Callan

March 31, 2023 North Dakota State Investment Board Legacy Fund

Investment Measurement Service Quarterly Review

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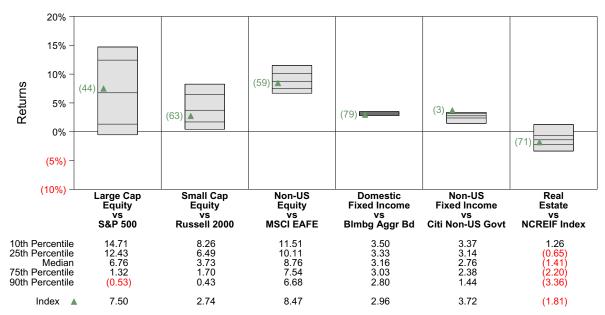
Executive Summary

Market Overview Active Management vs Index Returns

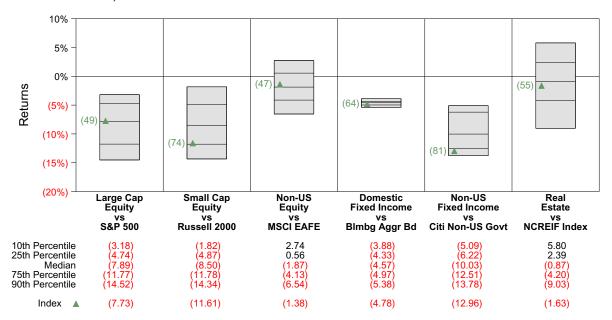
Market Overview

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 March 31, 2023



Range of Separate Account Manager Returns by Asset Class One Year Ended March 31, 2023



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Capital Markets Review

Higher Interest Rates Work! That's Good?

ECONOMY

2 PAGE Fed rate hikes seem to be working as designed, but there is always a delicate balancing act in trying to avoid a recession. The U.S. economy has held up pretty well, but GDP is slowing and the bond market is signaling a recession is ahead. The risks of that event have increased.

After Worst Year Ever, A Rebound for Bonds

FIXED INCOME

B P A G E Following the worst year ever for core fixed income, the Bloomberg US Aggregate Bond Index rose 3.0% in 1Q. As with equities, it was a bumpy ride with solid returns in January and March sandwiching a negative February. Global indices also rose in the quarter

Interest Continues as IRRs Stay Steady

PRIVATE CREDIT

Private credit generated net IRRs between 7% and 10% for trailing periods ended 9/30/22. Interest in the asset class remains strong and a renewed focus has been placed on relative value, downside protection, and managers' internal workout resources.

4Q22 and 1Q23 Gains Help Ease the Pain

INSTITUTIONAL INVESTORS

All investor types saw declines for the trailing year ended 1Q23, but the pain was eased by rebounds for stocks and bonds in 4Q22 and 1Q23. And while 2022 was a tough year, the silver lining is that return expectations going forward are now materially higher.

Private RE Mixed; REITs Lag Equities

REAL ESTATE/REAL ASSETS

10 PAGE Income returns for the NCREIF Property Index were positive but appreciation fell for the four major property sectors. REITs lagged equities in the quarter, and real assets were mixed but also lagged equities. Transaction volume continues to decrease on a rolling four-quarter basis.

Steady Gains Amid Volatile Markets

HEDGE FUNDS/MACs

Hedge funds ended the quarter in positive territory, although they underperformed broader equity indices, as the group provided steady performance through a volatile market environment. The median manager in the Callan Institutional Hedge Fund Peer Group rose 1.3%.

Increase but the Ride Was Bumpy in 1Q

EQUITY

6 PAGE The S&P 500 posted a second straight quarter of positive performance, gaining 7.5% in 1Q23; large cap growth led all style and cap indices higher, advancing 14.4%. Results were mixed across developed markets but most delivered positive returns.

Asset Class Adjusts To Tighter Conditions

PRIVATE EQUITY

A G E all activity measures moderated in 1Q23. Company-level entry and exit transactions retreated to levels seen in 2020, which remain healthy but look meager compared to 2021's stimulus-fueled liquidity peak, and 2022's gradual slowdown.

Index Rises After 3 Quarters of Losses

DEFINED CONTRIBUTION

15 PAGE The Callan DC Index rose 6.3% in 4Q22 after three straight quarterly declines. Balances also rose, driven by investment gains. TDFs continued to see the largest inflows. Allocations to equities rose slightly. Fees fell but the amount varied by plan size.

Broad Market Quarterly Returns



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

Higher Interest Rates Work! That's Good, Right?!

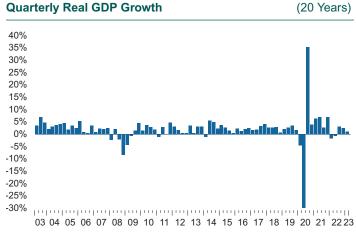
ECONOMY | Jay Kloepfer

The Federal Reserve has two very public mandates: to support employment growth and to maintain low, stable inflation. When the economy falls into recession (GDP and jobs are contracting) and unemployment rises, the Fed typically steps in and lowers interest rates. Lower rates stimulate borrowing by consumers and businesses, and thereby spur demand that will ultimately pull the economy back into the black with positive economic growth and a resumption of hiring. When inflation rises, the Fed typically steps in and raises interest rates. Higher rates slow borrowing by consumers and businesses, and thereby lessen demand and slow the upward pressure on prices.

There is a balancing act on both sides of this policy equation: How much stimulus is enough to get the economy growing and spur recovery in the job market to pull down unemployment, before the resumption in demand pushes up prices? How high can interest rates go before the economy slows enough to tip into recession and unemployment shoots up? While this characterization is incredibly simplistic compared to the complex inner workings of the Fed, and ignores for the moment the impact of the Fed balance sheet and monetary tightening or easing, the story works to help explain the conundrum we currently face as we move into 2Q23.

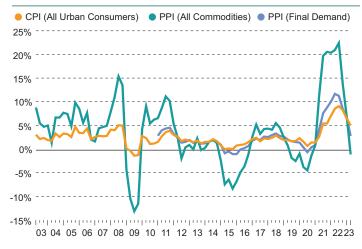
The last three years saw incredible mayhem in the supply chains, capital flows, and job markets of the world, with equally volatile yet weirdly out-of-sync (at times) mayhem in the capital markets. We suffered through a pandemic with an uneven global policy response, and the invasion of Ukraine in winter 2022. Global energy fell to an effective price of zero in 2020 only to skyrocket immediately thereafter. Inflation surged hard after more than a decade of suppression, and central bank responses to withdraw stimulus and put out the inflation fire in 2022 spooked equity markets and drove fixed income returns to their worst year ever.

Underneath all this, the U.S. economy has actually held up pretty darn well. We regained the pre-pandemic levels of GDP and employment in fairly short order, given the depth of the declines. The job market in the U.S. has been particularly robust; even in 2022 as the capital markets plummeted, we added 4.8 million jobs



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

during the year, with two monster months in February and July, and an average of 330,000 new jobs in the other 10 months of 2022. On the downside, overall gains in jobs hide the continued mismatch between the supply of jobs from employers and the type of jobs workers are demanding. Many trade and service industries remain woefully understaffed. Personal income surged, first through pandemic support in 2020 and the inability to spend in lockdown, and then as wages and salaries rose when economic growth burst into the open in 2021 and 2022. However, inflation ate into income gains and drove up prices for businesses, crimping real returns and company margins. Now that the Fed Funds rate has reached 5% and mortgage rates are at 7%, is it time for us to tip into recession? Did the Fed do "too much, too late?" 1Q23 GDP grew 1.1%, a definite slowdown from the second half of 2022, and below consensus expectations of 2%. Two culprits for the slower growth were weaker retail sales and a drop in new home construction. Another culprit was inventory reduction—companies worked down their stockpiles. Reducing inventories in anticipation of slower demand can be a self-fulfilling prophecy, as inventory reduction is a negative to GDP, but it can also set the economy up for a stronger 2Q, with the potential to rebuild inventory in the coming months. The consensus among economic forecasters is for substantial slowdown in 2023, to near zero growth in 2Q and 3Q, reaching the soft landing that is the holy grail of central banks.

Over history, however, we have not enjoyed soft landings in recessions; unemployment has spiked far beyond what would be thought of as a soft landing. The data for tracking recessions are all lagged, but the sequence of events in the economy is typically 1) slowing activity that takes a while to show up in the GDP data, then 2) cutting back in the form of spending and hiring, 3) layoffs starting in highflying industries, leading to 4) the multiplier effects of the slowdown snowballing into significant job losses across the broad economy. The stock market usually prices in recession first, often far ahead of the economic data, and then the market begins to advance, pricing in the recovery while the recession is still unfolding.

The bond market has been signaling belief in recession with an inverted yield curve. The market fully believed in the Fed's interest rate plans in March 2022 when inflation took off, and the yield curve shifted up sharply. As the year went on, the bond market then began worrying that the Fed would have to reverse course "soon" and start cutting rates to stave off recession, hence the inversion of the yield curve. The Fed has made it clear that inflation remains concern

Recent Quarterly Economic Indicators

	1Q23	4Q22	3Q22	2Q22
Employment Cost: Total Compensation Growth	4.8%	5.1%	5.0%	5.1%
Nonfarm Business: Productivity Growth	-2.7%	1.6%	1.2%	-3.7%
GDP Growth	1.1%	2.6%	3.2%	-0.9%
Manufacturing Capacity Utilization	78.3%	78.5%	79.4%	79.6%
Consumer Sentiment Index (1966=100)	64.6	58.8	56.1	57.8

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

The Long-Term View

Periods Ended 3/31						
Index	1Q23	<u>1 Yr</u>	5 Yrs	10 Yrs	25 Yrs	
U.S. Equity						
Russell 3000	7.2	-8.6	10.5	11.7	7.4	
S&P 500	7.5	-7.7	11.2	12.2	7.4	
Russell 2000	2.7	-11.6	4.7	8.0	6.8	
Global ex-U.S. Equity						
MSCI EAFE	8.5	-1.4	3.5	5.0	4.3	
MSCI ACWI ex USA	6.9	-5.1	2.5	4.2		
MSCI Emerging Markets	4.0	-10.7	-0.9	2.0		
MSCI ACWI ex USA Small Cap	4.7	-10.4	1.7	5.1	6.5	
Fixed Income						
Bloomberg Agg	3.0	-4.8	0.9	1.4	4.0	
90-Day T-Bill	1.1	2.5	1.4	0.9	1.9	
Bloomberg Long G/C	5.8	-13.4	0.6	2.3	5.6	
Bloomberg GI Agg ex US	3.1	-10.7	-3.2	-1.0	2.8	
Real Estate						
NCREIF Property	-1.8	-1.6	6.7	8.3	8.8	
FTSE Nareit Equity	2.7	-19.2	6.0	6.0	8.0	
Alternatives						
CS Hedge Fund	0.2	-0.9	4.2	3.9	5.5	
Cambridge PE*	0.8	-8.2	16.1	15.1	14.1	
Bloomberg Commodity	-5.4	-12.5	5.4	-1.7	1.8	
Gold Spot Price	8.8	1.6	8.4	2.2	7.8	
Inflation – CPI-U	1.7	5.0	3.9	2.6	2.5	

*Data for most recent period lags. Data as of 9/30/22.

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

No. 1, and the potential to cause a recession has not entered its deliberations. The strong job market in 1Q—almost a million new jobs—gives the Fed cover to continue course. The storm clouds on the horizon are the various measures of inflation: CPI-U and PCE both rose 5% in the first quarter, and the employment cost index for private industry rose 4.8%. While these rates are high relative to longer term history, they are down substantially from the peaks of mid-2022.

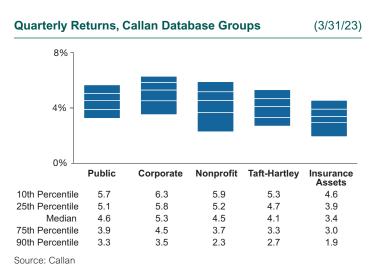
So higher interest rates are working, slowing demand and lessening price pressure, but inflation has a habit of being sticky on the downside. Squeezed margins means pressure to trim costs (and raise prices if possible). Highly visible layoffs in technology may soon expand to the broader economy. The chance of a recession in 2023 remains high.

Returns Fall for Trailing Year, but 4Q22, 1Q23 Gains Help Ease the Pain

INSTITUTIONAL INVESTORS

- Gains for stocks and bonds at the end of 2022 and beginning of 2023 eased the pain of a tough year for all institutional investors in 2022.
- While all investor types saw losses for the trailing one-year ending 1Q23, the declines were less than the double-digit losses they had experienced last year.
- Most investor types topped a 60% S&P 500/40% Bloomberg Aggregate benchmark over the trailing one year, with the exception of corporate plans.
- Results over the last 20 years for all investor types are in line with the stock-bonds benchmark.
- Entering 2023, for all investor types inflation is still an issue, despite recent declines.
 - Even if the rate goes to zero, the level of prices is permanently higher unless we get to deflation. The impact on individual and business real net income is substantial and portends slower growth in 2023 and 2024.
- Rate hikes from the Fed are another key concern.
 - The Fed has increased rates 475 bps since March 2022, from 0.0%-0.25% to 4.75%-5.0% in March 2023.

- While the painful losses across the board for investors in 2022 were a challenge, the silver lining is that higher returns are expected going forward.
 - Return targets are now in sight.
 - Risk reduction is on the table.



Callan Database Median and Index Returns* for Periods Ended 3/31/23

Database Group	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Public Database	4.6	-4.8	11.2	6.2	7.2	7.9
Corporate Database	5.3	-7.3	5.5	4.2	5.9	7.3
Nonprofit Database	4.5	-4.7	11.2	5.8	6.7	7.7
Taft-Hartley Database	4.1	-4.0	11.2	6.4	7.3	7.5
Insurance Assets Database	3.4	-3.0	4.4	3.2	3.6	5.1
All Institutional Investors	4.6	-4.9	10.6	5.7	6.8	7.6
Large (>\$1 billion)	4.2	-4.9	11.2	6.5	7.3	8.0
Medium (\$100mm - \$1bn)	4.7	-4.9	10.7	5.8	7.0	7.6
Small (<\$100 million)	4.6	-4.9	10.4	5.5	6.6	7.2
60% S&P 500/40% Bloomberg Agg	5.7	-6.3	9.9	7.5	8.1	7.8

*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.

- Private markets are now over target allocations.
 - Downward market valuations are slower in coming, distorting true exposures.
 - Interest remains strong in all private assets.
 - · Sharpened interest in real assets continues.
 - But current real assets exposures did not help, given losses in the asset class.
- Strategic themes in client conversations: How much has the world changed, and does it alter how we should view and implement our portfolio?

Corporated Defined Benefit (DB) Plans

- Liabilities fell sharply with rising interest rates. Liability-driven investing (LDI) portfolios were hammered by long duration exposure; typical LDI plan treaded water in funded status.
- Plans are questioning what they are doing with LDI, and why.
 Funded status no longer translates directly to contributions, or expense. Funding relief changed views.
- Total return-oriented plans saw funded status improve as equities declined less than liabilities.
- We expect higher interest rates will increase discussions about pension risk transfer. Most of our corporate DB clients are inclined to keep the plan on the balance sheet.

Public DB Plans

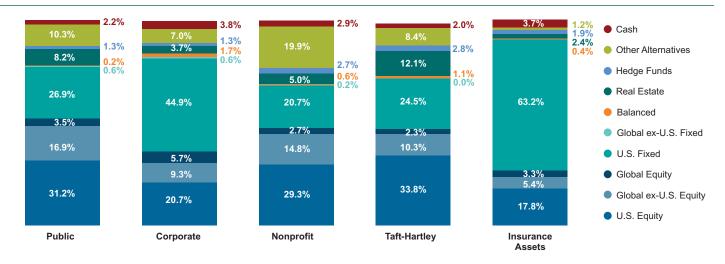
- Downward pressure on actuarial discount rates may now abate as capital markets expectations are higher following the market decline.
- Higher return expectations and lowered discount rates have led to a number of discussions of de-risking, after years of risking-up to chase returns.
- Inflation impacts future liabilities through pressure on salary and hits plans now with COLAs. Political pressures are high on plans with discretionary COLAs. Most COLAs are NOT funded, which is the reason why many plans suspended or eliminated them to address funding shortfalls over the past decade.

Nonprofits

- They are expanding the depth and breadth of their private markets allocations to diversify a prior focus on growth.
- Inflation concerns will lead to reconsideration of spending policies in 2023.

Defined Contribution (DC) Plans

- Pressure on investment management fees shows no signs of abating.
- Plans are also focused on compliance as they digest the implications of SECURE 2.0.



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

Markets gain, with exception of small cap value

- The S&P 500 posted a second straight quarter of positive performance, gaining 7.5% in 1Q23; large cap growth led all style and cap indices higher, advancing 14.4%.
- Russell 2000 Value was a notable exception and experienced a slight decline of 0.7% due to greater exposure to Financials, specifically banks.
- During the quarter, three sectors comprising 44% of the S&P 500 (and 63% of the Russell 1000 Growth Index) drove performance: Technology (+21.8%), Communication Services (+20.5%), and Consumer Discretionary (+16.1%).
- Financials, Energy, and Health Care posted negative returns for the quarter but had only a modest impact on total returns given smaller weights in respective benchmarks.
- Small caps (Russell 2000) underperformed large caps (Russell 1000) and growth outperformed value during the quarter, a reversal from 2022. Greater exposure to banks in Russell 2000 (8.3%) versus Russell 1000 (3.3%) was one differentiator for returns; strong returns for mega-cap Technology also increased divergence.

Large cap growth outperformance drivers

- The large cap growth outperformance was driven by increased valuations as interest rates declined and expectations of a more dovish Fed emerged.
- Asset managers may take a more cautious approach in equity markets into coming quarters as earnings estimates decline; expect a focus on quality, cash flow, defensive value names, and profitable growth stocks.

- Price multiples continue to be important as elevated valuations may compress if markets anticipate that monetary easing is not on the near-term horizon.
- Analyst estimates for future earnings are diverging, typically a sign of elevated economic turbulence.
- Investors "bought the dip" as stock performance reversed from the prior year; the worst-performing stocks for 2022 became best-performing stocks during 1Q23.

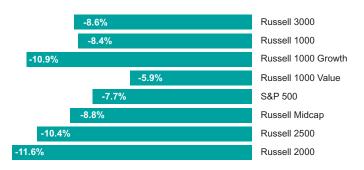
Russell 3000 7.2% Russell 1000 7.5% Russell 1000 Growth 14.4% Russell 1000 Value 1.0% S&P 500 7.5% Russell Midcap 4.1% Russell 2500 3.4% Russell 2000 2.7%

U.S. Equity: One-Year Returns

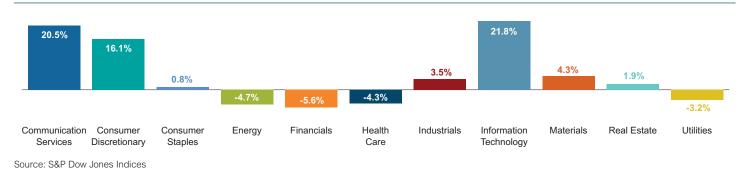
U.S. Equity: Quarterly Returns

(3/31/23)

(3/31/23)



Sources: FTSE Russell and S&P Dow Jones Indices



Quarterly Performance of Industry Sectors (12/31/22)

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Global Equity

1Q23 brought global equity markets back to black

- Positive results despite hiccups
- 1Q23 was marked by the collapse of Silicon Valley Bank and Credit Suisse, which sent fears of a banking crisis across global markets.
- Despite a Fed hike during the period, investors began to price in lower rate expectations.
- Europe outperformed other regions, making up ground lost in 2022 as inflation eased and recession fears lessened.

Growth vs. value

- Growth outpaced value across developed and emerging markets.
- In a reversal from 2022, investors preferred growth alongside a drawdown in banks; Information Technology was the largest outperformer.

U.S. dollar vs. other currencies

 After some strength early in the quarter, the U.S. dollar declined 1% as interest rate differentials narrowed globally.

Developed markets outpace U.S.

- Outperformance of developed markets over the past year has been driven by Europe.
- Europe beat U.S. as the worst fears in the wake of the Russia-Ukraine War were not realized.
- Europe benefited from falling gas prices and China reopening.
- Value-growth dispersion was impacted less in developed markets relative to U.S. given the composition of the markets.
- EAFE Value outperformed Growth by 2.5 percentage points.
- S&P 500 Value outperformed Growth by 15.2 percentage points.
- Weak dollar in recent quarters helped global ex-U.S. equities.
- Since DXY Index reached a 20-year high in September 2022, it has fallen by 10%.

Will Europe continue to be a source of return?

- EPS growth expectations have fallen for both S&P 500 (-7%) and Europe (-9%).
- However, euro zone provides valuation support relative to the U.S.
- Euro zone trades at a 30% discount vs. the U.S.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar, 3/31/23)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar, 3/31/23)

-1.4	4%	MSCI EAFE
-7.4%		MSCI ACWI
-7.0%	6	MSCI World
-5	.1%	MSCI ACWI ex USA
-2.7%	6	MSCI World ex USA
-10.4%		MSCI ACWI ex USA Small Cap
-10.1%		MSCI World ex USA Small Cap
-11.0%		MSCI EM Small Cap
MSCI Europe e	x UK	2.0%
-0	.8%	MSCI UK
-7.4%		MSCI Pacific ex Japan
-5	5.2%	MSCI Japan
-10.7%		MSCI Emerging Markets
-	4.7%	MSCI China
-17.5%		MSCI Frontier Markets

Source: MSCI

Fixed Income

U.S. Fixed Income

Bloomberg Aggregate was positive in 1Q but mixed

- January: +3.1%
- February: -2.6%
- March: +2.5%

U.S. Treasury volatility was pronounced

- 2-year U.S. Treasury yield high was 5.08% on 3/8 and low was 3.77% on 3/24
- MOVE Index highest since 2008

Yield curve remained inverted but also volatile

- 2yr/10yr | 3/31: -58 bps; max 3/8: -109; min 3/23: -38
- 1yr/10yr | 3/31: -116 bps

Fed raised rates, bringing target to 4.75%-5.00%

- Median expectation from Fed is 5.1% for year-end 2023; market pricing in Fed cuts by year-end
- Inflation moderated but still high and job market tight

Sector performance mixed

- Corporate Industrials excess return: +58 bps
- Corporate Financials excess return: -39 bps
- RMBS excess return: -50 bps
- CMBS excess return: -74 bps
- High yield excess return: +123 bps

Valuations fair

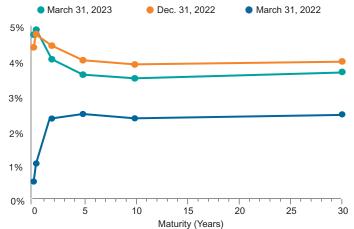
 Credit spreads have not widened materially and are close to historical averages

Municipal Bonds

Indices gained in 1Q23

- Lower quality outperformed (AAA: +2.5%; AA: +2.7%; A: +3.0%; BBB: +3.7%)
- Muni curve inverted but less so than U.S. Treasuries
- 2-year AAA yield: 2.41%; 10-year AAA yield: 2.28%
- Valuations relative to U.S. Treasuries are rich

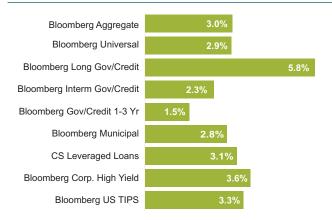
U.S. Treasury Yield Curves





U.S. Fixed Income: Quarterly Returns

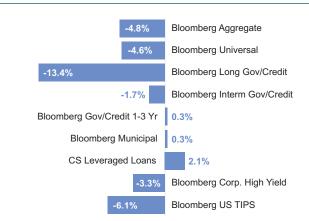
(3/31/23)



Sources: Bloomberg and Credit Suisse

U.S. Fixed Income: One-Year Returns

(3/31/23)



Sources: Bloomberg and Credit Suisse

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FIXED INCOME (Continued)

- 10-year AAA Muni/10-year U.S. Treasury yield ratio 65%; below 10-year average of 88%
- Over the last 10 years, 10-year ratio was richer 4% of the time
- After-tax yield of Muni Bond Index = 5.5%; Bloomberg IG Corporate = 5.2% (Source: Eaton Vance)

Supply/demand

- Outflows nearly \$2 billion but lower than the \$22 billion in 1Q22
- Supply about 25% lower year-over-year
- Munis not immune to turmoil in banking, but fundamentals remain sound
- Banks are third largest holder of munis (about 15%) but thus far have not been sellers
- Municipals could be affected by tighter lending standards but likely result would be more public issuance
- "Rainy Day" fund balances and state tax revenues robust

Global Fixed Income

Global Aggregate was positive in 1Q but mixed

- January: +3.3%
- February: -3.3%
- March: +3.2%
- ECB and UK hiked rates; Japan held steady

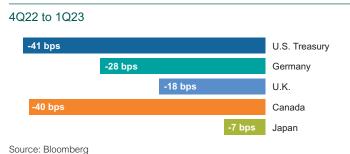
U.S. dollar was mixed but mostly lower

- Euro: +2% vs dollar
- British pound: +3% vs dollar
- Japanese yen: -1% vs dollar
- Australian dollar: -1% vs dollar
- Mexican peso: +8% vs dollar
- Brazilian real: +4% vs dollar

Emerging market debt delivered solid results

 EM currencies did well versus U.S. dollar, especially in Latin America; Latin America local currency return: +4.1%; unhedged in \$US: +9.8%

Change in 10-Year Global Government Bond Yields



Global Fixed Income: Quarterly Returns

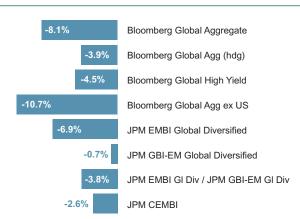
(3/31/23)

(3/31/23)



Sources: Bloomberg and JPMorgan Chase

Global Fixed Income: One-Year Returns



Sources: Bloomberg and JPMorgan Chase

Private Real Estate Sees Mixed Results, While REITs Lag Equities

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

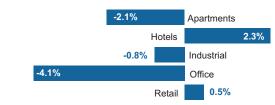
Income returns positive but appreciation negative

- Income returns were positive across all property sectors and regions in the NCREIF Property Index.
- All sectors and regions, except for Hotel, experienced negative appreciation.
- Valuations are reflective of higher interest rates, which have put upward pressure on capitalization rate and discount rate assumptions.
- Return dispersion by manager within the ODCE Index was due to the composition of underlying portfolios.
- Outstanding redemption requests for most large ODCE funds are approximately 8% to 16% of net asset value.
- There is more than \$200 billion of capital waiting to be deployed in North America.
- Majority of dry powder capital in opportunistic, value-add, and debt funds
- Transaction volume continues to decrease on a rolling fourquarter basis and is now below five-year averages.
- The rise in interest rates is the driving force behind the slowdown in transactions. A bid-ask spread remains and price discovery continues to occur among market participants.

REITs Underperform Equity Indices

 Global REITs underperformed in 1Q23, rising 0.8% compared to a 7.7% rise for global equities (MSCI World).

Sector Quarterly Returns by Property Type (3/31/23)



Source: NCREIF

- U.S. REITs gained 2.7% in 1Q23, in contrast with the S&P 500 Index, which rose 7.5%.
- REITs are now trading at a discount to NAV (-12%) and offer relative value given the strength of underlying fundamentals.
- Historically, global REITs have traded at a -5.1% discount to NAV.

Real assets mixed but lagged global equities

- Real assets were mixed in 1Q but generally underperformed global equities.
- Gold (S&P Gold Spot Price Index: +8.8%), REITs (MSCI US REIT: +2.7%), infrastructure (DJB Global Infrastructure: +2.5%), and TIPS (Bloomberg TIPS: +2.0%) all posted positive returns.
- The S&P GSCI Index fell 4.9% with oil down about 7%. WTI Crude closed the quarter at \$74/barrel, just before OPEC announced its intention to cut production in May.

Callan Database Median and Index Returns* for Periods Ended 3/31/23

Private Real Assets	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	-1.7	-1.7	-2.2	8.4	7.5	9.0	5.1
NFI-ODCE (value-weighted, net)	-3.4	-3.4	-3.9	7.5	6.6	8.5	5.0
NCREIF Property	-1.8	-1.8	-1.6	7.2	6.7	8.3	6.3
NCREIF Farmland	2.1	2.1	8.9	7.5	6.5	8.5	10.2
NCREIF Timberland	1.8	1.7	11.3	8.1	5.5	5.8	4.6
Public Real Estate							
Global Real Estate Style	1.8	1.8	-20.2	7.9	3.3	4.7	4.5
FTSE EPRA Nareit Developed	0.8	0.8	-21.4	6.6	0.9	2.5	2.5
Global ex-U.S. Real Estate Style	0.1	0.0	-21.9	2.8	-0.7	3.4	2.4
FTSE EPRA Nareit Dev ex US	-1.7	-1.6	-23.0	1.1	-3.1	0.3	0.7
U.S. REIT Style	3.1	3.1	-19.0	11.4	7.2	6.9	7.3
FTSE EPRA Nareit Equity REITs	2.7	2.7	-19.2	12.1	6.0	6.0	6.3

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

10 Callan Institute

Deceleration in 2022, with Trends for 2023 Very Unclear

PRIVATE EQUITY | Gary Robertson

Private equity continued the trend of slower activity in 1Q23, after the frothy 2021 peak period. Fundraising dollar volume ticked up slightly, but overall combined company-level entry and exit volumes averaged drops of about 34% by count and 54% by dollar volume from 4Q22. Exits continue to suffer more than fund commitments and new investments.

Fundraising ► Based on preliminary data, 1Q23 private equity partnerships holding final closes totaled \$188.7 billion, up 20% from 4Q22. New partnerships formed dropped 47% to 339, with the trend continuing of larger funds consolidating most commitments. Secondary funds surged to 17% of commitments, which is an anomaly for the strategy that normally has a low single-digit market share. New buyout funds with 44% of commitments remains low. Venture capital has declined from recent 30%-plus levels but remains significant. (Unless otherwise noted, all data comes from PitchBook.)

Buyouts ► Funds closed 2,429 investments with \$123 billion in disclosed deal value, a 21% decline in count and a 53% drop in dollar value from 4Q.

VC Investments ► New investments in venture capital companies totaled 10,271 rounds of financing, down 10%, with \$78 billion of announced value, down 11%. Exits ► There were 462 private M&A exits of private equitybacked companies, a 3% increase. Disclosed values declined 36% to \$89 billion. There were 47 private equity-backed IPOs, down 20%, which raised an aggregate \$5 billion, down 44%.

Venture-backed M&A exits totaled 527 with disclosed value of \$22 billion. The number of sales rose only 1% from 4Q, but announced value jumped 175%. There were 58 VC-backed IPOs, down 51%, and the combined float totaled \$6 billion, a 33% decrease.

Returns Preliminary numbers (finals will be published in mid-May) for 4Q22 indicate a modestly up quarter for All Private Equity, with Buyout and Credit-related strategies offsetting continued declines in Venture Capital and Growth Equity.

Funds Closed 1/1/23 to 3/31/23

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	200	31,629	17%
Growth Equity	14	15,316	8%
Buyouts	93	83,346	44%
Mezzanine Debt	8	16,012	8%
Distressed/Special Credit	3	10,515	6%
Energy	0	0	0%
Secondary and Other	20	31,608	17%
Fund-of-Funds	1	274	0%
Totals	339	188,700	100%

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

Private Equity Performance (%) (Pooled Horizon IRRs through 12/31/22*)

			•	,				
Strategy	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	-5.40	-19.17	24.33	22.38	19.22	13.19	12.60	23.50
Growth Equity	-1.29	-14.64	19.32	18.13	15.85	12.62	14.76	15.15
All Buyouts	4.15	-3.00	17.52	15.75	15.14	10.06	15.01	12.77
Mezzanine	3.82	4.34	11.60	11.04	11.23	10.19	11.19	10.00
Credit Opportunities	2.53	4.37	8.60	7.02	8.24	8.74	9.79	9.54
Control Distressed	1.98	3.91	19.76	13.44	12.29	10.49	11.92	11.71
All Private Equity	0.67	-8.32	18.62	16.60	15.20	10.90	13.83	13.71
S&P 500	7.56	-18.11	7.66	9.42	12.56	8.81	9.80	7.64
Russell 3000	1.87	-13.01	-2.71	0.02	1.06	2.66	3.10	3.97
	1.07	-15.01	-2.71	0.02	1.00	2.00		5.10

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

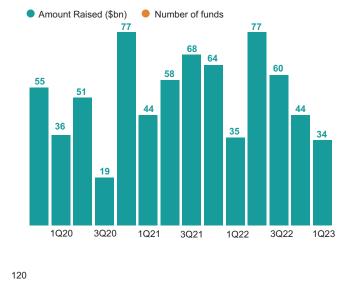
Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of the *Capital Markets Review* and other Callan publications.

Net IRRs Range Between 7%-10%; Interest Remains Strong

PRIVATE CREDIT | Catherine Beard

- Private credit performance varies across sub-asset class and underlying return drivers. On average, the asset class has generated net IRRs of 7% to 10% for trailing periods ended Sept. 30, 2022. Higher-risk strategies performed better than lower-risk strategies.
- As interest rates declined after the Global Financial Crisis (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.
- In the current rate environment, a renewed focus has been placed on relative value, downside protection, and managers' internal workout resources.
- There is renewed interest in strategies with strong collateral protection such as asset-based lending.
- Larger sponsor-backed lending is seeing a new focus due to the high yield/broadly syndicated loan disintermediation by private debt.
 - 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 1Q but remained well below the historical average of 3%-4%. Callan expects defaults to increase somewhat in coming months as economic growth slows and

Private Credit Fundraising (\$bn)





Source: Preqin

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 up of liquidity, but has fallen since then. In 2023, as the IG distress index continues to fall, the HY bond indicator is on the rise. The CMDI incorporates a range of indicators, including new issuance and pricing for primary and secondary market bonds and relative pricing between traded and nontraded bonds.

Private Credit Performance (%) (Pooled Horizon IRRs through 9/30/22*)

		-	-				
Quarter	1 Year	3 Years	5 Years	8 Years	10 Years	15 Years	20 Years
-2.4	-3.5	4.6	5.1	5.7	5.9	6.3	6.1
0.2	5.0	11.8	11.1	10.8	11.3	10.5	11.3
0.7	3.9	8.4	7.2	6.6	8.3	8.6	9.7
-0.1	2.6	8.4	7.7	7.4	8.6	8.8	9.7
	-2.4 0.2 0.7	-2.4 -3.5 0.2 5.0 0.7 3.9	-2.4 -3.5 4.6 0.2 5.0 11.8 0.7 3.9 8.4	-2.4-3.54.65.10.25.011.811.10.73.98.47.2	-2.4-3.54.65.15.70.25.011.811.110.80.73.98.47.26.6	-2.4-3.54.65.15.75.90.25.011.811.110.811.30.73.98.47.26.68.3	-2.4-3.54.65.15.75.96.30.25.011.811.110.811.310.50.73.98.47.26.68.38.6

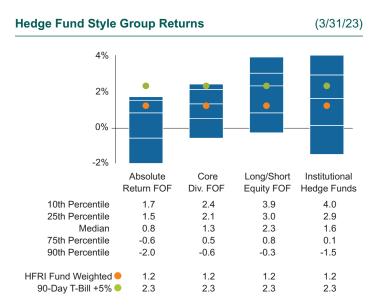
Source: Refinitiv/Cambridge

*Most recent data available at time of publication

Steady Gains Amid Volatile Markets

HEDGE FUNDS/MACs | Joe McGuane

- Equity and credit markets saw volatility spike during 1Q23, as sentiment on inflation and Federal Reserve policy whipsawed in response to signs of persistent inflation following strong economic data on the labor market.
- Both stocks and bonds gained ground, and hedge funds ended the quarter in positive territory, although they underperformed broader equity indices, as the group provided steady performance through a volatile market environment.
- Equity hedge strategies had a strong start to the year, as tech-focused managers saw performance soar.
- Relative value managers also had a nice quarter, as fixed income relative value strategies were able to profit off the move in short-term rates in March.
- Event-driven strategies posted gains, as some managers profited from merger arbitrage exposures as spreads tightened with the completion of several large strategic deals.



Sources: Callan, Credit Suisse, Federal Reserve

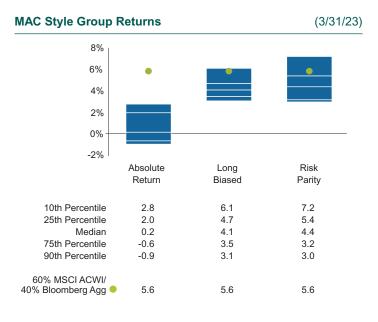
Hedge Fund Universe	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years
Callan Institutional Hedge Fund Peer Group	1.6	2.6	9.2	5.7	5.8	6.1
Callan Fund-of-Funds Peer Group	1.2	0.9	8.1	4.2	4.2	3.7
Callan Absolute Return FOF Style	0.8	2.3	8.8	4.1	4.5	3.6
Callan Core Diversified FOF Style	1.3	1.5	8.1	4.0	4.0	3.4
Callan Long/Short Equity FOF Style	2.3	-2.3	6.6	4.5	4.6	4.1
HFRI Fund-Weighted Index	1.2	-2.1	10.5	4.7	4.4	4.0
HFRI Fixed Convertible Arbitrage	1.4	1.0	9.1	5.3	5.0	5.4
HFRI Distressed/Restructuring	0.9	-4.6	12.2	4.7	4.4	4.5
HFRI Emerging Markets	1.9	-4.9	8.0	1.0	2.8	2.0
HFRI Equity Market Neutral	0.8	2.5	4.1	1.9	2.9	2.0
HFRI Event-Driven	1.4	-2.2	11.7	4.5	4.6	4.5
HFRI Relative Value	1.3	0.0	7.7	3.6	3.9	4.7
HFRI Macro	-2.4	-0.4	7.0	4.6	2.7	2.4
HFRI Equity Hedge	2.5	-3.7	12.4	5.0	5.3	4.2
HFRI Multi-Strategy	1.4	-6.3	7.1	2.4	2.8	3.1
HFRI Merger Arbitrage	-1.8	-0.3	9.7	5.3	4.3	4.0
90-Day T-Bill + 5%	2.3	7.5	5.9	6.4	5.9	5.7

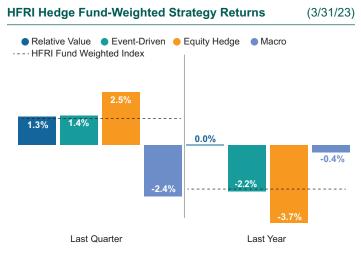
Callan Peer Group Median and Index Returns* for Periods Ended 3/31/23

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

- Macro strategies generated negative performance on the quarter, as losses came from short positions in U.S. rates, and short positions in U.S. equity indices detracted from performance.
- The median manager in the 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 markets had a strong start to the year as near-term recession risks receded and capital market access improved.
- Hedged rates managers rose 1.5%, as those strategies were able to profit off short-term rates falling in March, as the banking crisis flared up.
- The average hedged equity manager fell 0.3%, as managers with a focus on tech, media, and telecom (TMT) and consumer stocks led the rally after lagging for all of 2022.
- Within the HFRI Indices, the best-performing strategy in 1Q was the equity hedge index (+2.5%), as managers that were focused on growth stocks saw a strong bounce in performance compared to last year.
- Event-driven strategies finished up 1.4%, as hard catalyst situations contributed to performance along with select merger arbitrage exposures as spreads tightened.

- Macro strategies ended the quarter 2.4% lower, primarily due to losses in short fixed income exposures, as banking turmoil abruptly shifted rate expectations.
- Across the Callan Hedge FOF Database, the median Callan Long-Short Equity FOF gained 2.3%, as managers benefited from a strong S&P 500 during 1Q.
- The median Callan Core Diversified FOF rose 1.3%, as equity hedge exposure offset negative performance from macro managers during the quarter.
- Callan Absolute Return FOF was up 0.8%, as multi-strategy and equity hedge exposure was able to offset the underperformance from macro managers in the quarter.
- The median Callan MAC Risk Parity manager gained 4.4%, as equities and fixed income drove performance during the quarter.
- The Callan MAC Long Biased peer group rose 4.1%, as strong equity performance led the group higher.
- The Callan MAC Absolute Return manager finished up 0.2%, as a bias toward value equities caused underperformance relative to the other peer groups, as growth equities had a strong start to the year.





Source: HFRI

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

Index Rises After Three Straight Quarters of Losses

DEFINED CONTRIBUTION | Scotty Lee

Performance: Index gains 6.3%, breaking streak of losses

- The Callan DC Index[™] rose 6.3% in 4Q22 after three previous quarterly declines.
- The Age 45 Target Date Fund gained 8.4%.

Growth Sources: Investment gains lead to rise in balances

 Balances rose by 5.8% after a 4.7% decrease the previous quarter, driven by investment gains.

Turnover: Net transfers increase slightly

- Turnover (net transfer activity levels within DC plans) slightly increased to 0.18% from the previous quarter's 0.14%.
- Despite the small increase, the Index's historical average (0.56%) remained steady.

Net Cash Flow: TDFs remain in top spot

- Target date funds (TDFs) received the largest net inflows in the DC Index, garnering 84.6% of quarterly net flows.
- Investors withdrew assets from U.S. large cap equity (-19.5%) and global ex-U.S. equity (-9.5%).
- Stable value (-34.7%) saw relatively large outflows.

Equity Allocation: Exposure rises

 The Index's overall allocation to equity (70.1%) rose slightly from the previous quarter's level (69.3%).

Asset Allocation: Capital preservation declines

- Global ex-U.S. equity (5.0%) and U.S. large cap (25.2%) were among the asset classes with the largest percentage increases in allocation.
- Stable value (10.0%) had a decrease in allocation from the previous quarter's level (10.5%).

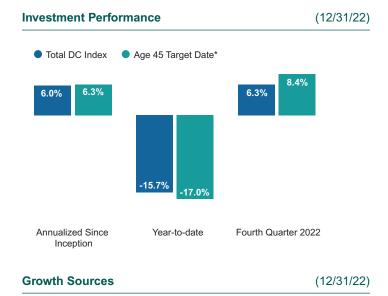
Prevalance: Balanced funds dip—again

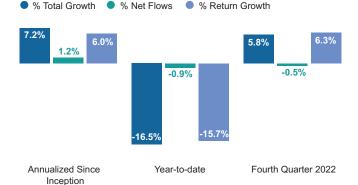
 The prevalence of a balanced fund (40.8%) decreased again to its lowest level since the inception of the Index in 2006.

Management Fees: Declines vary by plan size

- Less than \$500 million in assets: fees fell by 1 basis point.
- \$500 million-\$1 billion: -2 bps.
- More than \$1 billion: -4 bps.

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.





Net Cash Flow Analysis (4Q22)

(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	84.6%
Money Market	8.0%
U.S. Large Cap	-19.5%
Stable Value	-34.7%
Total Turnover**	0.2%

Data provided here is the most recent available at time of publication. Source: Callan DC Index

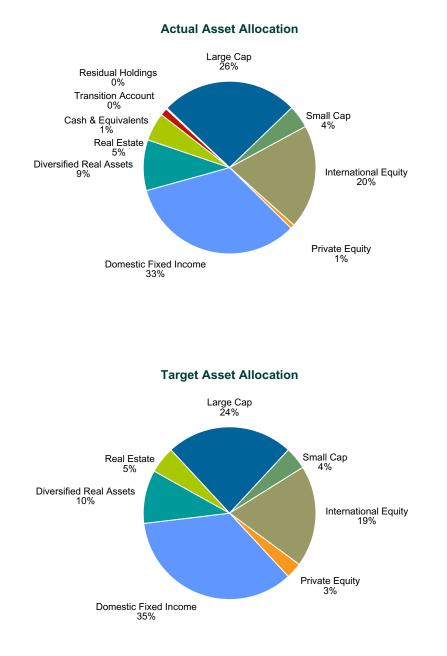
Note: DC Index inception date is January 2006.

- * 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.

Asset Allocation and Performance

Actual vs Target Asset Allocation As of March 31, 2023

The first chart below shows the Fund's asset allocation as of March 31, 2023. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.



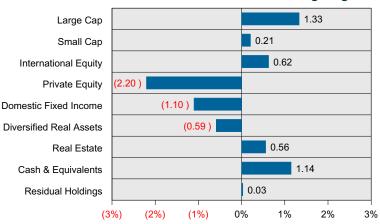
\$000s Weight Percent \$000s Difference Asset Class Actual <u>Actual</u> Target Difference 2,326,438 390,660 1,768,799 23.8% 4.2% 19.0% Large Cap 25.7% 1.9% 172,804 4.3% 19.5% 0.1% Small Cap 10,607 International Equity 49,511 Private Equity Domestic Fixed Income Diversified Real Assets 75,060 3.0% 0.8% (2.2%) 196,406 3,014,964 857,781 482,337 35.0% 10.0% 5.0% 33.3% 9.5% 1.7% 52,146 (0.5% (47.108) 0.3% 29,892 5.3% Real Estate Cash & Equivalents 130,354 1.4% 0.0% 1.4% 130,354 Transition Account 44 0.0% 0.0% 0.0% 44 2,449 0.0% 0.0% 2.449 **Residual Holdings** 0.0% Total 9,048,886 100.0% 100.0%

* Current Quarter Target = 35.0% Blmbg Aggregate, 23.8% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 10.0% DRA Weighted Benchmark, 5.0% NCREIF Total Index, 4.2% Russell 2000 Index and 3.0% Private Equity.



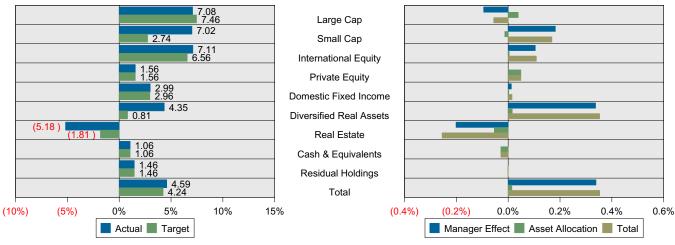
Quarterly Total Fund Relative Attribution - March 31, 2023

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.



Asset Class Under or Overweighting

Actual vs Target Returns



Relative Attribution Effects for Quarter ended March 31, 2023

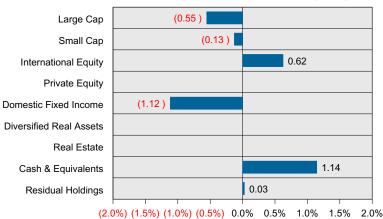
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	25%	24%	7.08%	7.46%	(0.09%)	0.04%	(0.06%)
Small Cap	4%	4%	7.02%	2.74%	0.18%	(0.01%)	0.17%
International Equity	20%	19%	7.11%	6.56%	0.10%	0.00%	0.11%
Private Equity	1%	3%	1.56%	1.56%	0.00%	0.05%	0.05%
Domestic Fixed Incom	e 34%	35%	2.99%	2.96%	0.01%	0.00%	0.01%
Diversified Real Assets	s 9%	10%	4.35%	0.81%	0.34%	0.02%	0.35%
Real Estate	6%	5%	(5.18%)	(1.81%)	(0.20%)	(0.05%)	(0.26%)
Cash & Equivalents	1%	0%	`1.06%´	`1.06%´	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	1.46%	1.46%	0.00%	(0.00%)	(0.00%)
Total			4.59% =	4.24%	+ 0.34% +	0.01%	0.35%

* Current Quarter Target = 35.0% Blmbg Aggregate, 23.8% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 10.0% DRA Weighted Benchmark, 5.0% NCREIF Total Index, 4.2% Russell 2000 Index and 3.0% Private Equity.

Relative Attribution by Asset Class

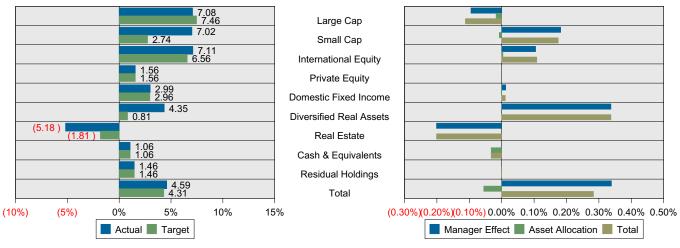
Quarterly Total Fund Relative Attribution - Corridor Target - March 31, 2023

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.



Asset Class Under or Overweighting

Actual vs Target Returns



Relative Attribution Effects for Quarter ended March 31, 2023

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	25%	26%	7.08%	7.46%	(0.09%)	(0.02%)	(0.11%)
Small Cap	4%	5%	7.02%	2.74%	0.18%	(0.01%)	` 0.17%´
International Equity	20%	19%	7.11%	6.56%	0.10%	0.00%	0.11%
Private Equity	1%	1%	1.56%	1.56%	0.00%	0.00%	0.00%
Domestic Fixed Incom		35%	2.99%	2.96%	0.01%	(0.00%)	0.01%
Diversified Real Asset		9%	4.35%	0.81%	0.34%	`0.00%	0.34%
Real Estate	6%	6%	(5.18%)	(1.81%)	(0.20%)	0.00%	(0.20%)
Cash & Equivalents	1%	0%	1.06%	1.06%	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	1.46%	1.46%	0.00%	(0.00%)	(0.00%)
Total			4.59% =	4.31%	+ 0.34% +	(0.06%)	0.28%

* Current Quarter Target = 35.0% Blmbg Aggregate, 25.7% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 9.5% DRA Weighted Benchmark, 5.4% NCREIF Total Index, 4.5% Russell 2000 Index and 0.8% Private Equity.

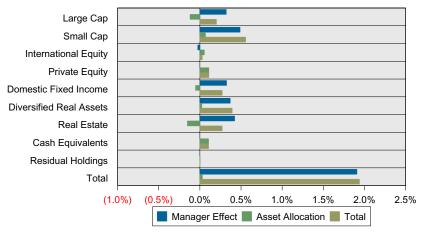
Relative Attribution by Asset Class

Callan

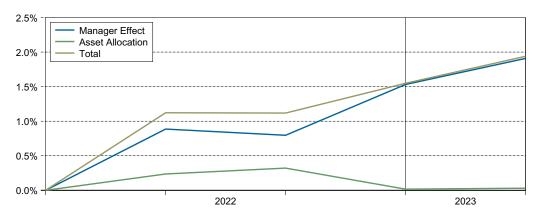
Cumulative Total Fund Relative Attribution - March 31, 2023

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

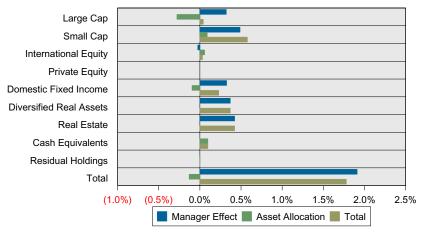
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
	24%	24%	(6.97%)	(8.39%)	0.32%	(0.12%)	0.20%
Large Cap							
Small Cap	5%	5%	(2.79%)	(11.61%)	0.49%	0.07%	0.56%
International Equity	19%	19%	(5.84%)	(5.74%)	(0.03%)	0.05%	0.03%
Private Equity	1%	2%	(0.16%)	(0.16%)	0.00%	0.11%	0.11%
Domestic Fixed Incom		35%	(3.82%)	(4.78%)	0.32%	(0.05%)	0.27%
Diversified Real Assets	s 10%	10%	`1.89%´	(2.25%)	0.37%	0.02%	0.39%
Real Estate	6%	5%	6.20%	(1.63%)	0.42%	(0.15%)	0.27%
Cash Equivalents	1%	0%	2.48%	2.48%	0.00%	0.11%	0.11%
Residual Holdings	0%	0%	-	_	0.00%	(0.00%)	(0.00%)
Total			(3.74%) =	(5.68%) +	1.91% +	0.03%	1.94%

* Current Quarter Target = 35.0% Blmbg Aggregate, 23.8% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 10.0% DRA Weighted Benchmark, 5.0% NCREIF Total Index, 4.2% Russell 2000 Index and 3.0% Private Equity.

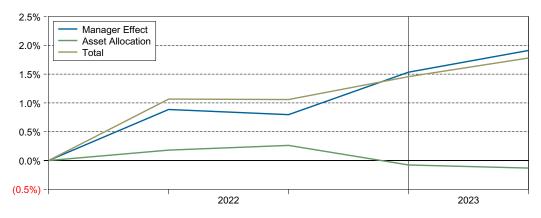
Cumulative Total Fund Relative Attribution - Corridor Target - March 31, 2023

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

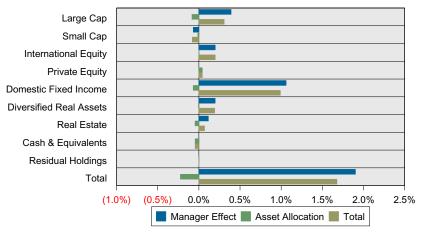
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	24%	24%	(6.97%)	(8.39%)	0.32%	(0.28%)	0.04%
Small Cap	5%	5%	(2.79%)	(11.61%)	0.49%	0.09%	0.58%
International Equity	19%	19%	(5.84%)	`(5.74%)	(0.03%)	0.06%	0.03%
Private Equity	1%	1%	(0.16%)	(0.16%)	0.00%	0.00%	0.00%
Domestic Fixed Incom		35%	(3.82%)	(4.78%)	0.32%	(0.10%)	0.23%
Diversified Real Assets	s 10%	10%	`1.89%´	(2.25%)	0.37%	`0.00%´	0.37%
Real Estate	6%	6%	6.20%	(1.63%)	0.42%	0.00%	0.42%
Cash Equivalents	1%	0%	2.48%	2.48%	0.00%	0.10%	0.10%
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			(3.74%) =	· (5.52%) +	1.91% +	(0.13%)	1.78%

* Current Quarter Target = 35.0% Blmbg Aggregate, 25.7% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 9.5% DRA Weighted Benchmark, 5.4% NCREIF Total Index, 4.5% Russell 2000 Index and 0.8% Private Equity.

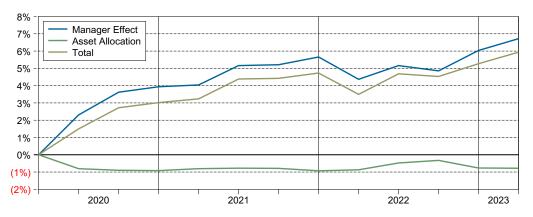
Cumulative Total Fund Relative Attribution - March 31, 2023

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

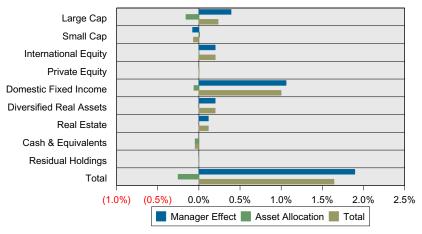
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	23%	22%	20.50%	18.56%	0.39%	(0.08%)	0.31%
Small Cap	7%	7%	18.28%	17.51%	(0.07%)	(0.01%)	(0.08%)
International Equity	20%	20%	13.33%	12.32%	0.20%	`0.00%´	0.20%
Private Equity	0%	1%	-	-	0.00%	0.04%	0.04%
Domestic Fixed Incom	ie 35%	35%	0.03%	(2.77%)	1.06%	(0.07%)	0.99%
Diversified Real Asset	s 10%	10%	6.16%	4.04%	0.20%	(0.01%)	0.19%
Real Estate	5%	5%	8.86%	7.15%	0.12%	(0.05%)	0.07%
Cash & Equivalents	1%	0%	0.86%	0.86%	0.00%	(0.05%)	(0.05%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
				/		(0.000())	
Total			9.43% =	7.75%	+ 1.90% +	(0.22%)	1.68%

* Current Quarter Target = 35.0% Blmbg Aggregate, 23.8% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 10.0% DRA Weighted Benchmark, 5.0% NCREIF Total Index, 4.2% Russell 2000 Index and 3.0% Private Equity.

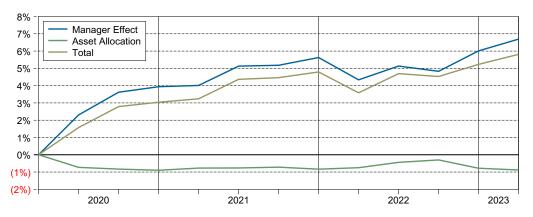
Cumulative Total Fund Relative Attribution - Corridor Target - March 31, 2023

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

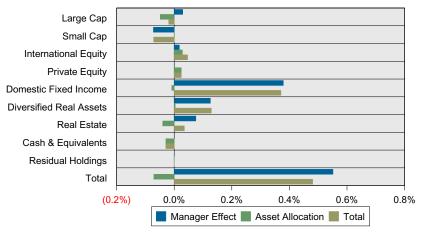
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	23%	23%	20.50%	18.56%	0.39%	(0.16%)	0.23%
Small Cap	7%	7%	18.28%	17.51%	(0.08%)	0.01%	(0.07%)
International Equity	20%	20%	13.33%	12.32%	0.20%	0.00%	0.20%
Private Equity	0%	0%	-	-	0.00%	0.00%	0.00%
Domestic Fixed Incom		35%	0.03%	(2.77%)	1.06%	(0.06%)	1.00%
Diversified Real Asset	s 10%	10%	6.16%	4.04%	0.20%	0.00%	0.20%
Real Estate	5%	5%	8.86%	7.15%	0.12%	0.00%	0.12%
Cash & Equivalents	1%	0%	0.86%	0.86%	0.00%	(0.05%)	(0.05%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			9.43% =	7.79%	+ 1.90% +	(0.25%)	1.64%

* Current Quarter Target = 35.0% Blmbg Aggregate, 25.7% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 9.5% DRA Weighted Benchmark, 5.4% NCREIF Total Index, 4.5% Russell 2000 Index and 0.8% Private Equity.

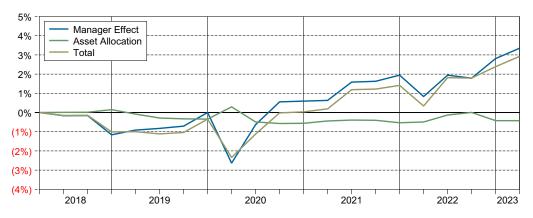
Cumulative Total Fund Relative Attribution - March 31, 2023

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

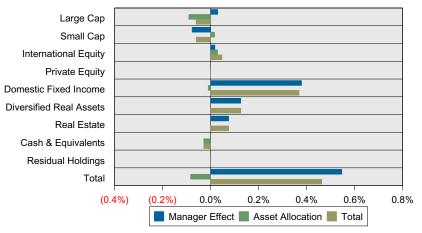
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	10.96%	10.87%	0.03%	(0.05%)	(0.02%)
Small Cap	7%	7%	4.71%	4.71%	(0.07%)	0.00%	(0.07%)
International Equity	20%	20%	3.12%	3.15%	0.02%	0.03%	`0.05%´
Private Equity	0%	0%	-	-	0.00%	0.02%	0.02%
Domestic Fixed Incom		35%	2.12%	0.91%	0.38%	(0.01%)	0.37%
Diversified Real Assets		10%	4.97%	3.57%	0.13%	`0.00%´	0.13%
Real Estate	5%	5%	7.87%	6.71%	0.08%	(0.04%)	0.04%
Cash & Equivalents	1%	0%	1.29%	1.29%	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			5.26% =	4.78%	+ 0.55% +	(0.07%)	0.48%

* Current Quarter Target = 35.0% Blmbg Aggregate, 23.8% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 10.0% DRA Weighted Benchmark, 5.0% NCREIF Total Index, 4.2% Russell 2000 Index and 3.0% Private Equity.

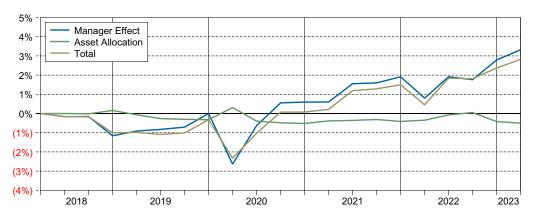
Cumulative Total Fund Relative Attribution - Corridor Target - March 31, 2023

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

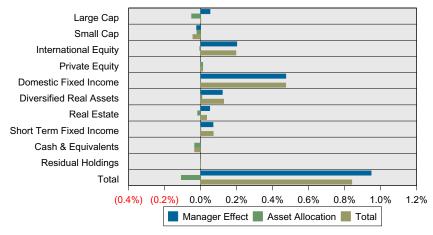
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	23%	10.96%	10.87%	0.03%	(0.09%)	(0.06%)
Small Cap	7%	8%	4.71%	4.71%	(0.08%)	0.02%	(0.06%)
International Equity	20%	20%	3.12%	3.15%	0.02%	0.03%	0.05%
Private Equity	0%	0%	-	-	0.00%	0.00%	0.00%
Domestic Fixed Incom		35%	2.12%	0.91%	0.38%	(0.01%)	0.37%
Diversified Real Asset		10%	4.97%	3.57%	0.13%	0.00%	0.13%
Real Estate	5%	5%	7.87%	6.71%	0.08%	0.00%	0.08%
Cash & Equivalents	1%	0%	1.29%	1.29%	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			5.26% =	4.80%	+ 0.55% +	(0.08%)	0.46%

* Current Quarter Target = 35.0% Blmbg Aggregate, 25.7% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 9.5% DRA Weighted Benchmark, 5.4% NCREIF Total Index, 4.5% Russell 2000 Index and 0.8% Private Equity.

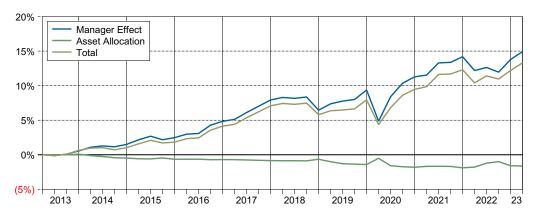
Cumulative Total Fund Relative Attribution - March 31, 2023

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

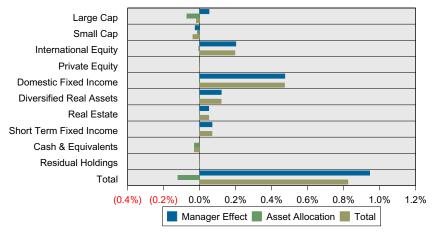
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	20%	20%	-	-	0.05%	(0.05%)	0.00%
Small Cap	7%	7%	-	-	(0.02%)	(0.02%)	(0.04%)
International Equity	18%	18%	-	-	0.20%	(0.01%)	0.20%
Private Equity	0%	0%	-	-	0.00%	0.01%	0.01%
Domestic Fixed Income	31%	32%	-	-	0.47%	(0.00%)	0.47%
Diversified Real Assets	8%	9%	-	-	0.12%	0.01%	0.13%
Real Estate	5%	5%	-	-	0.05%	(0.02%)	0.03%
Short Term Fixed Income	9%	9%	-	-	0.07%	0.00%	0.07%
Cash & Equivalents	1%	0%	0.78%	0.78%	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			5.65% =	4.81%	+ 0.95% +	(0.11%)	0.84%

* Current Quarter Target = 35.0% Blmbg Aggregate, 23.8% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 10.0% DRA Weighted Benchmark, 5.0% NCREIF Total Index, 4.2% Russell 2000 Index and 3.0% Private Equity.

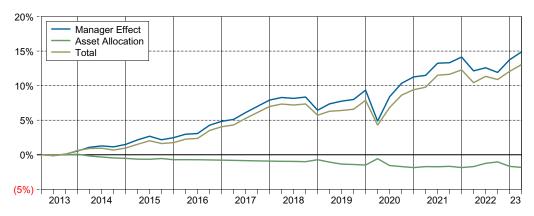
Cumulative Total Fund Relative Attribution - Corridor Target - March 31, 2023

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

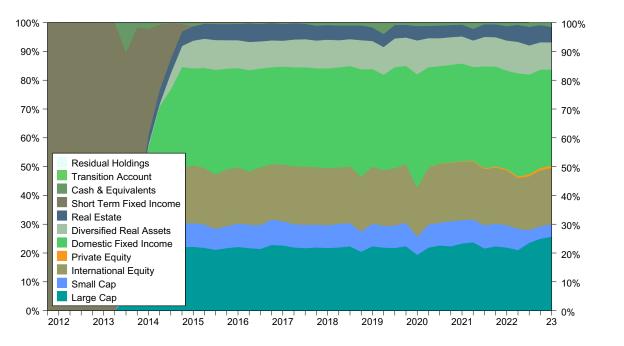
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	20%	20%	-	-	0.05%	(0.07%)	(0.02%)
Small Cap	7%	7%	-	-	(0.03%)	(0.01%)	(0.04%)
International Equity	18%	18%	-	-	0.20%	(0.01%)	0.20%
Private Equity	0%	0%	-	-	0.00%	0.00%	0.00%
Domestic Fixed Income	31%	32%	-	-	0.47%	(0.00%)	0.47%
Diversified Real Assets	8%	8%	-	-	0.12%	(0.00%)	0.12%
Real Estate	5%	5%	-	-	0.05%	0.00%	0.05%
Short Term Fixed Income	9%	9%	-	-	0.07%	(0.00%)	0.07%
Cash & Equivalents	1%	0%	0.78%	0.78%	0.00%	(0.03%)	(0.03%)
Residual Holdings	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Total			5.65% =	4.83% +	+ 0.94% +	(0.12%)	0.82%

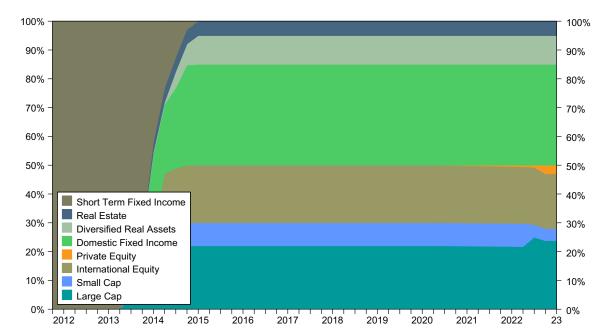
* Current Quarter Target = 35.0% Blmbg Aggregate, 25.7% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 9.5% DRA Weighted Benchmark, 5.4% NCREIF Total Index, 4.5% Russell 2000 Index and 0.8% Private Equity.

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, and the fund's historical target asset allocation.

Actual Historical Asset Allocation





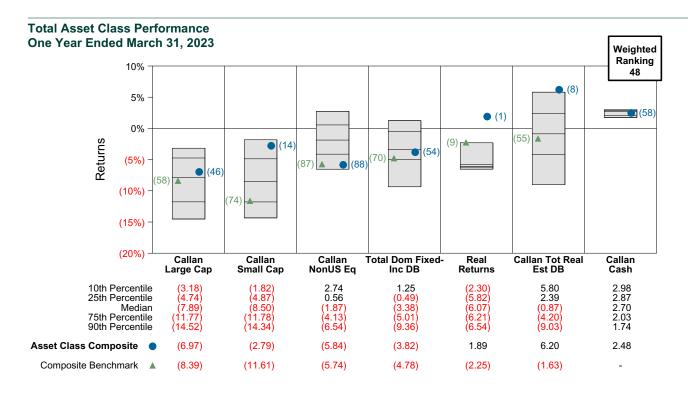
Target Historical Asset Allocation

* Current Quarter Target = 35.0% Blmbg Aggregate, 23.8% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 10.0% DRA Weighted Benchmark, 5.0% NCREIF Total Index, 4.2% Russell 2000 Index and 3.0% Private Equity.

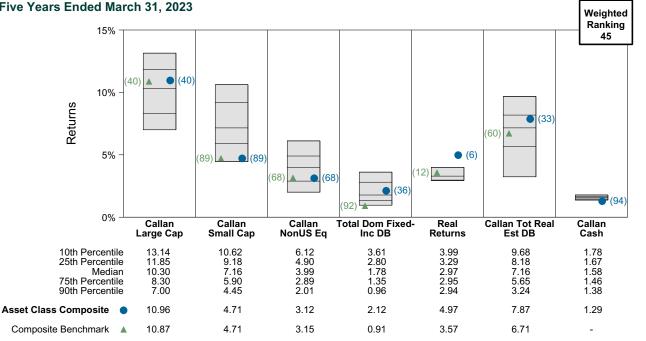


Asset Class Rankings

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.







* Current Quarter Target = 35.0% Blmbg Aggregate, 23.8% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 10.0% DRA Weighted Benchmark, 5.0% NCREIF Total Index, 4.2% Russell 2000 Index and 3.0% Private Equity.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2023, with the distribution as of December 31, 2022. 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

	March 31,	2023			December 3	1, 2022
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Global Equity	\$4,561,001,780	50.40%	\$59,948,303	\$295,201,516	\$4,205,851,960	49.60%
Public Equity	\$4,485,941,291	49.57%	\$54,703,759	\$294,129,663	\$4,137,107,868	48.79%
Domestic Equity	\$2,717,098,420	30.03%	\$55,499,932	\$176,677,922	\$2,484,920,565	29.31%
Large Cap	\$2,326,438,434	25.71%	\$55,692,189	\$151,046,505	\$2,119,699,740	25.00%
LA Capital Large Cap Growth	69,067,166	0.76%	(33,113)	7,150,248	61,950,031	0.73%
LA Capital 60% LC/40% LCAM	958,396,140	10.59%	39,725,301	58,553,628	860,117,210	10.14%
Parametric/Clifton Enh S&P500	361,706,110	4.00%	5,000,000	24,276,132	332,429,978	3.92%
NTAM R1000 Index	577,933,247	6.39%	6,000,000	39,922,099	532,011,148	6.27%
NTAM Quant Enhanced R1000	359,335,774	3.97%	5,000,000	21,144,401	333,191,373	3.93%
Small Cap	\$390,659,985	4.32%	\$(192,257)	\$25,631,417	\$365,220,825	4.31%
Atlanta Capital SmallCap	127,603,654	1.41%	(192,257)	11,083,531	116,712,380	1.38%
Riverbridge Small Cap Growth	121,342,017	1.34%	Ó	10,610,913	110,731,104	1.31%
Sycamore Small Cap Value	122,012,757	1.35%	0	3,399,843	118,612,914	1.40%
NTAM Russell 2000 Index	19,701,558	0.22%	0	537,131	19,164,427	0.23%
Total International Equity	\$1,768,799,293	19.55%	\$(795,967)	\$117,450,558	\$1,652,144,703	19.49%
International All Cap	\$689,452,395	7.62%	\$(447,274)	\$49,611,198	\$640,288,470	7.55%
William Blair Int'I Leaders	278,678,981	3.08%	0	23,171,167	255,507,814	3.01%
Arrowstreet ACWI ex US	388,303,355	4.29%	(445,491)	25,051,826	363,697,020	4.29%
State St MSCI ACWI exUS	22,470,059	0.25%	(1,783)	1,388,206	21,083,637	0.25%
Developed Intl Large Cap	\$689,926,233	7.62%	\$(26,627)	\$50,995,380	\$638,957,479	7.54%
LSV Inti LargeCap Value	7,261	0.00%	(2,007)	228	9,040	0.00%
State St MSCI World exUS	689,918,972	7.62%	(24,619)	50,995,152	638,948,439	7.54%
Developed Intl Small Cap	\$116,992,922	1.29%	\$(86,778)	\$5,638,037	\$111,441,663	1.31%
DFA Intl SmallCap Value	49,150,123	0.54%	0	3,012,683	46,137,440	0.54%
Wellington Intl SM Cap	45,433,547	0.50%	(84,488)	1,565,858	43,952,177	0.52%
State St MSCI exUS Small	22,409,252	0.25%	(2,290)	1,059,496	21,352,046	0.25%
Emerging Markets	\$272,427,743	3.01%	\$(235,289)	\$11,205,942	\$261,457,090	3.08%
Axiom Emerging Markets	186,016,110	2.06%	(232,811)	7,527,846	178,721,075	2.11%
DFA Emerging Mkts SmallCap	65,300,392	0.72%	0	2,850,434	62,449,958	0.74%
State St MSCI Em Mkts	21,111,242	0.23%	(2,478)	827,661	20,286,058	0.24%
Transition Account	\$43,578	0.00%	\$(205)	\$1,183	\$42,601	0.00%
Private Equity	\$75,060,489	0.83%	\$5,244,544	\$1,071,853	\$68,744,092	0.81%
50 South Capital	17,419,408	0.19%	0	0	17,419,408	0.21%
Sixth Street TAO	57,641,081	0.64%	5,244,544	1,071,853	51,324,684	0.61%

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2023, with the distribution as of December 31, 2022. 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

	March 31, 2023				December 31, 2022	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Domestic Fixed Income	\$3,014,963,933	33.32%	\$35,641,230	\$85,819,901	\$2,893,502,802	34.13%
Allspring BBB	238,593,481	2.64%	(110,397)	8,695,362	230,008,516	2.71%
Ares ND Credit Strategies Fd	112,373,528	1.24%	0	1,309,732	111,063,796	1.31%
BND CDs	189,756,357	2.10%	(168,020)	1,405,726	188,518,650	2.22%
Cerberus ND Private Credit Fd	160,672,281	1.78%	Ó	3,285,838	157,386,443	1.86%
Manulife-Declaration TRBF	160,650,529	1.78%	(57,168,289)	3,929,059	213,889,759	2.52%
PIMCO Core Plus Constrained	540,164,147	5.97%	537,376,579	2,787,568	-	-
PIMCO Bravo II	1,252,816	0.01%	(528,444)	(107,641)	1,888,901	0.02%
PIMCO DISCO II	56,034,667	0.62%	Ó	1,157,857	54,876,810	0.65%
Prudential	681,260,334	7.53%	(105,484,544)	21,704,063	765,040,816	9.02%
State Street US Govt Credit Bd Idx	1,662	0.00%	(402,176,897)	(518,345)	402,696,904	4.75%
State Street Gov Index	110,181,984	1.22%	106,700,000	3,481,984	-	-
State Street Credit Index	82,751,650	0.91%	80,500,000	2,251,650	-	-
Western Asset Management	681,103,554	7.53%	(110,621,733)	23,593,080	768,132,207	9.06%
Fixed Income Transition	166,944	0.00%	(12,677,024)	12,843,968	-	-
Global Real Assets	\$1,340,117,250	14.81%	\$22,450,363	\$9,272,130	\$1,308,394,756	15.43%
Real Estate	\$482,336,515	5.33%	\$3,967,369	\$(26,108,417)	\$504,477,563	5.95%
Invesco Core Real Estate	226,349,237	2.50%	(178,712)	(11,882,905)	238,410,854	2.81%
Invesco RE Fund VI	38,642,247	0.43%	4.610.984	(389,127)	34,420,390	0.41%
JP Morgan RE Inc & Growth	217,345,031	2.40%	(464,904)	(13,836,384)	231,646,319	2.73%
Diversified	\$857,780,734	9.48%	\$18,482,994	\$35,380,547	\$803,917,193	9.48%
Western Asset TIPS	388,199,857	4.29%	(109,332)	13,414,549	374,894,640	4.42%
ISQ Global Infrastructure II	79.774.316	0.88%	()	5,597,457	74,176,859	0.87%
ISQ Global Infrastructure III	19,910,084	0.22%	10.871.983	306,508	8,731,593	0.10%
JP Morgan IIF Infrastructure	103,416,467	1.14%	(1,097,611)	8,220,075	96,294,002	1.14%
Grosvenor CIS Fund II	56,820,906	0.63%	(1,499,700)	4,319,517	54,001,089	0.64%
Grosvenor CIS Fund III	38,663,197	0.43%	10,415,534	1,704,915	26,542,748	0.31%
Macquarie Infrastructure Fund IV	90,686,944	1.00%	(42,400)	839,179	89,890,165	1.06%
Macquarie Infrastructure Fund V	80,308,964	0.89%	(55,479)	978,346	79,386,097	0.94%
Cash	\$130,353,883	1.44%	\$60,385,476	\$1,194,490	\$68,773,917	0.81%
Northern Trust Cash Account	99,790,978	1.10%	60,217,456	864,002	38,709,520	0.46%
Bank of ND	30,562,905	0.34%	168,020	330,488	30,064,397	0.35%
Residual Holdings Account	\$2,448,696	0.03%	\$(174)	\$35,180	\$2,413,690	0.03%
Total Fund	\$9,048,885,542	100.0%	\$178,425,199	\$391,523,217	\$8,478,937,126	100.0%

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 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 March 31, 2023					
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Global Equity Gross Net Weighted Benchmark	7.00% 6.97% 6.41%	(6.21%) (6.43%) (8.02%)	17.18% 16.85% 15.90%	-	-
Public Equity Gross Net Weighted Benchmark	7.09% 7.06% 6.70%	-			- - -
Domestic Equity Gross Net Weighted Benchmark	7.07% 7.05% 6.79%	(6.25%) (6.46%) (8.90%)	19.76% 19.43% 18.52%	9.22% 8.97% -	-
Large Cap Gross Net Russell 1000 Index	7.08% 7.07% 7.46%	(6.97%) (7.09%) (8.39%)	20.50% 20.29% 18.55%	10.96% 10.77% 10.87%	- 12.01%
L.A. Capital Enhanced - Gross L.A. Capital Enhanced - Net Russell 1000 Index	6.80% 6.77% 7.46%	(7.60%) (7.70%) (8.39%)	19.37% 19.23% 18.55%	11.58% 11.45% 10.87%	- 12.01%
L.A. Capital LargeCap Growth - Gross L.A. Capital LargeCap Growth - Net Russell 1000 Growth Index	11.54% 11.48% 14.37%	(10.70%) (11.26%) (10.90%)	19.57% 19.16% 18.58%	13.97% 13.64% 13.66%	- 14.59%
Parametric Clifton Large Cap - Gross Parametric Clifton Large Cap - Net S&P 500 Index	7.30% 7.30% 7.50%	(8.40%) (8.40%) (7.73%)	19.15% 19.04% 18.60%	10.93% 10.87% 11.19%	- 12.24%
NTAM R1000 Index - Gross NTAM R1000 Index - Net Russell 1000 Index	7.46% 7.46% 7.46%	- (8.39%)	- 18.55%	- 10.87%	- 12.01%
NTAM Quant Enh R1000 - Gross NTAM Quant Enh R1000 - Net Russell 1000 Index	6.25% 6.25% 7.46%	- (8.39%)	- 18.55%	- 10.87%	- 12.01%
Small Cap Gross Net Russell 2000 Index	7.02% 6.97% 2.74%	(2.79%) (3.42%) (11.61%)	18.28% 17.52% 17.51%	4.71% 4.26% 4.71%	- 8.04%
Atlanta Capital - Gross Atlanta Capital - Net S&P 600 Small Cap Index	9.50% 9.33% 2.57%	3.50% 2.75% (8.82%)	20.18% 19.47% 21.71%	- 6.30%	- 9.87%
Riverbridge Small Cap Growth - Gross Riverbridge Small Cap Growth - Net Russell 2000 Growth Index	9.58% 9.58% 6.07%	(12.26%) (12.86%) (10.60%)	- 13.36%	- 4.26%	- 8.49%
Sycamore Small Cap Value - Gross Sycamore Small Cap Value - Net Russell 2000 Value Index	2.87% 2.87% (0.66%)	1.47% 0.90% (12.96%)	- 21.01%	- 4.55%	- 7.22%
NTAM R2000 Index - Gross NTAM R2000 Index - Net Russell 2000 Index	2.80% 2.80% 2.74%	(11.61%)	- 17.51%	- 4.71%	- 8.04%

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 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 March 31, 2023				
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
otal International Equity Gross Net	7.11% 7.06%	(5.84%) (6.09%)	13.33% 13.02%	3.12% 2.83%	-
Benchmark(1)	6.56%	(5.74%)	12.32%	3.15%	4.71%
International All Cap Gross Net MSCI ACWI xUS IMI	7.75% 7.68% 6.56%	- (5.84%)	- - 12.20%	- 2.35%	- 4.28%
William Blair Int'l Leaders - Gross William Blair Int'l Leaders - Net MSCI ACWI xUS IMI	9.07% 9.07% 6.56%	(9.01%) (9.36%) (5.84%)	10.85% 10.45% 12.20%	5.66% 5.27% 2.35%	<u>-</u> 4.28%
Arrowstreet ACWI ex US - Gross Arrowstreet ACWI ex US - Net MSCI ACWI xUS IMI	6.89% 6.77% 6.56%	(1.92%) (2.23%) (5.84%)	- - 12.20%	- 2.35%	- 4.28%
State St MSCI ACWI exUS - Gross State St MSCI ACWI exUS - Net MSCI ACWI xUS IMI	6.58% 6.58% 6.56%	(5.84%)	- 12.20%	- 2.35%	- 4.28%
Developed Intl Large Cap Gross Net	7.98% 7.98%	:	:	:	-
MSCI World xUS State St MSCI World exUS - Gross State St MSCI World exUS - Net	8.02% 7.98% 7.98%	(2.74%) -	13.49% - -	3.80% - -	4.91% - -
MSCI World xUS	8.02%	(2.74%)	13.49%	3.80%	4.91%
Developed Intl Small Cap Gross Net MSCI World xUS Small	5.06% 4.98% 4.99%	(10.13%)	- - 13.43%	- - 1.54%	- - 5.54%
DFA Intl Small Cap Value - Net World ex US SC Va	6.53% 4.55%	(1.34%) (7.38%)	19.20% 15.22%	1.29% 1.29%	4.97%
State St MSCI exUS Small - Gross State St MSCI exUS Small - Net MSCI World xUS Small	4.96% 4.95% 4.99%	(10.13%)	- 13.43%	- 1.54%	- 5.54%
Wellington Intl SM Cap - Gross Wellington Intl SM Cap - Net MSCI EAFE Small	3.56% 3.37% 4.92%	- (9.83%)	- - 12.07%	- 0.87%	<u>-</u> 5.86%
merging Markets Gross Net MSCI EM	4.29% 4.20% 3.96%	(10.70%)	- 7.83%	(0.91%)	_
Axiom Emerging Markets - Gross Axiom Emerging Markets - Net MSCI EM	4.21% 4.08% 3.96%	(10.70%)	- - 7.83%	- (0.91%)	
DFA Emerging Mkts SmallCap - Net MSCI EM	4.56% 3.96%	(10.70%)	- 7.83%	(0.91%)	2.00%
State St MSCI Em Mkts - Gross State St MSCI Em Mkts - Net MSCI EM	4.08% 4.07% 3.96%	(10.70%)	- - 7.83%	(0.91%)	- 2.00%
rivate Equity Net	1.56%	(0.16%)	-	-	-
50 South Capital - Net	0.00%	(21.48%)	-	-	-
Sixth Street TAO - Net Benchmark(2)	2.09% 3.73%	5.06% (0.24%)	-	-	-

(1) MSCI EAFE through 6/30/2016; MSCI World ex-US through 9/30/2022; MSCI ACWI xUS IMI(Net) thereafter. (2) 50% S&P/LSTA Leveraged Loan B and 50% Blmbg HY Corp 2% Issue.

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 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
	Last	Last	3	5	10
	Quarter	Year	Years	Years	Years
Oomestic Fixed Income					
Gross	2.99%	(3.82%)	0.03%	2.12%	-
Net	2.98%	(3.90%)	(0.07%)	2.01%	-
Blmbg Aggregate	2.96%	(4.78%)	(2.77%)	0.91%	1.36%
Allspring BBB - Gross	3.78%	(5.74%)	2.27%	2.84%	-
Allspring BBB - Net	3.73%	(5.91%)	2.08%	2.65%	-
Bimbg Credit Baa	3.58%	(5.49%)	0.81%	1.86%	2.55%
Ares ND Credit Strategies Fd - Net	1.18%	6.50%	7.40%	7.63%	-
Cerberus ND Private Credit Fd - Net	2.09%	7.35%	8.83%	9.21%	-
S&P/LSTA Leveraged Loan B	3.89%	2.75%	9.17%	3.99%	4.02%
BND CDs - Net	0.75%	2.99%	2.74%	2.96%	-
Manulife-Declaration TRBF - Net	1.63%	(2.54%)	3.24%	2.37%	-
Libor-3 Month	1.25%	3.44%	1.33%	1.74%	1.19%
PIMCO Bravo II - Net(1)	(7.91%)	(33.93%)	(10.49%)	(4.38%)	-
PIMCO DiSCO II - Net (1)	2.11%	1.27%	6.43%	4.66%	-
Blmbg Aggregate	2.96%	(4.78%)	(2.77%)	0.91%	1.36%
Prudential - Gross	3.18%	(5.59%)	(0.78%)	1.63%	-
Prudential - Net	3.18%	(5.74%)	(0.97%)	1.43%	-
BImbg Aggregate	2.96%	(4.78%)	(2.77%)	0.91%	1.36%
Western Asset - Gross	3.49%	(6.15%)	(2.00%)	0.95%	-
Western Asset - Net	3.46%	(6.26%)	(2.11%)	0.84%	-
Blmbg Aggregate	2.96%	(4.78%)	(2.77%)	0.91%	1.36%

(1) Prior to 7/1/2019, the Legacy Fund participated in these portfolios via the Insurance Pool. Beginning 7/1/2019, its portion of the pool was segregated into its own portfolios. Returns prior to that date reflect the data from the Insurance pool.



The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 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
	Last	Last	3	5	10
	Quarter	Year	Years	Years	Years
obal Real Assets	Quarter	i cui	Tears	i cui s	i cui s
Gross	0.69%	3.02%	6.93%	_	_
Net	0.60%	2.76%	6.65%	-	-
Weighted Benchmark	(0.07%)	(2.01%)	5.09%	-	-
eal Estate					
Gross	(5.18%)	6.20%	8.86%	7.87%	-
Net	(5.30%)	5.75%	8.38%	7.36%	-
NCREIF Total Index	(1.81%)	(1.63%)	7.15%	6.71%	8.34%
Invesco Core Real Estate - Gross	(4.99%)	7.66%	8.66%	8.38%	-
Invesco Core Real Estate - Net	(5.06%)	7.33%	8.32%	8.03%	_
NCREIF Total Index	(1.81%)	(1.63%)	7.15%	6.71%	8.34%
	(1.01/0)	(1.00%)	1.10/0	0.7170	0.04 /0
Invesco RE Fund VI - Net	(1.18%)	-	-	-	-
NCREIF Total Index	(1.81%)	(1.63%)	7.15%	6.71%	8.34%
JP Morgan RE Inc & Growth - Gross	(5.97%)	3.50%	8.61%	7.11%	-
JP Morgan RE Inc & Growth - Net	(6.17%)	2.90%	7.99%	6.45%	-
NCREIF Total Index	(1.81%)	(1.63%)	7.15%	6.71%	8.34%
iversified					
Gross	4.35%	1.89%	6.16%	4.97%	-
Net	4.29%	1.73%	5.97%	4.77%	-
Weighted Benchmark	0.81%	(2.25%)	4.04%	3.57%	-
Western Asset TIPS - Gross	3.58%	(6.58%)	1.91%	1.70%	-
Western Asset TIPS - Net	3.55%	(6.69%)	1.80%	1.58%	-
Benchmark(3)	3.45%	(6.49%)	1.60%	2.03%	1.99%
JP Morgan IIF Infrastructure - Gross	8.54%	5.27%	6.59%	6.98%	-
JP Morgan IIF Infrastructure - Net	8.12%	4.41%	5.73%	6.19%	_
Grosvenor CIS Fund II - Net	8.00%	15.62%	14.98%	13.28%	-
Grosvenor CIS Fund III - Net	5.38%	7.01%	-	-	-
Benchmark(1)	(1.76%)	1.28%	6.56%	5.36%	3.26%
ISQ Global Infrastructure II - Net	7.55%	16.97%	16.01%	-	-
ISQ Global Infrastructure III - Net	1.31%	(24.85%)	-	-	-
Macquarie Infrastructure Fd IV - Net	0.93%	14.75%	13.47%	-	-
Macquarie Infrastructure Fd V - Net	1.23%	15.23%	-	-	-
Benchmark(2)	(1.76%)	1.28%	6.56%	-	-
ash & Equivalents - Net	1.06%	2.48%	0.86%	1.29%	0.78%
NT Cash Account - Net	1.03%	2.33%	0.79%	-	-
Bank of ND - Net	1.10%	2.73%	0.99%	-	-
90 Day Treasury Bills	1.07%	2.50%	0.89%	1.41%	0.87%
otal Fund					
Gross	4.59%	(3.74%)	9.43%	5.26%	5.65%
Net	4.56%	(3.92%)	9.20%	5.05%	5.44%
Target*	4.24%	(5.68%)	7.75%	4.78%	4.81%
Corridor Benchmark	4.31%	(5.52%)	7.79%	4.80%	4.83%

* Current Quarter Target = 35.0% Blmbg Aggregate, 25.7% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 9.5% DRA

Weighted Benchmark, 5.4% NCREIF Total Index, 4.5% Russell 2000 Index and 0.8% Private Equity.

(1) CPI-W through 6/30/2018; 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.
 (3) Blmbg Global Inflation-Linked through 10/31/2018 and Blmbg US Govt Inflation Linked Bond Index thereafter.

Domestic Equity

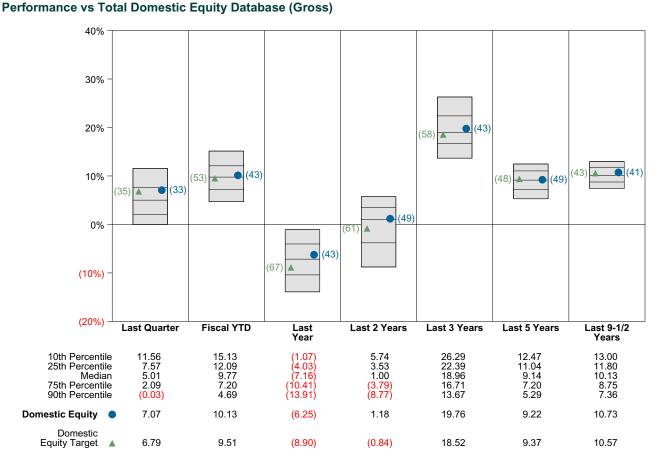
Domestic Equity Period Ended March 31, 2023

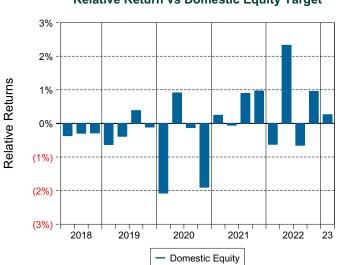
Quarterly Summary and Highlights

- Domestic Equity's portfolio posted a 7.07% return for the quarter placing it in the 33 percentile of the Total Domestic Equity Database group for the quarter and in the 43 percentile for the last year.
- Domestic Equity's portfolio outperformed the Domestic Equity Target by 0.28% for the quarter and outperformed the Domestic Equity Target for the year by 2.65%.

Quarterly Asset Growth

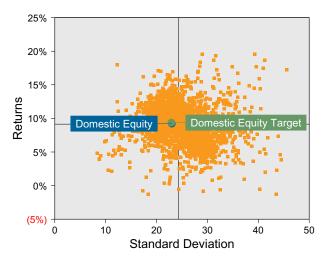
Beginning Market Value	\$2,484,920,565
Net New Investment	\$55,499,932
Investment Gains/(Losses)	\$176,677,922
Ending Market Value	\$2,717,098,420





Relative Return vs Domestic Equity Target

Total Domestic Equity Database (Gross) Annualized Five Year Risk vs Return



Parametric Large Cap Period Ended March 31, 2023

Investment Philosophy

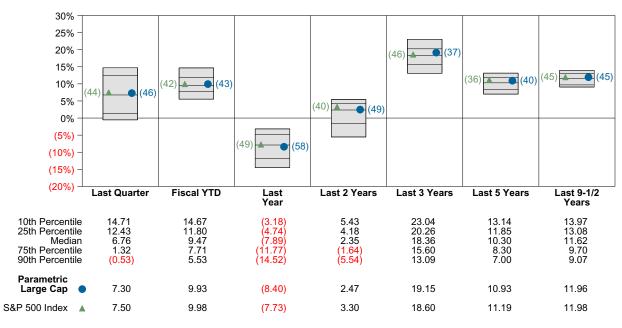
Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

Quarterly Summary and Highlights

- Parametric Large Cap's portfolio posted a 7.30% return for the quarter placing it in the 46 percentile of the Callan Large Capitalization group for the quarter and in the 58 percentile for the last year.
- Parametric Large Cap's portfolio underperformed the S&P 500 Index by 0.20% for the quarter and underperformed the S&P 500 Index for the year by 0.68%.

Performance vs Callan Large Capitalization (Gross	۱ ۱
Ferformance vs Ganan Large Gapitanzation (Gross	,

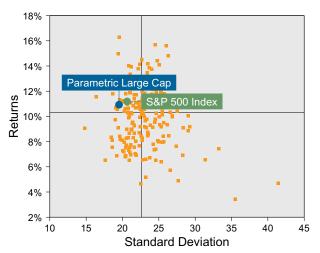
Quarterly Asset Growth			
Beginning Market Value	\$332,429,978		
Net New Investment	\$5,000,000		
Investment Gains/(Losses)	\$24,276,132		
Ending Market Value \$361,706,110			





Relative Return vs S&P 500 Index

Callan Large Capitalization (Gross) Annualized Five Year Risk vs Return



L.A. Capital Period Ended March 31, 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.

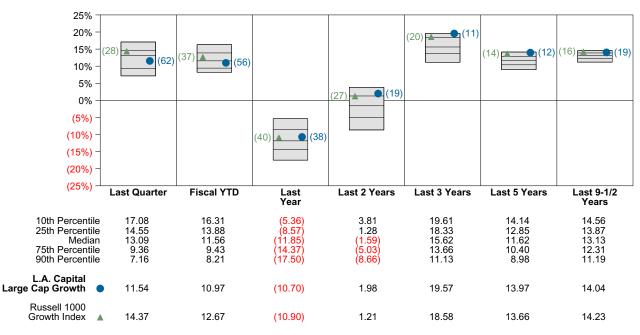
Quarterly Summary and Highlights

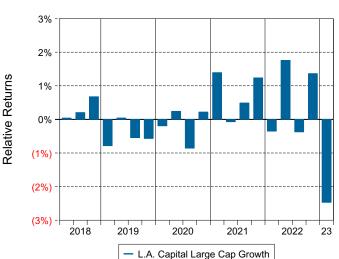
- L.A. Capital Large Cap Growth's portfolio posted a 11.54% return for the quarter placing it in the 62 percentile of the Callan Large Cap Growth group for the quarter and in the 38 percentile for the last year.
- L.A. Capital Large Cap Growth's portfolio underperformed the Russell 1000 Growth Index by 2.83% for the quarter and outperformed the Russell 1000 Growth Index for the year by 0.20%.

Quarterly Asset Growth

Beginning Market Value	\$61,950,031
Net New Investment	\$-33,113
Investment Gains/(Losses)	\$7,150,248
Ending Market Value	\$69,067,166

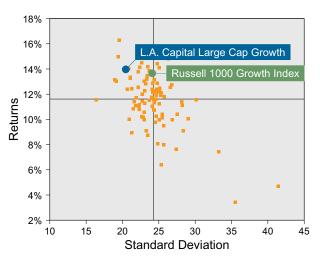






Relative Return vs Russell 1000 Growth Index

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



L.A. Capital Enhanced Period Ended March 31, 2023

Investment Philosophy

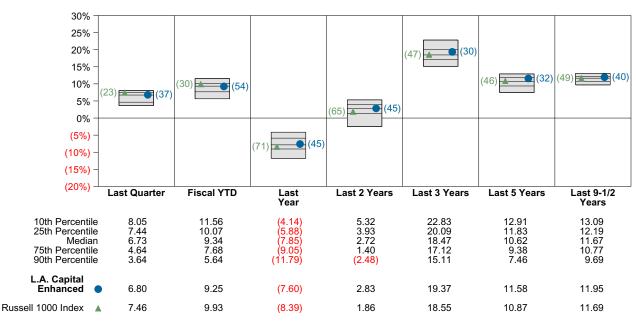
The LA Capital Enhanced portfolio is a large core portfolio benchmarked to the Russell 1000 Index. Characterized as an enhanced index assignment, its objective is to track the benchmark with lower variability. The pension portfolio began in August of 2000 and the insurance portfolio was initiated in 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.

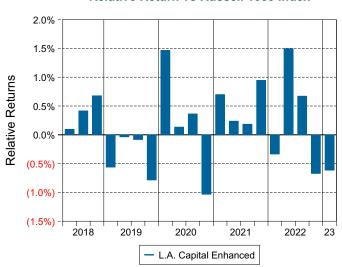
Quarterly Summary and Highlights

- L.A. Capital Enhanced's portfolio posted a 6.80% return for the quarter placing it in the 37 percentile of the Callan Large Cap Core group for the quarter and in the 45 percentile for the last year.
- L.A. Capital Enhanced's portfolio underperformed the Russell 1000 Index by 0.66% for the quarter and outperformed the Russell 1000 Index for the year by 0.79%.

Quarterly Asset Growth			
Beginning Market Value	\$860,117,210		
Net New Investment	\$39,725,301		
Investment Gains/(Losses)	\$58,553,628		
Ending Market Value \$958,396,140			

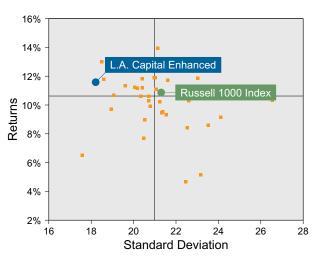






Relative Return vs Russell 1000 Index

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



NTAM R1000 Index Period Ended March 31, 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

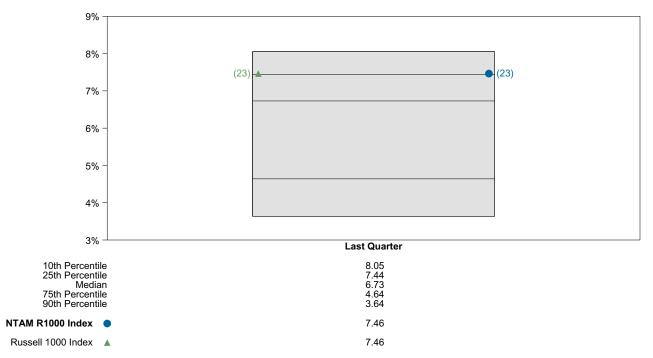
• NTAM R1000 Index's portfolio posted a 7.46% return for the quarter placing it in the 23 percentile of the Callan Large Cap Core group for the quarter.

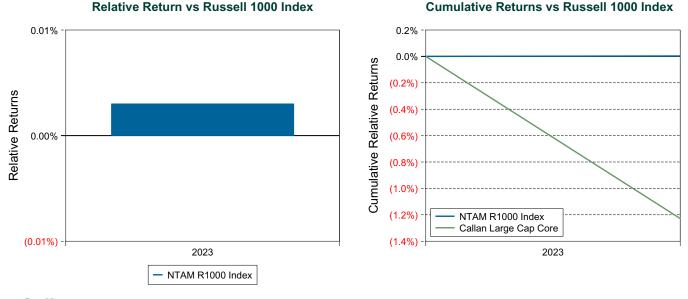
Quarterly Asset Orowin				
Beginning Market Value	\$532,011,148			
Net New Investment	\$6,000,000			
Investment Gains/(Losses)	\$39,922,099			
Ending Market Value	\$577,933,247			

Quarterly Asset Growth

• NTAM R1000 Index's portfolio outperformed the Russell 1000 Index by 0.00% for the quarter.

Performance vs Callan Large Cap Core (Gross)





Callan

North Dakota State Investment Board Legacy Fund 43

NTAM Quant Enhanced R1000 Period Ended March 31, 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.

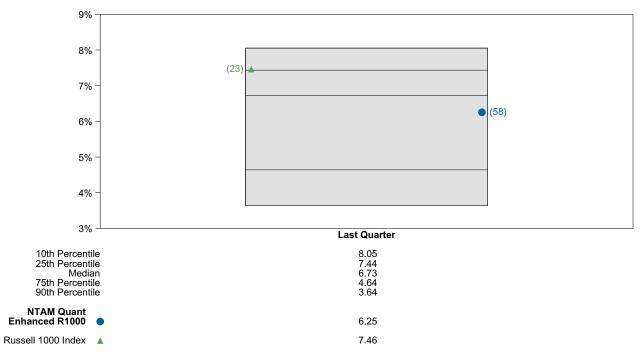
Quarterly Summary and Highlights

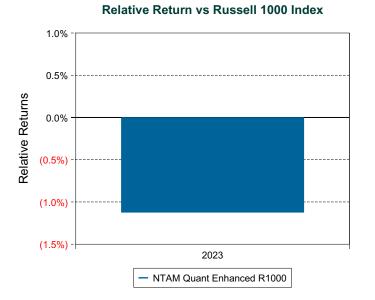
• NTAM Quant Enhanced R1000's portfolio posted a 6.25% return for the quarter placing it in the 58 percentile of the Callan Large Cap Core group for the quarter.

Quarterly Asset Growth			
Beginning Market Value	\$333,191,373		
Net New Investment	\$5,000,000		
Investment Gains/(Losses)	\$21,144,401		
Ending Market Value	\$359,335,774		

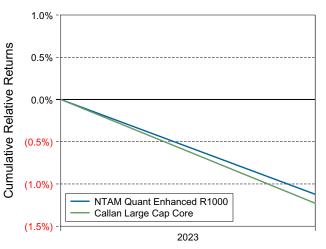
 NTAM Quant Enhanced R1000's portfolio underperformed the Russell 1000 Index by 1.21% for the guarter.

Performance vs Callan Large Cap Core (Gross)





Cumulative Returns vs Russell 1000 Index



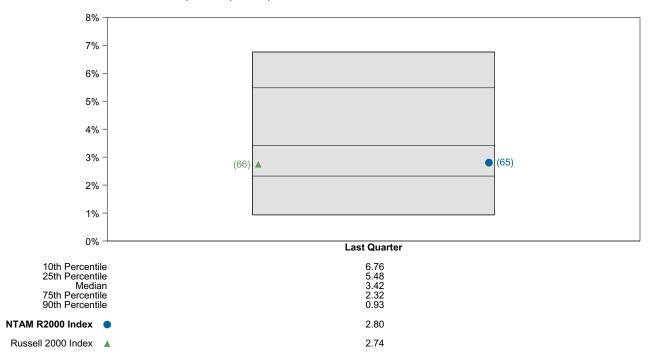
NTAM R2000 Index Period Ended March 31, 2023

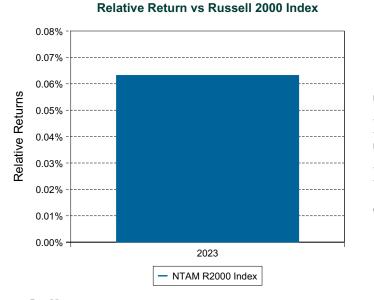
Investment Philosophy

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.

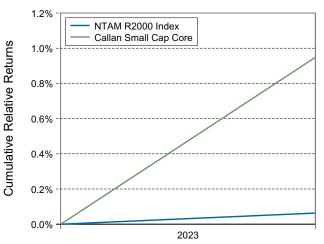
Quarterly Summary and Highlights Quarterly Asset Growth • NTAM R2000 Index's portfolio posted a 2.80% return for the \$19,164,427 **Beginning Market Value** quarter placing it in the 65 percentile of the Callan Small Net New Investment \$0 Cap Core group for the quarter. Investment Gains/(Losses) \$537,131 NTAM R2000 Index's portfolio outperformed the Russell • Ending Market Value \$19,701,558 2000 Index by 0.06% for the quarter.

Performance vs Callan Small Cap Core (Gross)





Cumulative Returns vs Russell 2000 Index



Atlanta Capital Period Ended March 31, 2023

Investment Philosophy

Atlanta Capital Managements approach with its small cap product is to focus on high quality companies with an overall portfolio risk exposure tied to the Russell 2000 Index. Key characteristics of this portfolio include: (1)stocks rated B+ or better by S&P, (2) equally weighting 75 stocks, (3) sector concentrations similar to that of the benchmark. A group of ten analysts is in charge of screening the Russell 2000 to identify companies they believe have strong price appreciation potential and good business fundamentals. These analysts present the ideas to the portfolio management team, led by Chip Reed, who makes the final decisions on the inclusion of stocks. In general, stocks are sold from the portfolio if the B+ or better financial rating is no longer met, there is an adverse change in the fundamental business, or because of regular portfolio maintenance to ensure broad diversification.

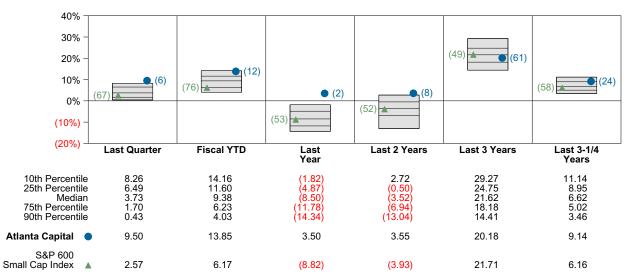
Quarterly Summary and Highlights

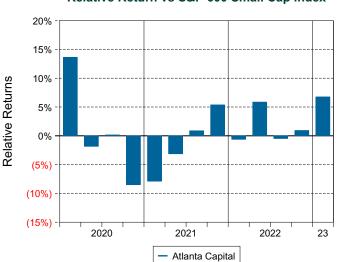
- Atlanta Capital's portfolio posted a 9.50% return for the quarter placing it in the 6 percentile of the Callan Small Capitalization group for the quarter and in the 2 percentile for the last year.
- Atlanta Capital's portfolio outperformed the S&P 600 Small Cap Index by 6.93% for the quarter and outperformed the S&P 600 Small Cap Index for the year by 12.32%.

Quarterly Asset Growth

Beginning Market Value	\$116,712,380
Net New Investment	\$-192,257
Investment Gains/(Losses)	\$11,083,531
Ending Market Value	\$127,603,654

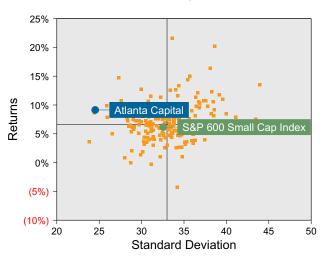
Performance vs Callan Small Capitalization (Gross)





Relative Return vs S&P 600 Small Cap Index

Callan Small Capitalization (Gross) Annualized Three and One-Quarter Year Risk vs Return



Riverbridge Small Cap Growth Period Ended March 31, 2023

Investment Philosophy

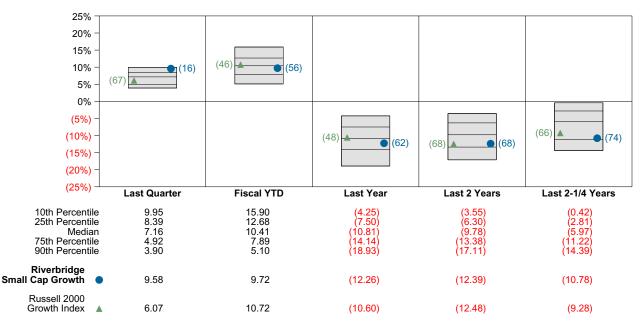
Riverbridge believes earnings power determines the value of a franchise. They focus on companies that are building earnings power and intrinsic value of the company over long periods of time. They also look for high-quality growth companies that demonstrate the ability to sustain strong secular earnings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

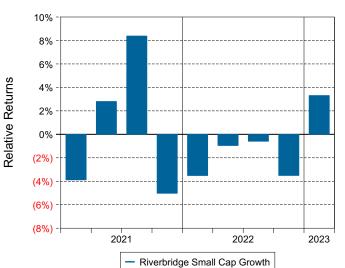
Quarterly Summary and Highlights

- Riverbridge Small Cap Growth's portfolio posted a 9.58% return for the quarter placing it in the 16 percentile of the Callan Small Cap Growth group for the quarter and in the 62 percentile for the last year.
- Riverbridge Small Cap Growth's portfolio outperformed the Russell 2000 Growth Index by 3.51% for the quarter and underperformed the Russell 2000 Growth Index for the year by 1.66%.

Quarterly Asset Growth		
Beginning Market Value	\$110,731,104	
Net New Investment	\$-0	
Investment Gains/(Losses)	\$10,610,913	
Ending Market Value	\$121,342,017	

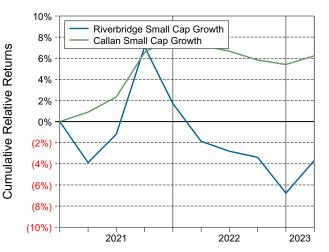






Relative Return vs Russell 2000 Growth Index

Cumulative Returns vs Russell 2000 Growth Index



Sycamore Small Cap Value Period Ended March 31, 2023

Investment Philosophy

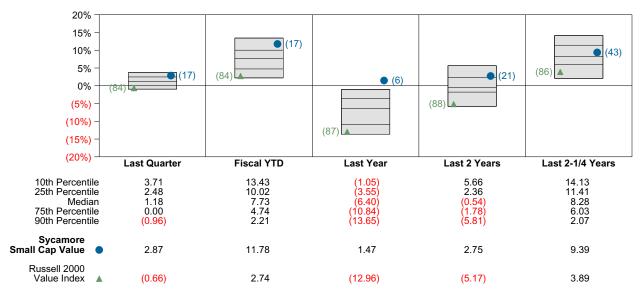
The Victory Small Cap Value Equity investment approach focuses on companies with market capitalizations between \$100 million and \$2 billion that are believed offer above-average total return potential with limited risk. The Small Cap Value Equity investment process seeks to identify high quality, low 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.

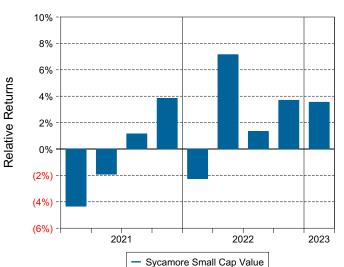
Quarterly Summary and Highlights

- Sycamore Small Cap Value's portfolio posted a 2.87% return for the quarter placing it in the 17 percentile of the Callan Small Cap Value group for the quarter and in the 6 percentile for the last year.
- Sycamore Small Cap Value's portfolio outperformed the Russell 2000 Value Index by 3.52% for the quarter and outperformed the Russell 2000 Value Index for the year by 14.43%.

Performance vs	Callan	Small C	ap Value	(Gross)	1

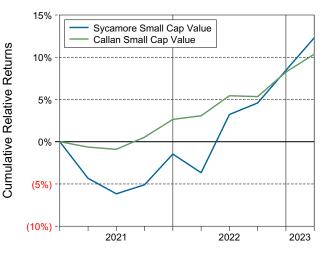
Quarterly Asset Growth		
Beginning Market Value	\$118,612,914	
Net New Investment	\$0	
Investment Gains/(Losses)	\$3,399,843	
Ending Market Value	\$122,012,757	





Relative Return vs Russell 2000 Value Index

Cumulative Returns vs Russell 2000 Value Index



International Equity

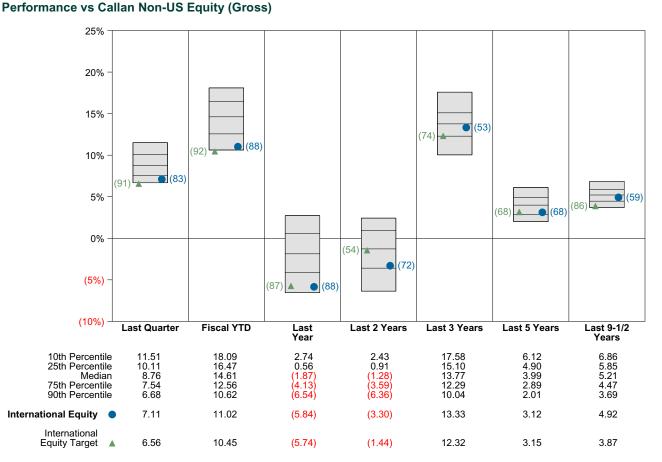
International Equity Period Ended March 31, 2023

Quarterly Summary and Highlights

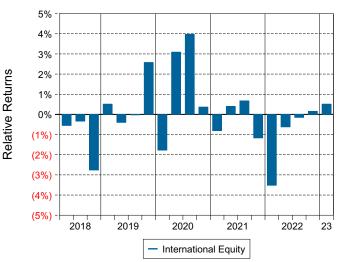
- International Equity's portfolio posted a 7.11% return for the quarter placing it in the 83 percentile of the Callan Non-US Equity group for the quarter and in the 88 percentile for the last year.
- International Equity's portfolio outperformed the International Equity Target by 0.55% for the quarter and underperformed the International Equity Target for the year by 0.10%.

Quarterly Asset Growth

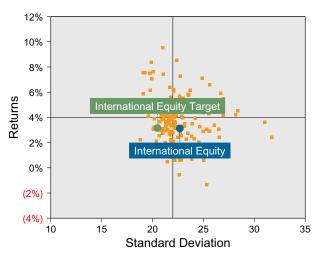
Beginning Market Value	\$1,652,144,703
Net New Investment	\$-795,967
Investment Gains/(Losses)	\$117,450,558
Ending Market Value	\$1,768,799,293



Relative Return vs International Equity Target



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



William Blair Int'l Leaders Period Ended March 31, 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.

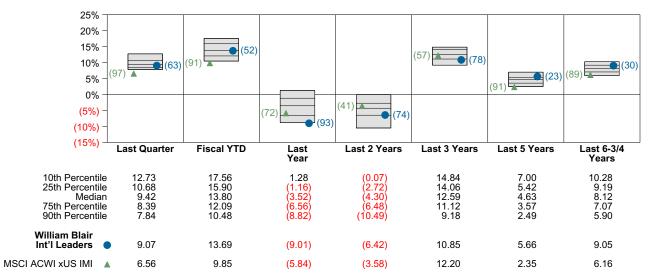
Quarterly Summary and Highlights

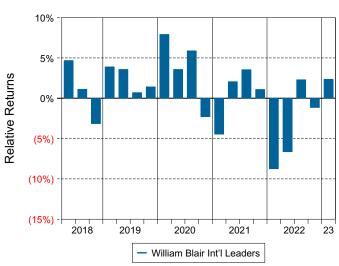
- William Blair Int'l Leaders's portfolio posted a 9.07% return for the quarter placing it in the 63 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 93 percentile for the last year.
- William Blair Int'l Leaders's portfolio outperformed the MSCI ACWI xUS IMI by 2.51% for the quarter and underperformed the MSCI ACWI xUS IMI for the year by 3.17%.

Quarterly Asset Growth

Beginning Market Value	\$255,507,814
Net New Investment	\$0
Investment Gains/(Losses)	\$23,171,167
Ending Market Value	\$278,678,981

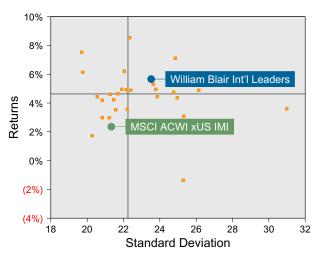






Relative Return vs MSCI ACWI xUS IMI

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



Arrowstreet ACWI ex US Period Ended March 31, 2023

Investment Philosophy

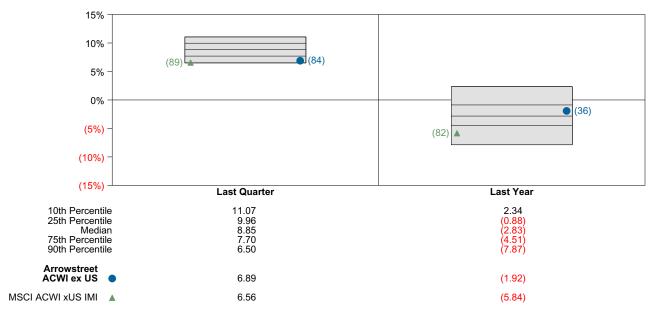
Arrowstreet is a 100% employed-owned firm whose strategies are team-managed by a deep and experienced team. The firm employs a quantitative process that identifies direct and indirect relationships to forecast stock price returns. The investment approach seeks to provide a risk controlled, core exposure 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.

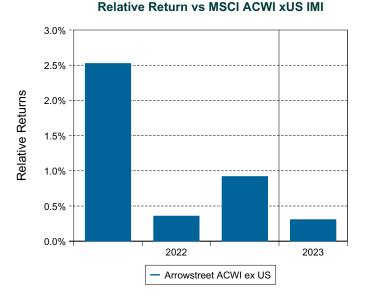
Quarterly Summary and Highlights

- Arrowstreet ACWI ex US's portfolio posted a 6.89% return for the quarter placing it in the 84 percentile of the Callan Non-US All Country Broad Equity group for the quarter and in the 36 percentile for the last year.
- Arrowstreet ACWI ex US's portfolio outperformed the MSCI ACWI xUS IMI by 0.33% for the quarter and outperformed the MSCI ACWI xUS IMI for the year by 3.91%.

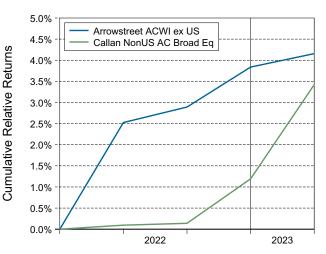
Quarterly Asset Growth			
Beginning Market Value	\$363,697,020		
Net New Investment	\$-445,491		
Investment Gains/(Losses)	\$25,051,826		
Ending Market Value	\$388,303,355		







Cumulative Returns vs MSCI ACWI xUS IMI



State St MSCI ACWI exUS Period Ended March 31, 2023

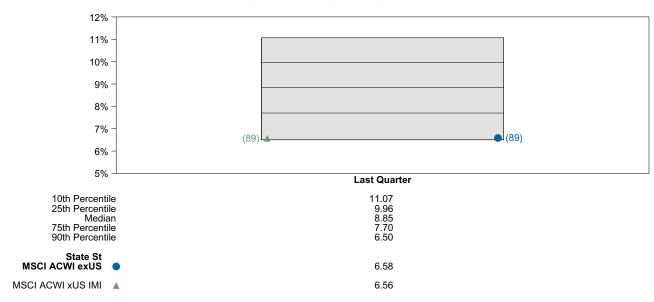
Investment Philosophy

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.

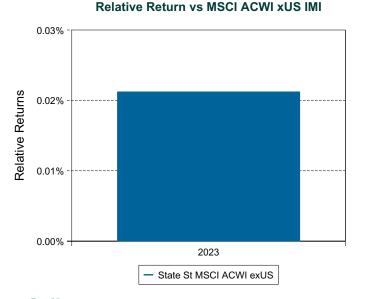
Quarterly Summary and Highlights

- State St MSCI ACWI exUS's portfolio posted a 6.58% return for the quarter placing it in the 89 percentile of the Callan Non-US All Country Broad Equity group for the quarter.
- State St MSCI ACWI exUS's portfolio outperformed the MSCI ACWI xUS IMI by 0.02% for the quarter.

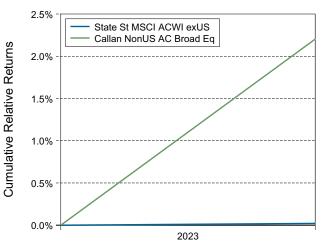
Quarterly Asset Growth			
Beginning Market Value	\$21,083,637		
Net New Investment	\$-1,783		
Investment Gains/(Losses)	\$1,388,206		
Ending Market Value	\$22,470,059		



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



Cumulative Returns vs MSCI ACWI xUS IMI



State St MSCI World exUS Period Ended March 31, 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

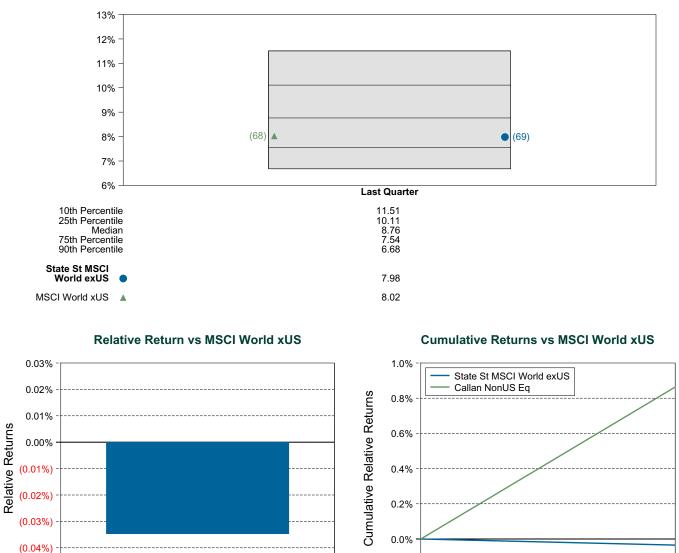
- State St MSCI World exUS's portfolio posted a 7.98% return for the quarter placing it in the 69 percentile of the Callan Non-US Equity group for the quarter.
- State St MSCI World exUS's portfolio underperformed the MSCI World xUS by 0.04% for the quarter.

2023

State St MSCI World exUS

Quarterly Asset Growth		
Beginning Market Value	\$638,948,439	
Net New Investment	\$-24,619	
Investment Gains/(Losses)	\$50,995,152	
Ending Market Value	\$689,918,972	





(0.2%)

Callan

(0.05%)

2023

DFA Intl Small Cap Value Period Ended March 31, 2023

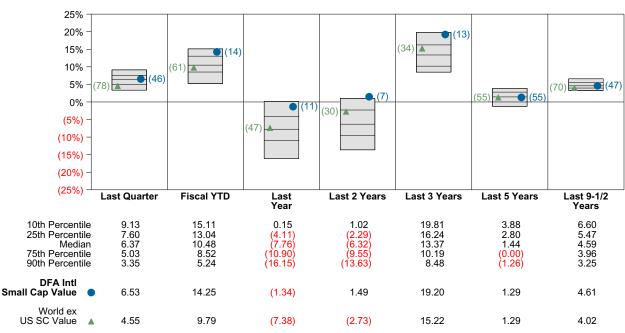
Investment Philosophy

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.

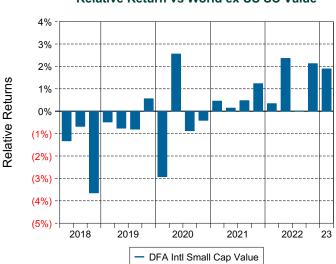
Quarterly Summary and Highlights

- DFA Intl Small Cap Value's portfolio posted a 6.53% return for the quarter placing it in the 46 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 11 percentile for the last year.
- DFA Intl Small Cap Value's portfolio outperformed the World ex US SC Value by 1.98% for the quarter and outperformed the World ex US SC Value for the year by 6.04%.

Quarterly Asset GrowthBeginning Market Value\$46,137,440Net New Investment\$0Investment Gains/(Losses)\$3,012,683Ending Market Value\$49,150,123

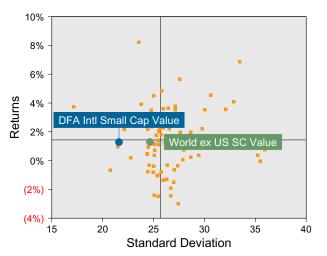






Relative Return vs World ex US SC Value

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



State St MSCI exUS Small Period Ended March 31, 2023

Investment Philosophy

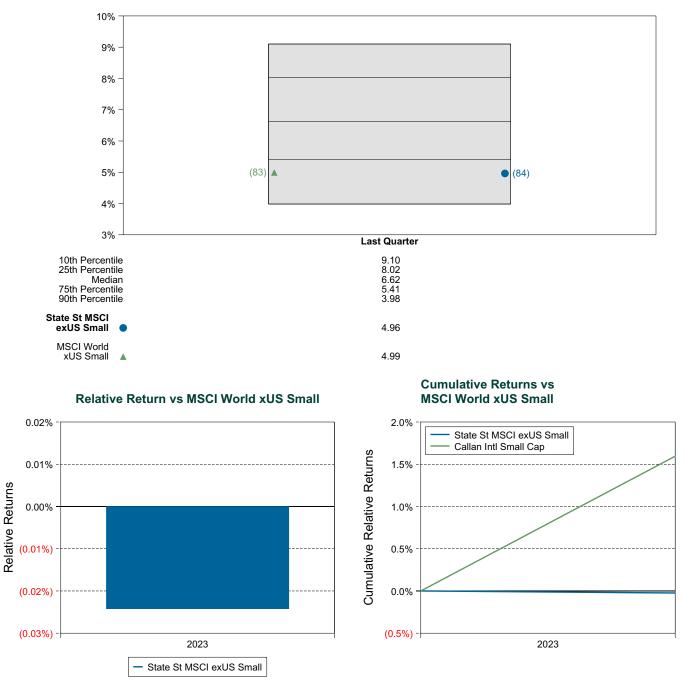
SSGA's objective is to provide the most cost-effective implementation with stringent risk control and tracking requirements.

Quarterly Summary and Highlights

- State St MSCI exUS Small's portfolio posted a 4.96% return for the quarter placing it in the 84 percentile of the Callan International Small Cap group for the quarter.
- State St MSCI exUS Small's portfolio underperformed the MSCI World xUS Small by 0.03% for the quarter.

Quarterly Asset Growth			
Beginning Market Value	\$21,352,046		
Net New Investment	\$-2,290		
Investment Gains/(Losses)	\$1,059,496		
Ending Market Value	\$22,409,252		

Performance vs Callan International Small Cap (Gross)



Wellington Intl SM Cap Period Ended March 31, 2023

Investment Philosophy

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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").

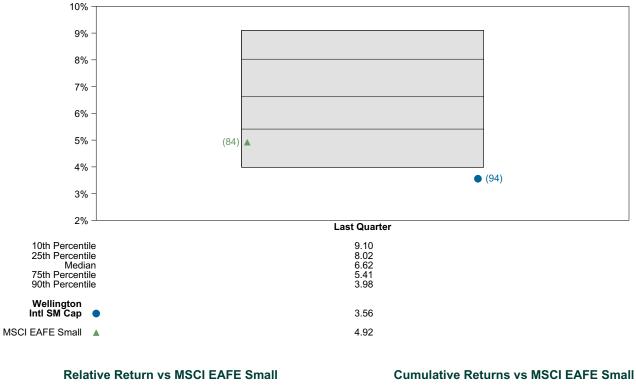
Quarterly Summary and Highlights

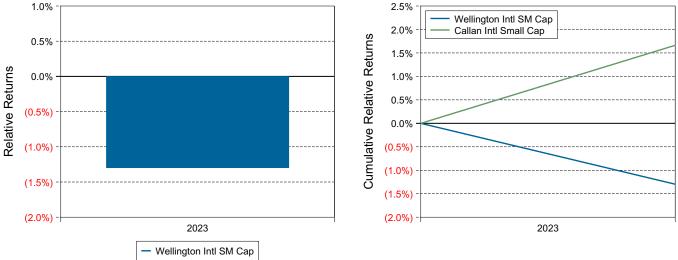
• Wellington Intl SM Cap's portfolio posted a 3.56% return for the quarter placing it in the 94 percentile of the Callan International Small Cap group for the quarter.

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Wellington Intl SM Cap's portfolio underperformed the MSCI	-
EAFE Small by 1.36% for the guarter.	I

Quarterly Asset Growth			
Beginning Market Value	\$43,952,177		
Net New Investment	\$-84,488		
Investment Gains/(Losses)	\$1,565,858		
Ending Market Value	\$45,433,547		

Performance vs Callan International Small Cap (Gross)





Axiom Emerging Markets Period Ended March 31, 2023

Investment Philosophy

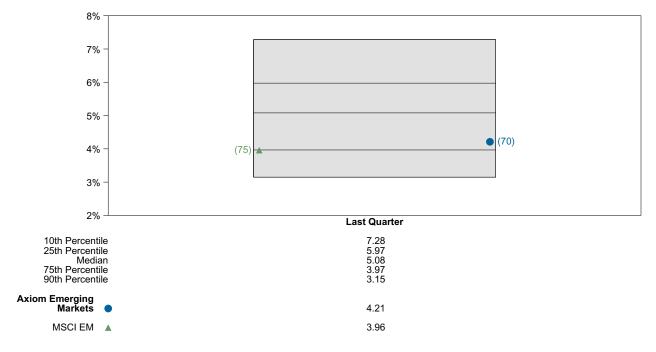
Axiom employs a bottom-up, growth-oriented investment discipline. The process relies on detailed fundamental stock analysis to identify companies that are improving more rapidly than is generally expected and where positive changes are not yet reflected in expectations or valuation.

Quarterly Summary and Highlights

- Axiom Emerging Markets's portfolio posted a 4.21% return for the quarter placing it in the 70 percentile of the Callan Emerging Broad group for the quarter.
- Axiom Emerging Markets's portfolio outperformed the MSCI EM by 0.26% for the quarter.

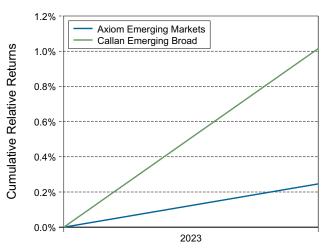
Quarterly Asset Growth			
Beginning Market Value	\$178,721,075		
Net New Investment	\$-232,811		
Investment Gains/(Losses)	\$7,527,846		
Ending Market Value	\$186,016,110		

Performance vs Callan Emerging Broad (Gross)





Cumulative Returns vs MSCI EM



DFA Emerging Mkts SmallCap Period Ended March 31, 2023

Investment Philosophy

The investment objective of the Emerging Markets Small Cap Portfolio is to achieve long-term capital appreciation. The Portfolio is a Feeder Portfolio and pursues its objective by investing substantially all of its assets in its corresponding Master Fund, The Emerging Markets Small Cap Series, which has the same investment objective and policies as the Emerging Markets Small Cap Portfolio.

Quarterly Summary and Highlights

- DFA Emerging Mkts SmallCap's portfolio posted a 4.56% return for the quarter placing it in the 64 percentile of the Callan Emerging Markets Equity Mut Funds group for the quarter.
- DFA Emerging Mkts SmallCap's portfolio outperformed the MSCI EM by 0.61% for the guarter.

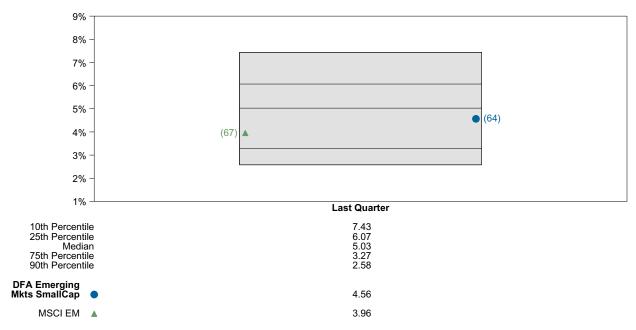
Quarterly Asset GrowthBeginning Market Value\$62,449,958Net New Investment\$0Investment Gains/(Losses)\$2,850,434

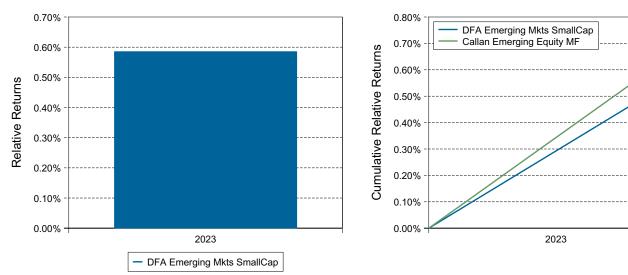
\$65,300,392

Ending Market Value



Relative Return vs MSCI EM





Cumulative Returns vs MSCI EM

State St MSCI Em Mkts Period Ended March 31, 2023

Investment Philosophy

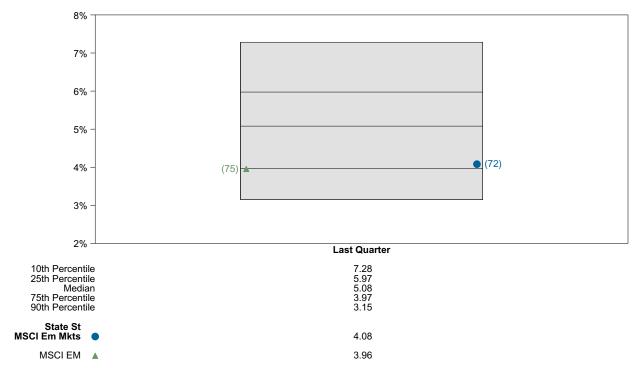
This passive product seeks to replicate the composition and returns of the Emerging Markets Free Index.

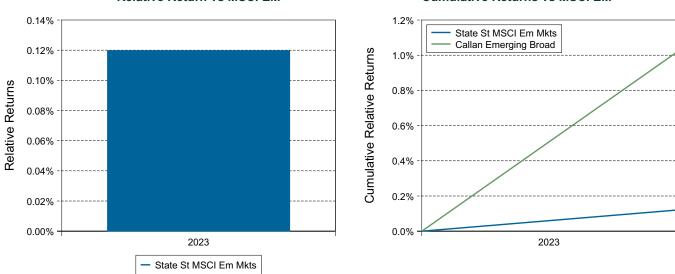
Quarterly Summary and Highlights

- State St MSCI Em Mkts's portfolio posted a 4.08% return for the quarter placing it in the 72 percentile of the Callan Emerging Broad group for the quarter.
- State St MSCI Em Mkts's portfolio outperformed the MSCI EM by 0.12% for the quarter.

Quarterly Asset Growth		
Beginning Market Value	\$20,286,058	
Net New Investment	\$-2,478	
Investment Gains/(Losses)	\$827,661	
Ending Market Value	\$21,111,242	

Performance vs Callan Emerging Broad (Gross)





Relative Return vs MSCI EM

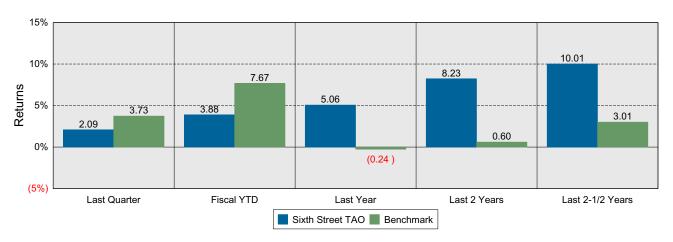
Cumulative Returns vs MSCI EM

Sixth Street TAO Period Ended March 31, 2023

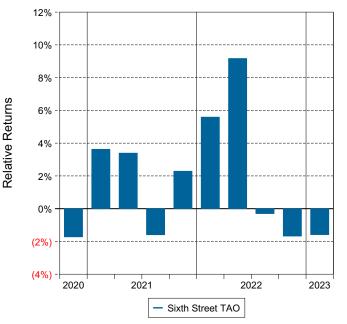
Investment Philosophy

Sixth Street Partners' TAO strategy is an opportunistics, theme-driven multi-strategy credit mandate that seeks to leverage the firm's entire credit platform by investing in theme-driven liquid and less liquid investments across a broad array of credit-oriented opportunities. The strategy invests in opportunities sourced across the firm that feature attractive risk/reward profiles but do not fit the investment mandates of SSP's Special Situations, Direct Lending and Fundamental Strategies platforms, thereby carrying the moniker "Adjacent Opportunities". These opportunities can be an outgrowth of certain conditions: non-control positions with attractive risk-reward profiles; higher return, low money multiples due to short duration situations; and longer duration opportunities with low macroeconomic correlations. **The Benchmark is comprised of 50% S&P/LSTA Leveraged Loan B and 50% Blmbg HY Corp 2% Issue**.

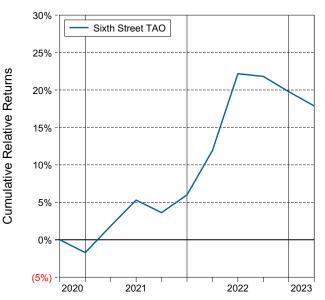
Quarterly Summary and Highlights Quarterly Asset Growth • Sixth Street TAO's portfolio underperformed the Benchmark by 1.65% for the quarter and outperformed the Benchmark for the year by 5.31%. Beginning Market Value \$51,324,684 Net New Investment \$5,244,544 Investment Gains/(Losses) \$1,071,853 Ending Market Value \$57,641,081







Cumulative Returns vs Benchmark



Domestic Fixed Income

Domestic Fixed Income Period Ended March 31, 2023

Quarterly Summary and Highlights

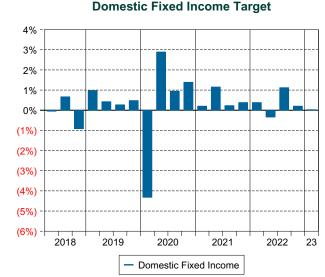
- Domestic Fixed Income's portfolio posted a 2.99% return for the quarter placing it in the 51 percentile of the Total Domestic Fixed-Inc Database group for the quarter and in the 54 percentile for the last year.
- Domestic Fixed Income's portfolio outperformed the Domestic Fixed Income Target by 0.03% for the quarter and outperformed the Domestic Fixed Income Target for the year by 0.97%.

Performance vs Total Domestic Fixed-Inc Database (Gross)

Quarterly Asset Growth

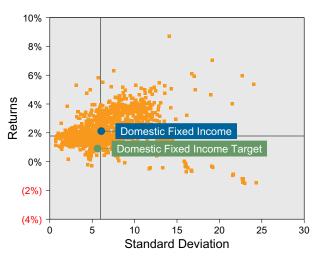
Beginning Market Value	\$2,893,502,802
Net New Investment	\$35,641,230
Investment Gains/(Losses)	\$85,819,901
Ending Market Value	\$3,014,963,933





Relative Returns vs

Total Domestic Fixed-Inc Database (Gross) Annualized Five Year Risk vs Return



Relative Returns

Allspring BBB Period Ended March 31, 2023

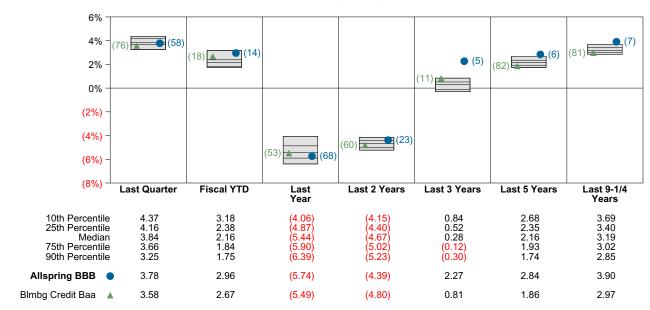
Investment Philosophy

The Medium Quality Credit fixed income strategy is designed to maximize total return from the high-grade corporate bond market while maintaining a strategic allocation to the BBB portion of the high yield market. The investment process for this fund starts with a "top-down" strategy. Security selection is determined by in-depth credit research, holding that in-depth knowledge of industries, companies, and their management teams can help identify credit trends that can lead to investment opportunities. Furthermore, a disciplined relative value framework is applied to help determine the optimal position to invest within an industry and within an individual issuer's capital structure.

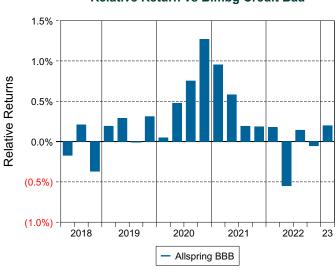
Quarterly Summary and Highlights

- Allspring BBB's portfolio posted a 3.78% return for the quarter placing it in the 58 percentile of the Callan Investment Grade Credit Fixed Inc group for the quarter and in the 68 percentile for the last year.
- Allspring BBB's portfolio outperformed the Blmbg Credit Baa by 0.20% for the quarter and underperformed the Blmbg Credit Baa for the year by 0.25%.

Beginning Market Value	\$230,008,516
Net New Investment	\$-110,397
Investment Gains/(Losses)	\$8,695,362
Ending Market Value	\$238,593,481

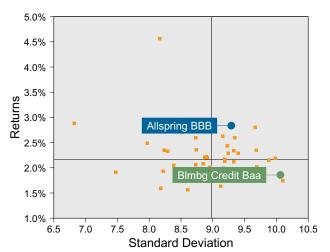


Performance vs Callan Investment Grade Credit Fixed Inc (Gross)



Relative Return vs Blmbg Credit Baa

Callan Investment Grade Credit Fixed Inc (Gross) Annualized Five Year Risk vs Return



Ares ND Credit Strategies Fd Period Ended March 31, 2023

Quarterly Summary and Highlights

- Ares ND Credit Strategies Fd's portfolio posted a 1.18% return for the quarter placing it in the 99 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- Ares ND Credit Strategies Fd's portfolio underperformed the Mstar LSTA Lev Loan B by 2.71% for the quarter and outperformed the Mstar LSTA Lev Loan B for the year by 3.75%.

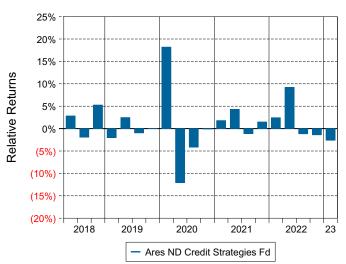
Performance vs Callan High Yield Mutual Funds (Net)

Quarterly Asset Growth

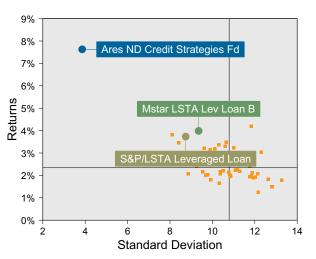
Beginning Market Value	\$111,063,796
Net New Investment	\$0
Investment Gains/(Losses)	\$1,309,732
Ending Market Value	\$112,373,528







Callan High Yield Mutual Funds (Net) Annualized Five Year Risk vs Return



Cerberus ND Private Credit Fd Period Ended March 31, 2023

Investment Philosophy

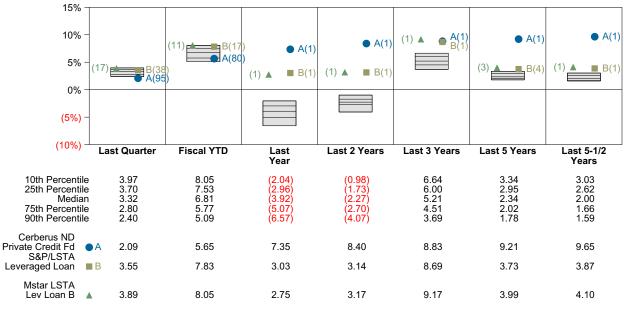
The investment objective of the LLC is to achieve superior risk-adjusted rates of return primarily through origination of, and investment in, secured debt assets consistent with the Loan Opportunities Strategy of the Cerberus Business Finance lending platform ("CBF", "Cerberus Business Finance" or the "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.

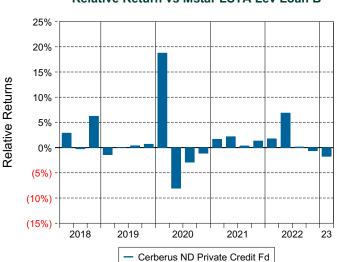
Quarterly Summary and Highlights

- Cerberus ND Private Credit Fd's portfolio posted a 2.09% return for the quarter placing it in the 95 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- Cerberus ND Private Credit Fd's portfolio underperformed the Mstar LSTA Lev Loan B by 1.80% for the quarter and outperformed the Mstar LSTA Lev Loan B for the year by 4.61%.

Performance vs Callan High Yield Mutual Funds (Net)

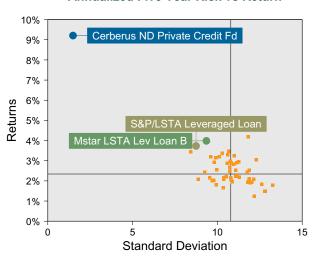
Quarterly Asset Growth		
Beginning Market Value	\$157,386,443	
Net New Investment	\$0	
Investment Gains/(Losses)	\$3,285,838	
Ending Market Value	\$160,672,281	





Relative Return vs Mstar LSTA Lev Loan B

Callan High Yield Mutual Funds (Net) Annualized Five Year Risk vs Return



Manulife-Declaration TRBF Period Ended March 31, 2023

Investment Philosophy

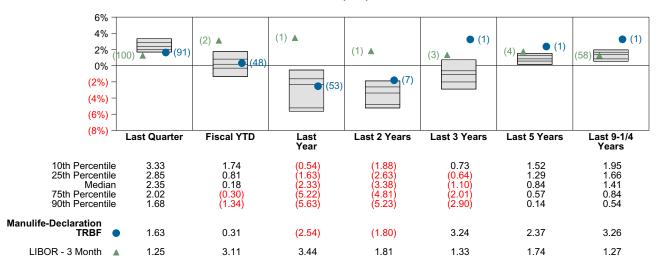
The Fund's portfolio holdings consist primarily of RMBS issued by private sector companies (Non-Agency RMBS) and government agencies (Agency MBS) and CMBS issued by private sector companies. Agency MBS includes securities issued by the Federal National Mortgage Association (Fannie Mae), the Federal Home 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.

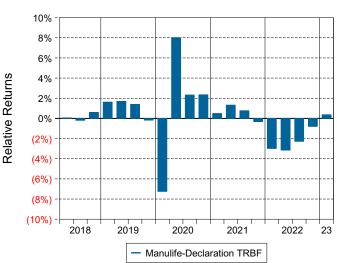
Quarterly Summary and Highlights

- Manulife-Declaration TRBF's portfolio posted a 1.63% return for the quarter placing it in the 91 percentile of the Callan Intermediate Fixed Inc Mut Funds group for the quarter and in the 53 percentile for the last year.
- Manulife-Declaration TRBF's portfolio outperformed the LIBOR - 3 Month by 0.37% for the quarter and underperformed the LIBOR - 3 Month for the year by 5.98%.

Beginning Market Value	\$213,889,759
Net New Investment	\$-57,168,289
Investment Gains/(Losses)	\$3,929,059
Ending Market Value	\$160,650,529

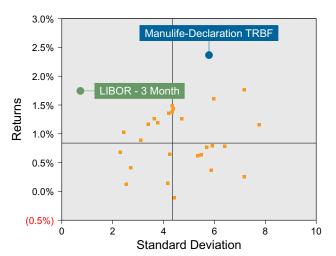
Performance vs Callan Intermediate Fixed Inc Mut Funds (Net)





Relative Return vs LIBOR - 3 Month

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



PIMCO Bravo II Period Ended March 31, 2023

Investment Philosophy

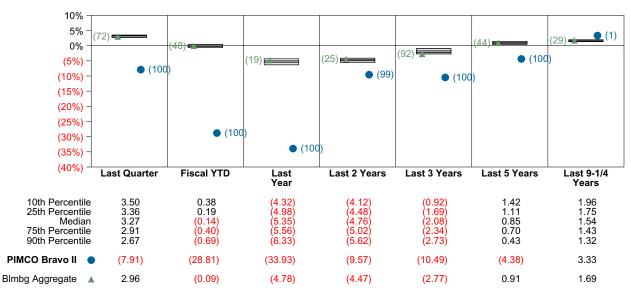
The BRAVO II Fund is a private equity style fund targeting an annualized IRR of 15-20% and multiple of 1.8-2x, net of fees and carried interest with an initial 5-year term. The fund will seek to capitalize on non-economic asset sale decisions by global financial institutions. The fund will have the flexibility 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. **Prior to July 1**, **2019**, the Legacy Fund participated in these portfolios via the Insurance Pool. Beginning July 1, 2019, its portion of the pool was segregated into its own portfolios. Returns prior to that date reflect the data from the Insurance pool.

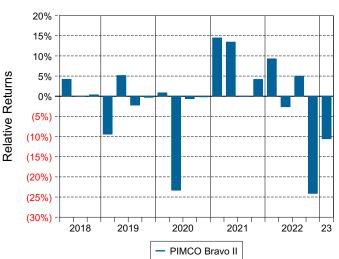
Quarterly Summary and Highlights

- PIMCO Bravo II's portfolio posted a (7.91)% return for the quarter placing it in the 100 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 100 percentile for the last year.
- PIMCO Bravo II's portfolio underperformed the Blmbg Aggregate by 10.87% for the quarter and underperformed the Blmbg Aggregate for the year by 29.15%.

Quarterly Asset Growth		
Beginning Market Value	\$1,888,901	
Net New Investment	\$-528,444	
Investment Gains/(Losses)	\$-107,641	
Ending Market Value	\$1,252,816	

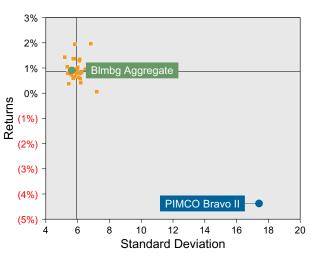






Relative Return vs Blmbg Aggregate

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



PIMCO DiSCO II Period Ended March 31, 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. **Prior to July 1**, **2019**, the Legacy Fund participated in these portfolios via the Insurance Pool. Beginning July 1, 2019, its portion of the pool was segregated into its own portfolios. Returns prior to that date reflect the data from the Insurance pool.

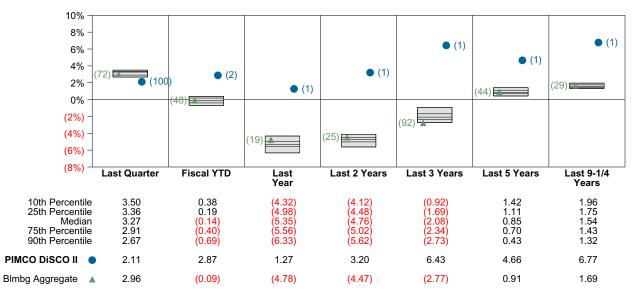
Quarterly Summary and Highlights

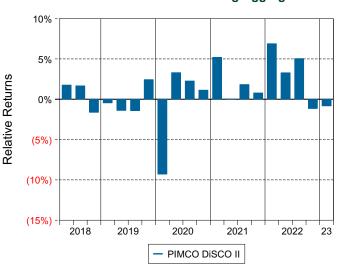
- PIMCO DiSCO II's portfolio posted a 2.11% return for the quarter placing it in the 100 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 1 percentile for the last year.
- PIMCO DiSCO II's portfolio underperformed the Blmbg Aggregate by 0.85% for the quarter and outperformed the Blmbg Aggregate for the year by 6.05%.

Quarterly Asset	Growth
ng Market Value	\$54.87

Beginning Market Value	\$54,876,810
Net New Investment	\$0
Investment Gains/(Losses)	\$1,157,857
Ending Market Value	\$56,034,667

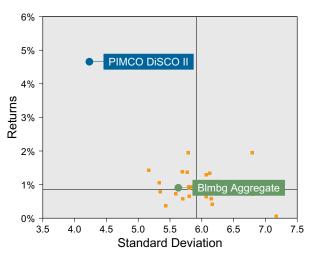






Relative Return vs Blmbg Aggregate





Prudential Period Ended March 31, 2023

Investment Philosophy

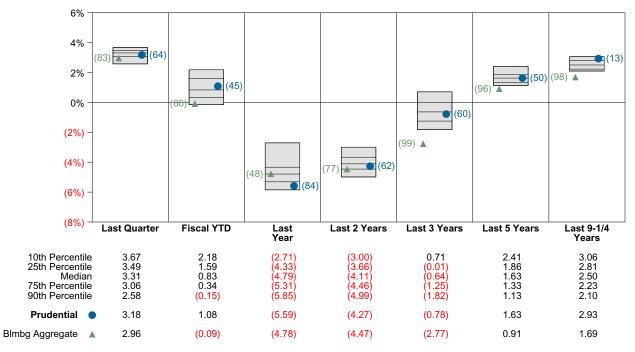
The Core Plus strategy is an actively managed strategy that seeks +150 bps over the Bloomberg U.S. Aggregate Bond Index. Portfolio duration is kept within +/- 20% of benchmark. The lead portfolio managers are Mike Collins, Rich Piccirillo and Greg Peters.

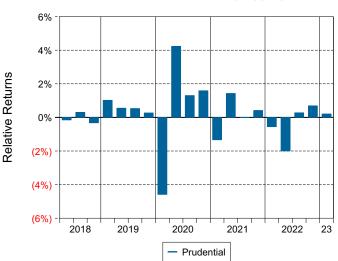
Quarterly Summary and Highlights

- Prudential's portfolio posted a 3.18% return for the quarter placing it in the 64 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 84 percentile for the last year.
- Prudential's portfolio outperformed the Blmbg Aggregate by 0.21% for the quarter and underperformed the Blmbg Aggregate for the year by 0.80%.

Quarterly Asset Growth	
Beginning Market Value	\$765,040,816
Net New Investment	\$-105,484,544
Investment Gains/(Losses)	\$21,704,063
Ending Market Value	\$681,260,334

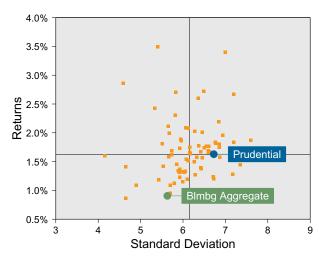
Performance vs Callan Core Plus Fixed Income (Gross)





Relative Return vs Blmbg Aggregate

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



Western Asset Management Company Period Ended March 31, 2023

Investment Philosophy

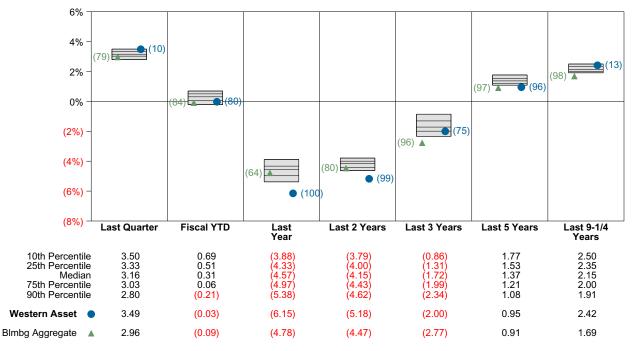
Western Asset designs this portfolio using all major fixed-income sectors with a bias towards non-Treasuries, especially corporate, mortgage-backed and asset-backed securities. Value can be added through sector rotation, issue selection, duration and term structure weighting.

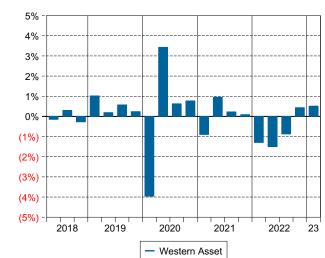
Quarterly Summary and Highlights

- Western Asset's portfolio posted a 3.49% return for the quarter placing it in the 10 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 100 percentile for the last year.
- Western Asset's portfolio outperformed the Blmbg Aggregate by 0.53% for the quarter and underperformed the Blmbg Aggregate for the year by 1.37%.

Quarterly Asset Growth	
Beginning Market Value	\$768,132,207
Net New Investment	\$-110,621,733
Investment Gains/(Losses)	\$23,593,080
Ending Market Value	\$681,103,554

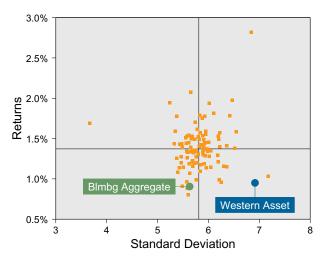
Performance vs Callan Core Bond Fixed Income (Gross)





Relative Return vs Blmbg Aggregate

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



Callan

Relative Returns

Real Estate

Invesco Core Real Estate Period Ended March 31, 2023

Investment Philosophy

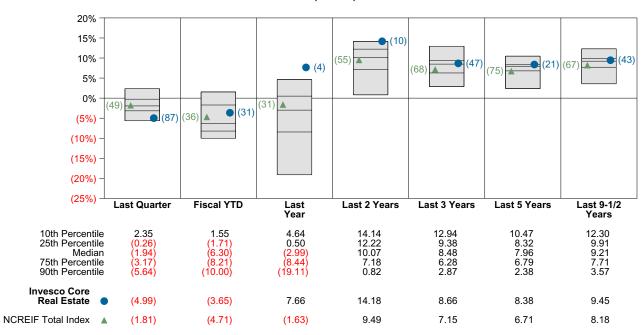
Invesco will invest in core properties with a focus on investments with stable income and quality locations. Core style investments include existing, substantially leased (typically 70% or greater occupancy at the time of investment) income-producing industrial, multifamily, retail and office properties located principally in metropolitan areas that exhibit reasonable economic diversification

Quarterly Summary and Highlights

- Invesco Core Real Estate's portfolio posted a (4.99)% return for the quarter placing it in the 87 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 4 percentile for the last year.
- Invesco Core Real Estate's portfolio underperformed the ۰ NCREIF Total Index by 3.17% for the guarter and outperformed the NCREIF Total Index for the year by 9.28%.

Quarterly Asset Growth		
Beginning Market Value	\$238,410,854	
Net New Investment	\$-178,712	
Investment Gains/(Losses)	\$-11.882.905	

Investment Gains/(Losses)	\$-11,882,905
Ending Market Value	\$226,349,237

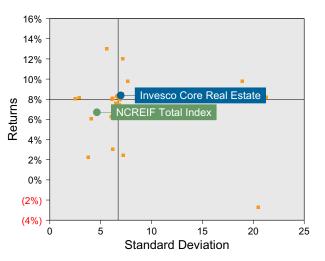






Relative Return vs NCREIF Total Index

Callan Total Domestic Real Estate DB (Gross) Annualized Five Year Risk vs Return



JP Morgan RE Inc & Growth Period Ended March 31, 2023

Investment Philosophy

The J.P. Morgan U.S. Real Estate Income and Growth Fund seeks to construct and opportunistically manage a portfolio of core direct real estate investments, complemented by other real estate and real estate-related assets. The Fund pursues a broadly diversified absolute-return strategy and pursues all property investments on an opportunistic basis. The majority of the Fund's investments will be in direct core properties in the office, industrial, retail and residential sectors.

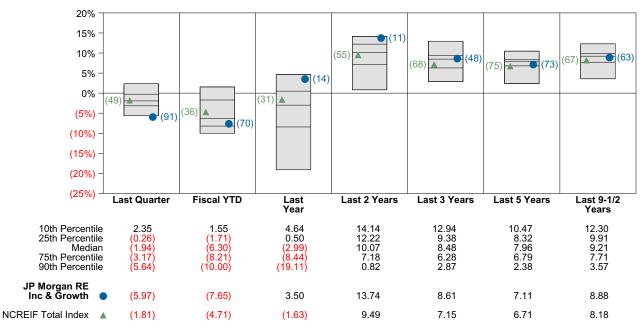
Quarterly Summary and Highlights

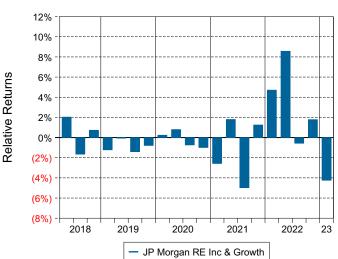
- JP Morgan RE Inc & Growth's portfolio posted a (5.97)% return for the quarter placing it in the 91 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 14 percentile for the last year.
- JP Morgan RE Inc & Growth's portfolio underperformed the NCREIF Total Index by 4.16% for the quarter and outperformed the NCREIF Total Index for the year by 5.13%.

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

Beginning Market Value	\$231,646,319
Net New Investment	\$-464,904
Investment Gains/(Losses)	\$-13,836,384
Ending Market Value	\$217,345,031

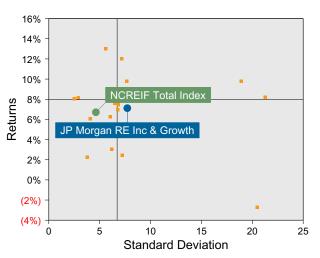






Relative Return vs NCREIF Total Index

Callan Total Domestic Real Estate DB (Gross) Annualized Five Year Risk vs Return



Diversified

Western Asset TIPS Period Ended March 31, 2023

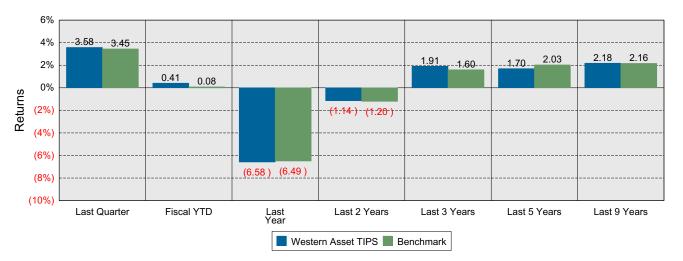
Investment Philosophy

The Western Asset US TIPS Full Discretion strategy is an inflation-protected strategy that aims to maximize total return and add value through duration and curve positioning, sector allocation, and security selection, while approximating benchmark risk. The strategy invests in a diversified portfolio using higher-yielding inflation-protected instruments with a bias toward Treasury Inflation-Protected Securities (TIPS). Opportunistic investments include high-yield, emerging markets, non-dollar securities, commodities and bank loans that may also be employed using derivatives. **Benchmark: Bloomberg US TIPS through 12/31/2009; Bloomberg Global Inflation-Linked through 10/31/2018; Bloomberg US Govt Inflation Linked Bond Index thereafter.**

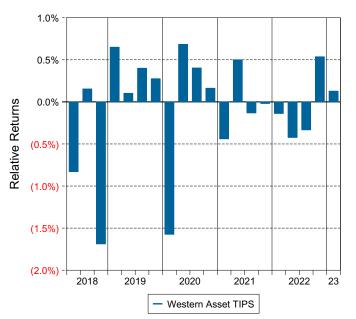
Quarterly Summary and Highlights

• Western Asset TIPS's portfolio outperformed the Benchmark by 0.13% for the quarter and underperformed the Benchmark for the year by 0.09%.

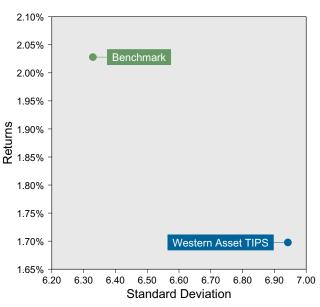
Quarterly Asset Growth		
Beginning Market Value	\$374,894,640	
Net New Investment	\$-109,332	
Investment Gains/(Losses)	\$13,414,549	
Ending Market Value	\$388,199,857	



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



JP Morgan IIF Infrastructure Period Ended March 31, 2023

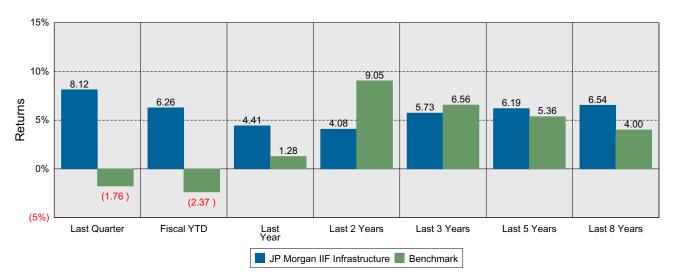
Investment Philosophy

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 quarter and 50% NFI-ODCE Equal Weight Net thereafter.

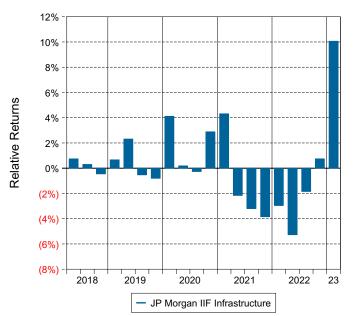
Quarterly Summary and Highlights

• JP Morgan IIF Infrastructure's portfolio outperformed the Benchmark by 9.89% for the quarter and outperformed the Benchmark for the year by 3.14%.

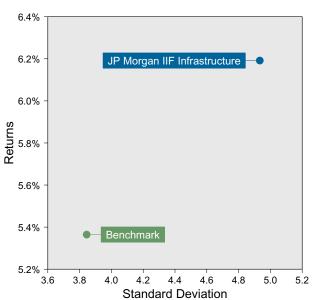
Quarterly Asset Growth		
Beginning Market Value	\$96,294,002	
Net New Investment	\$-700,740	
Investment Gains/(Losses)	\$7,823,204	
Ending Market Value	\$103,416,467	



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



Grosvenor CIS Fund II Period Ended March 31, 2023

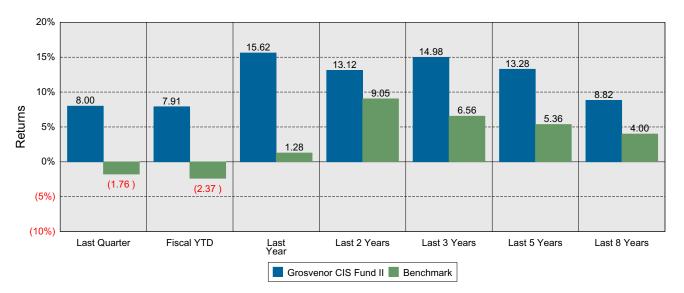
Investment Philosophy

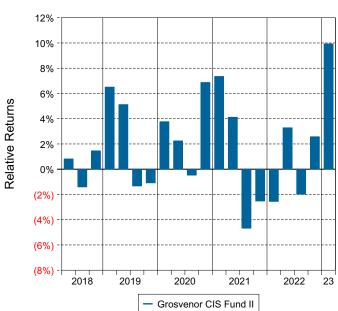
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified 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 9.76% for the quarter and outperformed the Benchmark for the year by 14.34%.

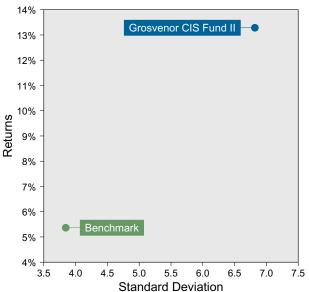
Quarterly Asset Growth		
Beginning Market Value	\$54,001,089	
Net New Investment	\$-1,499,700	
Investment Gains/(Losses)	\$4,319,517	
Ending Market Value	\$56,820,906	





Relative Return vs Benchmark

Annualized Five Year Risk vs Return

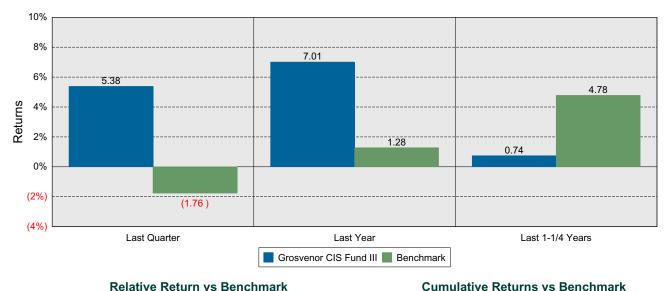


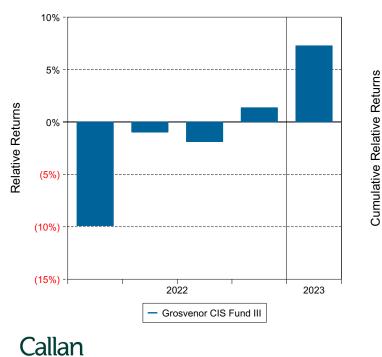
Grosvenor CIS Fund III Period Ended March 31, 2023

Investment Philosophy

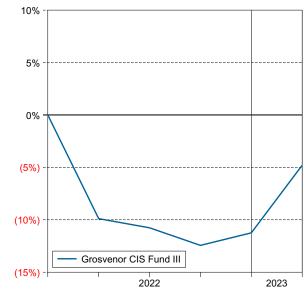
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified 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	Quarterly Asset Gr	owth
 Grosvenor CIS Fund III's portfolio outperformed the Benchmark by 7.14% for the quarter and outperformed the Benchmark for the year by 5.73%. 	Beginning Market Value Net New Investment Investment Gains/(Losses)	\$26,542,748 \$10,415,534 \$1,704,915
	Ending Market Value	\$38,663,197





Cumulative Returns vs Benchmark



North Dakota State Investment Board Legacy Fund

ISQ Global Infrastructure II Period Ended March 31, 2023

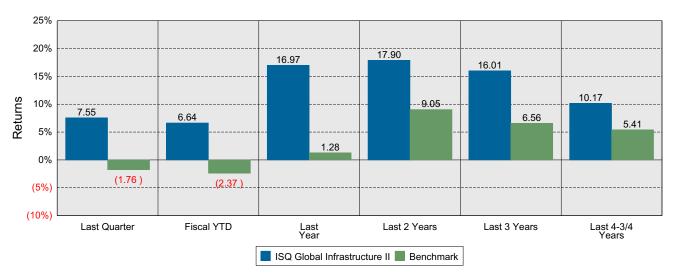
Investment Philosophy

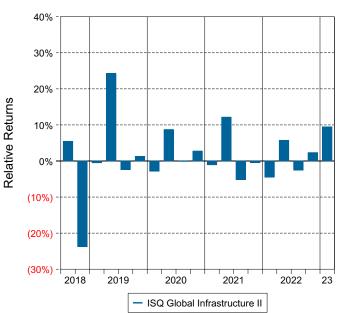
The ISQ Global Infrastructure Fund II seeks to achieve long-term capital appreciation as well as current income through equity and equity related investments in infrastructure and infrastructure related assets located globally, with a focus on North America, Europe, and selected growth economies in Asia 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 II's portfolio outperformed the Benchmark by 9.31% for the quarter and outperformed the Benchmark for the year by 15.70%.

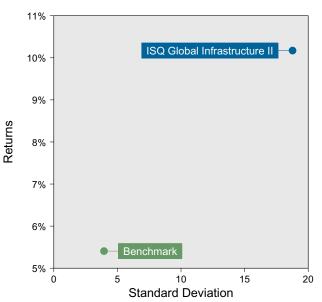
Quarterly Asset Growth			
Beginning Market Value \$74,176,859			
Net New Investment	\$0		
Investment Gains/(Losses) \$5,597			
Ending Market Value	\$79,774,316		





Relative Return vs Benchmark

Annualized Four and Three-Quarter Year Risk vs Return



ISQ Global Infrastructure III Period Ended March 31, 2023

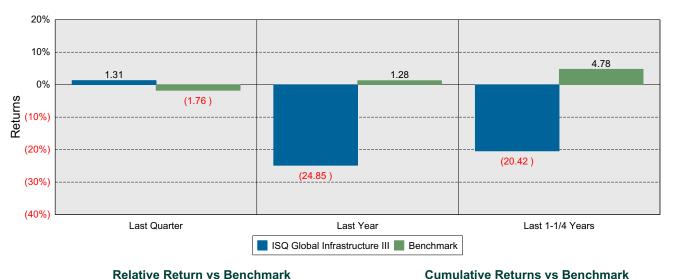
Investment Philosophy

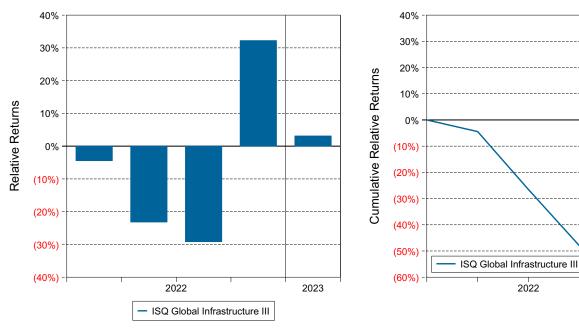
The ISQ Global Infrastructure Fund II seeks to achieve long-term capital appreciation as well as current income through equity and equity related investments in infrastructure and infrastructure related assets located globally, with a focus on North America, Europe, and selected growth economies in Asia 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 3.07% for the quarter and underperformed the Benchmark for the year by 26.13%.

Quarterly Asset Growth			
Beginning Market Value \$8,731,593			
Net New Investment	\$10,871,983		
Investment Gains/(Losses) \$306,5			
Ending Market Value	\$19,910,084		





Cumulative Returns vs Benchmark

2022

Callan

2023

Macquarie Infrastructure Fund IV Period Ended March 31, 2023

Investment Philosophy

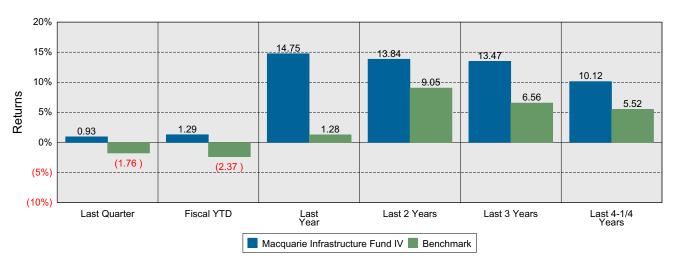
Macquarie's principal investment philosophy is to invest in infrastructure assets that exhibit monopolistic and/or contractual revenue drivers, limited substitution risk and high barriers to entry. The manager has continued to focus on investments where the team's sector expertise and operating experience 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 IV's portfolio outperformed the Benchmark by 2.70% for the quarter and outperformed the Benchmark for the year by 13.48%.

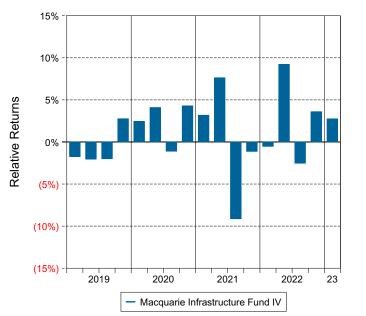
Quarterly Asset Growth			
Beginning Market Value	\$89,890,165		
Net New Investment \$-42,40			
Investment Gains/(Losses)	\$839,179		
Ending Market Value	\$90,686,944		

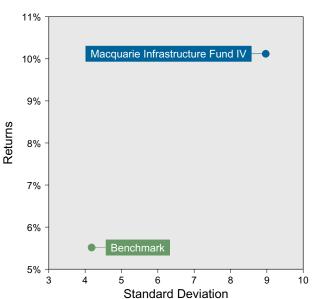
Quartarly Acast Growth





Annualized Four and One-Quarter Year Risk vs Return





Macquarie Infrastructure Fund V Period Ended March 31, 2023

Investment Philosophy

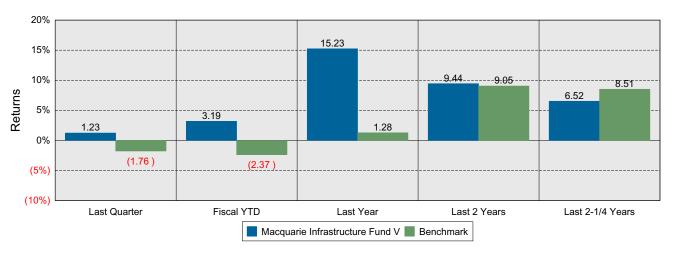
Macquarie's principal investment philosophy is to invest in infrastructure assets that exhibit monopolistic and/or contractual revenue drivers, limited substitution risk and high barriers to entry. The manager has continued to focus on investments where the team's sector expertise and operating experience 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.

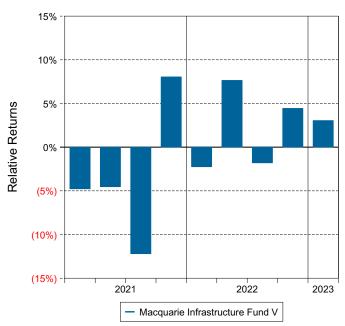
Quarterly Summary and Highlights

 Macquarie Infrastructure Fund V's portfolio outperformed the Benchmark by 2.99% for the quarter and outperformed the Benchmark for the year by 13.95%.

Quarterly Asset Growth			
Beginning Market Value	\$79,386,097		
Net New Investment \$-55,47			
Investment Gains/(Losses)	\$978,346		
Ending Market Value	\$80,308,964		

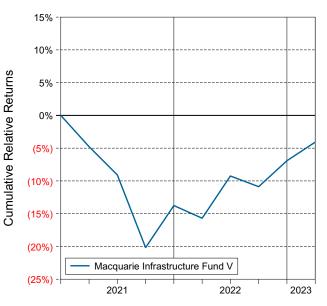
Quartarly Acast Growth





Relative Return vs Benchmark

Cumulative Returns vs Benchmark



Callan Research/Education



Education

1st 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

<u>2023 DC Trends Survey</u> | Callan's 16th annual DC Trends Survey now covers SECURE 2.0 (pre-passage) and diversity topics, along with the key tenets of DC plan management, governance, and financial wellness.

2023-2032 Capital Markets Assumptions | A white paper detailing the process involved in creating our 2023-2032 capital markets assumptions and the reasoning behind them.

1Q23 Real Assets Reporter: Energy Transition | Jan Mende describes energy-transition investments and the role they can play in institutional protfolios.

The Periodic Table of Investment Returns | A visual representation of annual returns for key asset classes, ranked from best to worst performance for each calendar year.

Blog Highlights

The PRT Decision: What Plan Sponsors Need to Know | Despite the turbulence of 2022, many corporate defined benefit (DB) plan sponsors are considering pension risk transfers (PRTs).

Can Institutional Investors Target 'Food Deserts' for Investment? | While food desert investments have not been prevalent in institutional real estate portfolios, increasing government incentives and additional sources of financing may help support these opportunities in the future.

Putting 2022 Public DB Plan Performance into Perspective | While 2022 was indeed challenging, viewing plan returns over the long-term shows results that are favorable when stacked up against actuarial discount rates.

Webinar Replays

Callan's 2023 DC Survey Results Webinar | This webinar focuses on the results of Callan's 2023 DC Trends Survey, including fiduciary positioning, investments, retirement solutions, fees, and more.

Research Cafe: ESG Interview Series | During this interview, Tom Shingler of Callan discusses with Richard Ashley, partner and cochair of US Employee Benefits and Executive Compensation practice at DLA Piper, key features of the new ESG and proxy voting rule.

Quarterly Periodicals

Private Equity Update, **4Q22** | A high-level summary of private equity activity in the quarter through all the investment stages

Active vs. Passive Charts, 4Q22 | A comparison of active managers alongside relevant benchmarks over the long term

Market Pulse, 4Q22 | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

Capital Markets Review, 4Q22 | Analysis and a broad overview of the economy and public and private markets activity each quarter across a wide range of asset classes

Hedge Fund Update, 4Q22 | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

Real Assets Update, 4Q22 | A summary of market activity for real assets and private real estate during the quarter

Private Credit Update, 4Q22 | 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:

2023 June Workshops

June 27, 2023 – New York June 29, 2023 – Chicago

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

Education

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

Introduction to Investments May 23-25 – Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. Our virtual session is held over three days with virtual modules of 2.5-3 hours, while the in-person session lasts one-and-a-half days. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. 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: <u>callan.com/events-education</u>

Education: By the Numbers

50+	Unique pieces of research the Institute generates each year
525	Attendees (on average) of the Institute's annual National Conference

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



"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 Institute

Callan

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.

anager Name	Manager Name
n (Aberdeen Standard Investments)	Axiom Investors LLC
lobal Investments	Baillie Gifford International, LLC
Asset Management LLC	Baird Advisors
Street Partners, LLC	Barings LLC
I USA Investment Management Inc.	Baron Capital Management, Inc.
zeBernstein	Barrow, Hanley, Mewhinney & Strauss, LLC
ng Global Investments, LLC	Belle Haven Investments
sic Global Advisors, LC	BentallGreenOak
can Century Investments	Beutel, Goodman & Company Ltd.
i US, Inc.	BlackRock
Capital LP	Blackstone Group (The)
Global Management, Inc.	Blue Owl Capital, Inc.
Capital Management	BNY Mellon Asset Management
lanagement LLC	Boston Partners
vestments, LLC	Brandes Investment Partners, L.P.
e Capital Management, LLC	Brandywine Global Investment Management, LLC
Capital Management Co., LLC	Brookfield Asset Management Inc.
vestment Managers	Brookfield Public Securities Group

Manager Name

Brown Brothers Harriman & Company Burgundy Asset Management Ltd.

Capital Group

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.

Dimensional Fund Advisors L.P.

Doubleline

DWS

EARNEST Partners, LLC

Epoch Investment Partners, Inc.

Fayez Sarofim & Company

Federated Hermes, Inc.

Fidelity Institutional Asset Management

Fiera Capital Corporation

First Hawaiian Bank Wealth Management Division

First Eagle Investment Management, LLC

First Sentier Investors

Fisher Investments

Franklin Templeton

Fred Alger Management, LLC

GAM (USA) Inc.

GlobeFlex Capital, L.P.

GoldenTree Asset Management, LP

Goldman Sachs

Golub Capital

Guggenheim Investments

GW&K Investment Management

Harbor Capital Advisors

Harding Loevner LP

Hardman Johnston Global Advisors LLC

Heitman LLC

Hotchkis & Wiley Capital Management, LLC

Manager Name Impax Asset Management LLC Income Research + Management Insight Investment Intech Investment Management LLC Intercontinental Real Estate Corporation Invesco J.P. Morgan Janus Jennison Associates LLC Jobs Peak Advisors Kayne Anderson Rudnick Investment Management, LLC 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.

P/E Investments

Pacific Investment Management Company

Pantheon Ventures

Manager Name	Manager Name
Parametric Portfolio Associates LLC	SLC Management
Partners Group (USA) Inc.	Smith Graham & Co. Investment Advisors, L.P.
Pathway Capital Management, LP	State Street Global Advisors
PFM Asset Management LLC	Strategic Global Advisors, LLC
PGIM DC Solutions	T. Rowe Price Associates, Inc.
PGIM Fixed Income	The TCW Group, Inc.
PGIM Quantitative Solutions LLC	Thompson, Siegel & Walmsley LLC
Pictet Asset Management	Tri-Star Trust Bank
PineBridge Investments	UBS Asset Management
Polen Capital Management, LLC	VanEck
Pretium Partners, LLC	Versus Capital Group
Principal Asset Management	Victory Capital Management Inc.
Putnam Investments, LLC	Virtus Investment Partners, Inc.
Raymond James Investment Management	Vontobel Asset Management
RBC Global Asset Management	Voya
Regions Financial Corporation	Walter Scott & Partners Limited
Riverbridge Partners LLC	WCM Investment Management
Robeco Institutional Asset Management, US Inc.	Wellington Management Company, LLP
S&P Dow Jones Indices	Western Asset Management Company LLC
Sands Capital Management	Westfield Capital Management Company, LP
Schroder Investment Management North America Inc.	William Blair & Company LLC
Segall Bryant & Hamill	Xponance, Inc.

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