

Is Recession Risk Really Off the Table?

ECONOMY

2 Economic forecasts have shifted tone, from one of certain recession to no recession this year or next. What happened? A robust job market, declining inflation, and a GDP rebound appear to point to a soft landing, but recession risks have not completely disappeared.

Aggregate Falls with Rise in Interest Rates

FIXED INCOME

8 The Bloomberg Aggregate fell as interest rates increased, but investors' risk appetite and solid economic news spurred returns for spread sectors and lower quality bonds. The unhedged Global Aggregate fell but the hedged index showed gains.

IRRs Stay Steady and Range from 8%-10%

PRIVATE CREDIT

12 Private credit has generated net IRRs of 8% to 10% for trailing periods ended 1Q23. Higher-risk strategies performed better than lower-risk strategies. Investors focused on relative value, downside protection, and managers' internal work-out resources.

Equity Gains Power Positive Returns

INSTITUTIONAL INVESTORS

4 All investor types saw gains for the one year ended 2Q23 after equity gains in the quarter, but trailed a 60% stocks/40% bonds benchmark. Over the last 20 years, all investor types were within range of the 60%/40% benchmark, lagging U.S. equities but topping U.S. fixed income.

Private RE Falls While REITs Lag Equities

REAL ESTATE/REAL ASSETS

10 The NCREIF Property Index fell 2.0% during 2Q23. The NCREIF Open-End Diversified Core Equity Index fell 2.7%. Global REITs underperformed, up 0.2% compared to a 6.8% rise for global equities (MSCI World). U.S. REITs rose 2.6%, compared to 8.7% for the S&P 500.

Hedge Funds Gain but Lag Equity Indices

HEDGE FUNDS/MACs

13 Hedge funds ended 2Q higher but unable to keep up with soaring equity indices, as equity market volatility subsided from 1Q. For individual managers, equity hedge strategies, event-driven managers, and macro strategies all ended with gains for the quarter.

Large Cap Growth Leads Indices Higher

EQUITY

6 All U.S. equity indices produced positive returns; large cap growth (led by big technology firms) helped power the gains. Global and global ex-U.S. indices also showed gains, while developed markets outperformed emerging markets, in part due to China.

Headwinds in Market Slow Deal Liquidity

PRIVATE EQUITY

11 First-half private equity fundraising and deal activity continued a declining trend, with only IPOs increasing slightly. LPs are consolidating and upgrading portfolios, and GPs are focusing on existing portfolio management to increase exits and distributions.

Index Starts off 2023 With a 5.3% Increase

DEFINED CONTRIBUTION

15 The Callan DC Index gained 5.3% in 1Q23, and balances within the index rose by the same amount. Target date funds continued to see the largest net inflows. U.S. large cap saw big gains in participant allocations; capital preservation fund options saw a decline.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000



Global ex-U.S. Equity
MSCI ACWI ex USA



U.S. Fixed Income
Bloomberg Agg



Global ex-U.S. Fixed Income
Bloomberg Global Agg ex US



Sources: Bloomberg, FTSE Russell, MSCI

Is Recession Risk Really Off the Table?

ECONOMY | Jay Kloepfer

We saw a change in tone in economic forecasts coming in over the past six weeks, from one of certain recession in 2023 or at the least 2024, to one of “no recession here.” We see it in the tea leaves of the Fed’s releases after its last couple of meetings and in investment managers’ updates and strategy pieces, and now the professional forecasting community is, well, forecasting no recession this year or next.

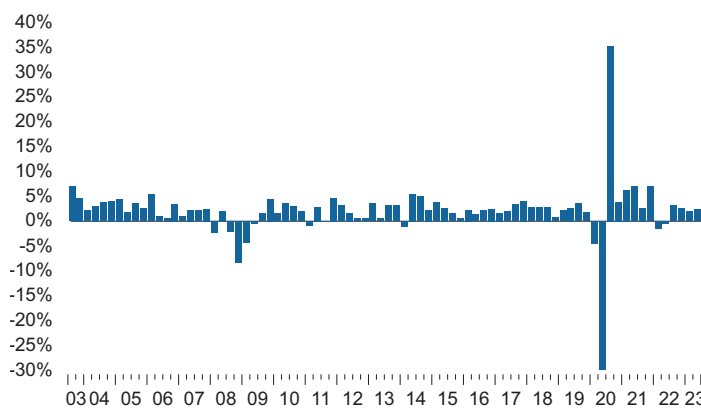
What happened? First, the job market remains robust, with unemployment stuck at a generational low. Second, inflation dropped from an alarming 9% rate last June to 3% in just one year. In the broad economy, GDP rebounded from two quarters of decline in 2022 to log four consecutive quarters of solid growth, notching 2.4% in 2Q23. Expectations established just six months ago had a recession hitting in 2Q or 3Q of *this* year. Now it is rare to find a shorter-term outlook (12-18 months) with a recession as the base case; we’re back to the notion of a soft landing, with GDP gently declining to 1%-1.5% growth in 2024. Did recession risk really disappear?

Interest rates could rise more in the second half of 2023, even though inflation is now down at 3%. The Fed has suggested two more rate hikes are in their cards. The strength remaining in the economy after rates rose 5% in one year gives the Fed headroom to further flex its inflation-fighting chops. The bond market has been expecting a recession since last July, when the yield curve inverted, and there is growing sentiment that perhaps this time, bond investors just might be wrong. The argument is that the bond market got ahead of itself in the spring of 2022, when it immediately and (almost) fully priced in the expected Fed moves by June last year. Then almost as quickly as the market believed the Fed would execute as telegraphed, the market began doubting the resolve of the Fed and the ability of the economy to absorb the historic jump in interest rates, and hence the inversion of the yield curve.

The strength of the job market has been Fed Chair Jerome Powell’s secret weapon, and we have been looking at the details of the job market with great interest. The U.S. economy recouped the nearly 20 million jobs lost in the first months of the pandemic by the middle

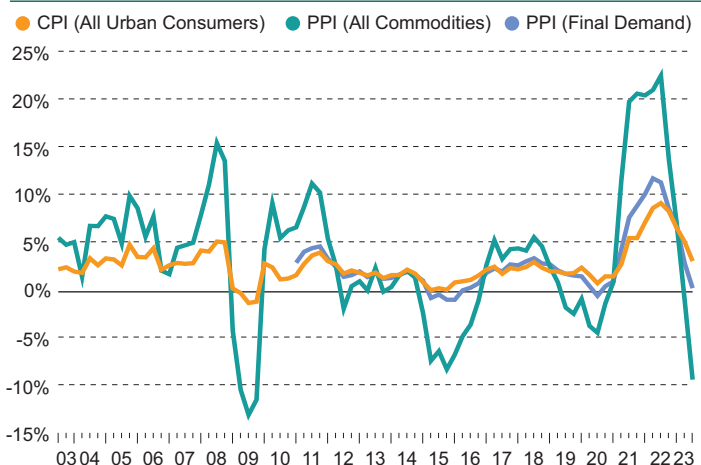
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

of 2022, and now supports 4.3 million more non-farm jobs than at the end of 2019. However, some sectors are still woefully short of workers, and many observers believed a recession was necessary to convince people to take the jobs they no longer wanted in hospitality (hotels and restaurants), retail trade, and state and local government. These three sectors make up 34% of the U.S. job market, but all three have yet to surpass their pre-pandemic levels of employment; in fact, they are still 300,000 behind. That means only two-thirds of the job market has accounted for the 4.3 million new jobs. These lagging sectors have large concentrations

of lower-paying jobs, so the differential growth in the job market is exacerbating pressure on lower-income workers.

Three threats that spurred recession fears earlier this year have not yet panned out: crypto, regional banks, and headline layoffs in technology. The collapse of FTX and the troubles across all manner of digital currencies have hurt investors but not taken a meaningful number of jobs, and the failure and takeover of three regional banks has not dented the exuberance of the stock market and the economic forecasters. The job cuts that made headlines at highly visible technology firms were large at the firm level, but small at the industry level, and the job-cutting was contained to technology.

So as recession fears fade, what does it mean for short interest rates, for long rates, and for the stock market? Longer term, the Fed telegraphs 2.5% as the anchor for the Federal Funds rate, but we may see 5%-5.5% for the next 18 months. The broad U.S. stock market (Russell 3000) dropped 24.6% in the first three quarters of 2022, but the index is up 24.5% in the three quarters through June 2023, and the total return since December 2021 is -3%. The back-story is that these gains came from just seven stocks; the rest of the stock market has been flat. Market expectations for stocks exclusive of these hot dots is subdued.

The risk of recession has not gone away, but the onset may have been delayed. One important economic rule of thumb to remember is that it takes about a year for a change in interest rates to work its way through the economy. The Fed started raising rates in March 2022, and has continued into 2023. We may be a year from seeing the full effect of higher rates on the economy.

The Long-Term View

Index	2Q23	Periods Ended 6/30/23			
		1 Yr	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	8.4	19.0	11.4	12.3	7.7
S&P 500	8.7	19.6	12.3	12.9	7.6
Russell 2000	5.2	12.3	4.2	8.3	7.3
Global ex-U.S. Equity					
MSCI EAFE	3.0	18.8	4.4	5.4	4.3
MSCI ACWI ex USA	2.4	12.7	3.5	4.7	--
MSCI Emerging Markets	0.9	1.7	0.9	3.0	--
MSCI ACWI ex USA Small Cap	2.0	10.9	2.6	5.8	6.7
Fixed Income					
Bloomberg Agg	-0.8	-0.9	0.8	1.5	3.9
90-Day T-Bill	1.2	3.6	1.6	1.0	1.9
Bloomberg Long G/C	-1.3	-2.6	0.7	2.9	5.3
Bloomberg GI Agg ex US	-2.2	-1.8	-2.7	-0.9	2.6
Real Estate					
NCREIF Property	-2.0	-6.6	5.9	7.8	8.5
FTSE Nareit Equity	2.6	-0.1	4.6	6.4	8.3
Alternatives					
CS Hedge Fund	2.2	5.0	5.0	4.7	6.1
Cambridge PE*	2.1	-4.6	16.0	15.0	13.8
Bloomberg Commodity	-2.6	-9.6	4.7	-1.0	2.0
Gold Spot Price	-2.9	6.8	9.0	4.7	7.8
Inflation – CPI-U	1.1	3.0	3.9	2.7	2.5

*Data for most recent period lags. Data as of 1Q23.

Sources: Bloomberg, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, Refinitiv/Cambridge, S&P Dow Jones Indices

Recent Quarterly Economic Indicators

	2Q23	1Q23	4Q22	3Q22	2Q22	1Q22
Employment Cost: Total Compensation Growth	4.5%	4.8%	5.1%	5.0%	5.1%	4.5%
Nonfarm Business: Productivity Growth	3.7%	-1.2%	1.6%	1.2%	-3.7%	-6.0%
GDP Growth	2.4%	2.0%	2.6%	3.2%	-0.6%	-1.6%
Manufacturing Capacity Utilization	78.3%	78.2%	78.5%	79.4%	79.6%	79.2%
Consumer Sentiment Index (1966=100)	62.4	64.6	58.8	56.1	57.8	63.1

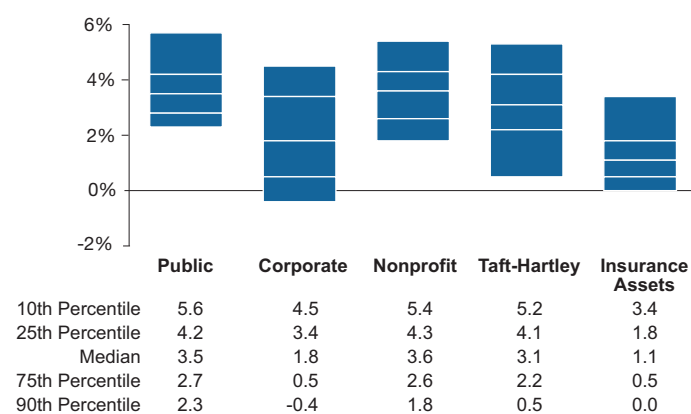
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

Equity Gains Power Positive Returns

INSTITUTIONAL INVESTORS

- Strong equity gains helped all investor types report gains for the trailing year, compared to single-digit losses in the year ending 1Q23.
- Nonprofits reported the best results for the trailing one year, followed closely by public defined benefit plans. Corporate plans and insurance assets, with their typically higher allocations to fixed income, saw the lowest gains.
- All investor types crushed bonds but lagged a benchmark consisting of 60% stocks/40% bonds.
- Over the last 20 years, all investor types were within range of the 60%/40% benchmark, lagging U.S. equities but topping U.S. fixed income and global ex-U.S. equities.
- After a disastrous 2022, the S&P 500 and Bloomberg Aggregate are both up through 2Q23.
 - S&P 500 up 16.9%
 - Aggregate up 2.1%
 - Nasdaq 100 is up almost 40%
- However, seven stocks are leading the charge with most others being flat to negative.
- The yield curve has remained inverted implying a recession is on the horizon
- Investors are focused on how much the world has changed, and whether it alters how they should view and implement portfolios.

Quarterly Returns, Callan Database Groups (6/30/23)



Source: Callan

Callan Database Median and Index Returns* for Periods Ended 6/30/23

Database Group	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Public Database	3.5	9.3	8.0	6.7	7.5	7.5
Corporate Database	1.8	5.0	2.5	4.7	6.3	7.0
Nonprofit Database	3.6	9.6	8.1	6.4	7.1	7.4
Taft-Hartley Database	3.1	8.4	8.1	6.5	7.7	7.1
Insurance Assets Database	1.1	3.4	1.3	3.1	3.8	4.8
All Institutional Investors	3.1	8.5	7.5	6.2	7.2	7.2
Large (>\$1 billion)	2.7	7.5	8.4	6.8	7.6	7.6
Medium (\$100mm - \$1bn)	3.3	8.7	7.6	6.3	7.3	7.2
Small (<\$100 million)	3.5	9.3	7.2	6.0	6.9	6.9
60% S&P 500/40% Bloomberg Agg	4.9	11.1	7.1	8.1	8.5	7.5

*Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, insurance assets, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

Corporate DB Plans

- Liabilities decreased slightly, reflecting a small increase in discount rates, but assets (both LDI and equities) were up, offsetting any negative liability impact.
- Total return-oriented plans continued to see their funded status improve as the equity market kept rallying.
- Plans that were fully hedged experienced minimal, if any, funded status volatility over the quarter.
- There is a disconnect between hedging the accounting funding ratio and the rules for the ERISA minimum required contributions (MRCs). Callan's forecasted median ERISA rate (used for MRCs) lags the accounting rate by ~100 bps, which could trigger required contributions.

Public DB Plans

- The trend of "de-risking," moving to more fixed income, has somewhat abated.
- Plans have grown accustomed to their current level of risk; they lived through both the pandemic and 2022, and they would rather maintain this risk and collect a higher return.
- For plans that measure at 6/30, they should see a realized one-year return well in excess of their discount rate assumption. For those that smooth their assets, deferring the gains will help offset losses from FYE 2021, stabilizing future contribution requirements.

Insurers

- Insurance companies are some of the few investors that fared well following the spike in yields during 2022.
- Typically invested to match short-term liabilities, they are focused on investment income and use it to offset operating expenses.
- As interest rates rose, insurers sold bonds with lower book yields and took losses, then re-invested at much higher book yields.

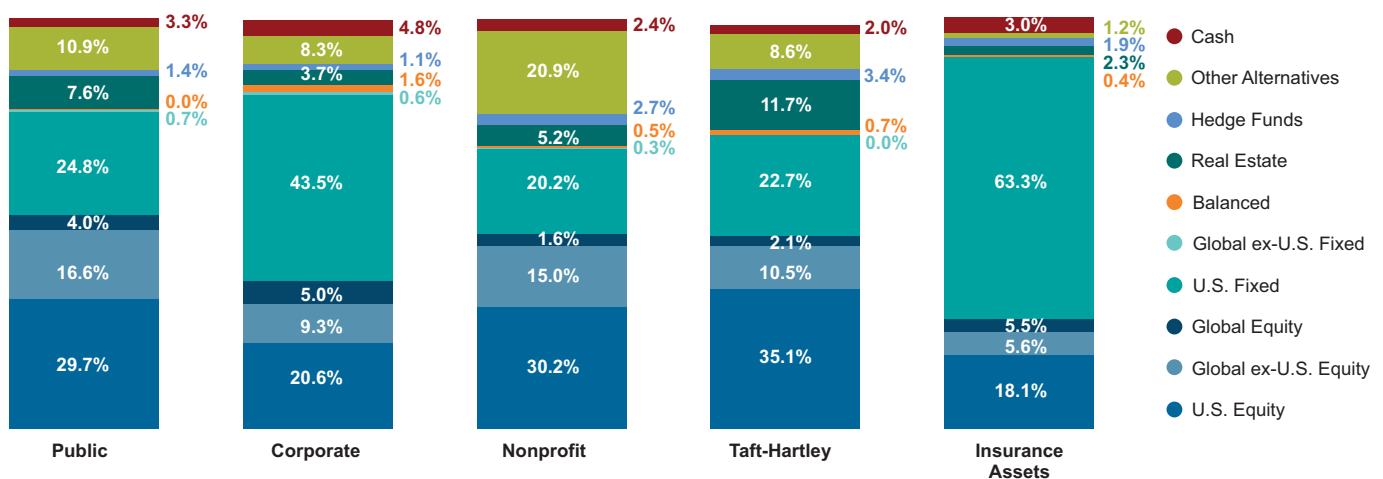
Nonprofits

- Foundations and endowments are seeing effective spending rates coming down, to reflect the losses in 2022 (since current spending rates don't yet reflect them, with lags and averages).

Defined Contribution Plans

- Sponsors focused on these significant new issues:
 - SECURE 2.0: Digesting the new provisions and learning what they mean for them
 - Rate environment: Helping participants with options to manage higher inflation
 - Managed accounts and retirement income: Keeping terminated participants and retirees in plans

Average Asset Allocation, Callan Database Groups



Note: Charts may not sum to 100% due to rounding. Other alternatives include but is not limited to: diversified multi-asset, private credit, private equity, and real assets.
Source: Callan

Equity

U.S. Equities

Large cap growth stocks lead broad indices higher

- The S&P 500 posted a second straight quarter of positive performance, gaining 8.7%; large cap growth led all styles, advancing 12.8%.
- All U.S. equity indices produced positive returns; small value and low volatility produced the lowest 2Q returns.
- Nine of the 11 S&P Index sectors produced a positive 2Q23 return.
- Similar to 1Q23, small caps (Russell 2000) underperformed large caps (Russell 1000) and growth outperformed value during the quarter, a reversal of trend from 2022.
- Financials (-1.1%) detracted from returns for the Russell 2000 (+5.2%) while Health Care was the only small cap sector to produce double-digit returns (+11.2%).

Index concentration is a significant 2Q theme

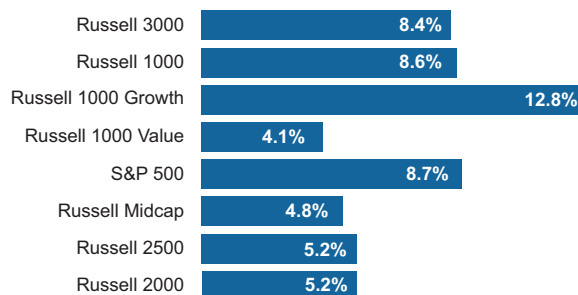
- 10 stocks within the S&P 500 Index contributed 80% of the 16.9% return YTD through 6/30; average appreciation is 82%, and these stocks had an average forward price/earnings ratio of 36x.
- 2Q return for the S&P 500 Index was 8.7%; the equal weight S&P 500 Index returned 4%.
- The YTD return difference is nearly 10 percentage points; if this gap holds through year-end, it would be the largest since 1998.

Small cap valuations point to potential opportunity

- Small cap continues to trade at a meaningful discount to its historical valuations; large cap (particularly growth) continues to trade at a premium to its historical valuations.
- Favorable developments in the inflation data could give the small cap market a boost in performance.
- One recent issue that caused this relative valuation gap is debt; on average, small cap companies have a higher exposure to variable rate debt than large cap counterparts.

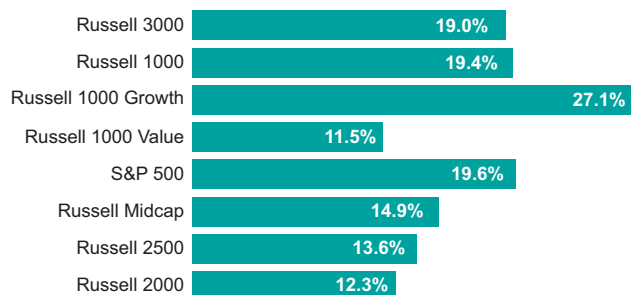
U.S. Equity: Quarterly Returns

(6/30/23)



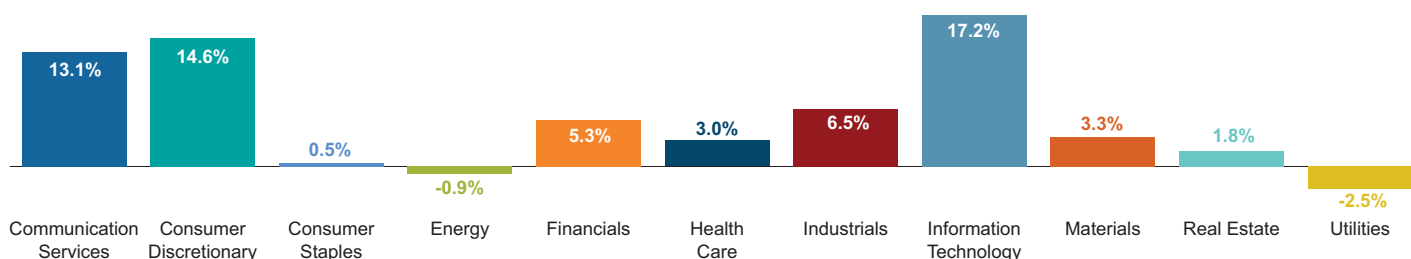
U.S. Equity: One-Year Returns

(6/30/23)



Sources: FTSE Russell and S&P Dow Jones Indices

Quarterly Performance of Industry Sectors (6/30/23)



Source: S&P Dow Jones Indices

Global Equities

2Q23 continued global and global ex-U.S. equity markets' positive performance from the prior quarter.

Technology stocks lead markets higher

- 2Q23 saw global markets led higher by mega cap technology stocks, in part due to increased optimism around artificial intelligence advancements.
- Market expectations of a recession decreased as inflation showed signs of abating while the Fed kept rates unchanged in June.
- Japan outperformed other regions in local currency as valuations continued to be attractive alongside the Bank of Japan's easy monetary policy.

Developed vs. emerging markets

- Developed markets outperformed emerging markets as China weighed on EM indices.

Growth vs. value

- Mega cap technology companies, which are primarily U.S.-based, led markets higher and resulted in large dispersions between U.S. growth and value indices. However, outside of the U.S., growth and value index returns were relatively balanced.

Japan's turn

- Valuation below historical levels
- Economic recovery; in 1Q Japan transitioned out of a recession as GDP grew 2.7%.
- Next 12 months consensus earnings estimates show Japan outpacing China, EM, and Europe, and only trailing the U.S.

India vs. China

Economics

- Chinese geopolitical tensions have, in part, driven outside investment elsewhere compared to India, with Prime Minister Modi's visit to the U.S. highlighting its place in the world economy.
- China's New Espionage Law (effective July 2023) likely contributing to less foreign investment; \$20 billion ended 1Q23 versus \$100 billion ended 1Q22.

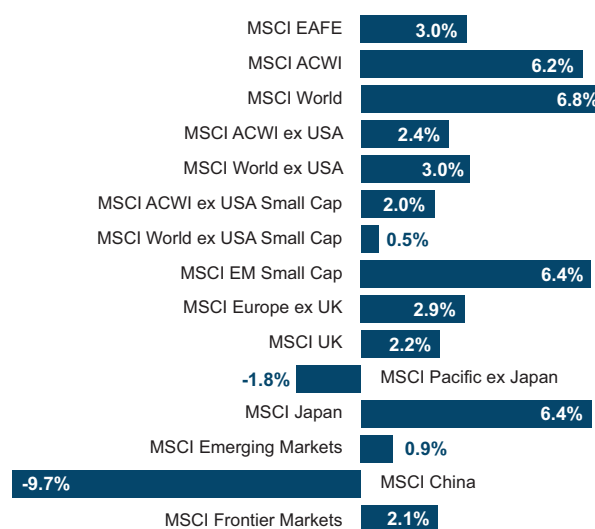
Asset flows

- India's equity market has more than doubled since 2010.

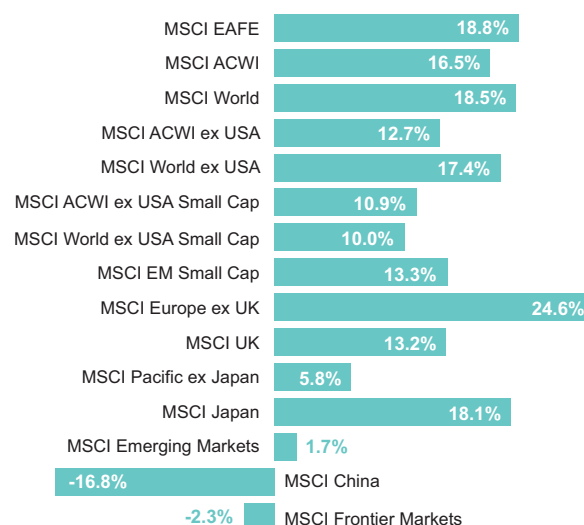
Growth

- India surpassing China with % of population in the middle class in 2030, and from 2023 to 2030 will contribute twice as much growth from this group than China in the Asia Pacific region.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar, 6/30/23)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar, 6/30/23)



Source: MSCI

Fixed Income

U.S. Fixed Income

Bloomberg Aggregate down as rates rose

Risk appetite and solid economic news spurred returns for spread sectors and lower quality.

- Corporate excess return: +131 bps
- Mortgage excess return: +76 bps
- High yield corporates excess return: +279 bps
- AA excess return: +84 bps
- BBB excess return: +157 bps

Yield curve inversion steepened

- 2-year U.S. Treasury: 4.87%; 10-year: 3.81%

TIPS performed in line with nominal U.S. Treasuries

- Five-year breakeven spreads narrowed to 2.18% from 2.40% on 3/31.
- Fed and markets expect inflation to trend down over longer periods.
- Fed Funds target raised to 5.00% - 5.25%
- Paused at June meeting but suggested that further hikes are likely
- Median expectation from Fed: 5.6% for year-end 2023
- Market expectations are similar at 5.4%; up sharply from expectations for cuts at the end of 1Q.

Valuations fair

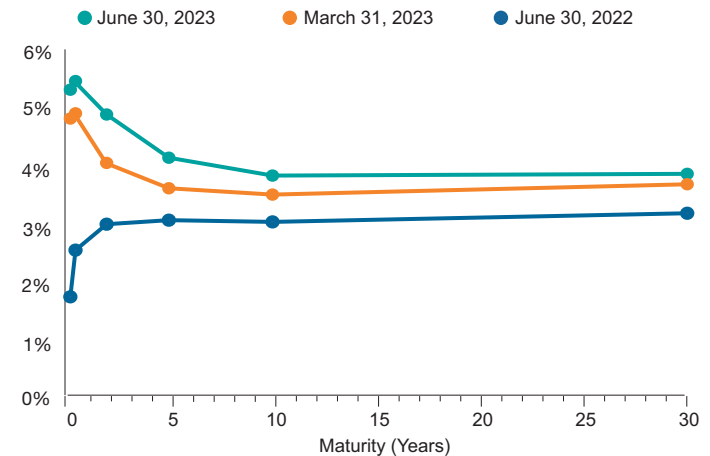
- Credit spreads have not widened materially and are close to historical averages.
- Demand has remained robust with muted issuance.

Municipal Bonds

Municipal bonds outperformed U.S. Treasuries in 2Q

- Bloomberg Municipal Bond Index: -0.1%; Bloomberg U.S. Treasury Index: -1.4%
- Lower quality munis outperformed (AAA: -0.4%; AA: -0.2%; A: +0.2%; BBB: +0.7%)

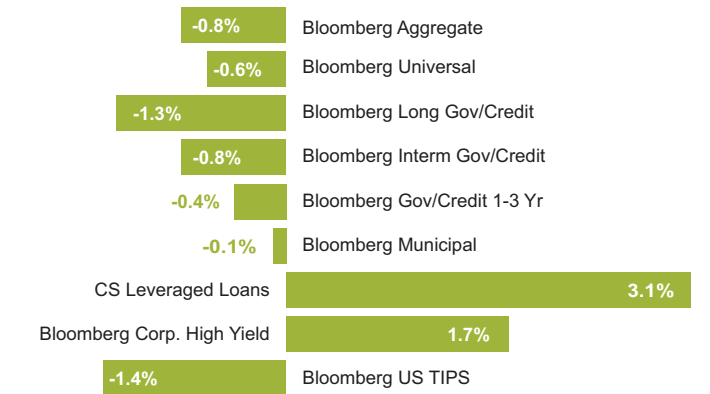
U.S. Treasury Yield Curves



Source: Bloomberg

U.S. Fixed Income: Quarterly Returns

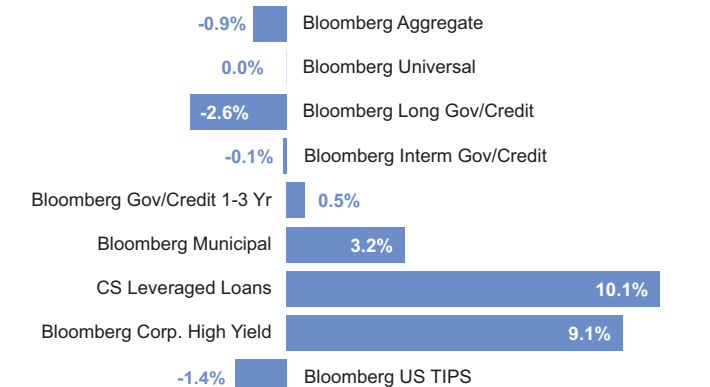
(6/30/23)



Sources: Bloomberg and Credit Suisse

U.S. Fixed Income: One-Year Returns

(6/30/23)



FIXED INCOME (Continued)

Muni curve inverted; less so than U.S. Treasury curve

- 2-year AAA Muni yield: 2.93%; 10-year AAA Muni yield: 2.56%

Valuations relative to U.S. Treasuries remain rich

- 10-year AAA Muni/10-year U.S. Treasury yield ratio 67%; below 10-year median of 87%
- After-tax yield 5.95% (Bloomberg Municipal Bond Index)

Supply/demand

- Outflows of roughly \$8 billion YTD, mostly from short-term bond funds (record was \$122 billion in 2022)
- Supply remained muted; YTD about 25% below 2022

Fundamentals remain sound

- “Rainy Day” fund balances and state tax revenues continued to be robust.
- Upgrades continued to significantly outpace downgrades in 1Q.

Global Fixed Income

Global Aggregate down unhedged but up hedged

- Rates mixed; up in the U.S., Great Britain, and Australia and flat to slightly down across other developed markets
- Japan (-8%) worst performer on sharp yen depreciation
- Bank of England surprised markets with 50 bps increase to combat sticky inflation.

U.S. dollar mixed

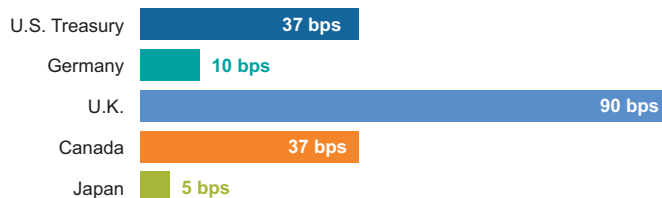
- Euro: +0.4% vs dollar
- British pound: +2.8% vs dollar
- Canadian dollar: +2.3% vs dollar
- Japanese yen: -7.9% vs dollar
- Australian dollar: -0.6% vs dollar
- Chinese yuan: -5.4% vs dollar
- Mexican peso: +5.3% vs dollar
- Brazilian real: +5.1% vs dollar

Emerging market debt delivered solid results

- Growth differentials have improved as inflation has peaked in many markets

Change in 10-Year Global Government Bond Yields

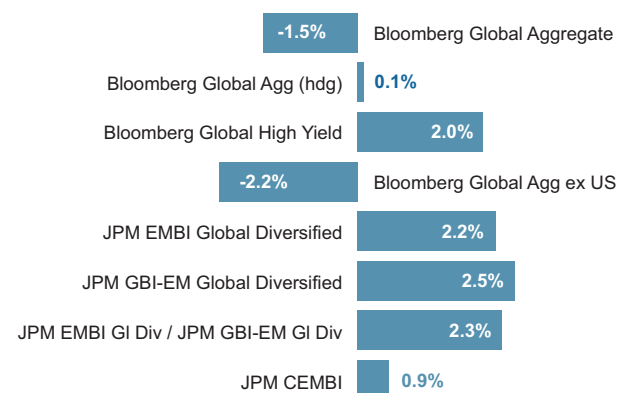
1Q23 to 2Q23



Source: Bloomberg

Global Fixed Income: Quarterly Returns

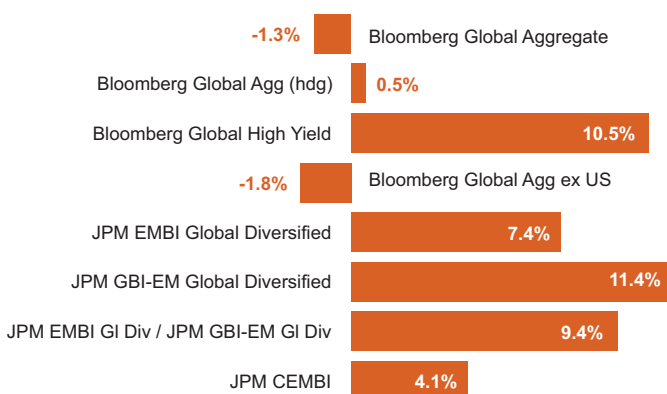
(6/30/23)



Sources: Bloomberg and JPMorgan Chase

Global Fixed Income: One-Year Returns

(6/30/23)



Sources: Bloomberg and JPMorgan Chase

Private Real Estate Falls While REITs Lag Equities

REAL ESTATE/REAL ASSETS | Kristin Bradbury, Munir Iman, and Aaron Quach

Private RE falls but income returns were positive

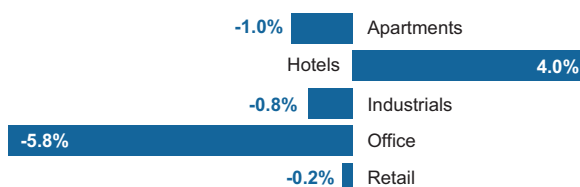
- The NCREIF Property Index, a measure of U.S. institutional real estate assets, fell 2.0% during 2Q23. The income return was 1.0% while the appreciation return was –3.0%.
- Hotels, which represent a small portion of the index, led property sector performance with a gain of 4.0%. Office finished last with a loss of 5.8%.
- Regionally, the South led with a loss of 0.8%, while the East was the worst performer with a loss of 2.7%.
- The NCREIF Open-End Diversified Core Equity Index, representing equity ownership positions in U.S. core real estate, fell 2.7% during 2Q, with an income return of 0.9% and an appreciation return of -3.6%.

REITs underperform equities

- Global REITs underperformed in 2Q23, rising 0.3% compared to a 6.8% rise for global equities (MSCI World).
- U.S. REITs rose 2.6% in 2Q23, in contrast with the S&P 500 Index, which rose 8.7%.
- The outperformance in the U.S. was driven by the resilient U.S. economy but continued to face headwinds due to higher interest rates and negative sentiment in the capital markets.

Sector Quarterly Returns by Property Type

(6/30/23)



Source: NCREIF

Real Assets

- The S&P GSCI fell 2.7% in 2Q.
- WTI Crude ended the quarter at \$70.64/barrel, down from \$75.67/barrel on 3/31.
- Copper (-8%) fell on concerns over ebbing global demand and a slowdown in China, and gold (S&P Gold Spot Price: -2.9%) was hurt by lowered expectations for inflation and reduced safe-haven demand.
- TIPS (Bloomberg TIPS: -1.4%) were hurt by rising interest rates.

Callan Database Median and Index Returns* for Periods Ended 6/30/23

Private Real Assets	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	-1.0	-4.9	-9.2	7.8	6.5	8.3	4.8
NFI-ODCE (value-weighted, net)	-2.9	-6.2	-10.7	7.0	5.6	7.8	4.7
NCREIF Property	-2.0	-3.8	-6.6	6.8	5.9	7.8	6.1
NCREIF Farmland	0.8	2.9	8.2	7.6	6.5	8.3	9.9
NCREIF Timberland	1.7	3.5	11.1	8.7	5.8	5.9	4.6
Public Real Estate							
Global Real Estate Style	0.8	2.8	-2.9	4.5	2.5	5.2	5.2
FTSE EPRA Nareit Developed	0.3	1.0	-4.5	3.3	-0.1	2.9	3.2
Global ex-U.S. Real Estate Style	-2.3	-2.5	-7.4	-1.1	-1.1	3.8	3.0
FTSE EPRA Nareit Dev ex US	-3.1	-4.7	-9.3	-2.6	-3.8	0.6	1.2
U.S. REIT Style	2.6	5.8	-0.7	8.6	6.0	7.3	7.7
FTSE EPRA Nareit Equity REITs	2.6	5.4	-0.1	8.9	4.6	6.4	6.8

*Returns less than one year are not annualized. Sources: Callan, FTSE Russell, NCREIF

Headwinds Slow Liquidity

PRIVATE EQUITY | Gary Robertson

Fundraising ► Final closes for private equity partnerships in 2Q23 totaled \$170 billion of commitments in 470 partnerships. (Unless otherwise noted, all data in this commentary come from PitchBook.) The dollar volume was down 2% from 1Q23, but the number of funds rose 7%. For the first half, commitments are running 31% behind those of a year ago, with the number of funds down by 51%, and with venture capital commitment volumes falling most notably from about 34% a year ago.

Buyouts ► New buyout transactions by count fell 13% from 1Q23 to 2,462, and disclosed deal value declined 18% to \$122 billion. 1H23 numbers also saw declines of 30% in number of investments and 36% in disclosed value. YTD average buyout prices fell almost a turn (0.9x EBITDA) to 13.4x but remain high on an absolute basis. Average leverage levels YTD fell to only 31% of new deal capital structures, with interest costs rising and impinging company profitability.

VC Investments ► New rounds of financing in venture capital companies totaled 9,955, with \$86 billion of announced value. The number of investments preliminarily fell 20% from 1Q23, but announced value fell only 1%. 1H23 numbers plunged 33% for rounds and 48% for disclosed value compared to 1H22.

Exits ► There were 472 private M&A exits of private equity-backed companies, with disclosed values totaling \$90 billion. The

preliminary private sale count fell 21% and the announced dollar volume dropped 13%. There were 46 private equity-backed IPOs in 2Q23 raising an aggregate \$7 billion, up 15% by count, with issuance leaping 40% from 1Q23.

Venture-backed M&A exits totaled 541 transactions with disclosed value of \$14 billion. The number of sales declined 18% from 1Q23, and announced value plunged 50%. There were 86 VC-backed IPOs in 2Q23 with a combined float of \$12 billion; the count was up 19% and the issuance grew 71%.

Returns ► With an uptick in public equity markets in the last two quarters, private equity lagged in both periods but posted modestly positive returns in each.

Funds Closed 1/1/23 to 6/30/23

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	554	59,101	17%
Growth Equity	53	47,704	14%
Buyouts	213	136,312	40%
Mezzanine Debt	11	29,663	9%
Distressed/Special Credit	15	24,043	7%
Energy	4	1,467	0%
Secondary and Other	53	42,486	12%
Fund-of-Funds	7	2,429	1%
Totals	910	343,205	100%

Source: PitchBook (Figures may not total due to rounding.)

Private Equity Performance (%) (Pooled Horizon IRRs through 3/31/23*)

Strategy	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	-0.70	-16.37	24.98	20.43	18.73	13.20	12.62	19.35
Growth Equity	1.27	-9.26	21.28	16.51	15.11	12.70	14.39	14.17
All Buyouts	3.52	0.69	23.86	16.00	15.24	10.84	15.07	12.82
Mezzanine	3.49	6.08	14.91	10.88	11.08	10.34	11.38	10.02
Credit Opportunities	2.01	4.00	13.42	7.30	7.86	9.17	9.79	9.53
Control Distressed	1.60	2.59	26.00	13.90	12.14	10.72	11.85	11.51
All Private Equity	2.12	-4.57	22.98	16.20	15.12	11.36	13.95	13.37
S&P 500	8.74	19.59	14.60	12.31	12.86	10.88	10.04	7.61
Russell 3000	8.39	18.95	13.89	11.39	12.34	10.61	10.05	7.72

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and S&P Dow Jones Indices

*Most recent data available at time of publication

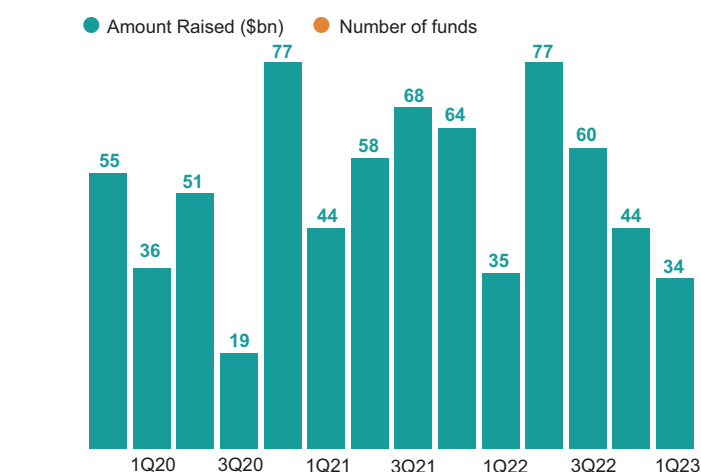
Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of the *Capital Markets Review* and other Callan publications.

IRRs Stay Steady and Range from 8%-10%

PRIVATE CREDIT | Catherine Beard

- Private credit performance varied across sub-asset class and underlying return drivers.
- On average, the asset class has generated net IRRs of 8% to 10% for trailing periods ended March 31, 2023.
- As interest rates declined after the GFC, private credit attracted increased interest from institutional investors.
- Private credit fundraising was robust leading into the COVID dislocation with a particular focus on direct lending, asset-based lending, and distressed strategies.
- Renewed focus on relative value, downside protection, and managers' internal workout resources
- Renewed interest in strategies with strong collateral protection such as asset-based lending as well as capital solutions and distressed/special situations strategies
- Larger sponsor-backed lending is seeing a new focus due to the high yield/broadly syndicated loans disintermediation by private credit.
- U.S. sub-investment grade corporate yields rose dramatically at the beginning of 2022 with yields peaking in September. This was a combination of higher interest rates due to tighter Fed policy and a widening of high yield spreads.
- Spreads widened during the first half of 2022 due to weaker credit conditions as the U.S. economic outlook worsened. This has since moderated.
- Default rates for U.S. corporate bonds ticked up in 2Q but remained well below the historical average of 3%-4%. Callan expects defaults to increase somewhat in coming months as economic growth slows and potentially turns negative.
- The Corporate Bond Market Distress Index (CMDI) rose rapidly during the first nine months of 2022, especially for investment grade bonds, highlighting market volatility and a drying

Private Credit Fundraising (\$bn)



Source: Preqin

up of liquidity, but has fallen since then.

- In 2023, as the IG distress index continued to fall, the HY bond indicator was roughly flat with the end of 2022. The CMDI incorporates a range of indicators, including new issuance and pricing for primary and secondary market bonds.
- During 2Q23, clients took a new look at upper-middle-market direct lending as all-in spreads have widened by over 500 bps and lenders are able to get tighter terms. Strong deal volume was driven partially by a shift from public to private market debt financings in the recent market environment.

Private Credit Performance (%) (Pooled Horizon IRRs through 3/31/23*)

Strategy	Quarter	1 Year	3 Years	5 Years	8 Years	10 Years	15 Years	20 Years
Senior Debt	2.8	4.3	8.8	5.9	7.0	6.8	7.0	6.9
Mezzanine	3.5	6.1	14.9	10.9	11.2	11	10.5	11.4
Credit Opportunities	2.0	4.0	13.4	7.3	7.3	7.9	9.2	9.4
Total Private Credit	2.5	4.5	12.8	7.9	8.2	8.4	9.2	9.6

Source: Refinitiv/Cambridge

*Most recent data available at time of publication

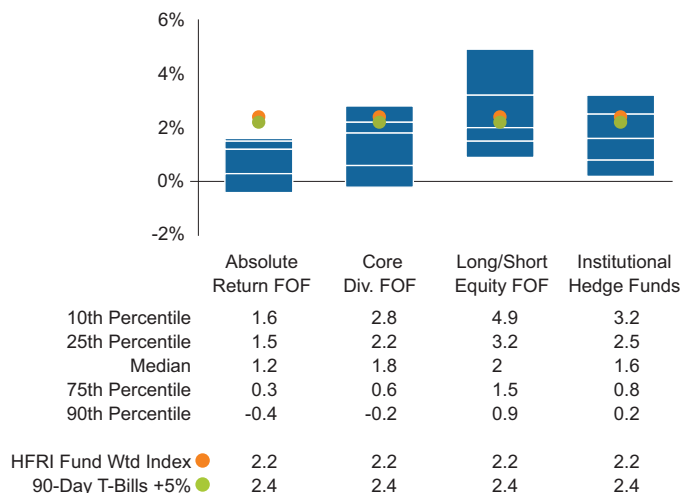
Hedge Funds Gain but Lag Equity Indices

HEDGE FUNDS/MACs | Joe McGuane

Equity markets continued to march higher for the first half of this year, as growth equities surpassed expectations while the Federal Reserve paused the hiking cycle for the first time. Treasury yields moved higher across the curve and the spread between 2-year and 10-year Treasuries further inverted in 2Q23. Hedge funds ended 2Q higher but unable to keep up with soaring equity indices, as equity market volatility subsided from 1Q. Equity hedge strategies had another strong quarter, as managers focused on technology and biotechnology companies. Event-driven managers ended the quarter higher, aided by liquid corporate credit and equities. Macro strategies ended with gains, bouncing back from a difficult 1Q.

Hedge Fund Style Group Returns

(6/30/23)



Sources: Callan, Credit Suisse, Federal Reserve

Callan Peer Group Median and Index Returns* for Periods Ended 6/30/23

Hedge Fund Universe	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years
Callan Institutional Hedge Fund Peer Group	1.6	4.6	7.6	5.4	5.7	5.9
Callan Fund-of-Funds Peer Group	1.5	5.0	6.1	4.1	4.5	3.8
Callan Absolute Return FOF Style	1.2	3.8	7.0	4.1	4.6	3.7
Callan Core Diversified FOF Style	1.8	5.1	6.2	4.1	3.9	3.7
Callan Long/Short Equity FOF Style	2.0	5.9	3.6	3.8	5.0	4.2
HFRI Fund-Weighted Index	2.2	5.0	8.1	5.0	4.7	4.0
HFRI Fixed Convertible Arbitrage	1.4	7.2	7.7	5.6	5.0	5.5
HFRI Distressed/Restructuring	1.4	1.6	9.3	4.5	4.3	4.5
HFRI Emerging Markets	2.6	3.4	4.6	2.5	3.4	2.2
HFRI Equity Market Neutral	0.6	2.9	4.1	2.0	2.9	1.9
HFRI Event-Driven	1.1	5.3	8.5	4.3	4.5	4.5
HFRI Relative Value	1.2	4.0	5.9	3.6	4.0	4.6
HFRI Macro	1.7	-0.4	7.3	5.0	3.1	2.4
HFRI Equity Hedge	3.1	7.6	9.0	5.5	5.7	4.3
HFRI Multi-Strategy	0.7	1.9	4.2	2.5	2.7	2.9
HFRI Merger Arbitrage	-1.0	1.9	7.4	4.6	4.2	3.9
90-Day T-Bill + 5%	2.4	8.6	6.3	6.6	6.0	5.8

*Net of fees. Sources: Callan, Credit Suisse, Hedge Fund Research

Serving as a proxy for large, broadly diversified hedge funds with low-beta exposure to equity markets, the median Callan Institutional Hedge Fund Peer Group rose 1.6%. Within this style group of 50 peers, the average hedged credit manager gained 2.1% as high yield credit performed positively due to tightening credit spreads. Meanwhile, the average hedged equity manager added 1.7%, as managers with a focus on growth-oriented equities drove performance.

Within the HFRI indices, the best-performing strategy last quarter was the equity hedge index (3.1%), led by manager exposure to AI and growth-related sectors. Macro strategies finished up 1.7%, as managers went long equities and short rates across the U.S. and Europe.

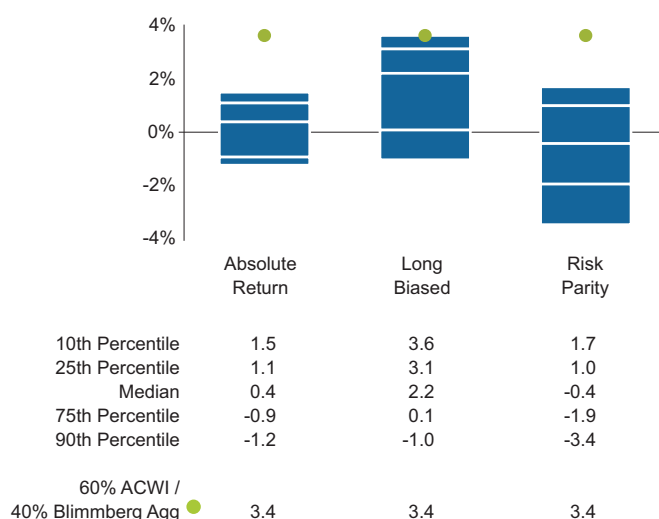
Across the Callan Hedge FOF Database Group, the median Callan Long-Short Equity Fund-of-Funds (FOF) ended up 2.0%, as managers benefited from soaring large-cap technology companies. Meanwhile, the median Callan Core Diverse FOF gained 1.8%, as equity hedge, event-driven, and macro managers drove performance. The Callan Absolute Return FOF rose 1.2%, as a lower weight to equity hedge exposure led to a lower return compared to managers with more equity beta.

Within Callan's database, the median Callan Multi-Asset Class (MAC) Long Biased peer group gained 2.2%, the Callan MAC Absolute Return peer group was up 0.4%, and the Callan MAC Risk Parity peer group fell 0.4%.

The strong equity rally during the first half of this year has been hard for hedge funds to keep up with, as many managers came into 2023 more defensive. Throughout the second quarter we began to see managers taking on more risk to catch some of this broader market move higher. As the macro outlook appears to be more benign going into the second half of this year, we continue to think fundamental long/short equity managers are well positioned to profit from this current environment. Long/short credit managers will be able to opportunistically allocate capital to credits they believe are over- or undervalued in this current environment. We continue to believe macro managers are well positioned to allocate capital across the most attractive asset classes.

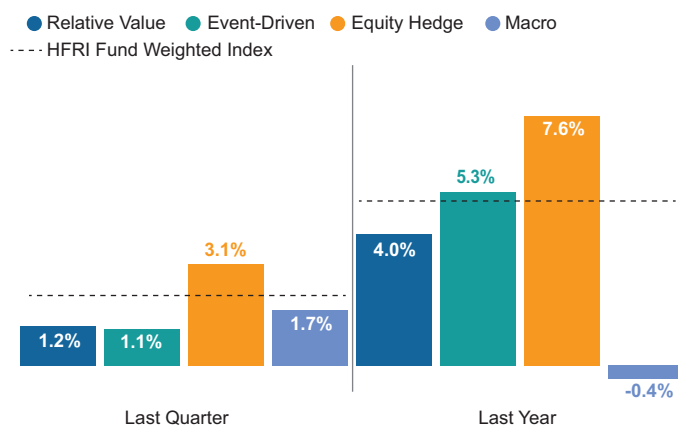
MAC Style Group Returns

(6/30/23)



HFRI Hedge Fund-Weighted Strategy Returns

(6/30/23)



Source: HFRI

Sources: Bloomberg, Callan, Eurekahedge, S&P Dow Jones Indices

Index Starts off 2023 With a Gain

DEFINED CONTRIBUTION | Scotty Lee

Performance: DC Index Rises 5.3% in 1Q23

- The Callan DC Index™ gained 5.3% in 1Q23, which brought the Index's trailing one-year loss to 5.2%.

Growth Sources: Investment Gains Lead to Rise in Balances

- Balances within the DC Index rose by 5.3% after a 5.8% increase in the previous quarter.
- Investment gains (+5.3%) were the sole driver of the gain, while net flows (+0.03%) had a negligible effect.

Turnover: Net Transfers Increase Again

- Turnover (i.e., net transfer activity levels within DC plans) jumped to 0.70% from the previous quarter's measure of 0.18%. The quarterly turnover figure marked the Index's highest level since 2020, when market volatility was heightened during the onset of the COVID-19 pandemic.

Net Cash Flow Analysis: TDFs Remain in Top Spot

- Target date funds (TDFs) received the largest net inflows in the DC Index, as the asset allocation funds garnered 90.6% of quarterly net flows.

Equity Allocation: Exposure Above Historical Average

- The Index's overall allocation to equity (70.8%) rose from the previous quarter's level (70.1%) and sits above the Index's historical average (68.4%).

Asset Allocation: Capital Preservation Declines

- U.S. large cap (25.7%) and global ex-U.S. equity (5.2%) were among the asset classes with the largest percentage increases in allocation.
- Within capital preservation, stable value (9.2%) had a decrease in allocation from the previous quarter's level (10.0%), which was exacerbated by investor outflows.

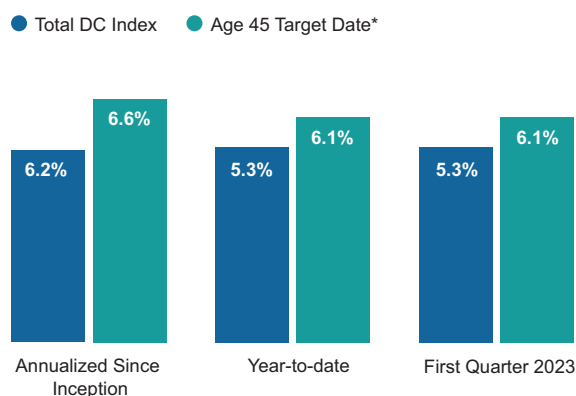
Prevalence of Asset Class: Balanced Funds Rise

- The prevalence of a balanced fund (42.1%) rose by 1.3 percentage points, the first increase in two years.

Underlying fund performance, asset allocation, and cash flows of more than 100 large defined contribution plans representing approximately \$400 billion in assets are tracked in the Callan DC Index.

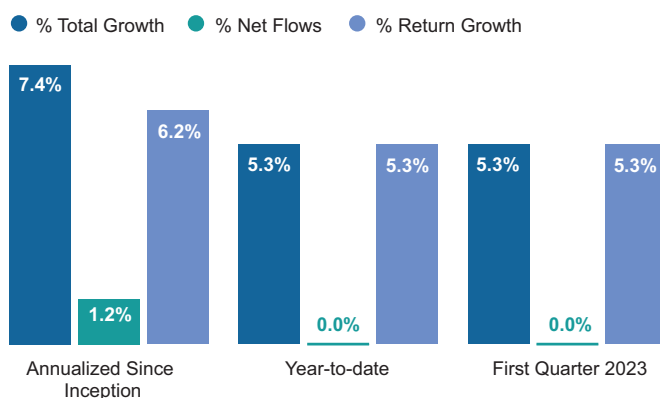
Investment Performance

(3/31/23)



Growth Sources

(3/31/23)



Net Cash Flow Analysis (1Q23)

(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	90.6%
Brokerage Window	5.6%
U.S. Large Cap	-34.0%
Stable Value	-37.7%
Total Turnover**	0.7%

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

** Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

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The *Capital Markets Review* is a quarterly macroeconomic indicator newsletter that provides thoughtful insights on the economy and recent performance in the equity, fixed income, alternatives, real estate, and other capital markets.

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