U.S. Resume Global Dominance

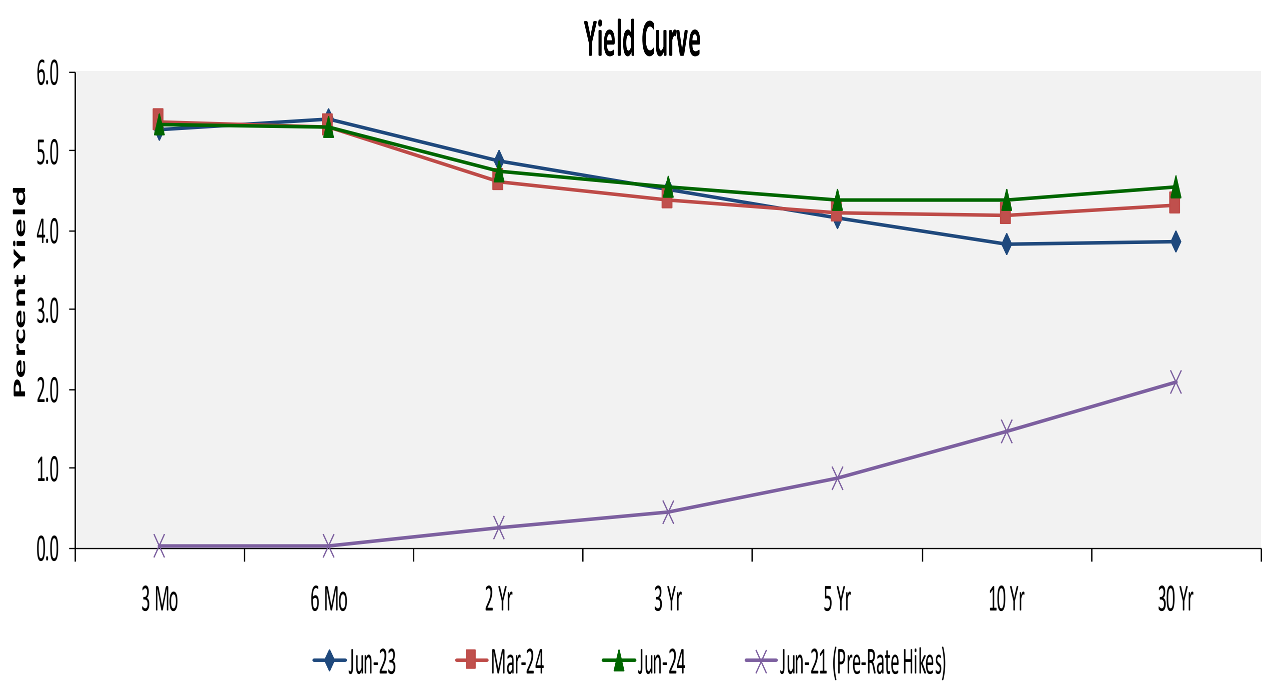
- U.S. equity markets outperformed international markets by 277% over 14.2 years, marking the longest duration of outperformance in 50 years; however, this trend may have merely paused in 2021.
- Over the past 2.5 years, U.S. and international developed markets had comparable returns, with no clear winner. However, in the last year, U.S. markets, driven by mega-cap technology stocks, have regained supremacy over non-U.S.



Source: J.P. Morgan Asset Management. Peak MSCI EAFE outperformance vs. MSCI USA occurred in April 2023. If this is sustained for 12 months, the regime will switch in April 2024.

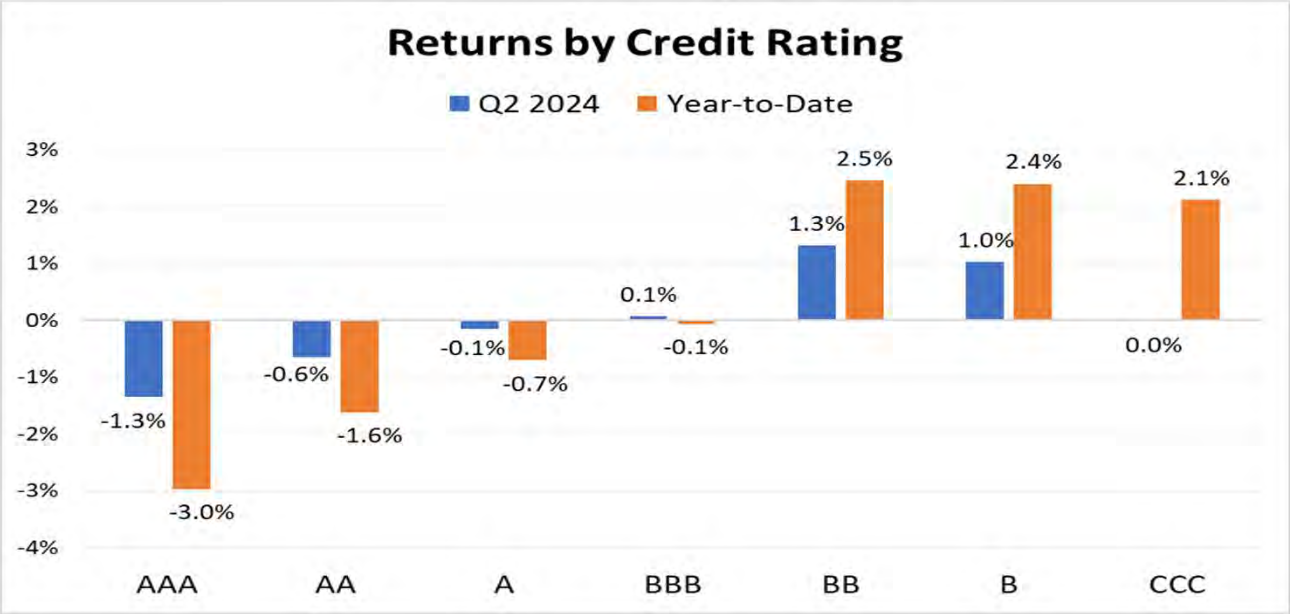
Bond Market

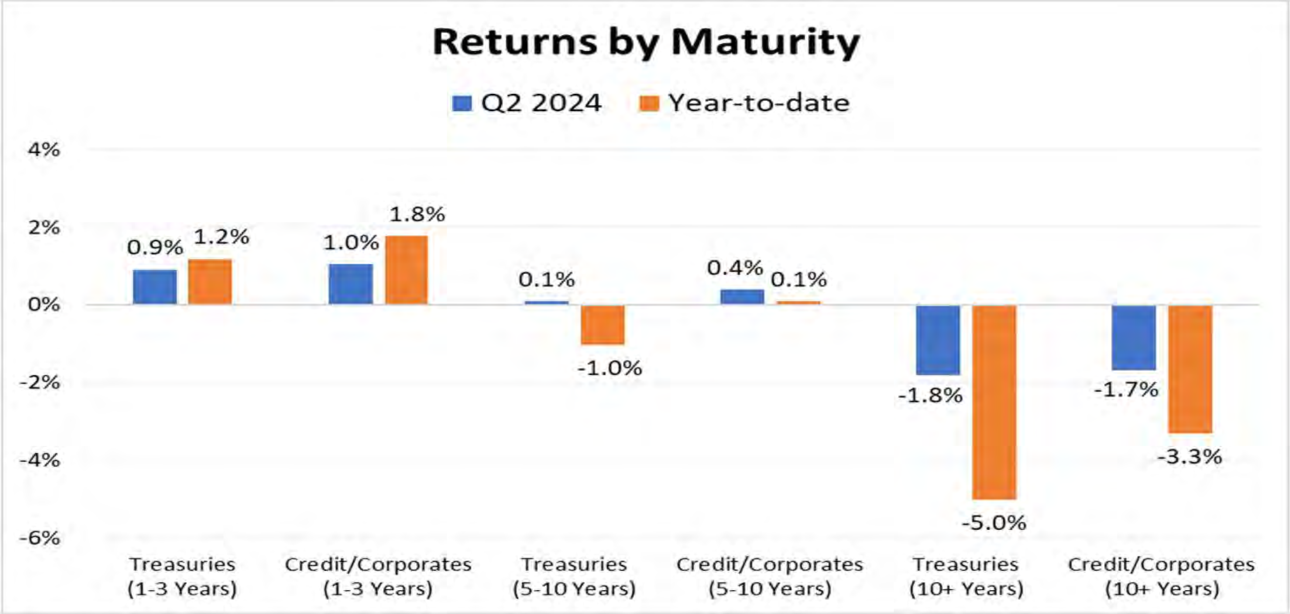
Index	Duration (years)	Yield	2Q24	YTD	2023	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year
Bloomberg Aggregate	6.2	5.00%	0.1%	-0.7%	5.5%	-13.0%	-1.5%	7.5%	8.7%	0.0%	2.6%	-3.0%	-0.2%	1.3%
Bloomberg Govt/Credit	6.4	4.91%	0.0%	-0.7%	5.7%	-13.6%	-1.7%	8.9%	9.7%	-0.4%	2.7%	-3.1%	-0.1%	1.5%
Bloomberg Int Agg	4.5	4.96%	0.5%	0.0%	5.2%	-9.5%	-1.3%	5.6%	6.7%	0.9%	3.5%	-1.8%	0.2%	1.3%
Bloomberg Int Govt/Credit	3.9	4.82%	0.6%	0.5%	5.2%	-8.2%	-1.4%	6.4%	6.8%	0.9%	4.2%	-1.2%	0.7%	1.5%
Bloomberg U.S. Corporate	7.1	5.48%	-0.1%	-0.5%	8.5%	-15.8%	-1.0%	9.9%	14.5%	-2.5%	4.6%	-3.0%	0.6%	2.3%
Bloomberg HY Ba/B 2% IC	3.7	7.04%	1.2%	2.5%	12.6%	-10.6%	4.6%	7.7%	15.2%	-1.9%	10.0%	1.6%	3.9%	4.3%
ICE BofA 1-3 Yrs BB US Cash Pay HY	1.9	6.47%	1.4%	2.8%	8.9%	-3.1%	3.2%	5.4%	8.7%	1.3%	8.1%	3.1%	4.0%	4.0%
Bloomberg Mortgage	5.8	5.22%	0.1%	-1.0%	5.0%	-11.8%	-1.0%	3.9%	6.4%	1.0%	2.1%	-2.9%	-0.8%	0.9%
Bloomberg Treasury	6.0	4.57%	0.1%	-0.9%	4.1%	-12.5%	-2.3%	8.0%	6.9%	0.9%	1.5%	-3.3%	-0.7%	0.9%
Bloomberg US TIPS	6.6	4.77%	0.8%	0.7%	3.9%	-11.8%	6.0%	11.0%	8.4%	-1.3%	2.7%	-1.3%	2.1%	1.9%
BofA ML 91 day T-Bills	0.2	5.36%	1.3%	2.7%	5.2%	1.5%	0.0%	0.7%	2.3%	1.9%	5.4%	3.1%	2.2%	1.5%



- The U.S. Treasury curve shifted upward in Q2 2024, putting pressure on longer duration bonds.
- Despite the move higher in yields, most areas of the bond market generated flat to positive returns in Q2 2024 due to the higher levels of income offsetting the impact of price changes.
- High yield bonds and shorter maturity bonds were the best performing markets in Q2 2024, a continuation of Q1 2024. Recent curve steepening (rising long-term yields) has resulted in year-to-date underperformance in bond sectors and market indexes with longer duration such as the U.S. Aggregate, AAA & AA corporate bonds & Treasuries.

Bond Market

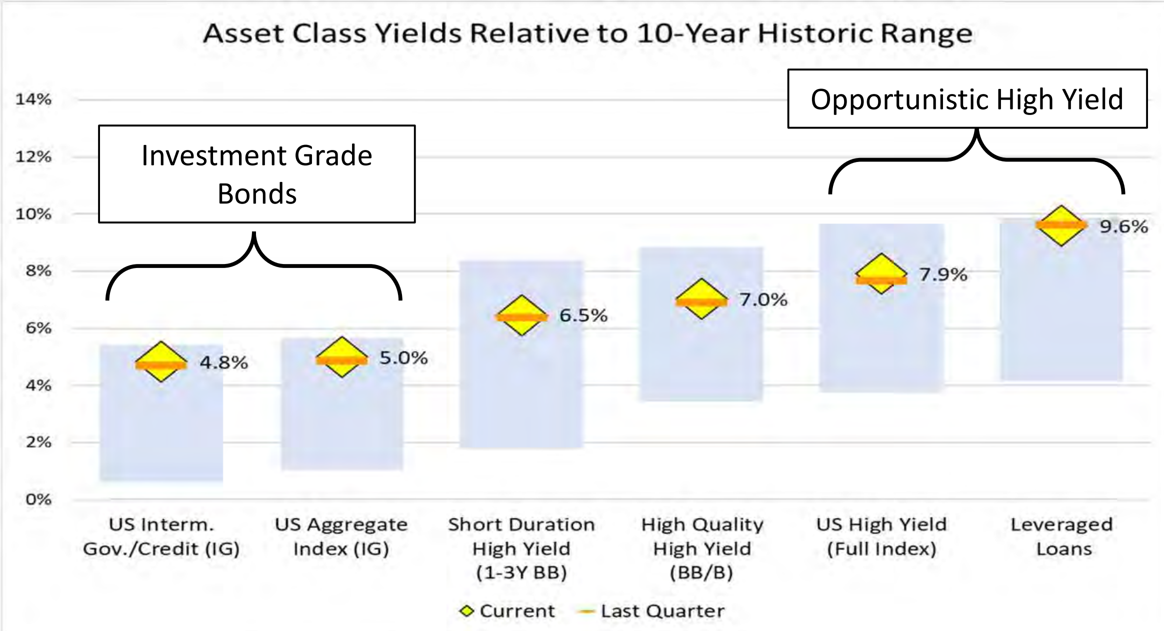


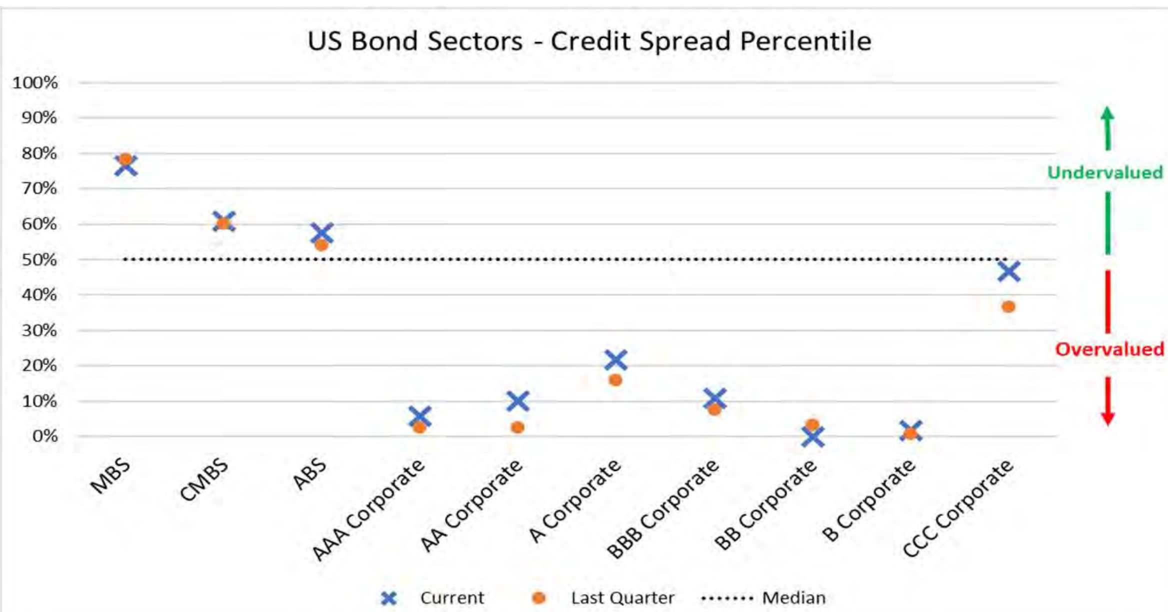


Rising interest rates in Q2 2024 continue to put pressure on long duration bonds.

- U.S. Treasury yields continued to rise in Q2 2024, leading to more underperformance in longer duration bonds versus bonds with shorter duration.
- Credit spreads were mixed in Q2, with investment grade spreads widening while BB & B-rated bonds experienced some spread tightening.
- Investment grade bonds generated negative returns in Q2, adding to their year-to-date losses, largely due to their longer duration.
- The income generated from higher yields helped reduce the impact of rising rates for bonds with less than 10 years until maturity, but longer maturity bonds continue to experience price swings due to interest rate volatility.
- Higher-quality high yield (BB) bonds have performed well in 2024 due to higher income and shorter duration relative to investment grade credit.

Bond Market





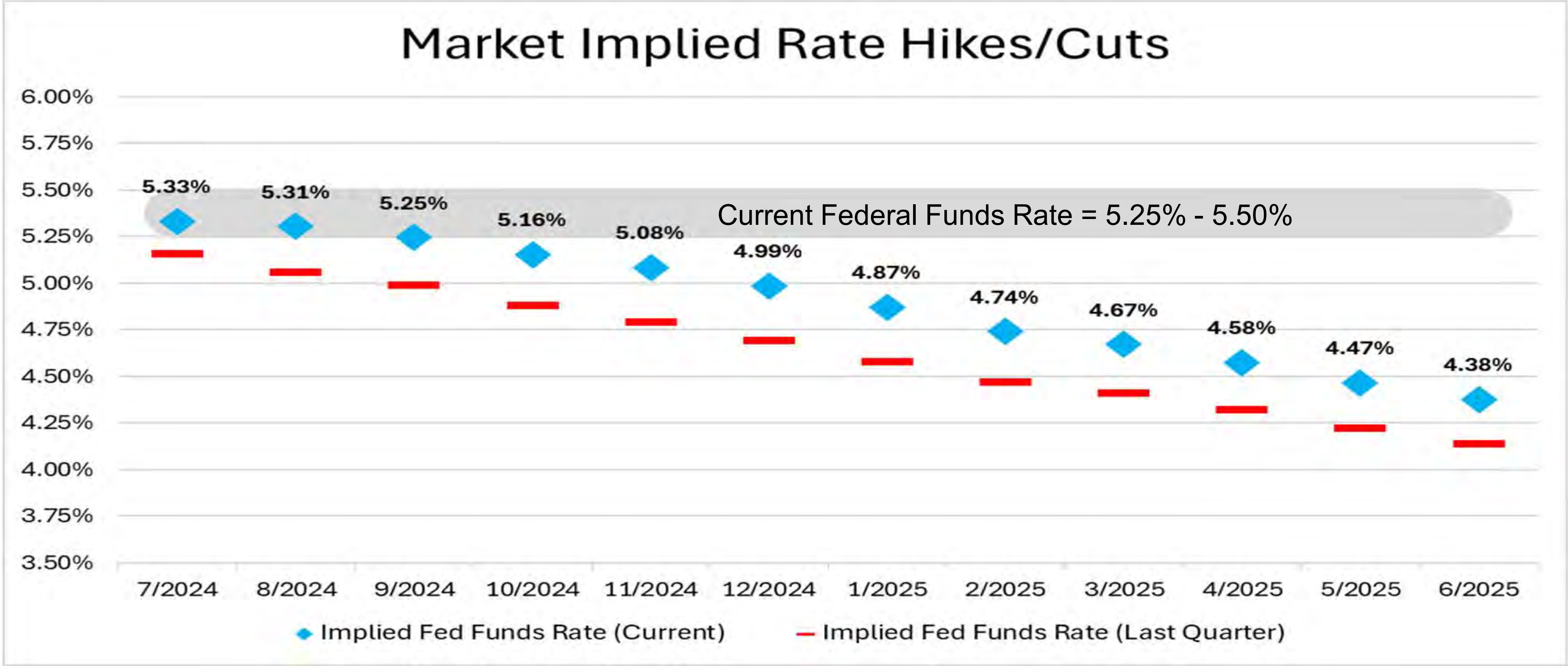
Bond Yields

- Yields were mostly unchanged to slightly higher quarter over quarter.
- Investment grade bonds are currently yielding between 5.0% (AAA & AA) and 5.5% (A & BBB) while yields for high yield range between 6.5% - 8.0% with CCC-rated bonds yielding ~12.8%. Leveraged loans offer a current yield of ~9.6%; however, this is largely driven by the current 5.3% Secured Overnight Financing Rate (SOFR) rate. Future rate cuts would reduce this yield as SOFR should mirror the Fed Funds rate.

Credit Spreads/Valuations

- Spreads on investment grade corporate bonds widened in Q2 2024 while spreads tightened for BB-rated high yield bonds. CCC-rated high yield experienced the largest spread widening across corporate credit.
- Corporate spreads continue to trade rich relative to history. All credit buckets (aside from CCC) are trading within the top 25% of monthly observations, while BB & B-rated high yield bonds are trading at the tightest spreads experienced in the past 10 years.
- Spreads in structured credit (MBS, CMBS, ABS) remain elevated, offering a premium to corporate credit.

Bond Market

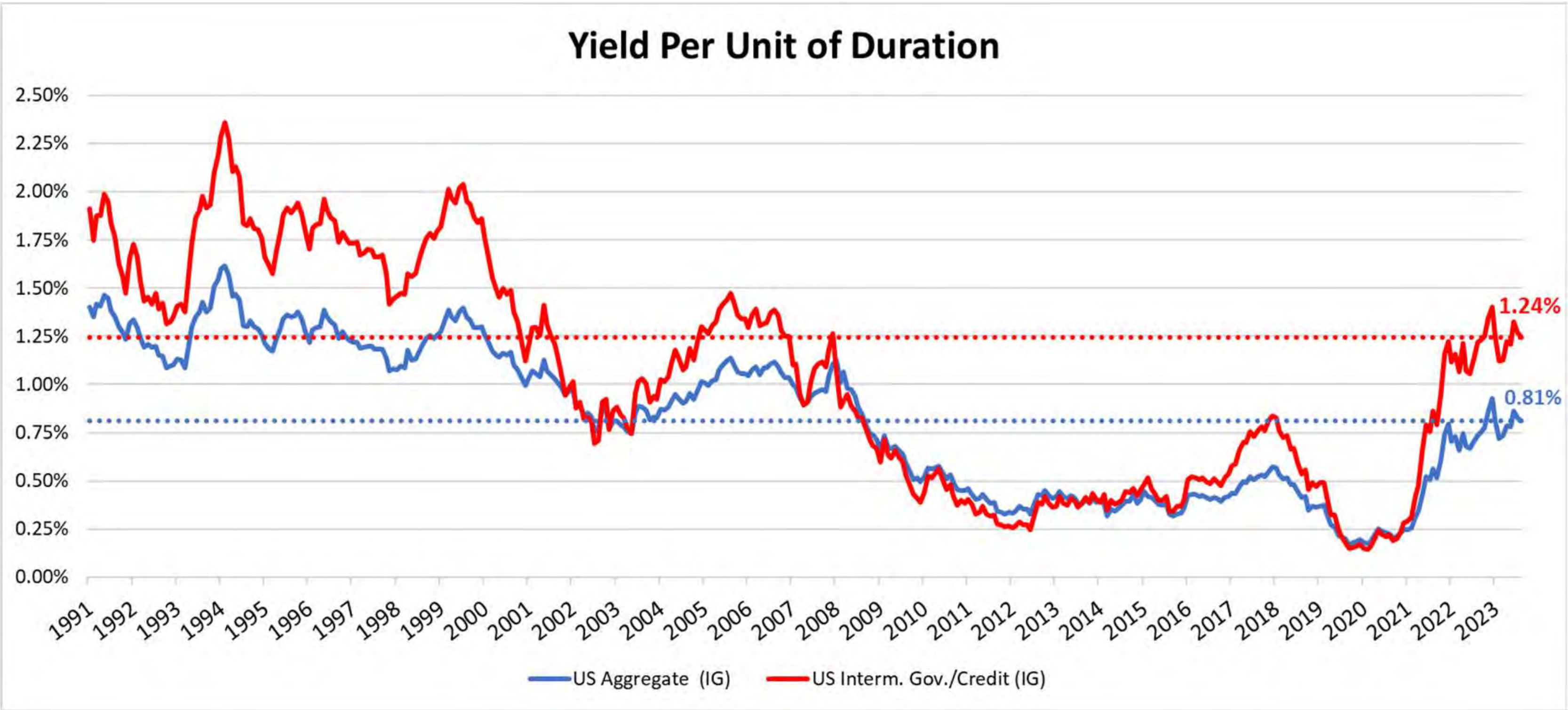


As of 6/30/24

- The FOMC held the Fed Funds rate at its current level for both their April and June meetings. The current target Federal Funds rate remains at 5.25% - 5.50%, where it has been since July 2023.
- Expectations of Fed Funds rate cuts continue to diminish. At the beginning of 2024, the market was anticipating the Federal Reserve to cut rates by ~150 bps by the end of 2024. As of the end of Q2 2024, the market is now expecting ~50 bps of cuts by year end.
- Expectations for future Fed Funds rate cuts have subsided as inflation data continues to stagnate between 3% - 3.5%, well above the Fed’s 2% inflation target.
- The June 2024 Federal Reserve dot plot, which represents each individual 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 4.75% and 5.25% by the end of 2024, which is consistent with current pricing in the Fed Funds Futures market. Based on the dot plot, only four out 19 policymakers expect the Fed Funds rate to stay at its current level by the end of 2024; however, this number increased by two since the March 2024 dot plot, indicating two policy makers changed their view in Q2 2024 that the Fed Funds rate should remain at its current level for the remainder 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 ~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 ~125 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.

Bond Market

Interest Rate Sensitivity

12 Month Holding Period - Annualized Returns as of 6/30/2024

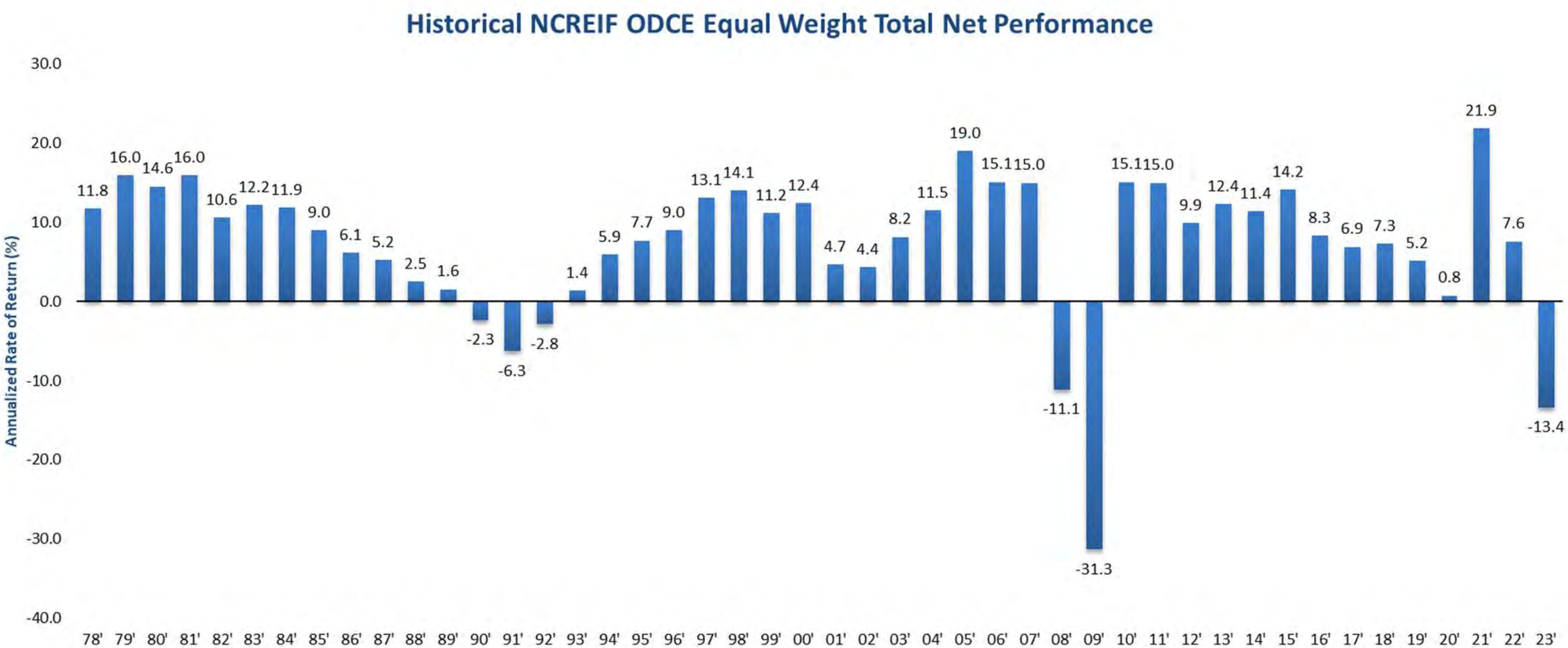
Yield Change (bps)	Bloomberg Int Govt/Credit	Bloomberg Int Agg	Bloomberg Mortgage	Bloomberg Treasury	Bloomberg Aggregate	Bloomberg Govt/Credit	Bloomberg US TIPS	Bloomberg U.S. Corporate	ICE BofA 1-3 Yrs BB US Cash Pay HY	Bloomberg HY Ba/B 2% IC
-300	17.35	18.86	22.15	26.15	26.07	27.68	26.92	31.09	11.45	17.46
-250	15.14	16.47	19.37	22.08	22.20	23.38	22.92	26.24	10.70	15.81
-200	12.97	14.11	16.58	18.19	18.48	19.28	19.04	21.62	9.92	14.13
-150	10.86	11.78	13.77	14.50	14.89	15.39	15.29	17.24	9.11	12.41
-100	8.80	9.48	10.94	11.00	11.45	11.69	11.66	13.08	8.26	10.66
-75	7.78	8.34	9.52	9.32	9.79	9.92	9.89	11.10	7.82	9.76
-50	6.78	7.21	8.09	7.69	8.15	8.20	8.15	9.17	7.38	8.86
-25	5.80	6.08	6.66	6.10	6.56	6.53	6.44	7.29	6.93	7.95
0	4.82	4.96	5.22	4.57	5.00	4.91	4.77	5.48	6.47	7.04
25	3.86	3.85	3.78	3.08	3.48	3.34	3.12	3.72	6.00	6.11
50	2.91	2.75	2.34	1.64	1.99	1.82	1.51	2.03	5.52	5.17
75	1.97	1.65	0.89	0.25	0.53	0.35	-0.08	0.39	5.04	4.22
100	1.05	0.56	-0.57	-1.10	-0.88	-1.07	-1.63	-1.19	4.55	3.27
150	-0.76	-1.60	-3.49	-3.65	-3.61	-3.75	-4.64	-4.18	3.54	1.33
200	-2.52	-3.72	-6.43	-6.00	-6.20	-6.24	-7.53	-6.93	2.50	-0.64
250	-4.23	-5.82	-9.39	-8.17	-8.64	-8.52	-10.29	-9.45	1.43	-2.65
300	-5.89	-7.89	-12.37	-10.14	-10.94	-10.60	-12.93	-11.74	0.32	-4.70
Duration	3.87	4.46	5.75	6.05	6.17	6.38	6.64	7.14	1.86	3.69
Convexity	0.20	0.12	-0.07	0.76	0.57	0.81	0.50	0.93	-0.13	-0.15

FOR ILLUSTRATIVE PURPOSES ONLY: For each index the current yield to worst as of 6/30/2024 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 6/30/2024 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 6/30/2024, 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

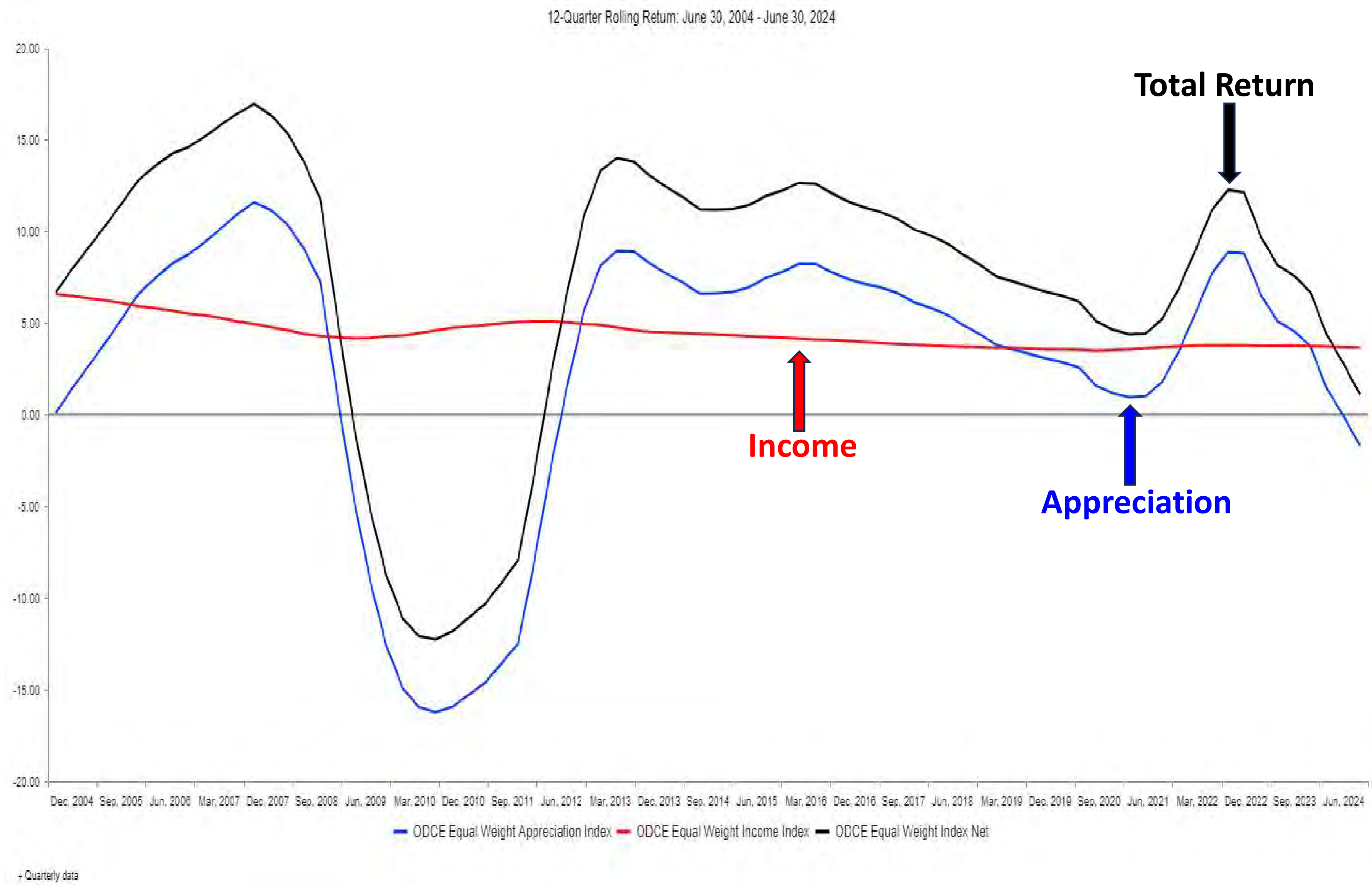
Sector	Index	2Q24	YTD	2023	2022	2021	2020	2019	2018	1-Year	3-Year	5-Year	10-Year
US Private	NCREIF ODCE Equal Weighted (net)	-0.8%	-3.2%	-13.4%	7.6%	21.9%	0.8%	5.2%	7.3%	-10.4%	1.1%	2.6%	5.8%
	NCREIF ODCE EW Income Index	1.0%	1.9%	3.5%	3.5%	4.1%	3.6%	3.5%	3.5%	3.8%	3.7%	3.7%	3.7%
	NCREIF ODCE EW Appreciation Index	-1.6%	-4.7%	-15.8%	4.8%	18.3%	-2.1%	1.7%	3.7%	-13.1%	-1.7%	-0.5%	2.4%

- The NCREIF ODCE Equal Weighted Index (net) declined -0.8% in Q2 2024, representing the seventh consecutive negative quarterly return for the index, but also the least negative return during this period.
- The previous drawdown from 2008-2009 was much sharper than the current drawdown, but shorter in duration, lasting six quarters, after which valuations improved for a sustained multi-year period.
- Liquidity, pricing and fundamentals for most sectors (outside of office) are improving, and several ODCE fund managers reported modest positive returns in Q2.



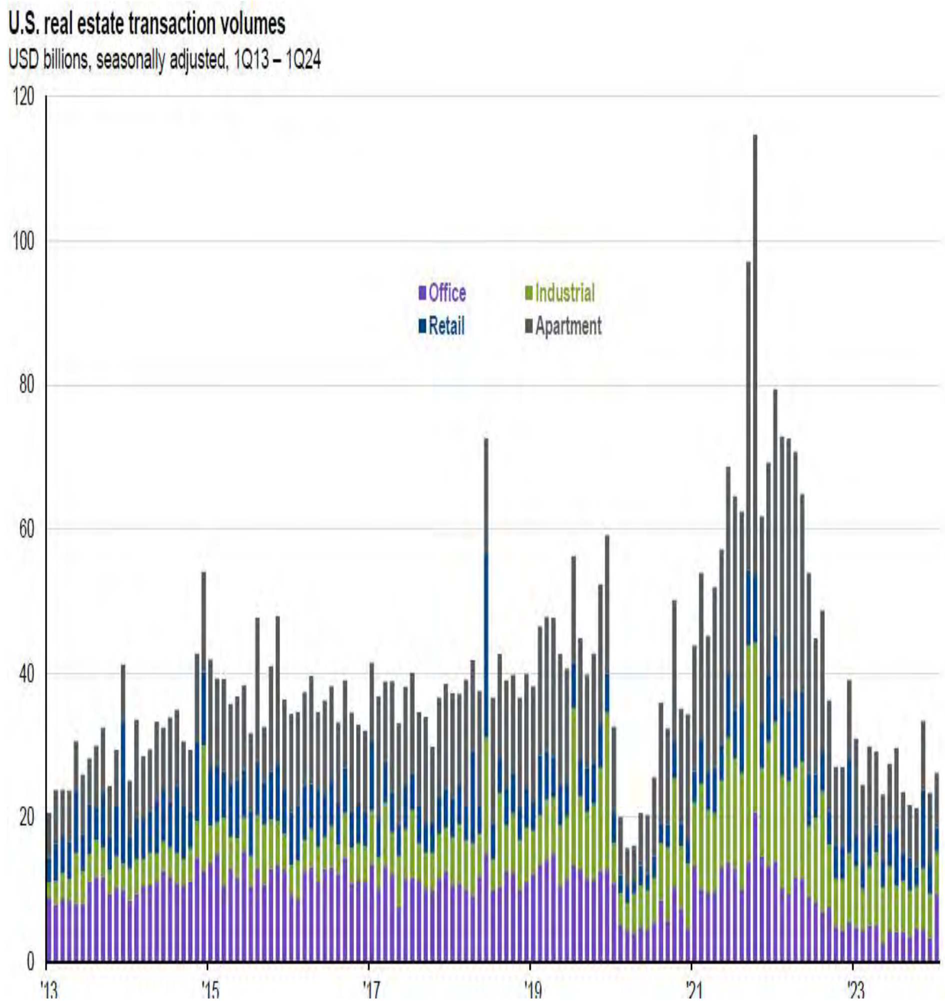
Real Estate Market

- The income component of real estate returns continues to remain stable, as shown in the chart below, providing a buffer against the recent periods of negative appreciation.

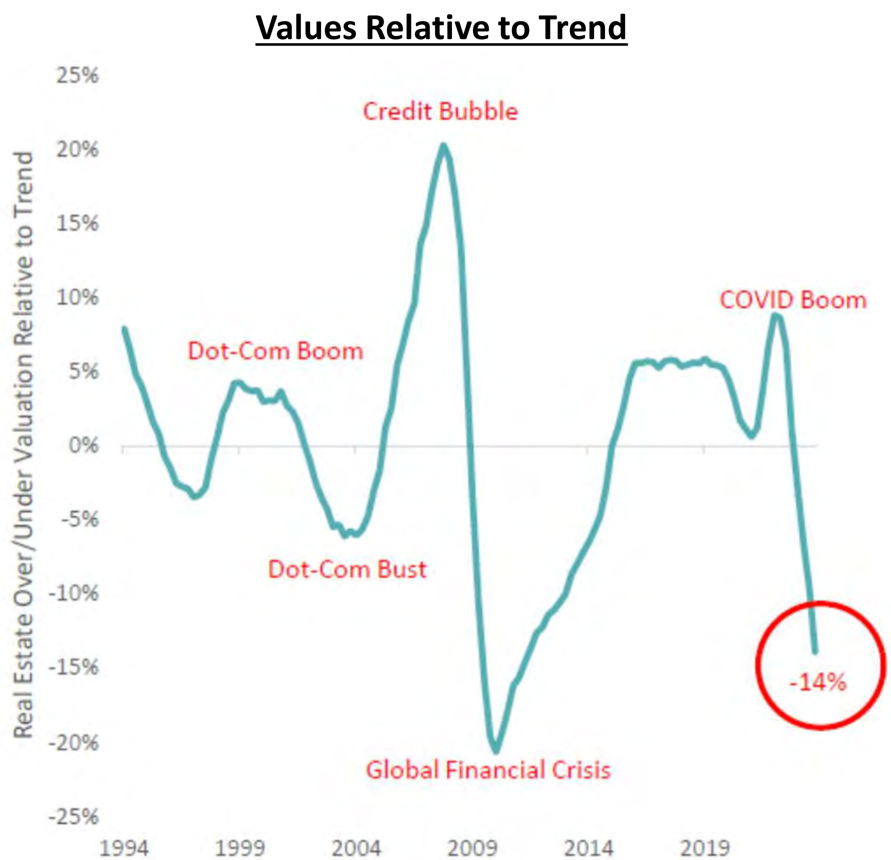


Real Estate Market

- The Covid boom of investor flows into real estate drove transaction volumes to record levels and significantly increased property valuations from late 2020 through 2022.
- Transaction volumes, as shown in the chart below (left), remain well below peak levels, though the first half of 2024 has seen a notable uptick in transactions and liquidity relative to the lows of 2023, indicating a recovering market.
- Real estate valuations now appear inexpensive relative to long-term trends, with the potential for gains and strong buying opportunities as pricing reverts to historical norms.



Source: J.P. Morgan Asset Management; as of 3/31/24.

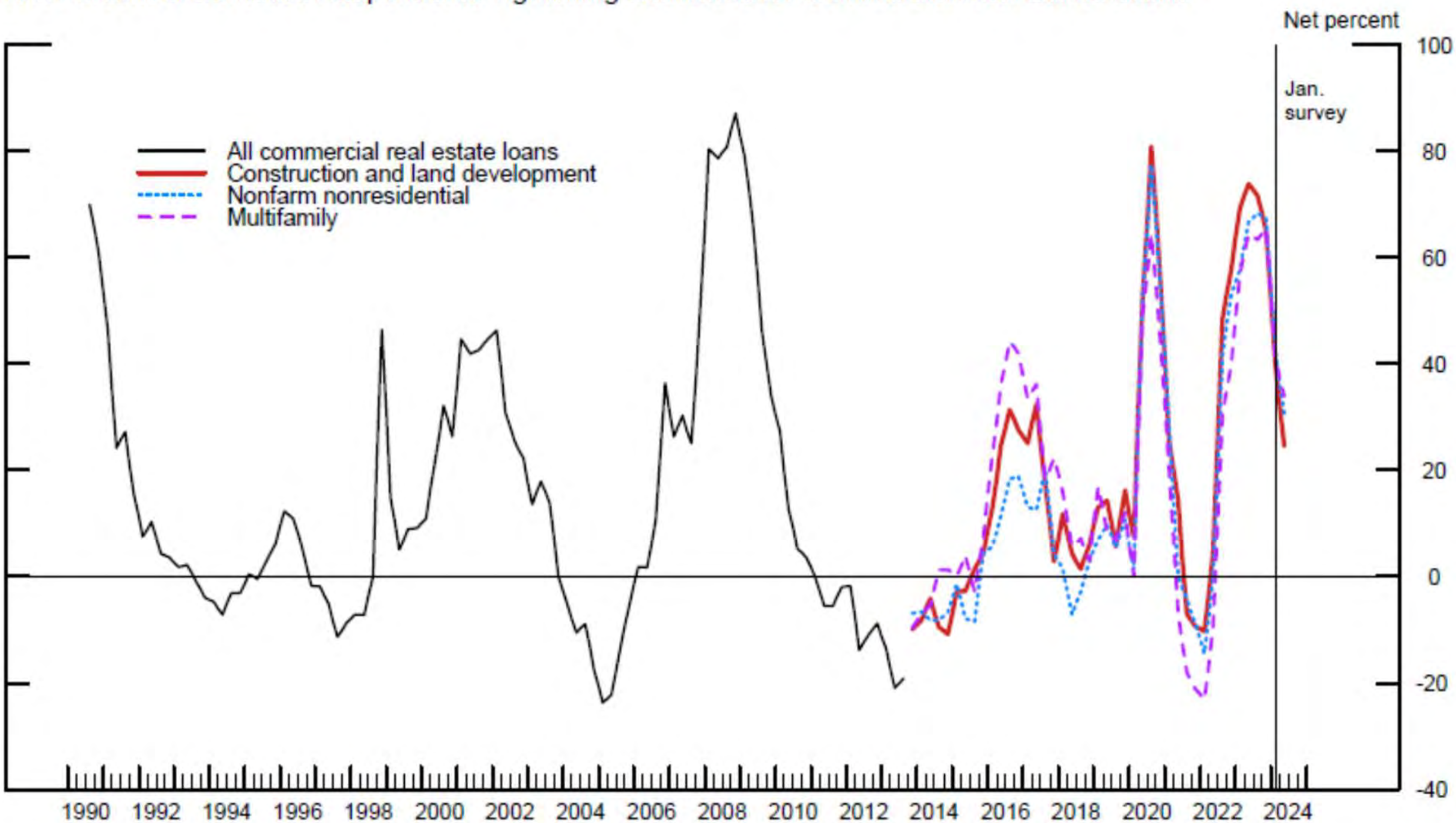


Source: DWS; as of December 2023 .

Real Estate Market

- Rising interest rates have led to higher borrowing costs, providing a difficult environment for real estate owners to refinance their debt. Though debt financing continues to be difficult to access as lenders conserve capital due to an uncertain economic and interest rate environment, lending standards appear to have eased over the last year, helping to increase transactions and liquidity.

Net Percent of Domestic Respondents Tightening Standards for Commercial Real Estate Loans



Source: April 2024 Fed Lender Survey.

Operating Engineers Local No. 77 JATC Fund

Investment Performance Report

Period Ended

June 30, 2024

Total Fund Growth of Assets

	Second Quarter	Fiscal Year-To-Date	One Year	Three Years	Inception 11/30/19
Beginning Market Value	$3,318,313	$3,193,838	$3,093,341	$3,131,521	--
Net Cash Flow	$2,234	$60,281	$27,414	-$36,657	$2,761,893
Net Investment Change	$52,665	$119,094	$252,457	$278,349	$611,320
Ending Market Value	$3,373,213	$3,373,213	$3,373,213	$3,373,213	$3,373,213

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

Performance Summary (Gross of Fees) - Annualized

			Ending June 30, 2024					
	Market Value	% of Portfolio	2024 Q2	Fiscal YTD	1 Yr	3 Yrs	Inception	Inception Date
Total Fund	**$3,373,213**	**100.0%**	**1.6%**	**3.7%**	**8.2%**	**2.9%**	**4.1%**	**Nov-19**
Total Domestic Large Cap Equity	**$404,404**	**12.0%**	**4.3%**	**15.3%**	**24.6%**	**10.0%**	**14.7%**	**Nov-19**
Total Investment Grade Fixed Income	**$1,285,403**	**38.1%**	**1.1%**	**1.9%**	**5.4%**	**1.4%**	**1.9%**	**Nov-19**
Total Short Duration High Yield Fixed Income	**$1,184,296**	**35.1%**	**1.5%**	**2.8%**	**8.0%**	**--**	**3.1%**	**Jul-21**
Total Cash Equivalents	**$499,109**	**14.8%**	**1.2%**	**2.3%**	**4.6%**	**2.5%**	**1.7%**	**Nov-19**

Performance Summary

	Fiscal Year Ending December 31st (Gross of Fees)				
	Fiscal YTD	2023	2022	2021	2020
Total Fund	**3.7%**	**8.7%**	**-5.8%**	**6.1%**	**5.7%**
Total Fund Benchmark	*3.6%*	*10.0%*	*-5.4%*	*5.6%*	*6.5%*

	Fiscal Year Ending December 31st (Net of Fees)				
	Fiscal YTD	2023	2022	2021	2020
Total Fund	**3.6%**	**8.4%**	**-6.0%**	**6.0%**	**5.6%**
Total Fund Benchmark	*3.6%*	*10.0%*	*-5.4%*	*5.6%*	*6.5%*

Current vs. Policy

	Current	Current	Policy	Policy Range	Difference	Difference
Domestic Large Cap Equity	$404,404	12.0%	10.0%	5.0% - 15.0%	2.0%	$67,083
Investment Grade Fixed Income	$1,285,403	38.1%	40.0%	35.0% - 45.0%	-1.9%	-$63,882
Short Duration High Yield Fixed Income	$1,184,296	35.1%	35.0%	30.0% - 40.0%	0.1%	$3,671
Cash Equivalents	$499,109	14.8%	15.0%	10.0% - 20.0%	-0.2%	-$6,872
Total	**$3,373,213**	**100.0%**	**100.0%**			

- Policy adopted May 2023; effective July 2023.

Performance Detail (Net of Fees) - Annualized

			Ending June 30, 2024					
	Market Value	% of Portfolio	2024 Q2	Fiscal YTD	1 Yr	3 Yrs	Inception	Inception Date
Total Fund	**$3,373,213**	**100.0%**	**1.6%**	**3.6%**	**7.9%**	**2.6%**	**3.9%**	**Nov-19**
Total Domestic Large Cap Equity	**$404,404**	**12.0%**	**4.3%**	**15.3%**	**24.5%**	**10.0%**	**14.6%**	**Nov-19**
Vanguard 500 Index Fund Admiral Shares	$404,404	12.0%	4.3%	15.3%	24.5%	10.0%	14.6%	Nov-19
S&P 500			*4.3%*	*15.3%*	*24.6%*	*10.0%*	*14.7%*	*Nov-19*
Total Investment Grade Fixed Income	**$1,285,403**	**38.1%**	**1.1%**	**1.8%**	**5.3%**	**1.2%**	**1.7%**	**Nov-19**
Chartwell Investment Partners	$1,285,403	38.1%	1.1%	1.8%	5.3%	1.2%	1.8%	Dec-19
Bloomberg US Credit 1-3 Yr TR			*1.0%*	*1.8%*	*5.6%*	*1.0%*	*1.5%*	*Dec-19*
Total Short Duration High Yield Fixed Income	**$1,184,296**	**35.1%**	**1.4%**	**2.6%**	**7.5%**	**--**	**2.6%**	**Jul-21**
Carillon Chartwell SDHY Fund	$1,184,296	35.1%	1.4%	2.6%	7.5%	--	2.6%	Jul-21
ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR			*1.4%*	*2.8%*	*8.1%*	*--*	*3.1%*	*Jul-21*
Total Cash Equivalents	**$499,109**	**14.8%**	**1.2%**	**2.3%**	**4.6%**	**2.5%**	**1.7%**	**Nov-19**
PNC Cash	$499,109	14.8%	1.2%	2.3%	4.6%	2.5%	1.7%	Nov-19

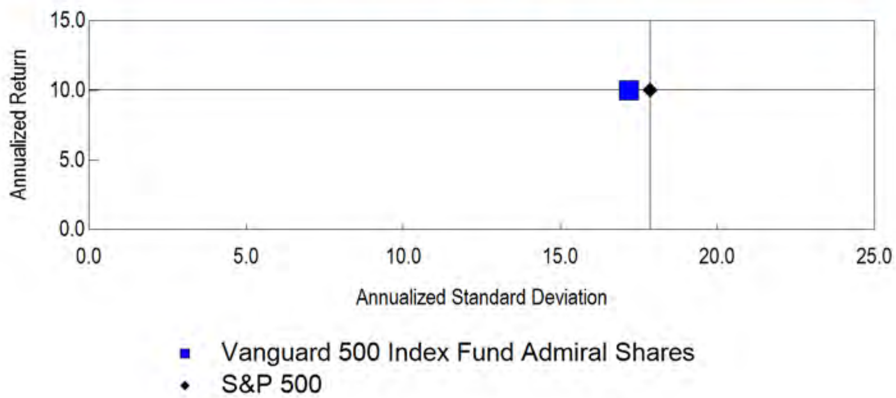
Account Information	
Account Name	**Vanguard 500 Index Fund Admiral Shares**
Account Structure	**Mutual Fund**
Investment Style	**Passive**
Inception Date	**11/30/19**
Account Type	**Domestic Large Cap Core Equity**
Benchmark	**S&P 500**
Universe	**Large Blend MStar MF**

Vanguard 500 Index Fund Admiral Shares

Ending June 30, 2024

	Second Quarter	Inception 11/30/19
Beginning Market Value	$387,834	--
Net Cash Flow	$0	$54,281
Net Investment Change	$16,570	$350,123
Ending Market Value	$404,404	$404,404

Annualized Return vs. Annualized Standard Deviation
3 Years Ending June 30, 2024



3 Years Ending June 30, 2024	Anlzd Return	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard 500 Index Fund Admiral Shares	10.0%	17.2%	37.3%	34.0%
S&P 500	10.0%	17.9%	100.0%	100.0%

	2024 Q2	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	Calendar Years: 2023	Rank	2022	Rank	2021	Rank	2020	Rank	2019	Rank	Inception	Inception Date
Vanguard 500 Index Fund Admiral Shares	4.3%	22	15.3%	31	24.5%	34	10.0%	23	--	--	26.2%	27	-18.1%	50	28.7%	23	18.4%	39	--	--	14.6%	Nov-19
S&P 500	*4.3%*	*21*	*15.3%*	*30*	*24.6%*	*32*	*10.0%*	*21*	--	--	*26.3%*	*25*	*-18.1%*	*48*	*28.7%*	*22*	*18.4%*	*38*	--	--	*14.7%*	*Nov-19*

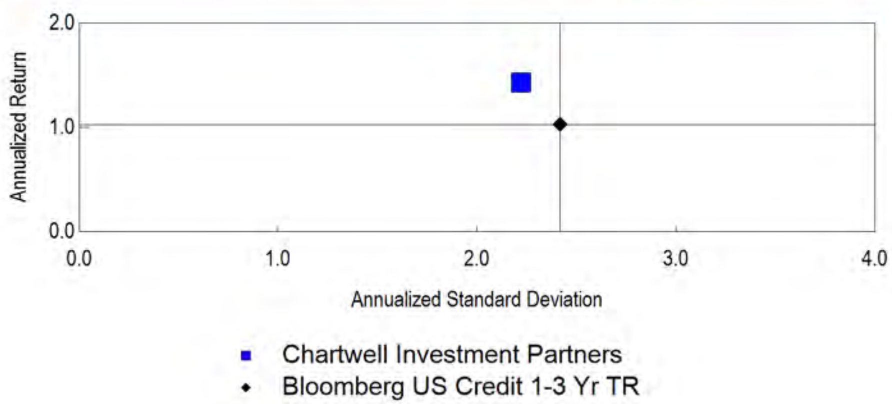
Note: Returns are net of fees.

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 June 30, 2024

	Second Quarter	Inception 12/31/19
Beginning Market Value	$1,271,437	--
Net Cash Flow	$0	$1,150,564
Net Investment Change	$13,966	$134,839
Ending Market Value	$1,285,403	$1,285,403

Annualized Return vs. Annualized Standard Deviation
3 Years Ending June 30, 2024



3 Years Ending June 30, 2024

	Anlzd Return	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Chartwell Investment Partners	1.4%	2.2%	97.0%	83.0%
Bloomberg US Credit 1-3 Yr TR	1.0%	2.4%	100.0%	100.0%

	2024 Q2	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	Calendar Years 2023	2022	2021	2020	2019	Inception	Inception Date
Chartwell Investment Partners	1.1%	1.9%	5.4%	1.4%	--	5.7%	-2.8%	0.0%	4.2%	--	1.9%	Dec-19
Bloomberg US Credit 1-3 Yr TR	*1.0%*	*1.8%*	*5.6%*	*1.0%*	--	*5.3%*	*-3.4%*	*-0.2%*	*3.7%*	--	*1.5%*	*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 June 30, 2024

	Second Quarter	Inception 7/31/21
Beginning Market Value	$1,168,470	$0
Net Cash Flow	$0	$1,100,000
Net Investment Change	$15,825	$84,296
Ending Market Value	$1,184,296	$1,184,296

	2024 Q2	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	Calendar Years 2023	2022	2021	2020	2019	Inception	Inception Date
Carillon Chartwell SDHY Fund	1.4%	2.6%	7.5%	--	--	7.8%	-3.2%	--	--	--	2.6%	Jul-21
ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR	*1.4%*	*2.8%*	*8.1%*	--	--	*8.8%*	*-3.1%*	--	--	--	*3.1%*	*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 June 30, 2024

	Second Quarter	**Inception 11/30/19**
Beginning Market Value	$490,572	--
Net Cash Flow	$2,234	$457,314
Net Investment Change	$6,303	$41,795
Ending Market Value	$499,109	$499,109

Current Yield as of June 30, 2024: 5.23%

						Calendar Years						
	2024 Q2	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	2023	2022	2021	2020	2019	Inception	Inception Date
PNC Cash	1.2%	2.3%	4.6%	2.5%	--	4.0%	1.2%	0.1%	0.0%	--	1.7%	Nov-19

Note: Returns are gross of fees.

Operating Engineers Local No. 77 JATC Fund

Appendix

Performance Detail (Gross of Fees) - Annualized

			Ending June 30, 2024					
	Market Value	% of Portfolio	2024 Q2	Fiscal YTD	1 Yr	3 Yrs	Inception	Inception Date
Total Fund	**$3,373,213**	**100.0%**	**1.6%**	**3.7%**	**8.2%**	**2.9%**	**4.1%**	**Nov-19**
Total Domestic Large Cap Equity	**$404,404**	**12.0%**	**4.3%**	**15.3%**	**24.6%**	**10.0%**	**14.7%**	**Nov-19**
Vanguard 500 Index Fund Admiral Shares	$404,404	12.0%	4.3%	15.3%	24.6%	10.0%	14.7%	Nov-19
S&P 500			*4.3%*	*15.3%*	*24.6%*	*10.0%*	*14.7%*	*Nov-19*
Total Investment Grade Fixed Income	**$1,285,403**	**38.1%**	**1.1%**	**1.9%**	**5.4%**	**1.4%**	**1.9%**	**Nov-19**
Chartwell Investment Partners	$1,285,403	38.1%	1.1%	1.9%	5.4%	1.4%	1.9%	Dec-19
Bloomberg US Credit 1-3 Yr TR			*1.0%*	*1.8%*	*5.6%*	*1.0%*	*1.5%*	*Dec-19*
Total Short Duration High Yield Fixed Income	**$1,184,296**	**35.1%**	**1.5%**	**2.8%**	**8.0%**	**--**	**3.1%**	**Jul-21**
Carillon Chartwell SDHY Fund	$1,184,296	35.1%	1.5%	2.8%	8.0%	--	3.1%	Jul-21
ICE BofA 1-3 Yrs BB US Cash Pay High Yield TR			*1.4%*	*2.8%*	*8.1%*	*--*	*3.1%*	*Jul-21*
Total Cash Equivalents	**$499,109**	**14.8%**	**1.2%**	**2.3%**	**4.6%**	**2.5%**	**1.7%**	**Nov-19**
PNC Cash	$499,109	14.8%	1.2%	2.3%	4.6%	2.5%	1.7%	Nov-19

Account	Fee Schedule	Market Value As of 6/30/2024	% of Portfolio	Estimated Annual Fee ($)	Estimated Annual Fee (%)
Total Domestic Large Cap Equity	**-**	**$404,404**	**12.0%**	**--**	**--**
Vanguard 500 Index Fund Admiral Shares	0.04% of Assets	$404,404	12.0%	$162	0.04%
Total Investment Grade Fixed Income	**-**	**$1,285,403**	**38.1%**	**--**	**--**
Chartwell Investment Partners	0.18% of Assets	$1,285,403	38.1%	$2,314	0.18%
Total Short Duration High Yield Fixed Income	**-**	**$1,184,296**	**35.1%**	**--**	**--**
Carillon Chartwell SDHY Fund	0.49% of Assets	$1,184,296	35.1%	$5,803	0.49%
Total Cash Equivalents	**-**	**$499,109**	**14.8%**	**--**	**--**
PNC Cash	-	$499,109	14.8%	--	--
Investment Management Fee		**$3,373,213**	**100.0%**	**$8,279**	**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.

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).

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.

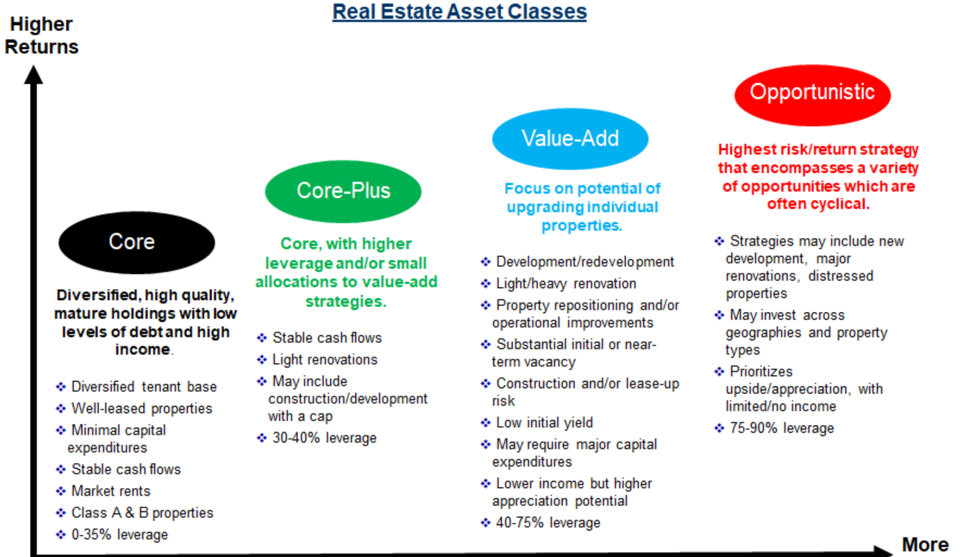
Common Market Capitalization Categories for Equities

Mega Cap	Greater than $300 billion
Large Cap	$10 to $200 Billion
Mid Cap	$2 to $10 Billion
Small Cap	$300 Million to $2 Billion
Micro Cap	$50 to $300 Million

Bond Ratings & Classifications

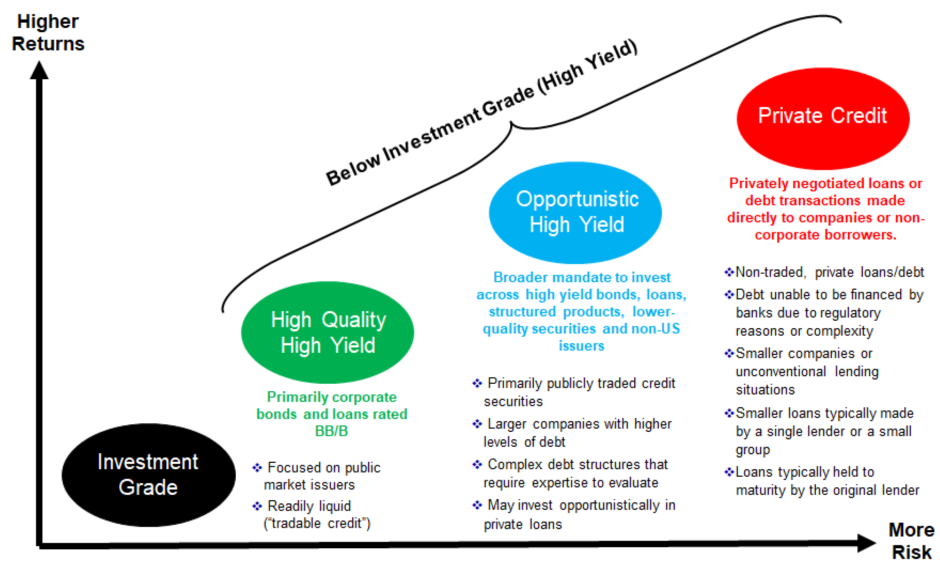
	Standard & Poor's	Moody's
Investment Grade	AAA	Aaa
	AA	Aa
	A	A
	BBB	Baa
High Quality High Yield	BB	Ba
	B	B
Low Quality High Yield	CCC	Caa
	CC	Ca
	C	C

Real Estate Asset Classes



*Leverage ranges shown are for illustrative purposes. Individual real estate manager leverage targets may vary.

High Yield Credit Asset Classes



Disclaimer:

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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
Constitution Capital Equity 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