# Callan

June 30, 2023

North Dakota State Investment Board Pension Funds

Investment Measurement Service Quarterly Review

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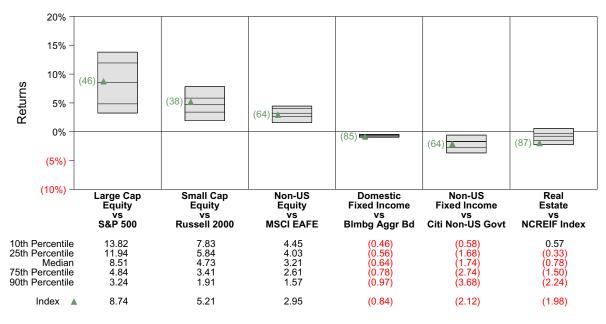
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# Market Overview Active Management vs Index Returns

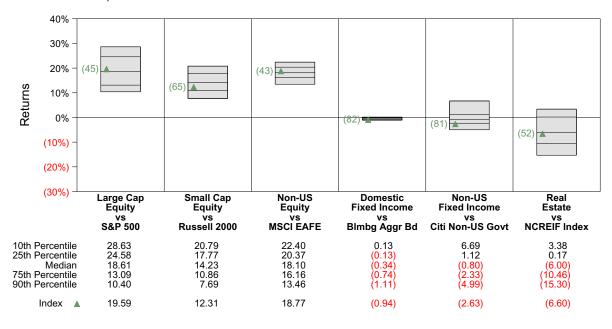
### **Market Overview**

The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

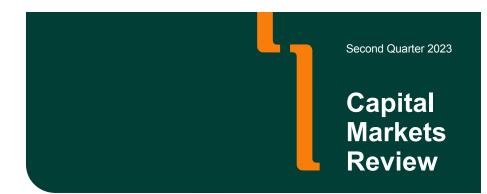
# Range of Separate Account Manager Returns by Asset Class One Quarter Ended June 30, 2023



# Range of Separate Account Manager Returns by Asset Class One Year Ended June 30, 2023









# Is Recession Risk Really Off the Table?

**ECONOMY** 

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

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

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

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

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

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

All U.S. equity indices produced positive PAGE 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

First-half private equity fundraising and PAGE activity continued declining trend, with only IPOs increasing slightly. I Ps 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** 

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

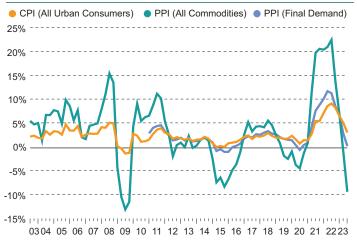
# Quarterly Real GDP Growth (20 Years) 40% 35% 30% 25% 20% 15% 10% 5% 0% -5% -10%

03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 Source: Bureau of Economic Analysis

# Inflation Year-Over-Year

-15% -20%

-25%



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 backstory 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

		Р	eriods	Ended	6/30/23
Index	2Q23	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

<sup>\*</sup>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

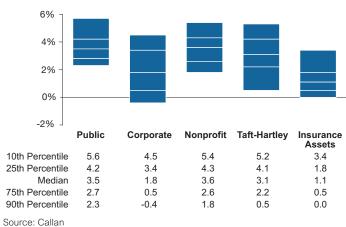
# **Equity Gains Power Positive Returns**

# **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.





# 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
,						

<sup>\*</sup>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 vields.

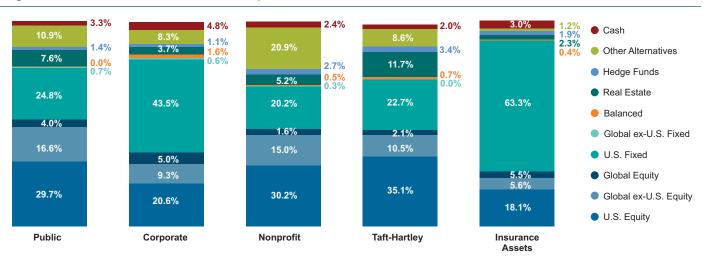
# **Nonprofits**

- 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

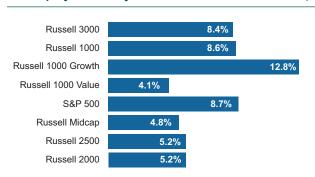
- 10 stocks within the S&P 500 Index contributed 80% of the 16.9% return YTD through 6/30; average appreciation is 82%, and these stocks had an average forward price/earnings ratio of 36x.
- 2Q return for the S&P 500 Index was 8.7%; the equal weight S&P 500 Index returned 4%.
- The YTD return difference 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.

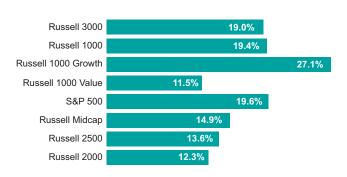
# U.S. Equity: Quarterly Returns

(6/30/23)



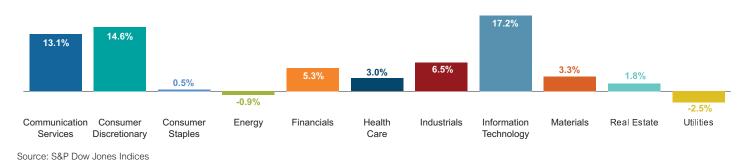
# U.S. Equity: One-Year Returns

(6/30/23)



Sources: FTSE Russell and S&P Dow Jones Indices

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



# **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

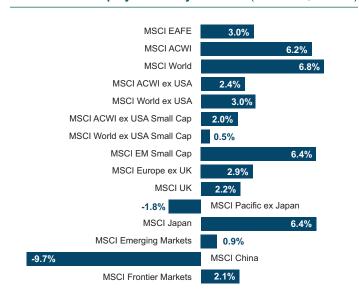
# **Economics**

- 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

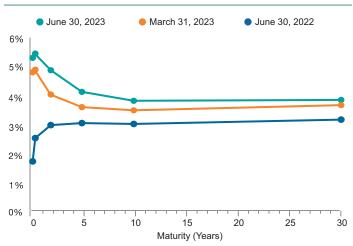
- Credit spreads have not widened materially and are close to historical averages.
- Demand has remained robust with muted issuance.

# **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%)

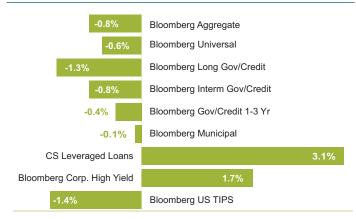
# **U.S. Treasury Yield Curves**



Source: Bloomberg

# **U.S. Fixed Income: Quarterly Returns**

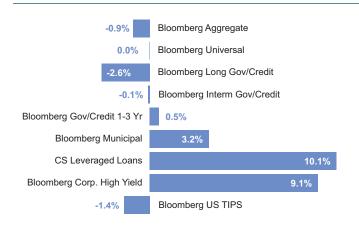
(6/30/23)



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 deprecation
- 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

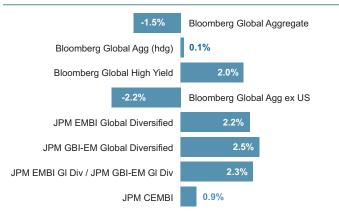
# Change in 10-Year Global Government Bond Yields





Source: Bloomberg

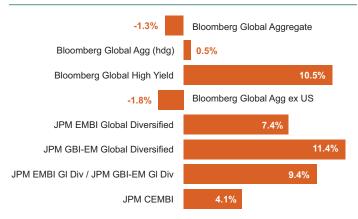
(6/30/23)



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

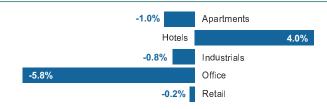
- The NCREIF Property Index, a measure of U.S. institutional real estate assets, fell 2.0% during 2Q23. The income return was 1.0% while the appreciation return was –3.0%.
- Hotels, which represent a small portion of the index, led property sector performance with a gain of 4.0%. Office finished last 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 equitybacked 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\*)

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

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

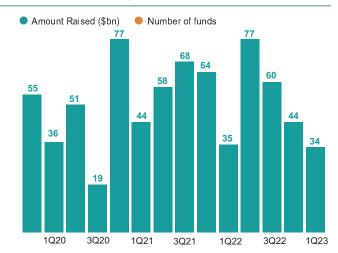
Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of the Capital Markets Review and other Callan publications.

# 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, assetbased 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)





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**

2%

-2%

-4%

10th Percentile

25th Percentile

75th Percentile

90th Percentile

40% Blimmberg Agg

60% ACWI /

Median



Risk

Parity

1.7

1.0

-0.4

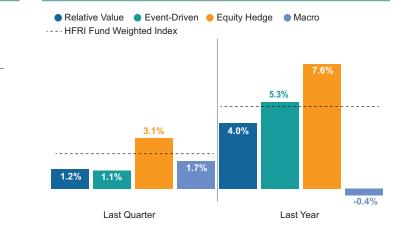
-1.9

-3.4

3.4

# **HFRI Hedge Fund-Weighted Strategy Returns**

(6/30/23)



Source: HFRI

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

Absolute

Return

1.5

1.1

0.4

-0.9

-1.2

3.4

Long

Biased

3.6

3.1

2.2

0.1

-1.0

3.4

# 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.

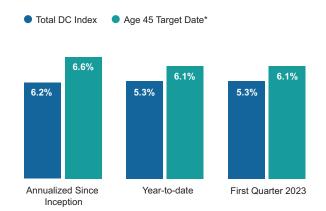
# Prevalence of Asset Class: Balanced Funds Rise

 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.

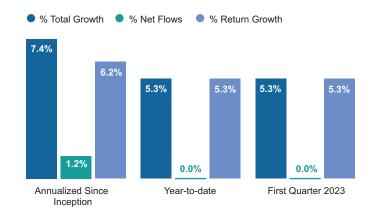
### **Investment Performance**

(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.

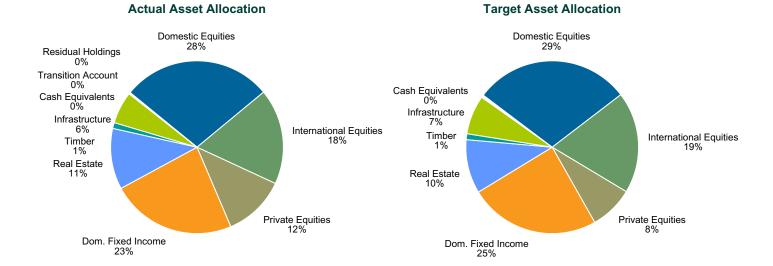
Source: Callan DC Index

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.

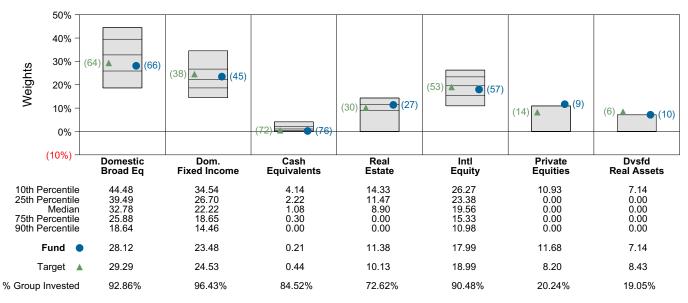
# Actual vs Target Asset Allocation As of June 30, 2023

The top left chart shows the Fund's asset allocation as of June 30, 2023. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.



	\$000s	Weight		Percent	\$000s
Asset Class	Actual	Actual	Target	Difference	Difference
Domestic Equities	2,050,515	28.1%	29.3%	(1.2%)	(85,834)
International Equities	1,307,936	17.9%	19.0%	(1.1%)	(77,100)
Private Equities	852,253	11.7%	8.2%	3.5%	254,039
Dom. Fixed Income	1,712,601	23.5%	24.5%	(1.0%)	(76,286)
Real Estate	830,170	11.4%	10.1%	1.3%	91,556
Timber	83,184	1.1%	1.1%	0.0%	123
Infrastructure	437,920	6.0%	7.3%	(1.3%)	(93,963)
Cash Equivalents	15,222	0.2%	0.4%	(0.2%)	(16,746)
Transition Account	276	0.0%	0.0%	0.0%	276
Residual Holdings	3,934	0.1%	0.0%	0.1%	3,934
Total	7.294.010	100.0%	100.0%		

# Asset Class Weights vs Callan Public Fund Sponsor Database



<sup>\*</sup> Current Quarter Target = 24.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 17.1% Blmbg:Aggregate, 10.1% NCREIF Total Index, 8.2% Private Equity, 7.4% Blmbg HY Corp 2% Iss Cap, 4.4% Russell 2000 Index, 3.6% NCREIF NFI-ODCE Eq Wt Net, 3.6% CPI All Urban Cons lagged 3 months, 1.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

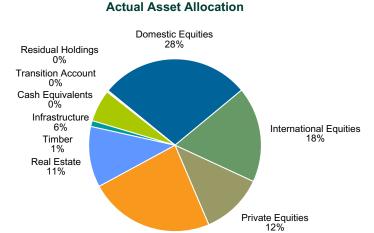


# Actual vs Corridor Target Allocation As of June 30, 2023

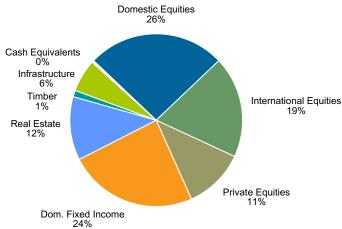
Dom. Fixed Income

23%

The top left chart shows the Fund's asset allocation as of June 30, 2023. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.

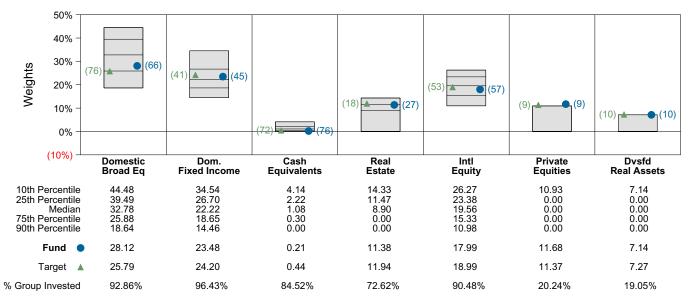


# **Target Asset Allocation**



	\$000s	Weight		Percent	\$000s
Asset Class	Actual	Actual	Target	Difference	Difference
Domestic Equities	2,050,515	28.1%	25.8%	2.3%	169,035
International Equities	1,307,936	17.9%	19.0%	(1.1%)	(77,100)
Private Equities	852,253	11.7%	11.4%	0.3%	`23,019′
Dom. Fixed Income	1,712,601	23.5%	24.2%	(0.7%)	(52,437)
Real Estate	830,170	11.4%	11.9%	(0.6%)	(40,815)
Timber	83,184	1.1%	1.2%	(0.0%)	`(3,165)
Infrastructure	437,920	6.0%	6.1%	(0.1%)	(6,001)
Cash Equivalents	15,222	0.2%	0.4%	(0.2%)	(16,746)
Transition Account	276	0.0%	0.0%	0.0%	276
Residual Holdings	3,934	0.1%	0.0%	0.1%	3,934
Total	7.294.010	100.0%	100.0%		

# Asset Class Weights vs Callan Public Fund Sponsor Database



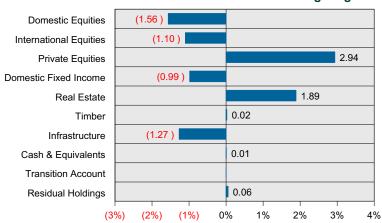
<sup>\*</sup> Current Quarter Target = 21.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 16.9% Blmbg:Aggregate, 11.9% NCREIF Total Index, 11.4% Private Equity, 7.3% Blmbg HY Corp 2% Iss Cap, 3.9% Russell 2000 Index, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



# **Quarterly Total Fund Relative Attribution - June 30, 2023**

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

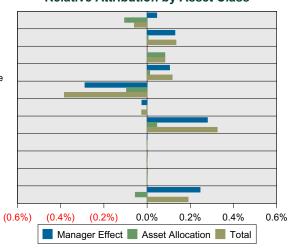




# **Actual vs Target Returns**

# **Domestic Equities** International Equities **Private Equities** Domestic Fixed Income Real Estate Timber Infrastructure Cash & Equivalents Transition Account Residual Holdings Total (20%) (15%) (10%) (5%)5% 10% 15% (0.6%)(0.4%)(0.2%)Actual Target

# **Relative Attribution by Asset Class**



# Relative Attribution Effects for Quarter ended June 30, 2023

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	27%	29%	8.24%	8.08%	0.05%	(0.10%)	(0.06%)
International Equities	18%	19%	3.12%	2.38%	0.13%	0.00%	0.13%
Private Equities	11%	8%	5.74%	5.74%	0.00%	0.08%	0.08%
Domestic Fixed Income	24%	25%	0.36%	(0.06%)	0.10%	0.01%	0.12%
Real Estate	12%	10%	(4.30%)	(1.98%)	(0.29%)	(0.10%)	(0.38%)
Timber	1%	1%	(0.34%)	`1.71%´	(0.02%)	(0.00%)	(0.03%)
Infrastructure	6%	7%	`3.93%′	(0.69%)	0.28%	`0.05%	`0.33%
Cash & Equivalents	0%	0%	1.26%	`1.17%´	0.00%	0.00%	0.00%
Transition Account	0%	0%	(13.18%)	(13.18%)	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	5.24%	5.24%	0.00%	0.00%	0.00%
Total			3.22% =	3.03% +	0.25% +	(0.06%)	0.19%

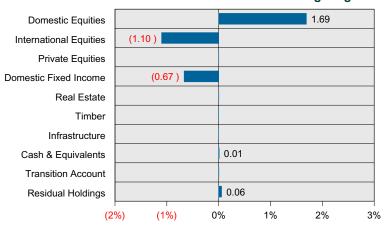
<sup>\*</sup> Current Quarter Target = 24.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 17.1% Blmbg:Aggregate, 10.1% NCREIF Total Index, 8.2% Private Equity, 7.4% Blmbg HY Corp 2% Iss Cap, 4.4% Russell 2000 Index, 3.6% NCREIF NFI-ODCE Eq Wt Net, 3.6% CPI All Urban Cons lagged 3 months, 1.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



# Quarterly Total Fund Relative Attribution - Corridor Target - June 30, 2023

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.





# **Actual vs Target Returns**

# Domestic Equities International Equities Private Equities Domestic Fixed Income Real Estate Timber

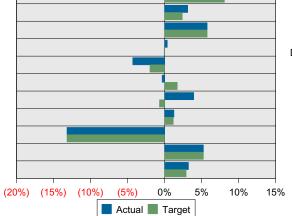
(0.2%)

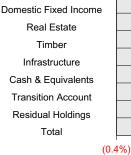
0.0%

0.2%

Manager Effect Asset Allocation Total

**Relative Attribution by Asset Class** 







	Effective Actual	Effective Target	Actual	Target	Manager	Asset	Total Relative
Asset Class	Weight	Weight	Return	Return	Effect	Allocation	Return
Domestic Equities	27%	26%	8.24%	8.08%	0.05%	0.07%	0.11%
International Equities	18%	19%	3.12%	2.38%	0.13%	0.00%	0.13%
Private Equities	11%	11%	5.74%	5.74%	0.00%	0.00%	0.00%
Domestic Fixed Income	24%	24%	0.36%	(0.06%)	0.10%	0.00%	0.11%
Real Estate	12%	12%	(4.30%)	(1.98%)	(0.29%)	(0.00%)	(0.29%)
Timber	1%	1%	(0.34%)	`1.71%´	(0.02%)	(0.00%)	(0.02%)
Infrastructure	6%	6%	3.93%	(0.69%)	0.28%	(0.00%)	0.28%
Cash & Equivalents	0%	0%	1.26%	1.17%	0.00%	0.00%	0.00%
Transition Account	0%	0%	(13.18%)	(13.18%)	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	5.24%	5.24%	0.00%	0.00%	0.00%
Total			3.22% =	2.90% +	0.25% +	0.07%	0.32%

<sup>\*</sup> Current Quarter Target = 21.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 16.9% Blmbg:Aggregate, 11.9% NCREIF Total Index, 11.4% Private Equity, 7.3% Blmbg HY Corp 2% Iss Cap, 3.9% Russell 2000 Index, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



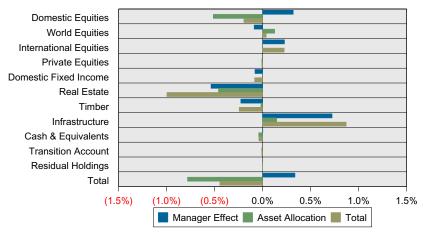
0.4%

0.6%

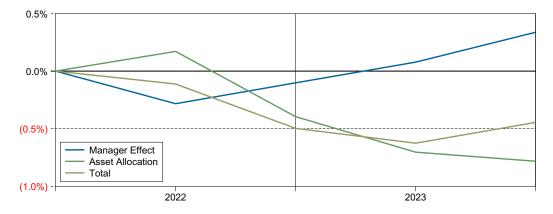
# Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

# **One Year Relative Attribution Effects**



# **Cumulative Relative Attribution Effects**



# **One Year Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	26%	27%	19.85%	18.51%	0.32%	(0.51%)	(0.19%)
World Equities	3%	2%	-	-	(0.09%)	0.13%	0.04%
International Equities	17%	18%	13.98%	12.40%	0.23%	(0.00%)	0.22%
Private Equities	10%	8%	9.25%	9.25%	0.00%	(0.01%)	(0.01%)
Domestic Fixed Income	24%	25%	1.68%	2.03%	(0.08%)	(0.00%)	(0.08%)
Real Estate	13%	10%	(10.50%)	(6.60%)	(0.54%)	(0.46%)	(1.00%)
Timber	1%	1%	`(5.29%)	11.13%	(0.23%)	(0.02%)	(0.24%)
Infrastructure	6%	7%	`8.92%´	(3.04%)	0.72%	0.15%	`0.87%
Cash & Equivalents	1%	0%	3.92%	`3.59%	0.00%	(0.04%)	(0.04%)
Transition Account	0%	0%	-	-	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			8.00% =	8.44% +	0.34% +	(0.78%)	(0.45%)

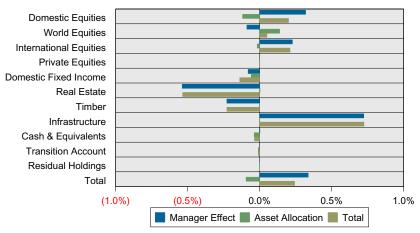
<sup>\*</sup> Current Quarter Target = 24.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 17.1% Blmbg:Aggregate, 10.1% NCREIF Total Index, 8.2% Private Equity, 7.4% Blmbg HY Corp 2% Iss Cap, 4.4% Russell 2000 Index, 3.6% NCREIF NFI-ODCE Eq Wt Net, 3.6% CPI All Urban Cons lagged 3 months, 1.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



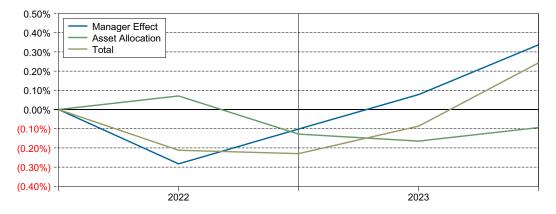
# Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

# **One Year Relative Attribution Effects**



# **Cumulative Relative Attribution Effects**



# **One Year Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	26%	25%	19.85%	18.51%	0.32%	(0.12%)	0.20%
World Equities	3%	2%	-	-	(0.09%)	0.14%	0.05%
International Equities	17%	18%	13.98%	12.40%	0.23%	(0.02%)	0.21%
Private Equities	10%	10%	9.25%	9.25%	0.00%	0.00%	0.00%
Domestic Fixed Income	24%	24%	1.68%	2.03%	(0.08%)	(0.06%)	(0.14%)
Real Estate	13%	13%	(10.50%)	(6.60%)	(0.54%)	0.00%	(0.53%)
Timber	1%	1%	`(5.29%)	11.13%′	(0.23%)	0.00%	(0.23%)
Infrastructure	6%	6%	8.92%	(3.04%)	0.72%	0.00%	0.72%
Cash & Equivalents	1%	0%	3.92%	3.59%	0.00%	(0.04%)	(0.04%)
Transition Account	0%	0%	-	-	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			8.00% =	7.75% +	0.34% +	(0.09%)	0.24%

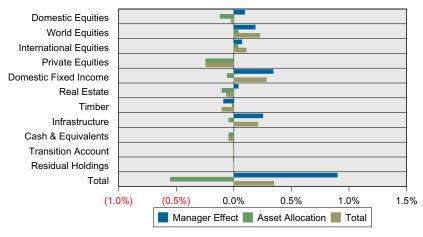
<sup>\*</sup> Current Quarter Target = 21.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 16.9% Blmbg:Aggregate, 11.9% NCREIF Total Index, 11.4% Private Equity, 7.3% Blmbg HY Corp 2% Iss Cap, 3.9% Russell 2000 Index, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



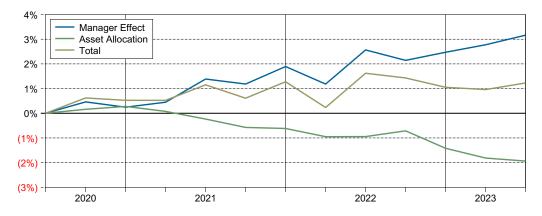
# Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

# **Three Year Annualized Relative Attribution Effects**



# **Cumulative Relative Attribution Effects**



# **Three Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	25%	24%	14.04%	13.76%	0.09%	(0.12%)	(0.02%)
World Equities	9%	8%	-	-	0.19%	0.04%	0.23%
International Equities	16%	16%	7.66%	7.26%	0.07%	0.04%	0.11%
Private Equities	8%	8%	22.01%	22.01%	0.00%	(0.24%)	(0.24%)
Domestic Fixed Income	24%	24%	(0.62%)	(1.84%)	0.34%	(0.06%)	0.28%
Real Estate	11%	10%	7.19%	6.79%	0.04%	(0.10%)	(0.06%)
Timber	2%	1%	2.16%	8.67%	(0.09%)	(0.02%)	(0.10%)
Infrastructure	5%	7%	10.75%	6.49%	0.25%	(0.04%)	0.21%
Cash & Equivalents	1%	0%	1.40%	1.27%	0.00%	(0.04%)	(0.04%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			8.75% =	8.41% +	0.90% +	(0.55%)	0.35%

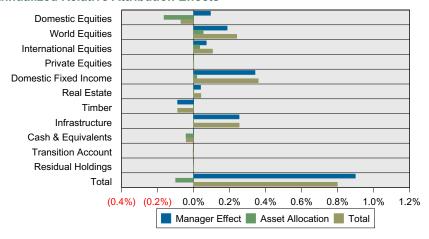
<sup>\*</sup> Current Quarter Target = 24.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 17.1% Blmbg:Aggregate, 10.1% NCREIF Total Index, 8.2% Private Equity, 7.4% Blmbg HY Corp 2% Iss Cap, 4.4% Russell 2000 Index, 3.6% NCREIF NFI-ODCE Eq Wt Net, 3.6% CPI All Urban Cons lagged 3 months, 1.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



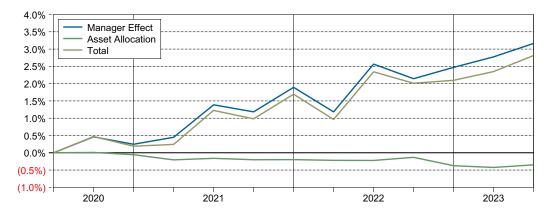
# Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

# **Three Year Annualized Relative Attribution Effects**



# **Cumulative Relative Attribution Effects**



# Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	25%	25%	14.04%	13.76%	0.09%	(0.16%)	(0.07%)
World Equities	9%	8%		-	0.19%	0.05%	0.24%
International Equities	16%	16%	7.66%	7.26%	0.07%	0.03%	0.11%
Private Equities	8%	8%	22.01%	22.01%	0.00%	0.00%	0.00%
Domestic Fixed Income	24%	25%	(0.62%)	(1.84%)	0.34%	0.02%	0.36%
Real Estate	11%	11%	`7.19%	6.79%	0.04%	0.00%	0.04%
Timber	2%	2%	2.16%	8.67%	(0.09%)	0.00%	(0.09%)
Infrastructure	5%	5%	10.75%	6.49%	0.25%	0.00%	0.25%
Cash & Equivalents	1%	0%	1.40%	1.27%	0.00%	(0.04%)	(0.04%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%′
Total			8.75% =	7.96% +	0.90% +	(0.10%)	0.80%

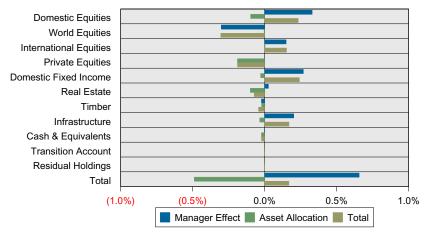
<sup>\*</sup> Current Quarter Target = 21.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 16.9% Blmbg:Aggregate, 11.9% NCREIF Total Index, 11.4% Private Equity, 7.3% Blmbg HY Corp 2% Iss Cap, 3.9% Russell 2000 Index, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



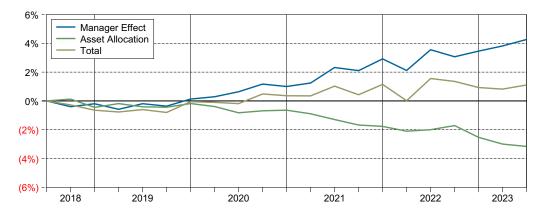
# Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

# **Five Year Annualized Relative Attribution Effects**



# **Cumulative Relative Attribution Effects**



# **Five Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	23%	11.87%	10.37%	0.33%	(0.10%)	0.23%
World Equities	12%	11%	-	-	(0.30%)	(0.00%)	(0.30%)
International Equities	16%	16%	4.45%	3.52%	0.15%	0.00%	0.15%
Private Equities	6%	7%	15.25%	15.25%	0.00%	(0.19%)	(0.19%)
Domestic Fixed Income	24%	24%	2.61%	1.61%	0.27%	(0.03%)	0.24%
Real Estate	11%	10%	6.14%	5.90%	0.03%	(0.10%)	(0.07%)
Timber	2%	2%	3.36%	5.80%	(0.02%)	(0.02%)	(0.04%)
Infrastructure	5%	6%	8.50%	4.98%	0.20%	(0.03%)	0.17%
Cash & Equivalents	1%	0%	1.59%	1.55%	0.00%	(0.02%)	(0.02%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%′
Total			7.12% =	6.95%	+ 0.66% +	(0.49%)	0.17%

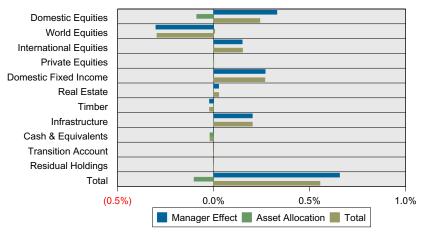
<sup>\*</sup> Current Quarter Target = 24.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 17.1% Blmbg:Aggregate, 10.1% NCREIF Total Index, 8.2% Private Equity, 7.4% Blmbg HY Corp 2% Iss Cap, 4.4% Russell 2000 Index, 3.6% NCREIF NFI-ODCE Eq Wt Net, 3.6% CPI All Urban Cons lagged 3 months, 1.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



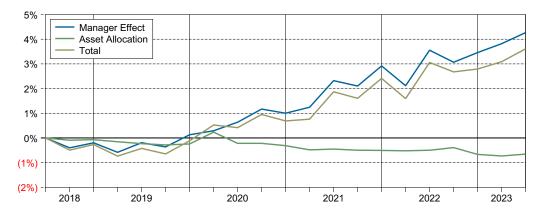
# **Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023**

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

# **Five Year Annualized Relative Attribution Effects**



# **Cumulative Relative Attribution Effects**



# **Five Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	24%	11.87%	10.37%	0.33%	(0.09%)	0.24%
World Equities	12%	11%	-	-	(0.30%)	0.01%	(0.30%)
International Equities	16%	16%	4.45%	3.52%	0.15%	0.00%	0.15%
Private Equities	6%	6%	15.25%	15.25%	0.00%	0.00%	0.00%
Domestic Fixed Income	24%	24%	2.61%	1.61%	0.27%	(0.00%)	0.27%
Real Estate	11%	11%	6.14%	5.90%	0.03%	0.00%	0.03%
Timber	2%	2%	3.36%	5.80%	(0.02%)	0.00%	(0.02%)
Infrastructure	5%	5%	8.50%	4.98%	0.20%	0.00%	0.20%
Cash & Equivalents	1%	0%	1.59%	1.55%	0.00%	(0.02%)	(0.02%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%′
Total			7.12% =	6.56%	+ 0.66% +	(0.10%)	0.55%

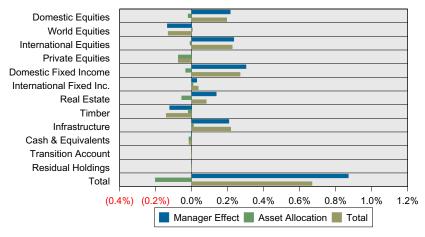
<sup>\*</sup> Current Quarter Target = 21.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 16.9% Blmbg:Aggregate, 11.9% NCREIF Total Index, 11.4% Private Equity, 7.3% Blmbg HY Corp 2% Iss Cap, 3.9% Russell 2000 Index, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



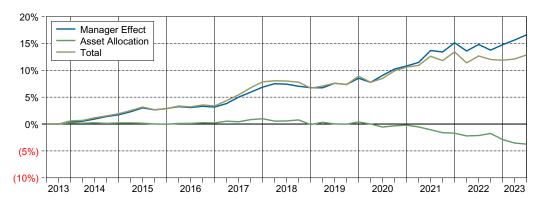
# Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

# **Ten Year Annualized Relative Attribution Effects**



# **Cumulative Relative Attribution Effects**



# Ten Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	22%	12.78%	11.79%	0.21%	(0.02%)	0.20%
World Equities	14%	14%	-	-	(0.13%)	0.00%	(0.13%)
International Equities	15%	15%	6.33%	4.82%	0.23%	(0.01%)	0.23%
Private Equities	5%	6%	8.07%	8.07%	0.00%	(0.07%)	(0.07%)
Domestic Fixed Income	21%	21%	3.73%	2.38%	0.30%	(0.03%)	0.27%
International Fixed Inc.	2%	2%	-	-	0.03%	0.01%	0.04%
Real Estate	11%	10%	9.22%	7.82%	0.14%	(0.06%)	0.08%
Timber	3%	3%	1.49%	5.90%	(0.12%)	(0.02%)	(0.14%)
Infrastructure	5%	6%	7.41%	3.16%	0.21%	0.01%	0.22%
Cash & Equivalents	1%	1%	1.05%	0.98%	0.00%	(0.01%)	(0.01%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			7.86% =	7.19% +	+ 0.87% +	(0.20%)	0.67%

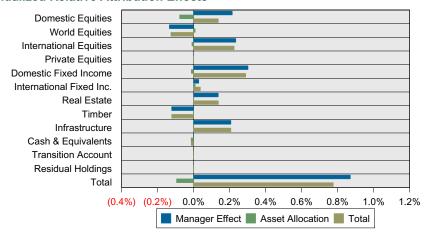
<sup>\*</sup> Current Quarter Target = 24.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 17.1% Blmbg:Aggregate, 10.1% NCREIF Total Index, 8.2% Private Equity, 7.4% Blmbg HY Corp 2% Iss Cap, 4.4% Russell 2000 Index, 3.6% NCREIF NFI-ODCE Eq Wt Net, 3.6% CPI All Urban Cons lagged 3 months, 1.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



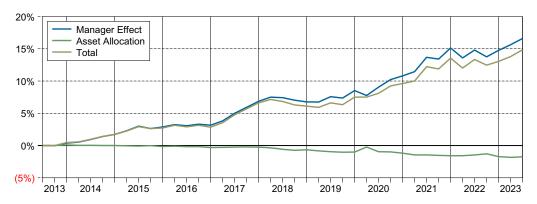
# **Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023**

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

# **Ten Year Annualized Relative Attribution Effects**



# **Cumulative Relative Attribution Effects**



# Ten Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	24%	12.78%	11.79%	0.21%	(0.08%)	0.14%
World Equities	14%	14%	-	- '''	(0.13%)	0.01%	(0.13%)
International Equities	15%	15%	6.33%	4.82%	0.23%	(0.01%)	0.23%
Private Equities	5%	5%	8.07%	8.07%	0.00%	0.00%	0.00%
Domestic Fixed Income	21%	22%	3.73%	2.38%	0.30%	(0.01%)	0.29%
International Fixed Inc.	2%	2%	-	-	0.03%	0.01%	0.04%
Real Estate	11%	11%	9.22%	7.82%	0.14%	0.00%	0.14%
Timber	3%	3%	1.49%	5.90%	(0.12%)	0.00%	(0.12%)
Infrastructure	5%	5%	7.41%	3.16%	0.21%	(0.00%)	0.21%
Cash & Equivalents	1%	1%	1.05%	0.98%	0.00%	(0.01%)	(0.01%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			7.86% =	7.09% +	0.87% +	(0.09%)	0.78%

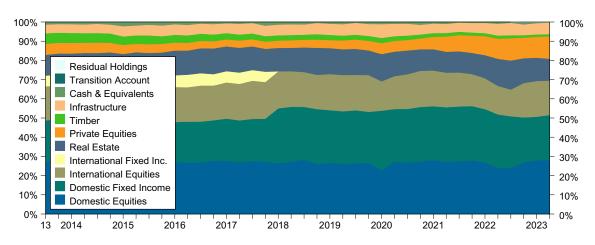
<sup>\*</sup> Current Quarter Target = 21.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 16.9% Blmbg:Aggregate, 11.9% NCREIF Total Index, 11.4% Private Equity, 7.3% Blmbg HY Corp 2% Iss Cap, 3.9% Russell 2000 Index, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



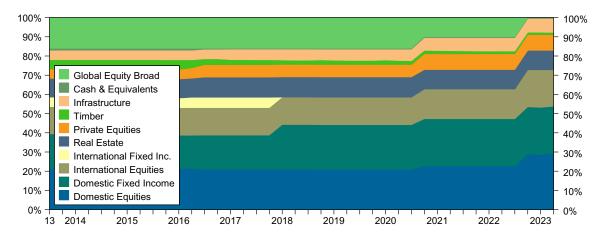
# **Actual vs Target Historical Asset Allocation**

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

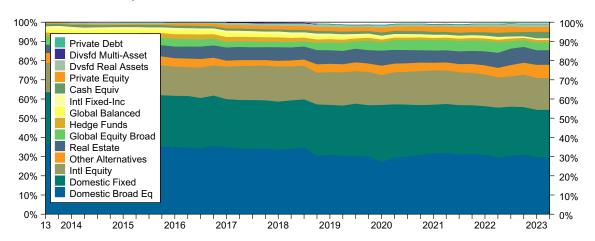
# **Actual Historical Asset Allocation**



# **Target Historical Asset Allocation**



# Average Callan Public Fund Sponsor Database Historical Asset Allocation



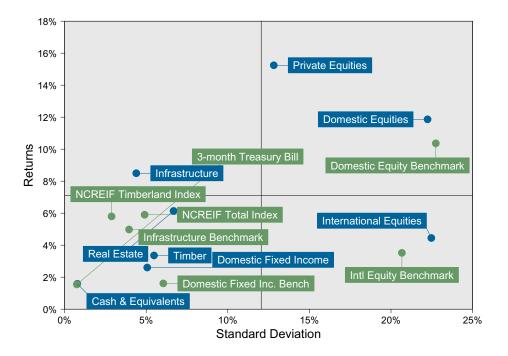
<sup>\*</sup> Current Quarter Target = 24.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 17.1% Blmbg:Aggregate, 10.1% NCREIF Total Index, 8.2% Private Equity, 7.4% Blmbg HY Corp 2% Iss Cap, 4.4% Russell 2000 Index, 3.6% NCREIF NFI-ODCE Eq Wt Net, 3.6% CPI All Urban Cons lagged 3 months, 1.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



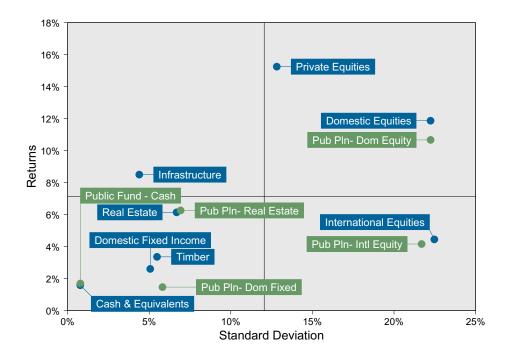
# **Asset Class Risk and Return**

The charts below show the five year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

# Five Year Annualized Risk vs Return Asset Classes vs Benchmark Indices



# Five Year Annualized Risk vs Return Asset Classes vs Asset Class Median

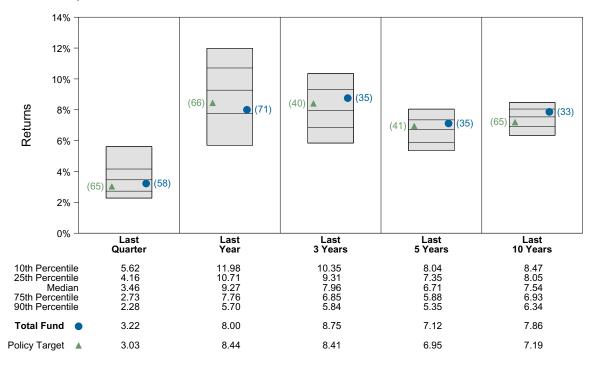




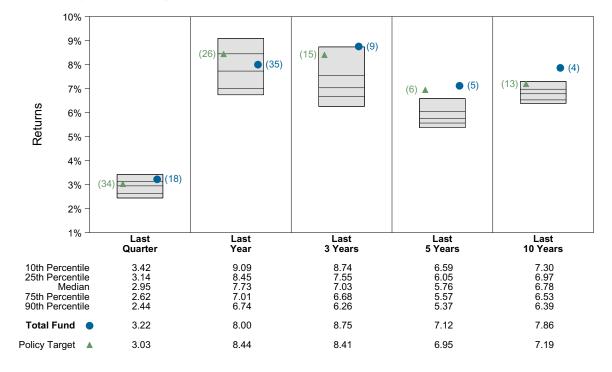
# **Total Fund Ranking**

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended June 30, 2023. The first chart is a standard unadjusted ranking. In the second chart each fund in the database is adjusted to have the same historical asset allocation as that of the Total Fund.

### **Callan Public Fund Sponsor Database**



### **Asset Allocation Adjusted Ranking**

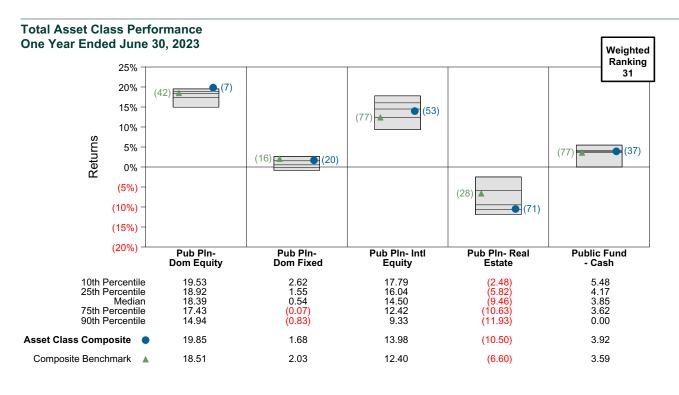


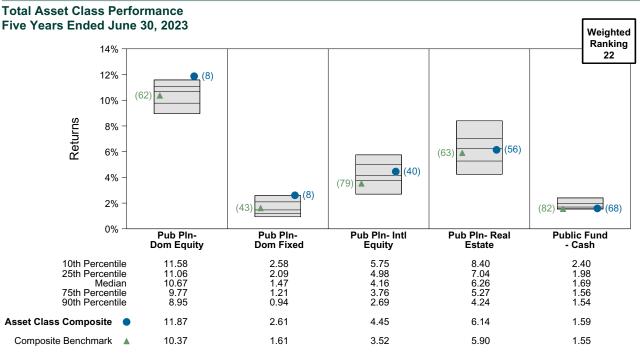
<sup>\*</sup> Current Quarter Target = 24.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 17.1% Blmbg:Aggregate, 10.1% NCREIF Total Index, 8.2% Private Equity, 7.4% Blmbg HY Corp 2% Iss Cap, 4.4% Russell 2000 Index, 3.6% NCREIF NFI-ODCE Eq Wt Net, 3.6% CPI All Urban Cons lagged 3 months, 1.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



# **Asset Class Rankings**

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.





<sup>\*</sup> Current Quarter Target = 24.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 17.1% Blmbg:Aggregate, 10.1% NCREIF Total Index, 8.2% Private Equity, 7.4% Blmbg HY Corp 2% Iss Cap, 4.4% Russell 2000 Index, 3.6% NCREIF NFI-ODCE Eq Wt Net, 3.6% CPI All Urban Cons lagged 3 months, 1.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



# **Investment Manager Asset Allocation**

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2023, with the distribution as of March 31, 2023. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

# **Asset Distribution Across Investment Managers**

	June 30, 2023				March 31,	2023
M	arket Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Global Equities	\$4,210,980,055	57.73%	\$(119,285,652)	\$242,127,404	\$4,088,138,303	57.58%
Public Equities	\$3,358,727,008	46.05%	\$(149,615,704)	\$196,701,782	\$3,311,640,930	46.64%
Domestic Equities	\$2,050,515,000	28.11%	\$(94,127,786)	\$156,652,354	\$1,987,990,432	28.00%
	\$1,747,243,870	23.95%	\$(88,629,553)	\$146,549,950	\$1,689,323,473	23.79%
LA Capital LCG	57,199,457	0.78%	0	6,910,021	50,289,436	0.71%
L.A. Capital Enhanced	764,001,689	10.47%	0	68,391,339	695,610,350	9.80%
NTAM Quant Enh R1000	287,155,272	3.94%	(629,553)	20,337,241	267,447,584	3.77%
NTAM R1000 Index	351,094,734	4.81%	(88,000,000)	28,285,409	410,809,325	5.79%
Parametric-Clifton Enh R1000	287,792,718	3.95%	0	22,625,939	265,166,778	3.73%
Small Cap	\$303,271,130	4.16%	\$(5,498,233)	\$10,102,404	\$298,666,959	4.21%
Atlanta Capital	101,082,823	1.39%	0	2,425,058	98,657,765	1.39%
Riverbridge Small Cap Growth	97,769,305	1.34%	(346,771)	6,026,550	92,089,526	1.30%
Sycamore Small Cap Value	93,338,702	1.28%	(151,461)	1,192,652	92,297,512	1.30%
NTAM R2000 Index	11,080,300	0.15%	(5,000,000)	458,144	15,622,156	0.22%
Total International Equity	\$1,307,936,363	17.93%	\$(55,487,919)	\$40,091,290	\$1,323,332,991	18.64%
International All Cap	\$516,967,599	7.09%	\$(12,538,815)	\$22,619,264	\$506,887,149	7.14%
William Blair Int'l Leaders	196,302,611	2.69%	(184,627)	5,825,236	190,662,003	2.69%
Arrowstreet ACWI ex US	314,392,013	4.31%	(354,188)	16,450,267	298,295,935	4.20%
State St MSCI ACWI exUS	6,272,974	0.09%	(12,000,000)	343,762	17,929,212	0.25%
Developed Intl Large Cap	\$491,192,063	6.73%	\$(33,018,488)	\$16,134,557	\$508,075,994	7.16%
NTAM World Ex US	86,950,576	1.19%	(33,018,488)	3,368,379	116,600,685	1.64%
State St MSCI World exUS	404,241,487	5.54%	0	12,766,178	391,475,309	5.51%
Developed Intl Small Cap	\$79,444,213	1.09%	\$(9,082,496)	\$815,848	\$87,710,861	1.24%
DFA Intl Small Cap Value	35,813,759	0.49%	0	310,574	35,503,185	0.50%
Wellington Intl SM Cap	34,609,134	0.47%	(80,257)	251,187	34,438,204	0.49%
State St MSCI exUS Small	9,021,320	0.12%	(9,002,239)	254,087	17,769,472	0.25%
Emerging Markets	\$220,332,489	3.02%	\$(848,120)	\$521,622	\$220,658,987	3.11%
Axiom Emerging Markets	149,315,108	2.05%	(248,120)	(1,615,572)	151,178,800	2.13%
DFA EM All Cap Core	60,149,533	0.82%	60,149,534	(2)	-	-
DFA Emerging Mkts SmallCap	2	0.00%	(54,749,535)	2,102,990	52,646,547	0.74%
State St MSCI Em Mkts	0	0.00%	(16,867,871)	34,231	16,833,640	0.24%
State St MSCI EM China	3,260,361	0.04%	3,260,361	(0)	=	-
State St MSCI EM ex China	7,607,485	0.10%	7,607,510	(25)	-	-
Transition Account	\$275,645	0.00%	\$0	\$(41,861)	\$317,506	0.00%
Private Equity	\$852,253,047	11.68%	\$30,330,052	\$45,425,622	\$776,497,373	10.94%
Total ASP (Brinson) Fds 1998-2003	346,304	0.00%	0	2,848	343,456	0.00%
Total ASP (Brinson) Non-US Fds 1999-2004		0.00%	0	12,201	176,634	0.00%
Adams Street 2008 Non-US Partnership Fd	4,194,135	0.06%	0	248,362	3,945,773	0.06%
Adams Street Direct Co-Invest Fund 2006	1	0.00%	(16,741)	357	16,385	0.00%
Total Adams Street 2010 Funds	8,696,680	0.12%	(251,243)	312,304	8,635,619	0.12%
Adams Street 2015 Global Fund	40,241,981	0.55%	(1,124,703)	2,430,859	38,935,825	0.55%
Adams Street 2016 Global Fund	39,034,275	0.54%	0	2,581,461	36,452,814	0.51%
Adams Street 2017 Global Fund	82,254,814	1.13%	0	4,531,786	77,723,028	1.09%
Adams Street 2018 Global Fund	76,807,527	1.05%	0	4,151,834	72,655,693	1.02%
Adams Street 2019 Global Fund	67,724,489	0.93%	2,112,500	3,988,984	61,623,005	0.87%
Adams Street 2020 Global Fund	45,634,467	0.63%	2,820,000	2,542,621	40,271,846	0.57%
Adams Street 2021 Global Fund	26,268,859	0.36%	3,240,000	1,992,862	21,035,997	0.30%
BlackRock PEP	233,092,627	3.20%	3,809,491	10,646,900	218,636,236	3.08%
Blackrock PEP 2020	98,578,961	1.35%	13,157,413	5,733,310	79,688,238	1.12%
Sixth Street Partners - TAO Private Equity Misc Funds*	101,284,318	1.39%	8,351,161	6,470,349	86,462,808 29,894,016	1.22%
Frivate Equity Misc Fullus	27,904,774	0.38%	(1,767,826)	(221,416)	29,094,010	0.42%

<sup>\*</sup> Comprised of Matlin Patterson II, Matlin Patterson III, InvestAmerica Lewis & Clark, InvestAmerica L&C II, Corsair III, Capital Intl Fd V, Capital Intl Fd VI, EIG, Quantum Energy Partners, Hearthstone MSII, Hearthstone MSIII.



# **Investment Manager Asset Allocation**

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2023, with the distribution as of March 31, 2023. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

# **Asset Distribution Across Investment Managers**

Market Value \$1,712,600,680	Weight	Net New Inv.	Inv. Return	Market Value	Weiaht
\$1,712,600,680	00 400/			iviai ket vaiue	vveigni
	23.48%	\$96,571,881	\$5,859,254	\$1,610,169,546	22.68%
\$1,712,600,680	23.48%	\$96,571,881	\$5,859,254	\$1,610,169,546	22.68%
\$1,208,876,073	16.57%	\$94,796,559	\$(7,324,915)	\$1,121,404,430	15.79%
49,897,077	0.68%	50,013,754	(116,677)	_	-
111.014.120	1.52%	(92.540)		110.156.403	1.55%
			,		1.46%
					3.96%
					4.06%
					1.79%
					0.49%
		•			2.49%
0	0.00%	53,846	(100,706)	46,861	0.00%
\$503,724,607	6.91%	\$1,775,322	\$13,184,169	\$488,765,116	6.88%
168,050,917	2.30%	0	7,987,884	160,063,033	2.25%
186,945,285	2.56%	(16,500,000)	4,019,806	199,425,479	2.81%
1	0.00%	(23,637)	664	22,974	0.00%
796	0.00%	(52,239)	483	52.552	0.00%
				. ,	1.78%
2,303,651	0.03%	0	(257,756)	2,561,407	0.04%
\$1,351,273,540	18.53%	\$9,219,866	\$(20,757,349)	\$1,362,811,022	19.19%
\$830 169 826	11 38%	\$8 313 107	\$(37,072,476)	\$858 929 194	12.10%
			1 1 1 1		6.03%
					0.54%
		-			0.25%
					0.03%
					0.96%
			(6,527,760)		4.28%
610,103	0.01%	0	(2,441)	612,544	0.01%
\$521,103,714	7.14%	\$906,759	\$16,315,127	\$503,881,828	7.10%
\$437,919,603	6.00%	\$3,558,759	\$16,596,350	\$417,764,494	5.88%
68,325,555	0.94%	(2,929,628)	2,117,440	69,137,743	0.97%
17.785.521	0.24%	3.248.465	1.263.669	13.273.387	0.19%
					0.22%
					1.77%
					0.14%
					0.31%
					0.41%
					1.11%
61,307,499	0.84%	6,035,477	1,732,713	53,539,309	0.75%
\$83,184,111	1.14%	\$(2,652,000)	\$(281,223)	\$86,117,334	1.21%
23,303,731	0.32%	(600,000)	491,037	23,412,694	0.33%
59,880,380	0.82%	(2,052,000)	(772,260)	62,704,640	0.88%
\$15,222,248	0.21%	\$(20,360,424)	\$454,704	\$35,127,969	0.49%
14,999,784	0.21%		320,663		0.34%
222,464	0.00%	(10,800,000)	134,040	10,888,424	0.15%
\$3,933,847	0.05%	\$(9,123)	\$196,584	\$3,746,386	0.05%
\$7,294,010,370	100.0%	\$(33,863,453)	\$227,880,597	\$7,099,993,226	100.0%
	\$1,208,876,073 49,897,077 111,014,120 53,111,784 279,528,666 286,455,854 198,236,914 54,430,385 176,201,274 0 \$503,724,607 168,050,917 186,945,285 1 796 146,423,957 2,303,651 \$1,351,273,540 \$830,169,826 400,096,432 42,710,901 16,464,092 1,401,849 71,507,618 297,378,832 610,103 \$521,103,714 \$437,919,603 68,325,555 17,785,521 16,164,949 130,521,295 10,290,641 21,389,377 32,506,016 79,628,750 61,307,499 \$83,184,111 23,303,731 59,880,380 \$15,222,248 14,999,784 222,464 \$3,933,847	\$1,208,876,073 49,897,077 0.68% 111,014,120 1.52% 53,111,784 0.73% 279,528,666 3.83% 286,455,854 198,236,914 2.72% 54,430,385 0.75% 176,201,274 2.42% 0.00%  \$503,724,607 6.91% 168,050,917 2.30% 176,945,285 2.56% 1 0.00% 796 0.00% 146,423,957 2.01% 2,303,651 0.03%  \$1,351,273,540 18.53%  \$830,169,826 400,096,432 42,710,901 0.59% 1,401,849 0.02% 71,507,618 0.98% 297,378,832 4.08% 610,103 0.01%  \$521,103,714 7.14%  \$437,919,603 68,325,555 0.94% 17,785,521 0.24% 16,164,949 0.22% 130,521,295 1.79% 10,290,641 0.14% 21,389,377 0.29% 61,307,499 0.84%  \$83,184,111 23,303,731 0.32% 59,880,380 0.82%  \$15,222,248 14,999,784 0.21% 222,464 0.00% \$3,933,847 0.05%	\$1,208,876,073	\$1,208,876,073	\$1,208,876,073



The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	Last	Last	Last 3	Last 5	Last 10
	Quarter	Year	Years	Years	Years
Global Equities	Quartor				100.0
Gross	6.11%	15.76%	13.31%	9.09%	9.74%
Net	6.05%	15.49%	13.03%	8.84%	9.45%
Weighted Benchmark	5.80%	15.45%	13.20%	9.30%	9.39%
Public Equities					
Gross	6.19%	17.33%	11.94%	8.24%	-
Net	6.13%	17.00%	11.61%	7.96%	-
Weighted Benchmark	5.81%	16.26%	11.20%	7.91%	-
Total Domestic Equity					
Gross	8.24%	19.85%	14.04%	11.87%	12.78%
Net Weighted Benchmark	8.18% 8.08%	19.57% 18.51%	13.76% 13.76%	11.64% 10.37%	12.55% 11.79%
Weighted Denominark	0.00 /6	10.5176	13.7070	10.57 /6	11.7970
Large Cap Equity	0.400/	22.222/	44.000/	40.400/	40.700/
Gross Net	9.10% 9.06%	20.68% 20.46%	14.60% 14.44%	13.40% 13.25%	13.78% 13.63%
Large Cap Benchmark(1)	9.00 % 8.58%	19.36%	14.09%	11.92%	12.64%
<b>5</b> 1 ( )					
L.A. Capital - Gross	13.74%	26.61%	15.14%	15.89%	15.81%
L.A. Capital - Net	13.74%	25.89%	14.77%	15.57%	15.54%
Russell 1000 Growth Index	12.81%	27.11%	13.73%	15.14%	15.74%
LACM Enhanced Index - Goss	9.83%	20.10%	15.21%	12.93%	13.06%
LACM Enhanced Index - Net	9.83%	20.02%	15.11%	12.82%	12.94%
Russell 1000 Index	8.58%	19.36%	14.09%	11.92%	12.64%
NTAM R1000 Index - Gross	8.58%	-	-	-	-
NTAM R1000 Index - Net	8.58%	-	-	-	-
Russell 1000 Index	8.58%	19.36%	14.09%	11.92%	12.64%
NTAM Quant Enh R1000 - Gross	7.62%	18.63%	15.44%	11.02%	11.94%
NTAM Quant Enh R1000 - Net	7.37%	17.88%	15.15%	10.85%	11.73%
Benchmark(2)	8.58%	19.02%	14.42%	12.20%	12.81%
Parametric-Clifton Enh R1000 - Gross	8.53%	19.20%	13.87%	11.95%	12.65%
Parametric-Clifton Enh R1000 - Net	8.53%	19.20%	13.83%	11.93%	12.61%
Benchmark(3)	8.58%	19.36%	14.53%	12.26%	12.84%
Small Cap Equity					
Gross	3.49%	15.71%	11.14%	6.31%	9.10%
Net	3.32%	15.08%	10.42%	5.77%	8.61%
Russell 2000 Index	5.21%	12.31%	10.82%	4.21%	8.26%
Atlanta Capital - Gross	2.46%	16.47%	14.10%	9.76%	-
Atlanta Capital - Net	2.46%	15.91%	13.39%	9.09%	-
S&P 600 Small Cap Index	3.38%	9.75%	15.19%	5.22%	9.81%
Riverbridge Small Cap Growth - Gross	6.56%	18.61%	_	-	-
Riverbridge Small Cap Growth - Net	6.17%	17.75%	-	=	-
Russell 2000 Growth Index	7.05%	18.53%	6.10%	4.22%	8.83%
Sycamore Small Cap Value - Gross	1.29%	12.74%	-	-	-
Sycamore Small Cap Value - Net	1.13%	12.16%	-	-	-
Russell 2000 Value Index	3.18%	6.01%	15.43%	3.54%	7.29%
NTAM R2000 Index - Gross	5.25%	_	_	_	_
NTAM R2000 Index - Gloss NTAM R2000 Index - Net	5.25%	-	-	-	-
Russell 2000 Index	5.21%	12.31%	10.82%	4.21%	8.26%



<sup>(1)</sup> S&P 500 Index through 12/31/2011 and Russell 1000 Index thereafter. (2) S&P 500 Index through 9/30/2022 and Russell 1000 Index thereafter. (3) S&P 500 Index through 6/30/2022 and Russell 1000 Index thereafter.

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	Last	Last	Last 3	Last 5	Last 10
	Quarter	Year	Years	Years	Years
Total International Equity	Quartor	1001	10010	10010	10010
Gross	3.12%	13.98%	7.66%	4.45%	6.33%
Net	3.05%	13.68%	7.33%	4.19%	6.08%
MSCI ACWIxUS IMI(1)	2.38%	12.40%	7.26%	3.52%	4.82%
International All Cap					
Gross	4.51%	-	-	-	-
Net	4.40%	-	-	-	-
MSCI ACWI xUS IMI	2.38%	12.47%	7.33%	3.38%	4.88%
William Blair Int'l Leaders - Gross	3.06%	17.29%	5.22%	5.97%	-
William Blair Int'l Leaders - Net	2.96%	16.97%	4.88%	5.62%	-
MSCI ACWI xUS IMI	2.38%	12.47%	7.33%	3.38%	4.88%
Arrowstreet ACWI ex US - Gross	5.52%	17.75%	-	-	=
Arrowstreet ACWI ex US - Net	5.40%	17.26%	-	-	-
MSCI ACWI xUS IMI	2.38%	12.47%	7.33%	3.38%	4.88%
State St MSCI ACWI exUS - Gross	2.57%	-	-	-	-
State St MSCI ACWI exUS - Net	2.57%	-	-	-	-
MSCI ACWI xUS IMI	2.38%	12.47%	7.33%	3.38%	4.88%
Developed Intl Large Cap					
Gross	3.32%	_	-	_	_
Net	3.31%	-	-	-	-
MSCI World xUS	3.03%	17.41%	9.30%	4.58%	5.40%
NTAM World ex US - Gross	2.98%	17.59%	9.69%	4.96%	-
NTAM World ex US - Net	2.97%	17.56%	9.65%	4.92%	-
MSCI World xUS	3.03%	17.41%	9.30%	4.58%	5.40%
State St MSCI World exUS - Gross	3.26%	_	-	-	=
State St MSCI World exUS - Net	3.26%	-	-	-	-
MSCI World xUS	3.03%	17.41%	9.30%	4.58%	5.40%
Developed Intl Small Cap					
Gross	0.93%	-	-	-	-
Net	0.83%	-	-	-	-
MSCI World xUS Small	0.49%	10.05%	6.42%	1.83%	5.97%
DFA Intl Small Cap Value - Net	0.87%	15.25%	12.69%	2.19%	6.06%
MSCI World xUS Sm Value	0.71%	10.58%	9.79%	1.88%	5.36%
Wellington Management - Gross	0.73%	12.94%	6.74%	0.56%	6.70%
Wellington Management - Net	0.50%	11.62%	5.73%	(0.36%)	5.78%
Benchmark(4)	0.58%	10.18%	5.89%	0.35%	5.31%
State St MSCI exUS Small - Gross	0.64%	_	-	-	-
State St MSCI exUS Small - Net	0.61%	-	-	-	-
MSCI World xUS Small	0.49%	10.05%	6.42%	1.83%	5.97%
Emerging Markets					
Gross	0.29%	(1.53%)	1.66%	1.35%	3.76%
Net	0.17%	(1.90%)	1.04%	0.98%	3.50%
MSCI EM	0.90%	1.75%	2.32%	0.93%	2.95%
Axiom Emerging Markets - Gross(3)	(1.07%)	(5.56%)	(1.84%)	0.13%	-
Axiom Emerging Markets - Net	(1.23%)	(6.07%)	(2.66%)	(0.37%)	-
MSCI EM	0.90%	1.75%	2.32%	0.93%	2.95%



<sup>(1)</sup> Prior to 10/1/2022, the benchmark is calculated based on the approved investment policy asset allocation target. (2) MSCI EAFE through 12/31/1996; 50% Hedged EAFE through 3/31/2011; MSCI EAFE again through 6/30/2016; MSCI World ex-US thereafter. (3) Axiom's performance are reported net of fees through 6/30/2020. (4) EPAC, Developed World, <\$2B through 2/28/2022; MSCI EAFE Small Cap Index thereafter.

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	1	14	Last	Last	Last
	Last	Last	3	5 Vaara	10 Vaara
	Quarter	Year	Years	Years	Years
Private Equity*					
Net	5.74%	9.25%	22.01%	15.25%	8.07%
Total ASP (Brinson) Fds 1998-2003	0.83%	1.04%	(1.32%)	(0.74%)	1.44%
Total ASP (Brinson) Non-US 1999-2004	1 6.91%	53.64%	13.03%	8.33%	7.66%
Adams St 2008 Non-US P-ship Fund	6.29%	12.63%	12.34%	12.33%	13.23%
Adams St Direct Co-Invest Fd 2006	2.17%	6.43%	(6.25%)	(21.26%)	(8.82%)
Total Adams Street 2010 Funds	3.72%	1.02%	20.31%	17.52%	15.83%
Adams Street 2015 Global Fund	6.25%	2.53%	22.28%	20.25%	-
Adams Street 2016 Global Fund	7.08%	9.53%	24.15%	18.84%	-
Adams Street 2017 Global Fund	5.83%	7.03%	26.83%	19.55%	-
Adams Street 2018 Global Fund	5.71%	9.83%	26.57%	-	-
Adams Street 2019 Global Fund	6.37%	5.85%	46.85%	-	-
Adams Street 2020 Global Fund	6.16%	10.53%	-	-	-
Adams Street 2021 Global Fund	9.02%	21.99%	-	-	-
BlackRock PEP	4.80%	10.44%	24.05%	16.48%	-
Blackrock PEP 2020	6.67%	15.97%	-	-	-
Sixth Street Partners - TAO	7.36%	11.52%	-	-	-
Private Equity Misc Funds**	(0.76%)	(3.17%)	(2.89%)	(1.53%)	(3.60%)

<sup>\*</sup> Corsair III was taken out from the Private Equity Composite on July 1, 2009. It was then added back into the Private Equity Composite on October 1, 2011. At this time Corsair IV, Capital Intl and EIG were also added to this composite. \*\* Comprised of Matlin Patterson II, Matlin Patterson III, InvestAmerica Lewis & Clark, InvestAmerica L&C II, Corsair III, Capital Intl Fd V, Capital Intl Fd VI, EIG, Quantum Energy Partners, Hearthstone MSII, Hearthstone MSIII.



The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	Last	Last	Last 3	Last 5	Last 10
	Quarter	Year	Years	Years	Years
Global Fixed Income					
Gross	0.36%	1.68%	(0.62%)	2.61%	3.53%
Net Weighted Benchmark	0.34% (0.06%)	1.56% 2.03%	(0.74%) (1.84%)	2.47% 1.61%	3.34% 2.25%
Weighted Beholimark	(0.0070)	2.0070	(1.0470)	1.0170	2.25 /0
Domestic Fixed Income	0.000/	4.000/	(0.000()	0.040/	0.700/
Gross Net	0.36% 0.34%	1.68% 1.56%	(0.62%) (0.74%)	2.61% 2.47%	3.73% 3.56%
Weighted Benchmark	(0.06%)	2.03%	(1.84%)	1.61%	2.38%
•	, ,		,		
Investment Grade Gross	(0.59%)	(0.63%)	(3.34%)	1.42%	2.69%
Net	(0.60%)	(0.74%)	(3.44%)	1.32%	2.58%
Blmbg Aggregate	(0.84%)	(0.94%)	(3.96%)	0.77%	1.52%
Manulife-Declaration TRBF- Net	0.86%	1.18%	0.84%	2.41%	3.32%
Libor-3 Month	1.38%	4.53%	1.73%	1.91%	1.32%
DIMCO Core Plus Core Cros-(4)	(O E 40/ )	(0.220/)	(2.220/)	1 240/	1.00%
PIMCO Core Plus Cons Gross(1) PIMCO Core Plus Cons Net	(0.54%) (0.58%)	(0.33%) (0.57%)	(3.33%) (3.54%)	1.34% 1.16%	1.99% 1.76%
Blended Benchmark(2)	(0.84%)	(0.94%)	(3.96%)	0.77%	0.78%
PIMCO DiSCO II - Net	2.14%	5.07%	5.05%	4.79%	7.10%
Blmbg Aggregate	(0.84%)	(0.94%)	(3.96%)	0.77%	1.52%
5 55 5	,	, ,	,		110270
Prudential Core - Gross Prudential Core - Net	(0.55%) (0.59%)	0.04% (0.06%)	(3.38%) (3.48%)	1.21% 1.08%	-
Blmbg Aggregate	(0.84%)	(0.06%)	(3.96%)	0.77%	1.52%
5 55 5	•	(0.0170)	(0.0070)	0.7770	1.02 /0
State Street Gov Index - Gross	(1.35%)	-	-	-	-
State Street Gov Index - Net Blmbg Government	(1.35%) (1.35%)	(2.08%)	(4.71%)	0.46%	0.97%
· ·	(1.0070)	(2.0070)	(1.7 170)	0.1070	0.01 70
State Street Credit Index - Gross	(0.29%)	-	-	-	-
State Street Credit Index - Net Blmbg Credit	(0.29%) (0.31%)	- 1.39%	(3.38%)	- 1.65%	- 2.51%
Biriby Oredit	(0.5170)	1.0070	(3.3070)	1.0070	2.5170
Western Asset Core - Gross	(0.36%)	-	-	-	-
Western Asset Core - Net Blmbg:Aggregate	(0.36%) (0.84%)	(0.94%)	(3.96%)	- 0.77%	- 1.52%
5 55 5	(0.0470)	(0.0470)	(0.5070)	0.7770	1.02 /0
Below Investment Grade	2.670/	7 420/	C 040/	E 770/	6 200/
Gross Net	2.67% 2.64%	7.43% 7.29%	6.84% 6.67%	5.77% 5.57%	6.38% 6.06%
Blmbg HY Corp 2% Issue	1.75%	9.07%	3.12%	3.34%	4.43%
Ares ND Credit Strategies Fd - Net	4.99%	7.65%	10.01%	7.91%	_
Cerberus ND Private Credit Fd - Net	2.09%	7.76%	8.63%	8.74%	-
S&P/LSTA Leveraged Loan B	3.25%	11.48%	6.50%	4.47%	4.34%
Goldman Sachs 2006 Offshore - Net	2.89%	47.56%	18.74%	13.66%	18.75%
Goldman Sachs Offshore V - Net	0.92%	9.32%	16.90%	22.31%	12.71%
PIMCO Bravo II Fund - Net	(10.06%)	(35.44%)	(6.41%)	(7.07%)	-
Blmbg HY Corp 2% Issue	1.75%	9.07%	3.12%	3.34%	4.43%
Loomis Sayles - Gross	0.95%	7.90%	2.38%	2.67%	4.34%
Loomis Sayles - Net	0.85%	7.42%	1.90%	2.18%	3.83%
Blmbg HY Corp 2% Issue	1.75%	9.07%	3.12%	3.34%	4.43%

<sup>(1)</sup> The product changed from Commingled Fund to Separate Account in March 2014. (2) Libor-3 month through Feb. 28, 2014; Fund's performance through March 31, 2014; Libor-3 month through June 30, 2018; Blmbg Aggregate thereafter.



The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended June 30, 2023

	Last	Last	Last 3	Last 5	Last 10
	Quarter	Year	Years	Years	Years
Global Real Assets					
Gross	(1.52%)	(4.68%)	7.81%	6.63%	7.52%
Net Weighted Benchmark	(1.66%) (1.25%)	(5.01%) (4.13%)	7.38% 6.77%	6.20% 5.52%	7.08% 6.13%
Weighted Benchmark	(1.25%)	(4.13%)	0.7770	5.52%	0.13%
Real Estate	(4.000()	(40.500()	7.400/	0.440/	0.000/
Gross Net	(4.30%) (4.46%)	(10.50%) (10.87%)	7.19% 6.65%	6.14% 5.62%	9.22% 8.69%
NCREIF Total Index	(1.98%)	(6.60%)	6.79%	5.90%	7.82%
Invesco Core Real Estate - Gross	(C 440/)	(0.920/.)	7.33%	6.05%	8.48%
Invesco Core Real Estate - Gross	(6.41%) (6.56%)	(9.82%) (10.10%)	6.99%	5.70%	8.11%
Invesco RE Fund VI - Net	(4.07%)	(10.1070)	-	-	-
Invesco Asia RE Fund III - Net	(6.48%)	(5.38%)	(2.09%)	4.96%	-
Invesco Value Added Fd IV - Net	(31.55%)	(58.61%)	(21.85%)	(10.69%)	-
Invesco Value Added Fd V - Net	0.43%	(5.60%)	10.40%	- - 700/	- 0.700/
JP Morgan SPC & Strat RE - Gross JP Morgan SPC & Strat RE - Net	(2.15%) (2.38%)	(12.92%) (13.54%)	6.56% 5.58%	5.79% 4.86%	8.72% 7.72%
JPM Greater European Opp Fd - Net	(2.36%)	7.65%	(0.14%)	(5.11%)	0.20%
NCREIF Total Index	(1.98%)	(6.60%)	6.79%	5.90%	7.82%
Other Real Assets					
Gross	3.23%	6.26%	8.83%	7.38%	-
Net	3.14%	6.01%	8.58%	7.11%	-
Weighted Benchmark	(0.37%)	(1.09%)	6.71%	4.99%	-
nfrastructure					
Gross	3.93%	8.92%	10.75%	8.50%	7.41%
Net Weighted Benchmark	3.82% (0.69%)	8.61% (3.04%)	10.41% 6.49%	8.13% 4.98%	6.93% 3.16%
ISQ Global Infrastructure II - Net	3.19%	10.04%	14.21%	10.12%	_
ISQ Global Infrastructure III - Net	7.94%	1.78%	14.2170	10.1276	
The Rohatyn Group - Net	1.98%	(0.08%)	(0.68%)	(7.49%)	(2.66%)
JP Morgan JJF - Gross	5.29%	12.50%	8.64%	7.75%	7.21%
JP Morgan IIF - Net	4.92%	11.49%	7.78%	6.96%	6.37%
Grosvenor CIS Fund - Net	15.53%	28.49%	16.44%	11.07%	9.77%
Grosvenor CIS Fund II - Net Grosvenor CIS Fund III - Net	8.07% 0.99%	16.63% 5.19%	17.33%	14.62%	-
Benchmark(1)	(0.69%)	(3.04%)	6.49%	4.98%	3.16%
Macquarie Infrastructure Fd IV - Net	1.36%	2.67%	12.66%	_	_
Macquarie Infrastructure Fd V - Net	2.92%	6.21%	12.00 /0	- -	-
Benchmark(2)	(0.69%)	(3.04%)	6.49%	-	-
- Timber					
Net	(0.34%)	(5.29%)	2.16%	3.36%	1.49%
TIR Teredo - Net	2.13%	17.95%	13.56%	9.55%	6.61%
TIR Springbank - Net	(1.27%)	(11.86%)	(1.11%)	1.53%	(0.40%)
NCREIF Timberland Index	1.71%	11.13%	8.67%	5.80%	5.90%
Sanh 9 Canh Farringlands Not	4 000/	2.000/	4 400/	4 500/	4.050/
Cash & Cash Equivalents - Net Cash Account - Net	<b>1.26%</b> 1.28%	<b>3.92%</b> 3.93%	<b>1.40%</b> 1.41%	<b>1.59%</b> 1.58%	<b>1.05%</b> 1.05%
Bank of ND - Net	1.24%	3.83%	1.41%	1.57%	1.05%
3-month Treasury Bill	1.17%	3.59%	1.27%	1.55%	0.98%
Total Fund					
Gross	3.22%	8.00%	8.75%	7.12%	7.86%
Net	3.16%	7.76%	8.49%	6.87%	7.58%
Target*	3.03%	8.44%	8.41%	6.95%	7.19%
Corridor Benchmark	2.90%	7.76%	7.96%	6.56%	7.09%

<sup>\*</sup> Current Quarter Target = 21.9% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 16.9% BImbg:Aggregate, 11.9% NCREIF Total Index, 11.4% Private Equity, 7.3% BImbg HY Corp 2% Iss Cap, 3.9% Russell 2000 Index, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 0.4% 3-month Treasury Bill. (1) CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter. (2) 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.

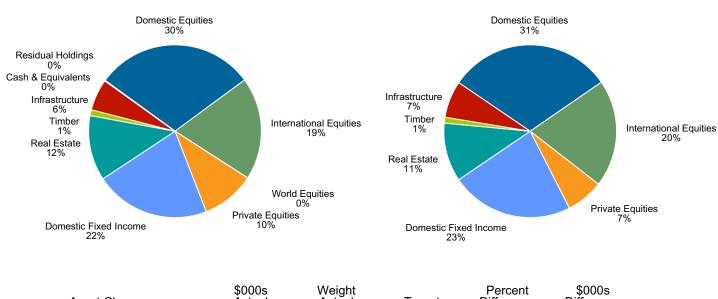


# Actual vs Target Asset Allocation As of June 30, 2023

**Actual Asset Allocation** 

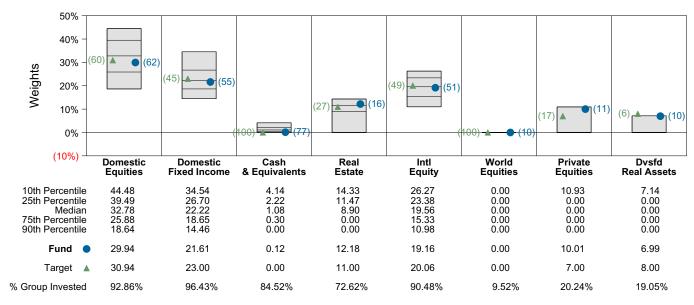
The top left chart shows the Fund's asset allocation as of June 30, 2023. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.

**Target Asset Allocation** 



	\$000s	Weight		Percent	\$000s
Asset Class	Actual	Actual	Target	Difference	Difference
Domestic Equities	1,171,425	29.9%	30.9%	(1.0%)	(39,215)
International Equities	749,287	19.2%	20.1%	(0.9%)	(35,469)
World Equities	27	0.0%	0.0%	0.0%	27
Private Equities	391,541	10.0%	7.0%	3.0%	117,663
Domestic Fixed Income	845,605	21.6%	23.0%	(1.4%)	(54,279)
Real Estate	476,366	12.2%	11.0%	`1.2%′	45,986
Timber	42,065	1.1%	1.1%	0.0%	0
Infrastructure	231,249	5.9%	6.9%	(1.0%)	(39,689)
Cash & Equivalents	4,590	0.1%	0.0%	0.1%	4,590
Residual Holdings	386	0.0%	0.0%	0.0%	386
Total	3,912,541	100.0%	100.0%		

### Asset Class Weights vs Callan Public Fund Sponsor Database



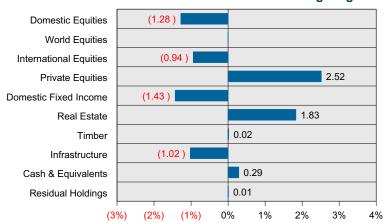
<sup>\*</sup> Current Quarter Target = 26.3% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 16.0% Blmbg:Aggregate, 11.0% NCREIF Total Index, 7.0% Blmbg HY Corp 2% Iss Cap, 7.0% Private Equity, 4.6% Russell 2000 Index, 3.5% NCREIF NFI-ODCE Eq Wt Net, 3.5% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



# **Quarterly Total Fund Relative Attribution - June 30, 2023**

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

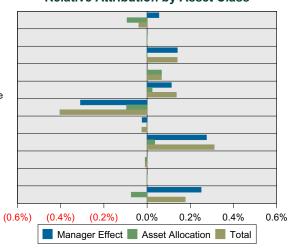




# **Actual vs Target Returns**

# **Domestic Equities** World Equities International Equities Private Equities Domestic Fixed Income Real Estate Timber Infrastructure Cash & Equivalents Residual Holdings Total (20%) (15%) (10%) (5%)5% 10% 15% Actual Target

### **Relative Attribution by Asset Class**



### Relative Attribution Effects for Quarter ended June 30, 2023

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	29%	31%	8.27%	8.08%	0.05%	(0.09%)	(0.04%)
World Equities	0%	0%	(13.18%)	(13.18%)	0.00%	(0.00%)	(0.00%)
International Equities	19%	20%	3.12%	2.38%	0.14%	(0.00%)	0.14%
Private Equities	10%	7%	5.74%	5.74%	0.00%	0.07%	0.07%
Domestic Fixed Income	22%	23%	0.44%	(0.06%)	0.11%	0.02%	0.14%
Real Estate	13%	11%	(4.30%)	(1.98%)	(0.31%)	(0.10%)	(0.40%)
Timber	1%	1%	(0.34%)	1.71%	(0.02%)	(0.00%)	(0.02%)
Infrastructure	6%	7%	`3.93%´	(0.69%)	0.27%	0.04%	`0.31%´
Cash & Equivalents	0%	0%	1.28%	1.28%	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	5.24%	5.24%	0.00%	`0.00%′	0.00%′
Total			3.28% =	3.10% +	0.25% +	(0.07%)	0.18%

<sup>\*</sup> Current Quarter Target = 26.3% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 16.0% Blmbg:Aggregate, 11.0% NCREIF Total Index, 7.0% Blmbg HY Corp 2% Iss Cap, 7.0% Private Equity, 4.6% Russell 2000 Index, 3.5% NCREIF NFI-ODCE Eq Wt Net, 3.5% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



# Quarterly Total Fund Relative Attribution - Corridor Target - June 30, 2023

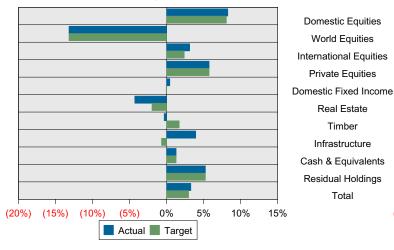
The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

(1.5%) (1.0%) (0.5%) 0.0% 0.5% 1.0% 1.5% 2.0% 2.5%

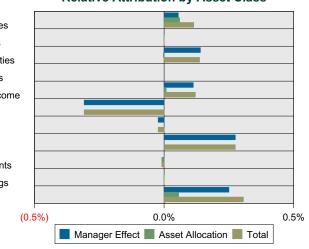




Residual Holdings



### Relative Attribution by Asset Class



### Relative Attribution Effects for Quarter ended June 30, 2023

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	29%	28%	8.27%	8.08%	0.05%	0.06%	0.11%
World Equities	0%	0%	(13.18%)	(13.18%)	0.00%	(0.00%)	(0.00%)
International Equities	19%	20%	3.12%	2.38%	0.14%	(0.00%)	0.14%
Private Equities	10%	10%	5.74%	5.74%	0.00%	0.00%	0.00%
Domestic Fixed Income	22%	23%	0.44%	(0.06%)	0.11%	0.01%	0.12%
Real Estate	13%	13%	(4.30%)	(1.98%)	(0.31%)	0.00%	(0.31%)
Timber	1%	1%	(0.34%)	`1.71%´	(0.02%)	0.00%	(0.02%)
Infrastructure	6%	6%	3.93%	(0.69%)	0.27%	0.00%	0.27%
Cash & Equivalents	0%	0%	1.28%	1.28%	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	5.24%	5.24%	0.00%	0.00%	0.00%
Total			3.28% =	2.97% +	· 0.25% +	0.06%	0.31%

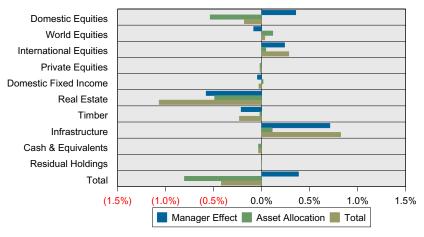
<sup>\*</sup> Current Quarter Target = 23.6% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 15.7% Blmbg:Aggregate, 12.8% NCREIF Total Index, 9.7% Private Equity, 6.9% Blmbg HY Corp 2% Iss Cap, 4.2% Russell 2000 Index, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



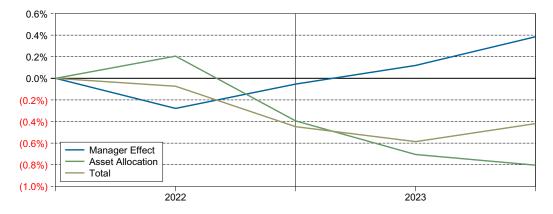
# Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

### **One Year Relative Attribution Effects**



### **Cumulative Relative Attribution Effects**



# **One Year Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	28%	29%	19.92%	18.51%	0.36%	(0.54%)	(0.18%)
World Equities	3%	2%	(26.36%)	(25.81%)	(0.08%)	0.12%	0.03%
International Equities	18%	19%	13.98%	12.40%	0.24%	0.04%	0.28%
Private Equities	9%	7%	9.24%	9.24%	0.00%	(0.02%)	(0.02%)
Domestic Fixed Income	22%	23%	1.82%	2.05%	(0.04%)	0.02%	(0.03%)
Real Estate	14%	11%	(10.50%)	(6.60%)	(0.58%)	(0.49%)	(1.07%)
Timber	1%	1%	`(5.29%)	11.13%	(0.21%)	(0.02%)	(0.23%)
Infrastructure	6%	7%	`8.92%	(3.04%)	0.71%	0.11%	0.82%
Cash & Equivalents	0%	0%	3.79%	`3.79%´	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	`0.00%´
Total			8.23% =	8.65% +	0.38% +	(0.80%)	(0.42%)

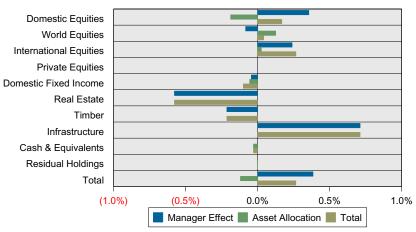
<sup>\*</sup> Current Quarter Target = 26.3% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 16.0% Blmbg:Aggregate, 11.0% NCREIF Total Index, 7.0% Blmbg HY Corp 2% Iss Cap, 7.0% Private Equity, 4.6% Russell 2000 Index, 3.5% NCREIF NFI-ODCE Eq Wt Net, 3.5% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



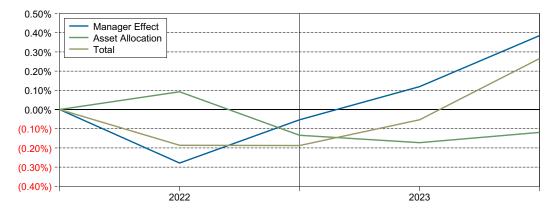
# Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

### **One Year Relative Attribution Effects**



### **Cumulative Relative Attribution Effects**



# **One Year Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	28%	26%	19.92%	18.51%	0.36%	(0.19%)	0.17%
World Equities	3%	2%	(26.36%)	(25.81%)	(0.08%)	0.13%	0.04%
International Equities	18%	19%	13.98%	12.40%	0.24%	0.03%	0.27%
Private Equities	9%	9%	9.24%	9.24%	0.00%	0.00%	0.00%
Domestic Fixed Income	22%	22%	1.82%	2.05%	(0.04%)	(0.06%)	(0.10%)
Real Estate	14%	14%	(10.50%)	(6.60%)	(0.58%)	0.00%	(0.58%)
Timber	1%	1%	(5.29%)	11.13%	(0.21%)	0.00%	(0.21%)
Infrastructure	6%	6%	8.92%	(3.04%)	0.71%	0.00%	0.71%
Cash & Equivalents	0%	0%	3.79%	`3.79%´	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			8.23% =	7.96% +	0.38% +	(0.12%)	0.27%

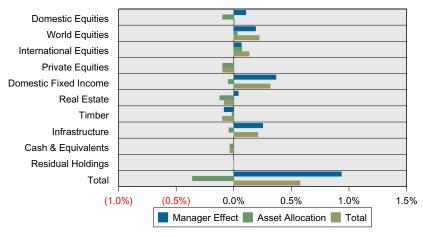
<sup>\*</sup> Current Quarter Target = 23.6% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 15.7% Blmbg:Aggregate, 12.8% NCREIF Total Index, 9.7% Private Equity, 6.9% Blmbg HY Corp 2% Iss Cap, 4.2% Russell 2000 Index, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



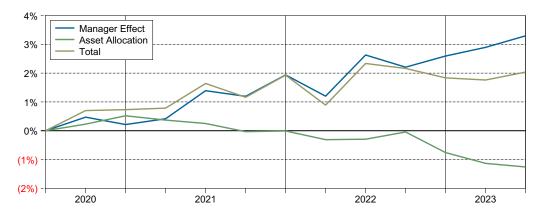
# Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

### **Three Year Annualized Relative Attribution Effects**



### **Cumulative Relative Attribution Effects**



### Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	26%	25%	14.03%	13.77%	0.10%	(0.10%)	0.01%
World Equities	9%	8%	(2.65%)	(4.04%)	0.19%	0.03%	0.22%
International Equities	17%	17%	7.70%	7.30%	0.07%	0.07%	0.13%
Private Equities	7%	7%	22.01%	22.01%	0.00%	(0.10%)	(0.10%)
Domestic Fixed Income	23%	23%	(0.43%)	(1.82%)	0.37%	(0.05%)	0.32%
Real Estate	12%	11%	7.19%	6.79%	0.04%	(0.12%)	(0.08%)
Timber	1%	1%	2.17%	8.67%	(0.08%)	(0.02%)	(0.10%)
Infrastructure	5%	7%	10.75%	6.49%	0.25%	(0.04%)	0.21%
Cash & Equivalents	0%	0%	1.36%	1.36%	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			8.89% =	8.32% +	0.93% +	(0.36%)	0.58%

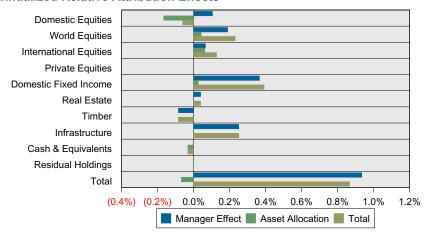
<sup>\*</sup> Current Quarter Target = 26.3% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 16.0% Blmbg:Aggregate, 11.0% NCREIF Total Index, 7.0% Blmbg HY Corp 2% Iss Cap, 7.0% Private Equity, 4.6% Russell 2000 Index, 3.5% NCREIF NFI-ODCE Eq Wt Net, 3.5% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



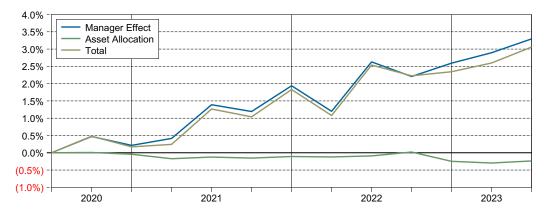
# Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

### **Three Year Annualized Relative Attribution Effects**



### **Cumulative Relative Attribution Effects**



### Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	26%	26%	14.03%	13.77%	0.10%	(0.17%)	(0.06%)
World Equities	9%	8%	(2.65%)	(4.04%)	0.19%	0.04%	0.23%
International Equities	17%	17%	7.70%	7.30%	0.07%	0.06%	0.13%
Private Equities	7%	7%	22.01%	22.01%	0.00%	0.00%	0.00%
Domestic Fixed Income	23%	23%	(0.43%)	(1.82%)	0.37%	0.03%	0.39%
Real Estate	12%	12%	7.19%	6.79%	0.04%	0.00%	0.04%
Timber	1%	1%	2.17%	8.67%	(0.08%)	0.00%	(0.08%)
Infrastructure	5%	5%	10.75%	6.49%	0.25%	0.00%	0.25%
Cash & Equivalents	0%	0%	1.36%	1.36%	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%		-	0.00%	0.00%	0.00%
Total			8.89% =	8.03% -	+ 0.93% +	(0.07%)	0.87%

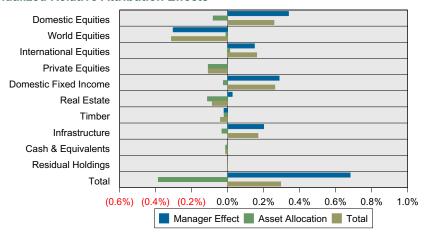
<sup>\*</sup> Current Quarter Target = 23.6% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 15.7% Blmbg:Aggregate, 12.8% NCREIF Total Index, 9.7% Private Equity, 6.9% Blmbg HY Corp 2% Iss Cap, 4.2% Russell 2000 Index, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



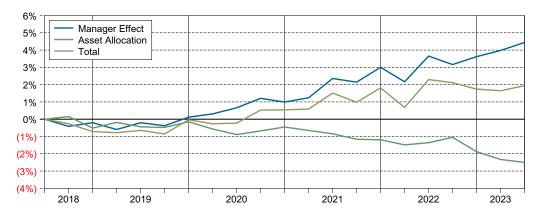
# Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

### **Five Year Annualized Relative Attribution Effects**



### **Cumulative Relative Attribution Effects**



# **Five Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	23%	11.88%	10.37%	0.34%	(0.08%)	0.26%
World Equities	12%	11%	(2.33%)	(0.68%)	(0.30%)	(0.01%)	(0.31%)
International Equities	16%	16%	4.49%	3.55%	0.15%	0.01%	0.16%
Private Equities	6%	7%	15.25%	15.25%	0.00%	(0.11%)	(0.11%)
Domestic Fixed Income	23%	23%	2.74%	1.62%	0.29%	(0.02%)	0.26%
Real Estate	12%	11%	6.14%	5.90%	0.03%	(0.11%)	(0.09%)
Timber	2%	2%	3.36%	5.80%	(0.02%)	(0.02%)	(0.04%)
Infrastructure	5%	6%	8.50%	4.98%	0.20%	(0.03%)	0.17%
Cash & Equivalents	0%	0%	1.58%	1.58%	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	-		0.00%	0.00%	0.00%
Total			7.19% =	6.90% +	0.68% +	(0.39%)	0.30%

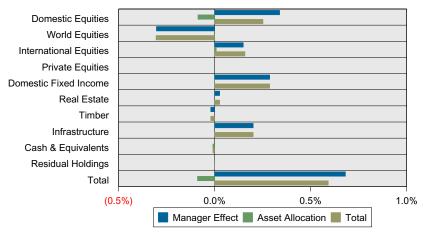
<sup>\*</sup> Current Quarter Target = 26.3% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 16.0% Blmbg:Aggregate, 11.0% NCREIF Total Index, 7.0% Blmbg HY Corp 2% Iss Cap, 7.0% Private Equity, 4.6% Russell 2000 Index, 3.5% NCREIF NFI-ODCE Eq Wt Net, 3.5% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



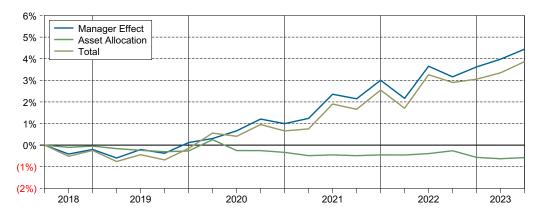
# **Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023**

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

### **Five Year Annualized Relative Attribution Effects**



### **Cumulative Relative Attribution Effects**



# **Five Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	25%	11.88%	10.37%	0.34%	(0.09%)	0.25%
World Equities	12%	11%	(2.33%)	(0.68%)	(0.30%)	(0.00%)	(0.31%)
International Equities	16%	16%	4.49%	3.55%	0.15%	0.01%	0.16%
Private Equities	6%	6%	15.25%	15.25%	0.00%	0.00%	0.00%
Domestic Fixed Income	23%	23%	2.74%	1.62%	0.29%	(0.00%)	0.29%
Real Estate	12%	12%	6.14%	5.90%	0.03%	0.00%	0.03%
Timber	2%	2%	3.36%	5.80%	(0.02%)	0.00%	(0.02%)
Infrastructure	5%	5%	8.50%	4.98%	0.20%	0.00%	0.20%
Cash & Equivalents	0%	0%	1.58%	1.58%	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			7.19% =	6.60% +	· 0.68% +	(0.09%)	0.59%

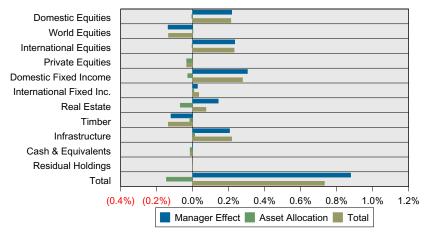
<sup>\*</sup> Current Quarter Target = 23.6% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 15.7% Blmbg:Aggregate, 12.8% NCREIF Total Index, 9.7% Private Equity, 6.9% Blmbg HY Corp 2% Iss Cap, 4.2% Russell 2000 Index, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



# Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

### **Ten Year Annualized Relative Attribution Effects**



### **Cumulative Relative Attribution Effects**



# **Ten Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	22%	12.78%	11.80%	0.22%	(0.00%)	0.21%
World Equities	14%	14%	3.70%	4.49%	(0.14%)	0.00%	(0.13%)
International Equities	16%	15%	6.32%	4.82%	0.23%	(0.00%)	0.23%
Private Equities	5%	6%	8.07%	8.07%	0.00%	(0.03%)	(0.03%)
Domestic Fixed Income	21%	20%	3.81%	2.41%	0.30%	(0.03%)	0.28%
International Fixed Inc.	2%	2%	-	-	0.03%	0.01%	0.03%
Real Estate	11%	11%	9.24%	7.82%	0.14%	(0.07%)	0.07%
Timber	3%	3%	1.49%	5.90%	(0.12%)	(0.02%)	(0.14%)
Infrastructure	5%	6%	7.42%	3.16%	0.21%	0.01%	0.22%
Cash & Equivalents	1%	0%	1.05%	1.03%	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			7.91% =	7.18% +	· 0.88% +	(0.15%)	0.73%

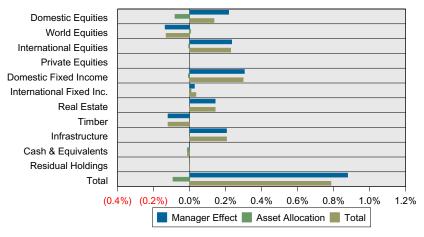
<sup>\*</sup> Current Quarter Target = 26.3% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 16.0% Blmbg:Aggregate, 11.0% NCREIF Total Index, 7.0% Blmbg HY Corp 2% Iss Cap, 7.0% Private Equity, 4.6% Russell 2000 Index, 3.5% NCREIF NFI-ODCE Eq Wt Net, 3.5% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



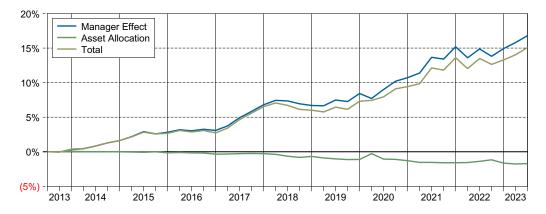
# **Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023**

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

### **Ten Year Annualized Relative Attribution Effects**



### **Cumulative Relative Attribution Effects**



### Ten Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	25%	12.78%	11.80%	0.22%	(0.08%)	0.14%
World Equities	14%	14%	3.70%	4.49%	(0.14%)	0.01%	(0.13%)
International Equities	16%	15%	6.32%	4.82%	0.23%	(0.01%)	0.23%
Private Equities	5%	5%	8.07%	8.07%	0.00%	0.00%	0.00%
Domestic Fixed Income	21%	21%	3.81%	2.41%	0.30%	(0.01%)	0.30%
International Fixed Inc.	2%	2%	-	-	0.03%	0.01%	0.04%
Real Estate	11%	11%	9.24%	7.82%	0.14%	0.00%	0.14%
Timber	3%	3%	1.49%	5.90%	(0.12%)	0.00%	(0.12%)
Infrastructure	5%	5%	7.42%	3.16%	0.21%	0.00%	0.21%
Cash & Equivalents	1%	0%	1.05%	1.03%	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	-	-	0.00%	`0.00%′	`0.00%´
Total			7.91% =	7.13% +	· 0.88% +	(0.09%)	0.79%

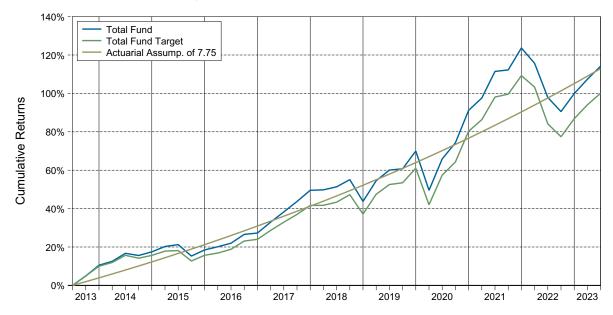
<sup>\*</sup> Current Quarter Target = 23.6% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 15.7% Blmbg:Aggregate, 12.8% NCREIF Total Index, 9.7% Private Equity, 6.9% Blmbg HY Corp 2% Iss Cap, 4.2% Russell 2000 Index, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



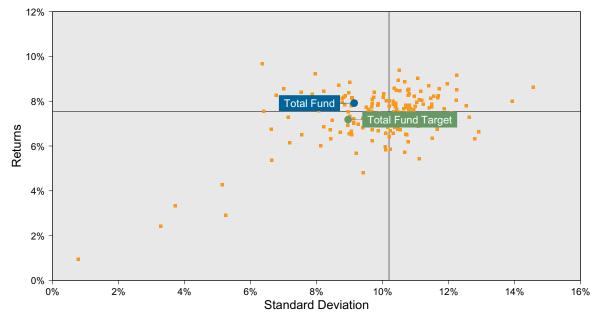
# **Cumulative Performance Relative to Target**

The first chart below illustrates the cumulative performance of the Total Fund relative to the cumulative performance of the Fund's Target Asset Mix. The Target Mix is assumed to be rebalanced each quarter with no transaction costs. The second chart below shows the return and the risk of the Total Fund and the Target Mix, contrasted with the returns and risks of the funds in the Callan Public Fund Sponsor Database.

### **Cumulative Returns Actual vs Target**



### Ten Year Annualized Risk vs Return



Squares represent membership of the Callan Public Fund Sponsor Database

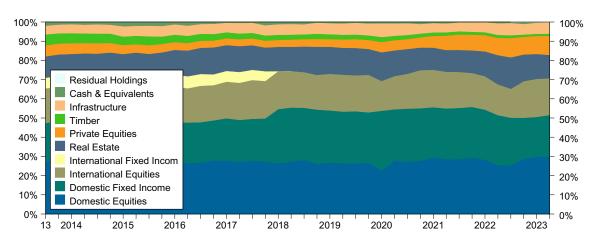
<sup>\*</sup> Current Quarter Target = 26.3% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 16.0% Blmbg:Aggregate, 11.0% NCREIF Total Index, 7.0% Blmbg HY Corp 2% Iss Cap, 7.0% Private Equity, 4.6% Russell 2000 Index, 3.5% NCREIF NFI-ODCE Eq Wt Net, 3.5% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



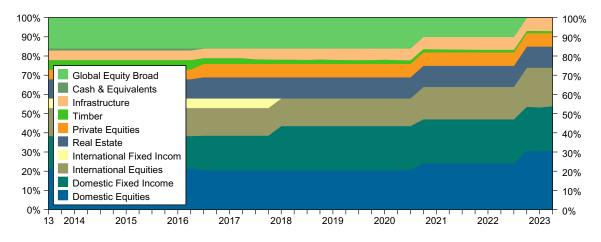
# **Actual vs Target Historical Asset Allocation**

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

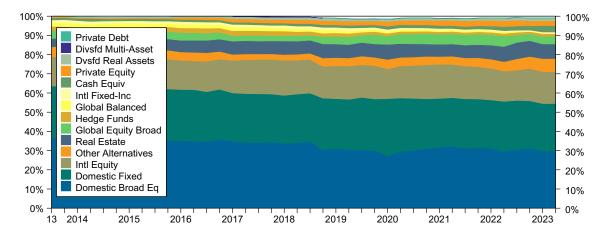
### **Actual Historical Asset Allocation**



### **Target Historical Asset Allocation**



### Average Callan Public Fund Sponsor Database Historical Asset Allocation



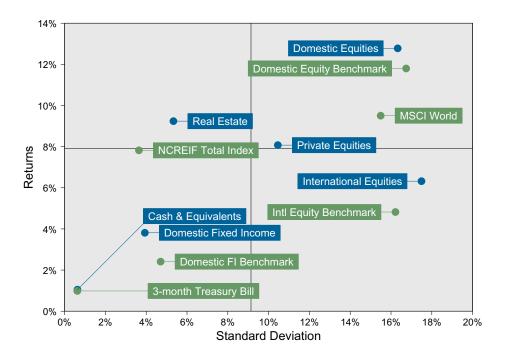
<sup>\*</sup> Current Quarter Target = 26.3% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 16.0% Blmbg:Aggregate, 11.0% NCREIF Total Index, 7.0% Blmbg HY Corp 2% Iss Cap, 7.0% Private Equity, 4.6% Russell 2000 Index, 3.5% NCREIF NFI-ODCE Eq Wt Net, 3.5% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



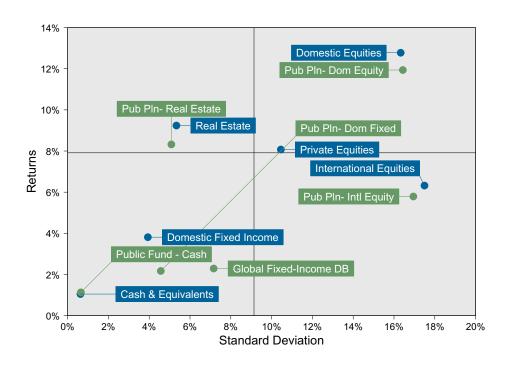
### **Asset Class Risk and Return**

The charts below show the ten year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

### Ten Year Annualized Risk vs Return **Asset Classes vs Benchmark Indices**



### Ten Year Annualized Risk vs Return Asset Classes vs Asset Class Median

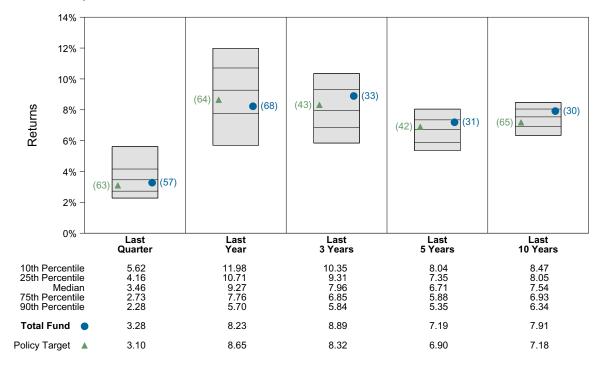




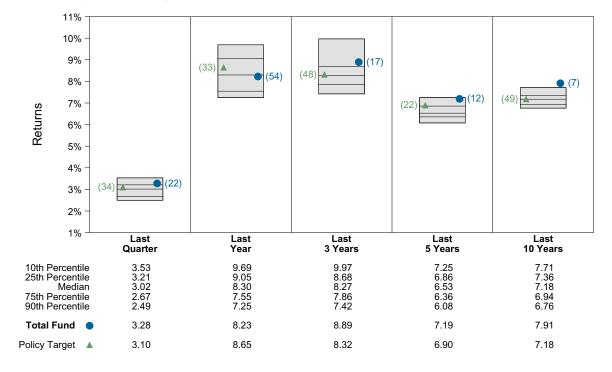
# **Total Fund Ranking**

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended June 30, 2023. The first chart is a standard unadjusted ranking. In the second chart each fund in the database is adjusted to have the same historical asset allocation as that of the Total Fund.

### **Callan Public Fund Sponsor Database**



### **Asset Allocation Adjusted Ranking**

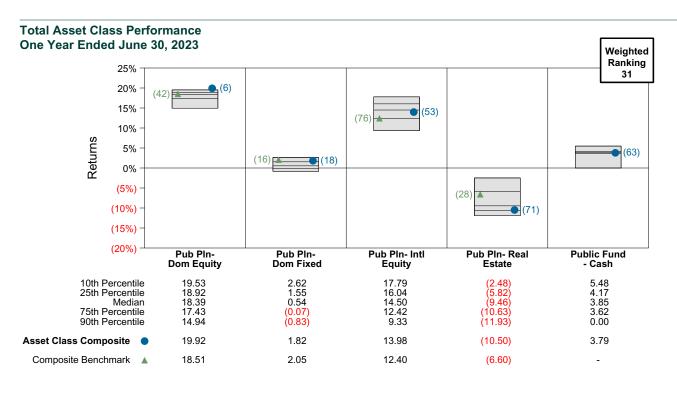


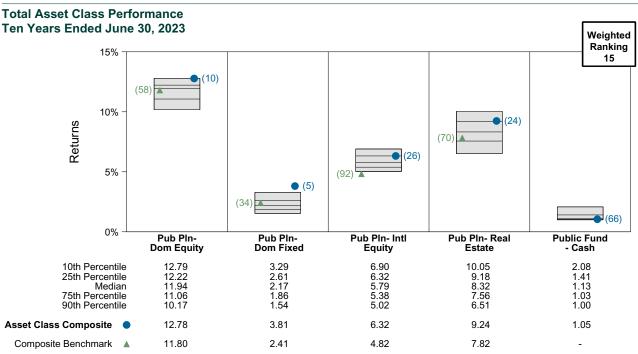
<sup>\*</sup> Current Quarter Target = 26.3% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 16.0% Blmbg:Aggregate, 11.0% NCREIF Total Index, 7.0% Blmbg HY Corp 2% Iss Cap, 7.0% Private Equity, 4.6% Russell 2000 Index, 3.5% NCREIF NFI-ODCE Eq Wt Net, 3.5% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



# **Asset Class Rankings**

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.





<sup>\*</sup> Current Quarter Target = 26.3% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 16.0% Blmbg:Aggregate, 11.0% NCREIF Total Index, 7.0% Blmbg HY Corp 2% Iss Cap, 7.0% Private Equity, 4.6% Russell 2000 Index, 3.5% NCREIF NFI-ODCE Eq Wt Net, 3.5% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index.



# **Asset Class Allocation**

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2023, with the distribution as of March 31, 2023. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

# **Asset Class Allocation**

	June 30, 2	2023			March 31,	2023
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Global Equities	\$2,312,279,325	59.10%	\$(70,066,326)	\$133,228,530	\$2,249,117,121	59.03%
Public Equities	\$1,920,738,727	49.09%	\$(84,000,505)	\$112,359,171	\$1,892,380,061	49.66%
World Equities	\$27,064	0.00%	\$0	\$(4,110)	\$31,174	0.00%
Total Domestic Equity	\$1,171,424,661	29.94%	\$(54,516,745)	\$89,474,825	\$1,136,466,582	29.83%
Large Cap	1,000,275,836	25.57%	(49,175,154)	83,840,301	965,610,689	25.34%
Small Cap	171,148,826	4.37%	(5,341,591)	5,634,523	170,855,893	4.48%
Total International Equity	\$749,287,002	19.15%	\$(29,483,761)	\$22,888,456	\$755,882,306	19.84%
International All Cap	296,369,664	7.57%	(5,888,407)	12,960,447	289,297,624	7.59%
Developed Intl Large Cap	281,592,941	7.20%	(17,600,427)	9,217,230	289,976,138	7.61%
Developed Intl Small Cap	45,544,159	1.16%	(4,979,257)	463,864	50,059,552	1.31%
Emerging Markets	125,780,237	3.21%	(1,015,670)	246,915	126,548,992	3.32%
Private Equities	\$391,540,598	10.01%	\$13,934,179	\$20,869,359	\$356,737,059	9.36%
Global Fixed Income	\$845,605,490	21.61%	\$51,154,760	\$3,588,673	\$790,862,057	20.76%
Domestic Fixed Income	\$845,605,490	21.61%	\$51,154,760	\$3,588,673	\$790,862,057	20.76%
Investment Grade	596,051,695	15.23%	52,193,783	(3,459,040)	547,316,953	14.36%
Below Investment Grade	249,553,795	6.38%	(1,039,023)	7,047,713	243,545,105	6.39%
Global Real Assets	\$749,679,925	19.16%	\$4,459,416	\$(12,677,363)	\$757,897,872	19.89%
Real Estate	\$476,365,840	12.18%	\$3,925,339	\$(21,305,322)	\$493,745,823	12.96%
Other Real Assets	\$273,314,085	6.99%	\$534,077	\$8,627,959	\$264,152,049	6.93%
Infrastructure	231,248,668	5.91%	1,875,169	8,770,171	220,603,328	5.79%
Timber	42,065,418	1.08%	(1,341,091)	(142,212)	43,548,721	1.14%
Cash	\$4,590,092	0.12%	\$(7,634,348)	\$177,748	\$12,046,692	0.32%
Residual Holdings	\$386,236	0.01%	\$(896)	\$19,301	\$367,830	0.01%
Total Fund	\$3,912,541,068	100.0%	\$(22,087,393)	\$124,336,889	\$3,810,291,572	100.0%

PLEASE REFER TO PAGES 35-36 FOR INVESTMENT MANAGER LEVEL ASSET ALLOCATION.



The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

# Returns for Periods Ended June 30, 2023

			Last	Last	Last
	Last	Last	3	5	10
	Quarter	Year	Years	Years	Years
Global Equities					
Gross	6.13%	16.00%	13.11%	8.98%	9.67%
Net	6.08%	15.72%	12.84%	8.73%	9.39%
Weighted Benchmark	5.80%	15.56%	12.66%	9.04%	9.21%
Public Equities					
Gross	6.20%	17.30%	11.90%	8.23%	-
Net	6.14%	16.97%	11.58%	7.95%	-
Weighted Benchmark	5.81%	16.22%	11.18%	7.89%	-
Total Domestic Equity					
Gross	8.27%	19.92%	14.03%	11.88%	12.78%
Net	8.21%	19.63%	13.78%	11.66%	12.76%
Weighted Benchmark	8.08%	18.51%	13.77%	10.37%	11.80%
weighted benchmark	0.00%	10.0170	13.1176	10.37 %	11.00%
Large Cap Equity	0.400/	00.740/	44.000/	40.400/	40.700/
Gross	9.12%	20.71%	14.62%	13.43%	13.79%
Net	9.08%	20.49%	14.46%	13.28%	13.63%
Benchmark(1)	8.58%	19.36%	14.09%	11.92%	12.64%
Small Cap Equity					
Gross	3.49%	15.74%	11.14%	6.33%	9.07%
Net	3.32%	15.10%	10.42%	5.78%	8.61%
Russell 2000 Index	5.21%	12.31%	10.82%	4.21%	8.26%
Total International Equity					
Gross	3.12%	13.98%	7.70%	4.49%	6.32%
Net	3.06%	13.69%	7.37%	4.23%	6.08%
MSCI ACWI xUS IMI(2)	2.38%	12.40%	7.30%	3.55%	4.82%
MSCI ACWI XOS IIVII(2)	2.30 %	12.40 %	7.30%	3.55%	4.02 /0
International All Cap					
Gross	4.52%	-	-	-	-
Net	4.41%	-	-	-	-
MSCI ACWI xUS IMI	2.38%	12.47%	7.33%	3.38%	4.88%
Developed Intl Large Cap					
Gross	3.34%	-	-	-	-
Net	3.34%	-	-	-	-
MSCI World xUS	3.03%	17.41%	9.30%	4.58%	5.40%
Developed Intl Small Cap					
Gross	0.93%	_	-	_	_
Net	0.83%	_	_	_	_
MSCI World xUS Small	0.49%	10.05%	6.42%	1.83%	5.97%
Emerging Markets					
Gross	0.29%	(4.520/)	1.66%	1.36%	2 720/
		(1.53%)			3.73%
Net	0.20%	(1.87%)	1.05%	1.00%	3.50%
Benchmark(4)	0.90%	1.75%	2.32%	0.93%	2.95%
Private Equities					
Net	5.74%	9.24%	22.01%	15.25%	8.07%

PLEASE REFER TO PAGES 37-41 FOR INVESTMENT MANAGER LEVEL RETURNS.



<sup>(1)</sup> S&P 500 Index through 12/31/2011 and the Russell 1000 Index thereafter.

<sup>(2)</sup> Prior to 10/1/2022, the benchmark is calculated based on the approved investment policy asset allocation target.

<sup>(3) 50%</sup> Hedged EAFE through 3/31/2011, MSCI EAFE through 6/30/2016; MSCI World ex-US thereafter.

<sup>(4)</sup> MSCI Emerging Mkts Idx (Gross) through 6/30/2011 and MSCI Emerging Mkts Idx Net thereafter.

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended June 30, 2023

	Last	Last	Last 3	Last 5	Last 10
	Quarter	Year	Years	Years	Years
Global Fixed Income	- Guartor	i oui	10010	1 541 5	icuis
Gross	0.44%	1.82%	(0.43%)	2.74%	3.60%
Net	0.44%	1.70%	(0.55%)	2.61%	3.42%
Weighted Benchmark	(0.06%)	2.05%	(1.82%)	1.62%	2.25%
Weighted Benchmark	(0.00%)	2.0376	(1.0270)	1.02 %	2.25 %
Oomestic Fixed Income					
Gross	0.44%	1.82%	(0.43%)	2.74%	3.81%
Net	0.42%	1.70%	(0.55%)	2.61%	3.64%
Weighted Benchmark	(0.06%)	2.05%	(1.82%)	1.62%	2.41%
nv. Grade Fixed Income					
Gross	(0.57%)	(0.63%)	(3.34%)	1.42%	2.69%
Net	(0.59%)	(0.74%)	(3.45%)	1.32%	2.58%
Blmbg Aggregate Index	(0.84%)	(0.94%)	(3.96%)	0.77%	1.52%
selow Inv. Grade Fixed Income					
Gross	2.86%	7.48%	6.98%	5.87%	6.42%
Net	2.84%	7.36%	6.82%	5.67%	6.12%
Blmbg HY Corp 2% Issue	1.75%	9.07%	3.12%	3.34%	4.43%
	5 ,5	3.3. 70	3270	3.3.70	0 /0
ilobal Real Assets	(4.070/)	/E 000/\	7 700/	6.049/	7.500/
Gross	(1.67%)	(5.00%)	7.79%	6.61%	7.56%
Net	(1.81%)	(5.34%)	7.35%	6.18%	7.12%
Weighted Benchmark	(1.30%)	(4.31%)	6.77%	5.52%	6.15%
Real Estate					
Gross	(4.30%)	(10.50%)	7.19%	6.14%	9.24%
Net	(4.46%)	(10.87%)	6.65%	5.62%	8.71%
NCREIF Total Index	(1.98%)	(6.60%)	6.79%	5.90%	7.82%
Other Real Assets					
Gross	3.25%	6.35%	8.90%	7.42%	_
Net	3.16%	6.10%	8.64%	7.14%	_
Weighted Benchmark	(0.37%)	(1.10%)	6.72%	5.00%	-
		•			
nfrastructure Gross	3.93%	8.92%	10.75%	8.50%	7.42%
		8.92% 8.61%			7.42% 6.93%
Net	3.82%		10.41%	8.13%	
Benchmark(1)	(0.69%)	(3.04%)	6.49%	4.98%	3.16%
imber					
Net	(0.34%)	(5.29%)	2.17%	3.36%	1.49%
NCREIF Timberland Index	1.71%	11.13%	8.67%	5.80%	5.90%
ash & Equivalents - Net	1.28%	3.79%	1.36%	1.58%	1.05%
3-month Treasury Bill	1.17%	3.59%	1.27%	1.55%	0.98%
otal Fund					
Gross	3.28%	8.23%	8.89%	7.19%	7.91%
Net	3.21%	7.98%	8.62%	6.94%	7.63%
1101	3.10%	8.65%	0.02 /0	U.UT /U	7.00/0

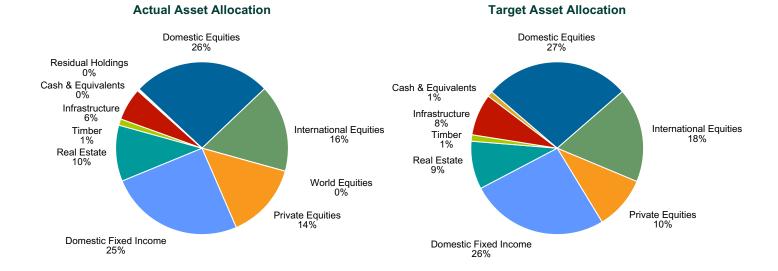
PLEASE REFER TO PAGES 37-41 FOR INVESTMENT MANAGER LEVEL RETURNS.



<sup>\*</sup> Current Quarter Target = 26.3% Russell 1000 Index, 20.1% MSCI ACWI xUS IMI, 16.0% Blmbg:Aggregate, 11.0% NCREIF Total Index, 7.0% Blmbg HY Corp 2% Iss Cap, 7.0% Private Equity, 4.6% Russell 2000 Index, 3.5% NCREIF NFI-ODCE Eq Wt Net, 3.5% CPI All Urban Cons lagged 3 months and 1.1% NCREIF Timberland Index. (1) CPI-W through June 30, 2018; 50 CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

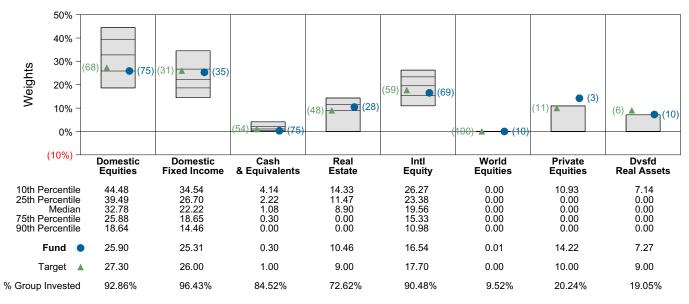
# Actual vs Target Asset Allocation As of June 30, 2023

The top left chart shows the Fund's asset allocation as of June 30, 2023. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.



	\$000s	Weight		Percent	\$000s
Asset Class	Actual	Actual	Target	Difference	Difference
Domestic Equities	808,928	25.9%	27.3%	(1.4%)	(43,857)
International Equities	512,966	16.4%	17.7%	(1.3%)	(39,823)
World Equities ·	246	0.0%	0.0%	0.0%	` 246
Private Equities	444,163	14.2%	10.0%	4.2%	131,814
Domestic Fixed Income	790,640	25.3%	26.0%	(0.7%)	(21,469)
Real Estate	326,766	10.5%	9.0%	1.5%	45,651
Timber	37,549	1.2%	1.2%	(0.0%)	(0)
Infrastructure	189,439	6.1%	7.8%	(1.7%)	(54,127)
Cash & Equivalents	9,288	0.3%	1.0%	(0.7%)	(21,947)
Residual Holdings	3,513	0.1%	0.0%	0.1%	3,513
Total	3.123.498	100.0%	100.0%		

### Asset Class Weights vs Callan Public Fund Sponsor Database



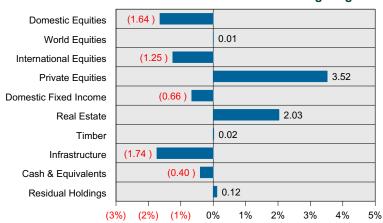
<sup>\*</sup> Current Quarter Target = 23.2% Russell 1000 Index, 18.0% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 10.0% Private Equity, 9.0% NCREIF Total Index, 8.0% Blmbg HY Corp 2% Iss Cap, 4.1% Russell 2000 Index, 3.9% CPI All Urban Cons lagged 3 months, 3.9% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



# **Quarterly Total Fund Relative Attribution - June 30, 2023**

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.





# **Actual vs Target Returns**

Actual Target

#### **Domestic Equities** World Equities International Equities Private Equities Domestic Fixed Income Real Estate Timber Infrastructure Cash & Equivalents Residual Holdings Total (20%) (15%) (10%) (5%)5% 10% 15% (0.5%)0.0% 0.5%

### Relative Attribution Effects for Quarter ended June 30, 2023

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	25%	27%	8.27%	8.08%	0.05%	(0.11%)	(0.06%)
World Equities	0%	0%	(13.18%)	(13.18%)	0.00%	(0.00%)	(0.00%)
International Equities	17%	18%	3.13%	2.38%	0.12%	0.00%	0.12%
Private Equities	14%	10%	5.74%	5.74%	0.00%	0.10%	0.10%
Domestic Fixed Income	25%	26%	0.31%	(0.05%)	0.10%	0.00%	0.10%
Real Estate	11%	9%	(4.30%)	(1.98%)	(0.27%)	(0.10%)	(0.37%)
Timber	1%	1%	(0.34%)	`1.71%´	(0.03%)	(0.00%)	(0.03%)
Infrastructure	6%	8%	`3.93%	(0.69%)	0.28%	0.06%	0.34%
Cash & Equivalents	1%	1%	1.26%	1.17%	0.00%	0.01%	0.01%
Residual Holdings	0%	0%	5.24%	5.24%	0.00%	0.00%	0.00%
Total			3.18% =	2.97% +	0.26% +	(0.05%)	0.21%

<sup>\*</sup> Current Quarter Target = 23.2% Russell 1000 Index, 18.0% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 10.0% Private Equity, 9.0% NCREIF Total Index, 8.0% Blmbg HY Corp 2% Iss Cap, 4.1% Russell 2000 Index, 3.9% CPI All Urban Cons lagged 3 months, 3.9% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



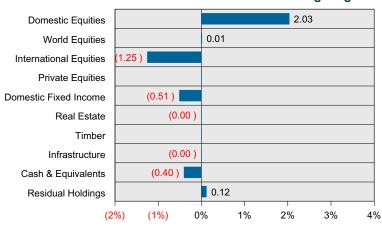
**Relative Attribution by Asset Class** 

Manager Effect Asset Allocation Total

# Quarterly Total Fund Relative Attribution - Corridor Target - June 30, 2023

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

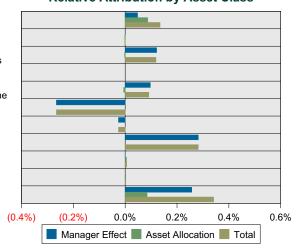




# **Actual vs Target Returns**

### **Domestic Equities** World Equities International Equities Private Equities Domestic Fixed Income Real Estate Timber Infrastructure Cash & Equivalents Residual Holdings Total (20%) (15%) (10%) (5%)5% 10% 15% (0.4%)(0.2%)Actual Target

### **Relative Attribution by Asset Class**



### Relative Attribution Effects for Quarter ended June 30, 2023

	Effective Actual	Effective Target	Actual	Target	Manager	Asset	Total Relative
Asset Class	Weight	Weight	Return	Return	Effect	Allocation	Return
Domestic Equities	25%	23%	8.27%	8.08%	0.05%	0.09%	0.13%
World Equities	0%	0%	(13.18%)	(13.18%)	0.00%	(0.00%)	(0.00%)
International Equities	17%	18%	3.13%	2.38%	0.12%	(0.00%)	0.12%
Private Equities	14%	14%	5.74%	5.74%	0.00%	0.00%	0.00%
Domestic Fixed Income	25%	26%	0.31%	(0.05%)	0.10%	(0.01%)	0.09%
Real Estate	11%	11%	(4.30%)	(1.98%)	(0.27%)	0.00%	(0.27%)
Timber	1%	1%	(0.34%)	1.71%	(0.03%)	0.00%	(0.03%)
Infrastructure	6%	6%	3.93%	(0.69%)	0.28%	0.00%	0.28%
Cash & Equivalents	1%	1%	1.26%	1.17%	0.00%	0.01%	0.01%
Residual Holdings	0%	0%	5.24%	5.24%	0.00%	0.00%	0.00%
Total			3.18% =	2.84% +	0.26% +	0.08%	0.34%

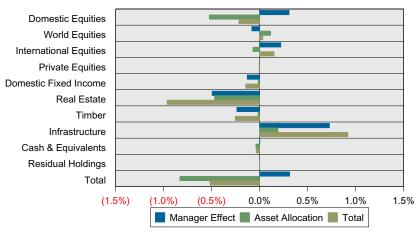
<sup>\*</sup> Current Quarter Target = 19.8% Russell 1000 Index, 17.9% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 13.8% Private Equity, 11.0% NCREIF Total Index, 7.9% Blmbg HY Corp 2% Iss Cap, 3.5% Russell 2000 Index, 3.1% NCREIF NFI-ODCE Eq Wt Net, 3.1% CPI All Urban Cons lagged 3 months, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



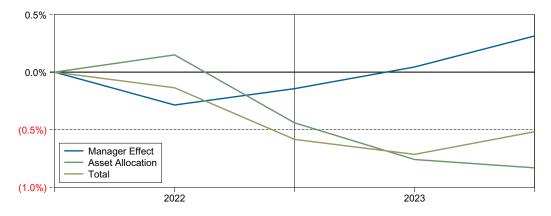
# Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

### **One Year Relative Attribution Effects**



### **Cumulative Relative Attribution Effects**



# **One Year Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	26%	19.91%	18.51%	0.31%	(0.53%)	(0.22%)
World Equities	3%	2%	(26.46%)	(25.91%)	(0.08%)	0.12%	0.03%
International Equities	15%	17%	14.14%	12.40%	0.22%	(0.07%)	0.15%
Private Equities	13%	10%	9.24%	9.24%	0.00%	(0.01%)	(0.01%)
Domestic Fixed Income	25%	26%	1.56%	2.08%	(0.13%)	(0.02%)	(0.15%)
Real Estate	12%	9%	(10.50%)	(6.60%)	(0.50%)	(0.47%)	(0.97%)
Timber	1%	1%	`(5.29%)	11.13%	(0.24%)	(0.02%)	(0.25%)
Infrastructure	6%	8%	`8.92%´	(3.04%)	0.73%	0.19%	0.92%
Cash & Equivalents	1%	1%	3.93%	`3.59%´	0.00%	(0.04%)	(0.04%)
Residual Holdings	0%	0%	=	-	0.00%	0.00%	0.00%
Total			7.72% =	8.23% +	0.31% +	(0.83%)	(0.52%)

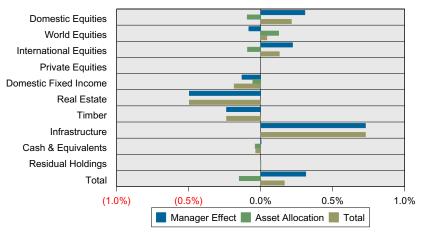
<sup>\*</sup> Current Quarter Target = 23.2% Russell 1000 Index, 18.0% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 10.0% Private Equity, 9.0% NCREIF Total Index, 8.0% Blmbg HY Corp 2% Iss Cap, 4.1% Russell 2000 Index, 3.9% CPI All Urban Cons lagged 3 months, 3.9% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



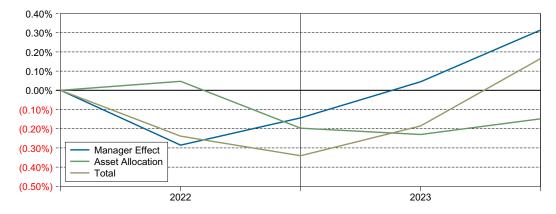
# Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

### **One Year Relative Attribution Effects**



### **Cumulative Relative Attribution Effects**



# **One Year Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	24%	22%	19.91%	18.51%	0.31%	(0.09%)	0.21%
World Equities	3%	2%	(26.46%)	(25.91%)	(0.08%)	0.13%	0.04%
International Equities	15%	17%	14.14%	12.40%	0.22%	(0.09%)	0.13%
Private Equities	13%	13%	9.24%	9.24%	0.00%	0.00%	0.00%
Domestic Fixed Income	25%	26%	1.56%	2.08%	(0.13%)	(0.05%)	(0.18%)
Real Estate	12%	12%	(10.50%)	(6.60%)	(0.50%)	0.00%	(0.50%)
Timber	1%	1%	(5.29%)	11.13%	(0.24%)	0.00%	(0.24%)
Infrastructure	6%	6%	8.92%	(3.04%)	0.73%	0.00%	0.73%
Cash & Equivalents	1%	1%	3.93%	3.59%	0.00%	(0.04%)	(0.03%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			7.72% =	7.55% +	0.31% +	(0.15%)	0.17%

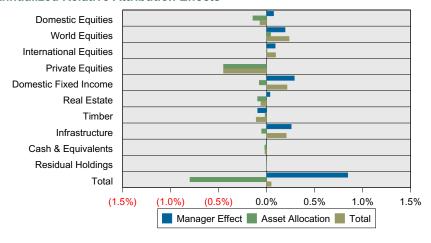
<sup>\*</sup> Current Quarter Target = 19.8% Russell 1000 Index, 17.9% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 13.8% Private Equity, 11.0% NCREIF Total Index, 7.9% Blmbg HY Corp 2% Iss Cap, 3.5% Russell 2000 Index, 3.1% NCREIF NFI-ODCE Eq Wt Net, 3.1% CPI All Urban Cons lagged 3 months, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



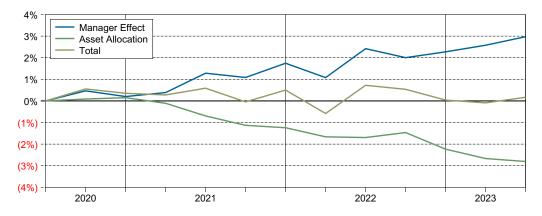
# Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

### **Three Year Annualized Relative Attribution Effects**



### **Cumulative Relative Attribution Effects**



# **Three Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	23%	14.00%	13.75%	0.07%	(0.14%)	(0.07%)
World Equities	9%	8%	(2.69%)	(4.08%)	0.19%	0.04%	0.23%
International Equities	15%	15%	7.70%	7.21%	0.09%	0.00%	0.09%
Private Equities	9%	9%	22.02%	22.02%	0.00%	(0.45%)	(0.45%)
Domestic Fixed Income	26%	26%	(0.86%)	(1.81%)	0.29%	(0.08%)	0.21%
Real Estate	10%	9%	7.18%	6.79%	0.03%	(0.09%)	(0.06%)
Timber	2%	2%	2.17%	8.67%	(0.09%)	(0.02%)	(0.11%)
Infrastructure	5%	7%	10.75%	6.49%	0.26%	(0.05%)	0.20%
Cash & Equivalents	1%	1%	1.40%	1.27%	0.00%	(0.02%)	(0.02%)
Residual Holdings	0%	0%	- '	- '	0.00%	0.00%	0.00%
Total			8.67% =	8.62%	+ 0.85% +	(0.80%)	0.05%

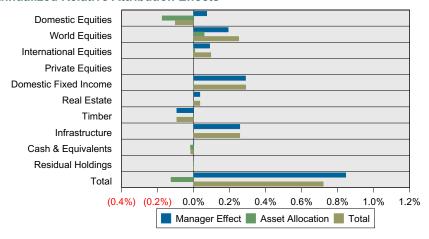
<sup>\*</sup> Current Quarter Target = 23.2% Russell 1000 Index, 18.0% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 10.0% Private Equity, 9.0% NCREIF Total Index, 8.0% Blmbg HY Corp 2% Iss Cap, 4.1% Russell 2000 Index, 3.9% CPI All Urban Cons lagged 3 months, 3.9% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



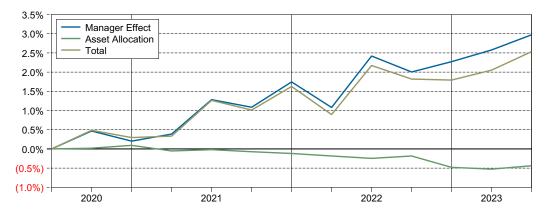
## Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

#### **Three Year Annualized Relative Attribution Effects**



#### **Cumulative Relative Attribution Effects**



#### Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	23%	14.00%	13.75%	0.07%	(0.17%)	(0.10%)
World Equities	9%	8%	(2.69%)	(4.08%)	0.19%	0.06%	0.25%
International Equities	15%	15%	7.70%	7.21%	0.09%	0.01%	0.10%
Private Equities	9%	9%	22.02%	22.02%	0.00%	0.00%	0.00%
Domestic Fixed Income	26%	26%	(0.86%)	(1.81%)	0.29%	0.00%	0.29%
Real Estate	10%	10%	7.18%	6.79%	0.03%	0.00%	0.03%
Timber	2%	2%	2.17%	8.67%	(0.09%)	0.00%	(0.09%)
Infrastructure	5%	5%	10.75%	6.49%	0.26%	0.00%	0.26%
Cash & Equivalents	1%	1%	1.40%	1.27%	0.00%	(0.02%)	(0.02%)
Residual Holdings	0%	0%			0.00%	0.00%	0.00%
Total			8.67% =	7.95% +	- 0.85% +	(0.13%)	0.72%

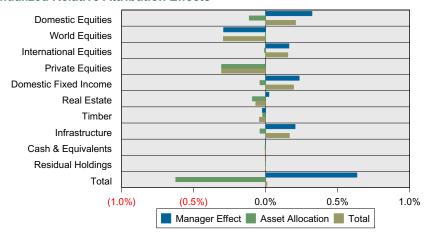
<sup>\*</sup> Current Quarter Target = 19.8% Russell 1000 Index, 17.9% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 13.8% Private Equity, 11.0% NCREIF Total Index, 7.9% Blmbg HY Corp 2% Iss Cap, 3.5% Russell 2000 Index, 3.1% NCREIF NFI-ODCE Eq Wt Net, 3.1% CPI All Urban Cons lagged 3 months, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



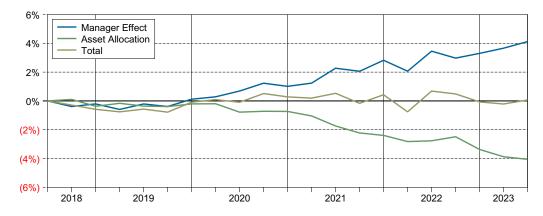
## Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

#### **Five Year Annualized Relative Attribution Effects**



#### **Cumulative Relative Attribution Effects**



## **Five Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	22%	11.91%	10.41%	0.32%	(0.11%)	0.21%
World Equities	12%	11%	(2.35%)	(0.71%)	(0.29%)	(0.00%)	(0.29%)
International Equities	15%	15%	4.46%	3.47%	0.16%	(0.01%)	0.15%
Private Equities	7%	8%	15.25%	15.25%	0.00%	(0.31%)	(0.31%)
Domestic Fixed Income	25%	25%	2.44%	1.62%	0.23%	(0.04%)	0.19%
Real Estate	10%	9%	6.14%	5.90%	0.02%	(0.09%)	(0.07%)
Timber	2%	2%	3.36%	5.80%	(0.02%)	(0.02%)	(0.04%)
Infrastructure	5%	7%	8.50%	4.98%	0.21%	(0.04%)	0.17%
Cash & Equivalents	1%	1%	1.60%	1.55%	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			7.07% =	7.06%	+ 0.63% +	(0.62%)	0.01%

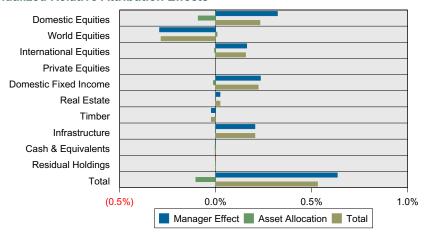
<sup>\*</sup> Current Quarter Target = 23.2% Russell 1000 Index, 18.0% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 10.0% Private Equity, 9.0% NCREIF Total Index, 8.0% Blmbg HY Corp 2% Iss Cap, 4.1% Russell 2000 Index, 3.9% CPI All Urban Cons lagged 3 months, 3.9% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



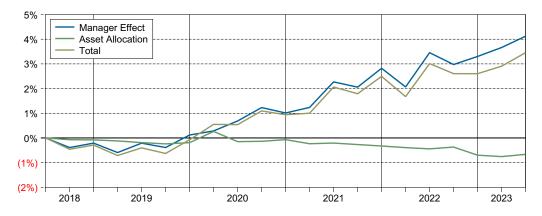
## **Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023**

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

#### **Five Year Annualized Relative Attribution Effects**



#### **Cumulative Relative Attribution Effects**



## **Five Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	23%	11.91%	10.41%	0.32%	(0.09%)	0.23%
World Equities	12%	11%	(2.35%)	(0.71%)	(0.29%)	0.01%	(0.28%)
International Equities	15%	15%	4.46%	3.47%	0.16%	(0.01%)	0.16%
Private Equities	7%	7%	15.25%	15.25%	0.00%	0.00%	0.00%
Domestic Fixed Income	25%	25%	2.44%	1.62%	0.23%	(0.01%)	0.22%
Real Estate	10%	10%	6.14%	5.90%	0.02%	0.00%	0.02%
Timber	2%	2%	3.36%	5.80%	(0.02%)	0.00%	(0.02%)
Infrastructure	5%	5%	8.50%	4.98%	0.21%	0.00%	0.21%
Cash & Equivalents	1%	1%	1.60%	1.55%	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%		-	0.00%	0.00%	0.00%
Total			7.07% =	6.54%	+ 0.63% +	(0.10%)	0.53%

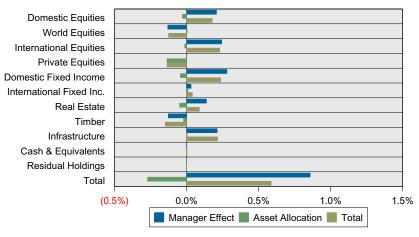
<sup>\*</sup> Current Quarter Target = 19.8% Russell 1000 Index, 17.9% BImbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 13.8% Private Equity, 11.0% NCREIF Total Index, 7.9% BImbg HY Corp 2% Iss Cap, 3.5% Russell 2000 Index, 3.1% NCREIF NFI-ODCE Eq Wt Net, 3.1% CPI All Urban Cons lagged 3 months, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



## Cumulative Total Fund Relative Attribution - June 30, 2023

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

#### **Ten Year Annualized Relative Attribution Effects**



#### **Cumulative Relative Attribution Effects**



#### Ten Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	22%	12.79%	11.81%	0.21%	(0.03%)	0.18%
World Equities	14%	14%	3.69%	4.48%	(0.13%)	0.01%	(0.13%)
International Equities	15%	15%	6.35%	4.81%	0.24%	(0.01%)	0.23%
Private Equities	6%	7%	8.07%	8.07%	0.00%	(0.14%)	(0.14%)
Domestic Fixed Income	21%	21%	3.62%	2.35%	0.28%	(0.04%)	0.24%
International Fixed Inc.	2%	2%	-	-	0.03%	0.01%	0.04%
Real Estate	10%	10%	9.24%	7.82%	0.14%	(0.05%)	0.09%
Timber	3%	3%	1.49%	5.90%	(0.13%)	(0.02%)	(0.15%)
Infrastructure	5%	6%	7.42%	3.16%	0.21%	0.00%	0.22%
Cash & Equivalents	1%	1%	1.06%	0.98%	0.00%	0.00%	0.00%
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			7.84% =	7.26%	+ 0.86% +	(0.27%)	0.59%

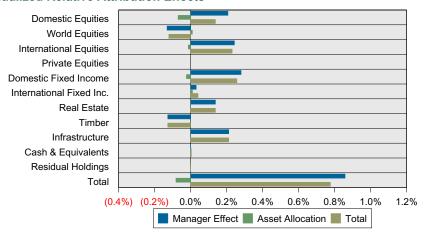
<sup>\*</sup> Current Quarter Target = 23.2% Russell 1000 Index, 18.0% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 10.0% Private Equity, 9.0% NCREIF Total Index, 8.0% Blmbg HY Corp 2% Iss Cap, 4.1% Russell 2000 Index, 3.9% CPI All Urban Cons lagged 3 months, 3.9% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



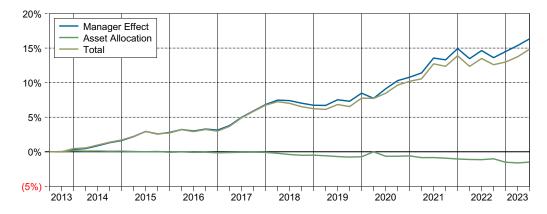
## **Cumulative Total Fund Relative Attribution - Corridor Target - June 30, 2023**

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

#### **Ten Year Annualized Relative Attribution Effects**



#### **Cumulative Relative Attribution Effects**



#### Ten Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	23%	12.79%	11.81%	0.21%	(0.07%)	0.14%
World Equities	14%	14%	3.69%	4.48%	(0.13%)	0.01%	(0.12%)
International Equities	15%	15%	6.35%	4.81%	0.24%	(0.01%)	0.23%
Private Equities	6%	6%	8.07%	8.07%	0.00%	0.00%	0.00%
Domestic Fixed Income	21%	21%	3.62%	2.35%	0.28%	(0.02%)	0.26%
International Fixed Inc.	2%	2%	-	-	0.03%	0.01%	0.04%
Real Estate	10%	10%	9.24%	7.82%	0.14%	0.00%	0.14%
Timber	3%	3%	1.49%	5.90%	(0.13%)	0.00%	(0.13%)
Infrastructure	5%	5%	7.42%	3.16%	0.21%	0.00%	0.21%
Cash & Equivalents	1%	1%	1.06%	0.98%	0.00%	0.00%	0.00%
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			7.84% =	7.07%	+ 0.86% +	(0.08%)	0.78%

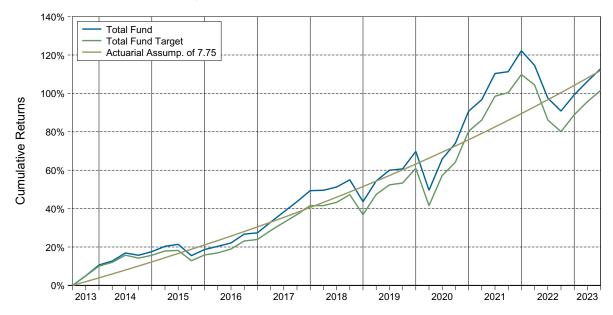
<sup>\*</sup> Current Quarter Target = 19.8% Russell 1000 Index, 17.9% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 13.8% Private Equity, 11.0% NCREIF Total Index, 7.9% Blmbg HY Corp 2% Iss Cap, 3.5% Russell 2000 Index, 3.1% NCREIF NFI-ODCE Eq Wt Net, 3.1% CPI All Urban Cons lagged 3 months, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



## **Cumulative Performance Relative to Target**

The first chart below illustrates the cumulative performance of the Total Fund relative to the cumulative performance of the Fund's Target Asset Mix. The Target Mix is assumed to be rebalanced each quarter with no transaction costs. The second chart below shows the return and the risk of the Total Fund and the Target Mix, contrasted with the returns and risks of the funds in the Callan Public Fund Sponsor Database.

#### **Cumulative Returns Actual vs Target**



#### Ten Year Annualized Risk vs Return



Squares represent membership of the Callan Public Fund Sponsor Database

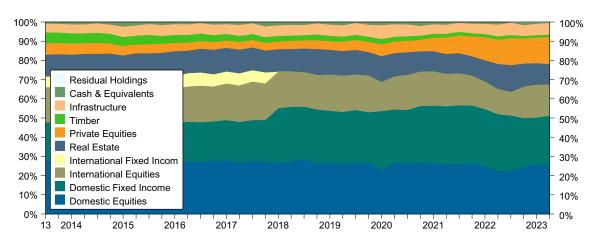
<sup>\*</sup> Current Quarter Target = 23.2% Russell 1000 Index, 18.0% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 10.0% Private Equity, 9.0% NCREIF Total Index, 8.0% Blmbg HY Corp 2% Iss Cap, 4.1% Russell 2000 Index, 3.9% CPI All Urban Cons lagged 3 months, 3.9% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



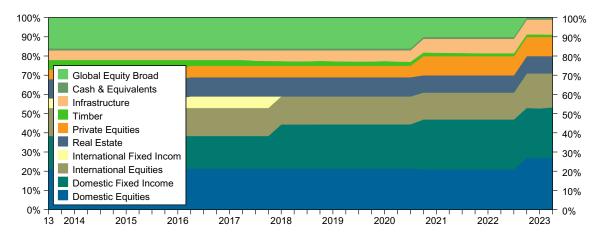
## **Actual vs Target Historical Asset Allocation**

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

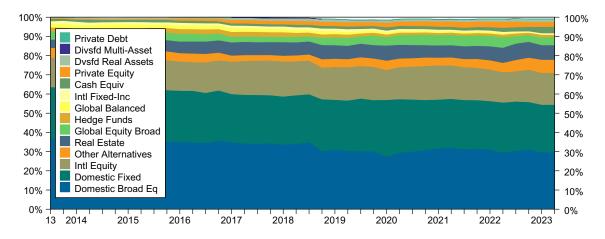
#### **Actual Historical Asset Allocation**



#### **Target Historical Asset Allocation**



#### Average Callan Public Fund Sponsor Database Historical Asset Allocation



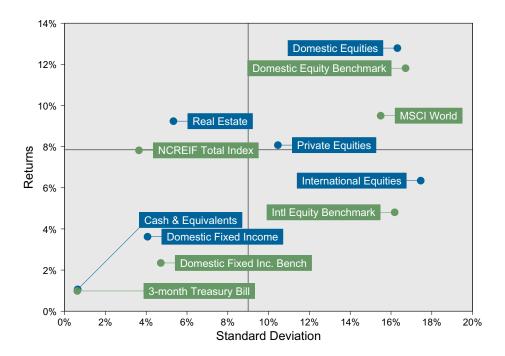
<sup>\*</sup> Current Quarter Target = 23.2% Russell 1000 Index, 18.0% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 10.0% Private Equity, 9.0% NCREIF Total Index, 8.0% Blmbg HY Corp 2% Iss Cap, 4.1% Russell 2000 Index, 3.9% CPI All Urban Cons lagged 3 months, 3.9% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



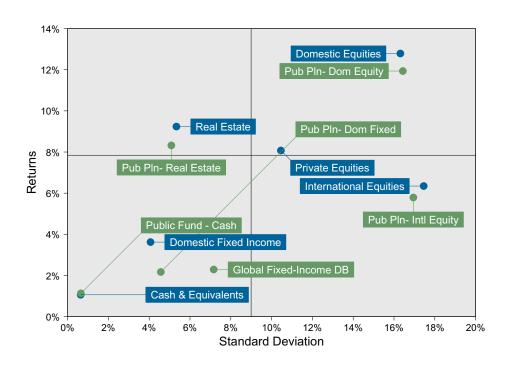
#### **Asset Class Risk and Return**

The charts below show the ten year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

#### Ten Year Annualized Risk vs Return **Asset Classes vs Benchmark Indices**



#### Ten Year Annualized Risk vs Return Asset Classes vs Asset Class Median

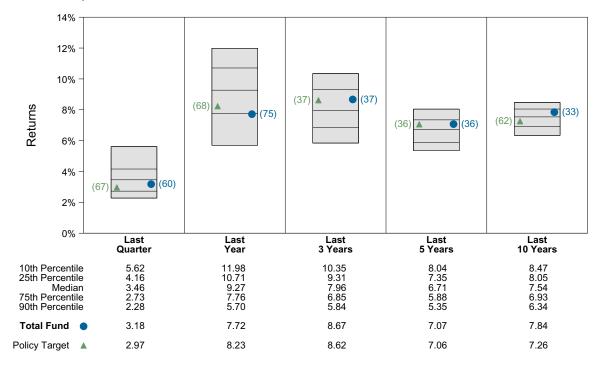




## **Total Fund Ranking**

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended June 30, 2023. The first chart is a standard unadjusted ranking. In the second chart each fund in the database is adjusted to have the same historical asset allocation as that of the Total Fund.

#### **Callan Public Fund Sponsor Database**



#### **Asset Allocation Adjusted Ranking**

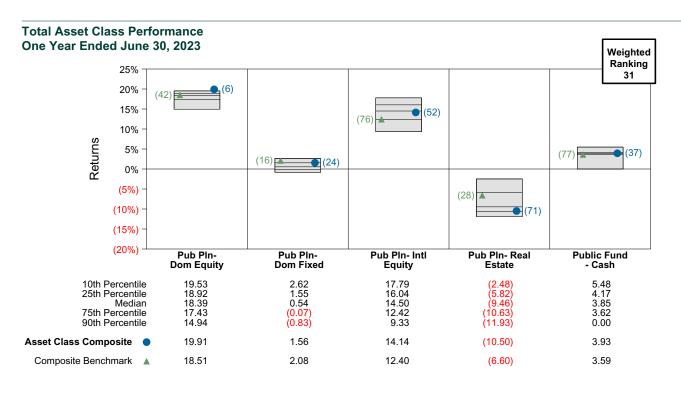


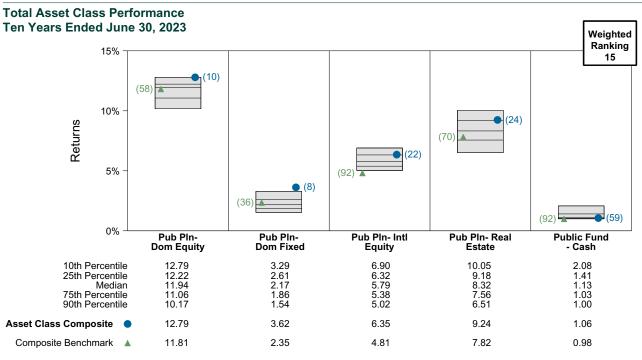
<sup>\*</sup> Current Quarter Target = 23.2% Russell 1000 Index, 18.0% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 10.0% Private Equity, 9.0% NCREIF Total Index, 8.0% Blmbg HY Corp 2% Iss Cap, 4.1% Russell 2000 Index, 3.9% CPI All Urban Cons lagged 3 months, 3.9% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



## **Asset Class Rankings**

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.





<sup>\*</sup> Current Quarter Target = 23.2% Russell 1000 Index, 18.0% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 10.0% Private Equity, 9.0% NCREIF Total Index, 8.0% Blmbg HY Corp 2% Iss Cap, 4.1% Russell 2000 Index, 3.9% CPI All Urban Cons lagged 3 months, 3.9% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.



## **Asset Class Allocation**

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2023, with the distribution as of March 31, 2023. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

## **Asset Class Allocation**

	June 30, 2	2023			March 31, 2023		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight	
Global Equities	\$1,766,303,487	56.55%	\$(45,820,964)	\$101,095,871	\$1,711,028,580	56.28%	
Public Equities	\$1,322,140,103	42.33%	\$(61,627,887)	\$77,421,684	\$1,306,346,306	42.97%	
World Equities	\$246,154	0.01%	\$0	\$(37,382)	\$283,536	0.01%	
Domestic Equities	\$808,927,662	25.90%	\$(37,319,241)	\$61,746,057	\$784,500,846	25.81%	
Large Cap	687,412,722	22.01%	(37,063,806)	57,651,772	666,824,755	21.93%	
Small Cap	121,514,940	3.89%	(255,435)	4,094,285	117,676,091	3.87%	
Total International Equity	\$512,966,287	16.42%	\$(24,308,646)	\$15,713,010	\$521,561,924	17.16%	
International All Cap	202,895,604	6.50%	(5,792,855)	8,408,542	200,279,917	6.59%	
Developed Intl Large Cap	192,779,413	6.17%	(14,597,180)	6,626,943	200,749,650	6.60%	
Developee Intl Small Cap	31,179,675	1.00%	(3,964,758)	488,348	34,656,085	1.14%	
Emerging Markets	86,111,596	2.76%	46,147	189,176	85,876,273	2.82%	
Private Equities	\$444,163,384	14.22%	\$15,806,923	\$23,674,187	\$404,682,274	13.31%	
Global Fixed Income	\$790,640,387	25.31%	\$42,931,914	\$2,405,660	\$745,302,812	24.52%	
Domestic Fixed Income	\$790,640,387	25.31%	\$42,931,914	\$2,405,660	\$745,302,812	24.52%	
Investment Grade	554,444,724	17.75%	40,182,129	(3,217,385)	517,479,981	17.02%	
Below Investment Grade	236,195,662	7.56%	2,749,785	5,623,046	227,822,832	7.49%	
Global Real Assets	\$553,753,045	17.73%	\$2,765,582	\$(7,566,002)	\$558,553,464	18.37%	
Real Estate	\$326,765,712	10.46%	\$2,427,281	\$(14,624,703)	\$338,963,134	11.15%	
Other Real Assets	\$226,987,333	7.27%	\$338,301	\$7,058,702	\$219,590,330	7.22%	
Infrastructure	189,438,536	6.06%	1,535,398	7,185,644	180,717,494	5.94%	
Timber	37,548,797	1.20%	(1,197,096)	(126,942)	38,872,836	1.28%	
Cash	\$9,287,762	0.30%	\$(12,819,893)	\$249,216	\$21,858,439	0.72%	
Residual Holdings	\$3,512,968	0.11%	\$(8,147)	\$175,552	\$3,345,563	0.11%	
Total Fund	\$3,123,497,648	100.0%	\$(12,951,507)	\$96,360,297	\$3,040,088,858	100.0%	



## **Investment Manager Returns**

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

## Returns for Periods Ended June 30, 2023

	Last	Last	Last 3	Last 5	Last 10
				-	
	Quarter	Year	Years	Years	Years
Global Equities		4=/			
Gross	6.10%	15.30%	13.55%	9.28%	9.82%
Net	6.06%	15.05%	13.28%	9.04%	9.54%
Weighted Benchmark	5.80%	15.27%	13.95%	9.73%	9.56%
Public Equities					
Gross	6.22%	17.23%	11.94%	8.30%	-
Net	6.15%	16.90%	11.62%	8.02%	-
Weighted Benchmark	5.81%	16.29%	11.22%	7.93%	-
Total Domestic Equity					
Gross	8.27%	19.91%	14.00%	11.91%	12.79%
Net	8.21%	19.62%	13.74%	11.69%	12.57%
Weighted Benchmark	8.08%	18.51%	13.75%	10.41%	11.81%
Large Cap Equity					
Gross	9.12%	20.71%	14.59%	13.42%	13.78%
Net	9.08%	20.49%	14.43%	13.27%	13.63%
Benchmark(1)	8.58%	19.36%	14.09%	11.92%	12.64%
Small Cap Equity					
Gross	3.49%	15.73%	11.15%	6.32%	9.07%
Net	3.49%	15.75%	10.42%	5.78%	8.61%
Russell 2000 Index	5.21%	12.31%	10.42%	4.21%	8.26%
Table 1 and					
Total International Equity	2.420/	4.4.4.0/	7 700/	4.400/	0.050/
Gross	3.13%	14.14%	7.70%	4.46%	6.35%
Net	3.06%	13.84%	7.38%	4.20%	6.11%
MSCI ACWI xUS IMI(2)	2.38%	12.40%	7.21%	3.47%	4.81%
International All Cap					
Gross	4.31%	-	-	-	-
Net	4.20%	-	-	-	-
MSCI ACWI xUS IMI	2.38%	12.47%	7.33%	3.38%	4.88%
Developed Intl Large Cap					
Gross	3.35%	-	-	-	-
Net	3.35%	-	-	-	-
MSCI World xUS	3.03%	17.41%	9.30%	4.58%	5.40%
Developed Intl Small Cap					
Gross	0.93%	_	-	-	_
Net	0.83%	_	_	_	_
MSCI World xUS Small	0.49%	10.05%	6.42%	1.83%	5.97%
Emerging Markets					
Gross	0.29%	(1.53%)	1.65%	1.36%	3.73%
Net	0.29%	(1.87%)	1.04%	0.99%	3.50%
Benchmark(4)	0.20%	1.75%	2.32%	0.93%	2.95%
Privata Equition					
Private Equities Net	5.74%	9.24%	22.02%	15.25%	8.07%
	J , o	0.= . , 0			3.51 70

PLEASE REFER TO PAGES 37-41 FOR INVESTMENT MANAGER LEVEL RETURNS.



<sup>(1)</sup> S&P 500 Index through 12/31/2011 and the Russell 1000 Index thereafter.

<sup>(2)</sup> Prior to 10/1/2022, the benchmark is calculated based on the approved investment policy asset allocation target.

<sup>(2) 50%</sup> Hedged EAFE through 3/31/2011; MSCI EAFE through 6/3016; MSCI World ex-US thereafter.

<sup>(3)</sup> MSCI Emerging Mkts Idx (Gross) through 6/30/2011 and MSCI Emerging Mkts Idx Net thereafter.

## **Investment Manager Returns**

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended June 30, 2023

	Last	Last	Last 3	Last 5	Last 10
	Quarter	Year	Years	Years	Years
Global Fixed Income	~~~				
Gross	0.32%	1.56%	(0.86%)	2.44%	3.41%
Net	0.29%	1.43%	(0.98%)	2.31%	3.22%
Weighted Benchmark	(0.05%)	2.08%	(1.81%)	1.62%	2.21%
Weighted Beholiman	(0.0070)	2.0070	(1.0170)	1.0270	2.2170
Oomestic Fixed Income					
Gross	0.32%	1.56%	(0.86%)	2.44%	3.62%
Net	0.29%	1.43%	(0.98%)	2.31%	3.45%
Weighted Benchmark	(0.05%)	2.08%	(1.81%)	1.62%	2.35%
nv. Grade Fixed Income					
Gross	(0.57%)	(0.62%)	(3.34%)	1.42%	2.69%
Net	(0.59%)	(0.74%)	(3.45%)	1.32%	2.58%
Blmbg Aggregate	(0.84%)	(0.94%)	(3.96%)	0.77%	1.52%
5 55 5	(0.0.70)	(2.5.70)	(2.5070)		
Below Inv. Grade Fixed Income					
Gross	2.43%	7.29%	6.60%	5.61%	6.29%
Net	2.39%	7.12%	6.40%	5.38%	5.97%
Blmbg HY Corp 2% Issue	1.75%	9.07%	3.12%	3.34%	4.43%
lobal Real Assets					
Gross	(1.35%)	(4.34%)	7.82%	6.64%	7.51%
Net	(1.49%)	(4.66%)	7.40%	6.22%	7.08%
Weighted Benchmark	(1.17%)	(3.89%)	6.77%	5.50%	6.13%
teal Estate					
Gross	(4.30%)	(10.50%)	7.18%	6.14%	9.24%
Net	(4.46%)	(10.87%)	6.65%	5.62%	8.71%
NCREIF Total Index	(1.98%)	(6.60%)	6.79%	5.90%	7.82%
NCREIF Total Illuex	(1.96%)	(0.00%)	0.79%	5.90 %	1.02 /6
ther Real Assets					
Gross	3.20%	6.17%	8.77%	7.34%	-
Net	3.11%	5.92%	8.52%	7.08%	-
Weighted Benchmark	(0.37%)	(1.12%)	6.71%	4.98%	-
nfrastructure					
Gross	3.93%	8.92%	10.75%	8.50%	7.42%
Net	3.82%	8.61%	10.41%	8.13%	6.93%
Benchmark(1)	(0.69%)	(3.04%)	6.49%	4.98%	3.16%
Donomian (1)	(0.0070)	(0.0470)	0.7070	7.0070	5.1070
imber		,	<u>.</u>		
Net	(0.34%)	(5.29%)	2.17%	3.36%	1.49%
NCREIF Timberland Index	1.71%	11.13%	8.67%	5.80%	5.90%
ash & Equivalents - Net	1.26%	3.93%	1.40%	1.60%	1.06%
3-month Treasury Bill	1.17%	3.59%	1.27%	1.55%	0.98%
·					
otal Fund Gross	3.18%	7.72%	8.67%	7.07%	7.84%
G1055					
Net	3.12%	7.48%	8.41%	6.83%	7.57%

PLEASE REFER TO PAGES 37-41 FOR INVESTMENT MANAGER LEVEL RETURNS.



<sup>\*</sup> Current Quarter Target = 23.2% Russell 1000 Index, 18.0% Blmbg:Aggregate, 17.7% MSCI ACWI xUS IMI, 10.0% Private Equity, 9.0% NCREIF Total Index, 8.0% Blmbg HY Corp 2% Iss Cap, 4.1% Russell 2000 Index, 3.9% CPI All Urban Cons lagged 3 months, 3.9% NCREIF NFI-ODCE Eq Wt Net, 1.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill. (1) CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

## Domestic Equities Period Ended June 30, 2023

#### **Quarterly Summary and Highlights**

- Domestic Equities's portfolio posted a 8.24% return for the quarter placing it in the 19 percentile of the Public Fund -Domestic Equity group for the quarter and in the 7 percentile for the last year.
- Domestic Equities's portfolio outperformed the Domestic Equity Target by 0.17% for the quarter and outperformed the Domestic Equity Target for the year by 1.34%.

#### **Quarterly Asset Growth**

 Beginning Market Value
 \$1,987,990,432

 Net New Investment
 \$-94,127,786

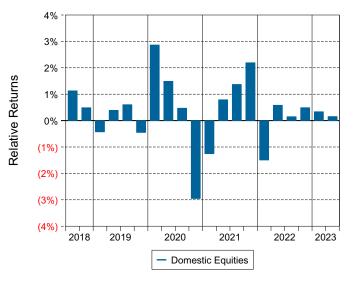
 Investment Gains/(Losses)
 \$156,652,354

Ending Market Value \$2,050,515,000

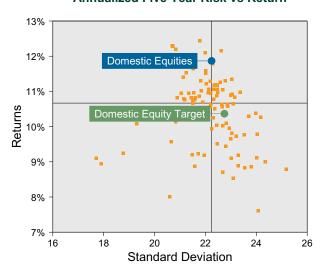
## Performance vs Public Fund - Domestic Equity (Gross)



#### **Relative Return vs Domestic Equity Target**



# Public Fund - Domestic Equity (Gross) Annualized Five Year Risk vs Return





## L.A. Capital Period Ended June 30, 2023

#### **Investment Philosophy**

The LA Capital Structured portfolio is a large growth portfolio benchmarked to the Russell 1000 Growth Index. It is an active assignment meaning that it targets a 2% alpha and constrains its risk budget (tracking error) to 4% relative to the benchmark. LA Capital believes that investment results are driven by Investor Preferences and thus recognize that when preferences shift a different posture related to that factor is warranted.

Beginning

Net New

Investment Gains/(Losses)

## **Quarterly Summary and Highlights**

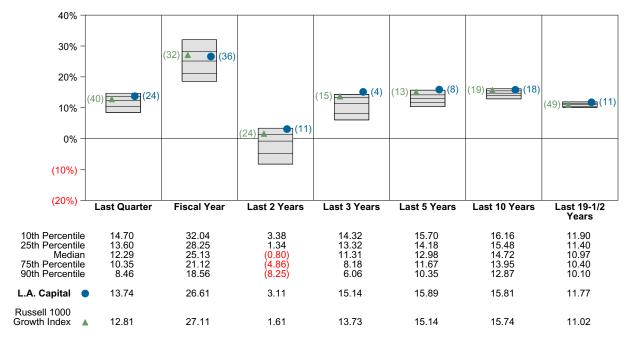
- L.A. Capital's portfolio posted a 13.74% return for the quarter placing it in the 24 percentile of the Callan Large Cap Growth group for the quarter and in the 36 percentile for the last year.
- L.A. Capital's portfolio outperformed the Russell 1000 Growth Index by 0.93% for the quarter and underperformed the Russell 1000 Growth Index for the year by 0.50%.

Quarterly Asset (	Growth
Market Value	\$50,289,436
Investment	\$0

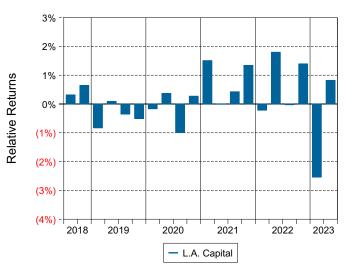
\$6,910,021

Ending Market Value \$57,199,457

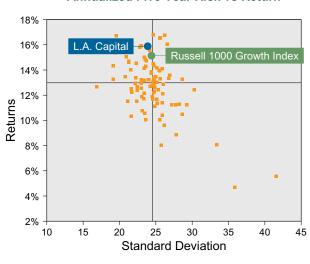
## Performance vs Callan Large Cap Growth (Gross)



#### Relative Return vs Russell 1000 Growth Index



## Callan Large Cap Growth (Gross) Annualized Five Year Risk vs Return





# L.A. Capital Management Enhanced Index Period Ended June 30, 2023

#### **Investment Philosophy**

The LA Capital Enhanced portfolio is a large core portfolio benchmarked to the Russell 1000 Index. Characterized as an enhanced index assignment, its objective is to track the benchmark with lower variability. The pension portfolio began in August of 2000 and the insurance portfolio was initiated in April of 2004. Since October of 2006 a small portion of each of the two core accounts was allocated into the Large Cap Alpha Fund with intent to add incremental alpha to the assignment given that the information ratio was expected to be higher.

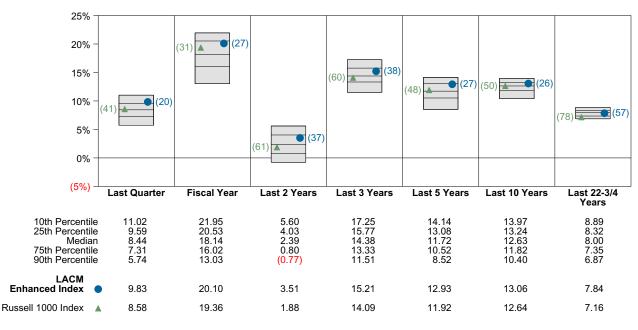
#### **Quarterly Summary and Highlights**

- LACM Enhanced Index's portfolio posted a 9.83% return for the quarter placing it in the 20 percentile of the Callan Large Cap Core group for the quarter and in the 27 percentile for the last year.
- LACM Enhanced Index's portfolio outperformed the Russell 1000 Index by 1.25% for the quarter and outperformed the Russell 1000 Index for the year by 0.73%.

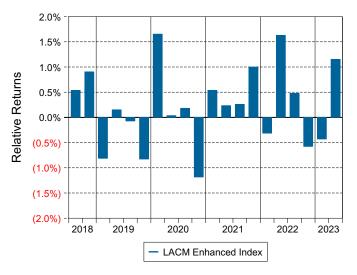
## **Quarterly Asset Growth**

Beginning Market Value	\$695,610,350
Net New Investment	\$0
Investment Gains/(Losses)	\$68,391,339
Ending Market Value	\$764 001 689

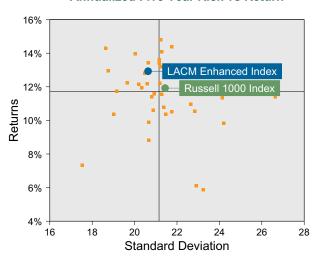
## Performance vs Callan Large Cap Core (Gross)



## Relative Return vs Russell 1000 Index



## Callan Large Cap Core (Gross) Annualized Five Year Risk vs Return





## NTAM R1000 Index Period Ended June 30, 2023

#### **Investment Philosophy**

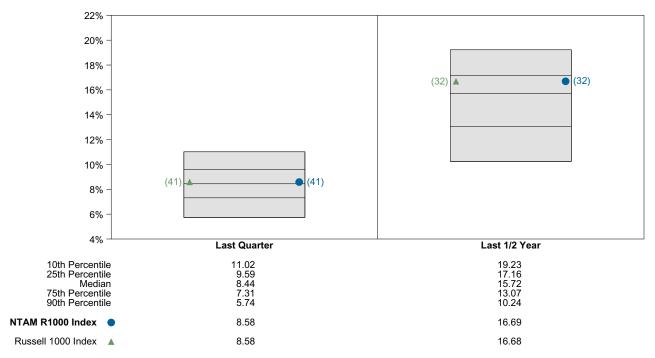
The primary objective of the Northern Trust Russell 1000 Index Fund is to approximate the risk and return characteristics of the Russell 1000 Index.

## **Quarterly Summary and Highlights**

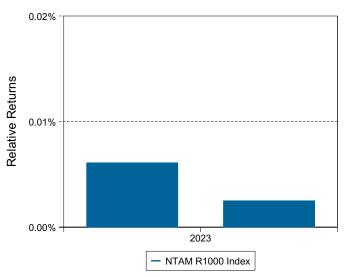
- NTAM R1000 Index's portfolio posted a 8.58% return for the quarter placing it in the 41 percentile of the Callan Large Cap Core group for the quarter and in the 32 percentile for the last one-half year.
- NTAM R1000 Index's portfolio outperformed the Russell 1000 Index by 0.00% for the quarter and outperformed the Russell 1000 Index for the one-half year by 0.01%.

Beginning Market Value	\$410,809,325
Net New Investment	\$-88,000,000
Investment Gains/(Losses)	\$28,285,409
Ending Market Value	\$351 094 734

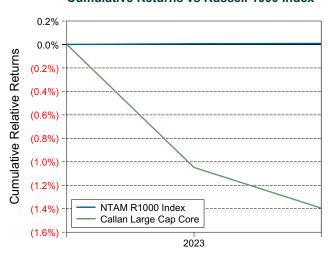
## Performance vs Callan Large Cap Core (Gross)



#### Relative Return vs Russell 1000 Index



## **Cumulative Returns vs Russell 1000 Index**





## NTAM Quant Enh R1000 Period Ended June 30, 2023

#### **Investment Philosophy**

The Fund's Investment Objective is to exceed the total return of the Russell 1000 Index\* (the Benchmark) by 150 basis points on a gross of fee basis while targeting expected tracking error of no greater than 150-200 basis points. **Effective October 1, 2022, the benchmark changed from S&P500 to Russell 1000.** Benchmark returns for the S&P500 Index are linked to Russell 1000 Index.

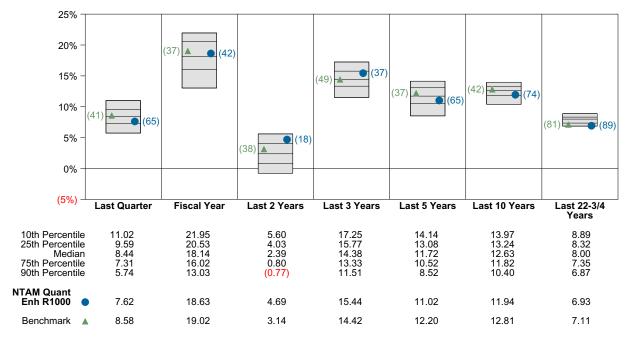
#### **Quarterly Summary and Highlights**

- NTAM Quant Enh R1000's portfolio posted a 7.62% return for the quarter placing it in the 65 percentile of the Callan Large Cap Core group for the quarter and in the 42 percentile for the last year.
- NTAM Quant Enh R1000's portfolio underperformed the Benchmark by 0.96% for the quarter and underperformed the Benchmark for the year by 0.39%.

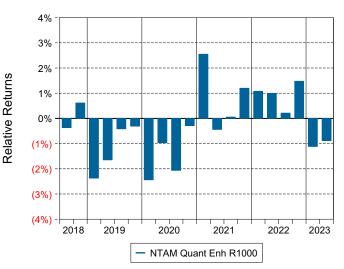
#### **Quarterly Asset Growth**

Beginning Market Value	\$267,447,584
Net New Investment	\$-629,553
Investment Gains/(Losses)	\$20,337,241
Ending Market Value	\$287,155,272

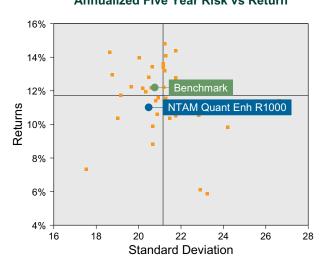
## Performance vs Callan Large Cap Core (Gross)



#### **Relative Return vs Benchmark**



## Callan Large Cap Core (Gross) Annualized Five Year Risk vs Return





## Parametric-Clifton Enh R1000 Period Ended June 30, 2023

#### **Investment Philosophy**

The Enhanced US Large Cap strategy seeks to outperform the Russell 1000 Index by 50-100 basis points annually. The strategy seeks to exhibit risk levels similar to the Russell Index and achieve a modest level of outperformance consistency relative to the Russell Index. Effective July 1, 2022, the strategy benchmark changed from S&P500 to Russell 1000. Benchmark returns for the S&P500 Index are linked to Russell 1000 Index.

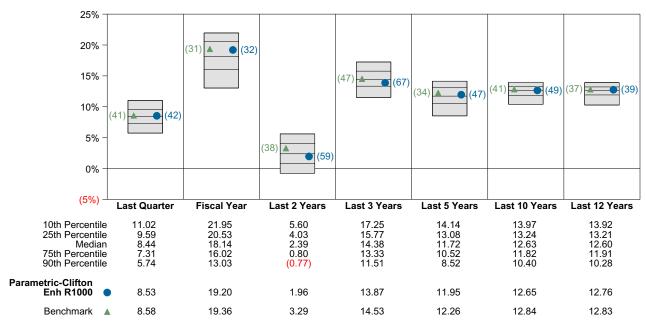
#### **Quarterly Summary and Highlights**

- Parametric-Clifton Enh R1000's portfolio posted a 8.53% return for the quarter placing it in the 42 percentile of the Callan Large Cap Core group for the quarter and in the 32 percentile for the last year.
- Parametric-Clifton Enh R1000's portfolio underperformed the Benchmark by 0.05% for the quarter and underperformed the Benchmark for the year by 0.16%.

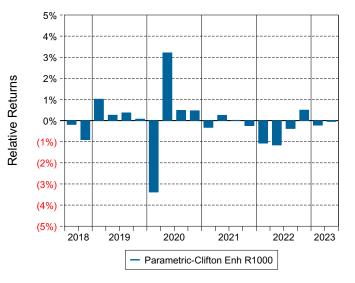
## **Quarterly Asset Growth**

Beginning Market Value	\$265,166,778
Net New Investment	\$0
Investment Gains/(Losses)	\$22,625,939
Ending Market Value	\$287,792,718

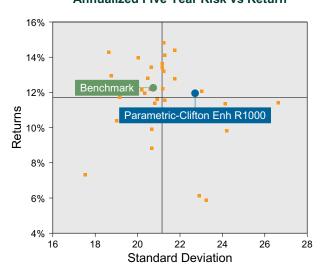
## Performance vs Callan Large Cap Core (Gross)



## Relative Return vs Benchmark



## Callan Large Cap Core (Gross) Annualized Five Year Risk vs Return





## Atlanta Capital Period Ended June 30, 2023

#### **Investment Philosophy**

Atlanta Capital Management focuses on high quality companies and seeks to develop portfolios with an overall risk profile similar to the Russell 2000 Index. Atlanta screens for stocks rated B+ or better by S&P and with at least five years of financial history. Portfolio managers screen stocks, primarily those in the Russell 2000 Index, to identify companies based on what Atlanta considers a favorable combination of valuation and stable earnings and dividend growth. Atlanta's analyst team also strives to identify companies with a "purchase catalyst" or something that differentiates the company from its industry peers.

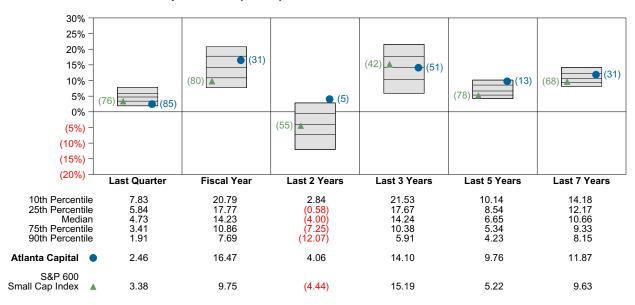
#### **Quarterly Summary and Highlights**

- Atlanta Capital's portfolio posted a 2.46% return for the quarter placing it in the 85 percentile of the Callan Small Capitalization group for the quarter and in the 31 percentile for the last year.
- Atlanta Capital's portfolio underperformed the S&P 600 Small Cap Index by 0.92% for the quarter and outperformed the S&P 600 Small Cap Index for the year by 6.72%.

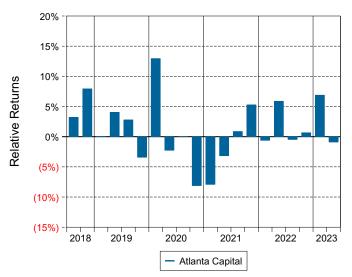
#### **Quarterly Asset Growth**

Beginning Market Value	\$98,657,765
Net New Investment	\$0
Investment Gains/(Losses)	\$2,425,058
Ending Market Value	\$101,082,823

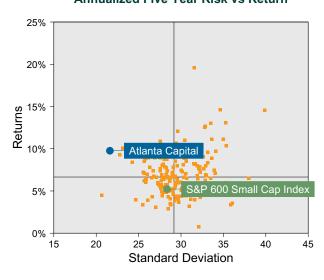
#### Performance vs Callan Small Capitalization (Gross)



#### Relative Return vs S&P 600 Small Cap Index



## Callan Small Capitalization (Gross) Annualized Five Year Risk vs Return





# Riverbridge Small Cap Growth Period Ended June 30, 2023

#### **Investment Philosophy**

Riverbridge believes earnings power determines the value of a franchise. They focus on companies that are building earnings power and intrinsic value of the company over long periods of time. They also look for high-quality growth companies that demonstrate the ability to sustain strong secular earnings growth, regardless of overall economic conditions.

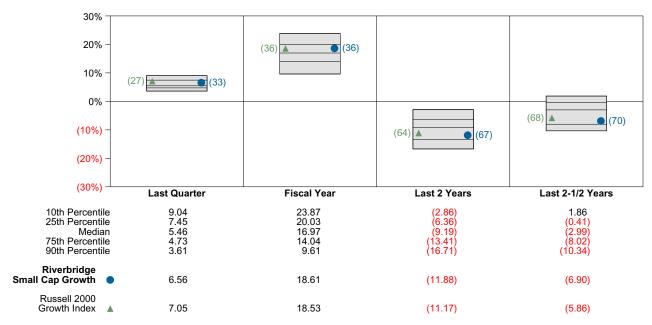
#### **Quarterly Summary and Highlights**

- Riverbridge Small Cap Growth's portfolio posted a 6.56% return for the quarter placing it in the 33 percentile of the Callan Small Cap Growth group for the quarter and in the 36 percentile for the last year.
- Riverbridge Small Cap Growth's portfolio underperformed the Russell 2000 Growth Index by 0.49% for the quarter and outperformed the Russell 2000 Growth Index for the year by 0.08%.

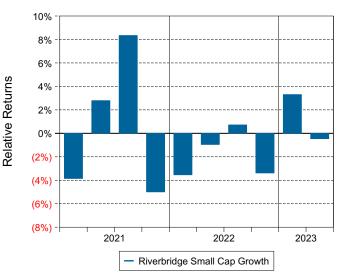
## **Quarterly Asset Growth**

Beginning Market Value	\$92,089,526
Net New Investment	\$-346,771
Investment Gains/(Losses)	\$6,026,550
Ending Market Value	\$97,769,305

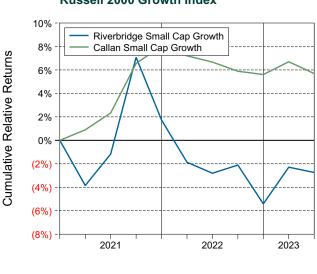
### Performance vs Callan Small Cap Growth (Gross)



#### Relative Return vs Russell 2000 Growth Index



## Cumulative Returns vs Russell 2000 Growth Index





# Sycamore Small Cap Value Period Ended June 30, 2023

#### **Investment Philosophy**

The Victory Small Cap Value Equity investment approach focuses on companies with market capitalizations between \$100 million and \$2 billion that are believed offer above-average total return potential with limited risk. The Small Cap Value Equity investment process seeks to identify high quality, low expectation small cap companies that appear poised for continued or improved earnings. Portfolios typically hold 100-125 stocks with average annual portfolio turnover of 40%. The team will begin to sell when a company's market capitalization exceeds \$4 billion, however they focus on the weighted average market capitalization of the total portfolio and thus may retain exposure to some mid cap companies.

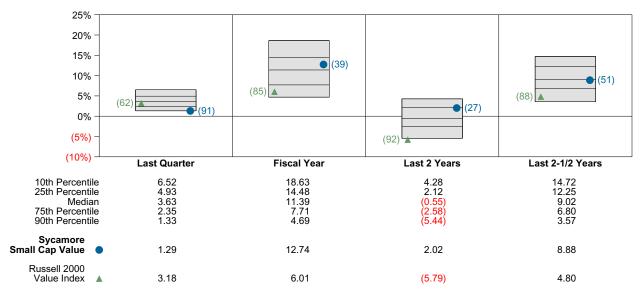
#### **Quarterly Summary and Highlights**

- Sycamore Small Cap Value's portfolio posted a 1.29% return for the quarter placing it in the 91 percentile of the Callan Small Cap Value group for the quarter and in the 39 percentile for the last year.
- Sycamore Small Cap Value's portfolio underperformed the Russell 2000 Value Index by 1.89% for the quarter and outperformed the Russell 2000 Value Index for the year by 6.73%.

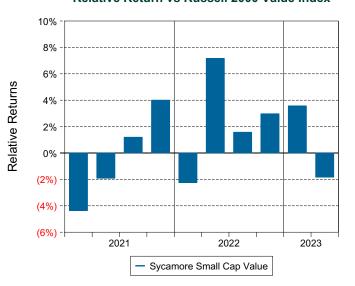
#### **Quarterly Asset Growth**

Beginning Market Value	\$92,297,512
Net New Investment	\$-151,461
Investment Gains/(Losses)	\$1,192,652
Ending Market Value	\$93,338,702

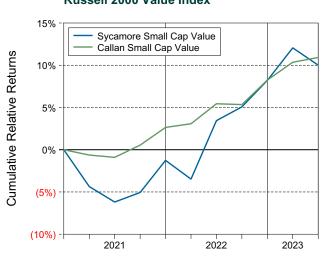
## Performance vs Callan Small Cap Value (Gross)



## Relative Return vs Russell 2000 Value Index



## Cumulative Returns vs Russell 2000 Value Index





## NTAM R2000 Index Period Ended June 30, 2023

#### **Investment Philosophy**

The primary objective of the Northern Trust Russell 2000 Equity Index Fund is to approximate the risk and return characteristics of the Russell 2000 Index.

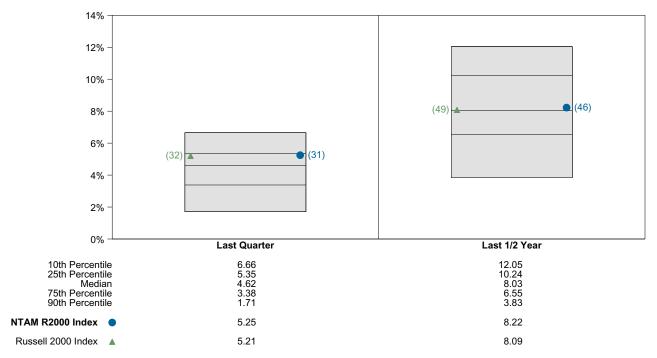
## **Quarterly Summary and Highlights**

- NTAM R2000 Index's portfolio posted a 5.25% return for the quarter placing it in the 31 percentile of the Callan Small Cap Core group for the quarter and in the 46 percentile for the last one-half year.
- NTAM R2000 Index's portfolio outperformed the Russell 2000 Index by 0.04% for the quarter and outperformed the Russell 2000 Index for the one-half year by 0.14%.

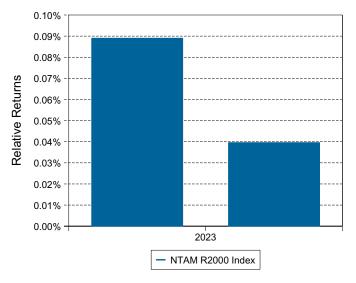
Quarterly	/ Asset	Growth
-----------	---------	--------

Beginning Market Value	\$15,622,156
Net New Investment	\$-5,000,000
Investment Gains/(Losses)	\$458,144
Ending Market Value	\$11.080.300

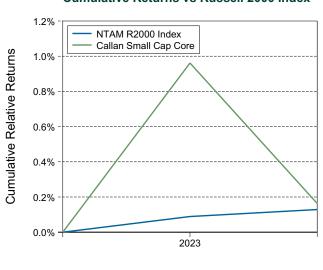
## Performance vs Callan Small Cap Core (Gross)



#### Relative Return vs Russell 2000 Index



## **Cumulative Returns vs Russell 2000 Index**





# International Equities Period Ended June 30, 2023

#### **Quarterly Summary and Highlights**

- International Equities's portfolio posted a 3.12% return for the quarter placing it in the 17 percentile of the Public Fund -International Equity group for the quarter and in the 53 percentile for the last year.
- International Equities's portfolio outperformed the International Equity Target by 0.73% for the quarter and outperformed the International Equity Target for the year by 1.58%.

#### **Quarterly Asset Growth**

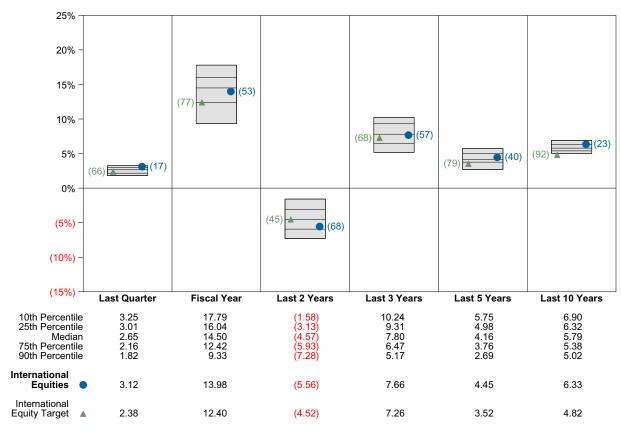
 Beginning Market Value
 \$1,323,332,991

 Net New Investment
 \$-55,487,919

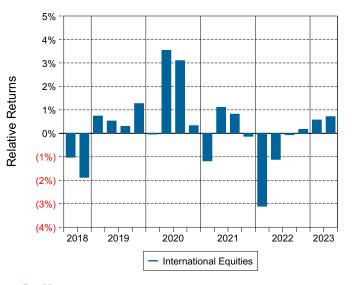
 Investment Gains/(Losses)
 \$40,091,290

Ending Market Value \$1,307,936,363

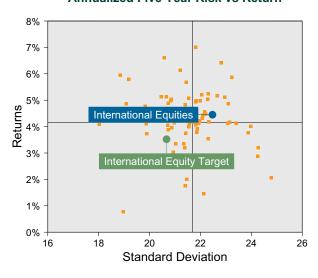
## Performance vs Public Fund - International Equity (Gross)



## **Relative Return vs International Equity Target**



# Public Fund - International Equity (Gross) Annualized Five Year Risk vs Return





## William Blair Int'l Leaders Period Ended June 30, 2023

#### **Investment Philosophy**

One of the basic investment tenets of William Blair & Company has been its focus on quality growth companies. They believe that investing in quality growth companies will generate above average results with generally less risk than the market. This opportunity exists because they believe the market underestimates the durability and rate of growth in companies that have the following characteristics: strong management with a unique vision, competitive advantages that prolong the duration and size of earnings growth, and conservative financing. Internationally, they believe that this philosophy can be combined with strategic flexibility in managing geographic exposure, capitalization, sector emphasis, and relative growth and valuation at the portfolio level in order to provide an appropriate degree of adaptability to cyclical conditions.

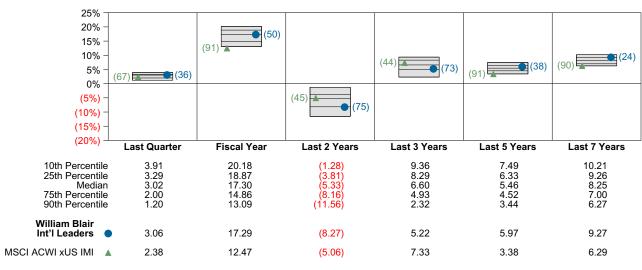
#### **Quarterly Summary and Highlights**

- William Blair Int'l Leaders's portfolio posted a 3.06% return for the quarter placing it in the 36 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 50 percentile for the last year.
- William Blair Int'l Leaders's portfolio outperformed the MSCI ACWI xUS IMI by 0.67% for the quarter and outperformed the MSCI ACWI xUS IMI for the year by 4.82%.

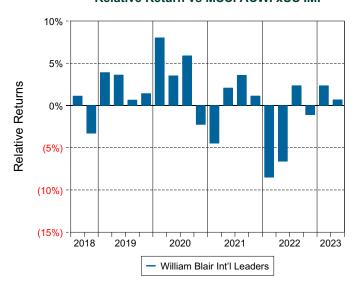
#### **Quarterly Asset Growth**

Beginning Market Value	\$190,662,003
Net New Investment	\$-184,627
Investment Gains/(Losses)	\$5,825,236
Ending Market Value	\$196,302,611

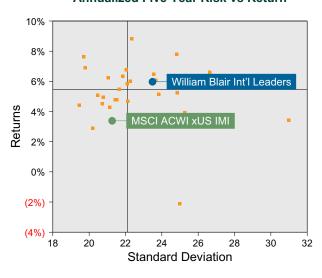
#### Performance vs Callan Non-US All Country Growth Equity (Gross)



## Relative Return vs MSCI ACWI xUS IMI



# Callan Non-US All Country Growth Equity (Gross) Annualized Five Year Risk vs Return





## Arrowstreet ACWI ex US Period Ended June 30, 2023

#### **Investment Philosophy**

Arrowstreet is a 100% employed-owned firm whose strategies are team-managed by a deep and experienced team. The firm employs a quantitative process that identifies direct and indirect relationships to forecast stock price returns. The investment approach seeks to provide a risk controlled, core exposure to Non-US developed and emerging countries. The portfolio is diversified with 150 to 775 holdings (typically 307-467) across countries and sectors. The firm's dedication to research has led to a model that has adapted to multiple market environments and provided consistent results over time.

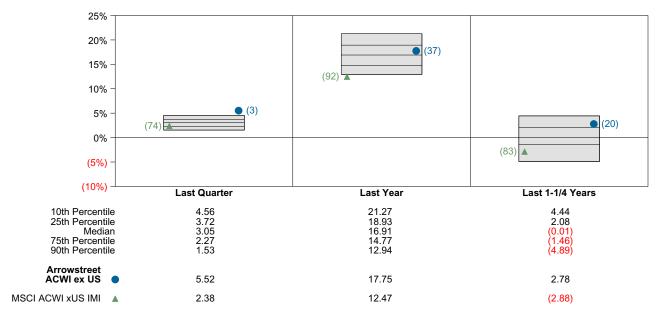
## **Quarterly Summary and Highlights**

- Arrowstreet ACWI ex US's portfolio posted a 5.52% return for the quarter placing it in the 3 percentile of the Callan Non-US All Country Broad Equity group for the quarter and in the 37 percentile for the last year.
- Arrowstreet ACWI ex US's portfolio outperformed the MSCI ACWI xUS IMI by 3.13% for the quarter and outperformed the MSCI ACWI xUS IMI for the year by 5.28%.

## **Quarterly Asset Growth**

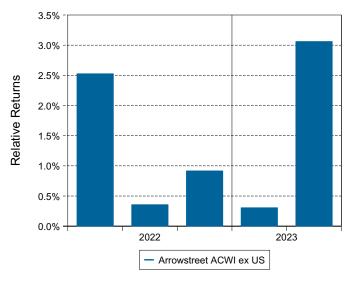
Beginning Market Value	\$298,295,935
Net New Investment	\$-354,188
Investment Gains/(Losses)	\$16,450,267
Ending Market Value	\$314.392.013

## Performance vs Callan Non-US All Country Broad Equity (Gross)

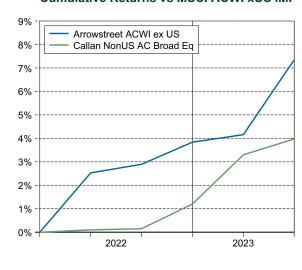


Cumulative Relative Returns

#### Relative Return vs MSCI ACWI xUS IMI



## Cumulative Returns vs MSCI ACWI xUS IMI





## State St MSCI ACWI exUS Period Ended June 30, 2023

#### **Investment Philosophy**

SSgA's passive equity team believes that over the long term, markets are generally efficient (Capital Asset Pricing Model or CAPM), and as such, the best way for clients to capture attractive long-term returns is to own the market. Through its transparency, ability to maintain consistent exposure and low cost, passive management offers clients the best way to achieve their desired exposure. Further, it allows our clients better control over their strategic asset allocation a far more significant driver of returns than individual stock selection. Accordingly, we favor the use of beta to both preserve and grow clients' wealth, and believe strongly that it should serve as the core of any plan's portfolio.

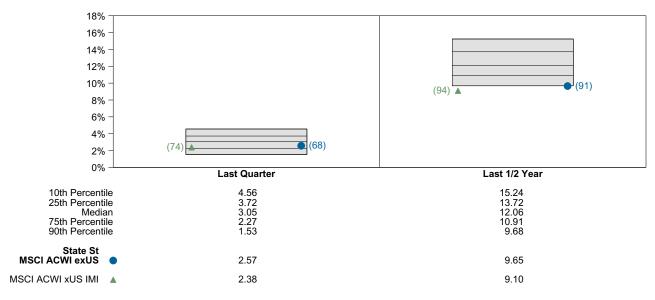
#### **Quarterly Summary and Highlights**

- State St MSCI ACWI exUS's portfolio posted a 2.57% return for the quarter placing it in the 68 percentile of the Callan Non-US All Country Broad Equity group for the quarter and in the 91 percentile for the last one-half year.
- State St MSCI ACWI exUS's portfolio outperformed the MSCI ACWI xUS IMI by 0.18% for the quarter and outperformed the MSCI ACWI xUS IMI for the one-half year by 0.55%.

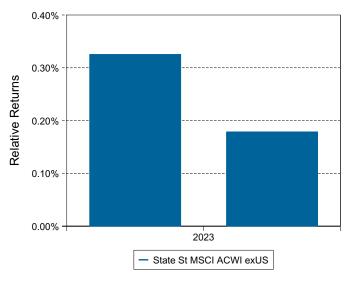
#### **Quarterly Asset Growth**

Beginning Market Value	\$17,929,212
Net New Investment	\$-12,000,000
Investment Gains/(Losses)	\$343,762
Ending Market Value	\$6,272,974

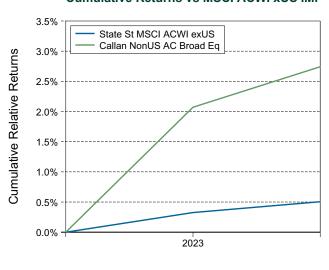
## Performance vs Callan Non-US All Country Broad Equity (Gross)



#### Relative Return vs MSCI ACWI xUS IMI



## **Cumulative Returns vs MSCI ACWI xUS IMI**





# DFA International Small Cap Value Fund Period Ended June 30, 2023

#### **Investment Philosophy**

The International Small Cap Value Portfolio invests in the stocks of small, non-US developed markets companies that Dimensional believes to be value stocks at the time of purchase. Specifically, it looks at companies that fall within the smallest 8-10% of each country's market capitalization, and who's shares have a high book value in relation to their market value (BtM). It does not invest in emerging markets.

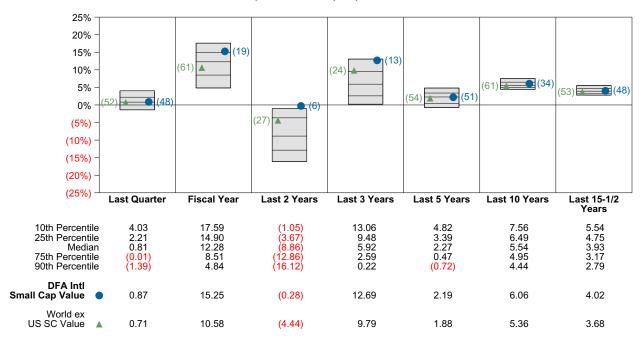
## **Quarterly Summary and Highlights**

- DFA Intl Small Cap Value's portfolio posted a 0.87% return for the quarter placing it in the 48 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 19 percentile for the last year.
- DFA Intl Small Cap Value's portfolio outperformed the World ex US SC Value by 0.16% for the quarter and outperformed the World ex US SC Value for the year by 4.68%.

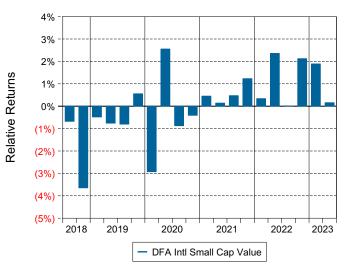
#### **Quarterly Asset Growth**

Beginning Market Value	\$35,503,185
Net New Investment	\$0
Investment Gains/(Losses)	\$310,574
Ending Market Value	\$35 813 759

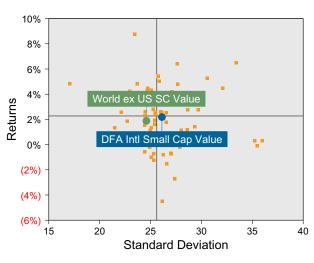
#### Performance vs Callan International Small Cap Mut Funds (Net)



## Relative Return vs World ex US SC Value



## Callan International Small Cap Mut Funds (Net) Annualized Five Year Risk vs Return





## NTAM World Ex US Period Ended June 30, 2023

#### **Investment Philosophy**

The Fund's objective is to provide investment results that approximate the overall performance of the MSCI World ex-US Equity Index.

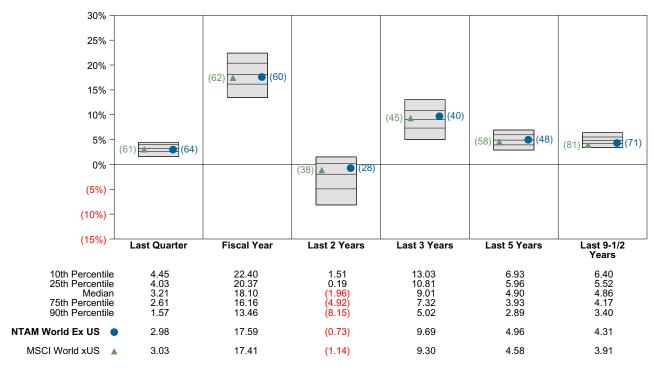
## **Quarterly Summary and Highlights**

- NTAM World Ex US's portfolio posted a 2.98% return for the quarter placing it in the 64 percentile of the Callan Non-US Equity group for the quarter and in the 60 percentile for the last year.
- NTAM World Ex US's portfolio underperformed the MSCI World xUS by 0.05% for the quarter and outperformed the MSCI World xUS for the year by 0.17%.

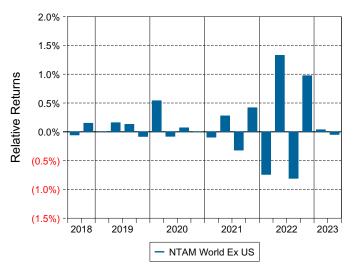
#### **Quarterly Asset Growth**

Beginning Market Value	\$116,600,685
Net New Investment	\$-33,018,488
Investment Gains/(Losses)	\$3,368,379
Ending Market Value	\$86,950,576

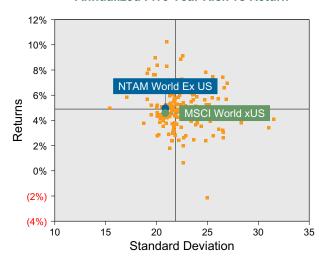
## Performance vs Callan Non-US Equity (Gross)



#### Relative Return vs MSCI World xUS



## Callan Non-US Equity (Gross) Annualized Five Year Risk vs Return





## State St MSCI World exUS Period Ended June 30, 2023

#### **Investment Philosophy**

SSGA's investment process is built on meeting the clients objectives, minimizing transaction costs and making decisions through a team framework. To determine which indexing methodology to use, they begin by considering the following factors: size of the portfolio, breadth of the benchmark, liquidity of constituents, custody costs, tracking error tolerance, availability of data, and the seasoning of the portfolio. Most often, full replication is used due to their belief in efficient markets.

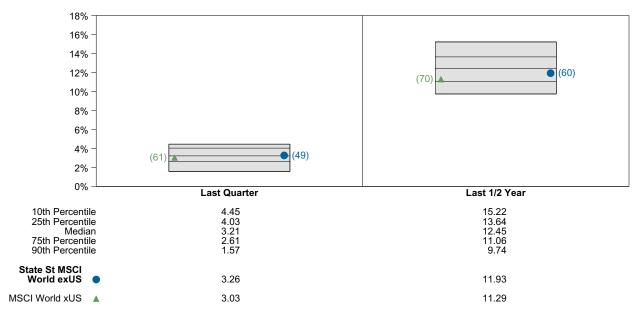
#### **Quarterly Summary and Highlights**

- State St MSCI World exUS's portfolio posted a 3.26% return for the quarter placing it in the 49 percentile of the Callan Non-US Equity group for the quarter and in the 60 percentile for the last one-half year.
- State St MSCI World exUS's portfolio outperformed the MSCI World xUS by 0.23% for the quarter and outperformed the MSCI World xUS for the one-half year by 0.63%.

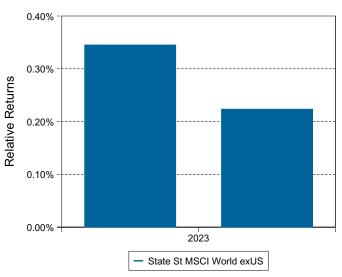
## **Quarterly Asset Growth**

Beginning Market Value	\$391,475,309
Net New Investment	\$0
Investment Gains/(Losses)	\$12,766,178
Ending Market Value	\$404,241,487

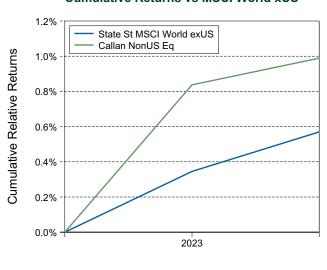
## Performance vs Callan Non-US Equity (Gross)



#### Relative Return vs MSCI World xUS



## **Cumulative Returns vs MSCI World xUS**





## **Wellington Management** Period Ended June 30, 2023

#### **Investment Philosophy**

The objective of the International Small Cap Opportunities Portfolio (the "Portfolio") is to provide long-term total return in excess of the MSCI EAFE Small Cap Index (the "Index"). The Benchmark is comprised of EPAC, Developed World, <\$2B through 2/28/2022 and MSCI EAFE Small Cap Index thereafter.

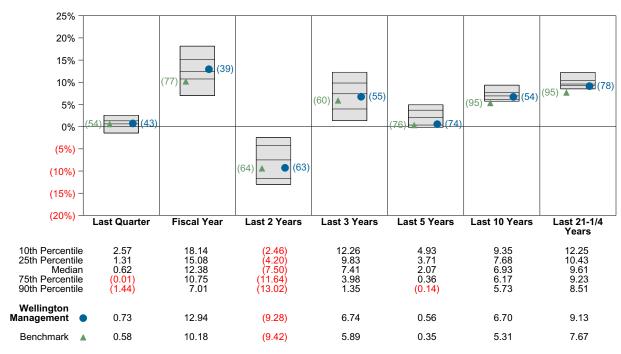
#### **Quarterly Summary and Highlights**

- Wellington Management's portfolio posted a 0.73% return for the quarter placing it in the 43 percentile of the Callan International Small Cap group for the guarter and in the 39 percentile for the last year.
- Wellington Management's portfolio outperformed the Benchmark by 0.15% for the guarter and outperformed the Benchmark for the year by 2.77%.

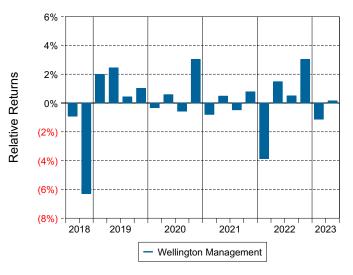
#### **Quarterly Asset Growth**

Beginning Market Value	\$34,438,204
Net New Investment	\$-80,257
Investment Gains/(Losses)	\$251,187
Ending Market Value	\$34,609,134

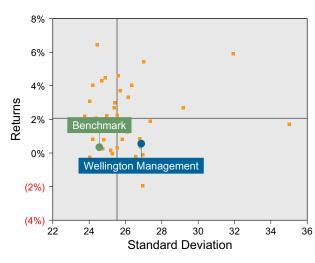
## Performance vs Callan International Small Cap (Gross)



## Relative Return vs Benchmark



#### Callan International Small Cap (Gross) **Annualized Five Year Risk vs Return**





# State St MSCI exUS Small Period Ended June 30, 2023

#### **Investment Philosophy**

SSGA's objective is to provide the most cost-effective implementation with stringent risk control and tracking requirements.

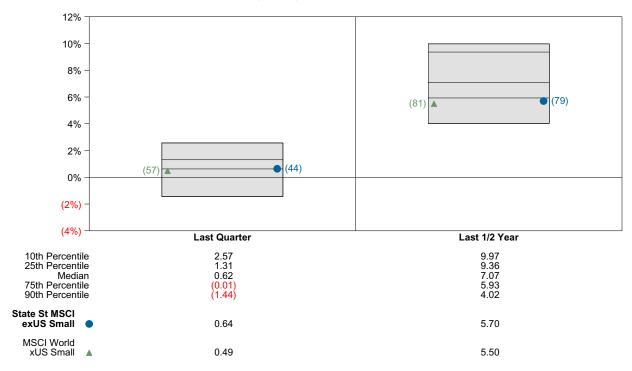
#### **Quarterly Summary and Highlights**

- State St MSCI exUS Small's portfolio posted a 0.64% return for the quarter placing it in the 44 percentile of the Callan International Small Cap group for the quarter and in the 79 percentile for the last one-half year.
- State St MSCI exUS Small's portfolio outperformed the MSCI World xUS Small by 0.15% for the quarter and outperformed the MSCI World xUS Small for the one-half year by 0.20%.

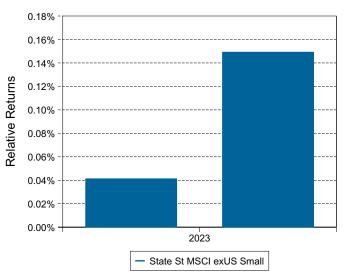
#### **Quarterly Asset Growth**

Beginning Market Value	\$17,769,472
Net New Investment	\$-9,002,239
Investment Gains/(Losses)	\$254,087
Ending Market Value	\$9.021.320

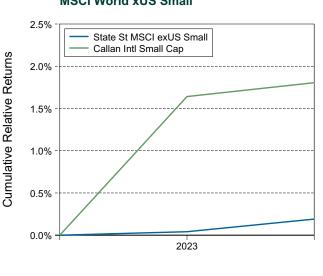
#### Performance vs Callan International Small Cap (Gross)



#### Relative Return vs MSCI World xUS Small



#### Cumulative Returns vs MSCI World xUS Small





## **Axiom Emerging Markets** Period Ended June 30, 2023

#### **Investment Philosophy**

Axiom employs a bottom-up, growth-oriented investment discipline. The process relies on detailed fundamental stock analysis to identify companies that are improving more rapidly than is generally expected and where positive changes are not yet reflected in expectations or valuation.

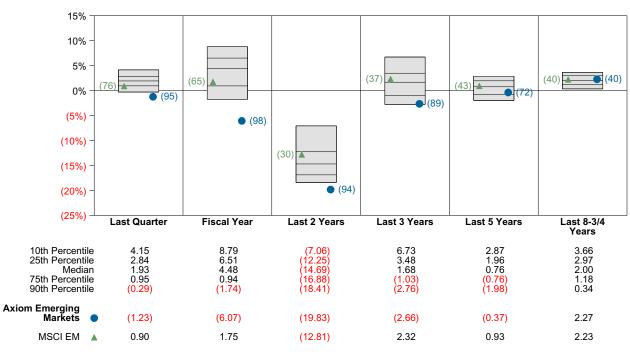
#### **Quarterly Summary and Highlights**

- Axiom Emerging Markets's portfolio posted a (1.23)% return for the quarter placing it in the 95 percentile of the Callan Emerging Markets Equity Mut Funds group for the quarter and in the 98 percentile for the last year.
- Axiom Emerging Markets's portfolio underperformed the MSCI EM by 2.13% for the guarter and underperformed the MSCI EM for the year by 7.82%.

#### **Quarterly Asset Growth**

Beginning Market Value	\$151,178,800
Net New Investment	\$0
Investment Gains/(Losses)	\$-1,863,692
Ending Market Value	\$149,315,108

#### Performance vs Callan Emerging Markets Equity Mut Funds (Net)



#### Relative Return vs MSCI EM



## Callan Emerging Markets Equity Mut Funds (Net) Annualized Five Year Risk vs Return





# **Investment Manager Returns**

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

# Returns for Periods Ended June 30, 2023

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 22-1/2 Years
Private Equity	5.74%	9.25%	22.01%	15.25%	5.23%
Total ASP (Brinson) Fds 1998-2003	0.83%	1.04%	(1.32%)	(0.74%)	_
Total ASP (Brinson) Non-US 1999-2004	6.91%	53.64%	13.03%	8.33%	-
Adams Street 2008 Non-US P-ship Fd	6.29%	12.63%	12.34%	12.33%	-
Adams Street Direct Co-Invest Fd 2006	2.17%	6.43%	(6.25%)	(21.26%)	-
Total Adams Street 2010 Funds	3.72%	1.02%	20.31%	17.52%	-
Adams Street 2015 Global Fund	6.25%	2.53%	22.28%	20.25%	-
Adams Street 2016 Global Fund	7.08%	9.53%	24.15%	18.84%	-
Adams Street 2017 Global Fund	5.83%	7.03%	26.83%	19.55%	-
Adams Street 2018 Global Fund	5.71%	9.83%	26.57%	-	-
Adams Street 2019 Global Fund	6.37%	5.85%	46.85%	-	-
Adams Street 2020 Global Fund	6.16%	10.53%	-	-	-
Adams Street 2021 Global Fund	9.02%	21.99%	-	-	-
BlackRock PEP	4.80%	10.44%	24.05%	16.48%	-
Blackrock PEP 2020	6.67%	15.97%	-	-	-
Sixth Street Partners - TAO	7.36%	11.52%	-	-	-
Private Equity Misc Funds*	(0.76%)	(3.17%)	(2.89%)	(1.53%)	-
Russell 1000 Index	8.58%	19.36%	14.09%	11.92%	7.70%
Russell 2000 Index	5.21%	12.31%	10.82%	4.21%	7.67%

<sup>\*</sup> Comprised of Matlin Patterson II, Matlin Patterson III, InvestAmerica Lewis & Clark, InvestAmerica L&C II, Corsair III, Capital Intl Fd V, Capital Intl Fd VI, EIG, Quantum Energy Partners, Hearthstone MSII, Hearthstone MSIII.



# **Domestic Fixed Income** Period Ended June 30, 2023

#### **Quarterly Summary and Highlights**

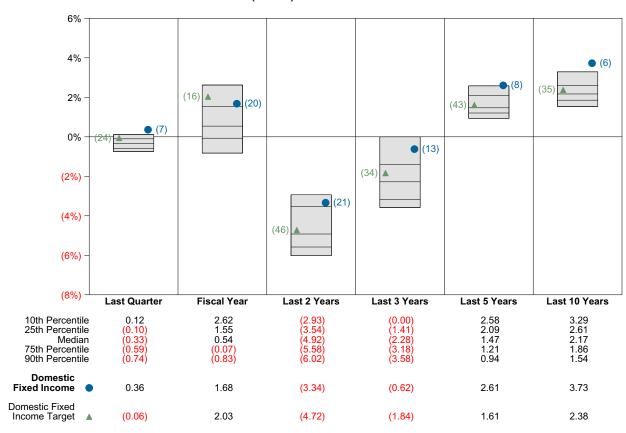
- Domestic Fixed Income's portfolio posted a 0.36% return for the quarter placing it in the 7 percentile of the Public Fund -Domestic Fixed group for the quarter and in the 20 percentile for the last year.
- Domestic Fixed Income's portfolio outperformed the Domestic Fixed Income Target by 0.42% for the quarter and underperformed the Domestic Fixed Income Target for the year by 0.36%.

#### **Quarterly Asset Growth**

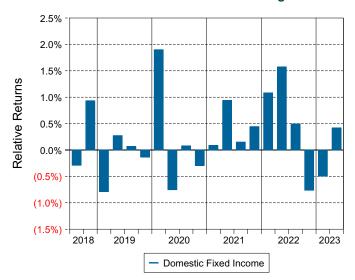
Beginning Market Value \$1,610,169,546 Net New Investment \$96,571,881 Investment Gains/(Losses) \$5,859,254

**Ending Market Value** \$1,712,600,680

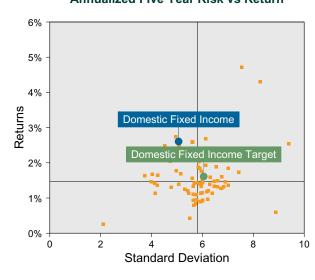
## Performance vs Public Fund - Domestic Fixed (Gross)



#### Relative Returns vs **Domestic Fixed Income Target**



# **Public Fund - Domestic Fixed (Gross) Annualized Five Year Risk vs Return**





# **Prudential Core** Period Ended June 30, 2023

#### **Investment Philosophy**

The PGIM Fixed Income Core Fixed Income strategy seeks to provide +60 bps over the Bloomberg Barclays Aggregate Index over a market cycle. The strategy tends to generate its excess return from fairly equal increments of both sector allocation and subsector/security allocation. Duration and yield curve positioning is generally de-emphasized, but will be considered when market opportunities dictate. The primary way they add value is through intensive research-based sector, industry, and security selection. The strategy is predominately investment grade, but may also invest nominally in crossover/high yield bonds and emerging markets debt, when guidelines permit.

#### **Quarterly Summary and Highlights**

- Prudential Core's portfolio posted a (0.55)% return for the quarter placing it in the 24 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 17 percentile for the last year.
- Prudential Core's portfolio outperformed the Blmbg:Aggregate by 0.29% for the quarter and outperformed the Blmbg:Aggregate for the year by 0.97%.

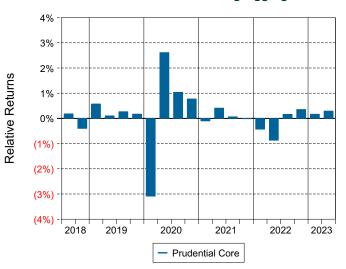
#### **Quarterly Asset Growth**

Beginning Market Value	\$288,166,873
Net New Investment	\$-114,729
Investment Gains/(Losses)	\$-1,596,289
Ending Market Value	\$286,455,854

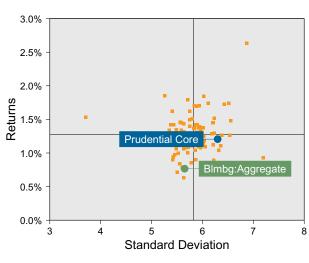
#### Performance vs Callan Core Bond Fixed Income (Gross)



#### Relative Return vs Blmbg:Aggregate



#### Callan Core Bond Fixed Income (Gross) Annualized Five Year Risk vs Return





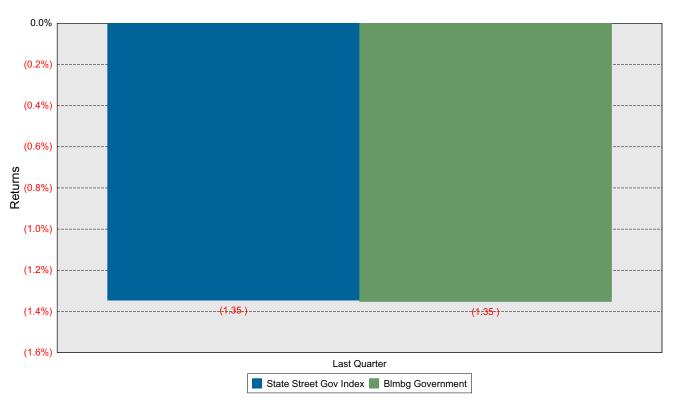
# **State Street Gov Index** Period Ended June 30, 2023

# **Quarterly Summary and Highlights**

• State Street Gov Index's portfolio outperformed the Blmbg Government by 0.01% for the quarter.

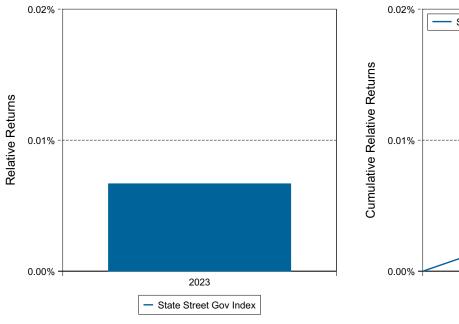
# **Quarterly Asset Growth**

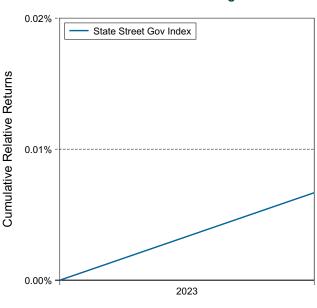
Beginning Market Value \$127,117,171 Net New Investment \$73,998,710 Investment Gains/(Losses) \$-2,878,968 **Ending Market Value** \$198,236,914



## **Relative Return vs Blmbg Government**

## **Cumulative Returns vs Blmbg Government**







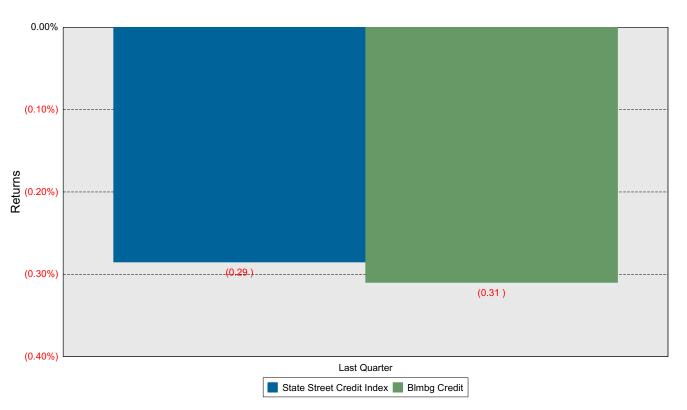
# **State Street Credit Index** Period Ended June 30, 2023

#### **Quarterly Summary and Highlights**

- State Street Credit Index's portfolio posted a (0.29)% return for the quarter placing it in the 2 percentile of the Callan Core Bond Fixed Income group for the quarter.
- State Street Credit Index's portfolio outperformed the Blmbg Credit by 0.02% for the quarter.

#### **Quarterly Asset Growth**

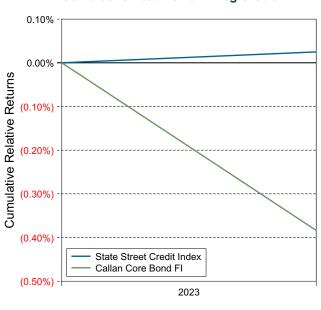
Beginning Market Value	\$34,539,819
Net New Investment	\$19,999,648
Investment Gains/(Losses)	\$-109,082
Ending Market Value	\$54,430,385



## Relative Return vs Blmbg Credit

# 0.03% 0.02% Relative Returns 0.01% 0.00% 2023 State Street Credit Index

## **Cumulative Returns vs Blmbg Credit**





# **Western Asset Core Plus** Period Ended June 30, 2023

#### **Investment Philosophy**

Western Asset designs this portfolio using all major fixed-income sectors with a bias towards non-Treasuries, especially corporate, mortgage-backed and asset-backed securities. Value can be added through sector rotation, issue selection, duration and term structure weighting.

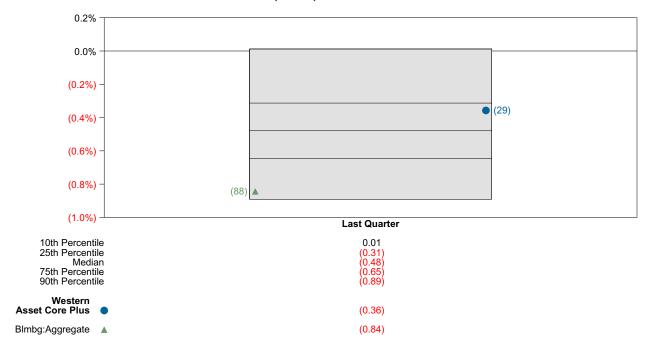
### **Quarterly Summary and Highlights**

- Western Asset Core Plus's portfolio posted a (0.36)% return for the quarter placing it in the 29 percentile of the Callan Core Plus Fixed Income group for the quarter.
- Western Asset Core Plus's portfolio outperformed the Blmbg:Aggregate by 0.49% for the quarter.

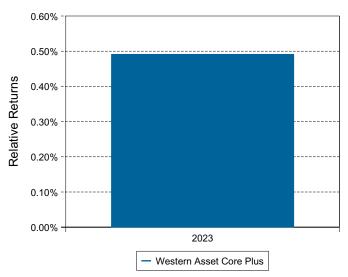
Quarterly Asset Growth		
Beginning Market Value	\$176,832,886	
Net New Investment	\$0	
Investment Gains/(Losses)	\$-631,612	

**Ending Market Value** \$176,201,274

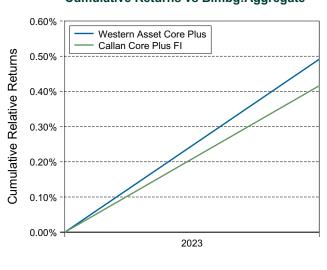
# Performance vs Callan Core Plus Fixed Income (Gross)



#### Relative Return vs Blmbg:Aggregate



### **Cumulative Returns vs Blmbg:Aggregate**





# Manulife-Declaration TRBF Period Ended June 30, 2023

#### **Investment Philosophy**

The Fund's portfolio holdings consist primarily of RMBS issued by private sector companies (Non-Agency RMBS) and government agencies (Agency MBS) and CMBS issued by private sector companies. Agency MBS includes securities issued by the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac) and the Government National Mortgage Association (Ginnie Mae). Portfolio holdings may range from short tenure senior classes to stressed issues or subordinated securities with substantial risk of non-payment and correspondingly higher yields. Smaller portfolio allocations may include consumer asset-backed securities (ABS), or other structured credit securities and corporate bonds. As a diversification strategy and a potential hedge to credit risk, the Fund may invest in securities which tend to benefit from slow mortgage prepayments and economic growth, such as interest only (IO) MBS.

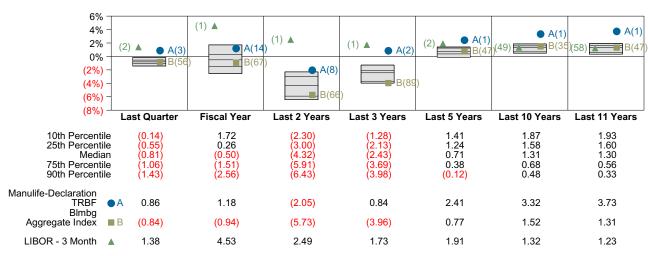
#### **Quarterly Summary and Highlights**

- Manulife-Declaration TRBF's portfolio posted a 0.86% return for the quarter placing it in the 3 percentile of the Callan Intermediate Fixed Inc Mut Funds group for the quarter and in the 14 percentile for the last year.
- Manulife-Declaration TRBF's portfolio underperformed the LIBOR - 3 Month by 0.52% for the quarter and underperformed the LIBOR - 3 Month for the year by 3.36%.

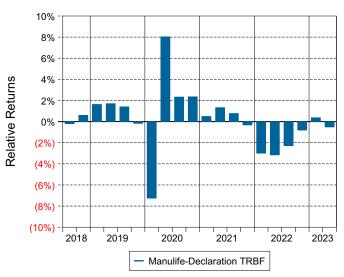
#### **Quarterly Asset Growth**

Beginning Market Value	\$110,156,403
Net New Investment	\$-92,540
Investment Gains/(Losses)	\$950,257
Ending Market Value	\$111,014,120

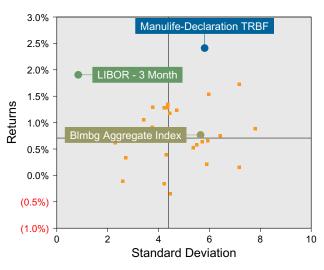
# Performance vs Callan Intermediate Fixed Inc Mut Funds (Net)



#### Relative Return vs LIBOR - 3 Month



# Callan Intermediate Fixed Inc Mut Funds (Net) Annualized Five Year Risk vs Return





# **PIMCO DISCO II** Period Ended June 30, 2023

#### **Investment Philosophy**

The PIMCO Distressed Senior Credit Opportunities Fund is an opportunistic private-equity style Fund which seeks to provide investors enhanced returns principally through long-biased investments in undervalued senior and super senior structured credit securities that are expected to produce attractive levels of current income and that may also appreciate in value over the long term. The fund will look to capitalize on forced sales by liquidity constrained investors.

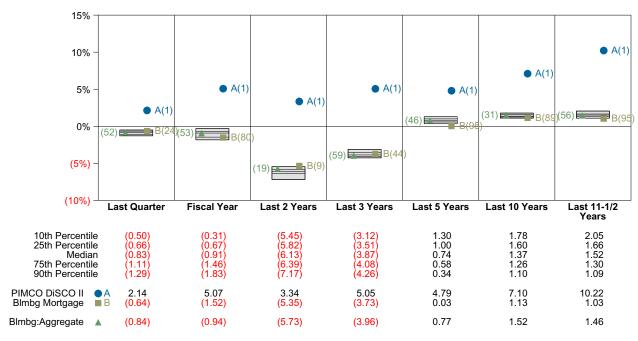
# **Quarterly Summary and Highlights**

- PIMCO DiSCO II's portfolio posted a 2.14% return for the quarter placing it in the 1 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 1 percentile for the last year.
- **PIMCO DiSCO** II's portfolio outperformed 2.98% Blmbq:Aggregate by for the quarter outperformed the Blmbg:Aggregate for the year by 6.01%.

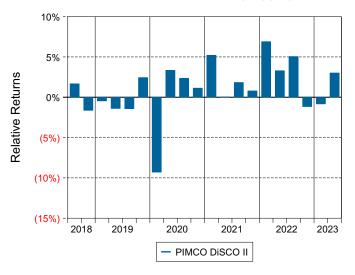
# **Quarterly Asset Growth**

Beginning Market Value	\$103,386,513
Net New Investment	\$-48,950,206
Investment Gains/(Losses)	\$-1,324,523
Ending Market Value	\$53,111,784

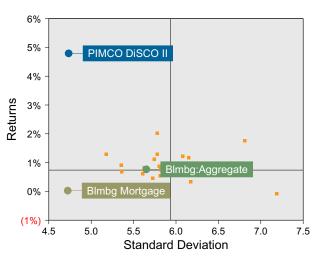
# Performance vs Callan Core Bond Mutual Funds (Net)



#### Relative Return vs Blmbg:Aggregate



#### Callan Core Bond Mutual Funds (Net) Annualized Five Year Risk vs Return





# PIMCO Core Plus Constrained Period Ended June 30, 2023

#### **Investment Philosophy**

PIMCO's investment process utilizes both "top-down" and "bottom-up" strategies. Top-down strategies focus on duration, yield curve postioning, volatility, and sector rotation. These stretegies are deployed from a macro view of the portfolio driven by their secular outlook of the forces likely to influence the economy and financial markets over the next three to five years and their cyclical views of two- to four-quarter trends. Implementation in portfolios is effected by selecting securities that achieve the designated objectives. Bottom-up strategies drive their security selection process and facilitate the indentification and analysis of undervalued securities. The product changed from Commingled Fund to Separate Account in March 2014. \*Libor-3 month through February 28, 2017; Fund's performance through March 31, 2014; Libor-3 month through June 30, 2018; Bloomberg Aggregate thereafter.

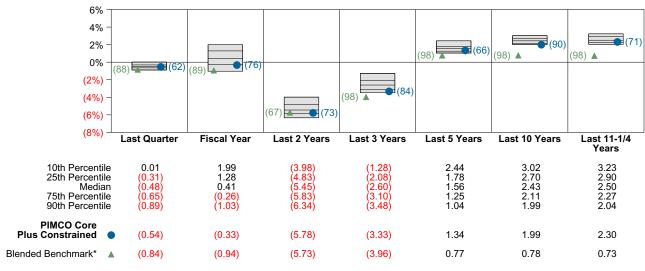
#### **Quarterly Summary and Highlights**

- PIMCO Core Plus Constrained's portfolio posted a (0.54)% return for the quarter placing it in the 62 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 76 percentile for the last year.
- PIMCO Core Plus Constrained's portfolio outperformed the Blended Benchmark\* by 0.30% for the quarter and outperformed the Blended Benchmark\* for the year by 0.61%.

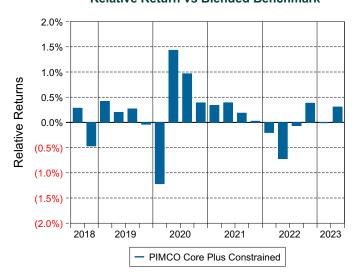
#### **Quarterly Asset Growth**

Beginning Market Value	\$281,157,904
Net New Investment	\$-111,925
Investment Gains/(Losses)	\$-1,517,313
Ending Market Value	\$279,528,666

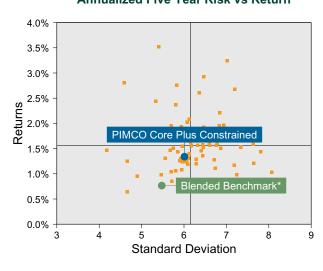
### Performance vs Callan Core Plus Fixed Income (Gross)



# Relative Return vs Blended Benchmark\*



# Callan Core Plus Fixed Income (Gross) Annualized Five Year Risk vs Return





# Ares ND Credit Strategies Fd Period Ended June 30, 2023

# **Quarterly Summary and Highlights**

- Ares ND Credit Strategies Fd's portfolio posted a 4.99% return for the quarter placing it in the 1 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 60 percentile for the last year.
- Ares ND Credit Strategies Fd's portfolio outperformed the Mstar LSTA Lev Loan B by 1.74% for the quarter and underperformed the Mstar LSTA Lev Loan B for the year by 3.84%.

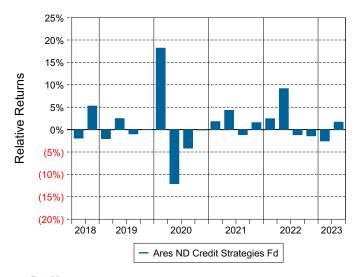
#### **Quarterly Asset Growth**

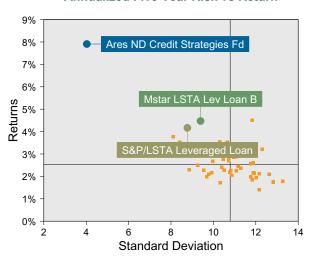
\$160,063,033 Beginning Market Value Net New Investment Investment Gains/(Losses) \$7,987,884 **Ending Market Value** \$168,050,917

# Performance vs Callan High Yield Mutual Funds (Net)



# Relative Return vs Mstar LSTA Lev Loan B







# Cerberus ND Private Credit Fd Period Ended June 30, 2023

#### **Investment Philosophy**

The investment objective of the LLC is to achieve superior risk-adjusted rates of return primarily through origination of, and investment in, secured debt assets consistent with the Loan Opportunities Strategy of the Cerberus Business Finance lending platform ("CBF", "Cerberus Business Finance" or the "Cerberus Lending Platform"). The Cerberus Lending Platform is a direct origination and lending business focused on providing secured debt primarily to U.S. middle-market companies. The LLC expects to generate both current income and capital appreciation.

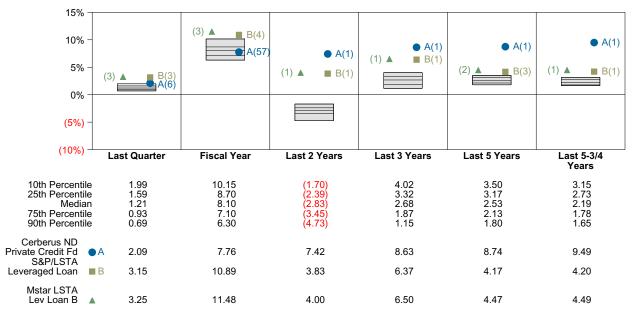
### **Quarterly Summary and Highlights**

- Cerberus ND Private Credit Fd's portfolio posted a 2.09% return for the quarter placing it in the 6 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 57 percentile for the last year.
- Cerberus ND Private Credit Fd's portfolio underperformed the Mstar LSTA Lev Loan B by 1.17% for the quarter and underperformed the Mstar LSTA Lev Loan B for the year by 3.73%.

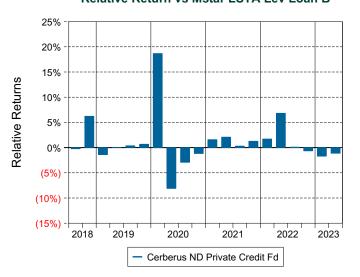
#### **Quarterly Asset Growth**

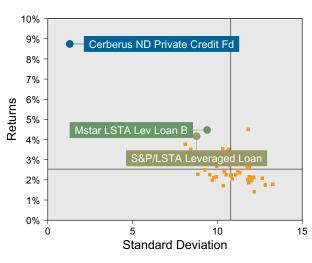
Beginning Market Value	\$199,425,479
Net New Investment	\$-16,500,000
Investment Gains/(Losses)	\$4,019,806
Ending Market Value	\$186.945.285

#### Performance vs Callan High Yield Mutual Funds (Net)



# Relative Return vs Mstar LSTA Lev Loan B







# Goldman Sachs 2006 Offshore Period Ended June 30, 2023

#### **Investment Philosophy**

GS Mezzanine Partners seeks large-sized mezzanine investments comprised generally of fixed income securities and an associated equity component. They focus on providing "private high yield" capital for mid- to large-sized leveraged and management buyout transactions, recapitalizations, financings, re-financings, acquisitions and restructurings for private equity firms, private family companies and corporate issuers.

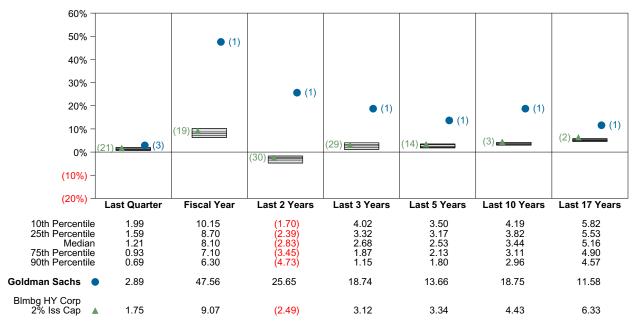
# **Quarterly Summary and Highlights**

- Goldman Sachs's portfolio posted a 2.89% return for the quarter placing it in the 3 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- Goldman Sachs's portfolio outperformed the Blmbg HY Corp 2% Iss Cap by 1.13% for the quarter and outperformed the Blmbg HY Corp 2% Iss Cap for the year by 38.49%.

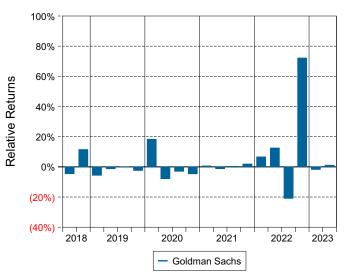
Quarterly	/ Asset	Growth
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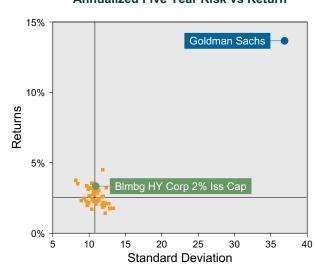
Beginning Market Value	\$22,974
Net New Investment	\$-23,637
Investment Gains/(Losses)	\$664
Ending Market Value	\$1

# Performance vs Callan High Yield Mutual Funds (Net)



## Relative Return vs Blmbg HY Corp 2% Iss Cap







# Goldman Sachs Offshore Fund V Period Ended June 30, 2023

#### **Investment Philosophy**

GS Mezzanine Partners seeks large-sized mezzanine investments comprised generally of fixed income securities and an associated equity component. They focus on providing "private high yield" capital for mid- to large-sized leveraged and management buyout transactions, recapitalizations, financings, re-financings, acquisitions and restructurings for private equity firms, private family companies and corporate issuers.

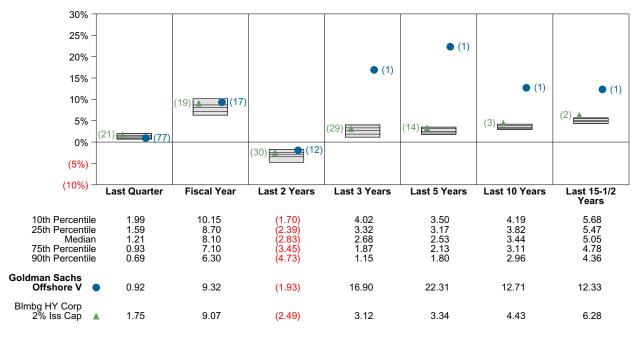
#### **Quarterly Summary and Highlights**

- Goldman Sachs Offshore V's portfolio posted a 0.92% return for the quarter placing it in the 77 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 17 percentile for the last year.
- Goldman Sachs Offshore V's portfolio underperformed the Blmbg HY Corp 2% Iss Cap by 0.83% for the quarter and outperformed the Blmbg HY Corp 2% Iss Cap for the year by 0.25%.

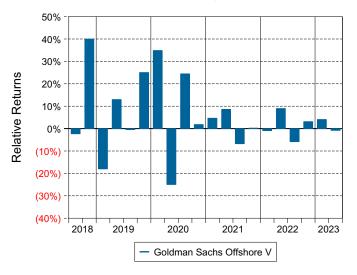
Quarterly	Asset	Growth
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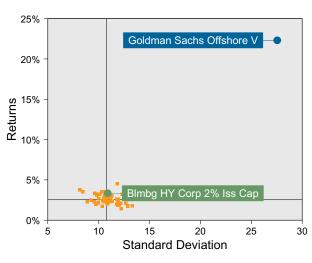
Beginning Market Value	\$52,552
Net New Investment	\$-52,239
Investment Gains/(Losses)	\$483
Ending Market Value	\$796

#### Performance vs Callan High Yield Mutual Funds (Net)



#### Relative Return vs Blmbg HY Corp 2% Iss Cap







# **Loomis Sayles** Period Ended June 30, 2023

#### **Investment Philosophy**

The High Yield Full Discretion Strategy seeks to identify attractive sectors and specific investment opportunities primarily within the global fixed income market through a global economic and interest rate framework. Portfolio managers incorporate a long-term macroeconomic view along with a stringent bottom-up investment evaluation process that drives security selection and resulting sector allocations. Opportunistic investments in non-benchmark sectors including investment grade corporate, emerging market, and non-US dollar debt and convertible bonds help to manage overall portfolio risk and enhance total return potential.

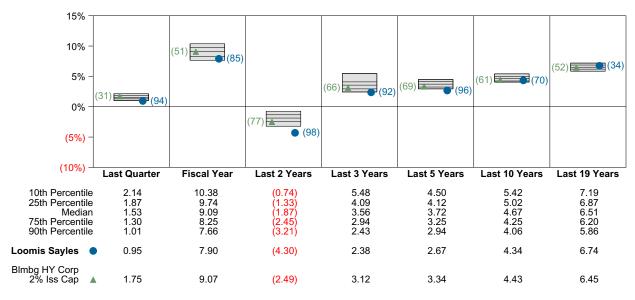
#### **Quarterly Summary and Highlights**

- Loomis Sayles's portfolio posted a 0.95% return for the quarter placing it in the 94 percentile of the Callan High Yield Fixed Income group for the quarter and in the 85 percentile for the last year.
- Loomis Sayles's portfolio underperformed the Blmbg HY Corp 2% Iss Cap by 0.80% for the quarter and underperformed the Blmbg HY Corp 2% Iss Cap for the year by 1.17%.

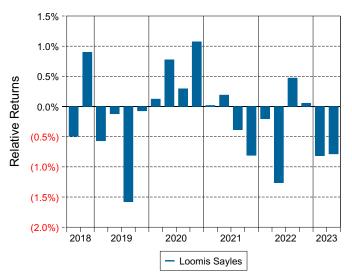
#### **Quarterly Asset Growth**

Beginning Market Value	\$126,639,671
Net New Investment	\$18,351,198
Investment Gains/(Losses)	\$1,433,088
Ending Market Value	\$146,423,957

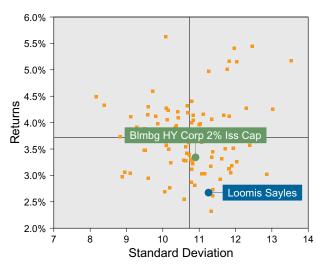
# Performance vs Callan High Yield Fixed Income (Gross)



#### Relative Return vs Blmbg HY Corp 2% Iss Cap



#### Callan High Yield Fixed Income (Gross) Annualized Five Year Risk vs Return





# **PIMCO Bravo II Fund** Period Ended June 30, 2023

#### **Investment Philosophy**

The BRAVO II Fund is a private equity style fund targeting an annualized IRR of 15-20% and multiple of 1.8-2x, net of fees and carried interest with an initial 5-year term. The fund will seek to capitalize on non-economic asset sale decisions by global financial institutions. The fund will have the flexibility to acquire attractively discounted, less liquid loans, structured credit and other assets tied to residential or commercial real estate markets in the U.S. and Europe.

#### **Quarterly Summary and Highlights**

- PIMCO Bravo II Fund's portfolio posted a (10.06)% return for the quarter placing it in the 100 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 100 percentile for the last year.
- PIMCO Bravo II Fund's portfolio underperformed the Blmbg HY Corp 2% Iss Cap by 11.82% for the guarter and underperformed the Blmbg HY Corp 2% Iss Cap for the year by 44.51%.

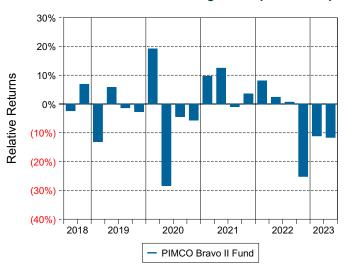
Quarterly	/ Asset	Growth
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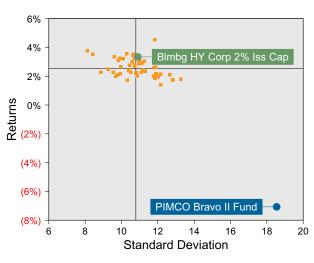
Beginning Market Value \$2,561		
Net New Investment	\$0	
Investment Gains/(Losses)	\$-257,756	
Ending Market Value	\$2,303,651	

#### Performance vs Callan High Yield Mutual Funds (Net)



#### Relative Return vs Blmbg HY Corp 2% Iss Cap







# **Real Estate** Period Ended June 30, 2023

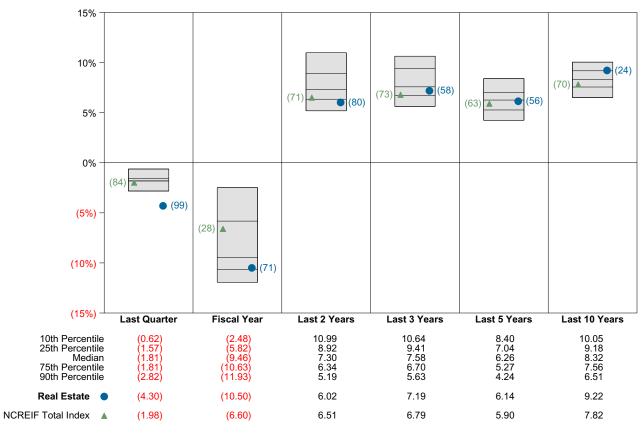
#### **Quarterly Summary and Highlights**

- Real Estate's portfolio posted a (4.30)% return for the quarter placing it in the 99 percentile of the Public Fund -Real Estate group for the quarter and in the 71 percentile for the last year.
- Real Estate's portfolio underperformed the NCREIF Total Index by 2.32% for the quarter and underperformed the NCREIF Total Index for the year by 3.90%.

#### **Quarterly Asset Growth**

Beginning Market Value \$858,929,194 Net New Investment \$8,313,107 Investment Gains/(Losses) \$-37,072,476 **Ending Market Value** \$830,169,826

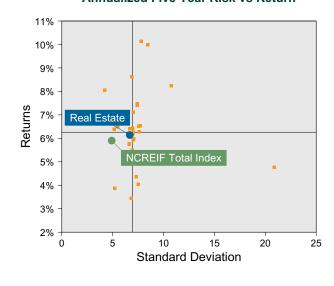
# Performance vs Public Fund - Real Estate (Gross)



# **Relative Return vs NCREIF Total Index**

# 5% 3% Relative Returns 2% 0% (1%)(2%)(3%)2020 2018 2019 2021 2022 2023 Real Estate

## Public Fund - Real Estate (Gross) Annualized Five Year Risk vs Return

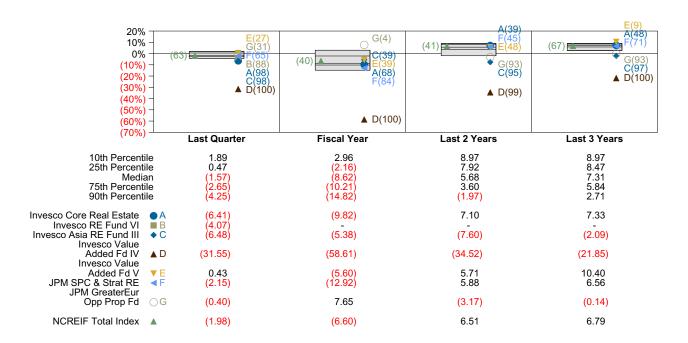




# North Dakota State Investment Board Pension Funds Performance vs Callan Total Domestic Real Estate DB Periods Ended June 30, 2023

#### **Return Ranking**

The chart below illustrates fund rankings over various periods versus the Callan Total Domestic Real Estate DB. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Callan Total Domestic Real Estate DB. The numbers to the right of the bar represent the percentile rankings of the funds being analyzed. The table below the chart details the rates of return plotted in the graph above.







# **TIR Teredo** Period Ended June 30, 2023

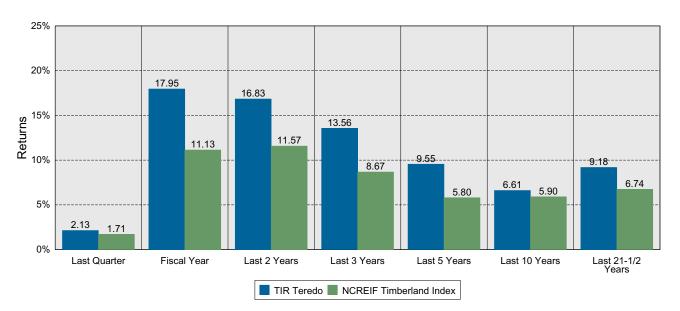
#### **Investment Philosophy**

Teredo Timber LLC - The investment objective of Teredo is to provide competitive investment returns from increasing saw timber production through the 20 year term of the partnership. TIR's management strategy is to maximize saw timber volume by applying intensive forest management techniques which accelerate growth through the diameter class distribution. Periodic cash flows are produced from thinning and final harvests of the individual timber stands.

#### **Quarterly Summary and Highlights**

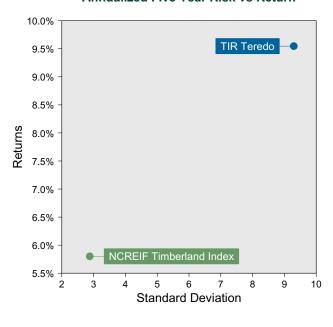
• TIR Teredo's portfolio outperformed the NCREIF Timberland Index by 0.43% for the quarter and outperformed the NCREIF Timberland Index for the year by 6.82%.

Quarterly Asset Growth				
Beginning Market Value \$23,412,694				
Net New Investment \$-600,000				
Investment Gains/(Losses) \$491,				
Ending Market Value \$23,303,731				



#### Relative Return vs NCREIF Timberland Index

# 15% 10% Relative Returns 5% (5%)(10%)2020 2018 2019 2021 2022 2023 - TIR Teredo





# **TIR Springbank** Period Ended June 30, 2023

#### **Investment Philosophy**

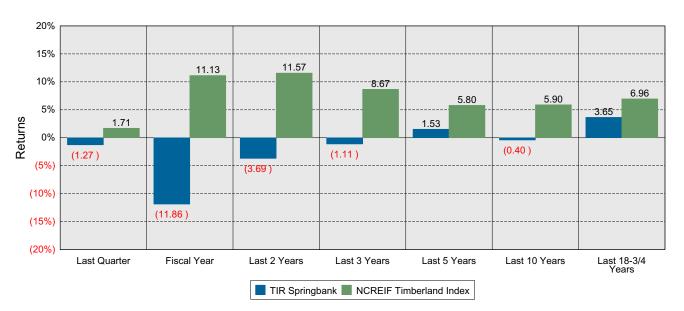
Springbank LLC - The investment objective of Springbank is to maximize long-term investment potential by means of the formation of a dedicated land management group, intensive timber management to increase timber production, the coordination of timber harvesting with land management activities and direct marketing and selective real estate partnerships.

#### **Quarterly Summary and Highlights**

• TIR Springbank's portfolio underperformed the NCREIF Timberland Index by 2.98% for the quarter and underperformed the NCREIF Timberland Index for the year by 23.00%.

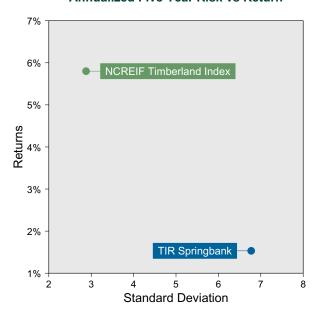
#### **Quarterly Asset Growth**

Beginning Market Value	\$62,704,640
Net New Investment	\$-2,052,000
Investment Gains/(Losses)	\$-772,260
Ending Market Value	\$59,880,380



#### Relative Return vs NCREIF Timberland Index

# 15% 10% 5% Relative Returns 0% (5%)(10%)(15%)(20%)2020 2023 2018 2019 2021 2022 TIR Springbank





# ISQ Global Infrastructure II Period Ended June 30, 2023

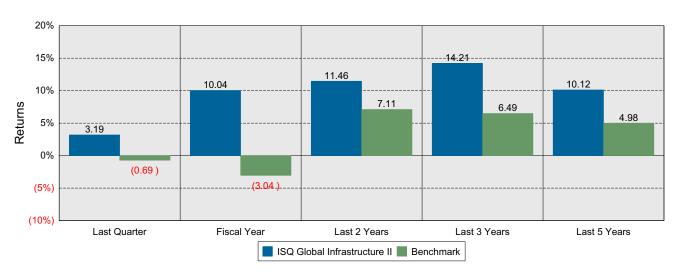
#### **Investment Philosophy**

The ISQ Global Infrastructure Fund II seeks to achieve long-term capital appreciation as well as current income through equity and equity related investments in infrastructure and infrastructure related assets located globally, with a focus on North America, Europe, and selected growth economies in Asia and Latin America. The Fund may also invest in debt Securities that have equity-like returns or an equity component, or are related to its equity investments, including without limitation convertible debt, bank loans and participations and other similar instruments. The Benchmark is comprised of 50% CPI-U lagged one guarter and 50% NFI-ODCE Equal Weight Net.

#### **Quarterly Summary and Highlights**

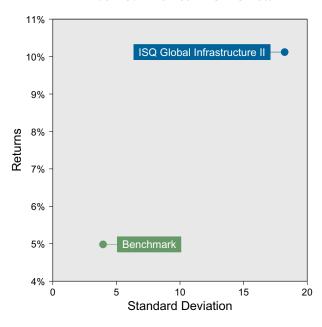
 ISQ Global Infrastructure II's portfolio outperformed the Benchmark by 3.88% for the quarter and outperformed the Benchmark for the year by 13.08%.

Quarterly Asset Growth				
Beginning Market Value \$69,137,743				
Net New Investment \$-2,929,628				
Investment Gains/(Losses) \$2,117,4				
Ending Market Value \$68,325,555				



#### Relative Return vs Benchmark

# 40% 30% 20% Relative Returns 10% 0% (10%)(20%)(30%) 2019 2020 2023 2018 2021 2022 ISQ Global Infrastructure II





# ISQ Global Infrastructure III Period Ended June 30, 2023

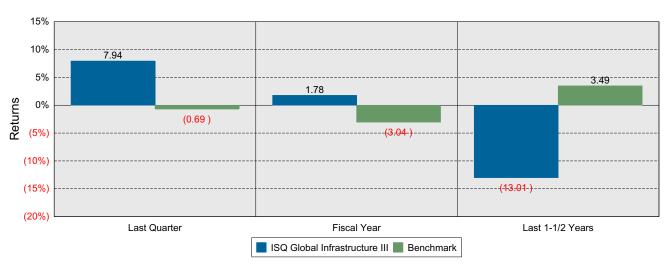
#### **Investment Philosophy**

The ISQ Global Infrastructure Fund II seeks to achieve long-term capital appreciation as well as current income through equity and equity related investments in infrastructure and infrastructure related assets located globally, with a focus on North America, Europe, and selected growth economies in Asia and Latin America. The Fund may also invest in debt Securities that have equity-like returns or an equity component, or are related to its equity investments, including without limitation convertible debt, bank loans and participations and other similar instruments. The Benchmark is comprised of 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.

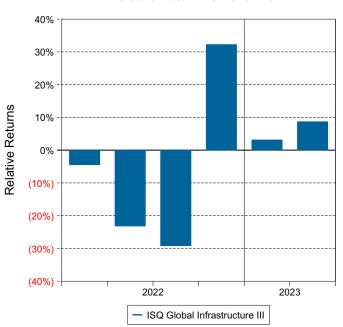
# **Quarterly Summary and Highlights**

 ISQ Global Infrastructure III's portfolio outperformed the Benchmark by 8.63% for the quarter and outperformed the Benchmark for the year by 4.83%.

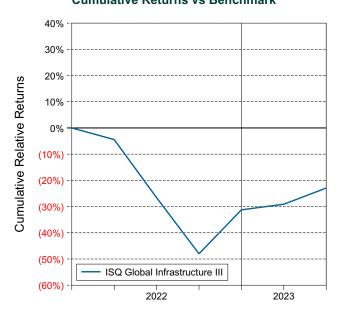
Quarterly Asset Growth			
Beginning Market Value \$13,273,387			
Net New Investment \$3,248,465			
Investment Gains/(Losses) \$1,263,6			
Ending Market Value \$17,785,521			



#### Relative Return vs Benchmark



# **Cumulative Returns vs Benchmark**





# The Rohatyn Group Period Ended June 30, 2023

#### **Investment Philosophy**

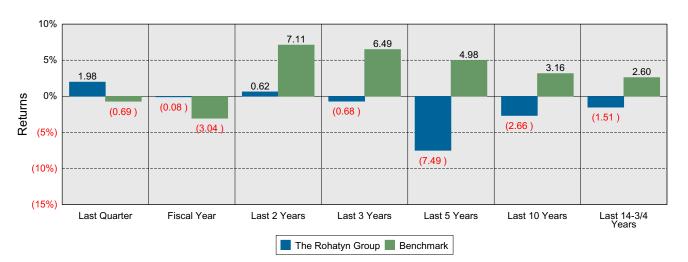
The Rohatyn Group's Asian Infrastructure & Related Resources Opportunity (AIRRO) Fund seeks to invest in infrastructure and related resources opportunities across the greater Asia Pacific region. The Fund seeks to invest in a broad range of assets, including: core infrastructure, power both from conventional and renewable sources, communications, water and waste-water, public works, urban development and other "social" infrastructure assets and related resources. The management of the AIRRO Fund was transferred from JP Morgan to The Rohatyn Group in May, 2018. The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

#### **Quarterly Summary and Highlights**

• The Rohatyn Group's portfolio outperformed the Benchmark by 2.67% for the quarter and outperformed the Benchmark for the year by 2.96%.

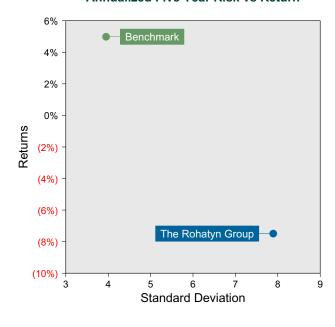
#### **Quarterly Asset Growth**

Beginning Market Value	\$15,682,334
Net New Investment	\$171,242
Investment Gains/(Losses)	\$311,373
Ending Market Value	\$16,164,949



#### Relative Return vs Benchmark

# 5% Relative Returns (10%)(15%)(20%) 2018 2019 2020 2021 2022 2023 The Rohatyn Group





# JP Morgan IIF Infrastructure Period Ended June 30, 2023

#### **Investment Philosophy**

The only open-ended private commingled infrastructure fund in the U.S, the JPMorgan Infrastructure Investments Fund invests in stabilized assets in OECD countries with selected value-added opportunities, across infrastructure industry sub-sectors, including: toll roads, bridges and tunnels; oil and gas pipelines; electricity transmission and distribution facilities; contracted power generation assets; water distribution; waste-water collection and processing; railway lines and rapid rail links; and seaports and airports. The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one guarter and 50% NFI-ODCE Equal Weight Net thereafter.

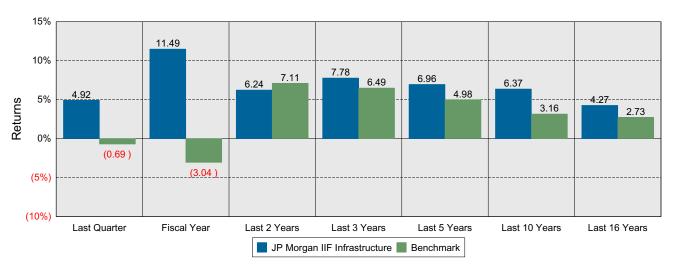
#### **Quarterly Summary and Highlights**

• JP Morgan IIF Infrastructure's portfolio outperformed the Benchmark by 5.62% for the quarter and outperformed the Benchmark for the year by 14.54%.

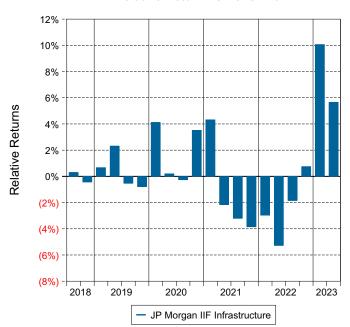
Quarterly Asset Growth				
Beginning Market Value \$125,872,403				
Net New Investment	\$-1,543,341			
Investment Gains/(Losses) \$6,192,232				

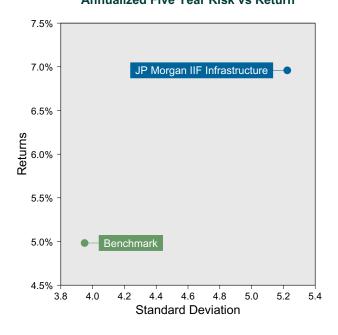
\$130,521,295

**Ending Market Value** 



#### Relative Return vs Benchmark







# **Grosvenor CIS Fund** Period Ended June 30, 2023

#### **Investment Philosophy**

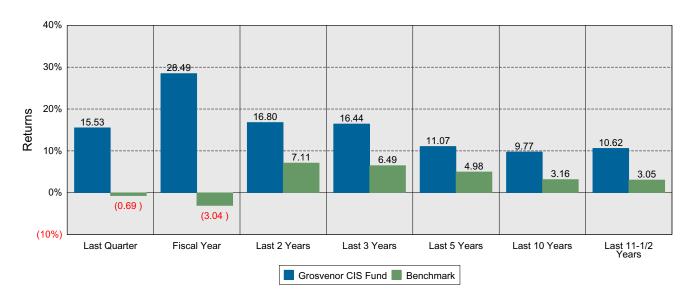
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure funds (30%), co-investments (40%) and opportunistic secondary fund purchases (30%). The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

### **Quarterly Summary and Highlights**

Fund's portfolio Grosvenor CIS outperformed Benchmark by 16.22% for the quarter and outperformed the Benchmark for the year by 31.53%.

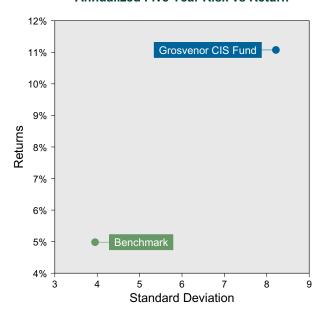
Q	ua	rterly	Asset	Growth	
					•

Beginning Market Value	\$9,950,933
Net New Investment	\$-1,194,020
Investment Gains/(Losses)	\$1,533,728
Ending Market Value	\$10,290,641



#### Relative Return vs Benchmark

# 20% 15% Relative Returns 10% 5% 0% (5%)(10%)2020 2018 2019 2021 2022 2023 Grosvenor CIS Fund





# **Grosvenor CIS Fund II** Period Ended June 30, 2023

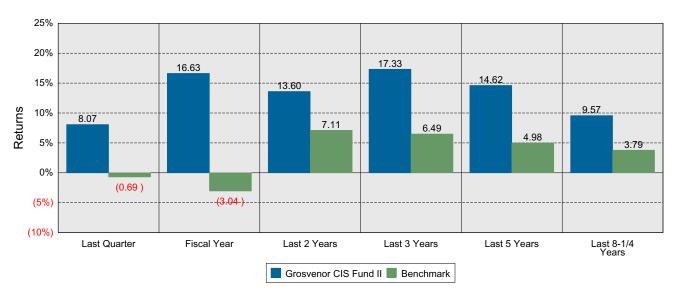
#### **Investment Philosophy**

The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure funds (30%), co-investments (40%) and opportunistic secondary fund purchases (30%). The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

### **Quarterly Summary and Highlights**

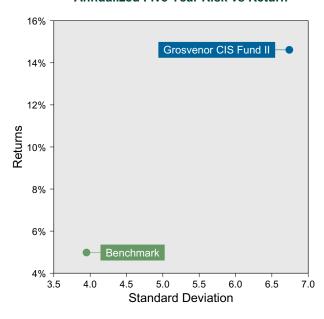
• Grosvenor CIS Fund II's portfolio outperformed the Benchmark by 8.77% for the quarter and outperformed the Benchmark for the year by 19.67%.

Quarterly Asset Growth			
Beginning Market Value \$22,255,359			
Net New Investment	\$-2,464,763		
Investment Gains/(Losses) \$1,598,7			
Ending Market Value	\$21,389,377		



#### Relative Return vs Benchmark

# 12% 10% 6% Relative Returns 4% 2% 0% (2%)(4%)(6%) 2020 2018 2019 2021 2022 2023 Grosvenor CIS Fund II





# **Grosvenor CIS Fund III** Period Ended June 30, 2023

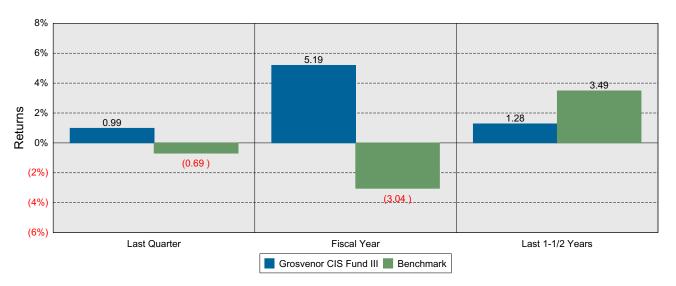
#### **Investment Philosophy**

The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure funds (30%), co-investments (40%) and opportunistic secondary fund purchases (30%). The Benchmark is comprised of 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.

#### **Quarterly Summary and Highlights**

• Grosvenor CIS Fund III's portfolio outperformed the Benchmark by 1.68% for the quarter and outperformed the Benchmark for the year by 8.24%.

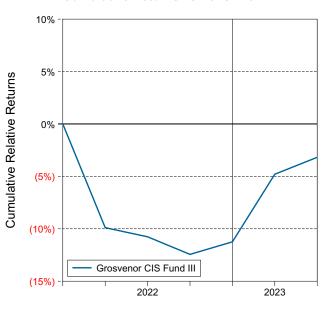
Quarterly Asset Gro	owth
Beginning Market Value	\$29,457,674
Net New Investment	\$2,728,148
Investment Gains/(Losses)	\$320,194
Ending Market Value	\$32,506,016



#### Relative Return vs Benchmark

# 10% Relative Returns (5%) (10%)(15%)2022 2023 Grosvenor CIS Fund III

#### **Cumulative Returns vs Benchmark**





# Macquarie Infrastructure Fund IV Period Ended June 30, 2023

#### **Investment Philosophy**

Macquarie's principal investment philosophy is to invest in infrastructure assets that exhibit monopolistic and/or contractual revenue drivers, limited substitution risk and high barriers to entry. The manager has continued to focus on investments where the team's sector expertise and operating experience will provide a competitive advantage in sourcing and due diligence. Furthermore, the manager will also continue to focus on opportunities where its active management capabilities can add value for investors in terms of enhancing returns and the substantial mitigation and/or elimination of material operational risks. The Benchmark is comprised of 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.

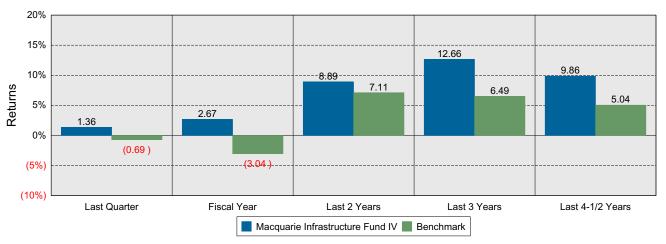
Ending Market Value

#### **Quarterly Summary and Highlights**

 Macquarie Infrastructure Fund IV's portfolio outperformed the Benchmark by 2.06% for the quarter and outperformed the Benchmark for the year by 5.72%.

Quarterly Asset Gro	owth
Beginning Market Value	\$78,595,352
Net New Investment	\$-36,843
Investment Gains/(Losses)	\$1,070,241

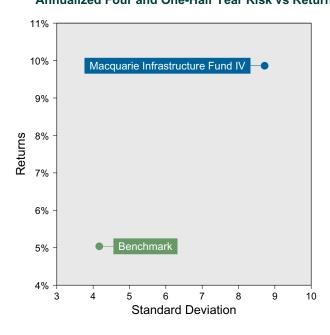
\$79,628,750



#### Relative Return vs Benchmark

# 15% 10% 5% Relative Returns (5%)(10%)(15%)2019 2020 2021 2022 2023 Macquarie Infrastructure Fund IV

# Annualized Four and One-Half Year Risk vs Return





# Macquarie Infrastructure Fund V Period Ended June 30, 2023

#### **Investment Philosophy**

Macquarie's principal investment philosophy is to invest in infrastructure assets that exhibit monopolistic and/or contractual revenue drivers, limited substitution risk and high barriers to entry. The manager has continued to focus on investments where the team's sector expertise and operating experience will provide a competitive advantage in sourcing and due diligence. Furthermore, the manager will also continue to focus on opportunities where its active management capabilities can add value for investors in terms of enhancing returns and the substantial mitigation and/or elimination of material operational risks. The Benchmark is comprised of 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.

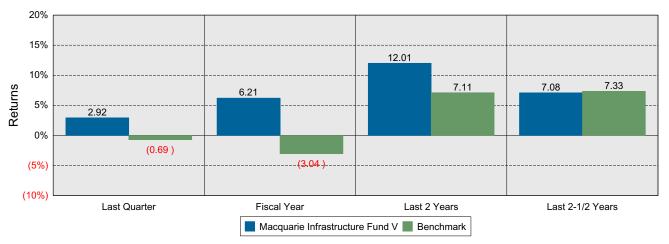
#### **Quarterly Summary and Highlights**

 Macquarie Infrastructure Fund V's portfolio outperformed the Benchmark by 3.62% for the quarter and outperformed the Benchmark for the year by 9.25%.

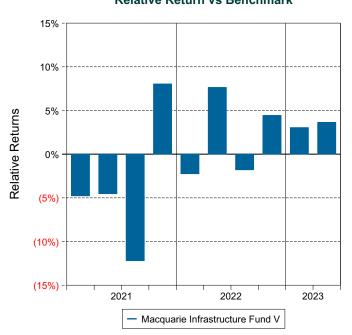
Quarterly Asset Gr	owth
Beginning Market Value	\$53,539,309
Net New Investment	\$6,035,477
Investment Gains/(Losses)	\$1,732,713

\$61,307,499

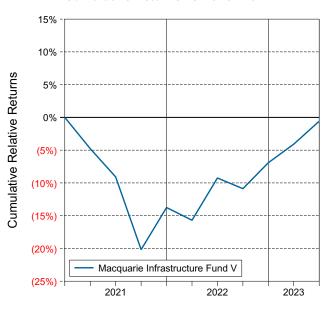
**Ending Market Value** 



# Relative Return vs Benchmark



#### **Cumulative Returns vs Benchmark**









2nd Quarter 2023

# **Quarterly Highlights**

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/research-library to see all of our publications, and www.callan.com/blog to view our blog. For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

# **New Research from Callan's Experts**

**2023 Private Credit Fees and Terms Study** | Catherine Beard and Jared Ungar assess private credit partnerships in our first fees and terms study for this asset class.

# 2Q23 Real Assets Reporter: Life Sciences Investments

Christine Mays describes life sciences investments and the role they can play in institutional portfolios.

The Critical Underlying Technology Behind Digital Assets:

A Primer for Institutional Investors | This paper provides background on key concepts around digital assets: blockchains and distributed ledgers; cryptography; validation protocols; smart contracts; and tokenization.

#### **Blog Highlights**

Biodiversity: A Relatively New Theme for ESG-Focused Investors | Biodiversity investments include companies that support the sustainable use of natural resources and ecosystem services or technologies, or products or services that reduce biodiversity threats or restore natural habitats.

Higher Interest Rates Meet Lower Valuations: Implications for the CRE Industry | The commercial real estate (CRE) industry, already facing challenges with economic uncertainty, the shift to remote work, and recent layoffs by many major office tenants, now confronts higher interest rates and plummeting pricing.

<u>How to Improve DC Plans with DEI</u> For defined contribution (DC) plan sponsors, understanding the diversity within the employee population supports inclusiveness and equality in access and opportunities.

# **Webinar Replays**

Research Cafe: ESG Interview Series | During this interview, Aaron Quach, Callan ESG team member, interviews Jan Mende, Callan real assets specialist and author of our white paper on energy transition. They will discuss the growing opportunities for investment within the energy transition space and how they can be incorporated into the portfolios of institutional investors.

#### **Quarterly Periodicals**

<u>Private Equity Update, 1Q23</u> | A high-level summary of private equity activity in the quarter through all the investment stages

Active vs. Passive Charts, 1Q23 | A comparison of active managers alongside relevant benchmarks over the long term

<u>Market Pulse</u>, <u>1Q23</u> | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

<u>Capital Markets Review, 1Q23</u> | Analysis and a broad overview of the economy and public and private markets activity each quarter across a wide range of asset classes

<u>Hedge Fund Update</u>, <u>1Q23</u> | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

Real Assets Update, 1Q23 | A summary of market activity for real assets and private real estate during the quarter

<u>Private Credit Update, 1Q23</u> | A review of performance and fundraising activity for private credit during the quarter

#### **Events**

A complete list of all upcoming events can be found on our website: callan.com/events-education.

Please mark your calendar and look forward to upcoming invitations:

Webinar: The End of the Low-Yield Environment Aug 9, 2023 – Virtual

### 2023 October Workshops

Oct. 24, 2023 – New York Oct. 26, 2023 – Chicago

#### 2024 National Conference

April 8-10, 2024 - San Francisco

For more information about events, please contact Barb Gerraty: 415-274-3093 / gerraty@callan.com

## **Education: By the Numbers**

Unique pieces of research the Institute generates each year

Attendees (on average) of the Institute's annual National Conference

**3,700** Total attendees of the "Callan College" since 1994

#### **Education**

Founded in 1994, the "Callan College" offers educational sessions for industry professionals involved in the investment decision-making process.

# Introduction to Investments Sept. 26-28 – Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities.

# Alternative Investments Aug. 23-24 – Virtual

Alternative investments like private equity, hedge funds, and real estate can play a key role in any portfolio. In our "Callan College" on Alternatives, you will learn about the importance of allocations to alternatives, and how to consider integrating, evaluating, and monitoring them.

Our virtual sessions are held over two to three days with virtual modules of 2.5-3 hours, while in-person sessions run either a full day or one-and-a-half days. Virtual tuition is \$950 per person and includes instruction and digital materials. In-person tuition is \$2,350 per person and includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Additional information including registration can be found at: callan.com/events-education



"Research is the foundation of all we do at Callan, and sharing our best thinking with the investment community is our way of helping to foster dialogue to raise the bar across the industry."

Greg Allen, CEO and Chief Research Officer







# Callan

Quarterly List as of June 30, 2023

# List of Callan's Investment Manager Clients

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Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry, and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor, and disclose potential conflicts on an ongoing basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database, or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g., attending an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group, and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance department.

Manager Name
abrdn (Aberdeen Standard Investments)
ABS Global Investments
Acadian Asset Management LLC
Adams Street Partners, LLC
Aegon Asset Management
AllianceBernstein
Allspring Global Investments, LLC
AlphaSimplex Group, LLC
Altrinsic Global Advisors, LC
American Capital Management, Inc.
American Century Investments
Amundi US, Inc.
Antares Capital LP
Apollo Global Management, Inc.
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC

Manager Name
Atlanta Capital Management Co., LLC
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Barings LLC
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BentallGreenOak
Beutel, Goodman & Company Ltd.
Bissell Ballantyne LLC
BlackRock
Blackstone Group (The)
Blue Owl Capital, Inc.
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
Brightwood Capital Advisors, LLC

**Manager Name** 

Brookfield Asset Management Inc.

Brown Brothers Harriman & Company

Capital Group

Cardinal Capital, LLC

CastleArk Management, LLC

CIBC Asset Management Inc.

ClearBridge Investments, LLC

Cohen & Steers Capital Management, Inc.

Columbia Threadneedle Investments North America

**Comvest Partners** 

CQS

Credit Suisse Asset Management, LLC

D.E. Shaw Investment Management, LLC

DePrince, Race & Zollo, Inc.

Diamond Hill Capital, Inc.

Dimensional Fund Advisors L.P.

Doubleline

**DWS** 

EARNEST Partners, LLC

Epoch Investment Partners , Inc. \* (See new name)

Fayez Sarofim & Company

Federated Hermes, Inc.

Fidelity Institutional Asset Management

Fiera Capital Corporation

First Eagle Investment Management, LLC

First Hawaiian Bank Wealth Management Division

First Sentier Investors

Fisher Investments

Franklin Templeton

Fred Alger Management, LLC

GAM (USA) Inc.

Glenmede Investment Management, LP

GlobeFlex Capital, L.P.

GoldenTree Asset Management, LP

Goldman Sachs

Golub Capital

Great Lakes Advisors, LLC

Guggenheim Investments

**GW&K Investment Management** 

Harbor Capital Advisors

**Manager Name** 

Hardman Johnston Global Advisors LLC

Heitman LLC

Hotchkis & Wiley Capital Management, LLC

Impax Asset Management LLC

Income Research + Management

Insight Investment

Intech Investment Management LLC

Intercontinental Real Estate Corporation

Invesco

J.P. Morgan

Janus

Jarislowsky Fraser Global Investment Management

Jennison Associates LLC

Jobs Peak Advisors

KeyCorp

Kohlberg Kravis Roberts & Co. (KKR)

Lazard Asset Management

**LGIM America** 

Lincoln National Corporation

Longview Partners

Loomis, Sayles & Company, L.P.

Lord, Abbett & Company

LSV Asset Management

MacKay Shields LLC

Macquarie Asset Management (MAM)

Manulife Investment Management

Marathon Asset Management, L.P.

MetLife Investment Management

MFS Investment Management

MidFirst Bank

Mondrian Investment Partners Limited

Montag & Caldwell, LLC

Morgan Stanley Investment Management

MUFG Union Bank, N.A.

Natixis Investment Managers

Neuberger Berman

Newton Investment Management

Northern Trust Asset Management

Nuveen

Oaktree Capital Management, L.P.



**Manager Name** 

P/E Investments

Pacific Investment Management Company

Pacific Ridge Capital Partners, LLC

Pantheon Ventures

Parametric Portfolio Associates LLC

Partners Group (USA) Inc.

Pathway Capital Management, LP

PFM Asset Management LLC

**PGIM** 

**PGIM DC Solutions** 

**PGIM Fixed Income** 

PGIM Quantitative Solutions LLC

Pictet Asset Management

PineBridge Investments

Polen Capital Management, LLC

Pretium Partners, LLC

Principal Asset Management

Putnam Investments, LLC

Raymond James Investment Management

**RBC Global Asset Management** 

Regions Financial Corporation

Robeco Institutional Asset Management, US Inc.

S&P Dow Jones Indices

Sands Capital Management

Schroder Investment Management North America Inc.

Segall Bryant & Hamill

**Manager Name** 

Silvercrest Asset Management Group

SLC Management

Smith Graham & Co. Investment Advisors, L.P.

Sprucegrove Investment Management Ltd

State Street Global Advisors

Strategic Global Advisors, LLC

\*TD Global Investment Solutions - TD Epoch

T. Rowe Price Associates, Inc.

The TCW Group, Inc.

Thompson, Siegel & Walmsley LLC

Tri-Star Trust Bank

**UBS Asset Management** 

VanEck

Vanguard Group, Inc. (The)

Versus Capital Group

Victory Capital Management Inc.

Virtus Investment Partners, Inc.

Vontobel Asset Management

Voya

Walter Scott & Partners Limited

WCM Investment Management

Wellington Management Company, LLP

Western Asset Management Company LLC

Westfield Capital Management Company, LP

William Blair & Company LLC

Xponance, Inc.



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