

December 31, 2022



North Dakota State Investment Board Legacy Fund

**Investment Measurement Service
Quarterly Review**

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December 31, 2022

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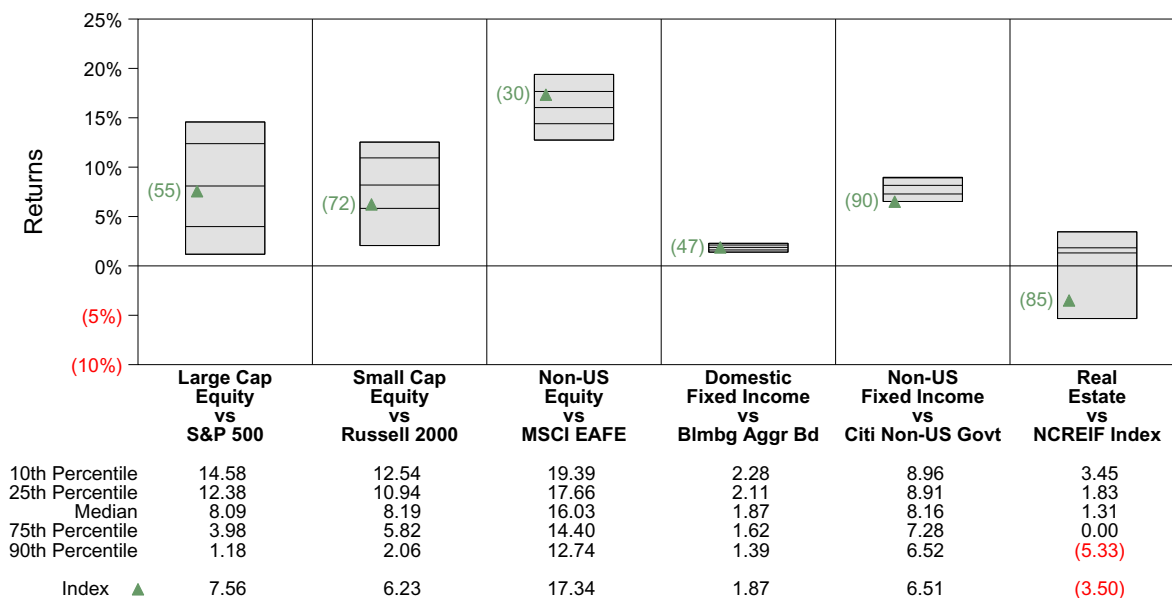
Market Overview

Active Management vs Index Returns

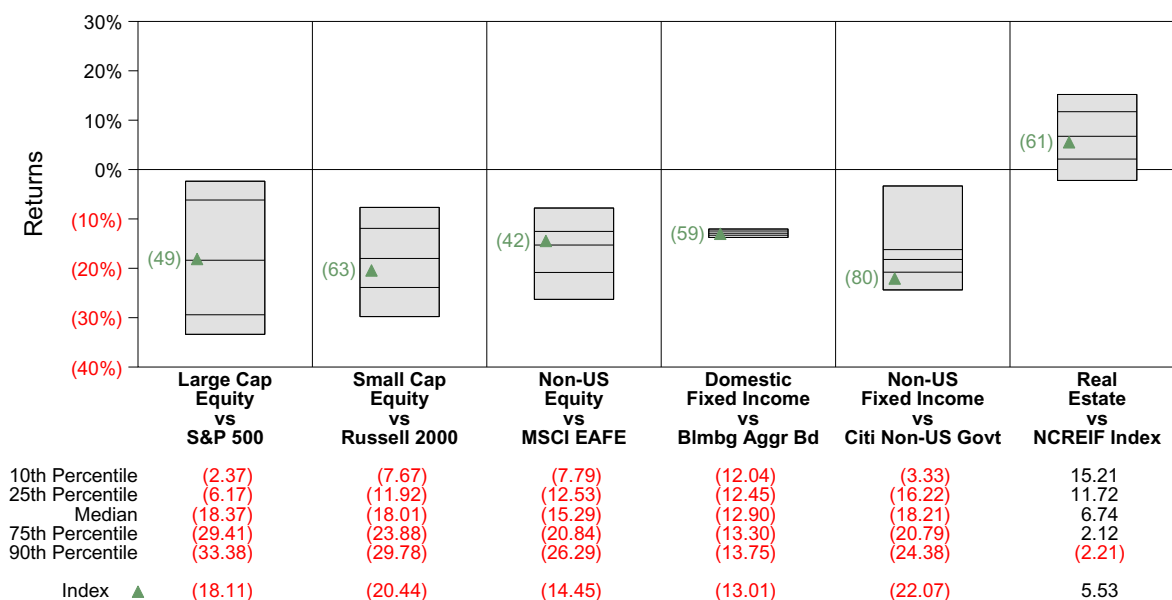
Market Overview

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

Range of Separate Account Manager Returns by Asset Class One Quarter Ended December 31, 2022



Range of Separate Account Manager Returns by Asset Class One Year Ended December 31, 2022



Is a Recession Inevitable in 2023?

ECONOMY

2 The bond market is convinced a recession is inevitable in 2023, as shown by an inverted yield curve. Perhaps bond investors do not believe that we will achieve a “soft landing” from the current economic expansion. Robust current economic indicators conflict with this market expectation.

Rebound in 4Q for U.S., Global Bonds

FIXED INCOME

8 Bonds rose in 4Q but 2022 results remained negative. The gain for the Aggregate was driven by coupon income and spread tightening. The Municipal Bond Index 2022 return was the worst since 1981. Global fixed income 4Q gains were driven largely by U.S. dollar weakness.

Appetite Continues, but Strategies Shift

PRIVATE CREDIT

12 Investors took a new look at upper-middle-market direct lending as all-in spreads have widened and lenders are able to get tighter terms. On average, the asset class has generated net IRRs of 8% to 10% for trailing periods ended Sept. 30, 2022.

First Full-year Drop in Returns Since 2018

INSTITUTIONAL INVESTORS

4 All investor types finished 2022 with steep declines. The S&P 500 and Bloomberg Aggregate were down together for three straight quarters (through 3Q22), and for the year, the first time since 1969. But most investors performed better than a 60% stocks/40% bonds benchmark.

NPI Falls 3.5% and REITs Lag Equities

REAL ESTATE/REAL ASSETS

10 The NCREIF Property Index fell 3.5% during 4Q. The NCREIF ODCE Index dropped 5.2%. The FTSE EPRA Nareit Developed REIT Index rose 6.9% compared to a 9.8% gain for MSCI World. The FTSE Nareit Equity REITs Index increased 5.2%, compared to 7.6% for the S&P 500.

Year Ends on a High Note After Tough Start

HEDGE FUNDS/MACs

13 The median Callan Institutional Hedge Fund Peer rose 1.3%. Within the HFRI indices, the best-performing strategy was the emerging market index (+5.1%). Across the Callan Hedge FOF Database, all managers showed gains. The Callan MAC Style Groups also rose.

4Q Gains Can't Stem Big Losses in 2022

EQUITY

6 Stocks gained in 4Q but saw sharp drops over the full year. The drop for U.S. equities was broad-based, and almost every sector experienced negative returns. Global equities also rose in 4Q, as lower-than-expected U.S. inflation data buoyed market optimism at year-end.

Deceleration in 2022; 2023 Very Unclear

PRIVATE EQUITY

11 After a record-shattering 2021, private equity activity fell throughout 2022. On average, year-over-year transaction activity fell by about 20% and dollar volumes by 30%. However, fundraising and company investment and exit activity remain comparable to pre-pandemic levels.

DC Index Falls 4.6%, Third Straight Decline

DEFINED CONTRIBUTION

15 The Callan DC Index™ fell 4.6% in 3Q22 and 16.7% for the trailing one year. Balances within the Index declined by 4.7% after a 12.3% decrease the previous quarter. TDFs reclaimed the top spot in terms of quarterly net flows, garnering 73.6% of flows.

Broad Market Quarterly Returns

U.S. Equity Russell 3000



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



U.S. Fixed Income Bloomberg Agg



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



Sources: Bloomberg, FTSE Russell, MSCI

Is a Recession Inevitable in 2023?

ECONOMY | Jay Kloepfer

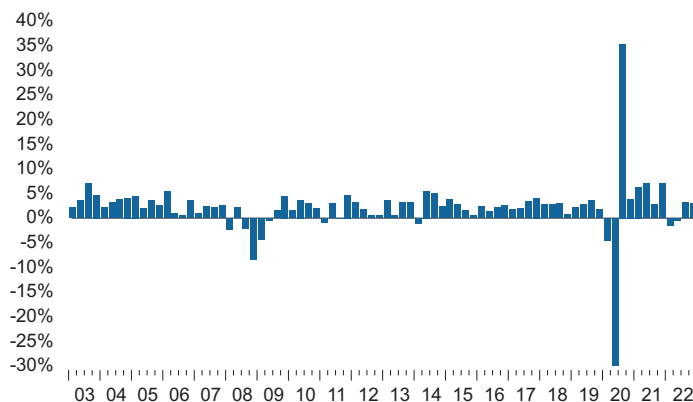
The bond market is convinced a recession is inevitable in 2023. The yield curve is inverted, and this phenomenon has preceded every recession in modern history. This inversion occurs when yields on the short end of the curve are higher than yields on the long end. A normal yield curve is upward sloping, with higher yields offered for taking on debt with greater maturities. An inverted yield curve implies that investors expect interest rates to fall, and that holding longer-dated debt will provide a greater return as rates drop. Why would investors expect interest rates to fall? They believe that a recession is coming, and the Federal Reserve will cut interest rates to stimulate economic growth.

Last year was anything but normal for almost all measures of the capital markets, interest rates, inflation, and the economy. It may be reasonable to be a bit skeptical that the bond market has called this recession correctly. First, the U.S. economy suffered two quarters in a row of GDP loss “way back” in 1Q and 2Q22! A consecutive quarterly decline in GDP is often the rule of thumb used to invoke recession, but last year, such was not the case. The economy resumed robust growth with a solid 3.2% annualized gain in 3Q, and a 2.9% increase in 4Q. As a result, GDP advanced 2.1% for the year, following a strong 5.9% jump in 2021. Where was the growth in 4Q22 and for the year? Consumer spending on services, led by international travel, food services, accommodation, and health care. We also re-built inventories and increased investment in software and equipment. The one large drag was a decline in home construction, as mortgage rates shot up from the low 2% range to over 7% in a matter of months.

Inflation burned out of control by mid-year 2022. Faced with huge increases in the price of daily staples and durable goods like autos, consumers quickly redirected their spending away from goods suffering steep inflation, and spending on such goods within GDP actually declined during the year. This wasn't always captured in the CPI; one of its failings as a measure of inflation is that it assumes a certain basket of goods will continue to be purchased at fixed weights even when prices shoot up. Clearly, higher prices for food staples and rent are impossible to avoid, but consumers substitute budget expenditures with great skill to

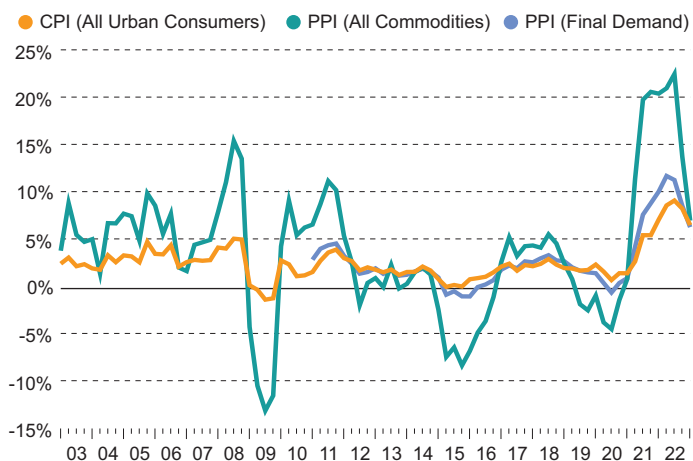
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

counter price hikes. Inflation measured by the CPI-U rose sharply year-over-year, cresting at 9% by June, but the rate of increase in prices flattened completely in the second half of the year. So while the year-over-year increase for 4Q CPI hit 6.5%, the quarterly CPI for 4Q came in at 0% (change over 3Q). The problem for consumers and businesses is that even though CPI has stopped rising, prices are now “permanently” higher.

While a disconnect remains in the job market between those looking for work and the jobs offered by employers, the job market notched serious gains in net new jobs throughout the year, adding over 4.5 million. The level of employment finally surpassed the

pre-pandemic peak in August 2022. Additions to the unemployment roll measured by weekly jobless claims continued to stay historically low, while continuing unemployment claims dropped from over 5 million at the start of 2021 to 1.7 million in December. Calendar year 2022 saw the lowest level of continuing claims in more than two decades.

With continued economic strength suggested by the robust job market and solid GDP growth, where is the concern over recession coming from in the bond market? The answer is a logic puzzle that can seem like a circular argument. The Fed raised rates quickly and by a large amount starting last March to battle the surge in inflation. The surge stemmed from supply chain dislocations as we emerged from the pandemic lockdown; from a surge in demand for workers, which drove wage growth; from a surge in demand from consumers; and then layered on top of these trends the disruption from the Russian invasion of Ukraine. The bond market suddenly “believed” in the Fed’s stated plans for interest rates through 2022, and yields moved quickly toward long-term equilibrium by mid-year 2022. The Fed’s primary tool to battle inflation is the Fed Funds rate. The premise is that higher rates cool demand for goods and services from all actors in the economy and wring inflation out of the economy. The reality is that higher rates appear to be working as advertised, as demand has lessened and inflation stopped rising month-to-month in the summer of 2022. The inverted yield curve says the bond market believes the very success of the Fed’s inflation policy is now certain to cause recession, and then a reversal of interest rate policy to fight said recession. Perhaps the bond market does not believe that we will achieve the holy grail of Fed policy, which is to engineer a “soft landing” from the current economic expansion.

Recent Quarterly Economic Indicators

	4Q22	3Q22	2Q22	1Q22
Employment Cost: Total Compensation Growth	5.1%	5.0%	5.1%	4.5%
Nonfarm Business: Productivity Growth	3.0%	1.4%	-4.1%	-5.9%
GDP Growth	2.9%	3.2%	-0.9%	-1.6%
Manufacturing Capacity Utilization	78.5%	79.2%	79.5%	79.1%
Consumer Sentiment Index (1966=100)	58.8	56.1	57.8	63.1

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

The Long-Term View

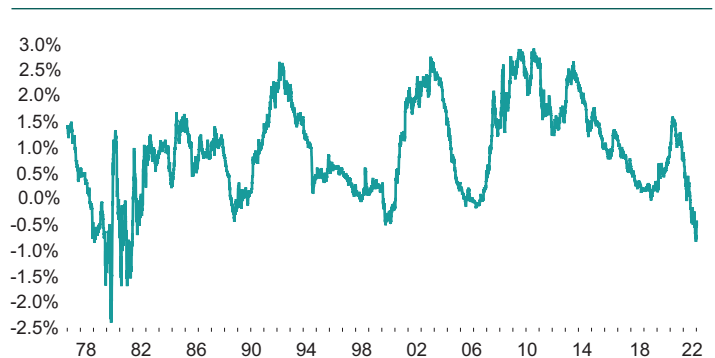
Index	4Q22	Periods Ended 12/31/22			
		1 Yr	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	7.2	-19.2	8.8	12.1	7.7
S&P 500	7.6	-18.1	9.4	12.6	7.6
Russell 2000	6.2	-20.4	4.1	9.0	7.1
Global ex-U.S. Equity					
MSCI EAFE	17.3	-14.5	1.5	4.7	4.5
MSCI ACWI ex USA	14.3	-16.0	0.9	3.8	--
MSCI Emerging Markets	9.7	-20.1	-1.4	1.4	--
MSCI ACWI ex USA Small Cap	13.3	-20.0	0.7	5.2	6.9
Fixed Income					
Bloomberg Agg	1.9	-13.0	0.0	1.1	4.0
90-Day T-Bill	0.8	1.5	1.3	0.8	1.9
Bloomberg Long G/C	2.6	-27.1	-1.2	1.6	5.4
Bloomberg GI Agg ex US	6.8	-18.7	-3.1	-1.6	2.7
Real Estate					
NCREIF Property	-3.5	5.5	7.5	8.8	9.0
FTSE Nareit Equity	5.2	-24.4	3.7	6.5	7.9
Alternatives					
CS Hedge Fund	0.9	1.1	4.2	4.2	5.8
Cambridge PE*	-1.8	-3.8	16.8	15.3	14.3
Bloomberg Commodity	2.2	16.1	6.4	-1.3	1.9
Gold Spot Price	9.2	-0.1	6.9	0.9	7.6
Inflation – CPI-U	0.0	6.5	3.8	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

It is true that we have never achieved a soft landing in the past, so the bond market may be justified in expecting that the Fed will overshoot and tip the U.S. into recession. Robust current economic indicators, especially in the labor market outside of technology, conflict with this market expectation.

10-Year Treasury vs. 2-Year Treasury Spread



Source: Federal Reserve Bank of St. Louis

Worst Year Since 2018 as Both Stocks and Bonds Fall

INSTITUTIONAL INVESTORS

Double-digit declines mark the end of a tough year

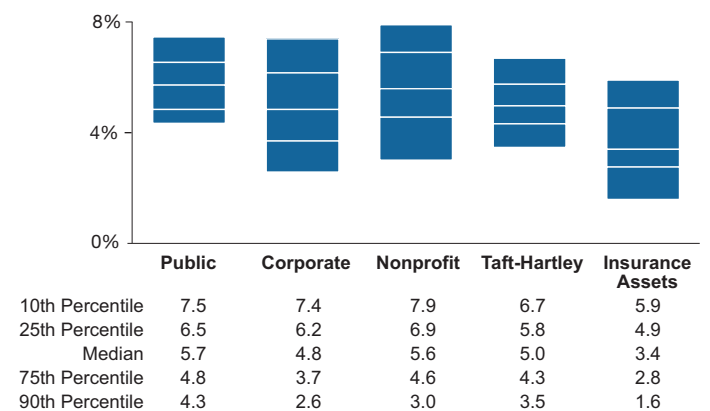
- All investor types finished 2022 with double-digit declines, as both equities and fixed income fell.
- Insurance assets fared the best during the year, while corporate plans saw the lowest returns.
- Most plan types performed better than a benchmark consisting of 60% S&P 500/40% Bloomberg Aggregate, but they had a harder time matching that benchmark over longer time periods.
- The declines in 2022 were far higher than those in 2018, which was the last year that saw drops in the value of portfolios for institutional investors.

Inflation and interest rates are top client concerns

- CPI-U was up more than 8% year-over-year in each month from March through September.
- The Fed has raised rates 425 bps since March, from 0.0%-0.25% to 4.25%-4.50% in December 2022.
- The S&P 500 and Bloomberg Aggregate were down together for three consecutive quarters (through 3Q22), and for the year, the first time since 1969.
- And there was no place to hide in 2022; every asset class except cash was down. It was the worst year for a 60/40 portfolio in decades.

- However, lower asset values but higher returns expected going forward is a silver lining for investors.
- Institutional investors have a greater chance of hitting return targets and can even reduce risk, after years of risking up to chase return.
- There are rising expectations for a recession; the yield curve is inverted.
- Geopolitical risk surrounding China was another area of focus as institutional investors try to understand how its COVID re-opening and tensions regarding Taiwan could impact markets.

Quarterly Returns, Callan Database Groups (12/31/22)



Source: Callan

Callan Database Median and Index Returns* for Periods Ended 12/31/22

Database Group	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Public Database	5.7	-12.7	4.3	5.3	7.3	7.5
Corporate Database	4.8	-17.4	0.5	3.0	5.8	7.0
Nonprofit Database	5.6	-13.1	3.6	4.8	6.8	7.4
Taft-Hartley Database	5.0	-10.6	4.7	5.7	7.7	7.3
Insurance Assets Database	3.4	-10.0	1.0	2.6	4.0	5.0
All Institutional Investors	5.2	-13.3	3.4	4.7	6.9	7.3
Large (>\$1 billion)	4.9	-12.4	4.1	5.1	7.0	7.6
Medium (\$100mm - \$1bn)	5.2	-13.8	3.3	4.7	7.0	7.2
Small (<\$100 million)	5.5	-13.6	3.2	4.5	6.7	7.0
60% S&P 500/40% Bloomberg Agg	5.3	-15.9	4.0	6.1	8.1	7.4

*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.

Return to normal in bonds

- The role of core bonds in portfolios was restored; cash is viable again as a liquidity tool.
- A 4.5% yield may change the demand for yield substitutes: IG credit, bank loans, high yield, private credit, even real estate and infrastructure?

Private markets: now over target allocations

- Downward marks are coming, gradually.
- Interest remains strong in all private assets.

Public defined benefit (DB) plan priorities

- Public DB plans are analyzing how the changes to Callan's Capital Markets Assumptions will affect their portfolios.
- Returns in 2022 gave back some of the funded status gains from 2020-21. But downward pressure on actuarial discount rates may now abate as capital markets expectations are higher following the market decline.

Corporate DB plan priorities

- Corporate DB plans focused on de-risking.
- The experience of 2022 has these plans questioning what they are doing with LDI, and why. Funded status no longer translates directly to contributions, or expense.

- Higher interest rates may increase discussions about pension risk transfer. Corporate DB plans appear to be inclined to keep the plan on the balance sheet.

Defined contribution (DC) plan priorities

- New regulations such as SECURE 2.0 and the U.S. Department of Labor's environmental, social, and governance (ESG) rule were on the minds of many sponsors.
- In investment manager searches, DC-friendly vehicles with competitive pricing are a key criterion.

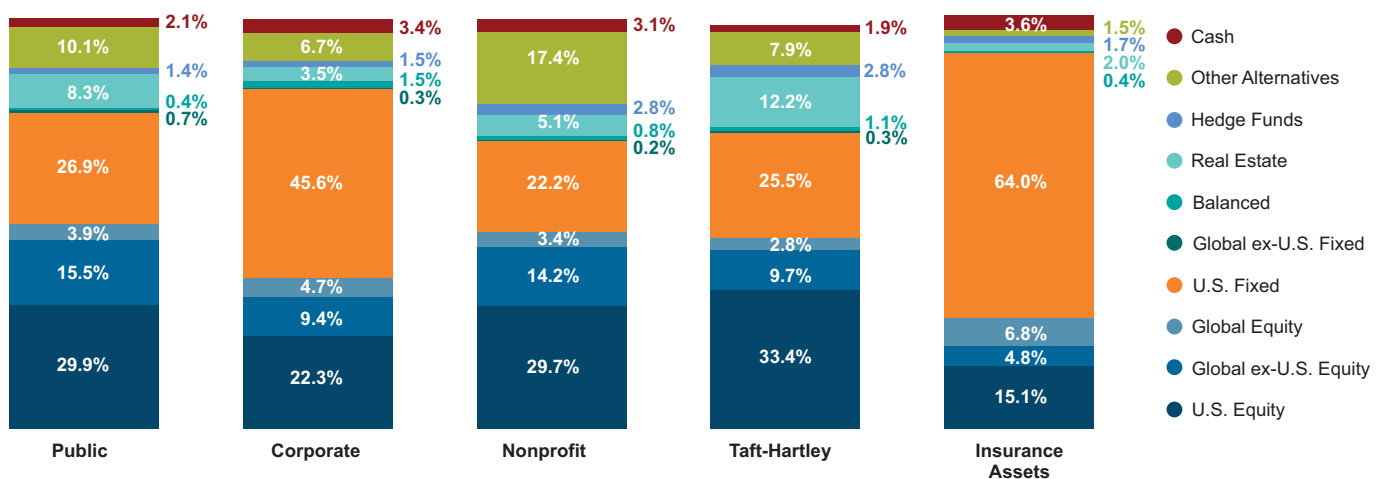
Nonprofit priorities

- Reviews of asset-allocation structures were likely in light of the changed market environment.

Insurance companies' priorities

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

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 fall in final month of quarter after gains

- The S&P 500 Index posted positive returns in both October and November but fell in December. The index was up 7.6% during 4Q22 but ended 2022 down 18.1%.
- Energy was the best-performing sector during the quarter and 2022, returning 23% and 66% respectively. Consumer Discretionary and Communication Services were the only two sectors that posted negative returns in 4Q.
- Value stocks outperformed growth across the market capitalization spectrum, and for both 4Q and the full year.
- Large cap stocks (Russell 1000) outperformed small caps (Russell 2000) last quarter and for the year.
- Continued macroeconomic concerns (e.g., inflation, potential recession, geopolitical issues) led to higher volatility and a down-year for U.S. equities.

Market valuations have reset with the broad-based sell-off

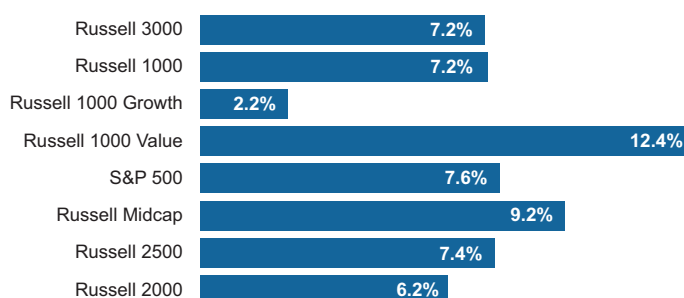
- The drop for equities in 2022 was broad-based, and almost every sector experienced negative returns. Higher interest rates impacted the growth-oriented sectors the most (e.g., Technology, Communication Services).
- Mega-cap technology stocks have underperformed, ending an extended period of market leadership.
- Large cap stocks are now trading around their average P/E ratio, but they are not yet “cheap.”
- Despite the recent outperformance of value stocks, value still looks attractive relative to growth heading into 2023.

Small cap valuations are attractive relative to large cap

- During 4Q22, the Russell 2000 was trading at a 30% discount to its historical P/E average.
- Relative to large caps, the Russell 2000's forward 12 months P/E is trading at the lowest level versus large cap stocks since the Dot-Com Bubble.
- Relative to large and mid caps, small caps have looked significantly cheaper on various valuation metrics recently.

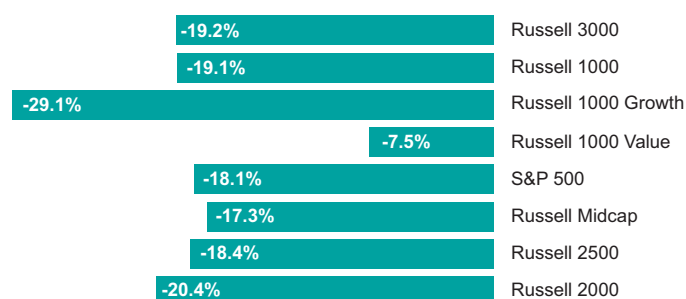
U.S. Equity: Quarterly Returns

(12/31/22)



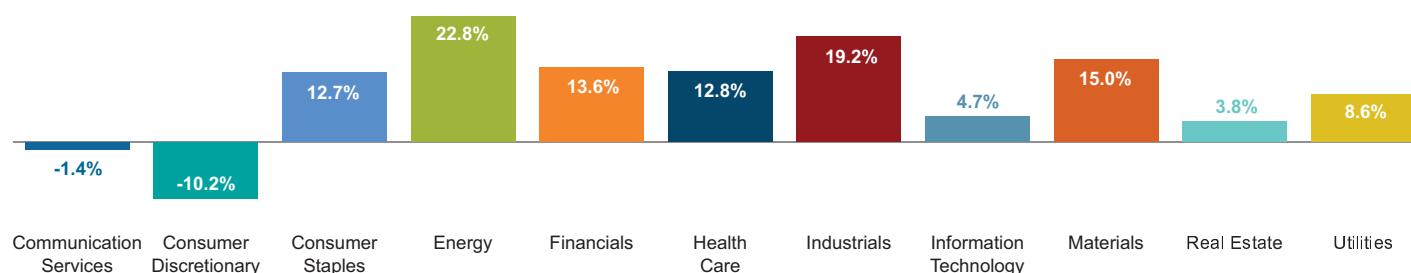
U.S. Equity: One-Year Returns

(12/31/22)



Sources: FTSE Russell and S&P Dow Jones Indices

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



Source: S&P Dow Jones Indices

Global Equity

Ending on a high note

4Q22 was a bright spot during a tough calendar year in global and global ex-U.S. equity markets.

Encouraging signs

- Lower-than-expected U.S. inflation data buoyed market optimism at the end of the year.
- The Fed slowed its pace of tightening, with further slowing expected in 2023.
- China reversed its zero-COVID policies, prompting exuberance from investors.

Value outpaces growth

- Value outpaced growth in developed and emerging markets.
- Economically sensitive sectors (e.g., Financials and Industrials) benefited from the anticipation of improved growth; Energy was the largest outperformer.

U.S. dollar vs. other currencies

- After reaching a multi-decade high, the dollar fell against all major currencies with signs of inflation easing.
- Despite the 7.7% decline in 4Q22, the dollar still gained nearly 8% over the full year.
- Global central banks' rate hikes and the U.S. Federal Reserve's slowing pace of tightening could prolong U.S. dollar decline.
- Continued weakening of the U.S. dollar would be a tailwind for non-U.S. equities.

What about style?

- A sustained shift to value after the recent prolonged growth cycle would likely favor non-U.S. equities over U.S. equities given the higher representation of traditional value sectors in global ex-U.S. equity universes.

China's reopening spurs hopes for emerging markets

- In addition to pivoting from its zero-COVID policy, Chinese regulators shifted to supportive policies to stabilize the property sector and tech/platform industry.

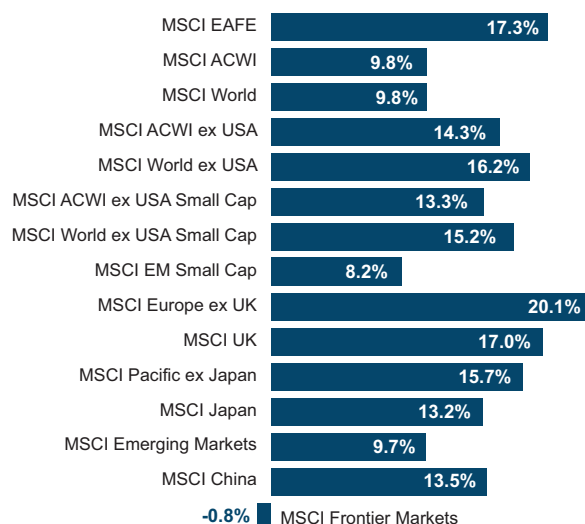
Reopening is expected to jump-start Chinese economy

- China's real GDP growth is estimated to reach 5.5% in 2023 and nearly 7% on a 4Q/4Q basis.
- Real consumption is projected to grow by 8.5% in 2023 as Chinese households have amassed \$2.6 trillion in savings.

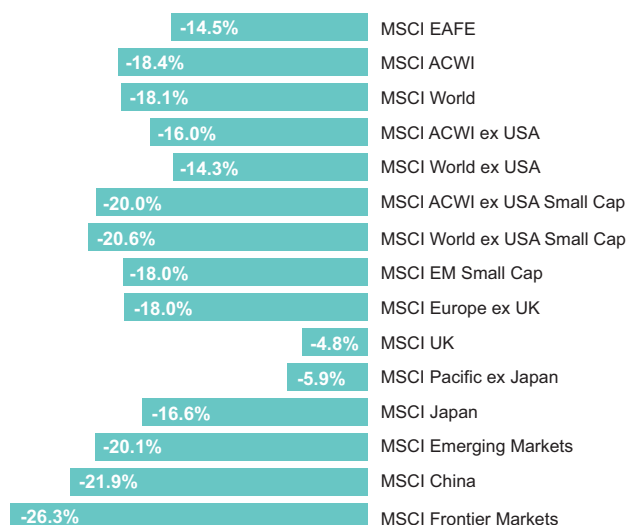
Recovery in China will spill over to other EM regions

- Growth in Chinese consumption is expected to have positive impact on tourism in Southeast Asia; goods exports in Europe, the Middle East, and Africa; and commodities in Latin America.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar, 12/31/22)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar, 12/31/22)



Source: MSCI

Fixed Income

U.S. Fixed Income

Bonds were up in 4Q but 2022 results remain negative

- Gain for the Bloomberg US Aggregate Bond Index driven by coupon income and spread tightening; interest rates rose modestly

Rates were volatile intra-quarter

- U.S. Treasury 10-year yield: high 4.22% on 11/7; low 3.42% on 12/7
- Curve remained inverted at quarter-end: 10-year yield 3.88% and 2-year yield 4.41%; most since 1981

Fed raised rates bringing target to 4.25%-4.50%

- Median expectation from Fed is 5.1% for year-end 2023.
- Inflation showed signs of moderating but job market remained tight with solid wage growth.

Corporates and mortgages outperformed Treasuries in 4Q

- 4Q: Corporates +289 bps excess return; residential mortgage-backed securities (RMBS) +110 bps
- 2022: Corporates -125 bps excess return; RMBS -223 bps
- RMBS had worst month ever (September: -191 bps) and best month ever (November: +135 bps) in excess returns

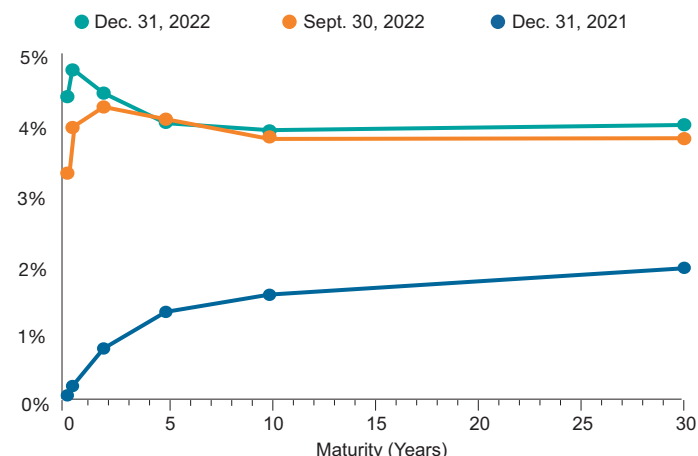
Valuations fair

- While absolute yields are higher, spreads have not widened materially, and most are close to historical averages.
- An economic slowdown could impact credit spreads.
- Higher yields have boosted forward-looking returns across sectors.

Economic slowdown clouds the corporate credit picture

- Despite prospects for an economic slowdown in 2023, fundamental credit metrics for many issuers are strong.
- Default rates are expected to tick up, albeit not to the same extent as in previous recessions.
- Investors may be biased toward higher-quality investment grade issuers as they weigh the threat of a looming recession and potential implications for increased volatility in lower-quality corporate credit markets.

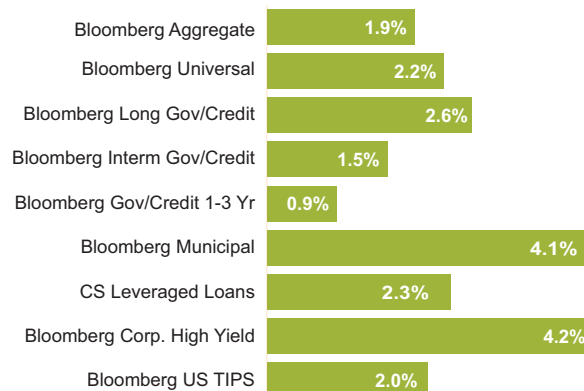
U.S. Treasury Yield Curves



Source: Bloomberg

U.S. Fixed Income: Quarterly Returns

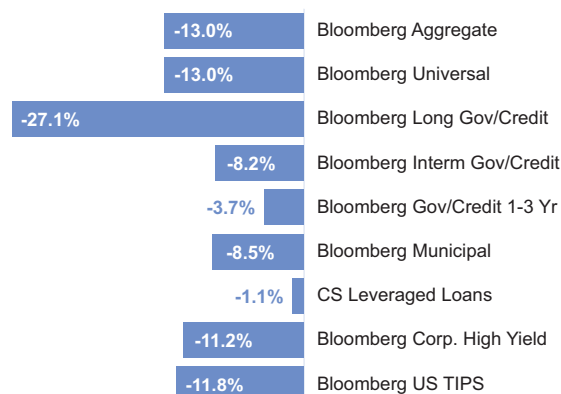
(12/31/22)



Sources: Bloomberg and Credit Suisse

U.S. Fixed Income: One-Year Returns

(12/31/22)



Sources: Bloomberg and Credit Suisse

TIPS: Beware of duration

- Despite a rise in inflation, TIPS saw marked declines in 2022 amid rising interest rates.
- TIPS, like nominal Treasuries, are sensitive to changes in interest rates, and as a result, shorter-duration TIPS fared better than full spectrum TIPS in 2022.
- Shorter-term TIPS exhibit a higher correlation to realized inflation but also provide a similar risk-adjusted return as that of full spectrum TIPS.

Municipal Bonds

Gains in 4Q but most 2022 results remain negative

- Municipal Bond Index calendar year return worst since 1981
- Higher quality outperformed in 4Q (AAA: +4.3%; AA: +4.1%; A: +4.0%; BBB: +3.9%; High Yield: +3.5%) and in 2022
- Munis outperformed most other fixed income sectors in 4Q and in 2022

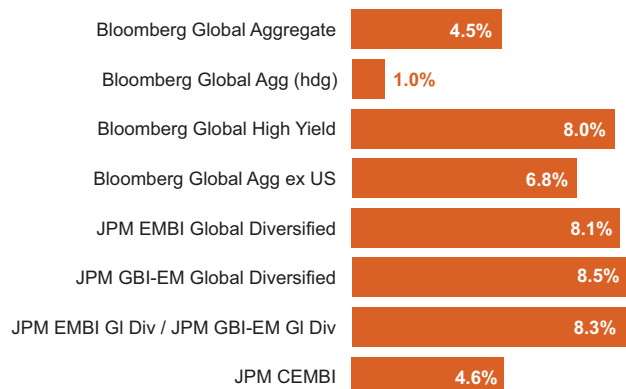
Valuations relative to U.S. Treasuries on the rich side

- 10-year AAA Muni/10-year U.S. Treasury yield ratio 68%; below 10-year average of 88%
- After-tax yield of Muni Bond Index = 6.0% (Source: Eaton Vance)

Supply/demand

- Mutual fund outflows hit a record \$122 billion in 2022, with tax loss harvesting being a key driver.
- ETFs saw inflows as some investors reinvested in them.
- Supply also down; \$71 billion in 4Q and the lowest in 13 years; 2022 issuance off roughly 20% from 2021

Global Fixed Income: Quarterly Returns (12/31/22)



Sources: Bloomberg and JPMorgan Chase

Credit quality remained stable

- State and local tax collections robust and reserves elevated; state revenues up 16% on average vs. 2021

Global Fixed Income

4Q returns driven largely by U.S. dollar weakness

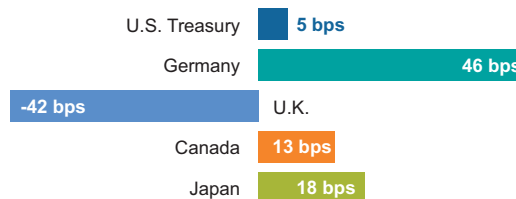
- U.S. dollar down 9% vs. euro, 10% vs. yen, 8% vs. pound
- For the year, dollar up 6% vs. euro, 13% vs. yen, and 11% vs. pound
- Rates up across most of Europe and in Japan
- Rates fell in the U.K.

Emerging market debt also did well

- Returns varied across countries but most were positive

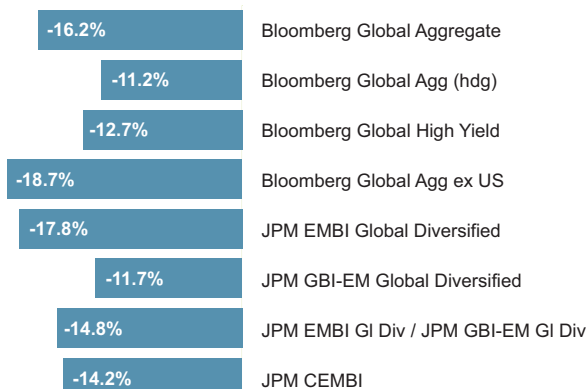
Change in 10-Year Global Government Bond Yields

3Q22 to 4Q22



Source: Bloomberg

Global Fixed Income: One-Year Returns (12/31/22)



Sources: Bloomberg and JPMorgan Chase

NPI Falls 3.5% and REITs Lag Equities

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

Negative appreciation in four major sectors

- The NCREIF Property Index, a measure of U.S. institutional real estate assets, fell 3.5% during 4Q22. The income return was 1.0% while the appreciation return was -4.5%.
- Hotels, which represent a small portion of the index, led property sector performance with a gain of 3.4%. Office finished last with a loss of 4.8%.
- Regionally, the South led with a loss of 2.5%, while the East was the worst performer with a loss of 3.9%.
- All major property sectors and regions, except for Hotel, experienced negative appreciation.
- The NCREIF Open-End Diversified Core Equity (ODCE) Index, representing equity ownership positions in U.S. core real estate, fell 5.2% during 4Q, with an income return of 0.59% and an appreciation return of -5.76%.

REITs lagged equity indices

- The FTSE EPRA Nareit Developed REIT Index, a measure of global real estate securities, rose 6.9% during 4Q22 compared to a 9.8% rise for global equities (MSCI World).
- U.S. REITs, as measured by the FTSE Nareit Equity REITs Index, rose 5.2%, in contrast with the S&P 500 Index, which gained 7.6%.
- Despite strong earnings, forward REIT earnings estimates continued to weaken, reflecting the potential for an economic slowdown as well as financing cost pressures.

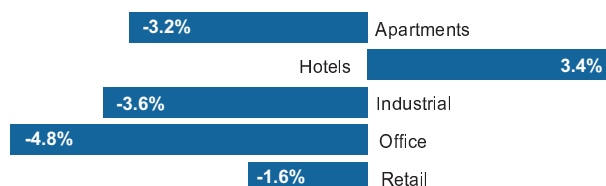
Callan Database Median and Index Returns* for Periods Ended 12/31/22

Private Real Assets	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	1.1	11.3	11.3	10.2	8.3	9.5	5.4
NFI-ODCE (value-weighted, net)	-5.2	6.5	6.5	9.0	7.7	9.1	5.3
NCREIF Property	-3.5	5.5	5.5	8.1	7.5	8.8	6.5
NCREIF Farmland	2.0	9.5	9.5	6.8	6.4	8.8	10.1
NCREIF Timberland	4.9	12.9	12.9	7.5	5.4	5.8	4.7
Public Real Estate							
Global Real Estate Style	7.0	-25.1	-25.1	-2.3	2.3	5.1	4.1
FTSE EPRA Nareit Developed	6.9	-25.1	-25.1	-4.9	-0.2	3.0	2.1
Global ex-U.S. Real Estate Style	11.0	-25.9	-25.9	-6.8	-0.9	3.9	2.1
FTSE EPRA Nareit Dev ex US	10.3	-24.3	-24.3	-8.7	-3.0	0.9	0.1
U.S. REIT Style	4.3	-24.9	-24.9	1.0	5.0	7.4	7.2
FTSE EPRA Nareit Equity REITs	5.2	-24.4	-24.4	-0.1	3.7	6.5	6.2

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

Sector Quarterly Returns by Property Type

(12/31/22)



Source: NCREIF

- The FTSE EPRA Nareit Asia Index (USD), representing the Asia/Pacific region, rose 9.0%, lifted by a rally in rate-sensitive Australian REITs.
- European REITs, as measured by the FTSE EPRA Nareit Europe Index (USD), rose 13.9%, driven by currency tailwinds in both the euro and the pound.

Real assets held up in the quarter

- Real assets as a group performed well in 4Q.
- The S&P GSCI Index rose 3.4%; Gold (S&P Gold Spot Price Index: +9.2%), REITs (MSCI US REIT: +5.2%), infrastructure (DJB Global Infrastructure: +9.6%), and TIPS (Bloomberg TIPS: +2.0%) all posted solid returns.
- Full year results remained poor, however, for most real assets outside of those related to energy. The Alerian MLP Index gained 30.9% as it benefited from higher energy prices.

Deceleration in 2022, with Trends for 2023 Very Unclear

PRIVATE EQUITY | Gary Robertson

Private equity showed a gradual decline in 2022, but fundraising and company investment and exit activity remain comparable to the pre-pandemic levels seen in 2018 and 2019.

Fundraising ► In 2022 private equity partnerships holding final closes raised \$870 billion across 2,211 partnerships (unless otherwise noted, all data is from PitchBook and 4Q numbers are very preliminary). The dollar amount is 16% lower than 2021, but partnerships plunged by 47%. 4Q had final closes totaling \$166 billion, down 21% from 3Q. The number of funds totaled 407, down 20%.

Buyouts ► New buyout investments for 2022 totaled 12,985, down 14% from 2021. Dollar volume fell 9% to \$837 billion. 4Q saw 2,625 new investments, a 20% decrease from 3Q, but dollar volume rose 27% to \$239 billion.

VC Investments ► The year produced 51,020 rounds of new investment in venture capital (VC) companies, down 16% from 2021. Announced volume of \$509 billion was down 31%. 4Q saw 9,280 new rounds, a 20% decline from 3Q, and dollar volume fell 21% to just \$81 billion.

Exits ► Last year saw 2,901 buyout-backed private M&A exits, down 23% from 2021, with proceeds of \$590 billion, down 26%. 4Q had 551 private exits, down 22% from 3Q, with proceeds

of \$132 billion, down 2%. The year's 201 buyout-backed IPOs dropped 55% from 2021, with proceeds of \$33 billion, down 75%. 4Q IPOs numbered 50, down 21% from 3Q, and proceeds of \$8 billion declined 27%. Venture-backed M&A exits for the year totaled 2,625, down 24% from 2021. Announced dollar volume of \$110 billion fell 57%. The final quarter had 462 exits, down 20% from 3Q, and value of only \$7 billion, plunging 72%. The year's 317 venture-backed IPOs sank 51% from 2021, with proceeds of \$41 billion, falling 75%. There were 106 in 4Q, up 33% from 3Q, but the \$8 billion of proceeds fell 47%.

Returns ► In 3Q, and in the two prior quarters, private equity fell by only about 35% of the public equity market's decline. With the upcoming 4Q valuations being subject to annual audits, continued moderate declines are likely.

Funds Closed 1/1/22 to 12/31/22

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	1,369	259,199	30%
Growth Equity	156	117,800	14%
Buyouts	477	362,629	42%
Mezzanine Debt	17	26,998	3%
Distressed/Special Credit	40	50,955	6%
Energy	7	2,340	0%
Secondary and Other	116	41,703	5%
Fund-of-funds	29	8,808	1%
Totals	2,211	870,432	100%

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

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

Strategy	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	-2.7	-9.1	28.4	23.8	19.4	13.6	12.4	20.6
Growth Equity	-1.8	-9.4	20.8	18.4	15.7	12.8	14.3	14.5
All Buyouts	-1.9	-1.5	18.5	16.1	15.3	10.6	14.7	13.1
Mezzanine	0.2	5.0	11.8	11.1	11.3	10.3	11.1	10.0
Credit Opportunities	0.7	3.9	8.4	7.2	8.3	8.6	9.9	9.5
Control Distressed	-0.2	11.3	19.4	13.8	12.7	10.5	11.9	11.9
All Private Equity	-1.8	-3.7	20.2	17.3	15.5	11.3	13.7	13.8
S&P 500	-4.9	-15.5	8.2	9.2	11.7	8.0	9.8	7.5
Russell 3000	-4.5	-17.6	7.7	8.6	11.4	7.9	9.9	7.5

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.

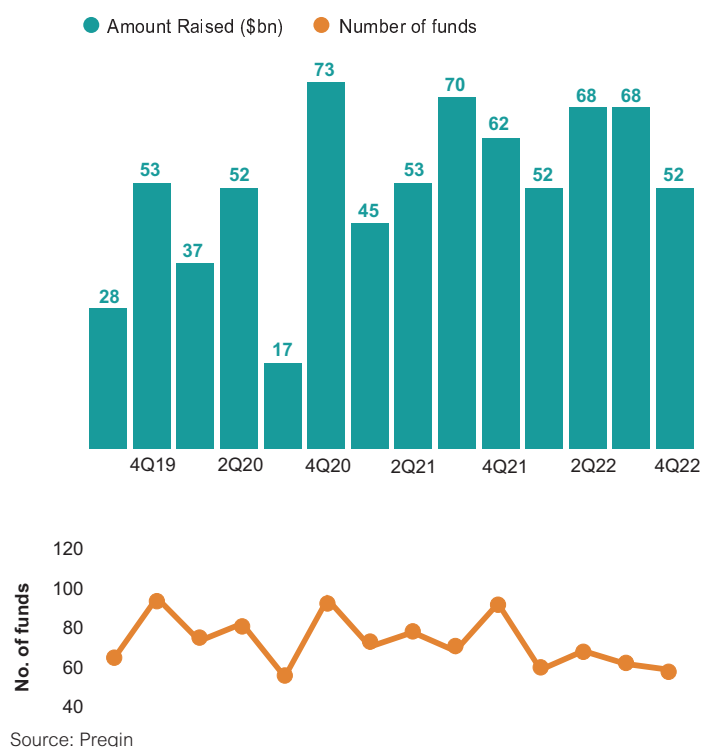
Investor Appetite Continues, but Strategies of Interest Shift

PRIVATE CREDIT | Catherine Beard

Upper-middle-market direct lending gets a new look

- During 4Q22, clients took a new look at upper-middle-market direct lending as all-in spreads have widened by over 400 bps and lenders are able to get tighter terms. Strong deal volume was driven partially by a shift from public to private market debt financings in the recent market environment.
- As economic headwinds are expected to create stress on over-levered companies, there is a renewed interest in stressed and distressed investment opportunities.
- Demand continued to be strong for less-competitive areas of private credit with high barriers to entry and attractive risk/reward opportunities such as specialty finance, non-sponsor, lower-middle-market, and opportunistic lending.
- LPs are seeking alternative structures designed to streamline the investment process while improving underlying liquidity. A number of GPs are launching evergreen structures and private, non-tradeable business development companies as a response to LP interest.
- Private credit performance varies across sub-asset class and underlying return drivers. On average, the asset class has generated net IRRs of 8% to 10% for trailing periods ended Sept. 30, 2022. Higher-risk strategies performed better than lower-risk strategies.
- As interest rates declined after the GFC, private credit attracted increased interest from institutional investors.
- Private credit fundraising was robust leading into the COVID dislocation, with a particular focus on direct lending, asset-based lending, and distressed strategies.
- In the current rising rate environment, a renewed focus has been placed on relative value, downside protection, and managers' internal workout resources.

Private Credit Fundraising (\$bn)



- There is also interest in strategies with strong collateral protection such as asset-based lending as well as capital solutions and distressed strategies.
- Larger sponsor-backed lending is seeing a new focus due to the disintermediation of high yield/broadly syndicated loans by private debt

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

Strategy	Quarter	1 Year	3 Years	5 Years	8 Years	10 Years	15 Years	20 Years
Senior Debt	-2.4	-3.5	4.6	5.1	5.7	5.9	6.3	6.1
Mezzanine	0.2	5.0	11.8	11.1	10.8	11.3	10.5	11.3
Credit Opportunities	0.7	3.9	8.4	7.2	6.6	8.3	8.6	9.7
Total Private Credit	-0.1	2.6	8.4	7.7	7.4	8.6	8.8	9.7

Source: Refinitiv/Cambridge

*Most recent data available at time of publication

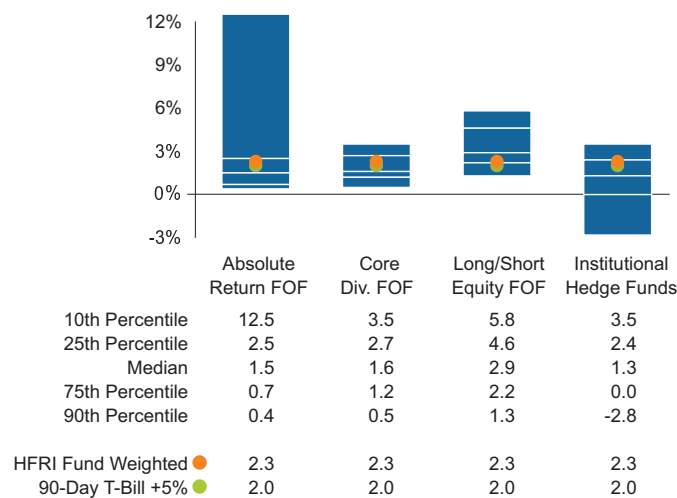
Managers See Declines but Outpace Benchmarks

HEDGE FUNDS/MACs | Joe McGuane

- Risk assets rallied in 4Q22, as U.S. inflation showed a steady decline from the peak over summer, boosting hopes for fewer rate increases heading into 2023. In addition, corporate earnings were generally better than expected, and China announced the lifting of its zero-COVID policy.
- As the quarter wore on, the Federal Reserve remained committed to tighter monetary conditions, signaling more rate hikes in 2023 in addition to the 50 basis point increase at its December meeting.
- Despite a December sell-off, the S&P 500 gained 8% for the quarter. Value significantly outperformed growth, and stocks across most sectors rebounded, with the energy sector notably higher for the quarter. Global ex-U.S. equities outperformed U.S. equities, as cooling energy prices dragged down inflation. China's reopening and easing of the zero-COVID policy led to Asian equities recovering their initial losses from October.

Hedge Fund Style Group Returns

(12/31/22)



Sources: Callan, Credit Suisse, Federal Reserve

Callan Peer Group Median and Index Returns* for Periods Ended 12/31/22

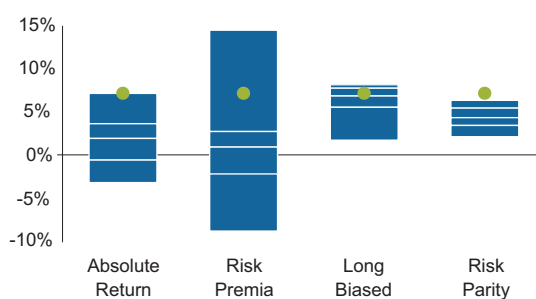
Hedge Fund Universe	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years
Callan Institutional Hedge Fund Peer Group	1.3	4.8	6.4	6.0	6.2	6.7
Callan Fund-of-Funds Peer Group	1.9	-1.3	4.9	4.2	4.7	3.5
Callan Absolute Return FOF Style	1.5	4.0	5.6	4.8	5.1	3.9
Callan Core Diversified FOF Style	1.6	-1.2	5.0	4.1	4.4	3.4
Callan Long/Short Equity FOF Style	2.9	-10.4	2.2	3.5	4.8	3.6
HFRI Fund-Weighted Index	2.3	-4.2	5.7	4.4	4.7	3.6
HFRI Fixed Convertible Arbitrage	3.1	-1.2	6.3	5.1	5.1	4.9
HFRI Distressed/Restructuring	2.0	-3.1	7.8	4.9	4.8	4.2
HFRI Emerging Markets	5.1	-12.7	1.7	0.9	2.9	1.4
HFRI Equity Market Neutral	1.1	1.6	2.8	1.9	3.0	1.9
HFRI Event-Driven	3.3	-4.6	5.4	4.3	4.9	4.2
HFRI Relative Value	1.3	-0.8	3.3	3.4	4.0	4.3
HFRI Macro	-1.3	9.0	7.3	4.8	3.1	2.9
HFRI Equity Hedge	4.2	-10.2	5.7	4.5	5.6	3.6
HFRI Multi-Strategy	1.1	-9.8	3.7	1.8	2.9	2.8
HFRI Merger Arbitrage	2.5	2.9	6.2	5.7	4.6	4.0
90-Day T-Bill + 5%	2.0	6.5	5.7	6.3	5.8	5.7

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

- Hedge funds ended the final quarter on a positive note, as equity hedge managers clawed back some of their negative performance. Those with a focus on real estate, energy, and industrials saw positive gains while growth-focused managers continued to lag.
- Event-driven strategies had a nice quarter, driven primarily by their event equities that moved higher with the broader markets.
- Relative value strategies finished out the year on a strong note, as managers continued to benefit from elevated rate volatility levels, the convergence of key relative value relationships, global quantitative tightening, and uncertainty surrounding central bank actions.
- Macro strategies ended the quarter slightly lower, as losses were taken in short U.S. equities themes, along with short positions in the Chinese renminbi versus the U.S. dollar.
- The median Callan Institutional Hedge Fund Peer Group rose 1.3%.
- Within the HFRI indices, the best-performing strategy last quarter was the emerging market index (+5.1%), as Asian equities rallied in November and December.
- Across the Callan Hedge FOF Database, the median Absolute Return FOF rose 1.5%, as their allocations to multi-strategy managers put up solid returns on the year.
- The median Callan Long-Short Equity FOF increased 2.9%, as managers benefited from an equity rally in October and November.
- The Callan Core Diversified FOF gained 1.6%, as equity hedge exposure drove performance, offsetting some negative performance from macro managers.
- Within Callan's database of liquid alternative solutions, the median Long Biased MAC manager generated a gain of 6.9%, as long equity exposure drove performance for the peer group.
- The Callan Risk Parity MAC index, which typically targets an equally risk-weighted allocation to the major asset classes with leverage, was up 4.4%.
- The Callan Absolute Return MAC peer returned a positive 2.0%, as a bias toward value equities and credit helped performance on the quarter.
- The Callan Risk Premia MAC peer rose 1.0%, as equity performance was slightly offset by currency exposure.

MAC Style Group Returns

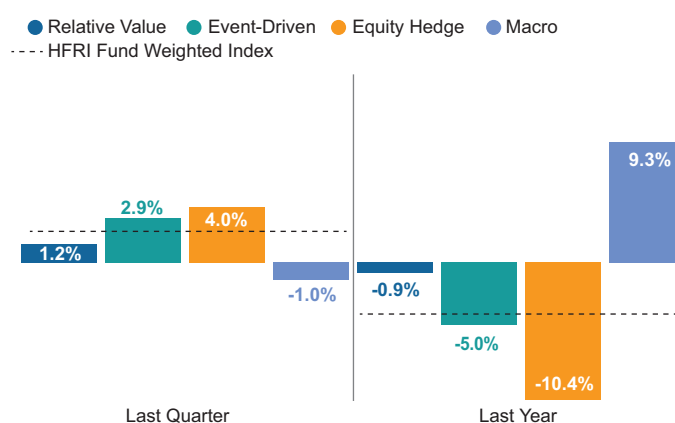
(12/31/22)



10th Percentile	7.2	14.5	8.2	6.4
25th Percentile	3.7	2.8	7.8	5.5
Median	2.0	1.0	6.9	4.4
75th Percentile	-0.5	-2.1	5.6	3.5
90th Percentile	-3.1	-8.7	1.8	2.2
60% MSCI ACWI/ 40% Bloomberg Agg	6.6	6.6	6.6	6.6

HFRI Hedge Fund-Weighted Strategy Returns

(12/31/22)



Source: HFRI

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

Third Straight Drop for DC Index

DEFINED CONTRIBUTION | Patrick Wisdom

Performance: Index dips for third straight quarter

- The Callan DC Index™ fell 4.6% in 3Q22, its third straight quarterly decline, which brought the Index's trailing one-year loss to 16.7%.
- The Age 45 Target Date Fund fell 6.1% in the quarter.

Growth Sources: Another decline in balances

- Balances within the DC Index declined by 4.7% after a 12.3% decrease the second quarter.

Turnover: Net transfers well below average

- Turnover (i.e., net transfer activity levels within DC plans) in the DC Index decreased to 0.14% from the previous quarter's 0.37%. With the decrease, the Index's historical average (0.56%) fell slightly.

Net Cash Flow Analysis: TDFs reclaim top spot

- After taking a back seat to stable value in 2Q22, TDFs reclaimed the top spot, garnering 73.6% of net flows.
- Investors withdrew assets from U.S. large cap equity (-33.1%); global ex-U.S. equity saw net inflows (+9.2%).

Equity Allocation: Drop in exposure

- The Index's overall allocation to equity (69.3%) fell slightly from the previous quarter's level (69.8%).

Asset Allocation: Capital preservation gains

- Stable value (10.0%) and U.S. fixed income (5.9%) were among the asset classes with the largest percentage increases in allocation.

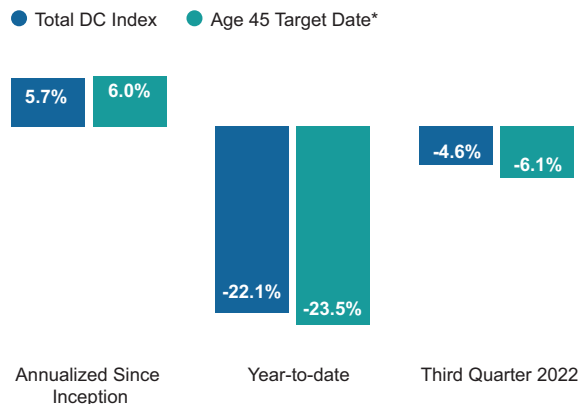
Prevalence of Asset Class: Balanced funds dip

- The prevalence of a balanced fund (40.9%) decreased again to its lowest level since the inception of the Index in 2006.

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

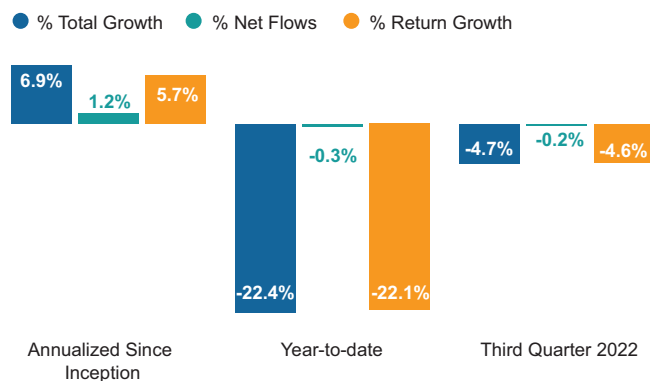
Investment Performance

(9/30/22)



Growth Sources

(9/30/22)



Net Cash Flow Analysis (3Q22)

(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	73.6%
Brokerage Window	13.8%
U.S. Small/Mid Cap	-25.3%
U.S. Large Cap	-33.1%
Total Turnover**	0.1%

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

Source: Callan DC Index

Note: DC Index inception date is January 2006.

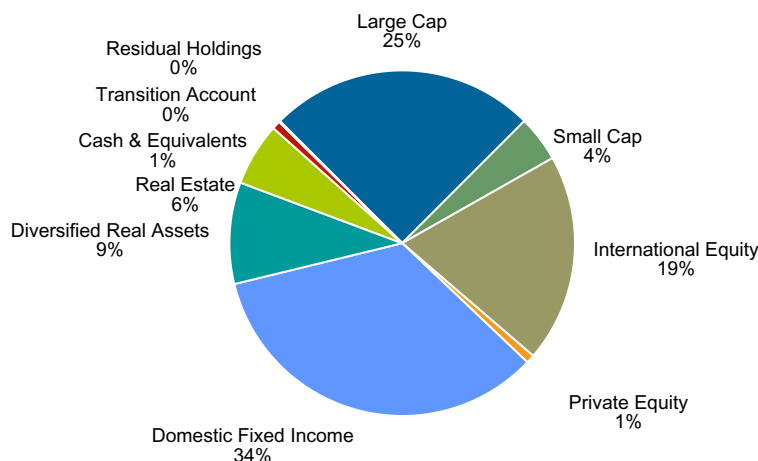
* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

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

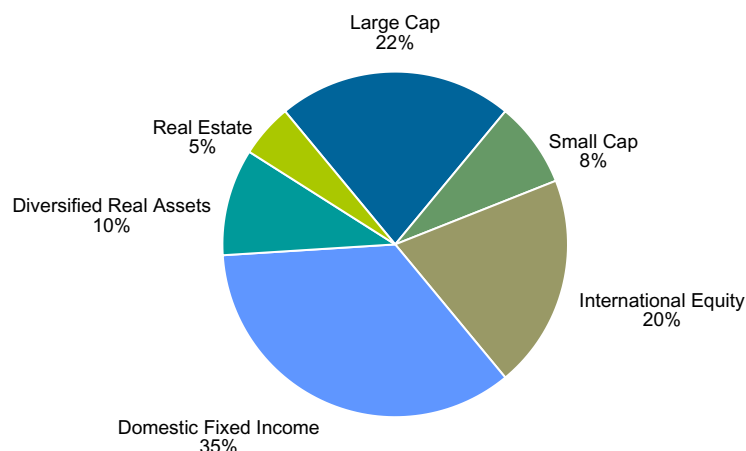
Actual vs Target Asset Allocation As of December 31, 2022

The first chart below shows the Fund's asset allocation as of December 31, 2022. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



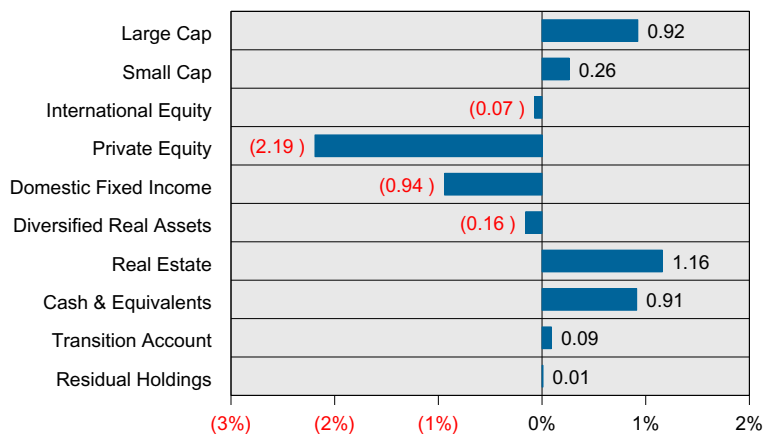
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	2,119,700	25.0%	22.0%	3.0%	254,334
Small Cap	365,221	4.3%	8.0%	(3.7%)	(313,094)
International Equity	1,652,145	19.5%	20.0%	(0.5%)	(43,643)
Private Equity	68,744	0.8%	0.0%	0.8%	68,744
Domestic Fixed Income	2,893,503	34.1%	35.0%	(0.9%)	(74,125)
Diversified Real Assets	803,917	9.5%	10.0%	(0.5%)	(43,977)
Real Estate	504,478	5.9%	5.0%	0.9%	80,531
Cash & Equivalents	68,774	0.8%	0.0%	0.8%	68,774
Transition Account	43	0.0%	0.0%	0.0%	43
Residual Holdings	2,414	0.0%	0.0%	0.0%	2,414
Total	8,478,937	100.0%	100.0%		

* Current Quarter Target = 35.0% Blmgb Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI EAFE, 10.0% DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

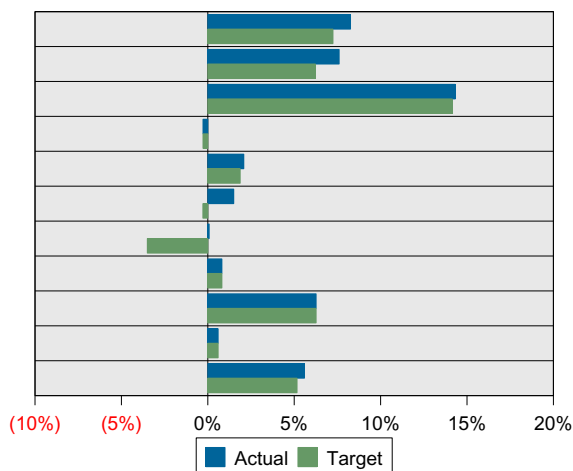
Quarterly Total Fund Relative Attribution - December 31, 2022

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.

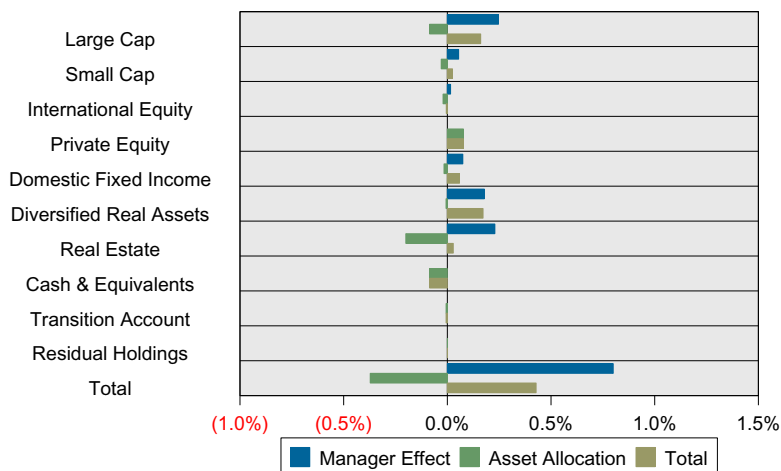
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended December 31, 2022

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	25%	24%	8.26%	7.24%	0.25%	(0.09%)	0.16%
Small Cap	4%	4%	7.60%	6.23%	0.05%	(0.03%)	0.02%
International Equity	19%	19%	14.32%	14.15%	0.02%	(0.02%)	(0.01%)
Private Equity	1%	3%	(0.28%)	(0.28%)	0.00%	0.08%	0.08%
Domestic Fixed Income	34%	35%	2.08%	1.87%	0.07%	(0.02%)	0.06%
Diversified Real Assets	10%	10%	1.50%	(0.29%)	0.18%	(0.01%)	0.17%
Real Estate	6%	5%	0.08%	(3.50%)	0.23%	(0.20%)	0.03%
Cash & Equivalents	1%	0%	0.81%	0.81%	0.00%	(0.09%)	(0.09%)
Transition Account	0%	0%	6.27%	6.27%	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	0.60%	0.60%	0.00%	0.00%	0.00%

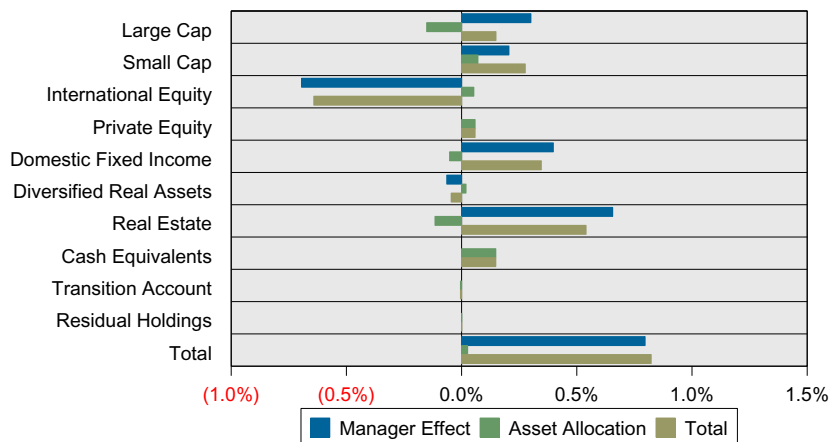
Total **5.59% = 5.16% + 0.80% + (0.37%)** **0.43%**

* 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.

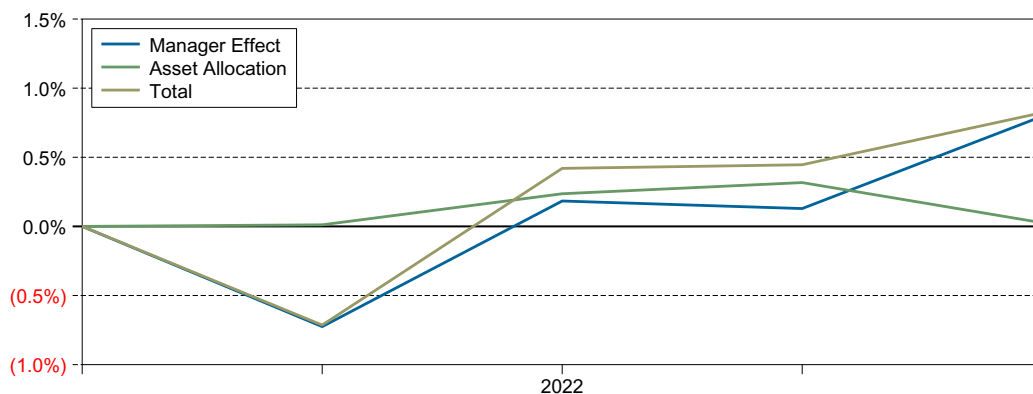
Cumulative Total Fund Relative Attribution - December 31, 2022

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

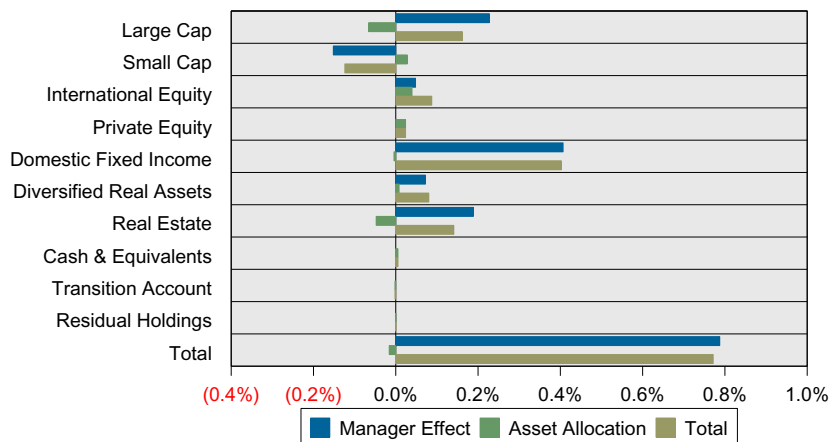
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	23%	23%	(17.89%)	(19.13%)	0.30%	(0.15%)	0.15%
Small Cap	6%	6%	(17.09%)	(20.44%)	0.21%	0.07%	0.28%
International Equity	19%	20%	(19.26%)	(15.79%)	(0.69%)	0.05%	(0.64%)
Private Equity	1%	1%	0.85%	0.85%	0.00%	0.06%	0.06%
Domestic Fixed Income	34%	35%	(11.82%)	(13.01%)	0.40%	(0.05%)	0.35%
Diversified Real Assets	10%	10%	(3.56%)	(2.92%)	(0.06%)	0.02%	(0.05%)
Real Estate	6%	5%	20.97%	5.53%	0.66%	(0.12%)	0.54%
Cash Equivalents	1%	0%	1.42%	1.42%	0.00%	0.15%	0.15%
Transition Account	0%	0%	-	-	0.00%	(0.01%)	(0.01%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			(12.70%)	(13.53%)	+ 0.80%	+ 0.03%	0.82%

* 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.

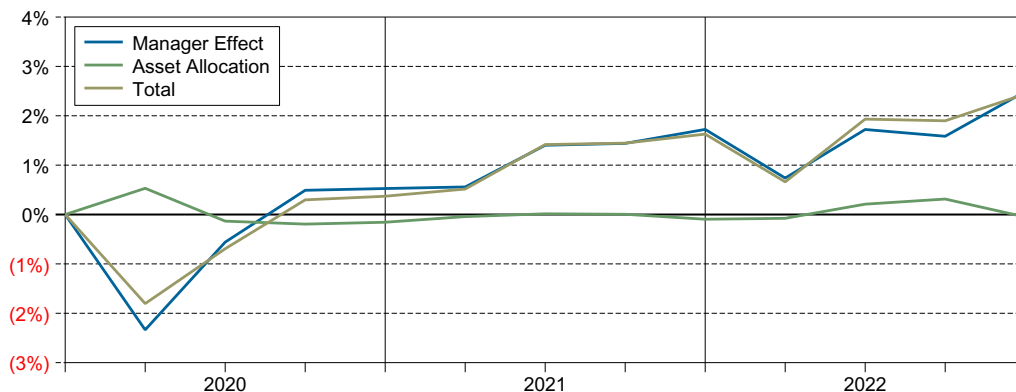
Cumulative Total Fund Relative Attribution - December 31, 2022

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

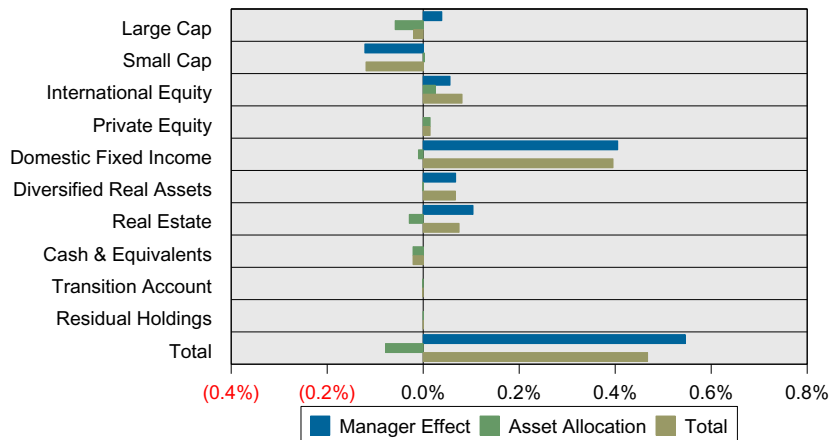
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	8.34%	7.35%	0.23%	(0.07%)	0.16%
Small Cap	7%	7%	1.98%	3.10%	(0.15%)	0.03%	(0.12%)
International Equity	20%	20%	0.80%	0.67%	0.05%	0.04%	0.09%
Private Equity	0%	0%	-	-	0.00%	0.02%	0.02%
Domestic Fixed Income	35%	35%	(1.38%)	(2.71%)	0.41%	(0.00%)	0.40%
Diversified Real Assets	10%	10%	5.15%	4.25%	0.07%	0.01%	0.08%
Real Estate	5%	5%	11.40%	8.06%	0.19%	(0.05%)	0.14%
Cash & Equivalents	1%	0%	0.62%	0.62%	0.00%	0.01%	0.01%
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			3.07%	2.30%	+ 0.79%	+ (0.02%)	0.77%

* 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.

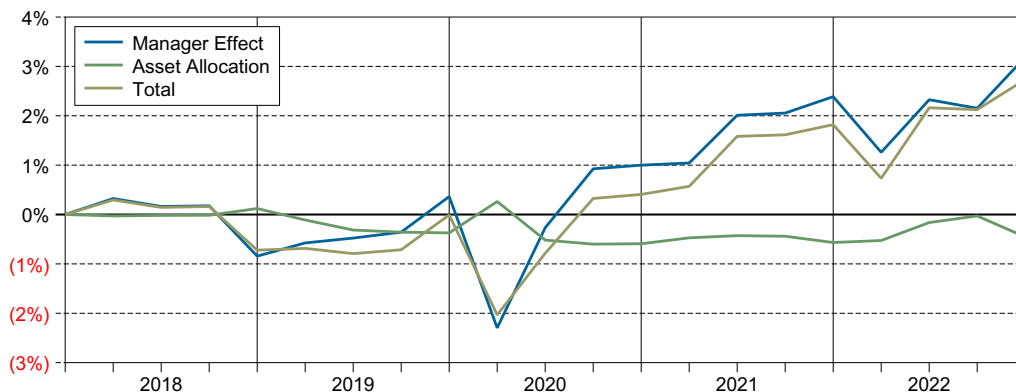
Cumulative Total Fund Relative Attribution - December 31, 2022

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

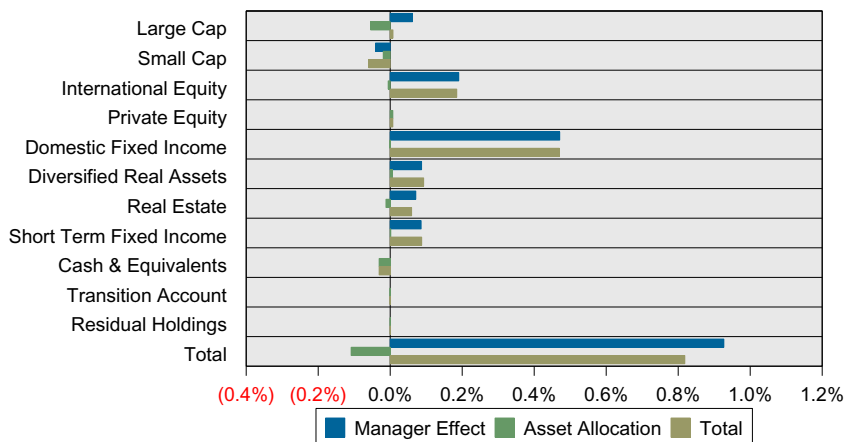
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	9.25%	9.13%	0.04%	(0.06%)	(0.02%)
Small Cap	8%	8%	3.10%	4.13%	(0.12%)	0.00%	(0.12%)
International Equity	20%	20%	1.58%	1.43%	0.06%	0.03%	0.08%
Private Equity	0%	0%	-	-	0.00%	0.01%	0.01%
Domestic Fixed Income	35%	35%	1.31%	0.02%	0.41%	(0.01%)	0.40%
Diversified Real Assets	10%	10%	4.49%	3.71%	0.07%	(0.00%)	0.07%
Real Estate	5%	5%	9.17%	7.46%	0.10%	(0.03%)	0.07%
Cash & Equivalents	1%	0%	1.14%	1.14%	0.00%	(0.02%)	(0.02%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			4.22%	3.75%	+ 0.55%	+ (0.08%)	0.47%

* Current Quarter Target = 35.0% Bimbg 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.

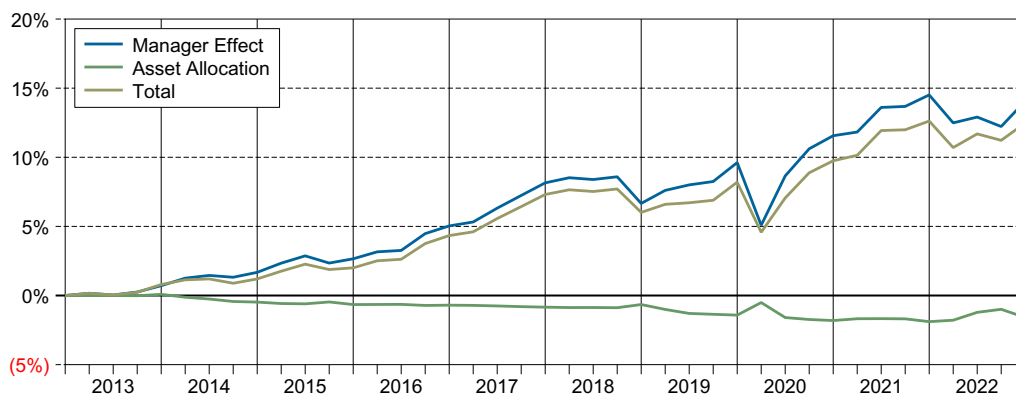
Cumulative Total Fund Relative Attribution - December 31, 2022

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

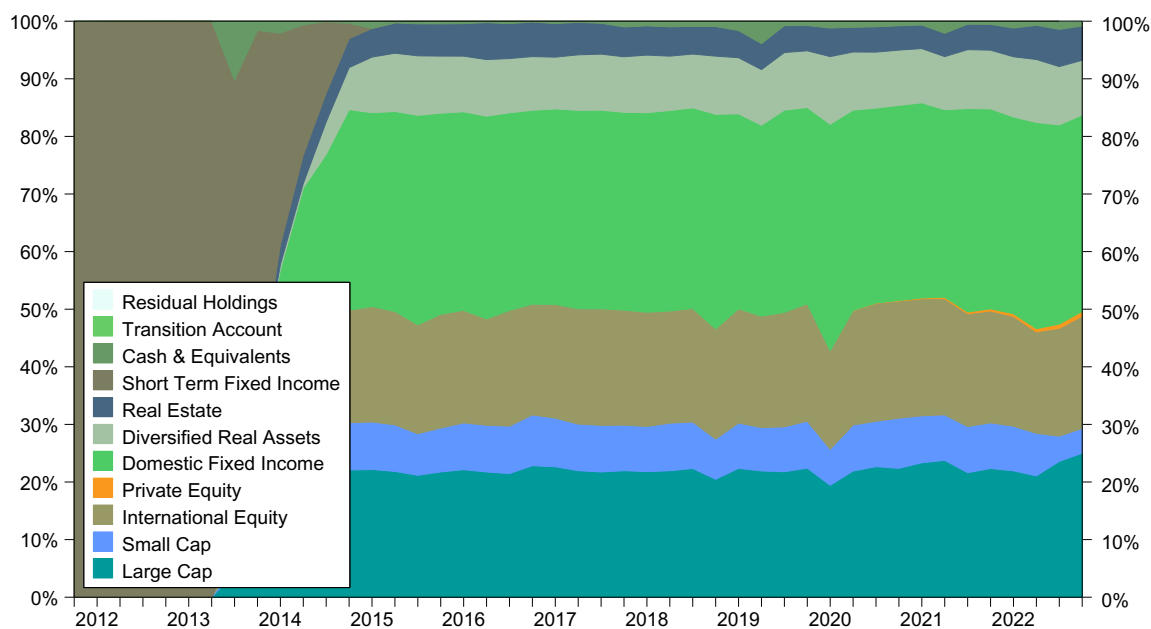
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	20%	20%	-	-	0.06%	(0.05%)	0.01%
Small Cap	7%	7%	-	-	(0.04%)	(0.02%)	(0.06%)
International Equity	18%	18%	-	-	0.19%	(0.01%)	0.18%
Private Equity	0%	0%	-	-	0.00%	0.01%	0.01%
Domestic Fixed Income	31%	31%	-	-	0.47%	(0.00%)	0.47%
Diversified Real Assets	8%	8%	-	-	0.09%	0.01%	0.09%
Real Estate	5%	4%	-	-	0.07%	(0.01%)	0.06%
Short Term Fixed Income	12%	12%	-	-	0.09%	0.00%	0.09%
Cash & Equivalents	1%	0%	0.68%	0.68%	0.00%	(0.03%)	(0.03%)
Transition Account	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Residual Holdings	0%	0%	-	-	0.00%	0.00%	0.00%
Total			5.21%	4.39%	0.93%	(0.11%)	0.82%

* Current Quarter Target = 35.0% Blmgb 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.

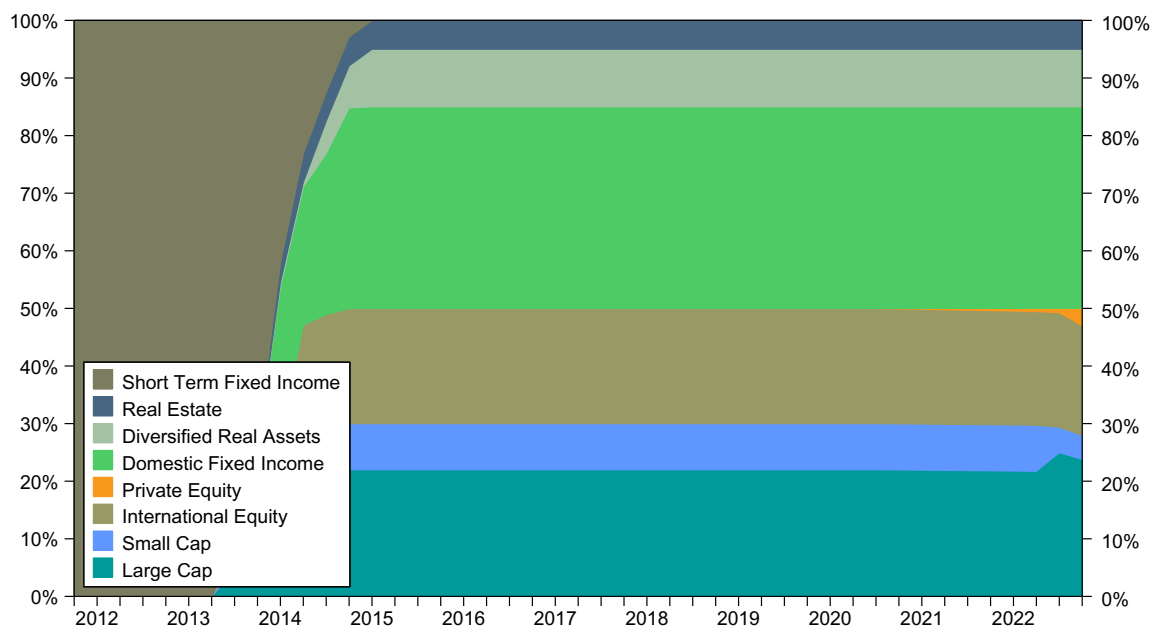
Actual vs Target Historical Asset Allocation

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

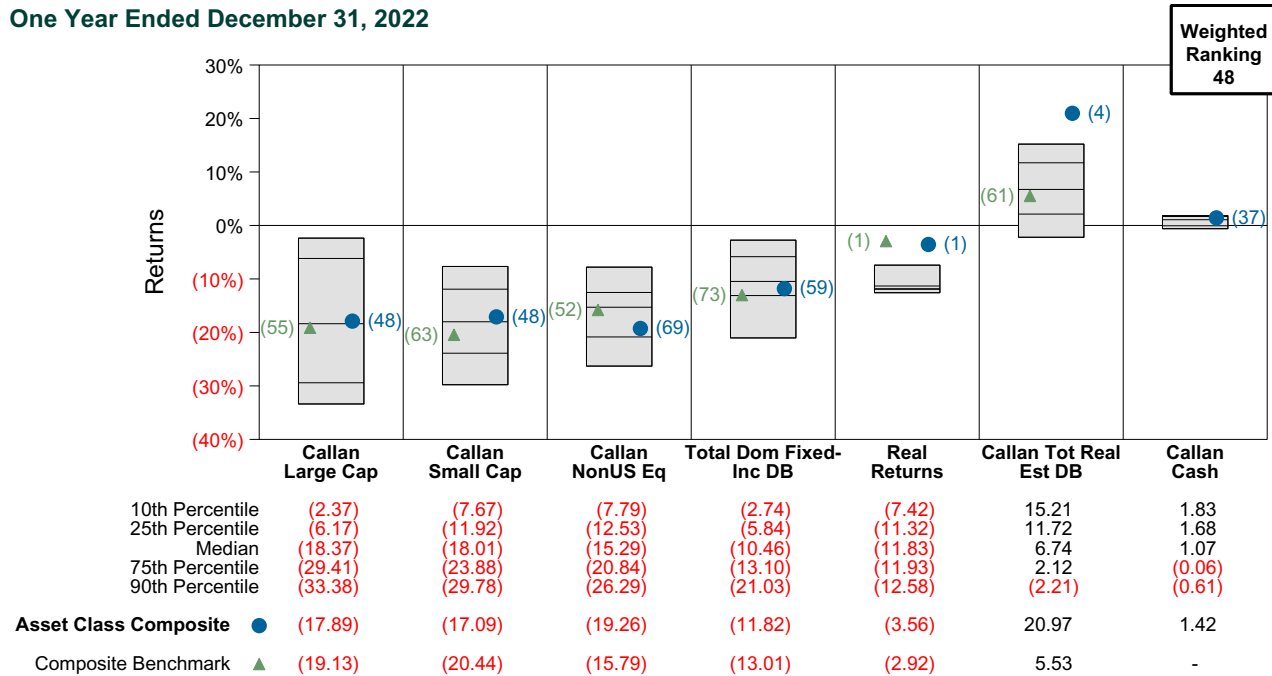


* Current Quarter Target = 35.0% Blmbg Aggregate, 23.8% Russell 1000 Index, 19.0% MSCI ACWI xUS IMI, 10.0% DRA Weighted Benchmark, 5.0% NCREIF Total Index, 4.2% Russell 2000 Index and 3.0% Private Equity.

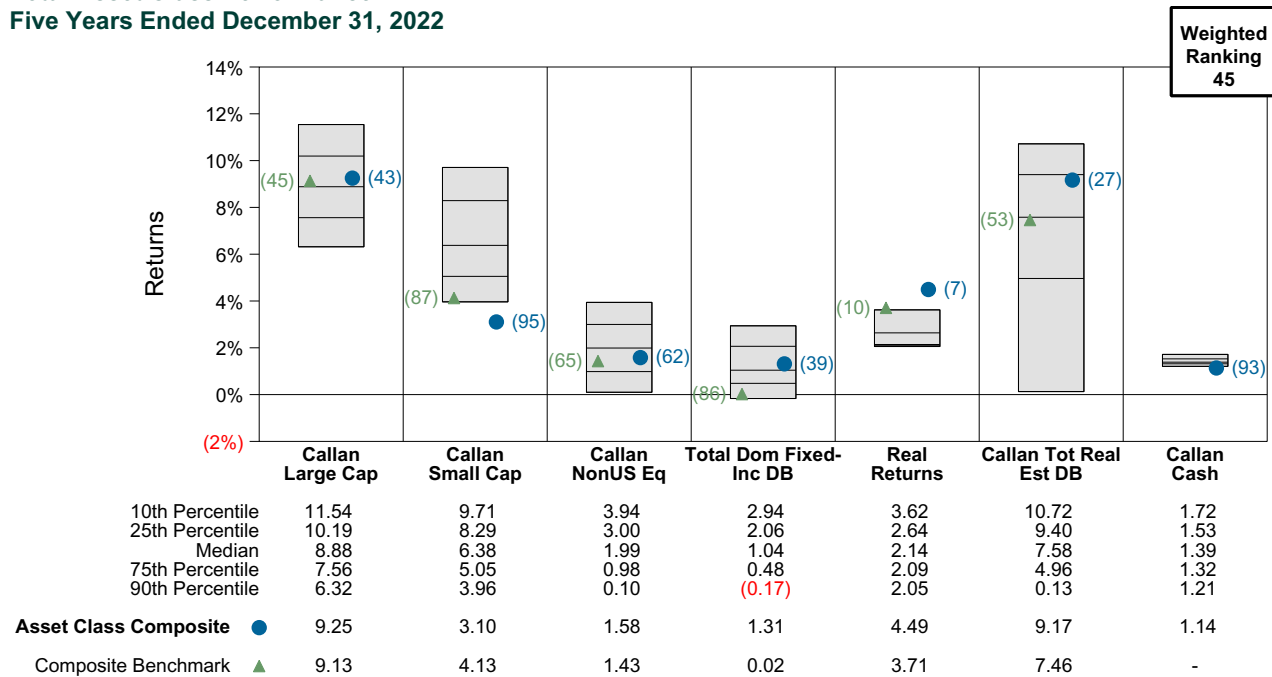
Asset Class Rankings

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.

Total Asset Class Performance One Year Ended December 31, 2022



Total Asset Class Performance Five Years Ended December 31, 2022



* 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 December 31, 2022, with the distribution as of September 30, 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

	December 31, 2022				September 30, 2022	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Global Equity	\$4,205,851,960	49.60%	\$136,332,229	\$362,460,364	\$3,707,059,368	47.41%
Public Equity	\$4,137,107,868	48.79%	\$123,956,098	\$362,707,693	\$3,650,444,078	46.69%
Domestic Equity	\$2,484,920,565	29.31%	\$140,702,921	\$158,176,565	\$2,186,041,079	27.96%
Large Cap	\$2,119,699,740	25.00%	\$143,031,294	\$132,829,100	\$1,843,839,346	23.58%
LA Capital Large Cap Growth	61,950,031	0.73%	(505,296,438)	14,735,859	552,510,609	7.07%
LA Capital 60% LC/40% LCAM	860,117,210	10.14%	424,064,593	37,209,666	398,842,951	5.10%
Parametric/Clifton Enh S&P500	332,429,978	3.92%	(141,596,007)	31,565,651	442,460,333	5.66%
NTAM Quant Enhanced R1000	333,191,373	3.93%	319,261,469	13,929,904	-	-
NTAM Russell 1000 Index Fund	532,011,148	6.27%	509,097,612	22,913,536	-	-
LSV Large Cap Value	0	0.00%	(462,499,936)	12,474,483	450,025,453	5.76%
Small Cap	\$365,220,825	4.31%	\$(2,328,373)	\$25,347,465	\$342,201,733	4.38%
Atlanta Capital SmallCap	116,712,380	1.38%	(11,206,661)	11,100,998	116,818,043	1.49%
Riverbridge Small Cap Growth	110,731,104	1.31%	(6,037,471)	76,215	116,692,361	1.49%
Sycamore Small Cap Value	118,612,914	1.40%	(3,384,241)	13,305,826	108,691,329	1.39%
NTAM Russell 2000 Index	19,164,427	0.23%	18,300,000	864,427	-	-
Total International Equity	\$1,652,144,703	19.49%	\$(10,383,014)	\$198,124,718	\$1,464,402,999	18.73%
International All Cap	\$640,288,470	7.55%	\$(299,765,076)	\$84,762,775	\$855,290,772	10.94%
William Blair Int'l Leaders	255,507,814	3.01%	(233,476,383)	32,106,622	456,877,575	5.84%
Arrowstreet ACWI ex US	363,697,020	4.29%	(84,588,693)	49,872,516	398,413,197	5.10%
State St MSCI ACWI exUS	21,083,637	0.25%	18,300,000	2,783,637	-	-
Developed Intl Large Cap	\$638,957,479	7.54%	\$193,029,844	\$80,912,645	\$365,014,990	4.67%
LSV Intl LargeCap Value	9,040	0.00%	(369,344,739)	4,338,789	365,014,990	4.67%
State St MSCI World exUS	638,948,439	7.54%	562,374,583	76,573,856	-	-
Developed Intl Small Cap	\$111,441,663	1.31%	\$(148,047,782)	\$15,392,208	\$244,097,237	3.12%
DFA Intl SmallCap Value	46,137,440	0.54%	(96,500,000)	6,971,874	135,665,567	1.74%
Wellington Intl SM Cap	43,952,177	0.52%	37,200,000	6,752,177	-	-
State St MSCI exUS Small	21,352,046	0.25%	18,300,000	3,052,046	-	-
Vanguard Intl Explorer Fund	0	0.00%	(107,047,782)	(1,383,888)	108,431,670	1.39%
Emerging Markets	\$261,457,090	3.08%	\$244,400,000	\$17,057,090	-	-
Axiom Emerging Markets	178,721,075	2.11%	169,600,000	9,121,075	-	-
DFA Emerging Mkts SmallCap	62,449,958	0.74%	56,500,000	5,949,958	-	-
State St MSCI Em Mkts	20,286,058	0.24%	18,300,000	1,986,058	-	-
Transition Account	\$42,601	0.00%	\$(6,363,809)	\$6,406,409	-	-
Private Equity	\$68,744,092	0.81%	\$12,376,131	\$(247,329)	\$56,615,290	0.72%
50 South Capital	17,419,408	0.21%	8,750,000	(1,068,818)	9,738,226	0.12%
Sixth Street TAO	51,324,684	0.61%	3,626,131	821,489	46,877,064	0.60%

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of December 31, 2022, with the distribution as of September 30, 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

	December 31, 2022			September 30, 2022		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Domestic Fixed Income	\$2,893,502,802	34.13%	\$130,890,002	\$58,017,017	\$2,704,595,783	34.59%
Allspring BBB	230,008,516	2.71%	22,003,911	9,278,830	198,725,774	2.54%
Ares ND Credit Strategies Fd	111,063,796	1.31%	0	1,495,548	109,568,248	1.40%
BND CDs	188,518,650	2.22%	(4,348,457)	1,439,614	191,427,493	2.45%
Cerberus ND Private Credit Fd	157,386,443	1.86%	18,000,000	3,005,869	136,380,574	1.74%
Manulife-Declaration TRBF	213,889,759	2.52%	0	680,706	213,209,053	2.73%
PIMCO Bravo II	1,888,901	0.02%	(1,167,224)	(554,492)	3,610,617	0.05%
PIMCO DiSCO II	54,876,810	0.65%	0	378,652	54,498,158	0.70%
Prudential	765,040,816	9.02%	25,626,676	18,825,687	720,588,453	9.22%
SSgA US Govt Credit Bd Idx	402,696,904	4.75%	29,985,448	6,380,363	366,331,093	4.69%
Western Asset Management	768,132,207	9.06%	40,789,646	17,086,240	710,256,321	9.08%
Global Real Assets	\$1,308,394,756	15.43%	\$(524,916)	\$12,392,638	\$1,296,527,034	16.58%
Real Estate	\$504,477,563	5.95%	\$(530,226)	\$394,328	\$504,613,462	6.45%
Invesco Core Real Estate	238,410,854	2.81%	(161,601)	3,311,587	235,260,867	3.01%
Invesco RE Fund VI	34,420,390	0.41%	0	1,293,798	33,126,592	0.42%
JP Morgan RE Inc & Growth	231,646,319	2.73%	(368,626)	(4,211,058)	236,226,003	3.02%
Diversified	\$803,917,193	9.48%	\$5,311	\$11,998,310	\$791,913,572	10.13%
Western Asset TIPS	374,894,640	4.42%	(113,918)	9,750,376	365,258,182	4.67%
ISQ Global Infrastructure II	74,176,859	0.87%	(8,206,782)	(176,607)	82,560,248	1.06%
ISQ Global Infrastructure III	8,731,593	0.10%	0	1,960,827	6,770,766	0.09%
JP Morgan IIF Infrastructure	96,294,002	1.14%	(2,753,311)	(1,561,932)	100,609,245	1.29%
Grosvenor CIS Fund II	54,001,089	0.64%	(2,091,480)	16,744	56,075,825	0.72%
Grosvenor CIS Fund III	26,542,748	0.31%	4,941,978	(309,385)	21,910,155	0.28%
Macquarie Infrastructure Fund IV	89,890,165	1.06%	(43,002)	916,531	89,016,636	1.14%
Macquarie Infrastructure Fund V	79,386,097	0.94%	8,271,825	1,401,757	69,712,515	0.89%
Cash	\$68,773,917	0.81%	\$(42,917,238)	\$654,282	\$111,036,872	1.42%
Northern Trust Cash Account	38,709,520	0.46%	(27,265,694)	364,453	65,610,761	0.84%
Bank of ND	30,064,397	0.35%	(15,651,543)	289,829	45,426,112	0.58%
Residual Holdings Account	\$2,413,690	0.03%	\$2,398,506	\$15,184	-	-
Total Fund	\$8,478,937,126	100.0%	\$226,178,584	\$433,539,485	\$7,819,219,057	100.0%

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2022. 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 December 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Global Equity					
Gross	10.13%	(18.43%)	4.26%	-	-
Net	10.05%	(18.66%)	3.96%	-	-
Weighted Benchmark	9.40%	(18.14%)	4.00%	-	-
Public Equity					
Gross	10.31%	-	-	-	-
Net	10.23%	-	-	-	-
Weighted Benchmark	10.02%	-	-	-	-
Domestic Equity					
Gross	8.13%	(17.99%)	6.53%	7.54%	-
Net	8.07%	(18.22%)	6.23%	7.29%	-
Weighted Benchmark	7.10%	(19.59%)	6.26%	-	-
Large Cap					
Gross	8.26%	(17.89%)	8.34%	9.25%	-
Net	8.22%	(18.02%)	8.15%	9.06%	-
Russell 1000 Index	7.24%	(19.13%)	7.35%	9.13%	12.37%
L.A. Capital Enhanced - Gross	6.52%	(18.20%)	8.83%	9.80%	-
L.A. Capital Enhanced - Net	6.51%	(18.28%)	8.71%	9.67%	-
Russell 1000 Index	7.24%	(19.13%)	7.35%	9.13%	12.37%
L.A. Capital LargeCap Growth - Gross	3.59%	(27.44%)	9.53%	11.64%	-
L.A. Capital LargeCap Growth - Net	3.10%	(27.89%)	9.15%	11.32%	-
Russell 1000 Growth Index	2.20%	(29.14%)	7.79%	10.96%	14.10%
Parametric Clifton Large Cap - Gross	7.67%	(19.31%)	7.17%	9.09%	-
Parametric Clifton Large Cap - Net	7.67%	(19.31%)	7.07%	9.03%	-
S&P 500 Index	7.56%	(18.11%)	7.66%	9.42%	12.56%
Small Cap					
Gross	7.60%	(17.09%)	1.98%	3.10%	-
Net	7.42%	(17.73%)	1.34%	2.67%	-
Russell 2000 Index	6.23%	(20.44%)	3.10%	4.13%	9.01%
Atlanta Capital - Gross	10.20%	(11.34%)	6.66%	-	-
Atlanta Capital - Net	10.01%	(11.99%)	6.08%	-	-
S&P 600 Small Cap Index	9.19%	(16.10%)	5.80%	5.88%	10.82%
Riverbridge Small Cap Growth - Gross	0.48%	(32.50%)	-	-	-
Riverbridge Small Cap Growth - Net	0.26%	(33.11%)	-	-	-
Russell 2000 Growth Index	4.13%	(26.36%)	0.65%	3.51%	9.20%
Sycamore Small Cap Value - Gross	12.42%	(5.88%)	-	-	-
Sycamore Small Cap Value - Net	12.25%	(6.56%)	-	-	-
Russell 2000 Value Index	8.42%	(14.48%)	4.70%	4.13%	8.48%

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2022. 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 December 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total International Equity					
Gross	14.32%	(19.26%)	0.80%	1.58%	-
Net	14.21%	(19.50%)	0.51%	1.28%	-
Benchmark(1)	14.15%	(15.79%)	0.67%	1.43%	4.57%
International All Cap					
Gross	14.15%	-	-	-	-
Net	13.97%	-	-	-	-
MSCI ACWI xUS IMI	14.15%	(16.58%)	0.20%	0.85%	3.98%
William Blair Int'l Leaders - Gross	12.83%	(28.14%)	0.75%	3.82%	-
William Blair Int'l Leaders - Net	12.63%	(28.48%)	0.35%	3.42%	-
MSCI ACWI xUS IMI	14.15%	(16.58%)	0.20%	0.85%	3.98%
Arrowstreet ACWI ex US - Gross	15.20%	(7.32%)	-	-	-
Arrowstreet ACWI ex US - Net	15.01%	(7.50%)	-	-	-
MSCI ACWI ex US IMI	14.15%	(16.58%)	0.20%	0.85%	3.98%
Developed Intl Large Cap					
Gross	14.67%	-	-	-	-
Net	14.61%	-	-	-	-
MSCI World xUS	16.18%	(14.29%)	1.27%	1.79%	4.59%
Developed Intl Small Cap					
Gross	17.97%	-	-	-	-
Net	17.97%	-	-	-	-
MSCI World xUS Small	15.21%	(20.59%)	(0.15%)	0.45%	5.77%
DFA Intl Small Cap Value - Net	19.29%	(9.78%)	1.77%	(0.44%)	-
World ex US SC Va	16.80%	(14.00%)	(0.02%)	0.04%	5.32%
Private Equity					
Net	(0.28%)	0.85%	-	-	-
50 South Capital - Net	(5.78%)	(21.48%)	-	-	-
Sixth Street TAO - Net	1.75%	6.05%	-	-	-
Benchmark(2)	3.49%	(6.15%)	-	-	-

(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.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2022. 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 December 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Domestic Fixed Income					
Gross	2.08%	(11.82%)	(1.38%)	1.31%	-
Net	2.06%	(11.91%)	(1.48%)	1.20%	-
Blmbg Aggregate	1.87%	(13.01%)	(2.71%)	0.02%	1.06%
Allspring BBB - Gross	4.12%	(16.18%)	(1.53%)	1.70%	-
Allspring BBB - Net	4.08%	(16.34%)	(1.71%)	1.52%	-
Blmbg Credit Baa	4.18%	(15.94%)	(2.88%)	0.70%	2.17%
Ares ND Credit Strategies Fd - Net	1.36%	7.85%	7.68%	7.64%	-
Cerberus ND Private Credit Fd - Net	2.16%	7.02%	8.96%	9.31%	-
S&P/LSTA Leveraged Loan B	2.80%	(1.07%)	2.61%	3.50%	3.87%
BND CDs - Net	0.76%	2.88%	2.69%	2.94%	-
Manulife-Declaration TRBF - Net	0.32%	(6.88%)	0.29%	2.11%	-
Libor-3 Month	1.13%	2.25%	1.06%	1.58%	1.07%
PIMCO Bravo II - Net(1)	(22.69%)	(26.24%)	(6.77%)	(2.63%)	-
PIMCO DiSCO II - Net (1)	0.69%	(0.28%)	3.37%	4.73%	-
Blmbg Aggregate	1.87%	(13.01%)	(2.71%)	0.02%	1.06%
Prudential - Gross	2.58%	(14.40%)	(2.33%)	0.71%	-
Prudential - Net	2.53%	(14.58%)	(2.53%)	0.50%	-
Blmbg Aggregate	1.87%	(13.01%)	(2.71%)	0.02%	1.06%
Western Asset - Gross	2.32%	(15.80%)	(3.42%)	0.01%	-
Western Asset - Net	2.29%	(15.90%)	(3.53%)	(0.10%)	-
Blmbg Aggregate	1.87%	(13.01%)	(2.71%)	0.02%	1.06%
SSgA US Govt Credit Bd Idx - Gross	1.60%	(13.69%)	(2.53%)	0.25%	-
SSgA US Govt Credit Bd Idx - Net	1.59%	(13.70%)	(2.55%)	0.23%	-
Blmbg Govt/Credit Bd	1.80%	(13.58%)	(2.57%)	0.21%	1.16%

(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.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2022. 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 December 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Global Real Assets					
Gross	0.95%	3.95%	7.20%	-	-
Net	0.89%	3.70%	6.93%	-	-
Weighted Benchmark	(1.36%)	(0.14%)	5.53%	-	-
Real Estate					
Gross	0.08%	20.97%	11.40%	9.17%	-
Net	(0.01%)	20.47%	10.92%	8.66%	-
NCREIF Total Index	(3.50%)	5.53%	8.06%	7.46%	8.82%
Invesco Core Real Estate - Gross	1.41%	19.92%	11.37%	9.50%	-
Invesco Core Real Estate - Net	1.34%	19.56%	11.01%	9.15%	-
NCREIF Total Index	(3.50%)	5.53%	8.06%	7.46%	8.82%
JP Morgan RE Inc & Growth - Gross	(1.78%)	21.40%	11.21%	8.73%	-
JP Morgan RE Inc & Growth - Net	(1.91%)	20.75%	10.61%	8.05%	-
NCREIF Total Index	(3.50%)	5.53%	8.06%	7.46%	8.82%
Diversified					
Gross	1.50%	(3.56%)	5.15%	4.49%	-
Net	1.46%	(3.69%)	4.97%	4.29%	-
Weighted Benchmark	(0.29%)	(2.92%)	4.25%	3.71%	-
Western Asset TIPS - Gross	2.67%	(12.92%)	0.83%	1.29%	-
Western Asset TIPS - Net	2.64%	(13.02%)	0.72%	1.17%	-
Benchmark(3)	2.12%	(12.60%)	1.10%	1.66%	1.55%
JP Morgan IIF Infrastructure - Gross	(1.55%)	(1.27%)	5.32%	5.85%	-
JP Morgan IIF Infrastructure - Net	(1.75%)	(1.91%)	4.55%	5.11%	-
Grosvenor CIS Fund II - Net	0.03%	9.19%	13.61%	12.37%	-
Grosvenor CIS Fund III - Net	(1.15%)	(4.23%)	-	-	-
Benchmark(1)	(2.48%)	7.91%	7.33%	6.00%	3.60%
ISQ Global Infrastructure II - Net	(0.20%)	8.77%	12.30%	-	-
ISQ Global Infrastructure III - Net	28.96%	(25.81%)	-	-	-
Macquarie Infrastructure Fd IV - Net	1.03%	18.38%	14.18%	-	-
Macquarie Infrastructure Fd V - Net	1.85%	16.47%	-	-	-
Benchmark(2)	(2.48%)	7.91%	7.33%	-	-
Cash & Equivalents - Net	0.81%	1.42%	0.62%	1.14%	0.68%
NT Cash Account - Net	0.75%	1.29%	0.55%	-	-
Bank of ND - Net	0.90%	1.63%	0.75%	-	-
90 Day Treasury Bills	0.84%	1.46%	0.72%	1.26%	0.76%
Total Fund					
Gross	5.59%	(12.70%)	3.07%	4.22%	5.21%
Net	5.54%	(12.89%)	2.85%	4.01%	5.00%
Target*	5.16%	(13.52%)	2.30%	3.75%	4.39%

* 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.

(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 Period Ended December 31, 2022

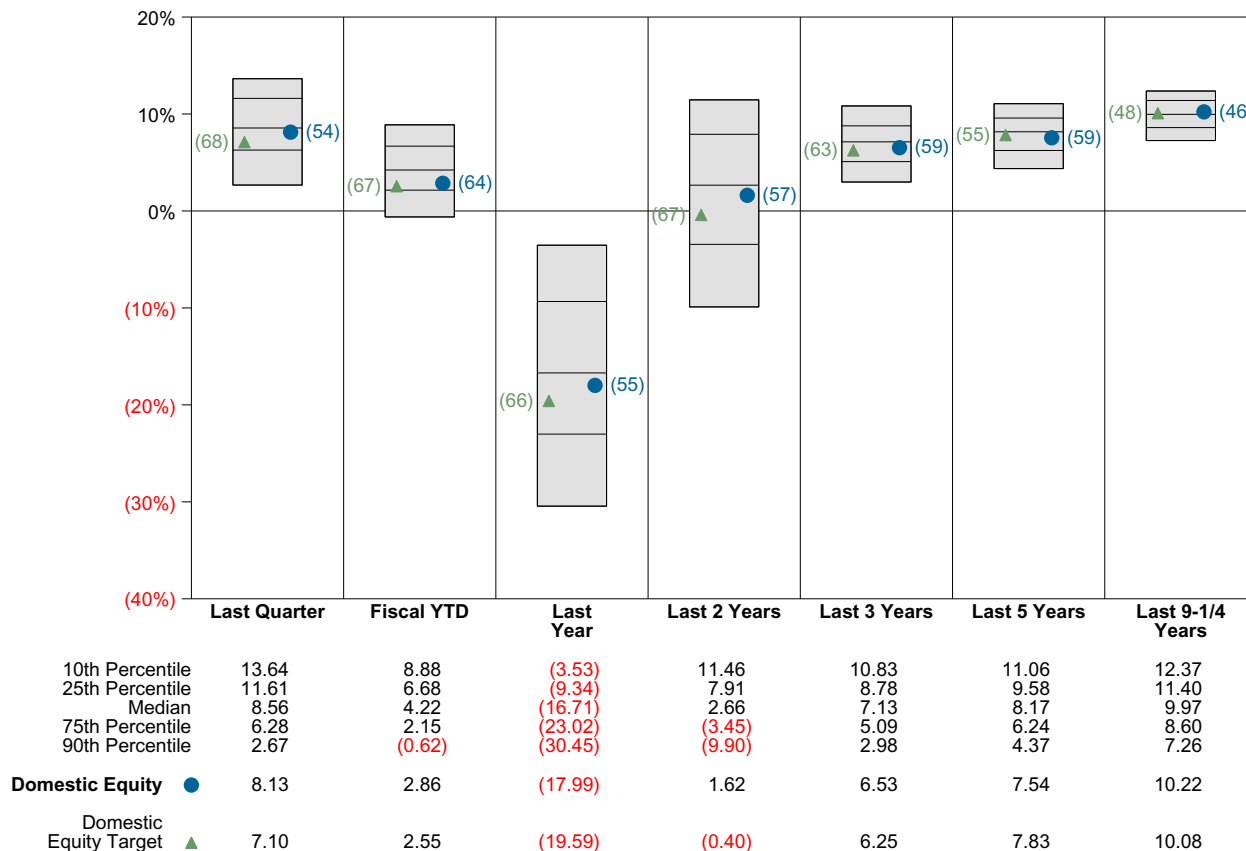
Quarterly Summary and Highlights

- Domestic Equity's portfolio posted a 8.13% return for the quarter placing it in the 54 percentile of the Total Domestic Equity Database group for the quarter and in the 55 percentile for the last year.
- Domestic Equity's portfolio outperformed the Domestic Equity Target by 1.02% for the quarter and outperformed the Domestic Equity Target for the year by 1.60%.

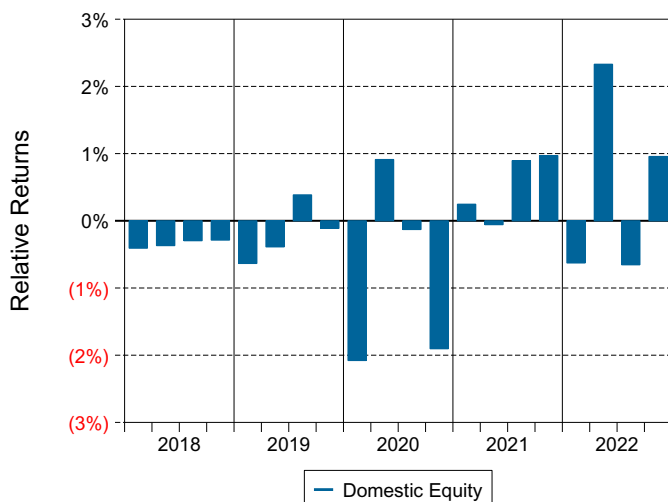
Quarterly Asset Growth

Beginning Market Value	\$2,186,041,079
Net New Investment	\$140,702,921
Investment Gains/(Losses)	\$158,176,565
Ending Market Value	\$2,484,920,565

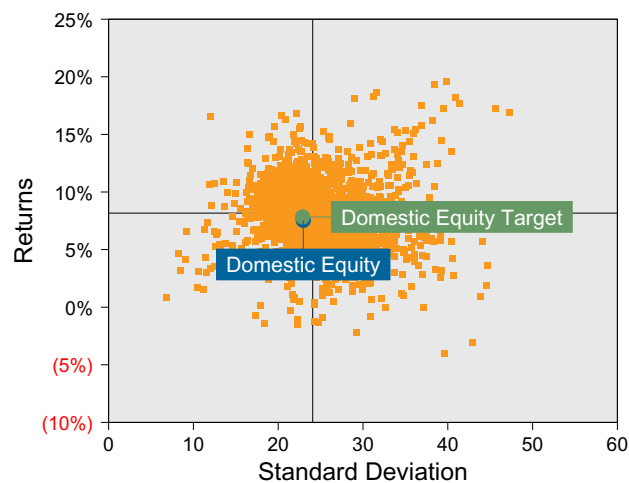
Performance vs Total Domestic Equity Database (Gross)



Relative Return vs Domestic Equity Target



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



Parametric Large Cap Period Ended December 31, 2022

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.

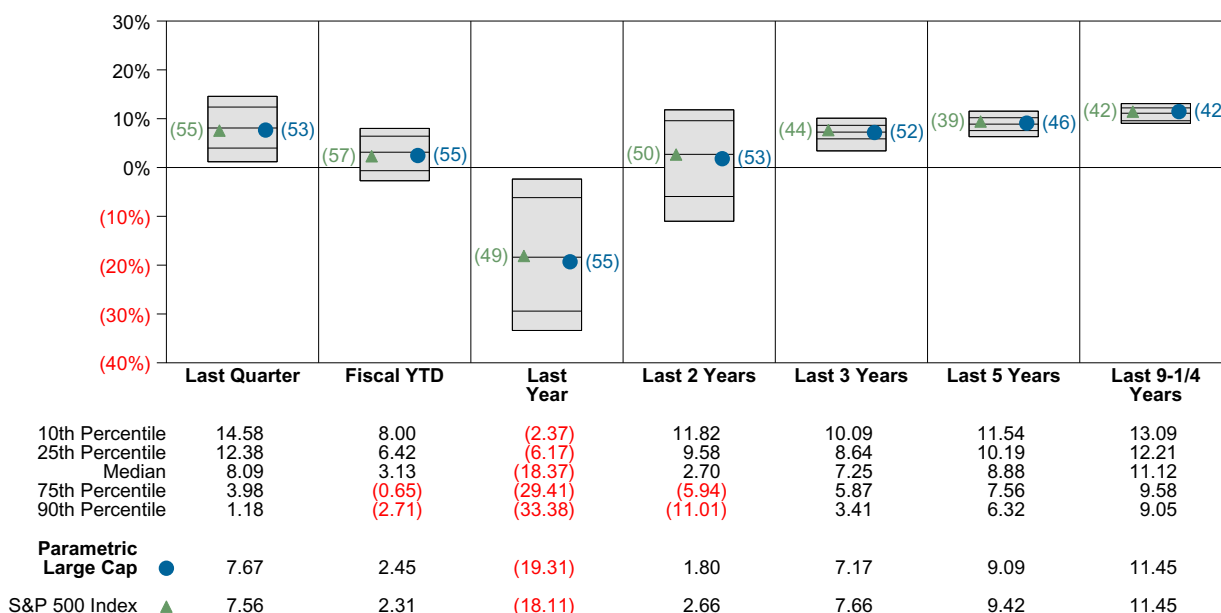
Quarterly Summary and Highlights

- Parametric Large Cap's portfolio posted a 7.67% return for the quarter placing it in the 53 percentile of the Callan Large Capitalization group for the quarter and in the 55 percentile for the last year.
- Parametric Large Cap's portfolio outperformed the S&P 500 Index by 0.11% for the quarter and underperformed the S&P 500 Index for the year by 1.20%.

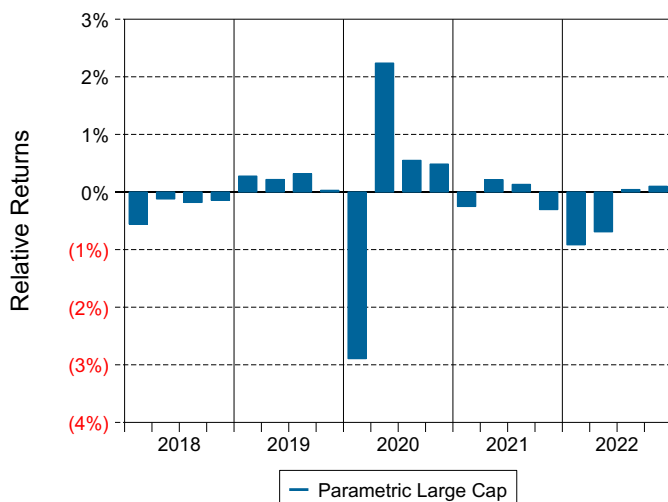
Quarterly Asset Growth

Beginning Market Value	\$442,460,333
Net New Investment	\$-141,596,007
Investment Gains/(Losses)	\$31,565,651
Ending Market Value	\$332,429,978

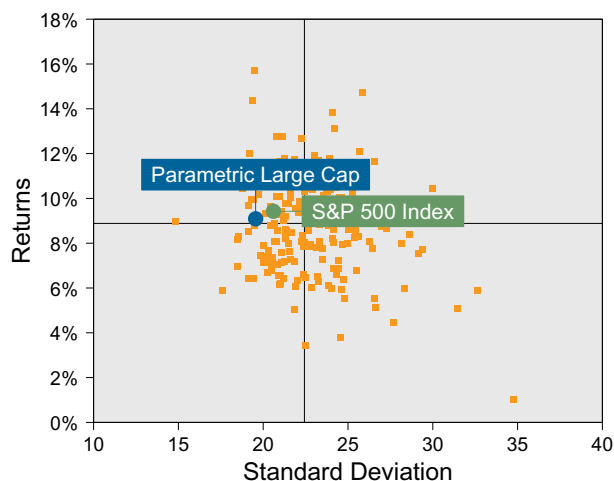
Performance vs Callan Large Capitalization (Gross)



Relative Return vs S&P 500 Index



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



L.A. Capital Period Ended December 31, 2022

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.

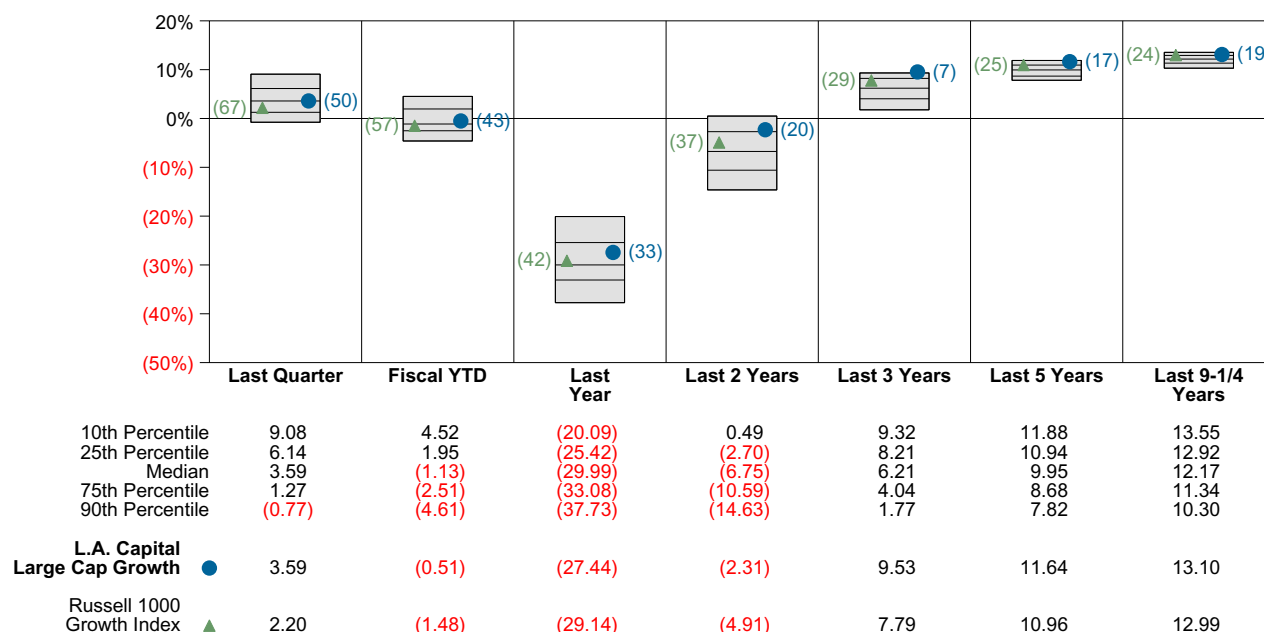
Quarterly Summary and Highlights

- L.A. Capital Large Cap Growth's portfolio posted a 3.59% return for the quarter placing it in the 50 percentile of the Callan Large Cap Growth group for the quarter and in the 33 percentile for the last year.
- L.A. Capital Large Cap Growth's portfolio outperformed the Russell 1000 Growth Index by 1.39% for the quarter and outperformed the Russell 1000 Growth Index for the year by 1.70%.

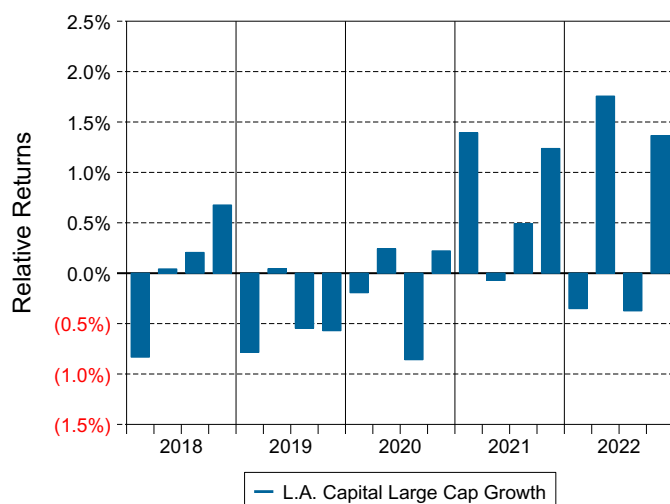
Quarterly Asset Growth

Beginning Market Value	\$552,510,609
Net New Investment	\$-505,296,438
Investment Gains/(Losses)	\$14,735,859
Ending Market Value	\$61,950,031

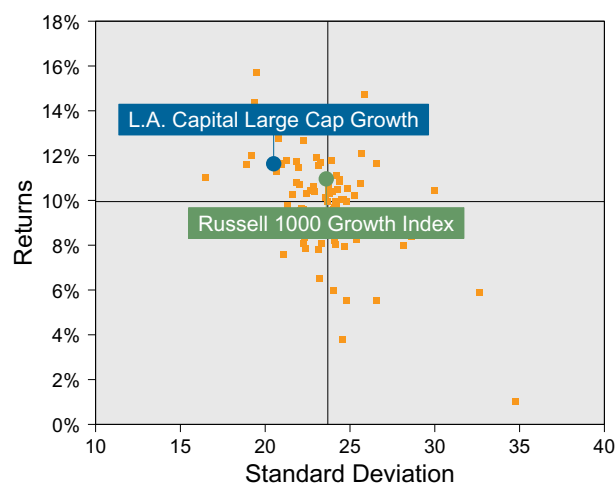
Performance vs Callan Large Cap Growth (Gross)



Relative Return vs Russell 1000 Growth Index



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



L.A. Capital Enhanced Period Ended December 31, 2022

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.

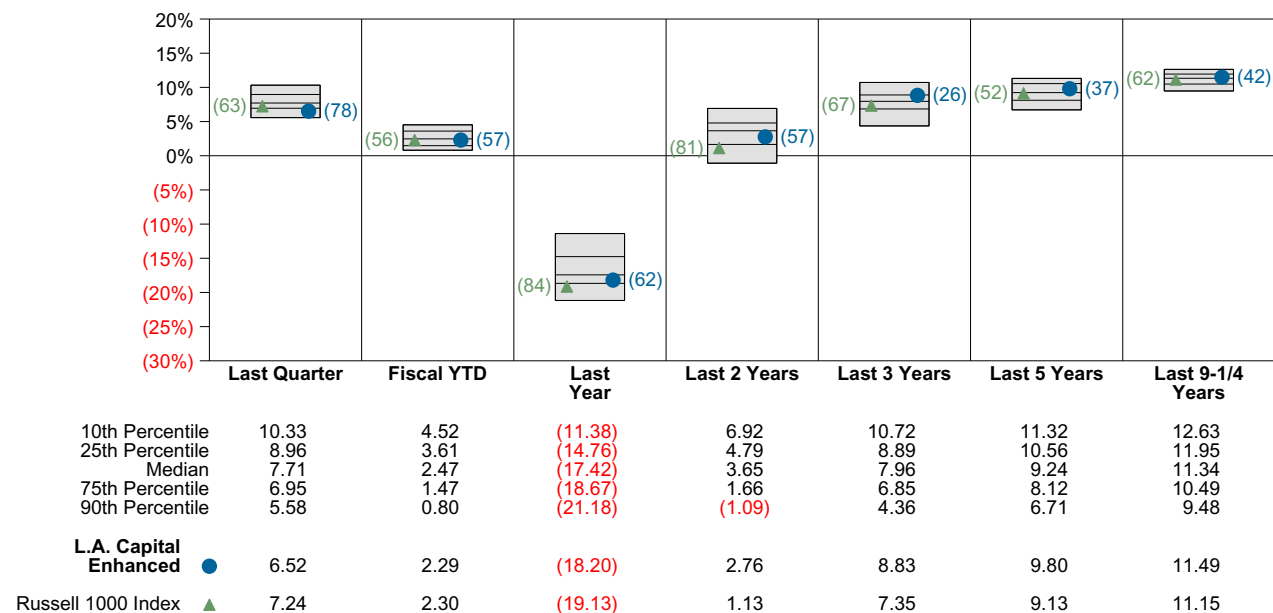
Quarterly Summary and Highlights

- L.A. Capital Enhanced's portfolio posted a 6.52% return for the quarter placing it in the 78 percentile of the Callan Large Cap Core group for the quarter and in the 62 percentile for the last year.
- L.A. Capital Enhanced's portfolio underperformed the Russell 1000 Index by 0.72% for the quarter and outperformed the Russell 1000 Index for the year by 0.93%.

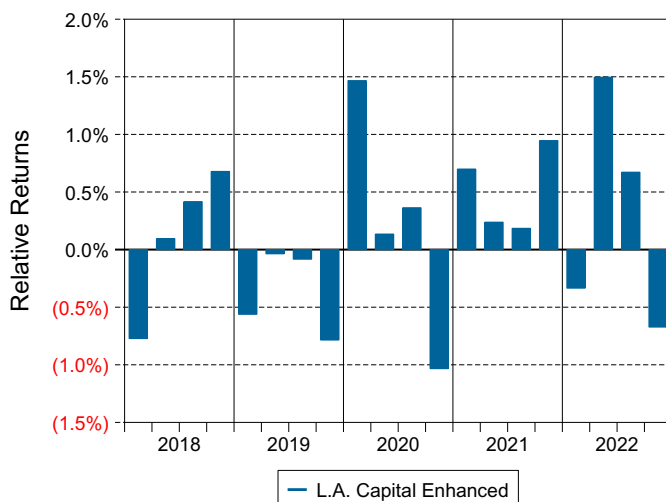
Quarterly Asset Growth

Beginning Market Value	\$398,842,951
Net New Investment	\$424,064,593
Investment Gains/(Losses)	\$37,209,666
Ending Market Value	\$860,117,210

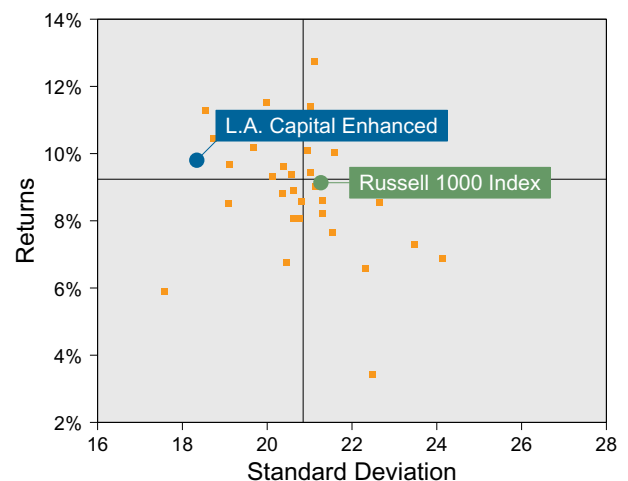
Performance vs Callan Large Cap Core (Gross)



Relative Return vs Russell 1000 Index



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



Atlanta Capital

Period Ended December 31, 2022

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.

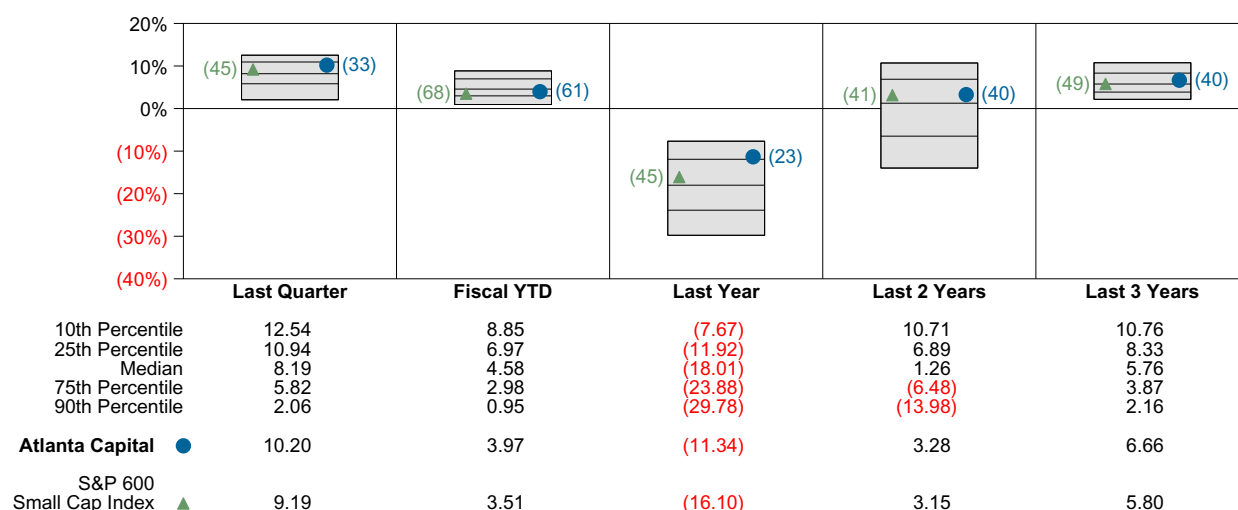
Quarterly Summary and Highlights

- Atlanta Capital's portfolio posted a 10.20% return for the quarter placing it in the 33 percentile of the Callan Small Capitalization group for the quarter and in the 23 percentile for the last year.
- Atlanta Capital's portfolio outperformed the S&P 600 Small Cap Index by 1.01% for the quarter and outperformed the S&P 600 Small Cap Index for the year by 4.76%.

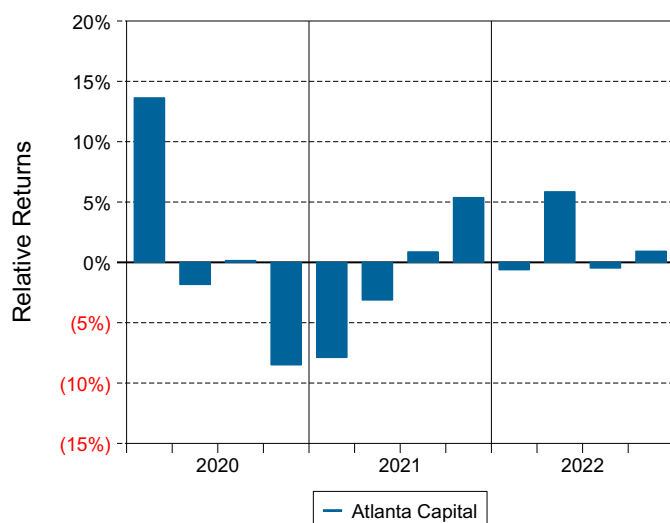
Quarterly Asset Growth

Beginning Market Value	\$116,818,043
Net New Investment	\$-11,206,661
Investment Gains/(Losses)	\$11,100,998
Ending Market Value	\$116,712,380

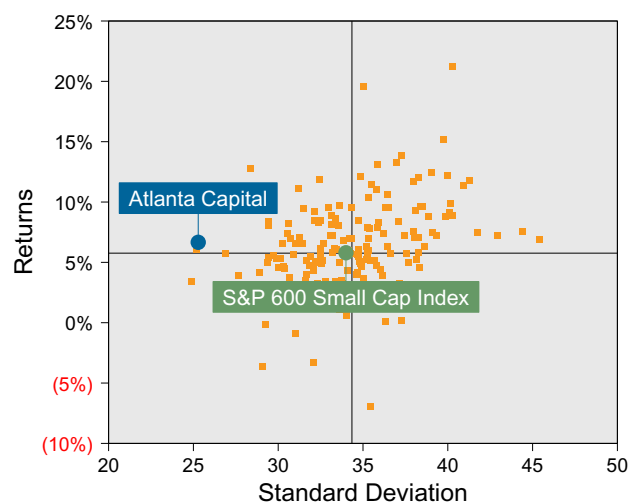
Performance vs Callan Small Capitalization (Gross)



Relative Return vs S&P 600 Small Cap Index



Callan Small Capitalization (Gross) Annualized Three Year Risk vs Return



Riverbridge Small Cap Growth Period Ended December 31, 2022

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.

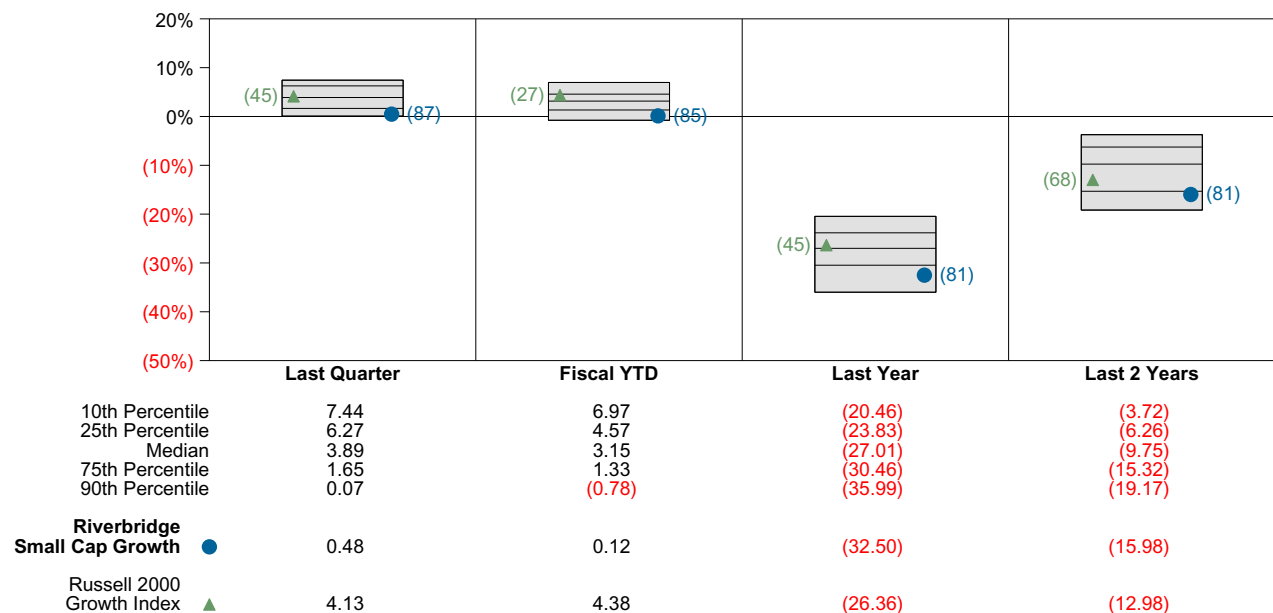
Quarterly Summary and Highlights

- Riverbridge Small Cap Growth's portfolio posted a 0.48% return for the quarter placing it in the 87 percentile of the Callan Small Cap Growth group for the quarter and in the 81 percentile for the last year.
- Riverbridge Small Cap Growth's portfolio underperformed the Russell 2000 Growth Index by 3.66% for the quarter and underperformed the Russell 2000 Growth Index for the year by 6.14%.

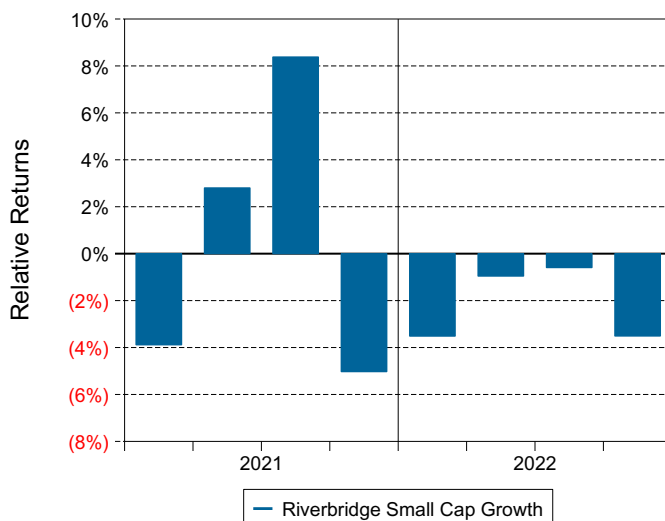
Quarterly Asset Growth

Beginning Market Value	\$116,692,361
Net New Investment	\$-6,037,471
Investment Gains/(Losses)	\$76,215
Ending Market Value	\$110,731,104

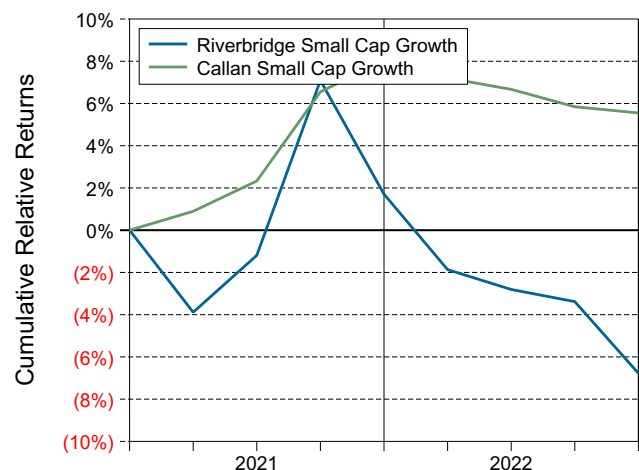
Performance vs Callan Small Cap Growth (Gross)



Relative Return vs Russell 2000 Growth Index



Cumulative Returns vs Russell 2000 Growth Index



Sycamore Small Cap Value Period Ended December 31, 2022

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.

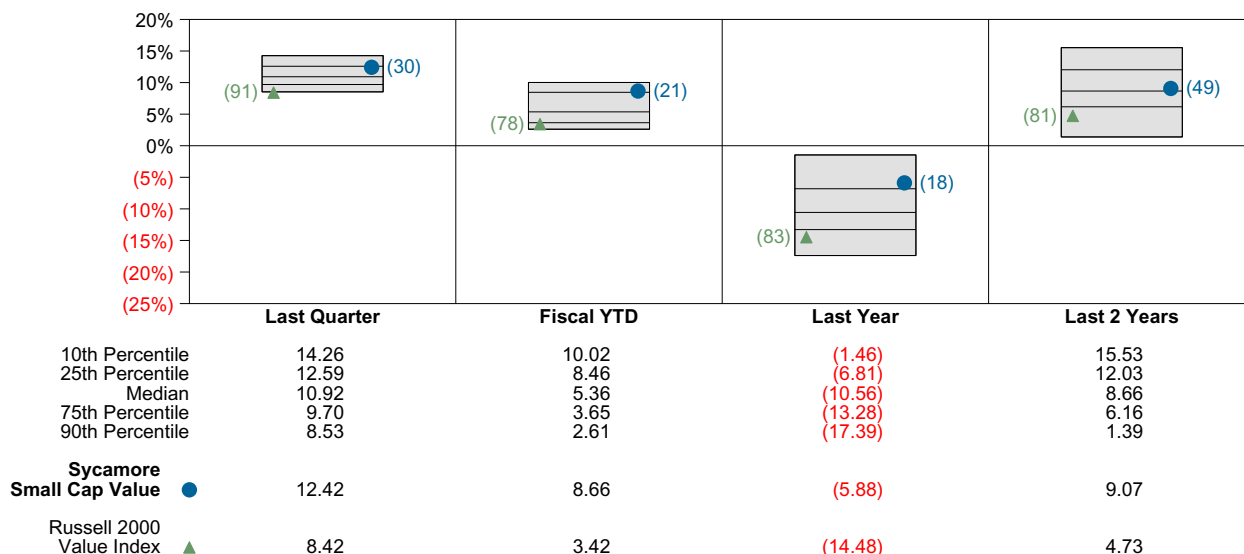
Quarterly Summary and Highlights

- Sycamore Small Cap Value's portfolio posted a 12.42% return for the quarter placing it in the 30 percentile of the Callan Small Cap Value group for the quarter and in the 18 percentile for the last year.
- Sycamore Small Cap Value's portfolio outperformed the Russell 2000 Value Index by 4.01% for the quarter and outperformed the Russell 2000 Value Index for the year by 8.60%.

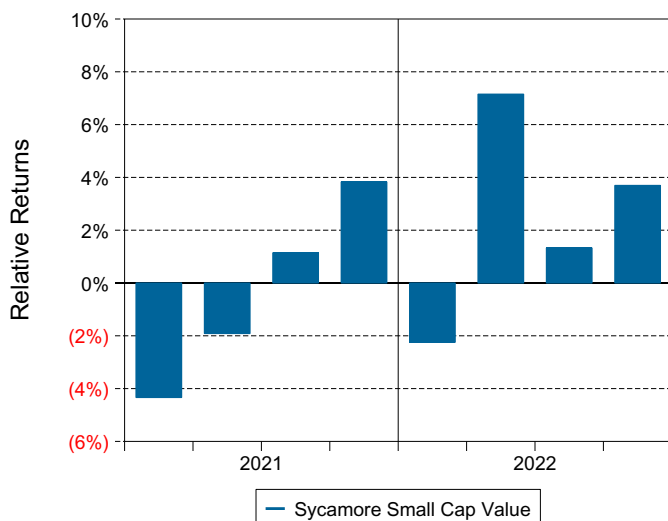
Quarterly Asset Growth

Beginning Market Value	\$108,691,329
Net New Investment	\$-3,384,241
Investment Gains/(Losses)	\$13,305,826
Ending Market Value	\$118,612,914

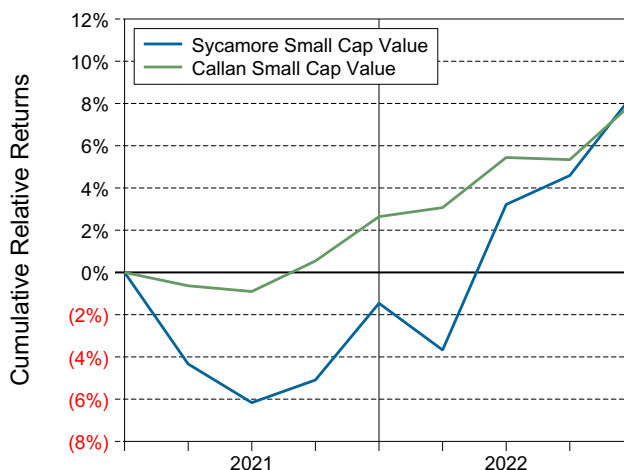
Performance vs Callan Small Cap Value (Gross)



Relative Return vs Russell 2000 Value Index



Cumulative Returns vs Russell 2000 Value Index



International Equity Period Ended December 31, 2022

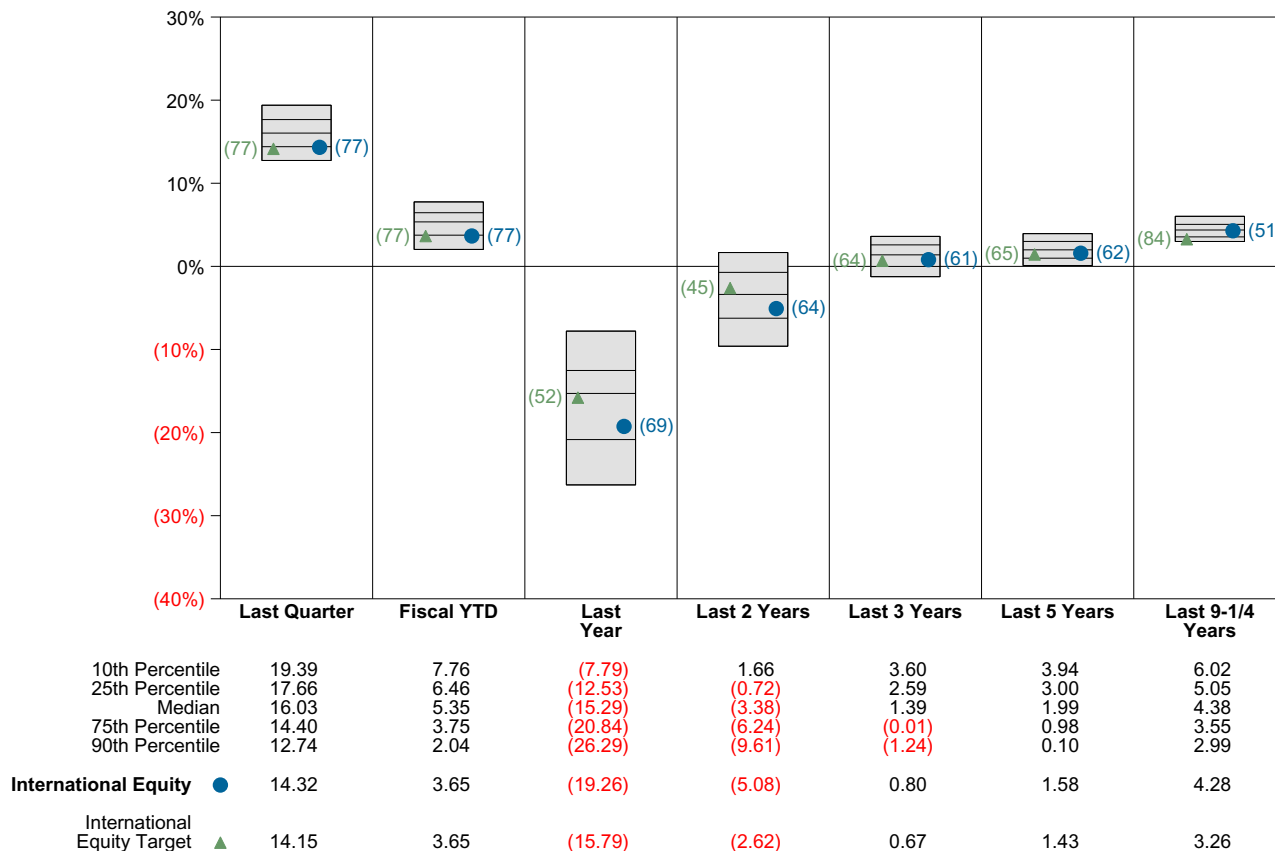
Quarterly Summary and Highlights

- International Equity's portfolio posted a 14.32% return for the quarter placing it in the 77 percentile of the Callan Non-US Equity group for the quarter and in the 69 percentile for the last year.
- International Equity's portfolio outperformed the International Equity Target by 0.18% for the quarter and underperformed the International Equity Target for the year by 3.46%.

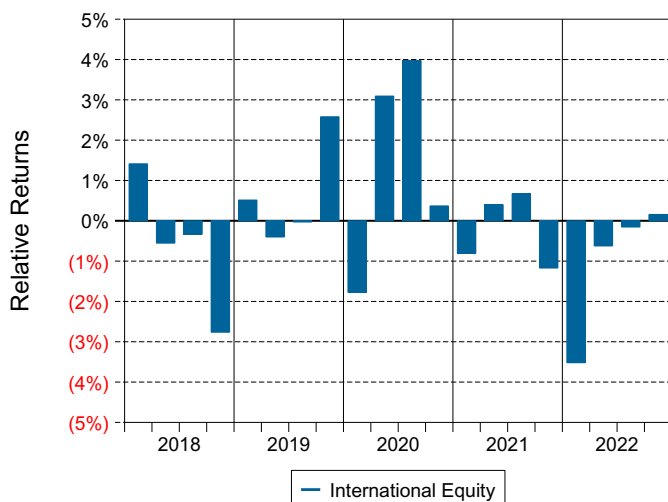
Quarterly Asset Growth

Beginning Market Value	\$1,464,402,999
Net New Investment	\$-10,383,014
Investment Gains/(Losses)	\$198,124,718
Ending Market Value	\$1,652,144,703

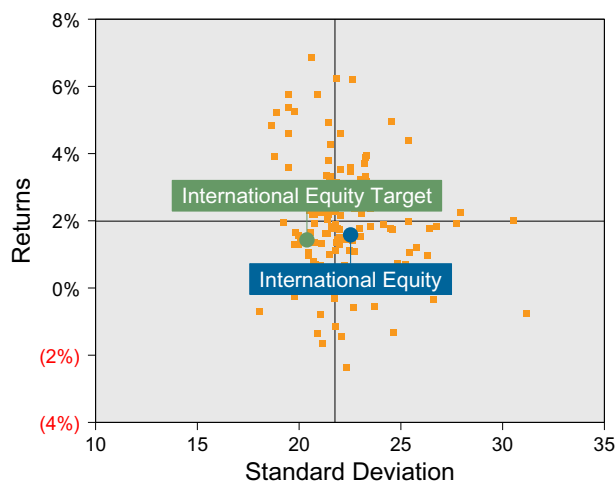
Performance vs Callan Non-US Equity (Gross)



Relative Return vs International Equity Target



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



Arrowstreet ACWI ex US Period Ended December 31, 2022

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.

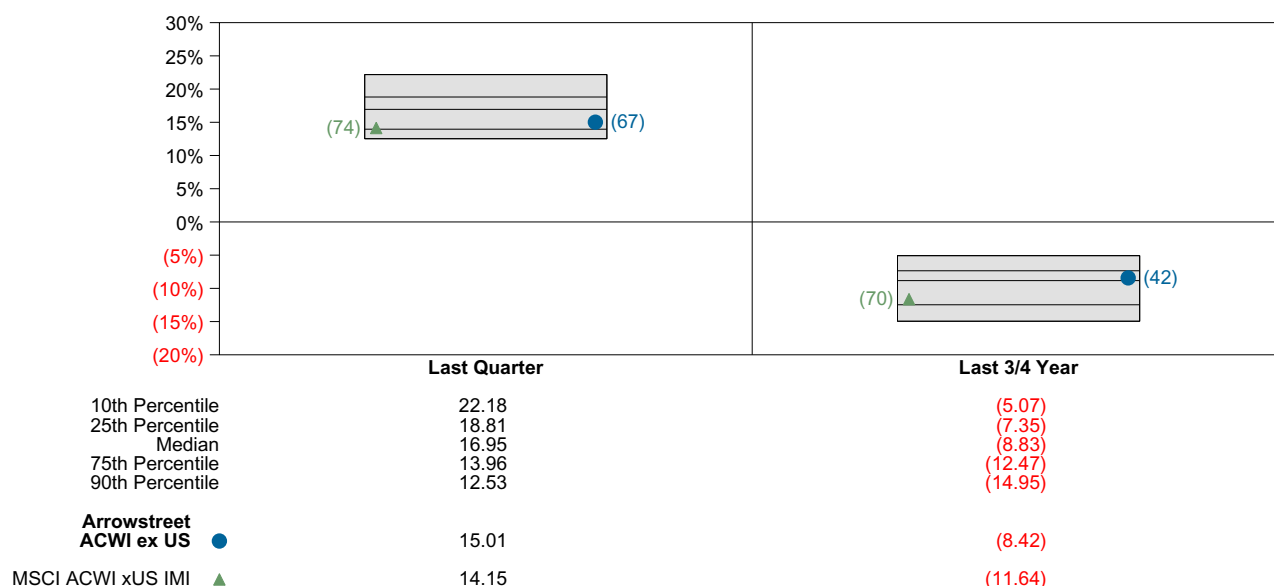
Quarterly Summary and Highlights

- Arrowstreet ACWI ex US's portfolio posted a 15.01% return for the quarter placing it in the 67 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 42 percentile for the last three-quarter year.
- Arrowstreet ACWI ex US's portfolio outperformed the MSCI ACWI xUS IMI by 0.87% for the quarter and outperformed the MSCI ACWI xUS IMI for the three-quarter year by 3.21%.

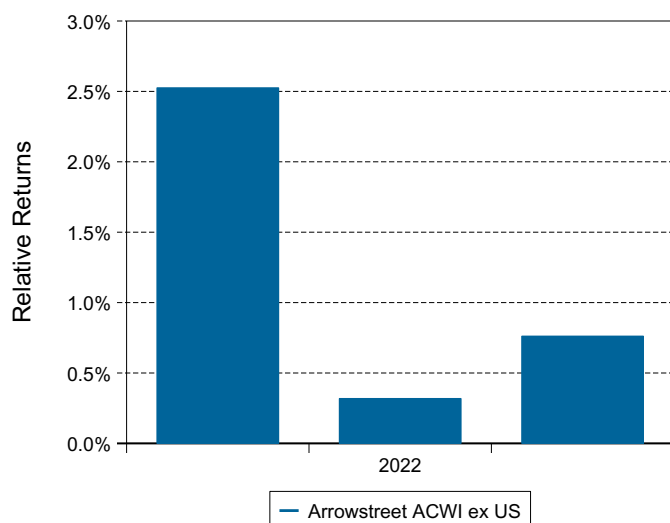
Quarterly Asset Growth

Beginning Market Value	\$398,413,197
Net New Investment	\$-84,000,000
Investment Gains/(Losses)	\$49,283,823
Ending Market Value	\$363,697,020

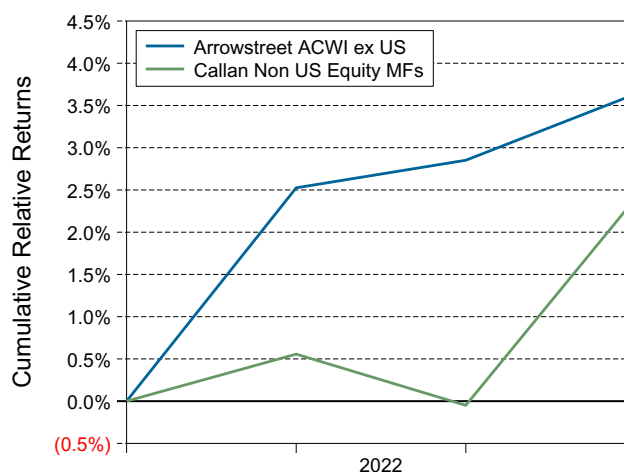
Performance vs Callan Non US Equity Mutual Funds (Net)



Relative Return vs MSCI ACWI xUS IMI



Cumulative Returns vs MSCI ACWI xUS IMI



DFA Intl Small Cap Value Period Ended December 31, 2022

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.

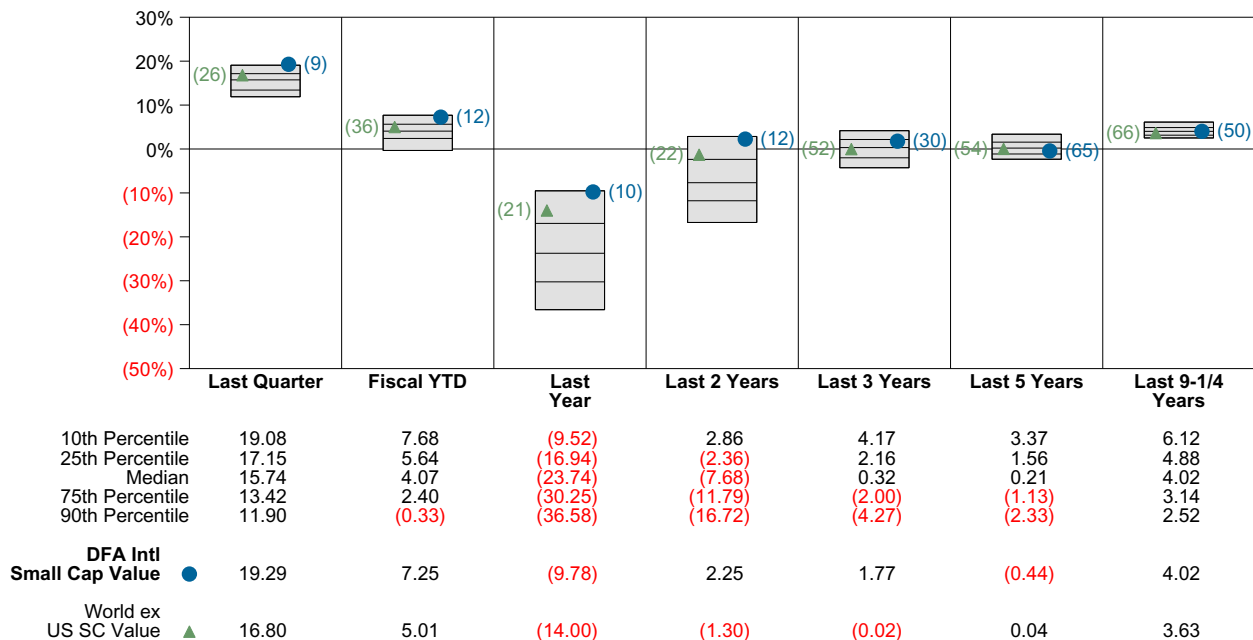
Quarterly Summary and Highlights

- DFA Intl Small Cap Value's portfolio posted a 19.29% return for the quarter placing it in the 9 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 10 percentile for the last year.
- DFA Intl Small Cap Value's portfolio outperformed the World ex US SC Value by 2.48% for the quarter and outperformed the World ex US SC Value for the year by 4.21%.

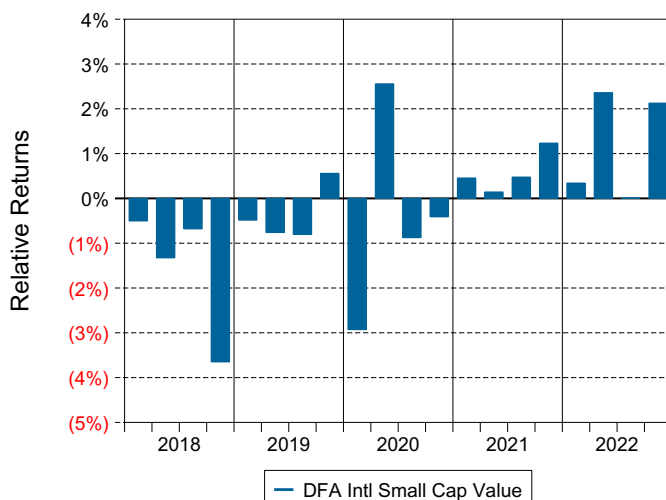
Quarterly Asset Growth

Beginning Market Value	\$135,665,567
Net New Investment	\$-96,500,000
Investment Gains/(Losses)	\$6,971,874
Ending Market Value	\$46,137,440

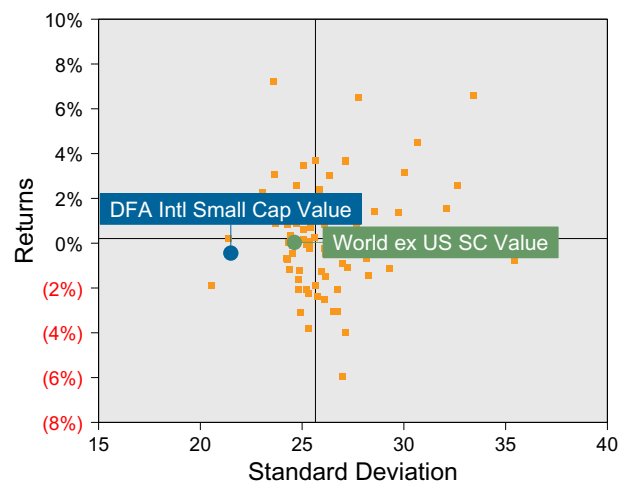
Performance vs Callan International Small Cap Mut Funds (Net)



Relative Return vs World ex US SC Value



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



William Blair Period Ended December 31, 2022

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.

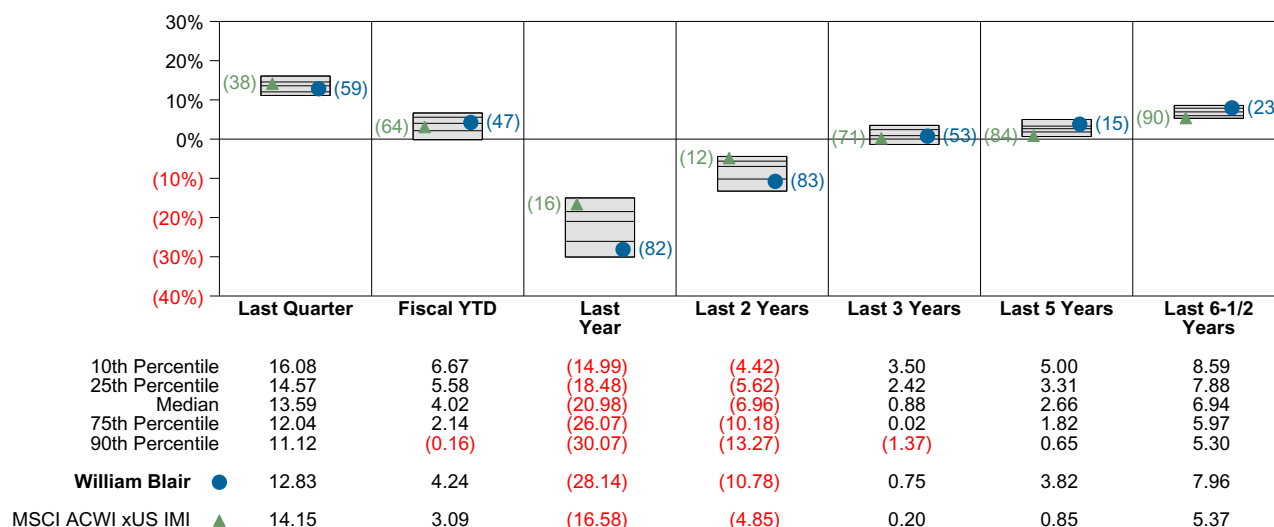
Quarterly Summary and Highlights

- William Blair's portfolio posted a 12.83% return for the quarter placing it in the 59 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 82 percentile for the last year.
- William Blair's portfolio underperformed the MSCI ACWI xUS IMI by 1.31% for the quarter and underperformed the MSCI ACWI xUS IMI for the year by 11.55%.

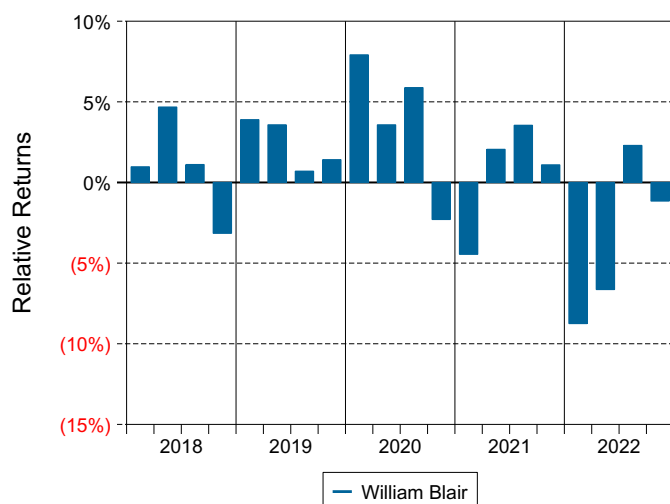
Quarterly Asset Growth

Beginning Market Value	\$456,877,575
Net New Investment	\$-233,476,383
Investment Gains/(Losses)	\$32,106,622
Ending Market Value	\$255,507,814

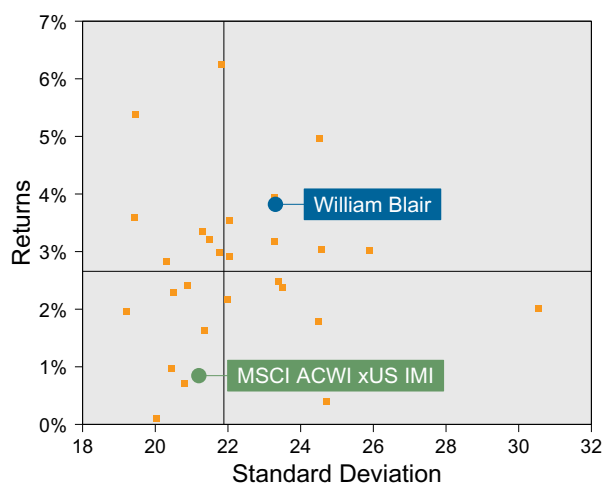
Performance vs Callan Non-US All Country Growth Equity (Gross)



Relative Return vs MSCI ACWI xUS IMI



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



Sixth Street TAO Period Ended December 31, 2022

Investment Philosophy

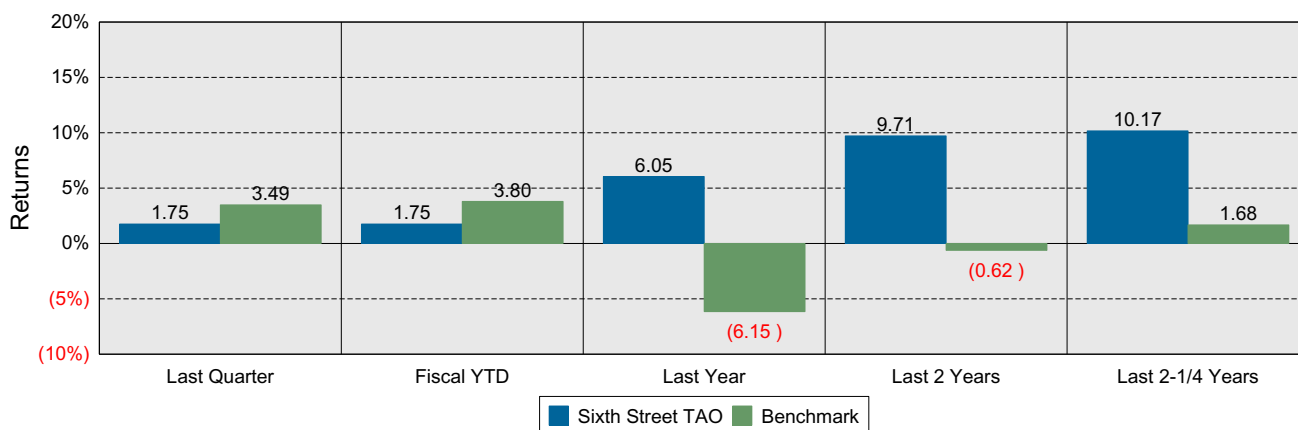
Sixth Street Partners' TAO strategy is an opportunistic, theme-driven multi-strategy credit mandate that seeks to leverage the firm's entire credit platform by investing in theme-driven liquid and less liquid investments across a broad array of credit-oriented opportunities. The strategy invests in opportunities 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

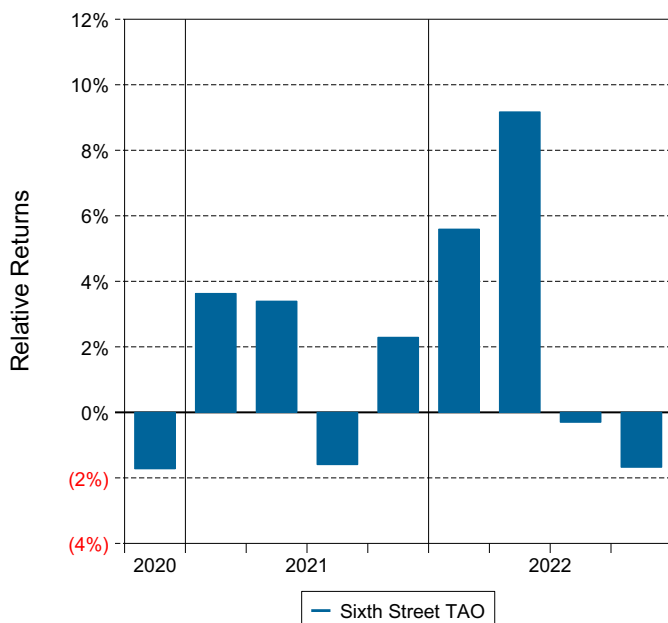
- Sixth Street TAO's portfolio underperformed the Benchmark by 1.73% for the quarter and outperformed the Benchmark for the year by 12.20%.

Quarterly Asset Growth

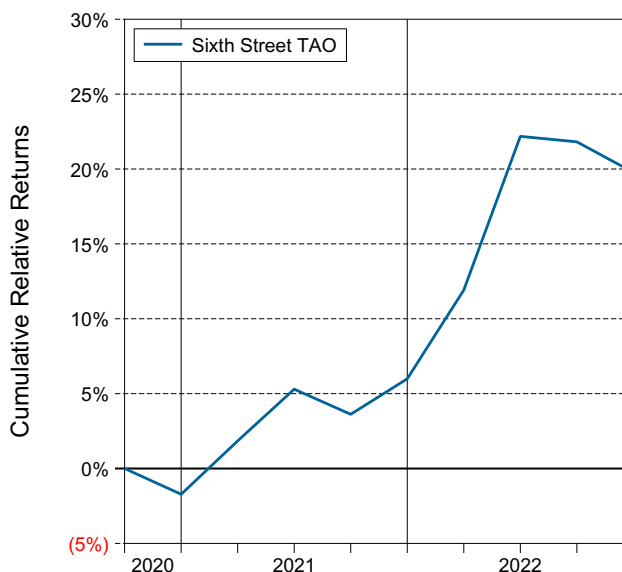
Beginning Market Value	\$46,877,064
Net New Investment	\$3,626,131
Investment Gains/(Losses)	\$821,489
Ending Market Value	\$51,324,684



Relative Return vs Benchmark



Cumulative Returns vs Benchmark



Domestic Fixed Income Period Ended December 31, 2022

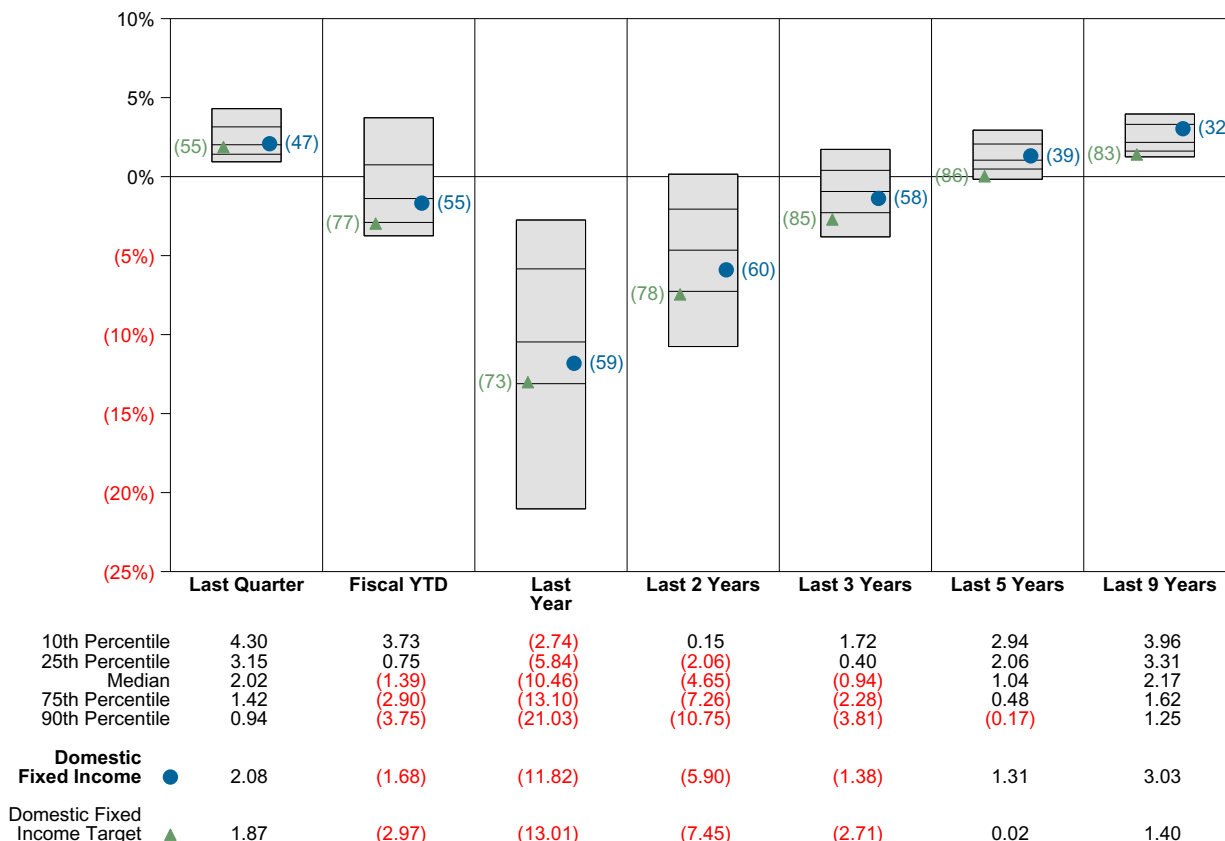
Quarterly Summary and Highlights

- Domestic Fixed Income's portfolio posted a 2.08% return for the quarter placing it in the 47 percentile of the Total Domestic Fixed-Inc Database group for the quarter and in the 59 percentile for the last year.
- Domestic Fixed Income's portfolio outperformed the Domestic Fixed Income Target by 0.21% for the quarter and outperformed the Domestic Fixed Income Target for the year by 1.19%.

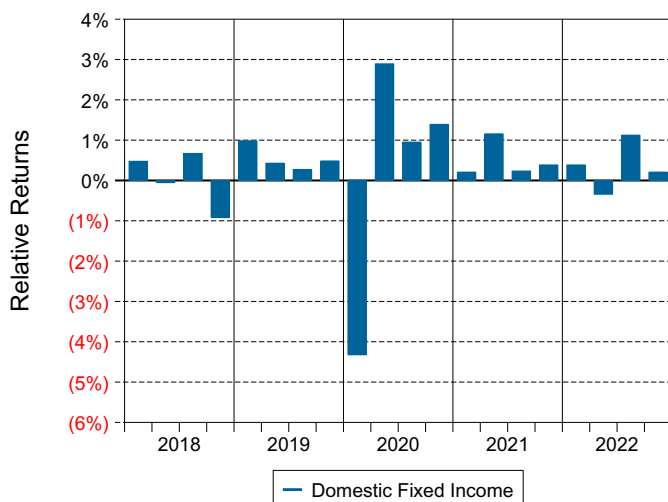
Quarterly Asset Growth

Beginning Market Value	\$2,704,595,783
Net New Investment	\$130,890,002
Investment Gains/(Losses)	\$58,017,017
Ending Market Value	\$2,893,502,802

Performance vs Total Domestic Fixed-Inc Database (Gross)



Relative Returns vs Domestic Fixed Income Target



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



Allspring BBB Period Ended December 31, 2022

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.

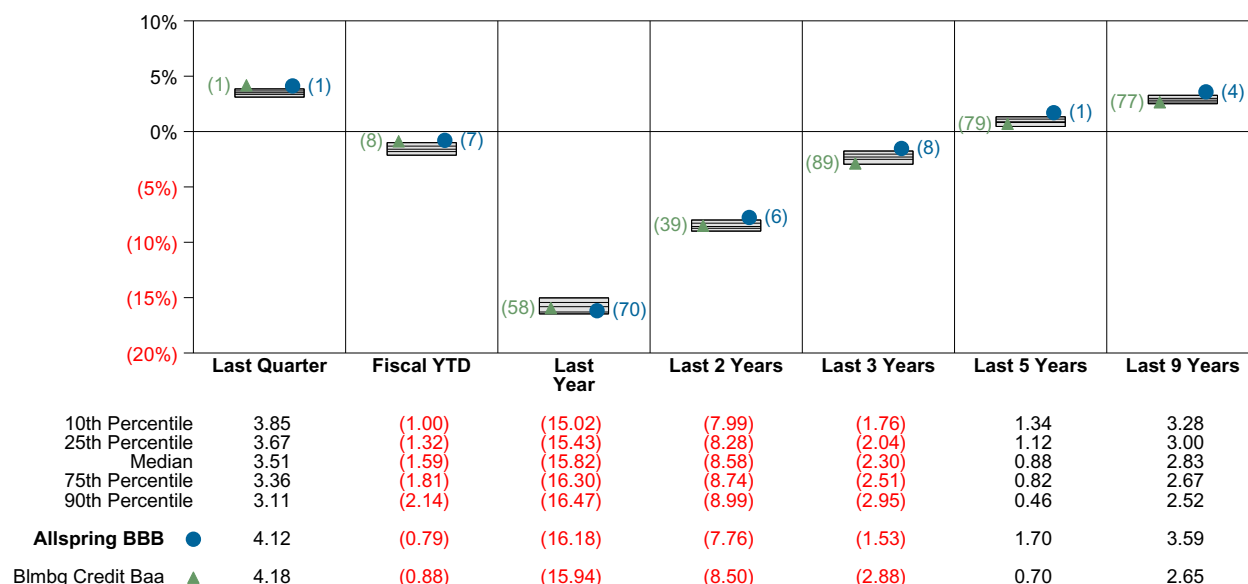
Quarterly Summary and Highlights

- Allspring BBB's portfolio posted a 4.12% return for the quarter placing it in the 1 percentile of the Callan Investment Grade Credit Fixed Inc group for the quarter and in the 70 percentile for the last year.
- Allspring BBB's portfolio underperformed the Blmbg Credit Baa by 0.05% for the quarter and underperformed the Blmbg Credit Baa for the year by 0.24%.

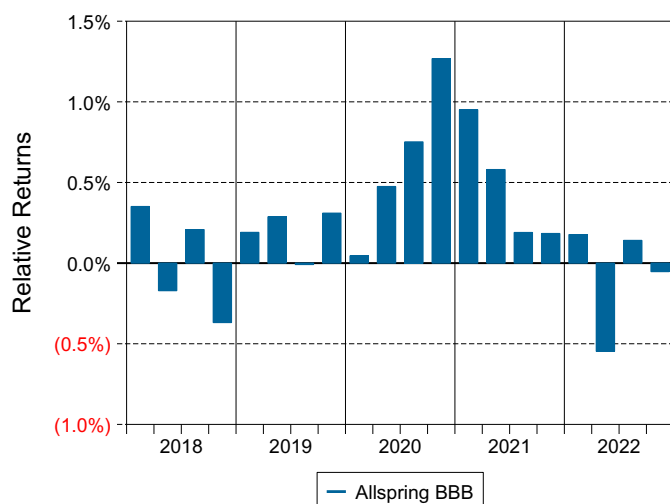
Quarterly Asset Growth

Beginning Market Value	\$198,725,774
Net New Investment	\$22,003,911
Investment Gains/(Losses)	\$9,278,830
Ending Market Value	\$230,008,516

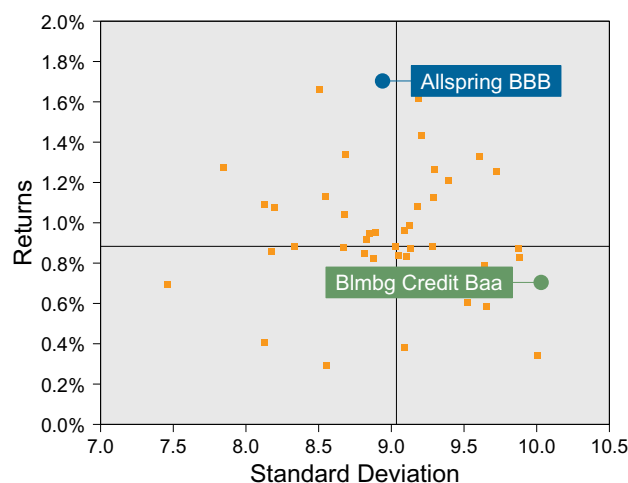
Performance vs Callan Investment Grade Credit Fixed Inc (Gross)



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 December 31, 2022

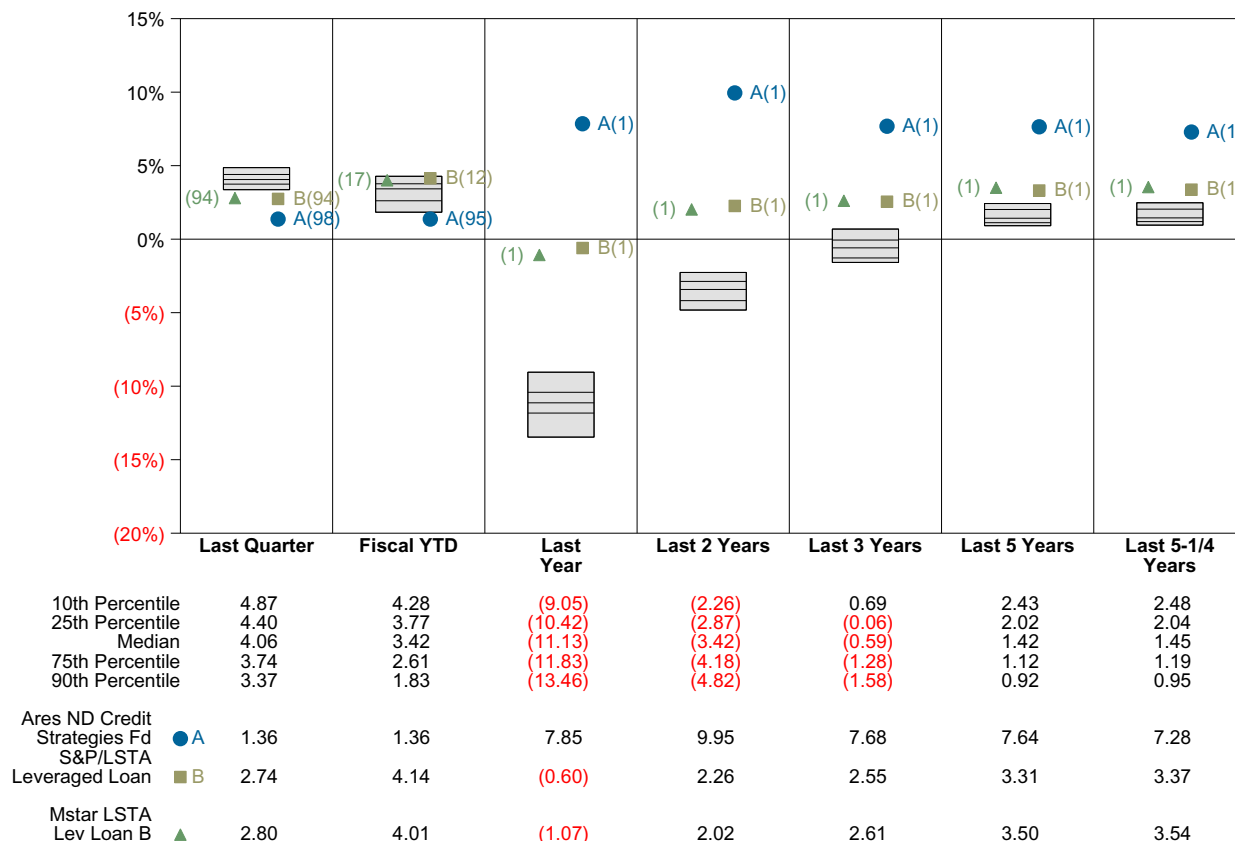
Quarterly Summary and Highlights

- Ares ND Credit Strategies Fd's portfolio posted a 1.36% return for the quarter placing it in the 98 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 1.43% for the quarter and outperformed the Mstar LSTA Lev Loan B for the year by 8.92%.

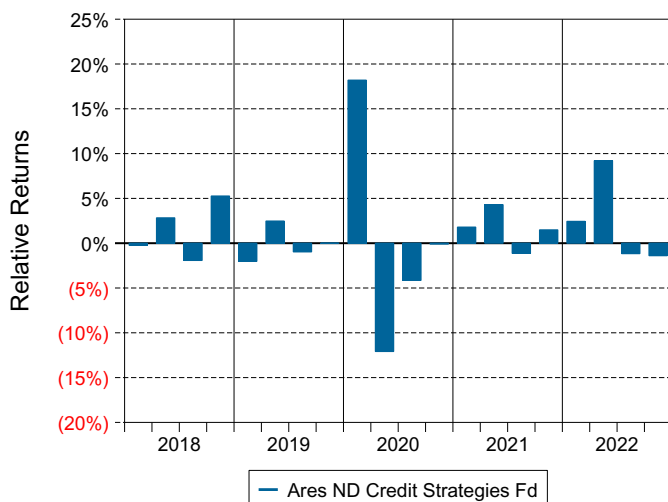
Quarterly Asset Growth

Beginning Market Value	\$109,568,248
Net New Investment	\$0
Investment Gains/(Losses)	\$1,495,548
Ending Market Value	\$111,063,796

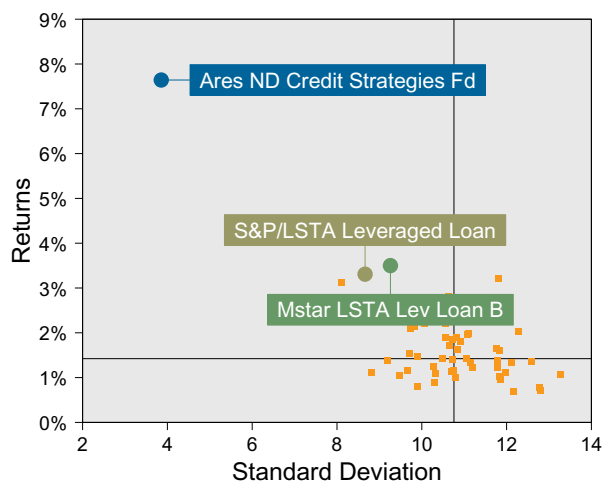
Performance vs Callan High Yield Mutual Funds (Net)



Relative Return vs Mstar LSTA Lev Loan B



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



Cerberus ND Private Credit Fd Period Ended December 31, 2022

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.

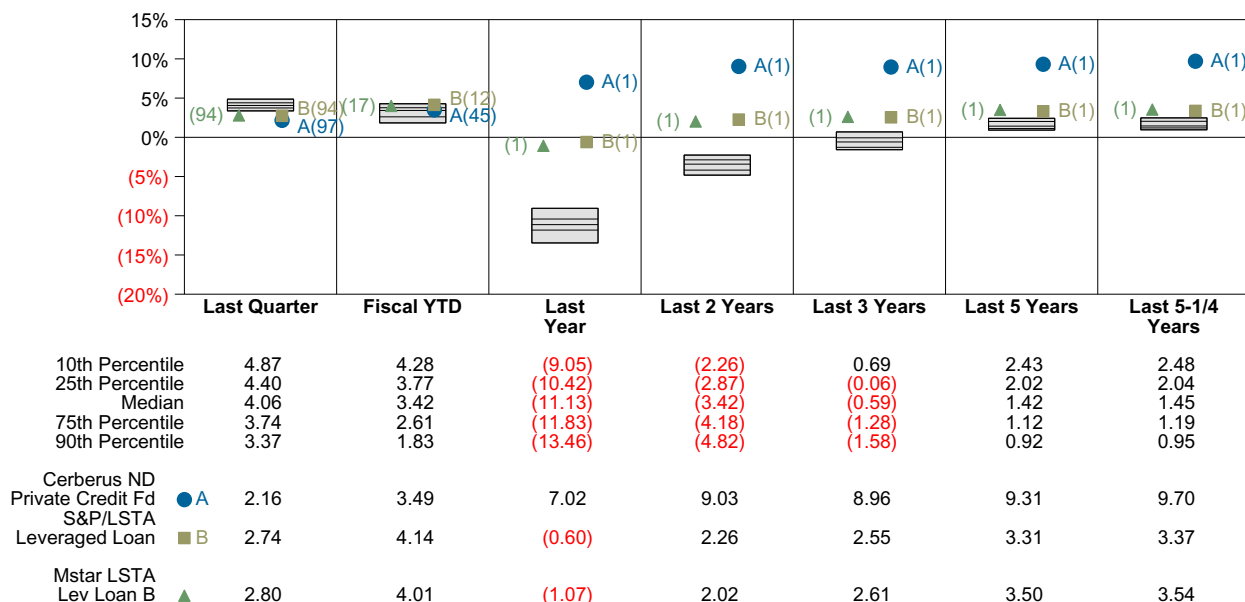
Quarterly Summary and Highlights

- Cerberus ND Private Credit Fd's portfolio posted a 2.16% return for the quarter placing it in the 97 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 0.64% for the quarter and outperformed the Mstar LSTA Lev Loan B for the year by 8.09%.

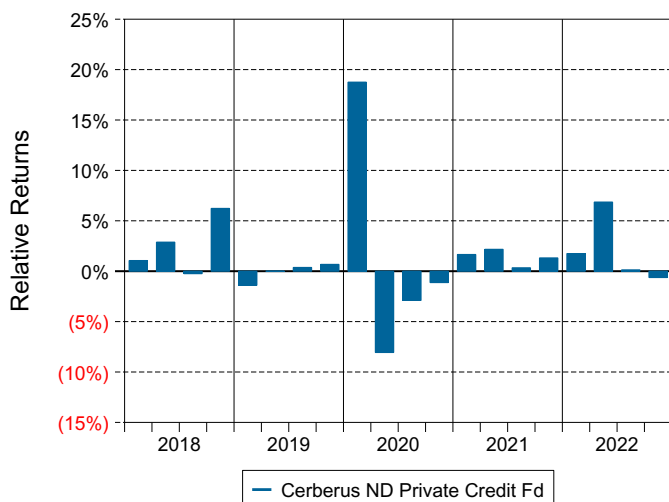
Quarterly Asset Growth

Beginning Market Value	\$136,380,574
Net New Investment	\$18,000,000
Investment Gains/(Losses)	\$3,005,869
Ending Market Value	\$157,386,443

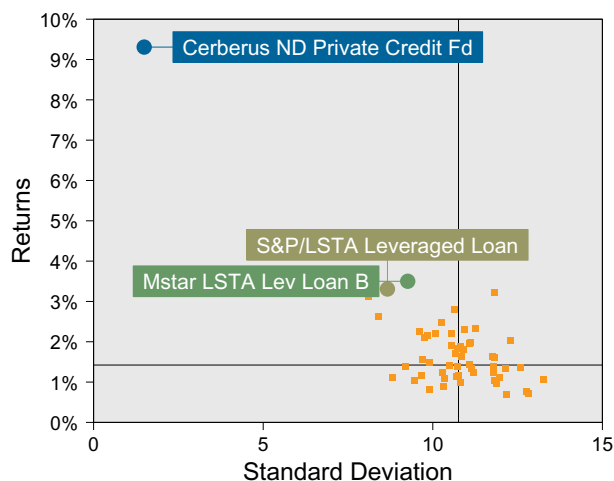
Performance vs Callan High Yield Mutual Funds (Net)



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 December 31, 2022

Investment Philosophy

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

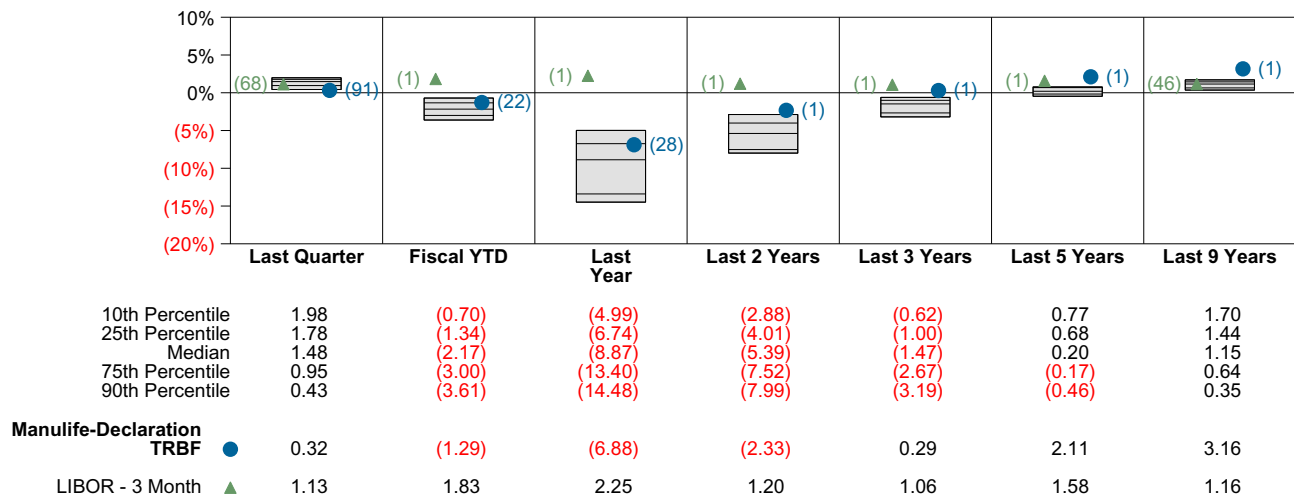
Quarterly Summary and Highlights

- Manulife-Declaration TRBF's portfolio posted a 0.32% 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 28 percentile for the last year.
- Manulife-Declaration TRBF's portfolio underperformed the LIBOR - 3 Month by 0.81% for the quarter and underperformed the LIBOR - 3 Month for the year by 9.14%.

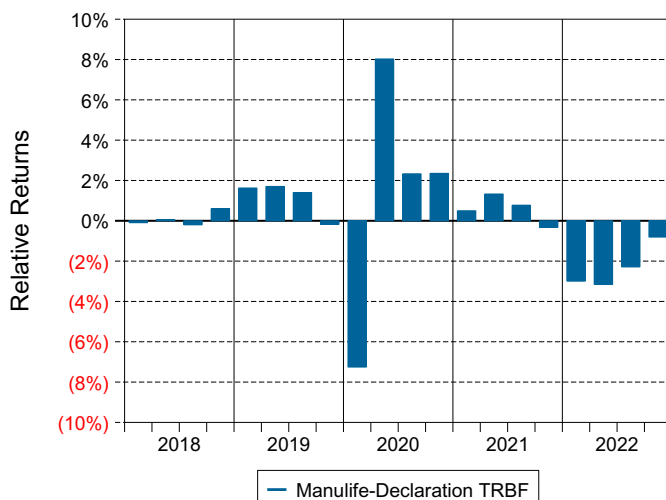
Quarterly Asset Growth

Beginning Market Value	\$213,209,053
Net New Investment	\$0
Investment Gains/(Losses)	\$680,706
Ending Market Value	\$213,889,759

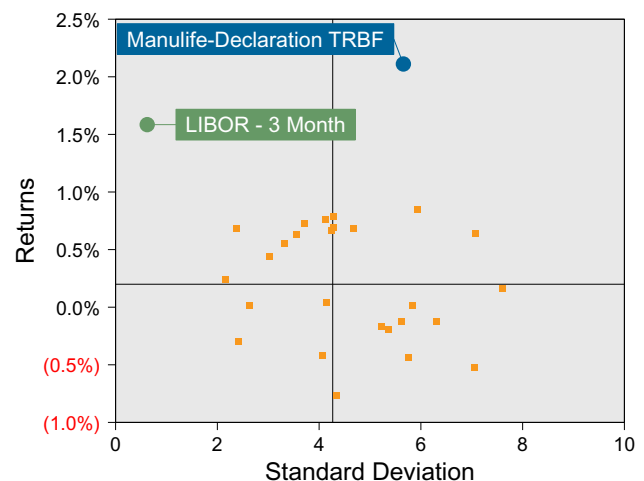
Performance vs Callan Intermediate Fixed Inc Mut Funds (Net)



Relative Return vs LIBOR - 3 Month



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



PIMCO Bravo II Period Ended December 31, 2022

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.**

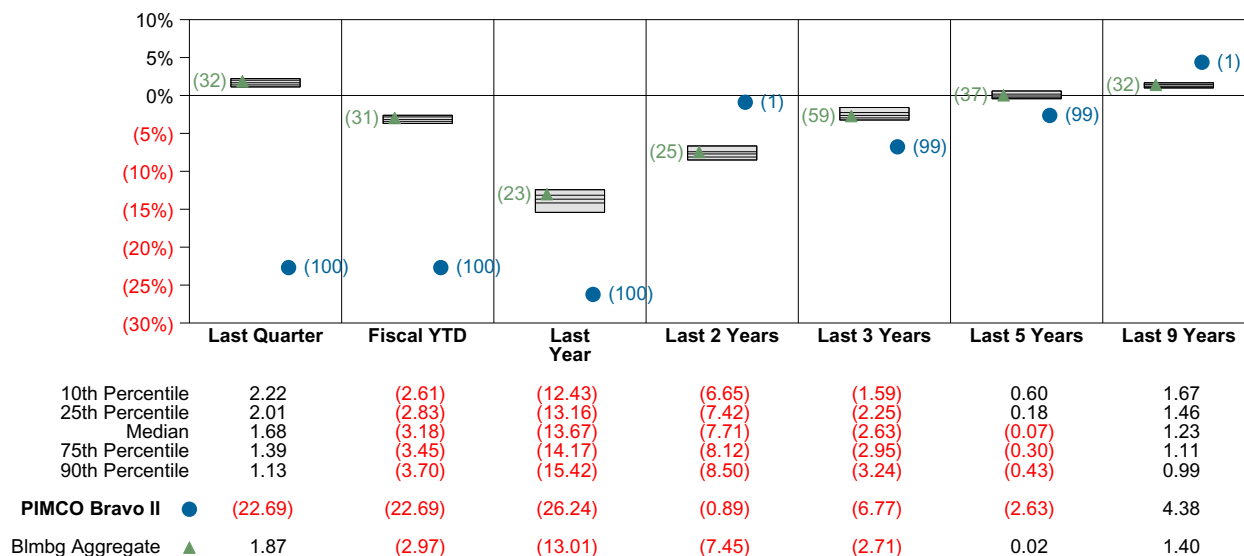
Quarterly Summary and Highlights

- PIMCO Bravo II's portfolio posted a (22.69)% 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 24.57% for the quarter and underperformed the Blmbg Aggregate for the year by 13.23%.

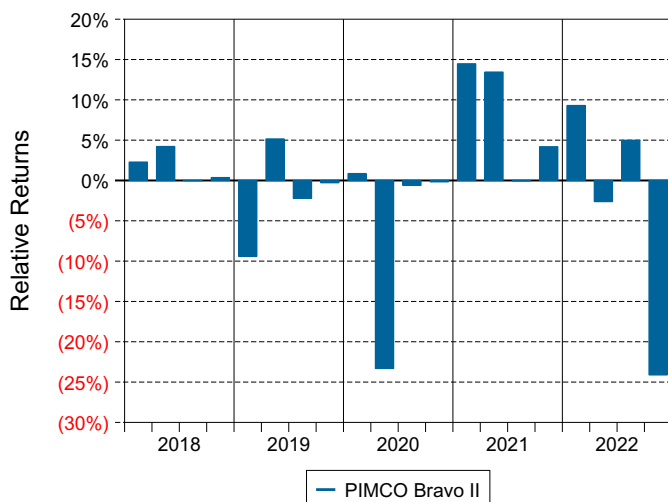
Quarterly Asset Growth

Beginning Market Value	\$3,610,617
Net New Investment	\$-1,167,224
Investment Gains/(Losses)	\$-554,492
Ending Market Value	\$1,888,901

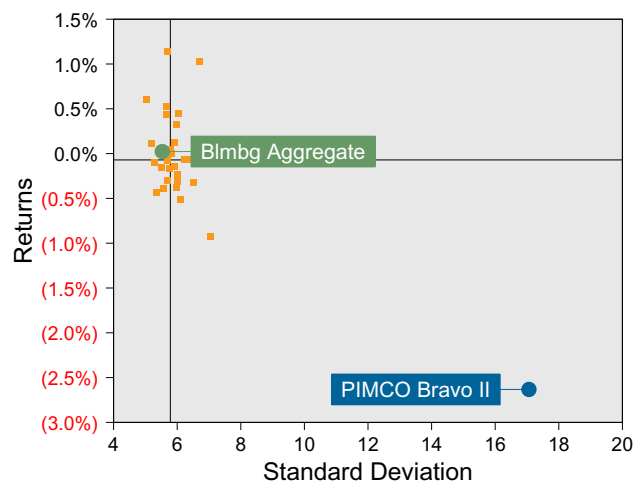
Performance vs Callan Core Bond Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



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



PIMCO DiSCO II

Period Ended December 31, 2022

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.**

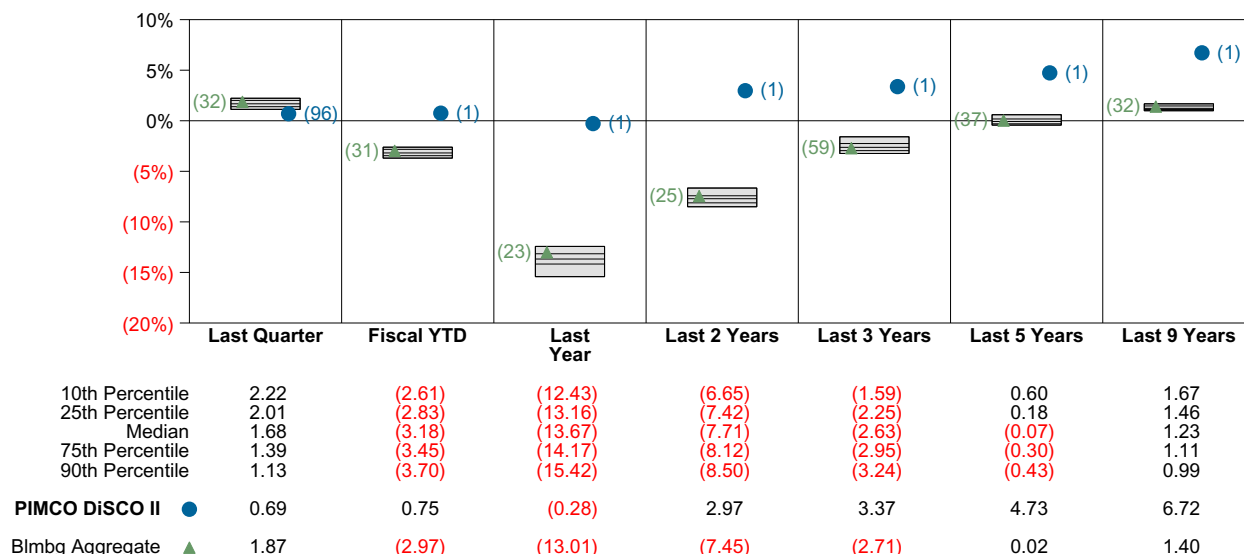
Quarterly Summary and Highlights

- PIMCO DiSCO II's portfolio posted a 0.69% return for the quarter placing it in the 96 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 1.18% for the quarter and outperformed the Blmbg Aggregate for the year by 12.73%.

Quarterly Asset Growth

Beginning Market Value	\$54,498,158
Net New Investment	\$0
Investment Gains/(Losses)	\$378,652
Ending Market Value	\$54,876,810

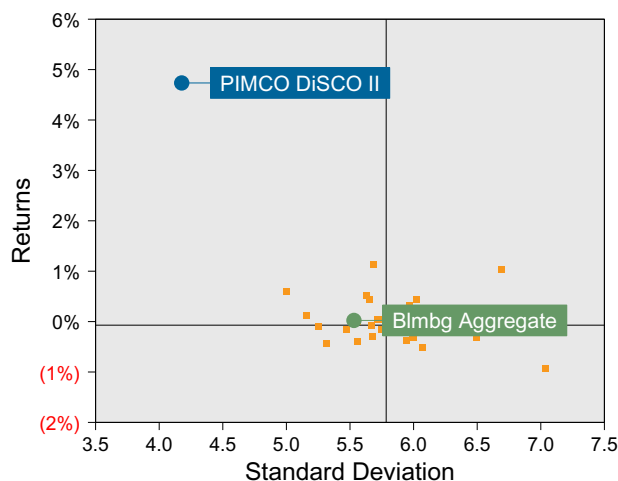
Performance vs Callan Core Bond Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



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



Prudential Period Ended December 31, 2022

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.

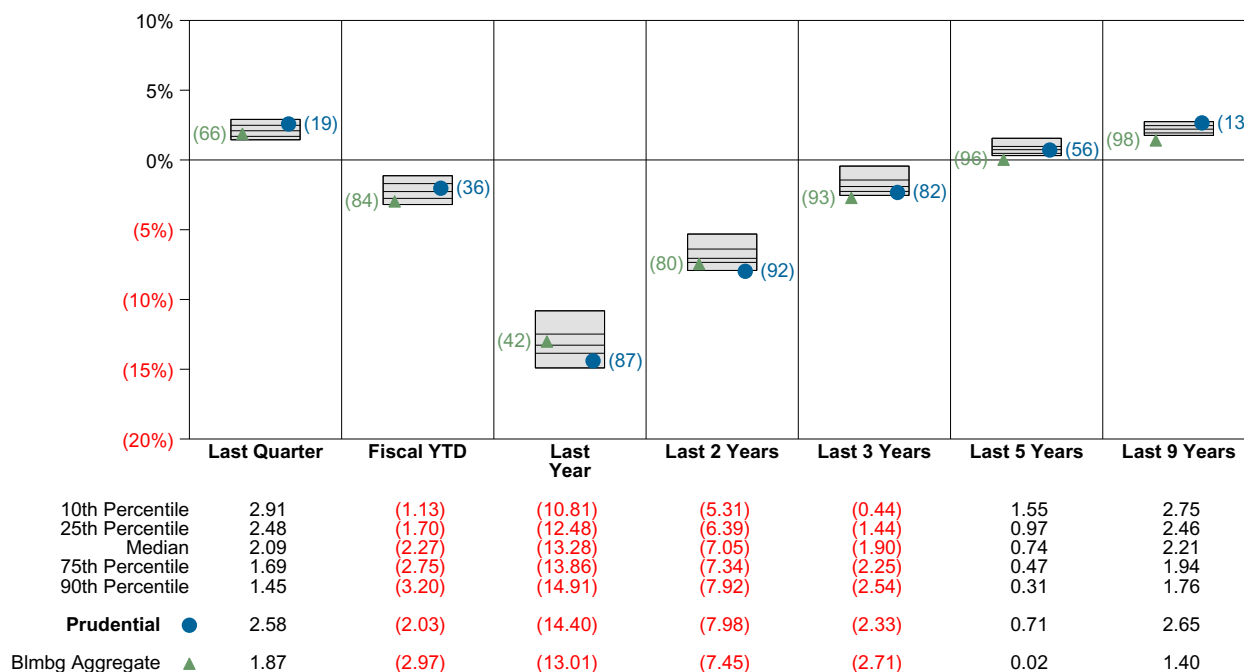
Quarterly Summary and Highlights

- Prudential's portfolio posted a 2.58% return for the quarter placing it in the 19 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 87 percentile for the last year.
- Prudential's portfolio outperformed the Blmbg Aggregate by 0.70% for the quarter and underperformed the Blmbg Aggregate for the year by 1.39%.

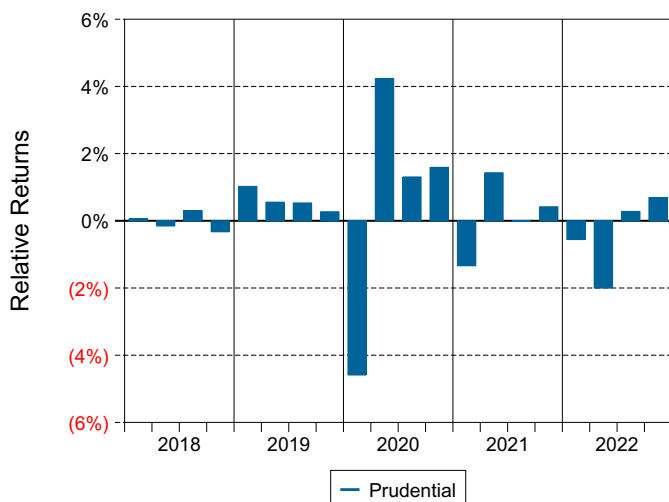
Quarterly Asset Growth

Beginning Market Value	\$720,588,453
Net New Investment	\$25,626,676
Investment Gains/(Losses)	\$18,825,687
Ending Market Value	\$765,040,816

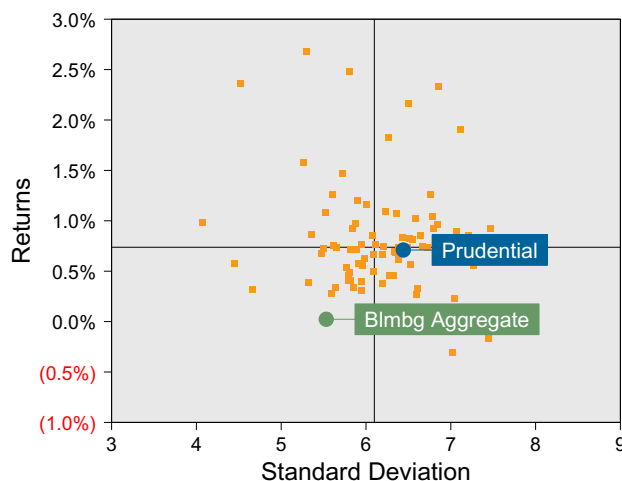
Performance vs Callan Core Plus Fixed Income (Gross)



Relative Return vs Blmbg Aggregate



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



SSgA US Govt Credit Bd Idx Period Ended December 31, 2022

Investment Philosophy

The Fund seeks an investment return that approximates as closely as practicable, before expenses, the performance of the Bloomberg Capital U.S. Government/Credit Bond Index over the long term.

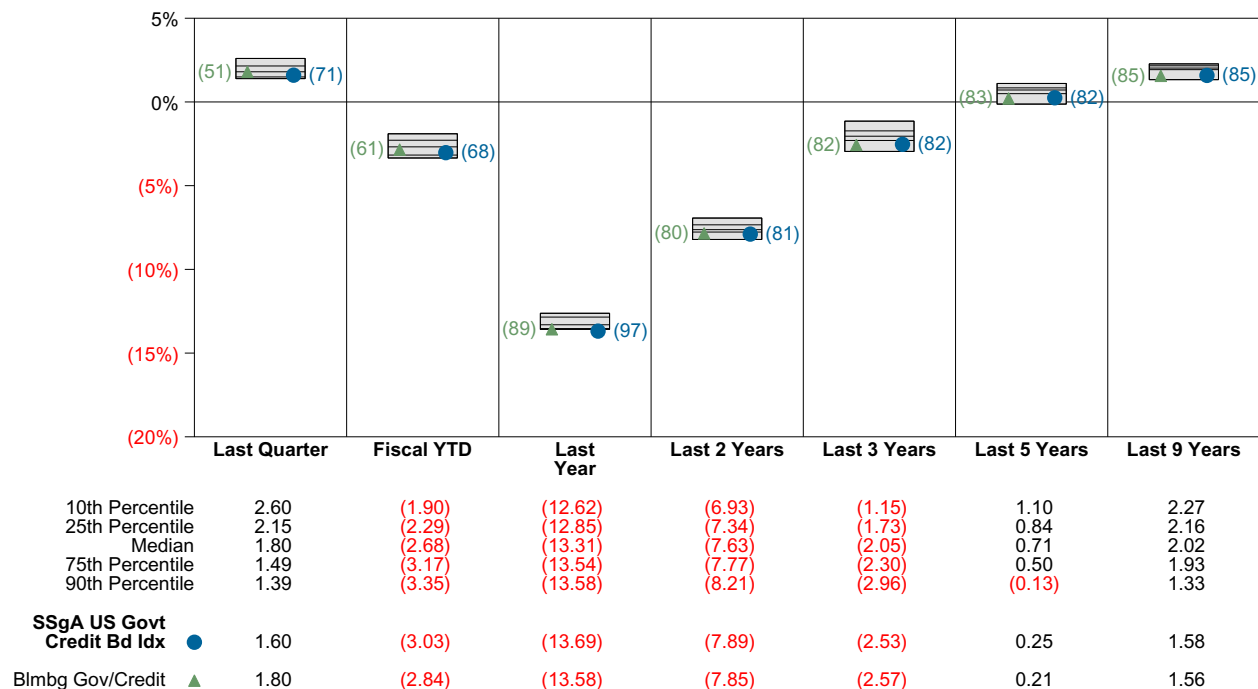
Quarterly Summary and Highlights

- SSgA US Govt Credit Bd Idx's portfolio posted a 1.60% return for the quarter placing it in the 71 percentile of the Callan Government/Credit group for the quarter and in the 97 percentile for the last year.
- SSgA US Govt Credit Bd Idx's portfolio underperformed the Blmbg Gov/Credit by 0.20% for the quarter and underperformed the Blmbg Gov/Credit for the year by 0.11%.

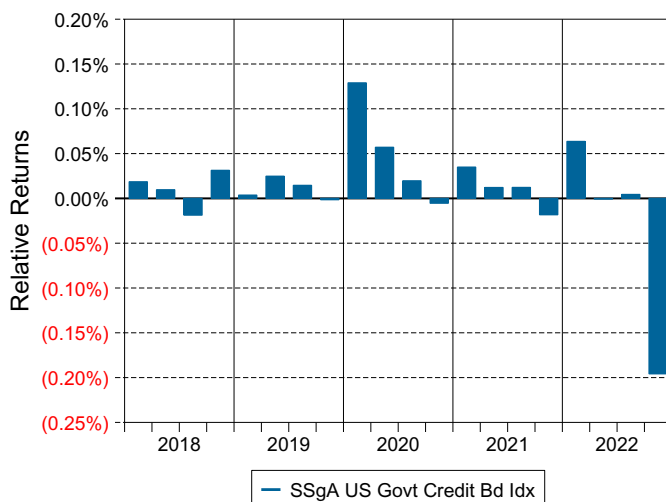
Quarterly Asset Growth

Beginning Market Value	\$366,331,093
Net New Investment	\$29,985,448
Investment Gains/(Losses)	\$6,380,363
Ending Market Value	\$402,696,904

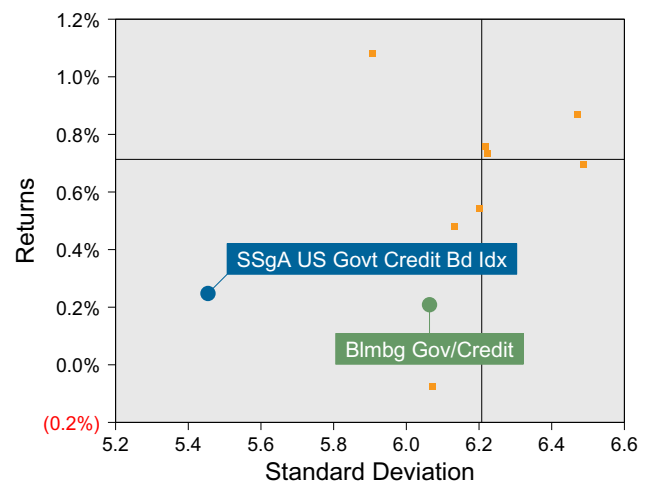
Performance vs Callan Government/Credit (Gross)



Relative Return vs Blmbg Gov/Credit



Callan Government/Credit (Gross) Annualized Five Year Risk vs Return



Western Asset Management Company Period Ended December 31, 2022

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.

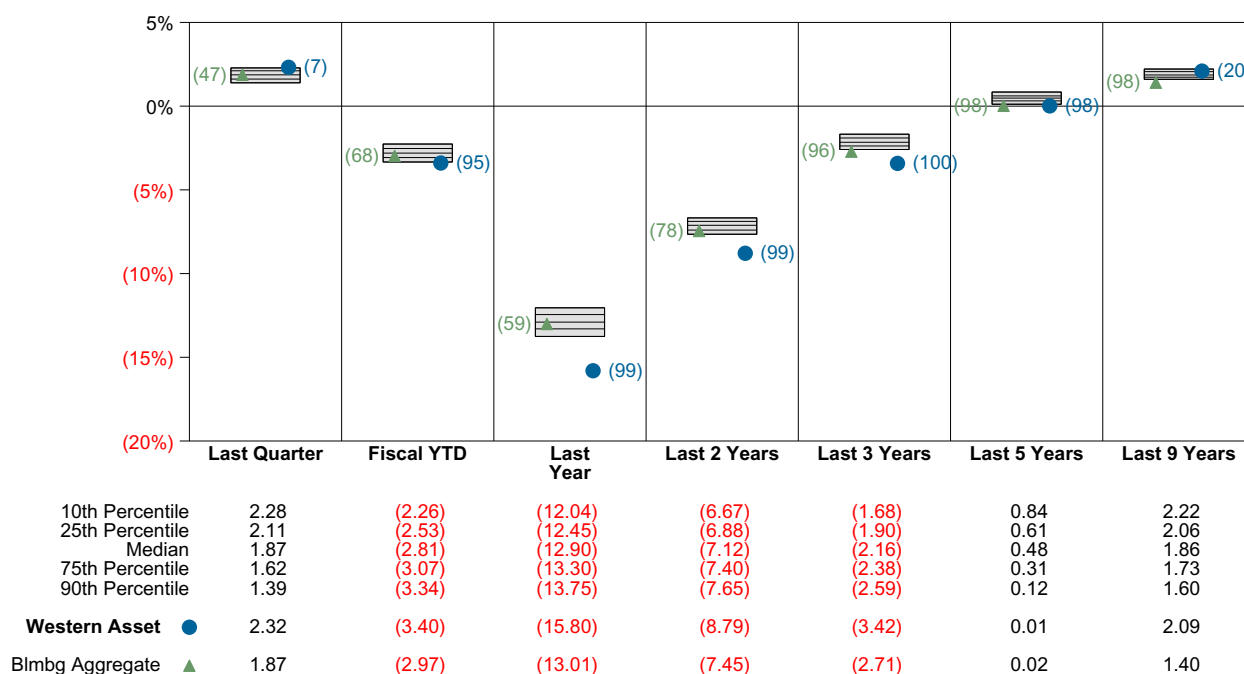
Quarterly Summary and Highlights

- Western Asset's portfolio posted a 2.32% return for the quarter placing it in the 7 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 99 percentile for the last year.
- Western Asset's portfolio outperformed the Blmbg Aggregate by 0.45% for the quarter and underperformed the Blmbg Aggregate for the year by 2.79%.

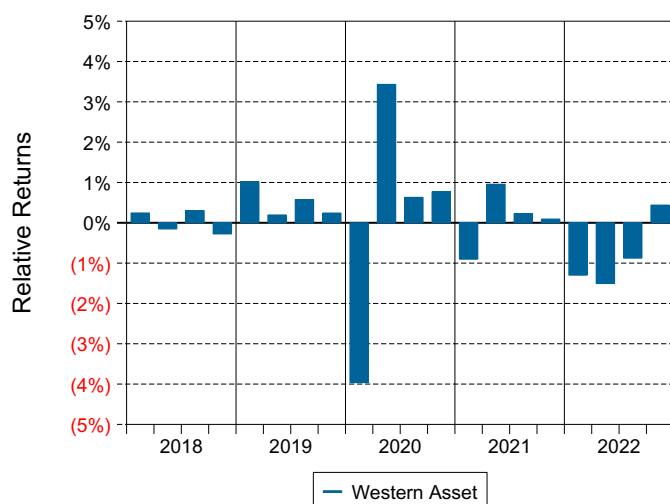
Quarterly Asset Growth

Beginning Market Value	\$710,256,321
Net New Investment	\$40,789,646
Investment Gains/(Losses)	\$17,086,240
Ending Market Value	\$768,132,207

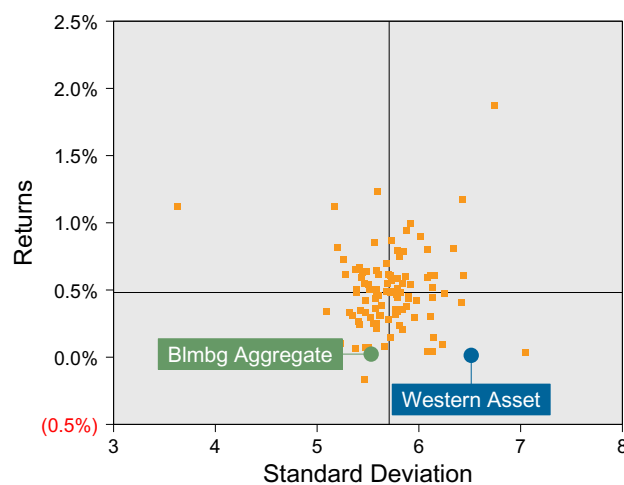
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Return vs Blmbg Aggregate



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



Invesco Core Real Estate Period Ended December 31, 2022

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

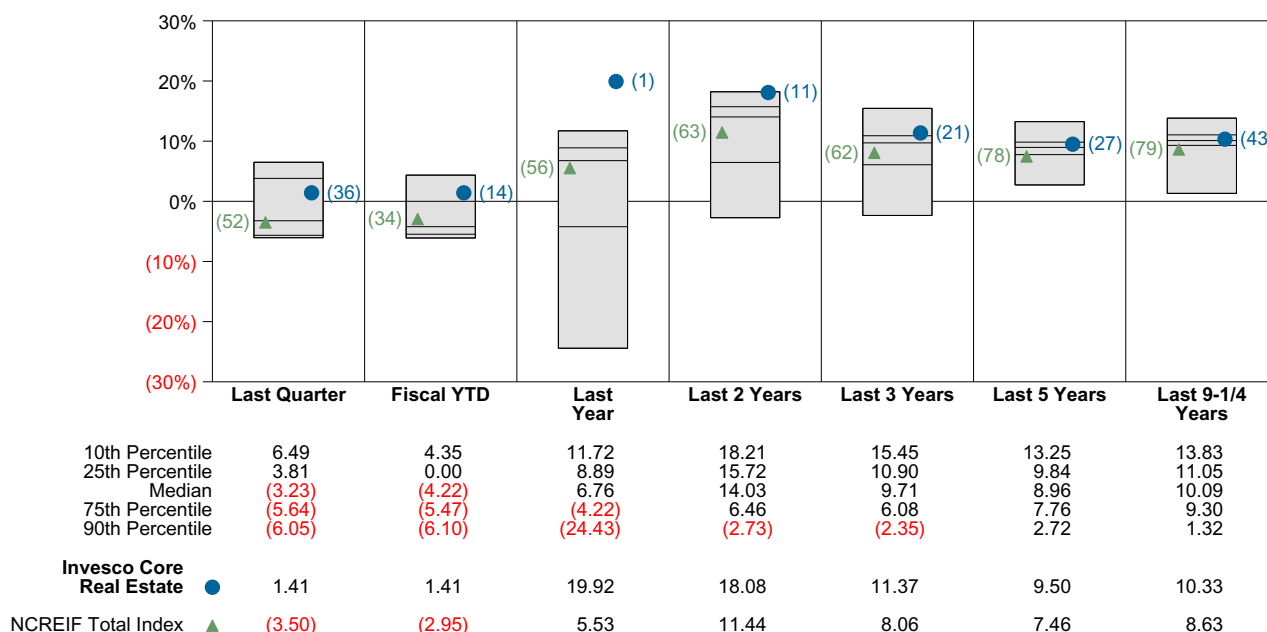
Quarterly Summary and Highlights

- Invesco Core Real Estate's portfolio posted a 1.41% return for the quarter placing it in the 36 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 1 percentile for the last year.
- Invesco Core Real Estate's portfolio outperformed the NCREIF Total Index by 4.91% for the quarter and outperformed the NCREIF Total Index for the year by 14.39%.

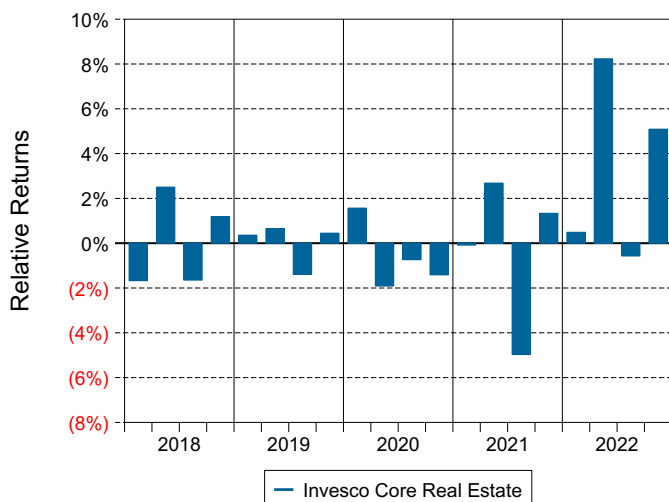
Quarterly Asset Growth

Beginning Market Value	\$235,260,867
Net New Investment	\$-161,601
Investment Gains/(Losses)	\$3,311,587
Ending Market Value	\$238,410,854

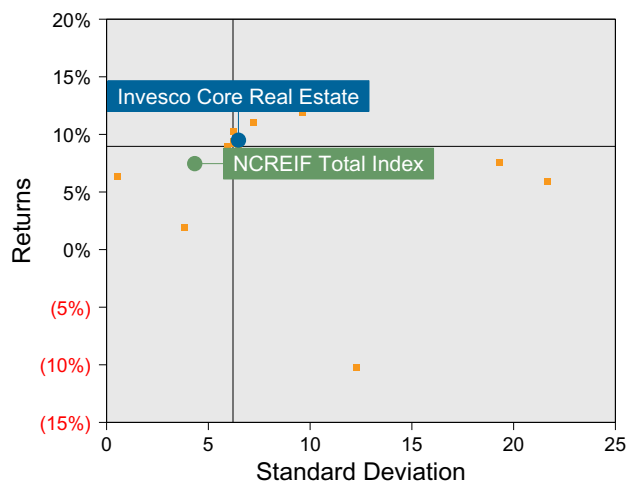
Performance vs Callan Total Domestic Real Estate DB (Gross)



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 December 31, 2022

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.

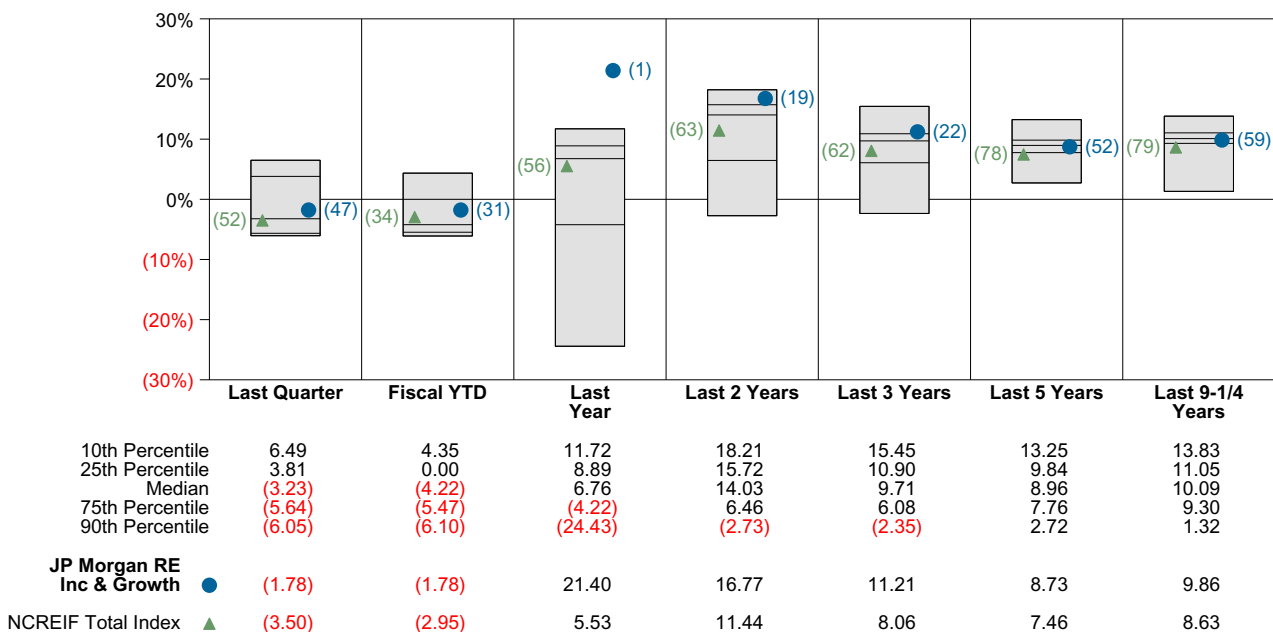
Quarterly Summary and Highlights

- JP Morgan RE Inc & Growth's portfolio posted a (1.78)% return for the quarter placing it in the 47 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 1 percentile for the last year.
- JP Morgan RE Inc & Growth's portfolio outperformed the NCREIF Total Index by 1.72% for the quarter and outperformed the NCREIF Total Index for the year by 15.87%.

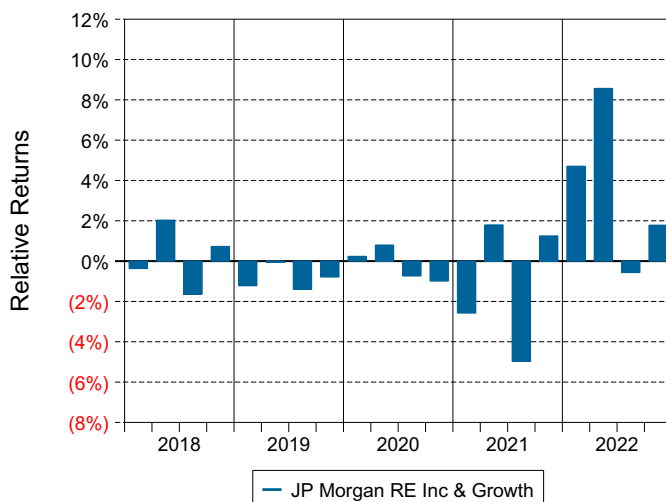
Quarterly Asset Growth

Beginning Market Value	\$236,226,003
Net New Investment	\$-368,626
Investment Gains/(Losses)	\$-4,211,058
Ending Market Value	\$231,646,319

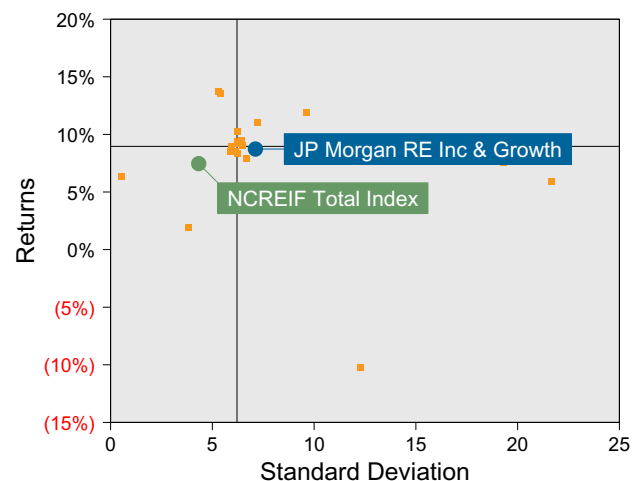
Performance vs Callan Total Domestic Real Estate DB (Gross)



Relative Return vs NCREIF Total Index



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



Western Asset TIPS Period Ended December 31, 2022

Investment Philosophy

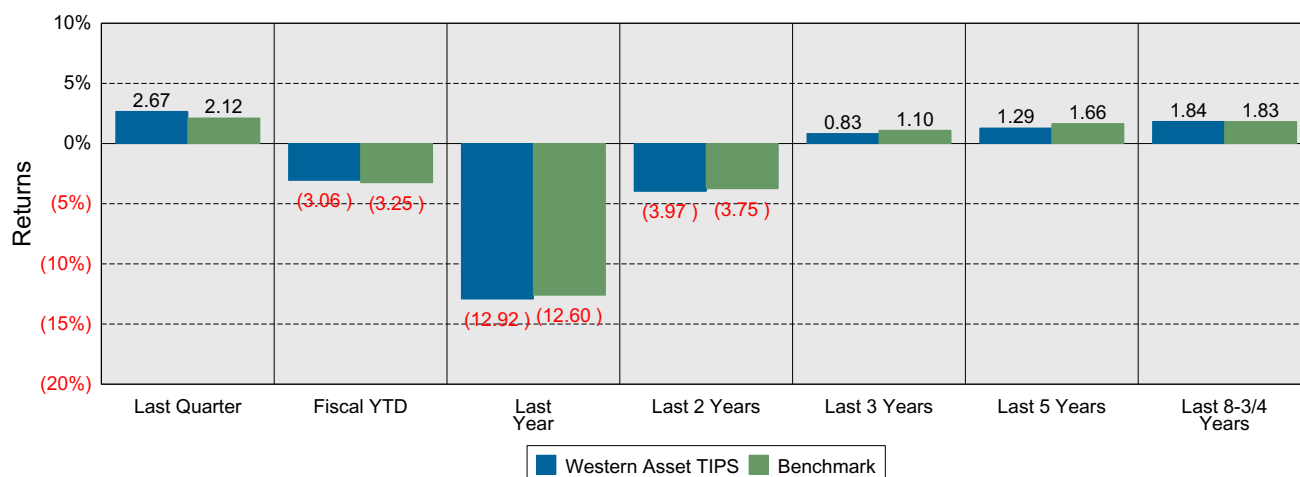
The Western Asset US TIPS Full Discretion strategy is an inflation-protected strategy that aims to maximize total return and add value through duration and curve positioning, sector allocation, and security selection, while approximating benchmark risk. The strategy invests in a diversified portfolio 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

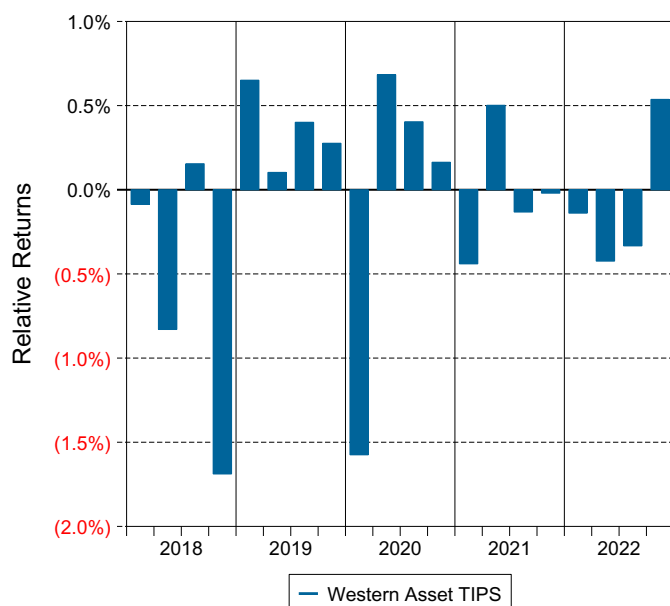
- Western Asset TIPS's portfolio outperformed the Benchmark by 0.55% for the quarter and underperformed the Benchmark for the year by 0.32%.

Quarterly Asset Growth

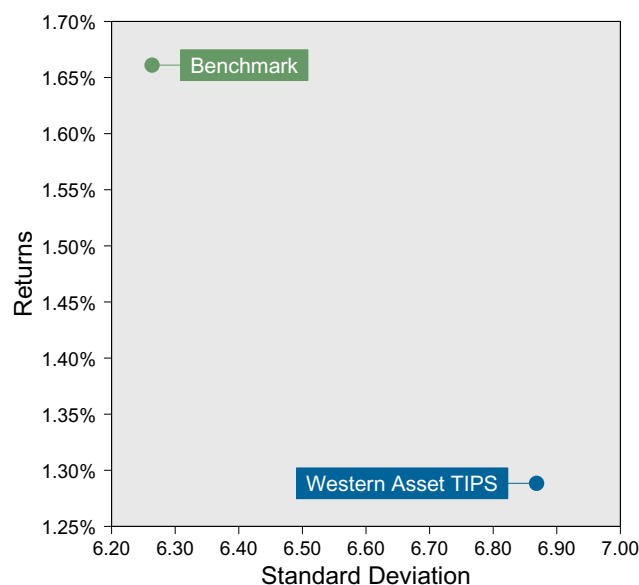
Beginning Market Value	\$365,258,182
Net New Investment	\$-113,918
Investment Gains/(Losses)	\$9,750,376
Ending Market Value	\$374,894,640



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



JP Morgan IIF Infrastructure Period Ended December 31, 2022

Investment Philosophy

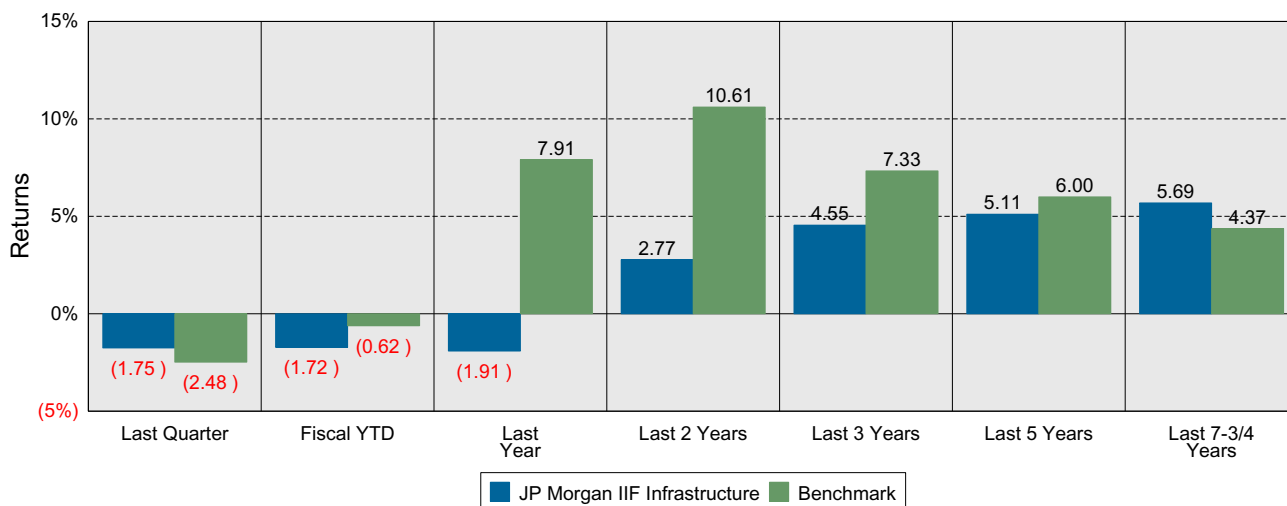
The only open-ended private commingled infrastructure fund in the U.S, the JPMorgan Infrastructure Investments Fund invests in stabilized assets in OECD countries with selected value-added opportunities, across infrastructure industry sub-sectors, including: toll roads, bridges and tunnels; oil and gas 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

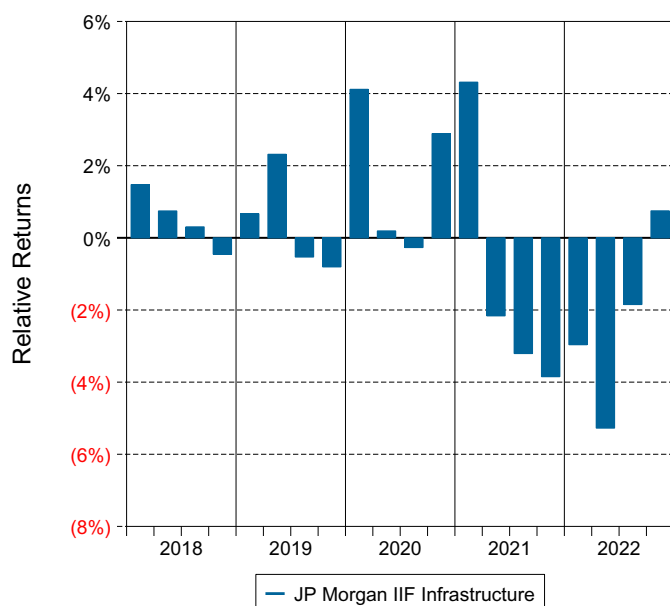
- JP Morgan IIF Infrastructure's portfolio outperformed the Benchmark by 0.73% for the quarter and underperformed the Benchmark for the year by 9.82%.

Quarterly Asset Growth

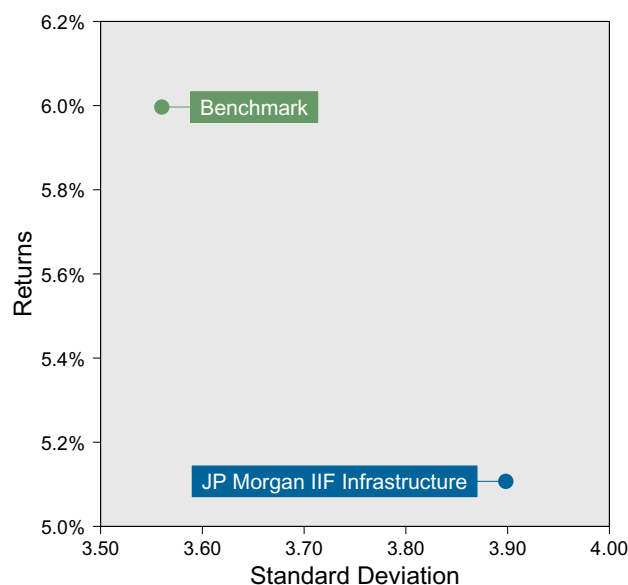
Beginning Market Value	\$100,609,245
Net New Investment	\$-2,552,177
Investment Gains/(Losses)	\$-1,763,066
Ending Market Value	\$96,294,002



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



Grosvenor CIS Fund II

Period Ended December 31, 2022

Investment Philosophy

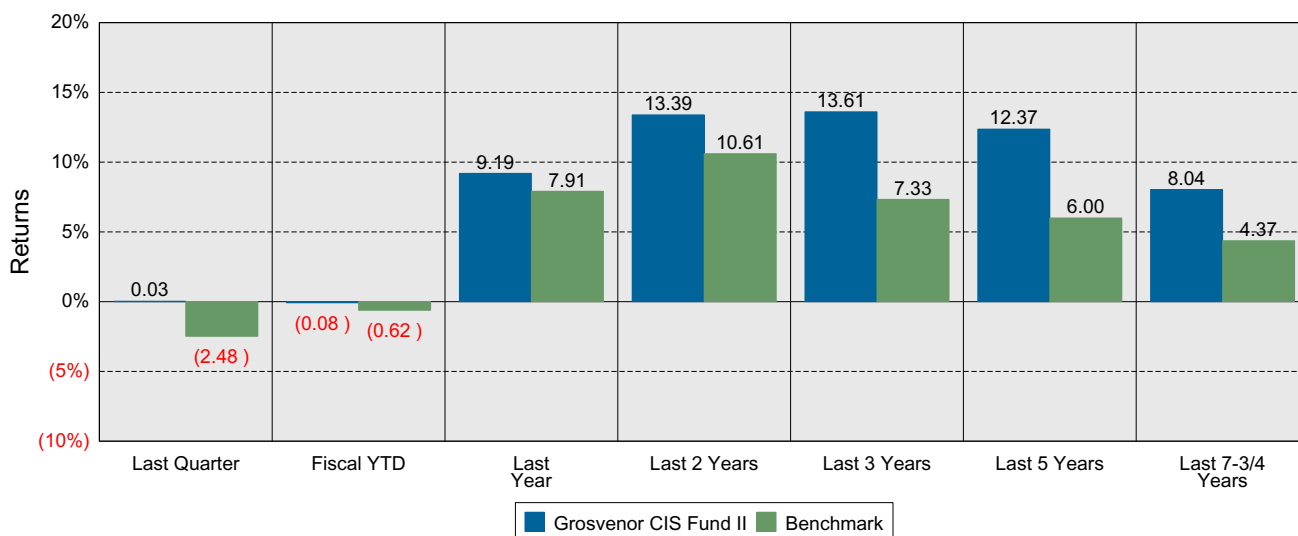
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified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

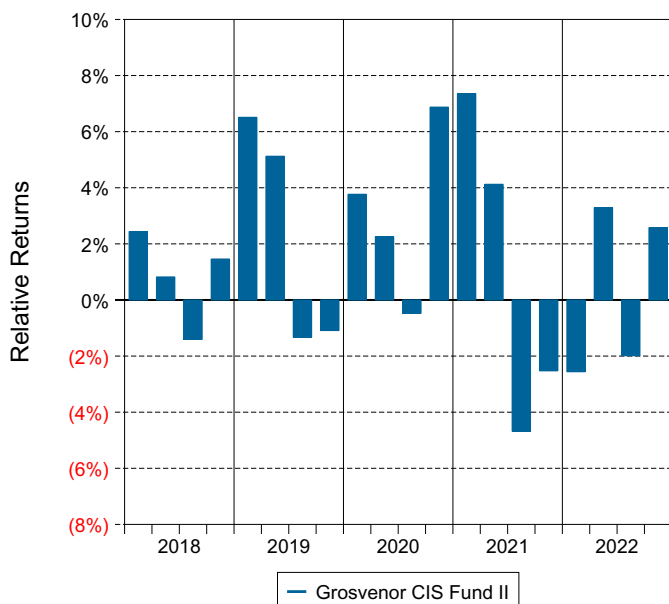
- Grosvenor CIS Fund II's portfolio outperformed the Benchmark by 2.51% for the quarter and outperformed the Benchmark for the year by 1.28%.

Quarterly Asset Growth

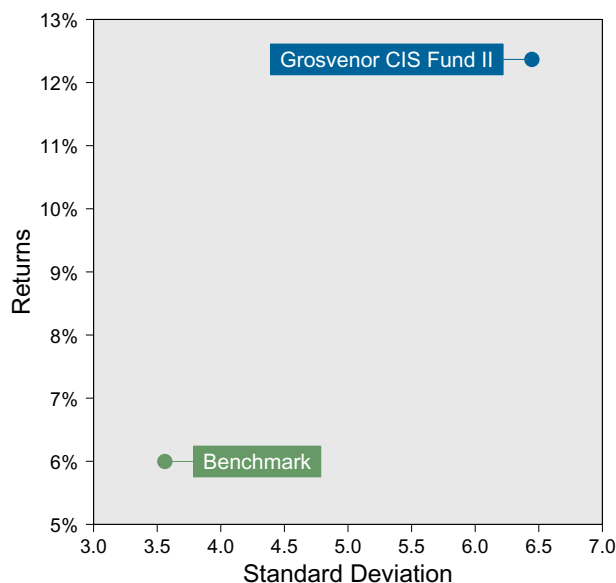
Beginning Market Value	\$56,075,825
Net New Investment	\$-2,091,480
Investment Gains/(Losses)	\$16,744
Ending Market Value	\$54,001,089



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



Grosvenor CIS Fund III

Period Ended December 31, 2022

Investment Philosophy

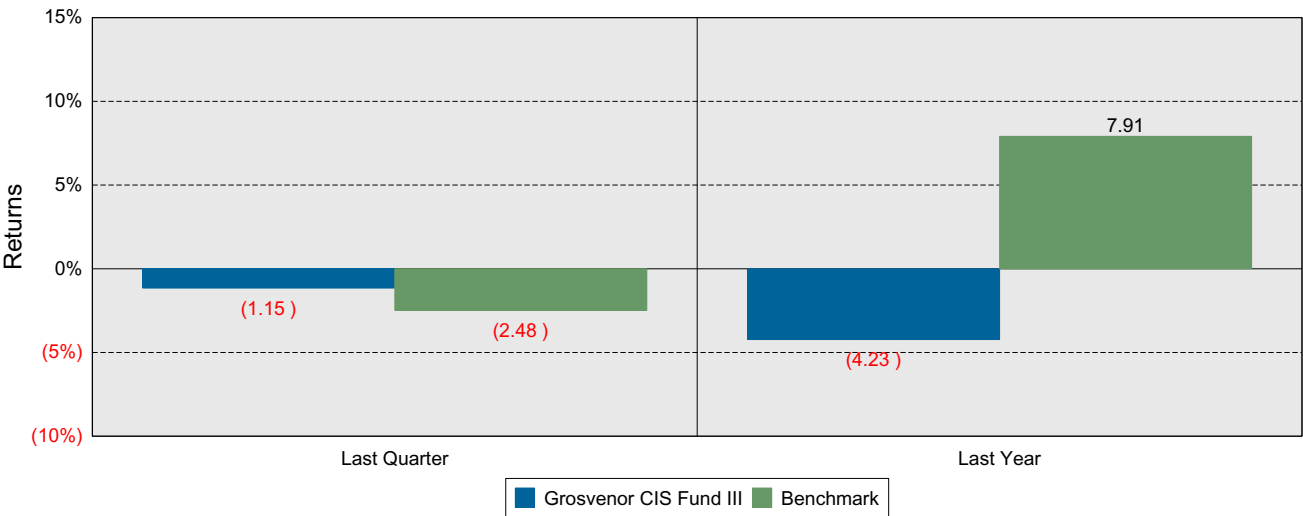
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified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

Quarterly Summary and Highlights

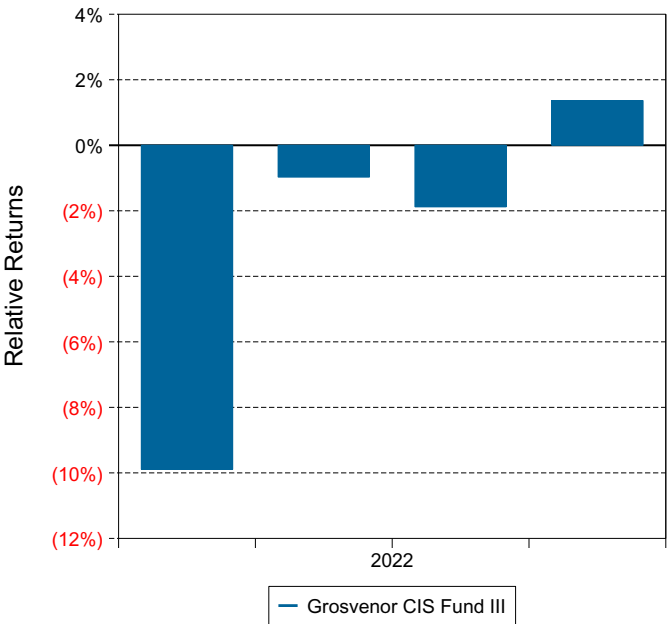
- Grosvenor CIS Fund III's portfolio outperformed the Benchmark by 1.33% for the quarter and underperformed the Benchmark for the year by 12.14%.

Quarterly Asset Growth

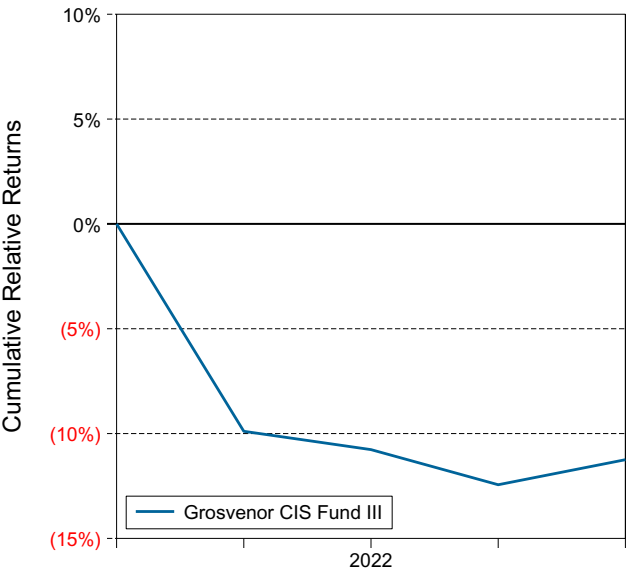
Beginning Market Value	\$21,910,155
Net New Investment	\$4,941,978
Investment Gains/(Losses)	\$-309,385
Ending Market Value	\$26,542,748



Relative Return vs Benchmark



Cumulative Returns vs Benchmark



ISQ Global Infrastructure II Period Ended December 31, 2022

Investment Philosophy

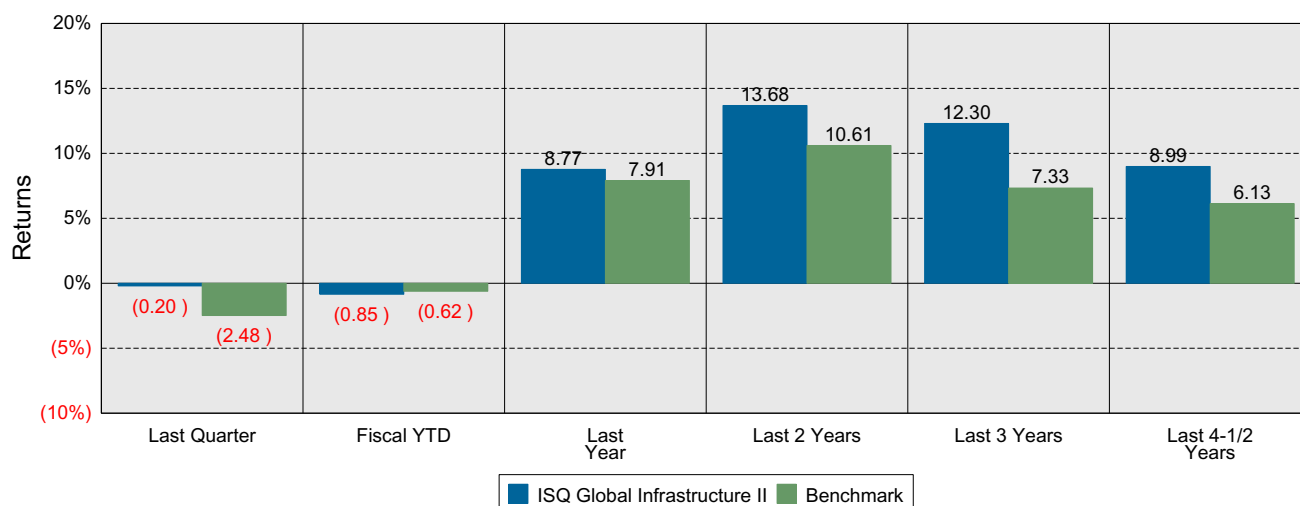
The ISQ Global Infrastructure Fund II seeks to achieve long-term capital appreciation as well as current income through equity and equity related investments in infrastructure and infrastructure related assets located globally, with a focus on North America, Europe, and selected growth economies in Asia 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

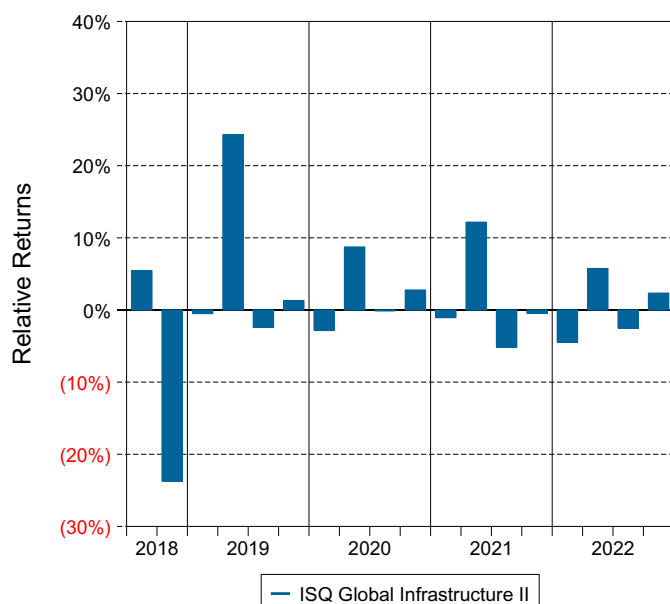
- ISQ Global Infrastructure II's portfolio outperformed the Benchmark by 2.28% for the quarter and outperformed the Benchmark for the year by 0.85%.

Quarterly Asset Growth

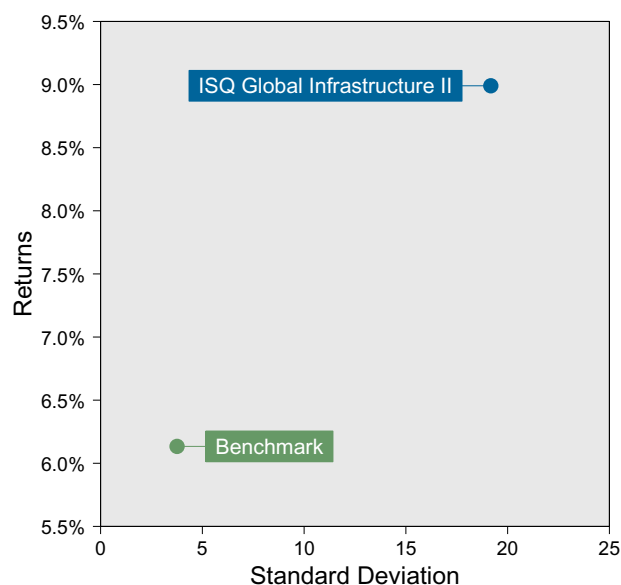
Beginning Market Value	\$82,560,248
Net New Investment	\$-8,206,782
Investment Gains/(Losses)	\$-176,607
Ending Market Value	\$74,176,859



Relative Return vs Benchmark



Annualized Four and One-Half Year Risk vs Return



ISQ Global Infrastructure III Period Ended December 31, 2022

Investment Philosophy

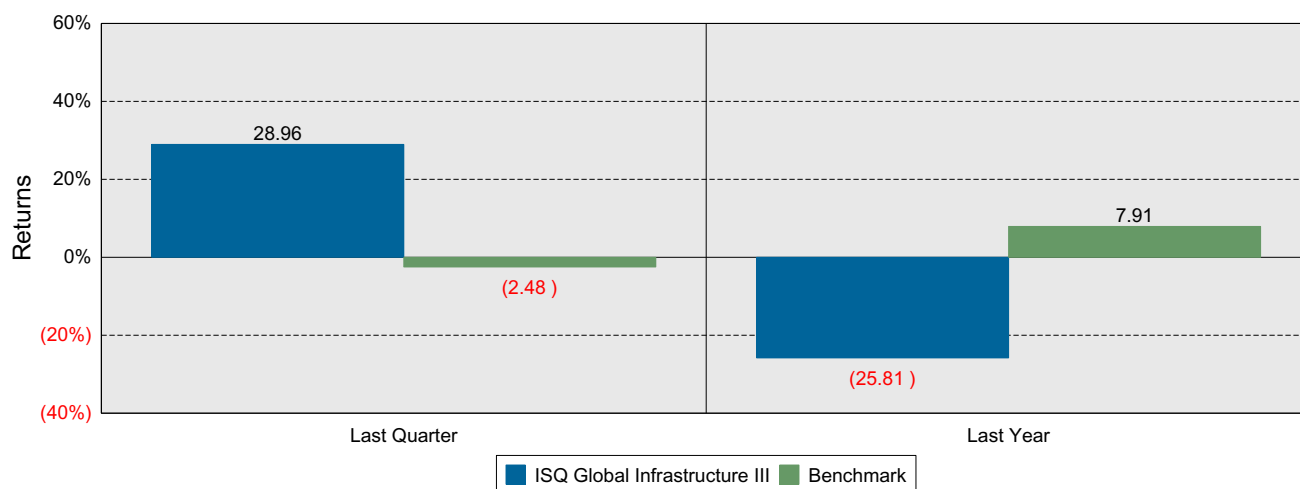
The ISQ Global Infrastructure Fund II seeks to achieve long-term capital appreciation as well as current income through equity and equity related investments in infrastructure and infrastructure related assets located globally, with a focus on North America, Europe, and selected growth economies in Asia 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

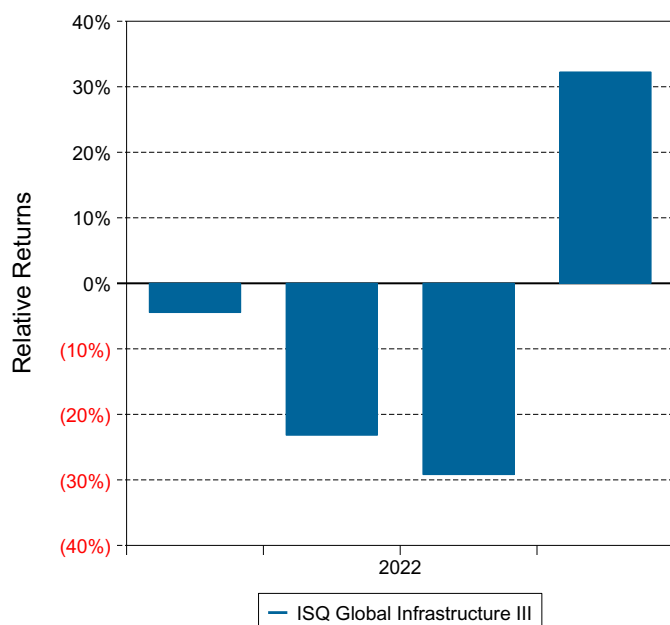
- ISQ Global Infrastructure III's portfolio outperformed the Benchmark by 31.44% for the quarter and underperformed the Benchmark for the year by 33.72%.

Quarterly Asset Growth

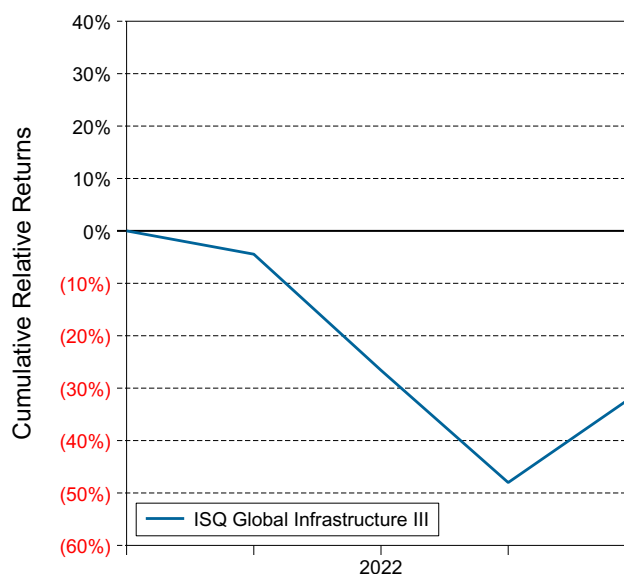
Beginning Market Value	\$6,770,766
Net New Investment	\$0
Investment Gains/(Losses)	\$1,960,827
Ending Market Value	\$8,731,593



Relative Return vs Benchmark



Cumulative Returns vs Benchmark



Macquarie Infrastructure Fund IV Period Ended December 31, 2022

Investment Philosophy

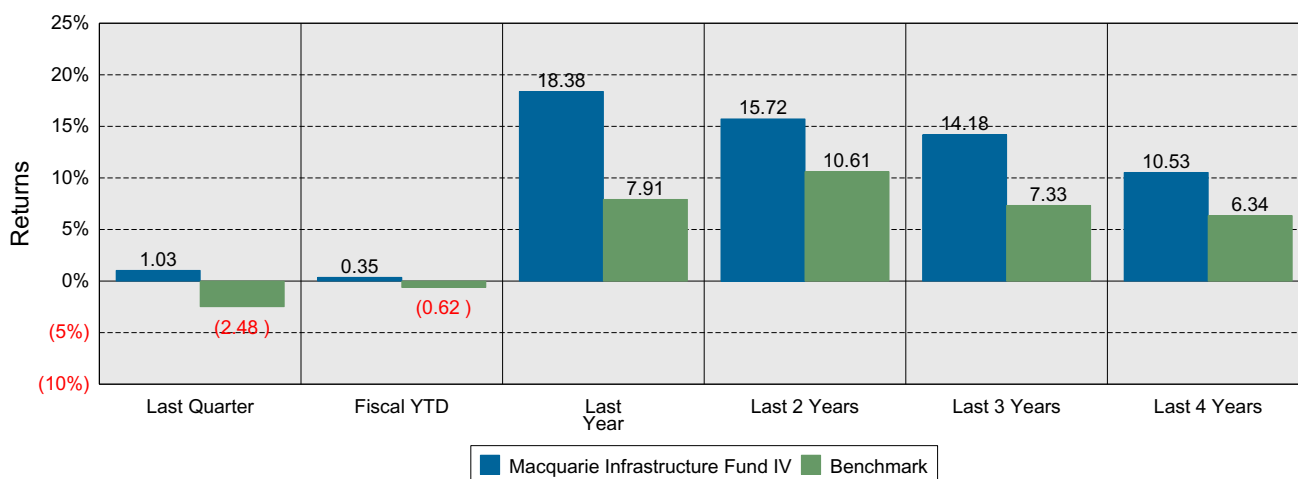
Macquarie's principal investment philosophy is to invest in infrastructure assets that exhibit monopolistic and/or contractual revenue drivers, limited substitution risk and high barriers to entry. The manager has continued to focus on investments where the team's sector expertise and operating experience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

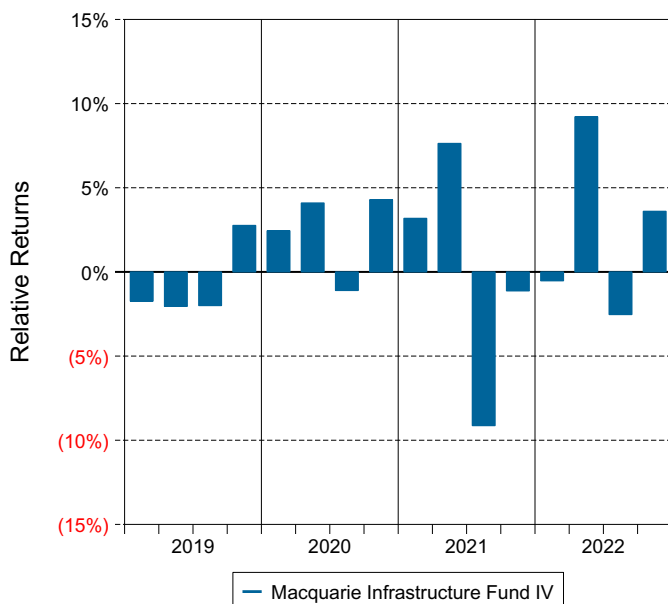
- Macquarie Infrastructure Fund IV's portfolio outperformed the Benchmark by 3.51% for the quarter and outperformed the Benchmark for the year by 10.47%.

Quarterly Asset Growth

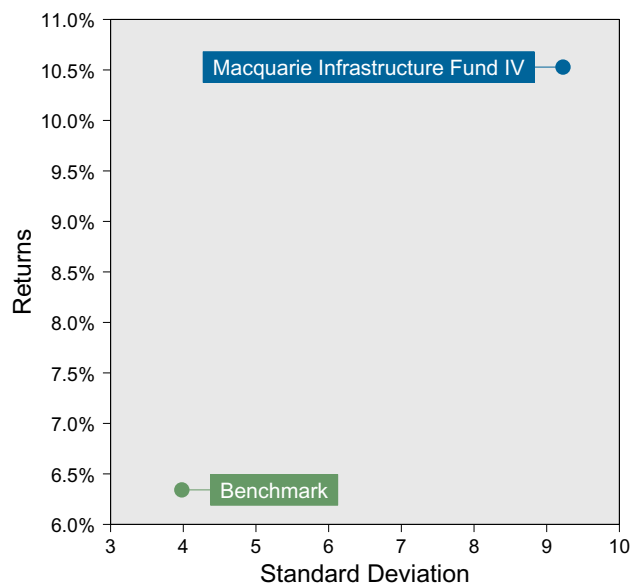
Beginning Market Value	\$89,016,636
Net New Investment	\$-43,002
Investment Gains/(Losses)	\$916,531
Ending Market Value	\$89,890,165



Relative Return vs Benchmark



Annualized Four Year Risk vs Return



Macquarie Infrastructure Fund V Period Ended December 31, 2022

Investment Philosophy

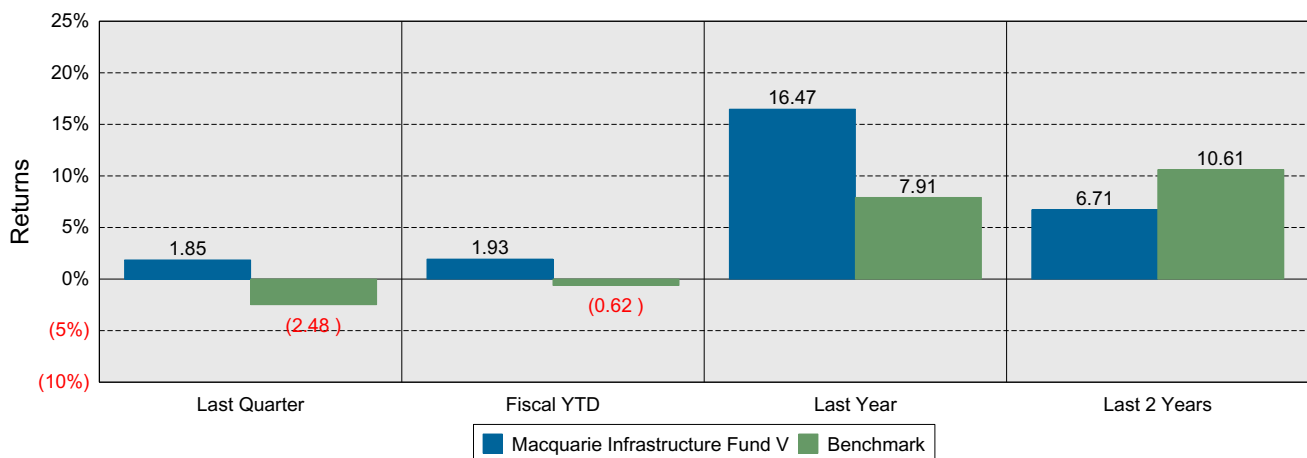
Macquarie's principal investment philosophy is to invest in infrastructure assets that exhibit monopolistic and/or contractual revenue drivers, limited substitution risk and high barriers to entry. The manager has continued to focus on investments where the team's sector expertise and operating experience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

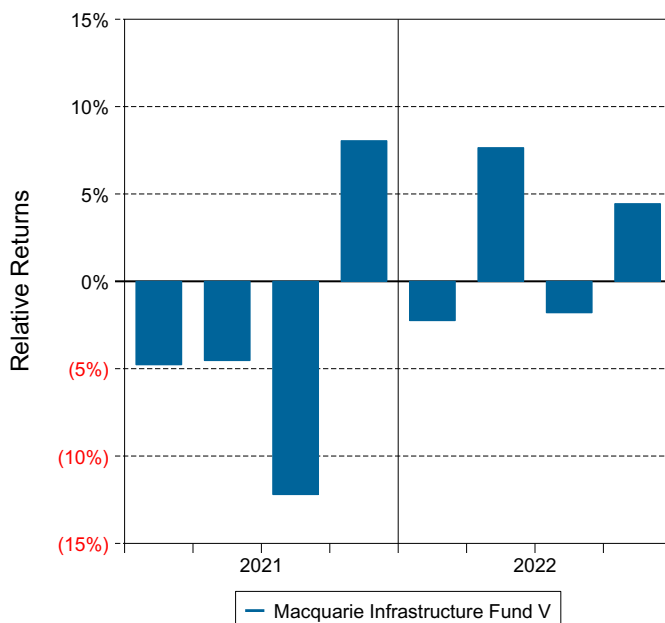
- Macquarie Infrastructure Fund V's portfolio outperformed the Benchmark by 4.33% for the quarter and outperformed the Benchmark for the year by 8.56%.

Quarterly Asset Growth

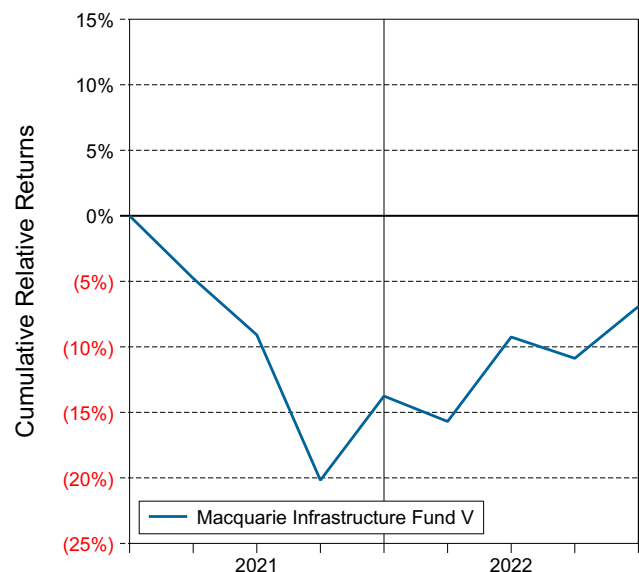
Beginning Market Value	\$69,712,515
Net New Investment	\$8,271,825
Investment Gains/(Losses)	\$1,401,757
Ending Market Value	\$79,386,097



Relative Return vs Benchmark



Cumulative Returns vs Benchmark



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

2022 ESG Survey | Callan's 10th annual survey assesses the status of environmental, social, and governance (ESG) investing in the U.S. institutional investment market.

Considering Currency: A Guide for Institutional Investors | This guide to currency trends over time provides institutional investors with multiple ways to benchmark and analyze their portfolios.

2022 Nuclear Decommissioning Funding Study | Julia Moriarty offers key insights into the status of nuclear decommissioning funding to make peer comparisons more accurate and relevant.

Blog Highlights

What DC Plan Sponsors Should Know About Recent Litigation Trends | Callan reviewed lawsuits filed against DC plans between January 2019 and August 2022, to provide an analysis of trends in litigation centered on the fiduciary duties outlined in ERISA.

How Does Your Public DB Plan Measure Up? | Most public DB plans saw sharp losses for the fiscal year ended 6/30/22. However, plan returns for fiscal year 2021 were the strongest in three decades.

Index Selection Within TDF Benchmarks Can Make a Big Difference | Most TDF providers build a custom benchmark for performance comparisons. While this approach is useful, it does not capture differences in glidepath design and asset allocation that are the major drivers of relative performance.

Webinar Replays

Callan's 2023-2032 Capital Markets Assumptions | During this webinar, Jay Kloepper, Kevin Machiz, and Adam Lozinski described our 2023-2032 Capital Markets Assumptions, discussed the process

and rationale behind these long-term assumptions, and explained the potential implications for strategic recommendations.

Corporate Pension Hibernation | Callan specialists explore why closed and frozen plans might wish to hibernate in the current market, thereby deferring the decision to fully terminate until the future.

Research Cafe: ESG Interview Series | During this interview, Tom Shingler of Callan discusses with Sara Rosner, director of environment research and engagement for AllianceBernstein's responsible investing team, carbon emissions and why they matter to investors.

Quarterly Periodicals

Private Equity Update, 3Q22 | A high-level summary of private equity activity in the quarter through all the investment stages

Active vs. Passive Charts, 3Q22 | A comparison of active managers alongside relevant benchmarks over the long term

Market Pulse, 3Q22 | 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, 3Q22 | 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, 3Q22 | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

Real Assets Update, 3Q22 | A summary of market activity for real assets and private real estate during the quarter

Private Credit Update, 3Q22 | 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 National Conference

April 2-4, 2023 – Scottsdale, AZ

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: 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

Education

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

Introduction to Investments

March 1-2 – Chicago

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: callan.com/events-education



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

Greg Allen, CEO and Chief Research Officer

List of Callan's Investment Manager Clients

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

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

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

Manager Name

abrdn (Aberdeen Standard Investments)
Acadian Asset Management LLC
Adams Street Partners, LLC
AEGON USA Investment Management Inc.
AllianceBernstein
Allianz
Allspring Global Investments
American Century Investments
Amundi US, Inc.
Antares Capital LP
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC
Arrowmark Partners
ARS Investment Partners LLC
Atlanta Capital Management Co., LLC
AXA Investment Managers

Manager Name

Baillie Gifford International, LLC
Baird Advisors
Barings LLC
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
Belle Haven Investments
BentallGreenOak
BlackRock
Blackstone Group (The)
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
Brookfield Asset Management Inc.
Brown Brothers Harriman & Company
Capital Group
Carillon Tower Advisers
Carlyle Group

Manager Name
CastleArk Management, LLC
Chartwell Investment Partners
ClearBridge Investments, LLC
Clearlake Capital
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments North America
Conestoga Capital Advisors
Credit Suisse Asset Management, LLC
Crescent Capital Group LP
D.E. Shaw Investment Management, LLC
DePrince, Race & Zollo, Inc.
Diamond Hill Capital Management, Inc.
Dimensional Fund Advisors L.P.
Doubleline
Duff & Phelps Investment Management Co.
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 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
HarbourVest Partners, LLC
Hardman Johnston Global Advisors LLC
Heitman LLC
HPS Investment Partners, 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
J O Hambro Capital Management Limited
Jobs Peak Advisors
Johnson Asset Management
KeyCorp
Kohlberg Kravis Roberts & Co. (KKR)
Lazard Asset Management
LGIM America
Lighthouse Investment Partners, LLC
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
LSV Asset Management
Mackay Shields LLC
Macquarie Asset Management
Man Group
Manning & Napier Advisors, LLC
Manulife Investment Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
Mellon
MetLife Investment Management
MFS Investment Management
MidFirst Bank
MLC Asset Management
Mondrian Investment Partners Limited
Monroe Capital LLC
Montag & Caldwell, LLC
Morgan Stanley Investment Management
MUFG Union Bank, N.A.
Napier Park Global Capital

Manager Name

Natixis Investment Managers

Neuberger Berman

Newton Investment Management

Ninety One North America, Inc.

Northern Trust Asset Management

Nuveen

Oaktree Capital Management, L.P.

P/E Investments

Pacific Investment Management Company

Pantheon Ventures

Parametric Portfolio Associates LLC

Partners Group (USA) Inc.

Pathway Capital Management, LP

Peregrine Capital Management, LLC

PFM Asset Management LLC

PGIM Fixed Income

PGIM Quantitative Solutions LLC

Pictet Asset Management

PineBridge Investments

Polen Capital Management, LLC

Principal Asset (formerly Principal Global)

Pugh Capital Management Inc.

Putnam Investments, LLC

Pzena Investment Management, LLC

Raymond James Investment Management

RBC Global Asset Management

Regions Financial Corporation

Richard Bernstein Advisors LLC

Robeco Institutional Asset Management, US Inc.

Manager Name

Rothschild & Co. Asset Management US

S&P Dow Jones Indices

Schroder Investment Management North America Inc.

Segall Bryant & Hamill

SLC Management

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

State Street Global Advisors

Strategic Global Advisors, LLC

Strategic Value Partners, LLC

T. Rowe Price Associates, Inc.

The TCW Group, Inc.

Thompson, Siegel & Walmsley LLC

Thornburg Investment Management, Inc.

Tri-Star Trust Bank

UBS Asset Management

ULLICO Investment Advisors, Inc.

VanEck

Versus Capital Group

Victory Capital Management Inc.

Virtus Investment Partners, Inc.

Vontobel Asset Management

Voya

Walter Scott & Partners Limited

WCM Investment Management

Wellington Management Company, LLP

Western Asset Management Company LLC

Westfield Capital Management Company, LP

Westwood Global Investments

William Blair & Company LLC

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Past performance is no guarantee of future results.