Verus

PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS

PERIOD ENDING: DECEMBER 31, 2022

Investment Performance Review for

Tulare County Employees’ Retirement Association

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Verus

VERUSINVESTMENTS.COM

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Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

1ST QUARTER 2023 Investment Landscape

Verus business update

Since our last Investment Landscape webinar:

— Verus hired two new employees:

- **Cholo Villanueva**, Performance Analyst – Seattle office
- **Demitri Castaneda**, Performance Analyst – Seattle office

— Two employees passed their Level III CFA exams, earning their charters. Verus now has a total of 33 CFA charterholders.

— Verus retained a new client in Alaska, adding a fourth client to the state.

— We celebrated our 37th anniversary. Wurts Johnson & Company (founding name) was established in January 1986.

— We also enhanced our research content management system to improve how we *communicate* our conviction in managers with our new IQ Ratings system. *(details on next page)*

Consulting | Outsourced CIO (OCIO) | Risk Advisory | Private Markets

Manager rating system

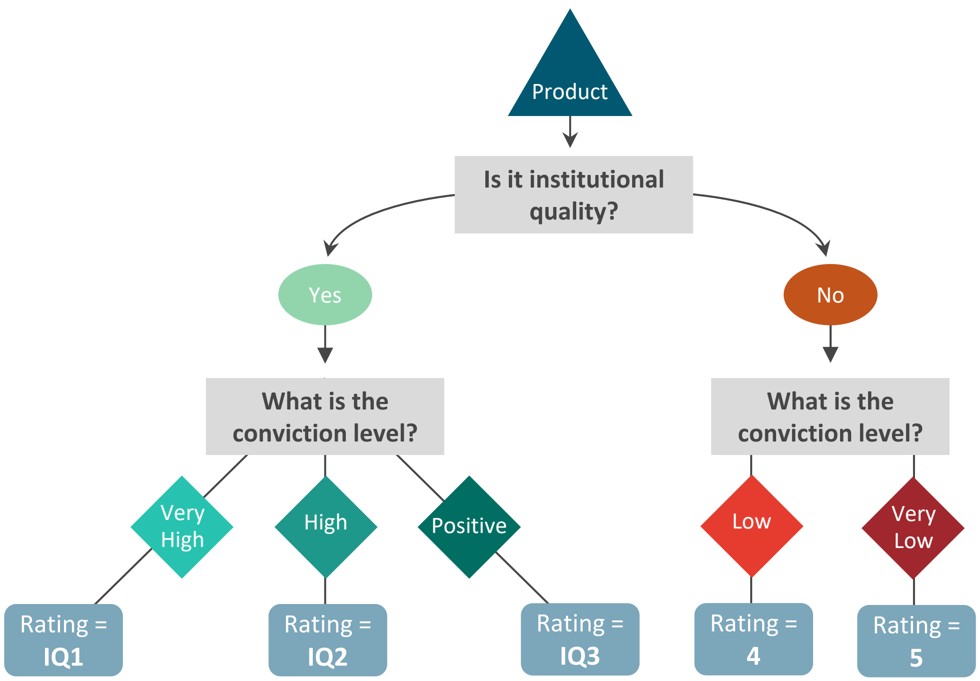
The IQ Rating System communicates our conviction in investment products

There are two components to the rating:

1. **Institutional quality** – (IQ) The product meets or exceeds the standards of fiduciary care required by institutional investors and is suitable for use in clients' portfolios.

2. **Conviction** – (1 to 5) Represents the conviction of our research teams in the distinguishing qualities of the product relative to its peers, with 1 as the highest rating and 5 the lowest.

PROCESS



Rating process simplified for illustrative purposes only

DEFINITIONS & GUIDELINES

Rating	Institutional Quality?	Conviction Level	Defining Characteristics	Recommendations
IQ1	Yes	Very High	Earns Verus' highest conviction. Above-average characteristics most likely to achieve the strategy's desired investment results.	Recommended for use in client portfolios. May be used in Verus discretionary portfolios.
IQ2	Yes	High	Maintains Verus' high conviction. Above-average characteristics most likely to achieve strategy's desired investment results.	Recommended for use in client portfolios. May be used in Verus discretionary portfolios.
IQ3	Yes	Positive	Meets institutional quality standards that can achieve desired investment results. Strengths outweigh weaknesses.	While IQ1 or IQ2 rated products are generally preferable, certain client needs may be better addressed by a highly specialized IQ3 product.
4	No	Low	Concerns with the product's ability to meet institutional-quality standards.	Clients should re-evaluate retention or monitor closely.
5	No	Very Low	Significant issues inhibit the product's ability to meet institutional-quality standards.	Verus recommends termination, immediately.

Recent Verus research

Visit: https://www.verusinvestments.com/insights/

Topics of interest papers

A BRIEF GUIDE TO THE SFA PROGRAM

In this paper, we plan to approach the Special Financial Assistance (SFA) program from an investment perspective. First, we describe the interest rate rules. Next, we offer some ways in which investors may think about their legacy assets relative to their new SFA funds. This section concludes by outlining a strategy in which SFA funds are used to cash flow match expected future liability payments. Overall, the health of a Plan will determine how much SFA funding is available, and the total amount of SFA funding awarded will likely determine the degree to which this program should reasonably impact an investor's total portfolio strategy.

IS PAINLESS DIVERSIFICATION BACK?

Low interest rates over the last few years have caused investors significant asset allocation problems. The 2022 market reversal has begun to reverse these challenges. The implications of this return to more normal conditions for investors include:

— The renewed role of fixed income in portfolios
— Greater flexibility to meet performance objectives through simple portfolio structures
— The ability of certain investors to meet return objectives while taking less market risk
— The potential for pensions to take advantage of higher interest rates and likely stronger funded status by pursuing more liability-aware investment strategies

Annual research

2023 CAPITAL MARKET ASSUMPTIONS

Some important developments occurred in the last year. Capital Market Assumptions guide our advice and recommendations. They reflect the best judgments of our research and investment teams regarding the expected behavior and associated risks of capital markets in the years ahead. During our 2023 Capital Market Assumptions webinar, we discussed:

— A significant increase in our Capital Market Assumptions, and aspects of the environment which have driven this change
— The "building blocks" of market returns and our philosophy around forecasting future asset-class performance
— Implications for investors as markets escape the *low-return environment* of recent years

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4th quarter summary

THE ECONOMIC CLIMATE

— Real GDP increased at a 2.9% rate in the fourth quarter (1.0% year-over-year growth), slightly exceeding expectations. Consumer spending, private inventory investment, government expenditures, and nonresidential investment were supportive of growth.

— Unemployment remained near historic lows during the quarter, at 3.5% in December. While this figure suggests a strong and resilient job market, the workforce remains much smaller than pre-pandemic times as more than two million workers remain out of the labor force.

PORTFOLIO IMPACTS

— Inflation fears continue to ease as domestic inflation fell further. Headline inflation was 6.5% year-over-year in December—the lowest since October 2021—while core inflation came in at 5.7%. Prices for most goods and services have moderated with the exception of shelter costs, which increased at a worryingly fast pace of 10.0% annualized in December.

— U.S. real personal spending held steady at 2.0% year-over-year in August. Households focused spending on services over goods, which has removed some stress from supply chains and likely helped to normalize global transportation issues. Relatively strong spending seems to suggest it is possible that inflation moderates without a painful slowdown in the economy.

THE INVESTMENT CLIMATE

— China's rapid pivot away from a "Zero Covid" policy towards the end of Q4 added a large tailwind to emerging market equity performance and the global growth outlook. Despite this positive news, an uptick in virus cases poses challenges for China's reopening.

— Credit performed well in the fourth quarter, as resilient U.S. economic growth combined with expectations for the Fed to ease their tightening cycle helped mitigate investor concerns of a near-term cyclical downturn.

ASSET ALLOCATION ISSUES

— Calendar year 2022 proved to be a year of *reversal* regarding asset class performance. Top performing investments of the past decade, such as U.S. growth and small cap stocks, suffered some of the largest losses. Meanwhile, many of the worst performing investments of the past decade, including commodities and value stocks, significantly outperformed.

— Value stocks outperformed markedly during 2022, outpacing growth stocks by 10.2% in Q4 and 21.6% for the year. Energy, industrials, and materials—sectors heavily tilted toward value—showed strong returns, with energy ending the year up 64.6%.

Markets have partially recovered as inflation fears eased

Recession risks and an earnings slowdown may come into focus in 2023

What drove the market in Q4?

"Has Inflation Peaked?"

HEADLINE CONSUMER PRICE INFLATION (YEAR-OVER-YEAR)

Jul	Aug	Sep	Oct	Nov	Dec
8.5%	8.3%	8.2%	7.7%	7.1%	6.5%

Article Source: Financial Times, December 8th, 2022

"The Labor Market is Still Hot"

CHANGE IN U.S. NONFARM PAYROLLS

Jul	Aug	Sep	Oct	Nov	Dec
+537k	+292k	+269k	+284k	+263k	+223k

Article Source: Axios, November 1st, 2022

"Fed Raises Rate by 0.5 Percentage Point, Signals More Increases Likely"

FOMC MEETING RATE HIKE DECISIONS

May	Jun	July	Sep	Nov	Dec
+50 bps	+75 bps	+75 bps	+75 bps	+75 bps	+50 bps

Article Source: Wall Street Journal, December 14th, 2022

"China's Covid Pivot Accelerates as Cities Ease Testing Rules"

CHINESE REPORTED NEW CASES (DAILY AVERAGE FOR THE MONTH)

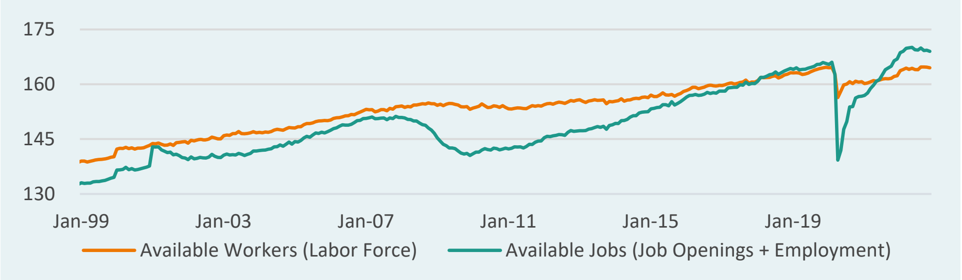
Jul	Aug	Sep	Oct	Nov	Dec
559	1,629	1,158	1,340	18,914	14,748

Article Source: Bloomberg, December 5th, 2022. Dataset from Our World in Data

FED FUNDS RATE UPPER BOUND

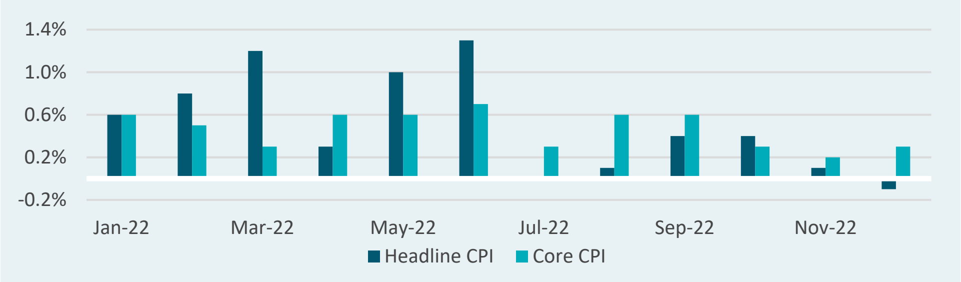
Source: Federal Reserve, as of 12/31/22

U.S. AVAILABLE WORKERS VS. AVAILABLE JOBS (MILLIONS)



Source: Bureau of Labor Statistics, as of 11/30/22

U.S. HEADLINE & CORE CPI (MONTH-OVER-MONTH)



Source: Bureau of Labor Statistics, as of 12/31/22

Economic environment

U.S. economics summary

— Real GDP increased at a 2.9% rate in Q4 (1.0% year-over-year growth). Consumer spending, private inventory investment, government expenditures, and nonresidential investment supported the economy.

— Inflation fears continue to ease as domestic inflation fell further. December headline inflation came in at 6.5% year-over-year while core inflation (excluding food & energy) came in at 5.7%. Most goods and services price rises have slowed, with the exception of shelter costs, which increased at a worryingly fast pace of 10% annualized in December.

— Unemployment remained very low during the quarter, at 3.5% in December. While this official figure suggests a strong and resilient job market, the workforce remains much smaller than pre-pandemic times as more than two million workers are missing from the labor force.

— Consumer spending kept steady though savings rates dropped to 2.3%—a depressed level not seen since the mid-2000s. A low household savings rate is sometimes seen as an indicator of strong consumer confidence and spending, though we suspect household budgets are currently being hit hard by higher costs.

— Consumer sentiment improved during Q4 but is still very downbeat. In the most recent University of Michigan survey, respondents showed less concern around inflation, reported better business conditions and long-term outlook, but were pessimistic over personal finances.

— U.S. home prices peaked in June 2022 and have been falling since then, according to S&P CoreLogic. Significantly higher mortgage interest rates have led to the worst home affordability on record, according to the National Association of Realtors.

	Most Recent	**12 Months Prior**
Real GDP *(YoY)*	1.0% *12/31/22*	5.7% *12/31/21*
Inflation *(CPI YoY, Core)*	5.7% *12/31/22*	5.5% *12/31/21*
Expected Inflation *(5yr-5yr forward)*	2.2% *12/31/22*	2.3% *12/31/21*
Fed Funds Target Range	4.25% – 4.50% *12/31/22*	0.00% – 0.25% *12/31/21*
10-Year Rate	3.87% *12/31/22*	1.51% *12/31/21*
U-3 Unemployment	3.5% *12/31/22*	3.9% *12/31/21*
U-6 Unemployment	6.5% *12/31/22*	7.3% *12/31/21*

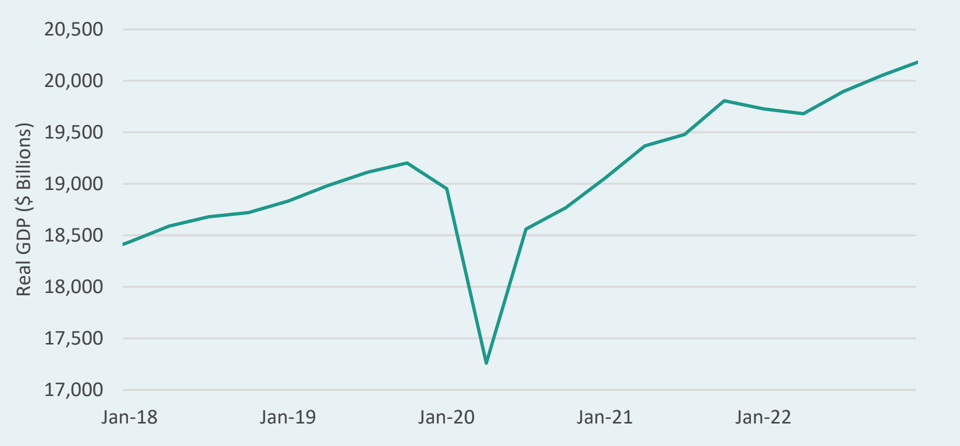
GDP growth

Real GDP increased at a 2.9% rate in the fourth quarter (1.0% growth year-over-year), slightly exceeding expectations of 2.8%. Consumer spending supported growth, along with gains in private inventory investment, government expenditures, and nonresidential investment. Residential fixed investment saw an extreme drop of -26.7% during the quarter as the housing market weakened. Declining exports also acted as a drag on growth.

Investors appear unsure about how to interpret the recent string of strong U.S. economic data. Although consumer sentiment is very poor by most measures, spending remains positive and the job market remains surprisingly resilient. Were the economy to avoid recession, this would be positive for businesses and for corporate earnings, but might also lead to further aggressive Federal Reserve action and interest rate hikes, which are negative for equity prices.

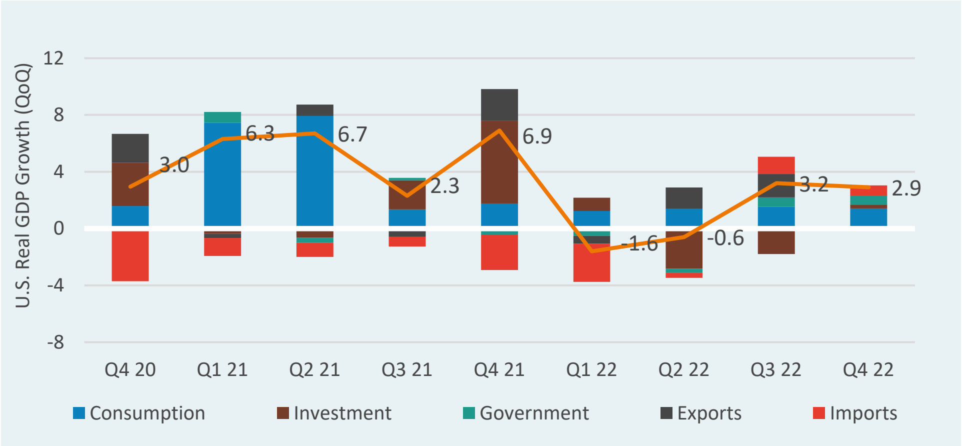
The inflation environment following the COVID-19 pandemic is unlike many past inflation cycles. Much of the price pressure has been fueled by factors *other than* a strong economy, such as an unprecedented shift in consumer spending behavior towards goods and away from services, port and international transportation issues related to lockdowns, and Russia's invasion of Ukraine. Because many of these variables are outside of the Federal Reserve's control, we believe it is possible that inflation continues to fall despite a relatively strong U.S. economy.

U.S. REAL GROSS DOMESTIC PRODUCT



Source: FRED, as of 12/31/22

U.S. REAL GDP COMPONENTS (QOQ)



Source: FRED, as of 12/31/22

Inflation

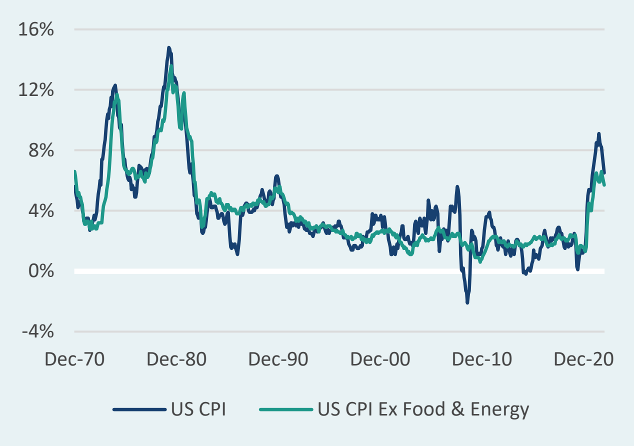
The inflation picture continued to improve in the United States, as both headline and core inflation figures declined further. December headline inflation came in at 6.5% year-over-year—the lowest since October 2021—while core inflation came in at 5.7%. Most goods and services prices have moderated with the exception of shelter, which increased at a worryingly fast pace of 10% annualized in December. Food inflation has been a large contributor to high inflation, but food price rises reassuringly slowed in December, increasing at a 3.7% annualized rate.

Strong increases in U.S. hourly wages over recent years have been a welcome development for workers who are feeling the squeeze of higher prices on household budgets. But wage rises can also act as a key risk to the inflation environment. Accelerating wages might sustain higher spending and therefore persistently elevated rates of inflation. However, government data now indicates that wage growth is slowing, which mitigates the risk of a *wage-price spiral.*

Overall, we believe inflation is falling and will likely be much less of a perceived market risk in 2023. Certain persistent price pressures suggest that an inflation level of 3-4% is more likely than the 1-2% experienced throughout much of the 2010s.

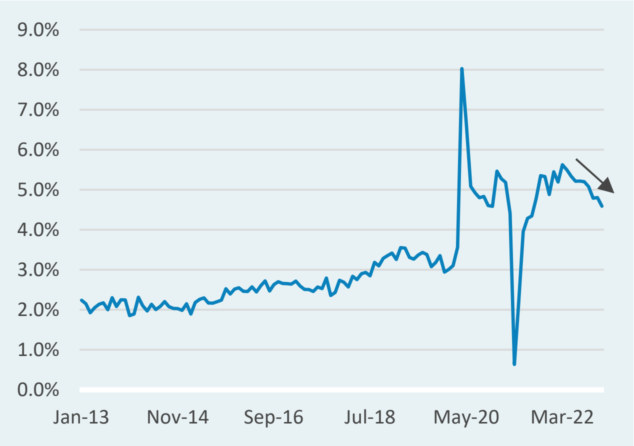
Price pressures continue to ease, adding to optimism that inflation will fall to more normal levels

U.S. CPI (YOY)



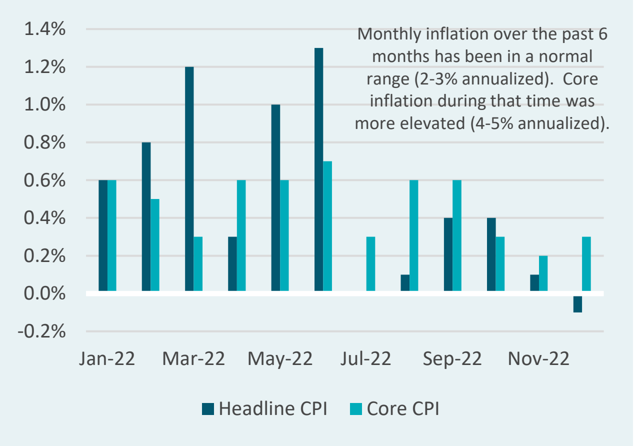
Source: BLS, as of 12/31/22

AVERAGE HOURLY EARNINGS



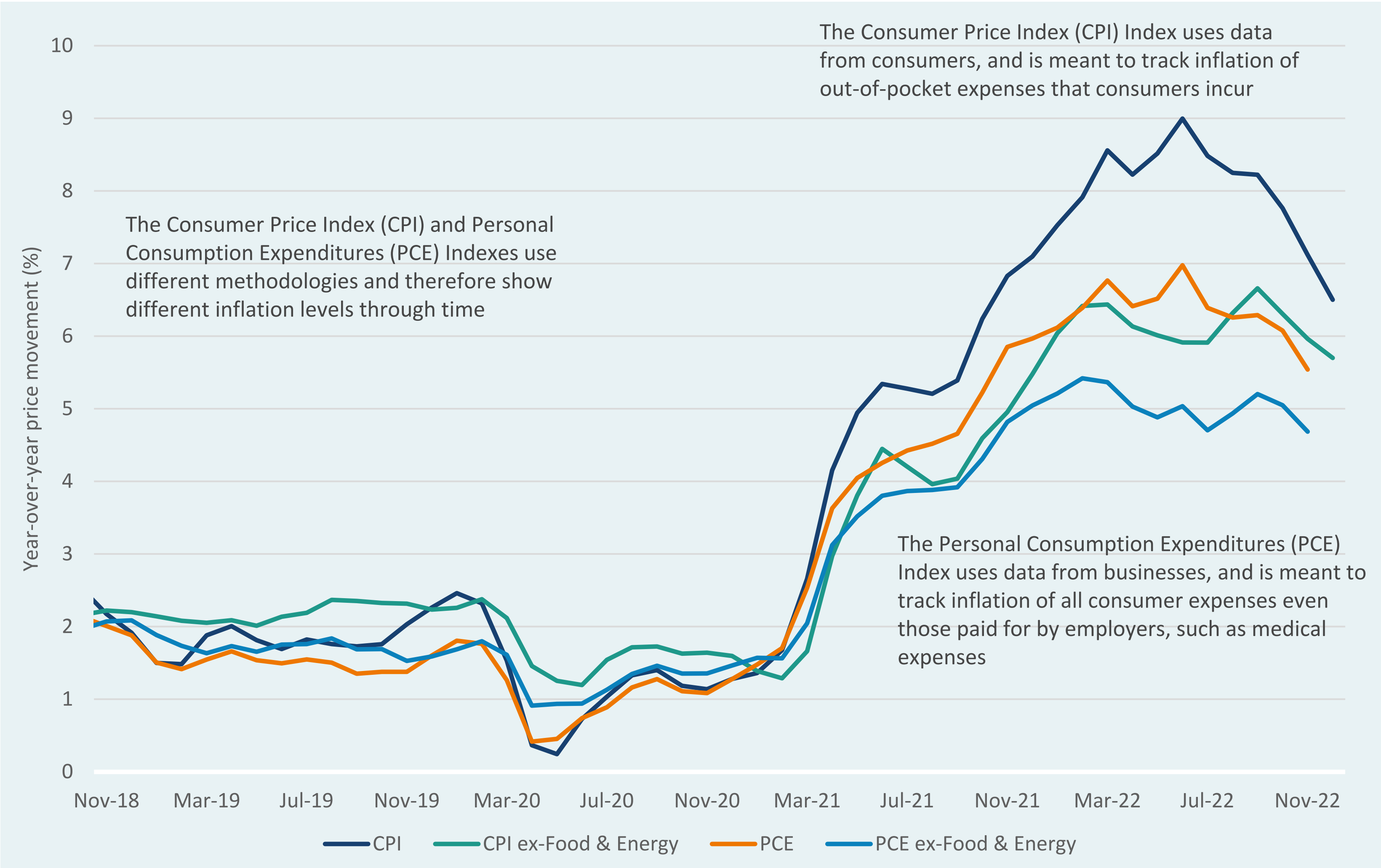
Source: BLS, as of 12/31/22

MONTHLY PRICE MOVEMENT



Source: BLS, as of 12/31/22

How are inflation conditions evolving?



Price rises have slowed considerably in recent months, which is bringing down official year-over-year inflation figures

Source: FRED, Verus, PCE data as of 11/30/22, CPI data as of 12/31/22

Labor market

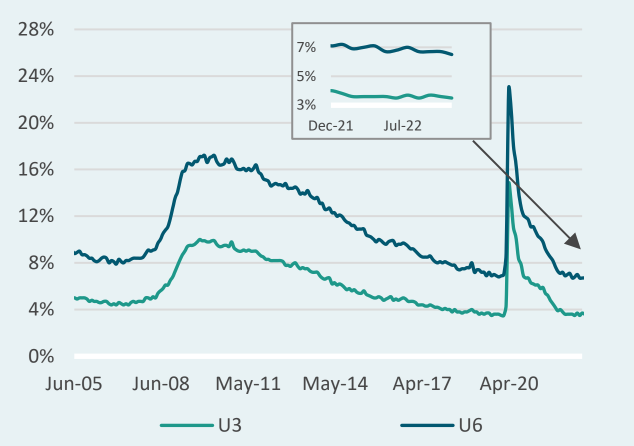
Unemployment remained very low during the quarter, at 3.5% in December. This official figure suggests a strong and resilient job market for those workers who seek employment, although this data contrasts with media reports of fairly widespread layoff activity.

The labor participation rate also remained unchanged during the quarter. Low labor participation paints a different and much weaker picture of the job market, because this figure takes into account the workers *who are not seeking employment*. More than two million workers remain out of the labor force, relative to the pre-pandemic job market. Survey and government-reported data suggests that much of this effect is due to "Long Covid" health troubles. Other variables such as early retirements, and parents taking time off to care for children, have also likely had a material impact on the size of the workforce.

The result of millions of Americans dropping out of the workforce has been a historically large mismatch regarding the number of jobs available and the number of workers available to fill those jobs. This gap remains wide, but has been closing recently as job openings have fallen.

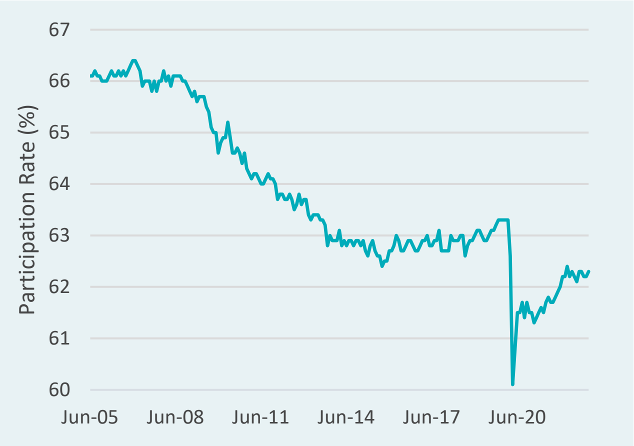
The labor market remains tight, though the size of workforce is much smaller relative to pre-pandemic times

U.S. UNEMPLOYMENT



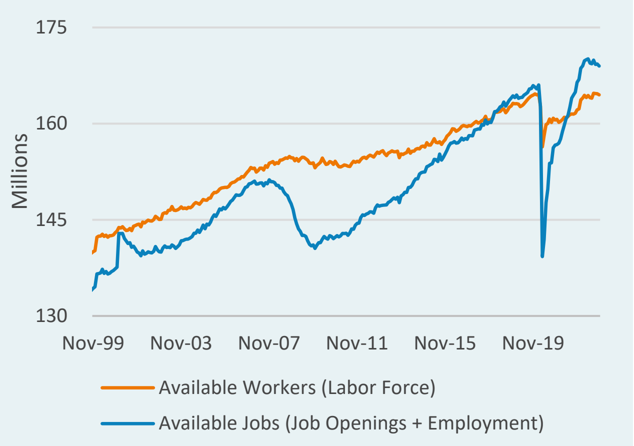
Source: FRED, as of 12/31/22

LABOR FORCE PARTICIPATION RATE



Source: FRED, as of 12/31/22

WORKERS AVAILABLE VS. AVAILABLE JOBS



Source: BLS, as of 11/30/22

The consumer

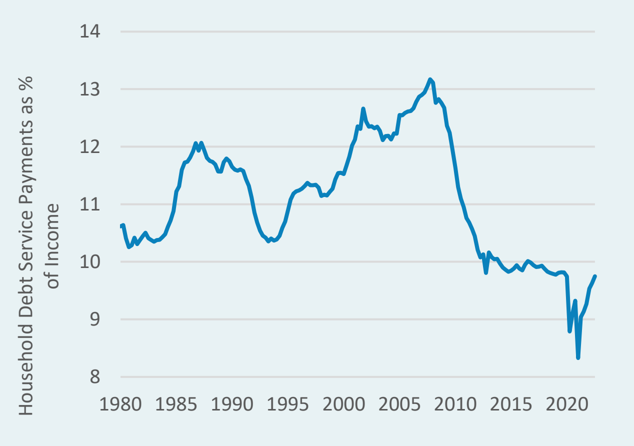
U.S. real (inflation-adjusted) personal consumption expenditures held steady in August, at 2.0% year-over-year. Households have focused spending on services rather than goods, which removed some stress from supply chains and likely helped to normalize transportation issues. Relatively strong spending seems to suggest it is possible that inflation moderates without a painful slowdown in the economy.

Spending has slowed but savings rates have also dropped to 2.3%—a depressed level not seen since the mid-2000s. A low household savings rate is sometimes seen as an indicator of strong consumer confidence and spending, though in the current environment we suspect that household budgets are being hit hard by inflation and higher living costs.

Big ticket items such as automobiles have seen falling sales as higher interest rates make purchases less affordable and household budgets come under strain. The pressure of higher interest rates is reflected in *average debt payments relative to average income*—a metric which has risen towards pre-pandemic levels.

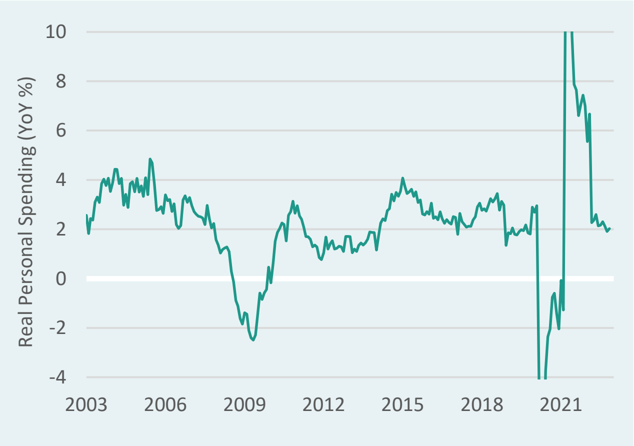
Household spending remains strong, though a very low savings rate may suggest budgets are being squeezed

DEBT SERVICE AS % HOUSEHOLD INCOME



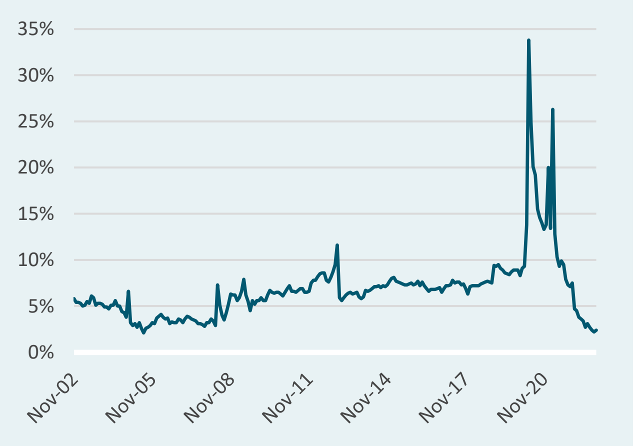
Source: FRED, as of 9/30/22

REAL PERSONAL CONSUMPTION



Source: FRED, as of 11/30/22

PERSONAL SAVINGS RATE



Source: FRED, as of 11/30/22

Sentiment

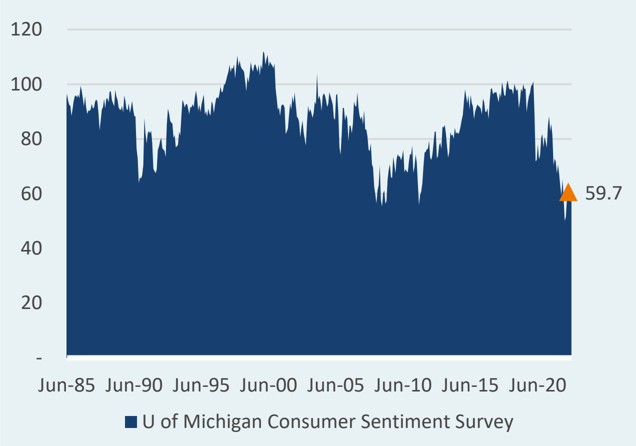
Consumer sentiment improved again during the fourth quarter, but remains very downbeat, according to the University of Michigan. In the most recent survey, respondents expressed less concerns over inflation, reported better business conditions and long-term outlook, though pessimism around current and future personal finances remained.

Consumer confidence measured by the Conference Board improved slightly in the fourth quarter—at the highest level since April. According to the Conference Board, views around current conditions and future conditions improved as households were more upbeat regarding the economy and jobs. Inflation expectations continued to fall (improve), driven by lower gas prices in particular.

The NFIB Small Business Optimism index deteriorated slightly during the quarter, reflecting a very poor business outlook. Thirty-two percent of business owners expressed inflation as their greatest concern for business operations. Other concerns included difficulties in filling open job positions and an inability to raise prices to keep up with inflation.

Sentiment, by most measures, remains very poor

CONSUMER SENTIMENT

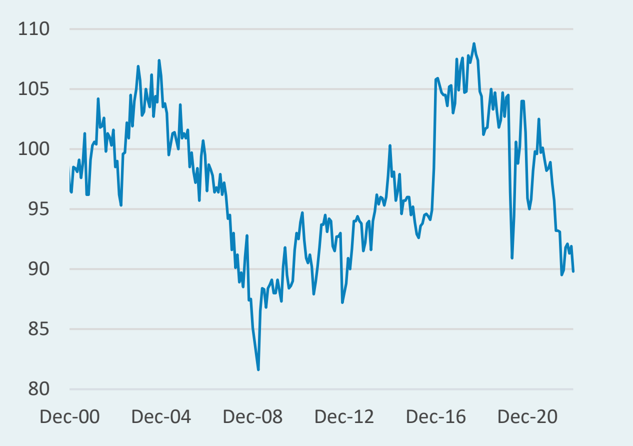


Source: University of Michigan, as of 12/31/22

CONFERENCE BOARD CONSUMER CONFIDENCE

Source: Conference Board, as of 12/31/22

NFIB SMALL BUSINESS SENTIMENT



Source: NFIB, as of 12/31/22

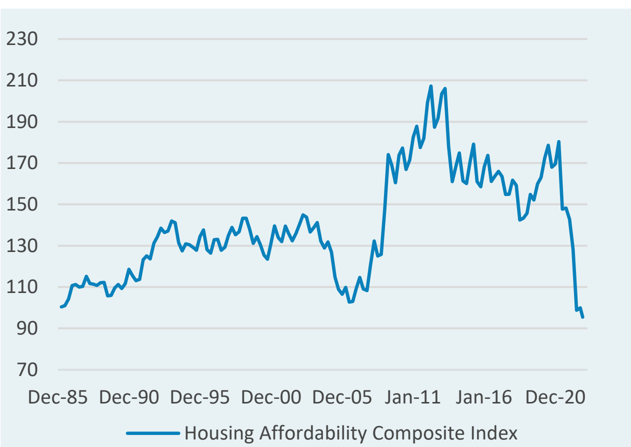
Housing

U.S. home prices peaked in June 2022 and have been falling since that time, according to the S&P CoreLogic Case-Shiller U.S. National Index. Significantly higher mortgage interest rates have led to the worst home affordability on record, as indicated by the National Association of Realtors.

Higher home prices and interest rates have also resulted in a sharp slowdown in sales activity—a notable change from the frothy environment that had occurred post-pandemic. Existing home sales activity has now fallen to a rate not seen since the real estate market was recovering from the housing crisis during the early 2010s.

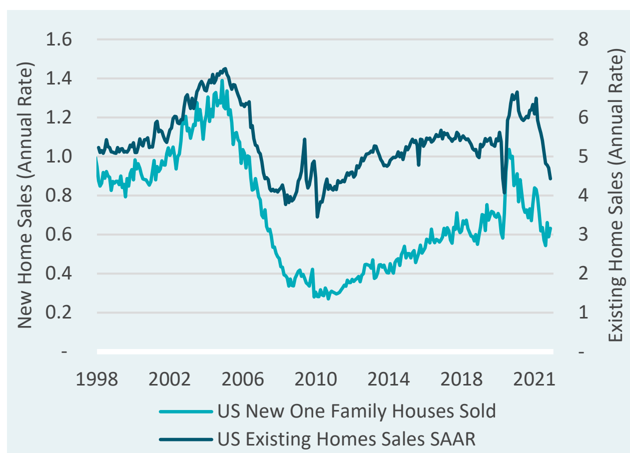
Conditions in housing today appear to be helping to *rebalance* the housing market, as suggested by the monthly supply of homes. Weaker sales volumes and worse affordability has meant that potential buyers have much more inventory to select from. The monthly supply of homes is now at 8.6 months, up from an all-time-low of 3.3 months in August 2020. As homes sit on the market unsold for longer, prices may need to fall further to attract buyers.

HOUSING AFFORDABILITY INDEX



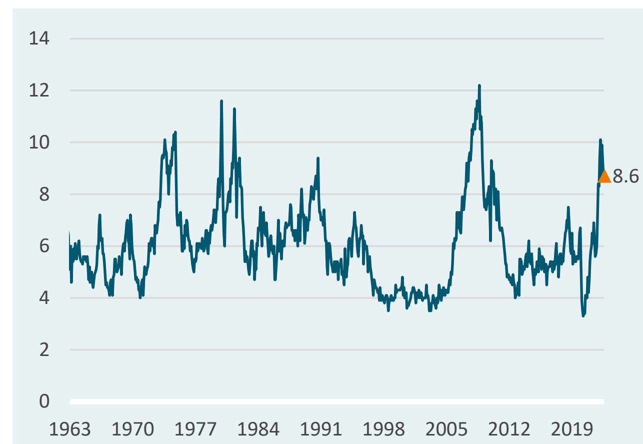
Source: NAR, as of 11/30/22

HOME SALES: NEW & EXISTING (MILLIONS)



Source: FRED, as of 10/31/22

MONTHLY SUPPLY OF HOMES



Source: FRED, as of 11/30/22

The Monthly Housing Affordability Index measures whether or not a typical family earns enough income to qualify for a mortgage loan on a typical home at the national and regional levels based on the most recent monthly price and income data

International economics summary

— Economic growth expectations continued to weaken, although the GDP outlook for emerging economies is starting to paint a more optimistic picture. Developed economies, specifically across the Eurozone and United Kingdom, are still facing the negative growth impacts of tighter financial conditions as inflation remains elevated.

— Inflation in both the Eurozone and U.K. has reinforced tighter policies from the ECB and BOE. While U.K. inflation fell to 10.7% from the 11.1% peak in October, interest rates are expected to be raised further (but in smaller increments). Eurozone inflation has shown signs of moving past its peak, although core inflation hit a new high of 5.2%, stoking fears that inflation may be spreading to core goods and services.

— Unemployment rates have remained stable over the quarter. India stood out as an exception, where unemployment jumped from 6.4% to 8.3%.

— The war in Ukraine carried on despite temporary "ceasefires" declared by Russia. The fighting has intensified in Eastern Ukraine around Kharkiv, with a supporting effort in Southern Ukraine, as Russian forces attempt to secure frontline positioning in the Kherson Oblast.

— China's rapid pivot away from a "Zero Covid" policy towards the end of the quarter added a large tailwind to the global growth outlook. Despite this positive news, a rapid uptick in COVID-19 cases challenges the timeline of the reopening story. Additionally, many wonder how a large uptick in global demand might impact inflation pressures at a time when advanced economies struggle specifically to reign in spending.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	1.0% *12/31/22*	6.5% *12/31/22*	3.5% *12/31/22*
Eurozone	2.3% *9/30/22*	9.2% *12/31/22*	6.5% *11/30/22*
Japan	1.5% *9/30/22*	4.0% *12/31/22*	2.4% *11/30/22*
BRICS Nations	3.6% *9/30/22*	3.5% *12/31/22*	5.2% *12/31/21*
Brazil	3.6% *9/30/22*	5.8% *12/31/22*	8.3% *10/31/22*
Russia	(3.7%) *9/30/22*	11.9% *12/31/22*	3.7% *11/30/22*
India	6.3% *9/30/22*	5.7% *12/31/22*	8.3% *12/31/22*
China	3.9% *9/30/22*	1.8% *12/31/22*	5.7% *11/30/22*

NOTE: India lacks reliable government unemployment data. Unemployment rate shown above is estimated from the Centre for Monitoring Indian Economy. The Chinese unemployment rate represents the monthly surveyed urban unemployment rate in China.

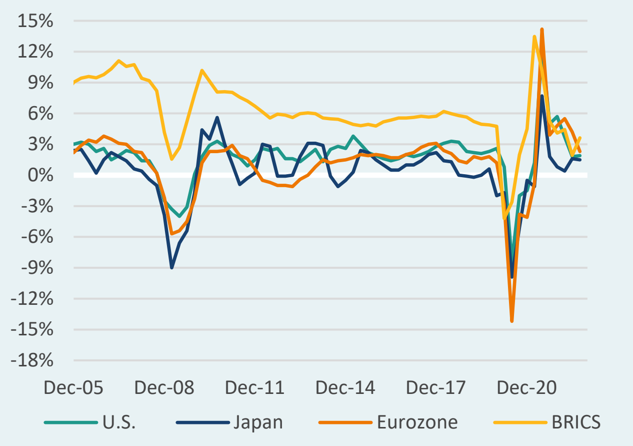
International economics

Growth expectations outside of the U.S. contracted over the quarter, with the largest moves coming from developed economies. The IMF cut its GDP forecast by 0.7% and 0.2% for the Eurozone and U.K. in their October outlook (now expecting 2023 GDP of 0.5% and 0.3%, respectively) as the European Central Bank and Bank of England struggle to rein in record high inflation. Japan saw a smaller downward revision of 0.1%, with 2023 growth expectations now at 1.6%.

The outlook for emerging markets is much more optimistic. Most countries have avoided the high inflation seen in developed markets. A rapid reopening of the Chinese economy is likely providing a tailwind to growth, although the timing remains unclear due to another wave of COVID-19 infections. The 2023 GDP forecast for emerging economies per Bloomberg ticked down from 4.3% to 3.9% over the quarter, but emerging economy growth is still expected to far exceed that of developed economies (developed economy 2023 GDP expectations sit at 0.4%, according to the IMF).

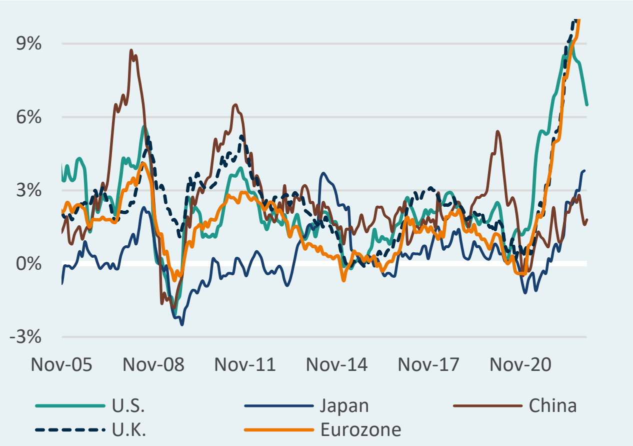
Despite the slowdown in economic growth, employment remains stable amongst the regions we track. India stood out as an exception, where unemployment jumped from 6.4% to 8.3% during Q4.

REAL GDP GROWTH (YOY)



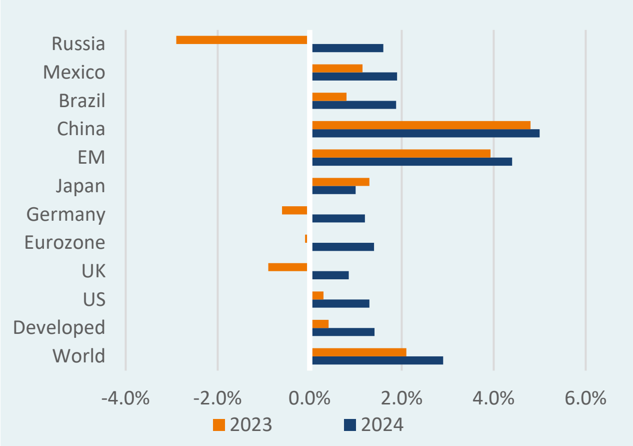
Source: Bloomberg, as of 9/30/22

INFLATION (CPI YOY)



Source: Bloomberg, as of 12/31/22 – or most recent release

ECONOMIC GROWTH FORECASTS



Source: Bloomberg, as of 12/31/22 – or most recent release

Fixed income rates & credit

Fixed income environment

— The 10-year U.S. Treasury yield ended the quarter unchanged at 3.8%. It is possible that long-term interest rates have already reached a cyclical peak, assuming inflation continues to fall and the Federal Reserve becomes less aggressive.

— Credit performance was positive during the fourth quarter, with riskier exposures such as U.S. high yield and emerging market debt (both local and hard currency) leading the pack. Expectations for a slowdown in Federal Reserve rate hikes, and a rosier U.S. economic environment, have provided a tailwind to the credit space.

— Default activity in high yield bonds and bank loans remained subdued during Q4. Throughout the year, 17 companies defaulted totaling $26.3 billion, with large defaults concentrated in the Healthcare sector which accounted for over 36% of total dollar volume. Default rates for par-weighted U.S. high yield and bank loans remained very low at 0.8% and 1.0%, respectively.

— The U.S. yield curve inversion reached historically negative levels, with the 10-year 2-year yield spread seeing its widest inversion since 1981 (short-term interest rates being higher than long-term interest rates). The negative spread bottomed out at ~81 bps on December 5th before gradually easing during the latter half of the month.

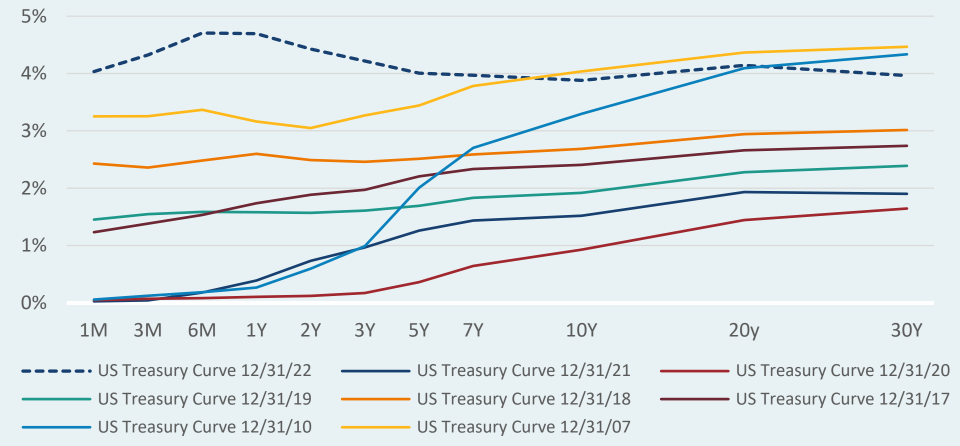
— Derivative markets are beginning to clash with Federal Reserve projections, as investors are pricing in a shorter tightening cycle relative to that indicated by comments from Federal Reserve officials. Federal Funds futures reflect a target interest rate of approximately 4.6% by the end of 2023, which compares to 5.1% indicated by the Federal Reserve's December Summary of Economic Projections.

	QTD Total Return	**1 Year Total Return**
Core Fixed Income (Bloomberg U.S. Aggregate)	1.9%	(13.0%)
Core Plus Fixed Income (Bloomberg U.S. Universal)	2.2%	(13.0%)
U.S. Treasuries (Bloomberg U.S. Treasury)	0.7%	(12.5%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	4.2%	(11.2%)
Bank Loans (S&P/LSTA Leveraged Loan)	2.7%	(0.6%)
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	8.5%	(11.7%)
Emerging Market Debt Hard (JPM EMBI Global Diversified)	8.1%	(17.8%)
Mortgage-Backed Securities (Bloomberg MBS)	2.1%	(11.8%)

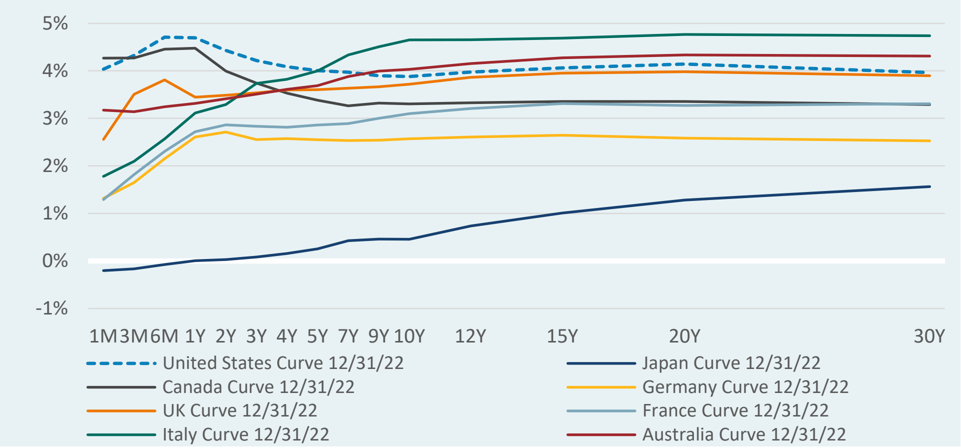
Source: Bloomberg, as of 12/31/22

Yield environment

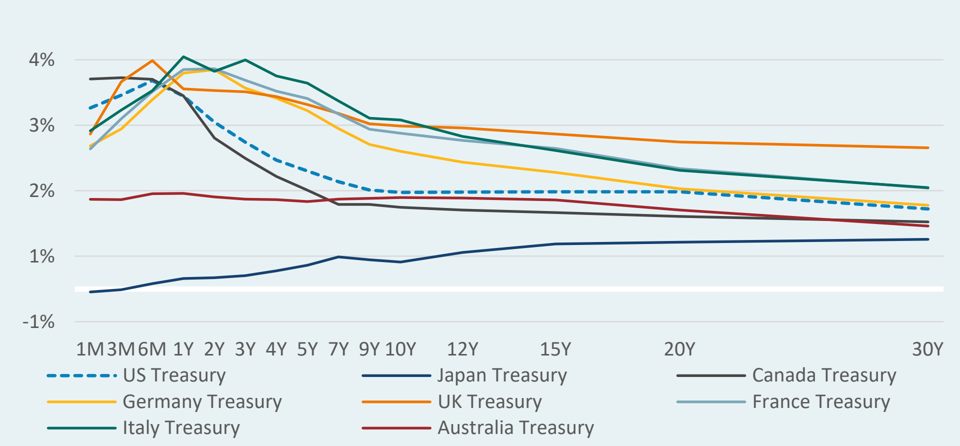
U.S. YIELD CURVE



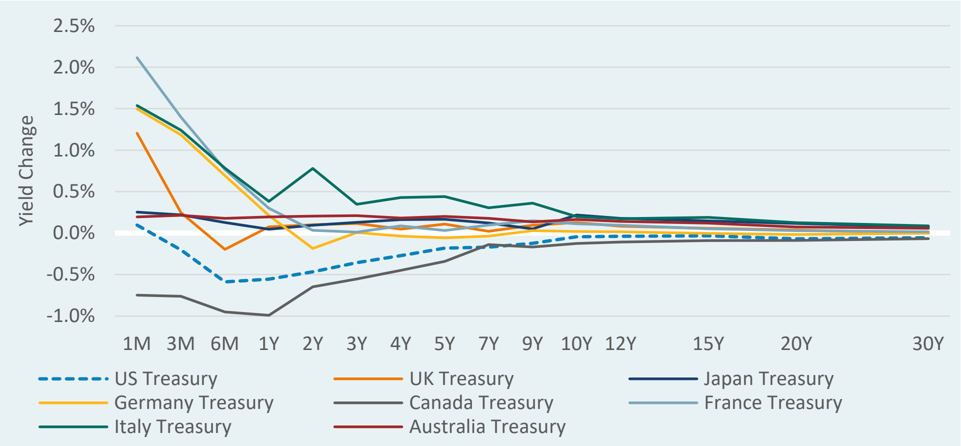
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



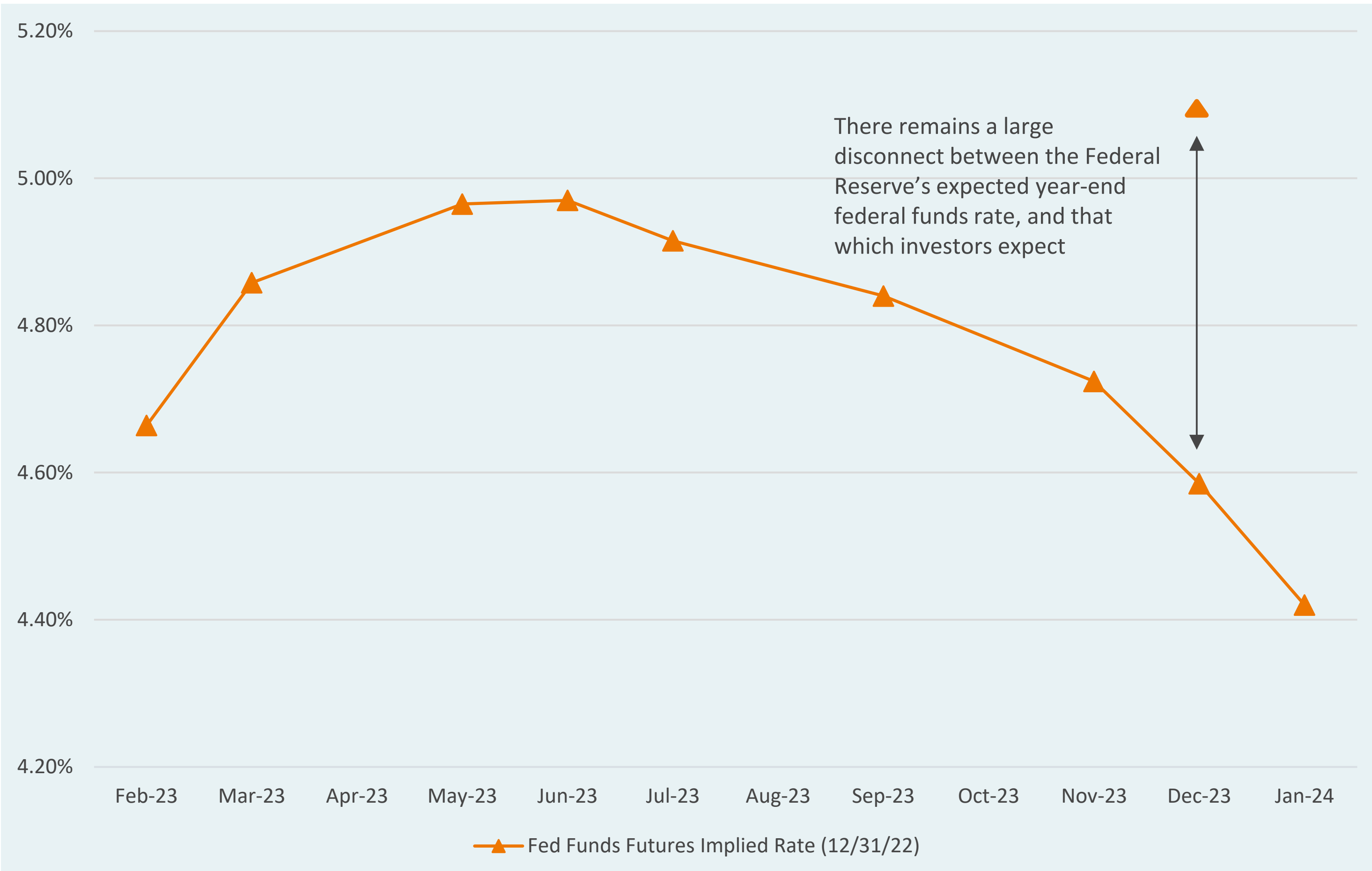
IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 12/31/22

Markets more optimistic than the Fed

FED FUNDS FUTURES IMPLIED FED RATE



Markets expected the federal funds rate to rise to a peak of near 5.0% in Spring of 2023, followed by rate cuts throughout the remainder of the year

This contrasts sharply with forecasts from the Federal Reserve, which indicates a federal funds rate projection for the end of 2023 of ***5.1%***

Source: Bloomberg, as of 12/31/22

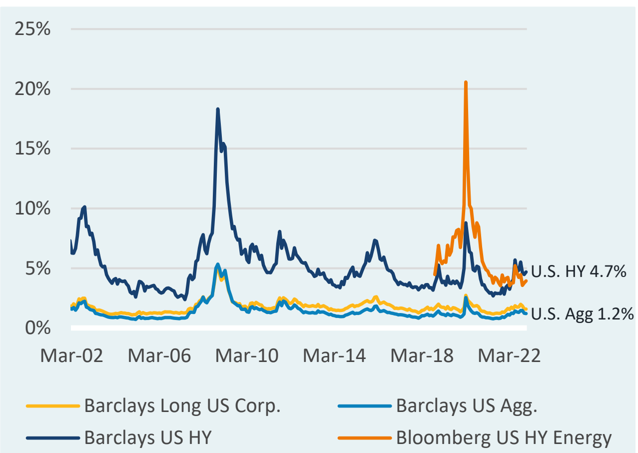
Credit environment

During the fourth quarter, markets began pricing in an eventual end to the Federal Reserve rate hiking cycle. This supported the performance of credit assets, as well as stronger-than-expected U.S. economic data which helped alleviate recession fears. High yield credit returns led the way with 4.2%, followed by 3.6% from investment grade credit and 2.3% from bank loans.

Credit spreads broadly tightened, with investment grade spreads falling to 130 bps from their high of 165 bps in Q3. High yield spreads compressed further, moving from 552 bps to 469 bps over the quarter. Despite calendar year returns of investment grade credit being the worst on record at -15.8%, and two consecutive years of negative returns, spreads have widened less than anticipated. This suggests spreads could expand from these levels if conditions deteriorate.

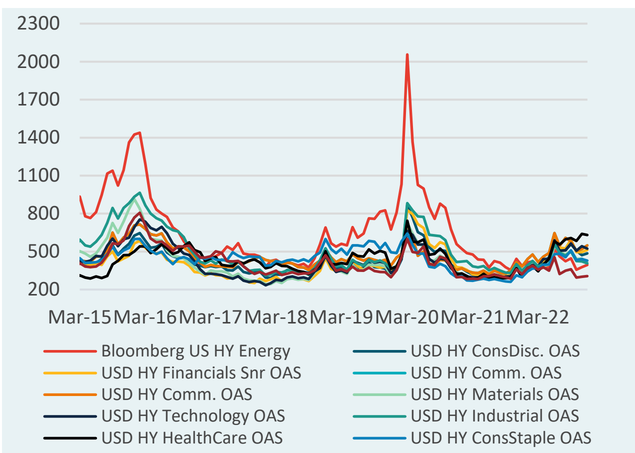
The total yield of high yield credit declined modestly throughout Q4, ending the quarter at 9.0%, which was 71 bps below Q3 yields but still elevated far above yields to start 2022. The Bloomberg US Corporate Investment Grade Index saw similar movement, with yields declining to 5.4% from 5.7% during the quarter, though still significantly higher than 2.4% to start the year. More attractive yield levels have the potential to drive demand for fixed income broadly, though concerns around growth and recession may act as headwinds to the spread-sensitive performance of higher risk credit.

SPREADS



Source: Barclays, Bloomberg, as of 12/31/22

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 12/31/22

	Credit Spread (OAS)	
Market	**12/31/22**	**12/31/21**
Long U.S. Corp	1.6%	1.3%
U.S. Inv Grade Corp	1.3%	0.9%
U.S. High Yield	4.7%	2.8%
U.S. Bank Loans*	5.9%	4.3%

Source: Barclays, Credit Suisse, Bloomberg, as of 12/31/22
**Discount margin (4-year life)*

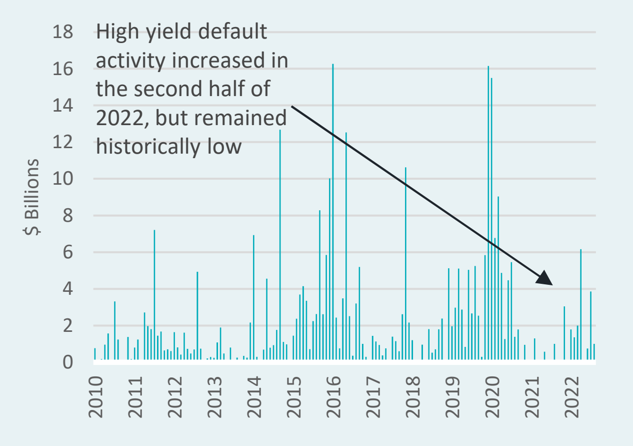
Default & issuance

Default activity in high yield bonds and bank loans remained subdued during Q4. Throughout the year, 17 companies defaulted totaling $26.3 billion, with large defaults concentrated in the Healthcare sector which accounted for over 36% of total dollar volume. Default rates for par-weighted U.S. high yield and bank loans remained very low at 0.8% and 1.0%, respectively. While these levels are well below long-term historical averages, defaults are widely expected to increase amid sustained higher interest rates, tighter financial conditions, and weaker economic growth.

Default recovery rates of high yield and bank loans remained strong for a second consecutive year. High yield recovery rates ended the year at 55% (above the long-term average of 40%) while the recovery rate of bank loans ended the year at 58% (below the long-term average of 64%).

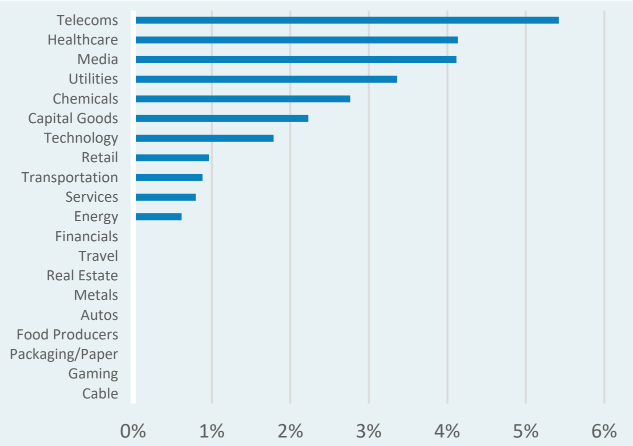
Investment grade credit issuance remained light, with $195 billion of issuance in Q4 being the lowest quarter of the year. During 2022, $1.2 trillion of investment grade bond issuance was 12% lower than 2021 but still in line with the past five-year average. Levered credit also saw quarterly lows of issuance, with $16.5 billion and $47.6 billion in the high yield and levered loan spaces, respectively. The year-over-year declines in issuance within high yield and bank loans have been dramatic, down around 70% since 2021.

U.S. HY MONTHLY DEFAULTS (PAR WEIGHTED)



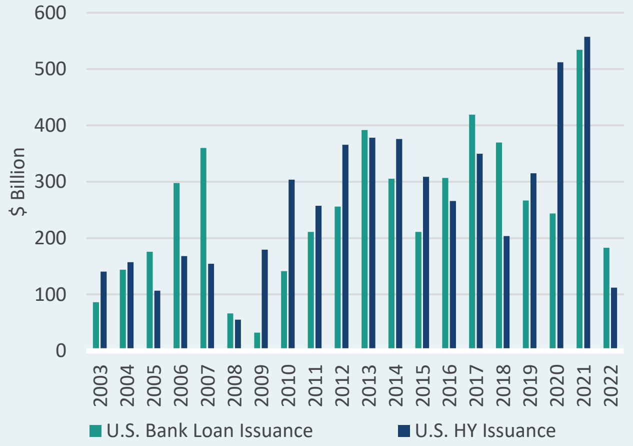
Source: BofA Merrill Lynch, as of 12/31/22

U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)



Source: BofA Merrill Lynch, as of 12/31/22 – par weighted

U.S. ISSUANCE ($ BILLIONS)



Source: BofA Merrill Lynch, as of 12/31/22

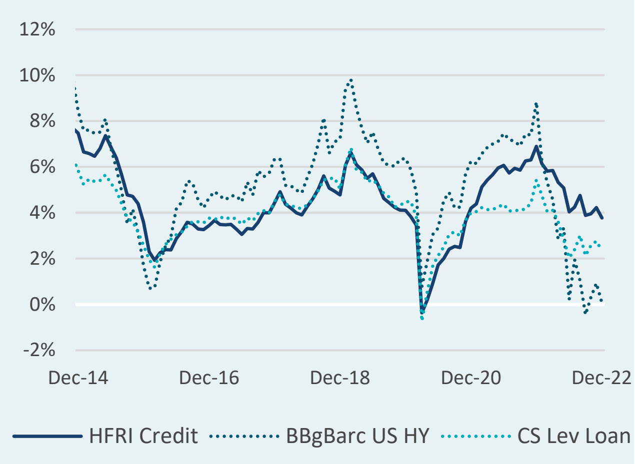
Alternative credit

Credit hedge fund strategies held up well in 2022 despite continued pressure on high yield and duration-sensitive assets. The HFRI Credit Index, which typically delivers performance between that of high yield and bank loans, only lost -2.6% for the year despite widening credit spreads and exposure to duration (which has been very painful for traditional credit).

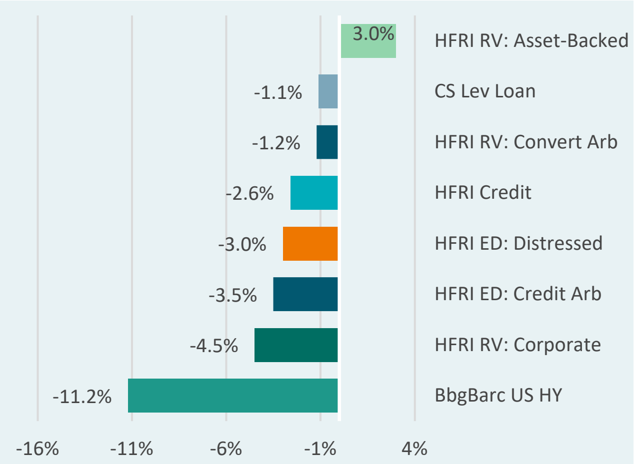
Looking more closely at hedge fund credit, asset-backed strategies were the strongest performers throughout the year. These strategies gained 3% while most other alternative credit funds were modestly negative, in line with bank loans.

We believe asset-backed and distressed strategies remain the most interesting in the space. Asset-backed funds have found attractive yields in off-the-run securitized credit markets, while distressed funds benefited from value investing coming back into favor, and increasing corporate stress which provides new trading opportunities.

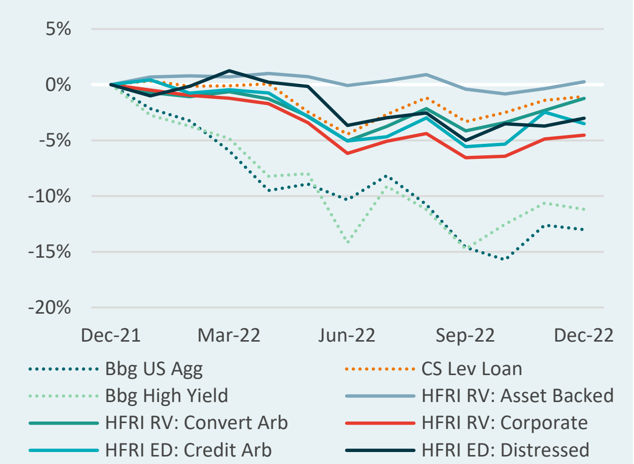
3-YEAR ROLLING RETURN



2022 RETURN



2022 CUMULATIVE RETURN



Source: MPI, Morningstar, HFR, Bloomberg, as of 12/31/22

Equity

Equity environment

— U.S. equities delivered their only positive quarterly return of 2022 during Q4 (S&P 500 +7.6%), helping to dampen the index's worst calendar year performance since 2008 (-18.1% loss in 2022). Higher interest rates and recession fears contributed to poor returns.

— U.S. corporate earnings in Q3 grew 2.4% from the year prior, marking the slowest rate of growth since Q3 2020. Per FactSet, earnings are projected to decline by -4.1% in Q4, which would mark the first decline in U.S. earnings since 2020.

— Many equity markets now trade at valuation levels near historical averages as rising rates and growth concerns have contributed to more attractive pricing. The S&P 500 forward P/E ratio of 18.3 (as of November 30th) is under the five-year average of 18.6 and the ten-year average of 20.2.

— Currency movements continued to create portfolio volatility for investors with unhedged exposure to foreign currencies. The U.S. dollar depreciated sharply during Q4 which resulted in a large gain of 7.6% for investors with unhedged foreign currency exposure (+17.3% MSCI EAFE unhedged, +9.7% MSCI EAFE hedged).

— Value stocks outpaced growth stocks by 10.2% in Q4 and by 21.6% for the year. Energy, industrials, and materials—sectors which are heavily tilted toward value—showed strong returns, with energy ending the year up 64.6%.

— Implied volatility fell significantly over the quarter, as the Cboe VIX Index moved from 31.6 to 21.7. Equity markets advanced on cooling inflation, potential for less aggressive central bank action, and perhaps optimism around China's reopening.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	7.6%		(18.1%)	
U.S. Small Cap (Russell 2000)	6.2%		(20.4%)	
U.S. Equity (Russell 3000)	7.2%		(19.2%)	
U.S. Large Value (Russell 1000 Value)	12.4%		(7.5%)	
US Large Growth (Russell 1000 Growth)	2.2%		(29.1%)	
Global Equity (MSCI ACWI)	9.8%	7.6%	(18.4%)	(15.5%)
International Large (MSCI EAFE)	17.3%	9.7%	(14.5%)	(4.6%)
Eurozone (EURO STOXX 50)	24.8%	15.7%	(15.1%)	(7.0%)
U.K. (FTSE 100)	17.1%	9.3%	(7.0%)	5.9%
Japan (NIKKEI 225)	11.3%	1.4%	(18.9%)	(5.2%)
Emerging Markets (MSCI Emerging Markets)	9.7%	6.7%	(20.1%)	(16.3%)

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 12/31/22

Domestic equity

U.S. equities notched their only positive quarterly return for the year during Q4 (S&P 500 +7.6%), helping to dampen the index's worst annual performance since 2008 (-18.1% loss in 2022). Domestic shares were negatively impacted by higher interest rates and growing recession fears due to tightening from the Federal Reserve. While performance over the quarter was positive, U.S. equities trailed emerging market and international developed equities.

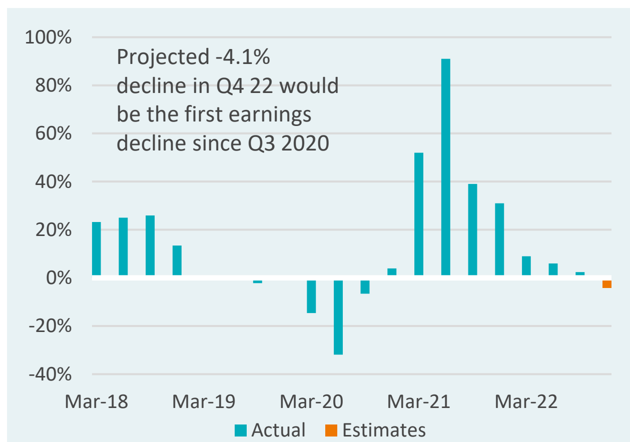
Earnings in the third quarter grew 2.4% from the year prior, marking the slowest rate of growth since Q3 2020. Energy dominated the narrative, as earnings grew an incredible 137% from the previous year. U.S. energy companies experienced margin expansion due to materially higher commodity prices, specifically within oil and natural gas. Per FactSet, earnings are projected to decline by -4.1% in Q4, which would mark the first decline in U.S. earnings since 2020. A potential recession could pose challenges for the earnings outlook.

Energy dominated sector performance in the quarter (+22.8), leading the positive performance seen in most sectors, while telecommunications (-1.4%) and consumer discretionary (-10.2%) saw negative returns.

S&P 500 PRICE INDEX

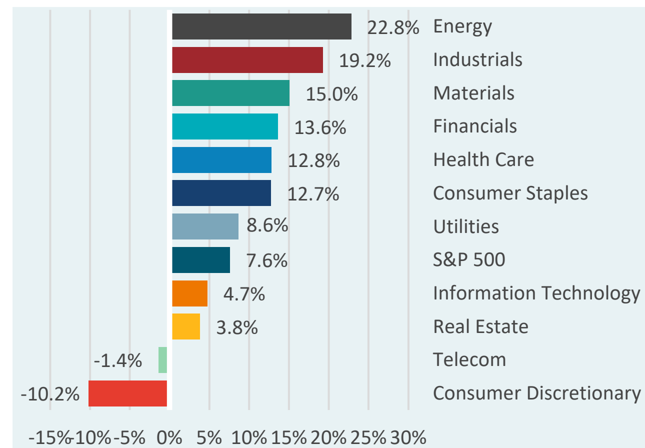
Source: Standard & Poor's, as of 12/31/22

S&P 500 EARNINGS GROWTH (YEAR-OVER-YEAR)



Source: FactSet, as of 12/31/22

Q4 SECTOR PERFORMANCE



Source: Morningstar, as of 12/31/22

Domestic equity size & style

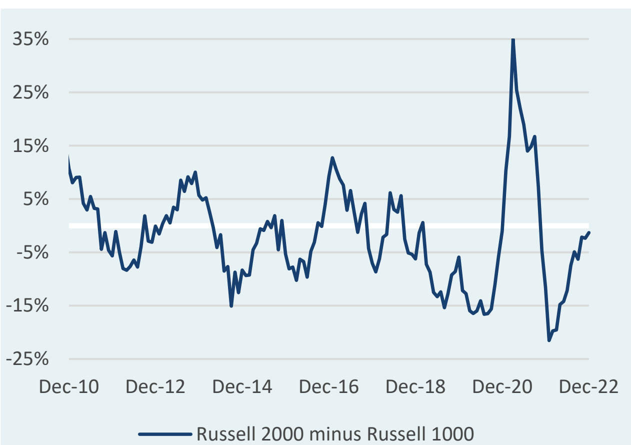
Value stocks outpaced growth stocks by 10.2% in Q4 and by 21.6% for the year. Energy, industrials, and materials —sectors which are heavily tilted toward value—showed strong returns, with the energy sector ending the year up 64.6%.

Markets adjusted to Federal Reserve rate hikes in the fourth quarter and throughout the year. Profitless and high-growth companies suffered the most as investors favored higher yielding fixed income and preferred stocks with strong fundamentals.

Small capitalization stocks underperformed large capitalization stocks (Russell 2000 +6.2%, Russell 1000 +7.2%), and remain relatively rich in valuations despite recent performance pain.

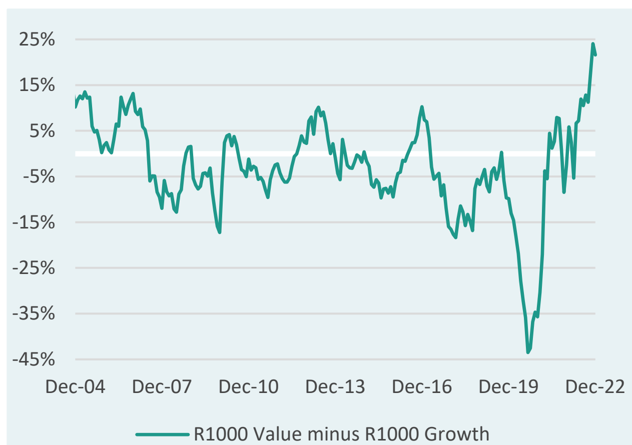
Domestic equities made a modest recovery in Q4 as inflation appears to have peaked and the end of the Fed's hiking cycle is in sight. These dynamics will likely help determine the relative performance of style factors in the near-term.

SMALL CAP VS LARGE CAP (YOY)



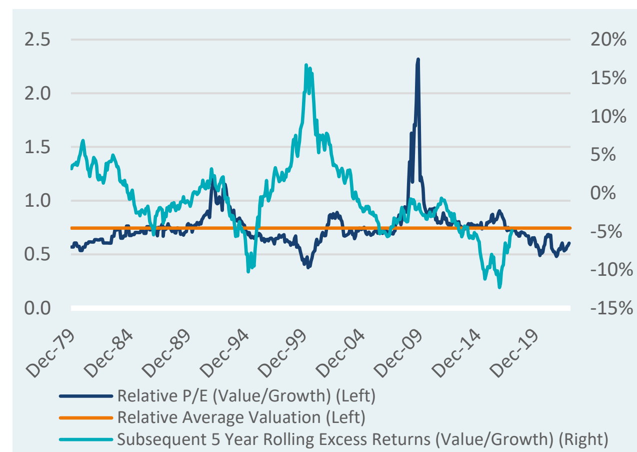
Source: FTSE, as of 12/31/22

VALUE VS GROWTH (YOY)



Source: FTSE, as of 12/31/22

VALUE VS. GROWTH RELATIVE VALUATIONS



Source: FTSE, Bloomberg, as of 12/31/22

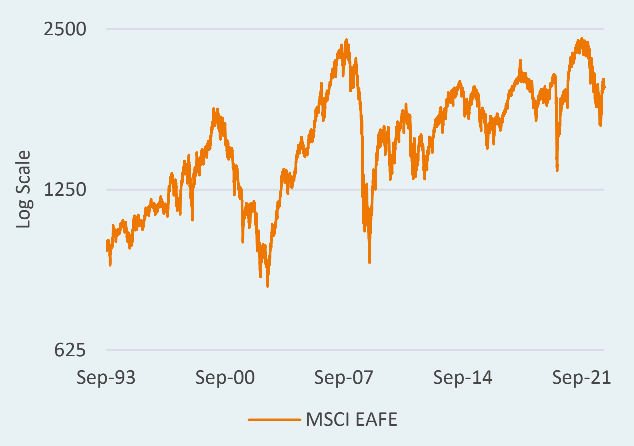
International developed equity

International developed equities rallied significantly in the fourth quarter, driven by strong gains from Eurozone equities and favorable currency movements. The MSCI EAFE Index finished the quarter up 17.3% on an unhedged currency basis, handily outperforming emerging market and U.S. equities.

A bounce back from European shares helped drive the double-digit returns seen from the MSCI EAFE Index. Investors showed preference towards larger names, as the EURO STOXX 50—a gauge of the largest companies in the Eurozone—rose 24.8%, outpacing the 19.7% gain from the broader EURO STOXX 600 Index. Both indices were trading at 2022 lows at the start of the fourth quarter.

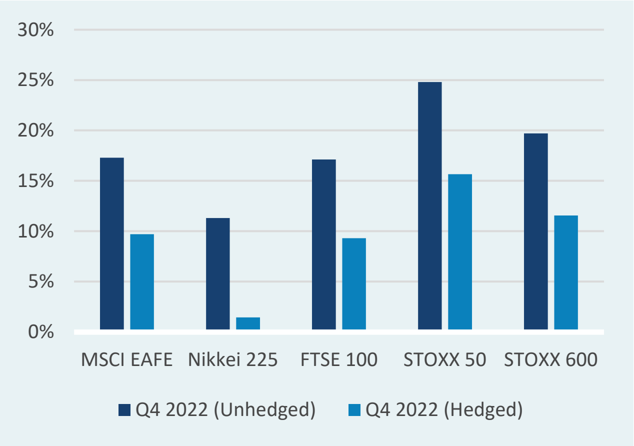
Currency movements played a large role in unhedged Eurozone performance and also boosted the unhedged returns of Japan and the United Kingdom. The U.S. dollar sharply pivoted on market views that the Federal Reserve may follow a shorter tightening cycle. As a result, exchange rates for the Euro, Pound, and Yen appreciated relative to the greenback.

INTERNATIONAL DEVELOPED EQUITY



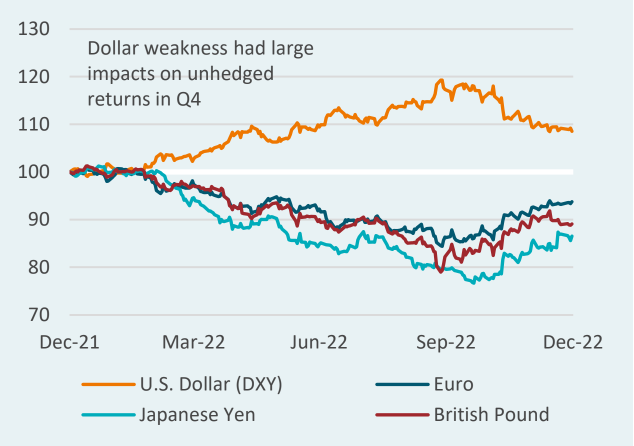
Source: MSCI, as of 12/31/22

Q4 2022 REGIONAL INDEX RETURNS



Source: MSCI, STOXX, FTSE, Nikkei, as of 12/31/22

2022 CURRENCY MOVEMENTS (BASE OF 100)



Source: Bloomberg, as of 12/31/22

Emerging market equity

Emerging market equities advanced alongside global equities as the MSCI EM Index finished the quarter up 9.7%. Performance was volatile over the quarter, as losses in October were pared by a 13.2% rally over November and December. Despite the rally to close out the year, the index still ended down -20.1%, underperforming both international developed and U.S. equity benchmarks.

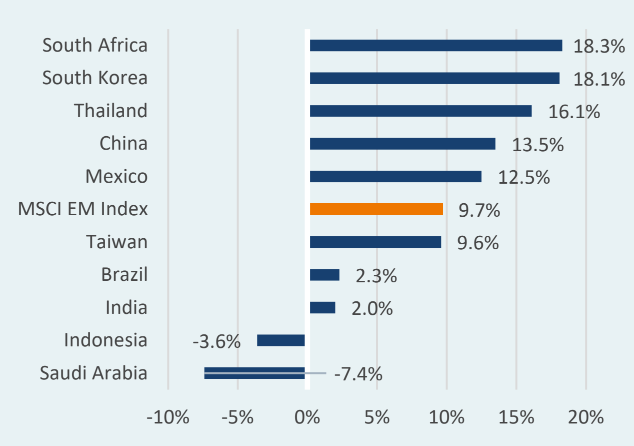
Returns in the fourth quarter were driven by gains in Chinese equities, which jumped following a rapid pivot away from the Chinese Communist Party's "Zero Covid" policy. While Chinese shares still dominate the index (around 30%), strong performance from countries with smaller weights also played a large role.

Indian shares, which hold the second largest weight in the index, acted as a drag on returns during the quarter but still ended in positive territory. Despite a modest 2.0% quarterly gain, the Indian market was one of the best performers of 2022, finishing the year down -8.0%. This compared to double-digit losses from other regional indices.

EMERGING MARKET EQUITY

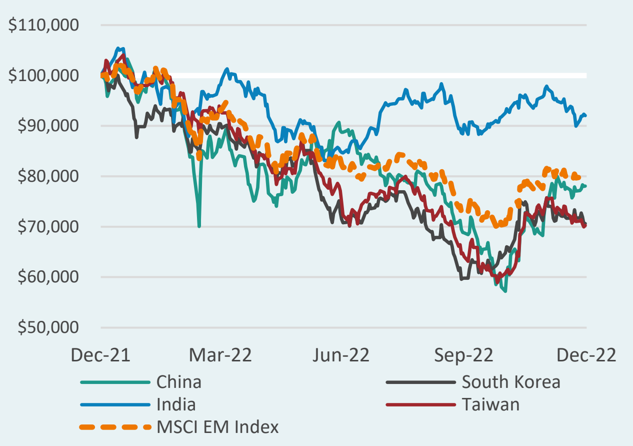
Source: MSCI, as of 12/31/22

Q4 2022 MSCI COUNTRY RETURNS (USD)



Source: Bloomberg, MSCI, as of 12/31/22

GROWTH OF $100K IN 2022 (EM WEIGHTS >10%)



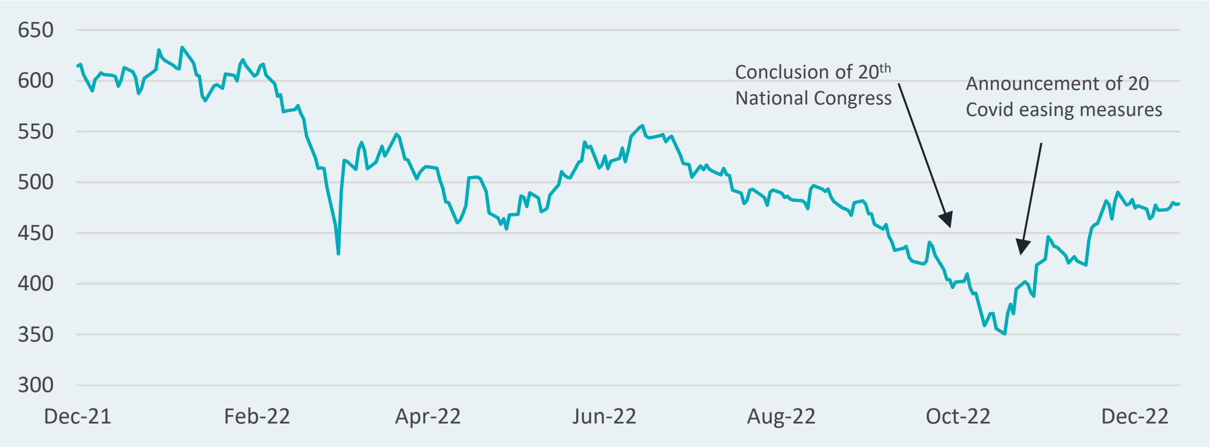
Source: Bloomberg, MSCI, as of 12/31/22 - performance in USD

Recent developments in China

China has continued to make global headlines, though two stories seemed to dominate the narrative. First, the 20th National Congress of the Chinese Communist Party (CCP) resulted in greater concentration of power and an unprecedented third-term for CCP General Secretary Xi Jinping. Second, China communicated a sharp reversal of its "Zero Covid" policy, as the government swiftly reopened major cities from stringent lockdowns, which has contributed to a new wave of COVID-19 cases.

Chinese equity markets dropped sharply following the 20th National Congress, but quickly reversed course following a string of economic reopening announcements. Markets moved even higher during the latter half of the quarter, fueled by the reopening story and prospects for easier monetary and fiscal policy relative to the rest of the world. While the reopening of the world's largest economy presents a tailwind to economic growth, concerns remain around the timeline of recovery, the net impact of eased supply chains and increased global demand, as well as the new concentration of power within the government.

MSCI CHINA INDEX (USD)



Source: Bloomberg, as of 12/31/22

CHINESE LEADERSHIP SINCE MAO ZEDONG

Leader	Electing Central Committee
Mao Zedong	6th (1928 - 1945)
	7th
	8th
	9th
	10th (1973 - 1977)
Hua Guofeng	11th (1977 - 1982)
Hu Yaobang	11th (1977 - 1982)
	12th (1982 - 1987)
Zhao Ziyang	12th (1982 - 1987)
	13th (1987 - 1992)
Jiang Zemin	13th (1987 - 1992)*
	14th (1992 - 1997)
	15th (1997 - 2002)
Hu Jintao	16th (2002 - 2007)
	17th (2007 - 2012)
Xi Jinping	18th (2012 - 2017)
	19th (2017 - 2022)
	20th (2022 - 2027)

**Replaced Zhao Ziyang mid-term in 1989*

First third-term election since Mao Zedong

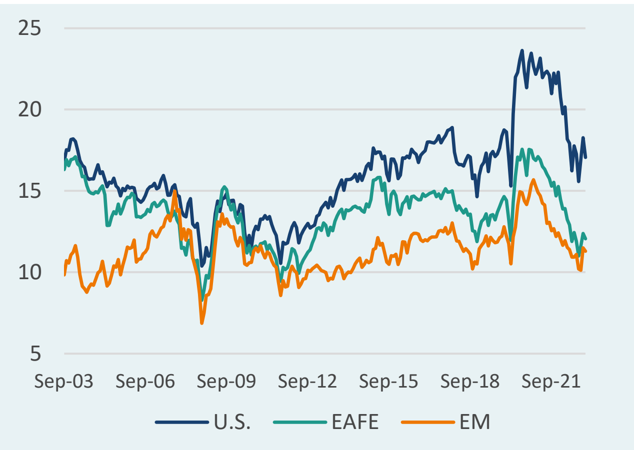
Equity valuations

Many markets now trade at valuation levels near their historical average as inflation and rising interest rates have brought prices down. The S&P 500 forward P/E ratio of 17.1 is below the five- and ten-year averages of 18.6 and 20.2, respectively. The Federal Reserve remains in focus for U.S. investors as valuations over the past decade have been lifted by low interest rates. International equity valuations are depressed but may be further challenged by inflation and recession. Emerging market equities appear to be poised for a strong recovery, given a more positive growth outlook, and as China's reopening could improve fundamentals and bring the asset class back into favor.

International developed equities remain inexpensive relative to U.S. equities, but developed markets face significant long-term headwinds. In Q4, gains in the Euro and Yen and an easing energy crisis boosted international developed equity returns, but high inflation, high debt and low growth in Japan, poor demographics, and a hawkish ECB make for a challenged long-term outlook.

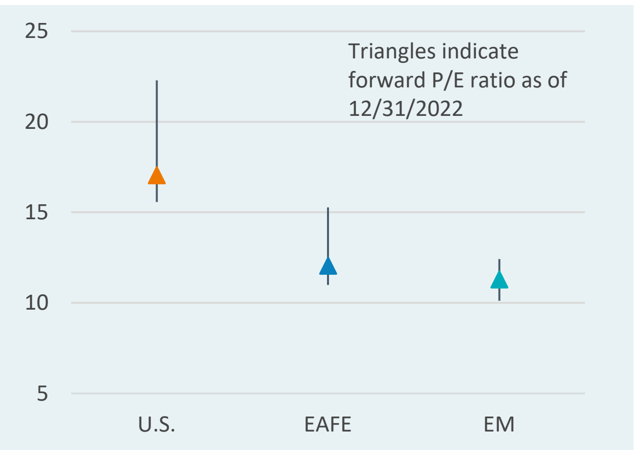
International developed equities remain extremely cheap relative to U.S. markets

FORWARD P/E RATIOS



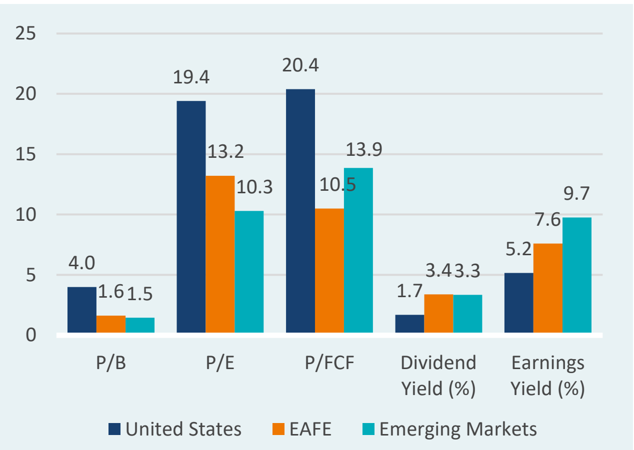
Source: MSCI, 12m forward P/E, as of 12/31/22

FORWARD P/E RATIO RANGES (DURING 2022)



Source: MSCI, 12m forward P/E, as of 12/31/22

VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI, as of 12/31/22 - trailing P/E

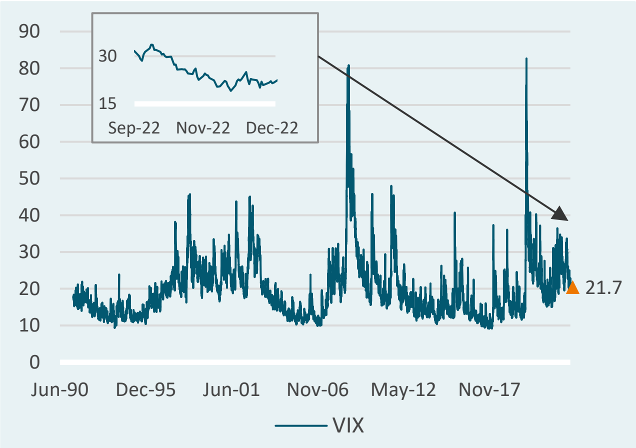
Equity volatility

Implied volatility fell significantly over the quarter. The Cboe VIX Index moved from 31.6 to 21.7. Equity markets advanced on cooling inflation, potential for less aggressive central bank action, and perhaps optimism around China's reopening.

In contrast, realized volatility increased from the prior quarter. Volatility rose across S&P 500, MSCI EAFE, and MSCI EM Indices. Realized volatility in the domestic market remained the highest—a trend consistent with last quarter—as markets swung around inflation prints, two Federal Reserve interest rate decisions, and growing concerns over a potential 2023 recession.

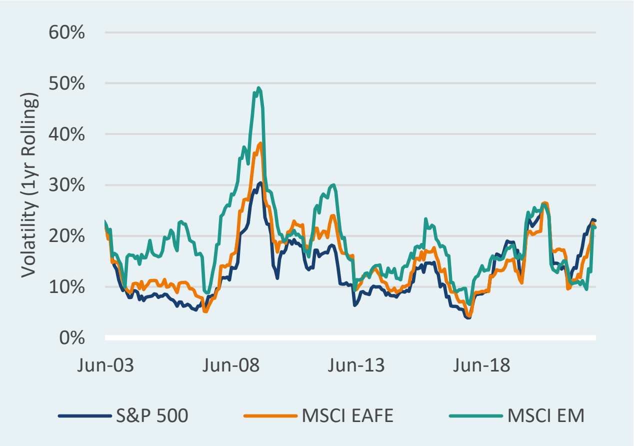
Historically speaking, the S&P 500 delivered exceptionally poor performance in line with some of the worst of the index's history. Looking all the way back to 1929, this year was the seventh worst in the index's history and the worst calendar year performance since 2008.

U.S. IMPLIED VOLATILITY (VIX)



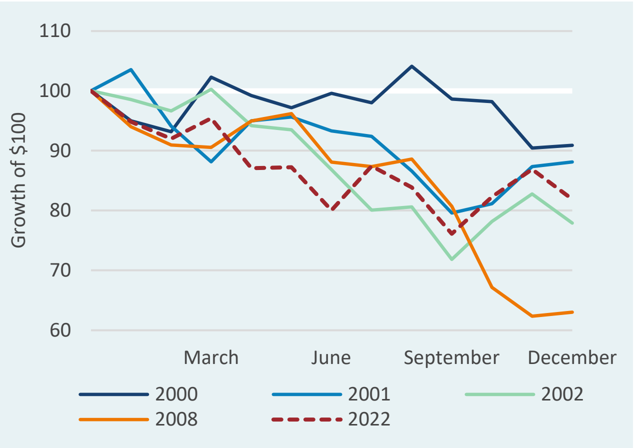
Source: Cboe, as of 12/31/22

REALIZED VOLATILITY



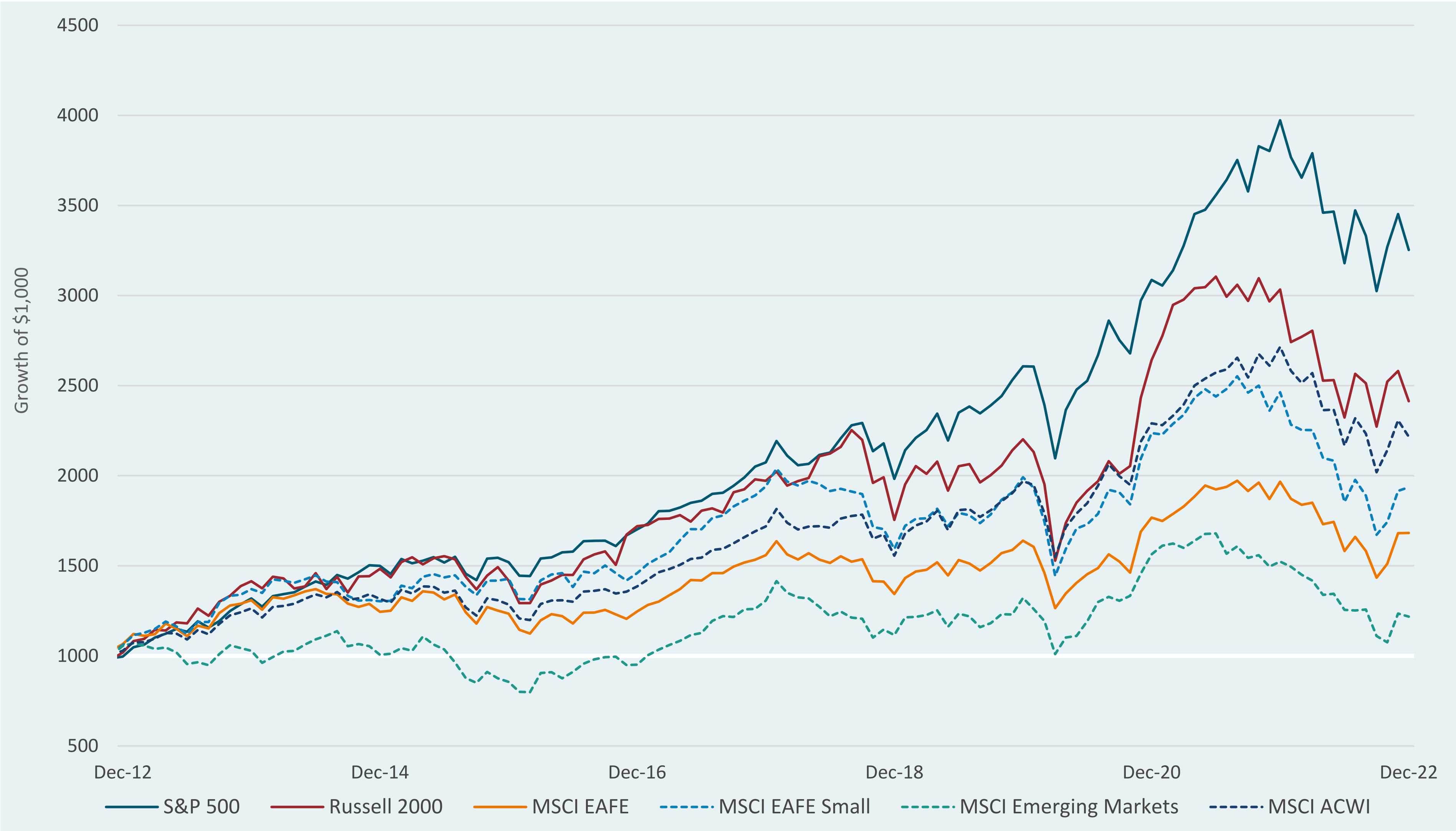
Source: S&P, MSCI, as of 12/31/22

S&P 500 FIVE WORST YEARS SINCE 1988



Source: S&P, Bloomberg, as of 12/31/22 – since 1988

Long-term equity performance



Source: MPI, as of 12/31/22

Other assets

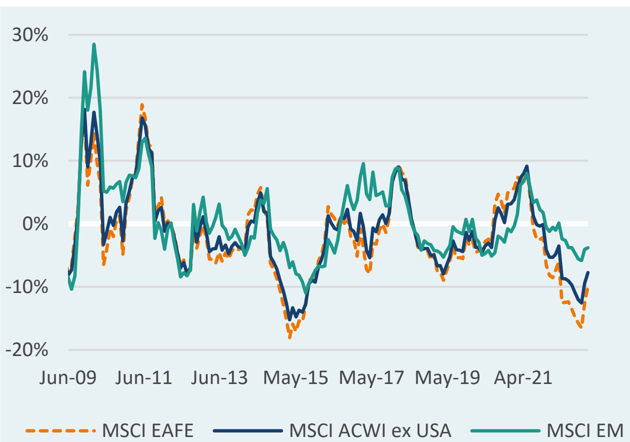
Currency

Currency volatility has translated to much higher portfolio volatility for investors with unhedged exposure to foreign currencies. The U.S. dollar depreciated relative to major currencies during the fourth quarter which resulted in large gains for investors with unhedged foreign currency exposure. These currency gains amounted to 7.6% for investors with unhedged exposure to the MSCI EAFE Index (+17.3% MSCI EAFE unhedged, +9.7% MSCI EAFE hedged).

U.S. dollar strength of 2022 was reversed in Q4 as markets began pricing in a shorter Federal Reserve tightening cycle. Expectations for lower rates in the U.S., combined with an ongoing struggle to control high inflation (and therefore tighter financial policies from respective central banks) within developed economies, likely played a major role in the U.S. dollar sell-off.

Despite currency gains seen this quarter, we believe that a thoughtful currency program may allow an investor to reduce their total portfolio risk while also increasing long-term expected returns. The MSCI Currency Factor Mix Index—a representation of a passive investment in the currency market—has shown a positive one-year rolling return over most periods with very low volatility. This contrasts to the unhedged currency exposure (what we refer to as "embedded currency") that most investors own, which has shown high volatility and frequent losses.

EFFECT OF CURRENCY (1-YEAR ROLLING)

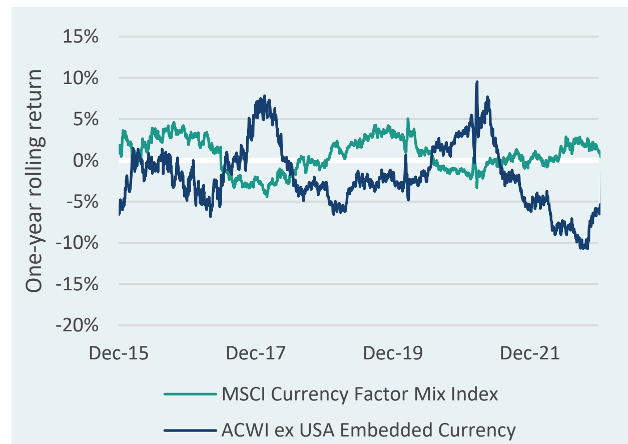


Source: MSCI, as of 12/31/22

BLOOMBERG DOLLAR SPOT INDEX

Source: Bloomberg, as of 12/31/22

EMBEDDED CURRENCY VS CURRENCY FACTORS



Source: Bloomberg, as of 12/31/22

Appendix

Periodic table of returns

BEST

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	5-Year	10-Year
Commodities	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	28.3	16.1	11.0	14.1
Real Estate	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	34.6	27.6	9.4	9.1	12.4
Cash	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	28.5	21.0	27.1	1.5	8.6	10.3
Hedge Funds of Funds	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	26.5	20.0	26.5	-4.7	6.7	9.5
Large Cap Value	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	25.5	18.3	25.2	-7.5	6.4	9.2
US Bonds	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	22.4	14.0	17.7	-13.0	4.1	9.0
Small Cap Value	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	22.0	10.3	14.8	-14.5	4.1	8.5
International Equity	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	18.6	7.8	11.3	-14.5	3.5	4.8
60/40 Global Portfolio	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	18.4	7.5	8.9	-17.3	3.2	4.7
Large Cap Equity	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	8.7	4.6	6.5	-19.1	2.7	3.6
Emerging Markets Equity	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	7.8	2.8	2.8	-20.1	1.5	1.4
Small Cap Equity	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	7.7	0.5	0.0	-20.4	1.2	1.1
Small Cap Growth	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	6.4	0.5	-1.5	-26.4	0.0	0.7
Large Cap Growth	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	2.1	-3.1	-2.5	-29.1	-1.4	-1.3

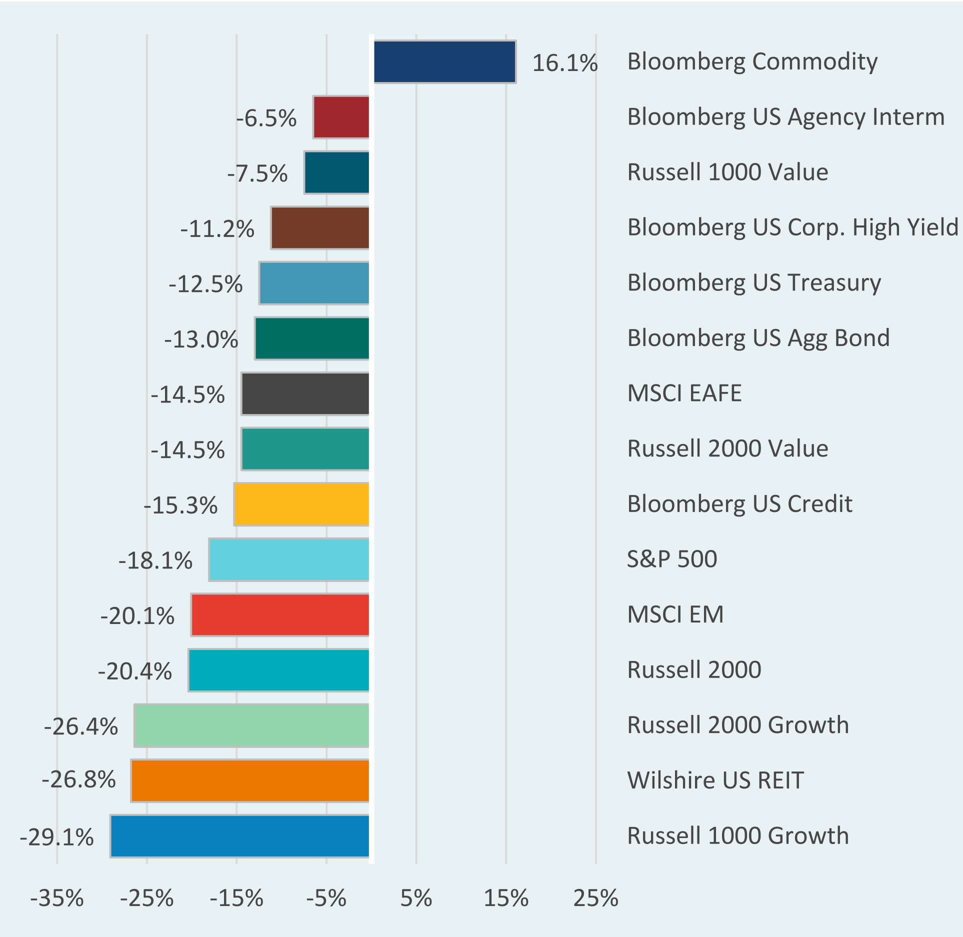
WORST

- Large Cap Equity
- Large Cap Value
- Large Cap Growth
- Small Cap Equity
- Small Cap Value
- Small Cap Growth
- International Equity
- Emerging Markets Equity
- US Bonds
- Cash
- Commodities
- Real Estate
- Hedge Funds of Funds
- 60% MSCI ACWI/40% Bloomberg Global Bond

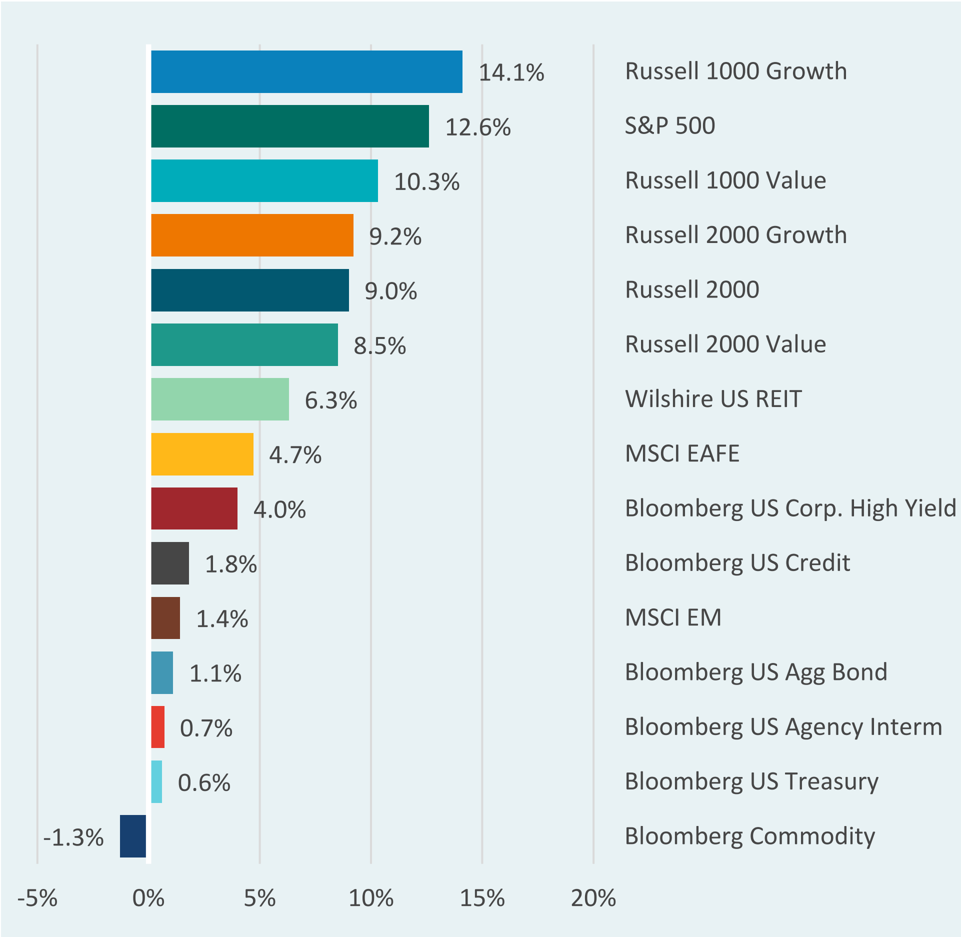
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond as of 12/31/22. NCREIF Property Index performance data as of 9/30/22.

Major asset class returns

ONE YEAR ENDING DECEMBER



TEN YEARS ENDING DECEMBER



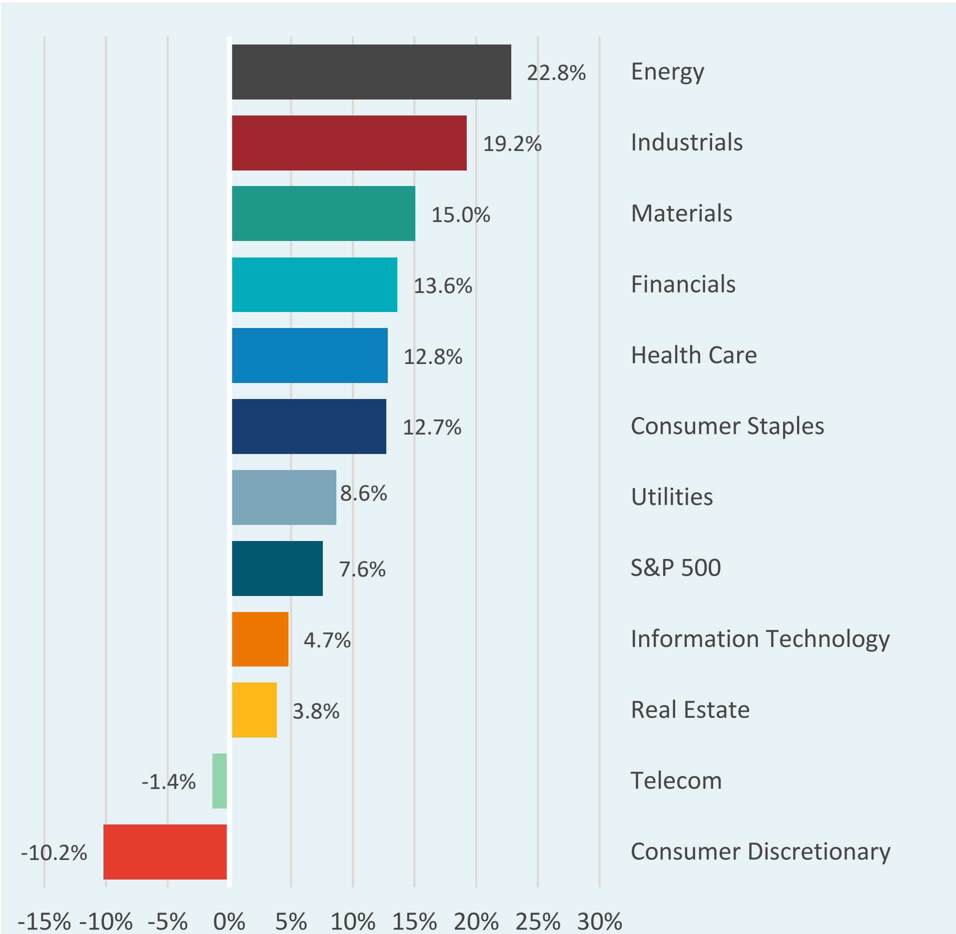
**Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.*

Source: Morningstar, as of 12/31/22

Source: Morningstar, as of 12/31/22

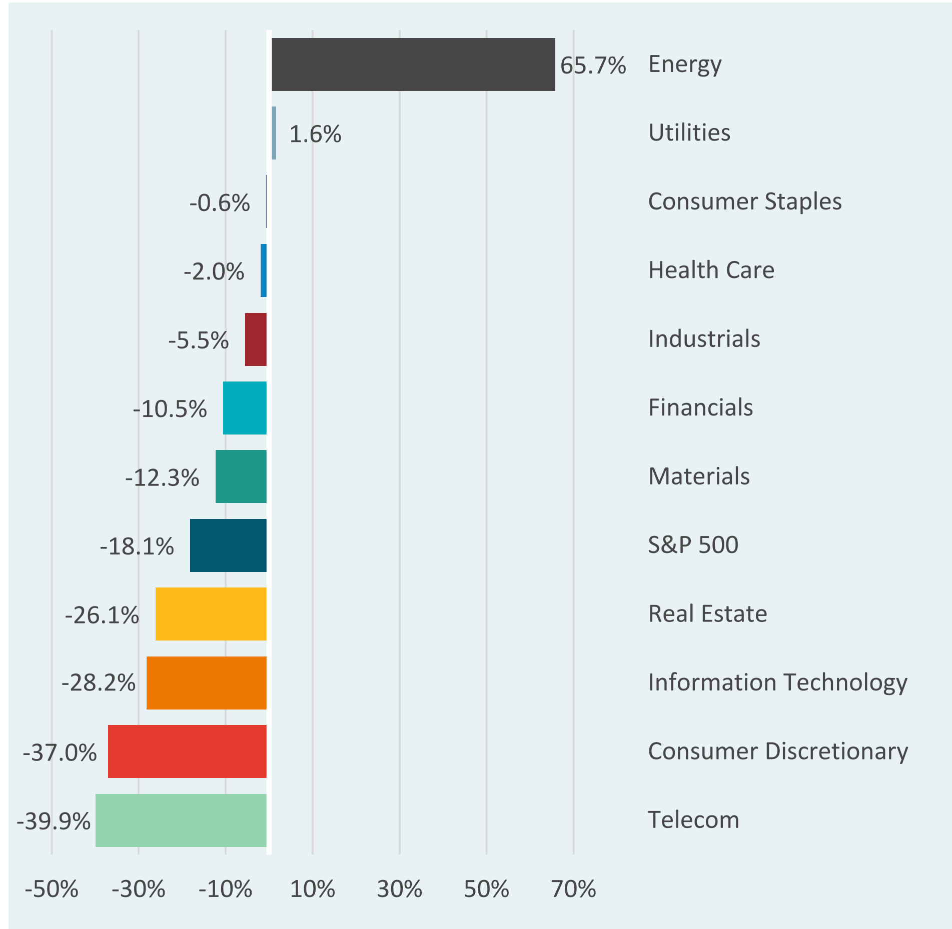
S&P 500 sector returns

QTD



Source: Morningstar, as of 12/31/22

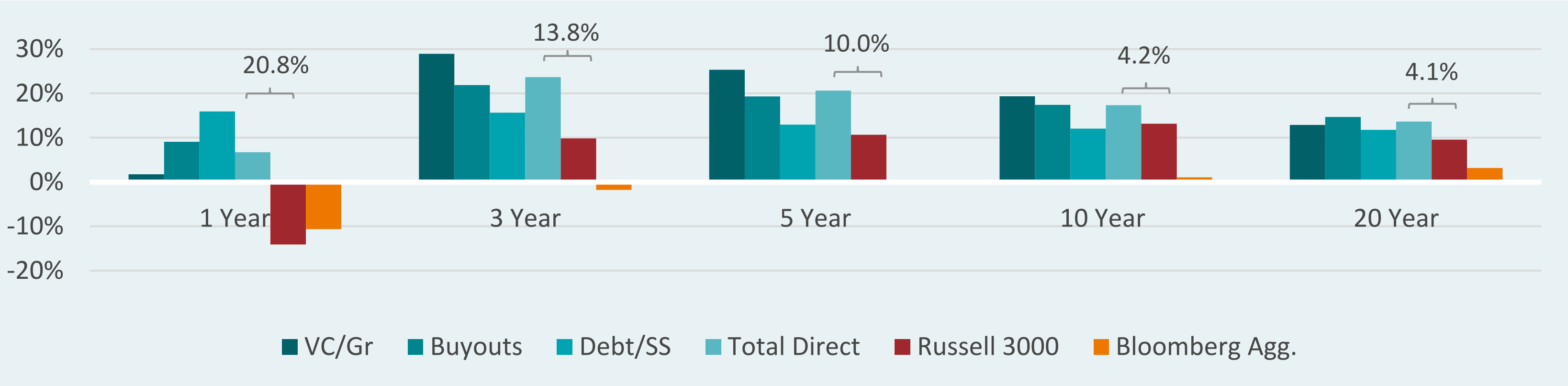
ONE YEAR ENDING DECEMBER



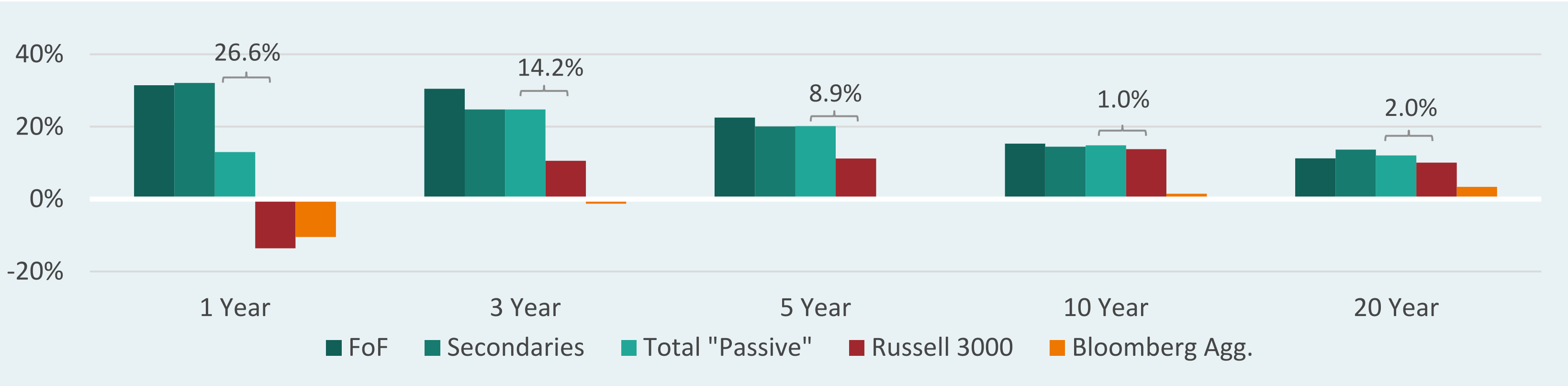
Source: Morningstar, as of 12/31/22

Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



"PASSIVE" STRATEGIES



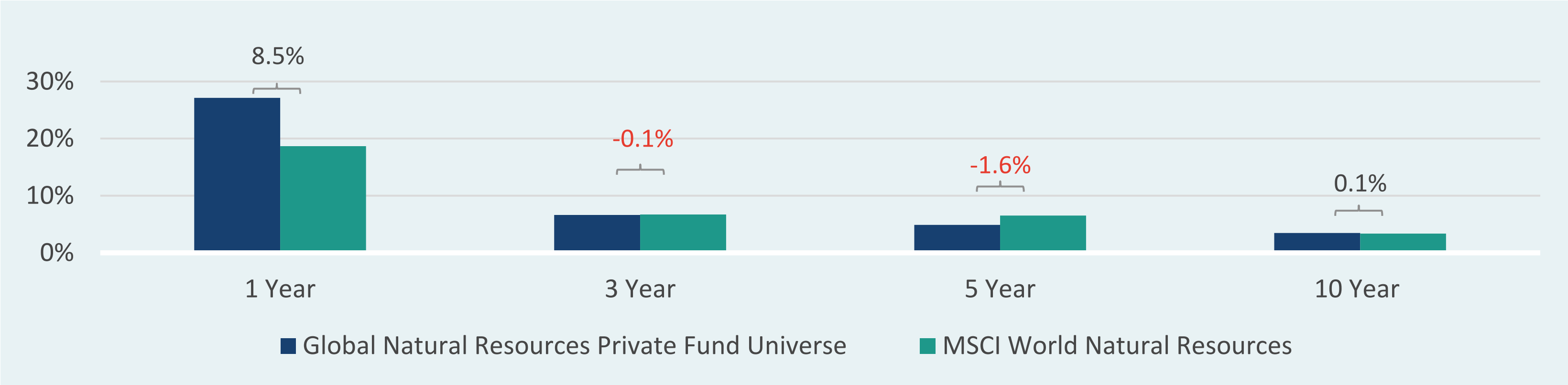
Direct P.E Fund Investments outperformed over all time periods, though elevated short-term outperformance may be transitory due to appraisal lags

"Passive" strategies outperformed over all periods

Sources: Refinitiv PME: U.S. Private Equity Funds sub asset classes as of June 30, 2022. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.

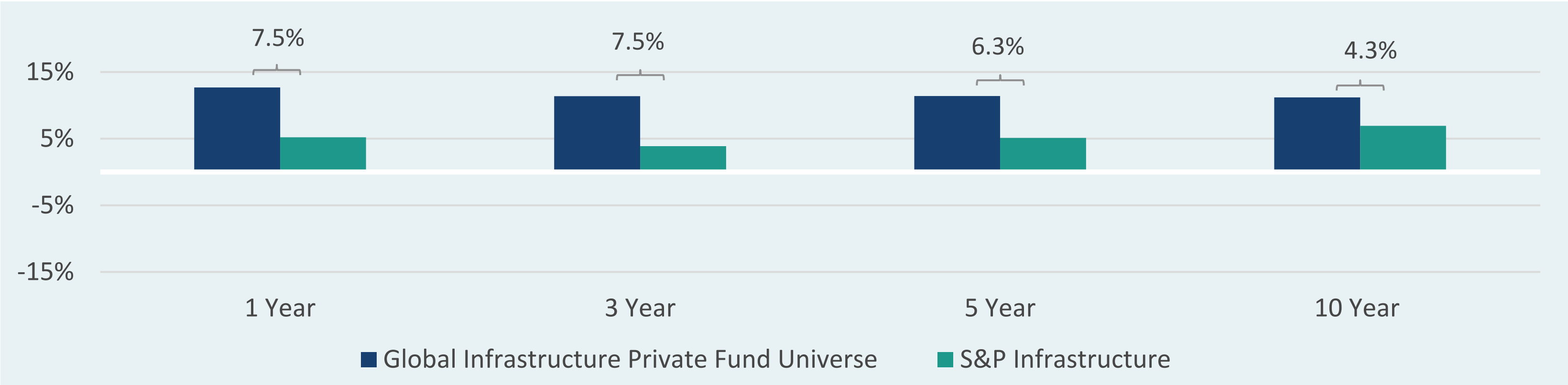
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



N.R. funds outperformed the MSCI World Natural Resources benchmark across 1- and 10-year periods

GLOBAL INFRASTRUCTURE FUNDS

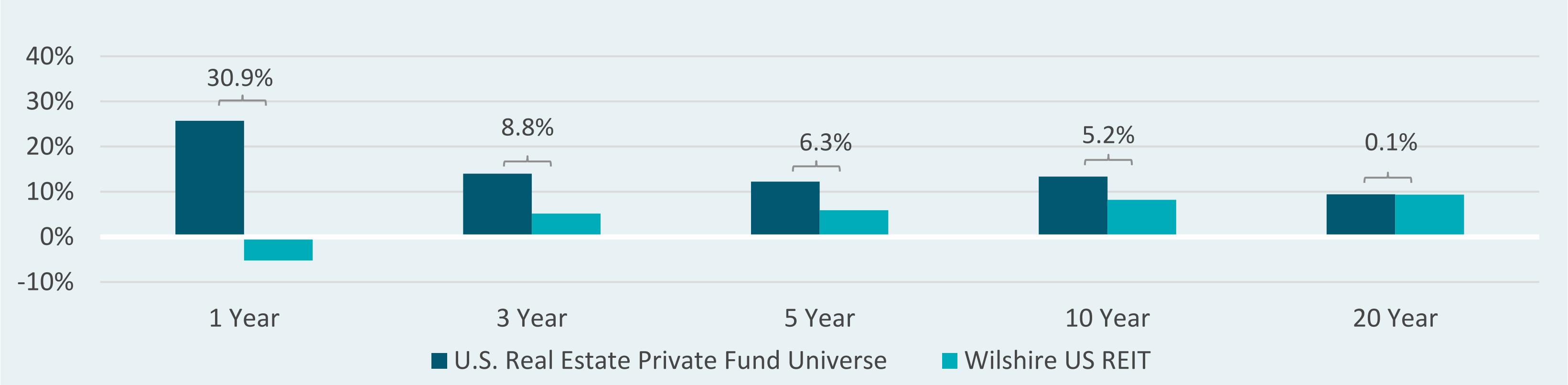


Infra. funds outperformed the S&P Infra. across all periods

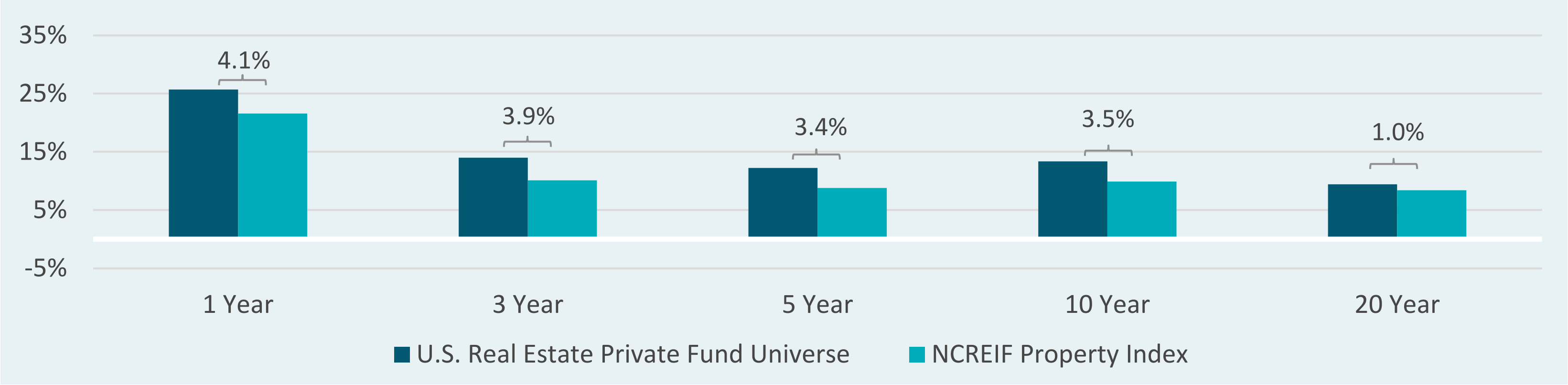
Sources: Refinitiv PME: Global Natural Resources (vintage 1999 and later, inception of MSCI World Natural Resources benchmark) and Global Infrastructure (vintage 2002 and later, inception of S&P Infrastructure benchmark) universes as of June 30, 2022. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

Private vs. liquid and core real estate performance

U.S. PRIVATE REAL ESTATE FUNDS VS. LIQUID UNIVERSE



U.S. PRIVATE REAL ESTATE FUNDS VS. CORE FUNDS



U.S. Private R.E. funds outperformed the Wilshire U.S. REIT Index across all time periods, though short-term outperformance may be transitory due to appraisal lags

U.S. Private R.E. Funds outperformed across all periods

Sources: Refinitiv PME: U.S. Real Estate universes as of June 30, 2022. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	(5.8)	7.6	(18.1)	(18.1)	7.7	9.4	12.6
S&P 500 Equal Weighted	(4.7)	11.6	(11.4)	(11.4)	9.0	9.1	12.4
DJ Industrial Average	(4.1)	16.0	(6.9)	(6.9)	7.3	8.4	12.3
Russell Top 200	(6.0)	6.6	(19.8)	(19.8)	7.9	9.9	12.9
Russell 1000	(5.8)	7.2	(19.1)	(19.1)	7.3	9.1	12.4
Russell 2000	(6.5)	6.2	(20.4)	(20.4)	3.1	4.1	9.0
Russell 3000	(5.9)	7.2	(19.2)	(19.2)	7.1	8.8	12.1
Russell Mid Cap	(5.4)	9.2	(17.3)	(17.3)	5.9	7.1	11.0
Style Index							
Russell 1000 Growth	(7.7)	2.2	(29.1)	(29.1)	7.8	11.0	14.1
Russell 1000 Value	(4.0)	12.4	(7.5)	(7.5)	6.0	6.7	10.3
Russell 2000 Growth	(6.4)	4.1	(26.4)	(26.4)	0.6	3.5	9.2
Russell 2000 Value	(6.6)	8.4	(14.5)	(14.5)	4.7	4.1	8.5

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	(3.9)	9.8	(18.4)	(18.4)	4.0	5.2	8.0
MSCI ACWI ex US	(0.7)	14.3	(16.0)	(16.0)	0.1	0.9	3.8
MSCI EAFE	0.1	17.3	(14.5)	(14.5)	0.9	1.5	4.7
MSCI EM	(1.4)	9.7	(20.1)	(20.1)	(2.7)	(1.4)	1.4
MSCI EAFE Small Cap	1.1	15.8	(21.4)	(21.4)	(0.9)	(0.0)	6.2
Style Index							
MSCI EAFE Growth	(1.1)	15.0	(22.9)	(22.9)	0.5	2.5	5.6
MSCI EAFE Value	1.3	19.6	(5.6)	(5.6)	0.6	0.2	3.5
Regional Index							
MSCI UK	(0.4)	17.0	(4.8)	(4.8)	0.3	1.0	3.1
MSCI Japan	0.3	13.2	(16.6)	(16.6)	(1.0)	0.2	5.6
MSCI Euro	(0.5)	23.0	(17.2)	(17.2)	0.5	0.8	4.3
MSCI EM Asia	(0.8)	10.8	(21.1)	(21.1)	(1.3)	(0.6)	3.6
MSCI EM Latin American	(4.0)	5.7	8.9	8.9	(4.8)	(1.1)	(2.1)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	(1.0)	2.0	(11.8)	(11.8)	1.2	2.1	1.1
Bloomberg US Treasury Bills	0.4	0.9	1.3	1.3	0.7	1.2	0.8
Bloomberg US Agg Bond	(0.5)	1.9	(13.0)	(13.0)	(2.7)	0.0	1.1
Bloomberg US Universal	(0.3)	2.2	(13.0)	(13.0)	(2.5)	0.2	1.3
Duration							
Bloomberg US Treasury 1-3 Yr	0.2	0.7	(3.8)	(3.8)	(0.5)	0.7	0.7
Bloomberg US Treasury Long	(1.7)	(0.6)	(29.3)	(29.3)	(7.4)	(2.2)	0.6
Bloomberg US Treasury	(0.5)	0.7	(12.5)	(12.5)	(2.6)	(0.1)	0.6
Issuer							
Bloomberg US MBS	(0.4)	2.1	(11.8)	(11.8)	(3.2)	(0.5)	0.7
Bloomberg US Corp. High Yield	(0.6)	4.2	(11.2)	(11.2)	0.0	2.3	4.0
Bloomberg US Agency Interm	0.0	0.8	(6.5)	(6.5)	(1.3)	0.4	0.7
Bloomberg US Credit	(0.4)	3.4	(15.3)	(15.3)	(2.9)	0.4	1.8

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	(2.4)	2.2	16.1	16.1	12.7	6.4	(1.3)
Wilshire US REIT	(5.6)	4.0	(26.8)	(26.8)	(0.5)	3.4	6.3
CS Leveraged Loans	0.4	2.3	(1.1)	(1.1)	2.3	3.2	3.8
S&P Global Infrastructure	(2.2)	11.0	(0.2)	(0.2)	1.7	3.9	6.5
Alerian MLP	(4.7)	10.5	31.4	31.4	8.3	3.6	2.1
Regional Index							
JPM EMBI Global Div	0.3	8.1	(17.8)	(17.8)	(5.3)	(1.3)	1.6
JPM GBI-EM Global Div	2.2	8.5	(11.7)	(11.7)	(6.1)	(2.5)	(2.0)
Hedge Funds							
HFRI Composite	(0.4)	2.2	(4.3)	(4.3)	5.7	4.4	4.7
HFRI FOF Composite	0.9	2.4	(4.7)	(4.7)	3.9	3.2	3.6
Currency (Spot)							
Euro	3.7	8.9	(6.2)	(6.2)	(1.7)	(2.3)	(2.1)
Pound Sterling	1.0	7.8	(11.2)	(11.2)	(3.2)	(2.3)	(3.0)
Yen	5.8	9.7	(12.7)	(12.7)	(6.3)	(3.1)	(4.1)

Source: Morningstar, HFRI, as of 12/31/22.

Definitions

Bloomberg US Weekly Consumer Comfort Index *- tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. (www.langerresearch.com)*

University of Michigan Consumer Sentiment Index *- A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. (www.Bloomberg.com)*

NFIB Small Business Outlook *- Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (http://www.nfib-sbet.org/about/)*

NAHB Housing Market Index – *the housing market index is a weighted average of separate diffusion induces for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula "(Good-Poor + 100)/2" to the present and future sales series and "(High/Very High-Low/Very Low + 100)/2" to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.*

Notices & disclosures

Tulare County Employees' Retirement Association

Investment Performance Review
Period Ending: December 31, 2022

Verus®

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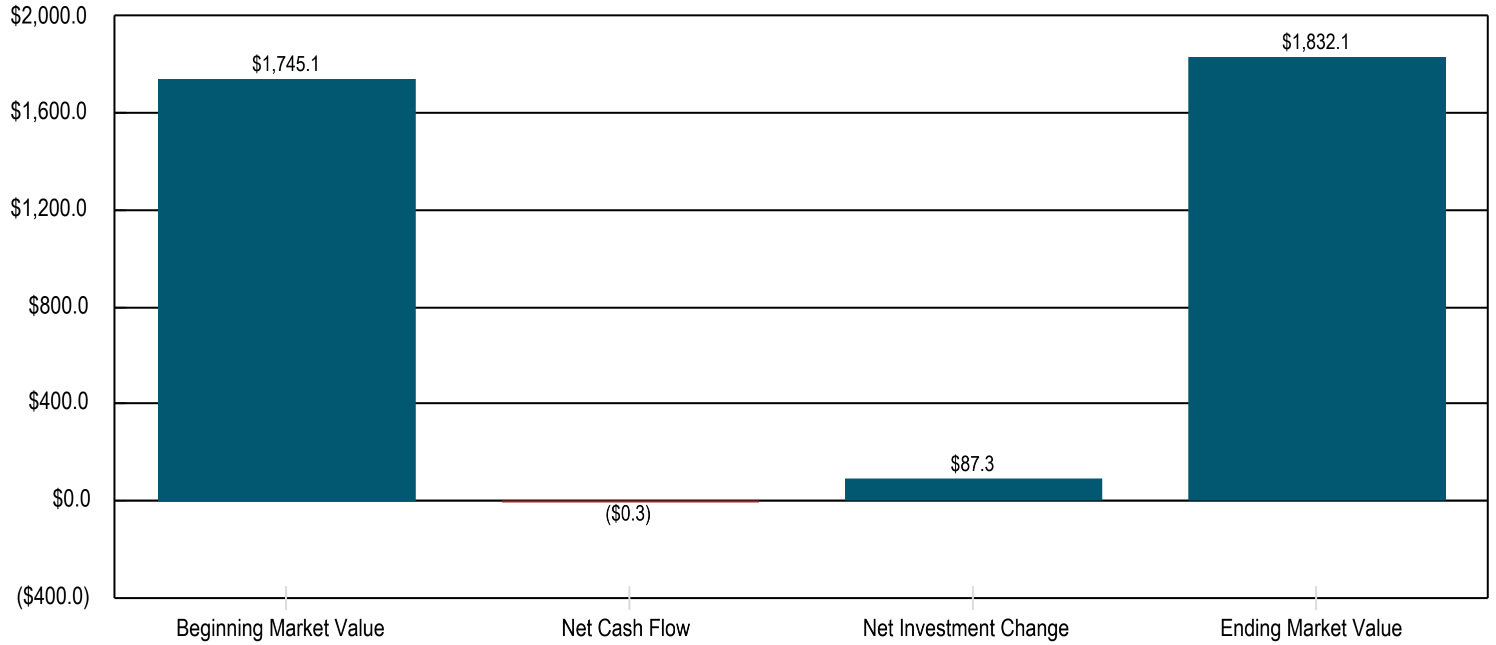
LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484

Portfolio Reconciliation

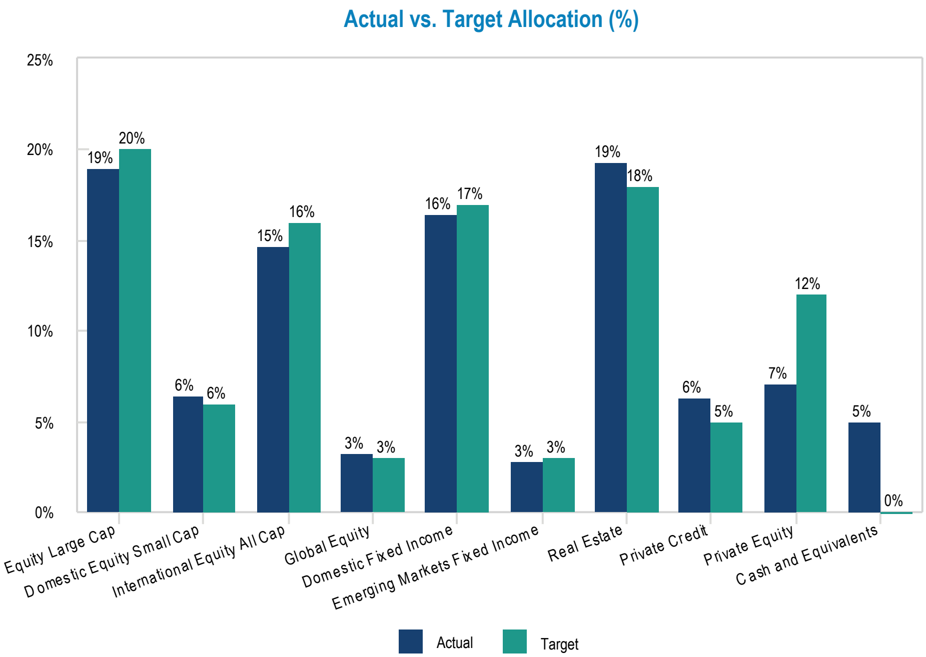
	3 Mo	YTD
Beginning Market Value	1,745,055,188	2,035,610,229
Net Cash Flow	-339,124	-38,151,160
Net Investment Change	87,702,943	-165,044,502
Ending Market Value	1,832,414,558	1,832,414,558

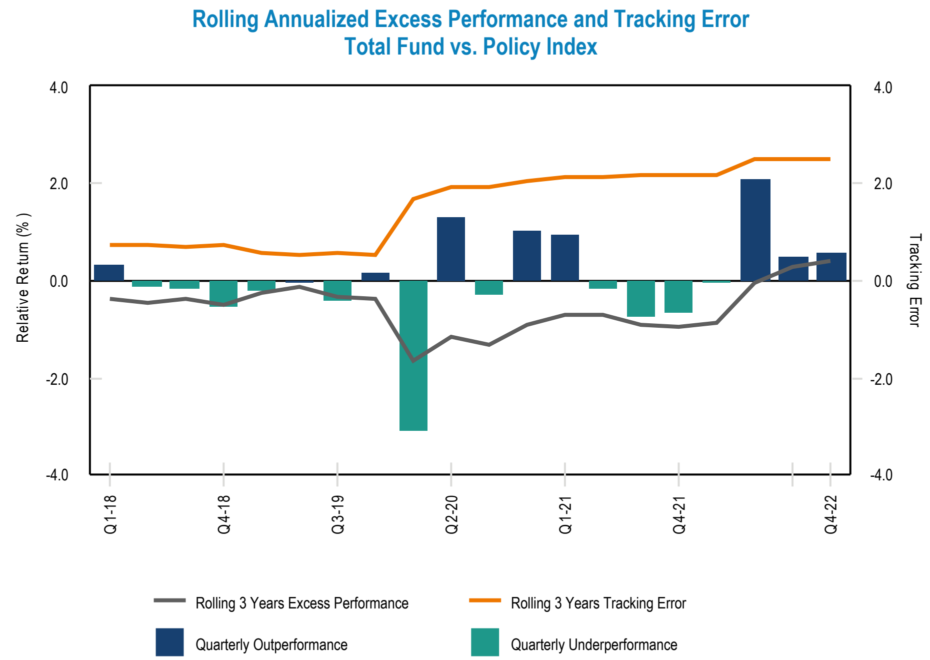
Change in Market Value
Last Three Months



FY ends 6/30.

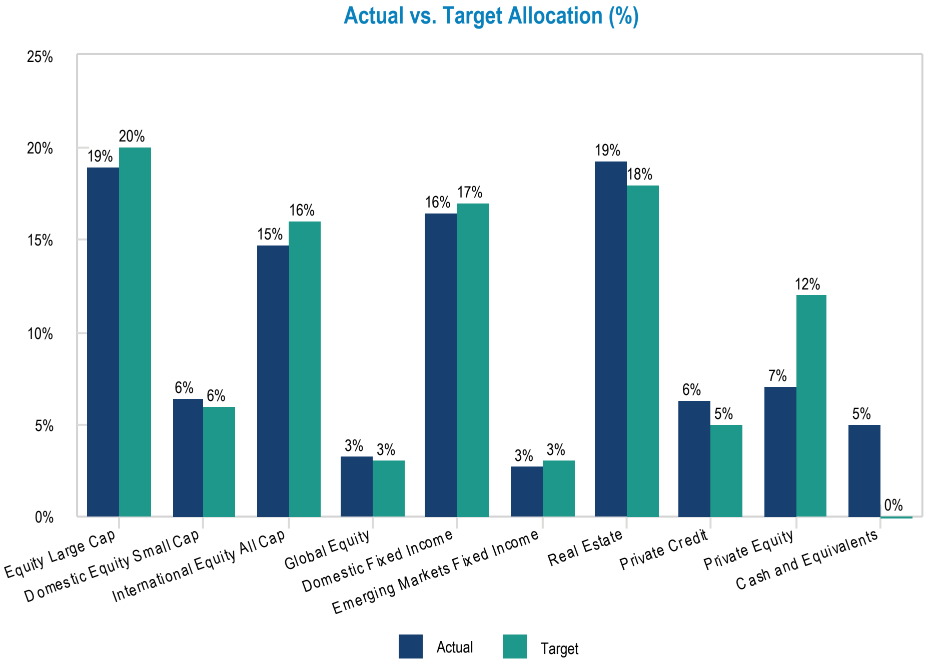
	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs
Total Fund	**5.0**	**-8.2**	**4.3**	**4.9**	**6.2**	**4.5**
Policy Index	*4.4*	*-11.3*	*3.9*	*4.9*	*6.2*	*4.9*
All DB Public Plans >1B Rank	*57*	*14*	*56*	*57*	*79*	*95*
Total Domestic Equity	**7.8**	**-18.2**	**6.8**	**8.4**	**12.0**	**8.6**
Russell 3000 Index	*7.2*	*-19.2*	*7.1*	*8.8*	*12.1*	*8.7*
Total International Equity	**14.5**	**-14.2**	**2.2**	**2.3**	**4.7**	**1.2**
MSCI AC World ex USA Index	*14.4*	*-15.6*	*0.5*	*1.4*	*4.3*	*2.0*
Total Global Equity	**15.6**	**-14.6**	**7.8**	**5.5**	**-**	**-**
MSCI AC World Index	*9.9*	*-18.0*	*4.5*	*5.8*	*8.5*	*5.4*
Total Fixed Income	**2.9**	**-13.5**	**-4.0**	**-0.8**	**0.6**	**2.8**
Blmbg. U.S. Aggregate Index	*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*2.7*
Total Domestic Fixed Income	**1.9**	**-13.7**	**-2.6**	**0.1**	**1.2**	**-**
Blmbg. U.S. Aggregate Index	*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*2.7*

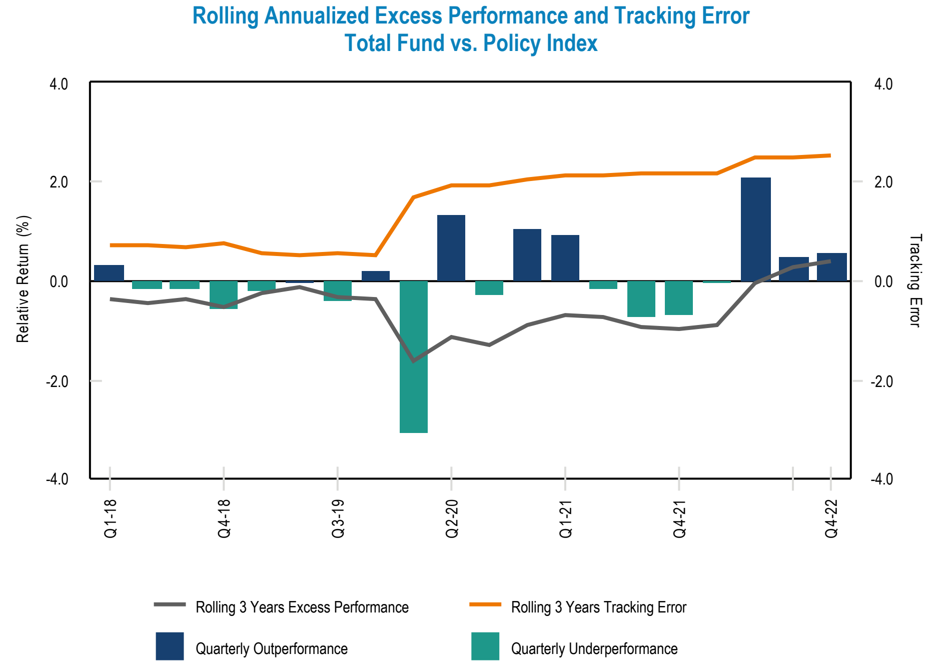




Policy Index as of 10/1/2021: 26% Russell 3000, 16% MSCI ACWI ex US, 3% MSCI ACWI, 17% Bloomberg US Aggregate, 3% JPM GBI Global, 13.4% NCREIF-ODCE, 5% Russell 2000, 4.6% MSCI REIT Index, 7% Private Equity Returns, 5% Private Credit Returns. All return periods greater than 1-year are rolling annualized returns.

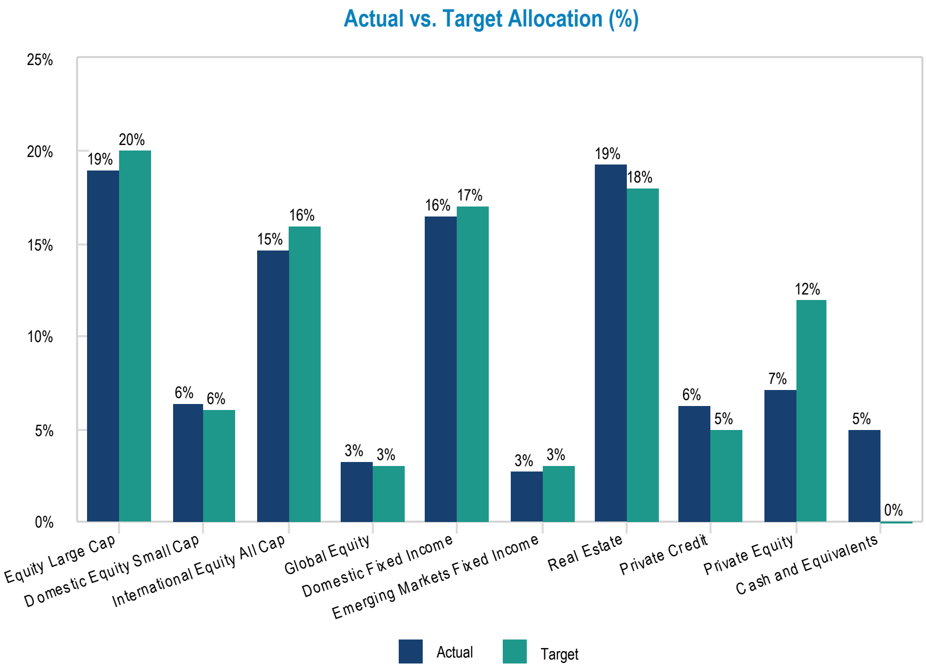
	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs
Total Emerging Markets Fixed Income	**9.2**	**-12.4**	**-4.6**	**-**	**-**	**-**
50% JPM EMBI Global Div/ 50% JPM GBI EM Global Div	*8.3*	*-14.8*	*-5.7*	*-1.9*	*-0.2*	*3.0*
Total Real Estate	**-0.9**	**11.3**	**8.5**	**7.9**	**9.1**	**4.8**
NCREIF-ODCE	*-5.0*	*7.5*	*9.9*	*8.7*	*10.1*	*6.2*
Total Private Equity	**0.2**	**14.0**	**22.7**	**20.4**	**15.7**	**11.6**
Private Equity Benchmark	*0.2*	*14.0*	*22.7*	*20.4*	*16.2*	*11.9*
Total Private Credit	**1.2**	**1.9**	**7.1**	**8.3**	**-**	**-**
Private Credit Benchmark	*1.2*	*1.9*	*7.1*	*8.3*	*-*	*-*
Total Opportunistic	**2.6**	**2.5**	**6.6**	**7.5**	**9.3**	**-**

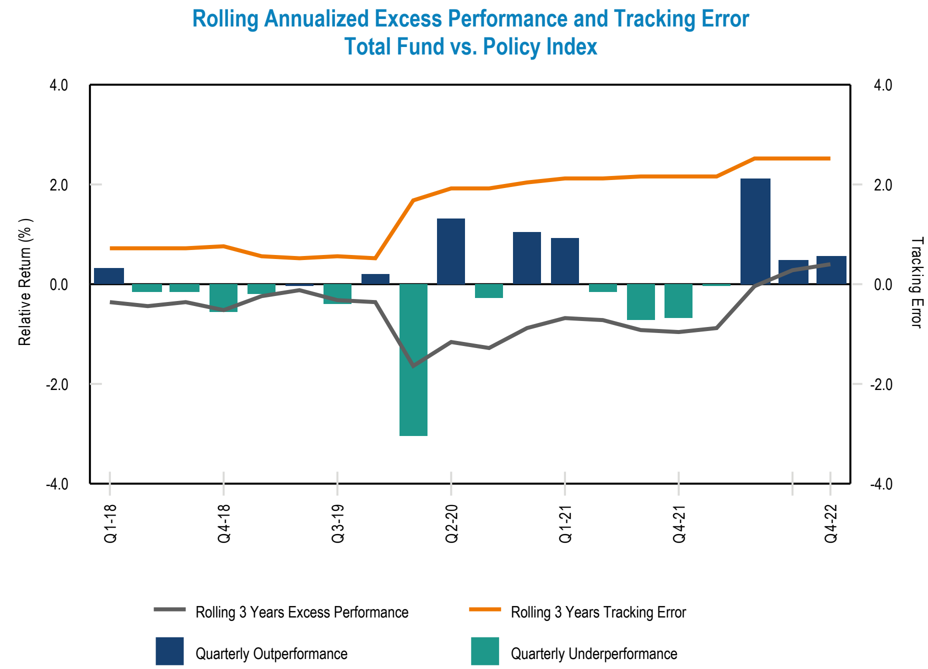




Policy Index as of 10/1/2021: 26% Russell 3000, 16% MSCI ACWI ex US, 3% MSCI ACWI, 17% Bloomberg US Aggregate, 3% JPM GBI Global, 13.4% NCREIF-ODCE, 5% Russell 2000, 4.6% MSCI REIT Index, 7% Private Equity Returns, 5% Private Credit Returns. All return periods greater than 1-year are rolling annualized returns.

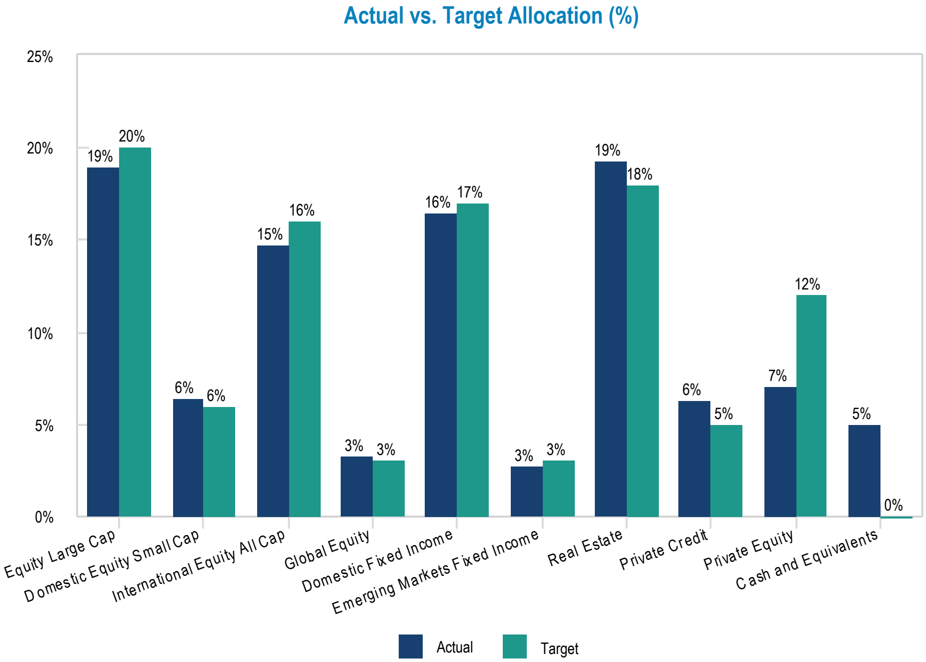
	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs
Total Fund	**5.1**	**-8.0**	**4.5**	**5.2**	**6.6**	**4.8**
Policy Index	*4.4*	*-11.3*	*3.9*	*4.9*	*6.2*	*4.9*
Total Domestic Equity	**7.8**	**-18.1**	**7.1**	**8.7**	**12.4**	**9.0**
Russell 3000 Index	*7.2*	*-19.2*	*7.1*	*8.8*	*12.1*	*8.7*
Total International Equity	**14.6**	**-13.9**	**2.5**	**2.6**	**5.0**	**1.5**
MSCI AC World ex USA Index	*14.4*	*-15.6*	*0.5*	*1.4*	*4.3*	*2.0*
Total Global Equity	**15.8**	**-13.9**	**8.7**	**6.4**	**-**	**-**
MSCI AC World Index	*9.9*	*-18.0*	*4.5*	*5.8*	*8.5*	*5.4*
Total Fixed Income	**3.0**	**-13.3**	**-3.7**	**-0.5**	**1.0**	**3.1**
Blmbg. U.S. Aggregate Index	*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*2.7*
Total Domestic Fixed Income	**2.0**	**-13.5**	**-2.3**	**0.4**	**1.5**	**-**
Blmbg. U.S. Aggregate Index	*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*2.7*

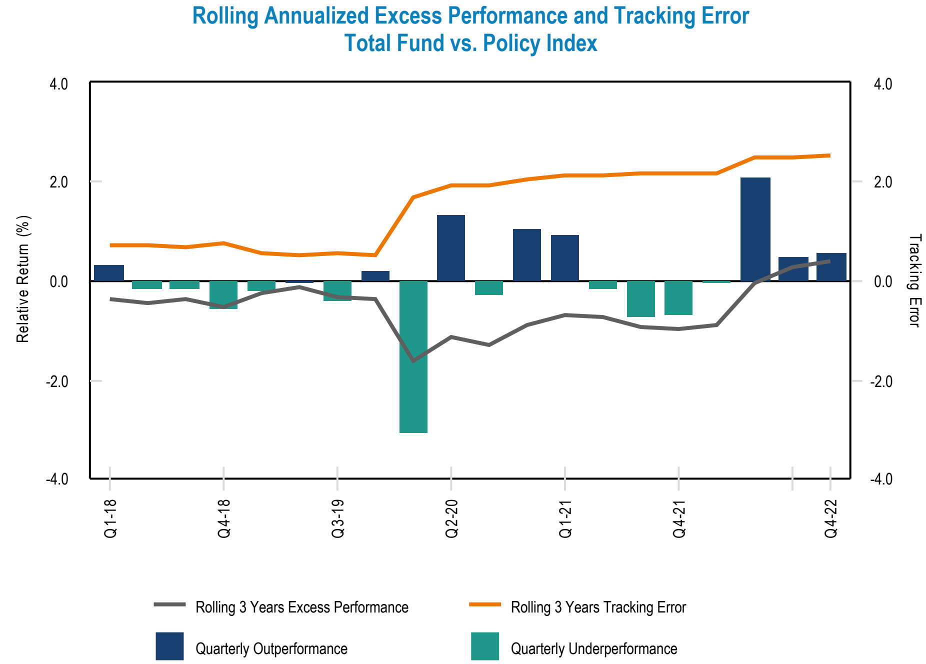




Policy Index as of 10/1/2021: 26% Russell 3000, 16% MSCI ACWI ex US, 3% MSCI ACWI, 17% Bloomberg US Aggregate, 3% JPM GBI Global, 13.4% NCREIF-ODCE, 5% Russell 2000, 4.6% MSCI REIT Index, 7% Private Equity Returns, 5% Private Credit Returns. All return periods greater than 1-year are rolling annualized returns.

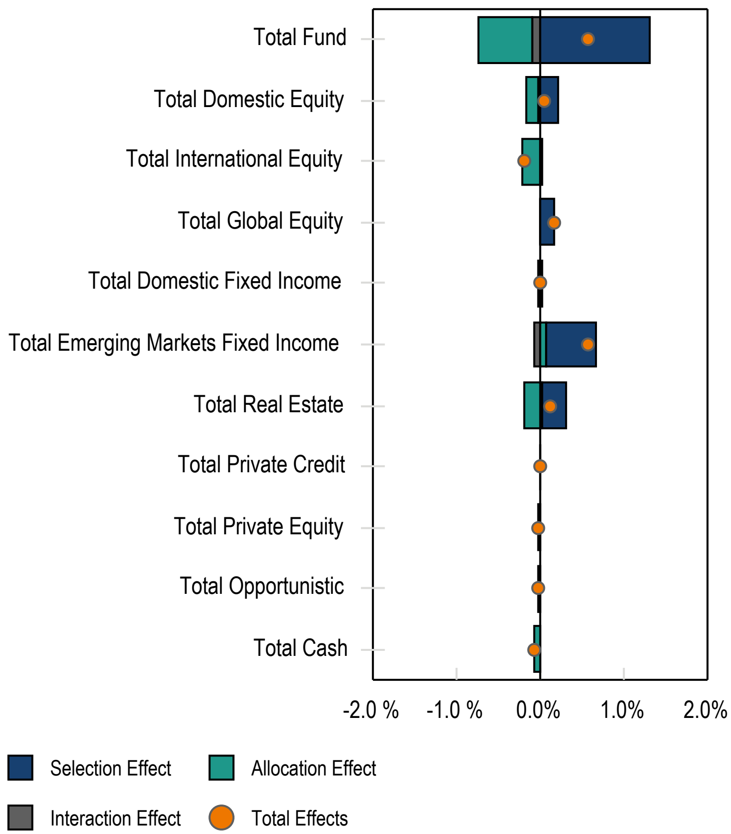
	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs
Total Emerging Markets Fixed Income	**9.3**	**-12.1**	**-4.2**	**-**	**-**	**-**
50% JPM EMBI Global Div/ 50% JPM GBI EM Global Div	*8.3*	*-14.8*	*-5.7*	*-1.9*	*-0.2*	*3.0*
Total Real Estate	**-0.9**	**11.6**	**8.6**	**7.9**	**9.3**	**5.0**
NCREIF-ODCE	*-5.0*	*7.5*	*9.9*	*8.7*	*10.1*	*6.2*
Total Private Equity	**0.2**	**14.0**	**22.7**	**20.4**	**16.2**	**11.9**
Private Equity Benchmark	*0.2*	*14.0*	*22.7*	*20.4*	*16.2*	*11.9*
Total Private Credit	**1.2**	**1.9**	**7.1**	**8.3**	**-**	**-**
Private Credit Benchmark	*1.2*	*1.9*	*7.1*	*8.3*	*-*	*-*
Total Opportunistic	**2.6**	**3.0**	**6.8**	**7.6**	**9.9**	**-**





Policy Index as of 10/1/2021: 26% Russell 3000, 16% MSCI ACWI ex US, 3% MSCI ACWI, 17% Bloomberg US Aggregate, 3% JPM GBI Global, 13.4% NCREIF-ODCE, 5% Russell 2000, 4.6% MSCI REIT Index, 7% Private Equity Returns, 5% Private Credit Returns. All return periods greater than 1-year are rolling annualized returns.

Attribution Effects
3 Months Ending December 31, 2022



Performance Attribution

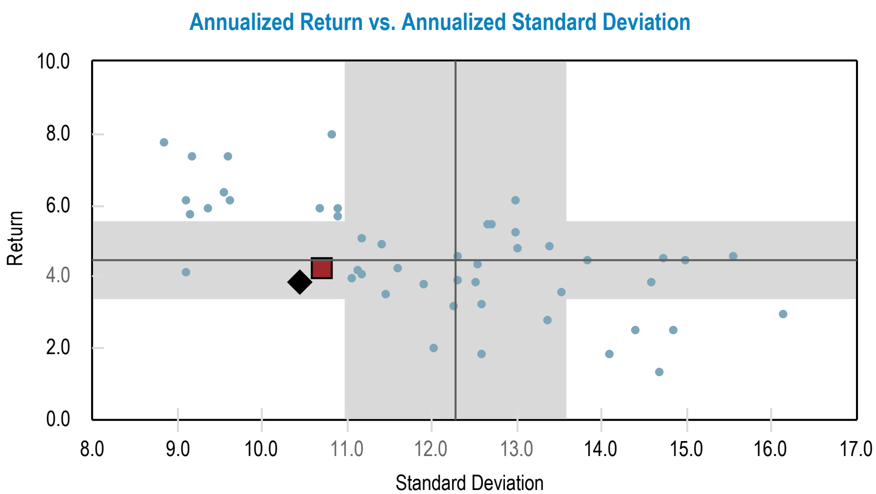
	3 Mo
Wtd. Actual Return	5.0
Wtd. Index Return	4.4
Excess Return	**0.6**
Selection Effect	1.3
Allocation Effect	-0.6
Interaction Effect	-0.1

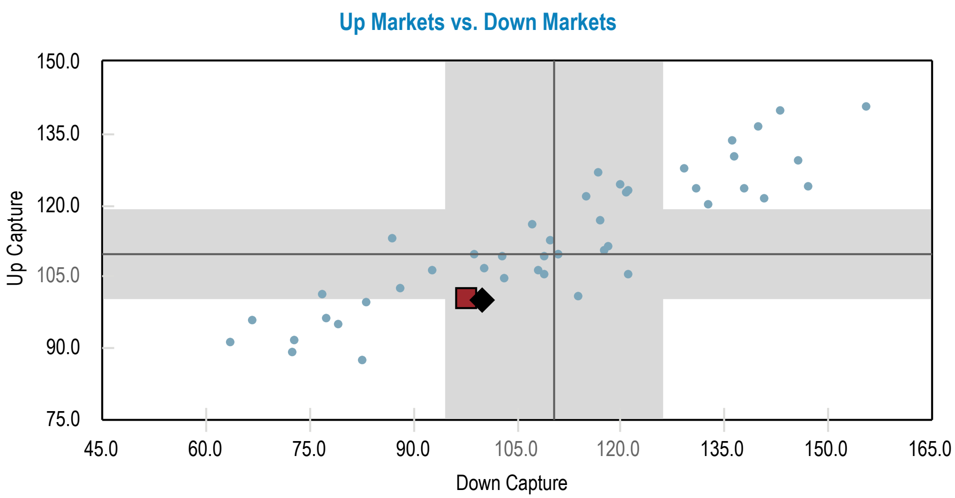
Attribution Summary
1 Month Ending December 31, 2022

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Domestic Equity	7.8	7.0	0.7	0.2	-0.2	0.0	0.0
Total International Equity	14.5	14.4	0.2	0.0	-0.2	0.0	-0.2
Total Global Equity	15.6	9.9	5.7	0.2	0.0	0.0	0.2
Total Domestic Fixed Income	1.9	1.9	0.1	0.0	0.0	0.0	0.0
Total Emerging Markets Fixed Income	9.2	-10.1	19.3	0.5	0.1	-0.1	0.6
Total Real Estate	-0.9	-2.4	1.5	0.3	-0.2	0.0	0.1
Total Private Credit	1.2	1.2	0.0	0.0	0.0	0.0	0.0
Total Private Equity	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Total Opportunistic	2.6	0.2	2.4	0.0	0.0	0.0	0.0
Total Cash	1.0	0.8	0.1	0.0	-0.1	0.0	-0.1
Total Fund	**5.0**	**4.4**	**0.6**	**1.3**	**-0.6**	**-0.1**	**0.6**

Weighted returns shown in attribution analysis may differ from actual returns. Wtd. Actual Return is the sum of the products of each group's return and its respective weight at the beginning of the period.

	Anlzd Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
Total Fund	4.27	10.71	0.47	0.99	2.80	0.93	0.37	0.15	100.76	97.65





InvMetrics Public DB > $1B

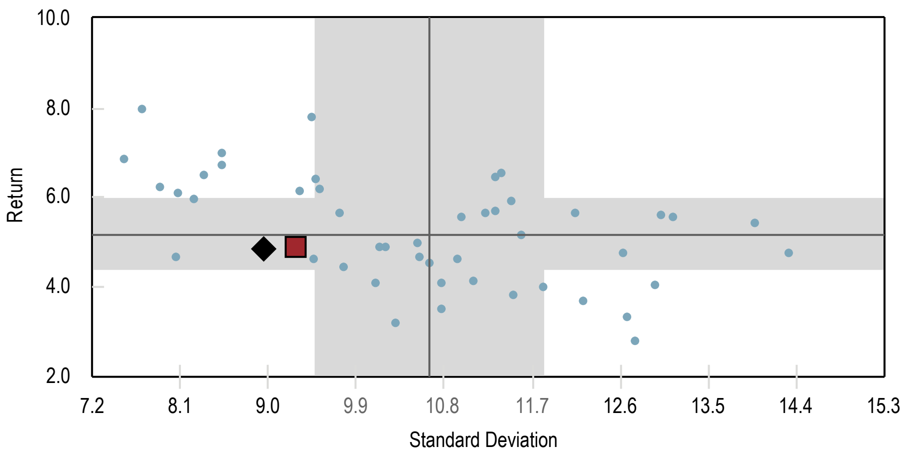
	Return	Standard Deviation
Total Fund	4.27	10.71
Policy Index	3.86	10.43
Median	4.48	12.28
Population	48	48

InvMetrics Public DB > $1B

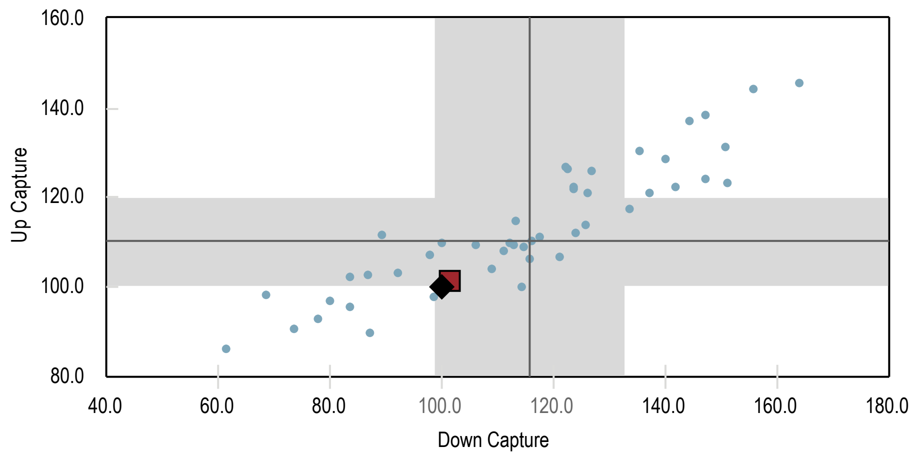
	Up Capture	Down Capture
Total Fund	100.76	97.65
Policy Index	100.00	100.00
Median	109.73	110.24
Population	48	48

	Anlzd Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
Total Fund	4.91	9.28	0.06	1.00	2.25	0.94	0.43	0.04	101.38	101.29

Annalized Return vs. Annualized Standard Deviation



Up Markets vs. Down Markets

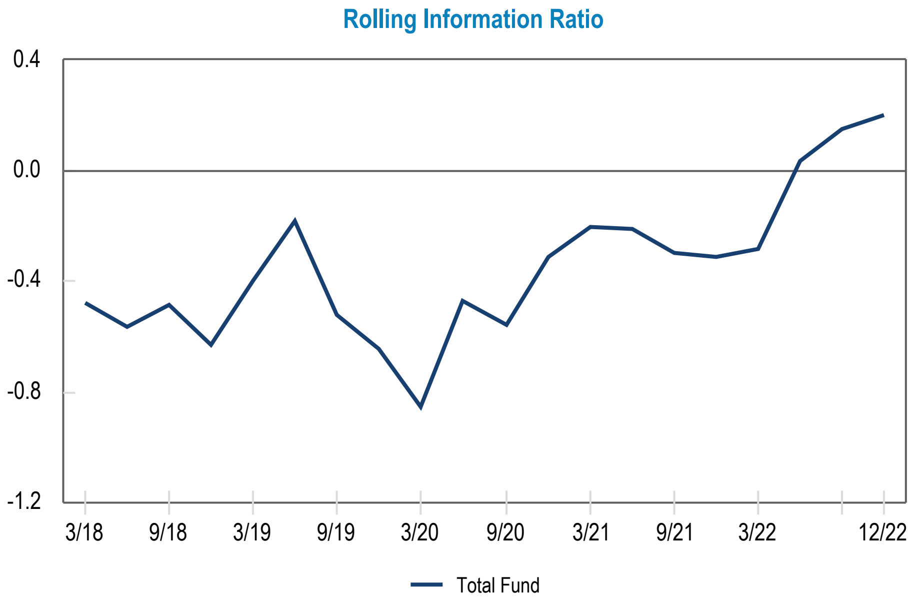


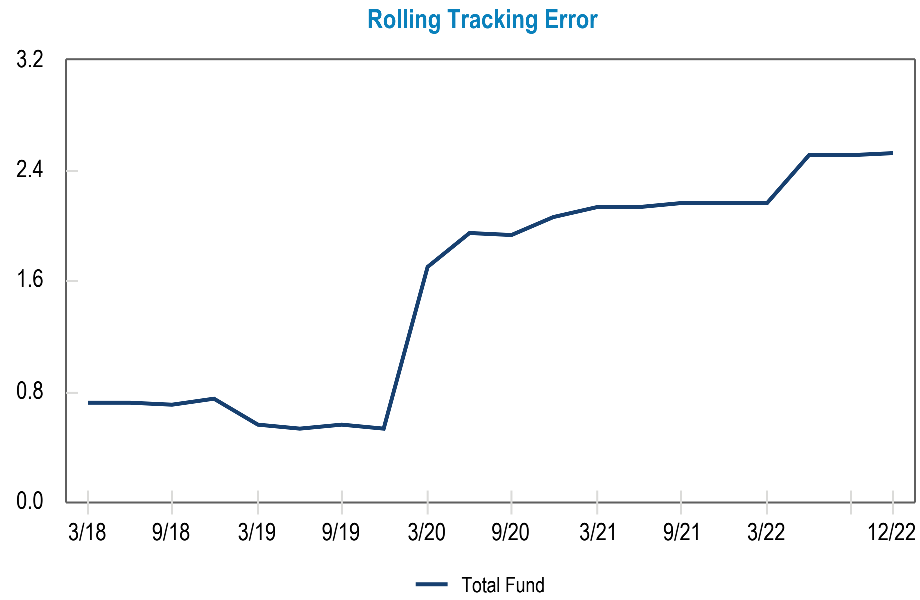
InvMetrics Public DB > $1B

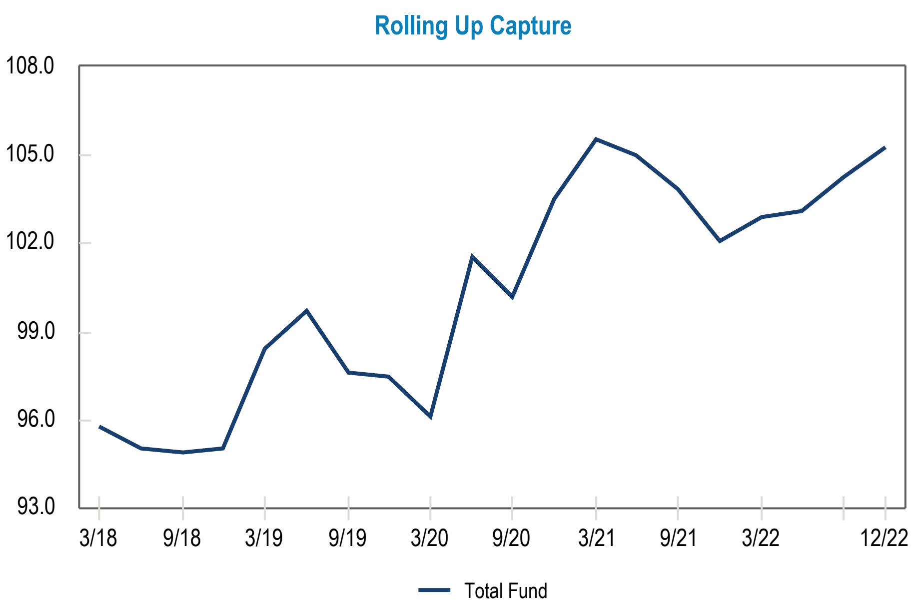
	Return	Standard Deviation
Total Fund	4.91	9.28
Policy Index	4.86	8.96
Median	5.19	10.65
Population	47	47

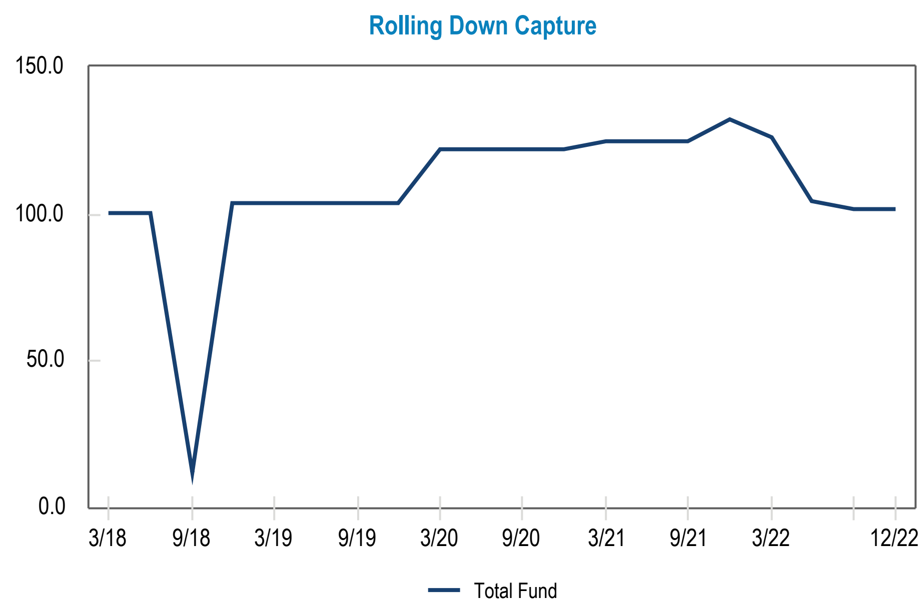
InvMetrics Public DB > $1B

	Up Capture	Down Capture
Total Fund	101.38	101.29
Policy Index	100.00	100.00
Median	110.32	115.71
Population	47	47

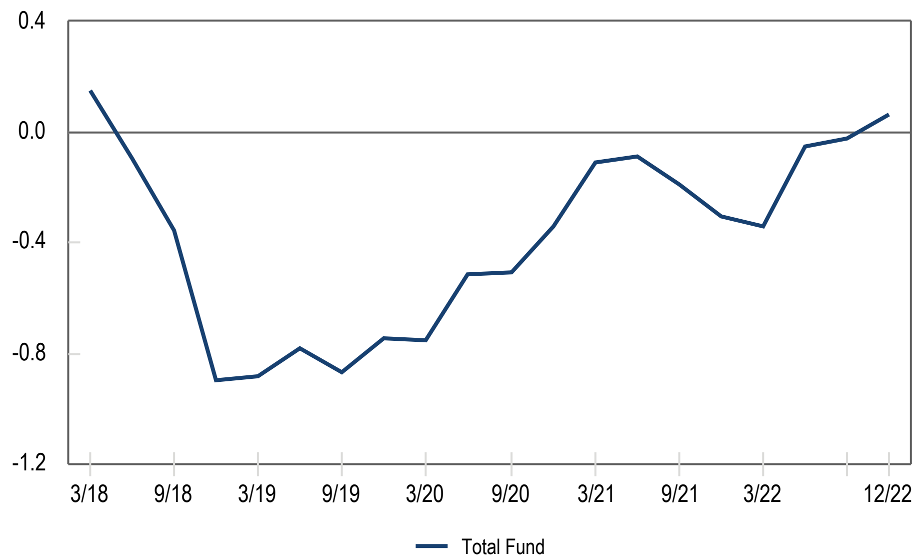

Rolling Information Ratio
0.4
0.0
-0.4
-0.8
-1.2
3/18
9/18
3/19
9/19
3/20
9/20
3/21
9/21
3/22
12/22
Total Fund


Rolling Tracking Error
3.2
2.4
1.6
0.8
0.0
3/18
9/18
3/19
9/19
3/20
9/20
3/21
9/21
3/22
12/22
Total Fund

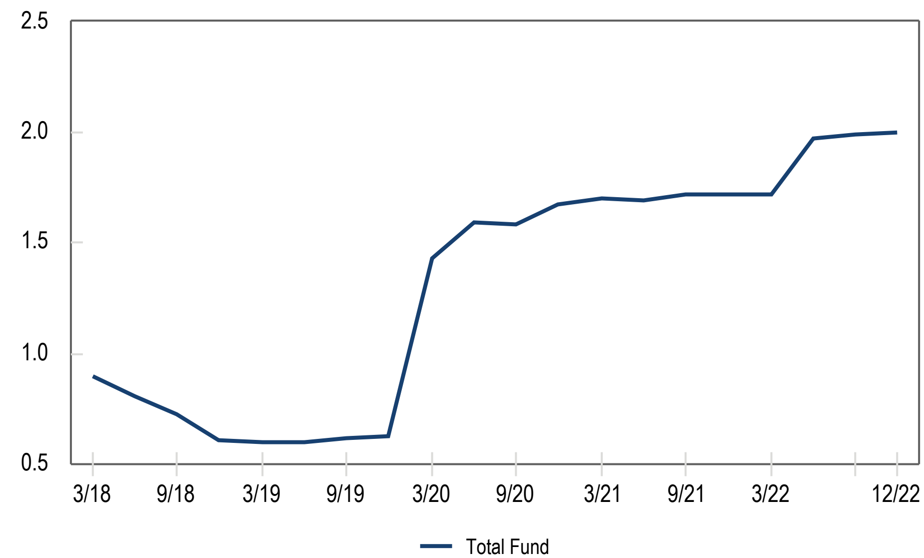

Rolling Up Capture
108.0
105.0
102.0
99.0
96.0
93.0
3/18
9/18
3/19
9/19
3/20
9/20
3/21
9/21
3/22
12/22
Total Fund


Rolling Down Capture
150.0
100.0
50.0
0.0
3/18
9/18
3/19
9/19
3/20
9/20
3/21
9/21
3/22
12/22
Total Fund

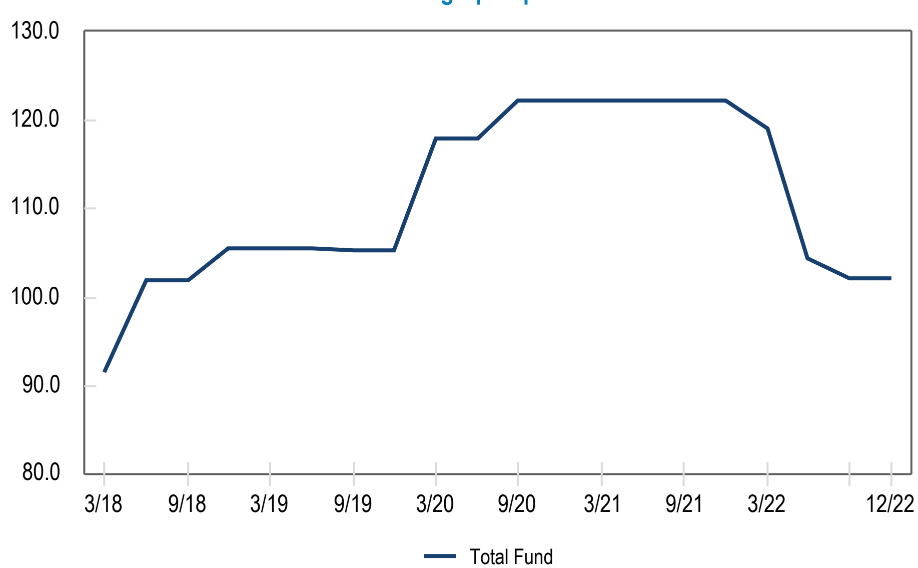
Rolling Information Ratio



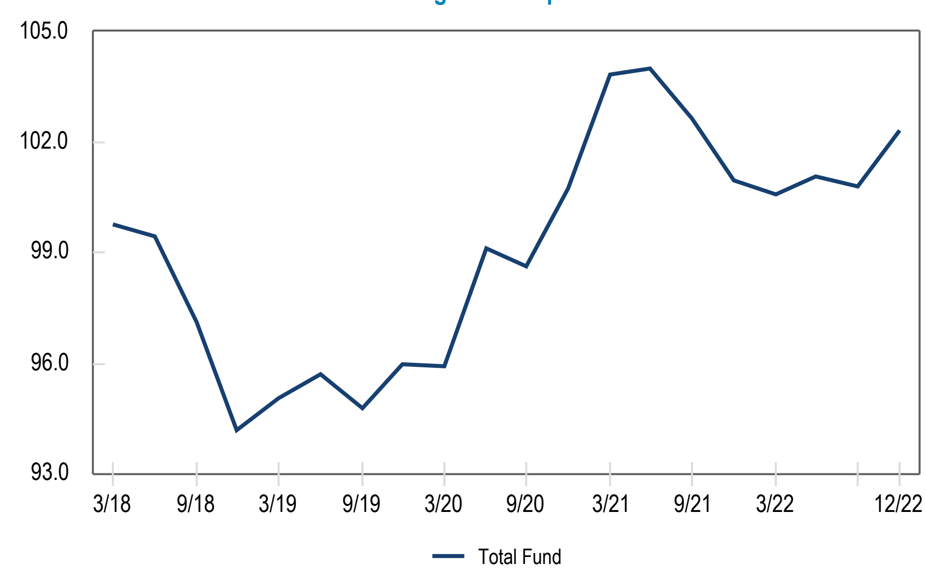
Rolling Tracking Error



Rolling Up Capture



Rolling Down Capture



	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017
Total Fund	**1,832,414,558**	**100.0**	**5.0**	**-8.2**	**4.3**	**4.9**	**6.2**	**13.5**	**8.9**	**15.4**	**-2.9**	**13.9**
Policy Index			*4.4*	*-11.3*	*3.9*	*4.9*	*6.2*	*14.2*	*10.6*	*15.9*	*-2.3*	*14.0*
All DB Public Plans >1B Rank			*56*	*15*	*57*	*58*	*78*	*73*	*82*	*79*	*38*	*76*
Total Domestic Equity	**464,895,355**	**25.4**	**7.8**	**-18.2**	**6.8**	**8.4**	**12.0**	**26.1**	**18.2**	**29.8**	**-5.4**	**21.9**
Russell 3000 Index			*7.2*	*-19.2*	*7.1*	*8.8*	*12.1*	*25.7*	*20.9*	*31.0*	*-5.2*	*21.1*
SSGA S&P 500 Flagship Fund	151,771,383	8.3	7.6	-18.1	7.6	9.4	12.6	28.6	18.3	31.5	-4.4	21.8
S&P 500 Index			*7.6*	*-18.1*	*7.7*	*9.4*	*12.6*	*28.7*	*18.4*	*31.5*	*-4.4*	*21.8*
eV US Large Cap Core Equity Rank			*66*	*65*	*39*	*36*	*22*	*31*	*37*	*31*	*39*	*43*
PGIM QS US Core Equity	63,607,472	3.5	7.2	-16.3	6.7	7.8	12.1	29.8	12.0	28.6	-6.8	22.1
S&P 500 Index			*7.6*	*-18.1*	*7.7*	*9.4*	*12.6*	*28.7*	*18.4*	*31.5*	*-4.4*	*21.8*
eV US Large Cap Core Equity Rank			*72*	*50*	*59*	*64*	*37*	*20*	*71*	*57*	*71*	*39*
William Blair Large Cap Growth	60,642,302	3.3	4.4	-	-	-	-	-	-	-	-	-
Russell 1000 Growth Index			*2.2*	-	-	-	-	-	-	-	-	-
eV US Large Cap Growth Equity Rank			*43*	-	-	-	-	-	-	-	-	-
Boston Partners Large Cap Value	71,870,014	3.9	12.6	-4.3	8.5	7.6	11.1	30.4	2.4	23.8	-9.0	19.6
Russell 1000 Value Index			*12.4*	*-7.5*	*6.0*	*6.7*	*10.3*	*25.2*	*2.8*	*26.5*	*-8.3*	*13.7*
eV US Large Cap Value Equity Rank			*54*	*36*	*31*	*50*	*39*	*17*	*60*	*76*	*54*	*24*
SSGA US Extended Market Index	59,700,716	3.3	5.2	-26.4	-	-	-	-	-	-	-	-
Dow Jones U.S. Completion Total Stock Market Indx			*5.1*	*-26.5*	-	-	-	-	-	-	-	-
eV Extended US Equity Rank			*81*	*98*	-	-	-	-	-	-	-	-
William Blair SMID Cap Growth	25,605,134	1.4	9.1	-22.7	3.7	7.5	12.4	8.7	32.6	31.1	-1.7	29.3
Russell 2500 Growth Index			*4.7*	*-26.2*	*2.9*	*6.0*	*10.6*	*5.0*	*40.5*	*32.7*	*-7.5*	*24.5*
eV US Small-Mid Cap Growth Equity Rank			*10*	*18*	*60*	*54*	*24*	*74*	*62*	*49*	*35*	*20*
Leeward Small Cap Value	31,698,333	1.7	10.5	-7.1	8.3	6.3	9.7	31.6	3.8	26.3	-15.5	7.7
Russell 2000 Value Index			*8.4*	*-14.5*	*4.7*	*4.1*	*8.5*	*28.3*	*4.6*	*22.4*	*-12.9*	*7.8*
eV US Small Cap Value Equity Rank			*55*	*19*	*25*	*26*	*36*	*37*	*56*	*24*	*57*	*71*

Policy Index: 26% Russell 3000, 16% MSCI ACWI ex US, 3% MSCI ACWI, 17% Bloomberg US Aggregate, 3% JPM GBI Global, 13.4% NCREIF-ODCE, 7% Private Equity Returns, 5% Private Credit Returns, 5% Russell 2000, 4.6% MSCI US REIT Index. SSGA Russell Small Cap replaced with SSGA US Extended Market Index on 6/10/21. Invesco Commercial Mortgage funded 9/1/21. Franklin Templeton Global liquidated 12/28/2021. SSGA US REIT Index Funded 12/10/2021. Macquarie Large Cap Growth liquidated 4/25/2022, proceeds funded William Blair Large Cap Growth.

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017
Total International Equity	**268,760,825**	**14.7**	**14.5**	**-14.2**	**2.2**	**2.3**	**4.7**	**9.6**	**13.4**	**22.7**	**-14.5**	**26.5**
MSCI AC World ex USA Index			*14.4*	*-15.6*	*0.5*	*1.4*	*4.3*	*8.3*	*11.1*	*22.1*	*-13.8*	*27.8*
SSGA MSCI ACWI Ex US Index Fund	91,969,081	5.0	14.2	-15.8	0.3	1.1	4.0	7.9	10.9	21.8	-14.0	27.5
MSCI AC World ex USA (Net)			*14.3*	*-16.0*	*0.1*	*0.9*	*3.8*	*7.8*	*10.7*	*21.5*	*-14.2*	*27.2*
eV ACWI ex-US All Cap Equity Rank			*53*	*36*	*62*	*58*	*80*	*63*	*66*	*72*	*40*	*62*
PIMCO RAE Fundamental Global Ex US Fund	94,081,720	5.1	17.3	-8.9	1.3	0.5	4.2	12.3	1.7	16.1	-15.1	26.0
MSCI AC World ex USA Value (Net)			*15.7*	*-8.6*	*0.1*	*-0.1*	*2.7*	*10.5*	*-0.8*	*15.7*	*-14.0*	*22.7*
eV ACWI ex-US All Cap Value Eq Rank			*56*	*37*	*30*	*33*	*30*	*21*	*46*	*67*	*55*	*46*
SGA International Growth	82,710,024	4.5	11.9	-17.8	4.2	-	-	9.1	26.0	30.5	-	-
MSCI AC World ex USA Growth (Net)			*12.9*	*-23.1*	*-0.4*	-	-	*5.1*	*22.2*	*27.3*	-	-
eV ACWI ex-US Growth Equity Rank			*70*	*13*	*12*	-	-	*46*	*50*	*40*	-	-
Total Global Equity	**59,239,334**	**3.2**	**15.6**	**-14.6**	**7.8**	**5.5**	**-**	**28.5**	**14.3**	**24.2**	**-15.9**	**32.6**
MSCI AC World Index			*9.9*	*-18.0*	*4.5*	*5.8*	-	*19.0*	*16.8*	*27.3*	*-8.9*	*24.6*
Skellig Water Fund (aka KBI)	59,239,334	3.2	15.6	-14.6	7.8	5.5	-	28.5	14.3	24.2	-15.9	32.6
MSCI AC World Index (Net)			*9.8*	*-18.4*	*4.0*	*5.2*	-	*18.5*	*16.3*	*26.6*	*-9.4*	*24.0*
eV Global All Cap Equity Rank			*15*	*37*	*14*	*47*	-	*2*	*58*	*66*	*88*	*13*
Total Fixed Income	**351,485,082**	**19.2**	**2.9**	**-13.5**	**-4.0**	**-0.8**	**0.6**	**-2.2**	**4.7**	**8.1**	**0.1**	**3.9**
Blmbg. U.S. Aggregate Index			*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-1.5*	*7.5*	*8.7*	*0.0*	*3.5*
Total Domestic Fixed Income	**301,292,287**	**16.4**	**1.9**	**-13.7**	**-2.6**	**0.1**	**1.2**	**-0.7**	**7.9**	**9.0**	**-0.2**	**4.1**
Blmbg. U.S. Aggregate Index			*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-1.5*	*7.5*	*8.7*	*0.0*	*3.5*
BlackRock Core Plus Fixed Income	102,105,435	5.6	2.1	-13.8	-2.7	0.1	1.2	-1.4	8.4	8.7	0.1	3.6
Blmbg. U.S. Aggregate Index			*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-1.5*	*7.5*	*8.7*	*0.0*	*3.5*
eV US Core Plus Fixed Inc Rank			*34*	*63*	*86*	*87*	*91*	*89*	*56*	*81*	*22*	*89*
Doubleline Core Plus	100,274,964	5.5	1.3	-12.7	-2.9	-0.2	-	-0.2	5.2	8.3	-0.3	3.9
Blmbg. U.S. Aggregate Index			*1.9*	*-13.0*	*-2.7*	*0.0*	-	*-1.5*	*7.5*	*8.7*	*0.0*	*3.5*
eV US Core Plus Fixed Inc Rank			*91*	*25*	*92*	*98*	-	*37*	*97*	*88*	*33*	*84*
MacKay Shields Core Plus	98,911,887	5.4	2.4	-14.6	-2.2	0.3	-	-0.4	9.9	9.6	-1.0	4.5
Blmbg. U.S. Aggregate Index			*1.9*	*-13.0*	*-2.7*	*0.0*	-	*-1.5*	*7.5*	*8.7*	*0.0*	*3.5*
eV US Core Plus Fixed Inc Rank			*24*	*88*	*53*	*65*	-	*47*	*21*	*56*	*75*	*52*

Policy Index: 26% Russell 3000, 16% MSCI ACWI ex US, 3% MSCI ACWI, 17% Bloomberg US Aggregate, 3% JPM GBI Global, 13.4% NCREIF-ODCE, 7% Private Equity Returns, 5% Private Credit Returns, 5% Russell 2000, 4.6% MSCI US REIT Index. SSGA Russell Small Cap replaced with SSGA US Extended Market Index on 6/10/21. Invesco Commercial Mortgage funded 9/1/21. Franklin Templeton Global liquidated 12/28/2021. SSGA US REIT Index Funded 12/10/2021. Macquarie Large Cap Growth liquidated 4/25/2022, proceeds funded William Blair Large Cap Growth.

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017
Total Emerging Markets Fixed Income	**50,192,795**	**2.7**	**9.2**	**-12.4**	**-4.6**	**-**	**-**	**-5.3**	**4.6**	**-**	**-**	**-**
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			*8.3*	*-14.8*	*-5.7*	-	-	*-5.3*	*4.0*	-	-	-
PGIM Emerging Markets Debt	50,192,795	2.7	9.2	-12.4	-4.6	-	-	-5.3	4.6	-	-	-
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			*8.3*	*-14.8*	*-5.7*	-	-	*-5.3*	*4.0*	-	-	-
eV Emg Mkts Fixed Inc - Blended Currency Rank			*23*	*38*	*72*	-	-	*73*	*69*	-	-	-
Total Real Estate	**351,954,486**	**19.2**	**-0.9**	**11.3**	**8.5**	**7.9**	**9.1**	**12.8**	**1.8**	**5.2**	**8.8**	**4.3**
NCREIF-ODCE			*-5.0*	*7.5*	*9.9*	*8.7*	*10.1*	*22.2*	*1.2*	*5.3*	*8.3*	*7.6*
RREEF America II	181,880,048	9.9	-3.1	18.4	10.8	9.2	10.3	12.8	1.8	5.3	8.6	4.4
NCREIF ODCE net 1Q Lag			*0.3*	*21.0*	*11.4*	*9.3*	*9.9*	*13.6*	*0.5*	*4.6*	*7.7*	*6.7*
American Realty Strategic Value Fund	90,907,973	5.0	1.5	16.2	9.4	-	-	11.3	1.1	-	-	-
NCREIF ODCE net 1Q Lag			*0.3*	*21.0*	*11.4*	-	-	*13.6*	*0.5*	-	-	-
Invesco Commercial Mortgage Income Fund	78,477,186	4.3	0.0	3.1	-	-	-	-	-	-	-	-
NCREIF-ODCE			*-5.0*	*7.5*	-	-	-	-	-	-	-	-
SSGA US REIT Index Non-Lending Fund	689,279	0.0	4.7	-26.0	-	-	-	-	-	-	-	-
Dow Jones U.S. REIT Index			*4.1*	*-24.8*	-	-	-	-	-	-	-	-
eV US REIT Rank			*24*	*60*	-	-	-	-	-	-	-	-

Policy Index: 26% Russell 3000, 16% MSCI ACWI ex US, 3% MSCI ACWI, 17% Bloomberg US Aggregate, 3% JPM GBI Global, 13.4% NCREIF-ODCE, 7% Private Equity Returns, 5% Private Credit Returns, 5% Russell 2000, 4.6% MSCI US REIT Index. SSGA Russell Small Cap replaced with SSGA US Extended Market Index on 6/10/21. Invesco Commercial Mortgage funded 9/1/21. Franklin Templeton Global liquidated 12/28/2021. SSGA US REIT Index Funded 12/10/2021. Macquarie Large Cap Growth liquidated 4/25/2022, proceeds funded William Blair Large Cap Growth.

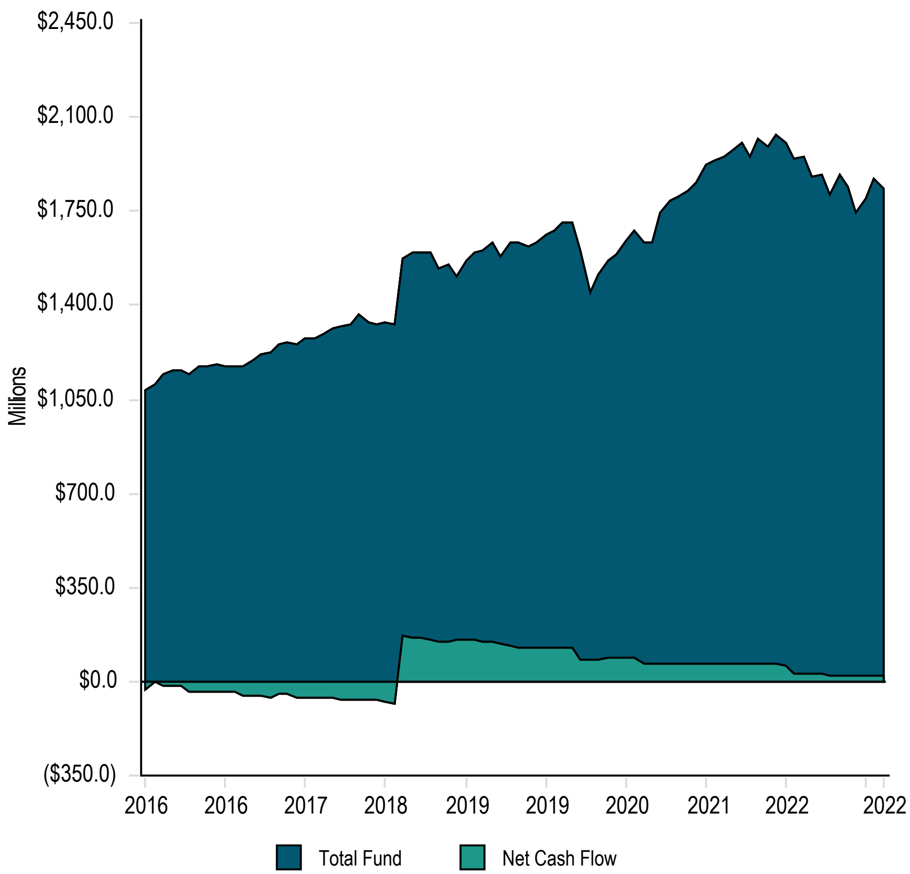
	Anlzd Ret	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
SSGA S&P 500 Flagship Fund	9.39	20.08	-0.03	1.00	0.02	1.00	0.49	-1.59	99.90	100.08
PGIM QS US Core Equity	7.82	20.79	-1.63	1.03	2.60	0.99	0.41	-0.51	96.69	104.79
Boston Partners Large Cap Value	7.57	22.03	0.61	1.07	3.41	0.98	0.39	0.37	106.86	101.43
William Blair SMID Cap Growth	7.50	24.38	2.02	0.86	6.23	0.96	0.37	0.10	93.67	85.96
Leeward Small Cap Value	6.26	26.63	2.17	0.92	4.22	0.98	0.32	0.35	98.33	88.67
SSGA MSCI ACWI Ex US Index Fund	1.07	20.14	0.19	1.00	0.12	1.00	0.09	1.52	100.49	99.34
PIMCO RAE Fundamental Global Ex US Fund	0.49	22.72	0.72	1.07	2.66	0.99	0.09	0.33	106.40	101.35
Skellig Water Fund (aka KBI)	5.54	22.15	0.24	1.07	5.57	0.94	0.30	0.14	109.33	108.58
BlackRock Core Plus Fixed Income	0.06	5.74	0.05	1.05	1.01	0.97	-0.18	0.06	107.29	106.14
Doubleline Core Plus	-0.21	5.37	-0.20	0.83	3.14	0.69	-0.25	-0.07	82.40	87.31
MacKay Shields Core Plus	0.29	6.24	0.31	1.08	2.30	0.87	-0.12	0.14	116.80	109.63
RREEF America II	9.22	7.00	1.09	0.94	4.44	0.60	1.09	0.13	96.91	32.72

Risk analysis excludes managers with less than 5 years history.

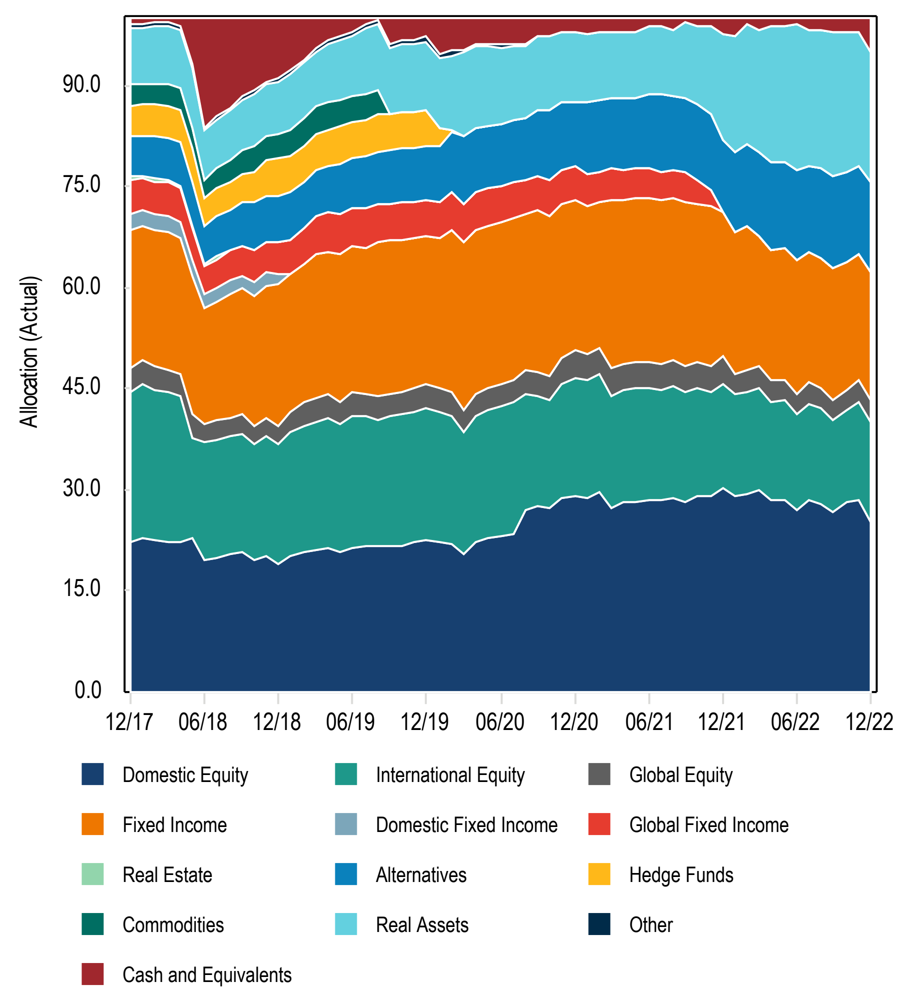
Vintage Year	Manager Name/Fund Name	Estimated Market Value as of 12/31/2022[3]	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI)[1]	Tot. Value/ Paid-In (TVPI)[2]	Net IRR Since Inception[6]	IRR Date
			IRR Analysis as of IRR date									
Private Equity												
2005	BlackRock Private Capital II[7]	$431,570	$15,000,000	$15,719,139	105%	-$719,139	$24,063,592	$431,570	*153.08%*	*155.83%*	*6.7%*	06/30/22
2016	Ocean Avenue Fund III	$20,875,113	$20,000,000	$18,600,000	93%	$1,400,000	$21,691,950	$22,902,136	*116.62%*	*228.86%*	*28.2%*	10/31/22
	Ocean Avenue Fund IV	$23,129,893	$26,000,000	$23,400,000	90%	$2,600,000	$11,830,000	$25,989,893	*50.56%*	*149.40%*	*39.9%*	10/31/22
2004	Pantheon USA Fund VI	$152,104	$15,000,000	$14,175,000	95%	$825,000	$21,695,924	$152,104	*153.06%*	*154.13%*	*6.7%*	09/30/22
2016	Pathway Private Equity Fund Investors 8	$31,753,995	$20,000,000	$17,808,713	89%	$2,191,287	$9,043,436	$33,059,860	*50.78%*	*229.09%*	*25.4%*	06/30/22
2017	Pathway Private Equity Fund Investors 9	$27,784,944	$20,000,000	$13,582,257	68%	$6,417,743	$1,904,454	$27,252,527	*14.02%*	*218.59%*	*29.5%*	03/31/22
2020	Pathway Private Equity Fund Investors 10	$20,736,775	$30,000,000	$17,622,558	59%	$12,377,442	$684,834	N/A	*3.89%*	*121.56%*	*N/A*	*NM*
2012	Stepstone Secondary Opportunities Fund II[8]	$4,725,546	$27,500,000	$32,388,011	118%	$3,894,163	$39,891,528	$4,652,915	*123.17%*	*137.76%*	*10.6%*	09/30/22
2022	Audax Private Equity Fund VII-B	$0	$22,000,000	$0	0%	$22,000,000	$0				*NM*	
2022	Altas Partners Holdings III	$0	$22,000,000	$0	0%	$22,000,000	$0				*NM*	
Private Credit												
2016	Sixth Street Diversified Credit Program	$83,890,980	$160,000,000	$102,619,137	64%	$57,380,863	$47,534,217	$84,097,818	*46.3%*	*128.1%*	*9.6%*	09/30/22
Opportunistic												
2020	Sixth Street TAO	$30,301,657	$50,000,000	$27,471,757	55%	$22,528,243	$3,038,363	$27,512,949	*11.1%*	*121.4%*	*9.9%*	09/30/22
2010	KKR Mezzanine Partners	$2,012,677	$15,000,000	$22,181,173	148%	-$7,181,173	$21,142,303	$2,230,188	*95.3%*	*104.4%*	*8.9%*	06/30/22
2011	PIMCO Bravo	$0	$15,000,000	$15,000,000	100%	$0	$27,216,524	$446,175	*181.4%*	*181.4%*	*22.2%*	12/31/18
	Total Private Markets	**$245,795,254**	$457,500,000	$320,567,745	70%	$145,714,429	$229,737,126	$228,728,135	*71.7%*	*148.3%*		
	% of Portfolio (Market Value)	***13.4%***										

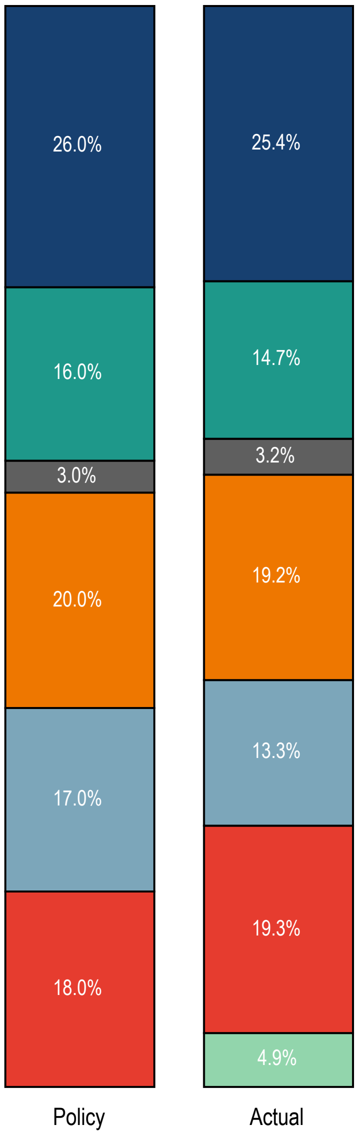
[1](DPI) is equal to (capital returned / capital called)
[2](TVPI) is equal to (market value + capital returned) / capital called
[3]Last known market value + capital calls - distributions
[4]IRR currently unavailable for these funds.
[5]Investment period ended, no further capital to be called.
[6]Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its respective manager.
[7]BlackRock: Total capital called is $15,719,139 which includes recycled distributions.
[8]StepStone: $8,782,174 in recallable distributions

Market Value History



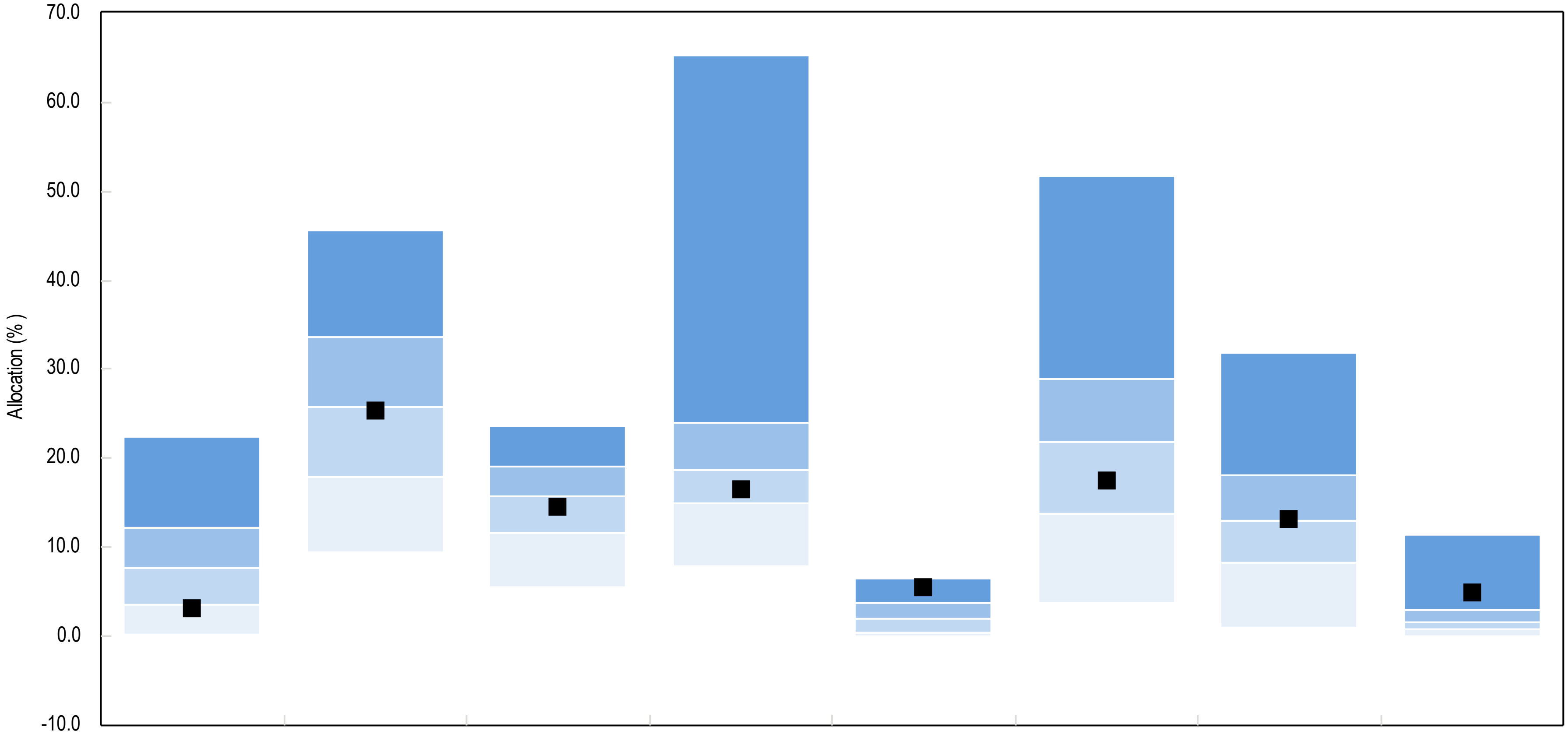
Asset Allocation History





	Current Balance ($)	Current Allocation (%)	Policy Allocation (%)	Excess Allocation ($)	Policy Range (%)	Within IPS Range?
Domestic Equity	464,895,355	25.4	26.0	-11,532,430	15.0 - 35.0	Yes
International Equity	268,760,825	14.7	16.0	-24,425,504	5.0 - 25.0	Yes
Global Equity	59,239,334	3.2	3.0	4,266,897	0.0 - 5.0	Yes
Fixed Income	351,485,082	19.2	20.0	-14,997,830	10.0 - 35.0	Yes
Alternatives	243,782,576	13.3	17.0	-67,727,899	10.0 - 30.0	Yes
Real Assets	353,967,163	19.3	18.0	24,132,542	10.0 - 30.0	Yes
Cash and Equivalents	90,284,223	4.9	0.0	90,284,223	0.0 - 10.0	Yes
Total	**1,832,414,558**	**100.0**	**100.0**			

Total Plan Allocation vs. All DB Public Plans >1B
As of December 31, 2022



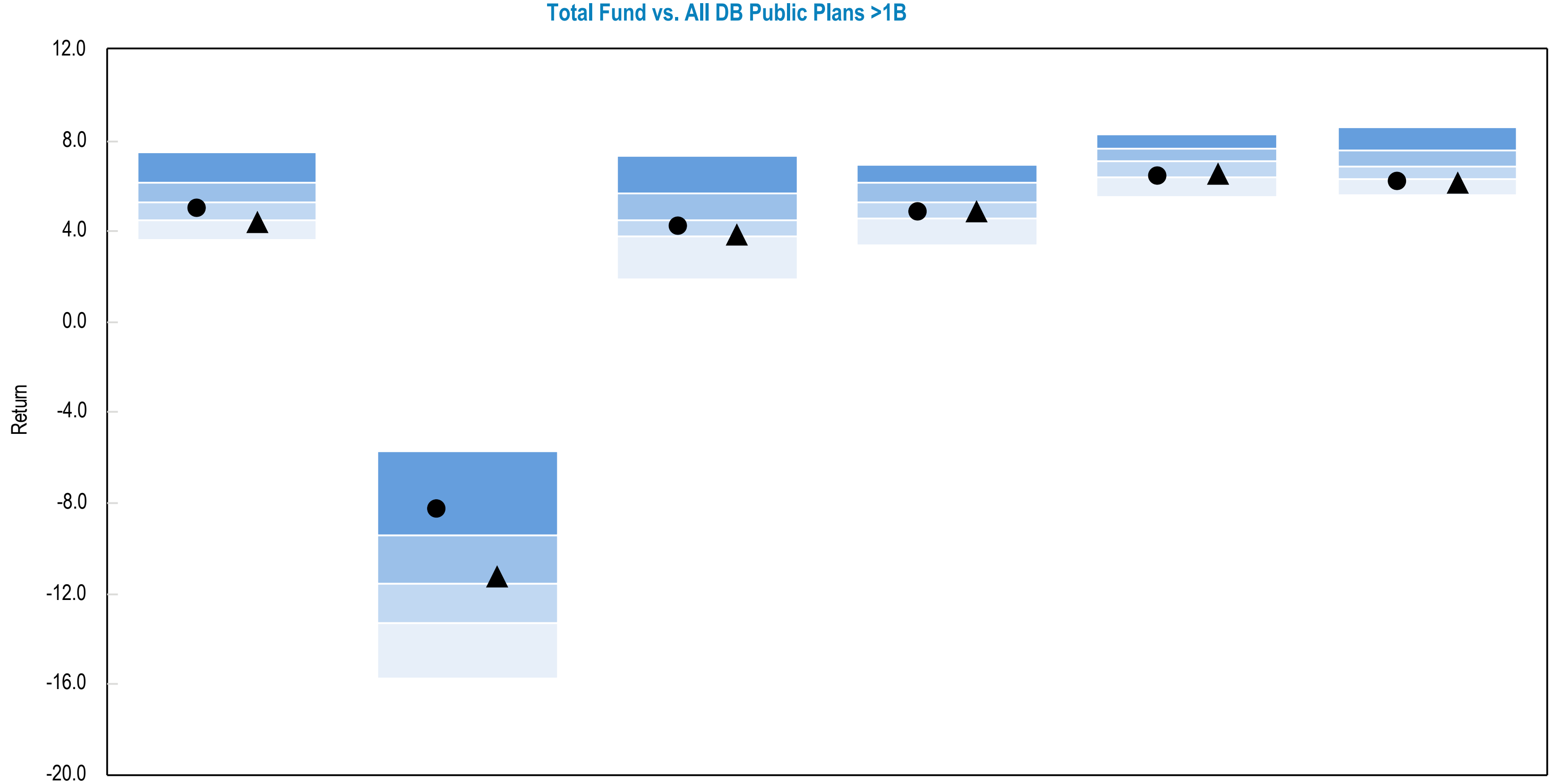
	Global Equity	US Equity	Global ex-US Equity	US Fixed	Global ex-US Fixed	Alternatives	Private Equity	Cash & Equivalents
■ Total Fund	3.2 (86)	25.4 (52)	14.7 (57)	16.4 (65)	5.5 (8)	17.6 (62)	13.3 (48)	4.9 (17)
5th Percentile	22.4	45.7	23.6	65.3	6.5	51.8	31.8	11.4
1st Quartile	12.3	33.6	19.1	24.0	3.7	29.0	18.2	3.0
Median	7.7	25.8	15.7	18.8	2.0	21.9	13.1	1.7
3rd Quartile	3.6	17.9	11.7	15.0	0.4	13.9	8.3	0.8
95th Percentile	0.3	9.5	5.4	7.9	0.0	3.8	0.9	0.1
Population	22	107	104	109	51	91	43	82

Account	Fee Schedule	Market Value As of December 31, 2022	% of Portfolio	Estimated Annual Fee ($)	Estimated Annual Fee (%)
American Realty Strategic Value Fund	0.90 % of Assets	90,907,973	4.96	818,172	0.90
BlackRock Alternative Advisors	Minimum Fee: $120,000	431,570	0.02	120,000	27.81
BlackRock Core Plus Fixed Income	0.25 % of First $100 M 0.25 % of Next $100 M 0.00 % Thereafter	102,105,435	5.57	255,264	0.25
Boston Partners Large Cap Value	0.45 % of First $50 M 0.35 % of Next $50 M 0.30 % Thereafter	71,870,014	3.92	301,545	0.42
Doubleline Core Plus	0.28 % of First $100 M 0.25 % Thereafter	100,274,964	5.47	280,687	0.28
Invesco Commercial Mortgage Income Fund	1.00 % of First $50 M 0.90 % Thereafter	78,477,186	4.28	756,295	0.96
KKR Mezzanine Partners I	0.38 % of Assets	2,012,677	0.11	7,548	0.38
Leeward Small Cap Value	0.65 % of Assets	31,698,333	1.73	206,039	0.65
MacKay Shields Core Plus	0.30 % of Assets	98,911,887	5.40	296,736	0.30
Mellon Capital Cash Account		90,284,223	4.93	-	-
Ocean Avenue Fund III	0.85 % of Assets	20,875,113	1.14	177,438	0.85
Ocean Avenue Fund IV	1.25 % of Assets	23,129,893	1.26	289,124	1.25
Pantheon Ventures	0.47 % of Assets	152,104	0.01	721	0.47
Pathway Private Equity Fund Investors 10	0.58 % of Assets	20,736,775	1.13	120,273	0.58
Pathway Private Equity Fund Investors 8	0.61 % of Assets	31,753,995	1.73	193,699	0.61
Pathway Private Equity Fund Investors 9	0.58 % of Assets	27,784,944	1.52	161,153	0.58
PGIM Emerging Markets Debt	0.44 % of Assets	50,192,795	2.74	220,848	0.44
PGIM QS US Core Equity	0.41 % of Assets	63,607,472	3.47	260,791	0.41
PIMCO RAE Fundamental Global Ex US Fund	0.78 % of First $25 M 0.43 % of Next $75 M 0.38 % Thereafter	94,081,720	5.13	492,051	0.52
RREEF America II	0.95 % of Assets	181,880,048	9.93	1,727,860	0.95
SGA International Growth	0.45 % of Assets	82,710,024	4.51	372,195	0.45
Sixth Street DCP (frmrly TSSP DCP)	1.11 % of Assets	83,890,980	4.58	931,190	1.11
Sixth Street TAO Contingent (frmrly TSSP TAO Contingent)	1.35 % of Assets	30,301,657	1.65	409,072	1.35
Skellig Water Fund (aka KBI)	0.77 % of Assets	59,239,334	3.23	453,181	0.77
SSGA MSCI ACWI Ex US Index Fund	0.08 % of First $25 M 0.07 % of Next $25 M 0.06 % Thereafter	91,969,081	5.02	62,681	0.07
SSGA S&P 500 Flagship Fund	0.03 % of Assets	151,771,383	8.28	45,531	0.03

**The negotiated fee schedule for TCERA's investment in the ARA Strategic Value fund is 90 bps so long as assets remain above $80,000,000. Sixth Street Partners fee schedule is as follows: No management fee at SMA level. Subject to the annual fees of each of the underlying TSSP funds. (1) TAO 65bps on unfunded commitments and 1.35% on remaining capital contributions (long-term investor designation) (2) TSLE 1.5% on commitments, 1.25% on remaining capital contributions post commitment period (3) TICP 30bps on remaining capital contributions. TAO Contingent fee schedule is 65bps on unfunded commitments and 1.35% on remaining capital contributions. Fees shown for Pathway are estimated effective average fees over 15-year fund lifespan.*

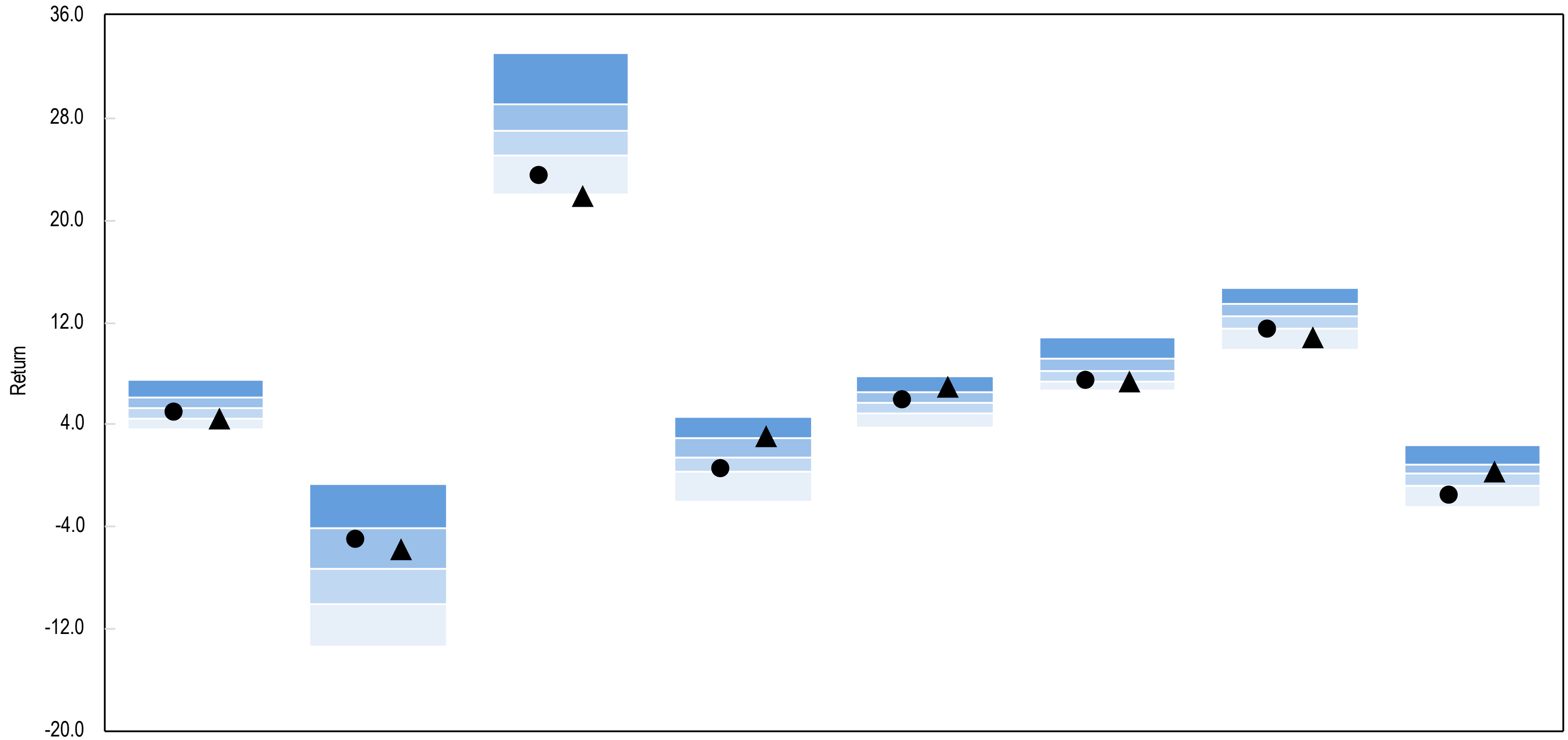
Account	Fee Schedule	Market Value As of December 31, 2022	% of Portfolio	Estimated Annual Fee ($)	Estimated Annual Fee (%)
SSGA US Extended Market Index	0.03 % of First $50 M 0.03 % of Next $50 M 0.02 % Thereafter	59,700,716	3.26	17,522	0.03
SSGA US REIT Index Non-Lending Fund	1.04 % of Assets	689,279	0.04	7,169	1.04
Stepstone Secondary Opportunities Fund II	Minimum Fee: $343,750	4,725,546	0.26	343,750	7.27
William Blair Large Cap Growth	0.45 % of First $50 M 0.32 % of Next $50 M 0.27 % of Next $150 M 0.27 % Thereafter	60,642,302	3.31	258,523	0.43
William Blair SMID Cap Growth	0.95 % of First $10 M 0.80 % of Next $20 M 0.75 % of Next $20 M 0.70 % of Next $50 M 0.65 % of Next $100 M 0.60 % Thereafter	25,605,134	1.40	219,841	0.86
Investment Management Fee		**1,832,414,558**	**100.00**	**9,806,900**	**0.54**

The negotiated fee schedule for TCERA's investment in the ARA Strategic Value fund is 90 bps so long as assets remain above $80,000,000. Sixth Street Partners fee schedule is as follows: No management fee at SMA level. Subject to the annual fees of each of the underlying TSSP funds. (1) TAO 65bps on unfunded commitments and 1.35% on remaining capital contributions (long-term investor designation) (2) TSLE 1.5% on commitments, 1.25% on remaining capital contributions post commitment period (3) TICP 30bps on remaining capital contributions. TAO Contingent fee schedule is 65bps on unfunded commitments and 1.35% on remaining capital contributions. Fees shown for Pathway are estimated effective average fees over 15-year fund lifespan.



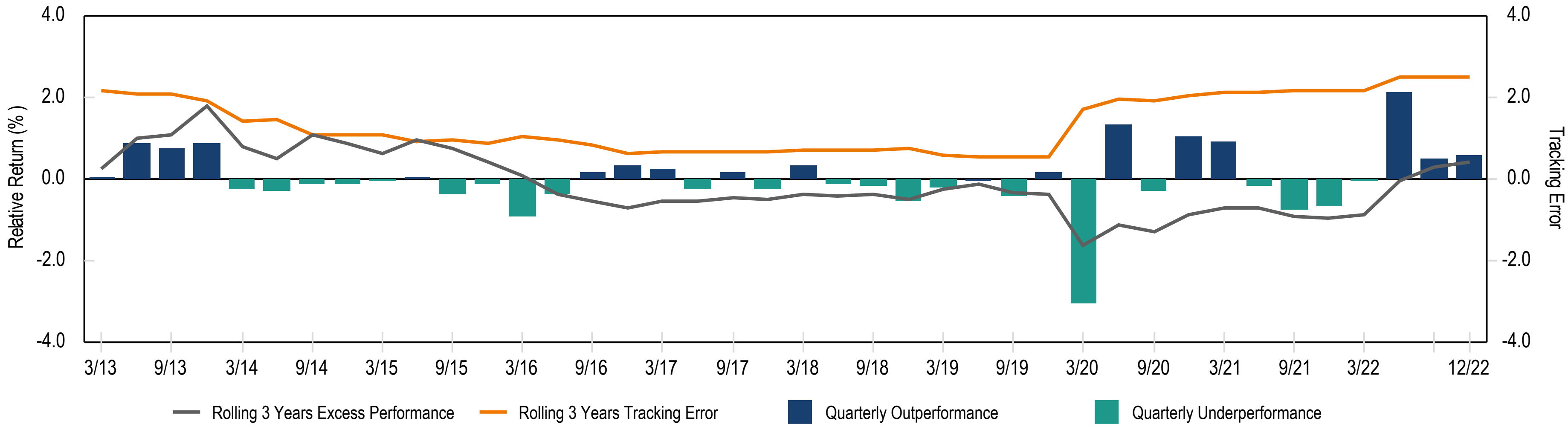
	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● Total Fund	5.02 (56)	-8.23 (15)	4.27 (57)	4.91 (58)	6.47 (73)	6.22 (78)
▲ Policy Index	4.44 (77)	-11.26 (48)	3.86 (72)	4.86 (61)	6.57 (62)	6.16 (81)
5th Percentile	7.51	-5.74	7.36	6.97	8.29	8.62
1st Quartile	6.15	-9.40	5.71	6.13	7.62	7.59
Median	5.26	-11.55	4.48	5.31	7.10	6.89
3rd Quartile	4.51	-13.25	3.80	4.54	6.36	6.31
95th Percentile	3.61	-15.70	1.91	3.41	5.51	5.62
Population	55	51	49	48	48	46

Total Fund vs. All DB Public Plans >1B

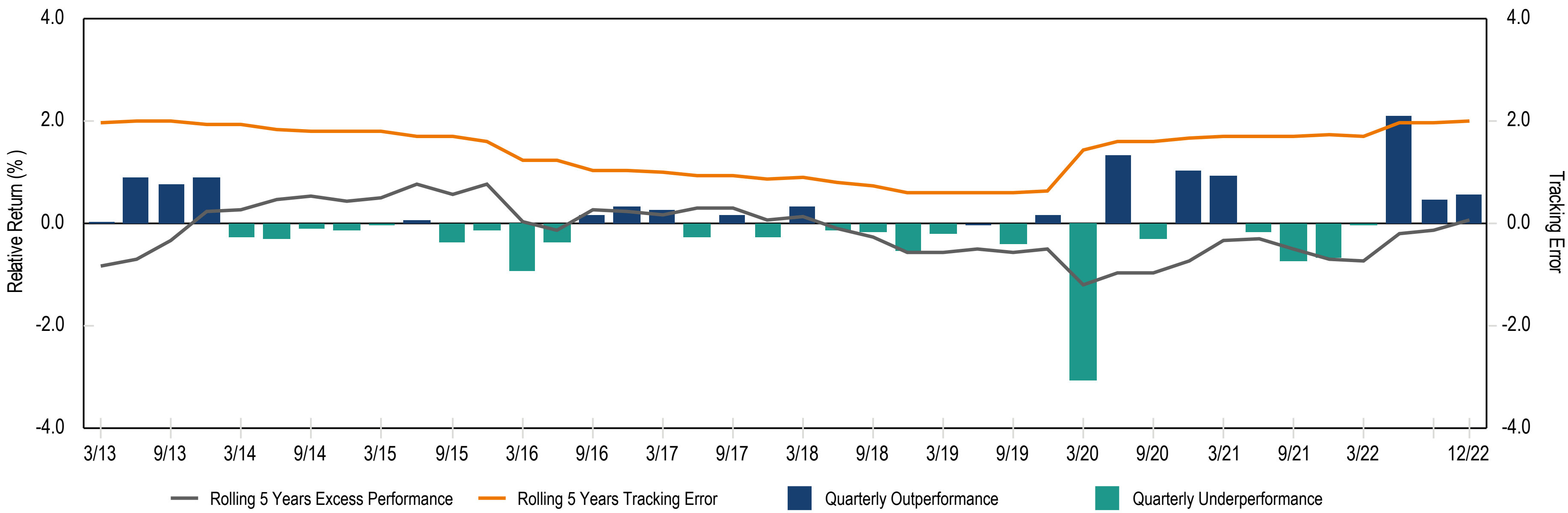


	3 Mo	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016
● Total Fund	5.02 (56)	-4.90 (35)	23.62 (88)	0.56 (68)	5.95 (44)	7.52 (74)	11.46 (77)	-1.46 (81)
▲ Policy Index	4.44 (77)	-5.78 (41)	21.86 (96)	3.06 (22)	6.92 (16)	7.42 (76)	10.90 (86)	0.36 (45)
5th Percentile	7.51	-0.59	33.11	4.61	7.74	10.79	14.74	2.44
1st Quartile	6.15	-4.04	29.13	2.89	6.55	9.18	13.53	0.92
Median	5.26	-7.21	26.97	1.39	5.74	8.24	12.56	0.20
3rd Quartile	4.51	-10.02	25.11	0.29	4.85	7.42	11.58	-0.84
95th Percentile	3.61	-13.40	22.01	-2.01	3.76	6.73	9.82	-2.50
Population	55	105	152	144	115	90	90	87

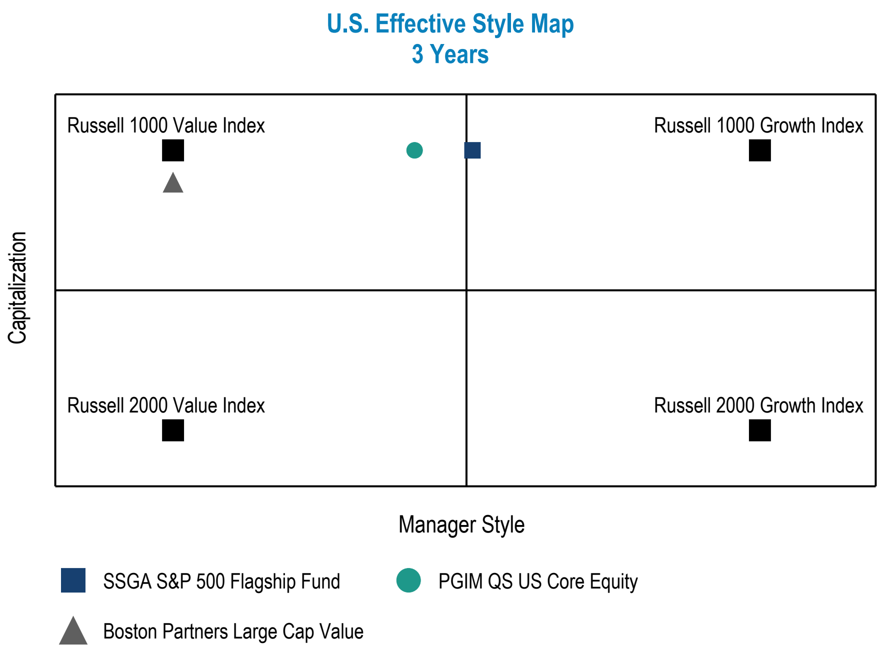
Rolling 3 Year Annualized Excess Performance

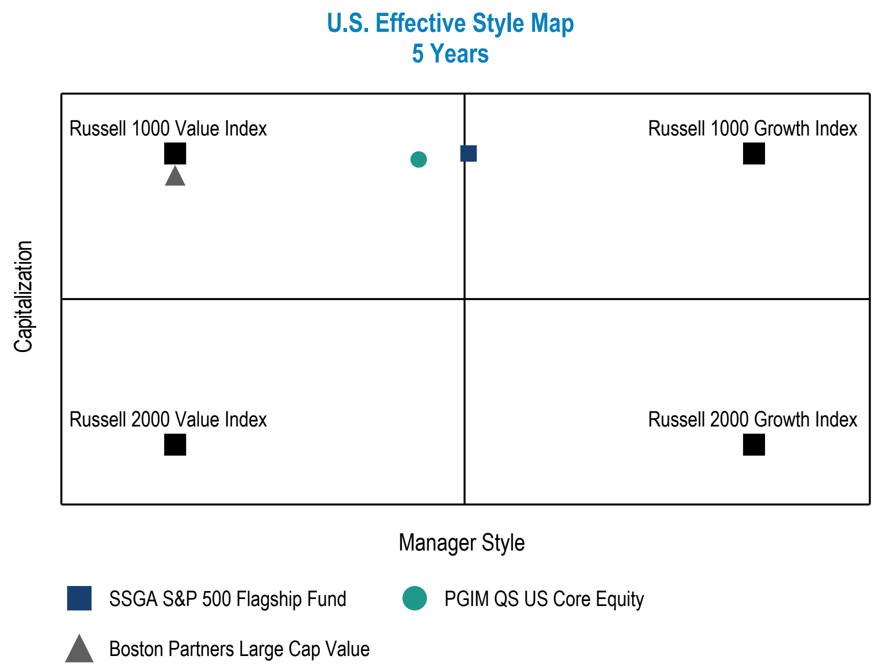


Rolling 5 Year Annualized Excess Performance



	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017
Total Domestic Equity	**464,895,355**	**100.0**	**7.8**	**-18.2**	**6.8**	**8.4**	**12.0**	**26.1**	**18.2**	**29.8**	**-5.4**	**21.9**
Russell 3000 Index			*7.2*	*-19.2*	*7.1*	*8.8*	*12.1*	*25.7*	*20.9*	*31.0*	*-5.2*	*21.1*
SSGA S&P 500 Flagship Fund	151,771,383	32.6	7.6	-18.1	7.6	9.4	12.6	28.6	18.3	31.5	-4.4	21.8
S&P 500 Index			*7.6*	*-18.1*	*7.7*	*9.4*	*12.6*	*28.7*	*18.4*	*31.5*	*-4.4*	*21.8*
eV US Large Cap Core Equity Rank			*66*	*65*	*39*	*36*	*22*	*31*	*37*	*31*	*39*	*43*
PGIM QS US Core Equity	63,607,472	13.7	7.2	-16.3	6.7	7.8	12.1	29.8	12.0	28.6	-6.8	22.1
S&P 500 Index			*7.6*	*-18.1*	*7.7*	*9.4*	*12.6*	*28.7*	*18.4*	*31.5*	*-4.4*	*21.8*
eV US Large Cap Core Equity Rank			*72*	*50*	*59*	*64*	*37*	*20*	*71*	*57*	*71*	*39*
William Blair Large Cap Growth	60,642,302	13.0	4.4	-	-	-	-	-	-	-	-	-
Russell 1000 Growth Index			*2.2*	-	-	-	-	-	-	-	-	-
eV US Large Cap Growth Equity Rank			*43*	-	-	-	-	-	-	-	-	-
Boston Partners Large Cap Value	71,870,014	15.5	12.6	-4.3	8.5	7.6	11.1	30.4	2.4	23.8	-9.0	19.6
Russell 1000 Value Index			*12.4*	*-7.5*	*6.0*	*6.7*	*10.3*	*25.2*	*2.8*	*26.5*	*-8.3*	*13.7*
eV US Large Cap Value Equity Rank			*54*	*36*	*31*	*50*	*39*	*17*	*60*	*76*	*54*	*24*

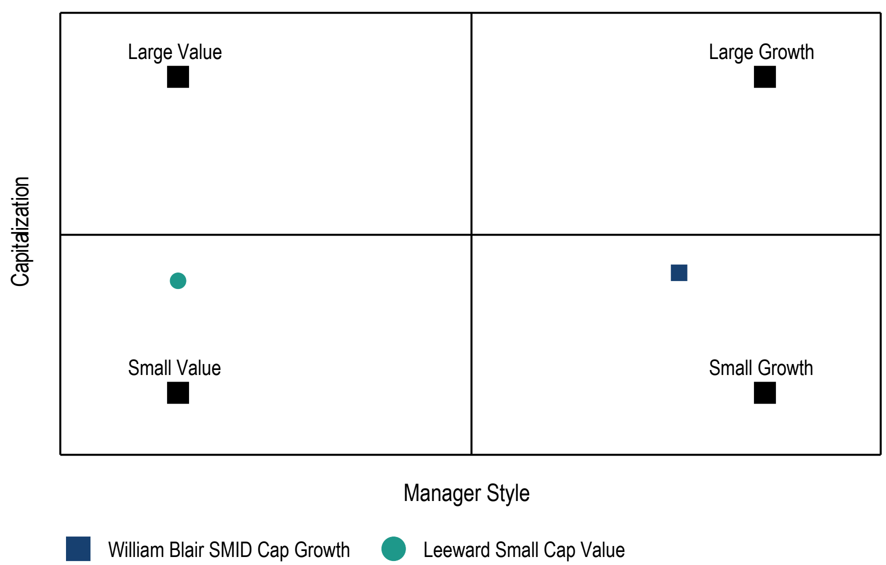




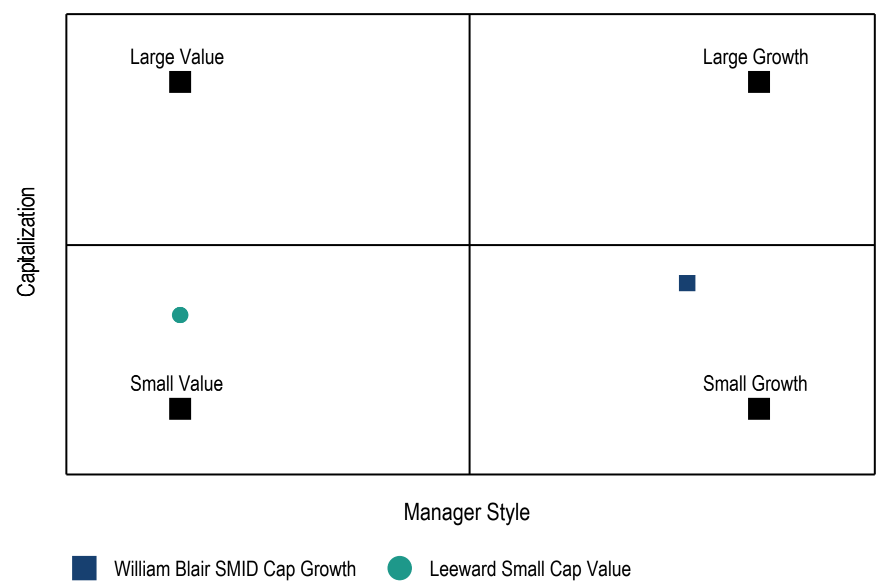
Managers need 3 years of history to be included in the style map. Macquarie Large Cap Growth liquidated 4/25/2022, proceeds funded William Blair Large Cap Growth.

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017
SSGA US Extended Market Index	59,700,716	12.8	5.2	-26.4	-	-	-	-	-	-	-	-
Dow Jones U.S. Completion Total Stock Market Indx			*5.1*	*-26.5*	*2.9*	*4.8*	*9.5*	*12.4*	*32.2*	*27.9*	*-9.6*	*18.1*
eV US Small-Mid Cap Equity Rank			*83*	*80*	-	-	-	-	-	-	-	-
William Blair SMID Cap Growth	25,605,134	5.5	9.1	-22.7	3.7	7.5	12.4	8.7	32.6	31.1	-1.7	29.3
Russell 2500 Growth Index			*4.7*	*-26.2*	*2.9*	*6.0*	*10.6*	*5.0*	*40.5*	*32.7*	*-7.5*	*24.5*
eV US Small-Mid Cap Growth Equity Rank			*10*	*18*	*60*	*54*	*24*	*74*	*62*	*49*	*35*	*20*
Leeward Small Cap Value	31,698,333	6.8	10.5	-7.1	8.3	6.3	9.7	31.6	3.8	26.3	-15.5	7.7
Russell 2000 Value Index			*8.4*	*-14.5*	*4.7*	*4.1*	*8.5*	*28.3*	*4.6*	*22.4*	*-12.9*	*7.8*
eV US Small Cap Value Equity Rank			*55*	*19*	*25*	*26*	*36*	*37*	*56*	*24*	*57*	*71*

U.S. Effective Style Map
3 Years



U.S. Effective Style Map
5 Years



Managers need 3 years of history to be included in the style map.

	SSGA S&P 500 Flagship Fund		PGIM QS US Core Equity		Boston Partners Large Cap Value		SSGA US Extended Market Index		William Blair SMID Cap Growth		Lee Munder Small Value	
	#	%	#	%	#	%	#	%	#	%	#	%
SSGA S&P 500 Flagship Fund	0	0	153	92	65	86	0	0	6	9	0	0
PGIM QS US Core Equity	153	66	0	0	38	61	56	5	2	3	3	3
Boston Partners Large Cap Value	65	19	38	21	0	0	6	1	0	0	2	2
SSGA US Extended Market Index	0	0	56	8	6	5	0	0	59	85	85	98
William Blair SMID Cap Growth	6	0	2	0	0	0	59	6	0	0	5	7
Lee Munder Small Value	0	0	3	0	2	1	85	5	5	10	0	0

William Blair Large Cap Growth not included in Correlation matrix until it reaches 1 year history.

Correlation Matrix
1 Year Ending December 31, 2022

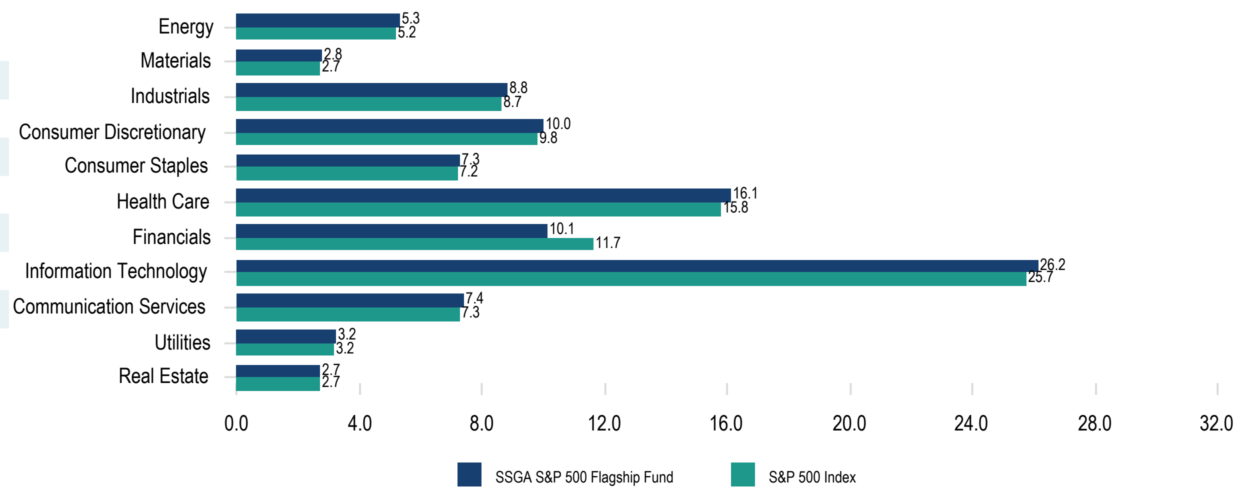
	SSGA S&P 500 Flagship Fund	PGIM QS US Core Equity	Boston Partners Large Cap Value	SSGA US Extended Market Index	William Blair SMID Cap Growth	Lee Munder Small Value	S&P 500 Index
SSGA S&P 500 Flagship Fund	1.00						
PGIM QS US Core Equity	1.00	1.00					
Boston Partners Large Cap Value	0.93	0.95	1.00				
SSGA US Extended Market Index	0.95	0.94	0.86	1.00			
William Blair SMID Cap Growth	0.91	0.89	0.78	0.98	1.00		
Lee Munder Small Value	0.91	0.93	0.95	0.92	0.85	1.00	
S&P 500 Index	1.00	1.00	0.93	0.95	0.91	0.91	1.00

William Blair Large Cap Growth not included in Correlation matrix until it reaches 1 year history.

Characteristics

	Portfolio	Benchmark
Number of Stocks	503	503
Wtd. Avg. Mkt. Cap $B	409.0	413.5
Median Mkt. Cap $B	29.6	29.6
Price/Earnings ratio	19.16	19.16
Price/Book ratio	3.98	3.86
Return on Equity (%)	11.14	10.92
Current Yield (%)	1.80	1.77
Beta (5 Years, Monthly)	1.00	1.00
R-Squared (5 Years, Monthly)	1.00	1.00

Sector Allocation (%)



Largest Equity Holdings

	Wgt (%)	Return (%)
Apple Inc	6.16	-5.83
Microsoft Corp	5.67	3.26
Amazon.com Inc	2.36	-25.66
Alphabet Inc	1.67	-7.76
Unitedhealth Group Inc	1.57	5.30
Alphabet Inc	1.49	-7.72
Johnson & Johnson	1.46	8.83
Exxon Mobil Corp	1.44	27.35
JPMorgan Chase & Co	1.25	29.49
NVIDIA Corporation	1.15	20.42

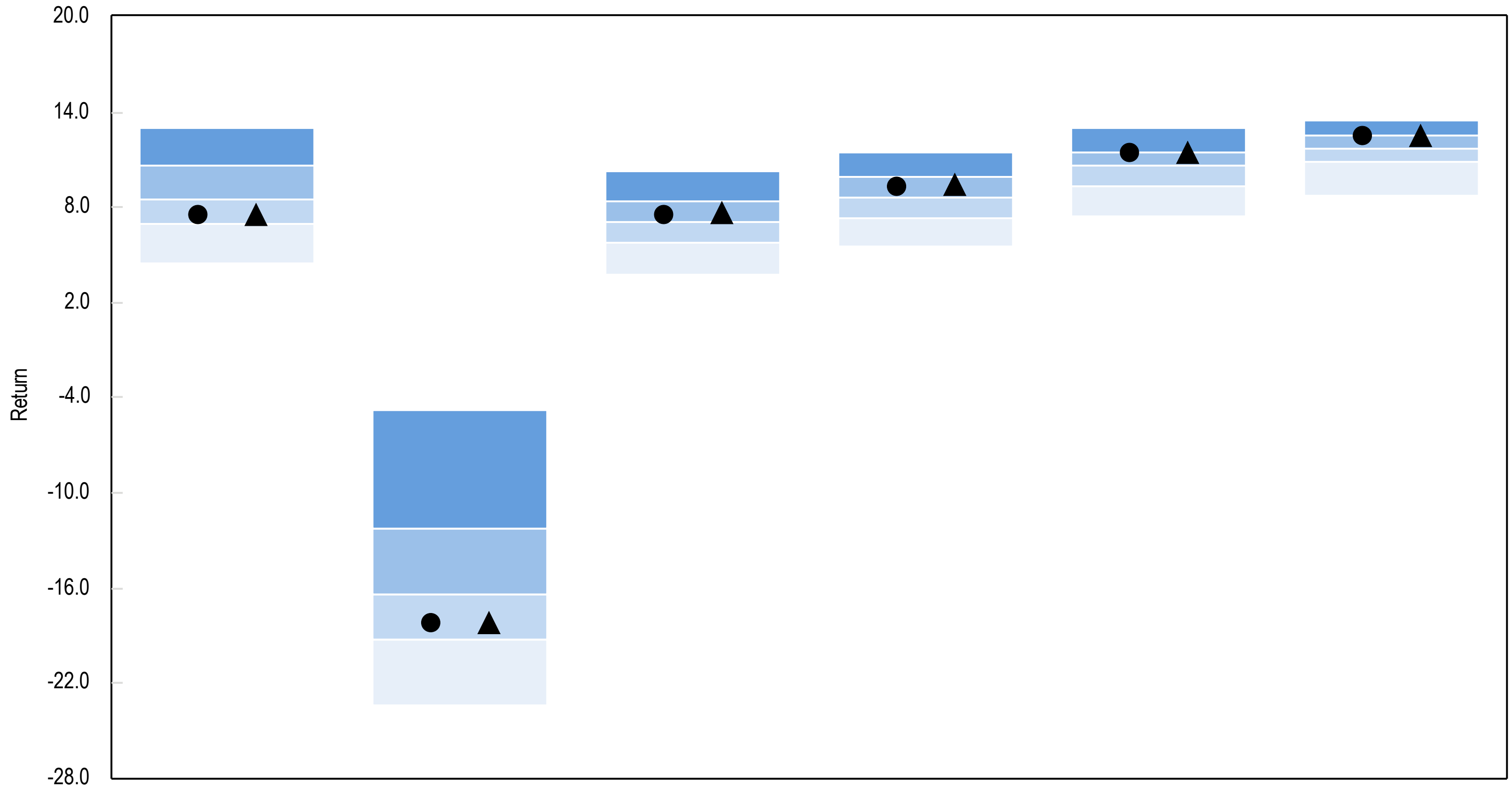
Top Contributors

	Wgt (%)	Return (%)	Contr (%)
Exxon Mobil Corp	1.23	27.35	0.34
JPMorgan Chase & Co	1.04	29.49	0.31
Chevron Corp	0.88	25.90	0.23
Merck & Co Inc	0.74	29.67	0.22
Procter & Gamble Co (The)	1.02	20.91	0.21
NVIDIA Corporation	1.02	20.42	0.21
Microsoft Corp	5.86	3.26	0.19
Mastercard Inc	0.82	22.49	0.18
AbbVie Inc	0.80	21.60	0.17
Visa Inc	0.98	17.22	0.17

Bottom Contributors

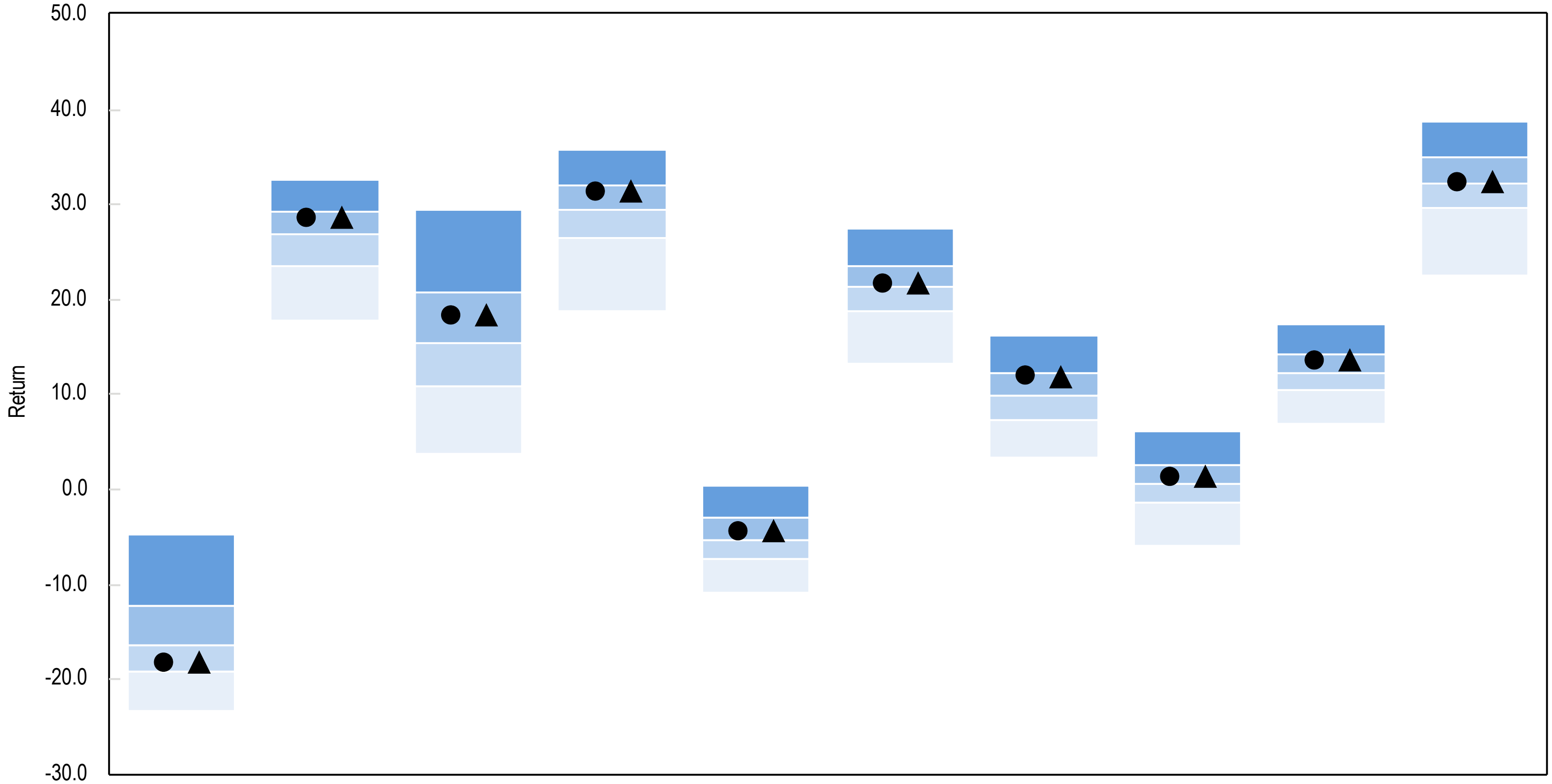
	Wgt (%)	Return (%)	Contr (%)
Tesla Inc	2.38	-53.56	-1.28
Amazon.com Inc	3.38	-25.66	-0.87
Apple Inc	7.04	-5.83	-0.41
Alphabet Inc	1.93	-7.76	-0.15
Alphabet Inc	1.74	-7.72	-0.13
Meta Platforms Inc	1.04	-11.31	-0.12
PayPal Holdings Inc	0.34	-17.25	-0.06
Walt Disney Co (The)	0.58	-7.90	-0.05
SALESFORCE INC	0.48	-7.82	-0.04
Costco Wholesale Corp	0.71	-3.16	-0.02

SSGA S&P 500 Flagship Fund vs. eV US Large Cap Core Equity



	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● SSGA S&P 500 Flagship Fund	7.57 (66)	-18.13 (65)	7.61 (39)	9.39 (36)	11.46 (27)	12.56 (22)
▲ S&P 500 Index	7.56 (66)	-18.11 (65)	7.66 (38)	9.42 (35)	11.48 (27)	12.56 (22)
5th Percentile	13.04	-4.81	10.23	11.47	13.02	13.45
1st Quartile	10.59	-12.24	8.36	9.87	11.52	12.50
Median	8.46	-16.42	7.12	8.63	10.59	11.74
3rd Quartile	6.92	-19.23	5.82	7.29	9.38	10.89
95th Percentile	4.49	-23.37	3.76	5.58	7.42	8.70
Population	317	315	307	292	268	229

SSGA S&P 500 Flagship Fund vs. eV US Large Cap Core Equity

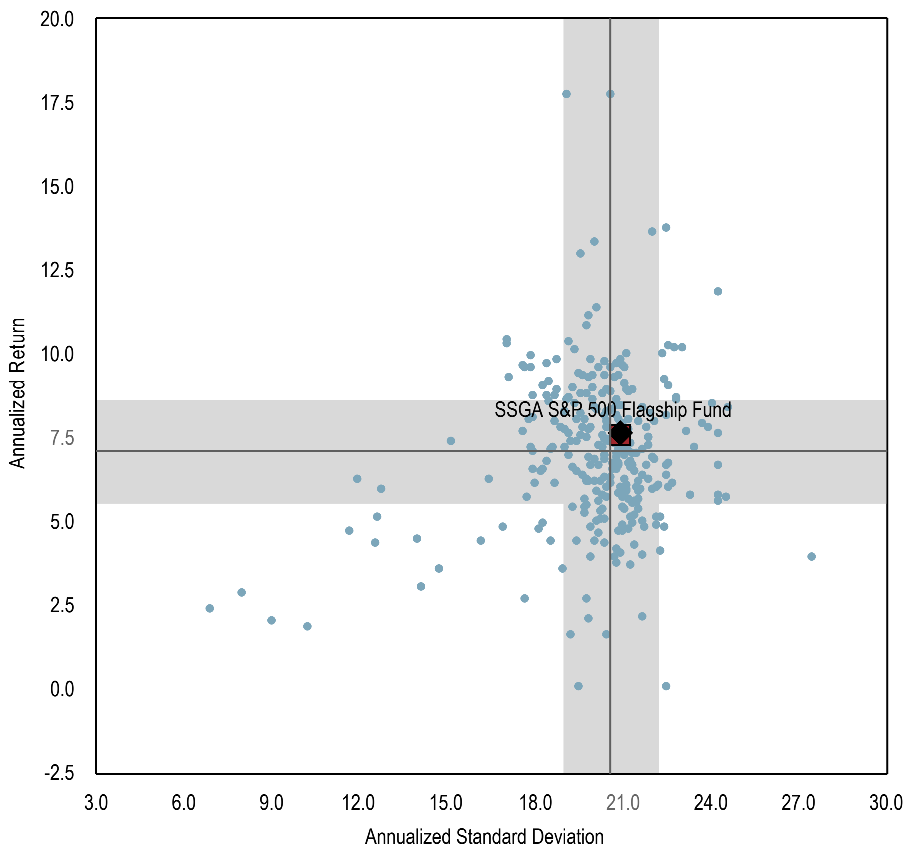


	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● SSGA S&P 500 Flagship Fund	-18.13 (65)	28.63 (31)	18.34 (37)	31.46 (31)	-4.39 (39)	21.84 (43)	12.00 (29)	1.43 (41)	13.69 (31)	32.44 (49)
▲ S&P 500 Index	-18.11 (65)	28.71 (30)	18.40 (37)	31.49 (31)	-4.38 (39)	21.83 (43)	11.96 (30)	1.38 (41)	13.69 (31)	32.39 (49)
5th Percentile	-4.81	32.54	29.39	35.85	0.47	27.55	16.19	6.17	17.31	38.68
1st Quartile	-12.24	29.18	20.77	31.98	-3.04	23.53	12.36	2.54	14.23	34.97
Median	-16.42	26.92	15.46	29.38	-5.22	21.37	9.89	0.70	12.18	32.26
3rd Quartile	-19.23	23.44	10.95	26.53	-7.37	18.77	7.41	-1.42	10.48	29.71
95th Percentile	-23.37	17.76	3.74	18.76	-10.88	13.19	3.43	-5.83	7.02	22.45
Population	315	344	362	372	377	381	380	385	386	378

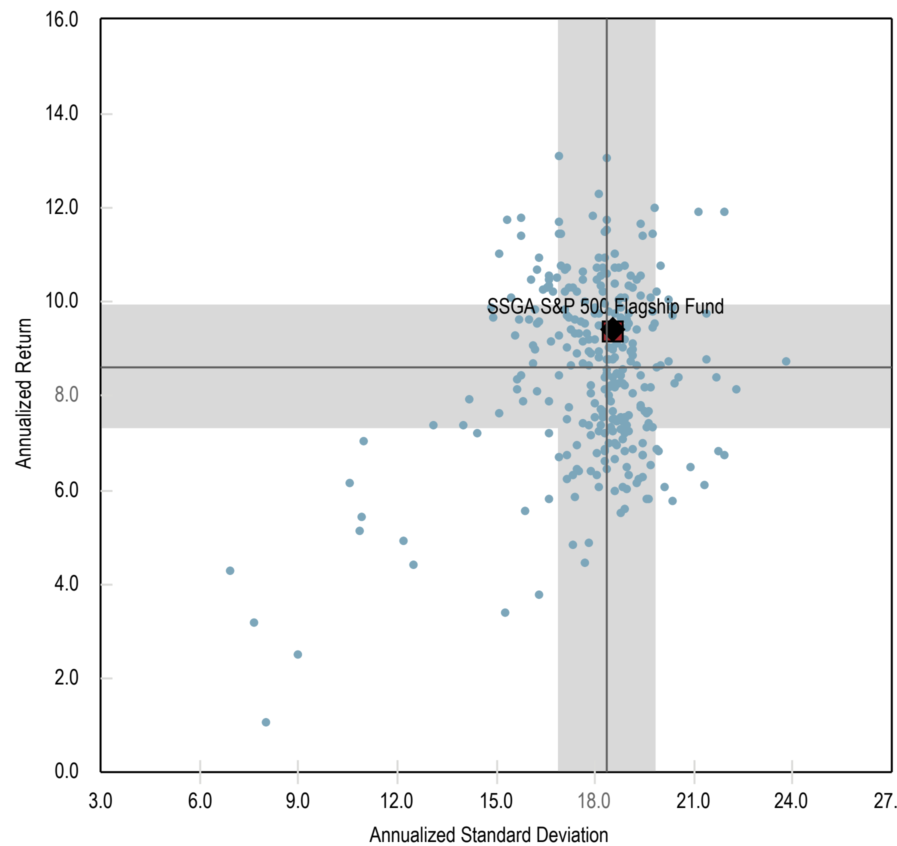
SSGA S&P 500 Flagship Fund
Risk vs. Return (Net of Fees)

Tulare County Employees' Retirement Association
Period Ending: December 31, 2022

3 Years



5 Years



3 Years

	Return	Standard Deviation	Sharpe Ratio
SSGA S&P 500 Flagship Fund	7.61	20.87	0.42
S&P 500 Index	7.66	20.87	0.42

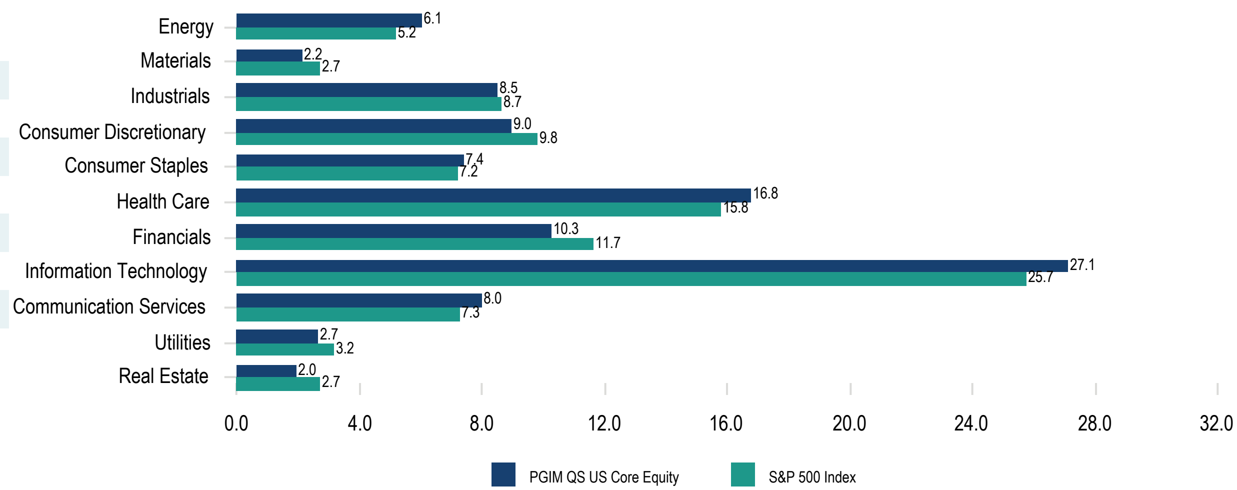
5 Years

	Return	Standard Deviation	Sharpe Ratio
SSGA S&P 500 Flagship Fund	9.39	18.54	0.51
S&P 500 Index	9.42	18.53	0.51

Characteristics

	Portfolio	Benchmark
Number of Stocks	212	503
Wtd. Avg. Mkt. Cap $B	400.9	413.5
Median Mkt. Cap $B	41.9	29.6
Price/Earnings ratio	14.87	19.16
Price/Book ratio	3.35	3.86
Return on Equity (%)	10.77	10.92
Current Yield (%)	1.98	1.77
Beta (5 Years, Monthly)	1.01	1.00
R-Squared (5 Years, Monthly)	0.99	1.00

Sector Allocation (%)



Largest Equity Holdings

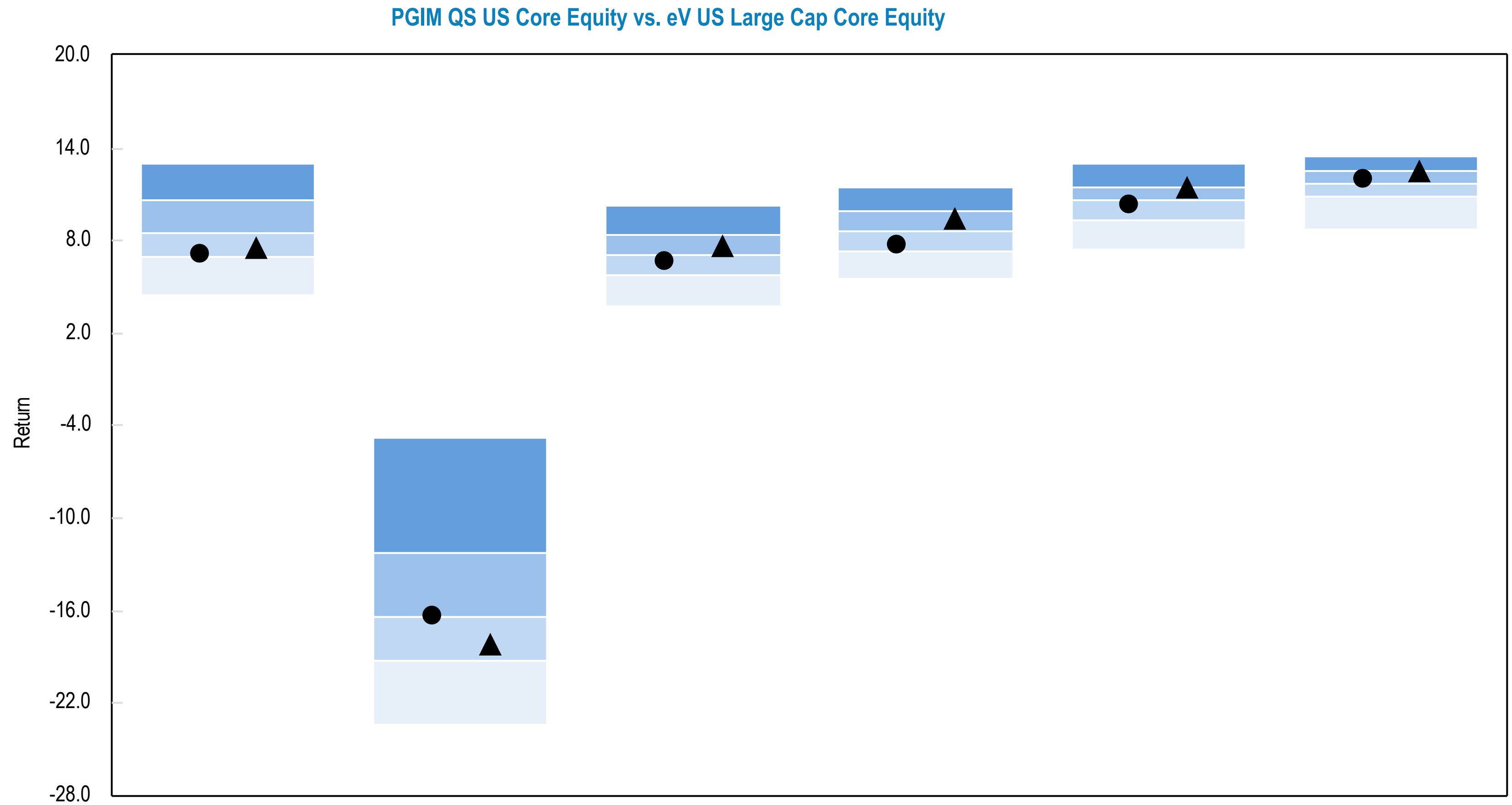
	Wgt (%)	Return (%)
Microsoft Corp	5.94	3.26
Apple Inc	5.73	-5.83
Amazon.com Inc	1.91	-25.66
Unitedhealth Group Inc	1.84	5.30
Alphabet Inc	1.81	-7.76
Alphabet Inc	1.80	-7.72
Merck & Co Inc	1.58	29.67
Pfizer Inc	1.48	18.10
Mastercard Inc	1.48	22.49
Visa Inc	1.43	17.22

Top Contributors

	Wgt (%)	Return (%)	Contr (%)
Merck & Co Inc	1.31	29.67	0.39
Gilead Sciences Inc	0.77	40.31	0.31
Broadcom Inc	1.09	26.98	0.29
Mastercard Inc	1.29	22.49	0.29
Exxon Mobil Corp	1.00	27.35	0.27
Chevron Corp	1.03	25.90	0.27
Pfizer Inc	1.35	18.10	0.25
Visa Inc	1.31	17.22	0.22
Cisco Systems Inc	1.07	20.18	0.22
Honeywell International Inc	0.74	28.98	0.22

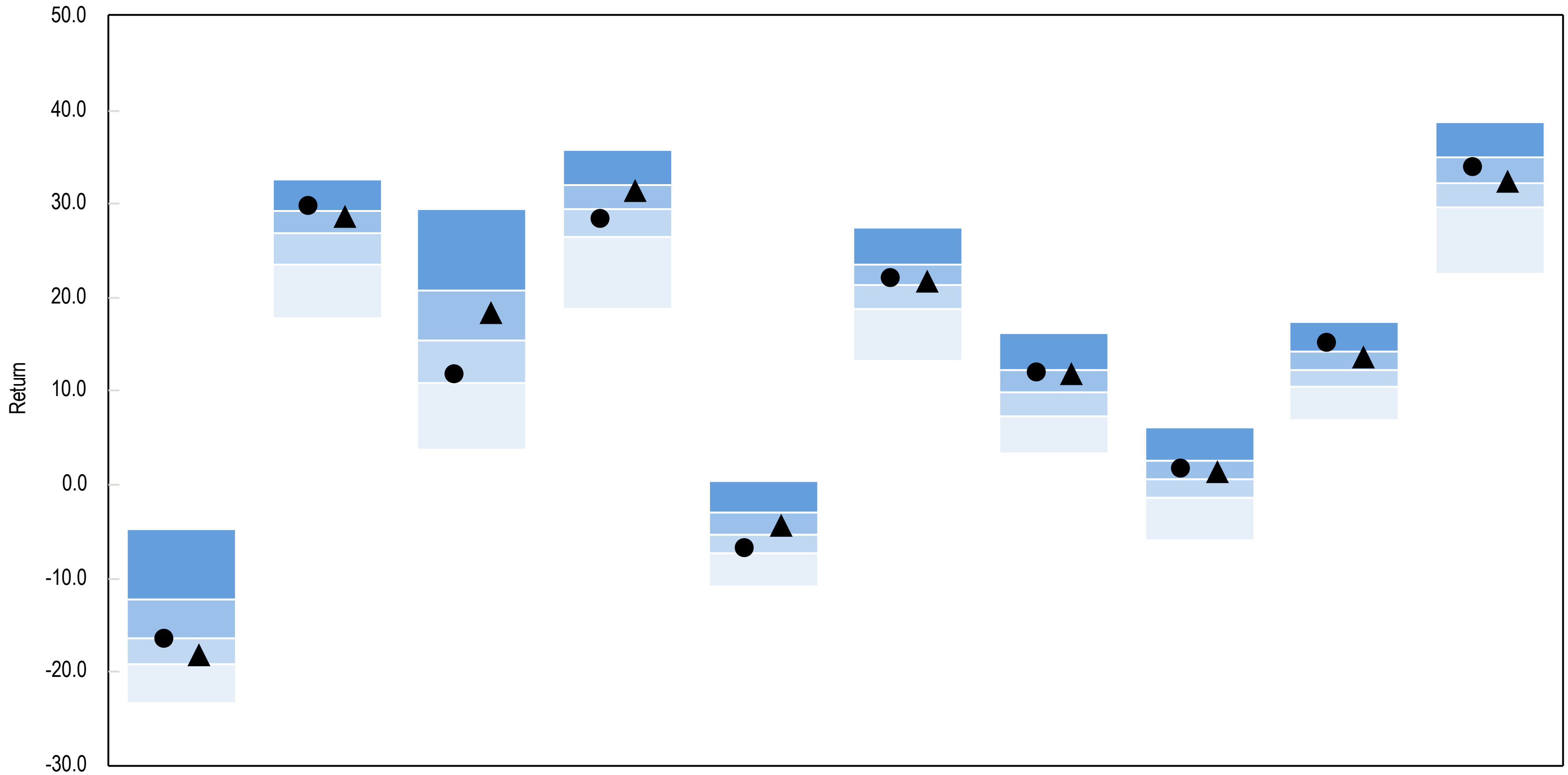
Bottom Contributors

	Wgt (%)	Return (%)	Contr (%)
Tesla Inc	2.67	-53.56	-1.43
Amazon.com Inc	2.74	-25.66	-0.70
Apple Inc	6.51	-5.83	-0.38
Alphabet Inc	2.09	-7.76	-0.16
Alphabet Inc	2.08	-7.72	-0.16
Meta Platforms Inc	1.33	-11.31	-0.15
Walt Disney Co (The)	0.85	-7.90	-0.07
CrowdStrike Holdings Inc	0.11	-36.11	-0.04
Edwards Lifesciences Corp	0.37	-9.71	-0.04
Paycom Software Inc	0.58	-5.96	-0.03



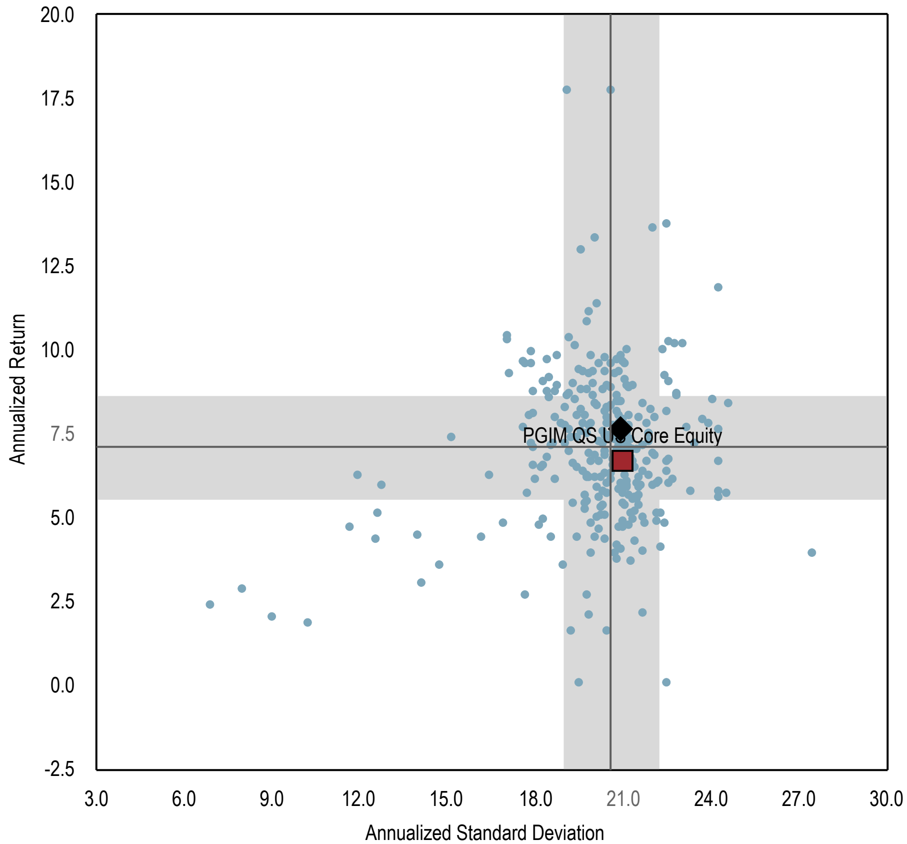
	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● PGIM QS US Core Equity	7.22 (72)	-16.30 (50)	6.74 (59)	7.82 (64)	10.37 (55)	12.10 (37)
▲ S&P 500 Index	7.56 (66)	-18.11 (65)	7.66 (38)	9.42 (35)	11.48 (27)	12.56 (22)
5th Percentile	13.04	-4.81	10.23	11.47	13.02	13.45
1st Quartile	10.59	-12.24	8.36	9.87	11.52	12.50
Median	8.46	-16.42	7.12	8.63	10.59	11.74
3rd Quartile	6.92	-19.23	5.82	7.29	9.38	10.89
95th Percentile	4.49	-23.37	3.76	5.58	7.42	8.70
Population	317	315	307	292	268	229

PGIM QS US Core Equity vs. eV US Large Cap Core Equity

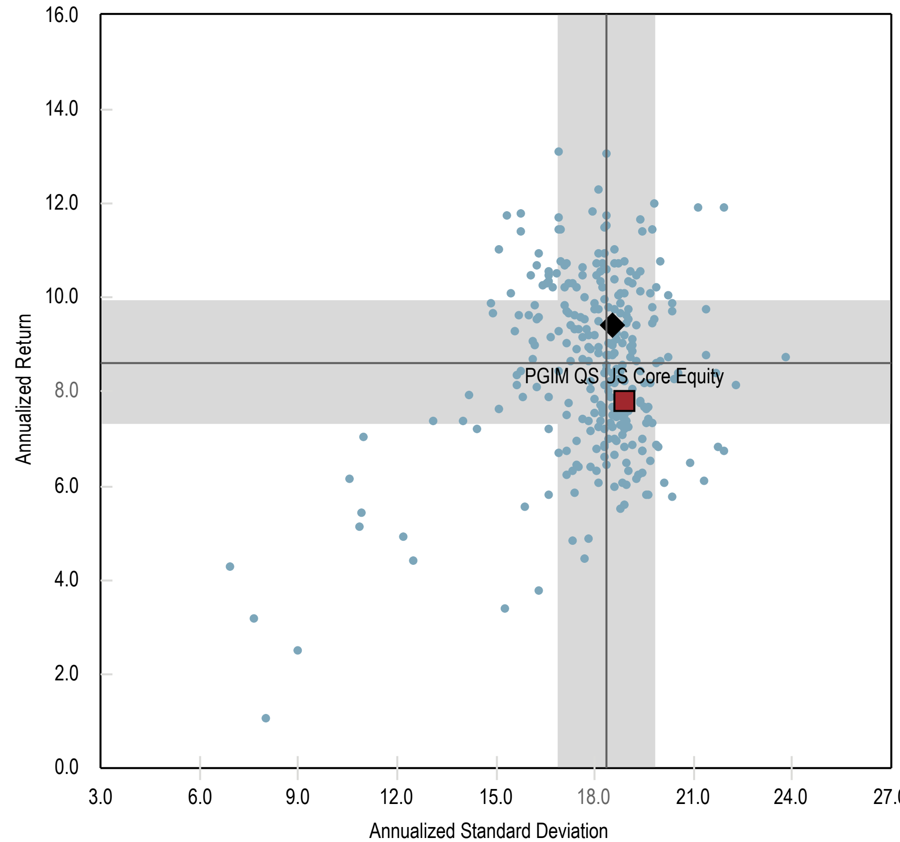


	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● PGIM QS US Core Equity	-16.30 (50)	29.78 (20)	11.96 (71)	28.55 (57)	-6.79 (71)	22.12 (39)	12.12 (27)	1.78 (34)	15.25 (15)	33.91 (33)
▲ S&P 500 Index	-18.11 (65)	28.71 (30)	18.40 (37)	31.49 (31)	-4.38 (39)	21.83 (43)	11.96 (30)	1.38 (41)	13.69 (31)	32.39 (49)
5th Percentile	-4.81	32.54	29.39	35.85	0.47	27.55	16.19	6.17	17.31	38.68
1st Quartile	-12.24	29.18	20.77	31.98	-3.04	23.53	12.36	2.54	14.23	34.97
Median	-16.42	26.92	15.46	29.38	-5.22	21.37	9.89	0.70	12.18	32.26
3rd Quartile	-19.23	23.44	10.95	26.53	-7.37	18.77	7.41	-1.42	10.48	29.71
95th Percentile	-23.37	17.76	3.74	18.76	-10.88	13.19	3.43	-5.83	7.02	22.45
Population	315	344	362	372	377	381	380	385	386	378

3 Years



5 Years



3 Years

	Return	Standard Deviation	Sharpe Ratio
PGIM QS US Core Equity	6.74	20.95	0.38
S&P 500 Index	7.66	20.87	0.42

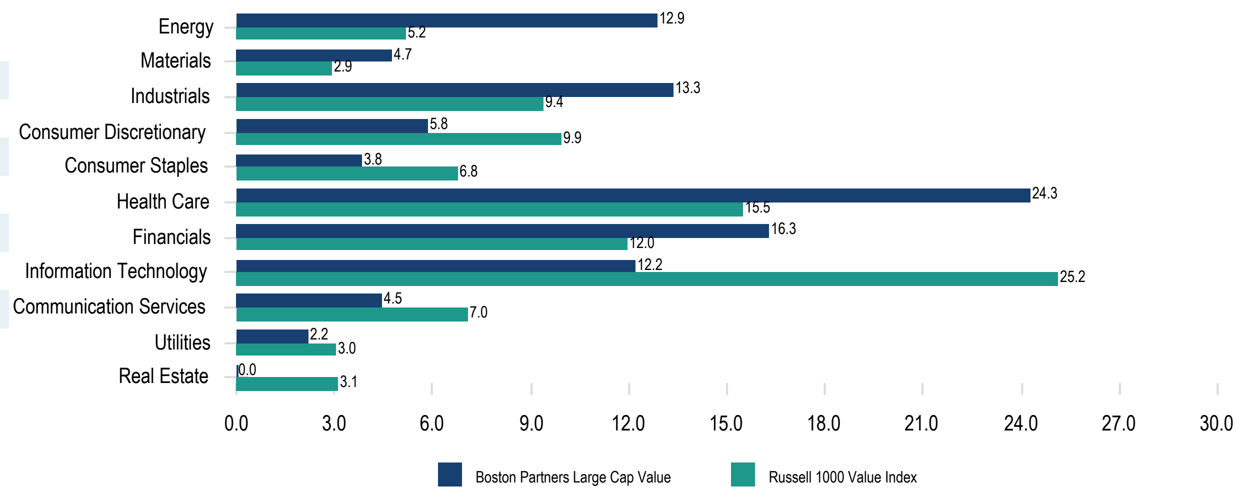
5 Years

	Return	Standard Deviation	Sharpe Ratio
PGIM QS US Core Equity	7.82	18.93	0.43
S&P 500 Index	9.42	18.53	0.51

Characteristics

	Portfolio	Benchmark
Number of Stocks	80	1,010
Wtd. Avg. Mkt. Cap $B	143.6	377.3
Median Mkt. Cap $B	51.8	11.9
Price/Earnings ratio	15.54	18.63
Price/Book ratio	2.57	3.77
Return on Equity (%)	2.58	10.67
Current Yield (%)	2.07	1.73
Beta (5 Years, Monthly)	1.04	1.00
R-Squared (5 Years, Monthly)	0.98	1.00

Sector Allocation (%)



Largest Equity Holdings

	Wgt (%)	Return (%)
Johnson & Johnson	4.10	8.83
JPMorgan Chase & Co	3.93	29.49
Bristol-Myers Squibb Co	2.90	1.99
Sanofi	2.76	27.38
Conocophillips	2.64	16.44
Schwab (Charles) Corp	2.57	16.17
AutoZone Inc	2.53	15.14
Cigna Corp	2.50	19.82
CVS Health Corp	2.48	-1.70
Alphabet Inc	2.33	-7.76

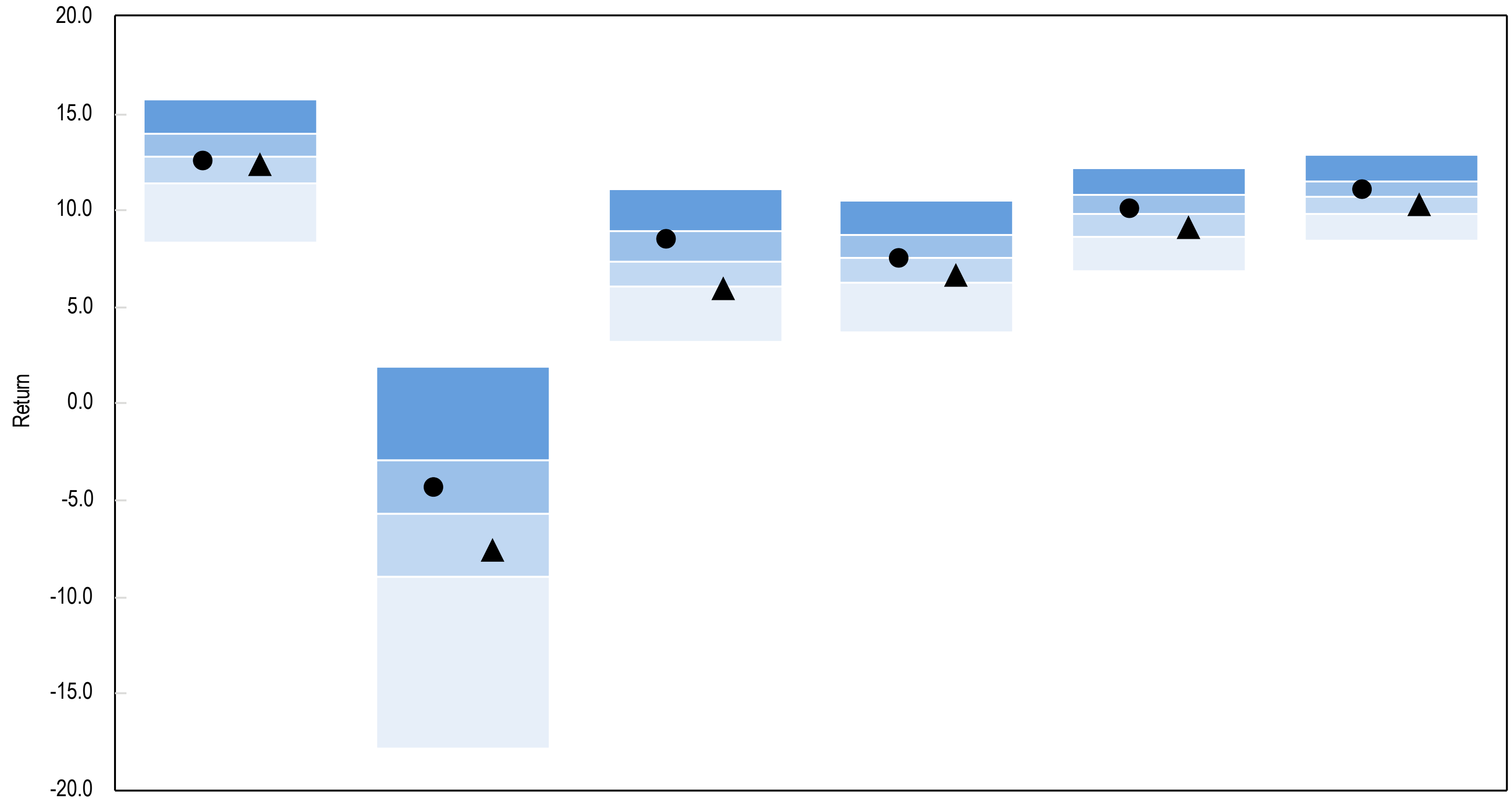
Top Contributors

	Wgt (%)	Return (%)	Contr (%)
JPMorgan Chase & Co	3.48	29.49	1.03
Schlumberger Ltd	1.32	49.43	0.65
Conocophillips	3.97	16.44	0.65
Sanofi	2.23	27.38	0.61
DuPont De Nemours Inc	1.55	36.82	0.57
Cigna Corp	2.38	19.82	0.47
AutoZone Inc	2.77	15.14	0.42
AbbVie Inc	1.90	21.60	0.41
Schwab (Charles) Corp	2.53	16.17	0.41
Cisco Systems Inc	1.96	20.18	0.40

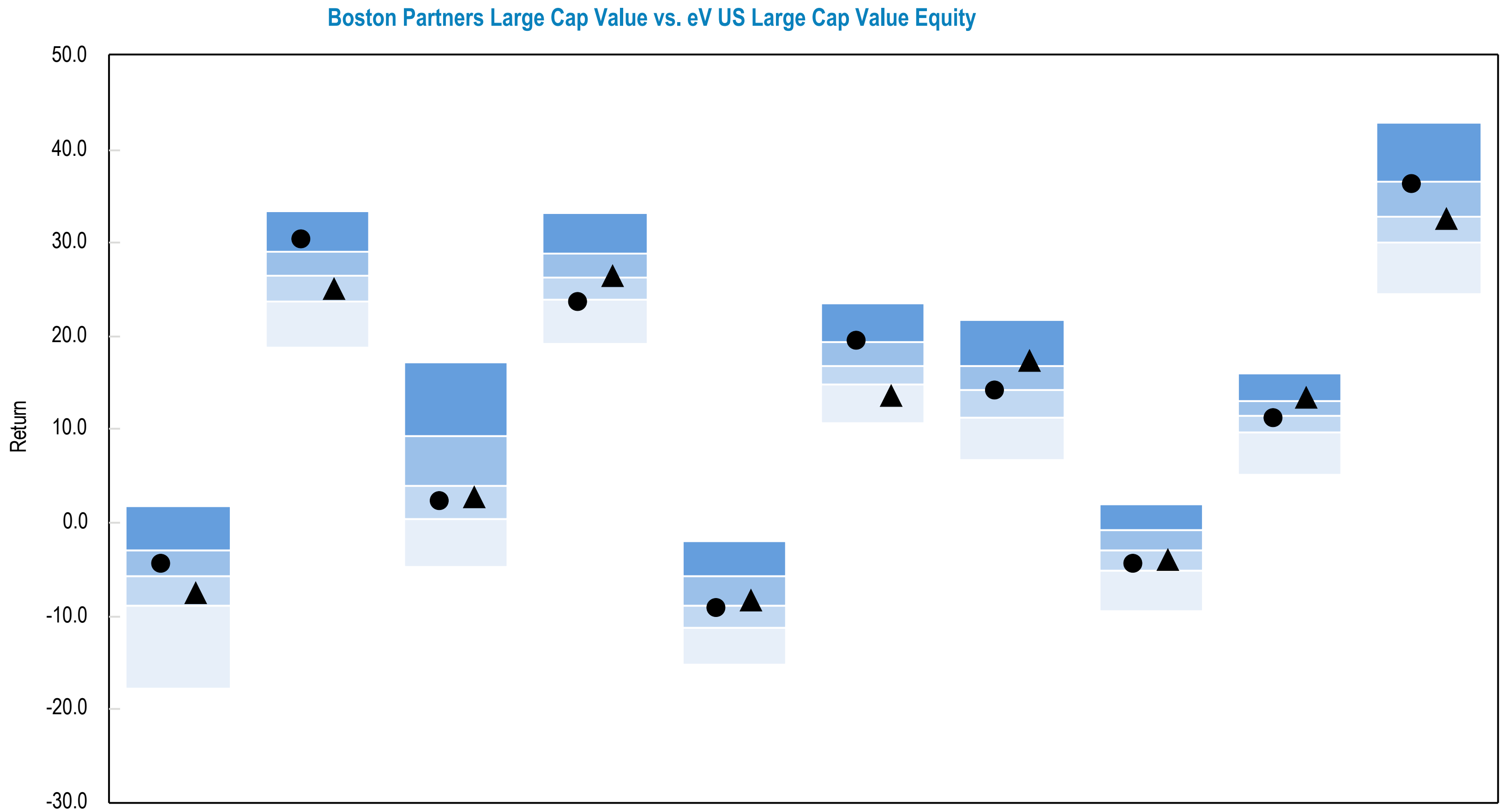
Bottom Contributors

	Wgt (%)	Return (%)	Contr (%)
Alphabet Inc	2.63	-7.76	-0.20
Meta Platforms Inc	1.67	-11.31	-0.19
Fidelity National Information Services Inc	1.30	-9.61	-0.12
Dominion Energy Inc	1.00	-10.29	-0.10
GLOBAL PAYMENTS INC	0.98	-7.84	-0.08
CVS Health Corp	2.49	-1.70	-0.04
QUALCOMM Inc.	1.74	-2.11	-0.04
Keurig Dr Pepper Inc	2.10	-0.45	-0.01
Cognizant Technology	0.99	0.02	0.00
Truist Financial Corp	0.97	0.03	0.00

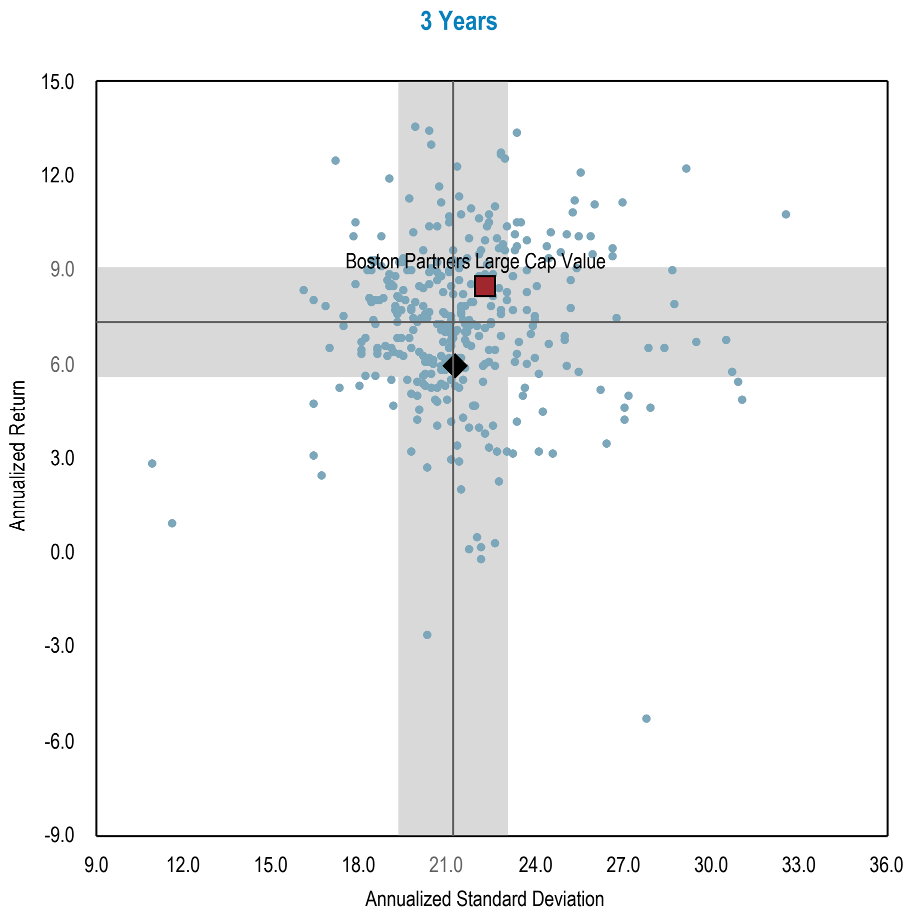
Boston Partners Large Cap Value vs. eV US Large Cap Value Equity

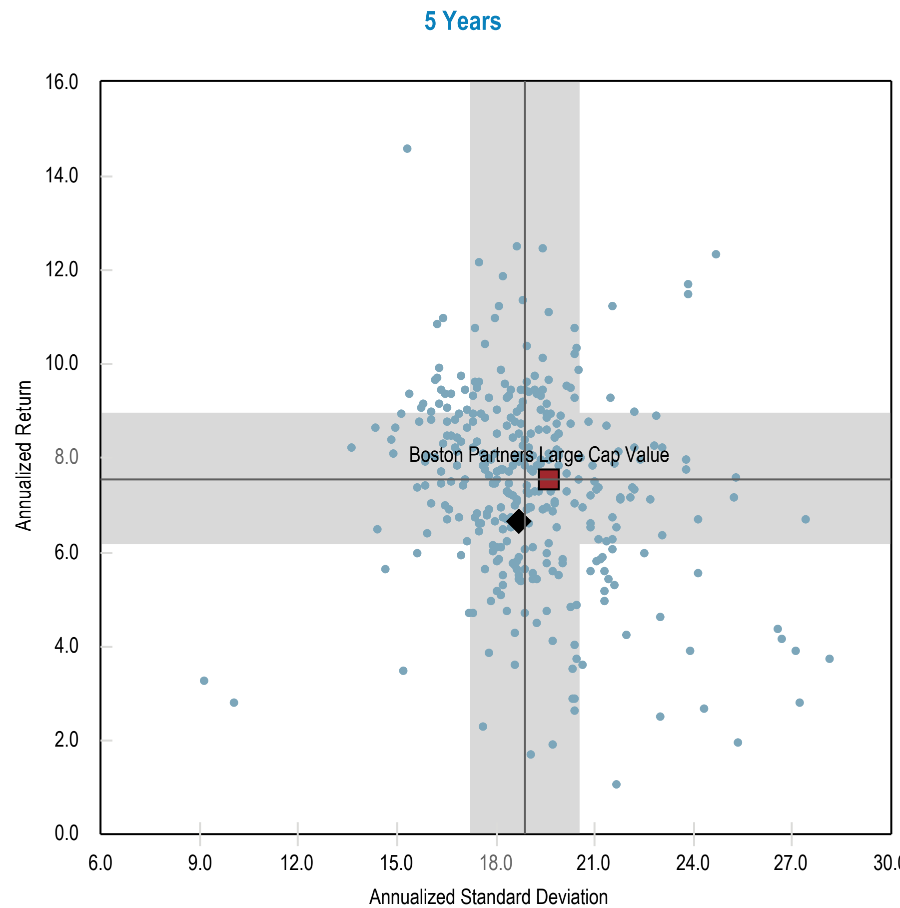


	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● Boston Partners Large Cap Value	12.57 (54)	-4.26 (36)	8.54 (31)	7.57 (50)	10.15 (41)	11.07 (39)
▲ Russell 1000 Value Index	12.42 (57)	-7.54 (66)	5.96 (77)	6.67 (70)	9.12 (68)	10.29 (64)
5th Percentile	15.76	1.89	11.14	10.47	12.22	12.91
1st Quartile	14.01	-2.94	8.94	8.78	10.84	11.52
Median	12.76	-5.71	7.37	7.56	9.85	10.74
3rd Quartile	11.38	-8.93	6.03	6.23	8.68	9.87
95th Percentile	8.33	-17.80	3.22	3.71	6.87	8.45
Population	366	362	352	340	323	302



	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● Boston Partners Large Cap Value	-4.26 (36)	30.43 (17)	2.38 (60)	23.81 (76)	-9.00 (54)	19.58 (24)	14.19 (51)	-4.38 (69)	11.33 (52)	36.44 (26)
▲ Russell 1000 Value Index	-7.54 (66)	25.16 (66)	2.80 (58)	26.54 (49)	-8.27 (45)	13.66 (85)	17.34 (20)	-3.83 (65)	13.45 (23)	32.53 (53)
5th Percentile	1.89	33.49	17.26	33.30	-1.92	23.45	21.83	2.04	16.01	42.93
1st Quartile	-2.94	29.13	9.33	28.88	-5.71	19.43	16.89	-0.79	13.14	36.50
Median	-5.71	26.54	3.88	26.35	-8.77	16.78	14.30	-2.92	11.44	32.90
3rd Quartile	-8.93	23.78	0.48	23.94	-11.30	14.84	11.24	-5.09	9.66	30.09
95th Percentile	-17.80	18.77	-4.72	19.16	-15.15	10.60	6.84	-9.39	5.12	24.44
Population	362	390	398	424	435	438	444	456	453	448





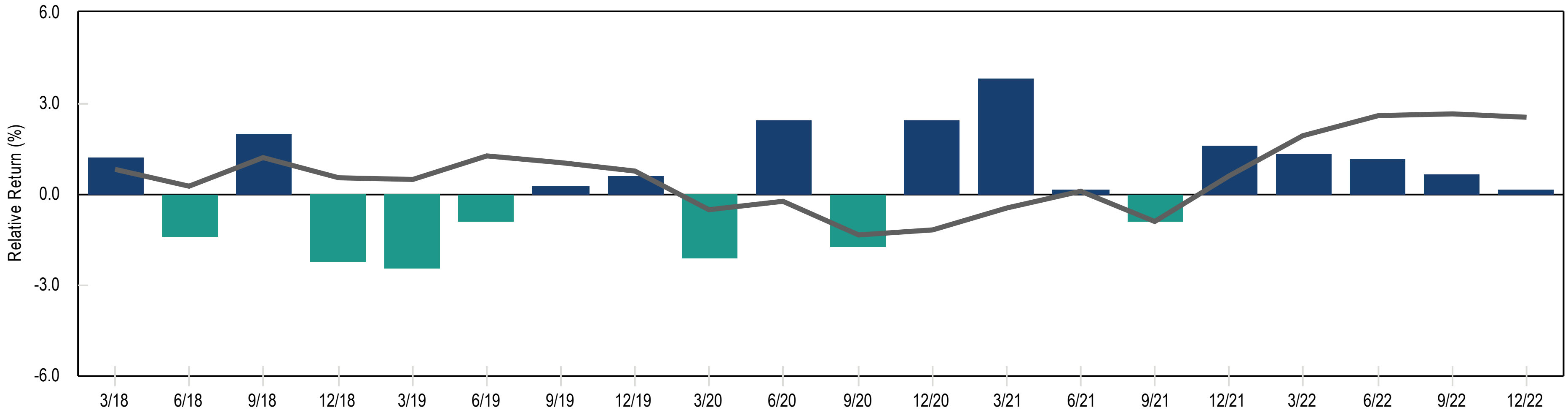
3 Years

	Return	Standard Deviation	Sharpe Ratio
Boston Partners Large Cap Value	8.54	22.27	0.45
Russell 1000 Value Index	5.96	21.25	0.35

5 Years

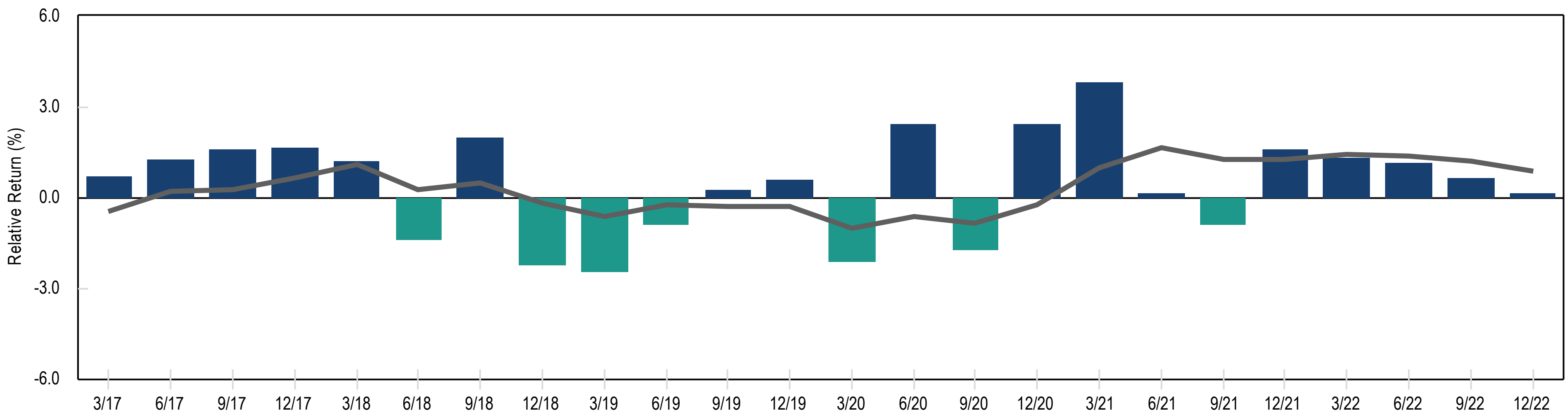
	Return	Standard Deviation	Sharpe Ratio
Boston Partners Large Cap Value	7.57	19.62	0.41
Russell 1000 Value Index	6.67	18.70	0.37

Rolling 3 Years Annualized Excess Performance



Rolling 3 Years Excess Performance | Quarterly Outperformance | Quarterly Underperformance

Rolling 5 Years Annualized Excess Performance



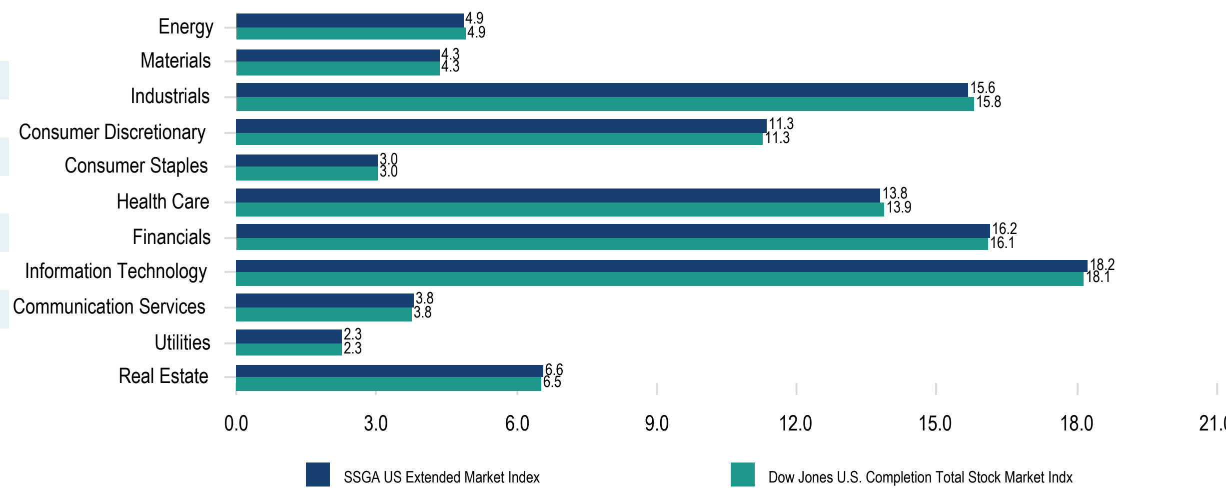
Rolling 5 Years Excess Performance | Quarterly Outperformance | Quarterly Underperformance

Holdings as of 9/30/22.

Characteristics

	Portfolio	Benchmark
Number of Stocks	3,635	3,767
Wtd. Avg. Mkt. Cap $B	9.5	9.4
Median Mkt. Cap $B	0.5	0.5
Price/Earnings ratio	12.82	12.69
Price/Book ratio	2.70	2.70
Return on Equity (%)	5.09	5.03
Current Yield (%)	1.45	1.45
Beta	-	1.00
R-Squared	-	-

Sector Allocation (%)



Largest Equity Holdings

	Wgt (%)	Return (%)
Blackstone Inc	0.90	-10.51
Uber Technologies Inc	0.85	-6.68
Palo Alto Networks Inc	0.72	-14.81
Snowflake Inc	0.71	-15.55
Cheniere Energy Inc.	0.64	-9.40
Lululemon Athletica Inc	0.64	14.60
Airbnb Inc	0.59	-18.60
Block Inc	0.59	14.27
Workday Inc	0.58	9.93
Marvell Technology Inc	0.55	-13.57

Top Contributors

	Wgt (%)	Return (%)	Contr (%)
Horizon Therapeutics Public Ltd Co	0.26	83.87	0.22
Apollo Global Management Inc	0.36	38.06	0.14
Arch Capital Group Ltd	0.30	37.86	0.12
Burlington Stores Inc	0.13	81.21	0.11
Fair Isaac Corporation	0.19	45.28	0.09
Steel Dynamics Inc	0.22	38.18	0.08
Lululemon Athletica Inc	0.58	14.60	0.08
Alnylam Pharmaceuticals Inc	0.44	18.73	0.08
Insulet Corporation	0.29	28.33	0.08
Block Inc	0.52	14.27	0.07

Bottom Contributors

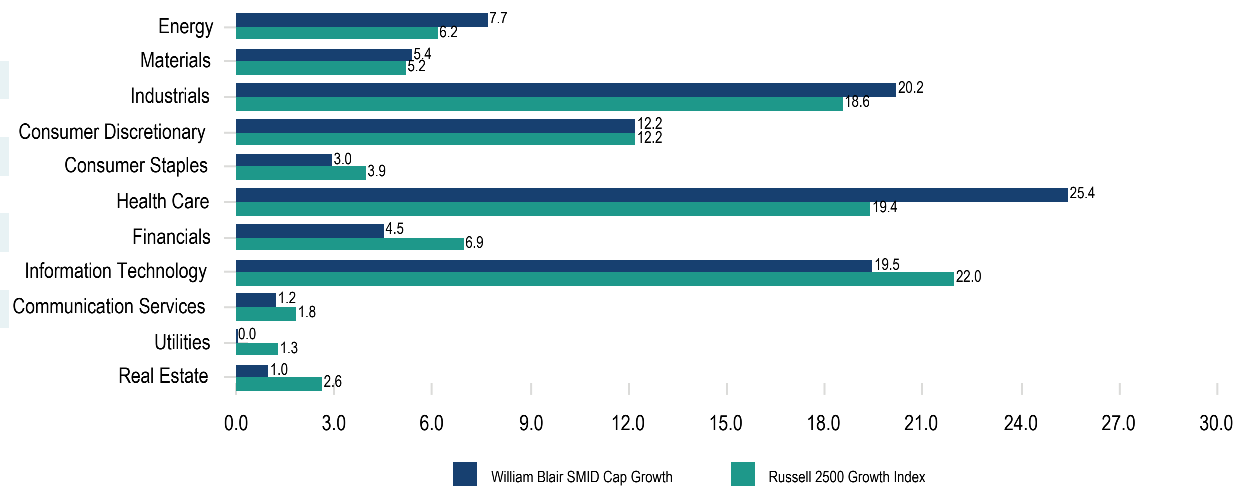
	Wgt (%)	Return (%)	Contr (%)
CrowdStrike Holdings Inc	0.63	-36.11	-0.23
Rivian Automotive Inc	0.32	-44.00	-0.14
Airbnb Inc	0.75	-18.60	-0.14
Snowflake Inc	0.86	-15.55	-0.13
Palo Alto Networks Inc	0.88	-14.81	-0.13
Trade Desk Inc (The)	0.48	-24.97	-0.12
Blackstone Inc	1.05	-10.51	-0.11
Marvell Technology Inc	0.66	-13.57	-0.09
COINBASE GLOBAL INC	0.18	-45.12	-0.08
Plug Power Inc	0.20	-41.12	-0.08

Holdings as of 9/30/22.

Characteristics

	Portfolio	Benchmark
Number of Stocks	72	1,340
Wtd. Avg. Mkt. Cap $B	7.8	5.7
Median Mkt. Cap $B	6.2	1.5
Price/Earnings ratio	20.85	16.22
Price/Book ratio	3.96	4.10
Return on Equity (%)	2.79	3.39
Current Yield (%)	0.64	0.89
Beta (5 Years, Monthly)	0.91	1.00
R-Squared (5 Years, Monthly)	0.96	1.00

Sector Allocation (%)



Largest Equity Holdings

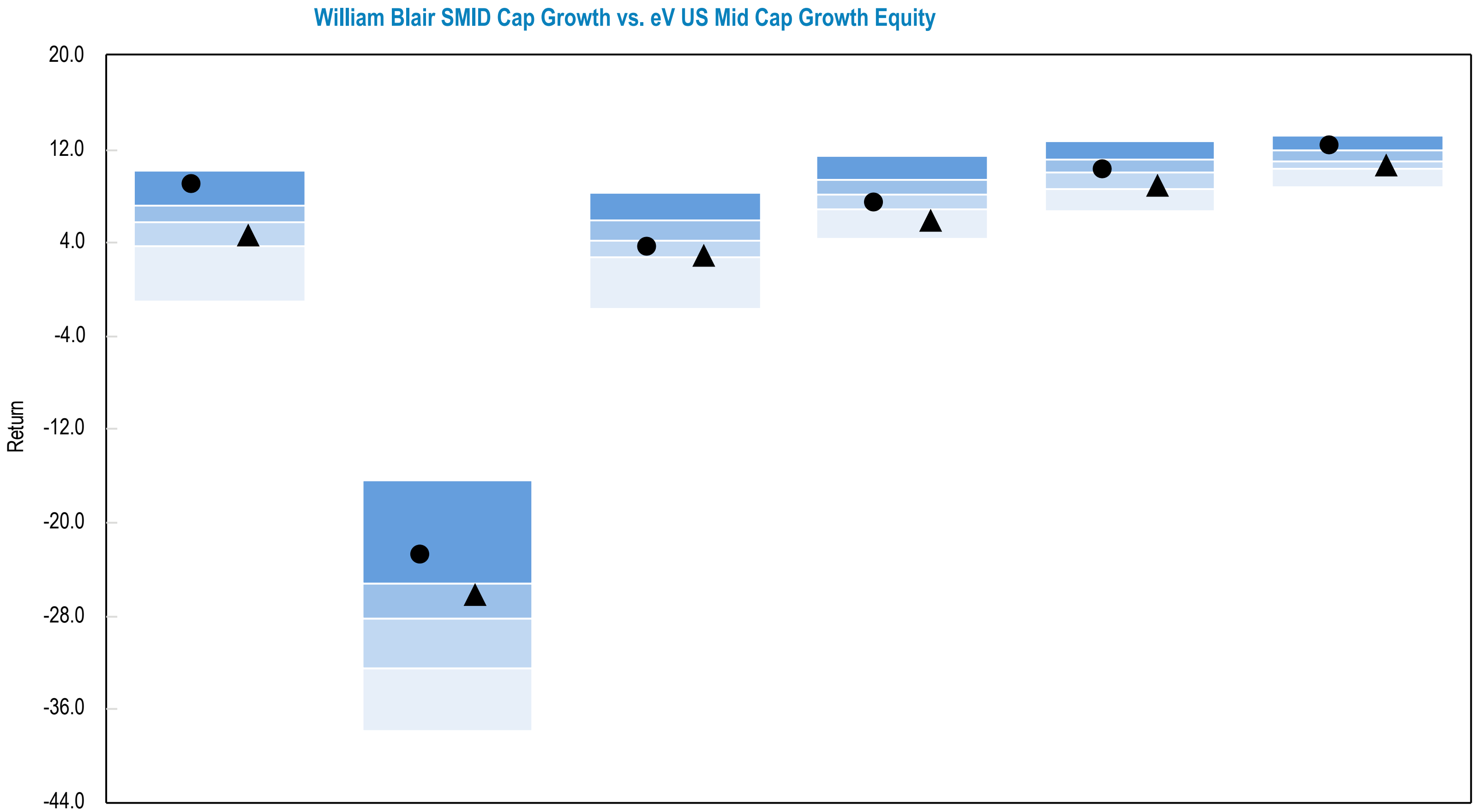
	Wgt (%)	Return (%)
BWX Technologies Inc	3.07	15.74
Axon Enterprise Inc	3.01	43.35
Builders FirstSource Inc	2.83	10.11
National Vision Holdings Inc	2.63	18.71
Acadia Healthcare Co Inc	2.55	5.30
SolarEdge Technologies Inc	2.53	22.38
Chemed Corp	2.43	17.01
Wyndham Hotels & Resorts Inc	2.34	16.75
PERFORMANCE FOOD GROUP COMPANY	2.32	35.95
Crown Holdings Inc	2.31	1.77

Top Contributors

	Wgt (%)	Return (%)	Contr (%)
Horizon Therapeutics Public Ltd Co	1.17	83.87	0.98
Axon Enterprise Inc	2.24	43.35	0.97
ABIOMED Inc	1.64	55.10	0.90
Halozyme Therapeutics Inc	1.51	43.91	0.66
PERFORMANCE FOOD GROUP COMPANY	1.82	35.95	0.65
Burlington Stores Inc	0.71	81.21	0.58
TechnipFMC plc	1.27	44.09	0.56
Encompass Health Corp	1.68	32.57	0.55
SolarEdge Technologies Inc	2.20	22.38	0.49
BWX Technologies Inc	2.83	15.74	0.45

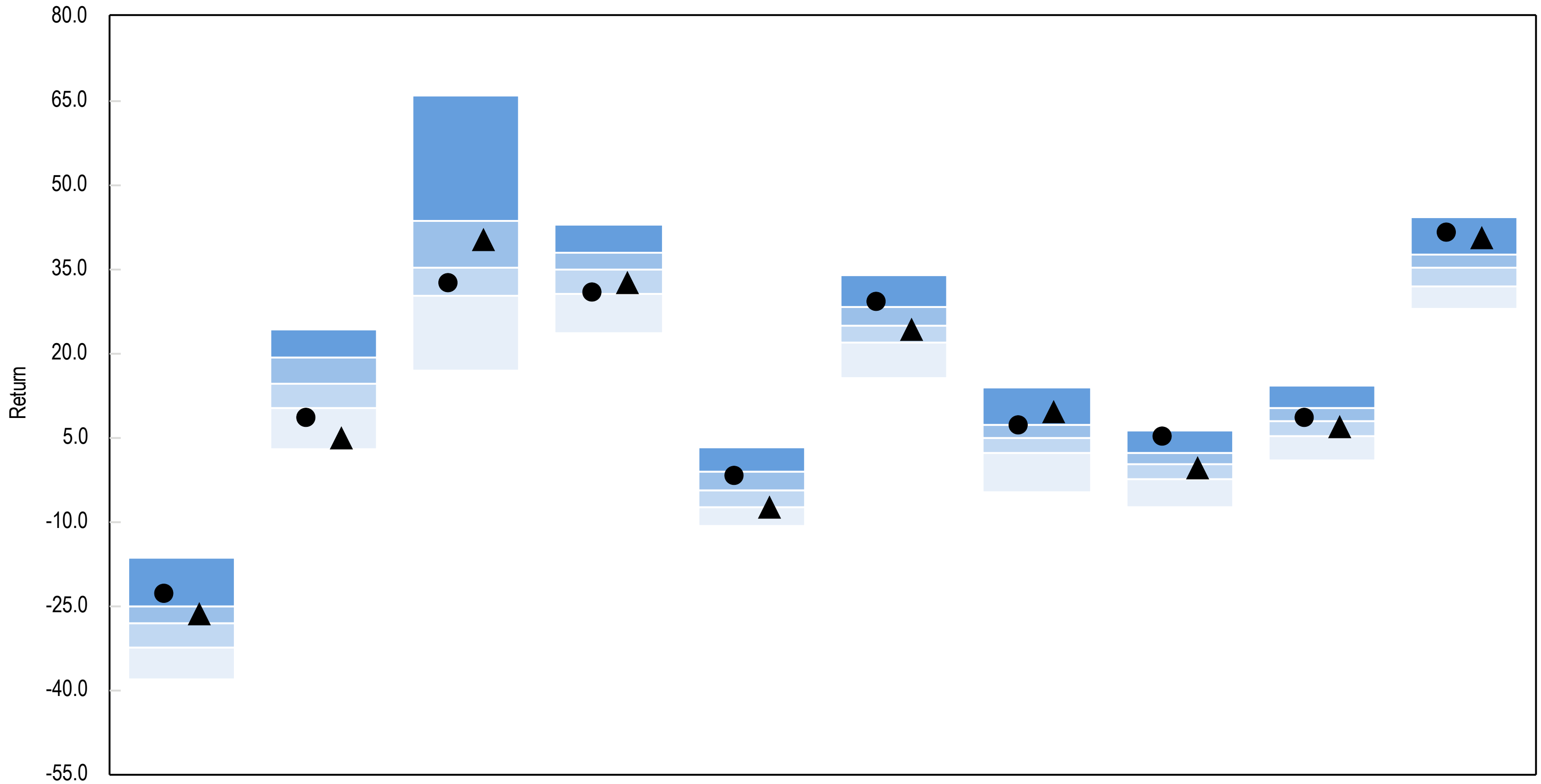
Bottom Contributors

	Wgt (%)	Return (%)	Contr (%)
Chart Industries Inc	2.10	-37.49	-0.79
Advanced Drainage Systems Inc	1.74	-34.01	-0.59
Wolfspeed Inc	1.07	-33.20	-0.36
Alarm.com Holdings Inc	1.42	-23.71	-0.34
Cameco Corp	2.08	-14.16	-0.29
Entegris Inc	1.34	-20.90	-0.28
Leslie's Inc	1.52	-17.00	-0.26
Blueprint Medicines Corp	0.65	-33.51	-0.22
Twist Bioscience Corp	0.66	-32.43	-0.21
HealthEquity Inc	2.08	-8.23	-0.17



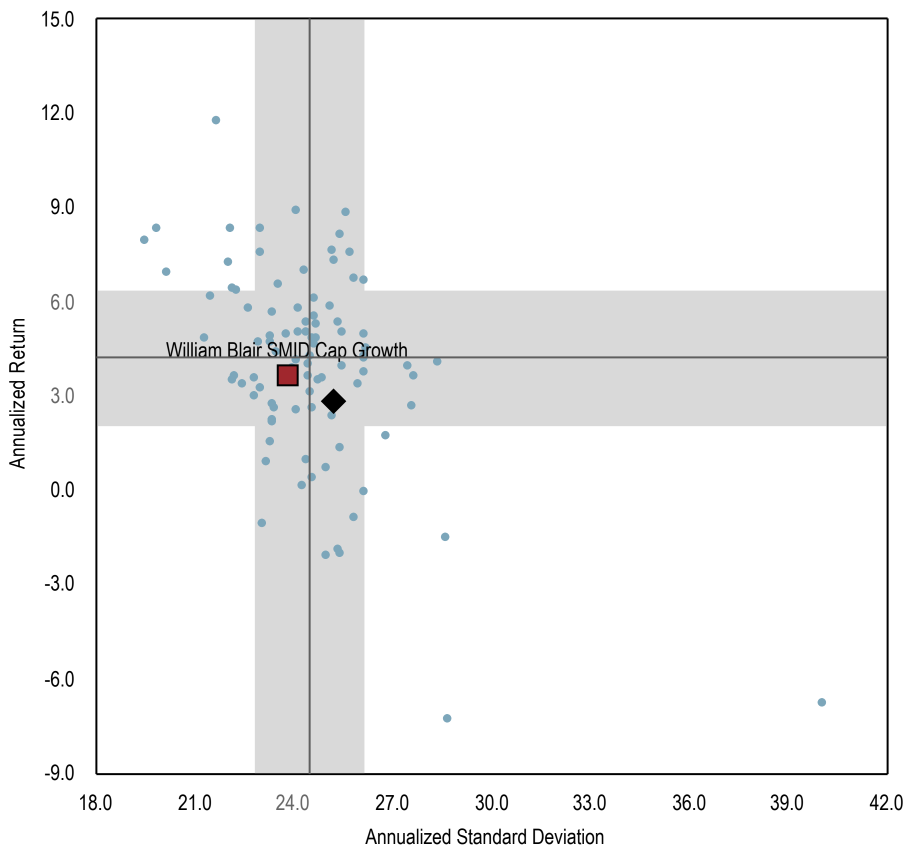
	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● William Blair SMID Cap Growth	9.07 (9)	-22.67 (18)	3.67 (61)	7.50 (62)	10.33 (45)	12.44 (16)
▲ Russell 2500 Growth Index	4.72 (60)	-26.21 (32)	2.88 (72)	5.97 (83)	8.98 (69)	10.62 (64)
5th Percentile	10.15	-16.33	8.38	11.43	12.78	13.25
1st Quartile	7.18	-25.15	5.88	9.46	11.15	12.00
Median	5.83	-28.14	4.24	8.12	10.05	11.05
3rd Quartile	3.76	-32.50	2.74	6.85	8.62	10.30
95th Percentile	-1.05	-37.85	-1.58	4.40	6.74	8.74
Population	98	97	93	89	85	81

William Blair SMID Cap Growth vs. eV US Mid Cap Growth Equity

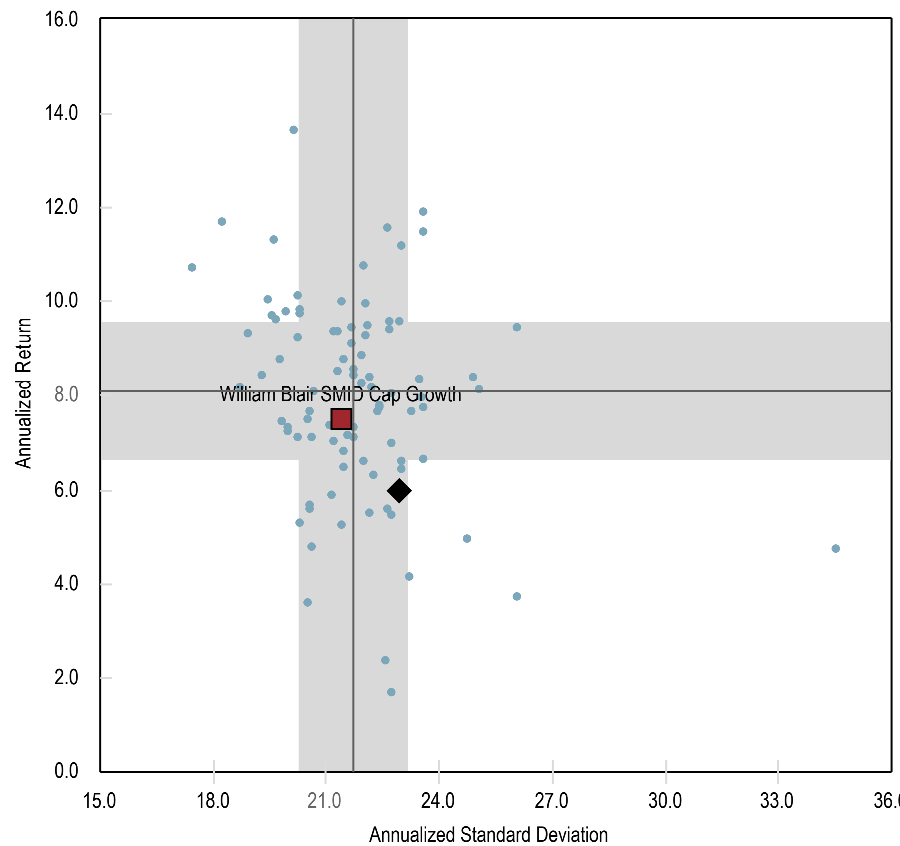


	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● William Blair SMID Cap Growth	-22.67 (18)	8.67 (79)	32.60 (64)	31.10 (74)	-1.74 (32)	29.31 (18)	7.24 (27)	5.19 (9)	8.78 (40)	41.79 (10)
▲ Russell 2500 Growth Index	-26.21 (32)	5.04 (92)	40.47 (37)	32.65 (63)	-7.47 (77)	24.46 (58)	9.73 (15)	-0.19 (55)	7.05 (63)	40.65 (14)
5th Percentile	-16.33	24.49	66.08	42.99	3.38	33.92	13.88	6.46	14.44	44.40
1st Quartile	-25.15	19.28	43.75	38.11	-0.85	28.30	7.34	2.36	10.34	37.70
Median	-28.14	14.65	35.32	34.87	-4.31	25.05	4.87	0.31	7.91	35.37
3rd Quartile	-32.50	10.46	30.38	30.53	-7.27	22.08	2.50	-2.31	5.35	32.03
95th Percentile	-37.85	2.95	16.87	23.81	-10.78	15.63	-4.67	-7.49	1.16	27.89
Population	97	101	106	107	112	116	122	129	129	131

3 Years



5 Years

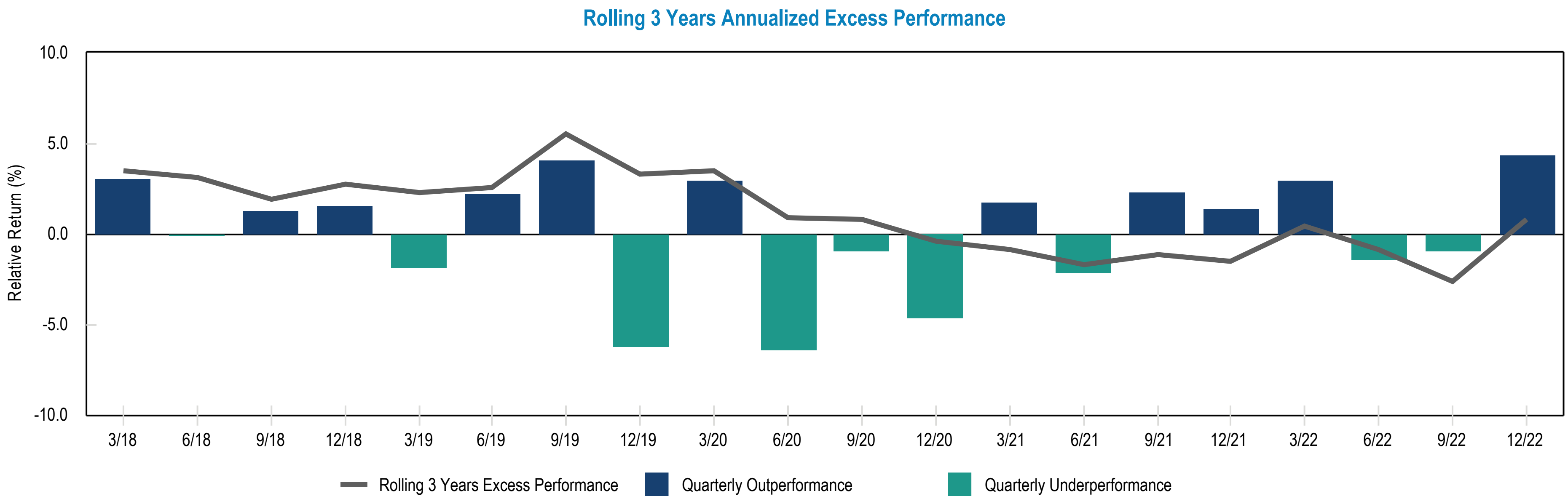


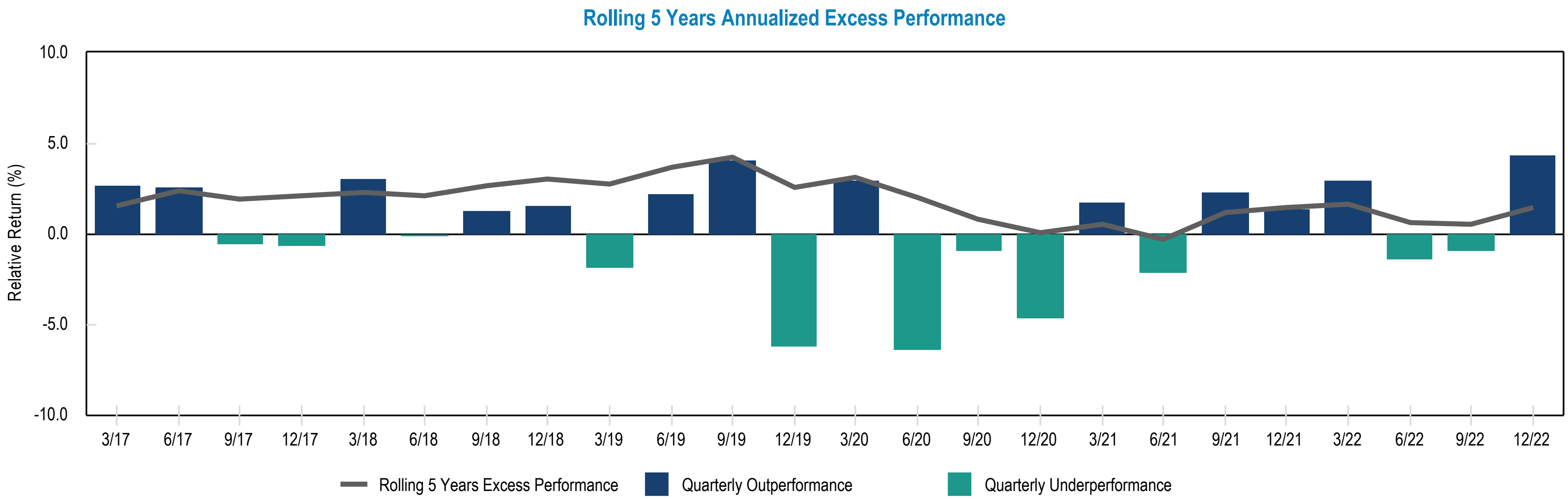
3 Years

	Return	Standard Deviation	Sharpe Ratio
William Blair SMID Cap Growth	3.67	23.83	0.24
Russell 2500 Growth Index	2.88	25.18	0.21

5 Years

	Return	Standard Deviation	Sharpe Ratio
William Blair SMID Cap Growth	7.50	21.39	0.39
Russell 2500 Growth Index	5.97	22.95	0.31

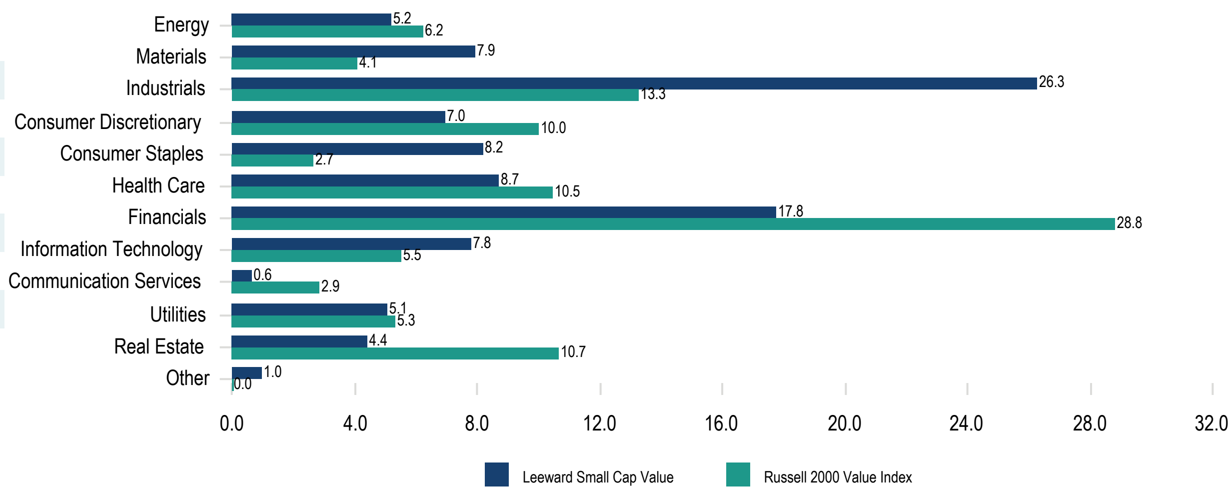

Rolling 3 Years Annualized Excess Performance
Relative Return (%)
10.0
5.0
0.0
-5.0
-10.0
3/18
6/18
9/18
12/18
3/19
6/19
9/19
12/19
3/20
6/20
9/20
12/20
3/21
6/21
9/21
12/21
3/22
6/22
9/22
12/22
Rolling 3 Years Excess Performance
Quarterly Outperformance
Quarterly Underperformance


Rolling 5 Years Annualized Excess Performance
Relative Return (%)
10.0
5.0
0.0
-5.0
-10.0
3/17
6/17
9/17
12/17
3/18
6/18
9/18
12/18
3/19
6/19
9/19
12/19
3/20
6/20
9/20
12/20
3/21
6/21
9/21
12/21
3/22
6/22
9/22
12/22
Rolling 5 Years Excess Performance
Quarterly Outperformance
Quarterly Underperformance

Characteristics

	Portfolio	Benchmark
Number of Stocks	87	1,383
Wtd. Avg. Mkt. Cap $B	4.2	2.4
Median Mkt. Cap $B	3.6	0.8
Price/Earnings ratio	14.46	10.07
Price/Book ratio	2.13	1.59
Return on Equity (%)	4.92	0.96
Current Yield (%)	1.55	2.26
Beta (5 Years, Monthly)	0.92	1.00
R-Squared (5 Years, Monthly)	0.96	1.00

Sector Allocation (%)



Largest Equity Holdings

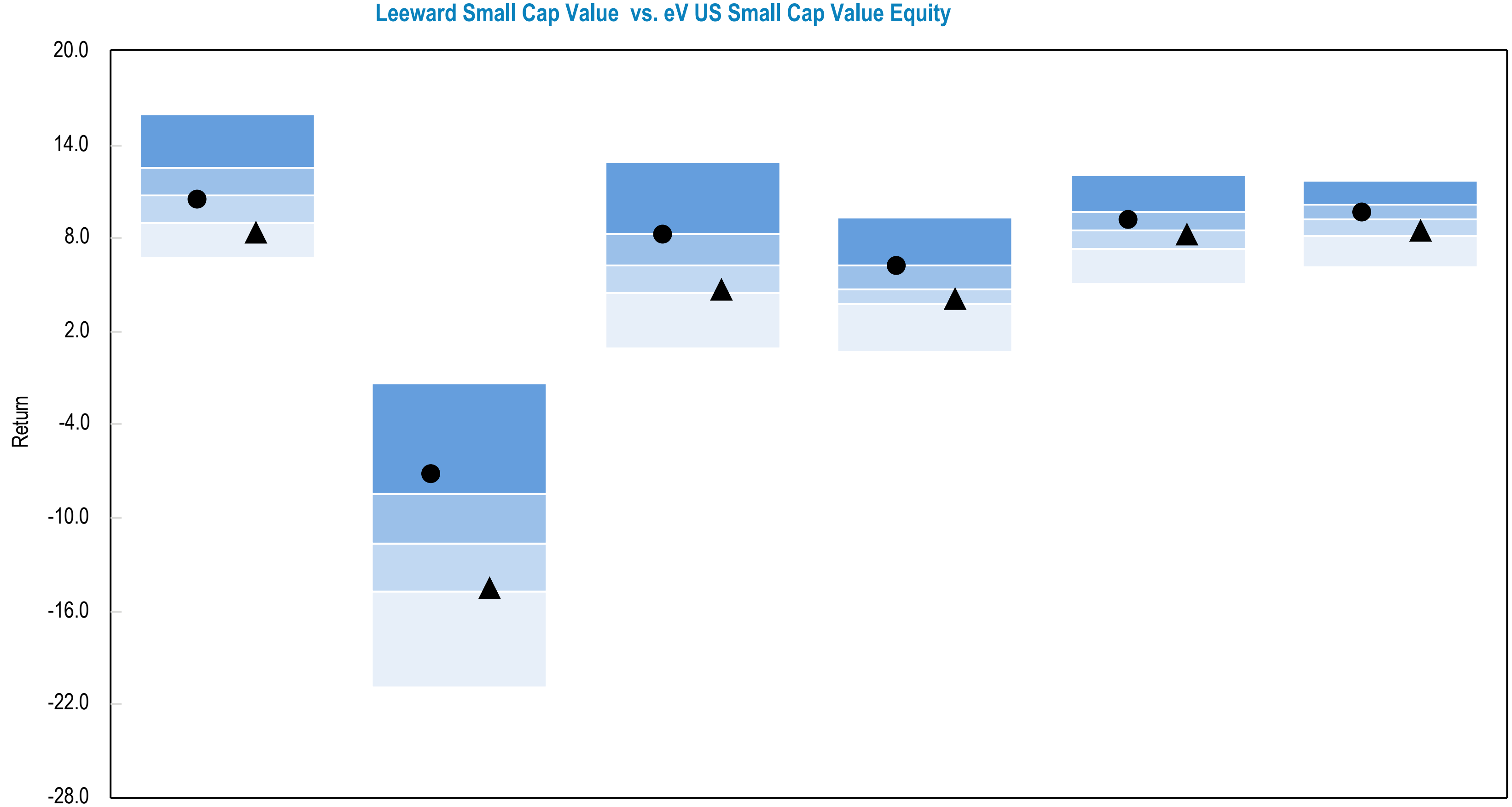
	Wgt (%)	Return (%)
Huron Consulting Group Inc	2.57	9.59
Prestige Consumer Healthcare Inc	2.57	25.63
First Interstate BancSystem Inc	2.23	-3.22
Regal Rexnord Corporation	2.08	-14.27
Altra Industrial Motion Corp	2.05	77.99
Wintrust Financial Corp.	2.04	4.02
Portland General Electric Co	2.02	13.79
Clean Harbors Inc	1.93	3.76
Encompass Health Corp	1.89	32.57
TreeHouse Foods Inc	1.86	16.41

Top Contributors

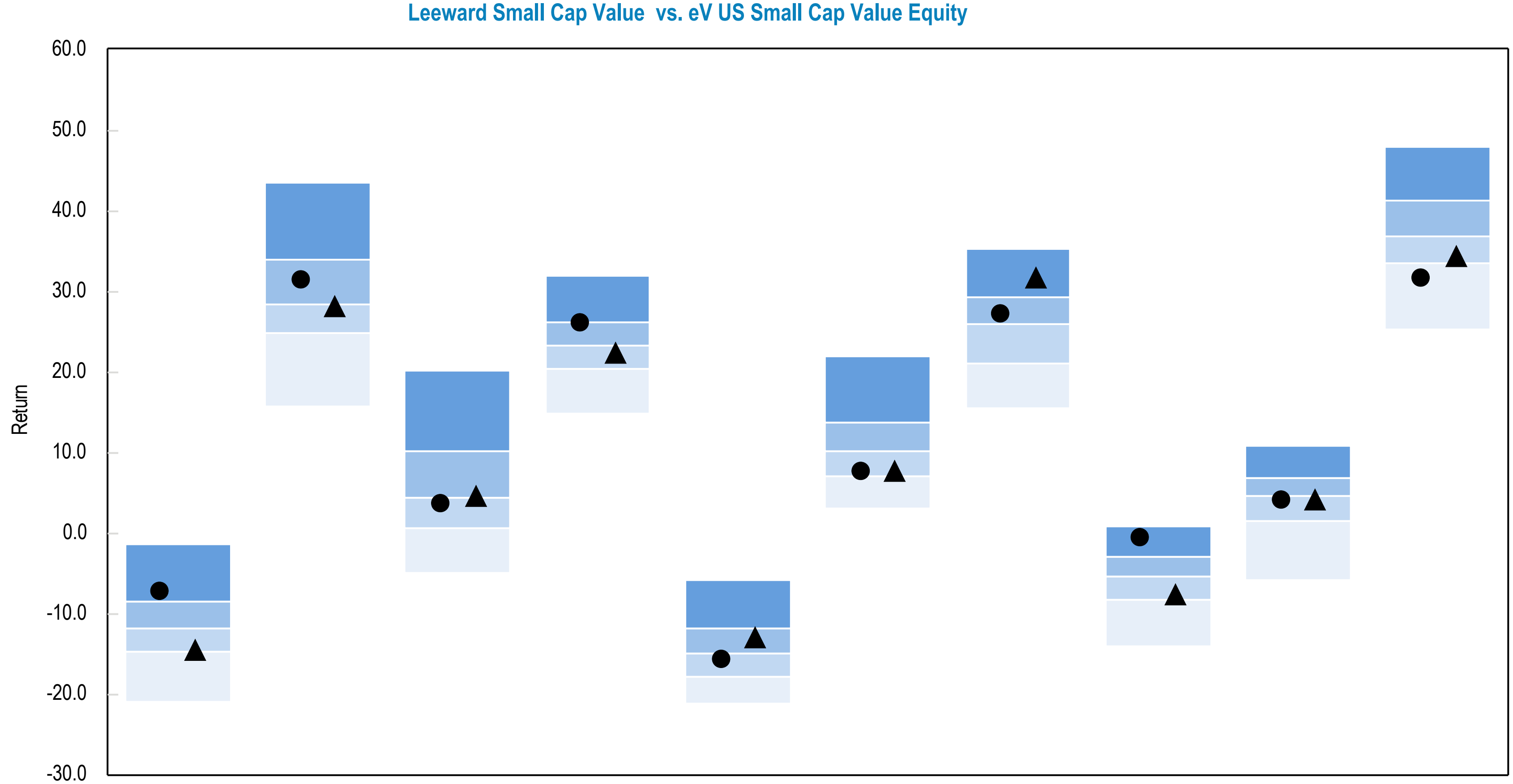
	Wgt (%)	Return (%)	Contr (%)
Altra Industrial Motion Corp	1.27	77.99	0.99
Prestige Consumer Healthcare Inc	2.25	25.63	0.58
Encompass Health Corp	1.57	32.57	0.51
Championx Corp	0.94	48.64	0.46
Integra LifeSciences Holdings Corp	1.30	32.37	0.42
O I Glass Inc	1.48	27.95	0.41
Ingredion Inc	1.60	23.56	0.38
EnPro Industries Inc.	1.28	28.21	0.36
Valmont Industries Inc	1.52	23.30	0.36
EMCOR Group Inc.	1.21	28.41	0.34

Bottom Contributors

	Wgt (%)	Return (%)	Contr (%)
Livent Corp	1.68	-35.17	-0.59
Regal Rexnord Corporation	2.68	-14.27	-0.38
Viavi Solutions Inc	1.56	-19.46	-0.30
Lumentum Holdings Inc	1.22	-23.92	-0.29
Western Alliance Bancorporation	1.99	-8.93	-0.18
Pinnacle Financial Partners Inc	1.88	-9.25	-0.17
National Storage Affiliates Trust	1.34	-11.88	-0.16
Amedisys Inc	1.16	-13.69	-0.16
Bank Butterfield & Son Ltd	1.66	-6.90	-0.11
First Interstate BancSystem Inc	2.56	-3.22	-0.08

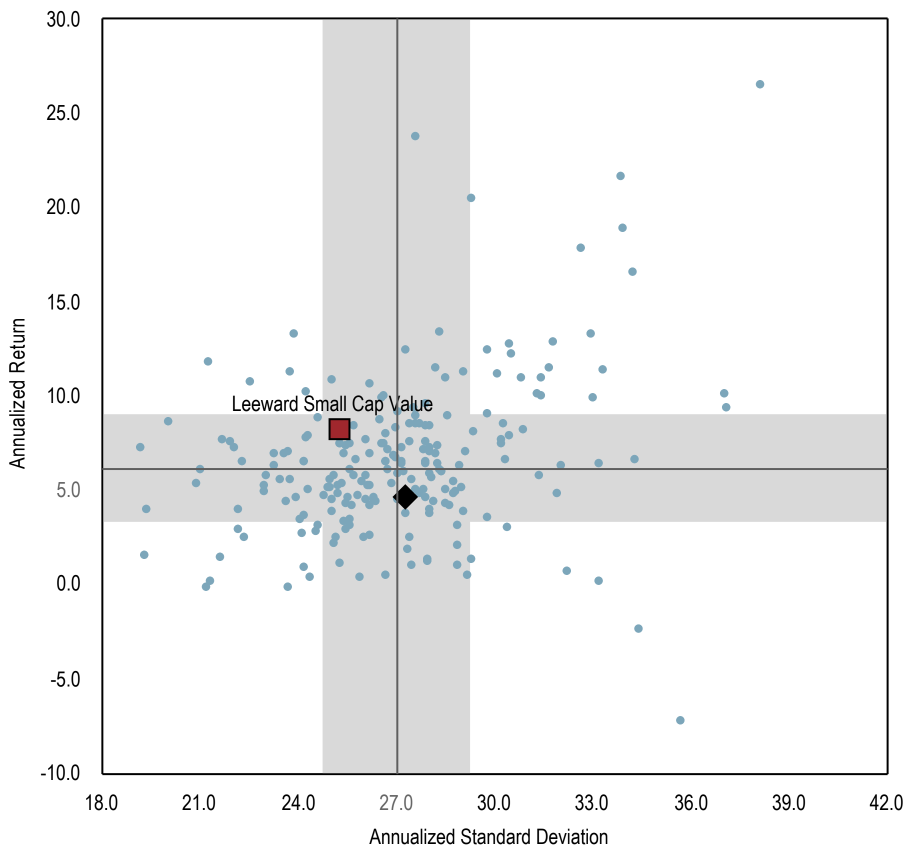


	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● Leeward Small Cap Value	10.47 (55)	-7.09 (19)	8.26 (25)	6.26 (26)	9.24 (31)	9.75 (36)
▲ Russell 2000 Value Index	8.42 (79)	-14.48 (73)	4.70 (72)	4.13 (67)	8.23 (58)	8.48 (67)
5th Percentile	15.96	-1.29	12.91	9.31	12.02	11.73
1st Quartile	12.58	-8.40	8.25	6.27	9.67	10.21
Median	10.77	-11.69	6.20	4.70	8.48	9.26
3rd Quartile	8.96	-14.72	4.48	3.71	7.29	8.18
95th Percentile	6.70	-20.94	0.96	0.72	5.10	6.14
Population	222	220	216	207	199	183

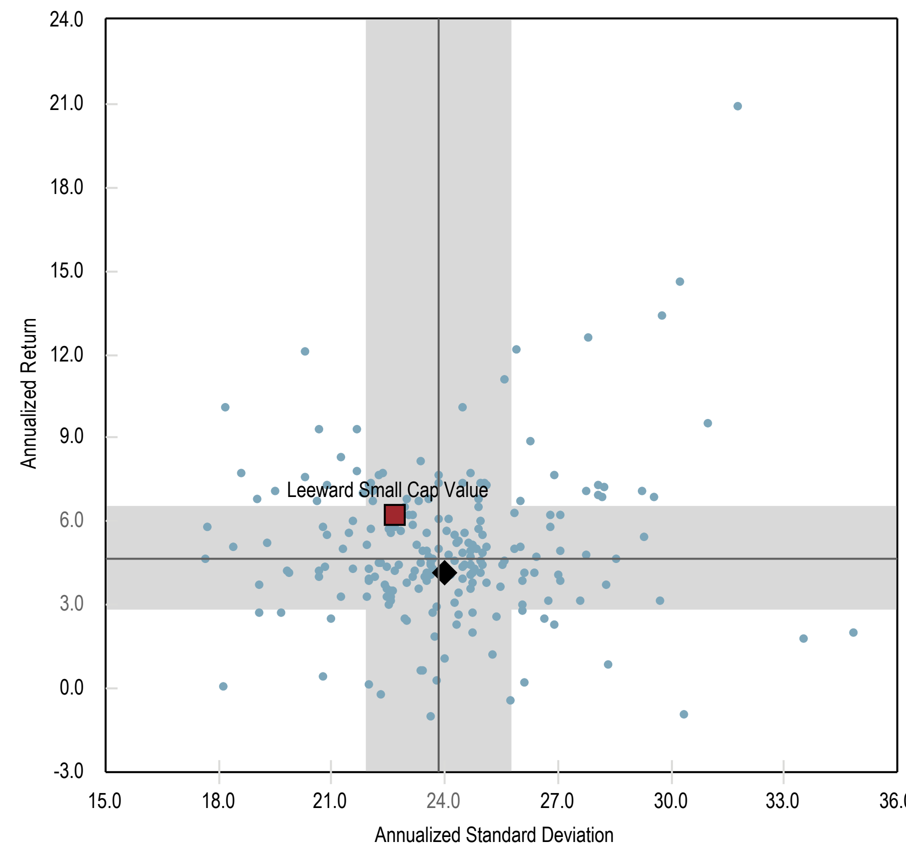


	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● Leeward Small Cap Value	-7.09 (19)	31.60 (37)	3.78 (56)	26.32 (24)	-15.49 (57)	7.67 (71)	27.28 (39)	-0.52 (10)	4.12 (58)	31.83 (86)
▲ Russell 2000 Value Index	-14.48 (73)	28.27 (52)	4.63 (50)	22.39 (60)	-12.86 (34)	7.84 (70)	31.74 (14)	-7.47 (72)	4.22 (56)	34.52 (72)
5th Percentile	-1.29	43.58	20.22	31.95	-5.68	22.06	35.41	0.87	10.87	47.92
1st Quartile	-8.40	33.93	10.18	26.25	-11.75	13.83	29.40	-2.88	6.85	41.25
Median	-11.69	28.50	4.45	23.37	-14.89	10.21	26.07	-5.26	4.73	36.92
3rd Quartile	-14.72	24.93	0.70	20.53	-17.75	7.15	21.11	-8.26	1.55	33.60
95th Percentile	-20.94	15.87	-4.86	14.91	-21.16	3.12	15.55	-14.02	-5.69	25.23
Population	220	233	243	248	255	265	264	267	273	269

3 Years



5 Years



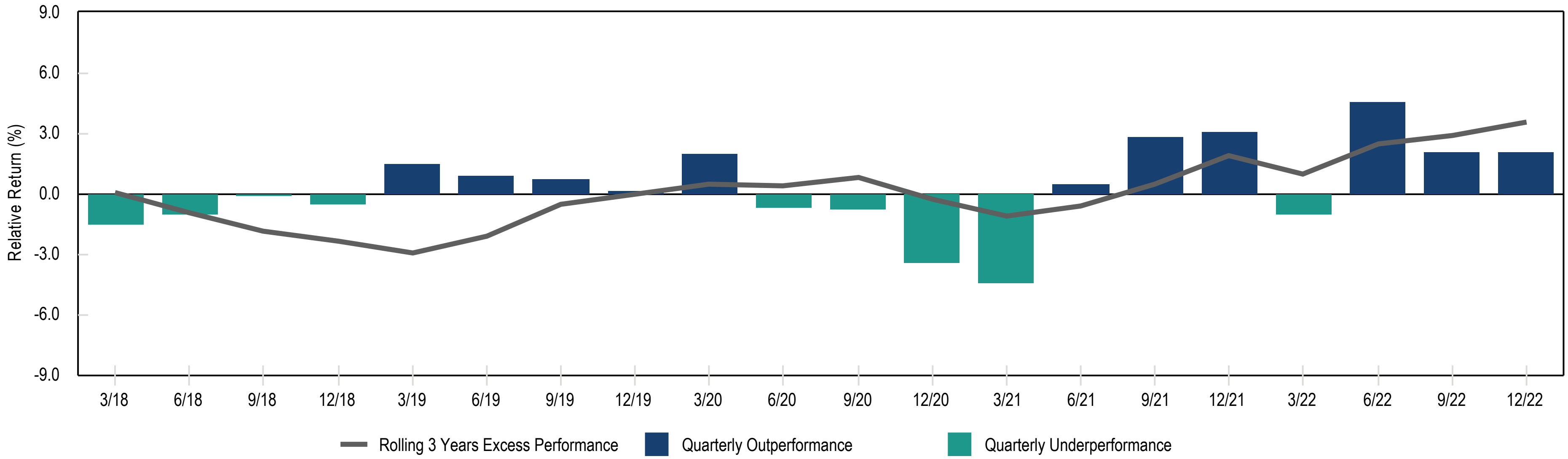
3 Years

	Return	Standard Deviation	Sharpe Ratio
Leeward Small Cap Value	8.26	25.25	0.41
Russell 2000 Value Index	4.70	27.27	0.28

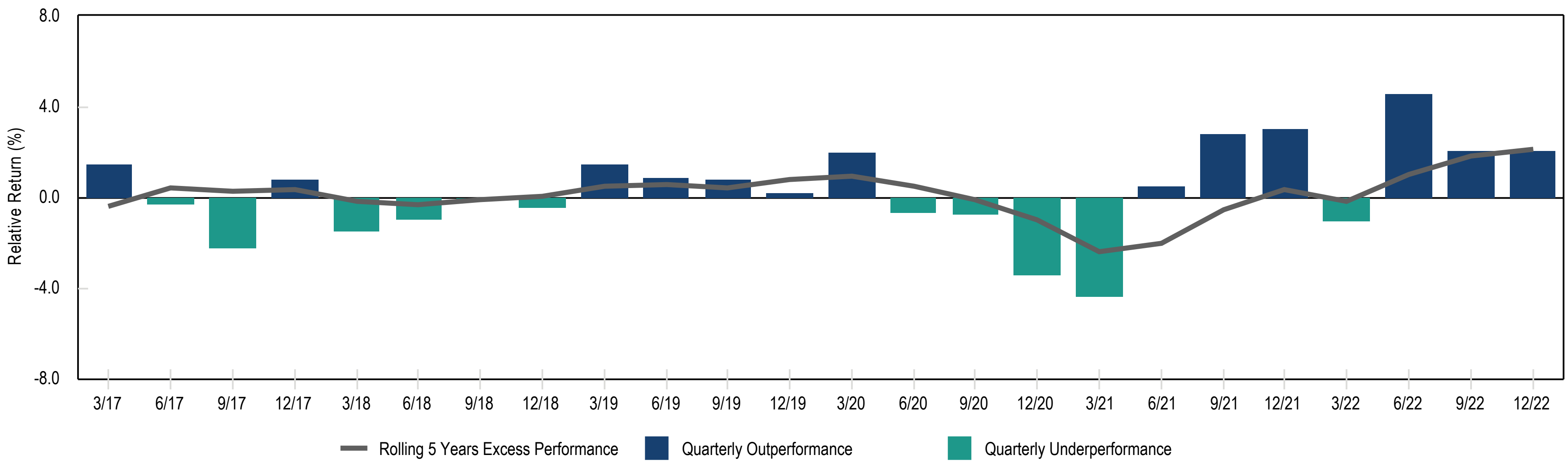
5 Years

	Return	Standard Deviation	Sharpe Ratio
Leeward Small Cap Value	6.26	22.69	0.33
Russell 2000 Value Index	4.13	24.01	0.24

Rolling 3 Years Annualized Excess Performance

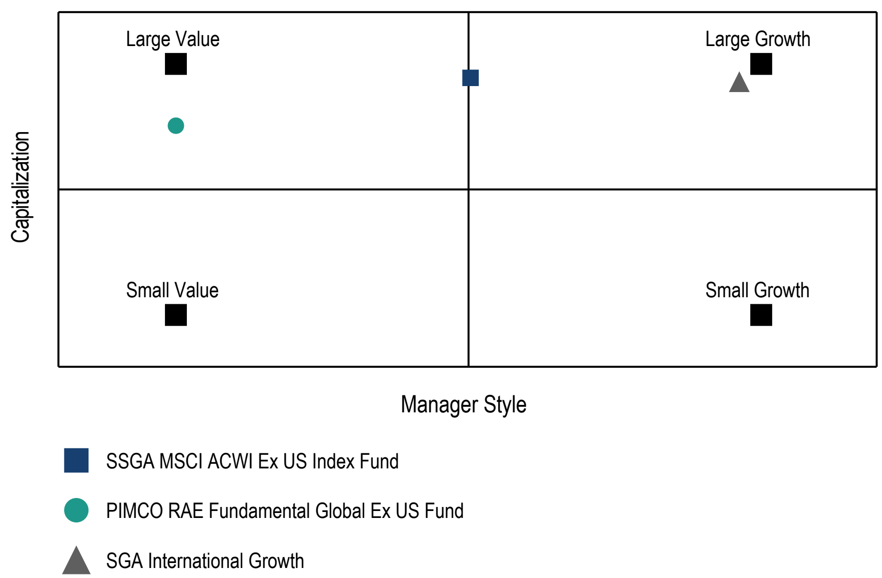


Rolling 5 Years Annualized Excess Performance

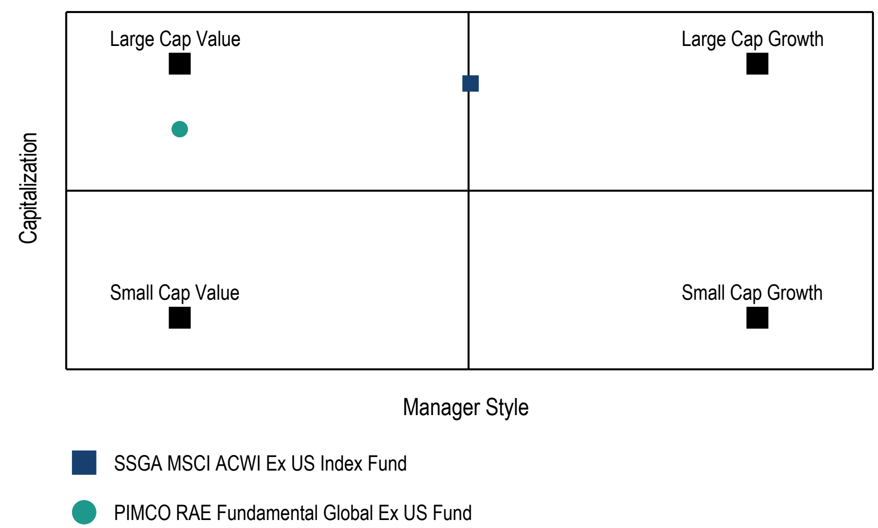


	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018
Total International Equity	**268,760,825**	**100.0**	**14.5**	**-14.2**	**2.2**	**2.3**	**4.7**	**9.6**	**13.4**	**22.7**	**-14.5**
MSCI AC World ex USA Index			*14.4*	*-15.6*	*0.5*	*1.4*	*4.3*	*8.3*	*11.1*	*22.1*	*-13.8*
SSGA MSCI ACWI Ex US Index Fund	91,969,081	34.2	14.2	-15.8	0.3	1.1	4.0	7.9	10.9	21.8	-14.0
MSCI AC World ex USA (Net)			*14.3*	*-16.0*	*0.1*	*0.9*	*3.8*	*7.8*	*10.7*	*21.5*	*-14.2*
eV ACWI ex-US All Cap Equity Rank			*53*	*36*	*62*	*58*	*80*	*63*	*66*	*72*	*40*
PIMCO RAE Fundamental Global Ex US Fund	94,081,720	35.0	17.3	-8.9	1.3	0.5	4.2	12.3	1.7	16.1	-15.1
MSCI AC World ex USA Value (Net)			*15.7*	*-8.6*	*0.1*	*-0.1*	*2.7*	*10.5*	*-0.8*	*15.7*	*-14.0*
eV ACWI ex-US Value Equity Rank			*45*	*36*	*44*	*48*	*45*	*41*	*53*	*69*	*41*
SGA International Growth	82,710,024	30.8	11.9	-17.8	4.2	-	-	9.1	26.0	30.5	-
MSCI AC World ex USA Growth (Net)			*12.9*	*-23.1*	*-0.4*	*1.5*	*4.7*	*5.1*	*22.2*	*27.3*	*-14.4*
eV ACWI ex-US Growth Equity Rank			*70*	*13*	*12*	*-*	*-*	*46*	*50*	*40*	*-*

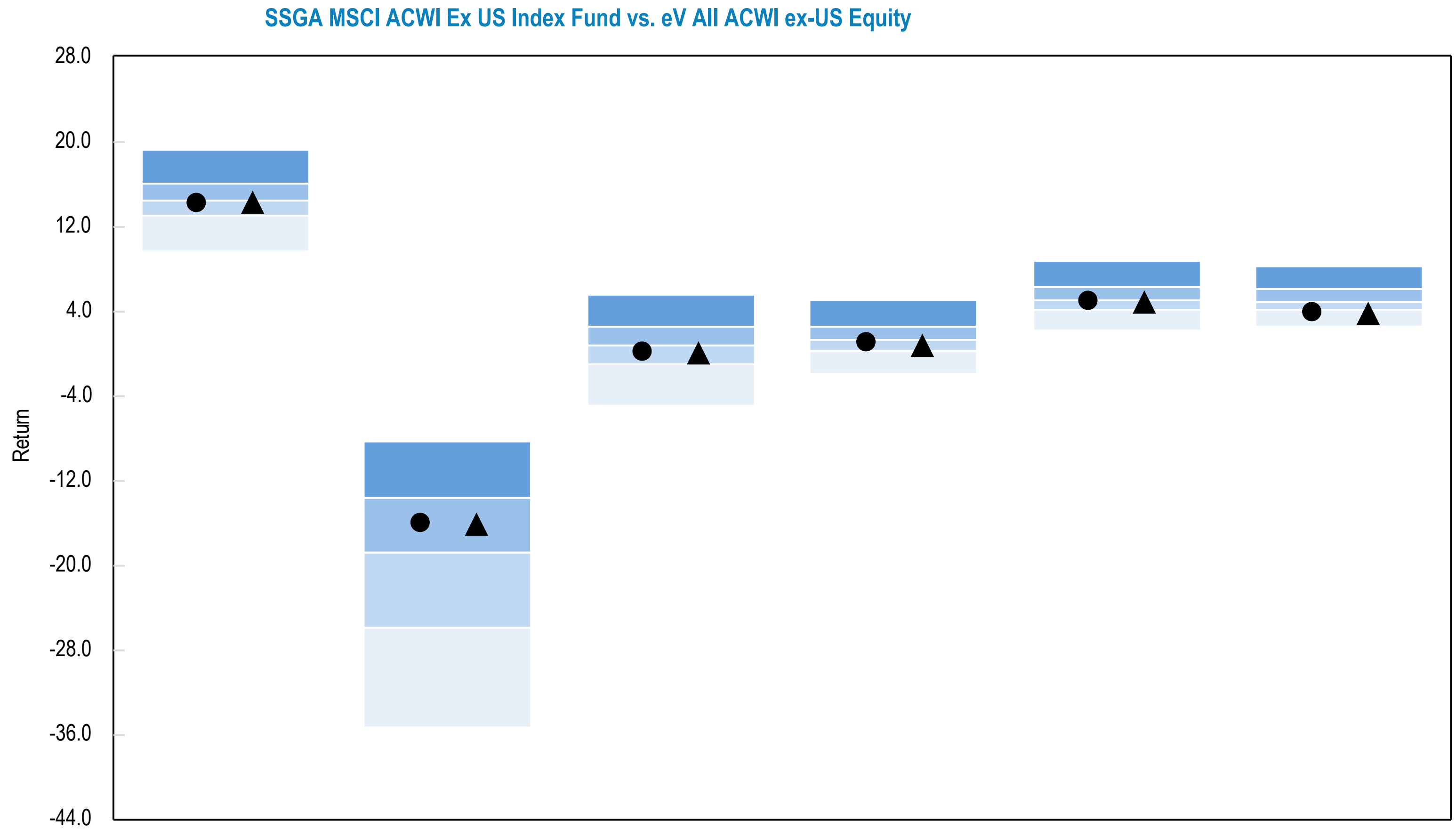
International Equity Effective Style Map
3 Years



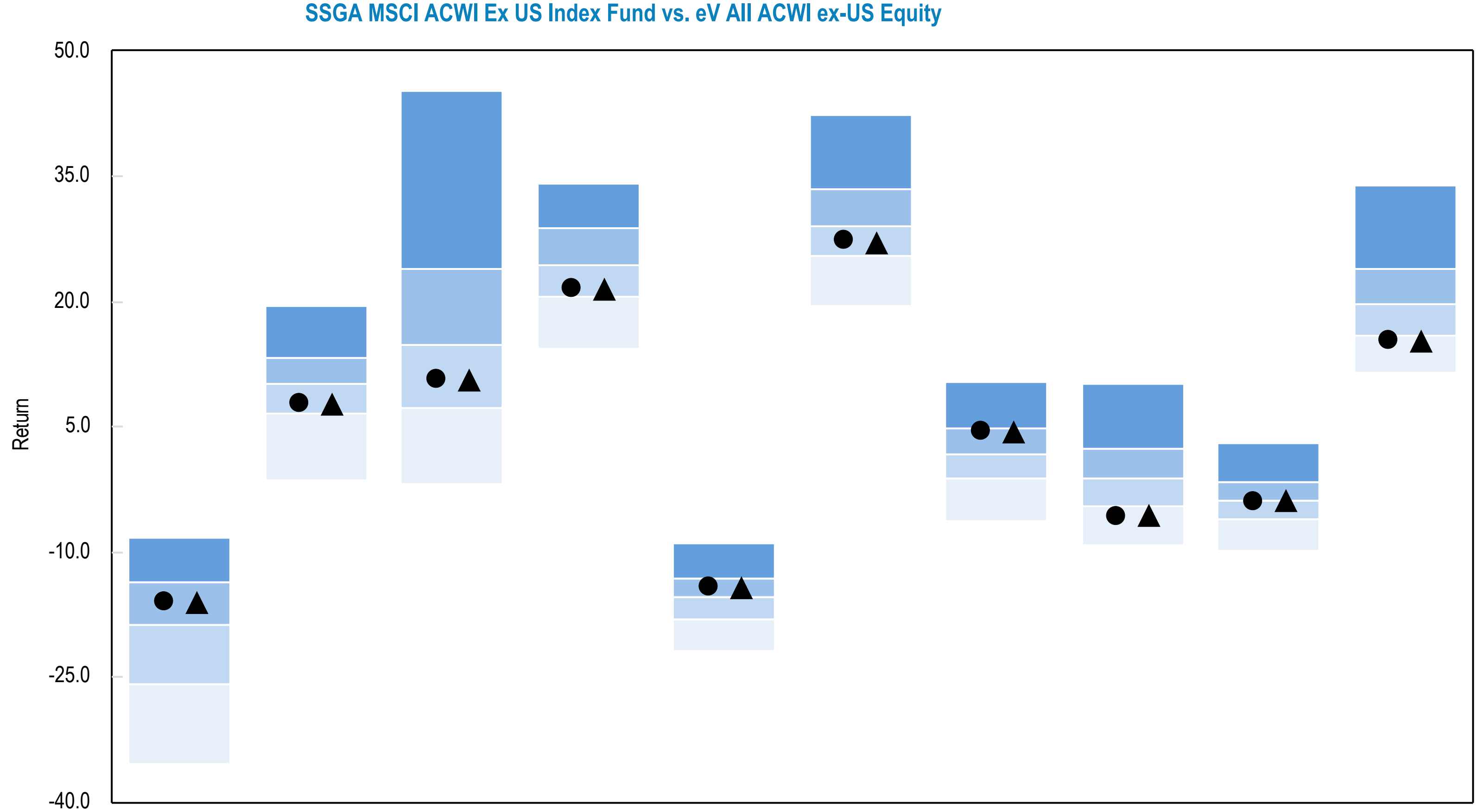
International Equity Effective Style Map
5 Years



Research Affiliates converted to PIMCO RAE Fundamental Global Ex US Fund on 6/5/15 (performance prior to this date represents previously held Enhanced RAFI Global ex US).

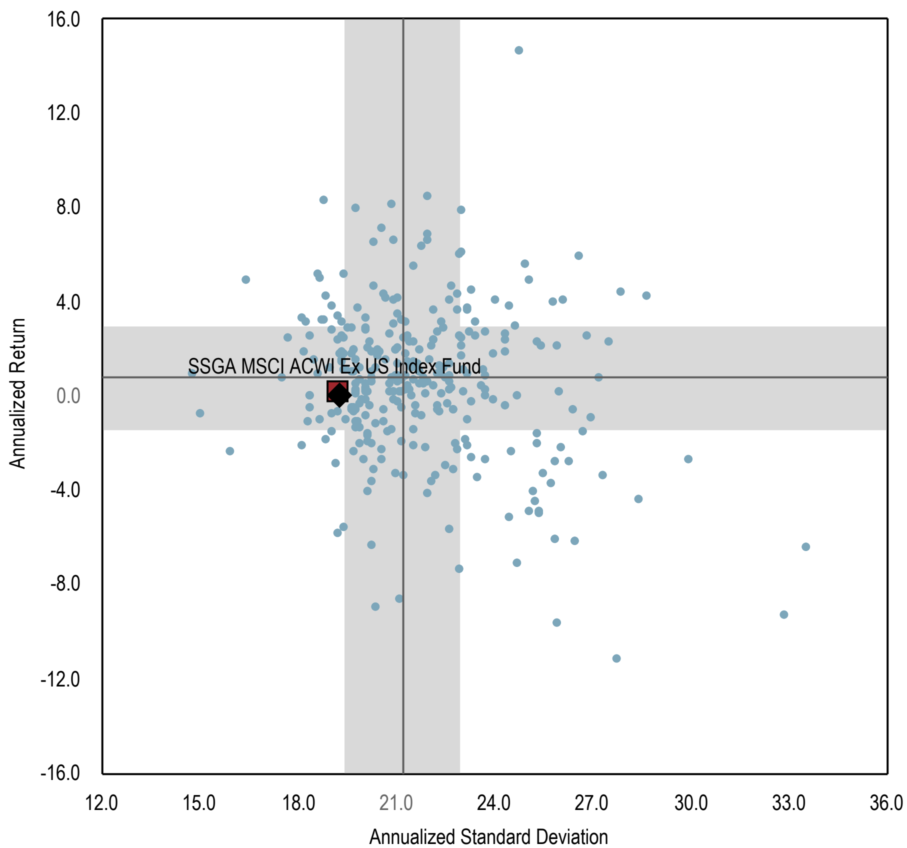


	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● SSGA MSCI ACWI Ex US Index Fund	14.23 (58)	-15.84 (35)	0.26 (60)	1.07 (58)	5.01 (53)	3.99 (80)
▲ MSCI AC World ex USA (Net)	14.28 (56)	-16.00 (36)	0.07 (64)	0.88 (64)	4.80 (61)	3.80 (83)
5th Percentile	19.24	-8.24	5.59	5.15	8.76	8.34
1st Quartile	16.15	-13.65	2.54	2.62	6.27	6.20
Median	14.51	-18.72	0.81	1.38	5.12	4.96
3rd Quartile	13.07	-25.85	-0.96	0.18	4.25	4.13
95th Percentile	9.67	-35.33	-4.87	-1.93	2.22	2.60
Population	334	331	313	280	255	208

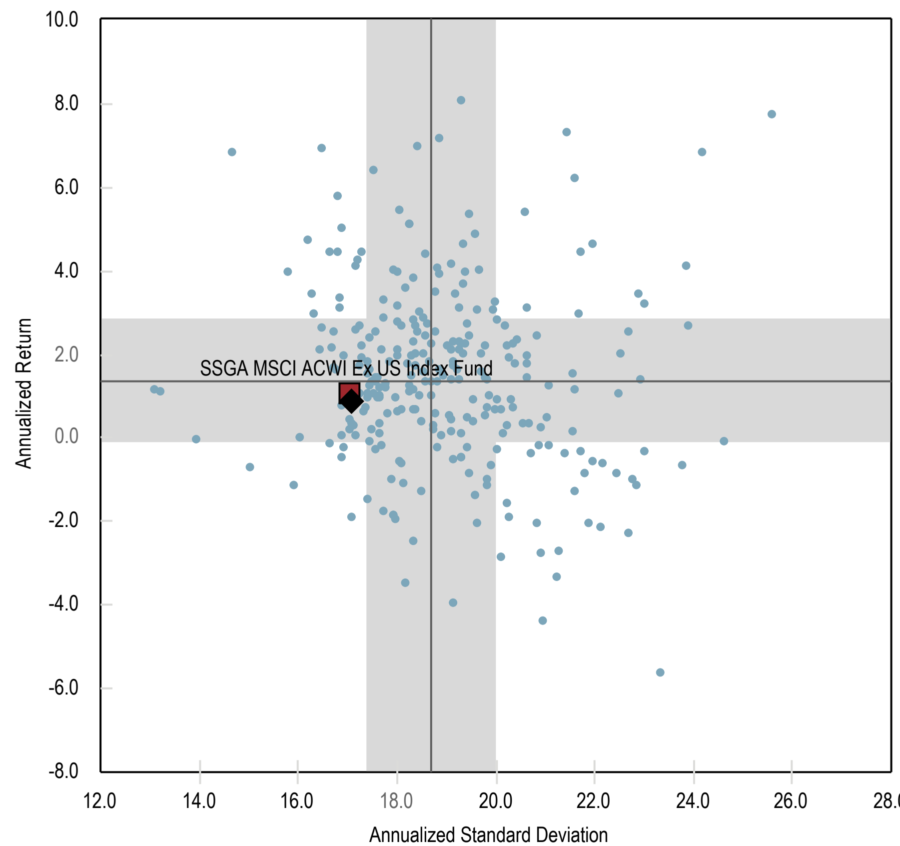


	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● SSGA MSCI ACWI Ex US Index Fund	-15.84 (35)	7.95 (66)	10.93 (62)	21.78 (66)	-14.04 (37)	27.46 (63)	4.69 (28)	-5.54 (82)	-3.68 (49)	15.50 (78)
▲ MSCI AC World ex USA (Net)	-16.00 (36)	7.82 (66)	10.65 (63)	21.51 (68)	-14.20 (39)	27.19 (65)	4.50 (30)	-5.66 (83)	-3.87 (51)	15.29 (80)
5th Percentile	-8.24	19.61	45.43	34.30	-8.85	42.55	10.40	10.13	3.20	33.89
1st Quartile	-13.65	13.42	23.93	28.89	-13.11	33.58	4.98	2.49	-1.49	24.03
Median	-18.72	10.14	14.87	24.48	-15.33	29.13	1.72	-1.04	-3.78	19.69
3rd Quartile	-25.85	6.69	7.44	20.65	-17.98	25.64	-1.19	-4.44	-5.93	16.04
95th Percentile	-35.33	-1.37	-1.74	14.46	-21.83	19.52	-6.26	-9.10	-9.70	11.48
Population	331	359	362	355	347	344	337	320	306	291

3 Years



5 Years



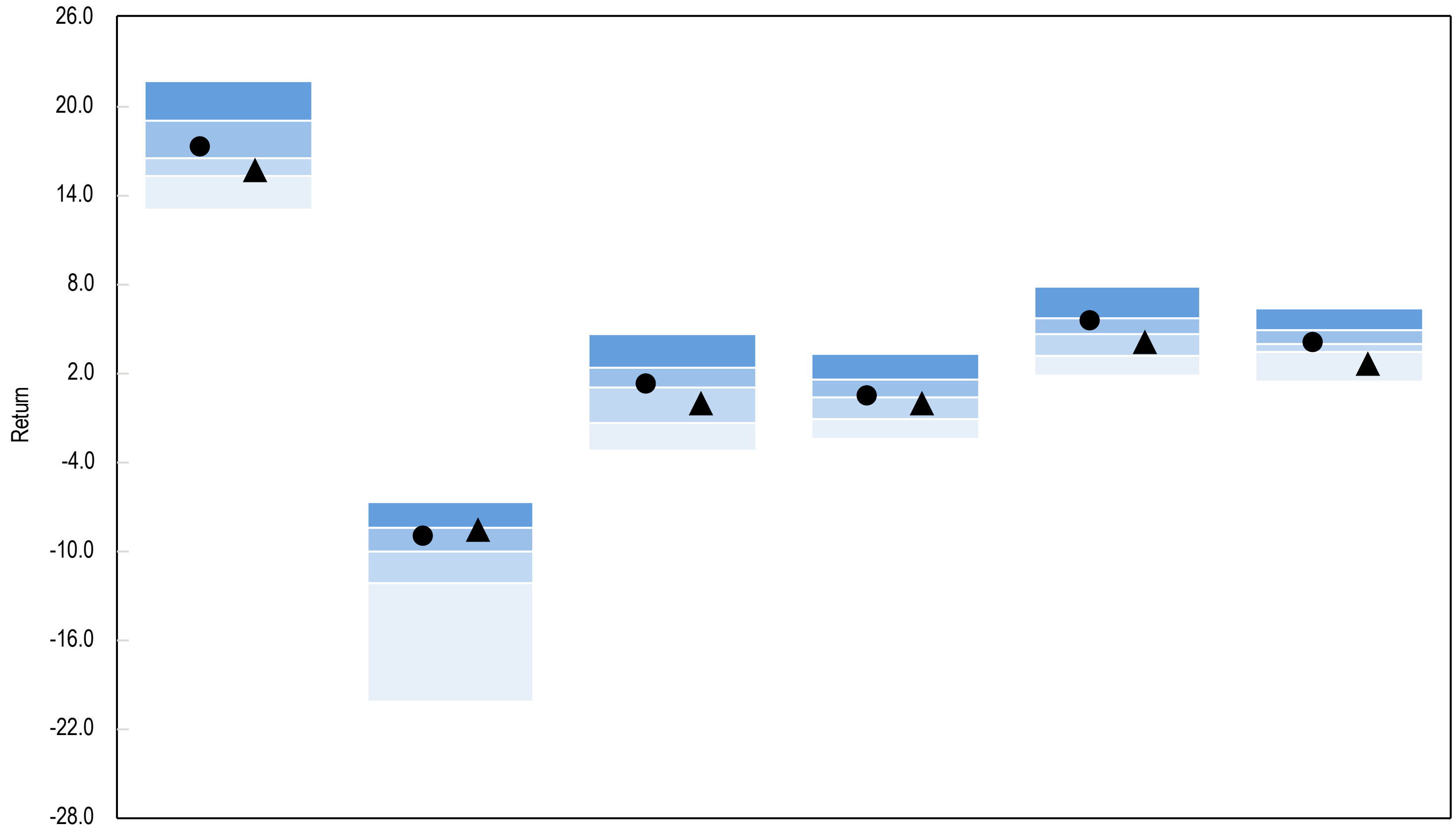
3 Years

	Return	Standard Deviation	Sharpe Ratio
SSGA MSCI ACWI Ex US Index Fund	0.26	19.20	0.07
MSCI AC World ex USA (Net)	0.07	19.26	0.06

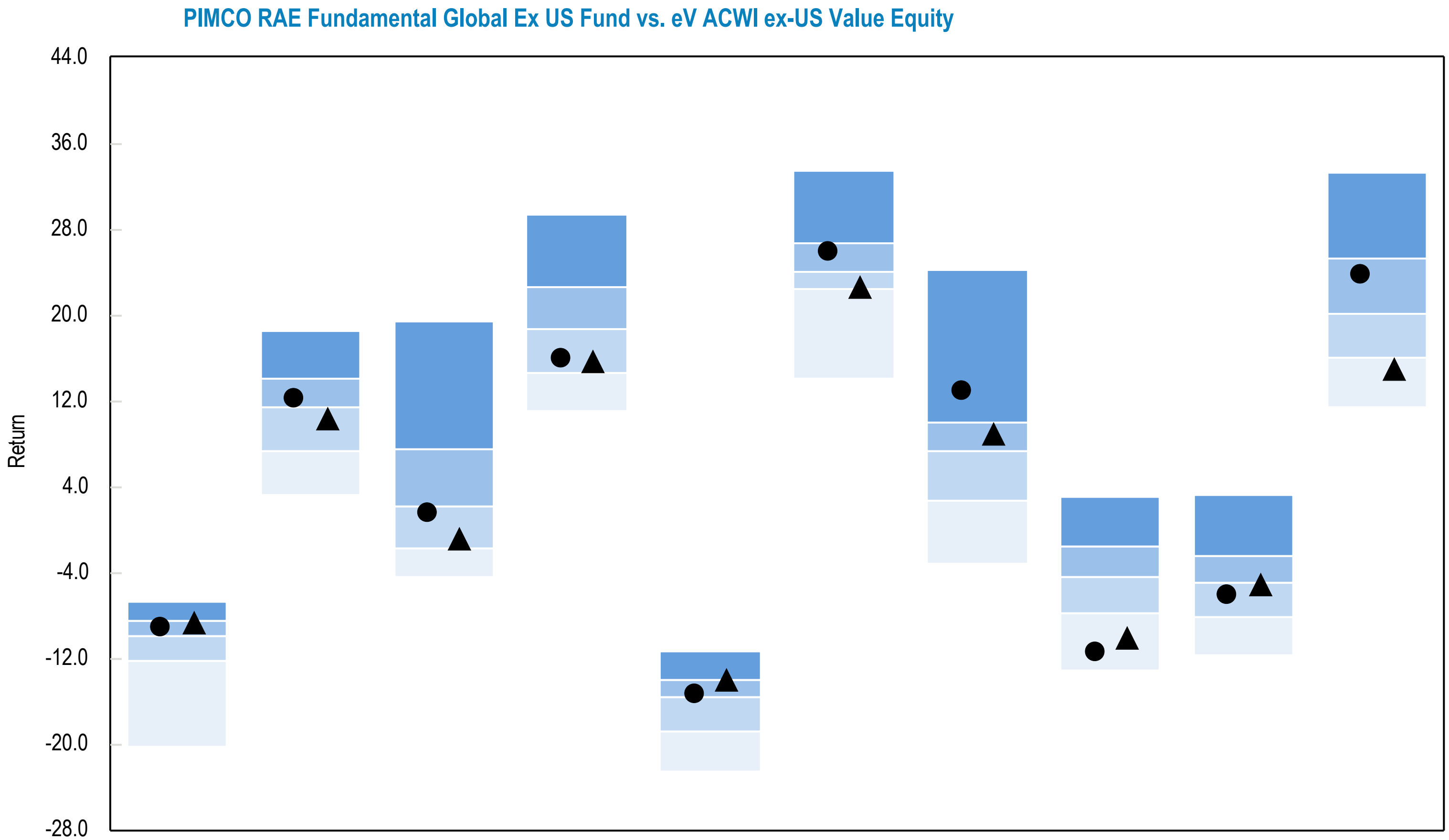
5 Years

	Return	Standard Deviation	Sharpe Ratio
SSGA MSCI ACWI Ex US Index Fund	1.07	17.04	0.07
MSCI AC World ex USA (Net)	0.88	17.08	0.06

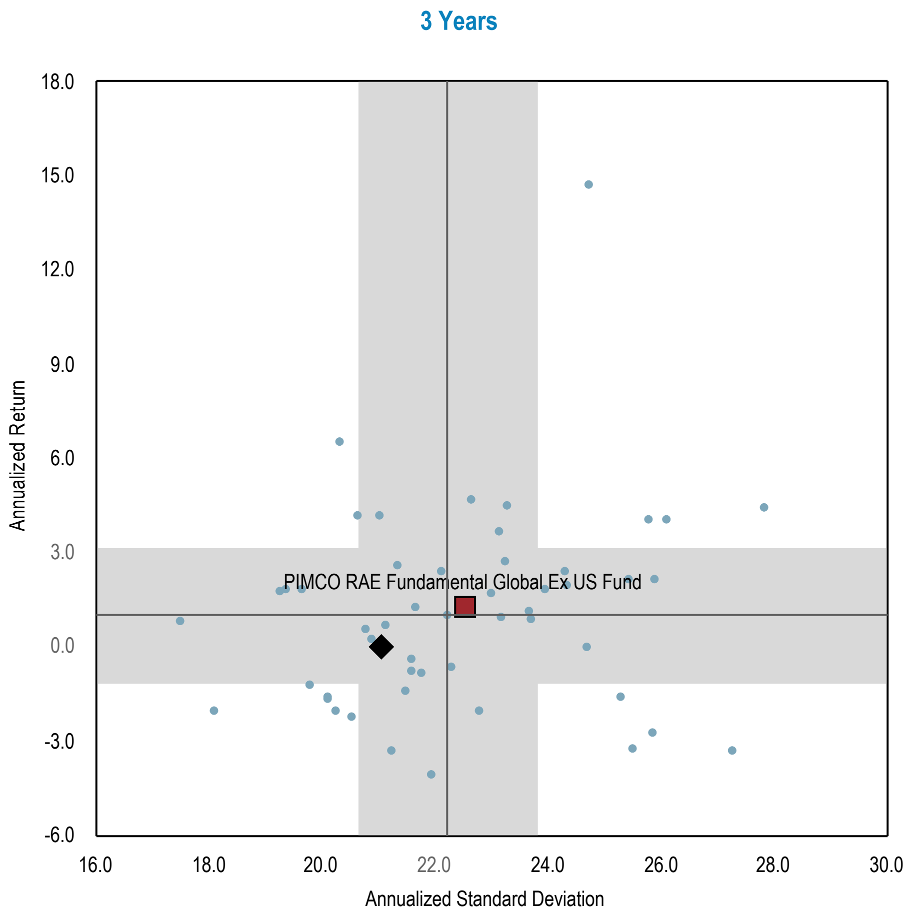
PIMCO RAE Fundamental Global Ex US Fund vs. eV ACWI ex-US Value Equity

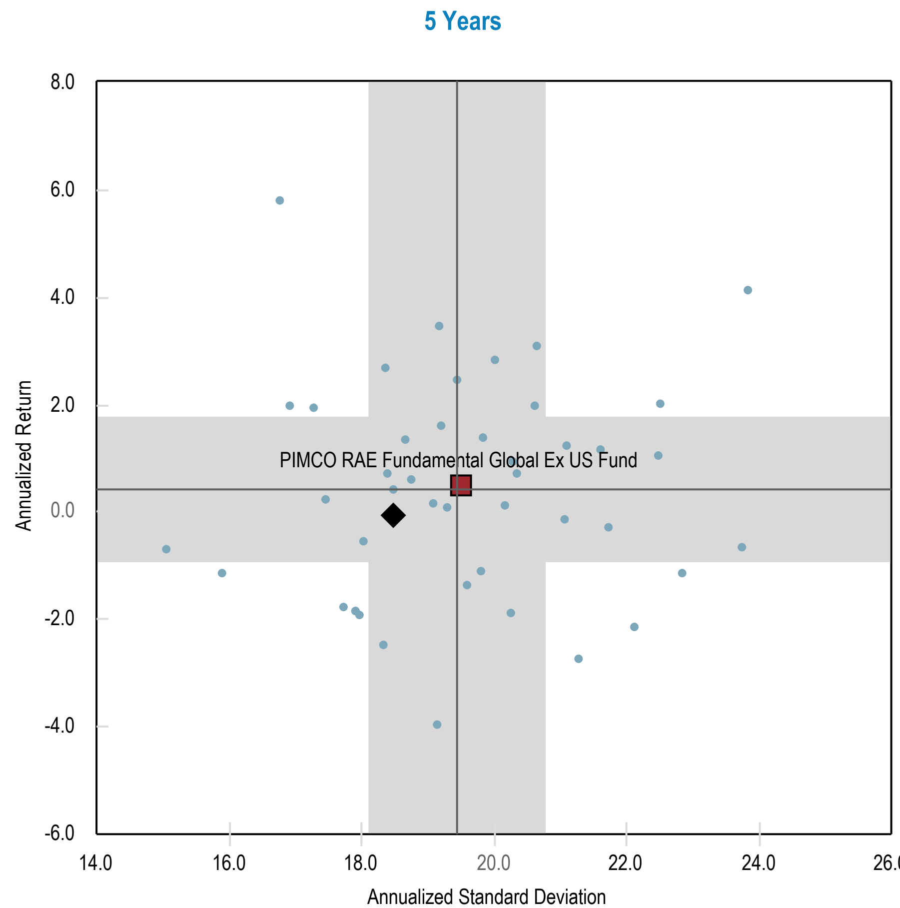


	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● PIMCO RAE Fundamental Global Ex US Fund	17.33 (45)	-8.91 (36)	1.32 (44)	0.49 (48)	5.54 (28)	4.19 (45)
▲ MSCI AC World ex USA Value (Net)	15.70 (70)	-8.59 (28)	0.06 (64)	-0.05 (61)	4.19 (62)	2.72 (83)
5th Percentile	21.75	-6.62	4.63	3.38	7.89	6.34
1st Quartile	19.05	-8.43	2.45	1.63	5.67	4.95
Median	16.56	-9.94	1.04	0.42	4.63	4.04
3rd Quartile	15.30	-12.16	-1.27	-1.13	3.20	3.45
95th Percentile	13.04	-20.12	-3.24	-2.39	1.87	1.43
Population	54	54	51	45	41	34



	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● PIMCO RAE Fundamental Global Ex US Fund	-8.91 (36)	12.30 (41)	1.69 (53)	16.05 (69)	-15.12 (41)	25.99 (38)	12.99 (12)	-11.36 (88)	-5.90 (55)	23.92 (30)
▲ MSCI AC World ex USA Value (Net)	-8.59 (28)	10.46 (58)	-0.77 (74)	15.72 (72)	-13.97 (27)	22.66 (70)	8.92 (34)	-10.06 (84)	-5.10 (53)	15.04 (82)
5th Percentile	-6.62	18.52	19.43	29.39	-11.20	33.60	24.23	3.17	3.30	33.25
1st Quartile	-8.43	14.09	7.57	22.58	-13.89	26.78	10.05	-1.56	-2.35	25.31
Median	-9.94	11.53	2.22	18.71	-15.63	24.10	7.46	-4.41	-4.80	20.11
3rd Quartile	-12.16	7.32	-1.69	14.61	-18.67	22.45	2.69	-7.78	-8.01	16.15
95th Percentile	-20.12	3.30	-4.33	11.18	-22.57	14.06	-3.03	-13.01	-11.67	11.51
Population	54	59	60	59	57	57	56	56	54	52



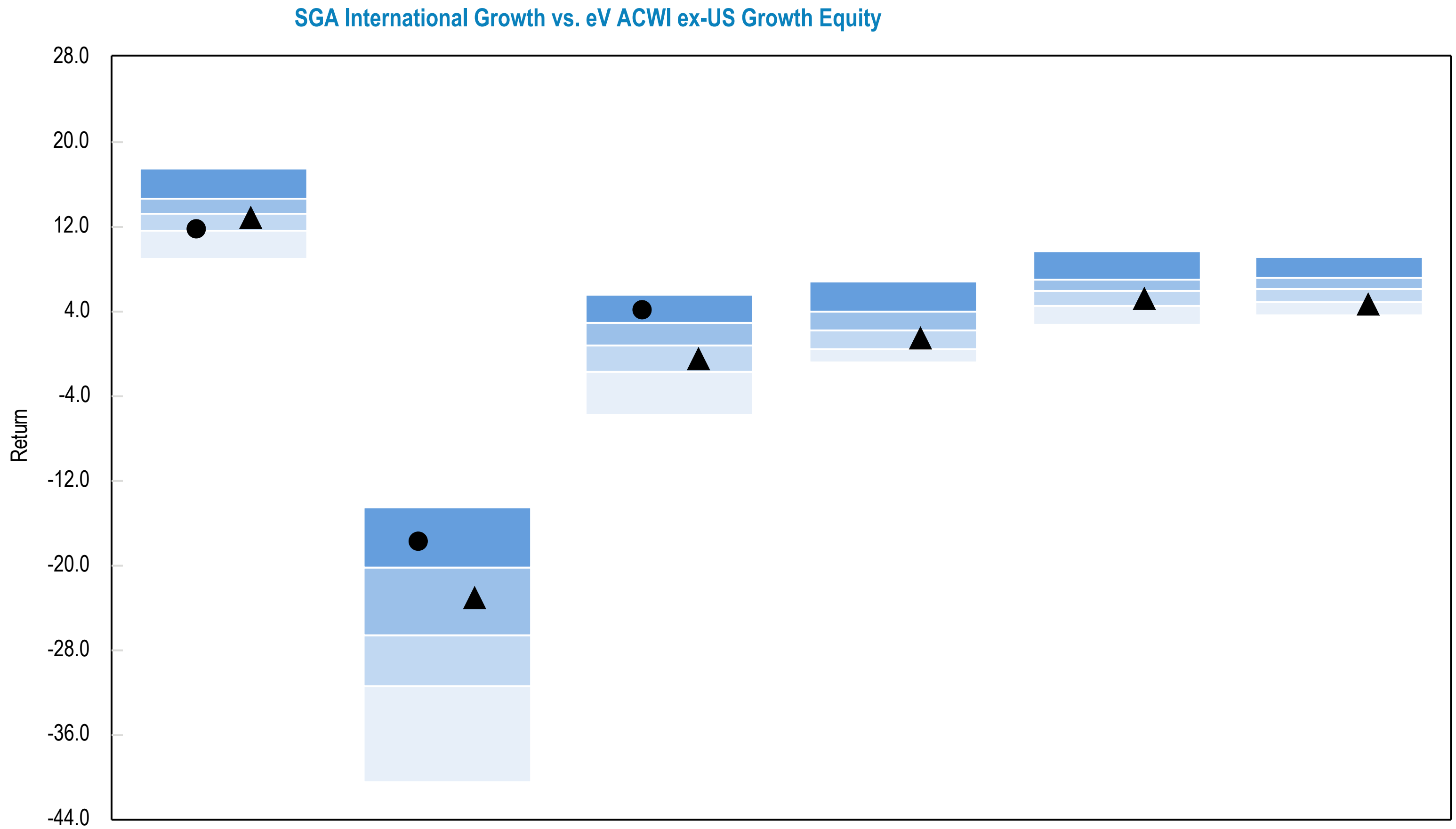


3 Years

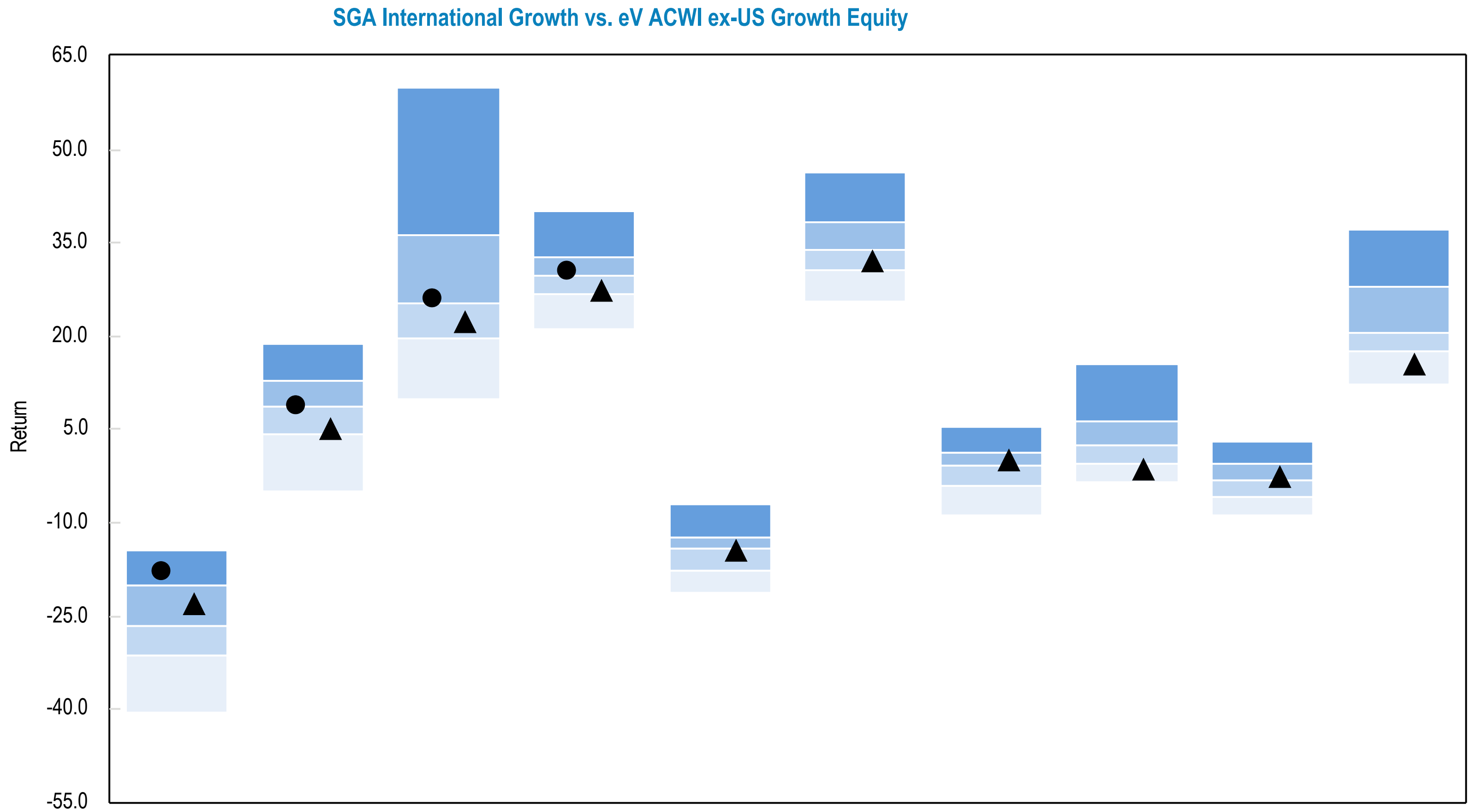
	Return	Standard Deviation	Sharpe Ratio
PIMCO RAE Fundamental Global Ex US Fund	1.32	22.52	0.14
MSCI AC World ex USA Value (Net)	0.06	21.04	0.08

5 Years

	Return	Standard Deviation	Sharpe Ratio
PIMCO RAE Fundamental Global Ex US Fund	0.49	19.49	0.06
MSCI AC World ex USA Value (Net)	-0.05	18.48	0.02

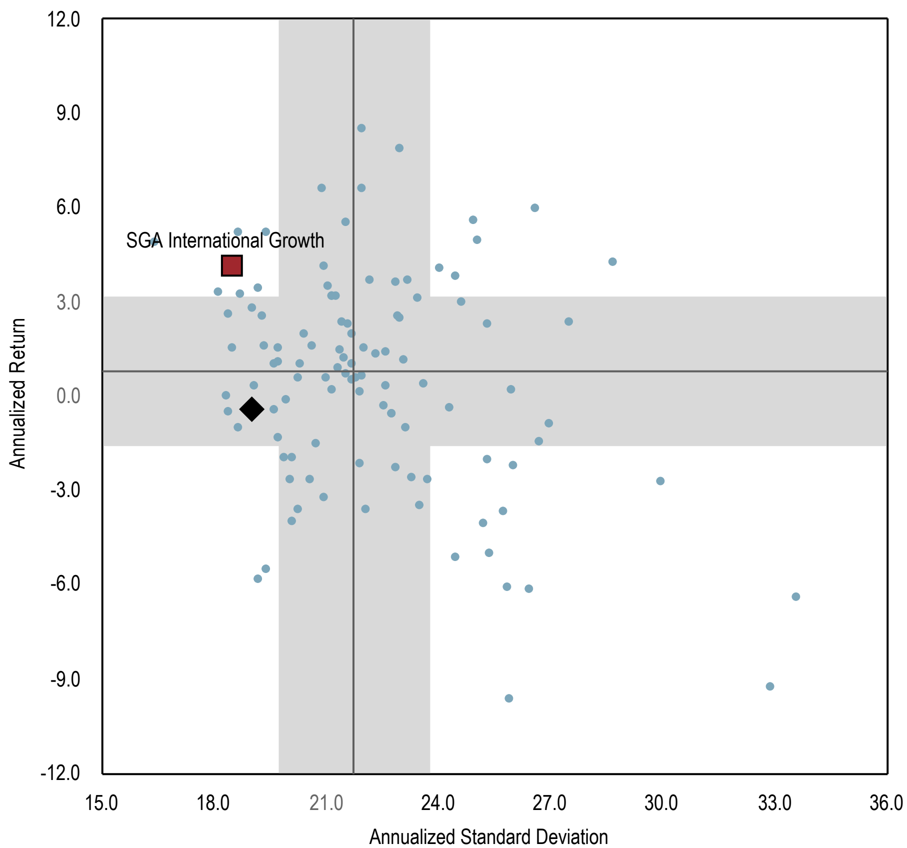


	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● SGA International Growth	11.86 (70)	-17.76 (13)	4.19 (12)	-	-	-
▲ MSCI AC World ex USA Growth (Net)	12.89 (58)	-23.05 (35)	-0.40 (66)	1.49 (64)	5.17 (65)	4.68 (85)
5th Percentile	17.46	-14.51	5.61	6.89	9.61	9.18
1st Quartile	14.63	-20.13	2.99	4.00	7.08	7.16
Median	13.24	-26.62	0.85	2.28	5.95	6.11
3rd Quartile	11.60	-31.39	-1.77	0.37	4.60	4.93
95th Percentile	8.94	-40.42	-5.70	-0.86	2.78	3.60
Population	112	112	106	94	87	67

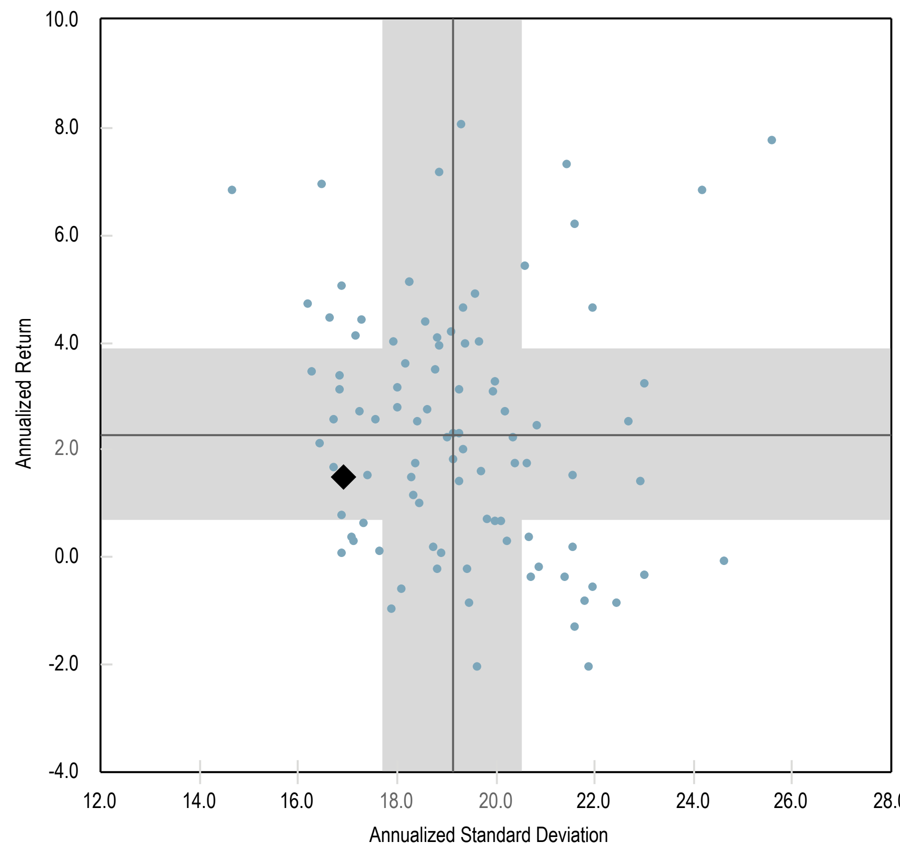


	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● SGA International Growth	-17.76 (13)	9.11 (46)	26.04 (50)	30.52 (40)	-	-	-	-	-	-
▲ MSCI AC World ex USA Growth (Net)	-23.05 (35)	5.09 (73)	22.20 (68)	27.34 (73)	-14.43 (53)	32.01 (70)	0.12 (41)	-1.25 (84)	-2.65 (50)	15.49 (79)
5th Percentile	-14.51	18.92	59.85	40.11	-6.95	46.20	5.48	15.56	3.21	37.12
1st Quartile	-20.13	12.80	36.31	32.58	-12.35	38.41	1.40	6.19	-0.54	27.94
Median	-26.62	8.74	25.32	29.71	-14.24	33.93	-0.73	2.61	-3.12	20.62
3rd Quartile	-31.39	4.27	19.59	26.71	-17.66	30.59	-4.05	-0.41	-5.83	17.47
95th Percentile	-40.42	-4.89	10.00	21.14	-21.37	25.67	-8.67	-3.46	-8.65	12.21
Population	112	115	112	110	104	104	101	94	87	81

3 Years



5 Years



3 Years

	Return	Standard Deviation	Sharpe Ratio
SGA International Growth	4.19	18.44	0.27
MSCI AC World ex USA Growth (Net)	-0.40	18.99	0.04

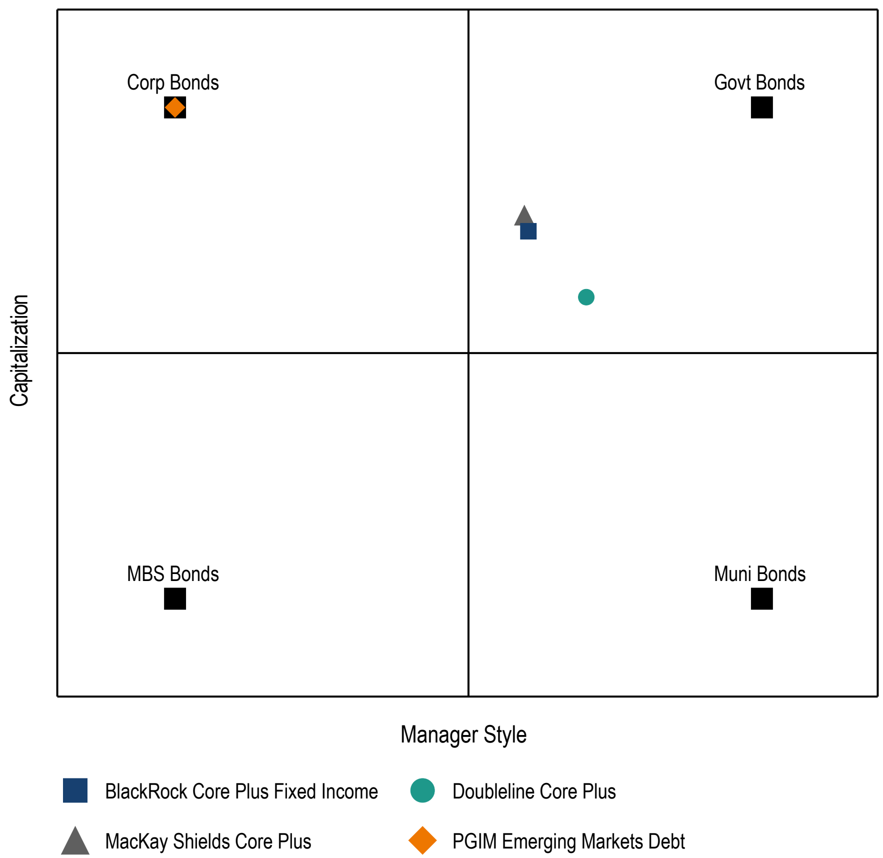
5 Years

	Return	Standard Deviation	Sharpe Ratio
SGA International Growth	-	-	-
MSCI AC World ex USA Growth (Net)	1.49	16.93	0.10

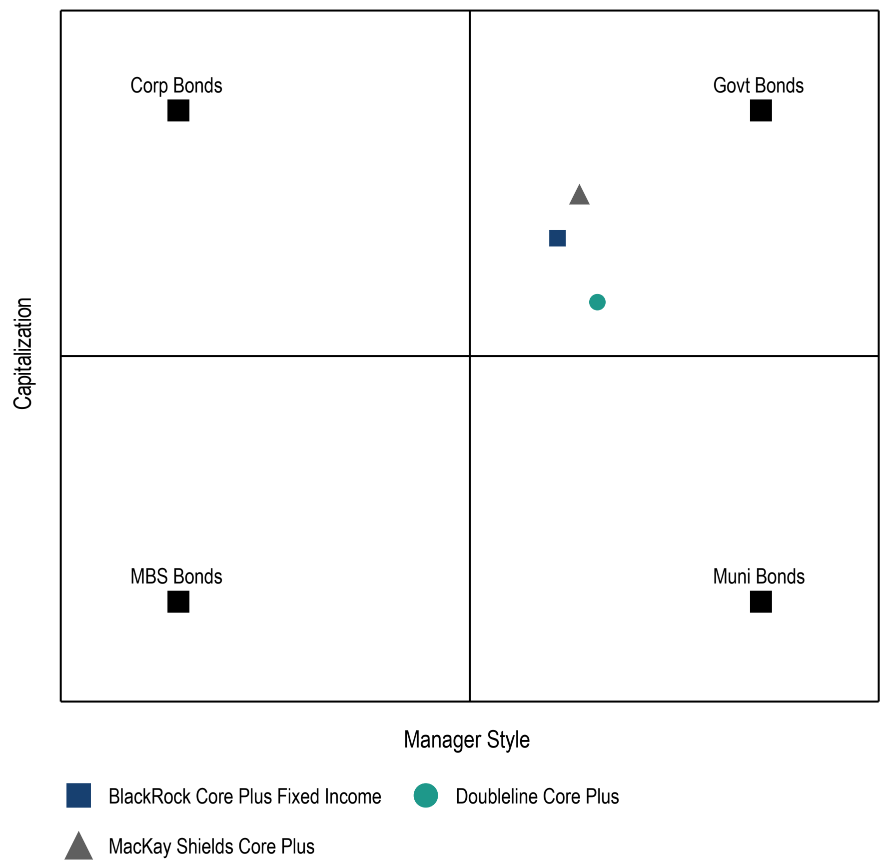
	Market Value	% of Portfolio	Quarter	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	201
Total Fixed Income	**351,485,082**	**100.0**	**2.9**	**-13.5**	**-4.0**	**-0.8**	**0.6**	**-2.2**	**4.7**	**8.1**	**0.**
Blmbg. U.S. Aggregate Index			*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-1.5*	*7.5*	*8.7*	*0.*
Total Domestic Fixed Income	**301,292,287**	**85.7**	**1.9**	**-13.7**	**-2.6**	**0.1**	**1.2**	**-0.7**	**7.9**	**9.0**	**-0.**
Blmbg. U.S. Aggregate Index			*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-1.5*	*7.5*	*8.7*	*0.*
BlackRock Core Plus Fixed Income	102,105,435	29.0	2.1	-13.8	-2.7	0.1	1.2	-1.4	8.4	8.7	0.
Blmbg. U.S. Aggregate Index			*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-1.5*	*7.5*	*8.7*	*0.*
eV US Core Plus Fixed Inc Rank			*34*	*63*	*86*	*87*	*91*	*89*	*56*	*81*	*2*
Doubleline Core Plus	100,274,964	28.5	1.3	-12.7	-2.9	-0.2	-	-0.2	5.2	8.3	-0.
Blmbg. U.S. Aggregate Index			*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-1.5*	*7.5*	*8.7*	*0.*
eV US Core Plus Fixed Inc Rank			*91*	*25*	*92*	*98*	*-*	*37*	*97*	*88*	*3*
MacKay Shields Core Plus	98,911,887	28.1	2.4	-14.6	-2.2	0.3	-	-0.4	9.9	9.6	-1.
Blmbg. U.S. Aggregate Index			*1.9*	*-13.0*	*-2.7*	*0.0*	*1.1*	*-1.5*	*7.5*	*8.7*	*0.*
eV US Core Plus Fixed Inc Rank			*24*	*88*	*53*	*65*	*-*	*47*	*21*	*56*	*7*
Total Emerging Markets Fixed Income	**50,192,795**	**14.3**	**9.2**	**-12.4**	**-4.6**	**-**	**-**	**-5.3**	**4.6**	**-**	
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			*8.3*	*-14.8*	*-5.7*	*-1.9*	*-0.2*	*-5.3*	*4.0*	*14.3*	*-5.*
PGIM Emerging Markets Debt	50,192,795	14.3	9.2	-12.4	-4.6	-	-	-5.3	4.6	-	
50% JPM EMBI Global Div/50% JPM GBI EM Global Div			*8.3*	*-14.8*	*-5.7*	*-1.9*	*-0.2*	*-5.3*	*4.0*	*14.3*	*-5.*
eV Emg Mkts Fixed Inc - Blended Currency Rank			*23*	*38*	*72*	*-*	*-*	*73*	*69*	*-*	

Franklin Templeton Global Bond Plus liquidated 12/28/2021.

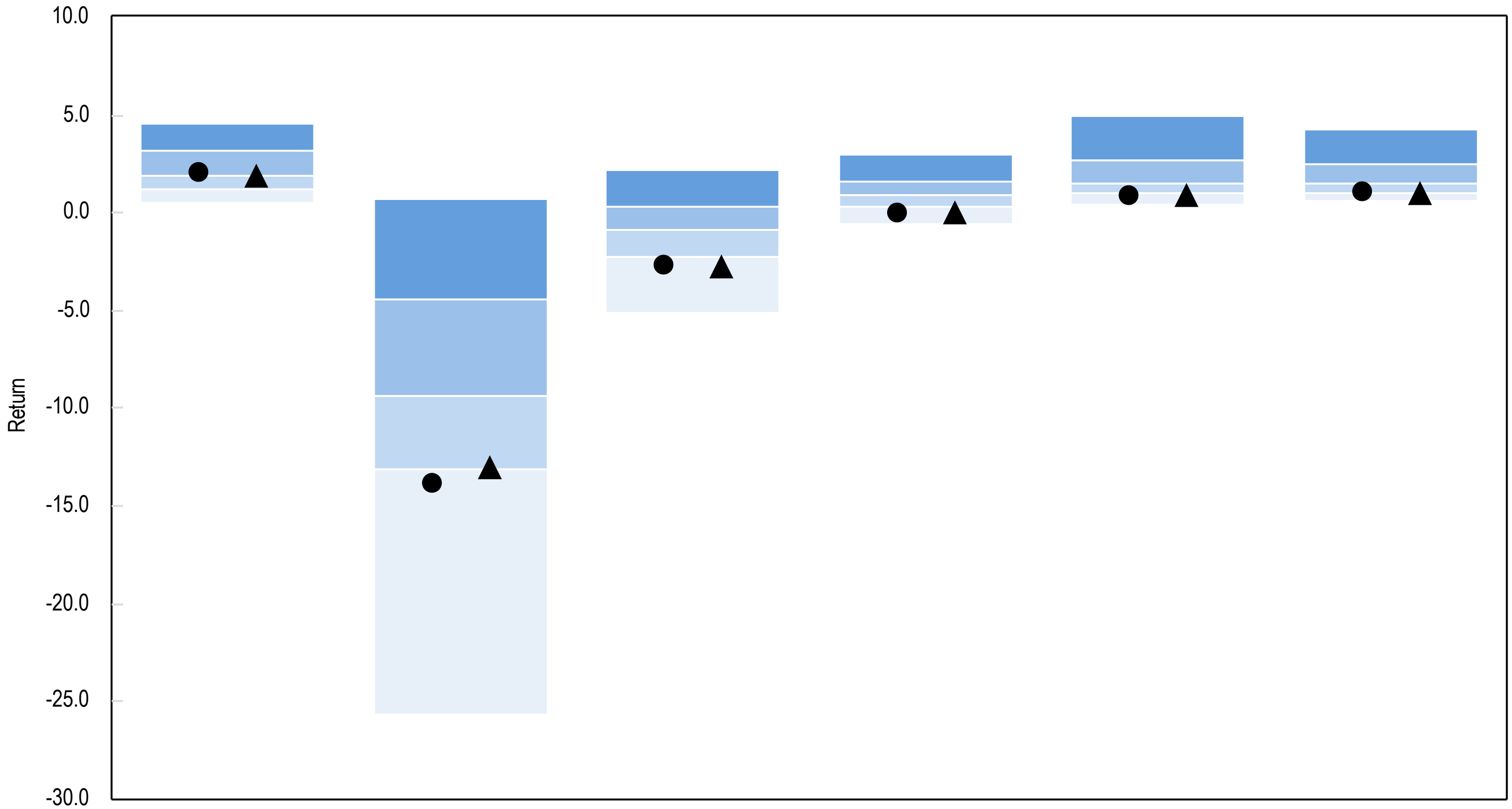
Fixed Income Style Map 3 Years



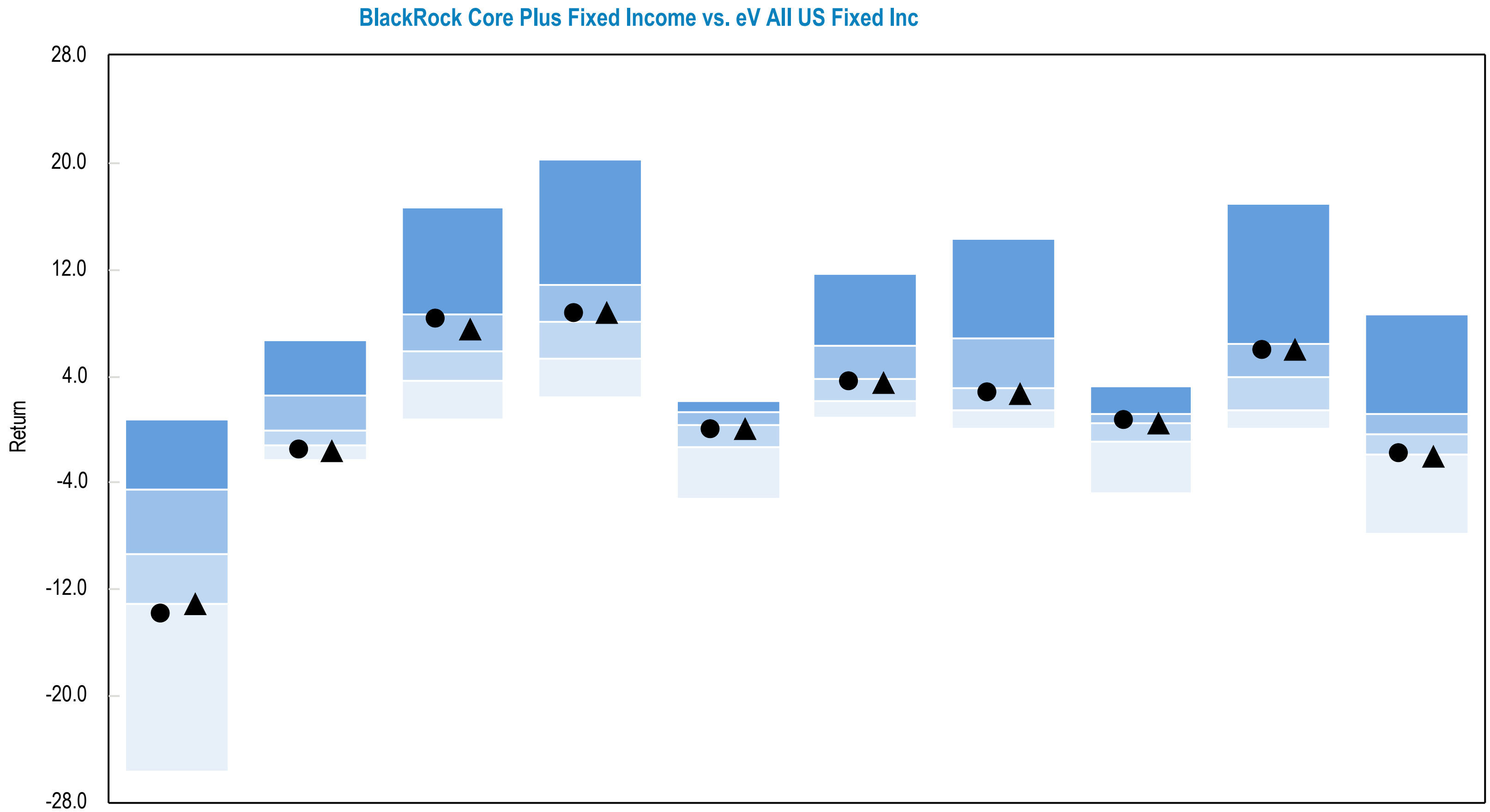
Fixed Income Style Map 5 Years



BlackRock Core Plus Fixed Income vs. eV All US Fixed Inc

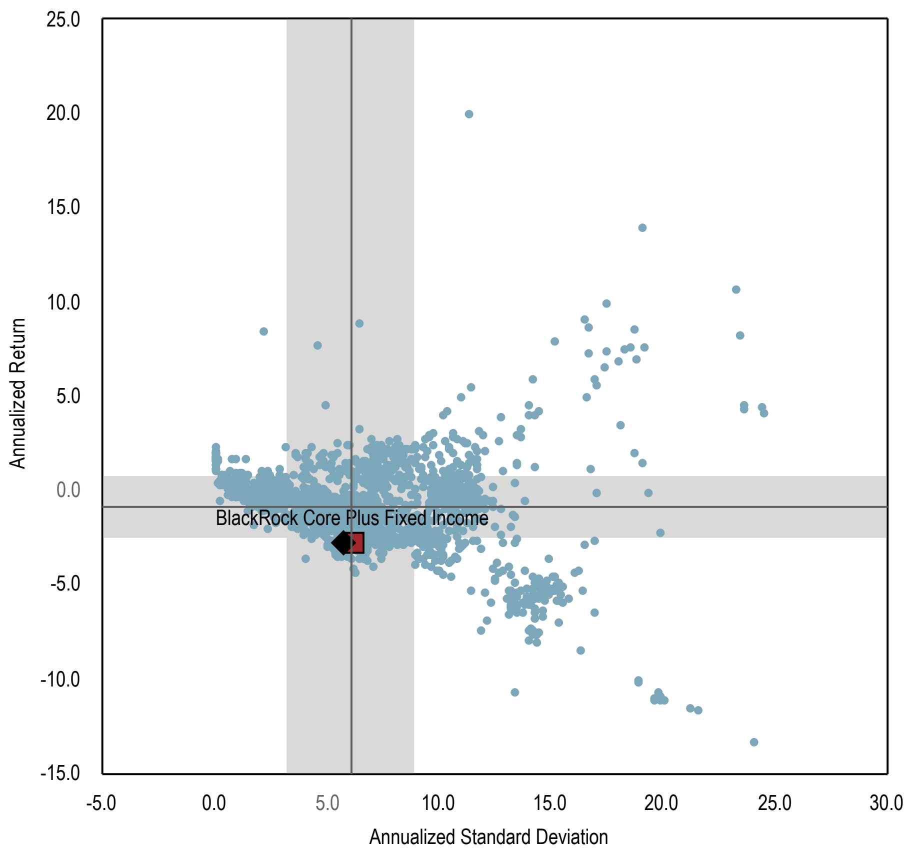


	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● BlackRock Core Plus Fixed Income	2.14 (43)	-13.78 (81)	-2.69 (84)	0.06 (84)	0.96 (81)	1.16 (68)
▲ Blmbg. U.S. Aggregate Index	1.87 (51)	-13.01 (74)	-2.71 (85)	0.02 (85)	0.89 (84)	1.06 (74)
5th Percentile	4.54	0.75	2.15	3.02	4.93	4.23
1st Quartile	3.20	-4.46	0.35	1.62	2.66	2.50
Median	1.90	-9.38	-0.82	0.94	1.53	1.51
3rd Quartile	1.18	-13.11	-2.27	0.35	1.06	1.04
95th Percentile	0.49	-25.65	-5.14	-0.60	0.44	0.57
Population	1,997	1,970	1,917	1,825	1,708	1,509

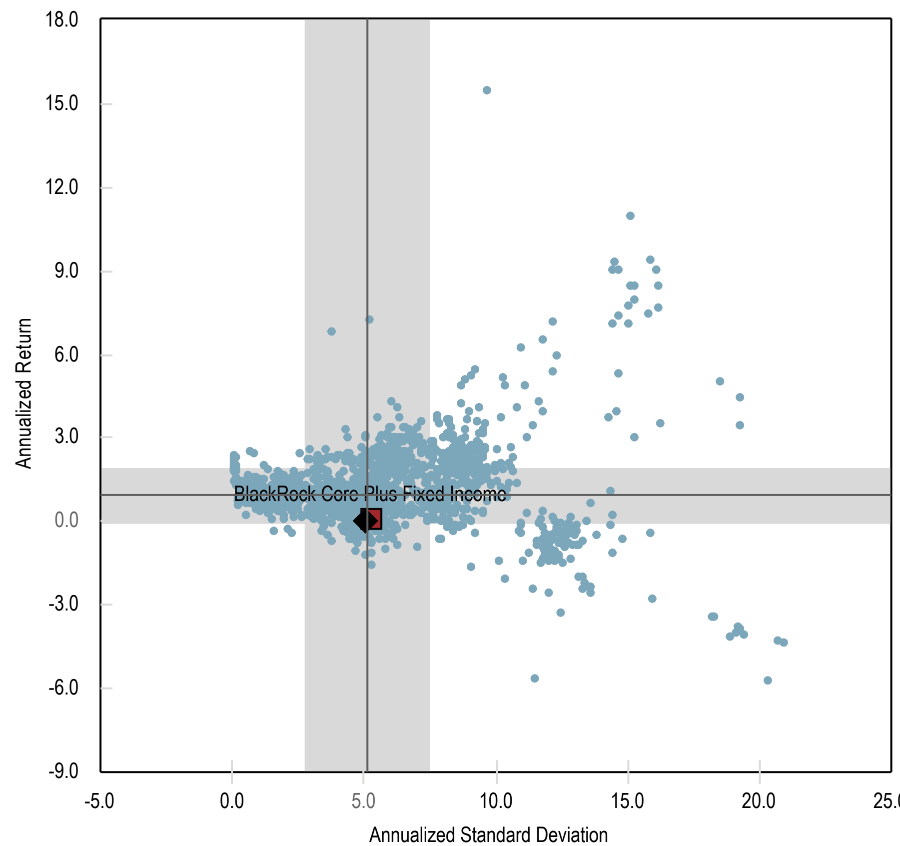


	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● BlackRock Core Plus Fixed Income	-13.78 (81)	-1.41 (82)	8.40 (27)	8.75 (43)	0.10 (54)	3.61 (54)	2.87 (53)	0.81 (37)	5.95 (32)	-1.75 (73)
▲ Blmbg. U.S. Aggregate Index	-13.01 (74)	-1.55 (85)	7.51 (36)	8.72 (44)	0.01 (56)	3.54 (55)	2.65 (56)	0.55 (47)	5.97 (31)	-2.02 (77)
5th Percentile	0.75	6.65	16.72	20.20	2.08	11.62	14.25	3.26	16.93	8.59
1st Quartile	-4.46	2.62	8.61	10.92	1.30	6.36	6.80	1.17	6.45	1.22
Median	-9.38	-0.10	5.93	8.14	0.33	3.83	3.10	0.47	3.91	-0.30
3rd Quartile	-13.11	-1.14	3.60	5.37	-1.37	2.14	1.42	-0.91	1.45	-1.90
95th Percentile	-25.65	-2.25	0.73	2.42	-5.14	0.84	0.01	-4.72	0.09	-7.76
Population	1,970	2,221	2,267	2,290	2,313	2,294	2,277	2,266	2,229	2,174

3 Years



5 Years

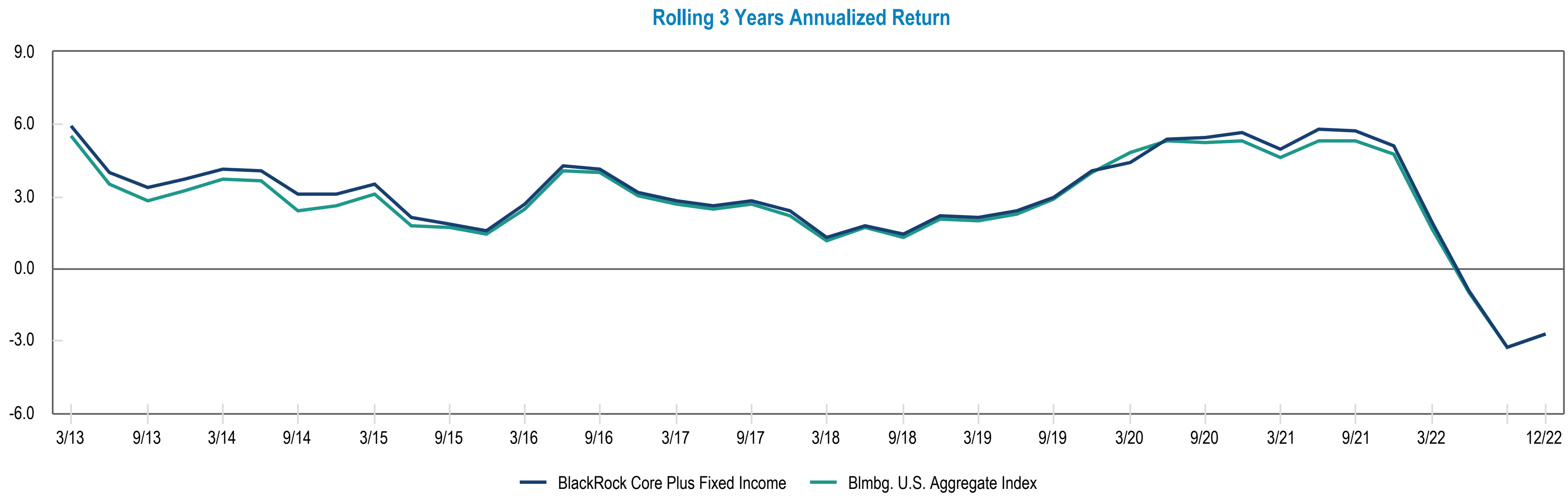


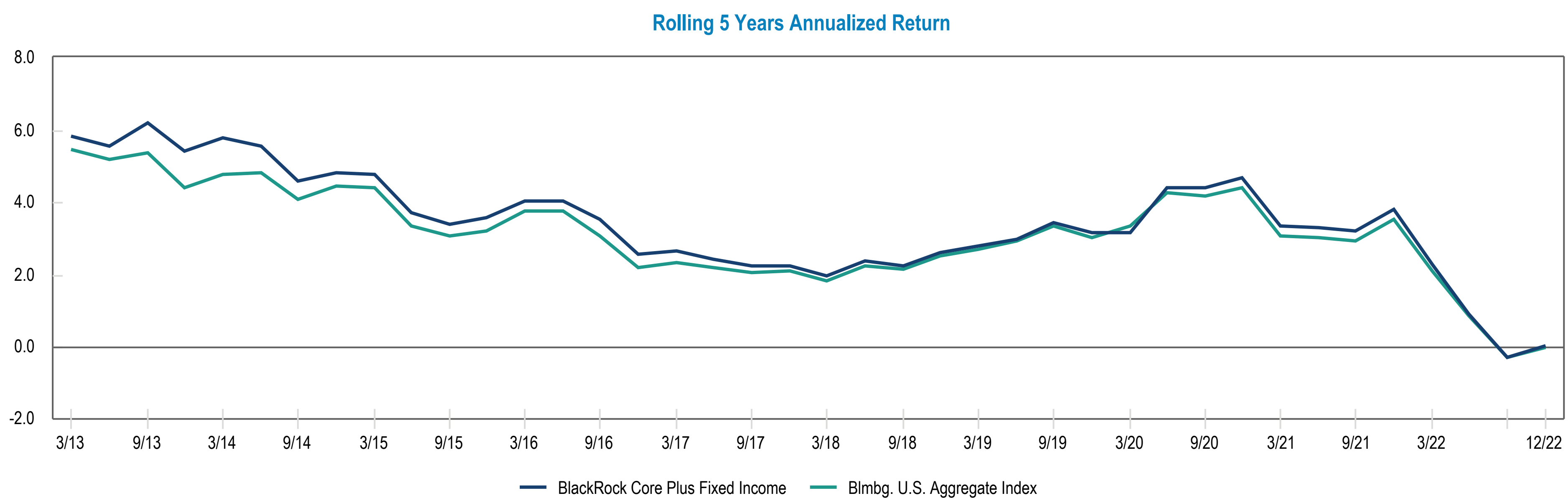
3 Years

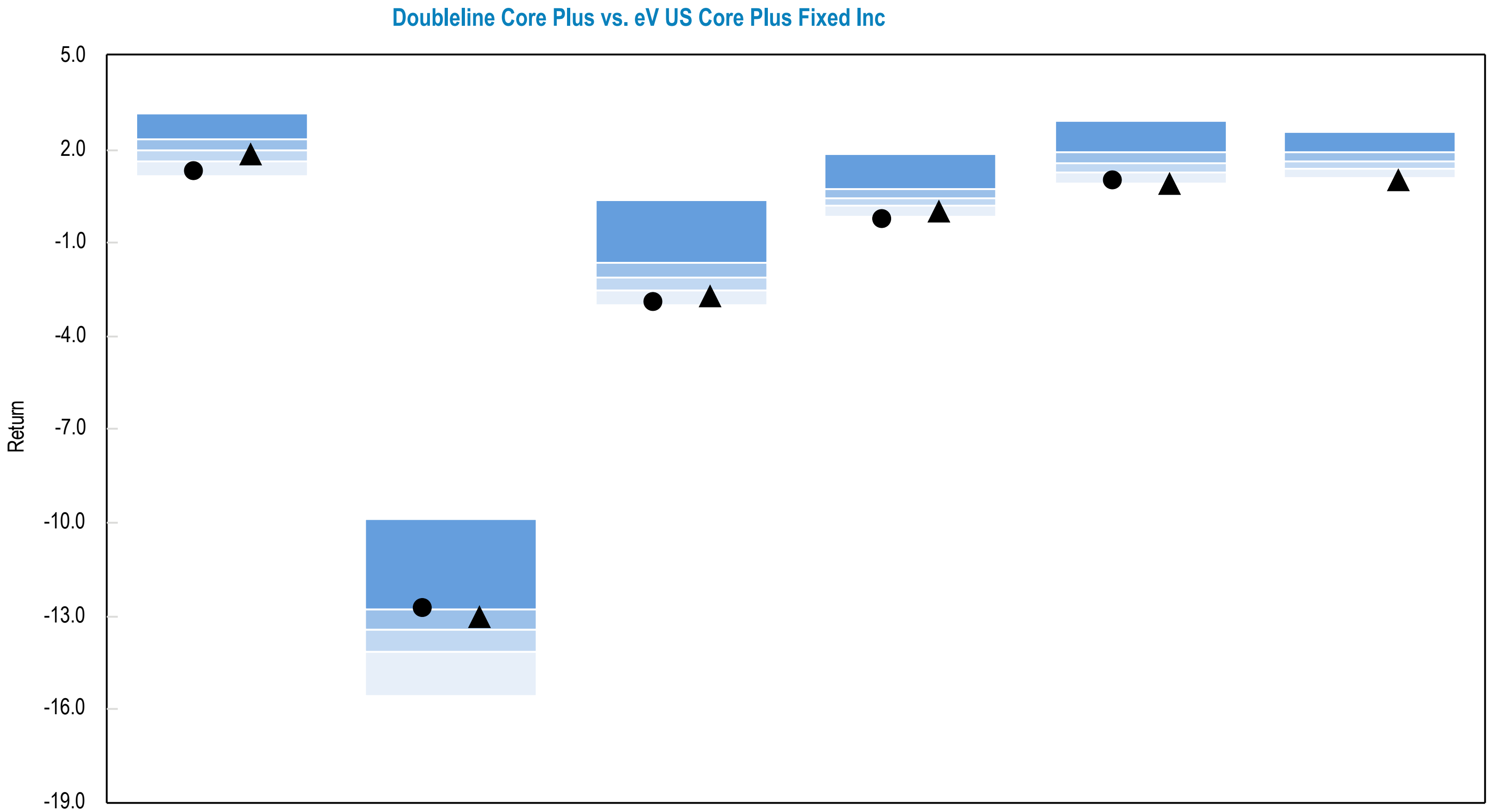
	Return	Standard Deviation	Sharpe Ratio
BlackRock Core Plus Fixed Income	-2.69	6.16	-0.53
Blmbg. U.S. Aggregate Index	-2.71	5.77	-0.57

5 Years

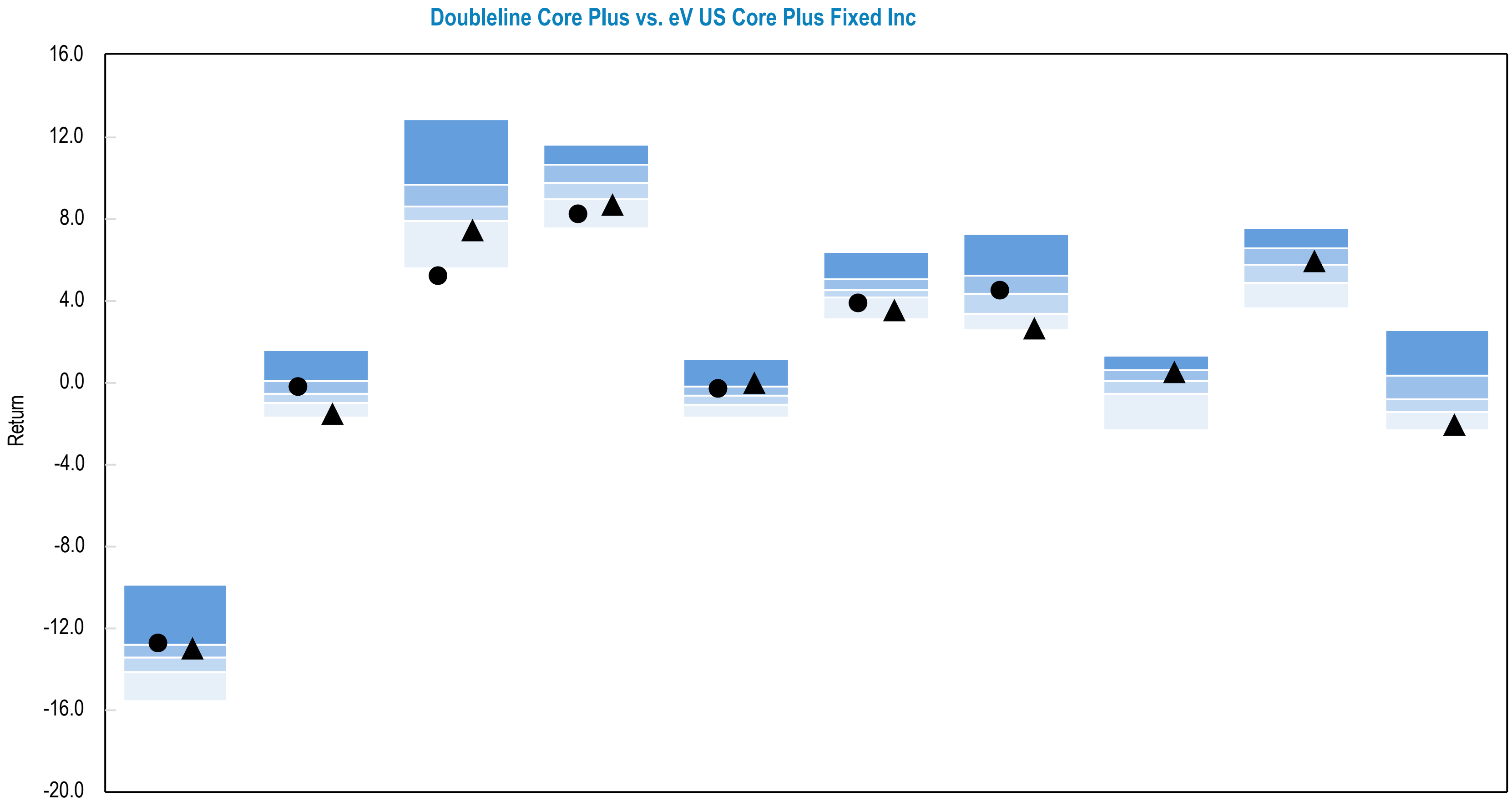
	Return	Standard Deviation	Sharpe Ratio
BlackRock Core Plus Fixed Income	0.06	5.27	-0.20
Blmbg. U.S. Aggregate Index	0.02	5.04	-0.22


Rolling 3 Years Annualized Return
9.0
6.0
3.0
0.0
-3.0
-6.0
3/13
9/13
3/14
9/14
3/15
9/15
3/16
9/16
3/17
9/17
3/18
9/18
3/19
9/19
3/20
9/20
3/21
9/21
3/22
12/22
BlackRock Core Plus Fixed Income
Blmbg. U.S. Aggregate Index


Rolling 5 Years Annualized Return
8.0
6.0
4.0
2.0
0.0
-2.0
3/13
9/13
3/14
9/14
3/15
9/15
3/16
9/16
3/17
9/17
3/18
9/18
3/19
9/19
3/20
9/20
3/21
9/21
3/22
12/22
BlackRock Core Plus Fixed Income
Blmbg. U.S. Aggregate Index

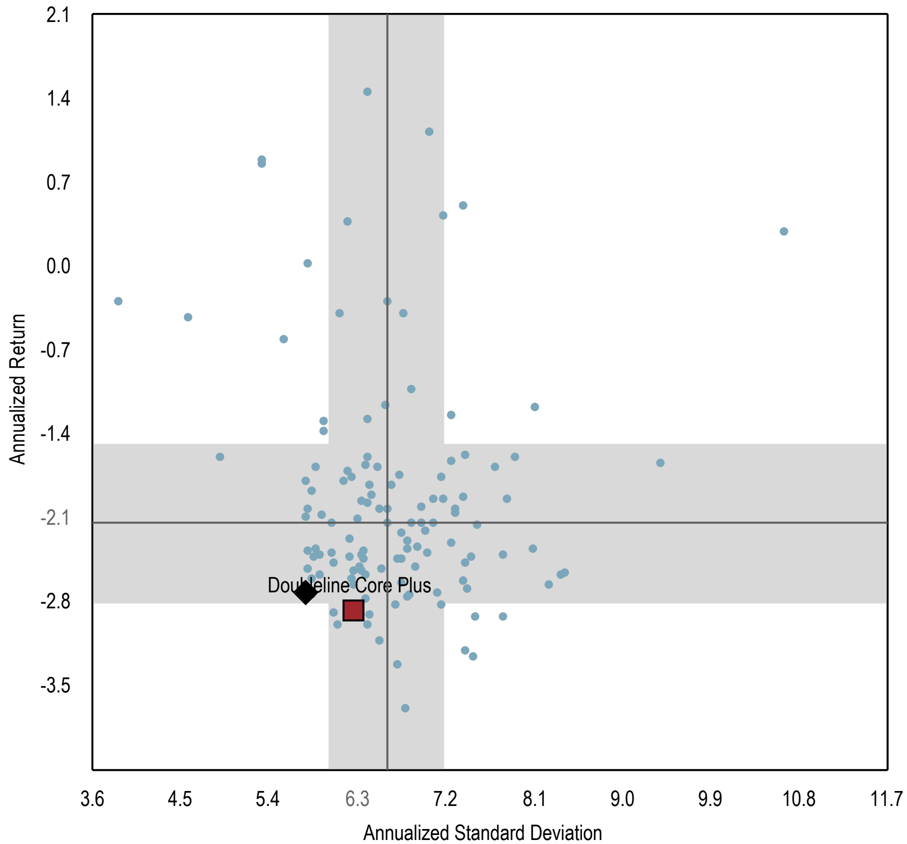


	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● Doubleline Core Plus	1.32 (91)	-12.74 (25)	-2.86 (92)	-0.21 (98)	1.05 (90)	-
▲ Blmbg. U.S. Aggregate Index	1.87 (57)	-13.01 (35)	-2.71 (86)	0.02 (89)	0.89 (97)	1.06 (97)
5th Percentile	3.15	-9.86	0.38	1.86	2.90	2.56
1st Quartile	2.31	-12.76	-1.66	0.74	1.93	1.91
Median	1.95	-13.44	-2.14	0.42	1.55	1.60
3rd Quartile	1.63	-14.13	-2.52	0.20	1.29	1.36
95th Percentile	1.16	-15.54	-2.98	-0.14	0.94	1.08
Population	127	126	122	114	108	99

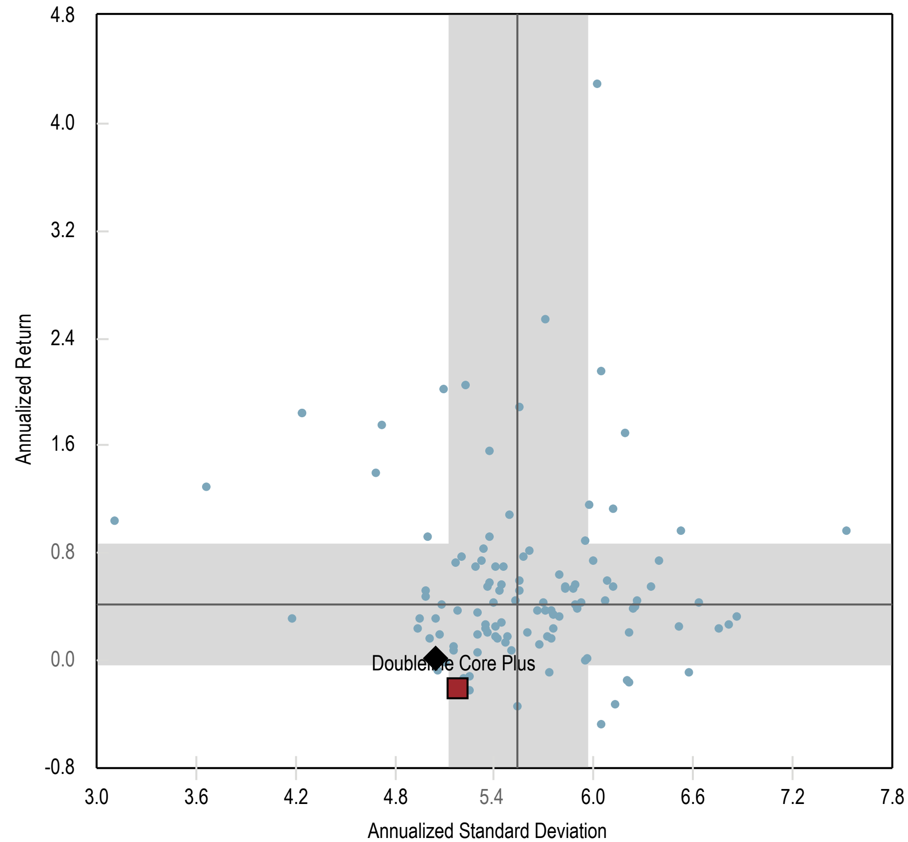


	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● Doubleline Core Plus	-12.74 (25)	-0.18 (37)	5.23 (97)	8.28 (88)	-0.28 (33)	3.93 (84)	4.55 (41)	-	-	-
▲ Blmbg. U.S. Aggregate Index	-13.01 (35)	-1.55 (92)	7.51 (82)	8.72 (81)	0.01 (24)	3.54 (91)	2.65 (93)	0.55 (28)	5.97 (42)	-2.02 (91)
5th Percentile	-9.86	1.64	12.86	11.64	1.17	6.41	7.29	1.33	7.53	2.57
1st Quartile	-12.76	0.05	9.65	10.62	-0.14	5.11	5.21	0.60	6.60	0.38
Median	-13.44	-0.51	8.63	9.74	-0.61	4.56	4.34	0.11	5.81	-0.79
3rd Quartile	-14.13	-1.01	7.87	9.02	-1.03	4.14	3.39	-0.52	4.85	-1.39
95th Percentile	-15.54	-1.72	5.63	7.53	-1.67	3.10	2.58	-2.27	3.67	-2.29
Population	126	139	142	143	141	142	139	138	136	134

3 Years



5 Years

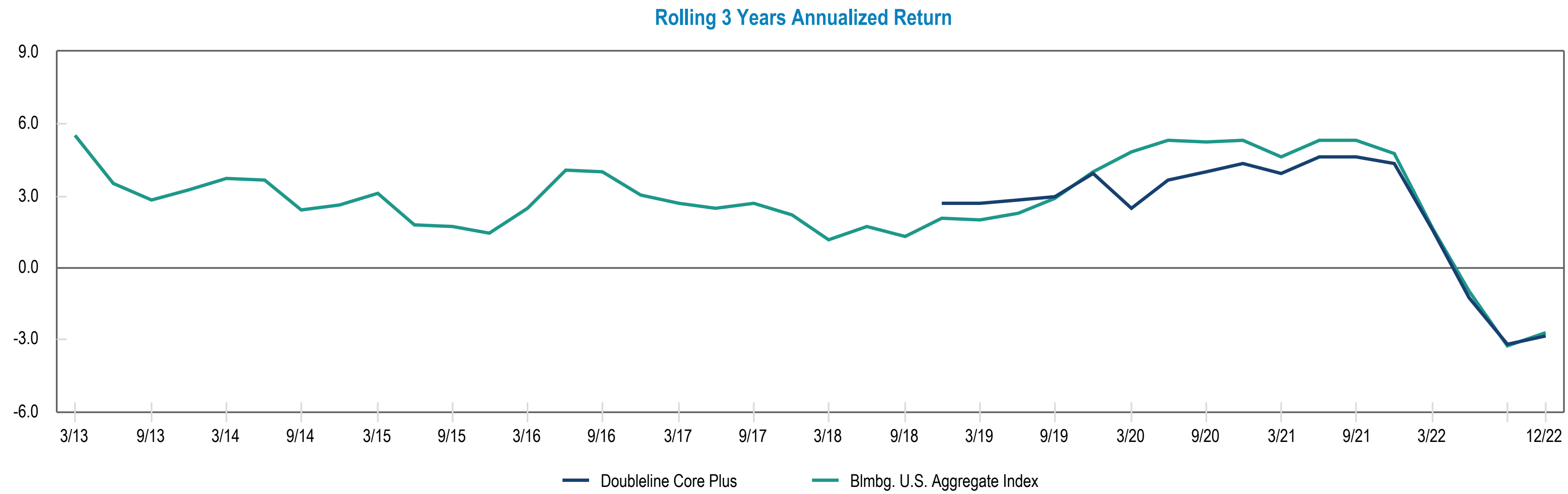


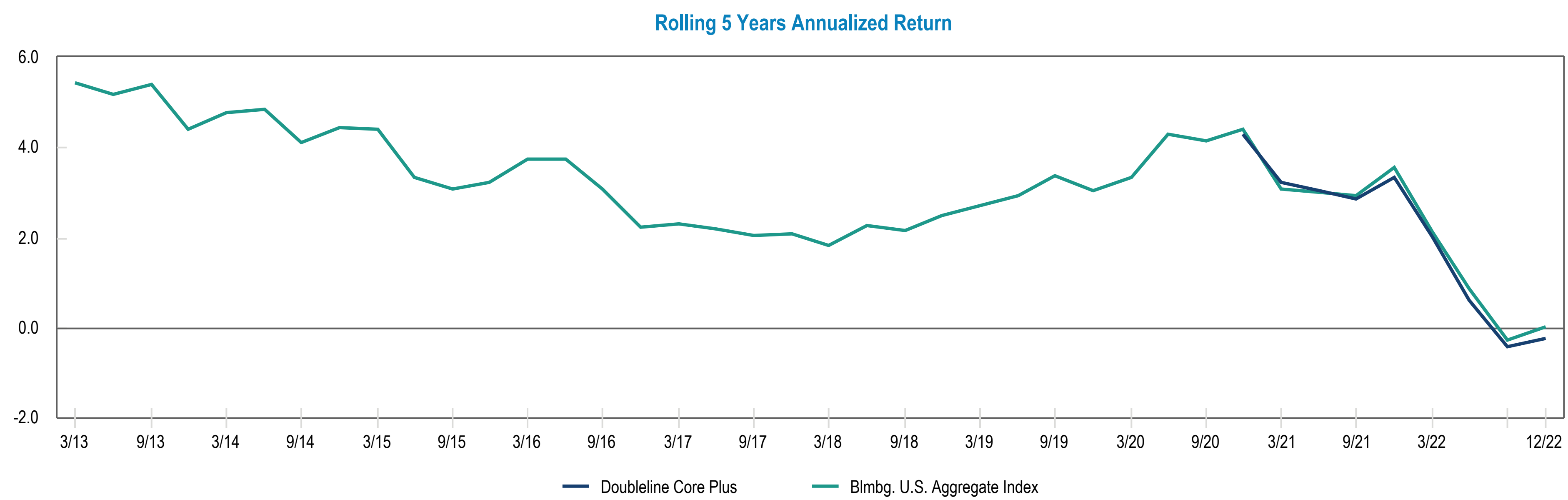
3 Years

	Return	Standard Deviation	Sharpe Ratio
Doubleline Core Plus	-2.86	6.27	-0.54
Blmbg. U.S. Aggregate Index	-2.71	5.77	-0.57

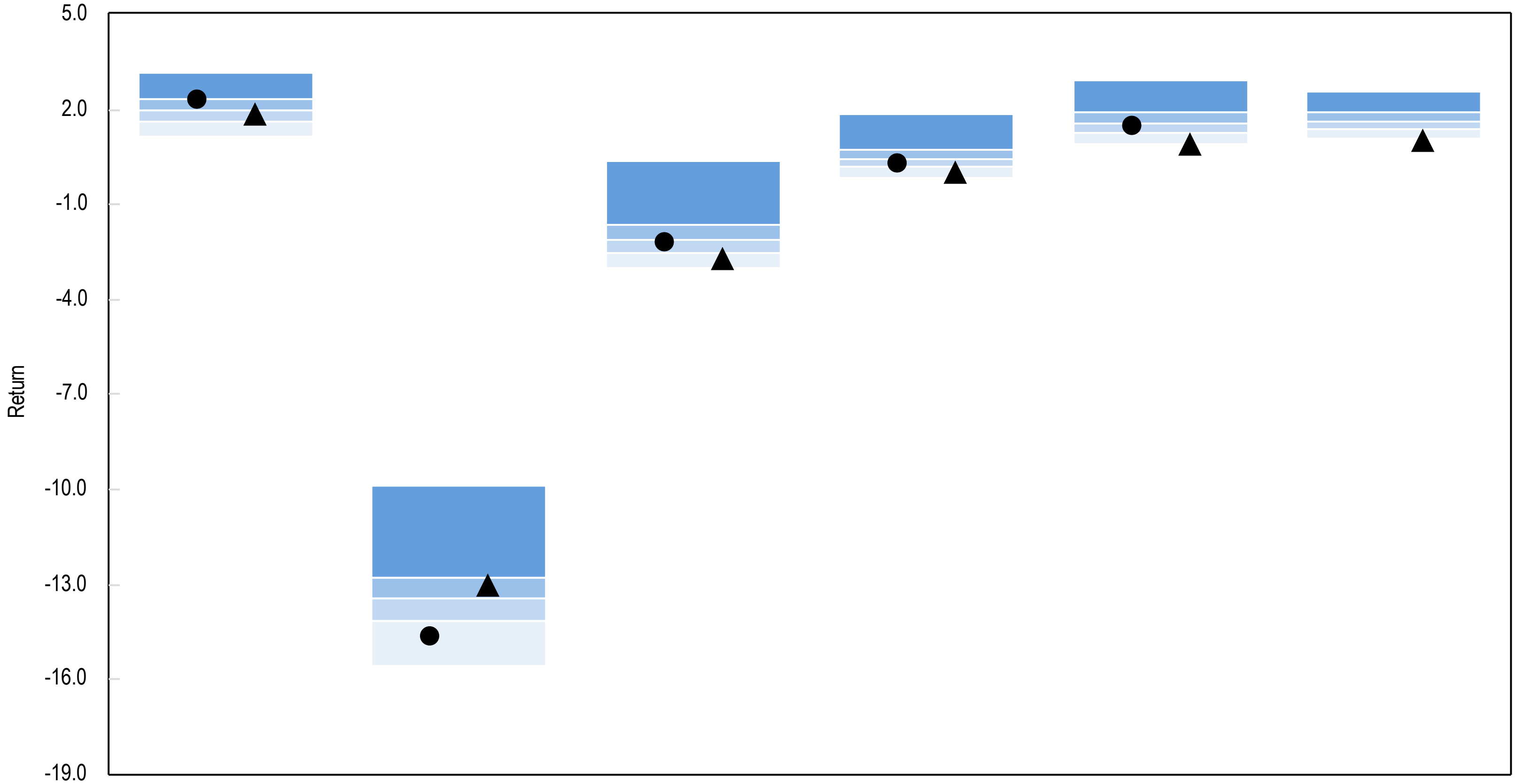
5 Years

	Return	Standard Deviation	Sharpe Ratio
Doubleline Core Plus	-0.21	5.18	-0.26
Blmbg. U.S. Aggregate Index	0.02	5.04	-0.22

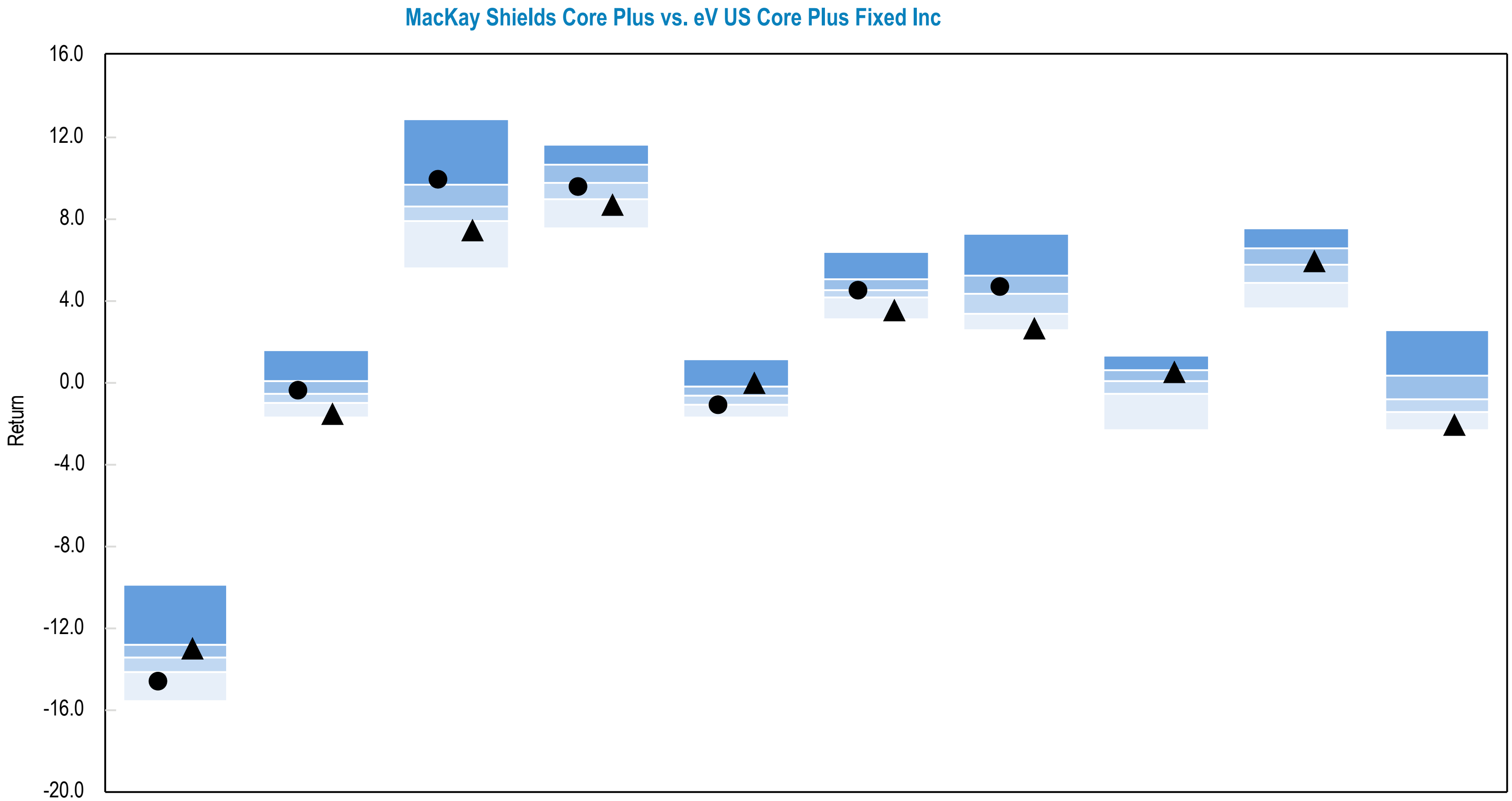

Rolling 3 Years Annualized Return
9.0
6.0
3.0
0.0
-3.0
-6.0
3/13
9/13
3/14
9/14
3/15
9/15
3/16
9/16
3/17
9/17
3/18
9/18
3/19
9/19
3/20
9/20
3/21
9/21
3/22
12/22
Doubleline Core Plus
Blmbg. U.S. Aggregate Index


Rolling 5 Years Annualized Return
6.0
4.0
2.0
0.0
-2.0
3/13
9/13
3/14
9/14
3/15
9/15
3/16
9/16
3/17
9/17
3/18
9/18
3/19
9/19
3/20
9/20
3/21
9/21
3/22
12/22
Doubleline Core Plus
Blmbg. U.S. Aggregate Index

MacKay Shields Core Plus vs. eV US Core Plus Fixed Inc

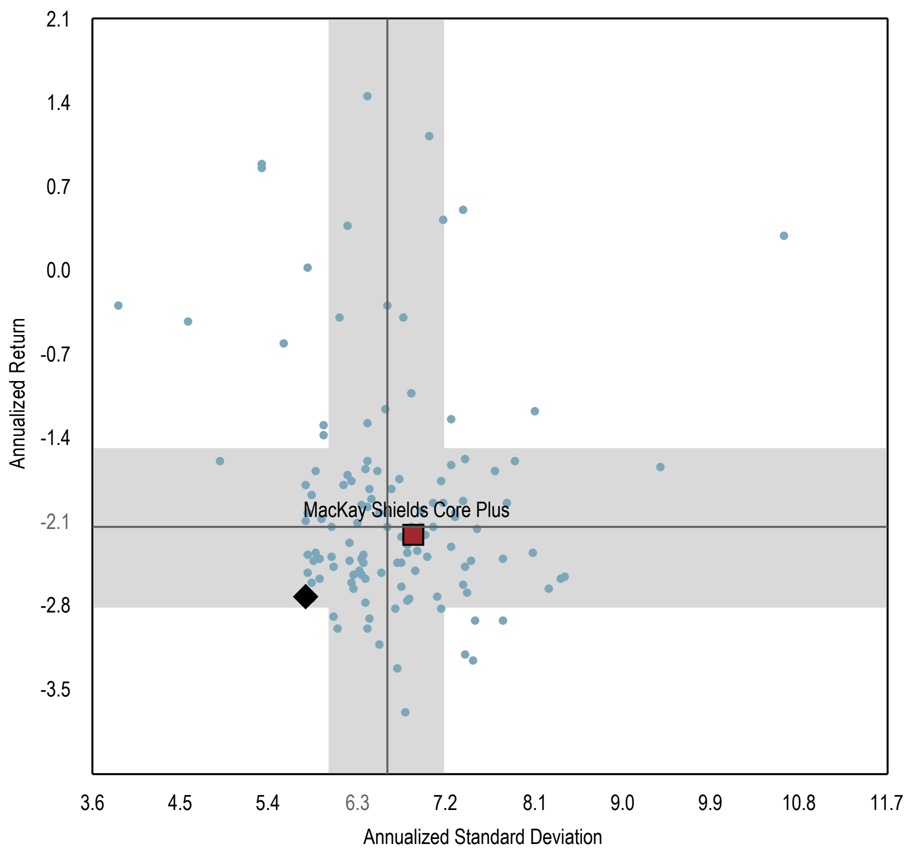


	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● MacKay Shields Core Plus	2.36 (24)	-14.59 (88)	-2.20 (53)	0.29 (65)	1.51 (57)	-
▲ Blmbg. U.S. Aggregate Index	1.87 (57)	-13.01 (35)	-2.71 (86)	0.02 (89)	0.89 (97)	1.06 (97)
5th Percentile	3.15	-9.86	0.38	1.86	2.90	2.56
1st Quartile	2.31	-12.76	-1.66	0.74	1.93	1.91
Median	1.95	-13.44	-2.14	0.42	1.55	1.60
3rd Quartile	1.63	-14.13	-2.52	0.20	1.29	1.36
95th Percentile	1.16	-15.54	-2.98	-0.14	0.94	1.08
Population	127	126	122	114	108	99

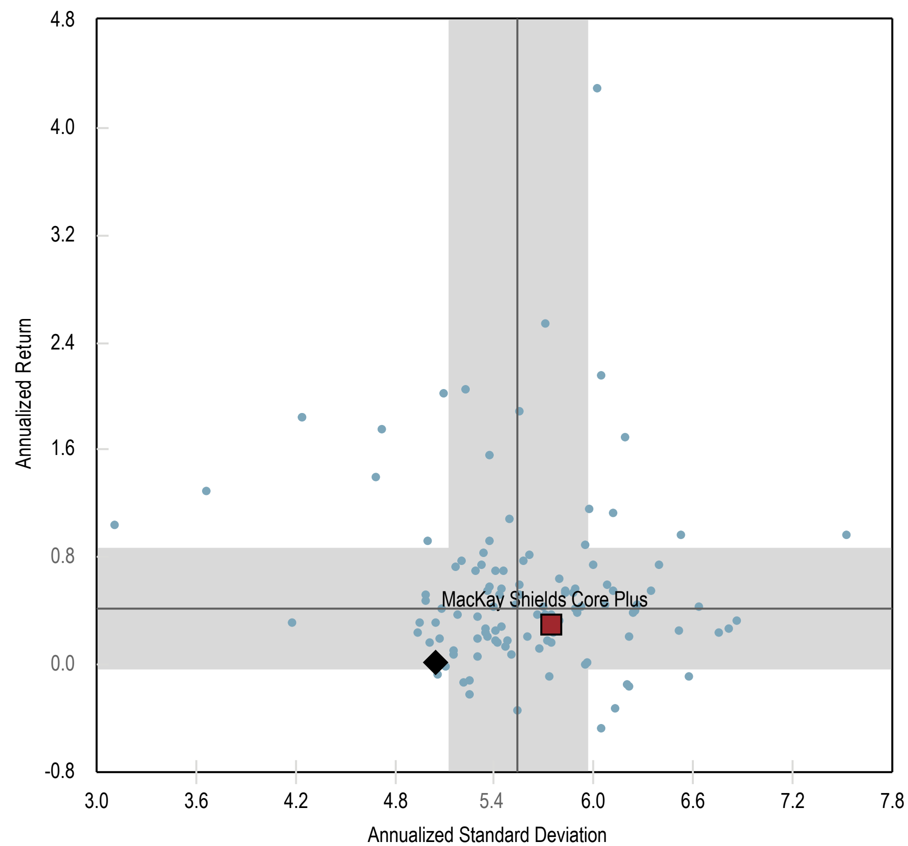


	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● MacKay Shields Core Plus	-14.59 (88)	-0.36 (47)	9.92 (21)	9.60 (56)	-1.02 (75)	4.53 (52)	4.70 (38)	-	-	-
▲ Blmbg. U.S. Aggregate Index	-13.01 (35)	-1.55 (92)	7.51 (82)	8.72 (81)	0.01 (24)	3.54 (91)	2.65 (93)	0.55 (28)	5.97 (42)	-2.02 (91)
5th Percentile	-9.86	1.64	12.86	11.64	1.17	6.41	7.29	1.33	7.53	2.57
1st Quartile	-12.76	0.05	9.65	10.62	-0.14	5.11	5.21	0.60	6.60	0.38
Median	-13.44	-0.51	8.63	9.74	-0.61	4.56	4.34	0.11	5.81	-0.79
3rd Quartile	-14.13	-1.01	7.87	9.02	-1.03	4.14	3.39	-0.52	4.85	-1.39
95th Percentile	-15.54	-1.72	5.63	7.53	-1.67	3.10	2.58	-2.27	3.67	-2.29
Population	126	139	142	143	141	142	139	138	136	134

3 Years



5 Years



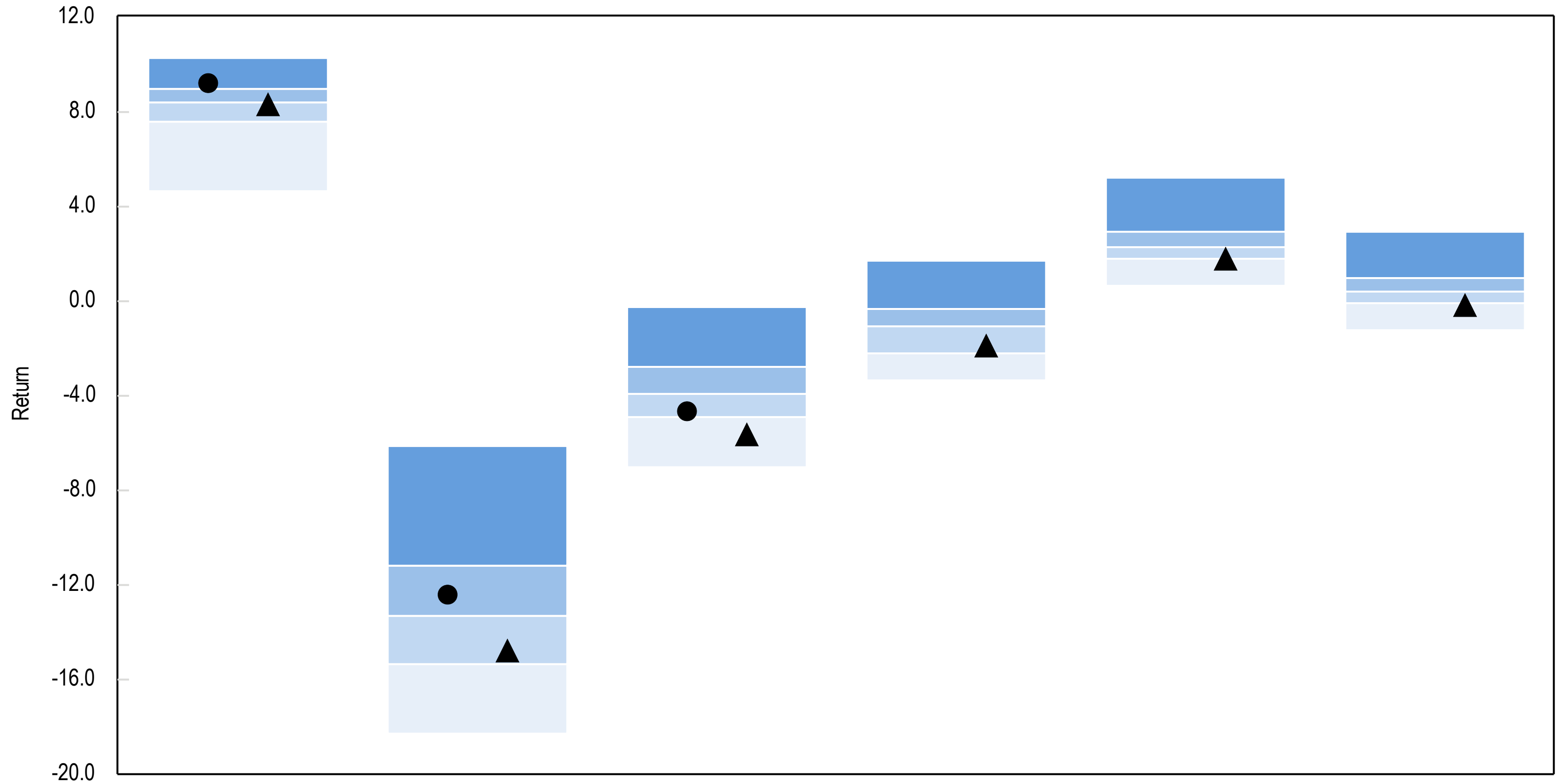
3 Years

	Return	Standard Deviation	Sharpe Ratio
MacKay Shields Core Plus	-2.20	6.86	-0.39
Blmbg. U.S. Aggregate Index	-2.71	5.77	-0.57

5 Years

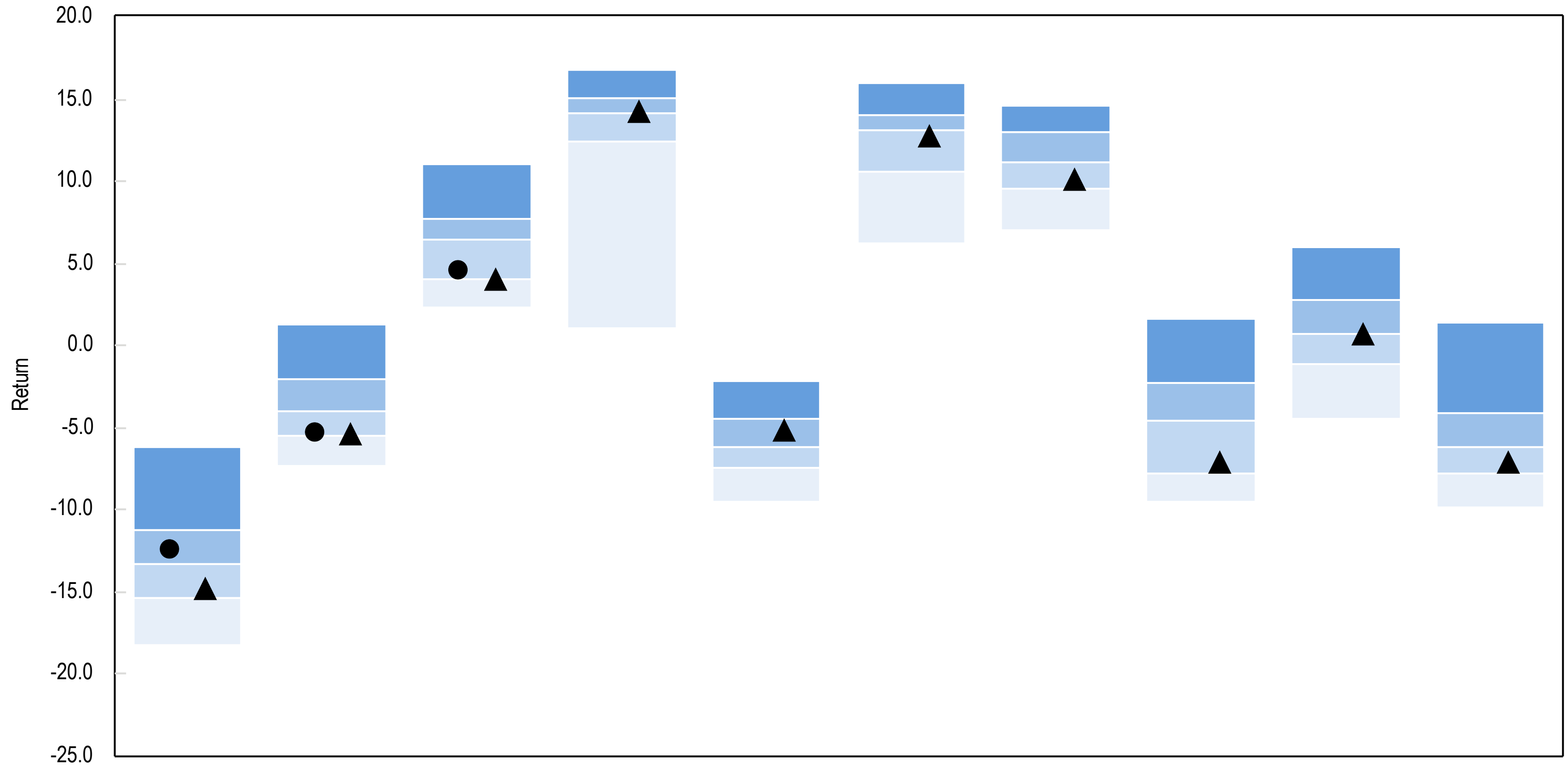
	Return	Standard Deviation	Sharpe Ratio
MacKay Shields Core Plus	0.29	5.75	-0.14
Blmbg. U.S. Aggregate Index	0.02	5.04	-0.22

PGIM Emerging Markets Debt vs. eV Emg Mkts Fixed Inc - Blended Currency



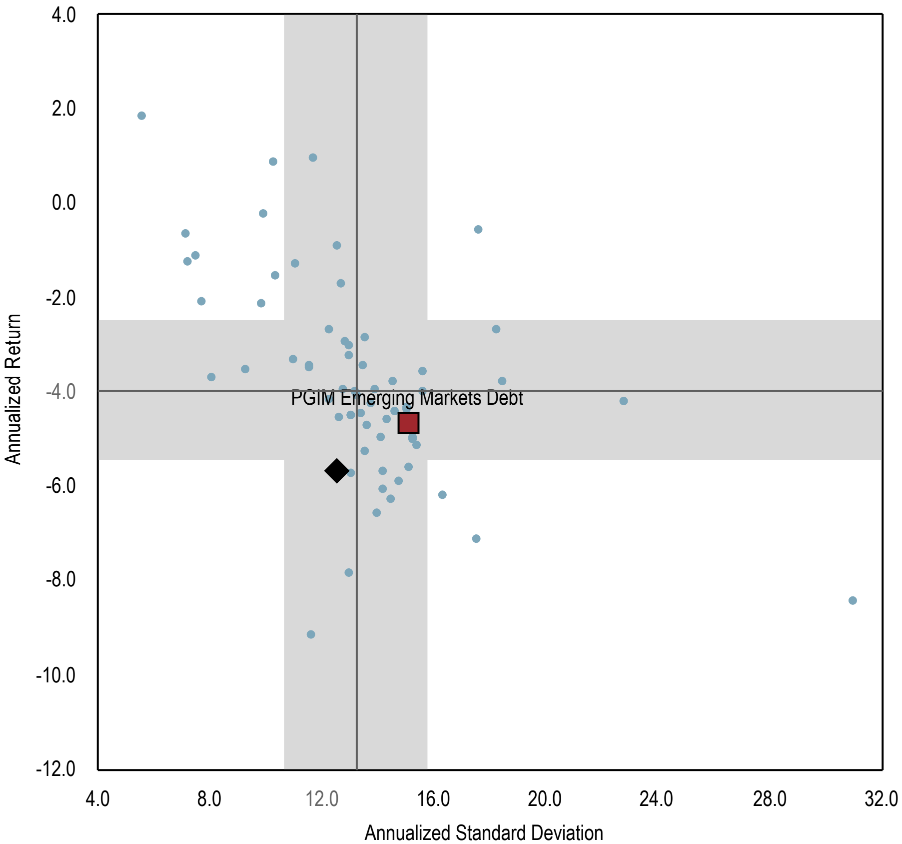
	Quarter	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● PGIM Emerging Markets Debt	9.19 (23)	-12.37 (38)	-4.62 (72)	-	-	-
▲ 50% JPM EMBI Global Div /50% JPM GBI EM Global Div	8.29 (57)	-14.75 (71)	-5.66 (85)	-1.86 (70)	1.77 (76)	-0.18 (78)
5th Percentile	10.27	-6.15	-0.22	1.69	5.23	2.94
1st Quartile	8.95	-11.18	-2.74	-0.30	2.93	0.97
Median	8.39	-13.27	-3.94	-1.09	2.29	0.38
3rd Quartile	7.59	-15.39	-4.93	-2.23	1.79	-0.09
95th Percentile	4.66	-18.28	-7.03	-3.33	0.66	-1.23
Population	64	64	63	58	45	28

PGIM Emerging Markets Debt vs. eV Emg Mkts Fixed Inc - Blended Currency

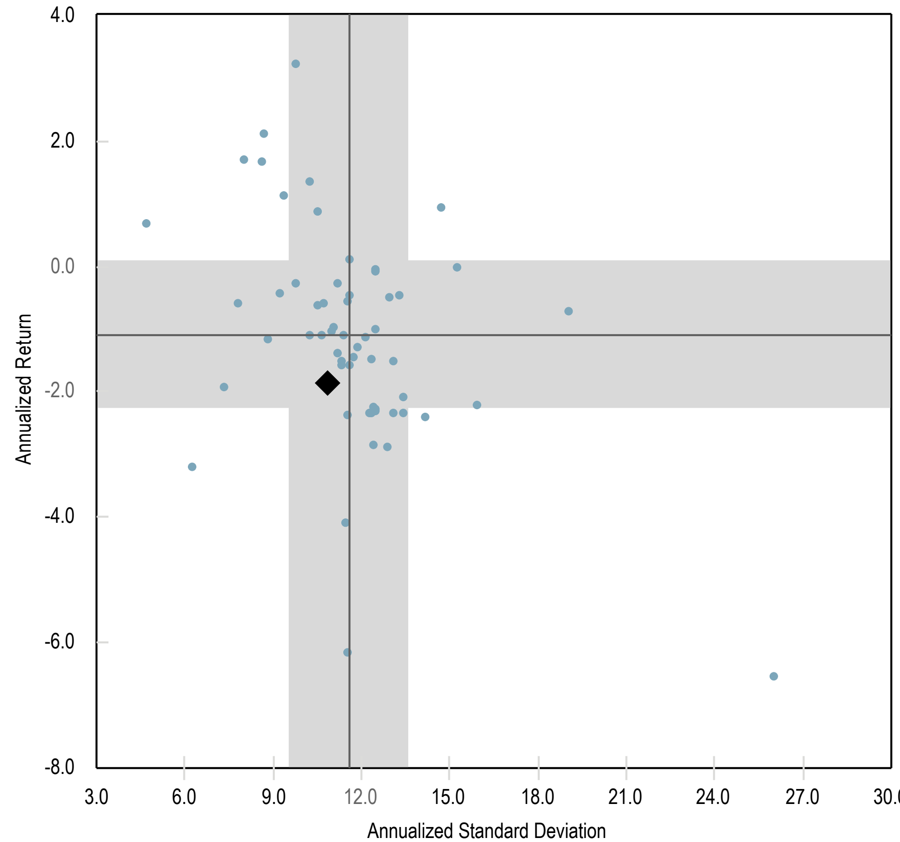


	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● PGIM Emerging Markets Debt	-12.37 (38)	-5.30 (73)	4.56 (69)	-	-	-	-	-	-	-
▲ 50% JPM EMBI Global Div /50% JPM GBI EM Global Div	-14.75 (71)	-5.32 (73)	4.02 (76)	14.31 (44)	-5.15 (33)	12.74 (53)	10.16 (70)	-7.14 (68)	0.71 (50)	-7.10 (63)
5th Percentile	-6.15	1.23	11.07	16.77	-2.17	16.01	14.58	1.64	6.05	1.37
1st Quartile	-11.18	-2.08	7.71	15.02	-4.44	14.07	12.97	-2.25	2.80	-4.09
Median	-13.27	-4.00	6.40	14.13	-6.20	13.16	11.19	-4.57	0.68	-6.21
3rd Quartile	-15.39	-5.48	4.09	12.41	-7.38	10.55	9.59	-7.81	-1.17	-7.78
95th Percentile	-18.28	-7.33	2.31	1.10	-9.53	6.22	6.98	-9.49	-4.41	-9.80
Population	64	79	79	74	74	69	63	58	52	42

3 Years



5 Years

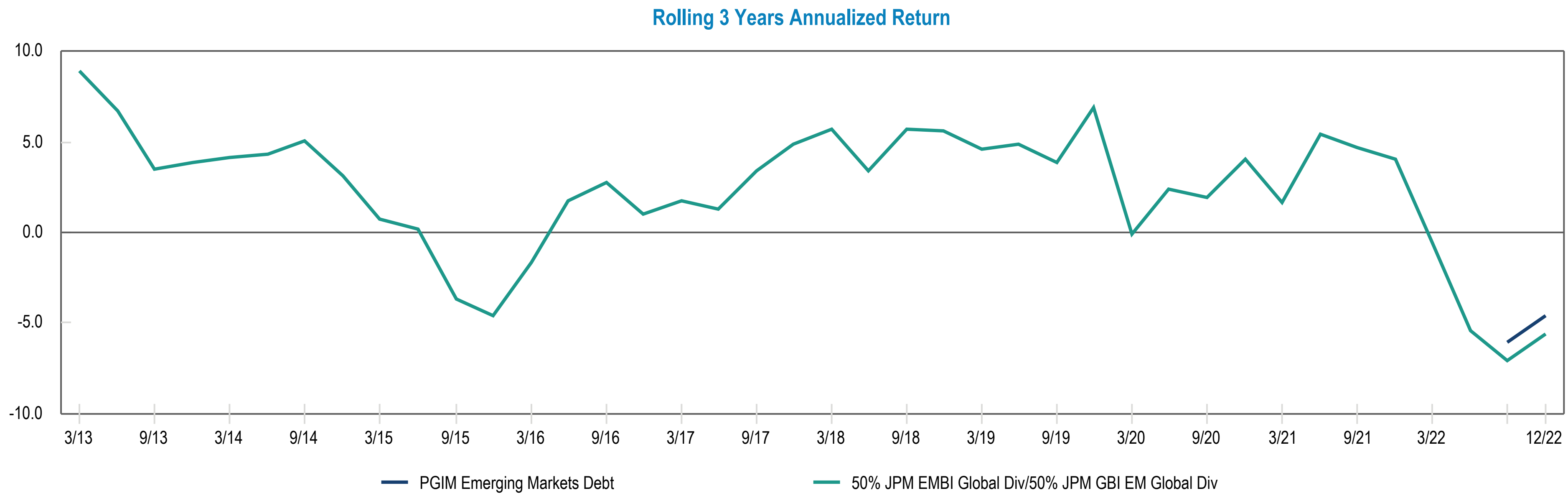


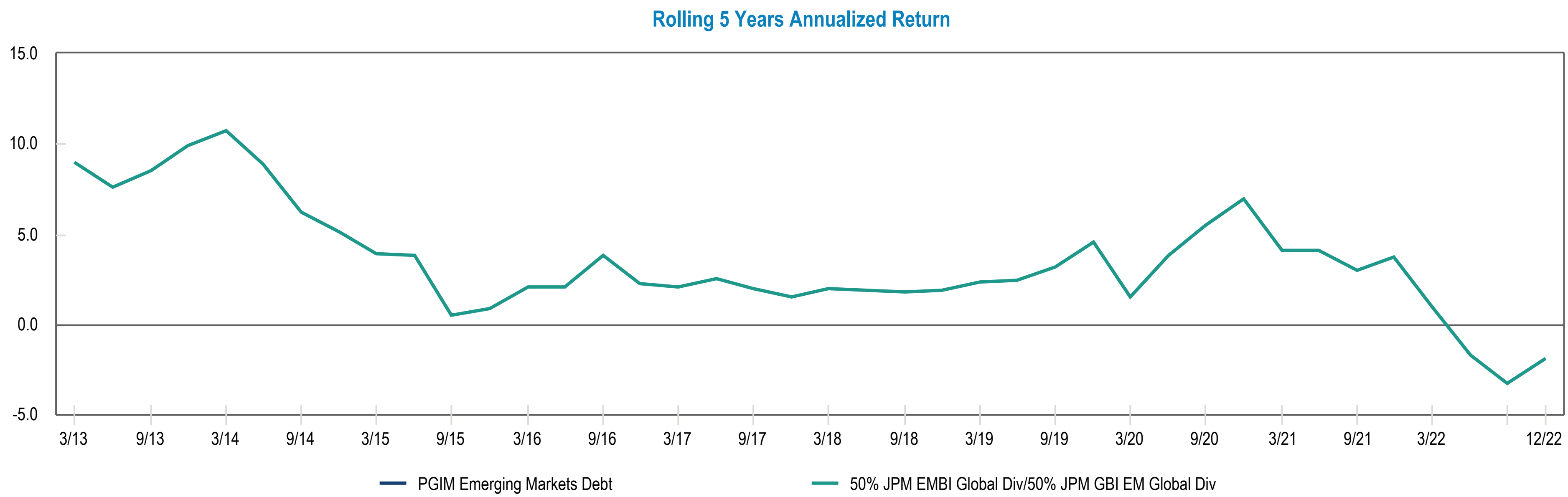
3 Years

	Return	Standard Deviation	Sharpe Ratio
PGIM Emerging Markets Debt	-4.62	15.10	-0.28
50% JPM EMBI Global Div/50% JPM GBI EM Global Div	-5.66	12.51	-0.46

5 Years

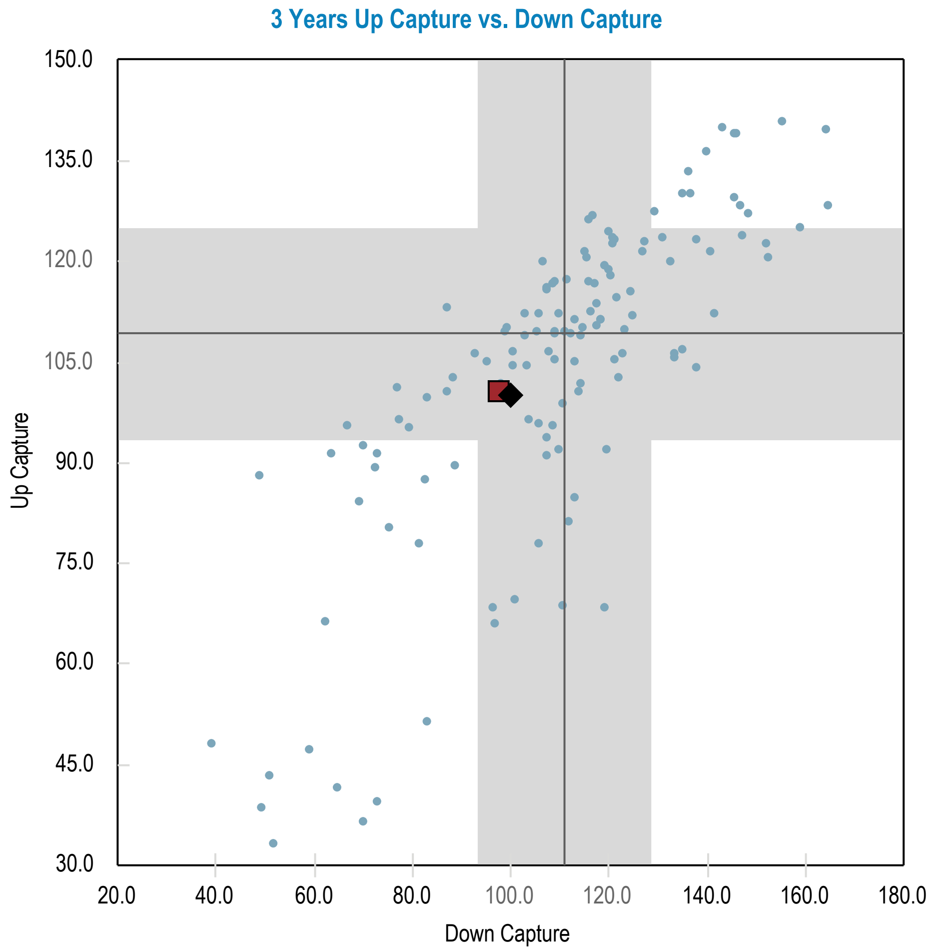
	Return	Standard Deviation	Sharpe Ratio
PGIM Emerging Markets Debt	-	-	-
50% JPM EMBI Global Div/50% JPM GBI EM Global Div	-1.86	10.88	-0.23


Rolling 3 Years Annualized Return
10.0
5.0
0.0
-5.0
-10.0
3/13
9/13
3/14
9/14
3/15
9/15
3/16
9/16
3/17
9/17
3/18
9/18
3/19
9/19
3/20
9/20
3/21
9/21
3/22
12/22
PGIM Emerging Markets Debt
50% JPM EMBI Global Div/50% JPM GBI EM Global Div

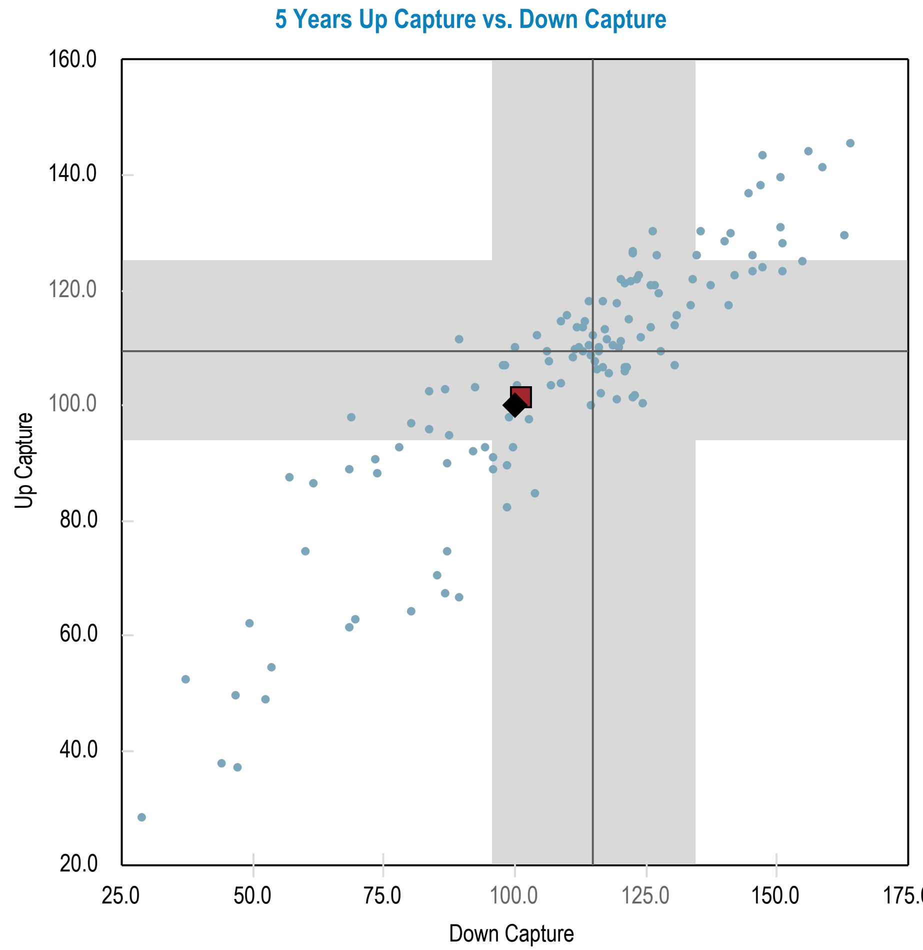

Rolling 5 Years Annualized Return
15.0
10.0
5.0
0.0
-5.0
3/13
9/13
3/14
9/14
3/15
9/15
3/16
9/16
3/17
9/17
3/18
9/18
3/19
9/19
3/20
9/20
3/21
9/21
3/22
12/22
PGIM Emerging Markets Debt
50% JPM EMBI Global Div/50% JPM GBI EM Global Div

	Market Value	% of Portfolio	Quarter	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017
Total Real Estate	**351,954,486**	**100.0**	**-0.9**	**11.3**	**8.5**	**7.9**	**9.1**	**12.8**	**1.8**	**5.2**	**8.8**	**4.3**
NCREIF-ODCE			*-5.0*	*7.5*	*9.9*	*8.7*	*10.1*	*22.2*	*1.2*	*5.3*	*8.3*	*7.6*
RREEF America II	181,880,048	51.7	-3.1	18.4	10.8	9.2	10.3	12.8	1.8	5.3	8.6	4.4
NCREIF ODCE net 1Q Lag			*0.3*	*21.0*	*11.4*	*9.3*	*9.9*	*13.6*	*0.5*	*4.6*	*7.7*	*6.7*
American Realty Strategic Value Fund	90,907,973	25.8	1.5	16.2	9.4	-	-	11.3	1.1	-	-	-
NCREIF ODCE net 1Q Lag			*0.3*	*21.0*	*11.4*	*9.3*	*9.9*	*13.6*	*0.5*	*4.6*	*7.7*	*6.7*
Invesco Commercial Mortgage Income Fund	78,477,186	22.3	0.0	3.1	-	-	-	-	-	-	-	-
NCREIF-ODCE			*-5.0*	*7.5*	*9.9*	*8.7*	*10.1*	*22.2*	*1.2*	*5.3*	*8.3*	*7.6*
SSGA US REIT Index Non-Lending Fund	689,279	0.2	4.7	-26.0	-	-	-	-	-	-	-	-
Dow Jones U.S. REIT Index			*4.1*	*-24.8*	*-0.2*	*4.2*	*6.8*	*41.2*	*-6.3*	*28.0*	*-3.5*	*9.4*

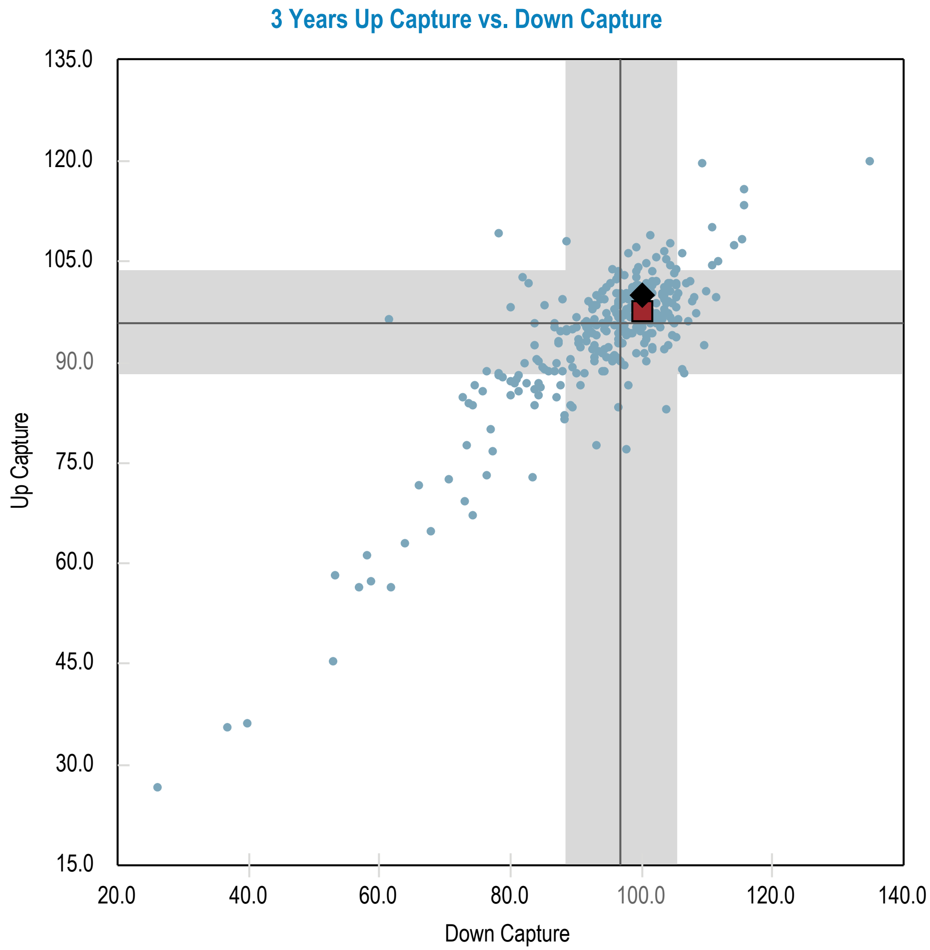
RREEF liquidated in 1Q 2018. American Realty funded 4Q 2019. Invesco Commerical Mortgage Income Fund was funded 9/1/2021. SSGA US REIT Index was funded 12/10/2021.

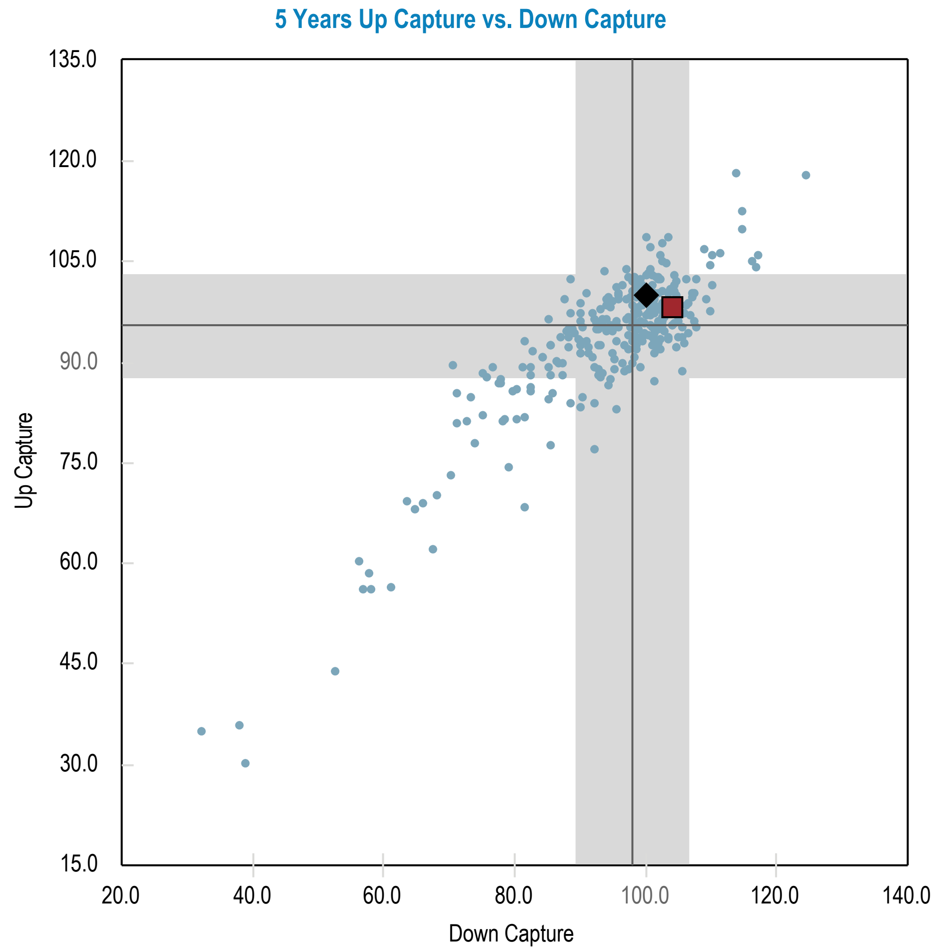


	Up Capture	Down Capture
Total Fund	100.76	97.65
Policy Index	100.00	100.00
Median	109.31	111.05
Population	133	133



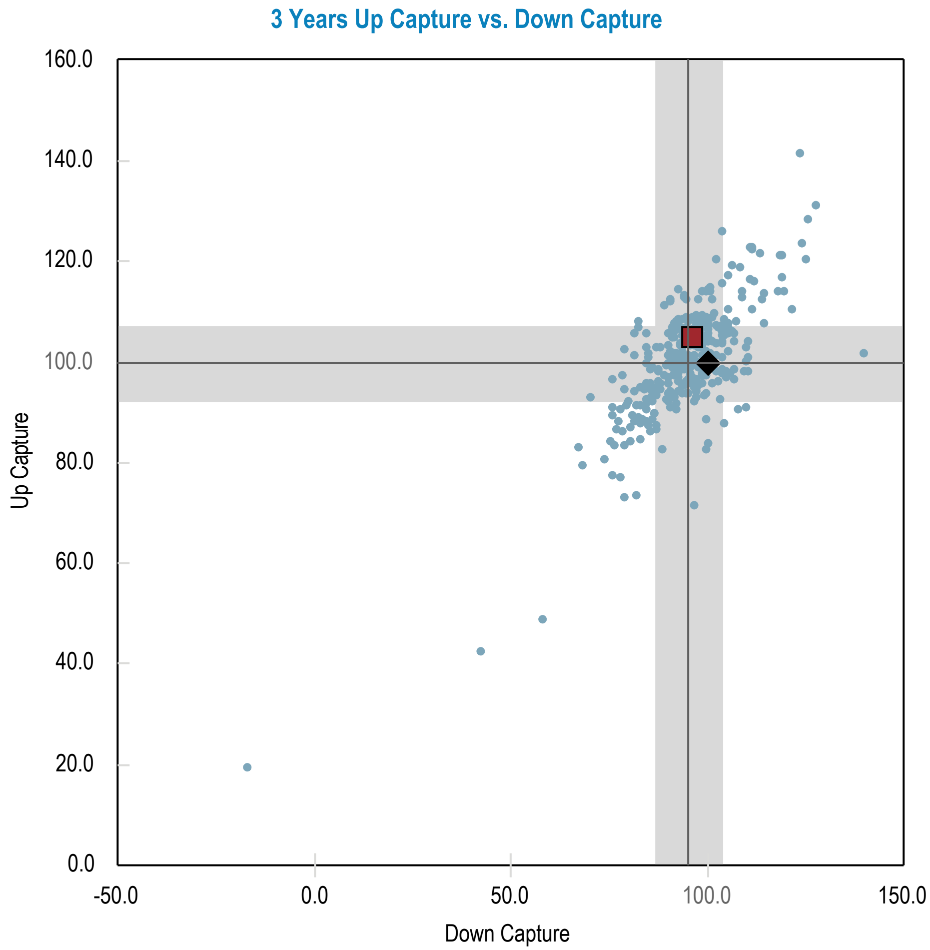
	Up Capture	Down Capture
Total Fund	101.38	101.29
Policy Index	100.00	100.00
Median	109.59	115.01
Population	130	130



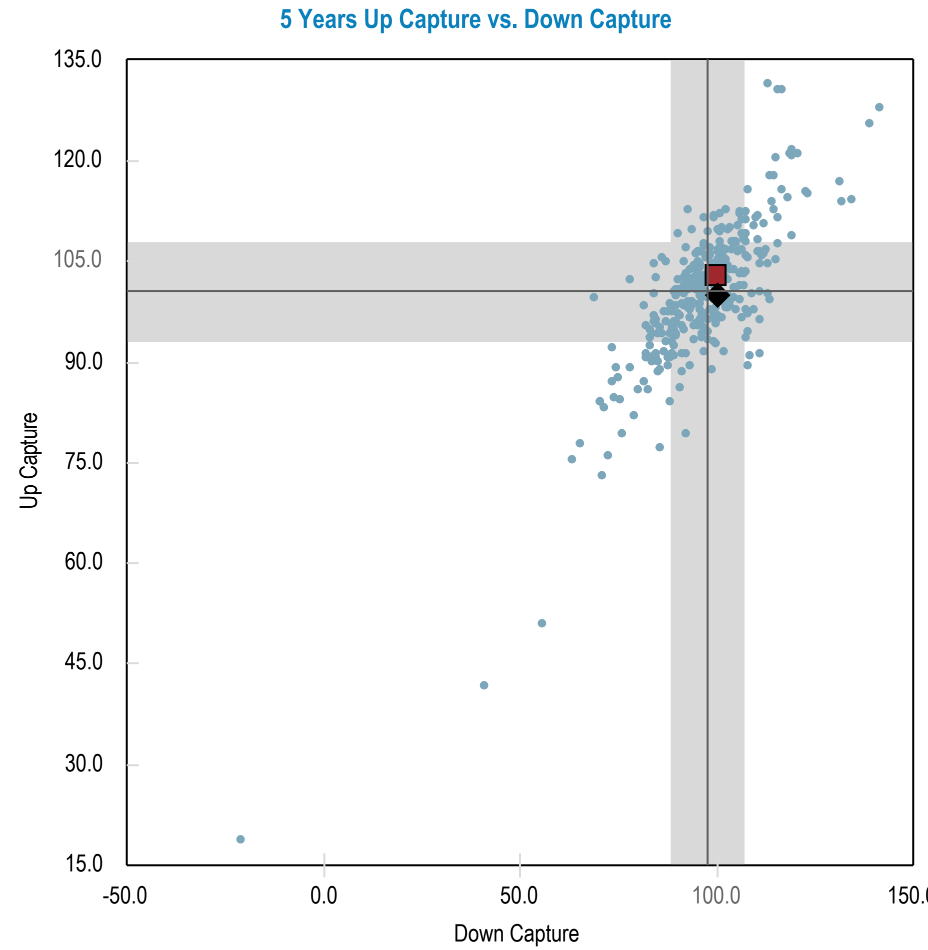


	Up Capture	Down Capture
PGIM QS US Core Equity	97.63	99.97
S&P 500 Index	100.00	100.00
Median	96.03	96.87
Population	307	307

	Up Capture	Down Capture
PGIM QS US Core Equity	98.28	103.93
S&P 500 Index	100.00	100.00
Median	95.46	98.05
Population	292	292



	Up Capture	Down Capture
Boston Partners Large Cap Value	105.17	96.42
Russell 1000 Value Index	100.00	100.00
Median	99.72	95.34
Population	352	352

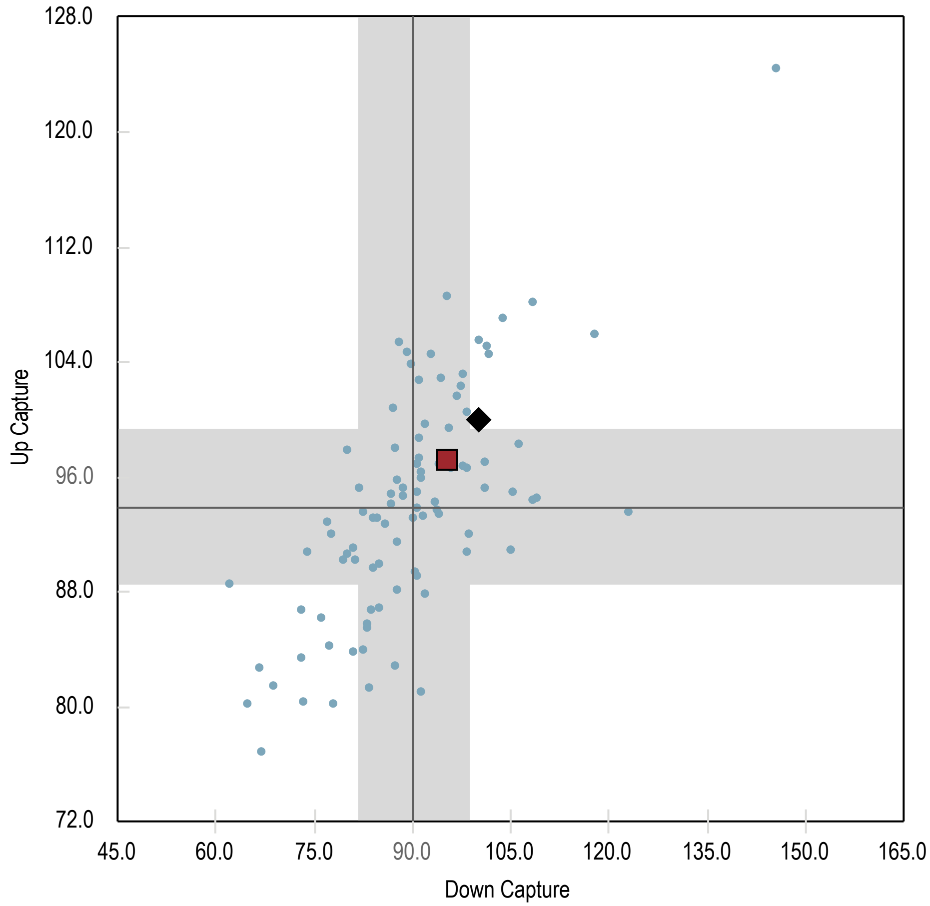


	Up Capture	Down Capture
Boston Partners Large Cap Value	103.13	99.53
Russell 1000 Value Index	100.00	100.00
Median	100.58	97.72
Population	340	340

William Blair SMID Cap Growth
Up Markets v. Down Markets (Net of Fees)

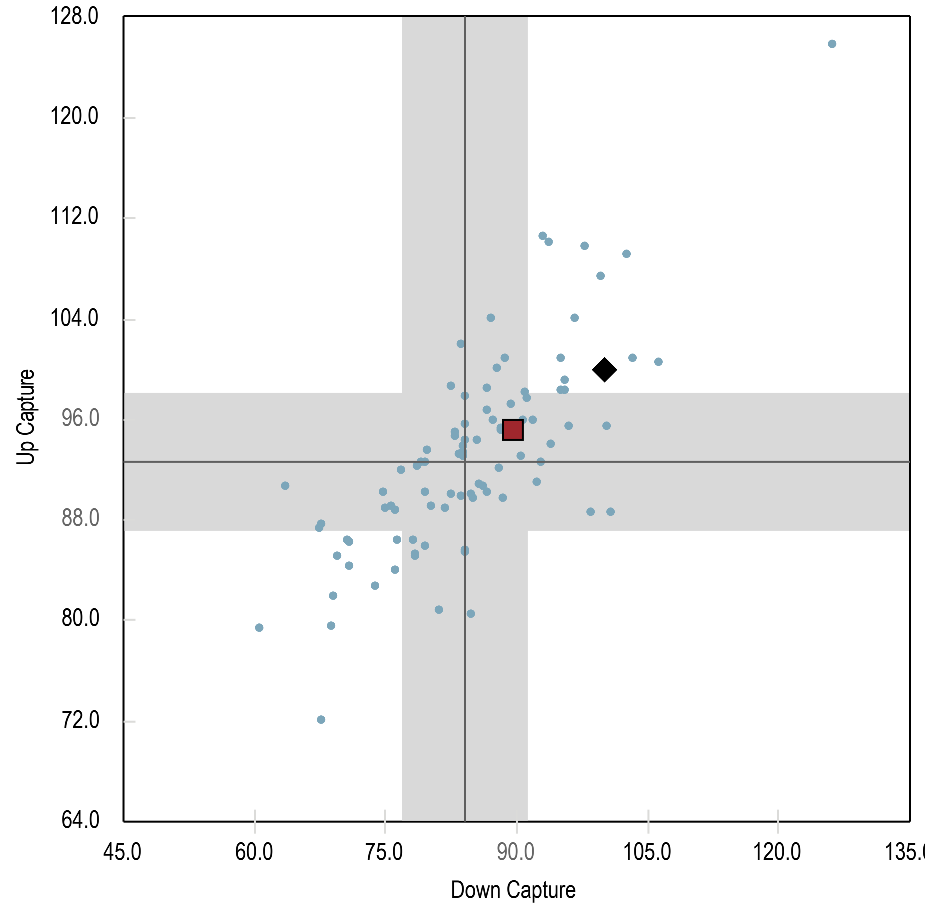
Tulare County Employees' Retirement Association
Period Ending: December 31, 2022

3 Years Up Capture vs. Down Capture

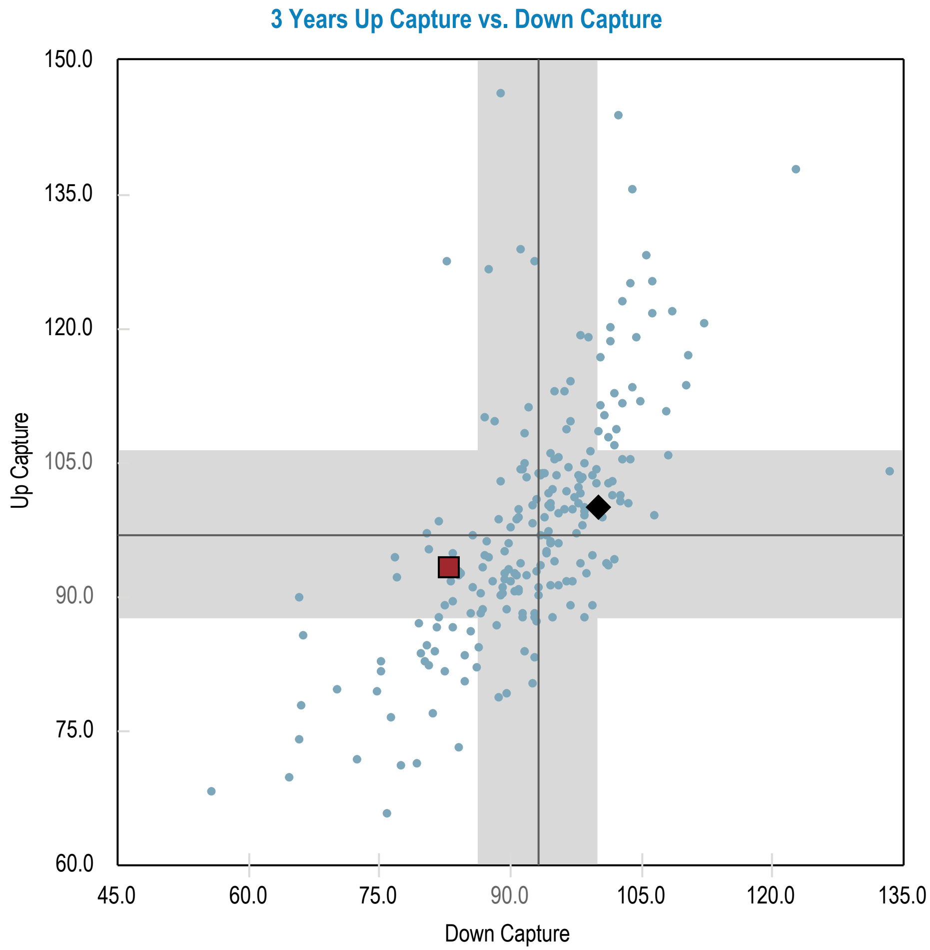


	Up Capture	Down Capture
William Blair SMID Cap Growth	97.20	95.23
Russell 2500 Growth Index	100.00	100.00
Median	93.93	90.19
Population	93	93

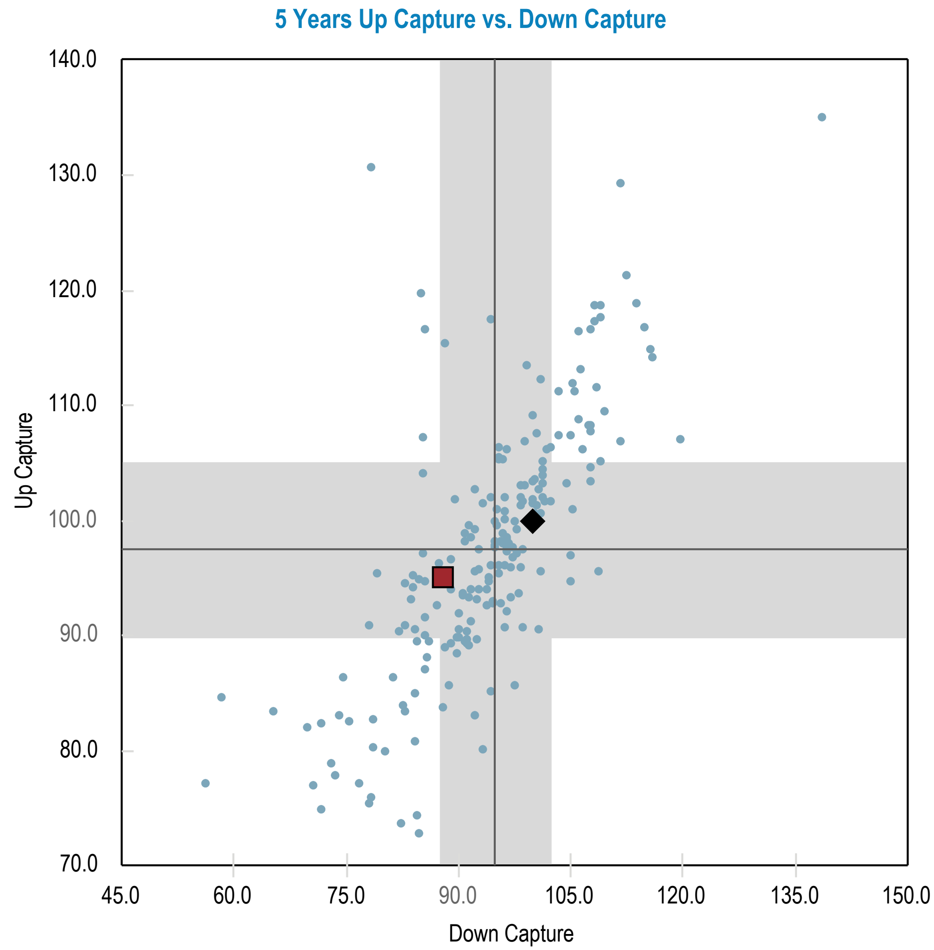
5 Years Up Capture vs. Down Capture



	Up Capture	Down Capture
William Blair SMID Cap Growth	95.14	89.48
Russell 2500 Growth Index	100.00	100.00
Median	92.64	84.08
Population	89	89

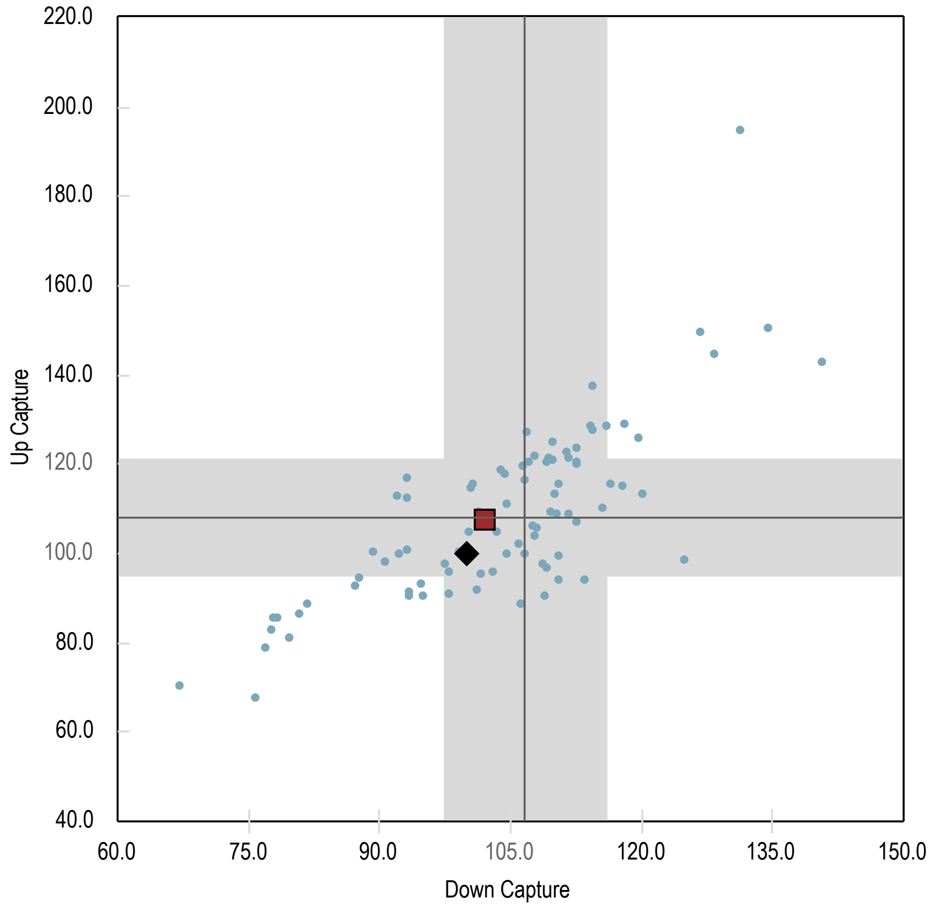


	Up Capture	Down Capture
Leeward Small Cap Value	93.29	82.97
Russell 2000 Value Index	100.00	100.00
Median	97.05	93.11
Population	216	216



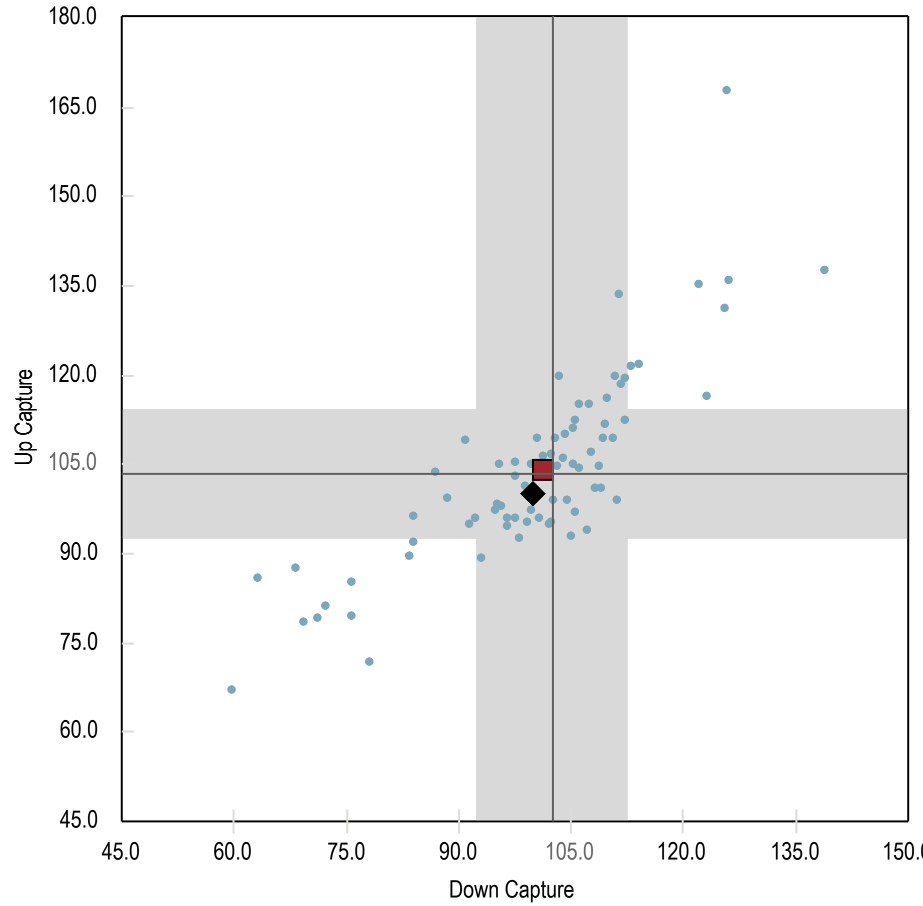
	Up Capture	Down Capture
Leeward Small Cap Value	95.16	88.01
Russell 2000 Value Index	100.00	100.00
Median	97.45	94.91
Population	207	207

3 Years Up Capture vs. Down Capture



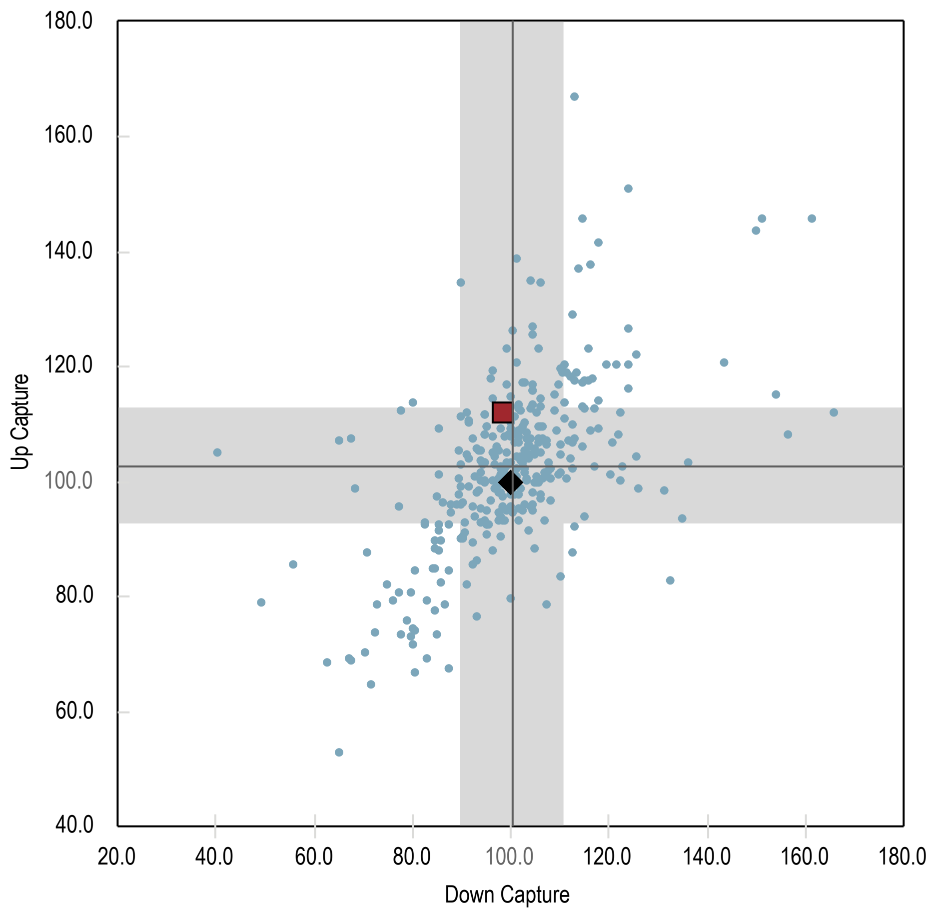
	Up Capture	Down Capture
PIMCO RAE Fundamental Global Ex US Fund	107.51	101.93
MSCI AC World ex USA Value (Net)	100.00	100.00
Median	108.09	106.66
Population	86	86

5 Years Up Capture vs. Down Capture



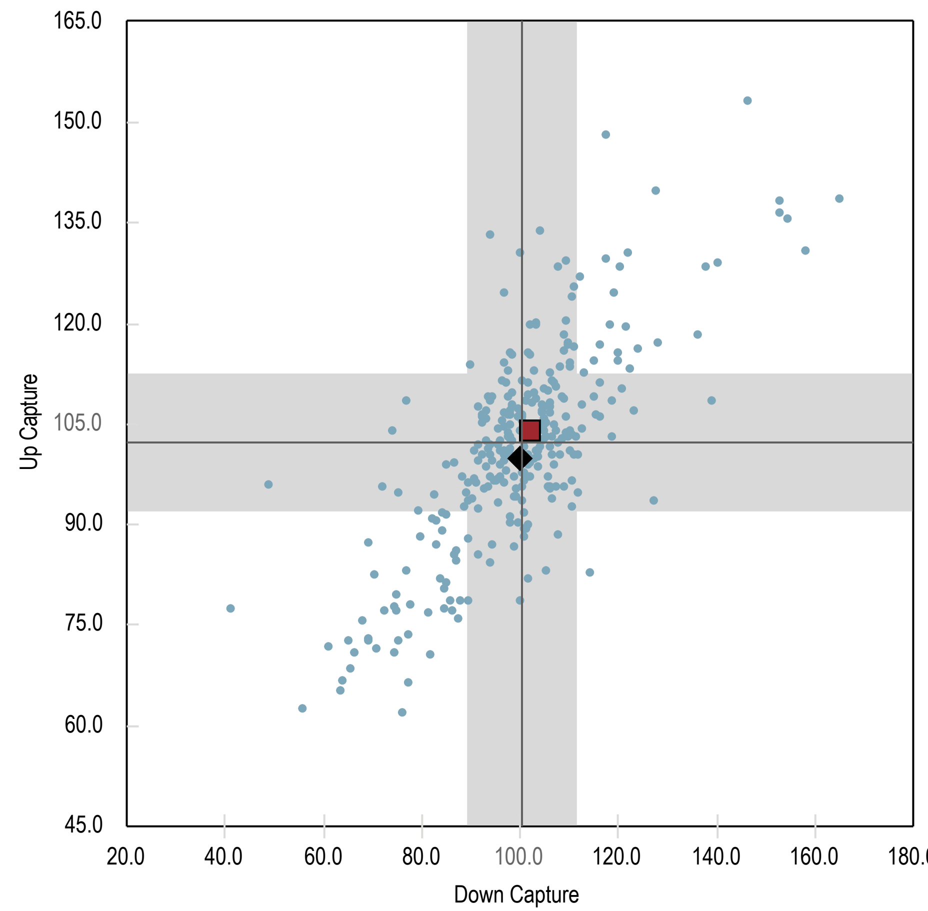
	Up Capture	Down Capture
PIMCO RAE Fundamental Global Ex US Fund	104.12	101.22
MSCI AC World ex USA Value (Net)	100.00	100.00
Median	103.36	102.54
Population	76	76

3 Years Up Capture vs. Down Capture



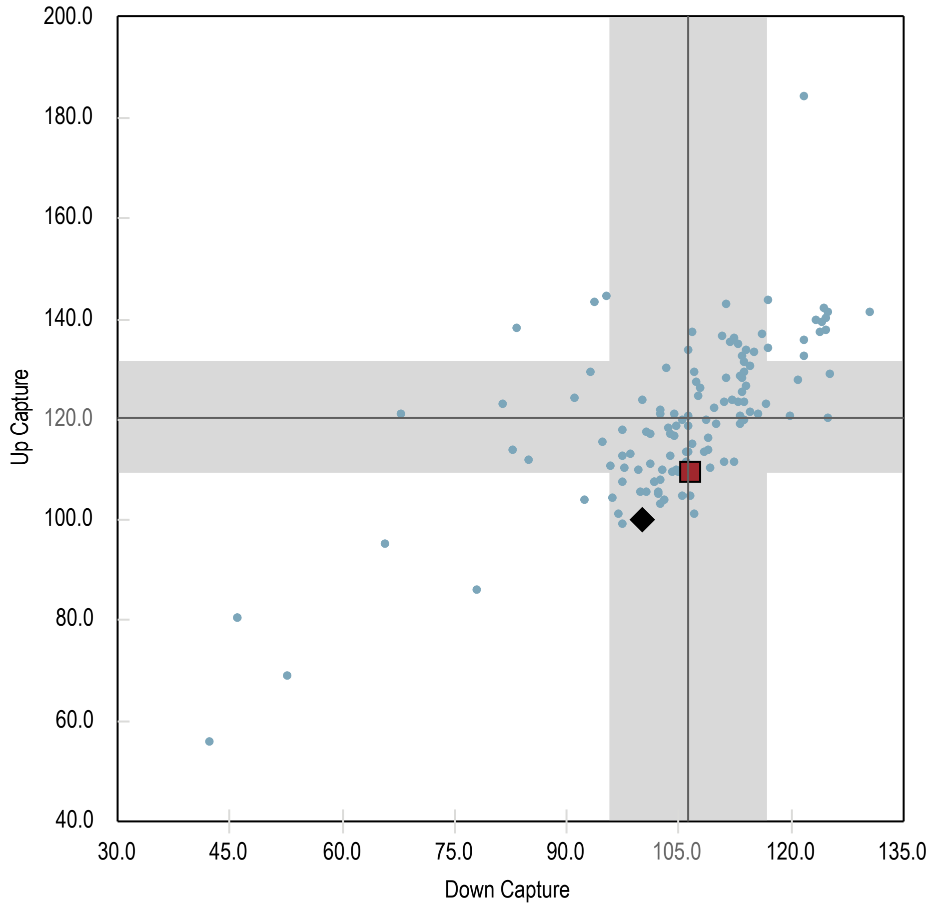
	Up Capture	Down Capture
Skellig Water Fund (aka KBI)	112.04	98.44
MSCI AC World Index (Net)	100.00	100.00
Median	102.82	100.28
Population	344	344

5 Years Up Capture vs. Down Capture



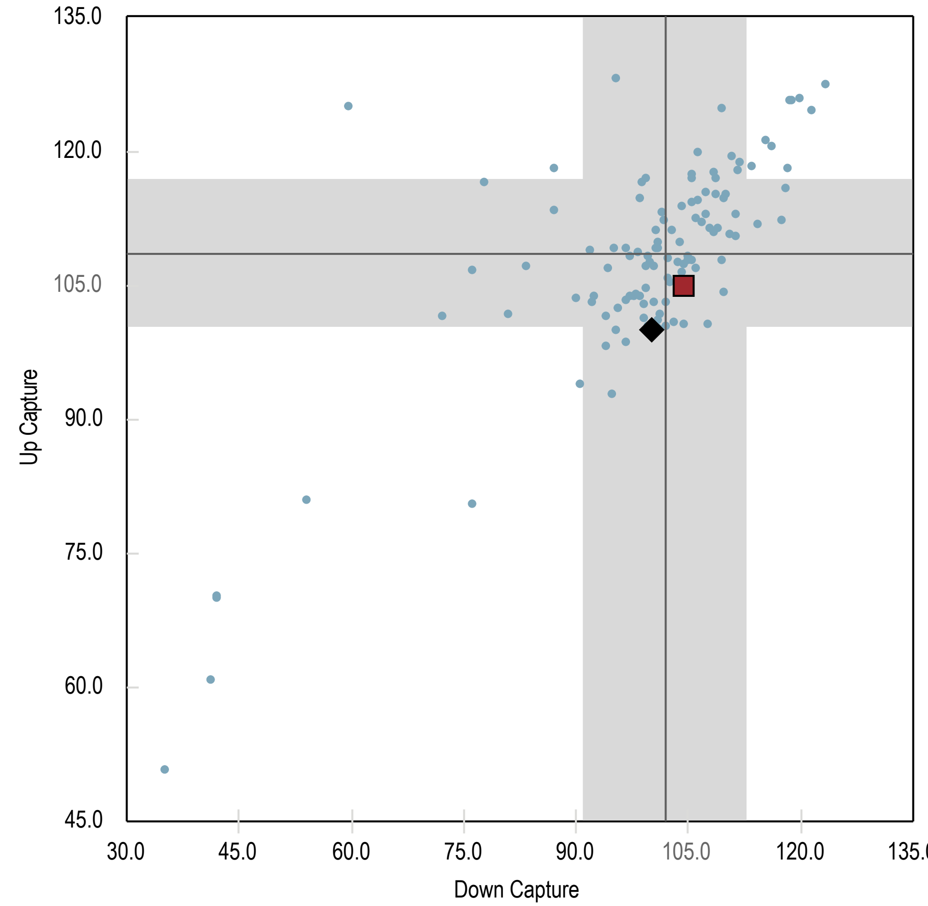
	Up Capture	Down Capture
Skellig Water Fund (aka KBI)	104.13	102.05
MSCI AC World Index (Net)	100.00	100.00
Median	102.34	100.44
Population	306	306

3 Years Up Capture vs. Down Capture



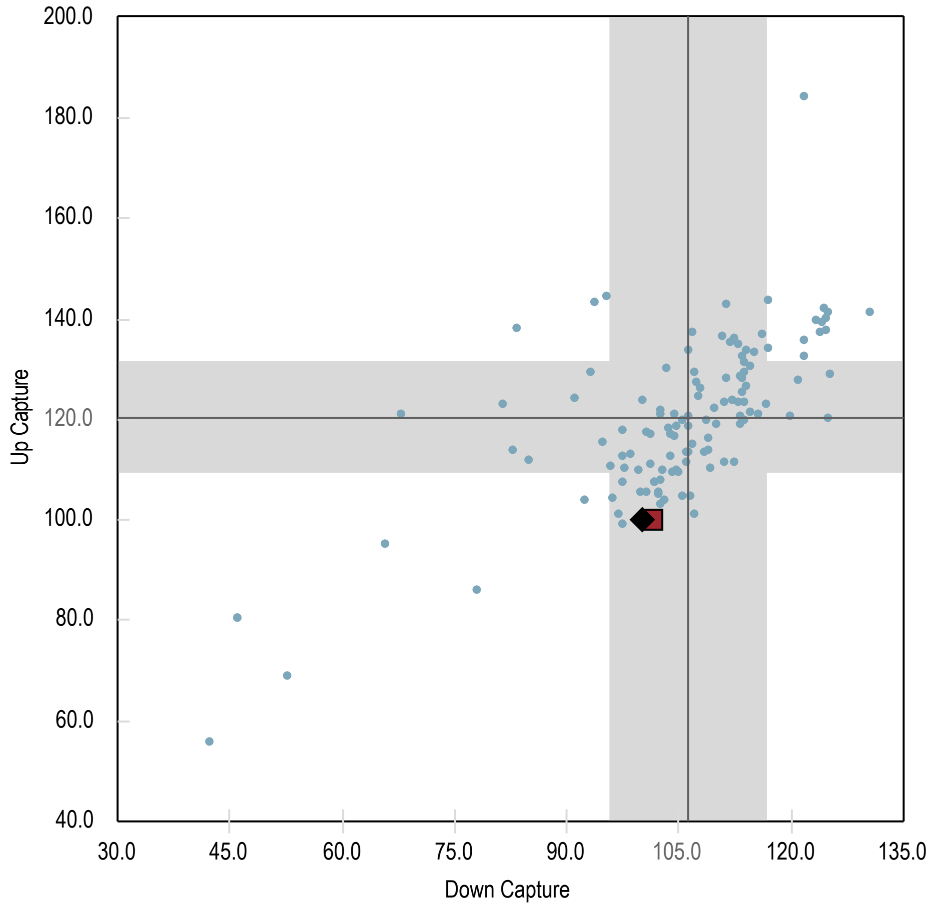
	Up Capture	Down Capture
BlackRock Core Plus Fixed Income	109.73	106.38
Blmbg. U.S. Aggregate Index	100.00	100.00
Median	120.48	106.29
Population	122	122

5 Years Up Capture vs. Down Capture



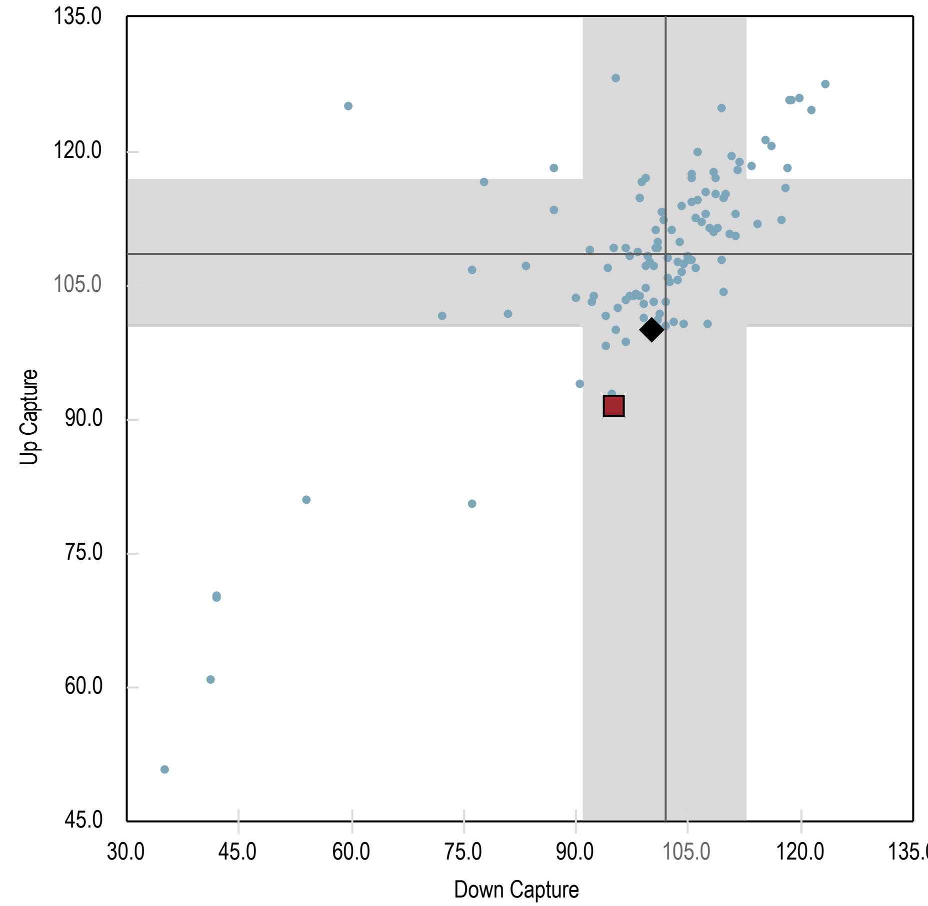
	Up Capture	Down Capture
BlackRock Core Plus Fixed Income	105.06	104.38
Blmbg. U.S. Aggregate Index	100.00	100.00
Median	108.69	101.82
Population	114	114

3 Years Up Capture vs. Down Capture



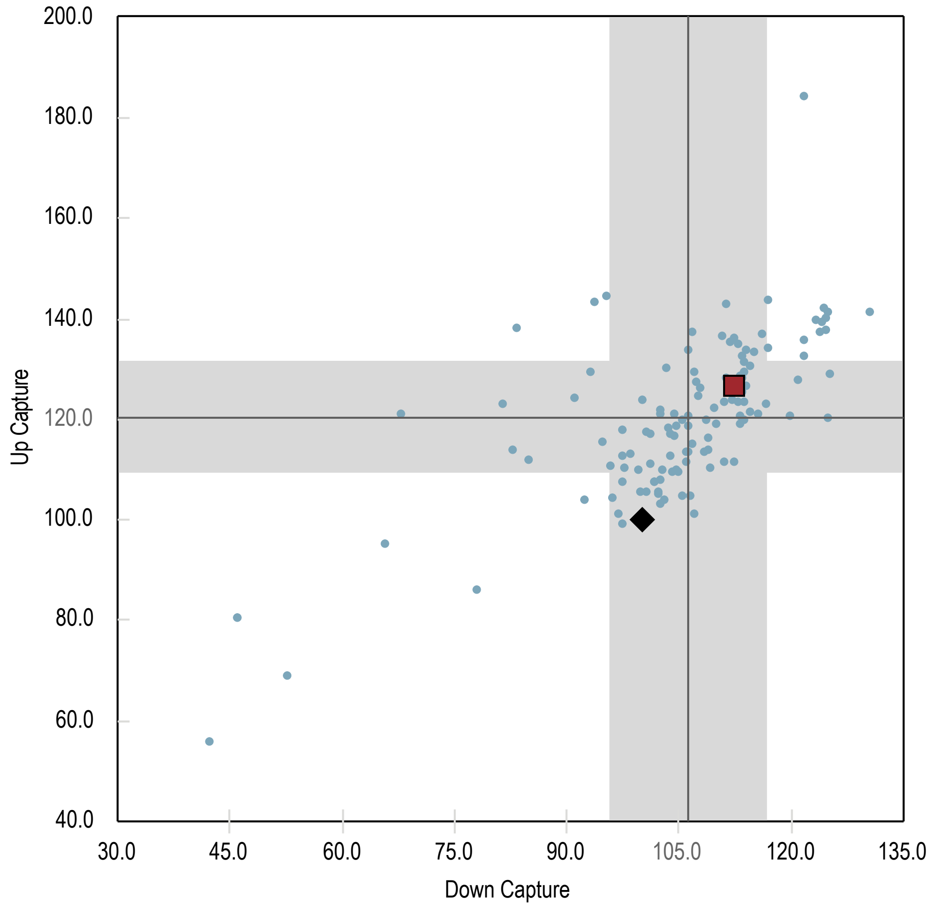
	Up Capture	Down Capture
Doubleline Core Plus	100.13	101.39
Blmbg. U.S. Aggregate Index	100.00	100.00
Median	120.48	106.29
Population	122	122

5 Years Up Capture vs. Down Capture



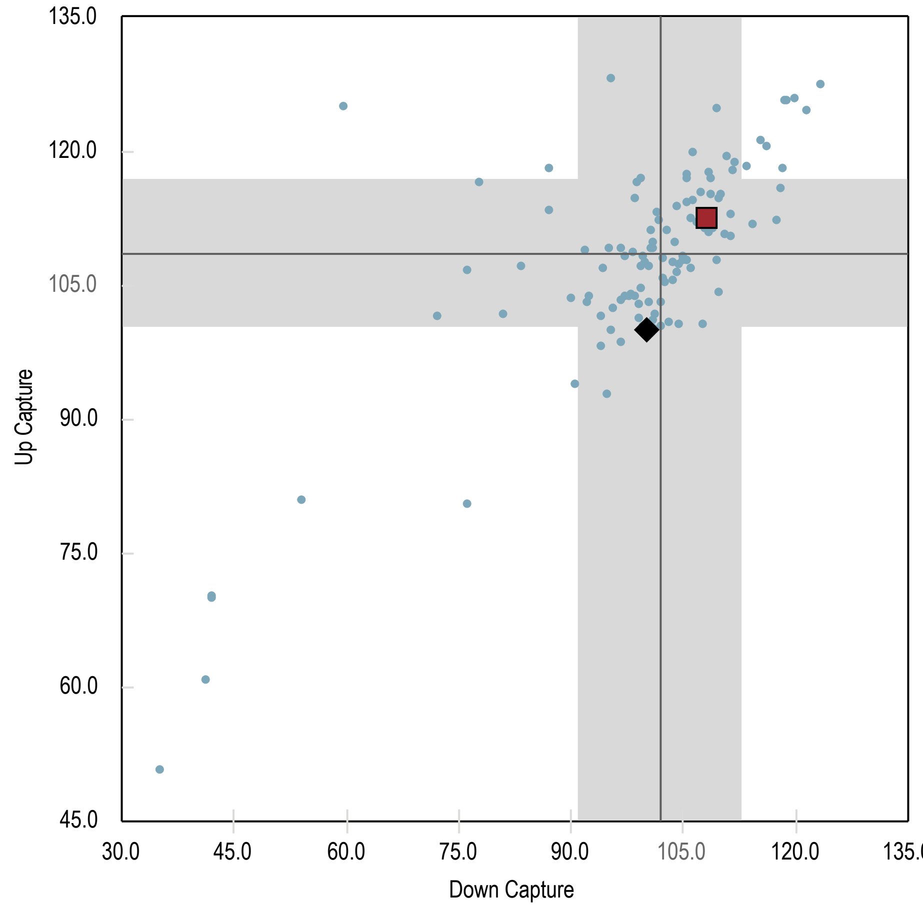
	Up Capture	Down Capture
Doubleline Core Plus	91.66	94.90
Blmbg. U.S. Aggregate Index	100.00	100.00
Median	108.69	101.82
Population	114	114

3 Years Up Capture vs. Down Capture



	Up Capture	Down Capture
MacKay Shields Core Plus	126.65	112.35
Blmbg. U.S. Aggregate Index	100.00	100.00
Median	120.48	106.29
Population	122	122

5 Years Up Capture vs. Down Capture



	Up Capture	Down Capture
MacKay Shields Core Plus	112.71	108.18
Blmbg. U.S. Aggregate Index	100.00	100.00
Median	108.69	101.82
Population	114	114

Performance Return Calculations

Performance is calculated using Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are linked geometrically and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

Illiquid Alternatives

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Manager Line Up

Manager	Fund Incepted	Data Source	Manager	Fund Incepted	Data Source
SSGA S&P 500 Flagship Fund	7/27/2011	SSGA	SSGA US REIT Index Non-Lending Fund	12/10/2021	BNY
PGIM QS US Core Equity	12/1/2008	BNY	RREEF America II	3/1/2003	Deutsche
Boston Partners Large Cap Value	2/1/1999	BNY	Pantheon USA Fund VI	7/26/2005	Pantheon
William Blair Large Cap Growth	4/25/2022	BNY	PIMCO BRAVO	1/14/2011	PIMCO
SSGA US Extended Market Index	6/10/2021	SSGA	KKR Mezzanine Partners	7/8/2011	KKR
William Blair SMID Cap Growth	6/30/2006	BNY	Stepstone Secondary Opps II	5/10/2013	Stepstone
Leeward Small Cap Value	8/26/2009	BNY	Ocean Avenue Fund III	5/27/2016	Ocean Ave
SSGA MSCI ACWI ex US	1/1/2010	SSGA	Ocean Avenue Fund IV	9/16/2019	Ocean Ave
PIMCO RAE	8/14/2012	PIMCO	Pathway Fund 8	4/12/2016	Pathway
SGA Global Growth	6/4/2018	SGA	Pathway Fund 9	5/31/2018	Pathway
Skellig DST Water Fund	10/28/2014	KBI	Pathway Fund 10	3/31/2020	Pathway
BlackRock Fixed Income	12/1/1995	BNY	Sixth Street Partners Diversified Credit	11/21/2016	Sixth Street
Doubleline Core Plus	12/1/2015	BNY	Sixth Stree TAO Contingent	4/16/2020	Sixth Street
MacKay Shields Core Plus	12/1/2015	MacKay	American Realty	12/20/2019	American Realty
PGIM Emerging Markets Debt	8/26/2019	BNY	Invesco Commercial Mortgage	9/1/2021	Invesco

Policy & Custom Index Composition

Policy Index: (10/1/2021 - Current)	26% Russell 3000, 5% Russell 2000, 16% MSCI ACWI ex US, 3% MSCI ACWI, 17% Bloomberg US Aggregate, 3% JPM GBI Global, 13.4% NCREIF-ODCE, 7% Private Equity Returns, 5% Private Credit Returns, and 4.6% MSCI US REIT Index.
Policy Index (9/30/2020 - 10/1/2021)	25% Russell 3000, 15% MSCI ACWI ex US, 3% MSCI ACWI, 17% BBgBarc US Aggregate, 5% JPM GBI Global, 5% (50% JPM EMBI Global Div/50% JPM GBI EM Global Div), 20% NCREIF-ODCE, 5% Private Equity Returns, 5% Private Credit Returns.
Policy Index (10/23/2019 - 7/22/2020)	20% Russell 3000, 20% MSCI ACWI ex US, 3% MSCI ACWI, 17% BBgBarc US Aggregate, 5% JPM GBI Global, 5% (50% JPM EMBI Global Div/50% JPM GBI EM Global Div), 20% NCREIF-ODCE, 5% Private Equity Returns, 5% Private Credit Returns

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - Risk-free Rate)].

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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