



AGENDA

RETIREMENT BOARD MEETING

REGULAR MEETING

August 24, 2022, 9:00 a.m.

The Board of Retirement will hold its meeting via teleconferencing as permitted by Government Code Section 54953(e). The meeting is accessible telephonically at 669-900-6833, Webinar ID: 849 7815 7751 Passcode: 359244, or via the web at:

<https://us06web.zoom.us/j/84978157751?pwd=UjNQazNScnNPY2ZlIHcxem45WXRyZz09>

Passcode: 359244

Persons who wish to address the Board of Retirement during public comment may call in during the meeting by dialing the phone number and passcode above. Access via Zoom is also available at the weblink above. To indicate you wish to speak during public comment, please select *9 on your phone or “raise your hand” in the Zoom app.

Public comments are limited to any item that is within the subject matter jurisdiction of the Board of Retirement. Comments will be received in real time via telephone or Zoom, subject to a three-minute time limit per speaker.

THE RETIREMENT BOARD MAY DISCUSS AND TAKE ACTION ON THE FOLLOWING:

1. Pledge of Allegiance.
2. Roll Call.
3. Accept comments from the public.
4. Approve minutes from the July 27, 2022 meeting.
5. Review of total portfolio performance for period ending June 30, 2022.
 - a. Presentation from Verus
 - b. Presentation from staff
6. Review of portfolio rebalancing report.
7. Review of real estate investment performance and pacing recommendation.

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.

8. Consider and take possible action to authorize the Board to conduct teleconference meetings under Government Code section 54953 (e) and to make related findings.
9. Consider authorizing the attendance of Board:
 - a. SACRS Board of Directors and Committee meetings, September 26-27, 2022, Santa Barbara, CA.
 - b. ILPA Institute Private Equity for the Trustee, September 27-28, 2022, San Francisco, CA. (Note: Conflict with Board Meeting).
 - c. CRCEA Annual Fall Conference, October 9-12, 2022, Sacramento, CA. (Note: Conflict with Board Meeting).
 - d. Invesco Real Estate Global Client Conference, November 15-17, 2022, San Diego, CA.
10. Miscellaneous
 - a. Staff Report
 - b. Outside Professionals' Report
 - c. Trustees' comments

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.



Meeting Date
08/24/2022
Agenda Item
#4

RETIREMENT BOARD MEETING MINUTES

REGULAR MEETING

July 27, 2022

9:00 a.m.

The Board of Retirement meeting was accessible telephonically at (669) 900-6833, Webinar ID 811 9772 0927 Passcode 879812, as permitted by Government Code Section 54953(e).

1. Pledge of Allegiance

The Board and staff joined in the *Pledge of Allegiance*.

2. Roll Call

Present: Candace Andersen, Dennis Chebotarev, Donald Finley, Scott Gordon, Jerry Holcombe, Louie Kroll, Jay Kwon, David MacDonald, John Phillips, Mike Sloan, Russell Watts and Samson Wong

Absent: None

Staff: Gail Strohl, Chief Executive Officer; Christina Dunn, Deputy Chief Executive Officer; Karen Levy, General Counsel and Tim Price, Chief Investment Officer

Outside Professional Support:	Representing:
Jesse Rivera	Segal Company
Christopher Fikes	Segal Company

It was the consensus of the Board to move to Item 5.

5. Approval of Minutes

It was **M/S/C** to approve the minutes from the June 22, 2022 meetings. (Yes: Andersen, Chebotarev, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips and Watts)

3. Appoint audit committee members

Gordon appointed John Phillips as the Chairperson, Russell Watts as the Vice-Chairperson and Jerry Holcombe and David MacDonald as members of the Audit Committee.

4. Accept comments from the public

Teresa Notarmaso spoke about the length of time it is taking for her to receive her first Retirement check.

Carol Nowicki spoke about her husband's experience in 2015 with CCCERA.

Pete Nowicki spoke about his experience with CCCERA through litigation.

6. Pension administration system project update from Segal

Jesse Rivera from Segal Company gave an update on the pension administration system project.

7. Consider and take possible action to adopt Board of Retirement Resolution No. 2022-2, Investment Asset Allocation Targets and Ranges

It was **M/S/C** to adopt the Board of Retirement Resolution No. 2022-2, Investment Asset Allocation Targets and Ranges. (Yes: Andersen, Chebotarev, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips and Watts).

8. Update on real estate and private equity commitments

Price gave an update on real estate and private equity commitments.

9. Consider and take possible action to adopt Board of Retirement Resolution 2022-3 to increase the salary of the Chief Executive Officer by \$10,000.00 per year and provide a one-time lump sum payment of \$10,000.00 effective July 14, 2022.

It was **M/S/C** to adopt Board of Retirement Resolution 2022-3 to increase the salary of the Chief Executive Officer by \$10,000.00 per year and provide a one-time lump sum payment of \$10,000.00 effective July 14, 2022. (Yes: Andersen, Chebotarev, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips and Watts).

10. Consider and take possible action to amend Attachment A of Resolution 2022-1 to reflect the new CEO monthly base salary effective July14, 2022.

It was **M/S/C** to amend Attachment A of Resolution 2022-1 to reflect the new CEO monthly base salary effective July 14, 2022. (Yes: Andersen, Chebotarev, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips and Watts).

11. Consider authorizing the attendance of Board:

a) It was **M/S/C** to authorize the attendance of one Board Member at the SACRS Board of Directors and Program Committee Meetings, August 22-23, 2022, Los Angeles, CA. (Yes: Andersen, Chebotarev, Finley, Gordon, Holcombe, Kroll, MacDonald, Phillips and Watts).

12. Miscellaneous

a. Staff Report – Strohl reported CCCERA staff are working hard on the Sagitec pension administration project as well as processing the increased amount of retirement applications. Staff will continue to discuss how we can improve the turnaround time of retirement calculations and make sure the timeline is reduced.

Kroll requested a timeline of the retirement application process be presented at a future meeting.

b. Outside Professionals – None

- c. Trustee' comments – MacDonald reported he attended the SACRS UC Berkeley Program along with Kroll and Sloan and noted it is a great educational program. He would recommend this program for all trustees regardless of experience. This was the best program he has attended.

Sloan reported he was very impressed with the conference content and the excellent instructors. He would recommend the conference.

Kroll also agreed with MacDonald and Sloan and noted it is a great conference to attend whether you are a new trustee or a long-term trustee. The conference is structured in a way that caters to all.

It was **M/S/C** to adjourn the meeting. (Yes: Andersen, Chebotarev, Finley, Gordon, Holcombe, Kroll, Phillips, MacDonald and Watts)

Scott Gordon, Chairman

Jerry R. Holcombe, Secretary

Meeting Date
08/24/2022
Agenda Item
#5a.

Verus⁷⁷⁷



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: JUNE 30, 2022

Investment Performance Review for

Contra Costa County Employees' Retirement Association

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Investment Landscape

TAB I

Investment Performance
Review

TAB II



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

3RD QUARTER 2022
Investment Landscape

Recent Verus research

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

Topics of interest papers

A CLOSER LOOK AT CHINA

China's ascension over the past twenty years to the second largest economy in the world has changed the global landscape in a variety of ways. As China's economic size and market capitalization grows, many investors have reasonably been pondering how to treat their allocations to Chinese assets. In this Topic of Interest white paper, we offer some potential opportunities and threats around Chinese investment that should help provide context to investors in their decisions around this market.

A PRIMER: TIMBERLAND & FARMLAND

In this Topic of Interest white paper, we will aim to inform readers of the investment thesis for timberland and agriculture, detailing the return drivers and characteristics unique to each asset class. Next, we cover historical performance and how these asset classes might fit within institutional portfolios and contribute to portfolio return objectives. Here we touch on the commonly acknowledged issues around interpreting the volatility of private market assets, due to data lag and appraisal-smoothing effects. Last, we conclude with a Verus outlook on both Timberland and Agriculture in the current market environment.

Annual research

2022 REAL ASSETS OUTLOOK

For the first time in decades, high inflation has emerged and is creating challenges for consumers and investors. We believe inflation will likely begin falling later in 2022, though notable inflationary and deflationary forces are in play, and it is difficult to gauge which of these forces will have greater impacts. While inflation remains the topic most discussed in the media, and among many investors, how the Fed responds and whether the tightening path overcorrects is an issue we are discussing more today. Learning from history and the actions of the Volker Fed, we would not rule out the possibility that this inflation cycle quickly turns into deflation as recessionary forces take hold.

Verus business update

Since our last Investment Landscape webinar:

- Verus hired several new employees. **John Santopadre, CFA**, Director | Portfolio Management; **Colleen Flannery**, Associate Director | Public Markets; **Lukas Seeley**, Performance Analyst; **James Wadner**, Performance Analyst; **Jonah Coffee**, Performance Analyst; and **Nicholas Pecache**, Performance Analyst.
- The firm continues to grow with new clients that stretch from Hawaii to South Carolina. We now proudly serve clients in 26 states in every domestic time zone.
- Recent research found at verusinvestments.com/insights
 - In May, we released our **2022 Real Assets Outlook**
 - In June, we published a **Primer on Mortgage Income** and **A Primer: Timberland & Farmland**
 - Earlier this month, we released a *Topics of Interest* paper on **A Closer Look at China**

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2nd quarter summary

THE ECONOMIC CLIMATE

- U.S. real GDP fell again during Q2, down -0.9% annualized (+1.6% over the past full year). This stoked broad fears of recession, as two consecutive quarters of negative growth is a common definition of technical recession.
- U.S. real personal consumption slowed to pre-COVID rates of growth, coming in at 2.1% year-over-year in May. The buying habits of consumers appear to have transitioned back towards services and away from goods, reversing the unprecedented spending shift that had occurred during the pandemic. This trend should help mitigate strained supply chains, as fewer goods require shipping.

PORTFOLIO IMPACTS

- U.S. core CPI slowed to 5.9% year-over-year in June. Headline inflation, which includes food and energy prices, came in surprisingly hot at 9.1% year-over-year, exceeding expectations. Higher energy prices were a major driver of the inflation print, with energy commodities and gasoline moving more than 10% higher from May to June.
- Credit markets sold off during Q2, impacted by concerns of a slowing economy and possibility of recession as the Fed signaled a willingness to raise rates until inflation slows. Bank loans performed the best at -4.4% and outperformed longer duration bonds such as investment grade and high yield (-7.3% and -9.8%, respectively).

THE INVESTMENT CLIMATE

- Russia's invasion of Ukraine continued, resulting in heavy losses on both sides. Most fighting has taken place in the east, as Russia gradually advances. Both Finland and Sweden are in the process of joining NATO—a landmark move and result of war likely unforeseen by Russia.
- Early in 2022 many investors feared a potential global commodity shortage—a product of underinvestment in production capacity in recent years. Russia's invasion of Ukraine further amplified these concerns, pushing commodities higher. This trend appears to have reversed, as recession is a notable possibility, and many commodities have seen sharp losses.

ASSET ALLOCATION ISSUES

- Nearly every asset class delivered moderate to deeply negative returns during Q2. Global equities saw a -15.7% pullback (MSCI ACWI), fixed income experienced losses as interest rates rose and credit spreads widened (BBG US Aggregate -4.7%, BBG US High Yield -9.8%), and commodities saw a reversal (BBG Commodity -5.7%).
- Value stocks outperformed Growth stocks by a wide margin again during Q2 (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations were hit by rising rates and risk-off sentiment. Large capitalization stocks slightly outperformed small cap stocks (Russell 1000 -16.7%, Russell 2000 -17.2%).

Most asset classes delivered further losses during Q2 over fears of inflation and recession

What drove the market in Q2?

“Inflation Surges Heap Pressure on Global Policy Makers”

HEADLINE CONSUMER PRICE INFLATION (YEAR-OVER-YEAR)

Jan	Feb	Mar	Apr	May	Jun
7.5%	7.9%	8.5%	8.3%	8.6%	9.1%

Article Source: Financial Times, April 13th, 2022

“Fed Raises Rates by 0.75%, Largest Increase Since 1994”

FED FUNDS RATE EXPECTED AT YEAR-END 2022

Jan	Feb	Mar	Apr	May	Jun
1.4%	1.4%	2.4%	2.9%	2.7%	3.4%

Article Source: Wall Street Journal, June 15th, 2022

“Risk of Global Recession by End of Year Rises on High Inflation”

IMF U.S. 2022 GDP GROWTH PROJECTIONS

Jul 21	Oct 21	Jan 22	Apr 22	Jun 22	Jul 22
4.9%	5.2%	4.0%	3.7%	2.9%	2.3%

Article Source: Bloomberg, April 11th, 2022

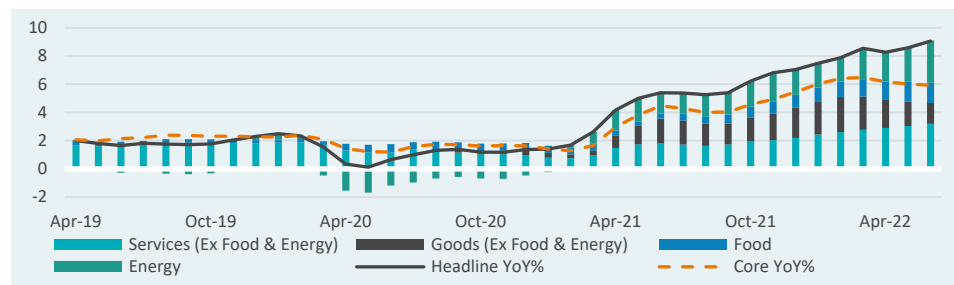
“Consumer Sentiment Plunges to Record Low Amid Surging Inflation”

UNIVERSITY OF MICHIGAN CONSUMER SENTIMENT INDEX

Jan	Feb	Mar	Apr	May	Jun
67.2	62.8	59.4	65.2	58.4	50.0

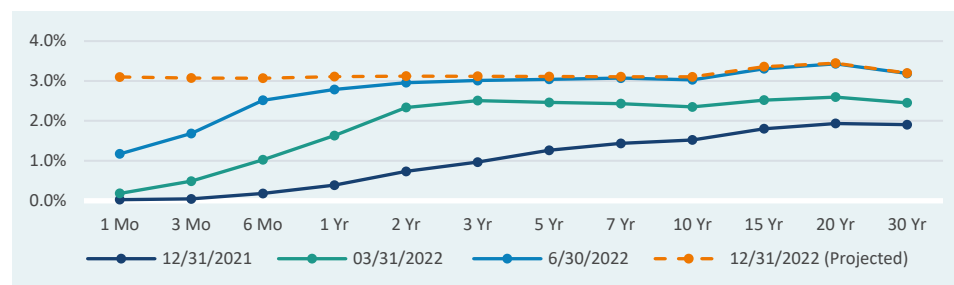
Article Source: CNN, June 10th, 2022

CONTRIBUTION TO HEADLINE CONSUMER PRICE INFLATION



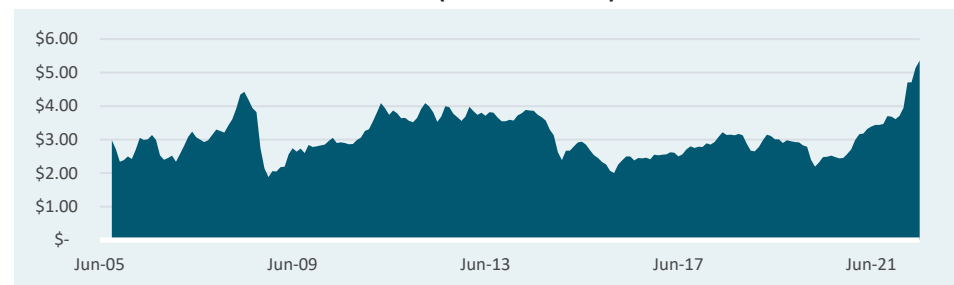
Source: Bureau of Labor Statistics, as of 6/30/22

U.S. TREASURY CURVE MOVEMENT



Source: Bloomberg, as of 6/30/22

AVERAGE U.S. GASOLINE PRICES (PER GALLON)



Source: Bloomberg, as of 6/30/22

Economic environment

U.S. economics summary

- U.S. real GDP fell -0.9% annualized during Q2 (+1.6% over the past full year). Most aspects of economic activity showed decline, including private investment (-2.7%), government spending (-0.3%), and imports (-0.5%). This stoked fears of recession, as two quarters of negative growth is a common definition of technical recession.
- The Federal Reserve’s objective of a “soft landing” for the economy appears to have failed. An increasingly aggressive stance during the first half of the year contributed to a broad market selloff. The negative wealth effect of the market selloff, paired with a slowdown in big ticket purchases, has slowed the economy.
- U.S. core CPI, which excludes food & energy prices, slowed to 5.9% year-over-year in June. However, headline inflation which includes food and energy prices, came in surprisingly hot at 9.1% year-over-year, exceeding expectations.

Higher energy prices were a major driver of the inflation print, with energy commodities and gasoline moving more than 10% higher just from May to June.

- Unemployment was unchanged at 3.6% during Q2. The broader U-6 unemployment rate tightened from 6.9% to 6.7%. A strong job market likely emboldens the Federal Reserve in its fight against high inflation, as the Fed holds a dual mandate to maximize employment and keep prices stable.
- Consumer sentiment collapsed to the lowest reading on record, according to the University of Michigan survey, which moved from 59.4 to 50.0. Survey respondents across all income, age, education, region, and political affiliation groups displayed deterioration in their outlook for the economy. Nearly half of respondents feel that inflation is damaging living standards.

	Most Recent	12 Months Prior
Real GDP (YoY)	1.6% 6/30/22	12.2% 6/30/21
Inflation (CPI YoY, Core)	5.9% 6/30/22	4.4% 6/30/21
Expected Inflation (5yr-5yr forward)	2.1% 6/30/22	2.2% 6/30/21
Fed Funds Target Range	1.50% – 1.75% 6/30/22	0.00% – 0.25% 6/30/21
10-Year Rate	2.89% 6/30/22	1.45% 6/30/21
U-3 Unemployment	3.6% 6/30/22	5.9% 6/30/21
U-6 Unemployment	6.7% 6/30/22	9.8% 6/30/21

GDP growth

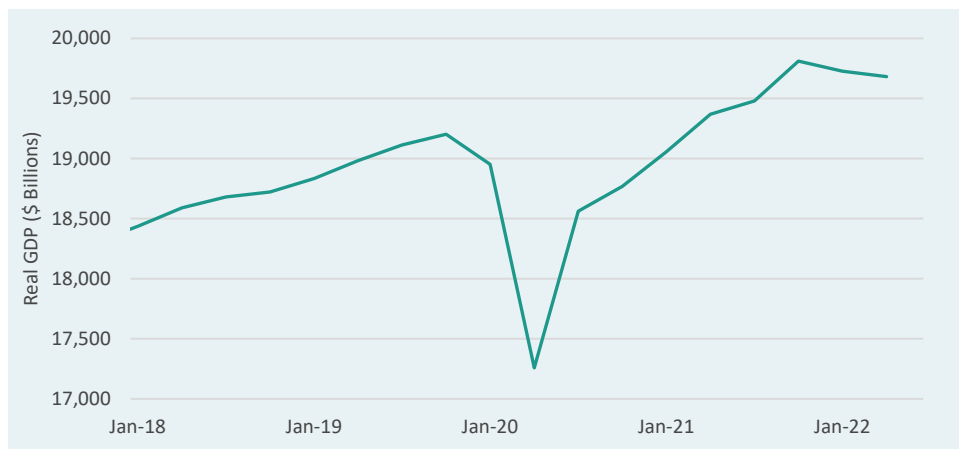
U.S. real GDP fell again in Q2, down -0.9% annualized (+1.6% over the past full year). Most aspects of economic activity showed decline, including private investment (-2.7%), government spending (-0.3%), and imports (-0.5%). This stoked fears of recession, as two consecutive quarters of negative growth is a common definition of technical recession. Interestingly, the definition of “recession” has become hotly debated, with some arguing that the relatively strong labor market suggests no recession. However, every instance of two consecutive quarters of negative GDP growth in modern history has ultimately been classified as an official recession. In other words, it would be extremely unusual if 2022 was not eventually

labeled as an official recession.

A variety of economic data indicates further deceleration, and sentiment remains very poor across citizens and businesses. In July, the IMF cut its U.S. 2022 GDP growth forecast from 2.9% to 2.3%. The Federal Reserve’s objective of a “soft landing” for the economy appears to have failed. An increasingly aggressive stance throughout the first half of the year contributed to a bear market for equities and other risk assets, as well as sharp losses for bonds. The negative wealth effect of market losses, paired with a slowdown in bigger ticket purchases such as homes and automobiles has created a drop in economic activity.

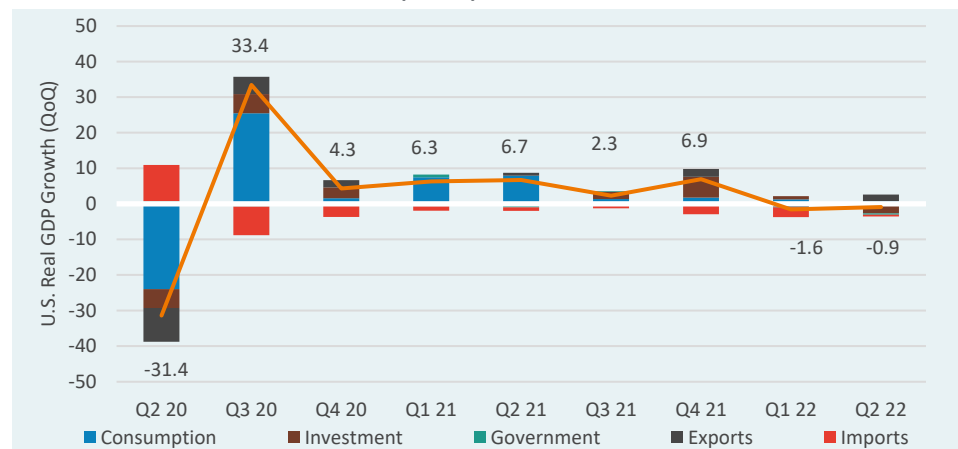
The U.S. has likely entered recession

U.S. REAL GROSS DOMESTIC PRODUCT



Source: FRED, as of 6/30/22

U.S. REAL GDP COMPONENTS (QOQ)



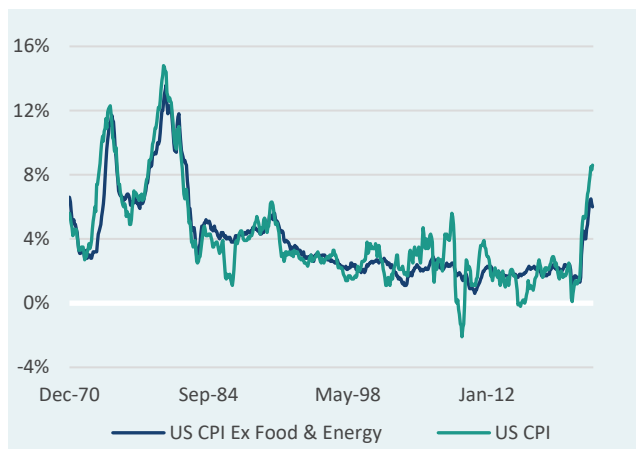
Source: FRED, as of 6/30/22

Inflation

U.S. core CPI, which excludes food & energy prices, slowed to 5.9% year-over-year in June. However, headline inflation which includes food and energy prices, came in surprisingly hot at 9.1% year-over-year, exceeding expectations. Higher energy prices were a major driver of the inflation print, with energy commodities and gasoline moving more than 10% higher from May to June. Inflation has been mixed during the quarter, with April showing very moderate price growth, May showing a hot print across almost all price categories, and then June also surprising to the upside.

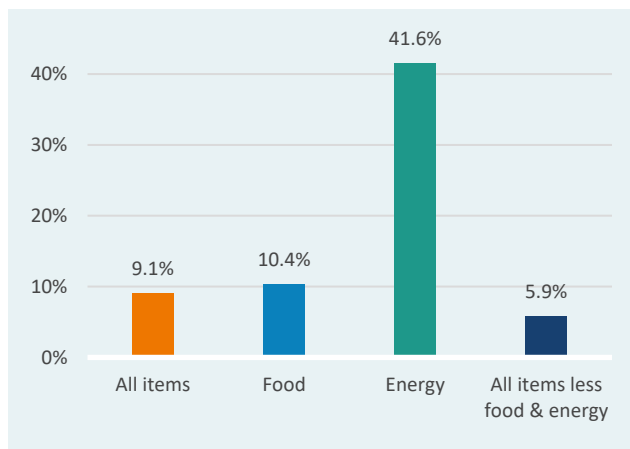
We believe there is a rising chance of economic deceleration coinciding with a drop in inflation. There appear to be a variety of forces that could contribute to this scenario, such as: the recent sharp fall in commodity prices, Federal Reserve tightening which has contributed to a slowdown in consumer demand, further easing of supply chain and shipping problems which reduces cost burdens on businesses, and reports that many businesses have *overbought* inventories which could lead to excesses and the need to offer more attractive pricing for quicker inventory liquidation.

U.S. CPI (YOY)



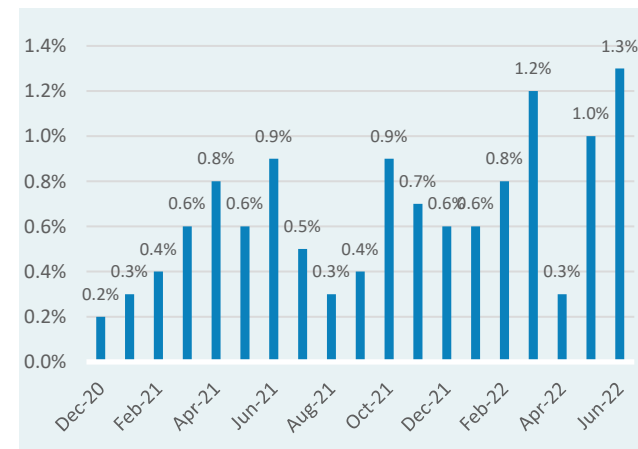
Source: BLS, as of 6/30/22

U.S. CPI (YOY)



Source: BLS, as of 6/30/22

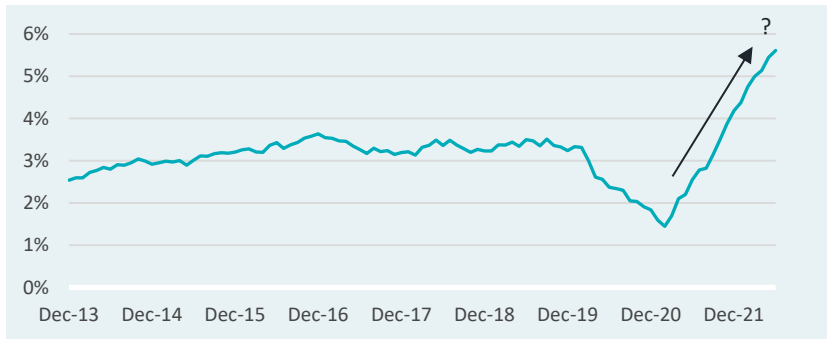
MONTHLY PRICE MOVEMENT



Source: BLS, as of 6/30/22

How are inflation conditions evolving?

CPI SHELTER COSTS (YEAR-OVER-YEAR)



Shelter costs, which account for 32% of CPI gauge, have moved considerably higher along with the broader real estate boom. The continuation of this trend could result in a higher floor for inflation near-term. This is possible since shelter CPI is survey-based and slow moving as consumers tend to anchor their survey responses on recent data.

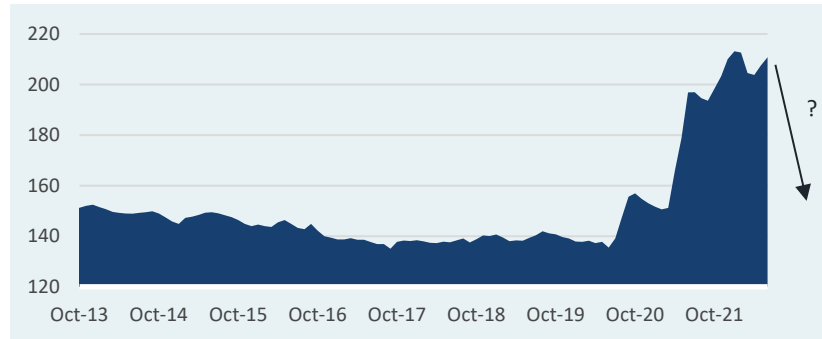
BLOOMBERG COMMODITY SPOT INDEX



Fears of a recession which would hinder the demand for commodities, and likely some easing of uncertainty around Ukraine, have contributed to a sharp drop in commodity prices. If weaker prices persist, the reversal in commodity markets should have a deflationary impact on broader consumer prices, though this effect may take time to flow through to broader prices.

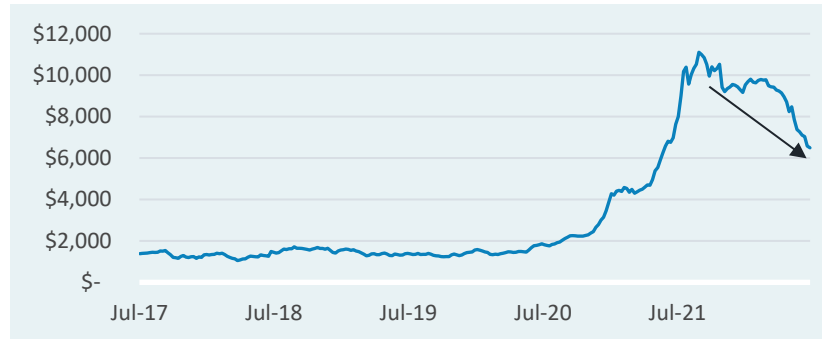
Source: FRED, as of 6/30/22 (upper), Bloomberg, as of 6/30/22 (lower)

USED CAR & TRUCK PRICES



Used auto prices remain high as the shortage of cars continues. If this pandemic-related price rise reverses, it could bring inflation down materially.

FREIGHTOS SHIPPING CONTAINER COST INDEX



Pandemic-related supply and demand complexities contributed to many supply shortages and price spikes. These shipping costs are quickly falling back towards pre-pandemic levels. We would expect the mitigation of shipping problems to have a deflationary effect on prices, assuming businesses begin to pass these cost savings on to customers.

Source: FRED, as of 6/30/22 (upper), Freightos, as of 7/10/22 (lower)

Inflation dynamics are complex. On this slide we take a look at a few potentially *inflationary* forces and *deflationary* forces

Labor market

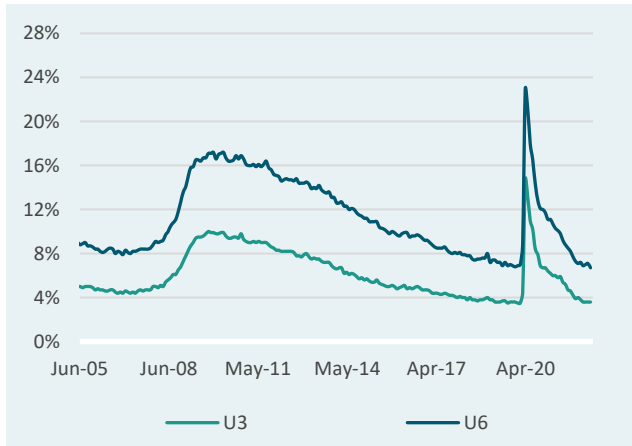
The U.S. labor market continues to be strong. Unemployment was unchanged at 3.6% during the quarter. Meanwhile, the broader U-6 unemployment rate, which includes workers who are underemployed and those who are unemployed but have given up looking for work, tightened from 6.9% to 6.7%. Weekly *initial jobless claims* — a measure of the number of workers who filed for unemployment during any given week — moved higher during the quarter from a low of 166,000 in mid-March to 244,000 in early July.

A strong job market likely emboldens the Federal Reserve in

its fight against high inflation, as the Fed holds a *dual mandate* to maximize employment and keep prices stable.

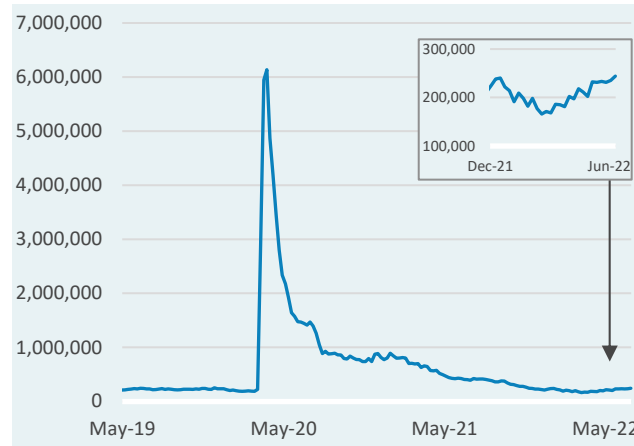
Abnormally early retirements of older workers during the pandemic had a large impact on the overall U.S. labor participation rate. While workers younger than age 55 have gradually gone back to work, much of the age 55+ cohort has not returned to the job market. In fact, more workers in the 55+ age cohort have dropped out of the labor force in 2022 than returned. Overall, there are materially fewer workers available nationwide now relative to pre-pandemic times.

U.S. UNEMPLOYMENT



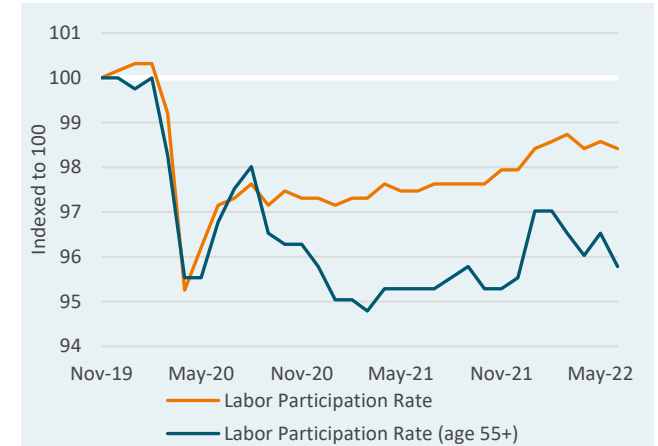
Source: FRED, as of 6/30/22

INITIAL JOBLESS CLAIMS



Source: FRED, as of 7/9/22

U.S. LABOR PARTICIPATION RATE



Source: FRED, as of 6/30/22

The consumer

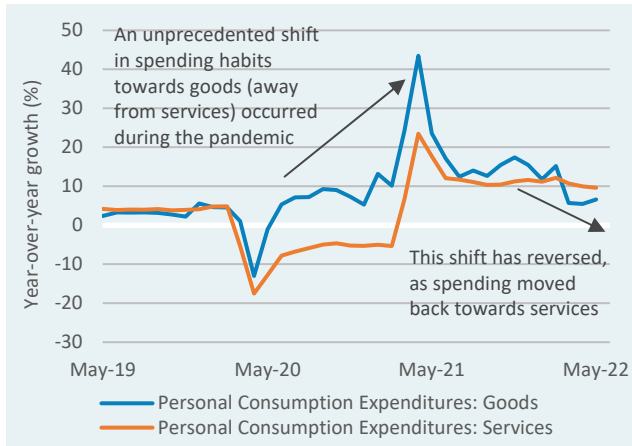
U.S. real (inflation-adjusted) personal consumption expenditures slowed to pre-COVID rates of growth, coming in at 2.1% year-over-year in May. The buying habits of consumers appear to have transitioned back towards services and away from goods, reversing the unprecedented spending shift that had occurred during the pandemic. This trend should help mitigate strained supply chains, as fewer goods require shipping.

At the same time overall spending has slowed, savings rates have also dropped to 5.4%—the lowest level since 2009. Less saving but also less spending (inflation-adjusted) may

indicate that household budgets are being squeezed by the higher prices of goods and services.

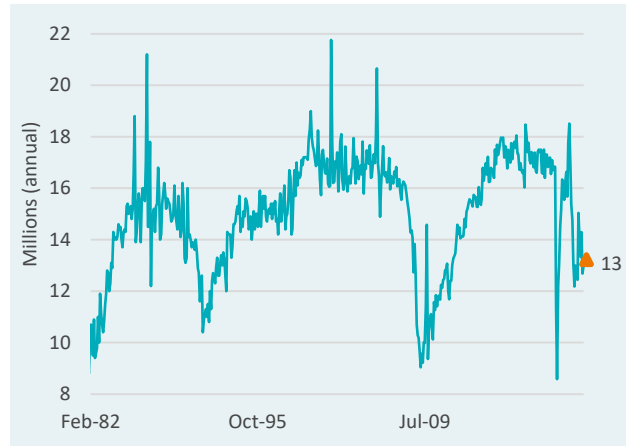
Auto sales activity remains very weak, at levels that have historically occurred during recession. The long-lasting semiconductor shortage has created widespread difficulties for auto manufacturers and has led to skyrocketing used vehicle prices. We also suspect that stimulus checks and heightened spending habits during the pandemic are contributing to the current slowdown, as this spending may have effectively *pulled forward* spending that would have otherwise occurred in years subsequent to the pandemic.

PERSONAL CONSUMPTION EXPENDITURES



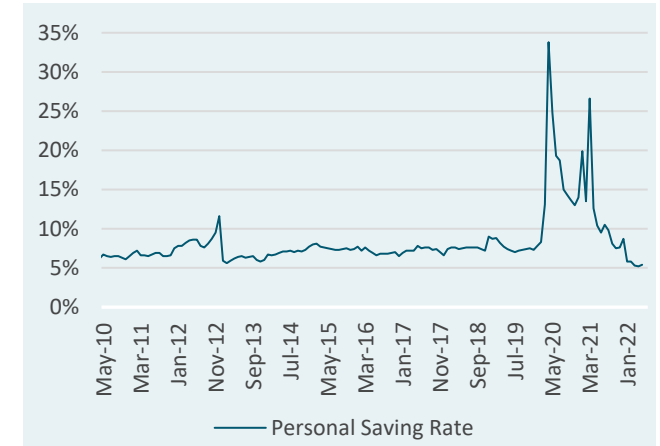
Source: FRED, as of 5/31/22

AUTO SALES



Source: Federal Reserve, as of 6/30/22

PERSONAL SAVINGS RATE



Source: FRED, as of 5/31/22

Sentiment

Consumer sentiment collapsed to the lowest reading on record, according to the University of Michigan survey, which fell from 59.4 to 50.0 during Q2. Survey respondents across all income, age, education, region, and political affiliation groups showed deterioration in their outlook for the economy. Nearly half of respondents pointed to inflation as damaging living standards. Around 79% of respondents expected bad times over the next year for business conditions, which was the highest reading since 2009.

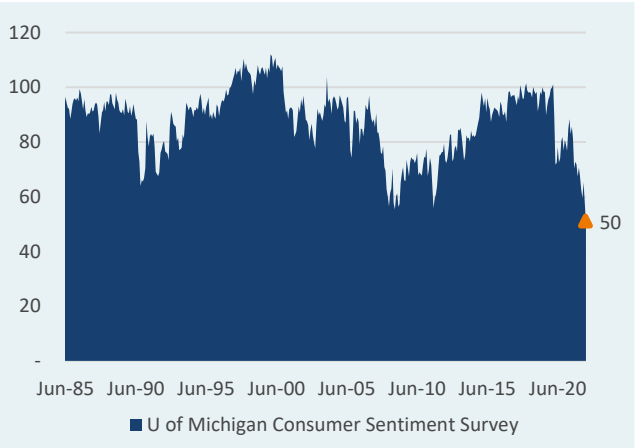
In a June Economist/YouGov Poll, more than half of respondents said they believe the U.S. is in recession. Of those respondents, 43% called the recession moderate and 38% called it serious (only

19% called it mild). Interestingly, the survey suggested that most Americans view *the prices they pay for goods and services* as the most important indicator of recession. Much of the blame was generally placed on supply chain issues and COVID-19 for economic woes.

The NFIB Small Business Optimism index dropped substantially to the weakest level in 48 years. According to NFIB, expected business conditions have further weakened in every month of 2022. Twenty-eight percent of small businesses reported that inflation was the greatest problem to business operations. Owners remain pessimistic about the second half of 2022 and foresee supply chain issues, higher input prices, and labor shortages.

Sentiment, by most measures, is extremely poor

CONSUMER SENTIMENT



Source: University of Michigan, as of 6/30/22

WHAT TO BLAME FOR ECONOMIC PROBLEMS?



Source: The Economist / YouGov, June 11-14, 2022

Survey asked "How much, if at all, do you attribute economic problems in the U.S. to the following?"

NFIB SMALL BUSINESS SENTIMENT



Source: NFIB, as of 5/31/22

Housing

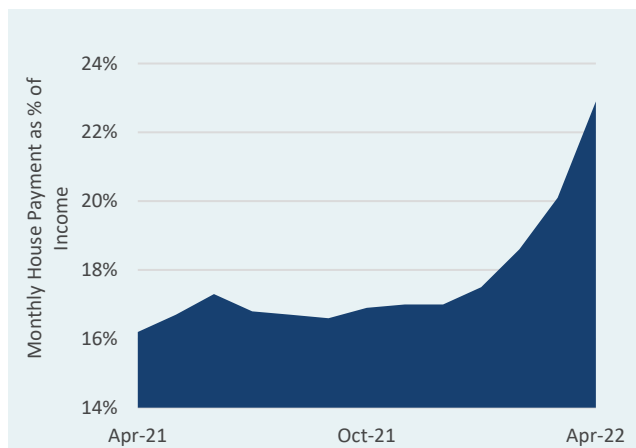
U.S. home prices rose 2.1% from March to April, continuing steady appreciation. Home prices were 7.9% higher year-to-date, as of April, and 20.3% higher year-over-year. The average 30-year fixed rate mortgage began the year at 2.67% and ended June at 5.70%.

High home prices coupled with a material jump in mortgage interest rates has acted as a double whammy for potential homebuyers. According to the National Association of Realtors, the cost for a family with an average income to buy an average priced home jumped from around 16% of that family's income one year ago, to more than 22% of that family's income in April

(a 38% increase in overall cost). Housing and rent prices have contributed to higher inflation.

Historically, larger jumps in interest rates resulted in a softening of the real estate market and placed downward pressure on home values, all else equal. This effect appears to be occurring somewhat in recent months, as home sales have fallen to pre-pandemic levels and bidding wars have become less frequent. Conditions may result in a moderation of the real estate market, though continued tight inventory levels could act as an ongoing support to high prices.

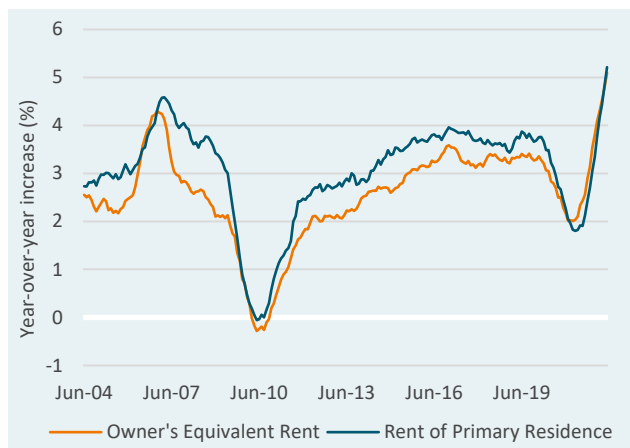
CHANGE IN HOUSING AFFORDABILITY



Source: National Association of Realtors, as of 4/30/22

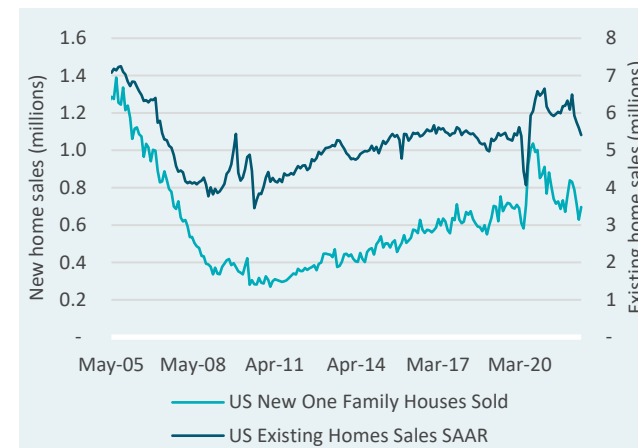
Census Bureau median family income is compared here to the monthly cost (principal + interest) of an average priced home

HOUSING & RENT COSTS



Source: FRED, as of 5/31/22

HOME SALES ACTIVITY



Source: Bloomberg, as of 5/31/22

International economics summary

- Economic growth has moderated in most countries, moving toward average levels. Higher inflation continues to erode growth figures as GDP is typically quoted as *inflation-adjusted* growth.
- Inflation trends continue to be disparate around the world. Japan and China are experiencing very low inflation and muted price pressures, while Europe and the United States are coping with multidecade-high inflation. Countries with low inflation and countries with high inflation all appear to have experienced an uptick during the second quarter.
- Labor markets have been relatively stable in developed markets, with conditions in the Eurozone strengthening. Unemployment in emerging markets were mixed—Brazil and Russia experienced improvement, while India and China saw slight weakening.
- Russia’s invasion of Ukraine continued in the second quarter, leading to heavy loss of life on both sides. Most fighting has taken place in the east, as Russia generally gradually pushing forward. Concerns around food shortages in nearby countries that depend on Ukrainian agriculture persist, though many commodity prices that had shot higher in March and April have eased, falling closer to pre-invasion costs.
- During the first week of July, millions of Chinese citizens were put back into lockdown, and subjected to mass testing, as small outbreaks have led to renewed restrictions. China continues to stick to a “zero COVID” approach, which is increasingly at odds with the recognition by most nations that civilization will have to live *with* the virus for the long-term, while moving back to normal life.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	1.6% 6/30/22	9.1% 6/30/22	3.6% 6/30/22
Eurozone	5.4% 3/31/22	8.6% 6/30/22	6.6% 5/31/22
Japan	0.4% 3/31/22	2.3% 6/30/22	2.6% 5/31/22
BRICS Nations	4.4% 3/31/22	4.6% 6/30/22	5.2% 12/31/21
Brazil	1.7% 3/31/22	11.9% 6/30/22	9.8% 5/31/22
Russia	3.5% 3/31/22	15.9% 6/30/22	3.9% 5/31/22
India	4.1% 3/31/22	7.0% 6/30/22	7.8% 6/30/22
China	4.8% 3/31/22	2.5% 6/30/22	5.9% 5/31/22

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

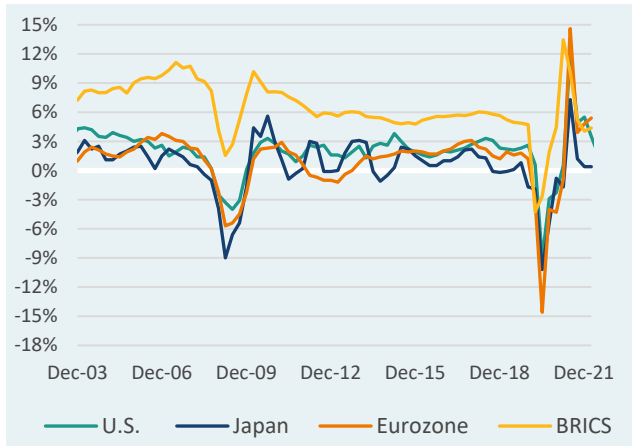
Economic growth has moderated in most countries, moving toward average levels. Inflation trends remain disparate across geographies. Japan and China are experiencing very low inflation and muted price pressures, while Europe and the United States are coping with multidecade-high inflation. Countries with low inflation and countries with high inflation all appear to have experienced an uptick during Q2.

For some central banks, the issue of fighting inflation has been made more challenging given economic deceleration,

as overly aggressive monetary policy might quickly send an economy into recession. Inflation has become a lightning rod for political leaders, as rising prices squeeze household budgets and standards of living.

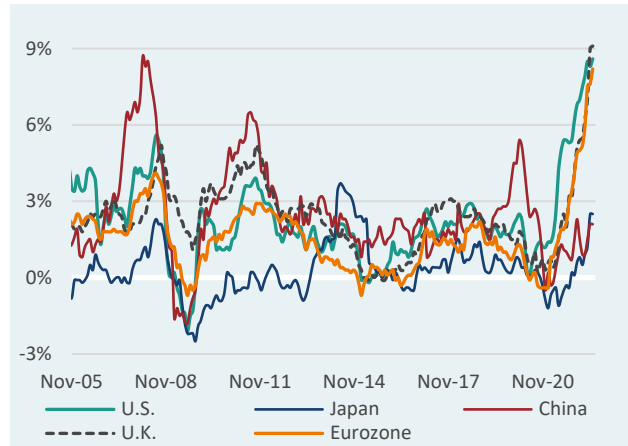
Unemployment rates were relatively stable in developed markets, with conditions in the Eurozone strengthening. Joblessness in emerging markets was mixed—Brazil and Russia experienced improvement, while India and China saw a slight weakening.

REAL GDP GROWTH (YOY)



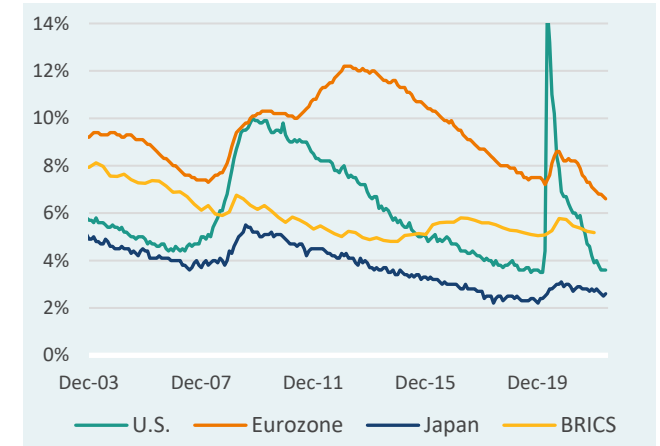
Source: Bloomberg, as of 6/30/22

INFLATION (CPI YOY)



Source: Bloomberg, as of 5/31/22 – or most recent release

UNEMPLOYMENT



Source: Bloomberg, as of 6/30/22 – or most recent release

Fixed income rates & credit

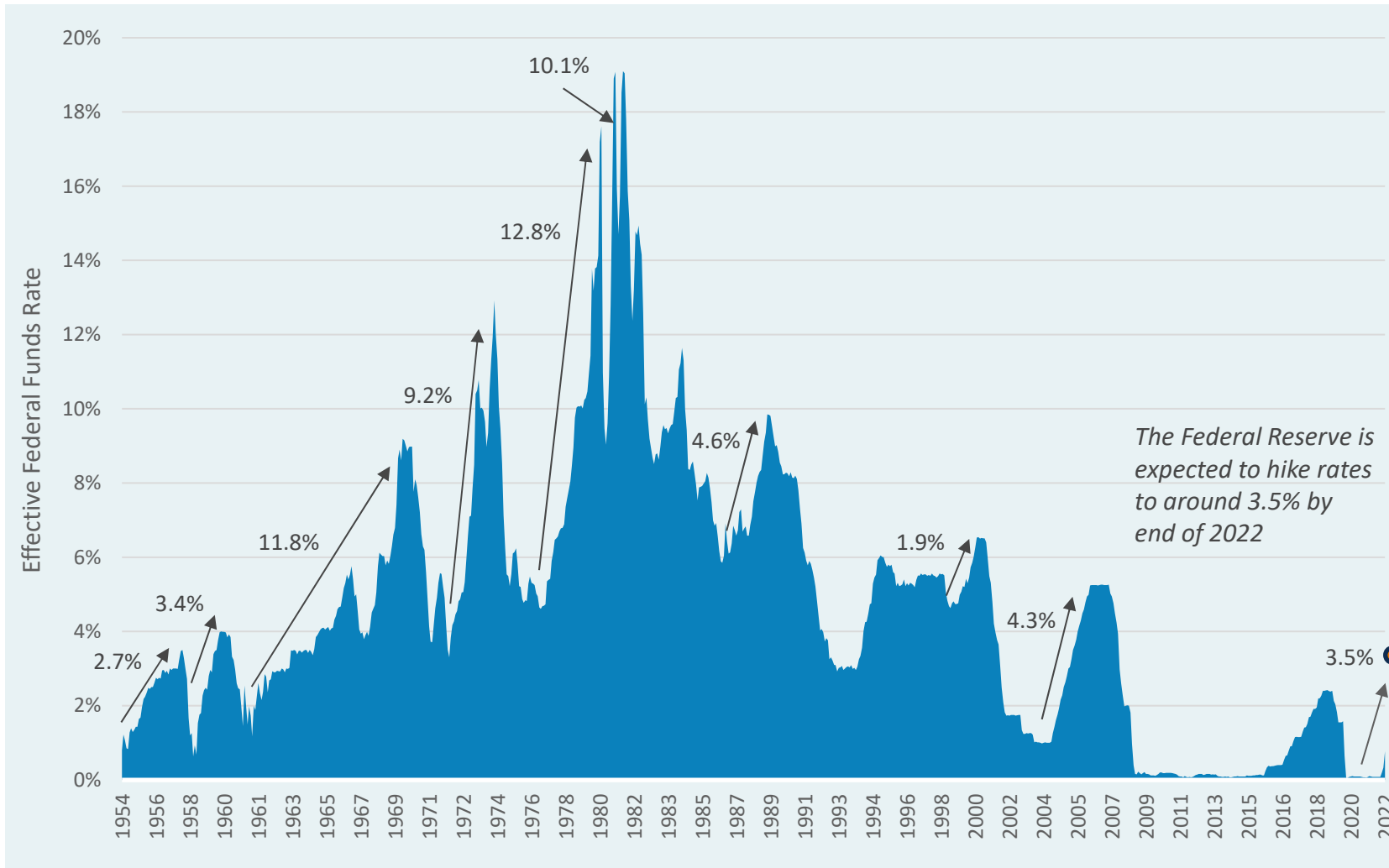
Fixed income environment

- The 10-year U.S. Treasury yield jumped during Q2 from 2.34% to nearly 3.50%, ending the quarter at 2.89%. Yields have fallen from their highs as recession fears mount. The Federal Reserve has a history of cutting interest rates during recession. This implies a higher chance of rate cuts as it appears the U.S. may currently be in recession.
- Credit markets sold off during Q2, impacted by concerns of a slowing economy and recession as the Fed signaled a willingness to raise rates until inflation slows. Bank loans performed the best at -4.4% and outperformed longer duration bonds such as investment grade and high yield (-7.3% and -9.8%, respectively).
- Credit spreads jumped considerably alongside the broader market selloff. U.S. high yield spreads increased from 3.4% to 5.6% and U.S. investment grade spreads headed from 1.2% to 1.6%. In contrast to the recent low yield environment, fixed income now offers investors more robust yields.
- The U.S. yield curve remained fairly flat during the second quarter. The 10-year minus 2-year yield spread fluctuated between -0.05% and 0.4%. Markets continue to price a flat or inverted yield curve, which is generally recognized as a sign of incoming recession.
- In June, the U.S. Federal Reserve began to unwind its \$9 trillion balance sheet. Initially this action involved *not purchasing new bonds* and letting existing bonds mature and roll off. The Fed signaled plans to allow \$30 billion of U.S. Treasuries and \$17.5 billion of mortgage-backed securities to fall off the balance sheet by end of month. Leadership has admitted that this size of divestment program is essentially the first of its kind and that the committee will be moving with caution.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	(4.7%)	(10.3%)
Core Plus Fixed Income (Bloomberg U.S. Universal)	(5.1%)	(10.9%)
U.S. Treasuries (Bloomberg U.S. Treasury)	(3.8%)	(8.9%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	(9.8%)	(12.8%)
Bank Loans (S&P/LSTA Leveraged Loan)	(4.4%)	(2.7%)
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	(8.6%)	(19.3%)
Emerging Market Debt Hard (JPM EMBI Global Diversified)	(11.4%)	(21.1%)
Mortgage-Backed Securities (Bloomberg MBS)	(4.0%)	(9.0%)

Source: Bloomberg, as of 6/30/22

How does this tightening cycle stack up?



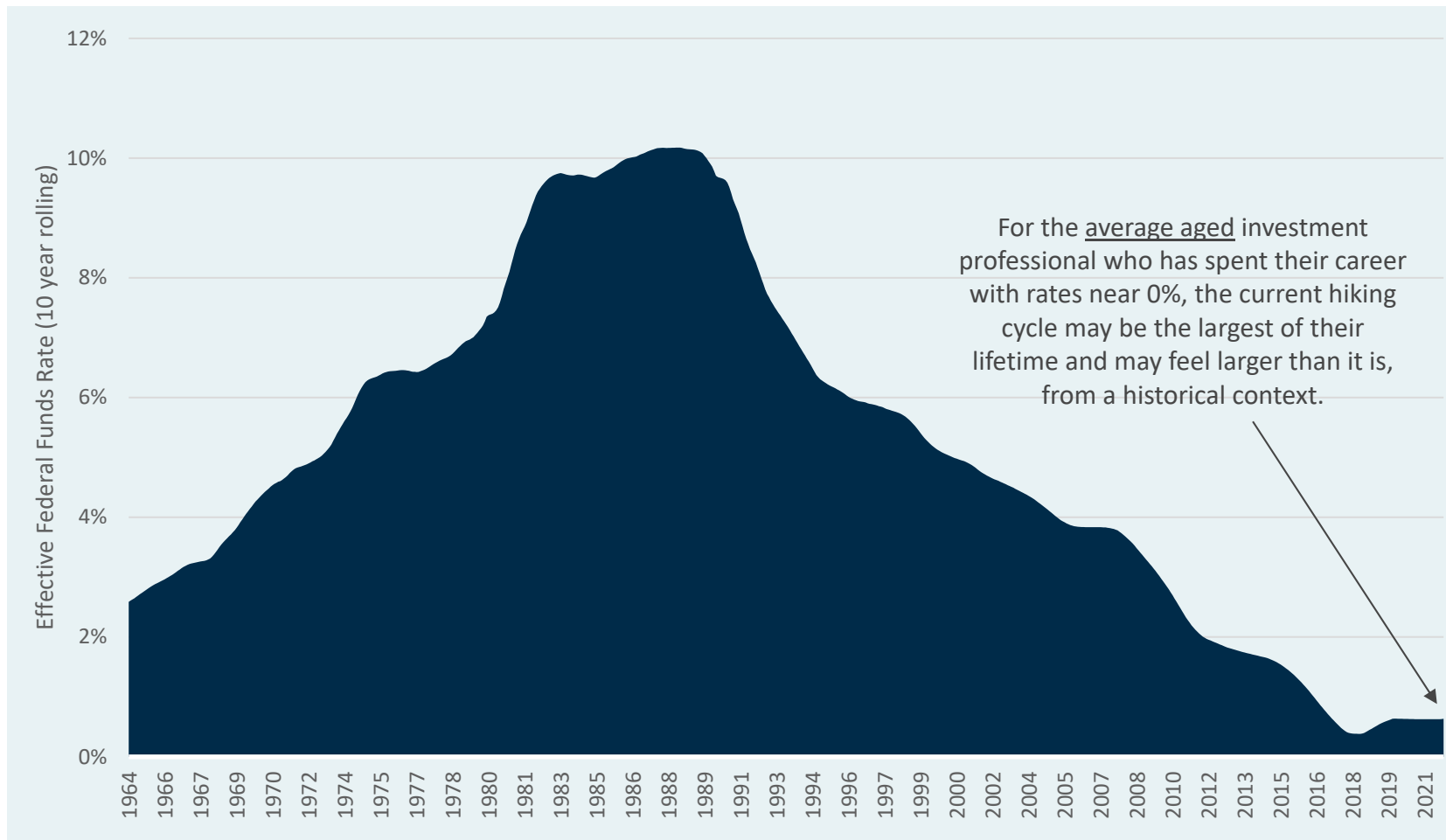
This tightening cycle is milder than most, in terms of total magnitude of hikes

The Fed's plans to reduce their large balance sheet does pose a unique challenge relative to past cycles, however

Source: FRED, as of 6/30/22 - rate hiking cycle of each economic cycle shown

How does this tightening cycle stack up?

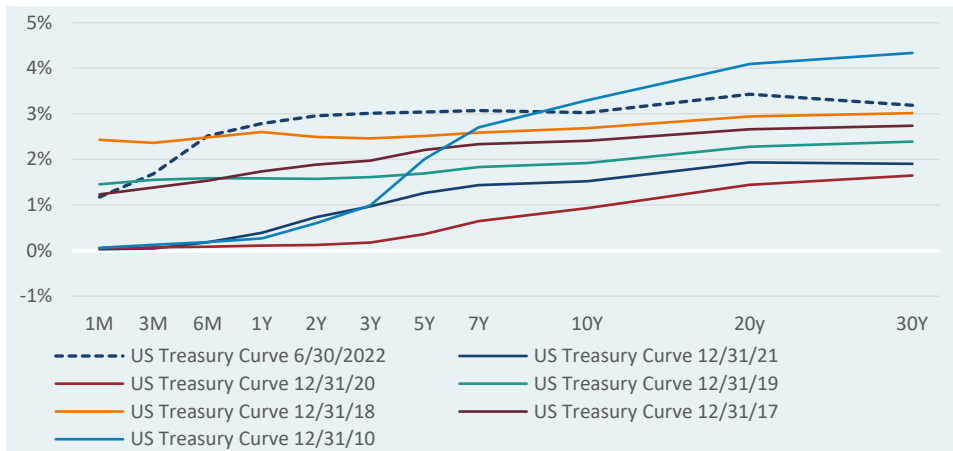
10 YEAR ROLLING AVERAGE FED FUNDS LEVEL



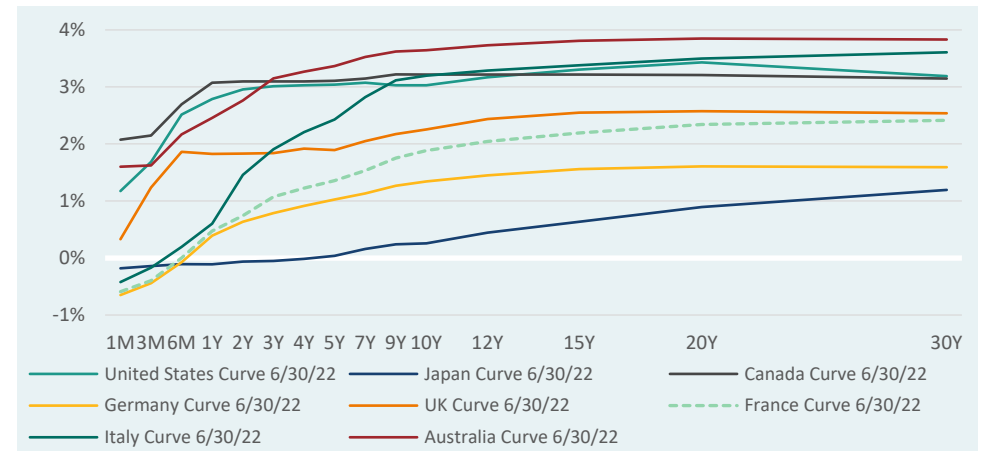
Source: FRED, Verus, as of 6/30/22

Yield environment

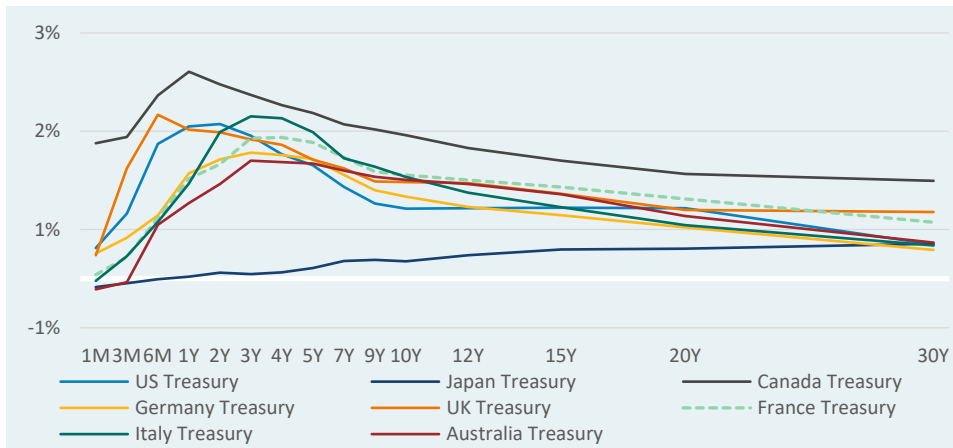
U.S. YIELD CURVE



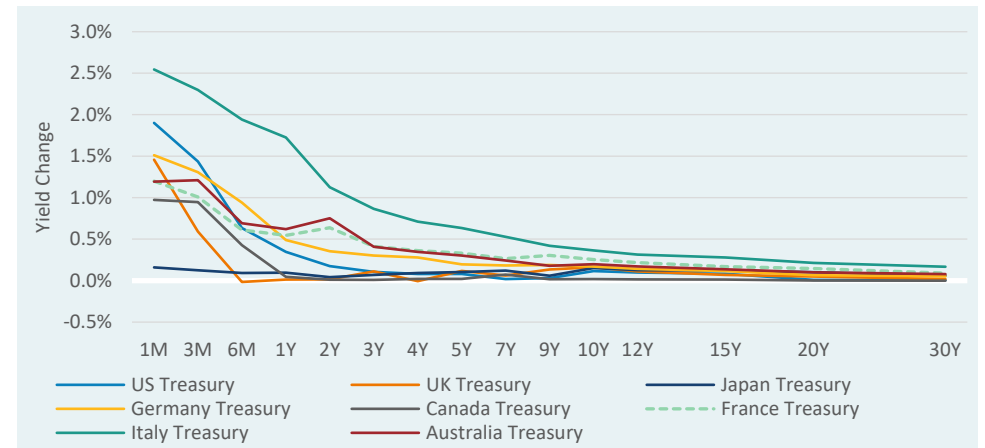
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 6/30/22

Credit environment

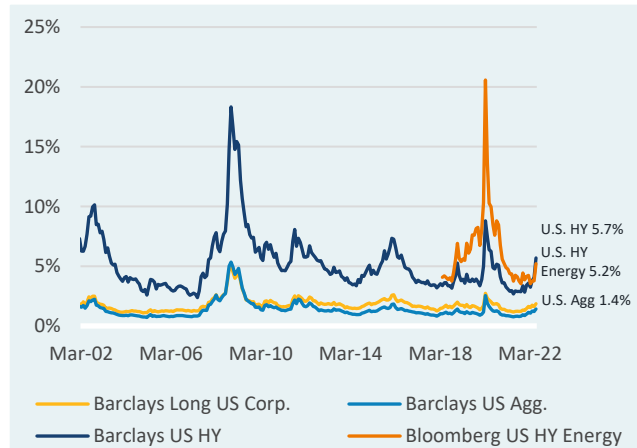
Credit markets experienced a broad selloff over the quarter impacted by concerns of slowing economic growth and recession as the Fed signaled a willingness to raise rates until inflation slows. Bank loans performed the best, returning -4.4% and outperforming higher duration exposures such as investment grade and high yield corporate credit which returned -7.3% and -9.8%, respectively. The decline in high yield was the third worst quarterly decline since 2000, behind the 18% decline experienced during Q4 of 2008 and the 13% decline experienced during Q1 of 2020.

Risk-off sentiment and elevated concerns over economic growth prospects contributed to spread widening during the quarter. Investment grade credit spreads increased 39 basis points to end the quarter at 155

bps. High yield spreads increased 163 basis points to end the quarter and 569 bps which was above the long term non-recessionary average of 454 bps.

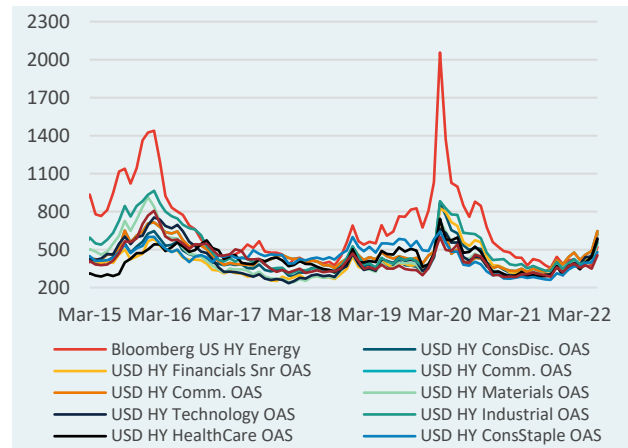
At the end of June, the Bloomberg US High Yield Index offered a yield just shy of 9%, up more than 4% from the beginning of the year. While these levels appear attractive in the context of the recent low yield environment, there is still potential for spreads to widen from these levels if recession concerns worsen.

SPREADS



Source: Barclays, Bloomberg, as of 6/30/22

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 6/30/22

Market	Credit Spread (OAS)	
	6/30/22	6/30/21
Long U.S. Corp	1.9%	1.2%
U.S. Inv Grade Corp	1.6%	0.8%
U.S. High Yield	5.7%	2.7%
U.S. Bank Loans*	5.9%	4.3%

Source: Barclays, Credit Suisse, Bloomberg, as of 6/30/22

*Discount margin (4-year life)

Default & issuance

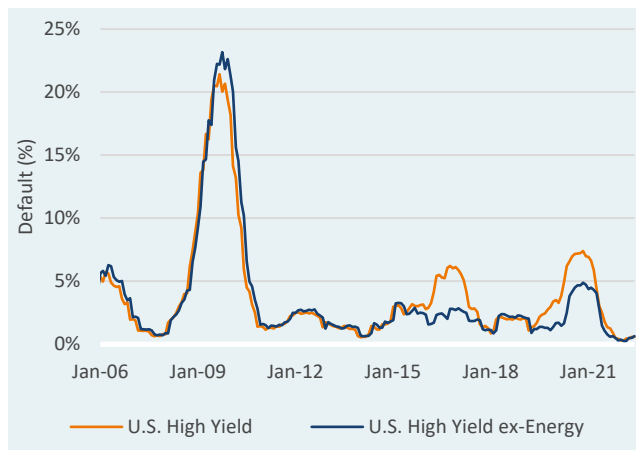
Default activity picked up in the second quarter with seven companies defaulting on loans and bonds, totaling \$15.6 billion. While default volumes have increased from the \$1.2 billion experienced last quarter and \$9.8 billion experienced throughout 2021, the volumes are in line with the 5-year quarterly average of \$16 billion.

Default rates for par-weighted US high yield and bank loans ended the quarter at 0.76% and 0.74%, respectively—well below the longer-term historical averages of 3.2% and 3.1%. The default rate is expected to rise modestly over the remainder of 2022 and throughout 2023, given the prospects for lower growth, more restrictive financing rates, and an expected surge in rising stars exiting the high yield index. While modest

increases in default rates are expected, record bond and loan refinancing activity totaling over \$1 trillion in 2020 and 2021 has led to relatively healthy issuer fundamentals and very limited near-term financing needs.

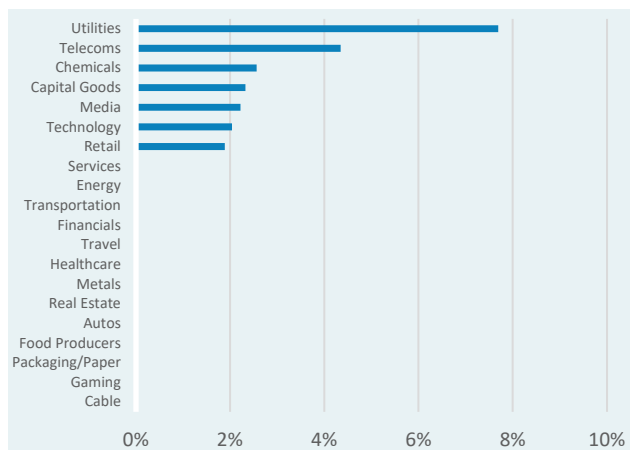
Leveraged credit issuance continued to be light amid high market volatility. The \$24.6 billion of high yield bonds issued over the quarter was the lowest issuance since the fourth quarter of 2018 and second lowest total since 2009. Similarly, bank loan issuance totaled \$60.6 billion, which was down from \$120.5 billion issued in the first quarter. Notably, nearly all of the loans issued over the quarter were SOFR-linked deals as the discontinuation of LIBOR is expected to occur at the end of June 2023.

HY DEFAULT RATE (ROLLING 1-YEAR)



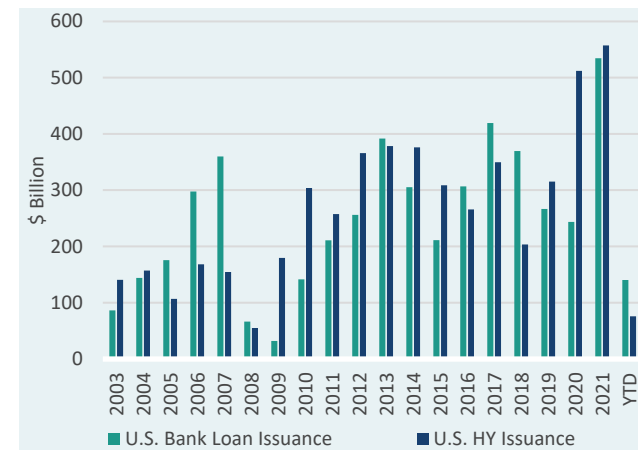
Source: BofA Merrill Lynch, as of 6/30/22

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



Source: BofA Merrill Lynch, as of 6/30/22 – par weighted

U.S. ISSUANCE (\$ BILLIONS)



Source: BofA Merrill Lynch, as of 6/30/22

Alternative credit

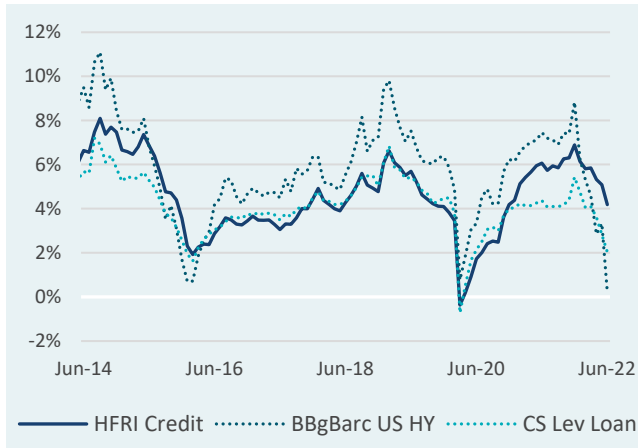
Credit hedge fund strategies succumbed to overwhelming risk-off moves in fixed income markets during the quarter. The HFRI Credit Index lost 3.2% for Q2, slightly outperforming loan markets as hedges helped offset spread widening. On a three-year rolling basis, alternative credit strategies outperformed high yield bonds by nearly 4% annualized. The only other time since 2008 (the inception of the index) that HFRI Credit outperformed high yield on a three-year basis was a brief period after the 2015 energy sector sell-off.

Looking closer within hedge fund credit, managers focused on structured credit remained the bright spot with only slightly negative returns for the

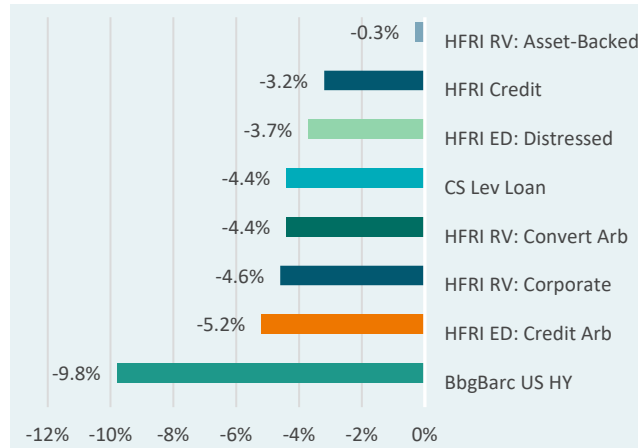
quarter and continued outperformance relative to other credit strategies and fixed income markets.

The magnitude of losses in traditional credit markets began to impact even those strategies which try to minimize duration and credit spread risk, such as convertible arbitrage and credit arbitrage. These strategies typically involve substantial leverage or basis risk, and are susceptible to large down moves in extreme stress periods.

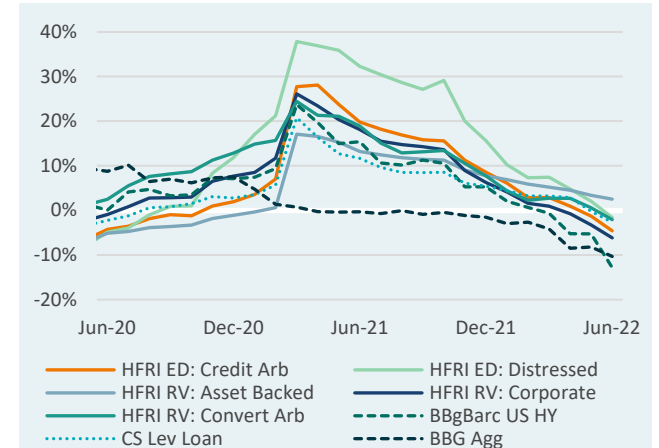
3 YEAR ROLLING ANNUALIZED RETURN



2Q 2022 QUARTERLY RETURN



1 YEAR ROLLING RETURN



Source: HFR, MPI, Morningstar, as of 6/30/22

Equity

Equity environment

- U.S. equities suffered large losses during the second quarter (S&P 500 -16.1%), as many highly priced growth stocks took an exceptionally large hit due to interest rate rises and risk-off sentiment. International developed equities (MSCI EAFE -14.5%) experienced similar losses, while emerging market equities (MSCI Emerging Markets -11.4%) outperformed materially, on an unhedged currency basis.
- As mentioned during Q2 earnings calls, a rising number of S&P 500 companies were concerned about material & commodity costs, COVID costs, and oil & gas prices. A decreasing number of companies were concerned about labor costs & shortages, supply chain disruptions, transport & freight costs, and Russia/Ukraine.
- Currency movement generated large losses for investors who do not hedge their foreign currency exposure. Investors in international

developed markets would have seen a loss of approximately -7.3% with a currency hedging program, rather than the -14.5% loss of unhedged investors. Over the past full year, losses from currency movement were -12.4%.

- Value stocks outperformed Growth stocks by a wide margin again in Q2 (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations suffered due to rising interest rates and broader risk-off sentiment. Large capitalization stocks outperformed small cap stocks slightly (Russell 1000 -16.7%, Russell 2000 -17.2%).

- The Cboe VIX Index rose during the quarter from 20.6% to 28.7%, as risk assets sold-off and investors began focusing on potential recession. Investors remain acutely focused on the path of inflation, and market volatility may ease if inflation does in fact begin to moderate in future months.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	(16.1%)		(10.6%)	
U.S. Small Cap (Russell 2000)	(17.1%)		(25.2%)	
U.S. Equity (Russell 3000)	(16.7%)		(13.9%)	
U.S. Large Value (Russell 1000 Value)	(12.2%)		(6.8%)	
US Large Growth (Russell 1000 Growth)	(20.9%)		(18.8%)	
Global Equity (MSCI ACWI)	(15.7%)	(13.5%)	(15.8%)	(12.1%)
International Large (MSCI EAFE)	(14.5%)	(7.3%)	(17.8%)	(5.4%)
Eurozone (Euro Stoxx 50)	(15.3%)	(9.2%)	(23.1%)	(11.3%)
U.K. (FTSE 100)	(11.2%)	(3.6%)	(7.1%)	6.2%
Japan (NIKKEI 225)	(14.8%)	(4.2%)	(23.8%)	(6.0%)
Emerging Markets (MSCI Emerging Markets)	(11.4%)	(8.2%)	(25.3%)	(21.5%)

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 6/30/22

Domestic equity

U.S. equities saw sharp losses during the second quarter (S&P 500 -16.1%), underperforming global markets (MSCI ACWI ex-US -13.7%). U.S. sector dispersion was wide, with consumer discretionary stocks suffering the worst pain (-26.2%) and consumer staples faring the best (-4.6%).

Calendar year 2022 bottom-up earnings estimates for the S&P 500 improved slightly during the quarter, despite the equity bear market. A rosier earnings outlook was fueled mostly by the energy and materials sectors, while consumer discretionary and communication services sectors saw worsening expectations. According to Factset, an increased

number of companies issued negative earnings guidance during the quarter, though the balance of companies offering positive and negative guidance remains in a relatively normal range.

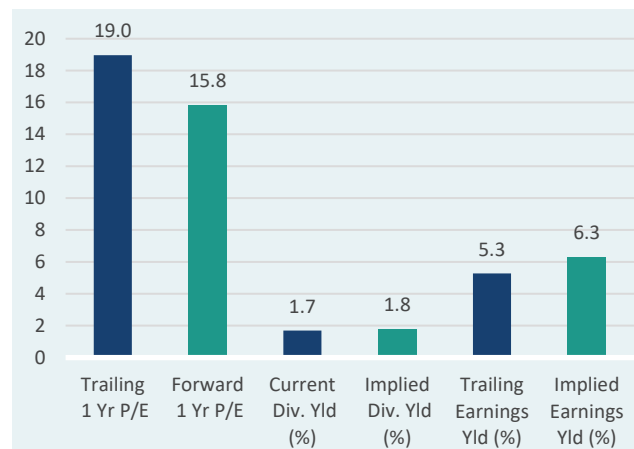
According to Q2 earnings calls, a rising number of S&P 500 companies were concerned about material & commodity costs, COVID costs, and oil & gas prices. A decreasing number of S&P 500 companies were concerned about labor costs & shortages, supply chain disruptions, transport & freight costs, and the economic impacts of Russia's invasion of Ukraine.

S&P 500 PRICE INDEX



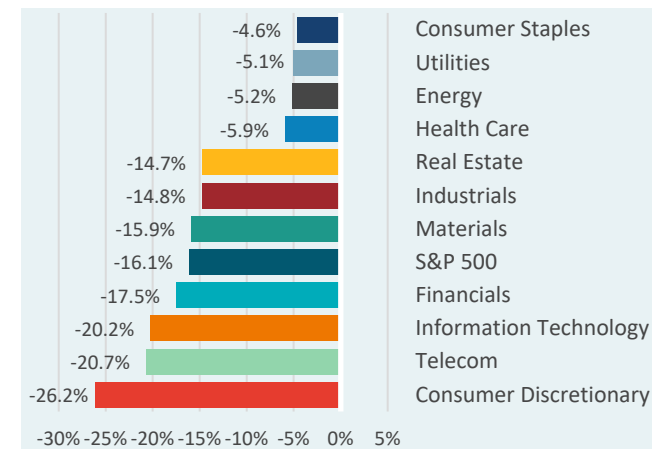
Source: Standard & Poor's, as of 6/30/22

S&P VALUATION SNAPSHOT



Source: Bloomberg, as of 6/30/22

Q2 SECTOR PERFORMANCE



Source: Morningstar, as of 6/30/22

Domestic equity size & style

Value stocks outperformed Growth stocks by a wide margin once again in the second quarter (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations suffered due to rising interest rates and broader risk-off sentiment. Large capitalization stocks outperformed small capitalization stocks slightly (Russell 1000 -16.7%, Russell 2000 -17.2%).

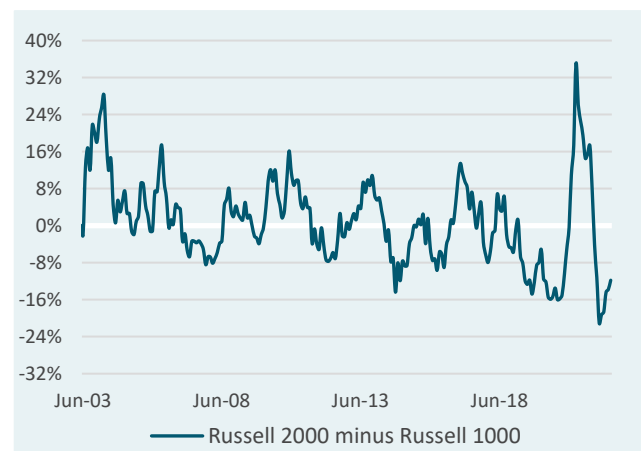
The recent drawdown of Growth stocks has helped partially close the historically wide price gap between Value and Growth, as reflected in the bottom right chart. Sector trends contributed to style performance during the quarter. The energy sector

outperformed, and information technology was a poor performer. Other Value-concentrated sectors such as financials and materials performed closely in line with the overall index.

In last quarter's research commentary we mentioned that further tightening of Fed policy and interest rate hikes would likely impact Value and Growth stock behavior. This foresight was valid and we believe will remain so. Further Fed hawkishness and market risk-off behavior may lead to additional Growth underperformance, but a reversal by the Federal Reserve and easing of interest rates may bolster the returns of Growth, all else equal.

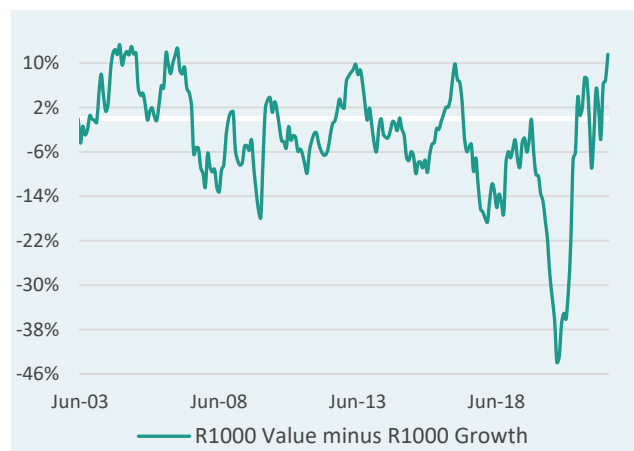
A rebound in Value continued during Q2

SMALL CAP VS LARGE CAP (YOY)



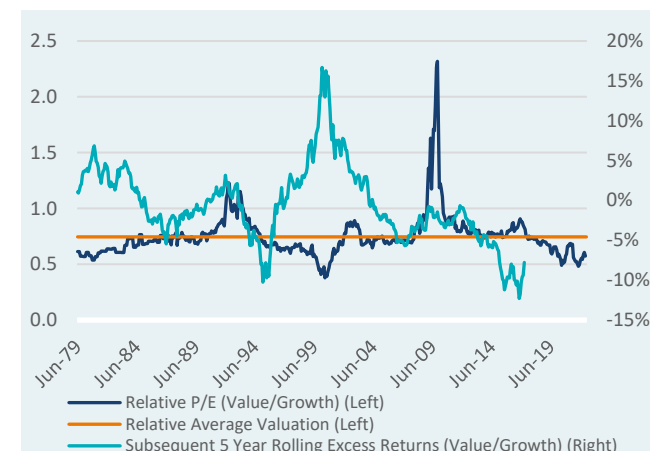
Source: FTSE, as of 6/30/22

VALUE VS GROWTH (YOY)



Source: FTSE, as of 6/30/22

VALUE VS. GROWTH RELATIVE VALUATIONS



Source: Standard & Poor's, as of 6/30/22

International developed equity

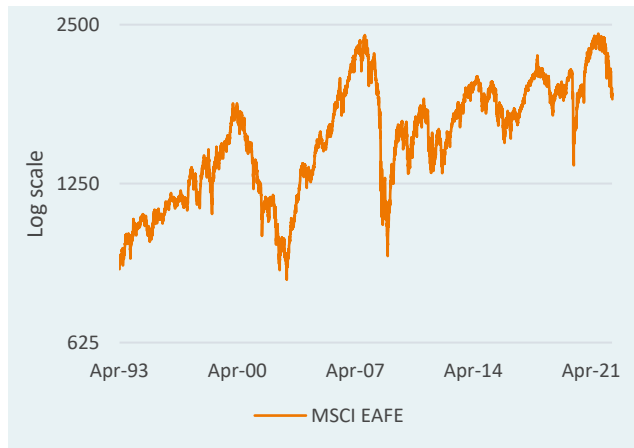
International developed equities fell during the quarter (MSCI EAFE -14.5%), mildly outperforming U.S. equities (S&P 500 -16.1%) and materially underperforming emerging market equities (MSCI Emerging Markets -11.4%), on an unhedged currency basis.

Currency movement during the quarter generated large losses for investors who do not hedge foreign currency exposure. Investors in international developed markets would have seen a loss of approximately -7.3% with a currency hedging program, rather than the -14.5% loss if

currency was left unhedged. Over the past year, investors in international equities with a currency hedging program would have experienced roughly a -5.4% return, compared to a return of -17.8% if currency was left unhedged.

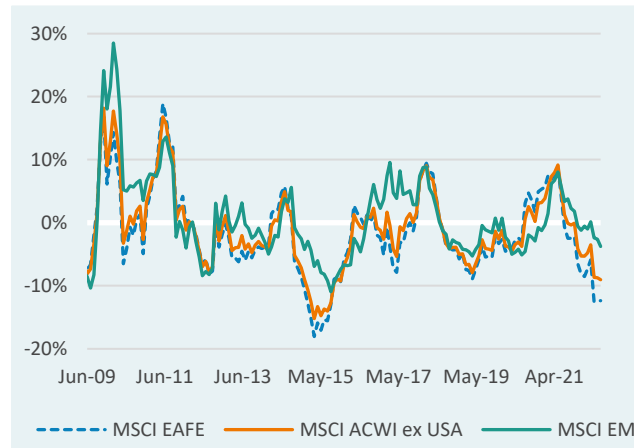
Eurozone equities provided the poorest performers during the quarter (MSCI Euro -11.1%), as EUR/USD reached parity for the first time in nearly 20 years. The United Kingdom market (MSCI UK 1.8%) and Japanese market (MSCI Japan -6.6%) lifted the overall MSCI EAFE Index.

INTERNATIONAL DEVELOPED EQUITY



Source: MSCI, as of 6/30/22

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 6/30/22

PRICE OF 1 EUR IN USD



Source: Bloomberg, as of 7/14/22

Emerging market equity

Emerging market equities have delivered broad outperformance throughout the global risk asset drawdown (MSCI EM -11.4%, MSCI ACWI -15.7%) on an unhedged currency basis. A bounce-back in Chinese equities over the quarter (MSCI China 3.5%) from their sharp recent losses helped lift overall performance of the asset class. Latin American markets lagged Asian markets (MSCI EM Latin America -21.9%, MSCI EM Asia -9.3%), reversing last quarter's gains.

Strong returns from the consumer discretionary sector (12.9%)—the largest sector in the MSCI China Index—propelled

Chinese equity performance forward. Outside of Chinese equities, emerging markets struggled, as central banks around the world tightened policy to fight inflation. Emerging market countries whose economies are reliant on raw goods exports were particularly impacted by tightening, as global commodity prices have drawn down from peaks seen earlier in the year.

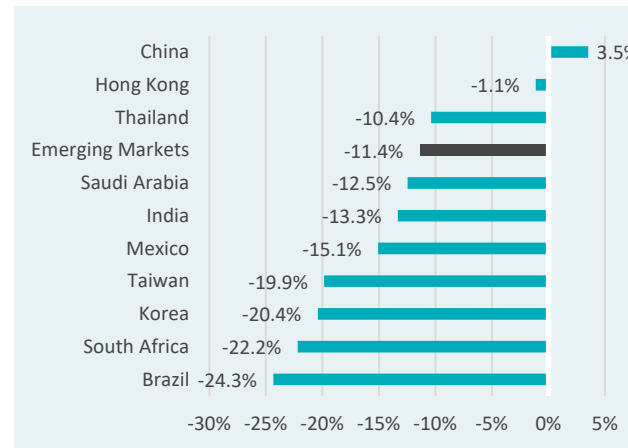
The strong dollar also provided a headwind to emerging market equity returns, as currency movement resulted in a -3.2% loss. Emerging market currencies remain far weaker than the historical average, which may allow performance upside if mean reversion were to occur.

EMERGING MARKET EQUITY



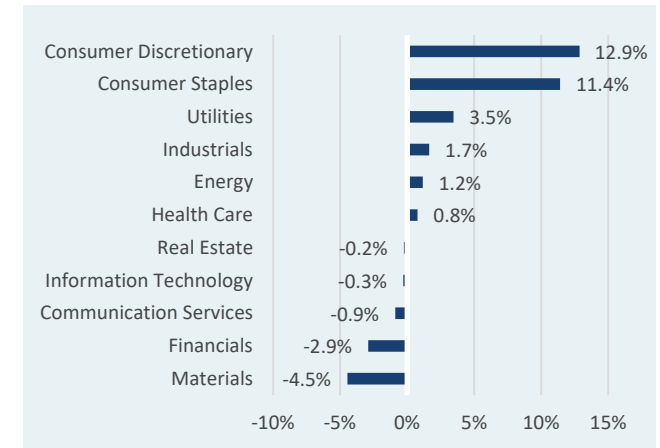
Source: MSCI, as of 6/30/22

Q2 PERFORMANCE – TOP 10 EM CONSTITUENTS



Source: Bloomberg, MSCI as of 6/30/22, performance in USD terms

MSCI CHINA Q2 SECTOR PERFORMANCE



Source: Bloomberg, MSCI as of 6/30/22, performance in USD terms

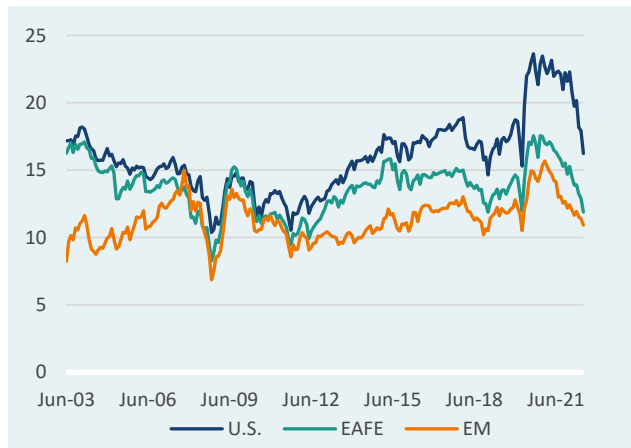
Equity valuations

Valuations fell substantially during the market selloff, bringing multiples closer in line with long-term historical averages. U.S. earnings forecasts have held strong, and analysts expect 2022 calendar year earnings growth of 10.4%. However, these earnings forecasts arguably contain greater uncertainty, given higher interest rates, higher input prices, and weakening consumer demand. The path of corporate earnings in 2022 will be a key variable in determining whether equity markets recover, remain subdued, or fall further. The bottom-up S&P 500 12-month analyst price target was 4,987 as of June 23rd.

Domestic equity valuations remain elevated relative to international developed and emerging markets, which translates to U.S. equities offering a lower yield and likely lower prospective total performance over the longer-term. Domestic equities trade at roughly a 50% valuation premium over international developed equities on a trailing price/earnings basis, and a 75% valuation premium over emerging market equities. While we are more pessimistic around the outlook for international developed equities and believe cheaper prices are justified, we are bullish around emerging markets which appear to offer attractive returns in the current environment.

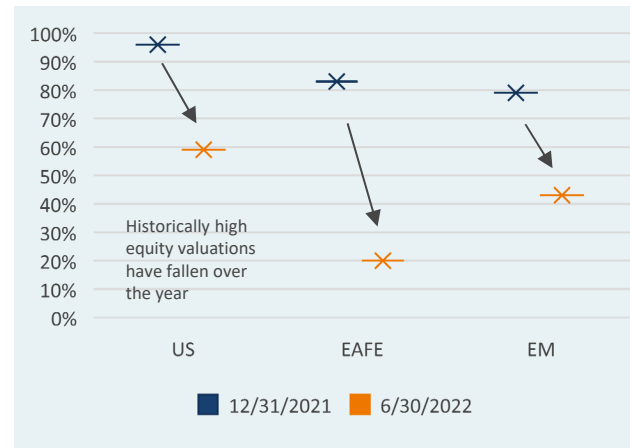
Most equity valuations have moved back towards normal levels, though U.S. prices remain rich

FORWARD P/E RATIOS



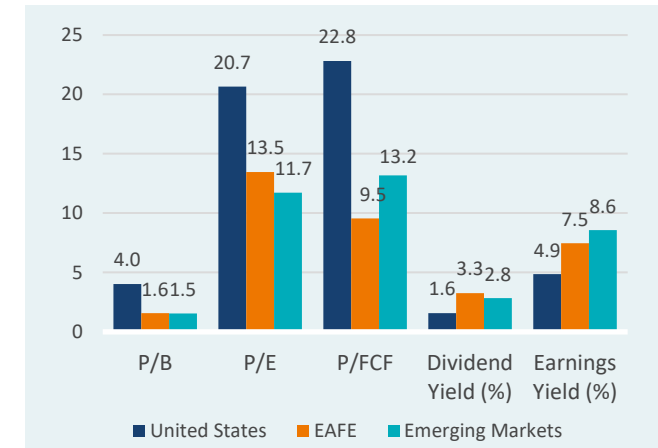
Source: MSCI, 12m forward P/E, as of 6/30/22

FORWARD P/E PERCENTILE RANKINGS



Source: Bloomberg, MSCI, as of 6/30/22

VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI as of 6/30/22 - trailing P/E

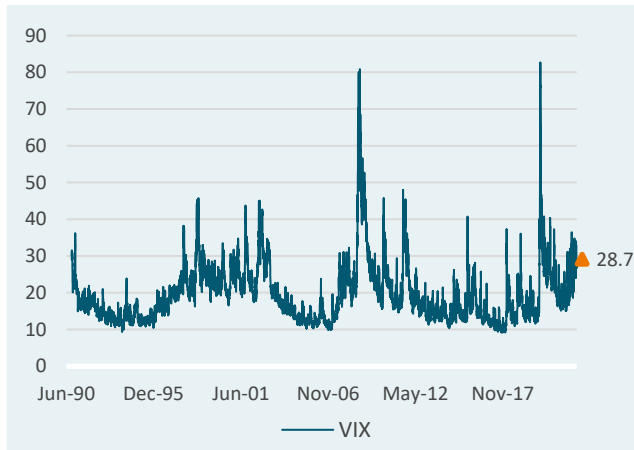
Equity volatility

The Cboe VIX Index rose during the quarter from 20.6% to 28.7%, as risk assets sold-off and investors began focusing on potential recession. Investors have been acutely focused on the path of inflation, and market volatility may ease if inflation does in fact begin to moderate in future months.

Realized volatility of equity markets over the past year has remained within an average range. U.S. markets were the most volatile relative to developed and emerging markets. This dynamic has been rare historically, and is likely driven in part by inflation and recession risks that are especially high in the United States.

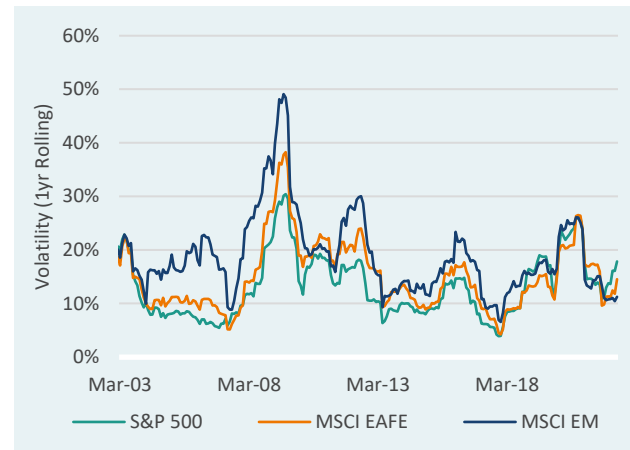
The 2022 equity bear market, while fairly moderate in speed and magnitude by historical standards, may justifiably feel severe for investors due to the broad-based nature of the selloff. Fixed income has delivered notable losses, failing to provide the diversification which investors expect. Commodities were a bright spot in Q1, but a sharp reversal in June led to quarterly Q2 loss of -5.7%. Currency markets also moved against investors, as U.S. dollar appreciation further compounded losses for unhedged international asset exposure. It seems there was nowhere to hide except for cash during the second quarter.

U.S. IMPLIED VOLATILITY (VIX)



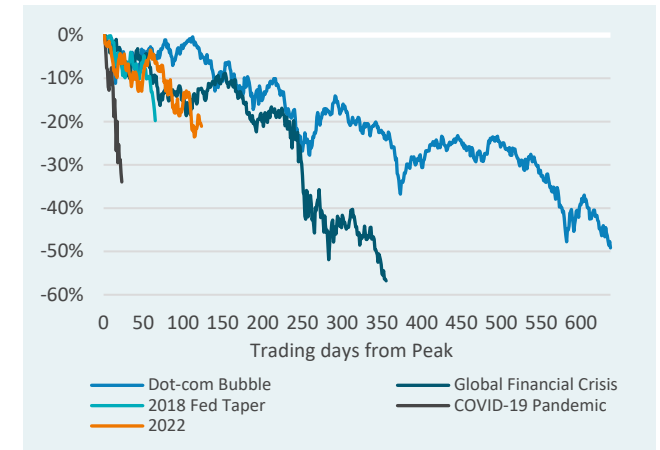
Source: Cboe, as of 6/30/22

REALIZED VOLATILITY



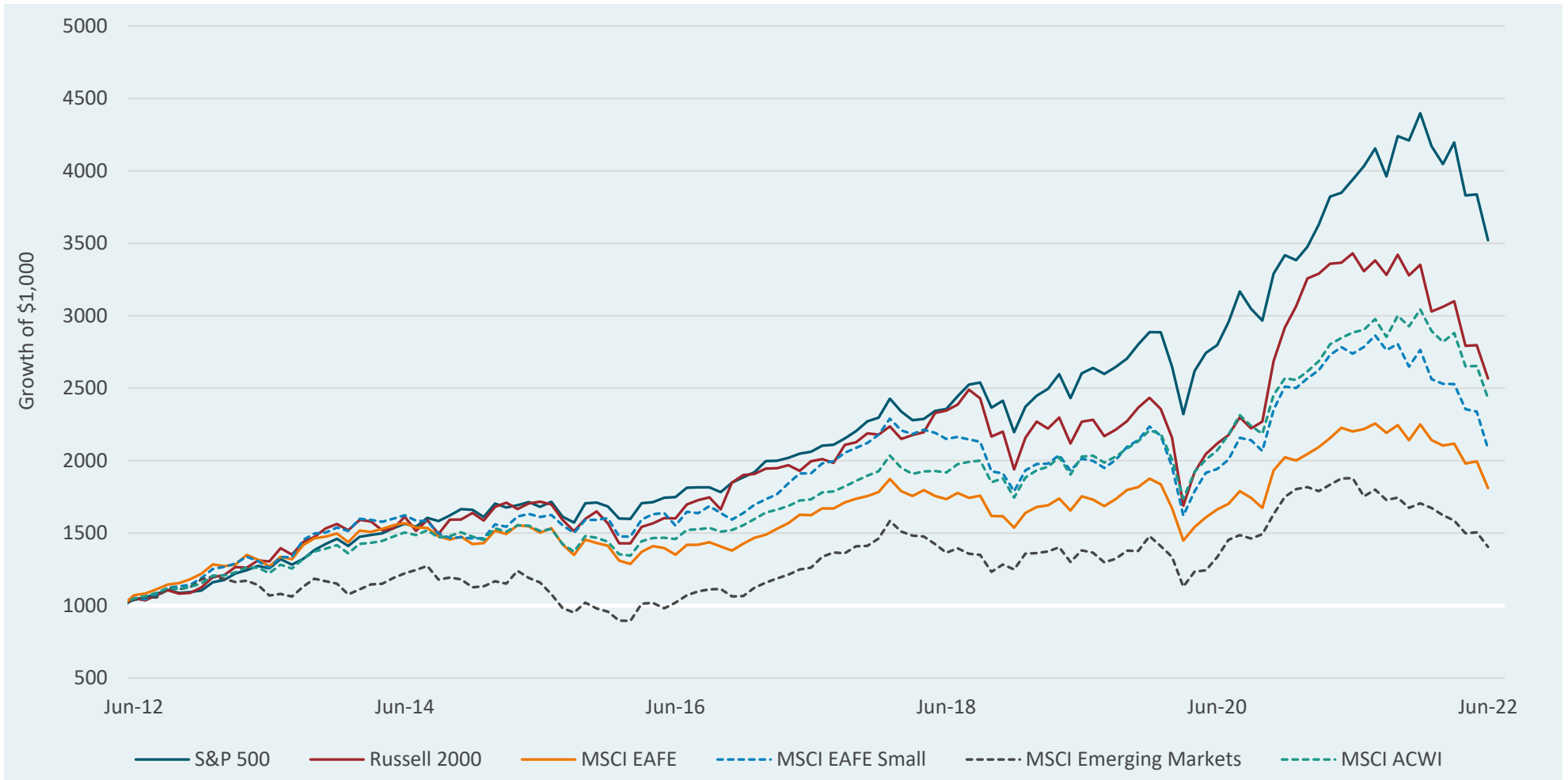
Source: Standard & Poor's, MSCI, as of 6/30/22

S&P 500 PEAK DRAWDOWNS



Source: Bloomberg, as of 6/30/22

Long-term equity performance



Source: Morningstar, as of 6/30/22

Other assets

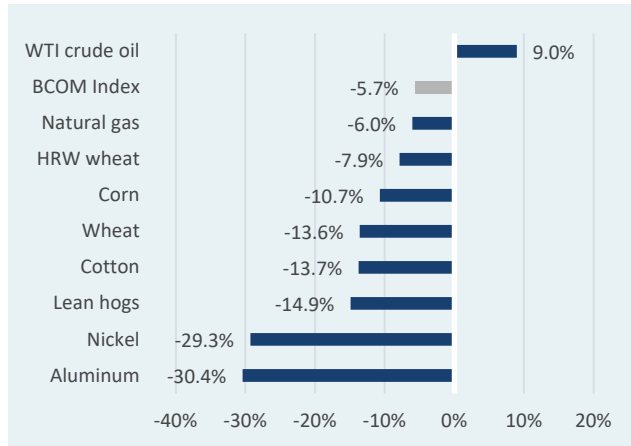
Commodities

The Bloomberg Commodity Index fell -10.8% during June, bringing the second quarter return to -5.7%. Industrial metals (-26.4%) and precious metals (-10.5%) experienced the largest losses, while energy (7.0%) and petroleum (13.7%) marched higher around fears of a potential global energy shortage, though many prices reversed their gains in June.

Early in 2022 many investors expressed fears about a potential global commodity supply shortage, perhaps fueled by underinvestment in production capacity preceding and throughout the COVID-19 recession. Russia's invasion of

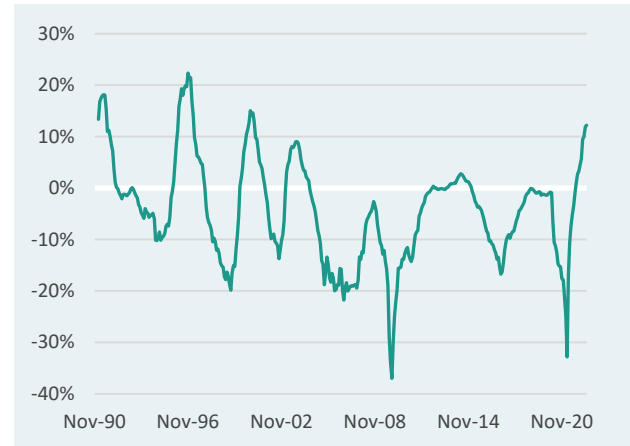
Ukraine further amplified these fears and commodity price growth accelerated further. Later in the second quarter this trend appears to have reversed. Fears of a recession which would hinder the demand for commodities, and likely some easing of uncertainty around Ukraine, have contributed to a sharp drop in commodity prices. If weaker prices persist, the reversal in commodity markets should have a deflationary impact on broader consumer prices, though this effect may take time to flow through to broader prices. For example, lower oil prices have far-reaching impacts on the U.S. economy, such as on the transportation of goods, ground transportation and taxis, air travel, and the production of plastics.

BLOOMBERG COMMODITY INDEX – Q2 2022



Source: Bloomberg, as of 6/30/22

S&P GSCI INDEX ROLL YIELD (LAST 12 MONTHS)



Source: Standard & Poor's, Bloomberg, as of 6/30/22

INDEX AND SECTOR PERFORMANCE

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg Commodity	(10.8)	(5.7)	18.4	24.3	14.3	8.4	(0.8)
Bloomberg Agriculture	(9.1)	(5.7)	13.0	18.9	18.8	6.9	(1.2)
Bloomberg Energy	(14.6)	7.0	58.3	66.6	11.7	10.0	(4.7)
Bloomberg Grains	(11.7)	(7.1)	16.1	16.6	17.5	6.2	(2.1)
Bloomberg Industrial Metals	(16.0)	(26.4)	(9.6)	0.2	11.9	7.5	1.2
Bloomberg Livestock	(0.3)	(8.7)	(3.4)	(3.6)	(6.8)	(6.6)	(4.3)
Bloomberg Petroleum	(4.0)	13.7	63.5	79.4	19.5	18.1	(1.2)
Bloomberg Precious Metals	(3.1)	(10.5)	(4.4)	(4.8)	7.2	5.6	(0.8)
Bloomberg Softs	(5.9)	(4.3)	3.3	27.2	16.8	5.3	(3.2)

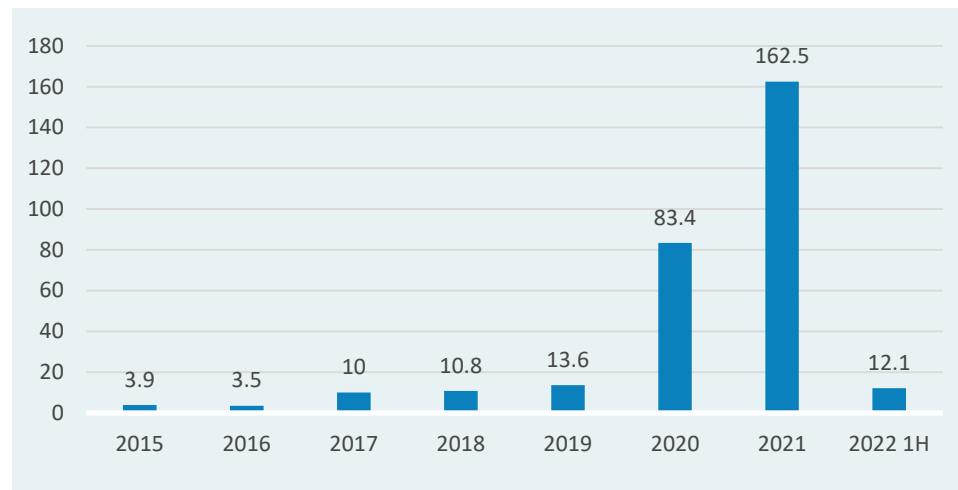
Source: Morningstar, as of 6/30/22

SPACs development

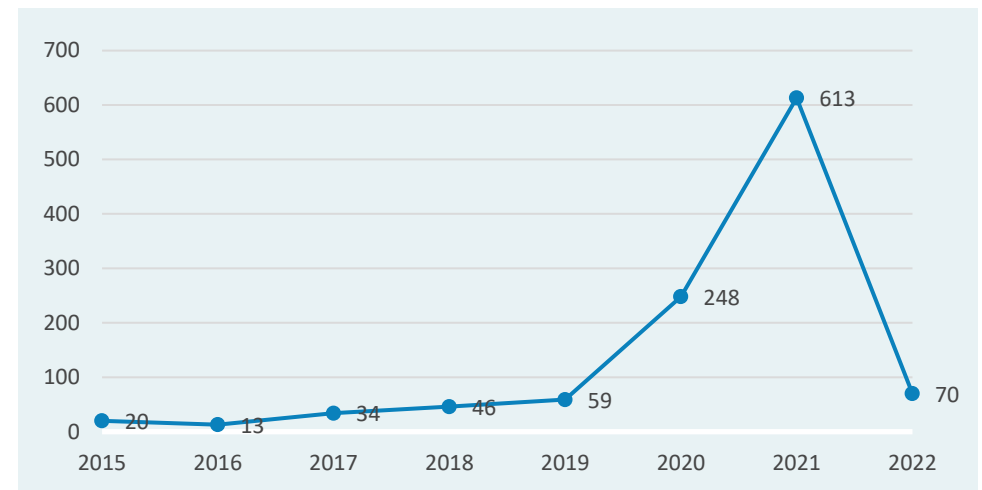
While SPACs proliferated between 2020 through 2021, coinciding with record retail investor trading volume, this activity has subsided notably in 2022.

Market volatility year-to-date and reduced market liquidity have rendered speculative areas of the markets, including SPACs, less attractive. Existing SPAC sponsors from 2020-2021 are struggling to source target deals for their mergers, rendering a large volume of SPAC sponsors at risk of returning their capital to investors without a successful deal executed. The required holding lock-up period after SPACs go public, as well as the impact of market volatility, have led many venture capital and private equity funds to reevaluate the viability of SPAC as an exit channel.

U.S. SPAC AMOUNT RAISED (\$BILLIONS)



NUMBER OF SPAC IPOs

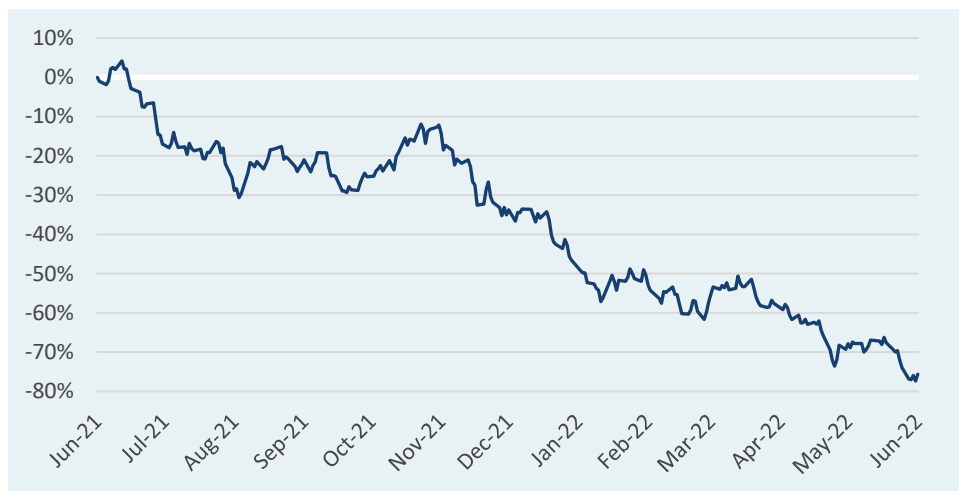


Source: SPAC Research, as of 6/30/22

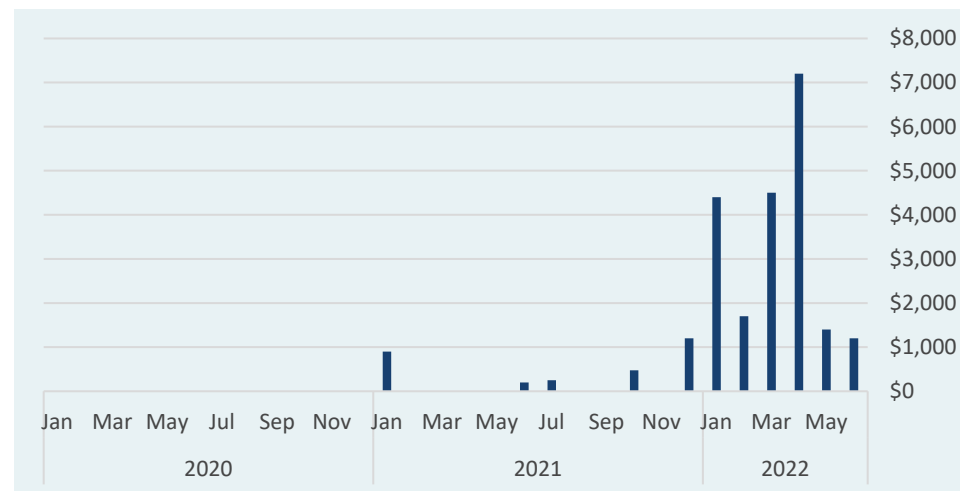
SPACs return analysis

- For **institutional investors**: A number of companies that initially went public via a merger with a SPAC have seen very large share price declines and have since been acquired by a competitor at a far lower price.
- For **retail investors**: Declining share prices of SPACs have eroded billions of dollars of value for shareholders who held SPACs after their acquisition deals.
- Blank check companies have a history of surging and subsiding. During the 1980s, SPACs had boomed, and many were eventually wiped out when Congress passed more stringent regulations. The Securities Exchange Commission is currently tightening regulations around SPACs amid the resurgence.

DE-SPAC INDEX - CHANGE SINCE JUNE 17, 2021



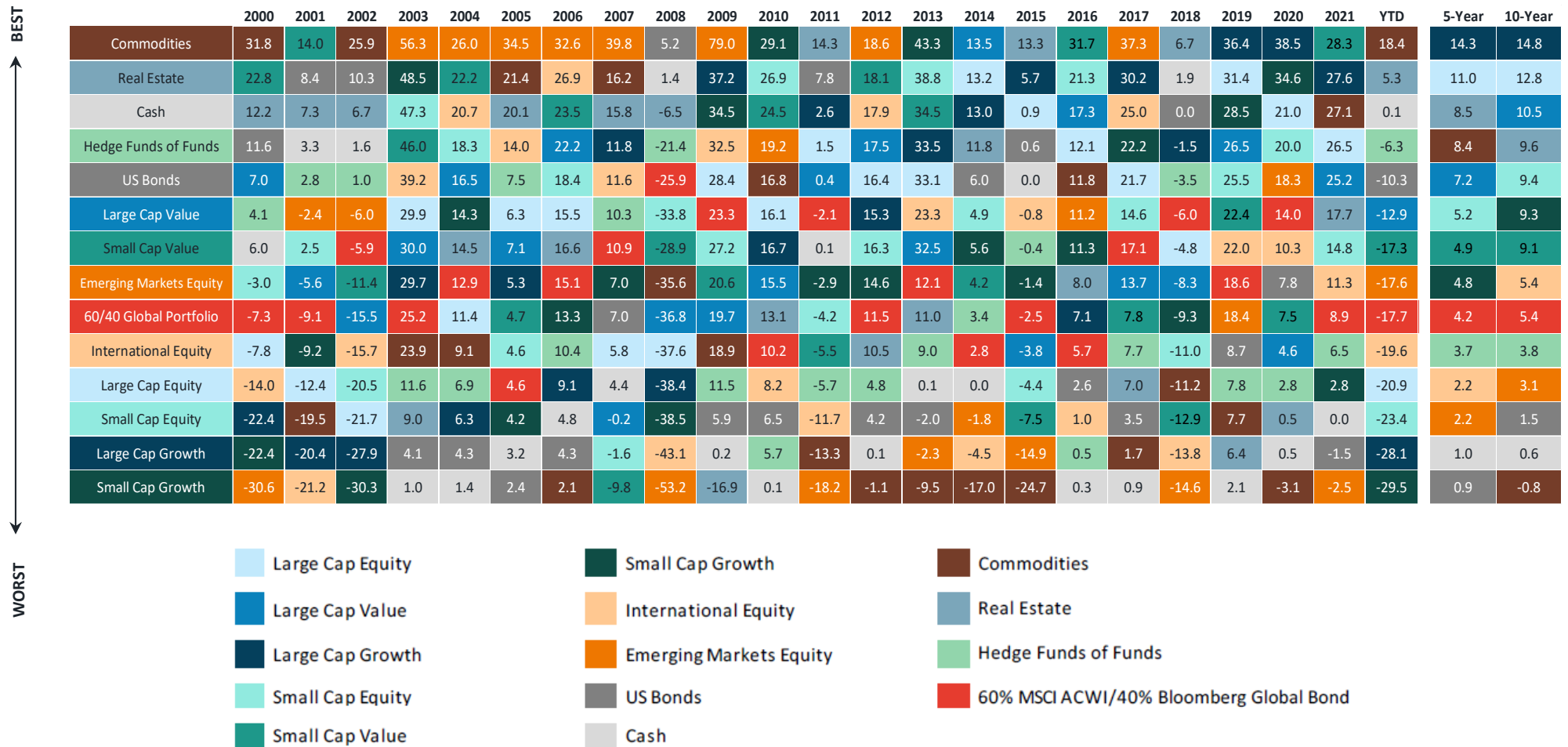
WITHDRAWN SPACs - VALUE OF FILINGS PULLED BY SPONSORS (\$M)



Source: Bloomberg, as of 6/30/22

Appendix

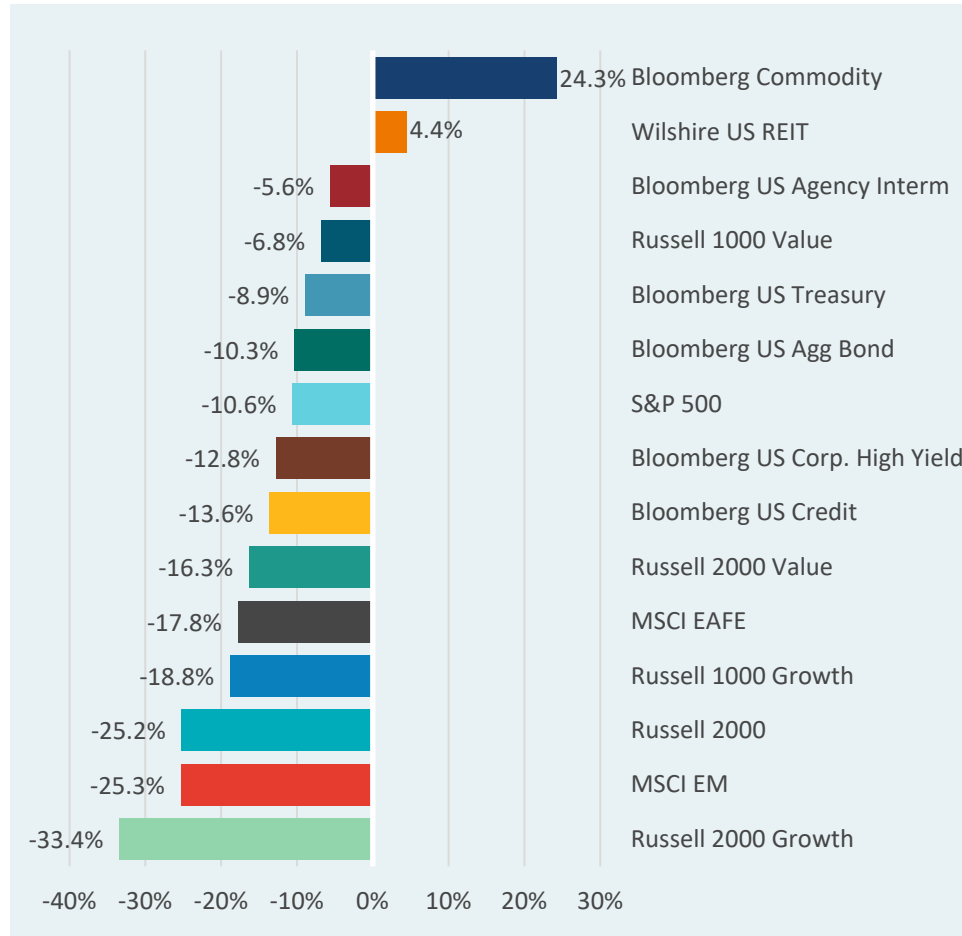
Periodic table of returns



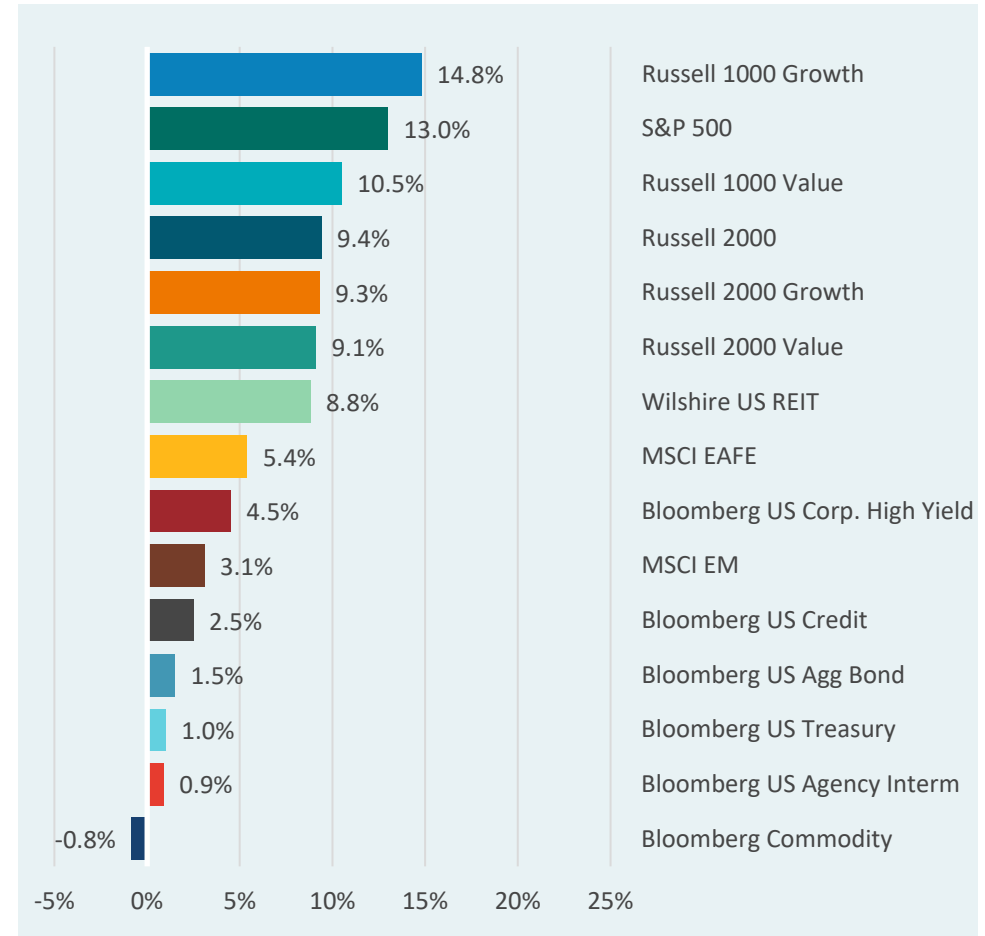
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 3/31/22.

Major asset class returns

ONE YEAR ENDING JUNE



TEN YEARS ENDING JUNE



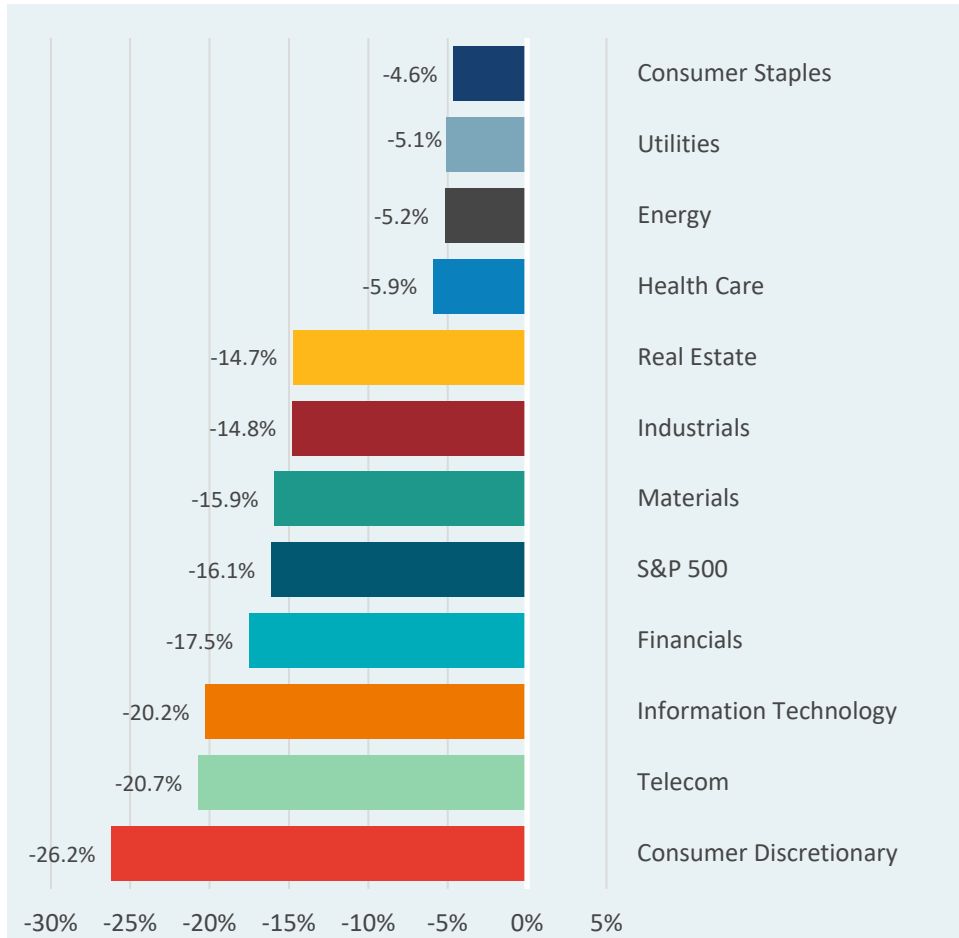
*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 6/30/22

Source: Morningstar, as of 6/30/22

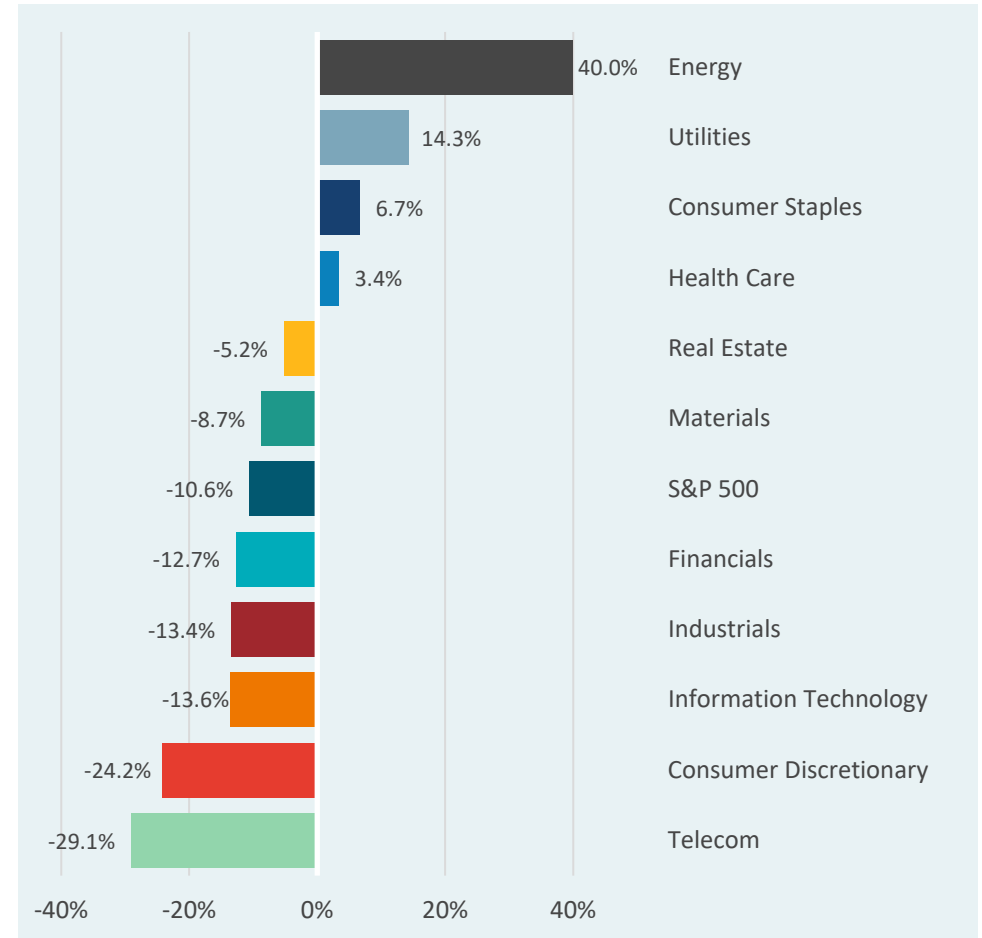
S&P 500 sector returns

QTD



Source: Morningstar, as of 6/30/22

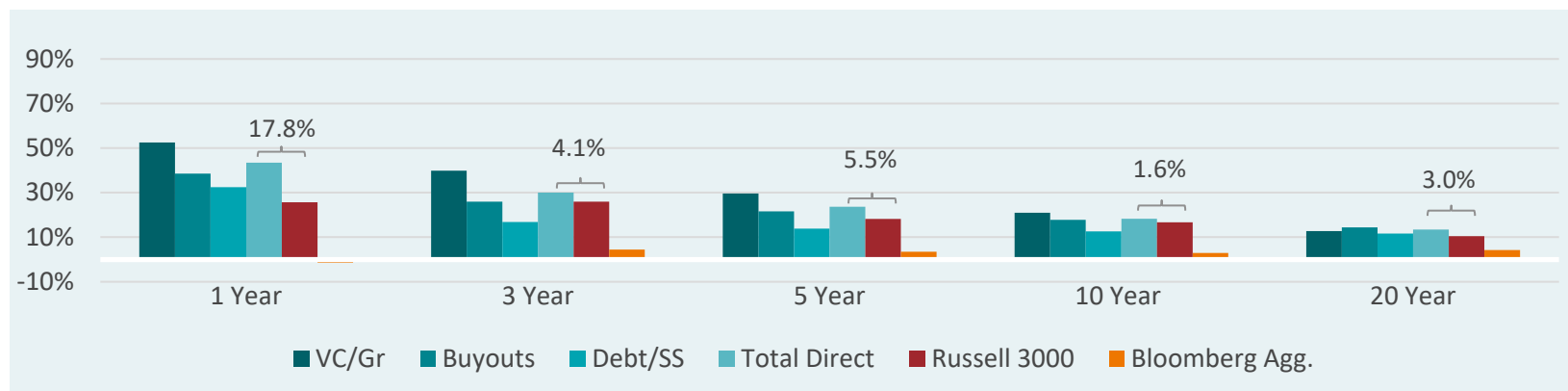
ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/22

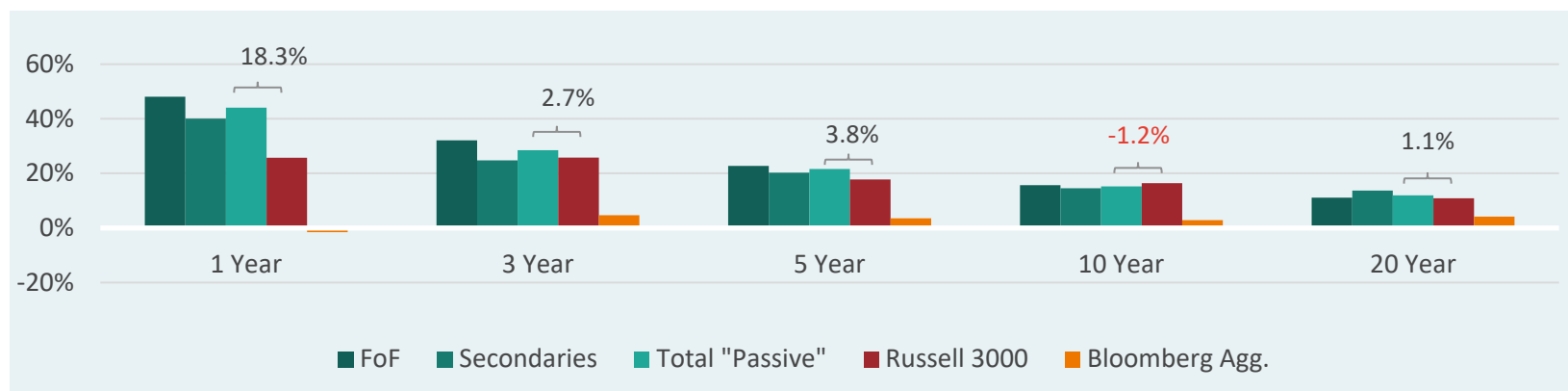
Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



Direct P.E Fund Investments outperformed comparable public equities across all time periods.

“PASSIVE” STRATEGIES

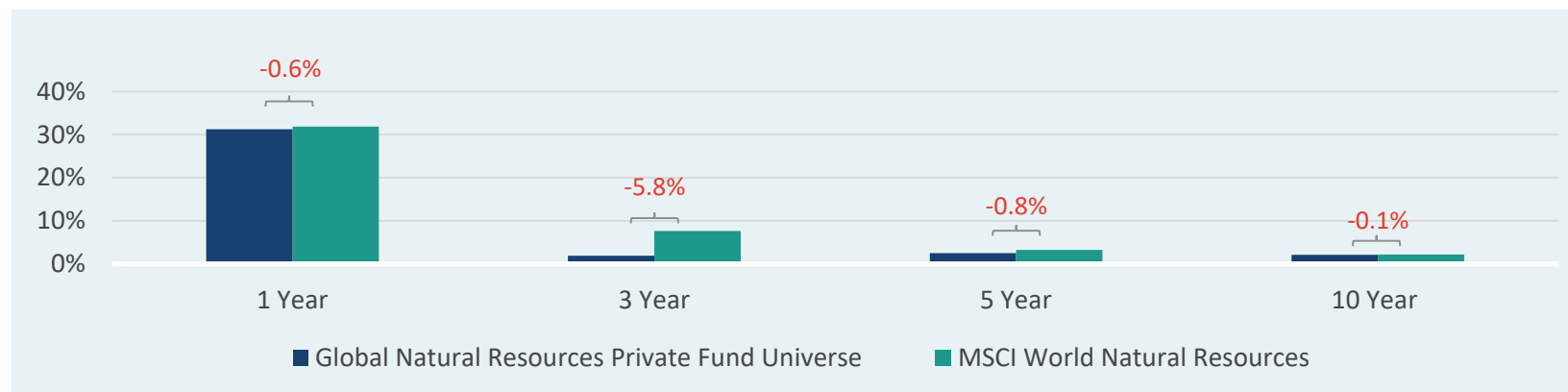


“Passive” strategies outperformed comparable public equities across all time periods, aside from the 10-year basis.

Sources: Refinitiv PME: U.S. Private Equity Funds sub asset classes as of December 31 2021. Public Market Equivalent returns resulted from “Total Passive” and Total Direct’s identical cash flows invested into and distributed from respective traditional asset comparable.

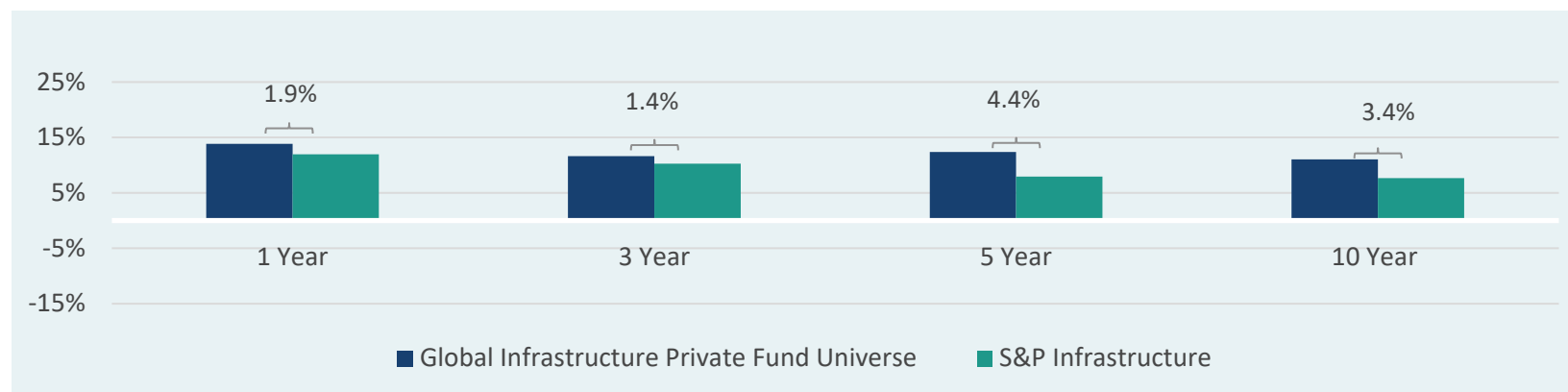
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



N.R. funds underperformed the MSCI World Natural Resources benchmark across all time periods.

GLOBAL INFRASTRUCTURE FUNDS

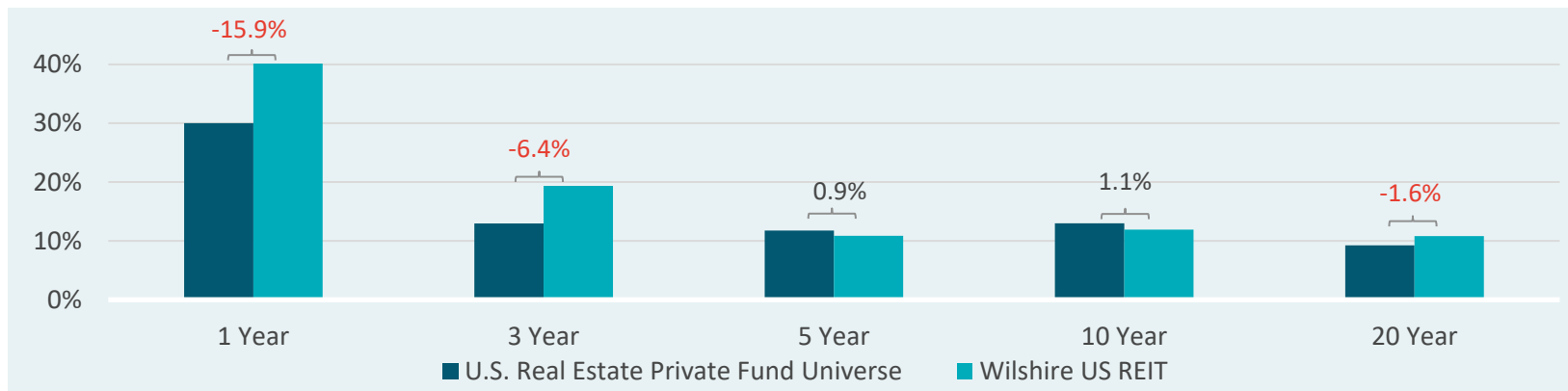


Infra. funds outperformed the S&P Infra. across all periods.

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 December 31, 2021. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

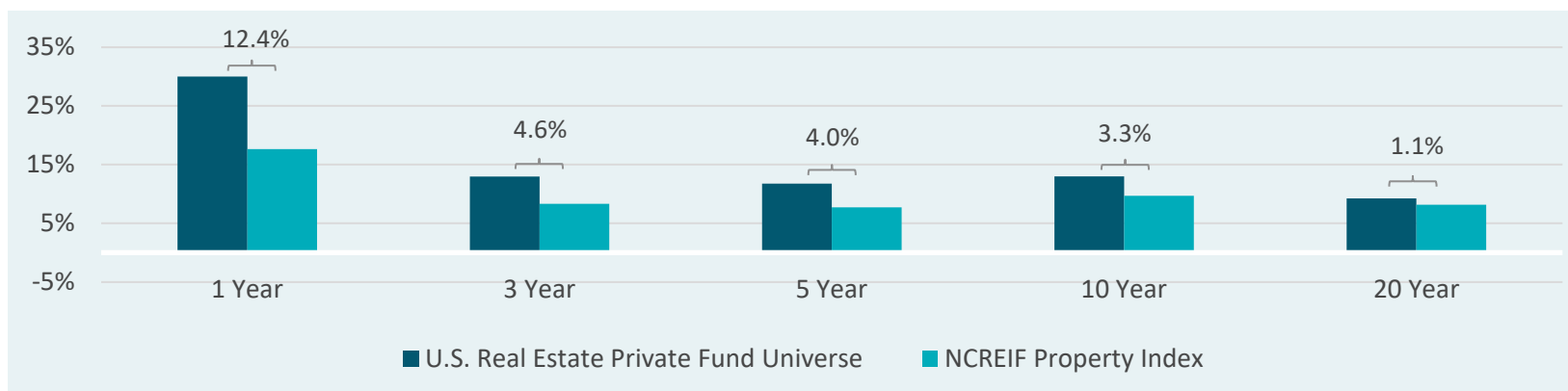
Private vs. liquid and core real estate performance

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



U.S. Private R.E. funds underperformed the Wilshire U.S. REIT Index across all time periods, aside on a 5 and 10 -year basis.

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



U.S. Private R.E. Funds outperformed the NCREIF Property Index across all time periods.

Sources: Refinitiv PME: U.S. Real Estate universes as of December 31, 2021. 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	(8.3)	(16.1)	(20.0)	(10.6)	10.6	11.3	13.0
S&P 500 Equal Weighted	(9.4)	(14.4)	(16.7)	(9.4)	9.7	9.9	12.7
DJ Industrial Average	(6.6)	(10.8)	(14.4)	(9.1)	7.2	10.0	11.7
Russell Top 200	(7.8)	(16.6)	(20.7)	(11.5)	11.5	12.2	13.4
Russell 1000	(8.4)	(16.7)	(20.9)	(13.0)	10.2	11.0	12.8
Russell 2000	(8.2)	(17.2)	(23.4)	(25.2)	4.2	5.2	9.4
Russell 3000	(8.4)	(16.7)	(21.1)	(13.9)	9.8	10.6	12.6
Russell Mid Cap	(10.0)	(16.8)	(21.6)	(17.3)	6.6	8.0	11.3
Style Index							
Russell 1000 Growth	(7.9)	(20.9)	(28.1)	(18.8)	12.6	14.3	14.8
Russell 1000 Value	(8.7)	(12.2)	(12.9)	(6.8)	6.9	7.2	10.5
Russell 2000 Growth	(6.2)	(19.3)	(29.5)	(33.4)	1.4	4.8	9.3
Russell 2000 Value	(9.9)	(15.3)	(17.3)	(16.3)	6.2	4.9	9.1

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	(8.4)	(15.7)	(20.2)	(15.8)	6.2	7.0	8.8
MSCI ACWI ex US	(8.6)	(13.7)	(18.4)	(19.4)	1.4	2.5	4.8
MSCI EAFE	(9.3)	(14.5)	(19.6)	(17.8)	1.1	2.2	5.4
MSCI EM	(6.6)	(11.4)	(17.6)	(25.3)	0.6	2.2	3.1
MSCI EAFE Small Cap	(11.0)	(17.7)	(24.7)	(24.0)	1.1	1.7	7.2
Style Index							
MSCI EAFE Growth	(8.6)	(16.9)	(26.8)	(23.8)	1.3	3.5	6.3
MSCI EAFE Value	(10.0)	(12.4)	(12.1)	(11.9)	0.2	0.5	4.2
Regional Index							
MSCI UK	(8.6)	(10.5)	(8.8)	(4.0)	1.2	2.2	3.7
MSCI Japan	(7.9)	(14.6)	(20.3)	(19.9)	1.0	1.8	5.6
MSCI Euro	(11.3)	(15.8)	(25.2)	(23.8)	(1.1)	0.4	5.3
MSCI EM Asia	(4.8)	(9.3)	(17.2)	(25.9)	3.1	3.4	5.5
MSCI EM Latin American	(17.0)	(21.9)	(0.6)	(16.1)	(6.3)	(0.6)	(2.2)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	(3.2)	(6.1)	(8.9)	(5.1)	3.0	3.2	1.7
Bloomberg US Treasury Bills	(0.0)	0.1	0.0	0.0	0.6	1.1	0.6
Bloomberg US Agg Bond	(1.6)	(4.7)	(10.3)	(10.3)	(0.9)	0.9	1.5
Bloomberg US Universal	(2.0)	(5.1)	(10.9)	(10.9)	(0.9)	0.9	1.8
Duration							
Bloomberg US Treasury 1-3 Yr	(0.6)	(0.5)	(3.0)	(3.5)	0.2	0.9	0.8
Bloomberg US Treasury Long	(1.5)	(11.9)	(21.3)	(18.5)	(2.9)	0.5	1.6
Bloomberg US Treasury	(0.9)	(3.8)	(9.1)	(8.9)	(0.9)	0.7	1.0
Issuer							
Bloomberg US MBS	(1.6)	(4.0)	(8.8)	(9.0)	(1.4)	0.4	1.2
Bloomberg US Corp. High Yield	(6.7)	(9.8)	(14.2)	(12.8)	0.2	2.1	4.5
Bloomberg US Agency Interm	(0.6)	(1.3)	(5.0)	(5.6)	(0.3)	0.8	0.9
Bloomberg US Credit	(2.6)	(6.9)	(13.8)	(13.6)	(1.0)	1.2	2.5

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	(10.8)	(5.7)	18.4	24.3	14.3	8.4	(0.8)
Wilshire US REIT	(7.3)	(5.4)	(14.9)	4.4	7.4	7.5	8.8
CS Leveraged Loans	(2.1)	(4.4)	(4.4)	(2.7)	2.0	3.0	3.9
S&P Global Infrastructure	(7.7)	(7.4)	(0.5)	5.6	3.5	4.8	7.2
Alerian MLP	(14.0)	(7.4)	10.1	4.1	(1.2)	(1.2)	0.8
Regional Index							
JPM EMBI Global Div	(6.2)	(11.4)	(20.3)	(21.2)	(5.2)	(1.2)	2.2
JPM GBI-EM Global Div	(4.5)	(8.6)	(14.5)	(19.3)	(5.8)	(2.3)	(1.5)
Hedge Funds							
HFRI Composite	(3.1)	(4.9)	(5.9)	(5.8)	6.1	5.0	5.0
HFRI FOF Composite	(0.9)	(3.6)	(6.3)	(5.2)	4.1	3.7	3.8
Currency (Spot)							
Euro	(2.4)	(6.0)	(8.1)	(11.8)	(2.8)	(1.7)	(1.9)
Pound Sterling	(3.6)	(7.8)	(10.3)	(12.1)	(1.5)	(1.3)	(2.5)
Yen	(5.3)	(10.7)	(15.2)	(18.3)	(7.4)	(3.7)	(5.2)

Source: Morningstar, HFRI, as of 6/30/22.

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.lanqerresearch.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 indices 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 $(\text{Good-Poor} + 100)/2$ to the present and future sales series and $(\text{High/Very High-Low/Very Low} + 100)/2$ 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.

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Contra Costa County Employees' Retirement Association

Investment Performance Review

Period Ending: June 30, 2022



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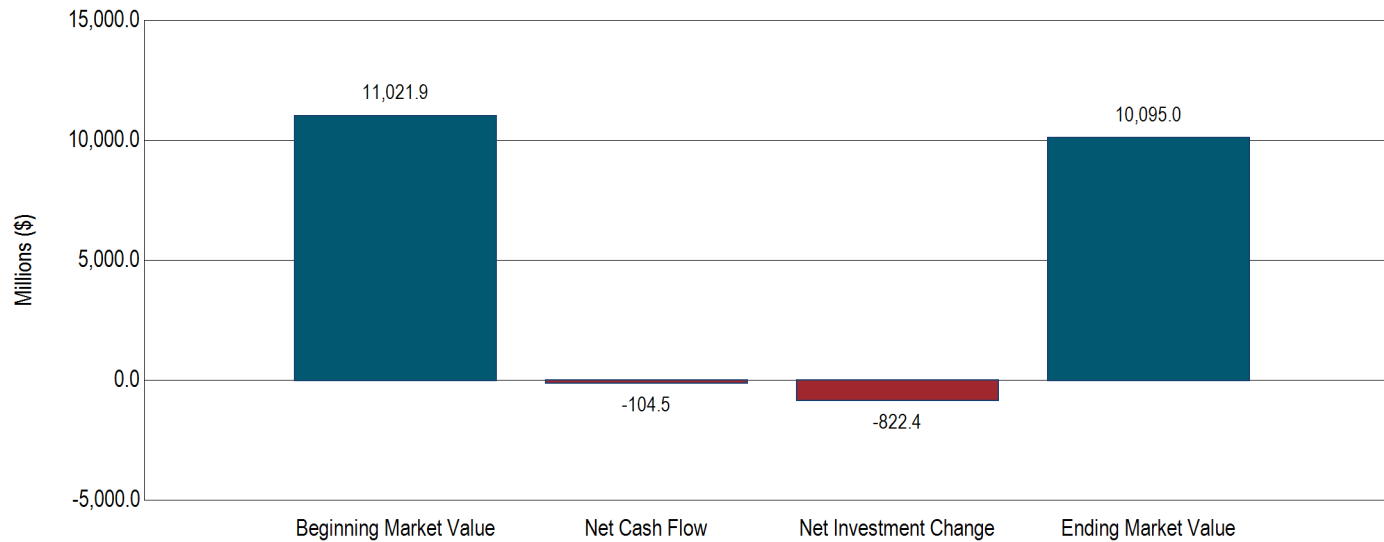
SAN FRANCISCO 415-362-3484

PITTSBURGH 412-784-6678

Portfolio Reconciliation

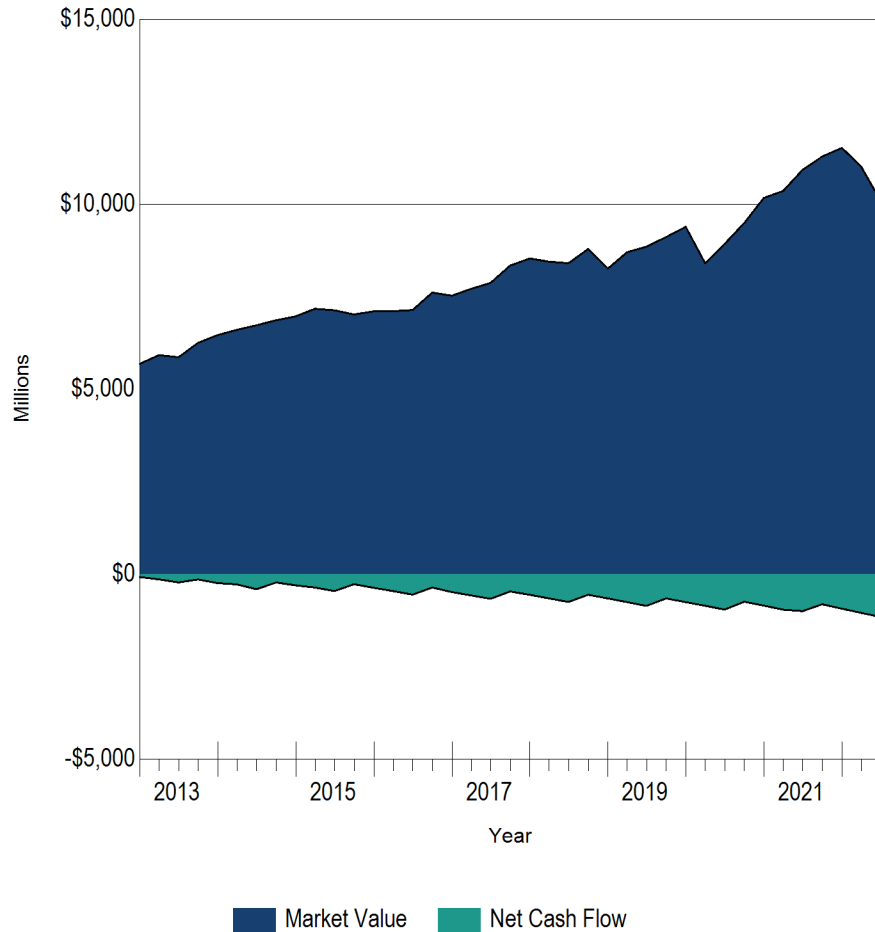
	Last Three Months	Year-To-Date
Beginning Market Value	\$11,021,872,095	\$11,520,465,270
Net Cash Flow	-\$104,487,485	-\$209,997,700
Net Investment Change	-\$822,389,795	-\$1,215,472,755
Ending Market Value	\$10,094,994,815	\$10,094,994,815

Change in Market Value
Last Three Months

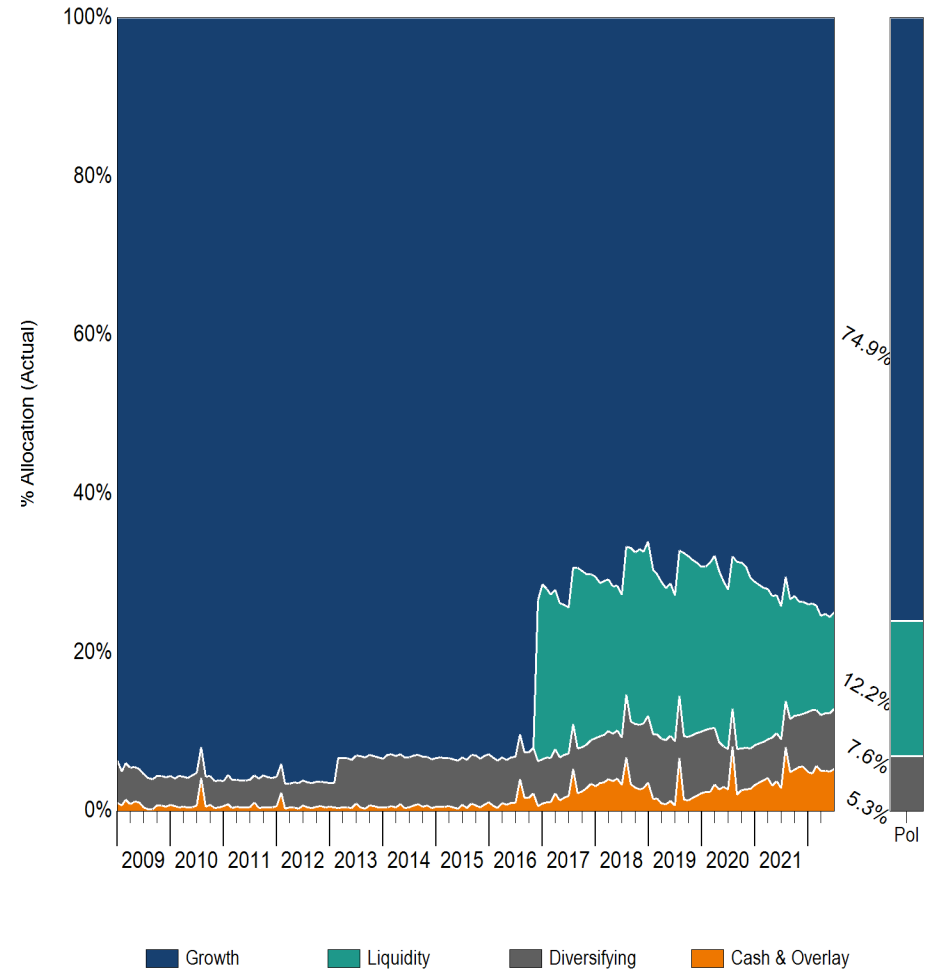


Contributions and withdrawals may include intra-account transfers between managers/funds.

Market Value History
Cumulative Cash Flows



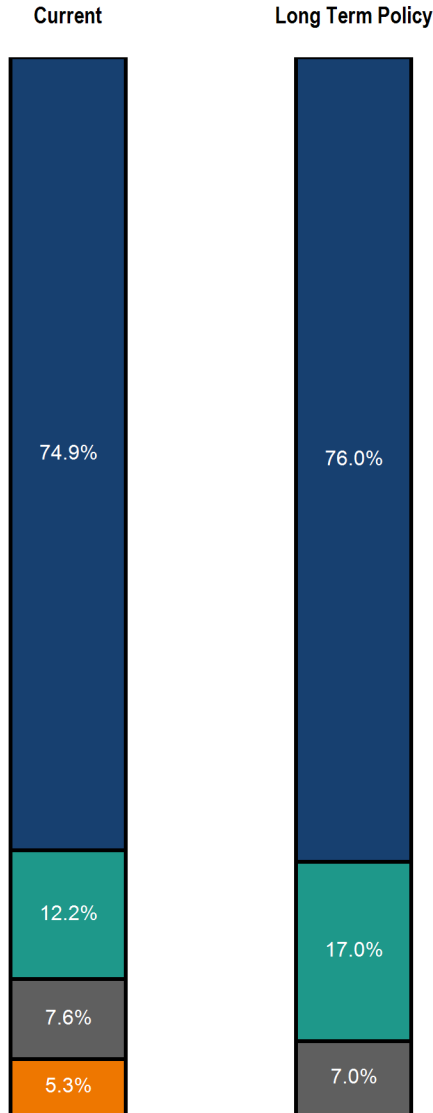
Asset Allocation History



Policy reflects FFP 4-Yr allocations approved in June 2021.

Total Fund
Asset Allocation vs. Long Term Target Policy

Period Ending: June 30, 2022



Allocation vs. Long Term Target

	Current Balance	Current Allocation	Long Term Target	Difference
Growth	\$7,563,348,619	74.9%	76.0%	-\$108,638,483
Liquidity	\$1,228,383,394	12.2%	17.0%	-\$487,718,984
Diversifying	\$764,977,671	7.6%	7.0%	\$58,347,280
Cash & Overlay	\$538,010,187	5.3%	--	\$538,010,187
Total	\$10,094,719,872	100.0%	100.0%	

Allocation vs. Current Targets

	Current Balance	Current Allocation	Current Target	Difference
Growth	\$7,563,348,619	74.9%	75.0%	-\$7,691,285
Liquidity	\$1,228,383,394	12.2%	18.0%	-\$588,666,183
Diversifying	\$764,977,671	7.6%	7.0%	\$58,347,280
Cash & Overlay	\$538,010,187	5.3%	--	\$538,010,187
Total	\$10,094,719,872	100.0%	100.0%	

Long Term Targets reflect FFP 4-Yr allocations approved in June 2021.
Current Targets reflect targets approved in June 2021.

Total Fund
Executive Summary (Net of Fees)

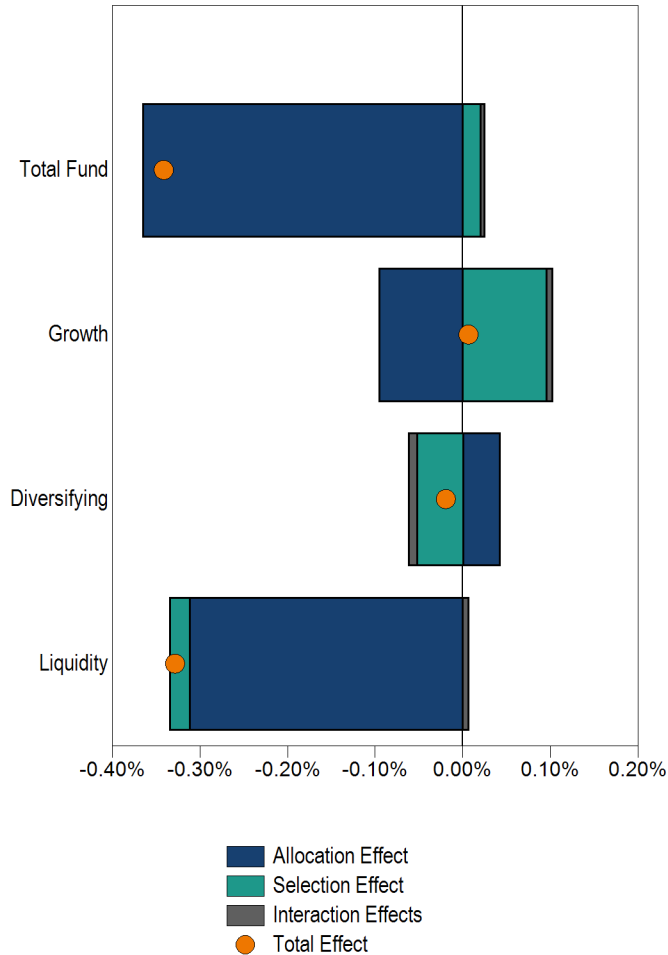
Period Ending: June 30, 2022

	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017
Total Fund	100.0	-7.7	-10.8	-6.7	5.1	5.7	7.4	13.9	9.2	14.6	-2.7	13.9
<i>Policy Index</i>		-7.0	-8.9	-2.9	7.0	7.1	8.2	15.3	10.8	14.6	-0.9	13.7
Growth	74.9	-9.0	-12.1	-6.4	7.5	7.7	8.9	19.2	12.0	18.3	-3.9	18.7
<i>Custom Growth Benchmark</i>		-9.1	-11.0	-3.3	9.7	9.4	9.8	21.6	13.8	19.3	-2.1	19.3
Diversifying	7.6	-0.7	-3.5	-3.2	-0.4	0.4	0.4	1.7	-1.7	6.8	-2.3	2.6
<i>Custom Diversifying Benchmark</i>		-2.1	-4.9	-3.9	1.0	2.1	2.5	1.6	4.7	6.1	1.4	4.7
Liquidity	12.2	-0.8	-3.2	-3.7	0.4	1.3	--	-0.3	3.4	4.8	1.7	1.4
<i>Bloomberg US Govt/Credit 1-3 Yr. TR</i>		-0.6	-3.1	-3.6	0.3	1.1	--	-0.5	3.3	4.0	1.6	0.8

*Correlation between the Growth and Diversifying composites is .50, .62 and .54 over the previous 1, 3 and 5 year periods respectively.

Policy Index (7/1/2021-Present): 16% Russell 3000, 16% MSCI ACWI ex-US (Gross), 9% MSCI ACWI (Net), 2% Wilshire REIT, 8% Private Real Estate composite returns, 3% CPI +4%, 11% Private Equity composite returns, 3% CPI +4%, 11% Private Equity composite returns, 8% Private Credit composite returns, 2% ICE BofAML High Yield Master II, 18% Bloomberg 1-3 Yr Gov/Credit, 2.5% Bloomberg US Aggregate, 3% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate, 1.5% HFRI EH Equity Market Neutral.

Attribution Effects
 3 Months Ending June 30, 2022



Performance Attribution

	Quarter
Wtd. Actual Return	-7.31%
Wtd. Index Return *	-6.96%
Excess Return	-0.34%
Selection Effect	0.02%
Allocation Effect	-0.37%
Interaction Effect	0.00%

*Calculated from benchmark returns and weightings of each component.

Attribution Summary
 Last Three Months

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Growth	-9.0%	-9.1%	0.1%	0.1%	-0.1%	0.0%	0.0%
Diversifying	-0.7%	0.1%	-0.8%	-0.1%	0.0%	0.0%	0.0%
Liquidity	-0.8%	-0.6%	-0.1%	0.0%	-0.3%	0.0%	-0.3%
Total	-7.3%	-7.0%	-0.3%	0.0%	-0.4%	0.0%	-0.3%

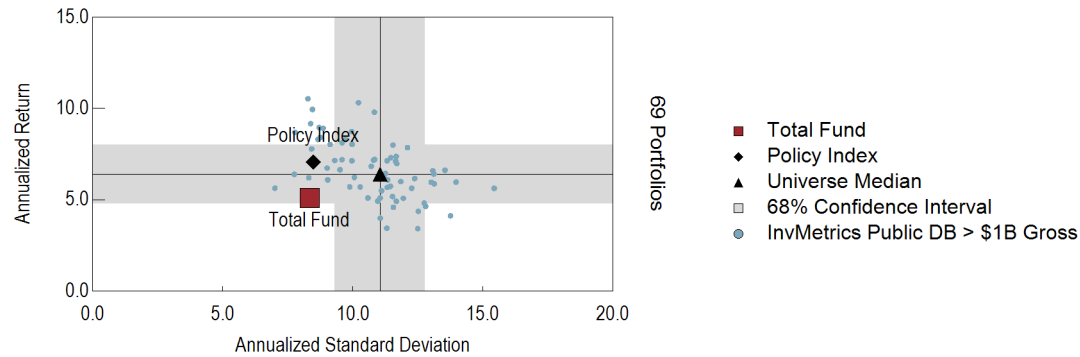
Total Fund Executive Summary (Net of Fees)

Period Ending: June 30, 2022

3 Years

	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Total Fund	5.10%	-1.94%	8.34%	-1.60%	0.95	2.20%	0.93	0.55	-0.88	90.51%	107.16%

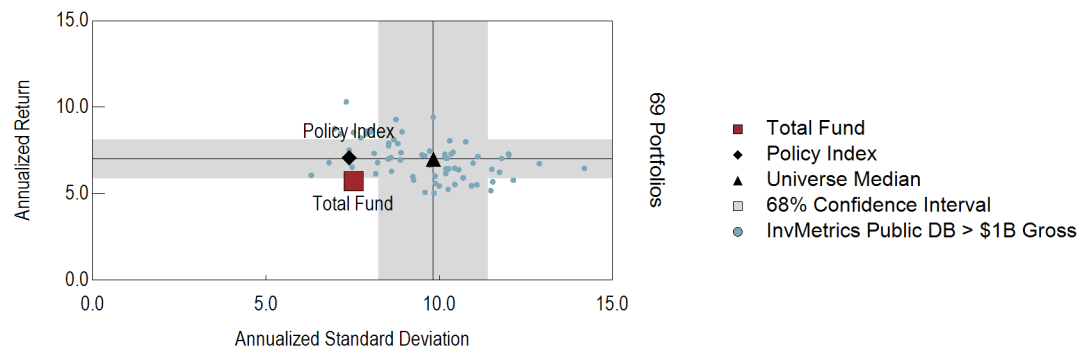
Risk vs. Return



5 Years

	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Total Fund	5.69%	-1.37%	7.53%	-1.25%	0.98	1.93%	0.93	0.62	-0.71	94.34%	108.66%

Risk vs. Return



Total Fund
Performance Summary (Gross of Fees)

Period Ending: June 30, 2022

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017	Inception	Inception Date
Total Fund	10,094,994,815	100.0	-7.6	-10.7	-6.5	5.4	6.0	7.9	14.2	9.5	14.9	-2.5	14.2		
Policy Index			-7.0	-8.9	-2.9	7.0	7.1	8.2	15.3	10.8	14.6	-0.9	13.7		
InvMetrics Public DB > \$1B Gross Rank			35	43	41	79	82	61	62	78	83	25	83		
Total Fund ex Overlay & Cash	9,556,984,628	94.7	-7.3	-10.2	-5.6	5.7	6.2	8.0	14.6	9.7	14.7	-2.1	14.1		
Policy Index			-7.0	-8.9	-2.9	7.0	7.1	8.2	15.3	10.8	14.6	-0.9	13.7		
InvMetrics Public DB > \$1B Gross Rank			25	35	36	68	72	54	55	72	85	20	84		
Growth	7,563,623,562	74.9	-8.9	-12.0	-6.1	7.8	8.1	9.4	19.6	12.4	18.7	-3.6	19.1		
Custom Growth Benchmark			-9.1	-11.0	-3.3	9.7	9.4	9.8	21.6	13.8	19.3	-2.1	19.3		
Total Domestic Equity	1,465,205,679	14.5	-16.9	-22.0	-17.5	7.2	8.8	11.9	20.6	22.2	26.7	-7.2	23.9		
Russell 3000			-16.7	-21.1	-13.9	9.8	10.6	12.6	25.7	20.9	31.0	-5.2	21.1		
InvMetrics Public DB US Eq Gross Rank			92	95	97	96	87	64	97	10	87	78	6		
BlackRock Russell 1000 Index	735,558,303	7.3	-16.7	-20.9	-13.0	10.2	11.0	--	26.5	21.0	31.4	-4.8	--	11.0	Apr-17
Russell 1000			-16.7	-20.9	-13.0	10.2	11.0	--	26.5	21.0	31.4	-4.8	--	11.0	Apr-17
eV US Large Cap Equity Gross Rank			71	65	67	44	46	--	55	36	39	47	--		
Boston Partners	372,114,916	3.7	-11.0	-10.3	-3.0	10.1	9.1	11.9	31.3	3.0	24.3	-8.7	20.1	10.5	Jun-95
Russell 1000 Value			-12.2	-12.9	-6.8	6.9	7.2	10.5	25.2	2.8	26.5	-8.3	13.7	9.1	Jun-95
eV US Large Cap Value Equity Gross Rank			44	38	33	34	46	34	17	61	77	55	23		
Emerald Advisers	183,413,674	1.8	-20.0	-28.5	-29.2	2.8	7.2	12.0	5.5	39.0	30.3	-10.1	28.8	12.0	Apr-03
Russell 2000 Growth			-19.3	-29.5	-33.4	1.4	4.8	9.3	2.8	34.6	28.5	-9.3	22.2	9.9	Apr-03
eV US Small Cap Growth Equity Gross Rank			52	39	48	81	82	61	76	57	45	85	26		
Ceredex	173,993,462	1.7	-12.0	-17.5	-10.7	4.0	4.9	9.4	28.4	2.3	18.4	-11.3	11.4	9.4	Nov-11
Russell 2000 Value			-15.3	-17.3	-16.3	6.2	4.9	9.1	28.3	4.6	22.4	-12.9	7.8	9.4	Nov-11
eV US Small Cap Value Equity Gross Rank			29	69	45	91	79	81	60	69	87	25	48		

Individual closed end funds are not shown in performance summary table. Jackson Square has a residual balance of \$125,323.

Total Fund
Performance Summary (Gross of Fees)

Period Ending: June 30, 2022

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017	Inception	Inception Date
Total International Equity	1,498,122,285	14.8	-12.7	-20.1	-23.0	2.6	3.7	6.0	8.3	15.8	23.7	-14.3	25.5		
MSCI ACWI ex USA Gross			-13.5	-18.2	-19.0	1.8	3.0	5.3	8.3	11.1	22.1	-13.8	27.8		
MSCI EAFE Gross			-14.3	-19.3	-17.3	1.5	2.7	5.9	11.8	8.3	22.7	-13.4	25.6		
InvMetrics Public DB ex-US Eq Gross Rank			24	57	87	20	13	29	45	23	28	44	90		
International Equity	839,367,883	8.3	-13.2	-20.8	-20.1	3.7	4.5	6.6	9.0	19.0	27.0	-13.6	25.3		
MSCI ACWI ex USA Gross			-13.5	-18.2	-19.0	1.8	3.0	5.3	8.3	11.1	22.1	-13.8	27.8		
InvMetrics Public DB ex-US Eq Gross Rank			40	77	46	4	5	5	32	13	7	21	93		
Pyrford	447,718,985	4.4	-8.2	-9.8	-9.3	2.9	3.5	--	7.6	4.7	22.1	-10.1	19.8	3.3	May-14
MSCI ACWI ex USA Value			-11.9	-11.8	-12.8	0.6	1.2	--	10.5	-0.8	15.7	-14.0	22.7	0.8	May-14
eV ACWI ex-US Value Equity Gross Rank			8	10	9	45	23	--	84	33	35	5	84		
William Blair	391,648,898	3.9	-18.3	-30.5	-29.5	4.0	5.0	7.2	10.5	33.3	32.0	-16.8	30.9	5.8	Oct-10
MSCI ACWI ex USA Growth			-15.7	-24.8	-25.8	1.6	3.4	5.7	5.1	22.2	27.3	-14.4	32.0	4.2	Oct-10
eV ACWI ex-US Growth Equity Gross Rank			63	65	61	37	51	63	44	30	39	69	81		
Emerging Markets Equity	658,754,402	6.5	-12.1	-19.2	-26.6	1.1	2.9	--	7.6	11.4	19.4	-15.3	--		
MSCI Emerging Markets			-11.4	-17.6	-25.3	0.6	2.2	--	-2.5	18.3	18.4	-14.6	--		
InvMetrics Public DB Emg Mkt Eq Gross Rank			--	--	--	--	--	--	2	81	31	51	--		
PIMCO RAE Emerging Markets	324,030,742	3.2	-13.1	-16.2	-19.0	1.6	3.1	--	17.1	2.1	14.6	-12.3	--	3.1	Feb-17
MSCI Emerging Markets Value NR			-10.8	-13.9	-18.6	-1.0	1.2	--	4.0	5.5	12.0	-10.7	--	2.1	Feb-17
eV Emg Mkts All Cap Value Equity Gross Rank			82	55	49	48	47	--	6	85	72	44	--		
TT Emerging Markets	334,723,660	3.3	-11.0	-21.8	-32.9	0.7	--	--	-0.2	20.8	24.8	-18.4	--	1.5	Jul-17
MSCI Emerging Markets			-11.4	-17.6	-25.3	0.6	--	--	-2.5	18.3	18.4	-14.6	--	1.0	Jul-17
eV Emg Mkts Equity Gross Rank			27	72	91	64	--	--	58	39	24	83	--		
Total Global Equity	905,924,774	9.0	-15.6	-21.4	-17.6	6.7	7.8	9.9	14.1	25.3	28.9	-7.8	23.7		
MSCI ACWI			-15.7	-20.2	-15.8	6.2	7.0	8.8	18.5	16.3	26.6	-9.4	24.0		
InvMetrics Public DB Glbl Eq Gross Rank			92	93	96	57	18	83	88	2	3	60	79		
Artisan Partners	434,618,621	4.3	-20.5	-30.9	-26.1	7.5	9.4	--	15.0	41.7	37.0	-7.9	32.9	11.4	Oct-12
MSCI ACWI Growth NR USD			-20.2	-27.9	-23.5	7.6	9.2	--	17.1	33.6	32.7	-8.1	30.0	9.8	Oct-12
eV All Global Equity Gross Rank			90	91	87	35	24	--	80	9	7	40	11		
First Eagle	471,188,220	4.7	-10.5	-9.8	-7.8	5.4	5.8	7.8	13.0	8.5	21.0	-7.6	15.1	7.4	Jan-11
MSCI ACWI Value NR USD			-11.5	-12.3	-8.1	3.9	4.3	6.9	19.6	-0.3	20.6	-10.8	18.3	5.7	Jan-11
eV All Global Equity Gross Rank			13	8	15	65	74	81	85	70	82	38	89		

Individual closed end funds are not shown in performance summary table.

Total Fund
Performance Summary (Gross of Fees)

Period Ending: June 30, 2022

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017	Inception	Inception Date
Private Credit	902,261,132	8.9	4.4	7.3	10.3	8.6	8.2	10.9	10.0	4.0	7.7	8.3	10.4		
Total High Yield	158,440,530	1.6	-9.9	-13.9	-12.4	-0.1	1.7	4.0	5.3	5.2	15.3	-3.2	6.5		
ICE BofAML High Yield Master II			-10.0	-14.0	-12.7	0.0	2.0	4.4	5.4	6.2	14.4	-2.3	7.5		
eV US High Yield Fixed Inc Gross Rank			77	77	79	85	97	84	51	74	31	88	74		
Allianz Global Investors	158,440,530	1.6	-9.9	-13.9	-12.4	-0.1	1.7	4.0	5.3	5.2	15.3	-3.2	6.5	6.1	Apr-00
ICE BofAML High Yield Master II			-10.0	-14.0	-12.7	0.0	2.0	4.4	5.4	6.2	14.4	-2.3	7.5	6.2	Apr-00
eV US High Yield Fixed Inc Gross Rank			77	77	79	85	97	84	51	74	31	88	74		
Total Real Estate	796,021,101	7.9	-3.6	0.2	10.8	4.9	6.7	9.4	19.2	-5.9	8.1	7.4	11.1		
Real Estate Benchmark			-2.9	0.3	11.4	7.5	7.5	8.6	19.3	0.6	7.5	6.8	7.1		
NCREIF-ODCE			4.8	12.5	29.5	12.7	10.5	11.2	22.2	1.2	5.3	8.3	7.6		
NCREIF Property Index			3.2	8.7	21.5	10.2	8.9	9.7	17.7	1.6	6.4	6.7	7.0		
Total Core RE	203,967,263	2.0	-16.0	-19.2	-3.2	6.9	7.7	8.7	48.3	-4.6	28.2	-5.0	7.8		
Adelante	89,840,083	0.9	-17.9	-20.8	-5.1	6.2	7.2	8.5	48.3	-4.6	28.2	-5.0	7.8	10.0	Sep-01
Wilshire REIT			-18.5	-21.6	-6.7	4.0	5.3	7.3	46.2	-7.9	25.8	-4.8	4.2	9.4	Sep-01
Invesco US Fundamental Beta	114,127,181	1.1	-14.3	--	--	--	--	--	--	--	--	--	--	-8.9	Mar-22
Wilshire REIT			-18.5	--	--	--	--	--	--	--	--	--	--	-12.9	Mar-22
Total Private Real Estate	592,053,837	5.9	1.4	6.4	15.9	5.6	7.1	10.1	15.3	-6.1	6.2	8.8	11.4		
Private Equity	1,422,347,997	14.1	0.5	3.6	34.4	23.7	17.9	15.3	60.4	8.7	8.4	12.1	11.9		
Risk Parity	415,300,065	4.1	-12.6	-16.9	-14.2	1.7	--	--	9.7	10.0	--	--	--		
60% MSCI ACWI Net/40% Bloomberg Global Aggregate			-12.7	-17.7	-15.4	2.6	--	--	8.8	14.0	--	--	--		
AQR Global Risk Premium-EL	196,593,496	1.9	-9.3	-12.8	-9.7	2.7	--	--	10.7	6.2	--	--	--	5.8	Jan-19
HFR Risk Parity Vol 10 Index			-11.0	-15.4	-13.6	-0.7	--	--	6.8	3.6	--	--	--	3.0	Jan-19
PanAgora Risk Parity Multi Asset	218,706,569	2.2	-15.3	-20.2	-17.9	1.0	--	--	8.7	14.0	--	--	--	3.5	Feb-19
HFR Risk Parity Vol 10 Index			-11.0	-15.4	-13.6	-0.7	--	--	6.8	3.6	--	--	--	1.3	Feb-19

Individual closed end funds are not shown in performance summary table.

Total Fund Performance Summary (Gross of Fees)

Period Ending: June 30, 2022

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017	Inception	Inception Date
Diversifying	764,977,671	7.6	-0.6	-3.3	-2.8	0.0	0.8	0.7	2.0	-1.3	7.1	-2.0	2.8		
<i>Custom Diversifying Benchmark</i>			-2.1	-4.9	-3.9	1.0	2.1	2.5	1.6	4.7	6.1	1.4	4.7		
Diversifying Fixed Income	232,483,592	2.3	-4.1	-9.7	-9.8	-2.3	-0.2	1.1	-0.7	1.6	8.6	-1.7	2.8		
<i>Bloomberg US Aggregate TR</i>			-4.7	-10.3	-10.3	-0.9	0.9	1.5	-1.5	7.5	8.7	0.0	3.5		
<i>eV US Core Fixed Inc Gross Rank</i>			14	23	26	99	99	99	30	99	80	99	96		
AFL-CIO	232,398,083	2.3	-4.1	-9.7	-9.8	-0.9	1.0	1.8	-0.7	6.6	8.2	0.6	3.6	5.5	Jun-91
<i>Bloomberg US Aggregate TR</i>			-4.7	-10.3	-10.3	-0.9	0.9	1.5	-1.5	7.5	8.7	0.0	3.5	5.1	Jun-91
<i>eV US Core Fixed Inc Gross Rank</i>			14	23	26	90	87	85	30	95	88	16	76		
Diversifying Multi-Asset	532,494,080	5.3	1.0	-0.5	-0.2	--	--	--	2.8	--	--	--	--		
<i>Custom Diversifying Multi-Asset Benchmark</i>			-1.6	-3.8	-2.3	--	--	--	4.1	--	--	--	--		
Acadian Multi-Asset Absolute Return Fund	255,461,740	2.5	3.0	0.4	0.8	--	--	--	1.7	--	--	--	--	2.0	Aug-20
<i>FTSE 3-Month T-bill +5%</i>			1.4	2.6	5.2	--	--	--	5.0	--	--	--	--	5.1	Aug-20
Sit LLCAR	277,032,339	2.7	-0.8	-1.3	-0.6	--	--	--	--	--	--	--	--	2.5	Apr-21
<i>Bloomberg US Aggregate Index + 100 bps</i>			-4.5	-9.9	-9.4	--	--	--	--	--	--	--	--	-6.0	Apr-21
Liquidity	1,228,383,394	12.2	-0.7	-3.1	-3.6	0.5	1.4	--	-0.2	3.5	4.9	1.8	1.5		
<i>Bloomberg US Govt/Credit 1-3 Yr. TR</i>			-0.6	-3.1	-3.6	0.3	1.1	--	-0.5	3.3	4.0	1.6	0.8		
<i>eV US Short Duration Fixed Inc Gross Rank</i>			31	43	48	63	41	--	40	77	34	24	50		
DFA Short Credit	263,008,267	2.6	-1.8	-5.5	-6.1	-0.5	0.7	--	-0.4	2.9	5.2	1.2	1.9	0.9	Nov-16
<i>ICE BofA 1-5 Yrs US Corp & Govt TR</i>			-1.1	-4.6	-5.2	0.1	1.1	--	-0.9	4.6	5.1	1.4	1.3	1.2	Nov-16
<i>eV US Short Duration Fixed Inc Gross Rank</i>			91	96	97	99	99	--	64	90	21	93	26	99	Nov-16
Insight Short Duration	473,746,543	4.7	-0.3	-1.5	-1.6	1.2	1.7	--	0.1	3.2	4.7	1.7	1.5	1.7	Nov-16
<i>Bloomberg US Govt/Credit 1-3 Yr. TR</i>			-0.6	-3.1	-3.6	0.3	1.1	--	-0.5	3.3	4.0	1.6	0.8	1.1	Nov-16
<i>eV US Short Duration Fixed Inc Gross Rank</i>			2	4	4	7	15	--	25	86	45	38	50	20	Nov-16
Sit Short Duration	491,628,584	4.9	-0.6	-3.7	-4.4	0.3	1.6	--	-0.3	4.6	4.9	2.5	1.3	1.6	Nov-16
<i>Bloomberg US Govt 1-3 Yr TR</i>			-0.5	-3.0	-3.5	0.2	0.9	--	-0.6	3.1	3.6	1.6	0.4	0.9	Nov-16
<i>eV US Short Duration Fixed Inc Gross Rank</i>			23	62	73	74	20	--	55	26	35	1	68	30	Nov-16
Total Cash	444,315,979	4.4	0.2	0.4	0.5	1.2	1.5	2.2	0.4	1.3	3.3	1.7	0.9		
<i>91 Day T-Bills</i>			0.1	0.1	0.2	0.5	1.0	0.6	0.0	0.5	2.1	1.9	0.9		
Cash	443,752,652	4.4	0.2	0.3	0.4	1.2	1.5	2.2	0.4	1.3	3.4	1.7	0.9		
Northern Trust Transition	563,327	0.0	-6.0	2,748.0	2,651.6	281.9	--	--	-6.1	104.1	--	--	--		

Individual closed end funds are not shown in performance summary table. Effective 3/1/2019 the custodian of record switched from State Street to Northern Trust. Wellington Real Total Return was liquidated 4/30/2020. \$85,508.16 in residual value is reflected in the Diversifying Fixed Income composite.

Total Fund Performance Summary (Net of Fees)

Period Ending: June 30, 2022

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017	Inception	Inception Date
Total Fund	10,094,994,815	100.0	-7.7	-10.8	-6.7	5.1	5.7	7.4	13.9	9.2	14.6	-2.7	13.9		
<i>Policy Index</i>			-7.0	-8.9	-2.9	7.0	7.1	8.2	15.3	10.8	14.6	-0.9	13.7		
Total Fund ex Overlay & Cash	9,556,984,628	94.7	-7.3	-10.3	-5.9	5.5	5.9	7.5	14.3	9.4	14.3	-2.4	13.8		
<i>Policy Index</i>			-7.0	-8.9	-2.9	7.0	7.1	8.2	15.3	10.8	14.6	-0.9	13.7		
Growth	7,563,623,562	74.9	-9.0	-12.1	-6.4	7.5	7.7	8.9	19.2	12.0	18.3	-3.9	18.7		
<i>Custom Growth Benchmark</i>			-9.1	-11.0	-3.3	9.7	9.4	9.8	21.6	13.8	19.3	-2.1	19.3		
Total Domestic Equity	1,465,205,679	14.5	-16.9	-22.2	-17.7	6.8	8.4	11.5	20.3	21.8	26.1	-7.6	23.5		
<i>Russell 3000</i>			-16.7	-21.1	-13.9	9.8	10.6	12.6	25.7	20.9	31.0	-5.2	21.1		
BlackRock Russell 1000 Index	735,558,303	7.3	-16.7	-20.9	-13.0	10.2	11.0	--	26.5	20.9	31.4	-4.8	--	11.0	Apr-17
<i>Russell 1000</i>			-16.7	-20.9	-13.0	10.2	11.0	--	26.5	21.0	31.4	-4.8	--	11.0	Apr-17
Boston Partners	372,114,916	3.7	-11.0	-10.4	-3.3	9.7	8.8	11.6	31.0	2.6	23.8	-8.9	19.7	10.2	Jun-95
<i>Russell 1000 Value</i>			-12.2	-12.9	-6.8	6.9	7.2	10.5	25.2	2.8	26.5	-8.3	13.7	9.1	Jun-95
Emerald Advisers	183,413,674	1.8	-20.2	-28.7	-29.6	2.2	6.5	11.3	4.9	38.2	29.4	-10.7	28.0	11.4	Apr-03
<i>Russell 2000 Growth</i>			-19.3	-29.5	-33.4	1.4	4.8	9.3	2.8	34.6	28.5	-9.3	22.2	9.9	Apr-03
Ceredex	173,993,462	1.7	-12.1	-17.7	-11.2	3.4	4.3	8.8	27.7	1.7	17.7	-11.8	10.7	8.8	Nov-11
<i>Russell 2000 Value</i>			-15.3	-17.3	-16.3	6.2	4.9	9.1	28.3	4.6	22.4	-12.9	7.8	9.4	Nov-11
Total International Equity	1,498,122,285	14.8	-12.7	-20.2	-23.2	2.2	3.2	5.6	7.8	15.2	23.2	-14.7	25.0		
<i>MSCI ACWI ex USA Gross</i>			-13.5	-18.2	-19.0	1.8	3.0	5.3	8.3	11.1	22.1	-13.8	27.8		
<i>MSCI EAFE Gross</i>			-14.3	-19.3	-17.3	1.5	2.7	5.9	11.8	8.3	22.7	-13.4	25.6		
International Equity	839,367,883	8.3	-13.2	-20.8	-20.2	3.4	4.1	6.3	8.7	18.5	26.5	-13.9	24.8		
<i>MSCI ACWI ex USA Gross</i>			-13.5	-18.2	-19.0	1.8	3.0	5.3	8.3	11.1	22.1	-13.8	27.8		
Pyrford	447,718,985	4.4	-8.2	-9.8	-9.4	2.6	3.2	--	7.3	4.2	21.6	-10.5	19.3	2.9	May-14
<i>MSCI ACWI ex USA Value</i>			-11.9	-11.8	-12.8	0.6	1.2	--	10.5	-0.8	15.7	-14.0	22.7	0.8	May-14
William Blair	391,648,898	3.9	-18.3	-30.5	-29.6	3.7	4.7	6.8	10.2	32.8	31.5	-17.1	30.4	5.4	Oct-10
<i>MSCI ACWI ex USA Growth</i>			-15.7	-24.8	-25.8	1.6	3.4	5.7	5.1	22.2	27.3	-14.4	32.0	4.2	Oct-10
Emerging Markets Equity	658,754,402	6.5	-12.1	-19.4	-27.0	0.5	2.3	--	7.0	10.7	18.7	-15.7	--		
<i>MSCI Emerging Markets</i>			-11.4	-17.6	-25.3	0.6	2.2	--	-2.5	18.3	18.4	-14.6	--		
PIMCO RAE Emerging Markets	324,030,742	3.2	-13.1	-16.4	-19.3	1.1	2.6	--	16.5	1.6	14.0	-12.6	--	2.6	Feb-17
<i>MSCI Emerging Markets Value NR</i>			-10.8	-13.9	-18.6	-1.0	1.2	--	4.0	5.5	12.0	-10.7	--	2.1	Feb-17
TT Emerging Markets	334,723,660	3.3	-11.2	-22.0	-33.3	0.1	--	--	-0.9	20.0	24.0	-18.9	--	0.9	Jul-17
<i>MSCI Emerging Markets</i>			-11.4	-17.6	-25.3	0.6	--	--	-2.5	18.3	18.4	-14.6	--	1.0	Jul-17

Individual closed end funds are not shown in performance summary table. Jackson Square has a residual market value of \$125,323.

Total Fund
Performance Summary (Net of Fees)

Period Ending: June 30, 2022

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017	Inception	Inception Date
Total Global Equity	905,924,774	9.0	-15.8	-21.7	-18.2	5.9	7.0	9.1	13.2	24.4	27.9	-8.5	22.8		
<i>MSCI ACWI</i>			-15.7	-20.2	-15.8	6.2	7.0	8.8	18.5	16.3	26.6	-9.4	24.0		
Artisan Partners	434,618,621	4.3	-20.7	-31.2	-26.6	6.7	8.6	--	14.1	40.6	36.0	-8.6	31.9	10.6	Oct-12
<i>MSCI ACWI Growth NR USD</i>			-20.2	-27.9	-23.5	7.6	9.2	--	17.1	33.6	32.7	-8.1	30.0	9.8	Oct-12
First Eagle	471,188,220	4.7	-10.7	-10.1	-8.5	4.6	5.0	7.0	12.1	7.7	20.1	-8.3	14.3	6.6	Jan-11
<i>MSCI ACWI Value NR USD</i>			-11.5	-12.3	-8.1	3.9	4.3	6.9	19.6	-0.3	20.6	-10.8	18.3	5.7	Jan-11
Private Credit	902,261,132	8.9	4.4	7.3	10.3	8.6	8.2	10.2	10.0	4.0	7.7	8.3	10.4		
Total High Yield	158,440,530	1.6	-10.0	-14.1	-12.8	-0.5	1.2	3.6	4.9	4.7	14.7	-3.6	6.1		
<i>ICE BofAML High Yield Master II</i>			-10.0	-14.0	-12.7	0.0	2.0	4.4	5.4	6.2	14.4	-2.3	7.5		
Allianz Global Investors	158,440,530	1.6	-10.0	-14.1	-12.8	-0.5	1.2	3.6	4.9	4.7	14.7	-3.6	6.1	5.6	Apr-00
<i>ICE BofAML High Yield Master II</i>			-10.0	-14.0	-12.7	0.0	2.0	4.4	5.4	6.2	14.4	-2.3	7.5	6.2	Apr-00
Total Real Estate	796,021,101	7.9	-3.6	0.2	10.7	4.8	6.6	8.9	19.2	-6.0	8.1	7.4	11.0		
<i>Real Estate Benchmark</i>			-2.9	0.3	11.4	7.5	7.5	8.6	19.3	0.6	7.5	6.8	7.1		
<i>NCREIF-ODCE</i>			4.8	12.5	29.5	12.7	10.5	11.2	22.2	1.2	5.3	8.3	7.6		
<i>NCREIF Property Index</i>			3.2	8.7	21.5	10.2	8.9	9.7	17.7	1.6	6.4	6.7	7.0		
Total Core RE	203,967,263	2.0	-16.1	-19.4	-3.6	6.3	7.1	8.2	47.5	-5.2	27.5	-5.5	7.2		
Adelante	89,840,083	0.9	-18.0	-21.0	-5.6	5.6	6.6	8.0	47.5	-5.2	27.5	-5.5	7.2	9.4	Sep-01
<i>Wilshire REIT</i>			-18.5	-21.6	-6.7	4.0	5.3	7.3	46.2	-7.9	25.8	-4.8	4.2	9.4	Sep-01
Invesco US Fundamental Beta	114,127,181	1.1	-14.3	--	--	--	--	--	--	--	--	--	--	-9.0	Mar-22
<i>Wilshire REIT</i>			-18.5	--	--	--	--	--	--	--	--	--	--	-12.9	Mar-22
Total Private Real Estate	592,053,837	5.9	1.4	6.4	15.9	5.6	7.1	9.5	15.3	-6.1	6.2	8.8	11.4		
Private Equity	1,422,347,997	14.1	0.5	3.6	34.4	23.7	17.9	14.5	60.4	8.7	8.4	12.1	11.9		
Risk Parity	415,300,065	4.1	-12.6	-17.0	-14.5	1.3	--	--	9.3	9.6	--	--	--		
<i>60% MSCI ACWI Net/40% Bloomberg Global Aggregate</i>			-12.7	-17.7	-15.4	2.6	--	--	8.8	14.0	--	--	--		
AQR Global Risk Premium-EL	196,593,496	1.9	-9.4	-13.0	-10.0	2.3	--	--	10.3	5.8	--	--	--	5.4	Jan-19
<i>HFR Risk Parity Vol 10 Index</i>			-11.0	-15.4	-13.6	-0.7	--	--	6.8	3.6	--	--	--	3.0	Jan-19
PanAgora Risk Parity Multi Asset	218,706,569	2.2	-15.4	-20.3	-18.2	0.6	--	--	8.3	13.6	--	--	--	3.2	Feb-19
<i>HFR Risk Parity Vol 10 Index</i>			-11.0	-15.4	-13.6	-0.7	--	--	6.8	3.6	--	--	--	1.3	Feb-19

Individual closed end funds are not shown in performance summary table.

Total Fund Performance Summary (Net of Fees)

Period Ending: June 30, 2022

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2021	2020	2019	2018	2017	Inception	Inception Date
Diversifying	764,977,671	7.6	-0.7	-3.5	-3.2	-0.4	0.4	0.4	1.7	-1.7	6.8	-2.3	2.6		
<i>Custom Diversifying Benchmark</i>			-2.1	-4.9	-3.9	1.0	2.1	2.5	1.6	4.7	6.1	1.4	4.7		
Diversifying Fixed Income	232,483,592	2.3	-4.2	-9.9	-10.1	-2.6	-0.5	0.7	-1.0	1.2	8.3	-2.0	2.6		
<i>Bloomberg US Aggregate TR</i>			-4.7	-10.3	-10.3	-0.9	0.9	1.5	-1.5	7.5	8.7	0.0	3.5		
AFL-CIO	232,398,083	2.3	-4.2	-9.9	-10.1	-1.2	0.6	1.4	-1.0	6.2	7.8	0.2	3.2	5.1	Jun-91
<i>Bloomberg US Aggregate TR</i>			-4.7	-10.3	-10.3	-0.9	0.9	1.5	-1.5	7.5	8.7	0.0	3.5	5.1	Jun-91
Diversifying Multi-Asset	532,494,080	5.3	0.9	-0.7	-0.6	--	--	--	2.4	--	--	--	--	1.7	Aug-20
<i>Custom Diversifying Multi-Asset Benchmark</i>			-1.6	-3.8	-2.3	--	--	--	4.1	--	--	--	--	1.2	Aug-20
Acadian Multi-Asset Absolute Return Fund	255,461,740	2.5	2.9	0.2	0.3	--	--	--	1.1	--	--	--	--	1.5	Aug-20
<i>FTSE 3-Month T-bill +5%</i>			1.4	2.6	5.2	--	--	--	5.0	--	--	--	--	5.1	Aug-20
Sit LLCAR	277,032,339	2.7	-0.9	-1.5	-0.9	--	--	--	--	--	--	--	--	2.2	Apr-21
<i>Bloomberg US Aggregate Index + 100 bps</i>			-4.5	-9.9	-9.4	--	--	--	--	--	--	--	--	-6.0	Apr-21
Liquidity	1,228,383,394	12.2	-0.8	-3.2	-3.7	0.4	1.3	--	-0.3	3.4	4.8	1.7	1.4		
<i>Bloomberg US Govt/Credit 1-3 Yr. TR</i>			-0.6	-3.1	-3.6	0.3	1.1	--	-0.5	3.3	4.0	1.6	0.8		
DFA Short Credit	263,008,267	2.6	-1.8	-5.5	-6.2	-0.6	0.6	--	-0.5	2.8	5.2	1.1	1.8	0.8	Nov-16
<i>ICE BofA 1-5 Yrs US Corp & Govt TR</i>			-1.1	-4.6	-5.2	0.1	1.1	--	-0.9	4.6	5.1	1.4	1.3	1.2	Nov-16
Insight Short Duration	473,746,543	4.7	-0.3	-1.5	-1.7	1.1	1.7	--	0.0	3.1	4.6	1.7	1.5	1.7	Nov-16
<i>Bloomberg US Govt/Credit 1-3 Yr. TR</i>			-0.6	-3.1	-3.6	0.3	1.1	--	-0.5	3.3	4.0	1.6	0.8	1.1	Nov-16
Sit Short Duration	491,628,584	4.9	-0.7	-3.8	-4.6	0.2	1.5	--	-0.5	4.4	4.7	2.3	1.1	1.4	Nov-16
<i>Bloomberg US Govt 1-3 Yr TR</i>			-0.5	-3.0	-3.5	0.2	0.9	--	-0.6	3.1	3.6	1.6	0.4	0.9	Nov-16
Total Cash	444,315,979	4.4	0.2	0.4	0.5	1.2	1.5	2.2	0.4	1.3	3.3	1.7	0.9		
<i>91 Day T-Bills</i>			0.1	0.1	0.2	0.5	1.0	0.6	0.0	0.5	2.1	1.9	0.9		
Cash	443,752,652	4.4	0.2	0.3	0.4	1.2	1.5	2.2	0.4	1.3	3.4	1.7	0.9		
Northern Trust Transition	563,327	0.0	-6.0	2,748.0	2,651.6	281.9	--	--	-6.1	104.1	--	--	--		

Individual closed end funds are not shown in performance summary table. Effective 3/1/2019 the custodian of record switched from State Street to Northern Trust. Wellington Real Total Return was liquidated 4/30/2020. \$85,508.16 in residual value is reflected in the Diversifying Fixed Income composite.

Total Fund
Closed End Funds - Investment Summary

Period Ending: June 30, 2022

StepStone Group Analysis (*)												
Closing Date	Manager Name/Fund Name	Estimated Market Value as of 6/30/2022 ¹	Total Commitment	% Called	Contributed Capital	Current Qtr. Change in Contributed Capital	Current Qtr. Change in Distributed Capital	Total Distributions	Remaining Commitment	Distrib./ Paid-In (DPI) ²	Tot. Value/ Paid-In (TVPI) ³	Latest Valuation
Private Credit												
8/31/2015	Angelo Gordon Energy Credit Opp. ⁴	\$3,887,741	\$16,500,000	0%	\$18,750,000	\$0	\$0	\$18,829,566	\$2,319,783	1.00	1.21	3/31/2022
12/18/2017	Stepstone CC Opportunities Fund	\$880,931,591	\$1,170,000,000	3%	\$835,508,679	\$28,333,732	\$57,364,030	\$147,212,256	\$424,759,467	0.18	1.23	3/31/2022
7/1/2006	Torchlight II	\$0	\$128,000,000	0%	\$218,263,562	\$0	\$0	\$208,623,727	\$0	0.96	0.96	12/31/2020
12/12/2008	Torchlight III	\$0	\$75,000,000	0%	\$83,825,058	\$0	\$0	\$124,848,870	\$0	1.49	1.49	12/23/2020
8/1/2012	Torchlight IV	\$9,045,133	\$60,000,000	0%	\$84,866,971	\$0	\$0	\$106,146,627	\$0	1.25	1.36	6/30/2022
3/12/2015	Torchlight V	\$8,396,667	\$75,000,000	0%	\$60,000,000	\$0	\$662,261	\$70,797,953	\$15,000,000	1.18	1.32	3/31/2022
Total Private Credit		\$902,261,132										
% of Portfolio (Market Value)		8.9%										

*All Data provided by StepStone Group

¹Latest valuation + capital calls - distributions

²(DPI) is equal to (capital returned / capital called)

³(TVPI) is equal to (market value + capital returned) / capital called

⁴Capital has been fully called and fund is in redemption.

Total Fund
Closed End Funds - Investment Summary

Period Ending: June 30, 2022

Verus Internal Analysis												
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 3/31/2022 ¹	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions ⁸	Remaining Commitment	Distrib./Paid-In (DPI) ²	Tot. Value/Paid-In (TVPI) ³	Latest Valuation
Real Estate												
1/23/2012	Angelo Gordon Realty Fund VIII ⁴	\$15,333,535	\$80,000,000	94%	\$75,401,855	\$0	\$0	\$101,711,550	\$12,334,302	1.35	1.55	3/31/2022
12/8/2014	Angelo Gordon Realty Fund IX	\$39,624,797	\$65,000,000	93%	\$60,125,000	\$0	\$4,550,000	\$52,000,001	\$7,572,500	0.86	1.52	3/31/2022
6/23/2005	DLJ RECP III	\$15,678,712	\$75,000,000	134%	\$100,709,313	\$0	\$0	\$69,364,915	\$4,031,338	0.69	0.84	3/31/2022
2/11/2008	DLJ RECP IV	\$54,897,897	\$100,000,000	130%	\$129,892,605	\$0	\$2,311,274	\$99,841,735	\$1,876,084	0.77	1.19	3/31/2022
7/1/2014	DLJ RECP V	\$30,558,376	\$75,000,000	132%	\$98,684,517	\$0	\$0	\$97,880,214	\$15,567,682	0.99	1.30	3/31/2022
3/19/2019	DLJ RECP VI	\$22,014,741	\$50,000,000	63%	\$31,544,190	\$0	\$0	\$11,589,841	\$22,707,500	0.37	1.07	3/31/2022
6/30/2013	Invesco Real Estate III ⁴	\$0	\$35,000,000	93%	\$32,386,423	\$0	\$0	\$47,576,839	\$2,613,577	1.47	1.47	3/31/2022
6/30/2014	Invesco Real Estate IV ⁴	\$2,821,874	\$35,000,000	87%	\$30,546,401	\$0	\$0	\$38,913,181	\$4,453,599	1.27	1.37	3/31/2022
2/20/2019	Invesco Real Estate V	\$77,485,738	\$75,000,000	91%	\$68,009,397	\$4,328,563	\$0	\$7,217,922	\$11,690,503	0.11	1.25	3/31/2022
	Invesco Real Estate VI	\$0	\$100,000,000	0%	\$0	\$0	\$0	\$0	\$100,000,000	0.00	0.00	
7/16/2013	LaSalle Income & Growth VI ⁴	\$20,208,434	\$75,000,000	95%	\$71,428,571	\$0	\$0	\$84,535,301	\$0	1.18	1.47	3/31/2022
2/28/2017	LaSalle Income & Growth VII	\$63,555,317	\$75,000,000	107%	\$79,936,634	\$2,643,052	\$0	\$52,979,429	\$8,502,405	0.66	1.46	3/31/2022
7/3/2013	Long Wharf Fund IV ⁴	\$1,441,579	\$25,000,000	100%	\$25,000,000	\$0	\$0	\$34,824,789	\$0	1.39	1.45	6/30/2022
9/30/2016	Long Wharf Fund V ⁴	\$31,968,263	\$50,000,000	100%	\$50,000,000	\$0	\$0	\$37,244,373	\$0	0.74	1.38	6/30/2022
6/27/2019	Long Wharf Fund VI	\$27,660,734	\$50,000,000	71%	\$35,252,724	\$1,090,188	\$2,081,269	\$14,568,879	\$14,747,276	0.41	1.20	6/30/2022
12/31/2011	Oaktree REOF V ⁴	\$1,209,092	\$50,000,000	101%	\$50,315,673	\$0	\$0	\$85,975,916	\$5,000,000	1.71	1.73	6/30/2022
9/30/2013	Oaktree REOF VI ⁴	\$25,686,057	\$80,000,000	100%	\$80,000,000	\$0	\$0	\$86,843,996	\$18,400,000	1.09	1.41	6/30/2022
4/1/2015	Oaktree REOF VII	\$49,657,865	\$65,000,000	100%	\$65,000,000	\$0	\$0	\$42,932,991	\$18,915,000	0.66	1.42	6/30/2022
11/10/2013	Paulson Real Estate Fund II ⁴	\$16,671,486	\$20,000,000	97%	\$19,345,623	\$0	\$3,084,633	\$24,069,538	\$654,377	1.24	2.11	3/31/2022
4/28/2022	PCCP IX	\$43,557,683	\$75,000,000	32%	\$23,801,564	\$23,801,564	\$0	\$0	\$51,198,436	0.00	1.83	
1/25/2012	Siguler Guff DREOF	\$21,670,223	\$75,000,000	93%	\$69,375,000	\$0	\$2,382,123	\$98,000,021	\$5,625,000	1.41	1.72	3/31/2022
8/31/2013	Siguler Guff DREOF II	\$37,412,422	\$70,000,000	89%	\$61,985,000	\$0	\$2,600,715	\$46,578,654	\$8,015,000	0.75	1.36	3/31/2022
1/27/2016	Siguler Guff DREOF II Co-Inv	\$12,695,131	\$25,000,000	82%	\$20,537,862	\$0	\$0	\$13,871,261	\$4,462,138	0.68	1.29	3/31/2022
Total Closed End Real Estate		\$611,809,956	\$1,450,000,000	90%	\$1,299,216,816	\$31,863,367	\$17,010,013	\$1,175,998,615	\$318,366,716	0.91	1.38	
% of Portfolio (Market Value)		6.1%										

¹Latest valuation + capital calls - distributions

²(DPI) is equal to (capital returned / capital called)

³(TVPI) is equal to (market value + capital returned) / capital called

⁴Capital has been fully called and fund is in redemption.

⁵Total distributions may include recallable distributions

⁶Remianing commitment includes recallable distributions

Total Fund
Closed End Funds - IRR Summary

Period Ending: June 30, 2022

Private Credit	Inception	Fund Level (G) ²	CCCERA (G)	Fund Level (N) ^{2,3}	CCCERA (N) ³	IRR Date
Angelo Gordon Energy Cred Opp. ⁴	9/24/2015	-	-	-	7.8%	3/31/2022
Stepstone CC Opportunities Fund	2/2/2018	-	-	-	14.1%	12/31/2021
Torchlight IV	8/1/2012	12.0%	12.5%	9.7%	10.4%	3/31/2022
Torchlight V	3/12/2015	15.3%	15.4%	10.8%	10.7%	3/31/2022

Real Estate	Inception	Fund Level (G) ²	CCCERA (G)	Fund Level (N) ^{2,3}	CCCERA (N) ³	IRR Date
Angelo Gordon VIII ⁴	1/23/2012	-	-	-	13.2%	3/31/2022
Angelo Gordon IX	12/8/2014	-	-	-	9.4%	3/31/2022
DLJ RECP III	6/23/2005	-1.0%	-1.0%	-3.0%	-3.0%	3/31/2022
DLJ RECP IV	2/11/2008	5.0%	5.0%	2.0%	3.0%	3/31/2022
DLJ RECP V	7/1/2014	17.0%	17.0%	10.0%	10.0%	3/31/2022
DLJ RECP VI ¹	3/19/2019	10.0%	10.0%	3.0%	4.0%	3/31/2022
Hearthstone II ⁴	6/17/1998	-	30.3%	-	30.3%	3/31/2020
Invesco Fund III ⁴	6/30/2013	16.6%	-	13.6%	-	12/31/2020
Invesco Fund IV ⁴	6/30/2014	15.4%	-	11.9%	-	3/31/2022
Invesco Fund V	2/20/2019	26.6%	-	19.1%	-	3/31/2022
LaSalle Income & Growth VI ⁴	7/16/2013	12.7%	12.7%	10.5%	10.5%	3/31/2022
LaSalle Income & Growth VII	2/28/2017	14.7%	14.8%	12.3%	12.3%	3/31/2022
Long Wharf IV ⁴	7/3/2013	16.3%	15.7%	11.8%	11.7%	3/31/2022
Long Wharf V ⁴	9/30/2016	12.2%	12.8%	9.3%	9.7%	3/31/2022
Long Wharf VI	6/27/2019	48.0%	55.8%	29.9%	33.8%	3/31/2022
Oaktree REOF V ⁴	12/31/2011	16.7%	-	12.3%	-	3/31/2022
Oaktree REOF VI ⁴	9/30/2013	11.5%	-	7.8%	-	3/31/2022
Oaktree REOF VII	4/1/2015	26.2%	-	17.5%	-	3/31/2022
Paulson ⁴	11/10/2013	18.0%	-	12.0%	-	12/31/2021
PCCP IX	5/27/2021	22.9%	-	44.0%	-	3/31/2022
Siguler Guff I	1/25/2012	13.1%	15.8%	11.6%	12.7%	3/31/2022
Siguler Guff II	8/31/2013	11.1%	11.2%	9.9%	9.0%	3/31/2022
Siguler Guff DREOF II Co-Inv	1/27/2016	7.1%	7.3%	6.1%	5.9%	3/31/2022

¹Manager has yet to report IRR figure.

²Fund level data includes CCCERA and all other fund investors.

³Net IRR calculated after deductions of management fees and carried interest to the General Partner.

⁴Capital has been fully called and fund is in redemption.

Total Fund
Closed End Funds - IRR Summary

Period Ending: June 30, 2022

Private Equity & Venture Capital	Closing Date	Fund Level (G) ²	CCCERA (G)	Fund Level (N) ^{2,3}	CCCERA (N) ³	IRR Date
Adams Street Partners	2/11/2004	12.7%	14.8%	-	12.9%	3/31/2022
Adams Street Partners II	12/31/2008	16.6%	16.6%	-	14.1%	3/31/2022
Adams Street Partners - Fund 5	12/31/2008	9.8%	9.7%	-	7.2%	3/31/2022
Adams Street Partners Venture	1/18/1996	57.0%	56.9%	-	54.1%	3/31/2022
Adams Street Partners - BPF	3/31/2016	14.2%	14.2%	-	11.6%	3/31/2022
AE Industrial Partners Fund II, LP	5/18/2018	41.0%	-	53.5%	-	3/31/2022
Aether Real Assets III	11/27/2013	1.6%	-	-0.1%	-	3/31/2022
Aether Real Assets III Surplus	11/30/2013	2.0%	-	0.9%	-	3/31/2022
Aether Real Assets IV	1/30/2016	14.0%	-	11.6%	-	3/31/2022
Bay Area Equity Fund I ⁹	11/26/2003	31.3%	31.3%	23.0%	23.0%	12/31/2021
Bay Area Equity Fund II ⁹	11/26/2003	14.5%	14.5%	0.7%	9.7%	12/31/2021
CommonFund	6/30/2013	-	-	-	7.9%	3/31/2022
Energy Investor Fund II ⁹	7/15/2005	5.7%	5.3%	2.9%	2.6%	3/31/2022
Energy Investor Fund III ⁹	5/31/2007	6.7%	6.7%	4.3%	4.3%	3/31/2022
Energy Investor Fund IV	8/31/2010	4.0%	4.0%	0.9%	0.7%	3/31/2022
Energy Investor Fund V	11/28/2016	21.0%	19.0%	17.4%	15.4%	3/31/2022
Genstar Capital Partners IX, L.P. ¹	2/21/2019	38.5%	-	-	-	3/31/2022
Oaktree PIF 2009	2/28/2010	6.8%	-	6.6%	-	3/31/2022
Ocean Avenue II	8/15/2013	-	-	20.4%	-	3/31/2022
Ocean Avenue III	4/15/2016	-	-	26.6%	-	3/31/2022
Paladin III	11/30/2007	20.8%	-	-	-	3/31/2022
Pathway 6	8/22/2011	18.8%	18.8%	16.7%	16.7%	3/31/2022
Benchmark ⁴		16.1%	-	-	-	3/31/2022
Pathway 7	7/10/2013	21.3%	21.3%	19.3%	19.3%	3/31/2022
Benchmark ⁵		17.6%	-	-	-	3/31/2022
Pathway 8	11/23/2015	26.6%	26.8%	25.3%	25.5%	3/31/2022
Benchmark ⁶		23.3%	-	-	-	3/31/2022
Pathway Private Equity Fund	1/19/1999	10.3%	10.3%	8.4%	8.4%	3/31/2022
Benchmark ⁷		10.5%	-	-	-	3/31/2022
Pathway Private Equity Fund 2008	7/31/2009	17.8%	17.8%	15.6%	15.6%	3/31/2022
Benchmark ⁸		14.2%	-	-	-	3/31/2022
Siguler Guff CCCERA Opportunities	6/3/2014	20.9%	21.7%	20.4%	19.0%	3/31/2022
Siguler Guff Secondary Opportunities ⁹	8/31/2013	55.3%	118.4%	49.5%	69.0%	9/30/2020
Siris Partners IV, L.P.	5/18/2018	28.7%	28.7%	24.2%	24.2%	3/31/2022
TPG Healthcare Partners, L.P.	6/28/2019	45.0%	-	-	28.0%	3/31/2022
Trident VIII, L.P. ¹	5/24/2019	39.7%	-	33.8%	-	3/31/2022
Wastewater Opportunity Fund	12/8/2015	8.3%	-	5.1%	-	3/31/2022

¹Manager has yet to report IRR figure.

²Fund level data includes CCCERA and all other fund investors.

³Net IRR calculated after deductions of management fees and carried interest to the General Partner.

⁴Private IQ global all private equity median pooled return for vintage years 2011-2014, as of September 30, 2021.

⁵Private IQ global all private equity median pooled return for vintage years 2012-2016, as of September 30, 2021.

⁶Private IQ global all private equity median pooled return for vintage years 2015-2018, as of September 30, 2021.

⁷Private IQ global all private equity median pooled return for vintage years 1999-2011, as of September 30, 2021.

⁸Private IQ global all private equity median pooled return for vintage years 2008-2014, as of September 30, 2021.

⁹Capital has been fully called and fund is in redemption.

Total Fund
Performance Analysis - 3 Years (Net of Fees)

Period Ending: June 30, 2022

	3 Years											
	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio	
BlackRock Russell 1000 Index	10.16%	-0.02%	19.19%	-0.01%	1.00	0.01%	1.00	0.50	-1.01	99.93%	100.00%	
Boston Partners	9.75%	2.88%	20.58%	2.56%	1.05	3.10%	0.98	0.45	0.93	110.20%	97.58%	
Emerald Advisers	2.15%	0.75%	24.18%	0.82%	0.95	5.87%	0.94	0.07	0.13	105.13%	100.60%	
Ceredex	3.44%	-2.74%	22.76%	-1.89%	0.86	7.04%	0.93	0.13	-0.39	71.57%	90.45%	
Pyrford	2.60%	2.04%	14.63%	2.21%	0.69	7.84%	0.89	0.14	0.26	71.14%	76.99%	
William Blair	3.72%	2.10%	19.41%	1.86%	1.14	4.89%	0.95	0.17	0.43	127.26%	107.13%	
PIMCO RAE Emerging Markets	1.07%	2.04%	22.68%	2.18%	1.15	6.33%	0.94	0.02	0.32	127.69%	106.23%	
TT Emerging Markets	0.11%	-0.46%	22.64%	-0.58%	1.21	6.53%	0.95	-0.02	-0.07	131.33%	114.53%	
Artisan Partners	6.70%	-0.92%	19.01%	-0.58%	0.96	5.05%	0.93	0.33	-0.18	89.71%	96.06%	
First Eagle	4.64%	0.75%	14.05%	1.83%	0.72	6.29%	0.94	0.29	0.12	72.67%	79.10%	
JP Morgan Global Opportunities	-1.59%	-7.80%	7.42%	-2.63%	0.17	16.46%	0.17	-0.28	-0.47	9.91%	32.51%	
Allianz Global Investors	-0.54%	-0.50%	9.12%	-0.51%	0.88	1.92%	0.97	-0.11	-0.26	85.62%	93.31%	
Adelante	5.61%	1.59%	19.79%	1.78%	0.95	1.56%	1.00	0.26	1.02	100.66%	96.20%	
AQR Global Risk Premium-EL	2.29%	2.97%	9.38%	2.93%	0.94	2.12%	0.95	0.19	1.40	108.66%	86.34%	
PanAgora Risk Parity Multi Asset	0.62%	1.30%	11.79%	1.42%	1.17	3.47%	0.93	0.01	0.38	130.90%	110.61%	
AFL-CIO	-1.25%	-0.31%	4.01%	-0.45%	0.85	1.16%	0.94	-0.44	-0.27	76.17%	87.07%	
DFA Short Credit	-0.64%	-0.78%	2.44%	-0.78%	0.99	1.32%	0.71	-0.47	-0.59	70.68%	102.01%	
Insight Short Duration	1.13%	0.82%	2.09%	0.91%	0.71	1.86%	0.25	0.30	0.44	93.45%	41.71%	
Sit Short Duration	0.19%	0.01%	2.20%	-0.03%	1.21	1.09%	0.78	-0.15	0.01	140.86%	141.59%	

Performance Analysis excludes closed end funds and those funds without 3 years of performance.

Total Fund
Performance Analysis - 5 Years (Net of Fees)

Period Ending: June 30, 2022

	5 Years										
	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
BlackRock Russell 1000 Index	10.98%	-0.02%	17.35%	-0.02%	1.00	0.02%	1.00	0.57	-1.43	99.87%	100.00%
Boston Partners	8.77%	1.60%	18.35%	1.29%	1.04	3.03%	0.97	0.42	0.53	108.96%	99.32%
Emerald Advisers	6.50%	1.69%	22.53%	1.86%	0.97	5.45%	0.94	0.24	0.31	106.09%	98.77%
Ceredex	4.35%	-0.54%	21.10%	-0.03%	0.89	6.24%	0.93	0.16	-0.09	80.94%	94.72%
Pyrford	3.18%	1.95%	12.99%	2.31%	0.70	6.73%	0.89	0.17	0.29	66.64%	78.56%
William Blair	4.70%	1.27%	17.38%	0.88%	1.12	4.15%	0.95	0.21	0.31	121.17%	104.44%
PIMCO RAE Emerging Markets	2.64%	1.39%	20.17%	1.23%	1.13	5.18%	0.95	0.08	0.27	123.73%	103.93%
Artisan Partners	8.62%	-0.55%	17.27%	-0.24%	0.97	4.27%	0.94	0.44	-0.13	90.80%	97.03%
First Eagle	4.98%	0.71%	12.48%	1.87%	0.73	5.47%	0.94	0.32	0.13	67.01%	79.42%
JP Morgan Global Opportunities	1.29%	-5.71%	7.01%	0.28%	0.14	15.37%	0.11	0.04	-0.37	9.88%	24.39%
Allianz Global Investors	1.22%	-0.73%	7.76%	-0.54%	0.90	1.54%	0.97	0.02	-0.47	87.73%	97.31%
Adelante	6.65%	1.39%	17.44%	1.64%	0.95	1.63%	0.99	0.32	0.85	98.56%	95.64%
AFL-CIO	0.65%	-0.23%	3.65%	-0.12%	0.88	0.98%	0.95	-0.11	-0.23	81.67%	86.85%
DFA Short Credit	0.59%	-0.52%	2.13%	-0.51%	0.99	1.05%	0.76	-0.21	-0.49	83.03%	102.48%
Insight Short Duration	1.65%	0.59%	1.69%	0.90%	0.71	1.46%	0.31	0.37	0.40	93.29%	37.19%
Sit Short Duration	1.48%	0.57%	2.10%	0.27%	1.34	1.04%	0.80	0.21	0.55	160.51%	148.38%

Performance Analysis excludes closed end funds and those funds without 5 years of performance.

Total Fund Investment Fund Fee Analysis

Period Ending: June 30, 2022

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
BlackRock Russell 1000 Index	Growth	0.03% of Assets	\$735,558,303	\$220,667	0.03%
Boston Partners	Growth	0.50% of First 25.0 Mil, 0.30% Thereafter	\$372,114,916	\$1,166,345	0.31%
Emerald Advisers	Growth	0.75% of First 10.0 Mil, 0.60% Thereafter	\$183,413,674	\$1,115,482	0.61%
Ceredex	Growth	0.85% of First 10.0 Mil, 0.68% of Next 40.0 Mil, 0.51% Thereafter	\$173,993,462	\$989,367	0.57%
Pyrford	Growth	0.70% of First 50.0 Mil, 0.50% of Next 50.0 Mil, 0.35% Thereafter	\$447,718,985	\$1,817,016	0.41%
William Blair	Growth	0.80% of First 20.0 Mil, 0.60% of Next 30.0 Mil, 0.50% of Next 50.0 Mil, 0.45% of Next 50.0 Mil, 0.40% of Next 50.0 Mil, 0.30% Thereafter	\$391,648,898	\$1,589,947	0.41%
PIMCO RAE Emerging Markets	Growth	0.75% of First 50.0 Mil, 0.68% of Next 50.0 Mil, 0.50% of Next 100.0 Mil, 0.45% Thereafter	\$324,030,742	\$1,770,638	0.55%
TT Emerging Markets	Growth	0.70% of First 100.0 Mil, 0.65% of Next 100.0 Mil, 0.60% Thereafter	\$334,723,660	\$2,158,342	0.64%
Artisan Partners	Growth	0.75% of Assets	\$434,618,621	\$3,259,640	0.75%
First Eagle	Growth	0.75% of Assets	\$471,188,220	\$3,533,912	0.75%
Allianz Global Investors	Growth	0.50% of First 50.0 Mil, 0.40% of Next 50.0 Mil, 0.35% Thereafter	\$158,440,530	\$654,542	0.41%
Invesco US Fundamental Beta	Growth	0.15% of Assets	\$114,127,181	\$171,191	0.15%
AQR Global Risk Premium-EL	Growth	0.38% of Assets	\$196,593,496	\$747,055	0.38%

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

Total Fund Investment Fund Fee Analysis

Period Ending: June 30, 2022

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
PanAgora Risk Parity Multi Asset	Growth	0.35% of Assets	\$218,706,569	\$765,473	0.35%
AFL-CIO	Diversifying	0.32% of Assets	\$232,398,083	\$743,674	0.32%
Acadian Multi-Asset Absolute Return Fund	Diversifying	0.50% of Assets	\$255,461,740	\$1,277,309	0.50%
Sit LLCAR	Diversifying	0.39% of First 200.0 Mil, 0.35% Thereafter	\$277,032,339	\$1,049,613	0.38%
DFA Short Credit	Liquidity	0.20% of First 25.0 Mil, 0.10% Thereafter	\$263,008,267	\$288,008	0.11%
Insight Short Duration	Liquidity	0.06% of First 500.0 Mil, 0.05% of Next 500.0 Mil, 0.04% Thereafter	\$473,746,543	\$284,248	0.06%

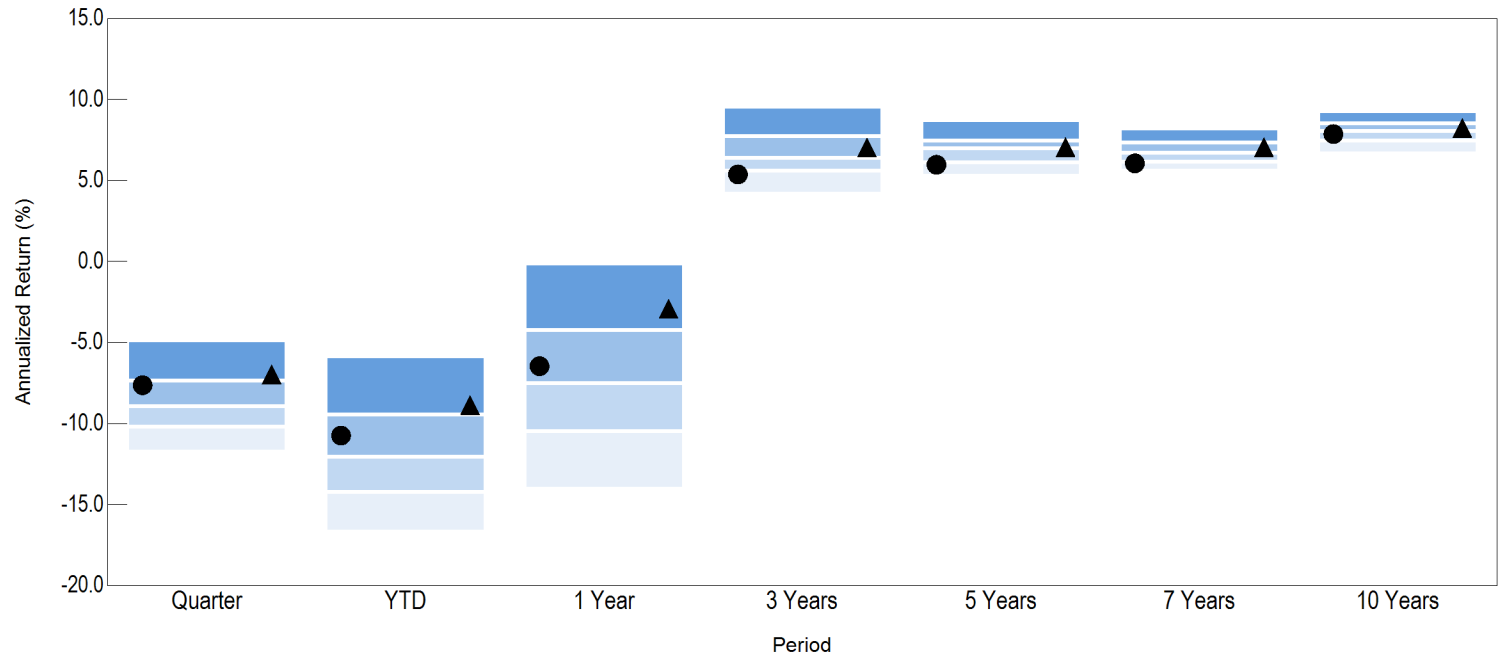
Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

Total Fund

Peer Universe Comparison: Cumulative Performance (Gross of Fees)

Period Ending: June 30, 2022

Total Fund Cumulative Performance vs. InvMetrics Public DB > \$1B Gross



	Quarter		YTD		1 Year		3 Years		5 Years		7 Years		10 Years	
5th Percentile	-4.9	-5.9	-0.1	9.5	8.7	8.2	9.3							
25th Percentile	-7.3	-9.4	-4.2	7.8	7.5	7.4	8.5							
Median	-8.9	-12.0	-7.5	6.4	7.0	6.7	8.1							
75th Percentile	-10.2	-14.2	-10.5	5.6	6.1	6.2	7.5							
95th Percentile	-11.7	-16.6	-14.0	4.2	5.3	5.6	6.7							
# of Portfolios	71	71	70	69	69	68	65							
● Total Fund	-7.6 (35)	-10.7 (43)	-6.5 (41)	5.4 (79)	6.0 (82)	6.1 (85)	7.9 (61)							
▲ Policy Index	-7.0 (21)	-8.9 (24)	-2.9 (15)	7.0 (39)	7.1 (46)	7.1 (43)	8.2 (44)							

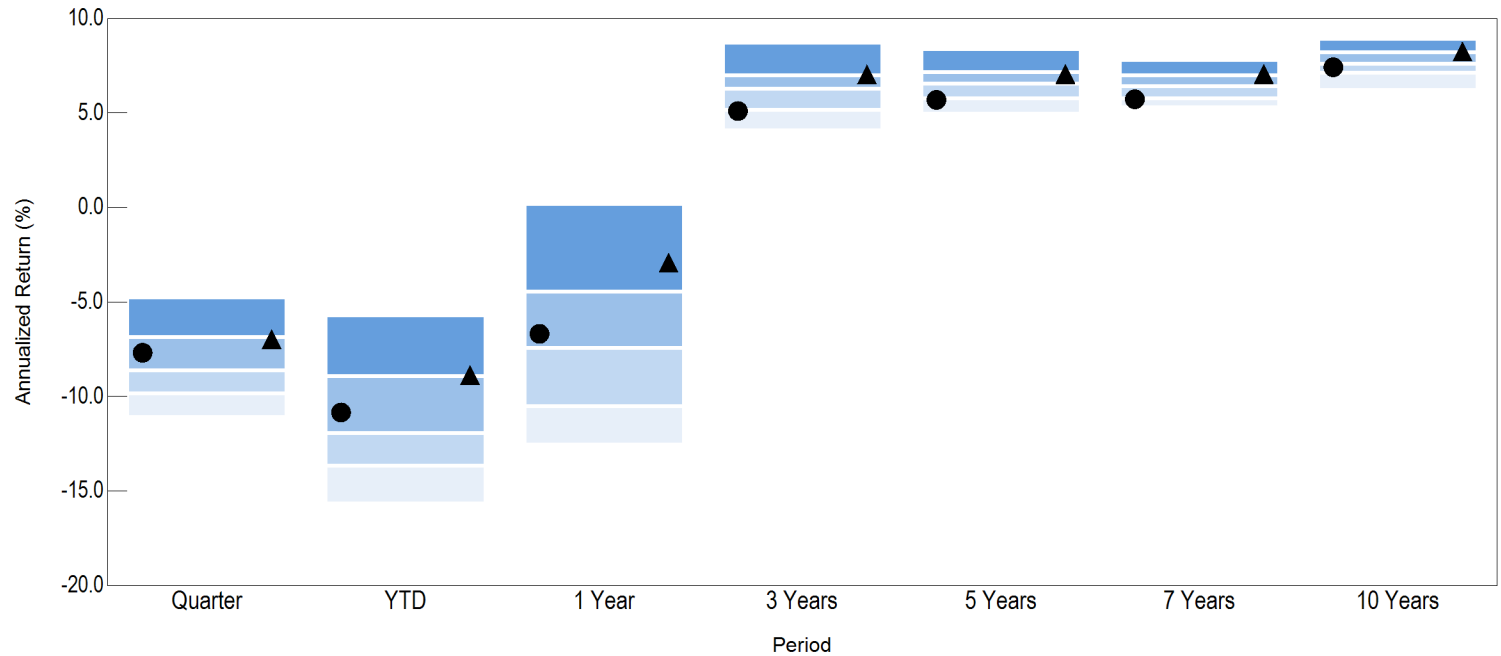
Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund

Peer Universe Comparison: Cumulative Performance (Net of Fees)

Period Ending: June 30, 2022

Total Fund Cumulative Performance vs. InvMetrics Public DB > \$1B Net

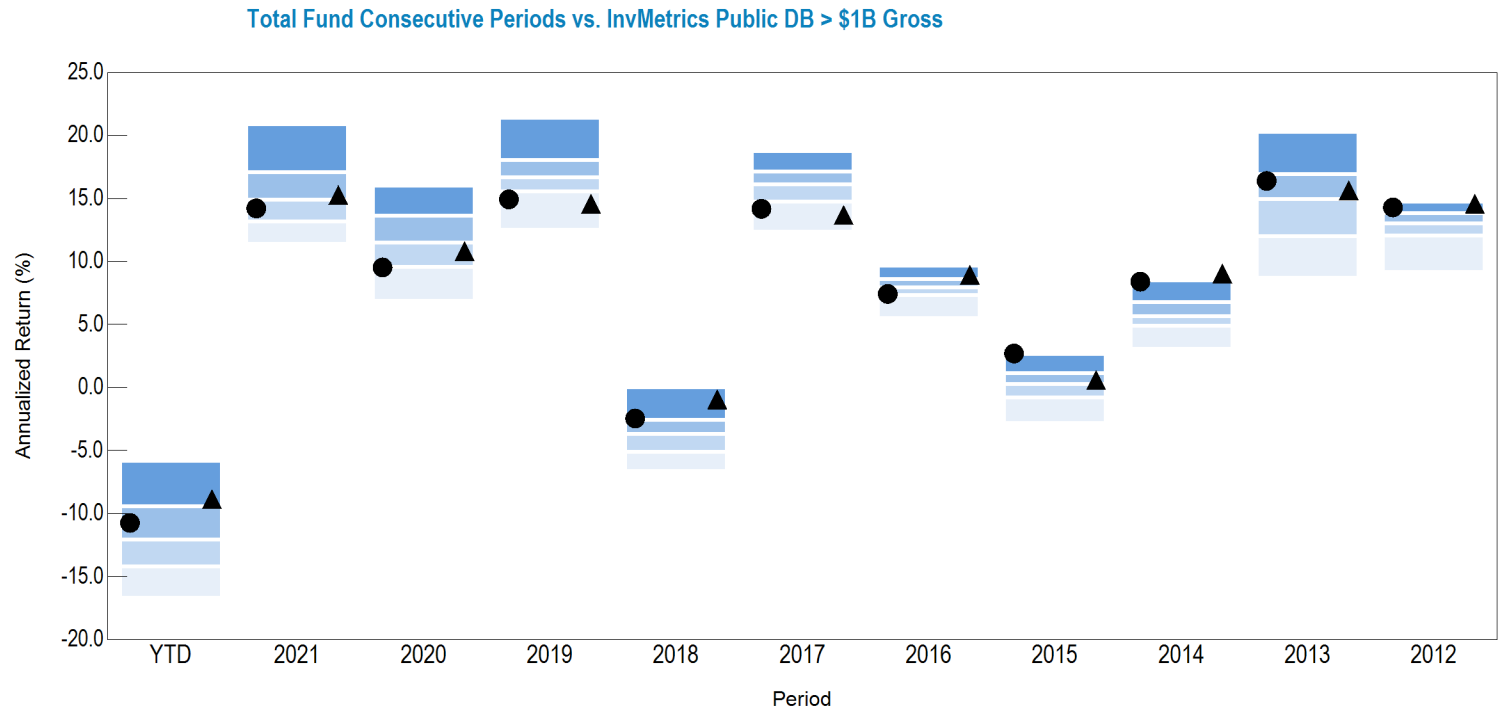


	Quarter		YTD		1 Year		3 Years		5 Years		7 Years		10 Years	
5th Percentile	-4.8	-5.7	0.2	8.7	8.4	7.8	8.9							
25th Percentile	-6.9	-8.9	-4.4	7.0	7.2	7.0	8.2							
Median	-8.6	-11.9	-7.4	6.3	6.6	6.4	7.6							
75th Percentile	-9.8	-13.6	-10.5	5.2	5.8	5.8	7.1							
95th Percentile	-11.1	-15.6	-12.5	4.1	5.0	5.3	6.2							
# of Portfolios	64	64	63	62	62	60	57							
● Total Fund	-7.7 (40)	-10.8 (46)	-6.7 (44)	5.1 (78)	5.7 (77)	5.7 (77)	7.4 (60)							
▲ Policy Index	-7.0 (27)	-8.9 (24)	-2.9 (13)	7.0 (25)	7.1 (27)	7.1 (23)	8.2 (24)							

Total Fund

Peer Universe Comparison: Consecutive Periods (Gross of Fees)

Period Ending: June 30, 2022



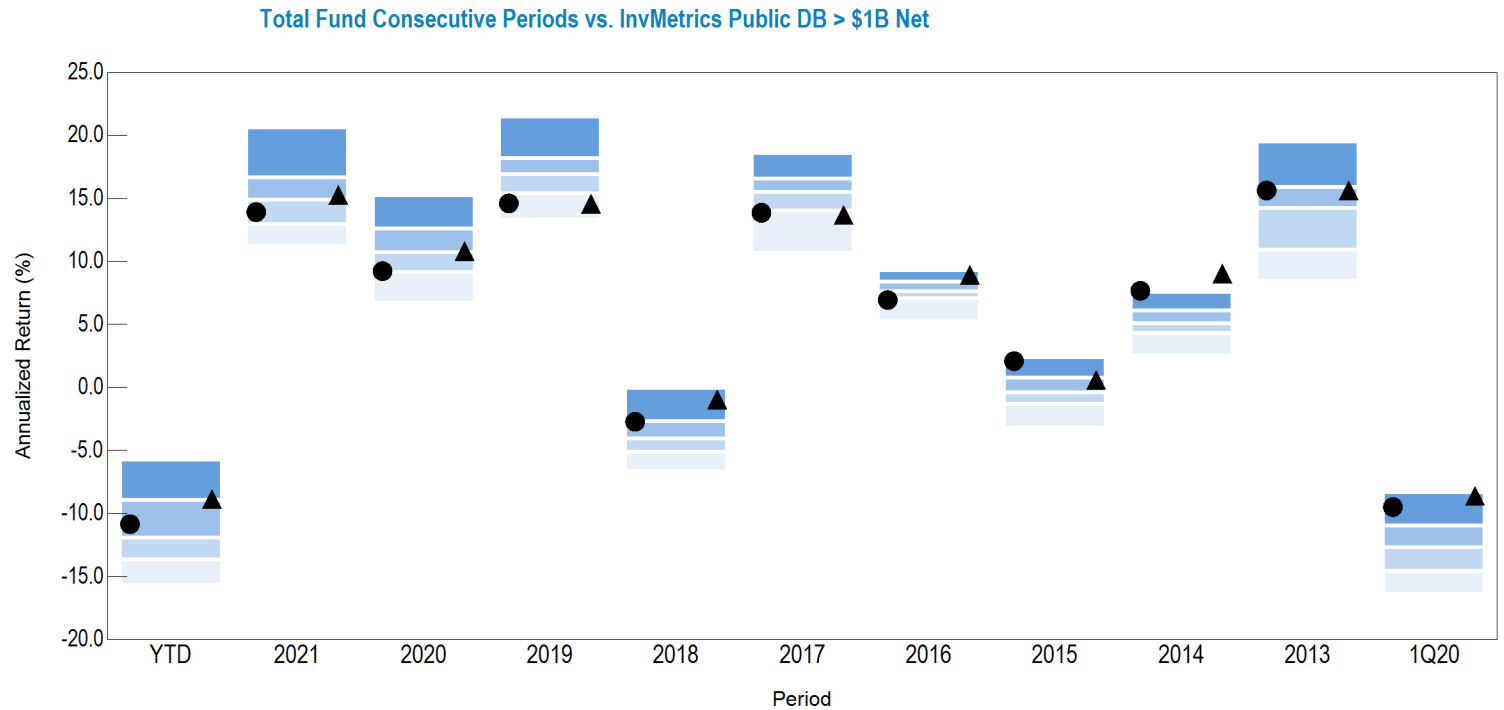
	YTD	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Return (Rank)											
5th Percentile	-5.9	20.9	16.0	21.4	0.0	18.8	9.7	2.7	8.5	20.2	14.7
25th Percentile	-9.4	17.1	13.6	18.1	-2.6	17.2	8.6	1.1	6.8	17.0	13.9
Median	-12.0	14.9	11.5	16.7	-3.7	16.2	8.0	0.3	5.7	15.0	13.0
75th Percentile	-14.2	13.2	9.6	15.6	-5.1	14.8	7.4	-0.7	4.9	12.0	12.1
95th Percentile	-16.6	11.4	6.9	12.5	-6.6	12.4	5.5	-2.8	3.1	8.7	9.2
# of Portfolios	71	84	94	81	71	98	92	98	79	67	74
● Total Fund	-10.7 (43)	14.2 (62)	9.5 (78)	14.9 (83)	-2.5 (25)	14.2 (83)	7.4 (74)	2.7 (5)	8.4 (6)	16.4 (33)	14.3 (13)
▲ Policy Index	-8.9 (24)	15.3 (47)	10.8 (60)	14.6 (87)	-0.9 (8)	13.7 (89)	8.9 (15)	0.6 (40)	9.0 (2)	15.6 (43)	14.6 (8)

Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund

Peer Universe Comparison: Consecutive Periods (Net of Fees)

Period Ending: June 30, 2022



	Return (Rank)										
5th Percentile	-5.7	20.6	15.2	21.5	-0.1	18.6	9.3	2.4	7.6	19.5	-8.3
25th Percentile	-8.9	16.7	12.7	18.2	-2.7	16.6	8.4	0.8	6.1	16.0	-10.9
Median	-11.9	14.9	10.8	17.0	-4.0	15.6	7.7	-0.4	5.1	14.3	-12.6
75th Percentile	-13.6	13.0	9.2	15.4	-5.1	14.1	7.1	-1.3	4.4	11.0	-14.5
95th Percentile	-15.6	11.3	6.8	13.4	-6.6	10.7	5.3	-3.2	2.6	8.5	-16.4
# of Portfolios	64	74	80	69	63	61	62	57	55	48	62
● Total Fund	-10.8 (46)	13.9 (61)	9.2 (73)	14.6 (92)	-2.7 (27)	13.9 (81)	6.9 (78)	2.1 (12)	7.7 (5)	15.6 (33)	-9.5 (12)
▲ Policy Index	-8.9 (24)	15.3 (45)	10.8 (49)	14.6 (92)	-0.9 (8)	13.7 (85)	8.9 (13)	0.6 (29)	9.0 (2)	15.6 (33)	-8.6 (6)

Domestic Equity Managers

Boston Partners Manager Portfolio Overview

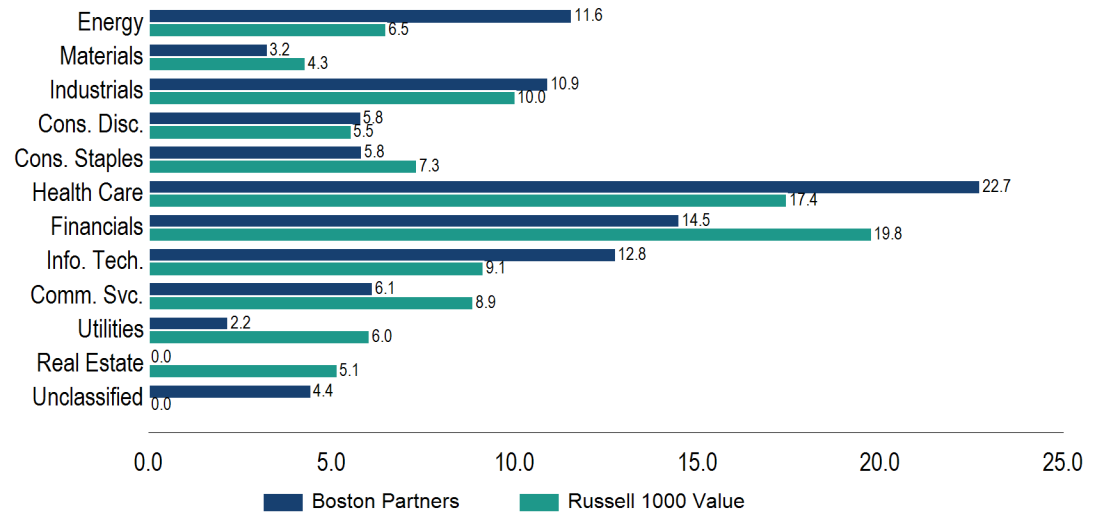
Period Ending: June 30, 2022

Domestic equity large cap value portfolio exhibiting low turnover in companies with low valuations relative to intrinsic value. Primary personnel include Mark Donovan and David Pyle.

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	80	858
Weighted Avg. Market Cap. (\$B)	170.34	145.01
Median Market Cap. (\$B)	50.27	12.02
Price To Earnings	15.01	14.58
Price To Book	2.41	2.37
Price To Sales	1.56	1.82
Return on Equity (%)	22.27	16.90
Yield (%)	1.88	2.31
Beta	1.09	1.00

Sector Allocation (%) vs Russell 1000 Value



Largest Holdings

	End Weight	Return
JOHNSON & JOHNSON	4.11	0.79
CONOCOPHILLIPS	3.07	-9.11
BERKSHIRE HATHAWAY INC	2.91	-22.64
AUTOZONE INC	2.83	5.11
UNITEDHEALTH GROUP INC	2.65	1.08
ALPHABET INC	2.44	-21.65
JPMORGAN CHASE & CO	2.37	-16.77
PROCTER & GAMBLE CO (THE)	2.28	-5.37
CIGNA CORP	2.23	10.45
SANOFI	2.05	1.01

Top Contributors

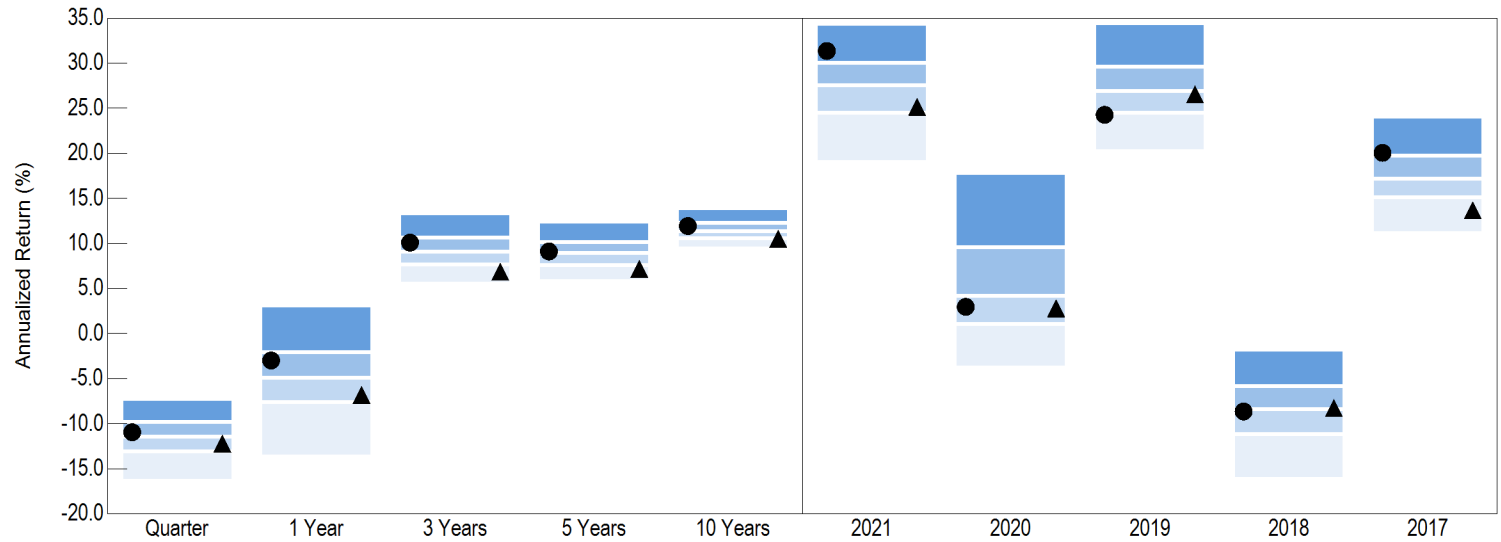
	Avg Wgt	Return	Contribution
CIGNA CORP	0.60	10.45	0.06
AUTOZONE INC	0.80	5.11	0.04
GENOVUS ENERGY INC	0.20	14.39	0.03
BRISTOL-MYERS SQUIBB CO	0.41	6.16	0.03
MCKESSON CORP	0.32	6.71	0.02
COCA-COLA EUROPACIFIC PARTNERS PLC	0.28	7.44	0.02
LKQ CORPORATION	0.23	8.64	0.02
T-MOBILE US INC	0.36	4.82	0.02
JOHNSON & JOHNSON	1.22	0.79	0.01
UNITEDHEALTH GROUP INC	0.81	1.08	0.01

Bottom Contributors

	Avg Wgt	Return	Contribution
BERKSHIRE HATHAWAY INC	1.11	-22.64	-0.25
ALPHABET INC	0.92	-21.65	-0.20
CISCO SYSTEMS INC	0.71	-23.00	-0.16
MICRON TECHNOLOGY INC.	0.50	-28.93	-0.14
JPMORGAN CHASE & CO	0.85	-16.77	-0.14
DEERE & COMPANY	0.49	-27.65	-0.14
BANK OF AMERICA CORP	0.56	-24.05	-0.14
WELLS FARGO & CO	0.71	-18.72	-0.13
DUPONT DE NEMOURS INC	0.53	-24.10	-0.13
SCHWAB (CHARLES) CORP	0.51	-24.83	-0.13

Unclassified sector allocation includes cash allocations.

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

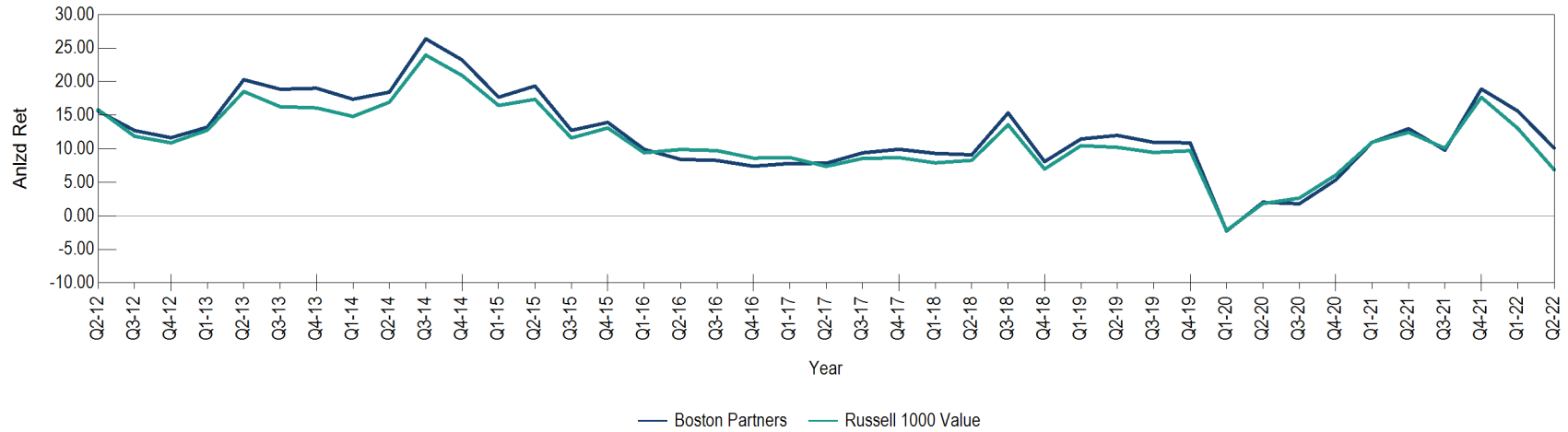


	Return (Rank)										
5th Percentile	-7.3	3.1	13.3	12.4	13.9	34.4	17.8	34.4	-1.8	24.0	
25th Percentile	-9.7	-2.1	10.7	10.2	12.3	30.0	9.6	29.6	-5.8	19.8	
Median	-11.4	-4.9	9.2	9.0	11.4	27.6	4.2	26.9	-8.3	17.2	
75th Percentile	-13.0	-7.6	7.7	7.7	10.6	24.5	1.1	24.5	-11.1	15.1	
95th Percentile	-16.3	-13.6	5.6	5.8	9.5	19.1	-3.8	20.3	-16.1	11.2	
# of Portfolios	335	335	327	317	283	337	326	331	336	342	
● Boston Partners	-11.0 (44)	-3.0 (33)	10.1 (34)	9.1 (46)	11.9 (34)	31.3 (17)	3.0 (61)	24.3 (77)	-8.7 (55)	20.1 (23)	
▲ Russell 1000 Value	-12.2 (64)	-6.8 (71)	6.9 (87)	7.2 (83)	10.5 (79)	25.2 (72)	2.8 (62)	26.5 (54)	-8.3 (50)	13.7 (87)	

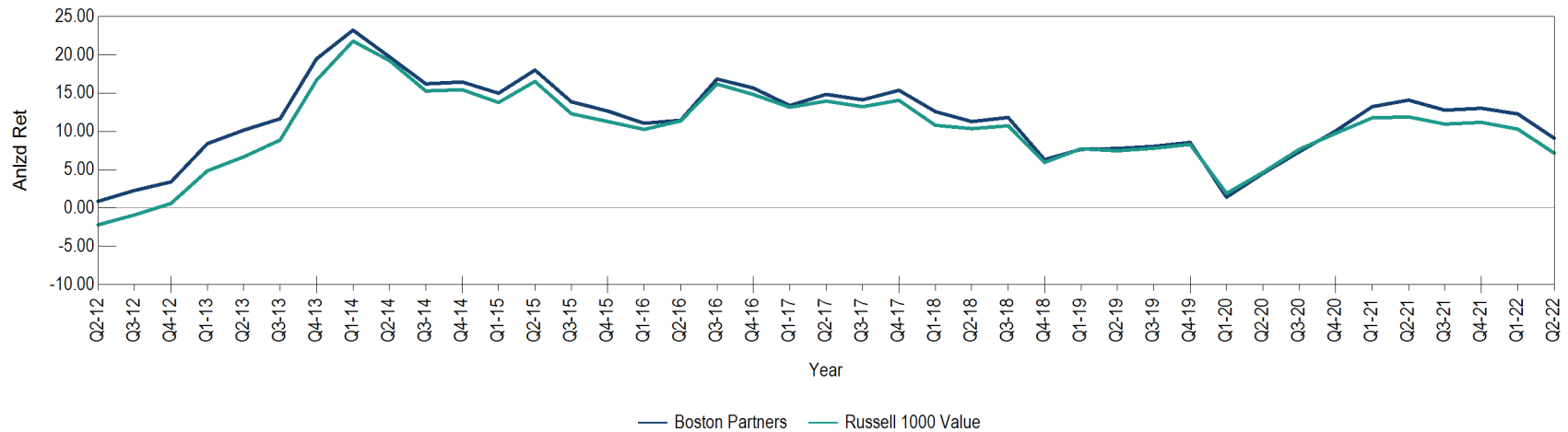
Boston Partners
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

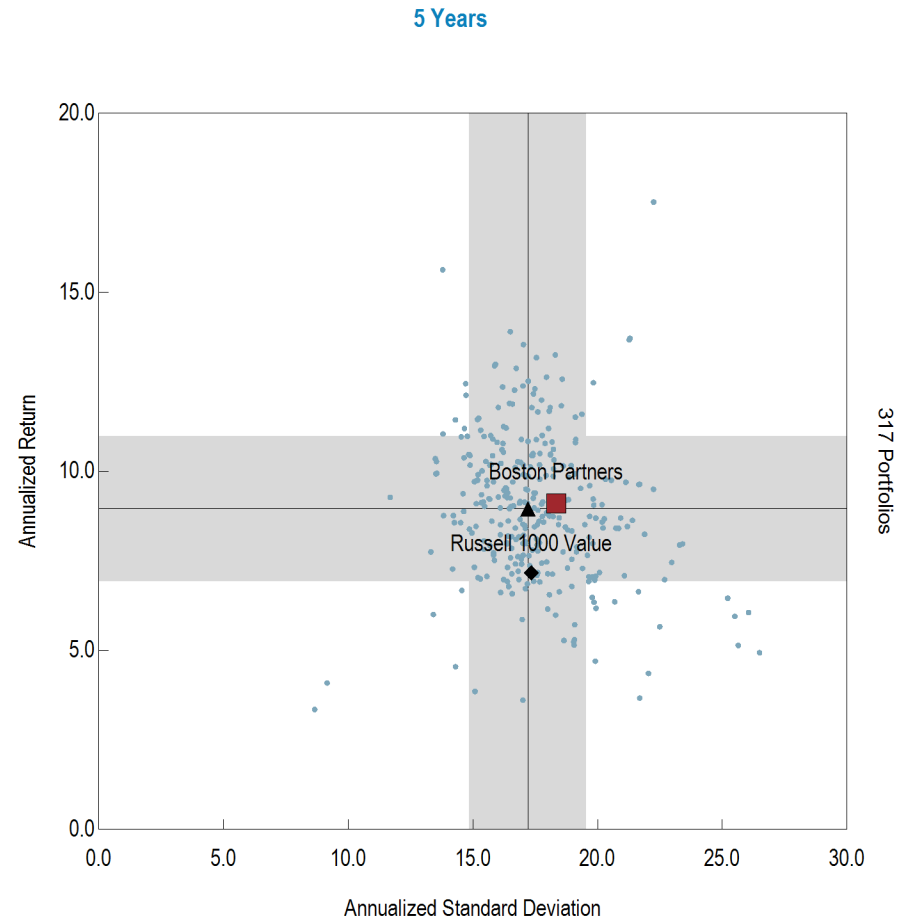
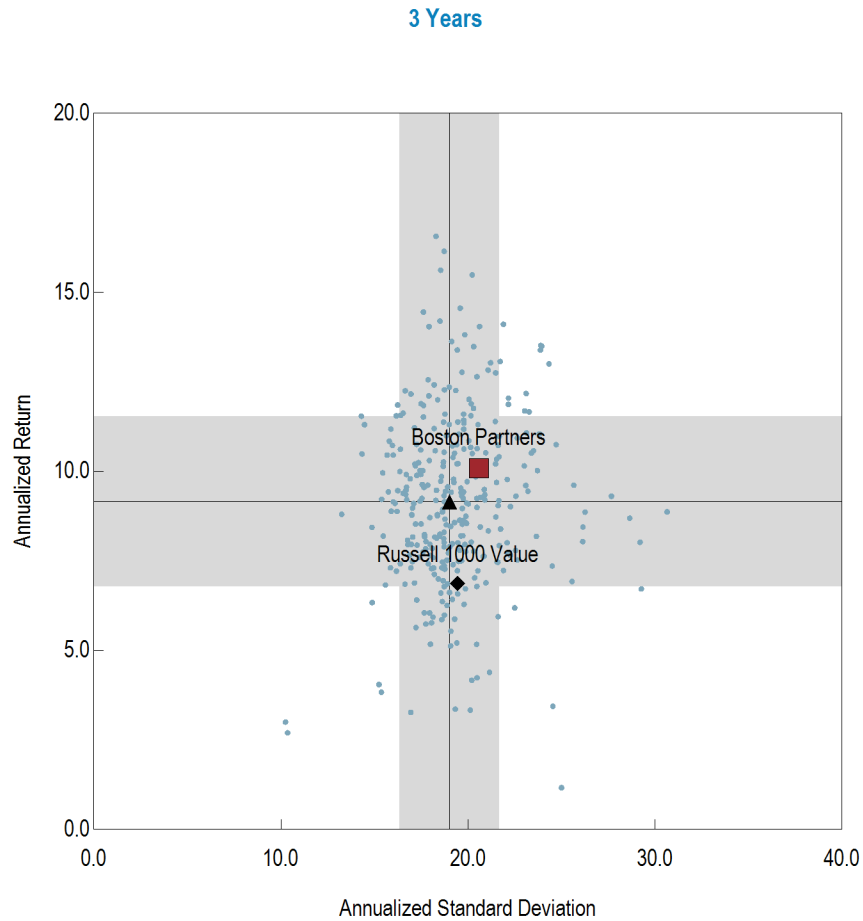
Period Ending: June 30, 2022

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Boston Partners	10.1%	20.6%	0.5
Russell 1000 Value	6.9%	19.5%	0.3
eV US Large Cap Value Equity Gross Median	9.2%	19.0%	0.4

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Boston Partners	9.1%	18.3%	0.4
Russell 1000 Value	7.2%	17.4%	0.4
eV US Large Cap Value Equity Gross Median	9.0%	17.2%	0.4

Emerald Advisers Manager Portfolio Overview

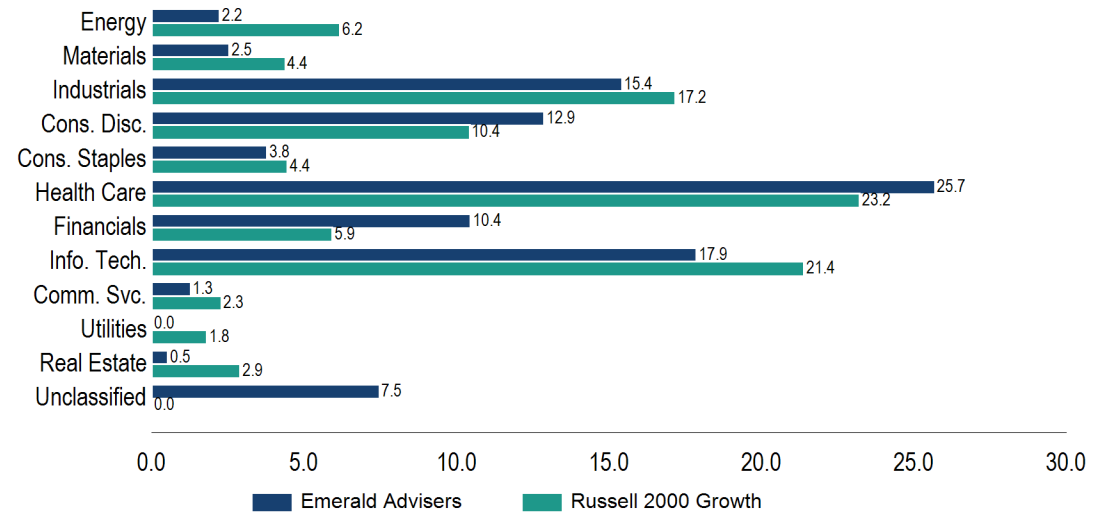
Period Ending: June 30, 2022

Domestic equity small cap growth portfolio of companies with significantly high growth rates. Primary personnel include Kenneth Mertz, Joseph Garner, and Stacey Sears.

Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	116	1,102
Weighted Avg. Market Cap. (\$B)	3.22	2.93
Median Market Cap. (\$B)	2.39	1.20
Price To Earnings	20.48	17.06
Price To Book	3.41	3.60
Price To Sales	2.42	1.68
Return on Equity (%)	5.18	3.65
Yield (%)	0.49	0.79
Beta	0.97	1.00

Sector Allocation (%) vs Russell 2000 Growth



Largest Holdings

	End Weight	Return
CHART INDUSTRIES INC	2.97	-2.56
SIMPLY GOOD FOODS CO (THE)	2.38	-0.47
PERFICIENT INC	1.85	-16.71
RAPID7 INC	1.83	-39.95
MACOM TECHNOLOGY SOLUTIONS HOLDINGS INC	1.83	-23.00
UNITED THERAPEUTICS CORP	1.81	31.34
CHURCHILL DOWNS INC	1.71	-13.64
PALOMAR HOLDINGS INC	1.69	0.64
ALKERMES PLC	1.63	13.23
AVIENT CORP	1.62	-16.01

Top Contributors

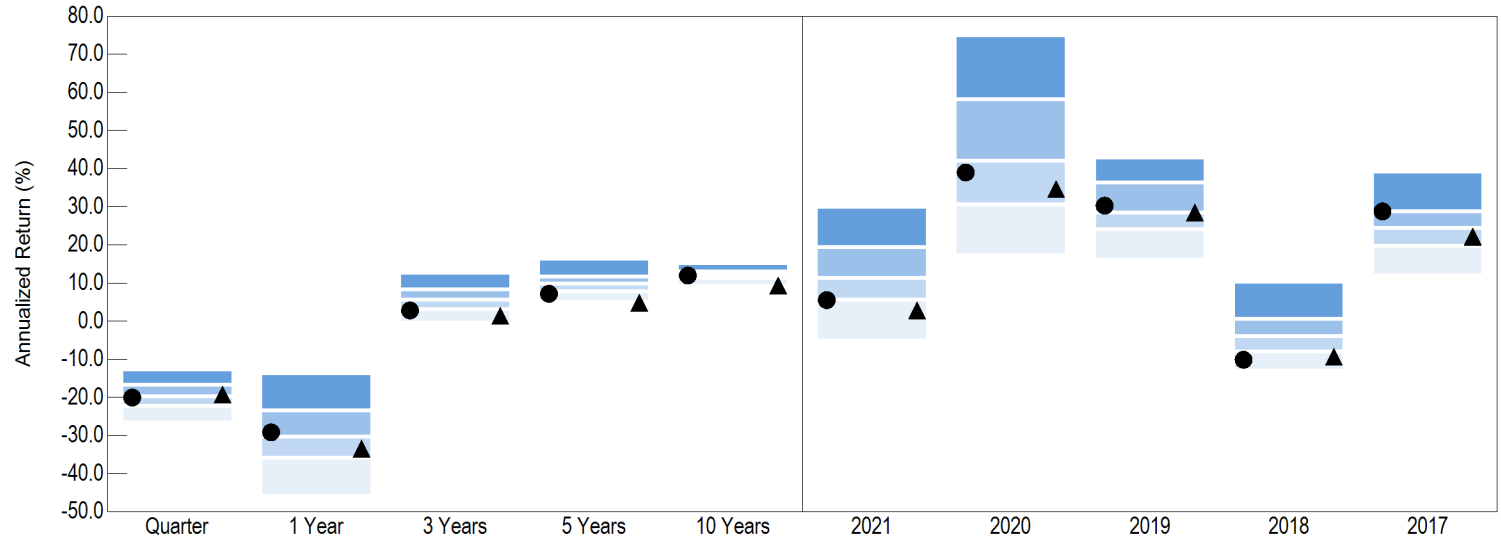
	Avg Wgt	Return	Contribution
UNITED THERAPEUTICS CORP	0.44	31.34	0.14
SAILPOINT TECHNOLOGIES HOLDINGS INC	0.50	22.47	0.11
BIOHAVEN PHARMACEUTICAL HOLDING CO LTD	0.49	22.89	0.11
ALKERMES PLC	0.36	13.23	0.05
SUPER MICRO COMPUTER INC	0.38	5.99	0.02
TRANSMEDICS GROUP INC	0.10	16.74	0.02
MANNKIND CORP	0.27	3.53	0.01

Bottom Contributors

	Avg Wgt	Return	Contribution
RAPID7 INC	0.81	-39.95	-0.33
FRESHPET INC	0.54	-49.44	-0.27
SEAWORLD ENTERTAINMENT INC	0.62	-40.65	-0.25
VARONIS SYSTEMS INC	0.58	-38.33	-0.22
SILVERGATE CAPITAL CORPORATION	0.31	-64.45	-0.20
JACK IN THE BOX INC.	0.48	-39.60	-0.19
MACOM TECHNOLOGY SOLUTIONS HOLDINGS INC	0.73	-23.00	-0.17
NATIONAL VISION HOLDINGS INC	0.44	-36.88	-0.16

Unclassified sector allocation includes cash allocations.

Emerald Advisers vs. eV US Small Cap Growth Equity Gross Universe

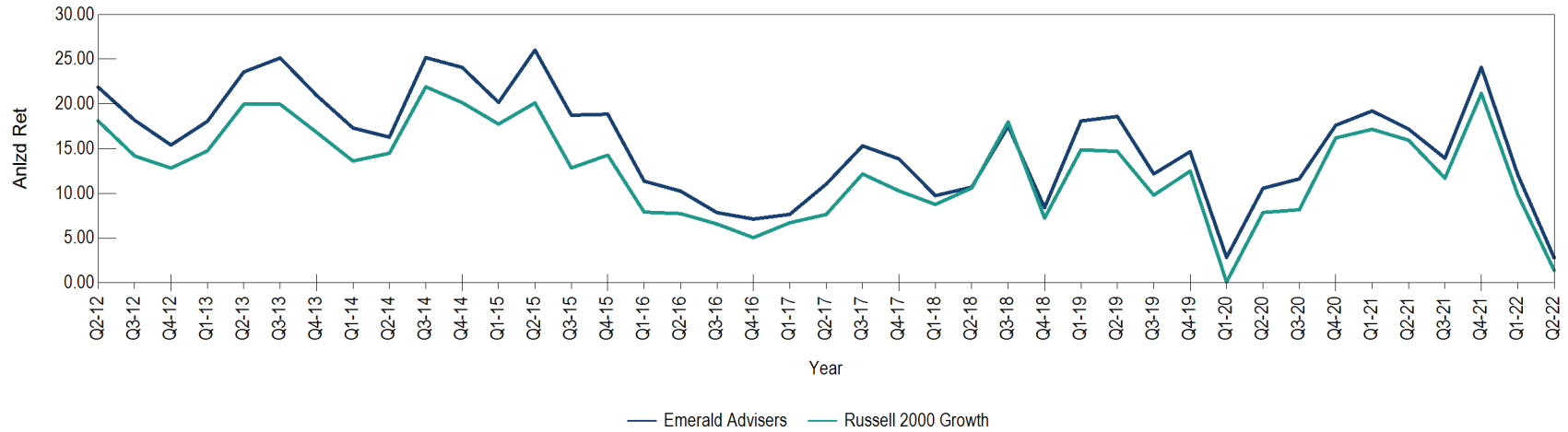


	Return (Rank)									
5th Percentile	-12.7	-13.8	12.6	16.2	15.1	29.8	75.0	42.8	10.2	39.2
25th Percentile	-16.7	-23.4	8.3	11.8	13.2	19.5	58.3	36.4	0.7	28.9
Median	-19.7	-30.2	5.7	9.9	12.2	11.5	42.2	28.5	-3.9	24.6
75th Percentile	-22.1	-35.8	3.3	7.9	11.4	5.7	30.8	24.2	-7.9	19.8
95th Percentile	-26.5	-45.8	-0.3	5.0	9.4	-5.1	17.4	16.2	-12.8	12.1
# of Portfolios	150	150	148	145	127	158	161	157	164	174
● Emerald Advisers	-20.0 (52)	-29.2 (48)	2.8 (81)	7.2 (82)	12.0 (61)	5.5 (76)	39.0 (57)	30.3 (45)	-10.1 (85)	28.8 (26)
▲ Russell 2000 Growth	-19.3 (47)	-33.4 (69)	1.4 (90)	4.8 (96)	9.3 (96)	2.8 (84)	34.6 (66)	28.5 (51)	-9.3 (80)	22.2 (62)

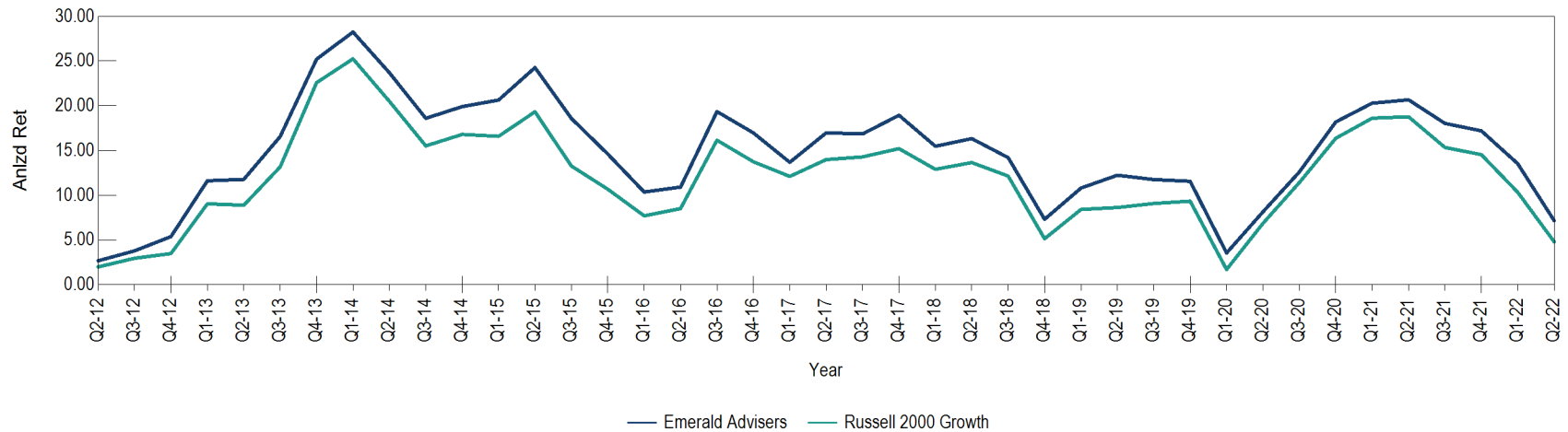
Emerald Advisers
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: June 30, 2022

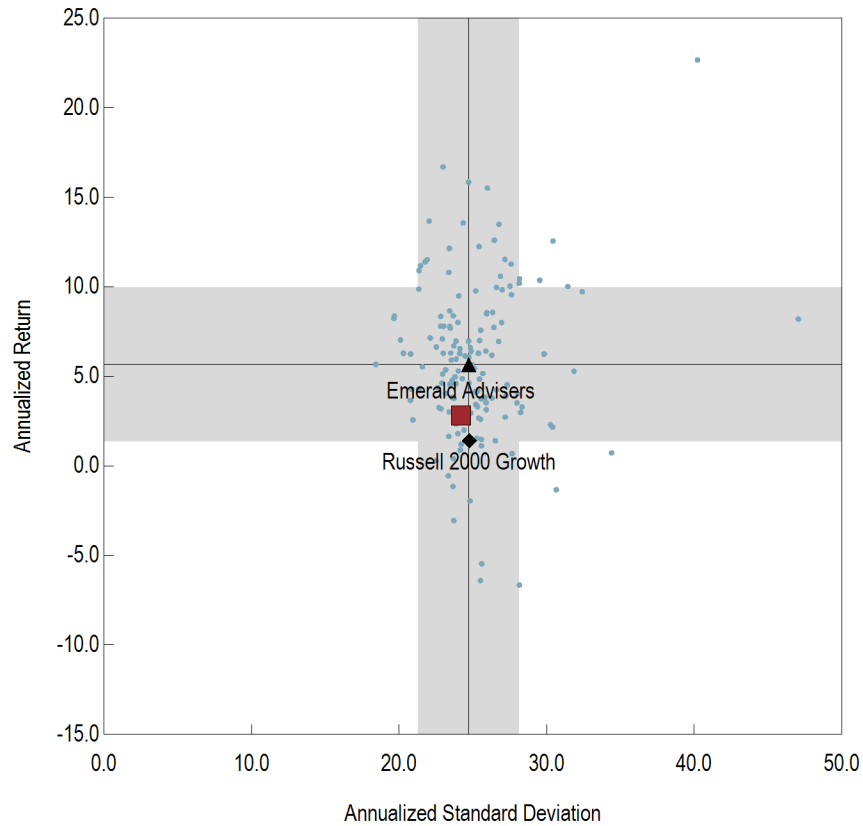
Rolling 3 Year Annualized Return (%)



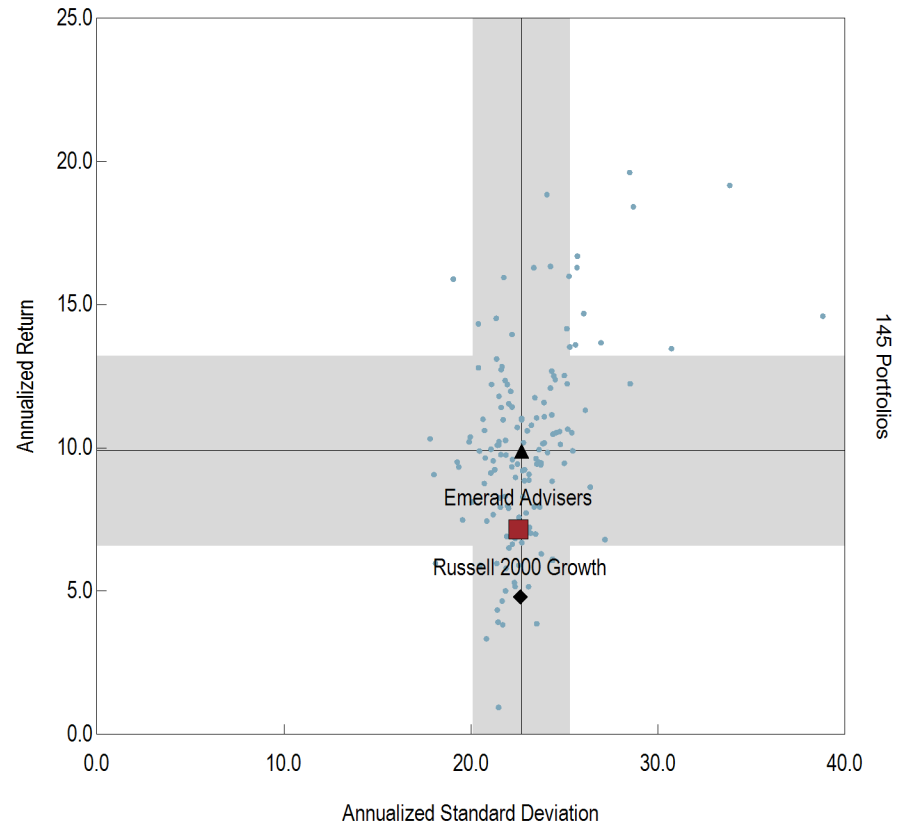
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Emerald Advisers	2.8%	24.2%	0.1
Russell 2000 Growth	1.4%	24.7%	0.0
eV US Small Cap Growth Equity Gross Median	5.7%	24.7%	0.2

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Emerald Advisers	7.2%	22.5%	0.3
Russell 2000 Growth	4.8%	22.6%	0.2
eV US Small Cap Growth Equity Gross Median	9.9%	22.7%	0.4

Ceredex Manager Portfolio Overview

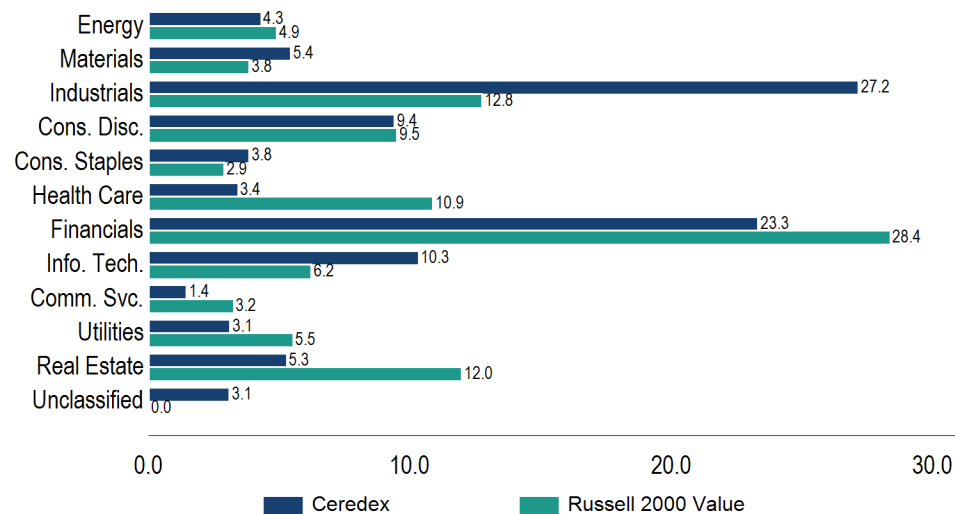
Period Ending: June 30, 2022

Domestic equity small cap value portfolio of companies with dividend yields and low valuations. Primary personnel include Brett Barner and David Maynard.

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	81	1,371
Weighted Avg. Market Cap. (\$B)	5.07	2.27
Median Market Cap. (\$B)	3.93	0.90
Price To Earnings	13.96	10.45
Price To Book	2.25	1.50
Price To Sales	1.21	1.14
Return on Equity (%)	15.53	6.35
Yield (%)	2.27	2.31
Beta	0.85	1.00

Sector Allocation (%) vs Russell 2000 Value



Largest Holdings

	End Weight	Return
LENNOX INTERNATIONAL INC.	2.94	-19.46
POWER INTEGRATIONS INC	2.84	-18.89
EMCOR GROUP INC.	2.60	-8.48
OVINTIV INC	2.42	-18.03
FIRST CITIZENS BANCSHARES INC	2.33	-1.71
AGCO CORP	2.25	-29.73
SLM CORP	2.22	-12.69
PATTERSON COS INC	2.21	-5.69
DOLBY LABORATORIES INC	2.10	-8.21
STANTEC INC	2.09	-12.57

Top Contributors

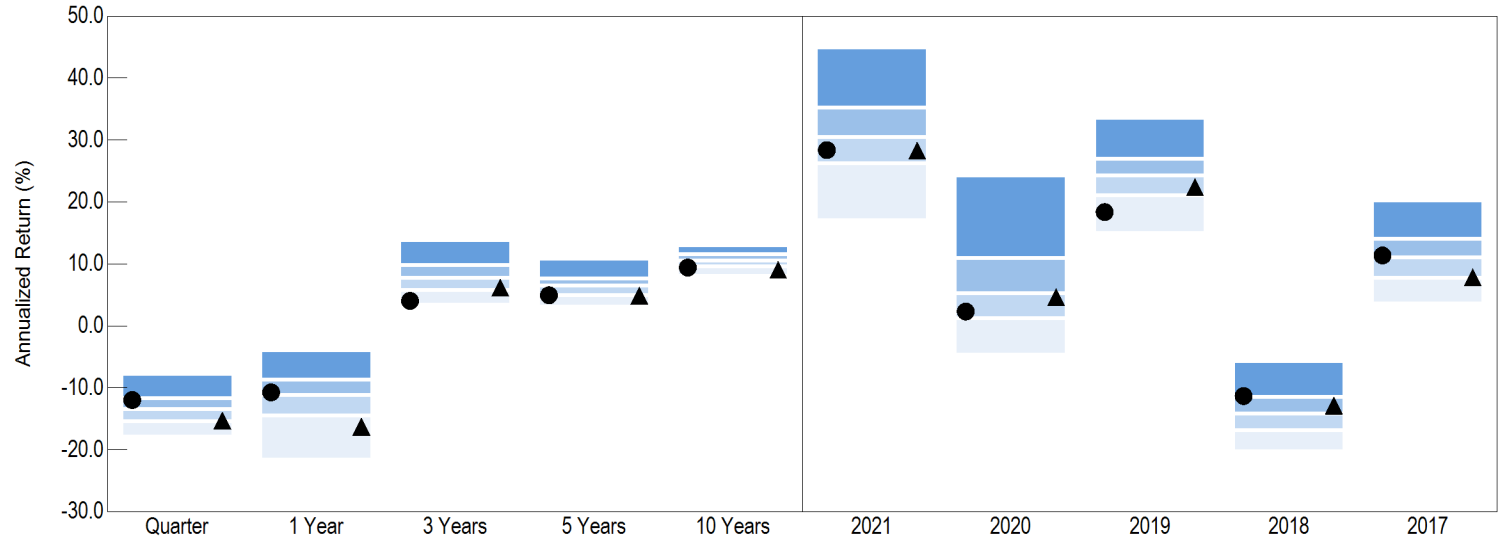
	Avg Wgt	Return	Contribution
CALAVO GROWERS INC	0.30	14.46	0.04
ASHLAND INC	0.75	5.04	0.04
FIRST INTERSTATE BANCSYSTEM INC	0.48	6.11	0.03
PENSKE AUTOMOTIVE GROUP INC	0.22	12.22	0.03
FEDERAL SIGNAL CORP.	0.20	5.77	0.01
LITTELFUSE INC	0.49	2.06	0.01
AMERISAFE INC	0.12	5.38	0.01
AMERICAN FINANCIAL GROUP INC	0.33	1.50	0.00
LEGGETT & PLATT INC	0.39	0.64	0.00
HEALTHCARE REALTY TRUST INC	0.32	0.05	0.00

Bottom Contributors

	Avg Wgt	Return	Contribution
POWER INTEGRATIONS INC	1.39	-18.89	-0.26
OVINTIV INC	1.32	-17.91	-0.24
OWENS & MINOR INC.	0.74	-28.56	-0.21
MKS INSTRUMENTS INC	0.64	-31.45	-0.20
AGCO CORP	0.67	-29.73	-0.20
HERC HOLDINGS INC	0.42	-45.78	-0.19
LENNOX INTERNATIONAL INC.	0.92	-19.46	-0.18
KEMPER CORP	1.03	-14.72	-0.15
SLM CORP	1.20	-12.69	-0.15
ENERSYS	0.70	-20.72	-0.14

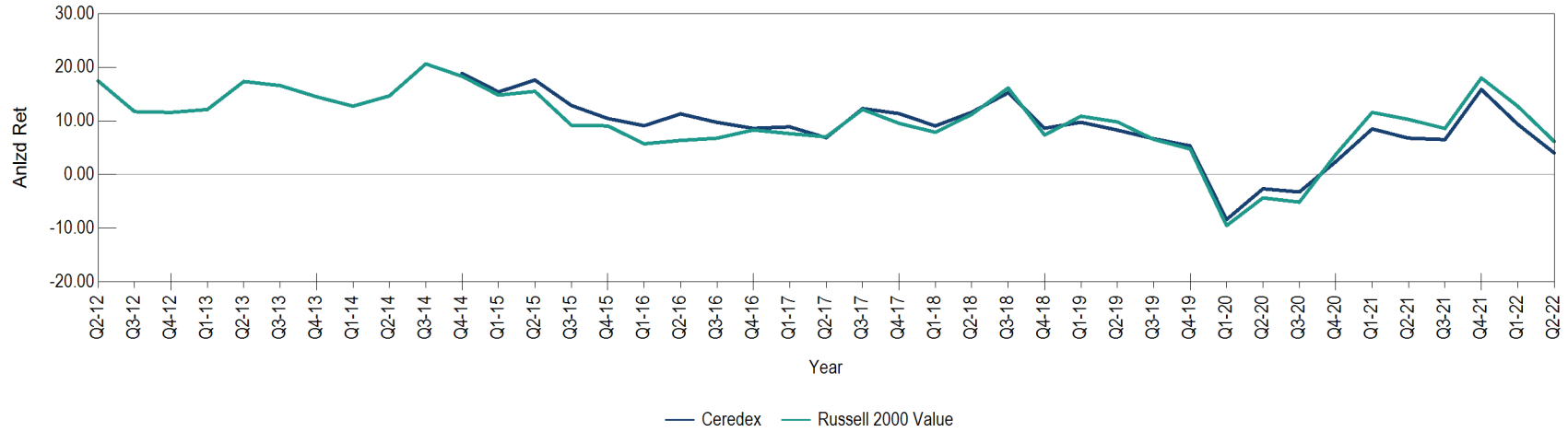
Unclassified sector allocation includes cash allocations.

Ceredex vs. eV US Small Cap Value Equity Gross Universe

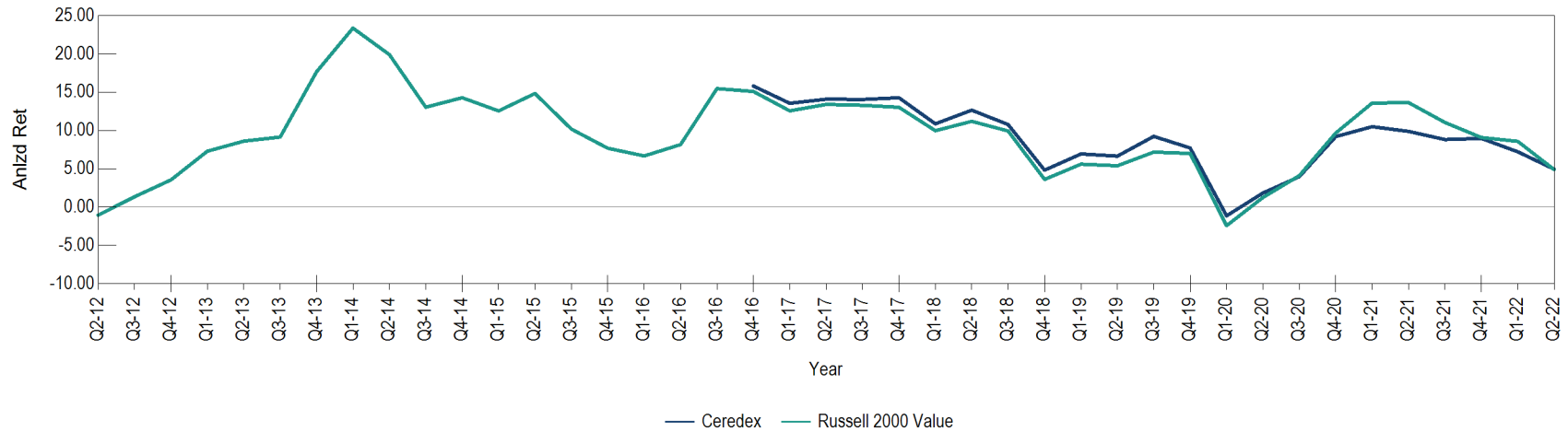


	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
5th Percentile	-7.8	-4.0	13.8	10.8	12.9	44.9	24.2	33.6	-5.7	20.2
25th Percentile	-11.6	-8.6	9.9	7.7	11.6	35.3	11.1	27.0	-11.4	14.1
Median	-13.4	-11.1	7.8	6.5	10.6	30.5	5.3	24.4	-14.0	11.1
75th Percentile	-15.3	-14.4	5.9	5.0	9.6	26.3	1.3	21.2	-16.7	7.8
95th Percentile	-17.8	-21.5	3.4	3.1	8.1	17.1	-4.6	15.0	-20.2	3.7
# of Portfolios	212	212	208	197	177	210	219	217	220	224
● Ceredex	-12.0 (29)	-10.7 (45)	4.0 (91)	4.9 (79)	9.4 (81)	28.4 (60)	2.3 (69)	18.4 (87)	-11.3 (25)	11.4 (48)
▲ Russell 2000 Value	-15.3 (75)	-16.3 (81)	6.2 (75)	4.9 (80)	9.1 (88)	28.3 (60)	4.6 (53)	22.4 (69)	-12.9 (39)	7.8 (75)

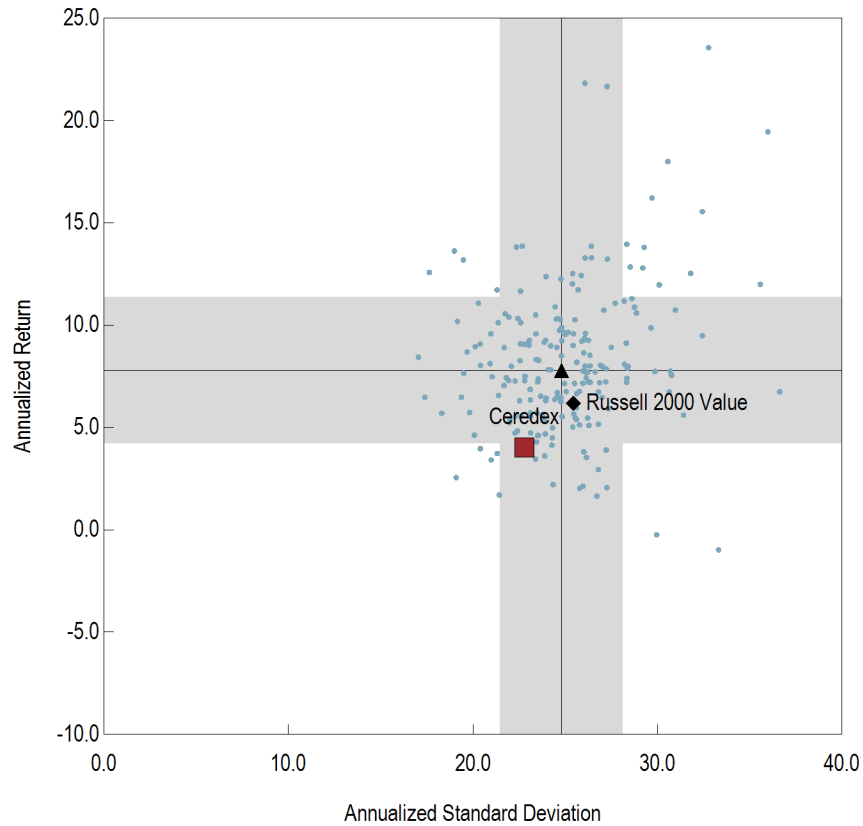
Rolling 3 Year Annualized Return (%)



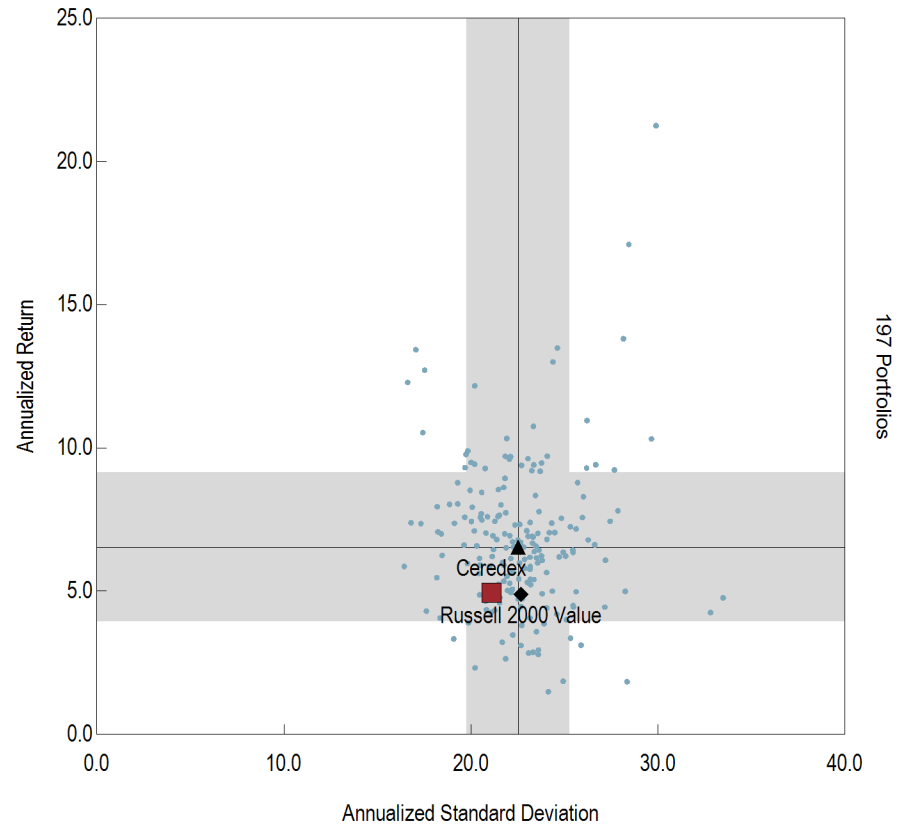
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Ceredex	4.0%	22.8%	0.2
Russell 2000 Value	6.2%	25.5%	0.2
eV US Small Cap Value Equity Gross Median	7.8%	24.8%	0.3

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Ceredex	4.9%	21.1%	0.2
Russell 2000 Value	4.9%	22.7%	0.2
eV US Small Cap Value Equity Gross Median	6.5%	22.5%	0.2

International Equity Managers

Pyrford Manager Portfolio Overview

Period Ending: June 30, 2022

International equity value portfolio of non-US companies with low valuations at the country and stock level. Primary personnel include Tony Cousins, Daniel McDonagh, and Paul Simons.

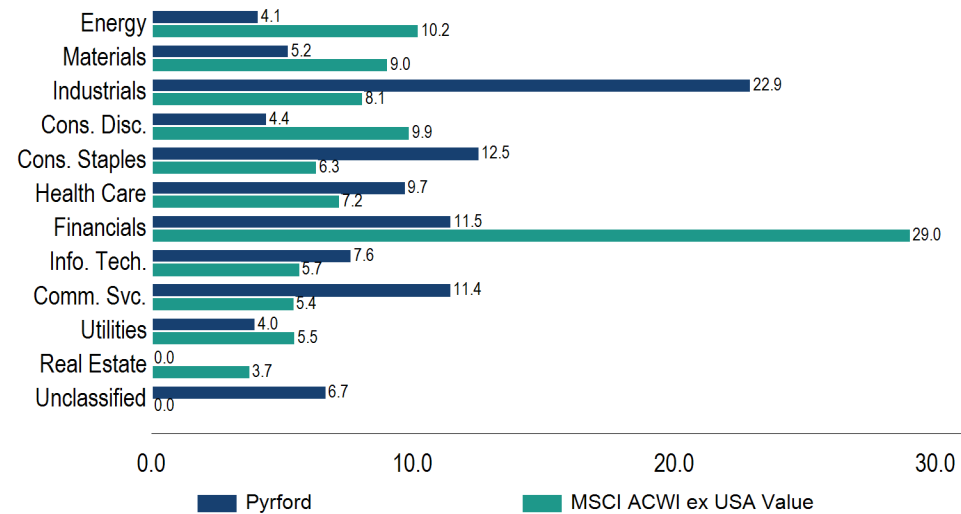
Characteristics

	MSCI ACWI Portfolio	MSCI ACWI ex USA Value
Number of Holdings	69	1,251
Weighted Avg. Market Cap. (\$B)	61.07	69.94
Median Market Cap. (\$B)	22.37	8.20
Price To Earnings	15.27	9.35
Price To Book	2.18	1.75
Price To Sales	1.61	0.85
Return on Equity (%)	15.83	12.07
Yield (%)	3.97	5.03
Beta	0.68	1.00

Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	85.9%	71.3%
Emerging*	8.0%	28.7%
Top 10 Largest Countries		
Japan	14.7%	14.3%
Switzerland	12.2%	4.2%
United Kingdom	10.2%	14.1%
Germany	9.5%	6.1%
Australia	9.5%	4.9%
France	7.4%	5.5%
Singapore	6.3%	1.0%
Cash	6.1%	0.0%
Hong Kong	5.2%	2.0%
Netherlands	4.3%	1.2%
Total-Top 10 Largest Countries	85.4%	53.1%

Sector Allocation (%) vs MSCI ACWI ex USA Value



Top Contributors

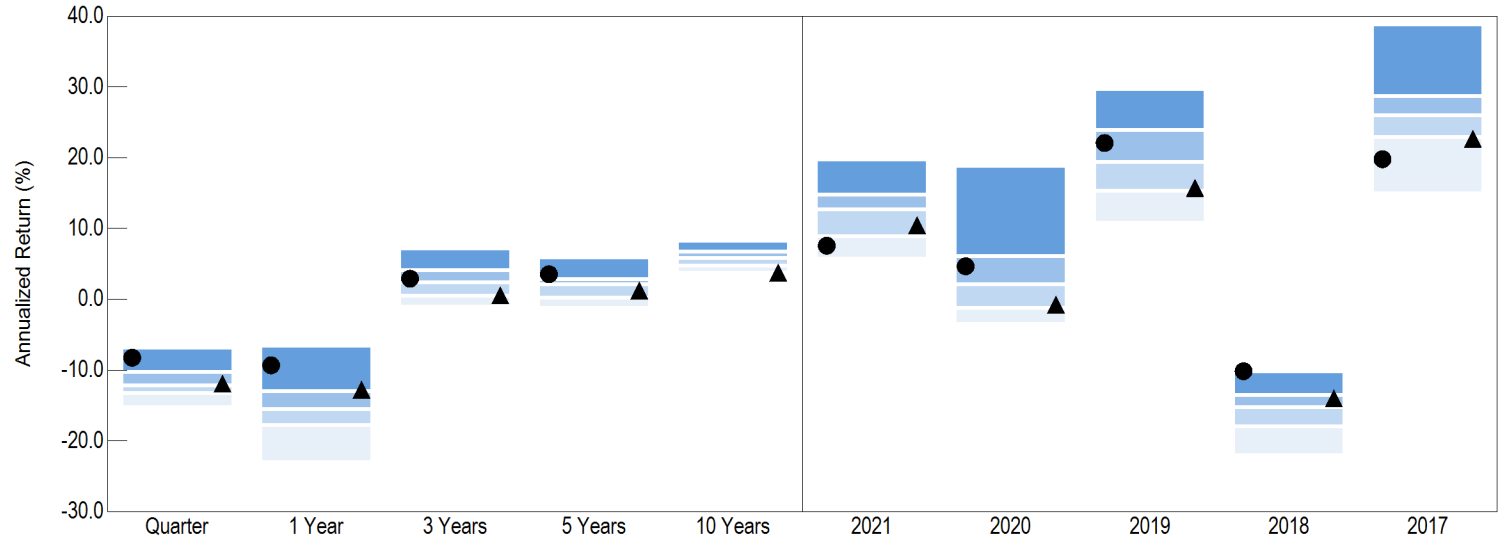
	Avg Wgt	Return	Contribution
ABC-MART INC	1.41	16.18	0.23
JAPAN TOBACCO INC	3.23	3.64	0.12
VTECH HOLDINGS LTD	1.01	8.03	0.08
AIA GROUP LTD	1.09	4.39	0.05
ESSITY AKTIEBOLAG	0.43	9.55	0.04
SANOFI	1.85	1.91	0.04
UNILEVER PLC COMMON STOCK GBP.0311	1.81	0.59	0.01
POWER ASSETS HOLDINGS LTD	1.20	0.24	0.00
SINGAPORE TECHNOLOGIES ENGINEERING LTD	0.84	-0.26	0.00
MERIDA INDUSTRY	0.14	-2.78	0.00

Bottom Contributors

	Avg Wgt	Return	Contribution
ROCHE HOLDING AG	2.97	-16.17	-0.48
BRENTAG SE	2.08	-18.64	-0.39
UNITED OVERSEAS BANK LTD	2.02	-18.63	-0.38
LEGRAND	1.66	-21.69	-0.36
SAP SE	2.09	-16.91	-0.35
FUCHS PETROLUB SE	1.67	-20.89	-0.35
L'AIR LIQUIDE SA	2.31	-15.04	-0.35
DEUTSCHE POST AG	1.77	-18.94	-0.34
NATIONAL GRID PLC	2.18	-14.56	-0.32
AXIATA GROUP BHD	1.10	-28.62	-0.32

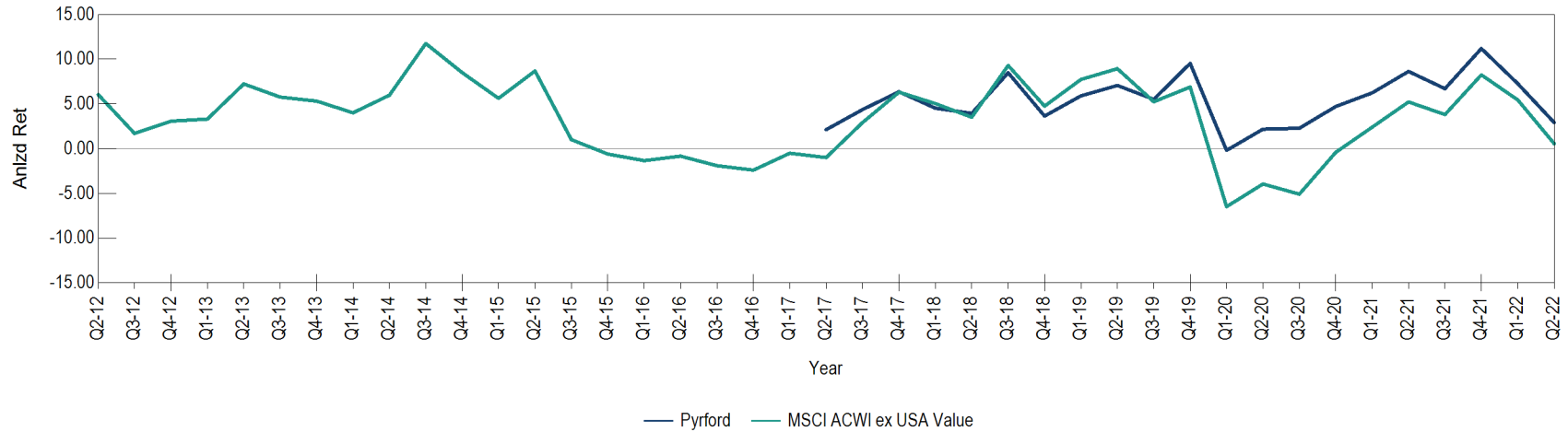
Unclassified sector allocation includes cash allocations.

Pyrford vs. eV ACWI ex-US Value Equity Gross Universe

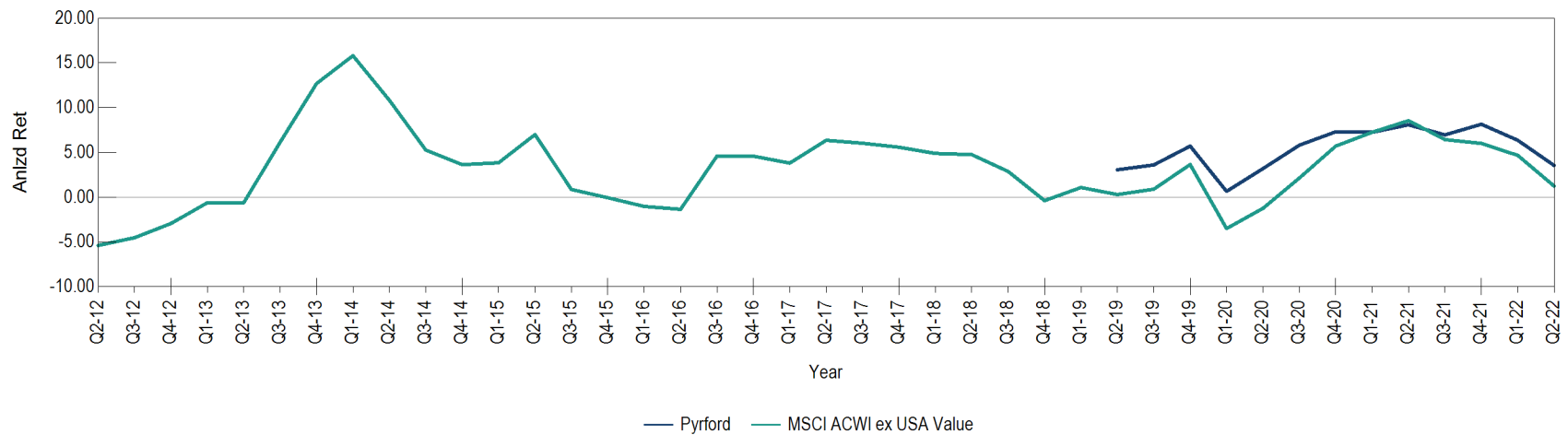


	Quarter		1 Year		3 Years		5 Years		10 Years		2021		2020		2019		2018		2017	
5th Percentile	-6.9	-6.6	7.1	5.9	8.2	19.7	18.8	29.6	-10.2	38.8										
25th Percentile	-10.2	-12.9	4.2	2.9	6.8	14.8	6.2	24.0	-13.4	28.8										
Median	-12.1	-15.5	2.5	2.2	5.9	12.8	2.1	19.5	-15.2	26.0										
75th Percentile	-13.2	-17.7	0.6	0.3	4.8	8.9	-1.2	15.4	-17.9	23.0										
95th Percentile	-15.2	-23.0	-1.0	-1.2	3.8	5.8	-3.5	10.8	-21.9	15.0										
# of Portfolios	46	46	45	42	32	46	49	52	54	56										
● Pyrford	-8.2 (8)	-9.3 (9)	2.9 (45)	3.5 (23)	-- (--)	7.6 (84)	4.7 (33)	22.1 (35)	-10.1 (5)	19.8 (84)										
▲ MSCI ACWI ex USA Value	-11.9 (45)	-12.8 (23)	0.6 (76)	1.2 (65)	3.8 (97)	10.5 (69)	-0.8 (73)	15.7 (74)	-14.0 (32)	22.7 (77)										

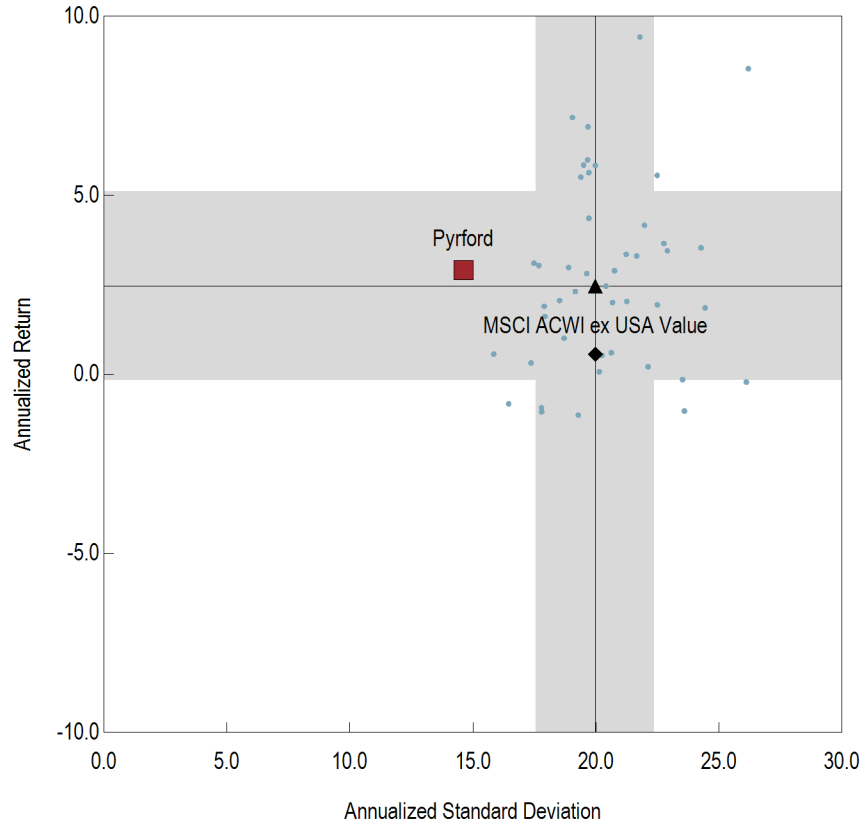
Rolling 3 Year Annualized Return (%)



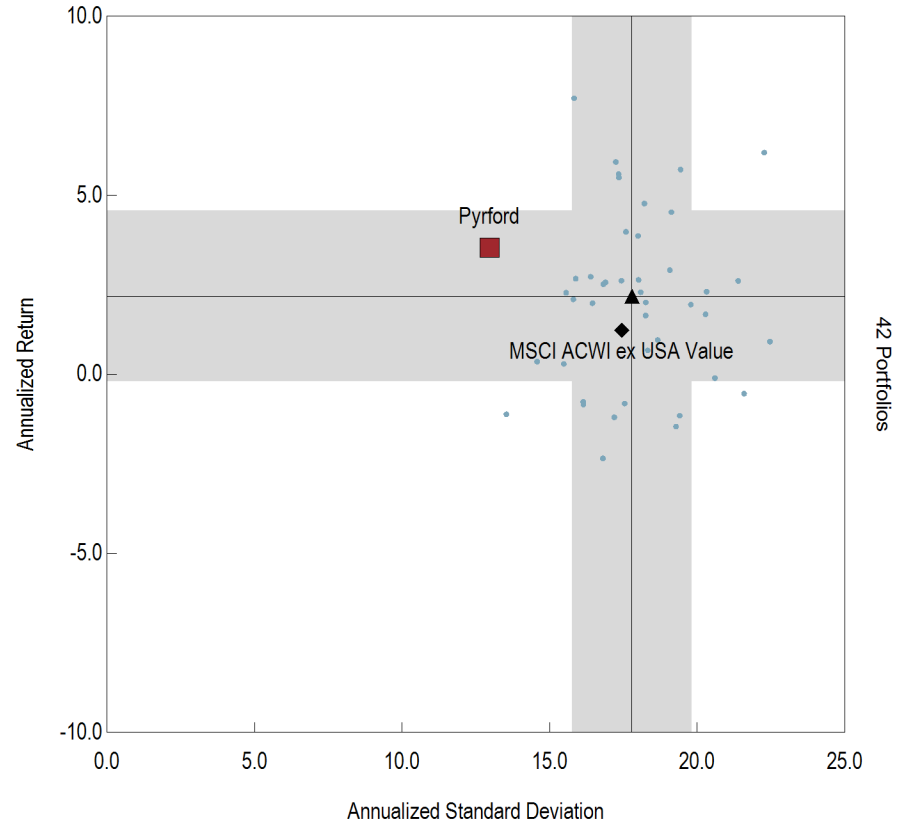
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Pyrford	2.9%	14.6%	0.2
MSCI ACWI ex USA Value	0.6%	20.0%	0.0
eV ACWI ex-US Value Equity Gross Median	2.5%	20.0%	0.1

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Pyrford	3.5%	13.0%	0.2
MSCI ACWI ex USA Value	1.2%	17.4%	0.0
eV ACWI ex-US Value Equity Gross Median	2.2%	17.8%	0.1

William Blair Manager Portfolio Overview

Period Ending: June 30, 2022

International equity growth portfolio of non-US companies with high growth rates constructed from the security level. Primary personnel include Simon Fennell and Kenneth McAtamney.

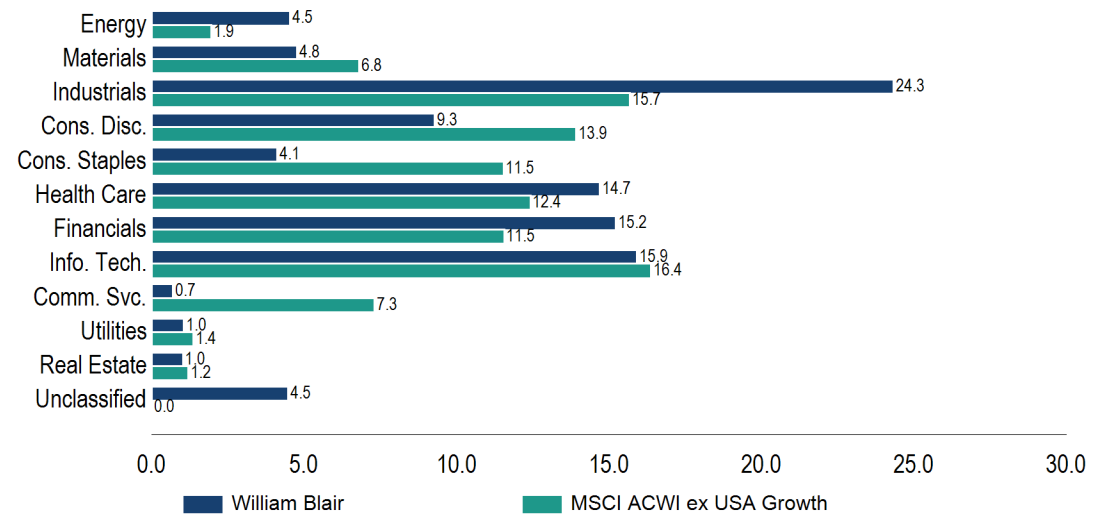
Characteristics

	Portfolio	MSCI ACWI ex USA Growth
Number of Holdings	172	1,256
Weighted Avg. Market Cap. (\$B)	60.46	93.71
Median Market Cap. (\$B)	10.90	9.02
Price To Earnings	23.16	18.35
Price To Book	3.73	3.18
Price To Sales	3.23	2.28
Return on Equity (%)	17.67	17.55
Yield (%)	1.89	1.91
Beta	1.18	1.00

Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	79.1%	69.7%
Emerging*	16.4%	30.3%
Top 10 Largest Countries		
United Kingdom	14.7%	5.9%
France	10.4%	8.5%
Canada	7.7%	7.9%
India*	6.9%	3.7%
Japan	6.8%	13.6%
Switzerland	5.7%	8.9%
Denmark	5.3%	3.0%
Netherlands	4.9%	3.8%
Cash	4.5%	0.0%
Sweden	3.8%	2.6%
Total-Top 10 Largest Countries	70.7%	58.0%

Sector Allocation (%) vs MSCI ACWI ex USA Growth



Top Contributors

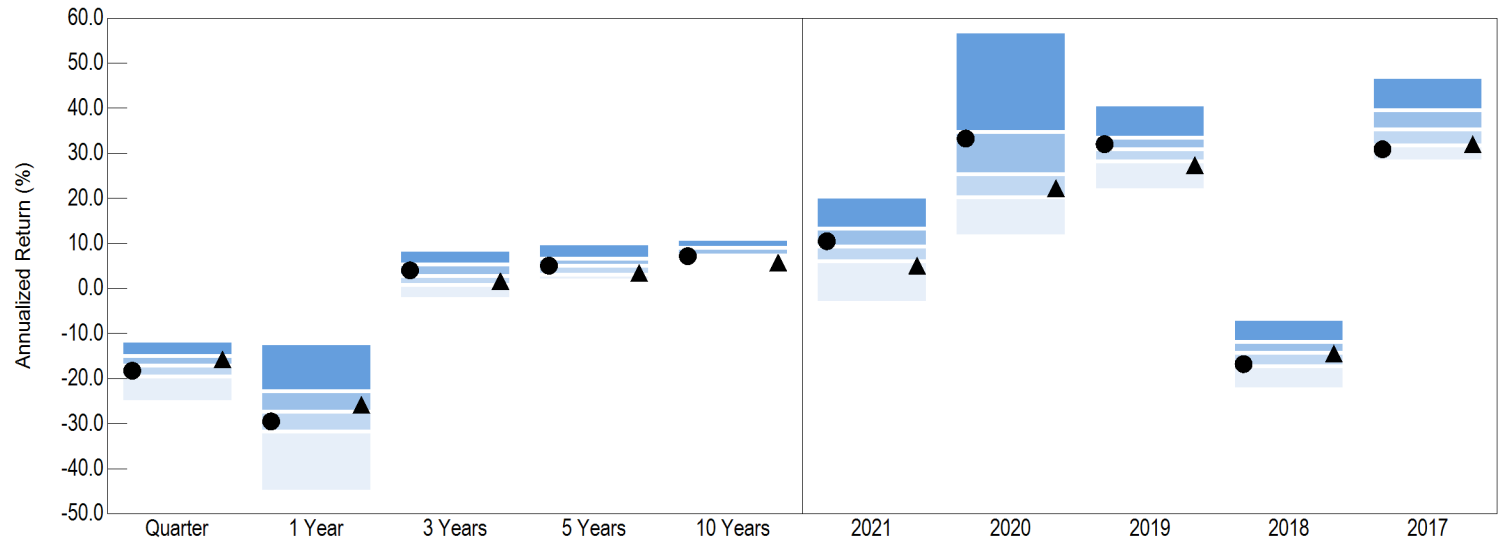
	Avg Wgt	Return	Contribution
AIA GROUP LTD	2.06	4.39	0.09
LI NING CO LTD	0.82	8.24	0.07
PROYA COSMETICS CO LTD	0.23	16.55	0.04
IT HOLDINGS	0.37	10.42	0.04
OLYMPUS CORP	0.90	4.16	0.04
Foshan Haitian Flavouring and Food Co Ltd	0.26	8.60	0.02
PETRONET LNG LTD	0.18	7.71	0.01
AIRTAC INTERNATIONAL GROUP	0.21	2.48	0.01
CHACHA FOOD CO LTD	0.17	1.85	0.00
TRUSTPILOT GROUP PLC	0.01	-35.76	0.00

Bottom Contributors

	Avg Wgt	Return	Contribution
ASML HOLDING NV	1.96	-29.20	-0.57
SIKA AG, BAAR	1.52	-30.35	-0.46
LONZA GROUP AG	1.63	-26.55	-0.43
ASHTEAD GROUP PLC	1.22	-34.22	-0.42
CANADIAN NATIONAL RAILWAY CO	2.46	-15.90	-0.39
AIRBUS SE	1.87	-20.04	-0.37
MTU AERO ENGINES AG	1.70	-21.56	-0.37
INFOSYS LTD	1.37	-25.59	-0.35
DSV A/S	1.25	-28.15	-0.35
KINGSPAN GROUP PLC	0.87	-39.34	-0.34

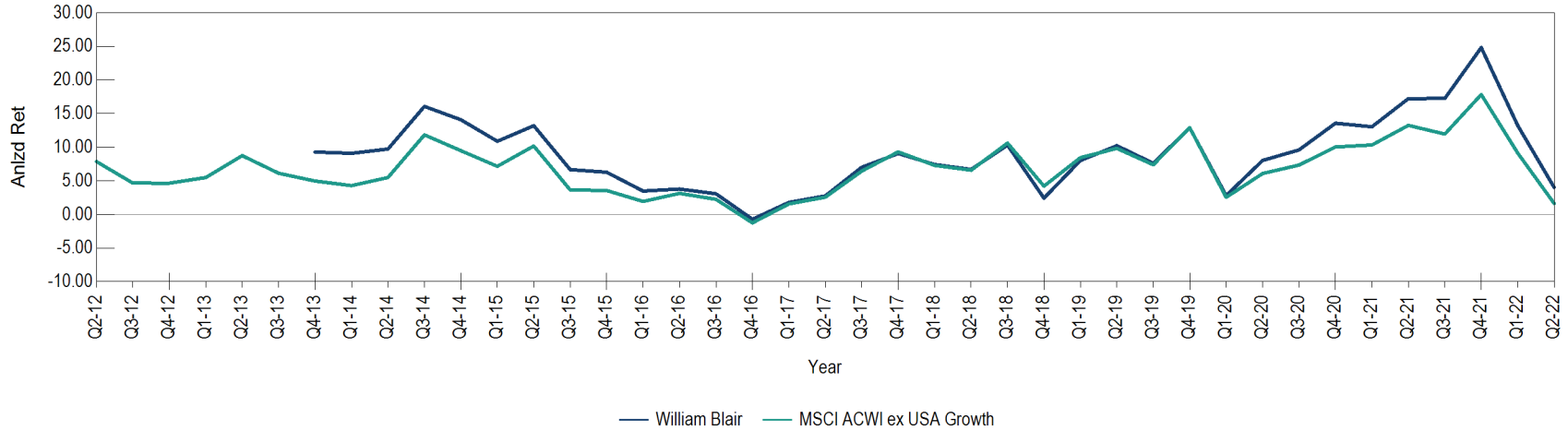
Unclassified sector allocation includes cash allocations.

William Blair vs. eV ACWI ex-US Growth Equity Gross Universe

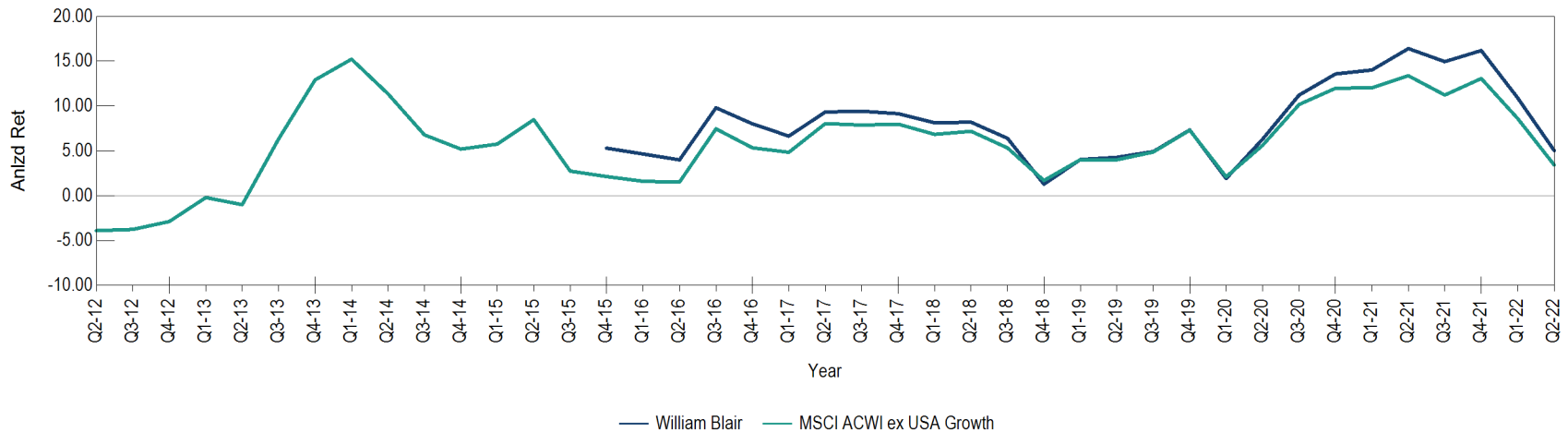


	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
5th Percentile	-11.7	-12.2	8.6	10.0	10.9	20.3	57.0	40.8	-6.8	46.8
25th Percentile	-14.9	-22.7	5.5	6.6	9.1	13.4	34.8	33.6	-11.7	39.6
Median	-17.0	-27.2	2.8	5.1	7.4	9.3	25.4	31.0	-14.3	35.3
75th Percentile	-19.5	-31.7	0.8	3.2	6.6	6.1	20.3	28.3	-17.2	31.8
95th Percentile	-25.1	-45.0	-2.3	1.9	5.9	-3.1	11.6	21.8	-22.3	28.3
# of Portfolios	103	103	93	84	59	102	95	93	82	94
● William Blair	-18.3 (63)	-29.5 (61)	4.0 (37)	5.0 (51)	7.2 (63)	10.5 (44)	33.3 (30)	32.0 (39)	-16.8 (69)	30.9 (81)
▲ MSCI ACWI ex USA Growth	-15.7 (32)	-25.8 (42)	1.6 (66)	3.4 (72)	5.7 (97)	5.1 (78)	22.2 (64)	27.3 (80)	-14.4 (51)	32.0 (75)

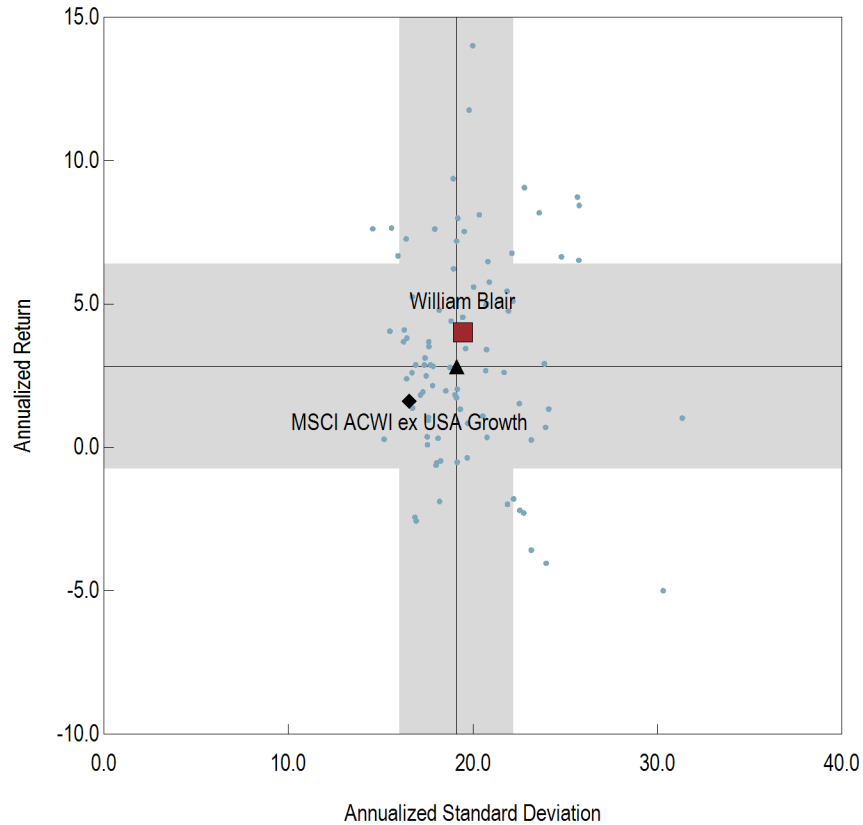
Rolling 3 Year Annualized Return (%)



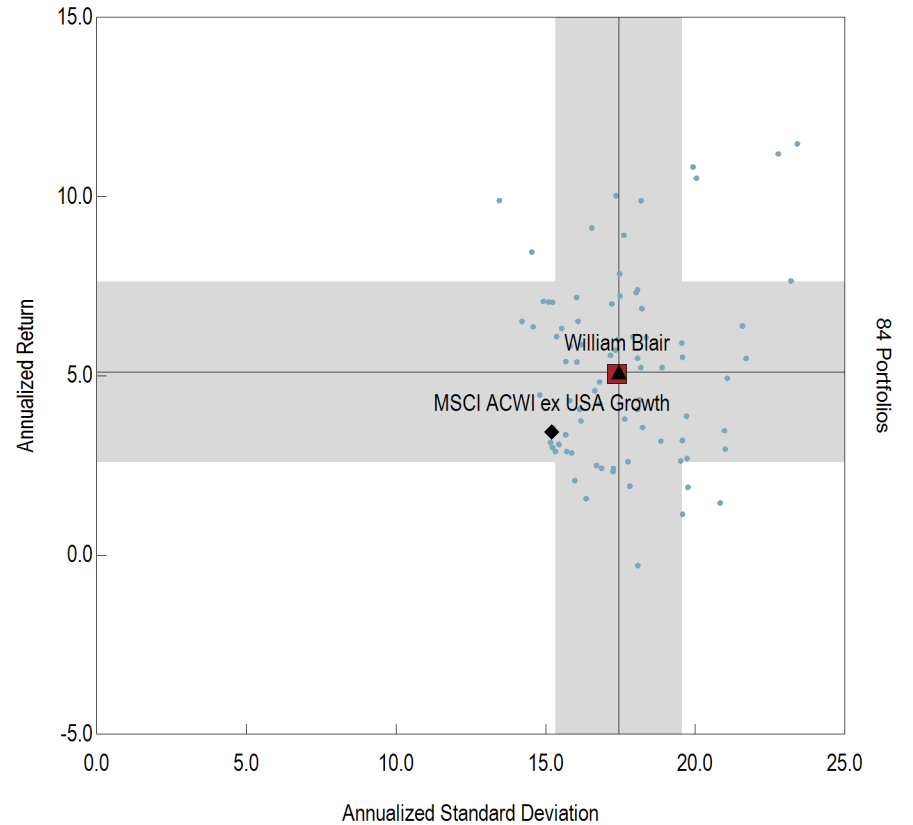
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
William Blair	4.0%	19.4%	0.2
MSCI ACWI ex USA Growth	1.6%	16.6%	0.1
eV ACWI ex-US Growth Equity Gross Median	2.8%	19.1%	0.1

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
William Blair	5.0%	17.4%	0.2
MSCI ACWI ex USA Growth	3.4%	15.2%	0.2
eV ACWI ex-US Growth Equity Gross Median	5.1%	17.4%	0.2

PIMCO RAE Emerging Markets Manager Portfolio Overview

Period Ending: June 30, 2022

The PIMCO RAE Emerging Markets seeks to invest 80% of its assets in investments that are economically tied to emerging market countries. The portfolio is sub-advised by Research Affiliates, LLC.

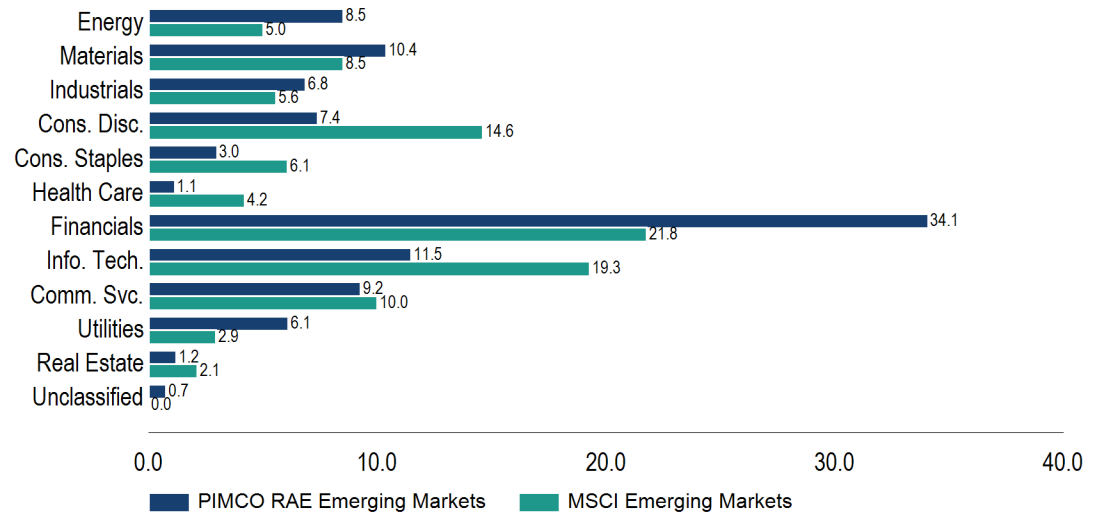
Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	378	1,290
Weighted Avg. Market Cap. (\$B)	19.85	109.98
Median Market Cap. (\$B)	3.87	6.25
Price To Earnings	5.90	11.05
Price To Book	1.71	2.46
Price To Sales	0.31	1.05
Return on Equity (%)	11.61	14.48
Yield (%)	6.13	3.34
Beta	1.15	1.00

Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	7.1%	0.0%
Emerging*	92.9%	100.0%
Top 10 Largest Countries		
China*	15.0%	34.5%
Korea*	13.3%	11.4%
Brazil*	12.2%	4.9%
India*	10.1%	12.9%
Thailand*	9.4%	1.9%
South Africa*	7.6%	3.6%
Taiwan*	7.6%	14.8%
Hong Kong	6.7%	0.0%
Mexico*	6.2%	2.1%
Turkey*	4.0%	0.3%
Total-Top 10 Largest Countries	92.2%	86.3%

Sector Allocation (%) vs MSCI Emerging Markets



Top Contributors

	End Weight	Return	Contribution
CIELO SA	1.24	17.23	0.21
CHINA RESOURCES POWER HOLDINGS CO LTD	1.40	10.02	0.14
PT INDO TAMBANGRAYA MEGAH	0.46	14.95	0.07
WALSIN LIHWA CORP	0.24	24.24	0.06
CHINA RESOURCES PHARMACEUTICAL GROUP LTD	0.16	35.10	0.06
HERO MOTOCROP LTD	0.41	13.85	0.06
ORIENT OVERSEAS (INTERNATIONAL) LTD	0.55	9.88	0.05
GREAT WALL MOTOR CO	0.17	29.44	0.05
SINOPHARM GROUP 'H'	0.43	11.16	0.05

Bottom Contributors

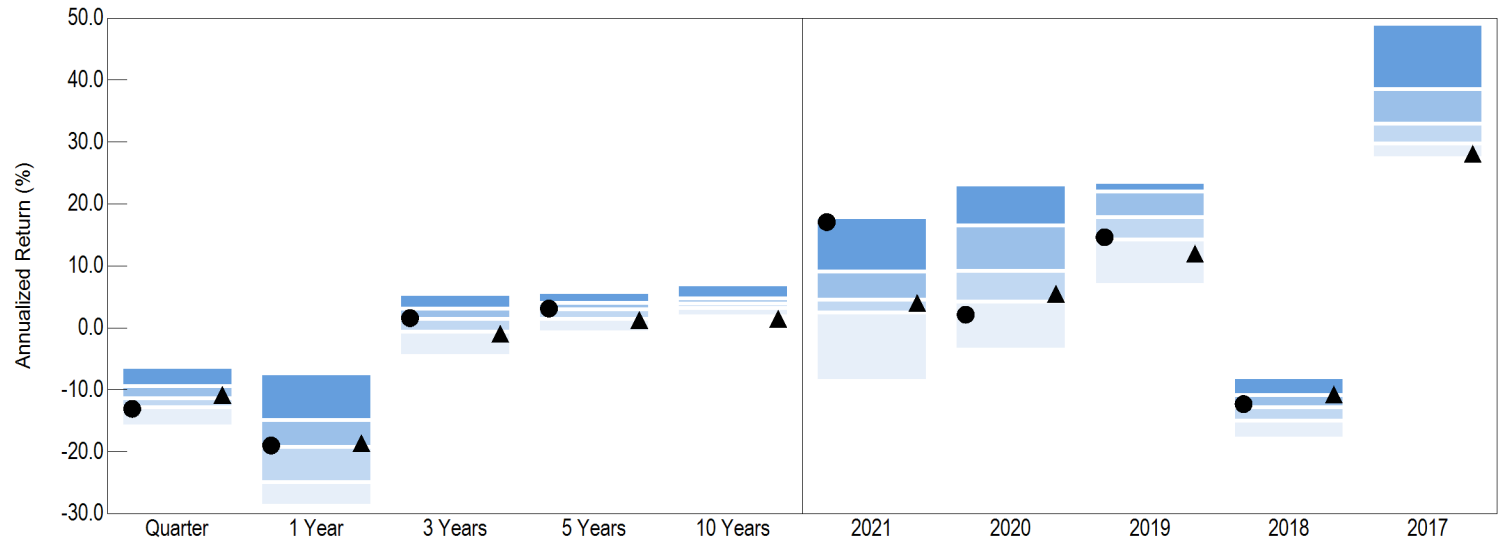
	End Weight	Return	Contribution
VEDANTA LTD	1.82	-42.26	-0.77
ITAU UNIBANCO HOLDING PN	1.84	-23.54	-0.43
MTN GROUP LTD	1.05	-37.89	-0.40
CEMEX SAB DE CV	1.26	-25.42	-0.32
KASIKORNBANK PUBLIC CO LTD	3.01	-10.41	-0.31
LG ELECTRONICS INC	0.96	-31.30	-0.30
NATIONAL ALUMINIUM CO LTD	0.64	-45.75	-0.29
SIAM COMMERCIAL BANK PUBLIC CO LTD	2.51	-11.31	-0.28
LENOVO GROUP LTD	1.92	-14.14	-0.27
BANCO DO BRASIL ON	3.06	-8.25	-0.25

Unclassified sector allocation includes cash allocations.

PIMCO RAE Emerging Markets
 Manager Performance Comparisons (Gross of Fees)

Period Ending: June 30, 2022

PIMCO RAE Emerging Markets vs. eV Emg Mkts All Cap Value Equity Gross Universe



	Return (Rank)												
5th Percentile	-6.3	-7.3	5.5	5.7	6.9	17.8	23.1	23.5	-7.9	49.0			
25th Percentile	-9.3	-14.8	3.1	4.0	4.8	9.1	16.6	22.1	-10.8	38.6			
Median	-11.3	-19.2	1.5	3.1	4.0	4.6	9.2	18.0	-12.7	33.0			
75th Percentile	-12.8	-24.9	-0.5	1.5	3.3	2.5	4.3	14.4	-14.9	29.8			
95th Percentile	-15.8	-28.6	-4.5	-0.7	1.9	-8.5	-3.4	7.0	-17.8	27.4			
# of Portfolios	38	38	34	28	17	35	37	33	36	37			
● PIMCO RAE Emerging Markets	-13.1 (82)	-19.0 (49)	1.6 (48)	3.1 (47)	-- (--)	17.1 (6)	2.1 (85)	14.6 (72)	-12.3 (44)	-- (--)			
▲ MSCI Emerging Markets Value NR	-10.8 (45)	-18.6 (44)	-1.0 (82)	1.2 (76)	1.5 (99)	4.0 (61)	5.5 (73)	12.0 (86)	-10.7 (25)	28.1 (90)			

TT Emerging Markets Manager Portfolio Overview

Period Ending: June 30, 2022

The Emerging Markets Unconstrained strategy aims to outperform its benchmark, MSCI Emerging Markets Index by 5% per annum over a three-year rolling period. It targets high returns and long term capital growth by investing in a focused portfolio of primarily equity and equity-related securities traded in the Emerging Markets.

Characteristics

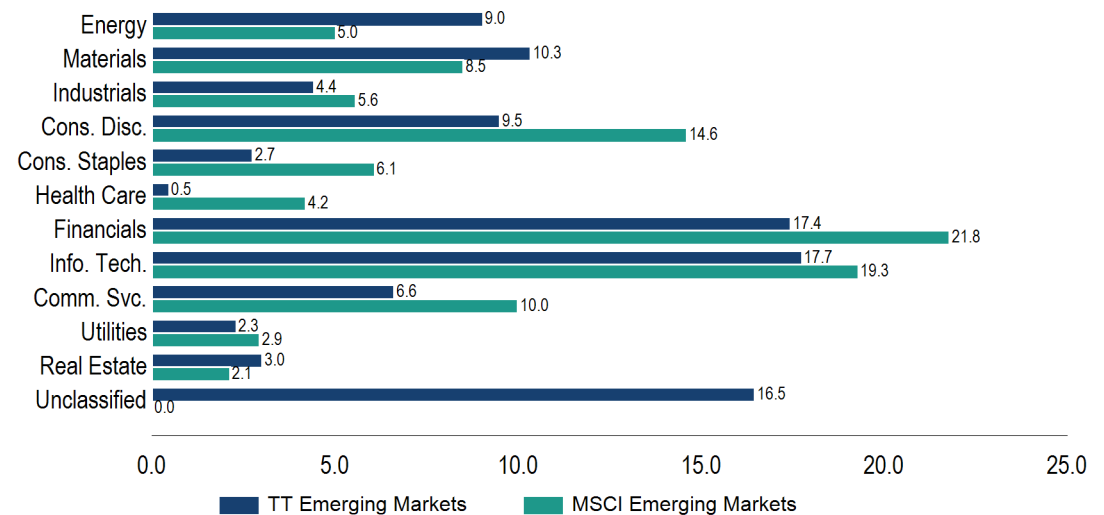
	Portfolio	MSCI Emerging Markets
Number of Holdings	68	1,290
Weighted Avg. Market Cap. (\$B)	135.80	109.98
Median Market Cap. (\$B)	19.41	6.25
Price To Earnings	10.76	11.05
Price To Book	2.25	2.46
Price To Sales	1.16	1.05
Return on Equity (%)	15.36	14.48
Yield (%)	2.72	3.34
Beta	1.19	1.00

Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	24.1%	0.0%
Emerging*	69.9%	100.0%
Frontier**	0.8%	0.0%
Top 10 Largest Countries		
China*	22.0%	34.5%
India*	12.1%	12.9%
Korea*	10.9%	11.4%
Taiwan*	10.7%	14.8%
Hong Kong	6.8%	0.0%
United States	5.8%	0.0%
Cash	5.2%	0.0%
Brazil*	4.7%	4.9%
United Kingdom	3.6%	0.0%
Netherlands	3.6%	0.0%
Total-Top 10 Largest Countries	85.5%	78.4%

Unclassified sector allocation includes cash allocations.

Sector Allocation (%) vs MSCI Emerging Markets



Top Contributors

	End Weight	Return	Contribution
KRANESHARES CSI CHINA INTERNET ETF	3.69	14.91	0.55
YIBIN WULIANGYE CO LTD	2.14	25.18	0.54
GEELY AUTOMOBILE HOLDINGS LTD	0.95	46.02	0.44
360 DIGITECH INC	2.51	15.99	0.40
CENTRAIS ELETRICAS BRASILEIRAS SA-ELETROBRAS	2.30	13.04	0.30
A-LIVING ORD H	1.16	19.27	0.22
EVE ENERGY CO LTD	1.53	14.38	0.22
ALIBABA GROUP HOLDING LTD	2.66	4.49	0.12
XTRACKERS HARVEST CSI 300 CHINA A-SHARES ETF	2.13	3.26	0.07

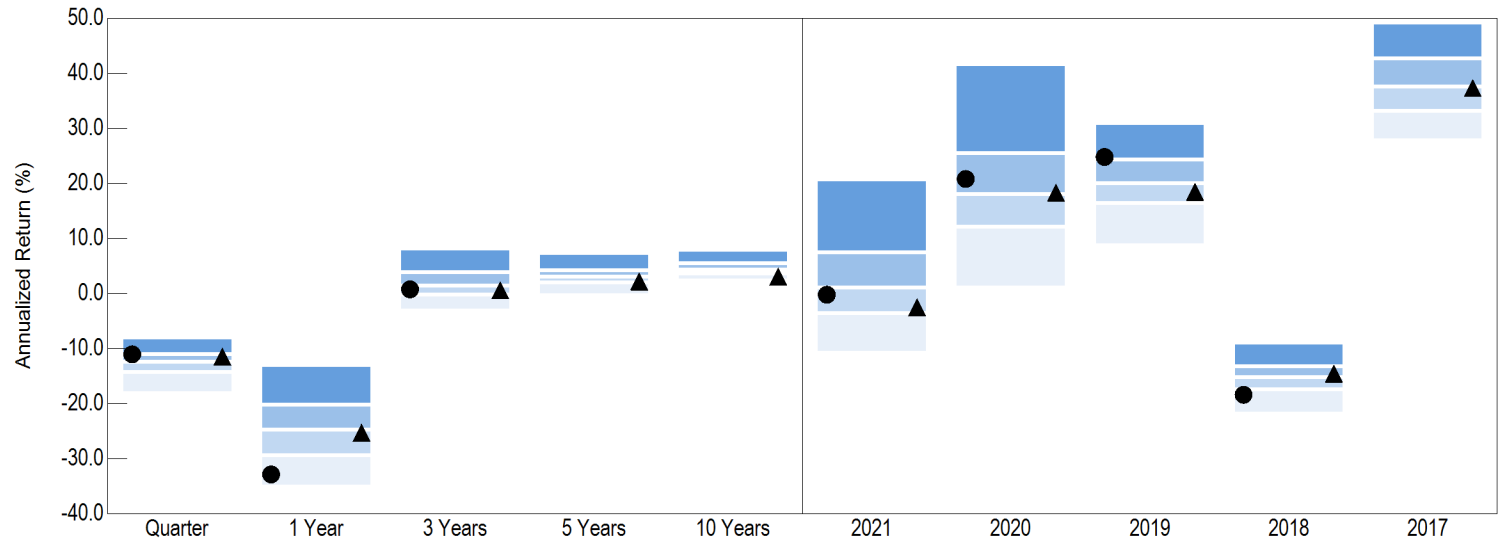
Bottom Contributors

	End Weight	Return	Contribution
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	8.69	-22.83	-1.98
BARRICK GOLD CORP	2.76	-27.18	-0.75
GLOBANT SA	1.50	-33.61	-0.50
SAMSUNG ELECTRONICS CO LTD	2.20	-22.09	-0.49
KB FINANCIAL GROUP INC	1.53	-26.36	-0.40
POSCO HOLDINGS INC	1.59	-24.98	-0.40
CEMEX SAB DE CV	1.44	-25.90	-0.37
PIRAMAL ENTERPRISES LTD	1.30	-27.29	-0.36
SAMSUNG ELECTRONICS CO LTD	1.49	-22.74	-0.34

TT Emerging Markets
 Manager Performance Comparisons (Gross of Fees)

Period Ending: June 30, 2022

TT Emerging Markets vs. eV Emg Mkts Equity Gross Universe



	Return (Rank)															
5th Percentile	-8.0	-13.0	8.1	7.3	7.9	20.7	41.6	30.9	-9.0	49.2						
25th Percentile	-11.0	-20.1	3.9	4.3	5.5	7.5	25.5	24.4	-13.2	42.8						
Median	-12.3	-24.6	1.5	3.1	4.4	1.2	18.2	20.1	-15.2	37.6						
75th Percentile	-14.2	-29.3	-0.1	2.1	3.6	-3.5	12.2	16.5	-17.4	33.2						
95th Percentile	-18.0	-35.0	-3.1	-0.3	2.4	-10.7	1.2	8.8	-21.8	27.8						
# of Portfolios	399	399	365	324	218	391	391	386	355	343						
● TT Emerging Markets	-11.0 (27)	-32.9 (91)	0.7 (64)	-- (--)	-- (--)	-0.2 (58)	20.8 (39)	24.8 (24)	-18.4 (83)	-- (--)						
▲ MSCI Emerging Markets	-11.4 (36)	-25.3 (55)	0.6 (67)	2.2 (71)	3.1 (86)	-2.5 (71)	18.3 (49)	18.4 (63)	-14.6 (43)	37.3 (53)						

Global Equity Managers

Artisan Partners Manager Portfolio Overview

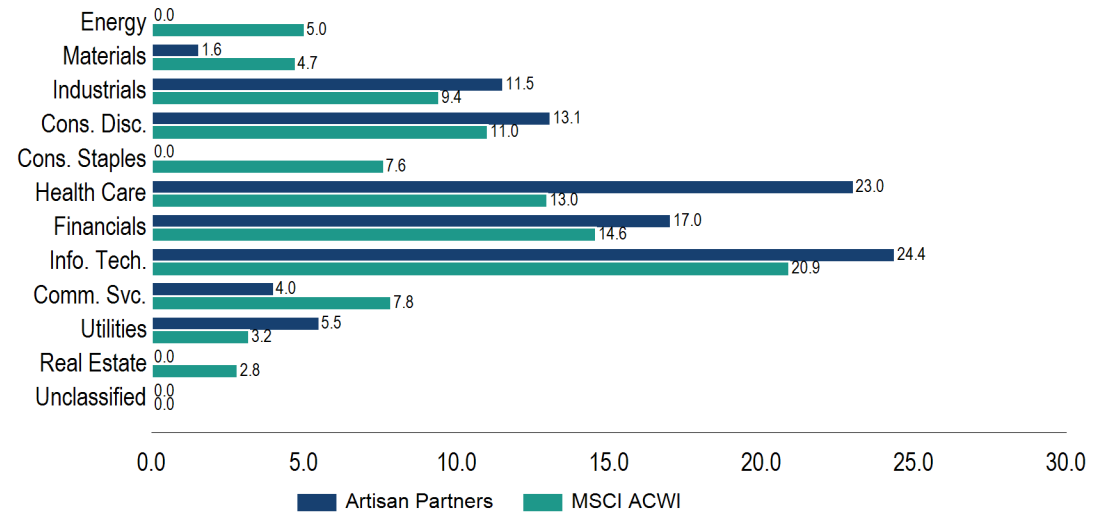
Period Ending: June 30, 2022

Global equity portfolio of companies that is benchmark agnostic with accelerating profit cycles and a focus on capital allocation. Primary personnel include James Hamel, Craig Cepukenas, and Matthew Kamm.

Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	43	2,795
Weighted Avg. Market Cap. (\$B)	157.95	313.29
Median Market Cap. (\$B)	39.69	11.91
Price To Earnings	22.40	15.76
Price To Book	3.74	3.20
Price To Sales	3.43	1.65
Return on Equity (%)	12.45	22.04
Yield (%)	1.22	2.38
Beta	1.04	1.00

Sector Allocation (%) vs MSCI ACWI



Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	99.1%	88.5%
Emerging*	0.9%	11.5%
Top 10 Largest Countries		
United States	53.2%	60.8%
United Kingdom	8.8%	3.9%
Switzerland	8.6%	2.6%
Hong Kong	6.9%	0.8%
Sweden	4.6%	0.8%
Denmark	4.6%	0.7%
Australia	3.2%	1.9%
Japan	3.0%	5.5%
Canada	2.0%	3.2%
Netherlands	1.6%	1.0%
Total-Top 10 Largest Countries	96.4%	81.2%

Top Contributors

	Avg Wgt	Return	Contribution
AIA GROUP LTD	1.61	4.39	0.07
ASTRAZENECA PLC	2.20	-1.47	-0.03
NEXTERA ENERGY INC	0.59	-8.06	-0.05
FORTIVE CORP	0.49	-10.65	-0.05
CIE FINANCIERE RICHEMONT AG, ZUG	0.51	-16.92	-0.09
VEEVA SYSTEMS INC	1.32	-6.79	-0.09
GENMAB A/S	1.58	-12.16	-0.19
FIDELITY NATIONAL INFORMATION SERVICES INC	2.35	-8.28	-0.19
TECHTRONIC INDUSTRIES CO LTD	0.59	-35.03	-0.21
LOWE'S COS INC	1.84	-13.27	-0.24

Bottom Contributors

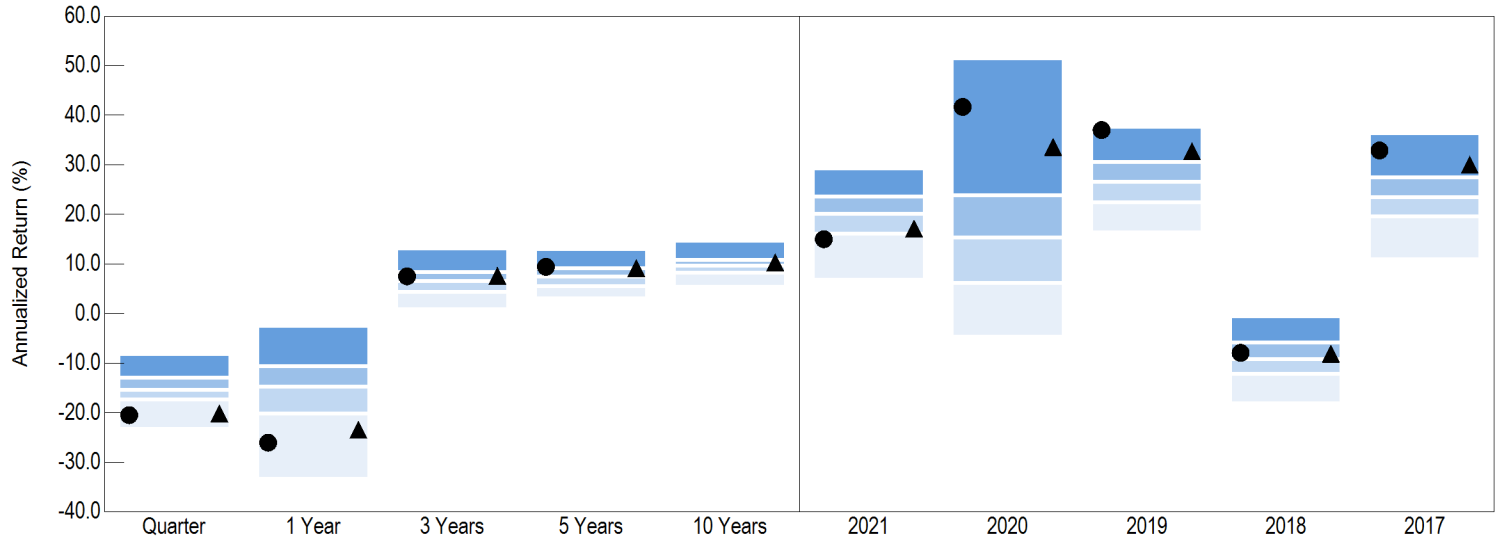
	Avg Wgt	Return	Contribution
SHOPIFY INC	5.22	-53.78	-2.81
UBER TECHNOLOGIES INC	4.07	-42.66	-1.74
ADVANCED MICRO DEVICES INC	5.40	-30.06	-1.62
AIRBNB INC	2.22	-48.14	-1.07
DEXCOM INC	2.47	-41.73	-1.03
MAGAZINE LUIZA S/A	1.46	-66.91	-0.98
ATLISSIAN CORP PLC	2.68	-36.22	-0.97
SPOTIFY TECHNOLOGY S.A	2.39	-37.87	-0.90
NU HOLDINGS LTD	1.65	-51.55	-0.85
CAYMAN ISLANDS	3.29	-21.65	-0.71

Unclassified sector allocation includes cash allocations.

Artisan Partners
 Manager Performance Comparisons (Gross of Fees)

Period Ending: June 30, 2022

Artisan Partners vs. eV All Global Equity Gross Universe

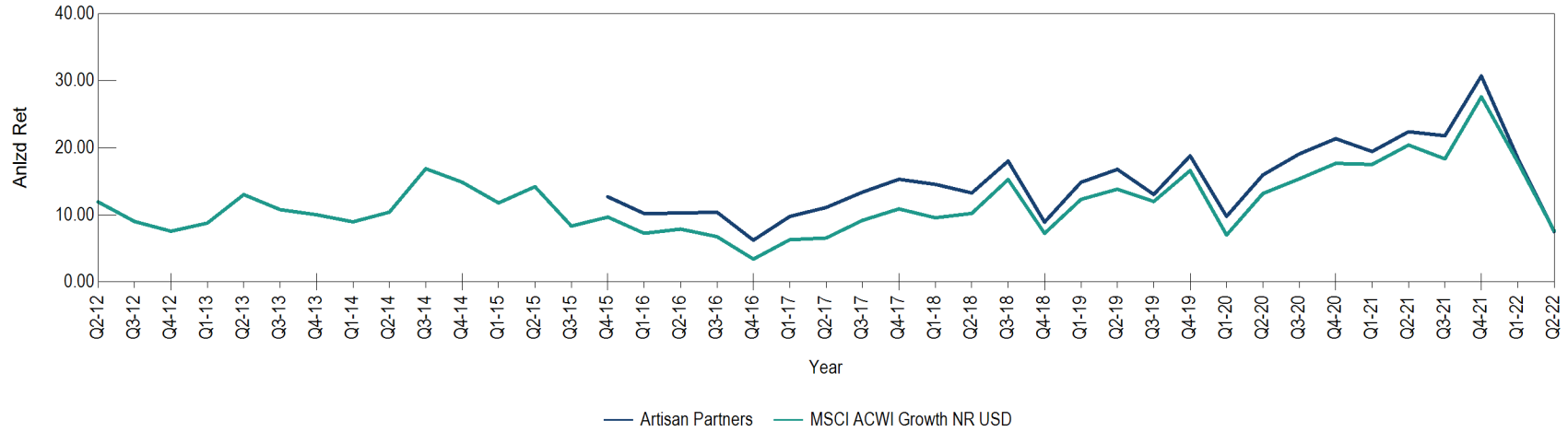


	Return (Rank)									
5th Percentile	-8.3	-2.5	13.1	12.9	14.6	29.2	51.5	37.6	-0.7	36.3
25th Percentile	-12.9	-10.6	8.5	9.2	10.9	23.7	24.0	30.7	-5.8	27.6
Median	-15.3	-14.8	6.6	7.5	9.7	20.2	15.4	26.6	-9.1	23.5
75th Percentile	-17.3	-20.1	4.4	5.6	8.2	16.2	6.3	22.6	-12.2	19.6
95th Percentile	-23.1	-33.2	1.0	3.1	5.5	6.9	-4.7	16.5	-18.1	11.0
# of Portfolios	1,159	1,155	1,053	943	633	1,141	1,093	989	920	880
● Artisan Partners	-20.5 (90)	-26.1 (87)	7.5 (35)	9.4 (24)	-- (--)	15.0 (80)	41.7 (9)	37.0 (7)	-7.9 (40)	32.9 (11)
▲ MSCI ACWI Growth NR USD	-20.2 (89)	-23.5 (83)	7.6 (35)	9.2 (27)	10.3 (37)	17.1 (71)	33.6 (14)	32.7 (17)	-8.1 (42)	30.0 (17)

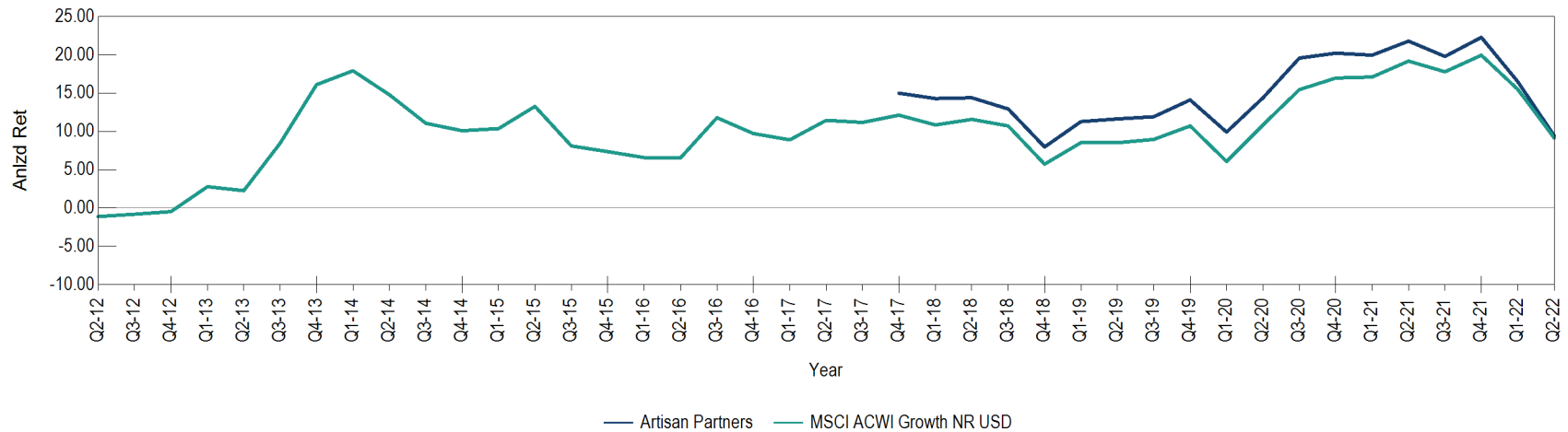
Artisan Partners
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: June 30, 2022

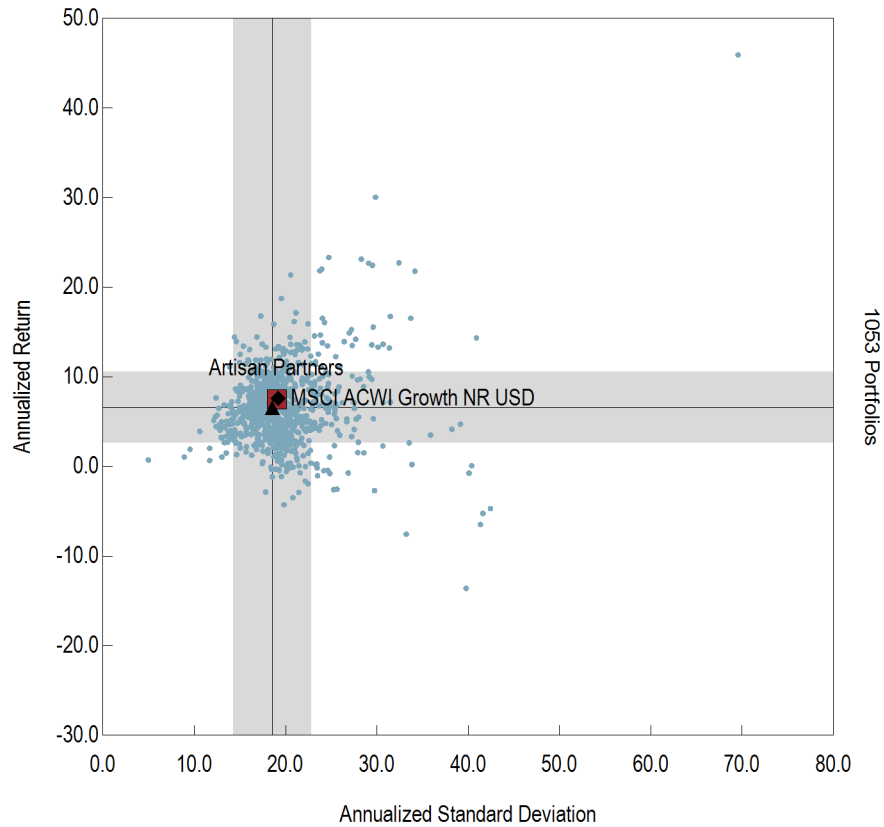
Rolling 3 Year Annualized Return (%)



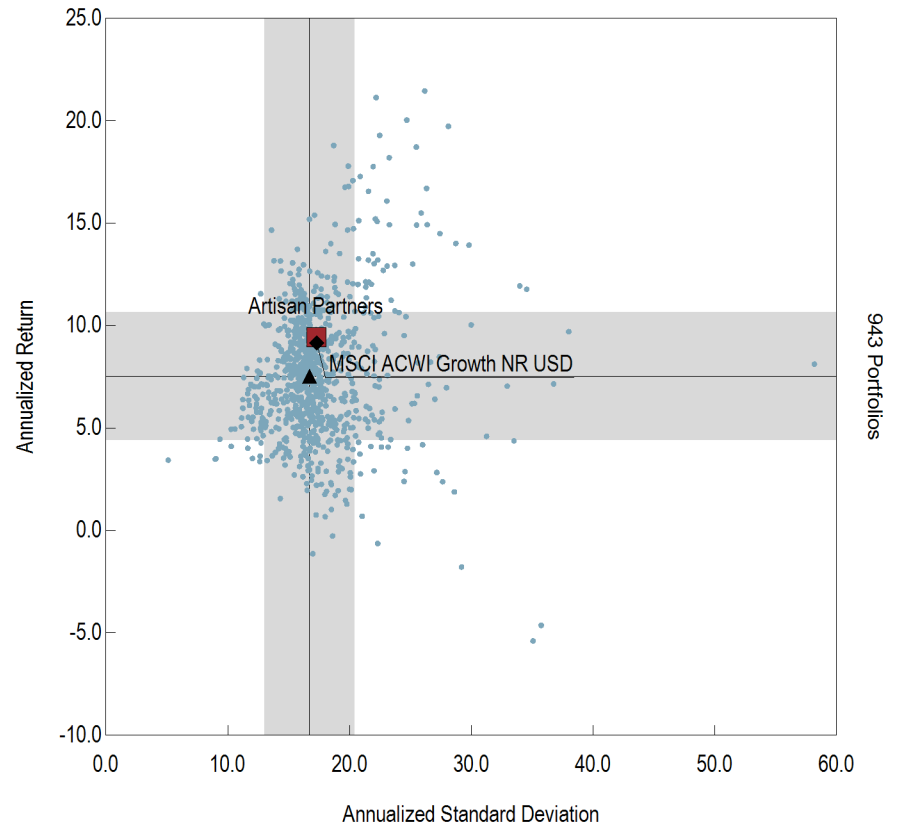
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Artisan Partners	7.5%	19.0%	0.4
MSCI ACWI Growth NR USD	7.6%	19.2%	0.4
eV All Global Equity Gross Median	6.6%	18.5%	0.3

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Artisan Partners	9.4%	17.3%	0.5
MSCI ACWI Growth NR USD	9.2%	17.3%	0.5
eV All Global Equity Gross Median	7.5%	16.7%	0.4

First Eagle Manager Portfolio Overview

Period Ending: June 30, 2022

Global equity portfolio that is benchmark agnostic comprised of companies with low valuations. Primary personnel include Matt McLennan and Kimball Brooker.

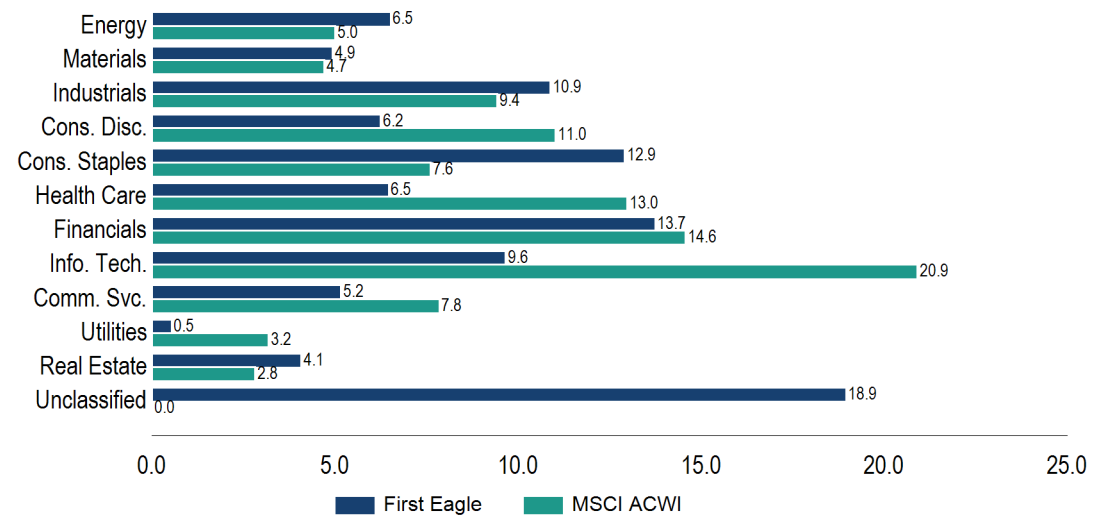
Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	141	2,795
Weighted Avg. Market Cap. (\$B)	130.18	313.29
Median Market Cap. (\$B)	26.00	11.91
Price To Earnings	14.65	15.76
Price To Book	2.24	3.20
Price To Sales	1.55	1.65
Return on Equity (%)	16.09	22.04
Yield (%)	2.29	2.38
Beta	0.73	1.00

Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	86.1%	88.5%
Emerging*	5.8%	11.5%
Top 10 Largest Countries		
United States	52.6%	60.8%
Cash	8.0%	0.0%
United Kingdom	7.7%	3.9%
Japan	7.6%	5.5%
Canada	4.2%	3.2%
France	3.7%	2.8%
Switzerland	2.8%	2.6%
Hong Kong	1.9%	0.8%
Korea*	1.7%	1.3%
Belgium	1.2%	0.2%
Total-Top 10 Largest Countries	92.6%	81.1%

Sector Allocation (%) vs MSCI ACWI



Top Contributors

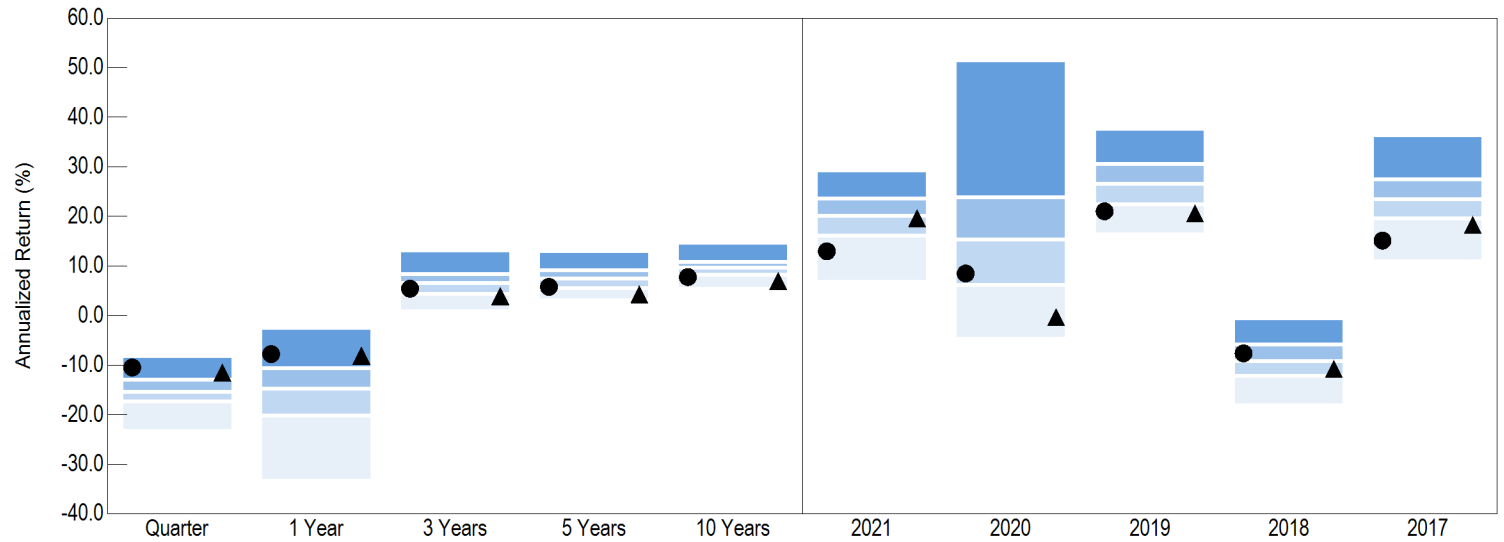
	End Weight	Return	Contribution
PROSUS ORD	0.92	21.04	0.19
EXXON MOBIL CORP	2.77	4.75	0.13
PHILIP MORRIS INTERNATIONAL INC	1.68	6.41	0.11
COLGATE-PALMOLIVE CO	1.31	6.29	0.08
BAE SYSTEMS PLC	0.67	9.17	0.06
DANONE	1.33	3.72	0.05
UGI CORP	0.53	7.56	0.04
CK ASSET HOLDINGS	0.58	6.68	0.04
BRITISH AMERICAN TOBACCO PLC	1.88	1.84	0.03
SANOFI	0.97	1.91	0.02

Bottom Contributors

	End Weight	Return	Contribution
SPDR GOLD TRUST	9.91	-6.75	-0.67
ORACLE CORP	3.08	-15.21	-0.47
HCA HEALTHCARE INC	1.17	-32.73	-0.38
META PLATFORMS INC	1.39	-27.48	-0.38
COMCAST CORP	1.93	-15.72	-0.30
NEWMONT CORPORATION	1.16	-24.28	-0.28
ALPHABET INC	1.11	-21.68	-0.24
UNIVERSAL HEALTH SERVICES INC.	0.76	-30.41	-0.23
GROUPE BRUXELLES LAMBERT SA	1.22	-17.80	-0.22
CIE FINANCIERE RICHEMONT AG, ZUG	1.28	-16.92	-0.22

Unclassified sector allocation includes cash allocations and Gold allocations (8.55% as of 6/30/2021).

First Eagle vs. eV All Global Equity Gross Universe

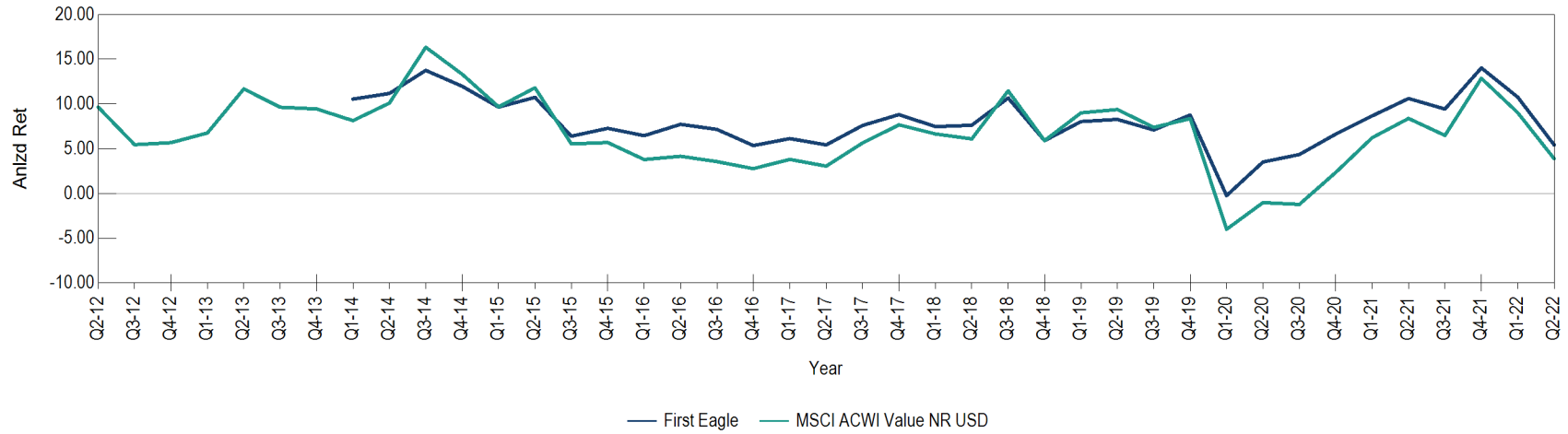


	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
5th Percentile	-8.3	-2.5	13.1	12.9	14.6	29.2	51.5	37.6	-0.7	36.3
25th Percentile	-12.9	-10.6	8.5	9.2	10.9	23.7	24.0	30.7	-5.8	27.6
Median	-15.3	-14.8	6.6	7.5	9.7	20.2	15.4	26.6	-9.1	23.5
75th Percentile	-17.3	-20.1	4.4	5.6	8.2	16.2	6.3	22.6	-12.2	19.6
95th Percentile	-23.1	-33.2	1.0	3.1	5.5	6.9	-4.7	16.5	-18.1	11.0
# of Portfolios	1,159	1,155	1,053	943	633	1,141	1,093	989	920	880
● First Eagle	-10.5 (13)	-7.8 (15)	5.4 (65)	5.8 (74)	7.8 (81)	13.0 (85)	8.5 (70)	21.0 (82)	-7.6 (38)	15.1 (89)
▲ MSCI ACWI Value NR USD	-11.5 (17)	-8.1 (15)	3.9 (81)	4.3 (90)	6.9 (89)	19.6 (55)	-0.3 (89)	20.6 (83)	-10.8 (65)	18.3 (81)

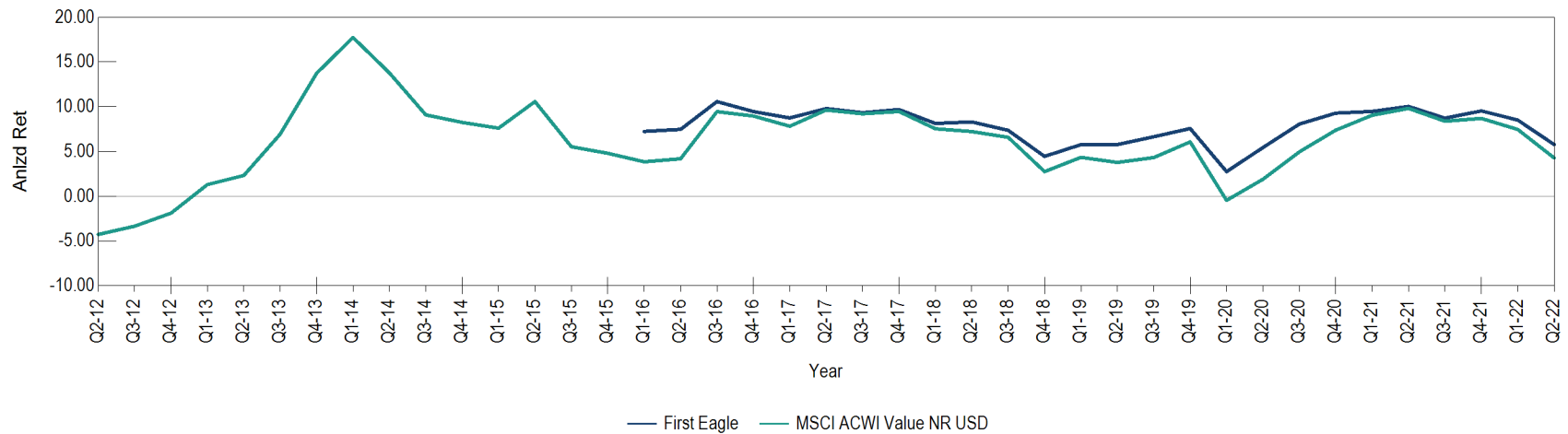
First Eagle
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: June 30, 2022

Rolling 3 Year Annualized Return (%)



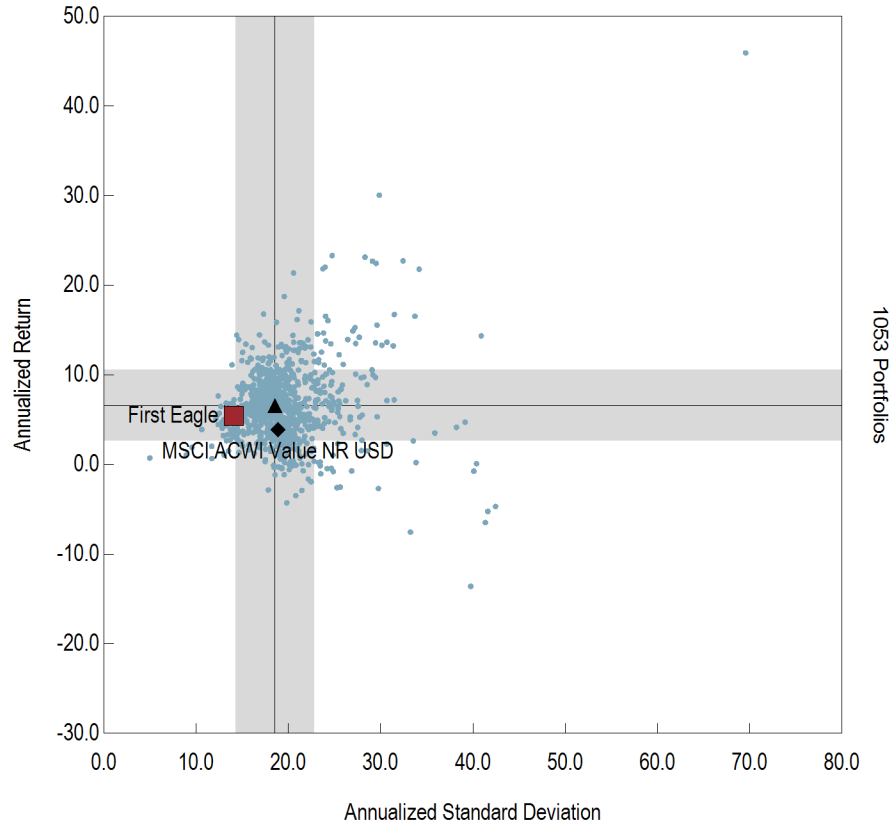
Rolling 5 Year Annualized Return (%)



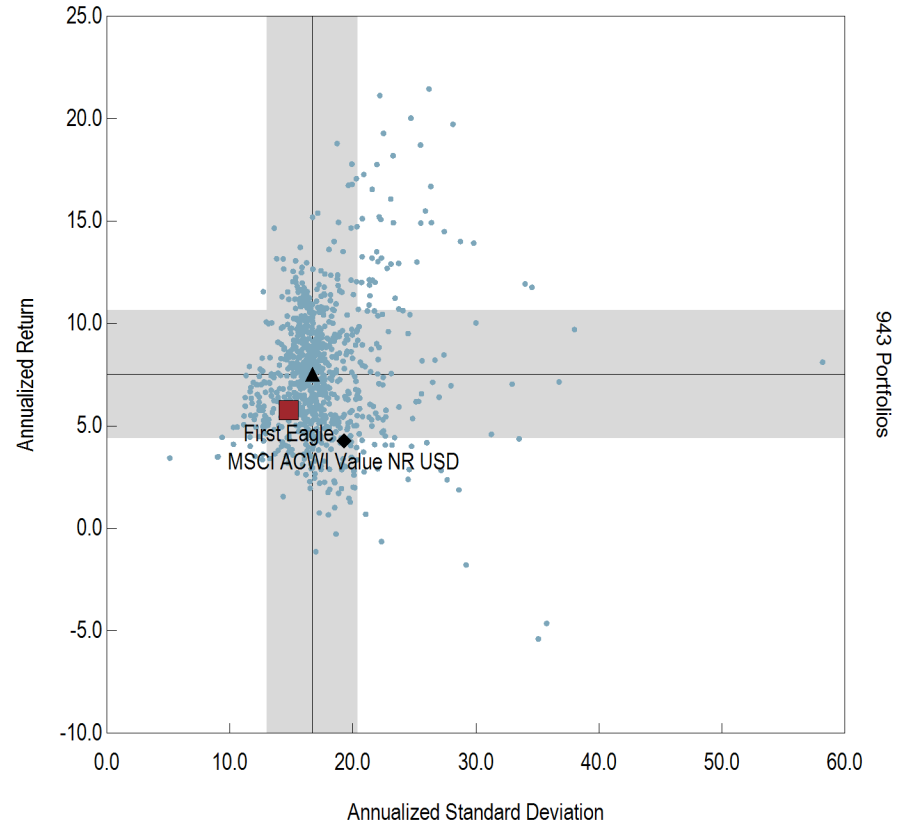
First Eagle
Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: June 30, 2022

3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
First Eagle	5.4%	14.1%	0.3
MSCI ACWI Value NR USD	3.9%	18.9%	0.2
eV All Global Equity Gross Median	6.6%	18.5%	0.3

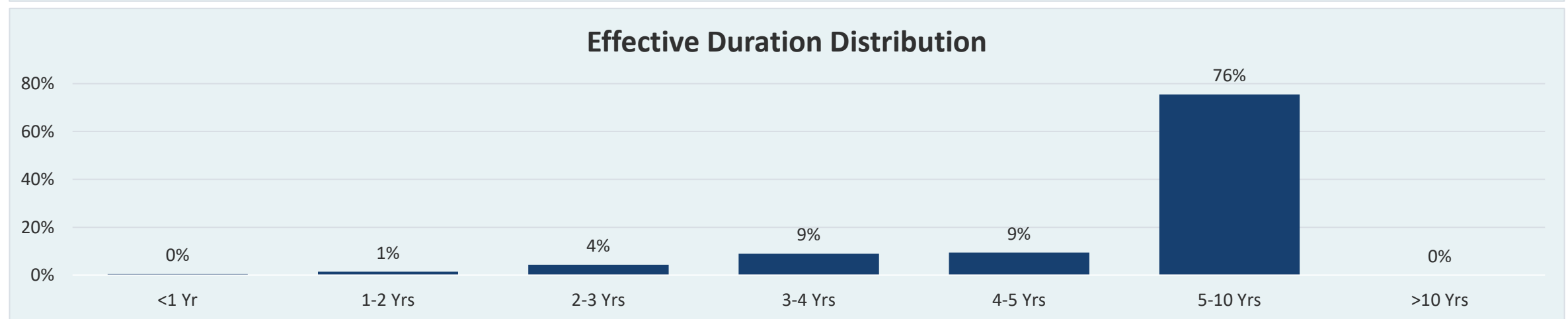
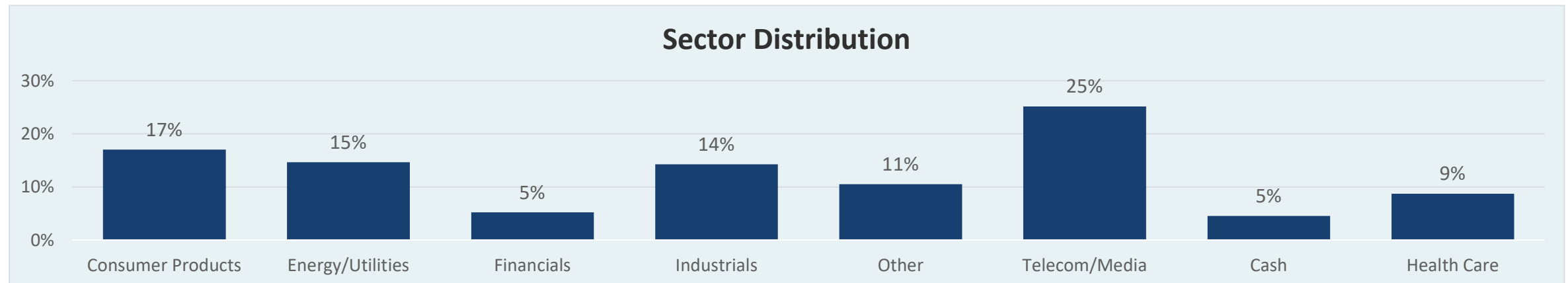
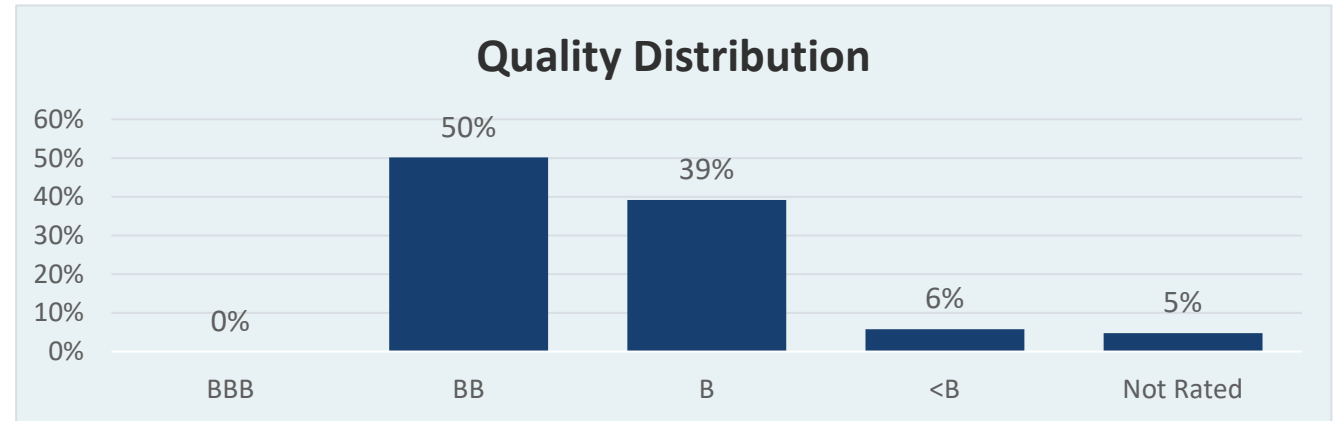
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
First Eagle	5.8%	12.5%	0.4
MSCI ACWI Value NR USD	4.3%	16.6%	0.2
eV All Global Equity Gross Median	7.5%	16.7%	0.4

High Yield Managers

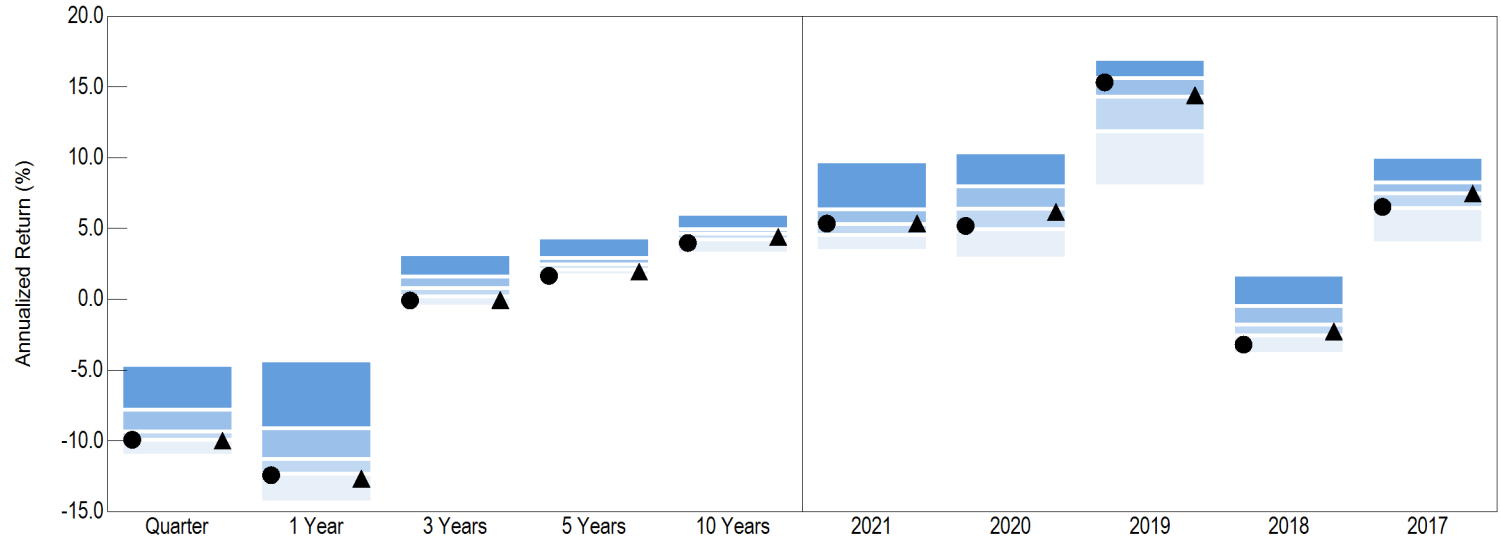
Domestic high yield fixed income portfolio with a focus on security selection. Primary personnel include Douglas Forsyth, Justin Kass, William Stickney, and Michael Yee.

	Allianz	ICE BofAML HY Master II
Effective Duration	4.60	4.50
Yield to Maturity	6.00	5.90
Average Quality	B1	B1
Average Coupon	6.1%	5.7%



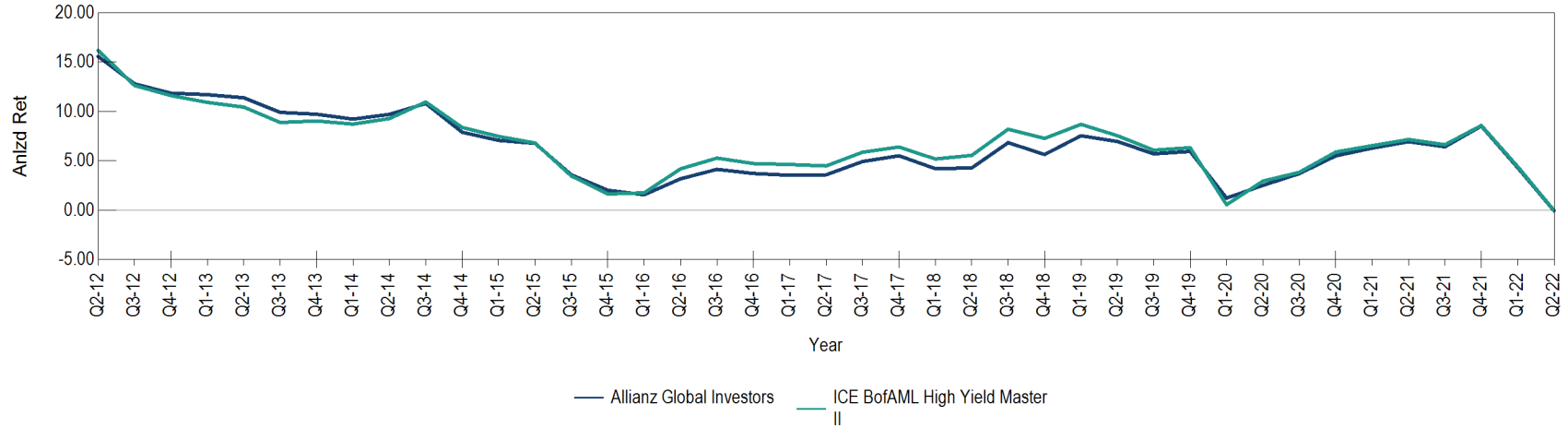
Quality distribution excludes cash.

Allianz Global Investors vs. eV US High Yield Fixed Inc Gross Universe

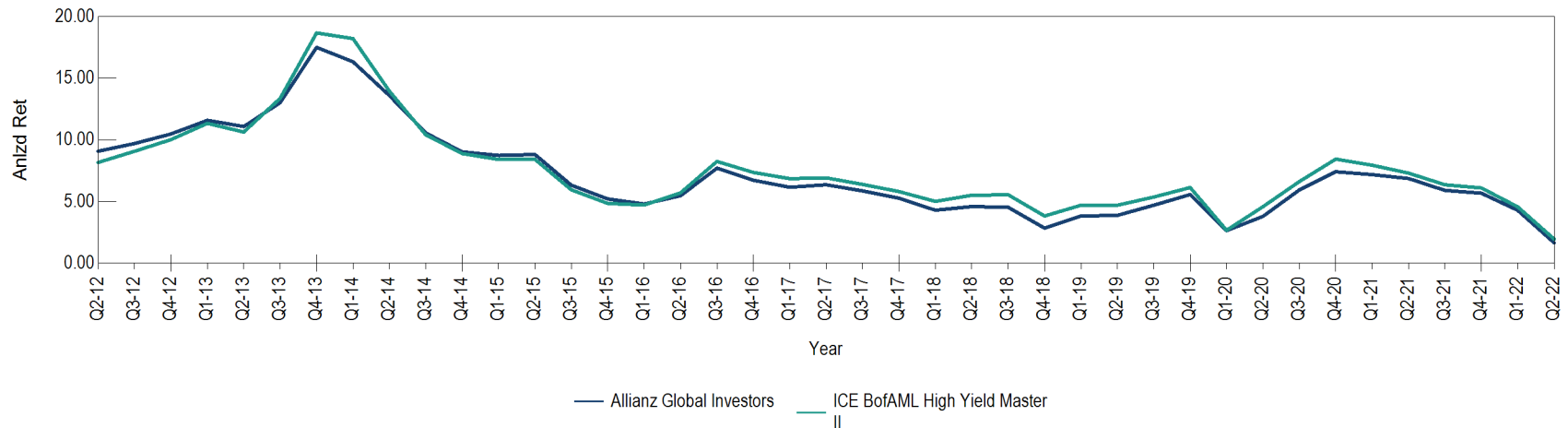


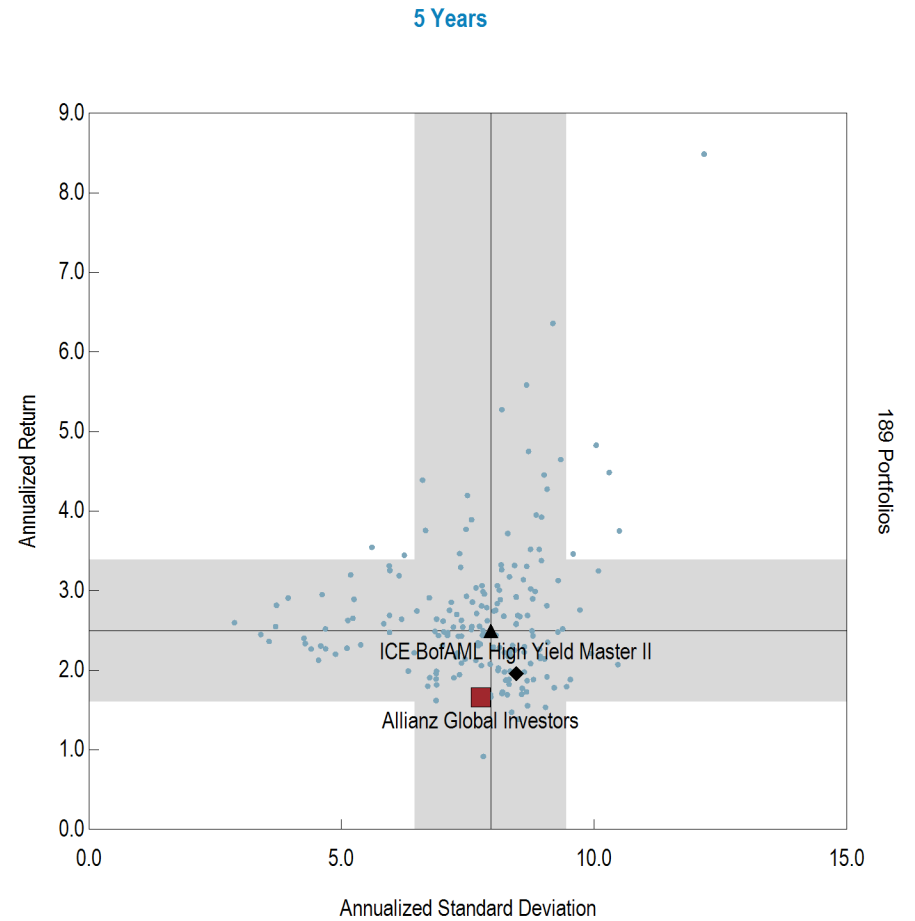
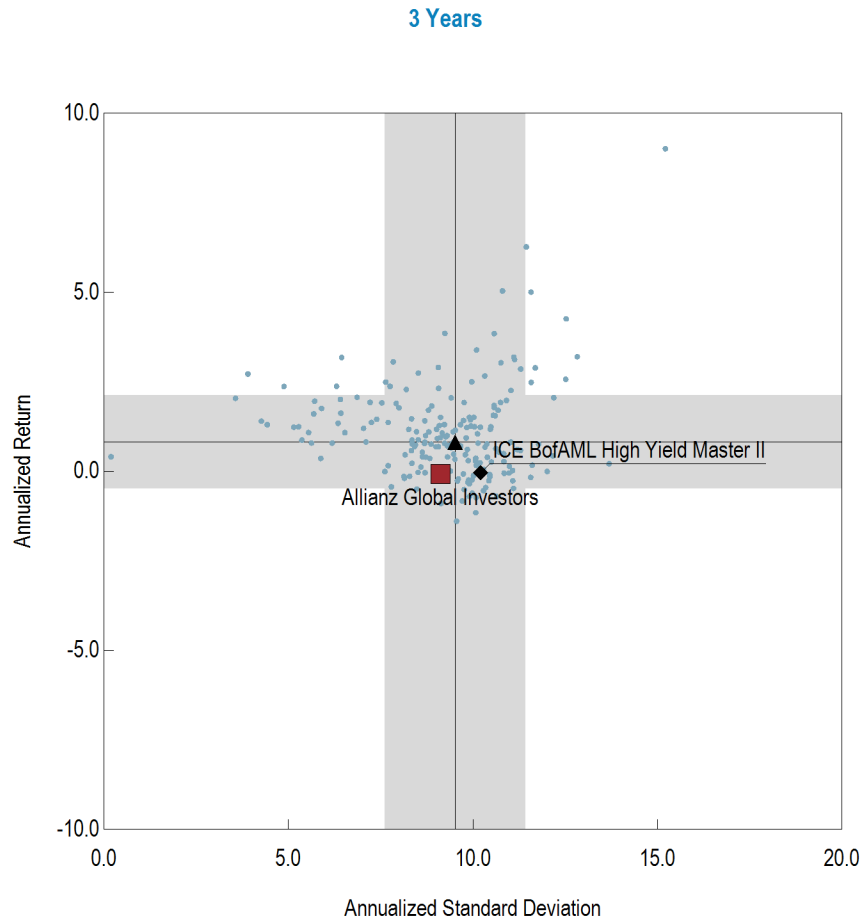
	Return (Rank)									
	Quarter	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
5th Percentile	-4.7	-4.3	3.2	4.3	6.0	9.7	10.3	16.9	1.7	10.0
25th Percentile	-7.8	-9.1	1.6	3.0	5.0	6.4	8.0	15.6	-0.5	8.3
Median	-9.3	-11.2	0.8	2.5	4.7	5.4	6.4	14.3	-1.8	7.5
75th Percentile	-9.9	-12.3	0.2	2.1	4.3	4.6	5.0	11.9	-2.5	6.5
95th Percentile	-11.0	-14.3	-0.5	1.7	3.3	3.4	2.9	8.0	-3.8	4.0
# of Portfolios	202	202	200	189	148	211	217	226	210	198
● Allianz Global Investors	-9.9 (77)	-12.4 (79)	-0.1 (85)	1.7 (97)	4.0 (84)	5.3 (51)	5.2 (74)	15.3 (31)	-3.2 (88)	6.5 (74)
▲ ICE BofAML High Yield Master II	-10.0 (78)	-12.7 (82)	0.0 (83)	2.0 (84)	4.4 (65)	5.4 (50)	6.2 (55)	14.4 (49)	-2.3 (69)	7.5 (53)

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Allianz Global Investors	-0.1%	9.1%	-0.1
ICE BofAML High Yield Master II	0.0%	10.2%	-0.1
eV US High Yield Fixed Inc Gross Median	0.8%	9.5%	0.0

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Allianz Global Investors	1.7%	7.8%	0.1
ICE BofAML High Yield Master II	2.0%	8.5%	0.1
eV US High Yield Fixed Inc Gross Median	2.5%	8.0%	0.2

Real Estate Managers

Adelante Manager Portfolio Overview

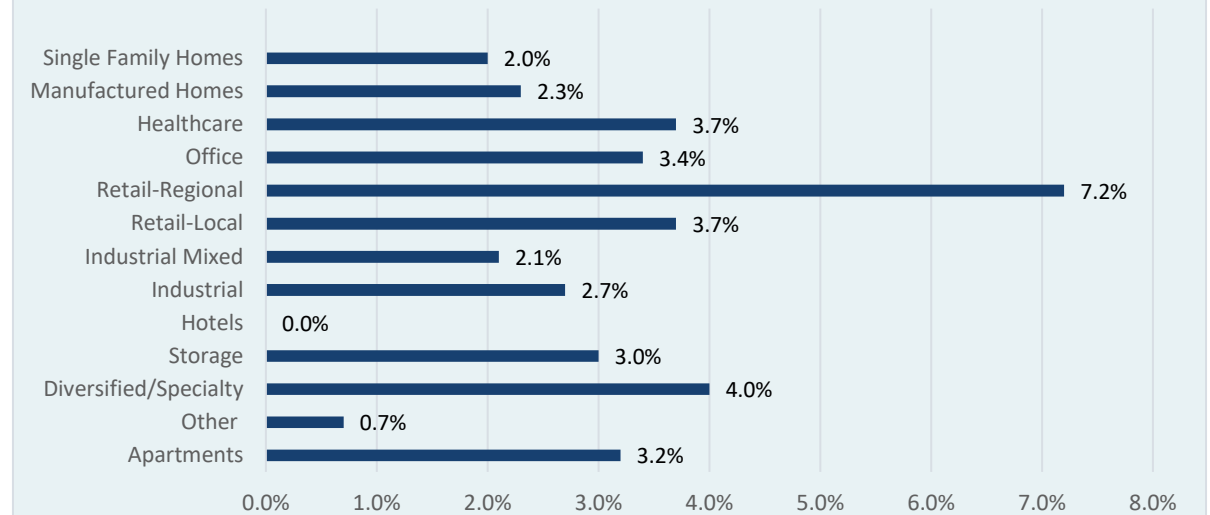
Period Ending: June 30, 2022

Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets

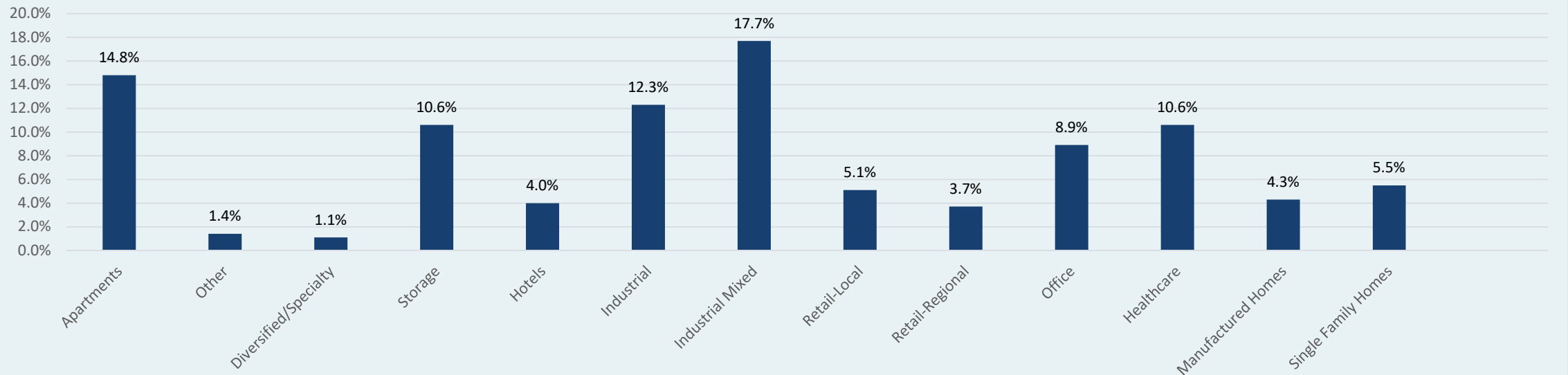
Top Five Holdings

Company	Property Type	Allocation
ProLogis Inc.	Industrial	10.9%
Equinix Inc	Industrial Mixed	8.6%
Public Storage	Storage	6.1%
Equity Residential	Apartments	5.8%
Duke Realty	Industrial Mixed	5.6%

Dividend Yield by Property Type



Property Type Allocation



2.7% is allocated to Cash and Cash Equivalents.

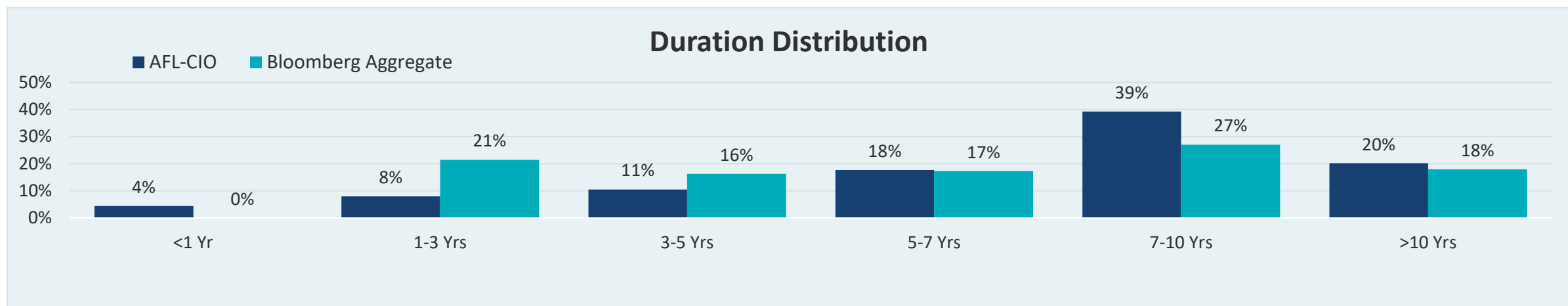
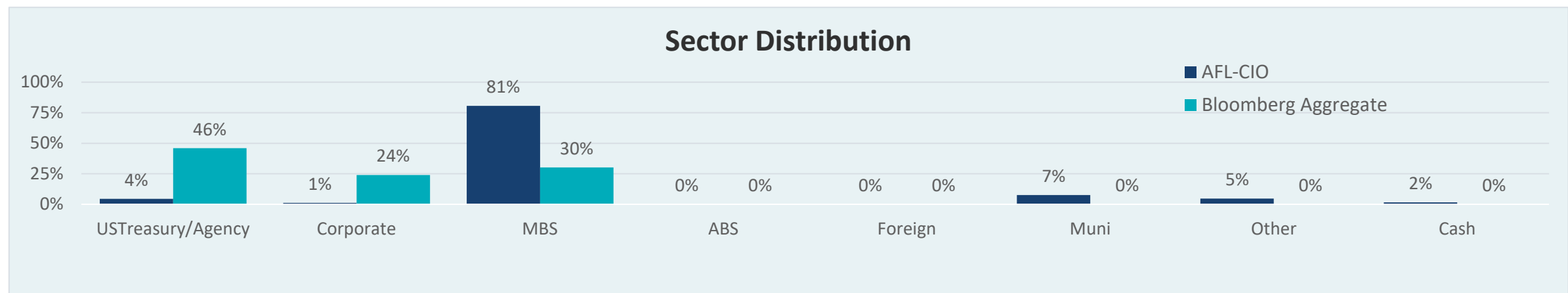
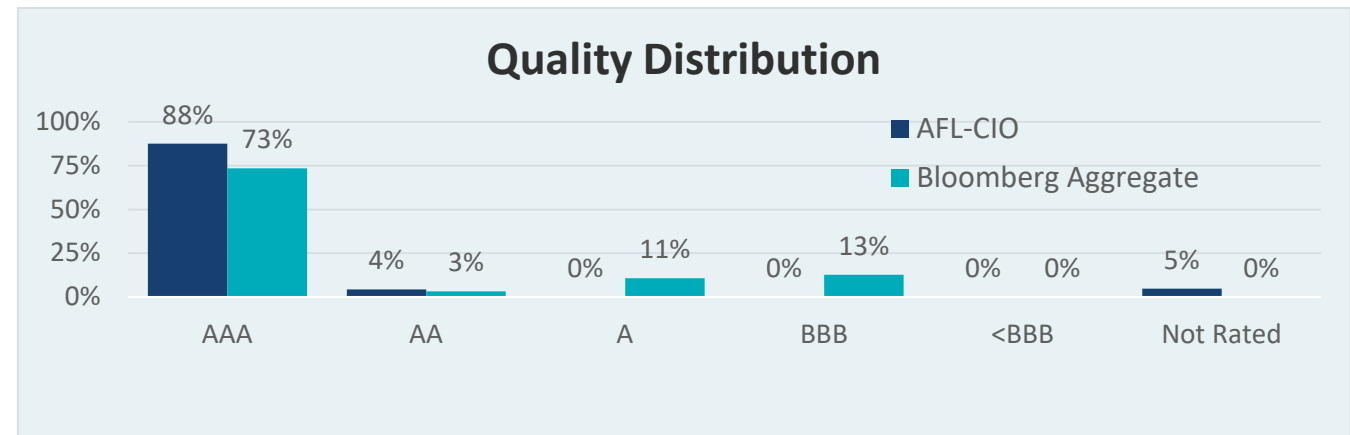
Diversifying Fixed Income Managers

AFL-CIO Manager Portfolio Overview

Period Ending: June 30, 2022

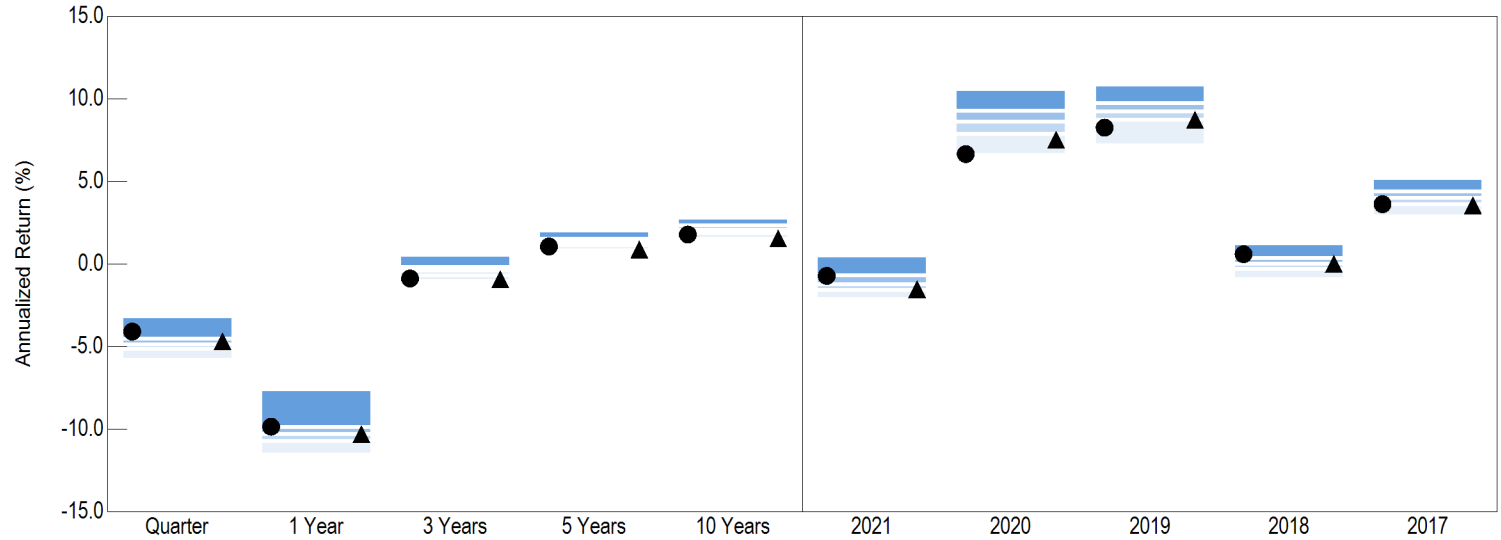
Domestic core fixed income portfolio with an exclusive focus on mortgage-related securities. Primary personnel include Stephen Coyle and Chang Su.

	AFL-CIO	Bloomberg Aggregate
Effective Duration	6.06	6.34
Yield to Maturity	2.79	3.67
Average Quality	AAA	AA
Average Coupon	2.6%	2.5%



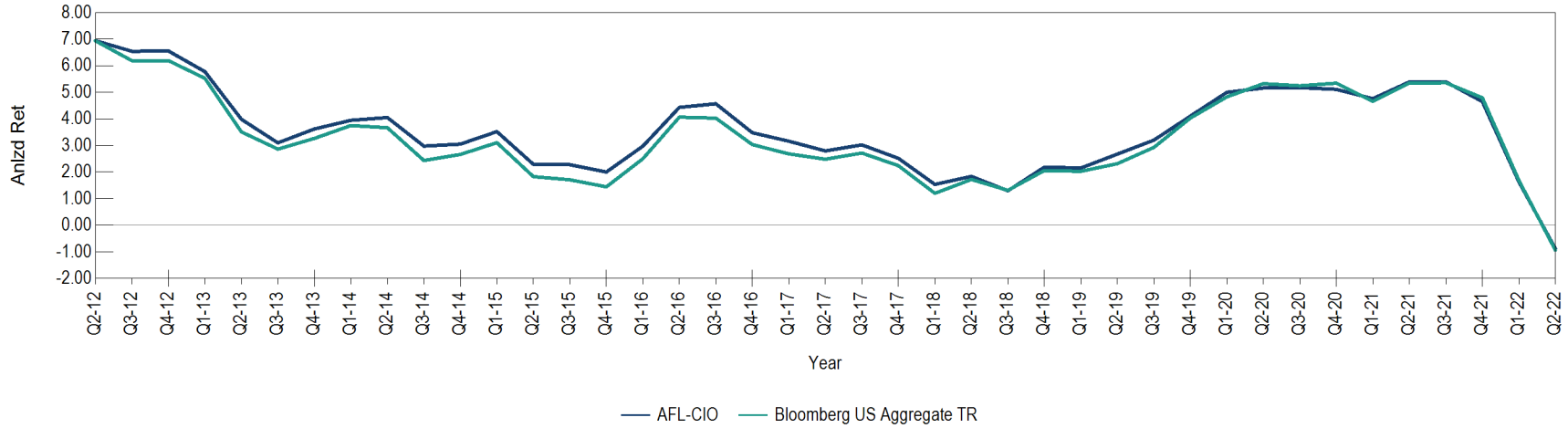
Duration and Quality distributions exclude cash.

AFL-CIO vs. eV US Core Fixed Inc Gross Universe

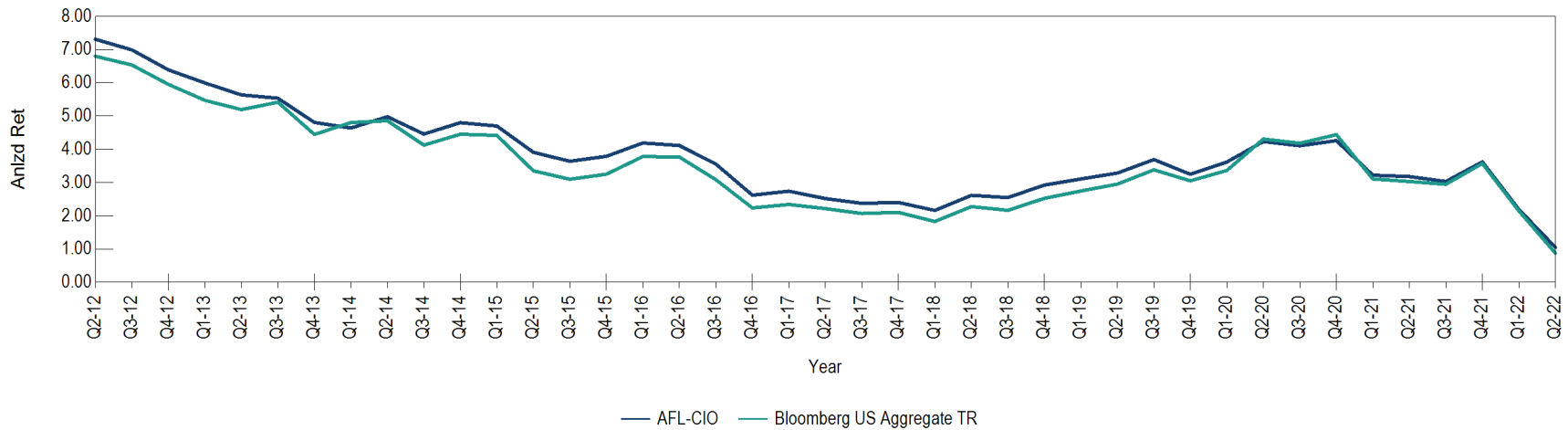


	Return (Rank)										
	Quarter	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017	
5th Percentile	-3.2	-7.6	0.5	2.0	2.8	0.5	10.6	10.9	1.2	5.2	
25th Percentile	-4.5	-9.8	-0.1	1.5	2.3	-0.7	9.3	9.8	0.4	4.4	
Median	-4.8	-10.3	-0.4	1.3	2.1	-1.2	8.6	9.3	0.0	4.0	
75th Percentile	-5.1	-10.7	-0.7	1.2	1.9	-1.5	7.9	8.7	-0.3	3.6	
95th Percentile	-5.8	-11.5	-1.0	0.9	1.5	-2.1	6.6	7.2	-0.9	2.9	
# of Portfolios	211	211	202	199	191	217	225	228	240	233	
● AFL-CIO	-4.1 (14)	-9.8 (26)	-0.9 (90)	1.0 (87)	1.8 (85)	-0.7 (30)	6.6 (95)	8.2 (88)	0.6 (16)	3.6 (76)	
▲ Bloomberg US Aggregate TR	-4.7 (39)	-10.3 (53)	-0.9 (93)	0.9 (94)	1.5 (95)	-1.5 (76)	7.5 (85)	8.7 (77)	0.0 (54)	3.5 (79)	

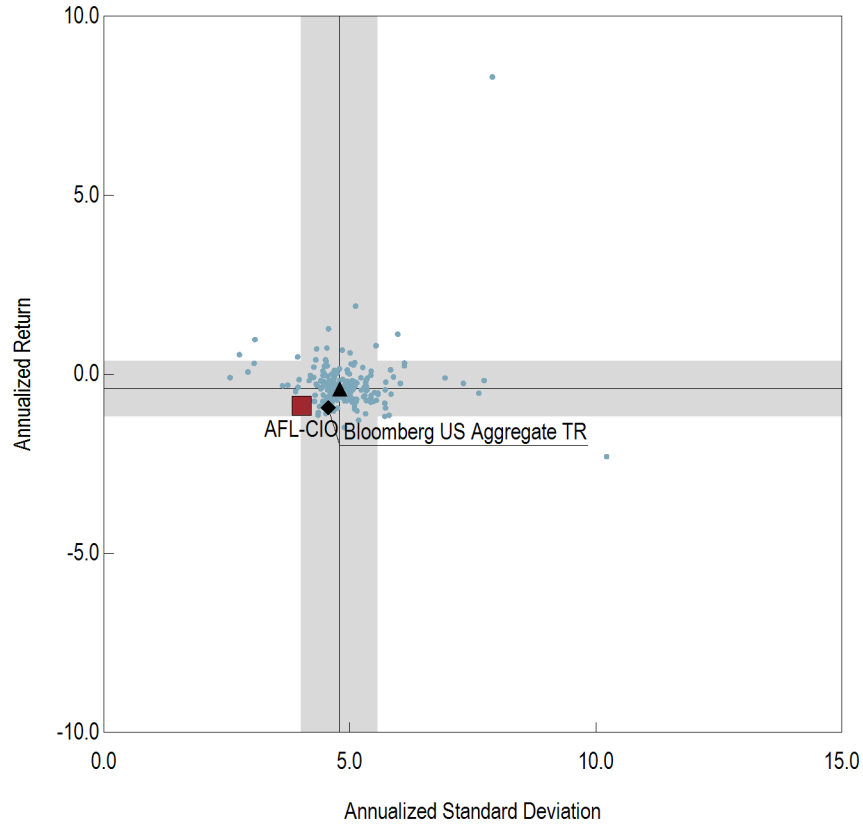
Rolling 3 Year Annualized Return (%)



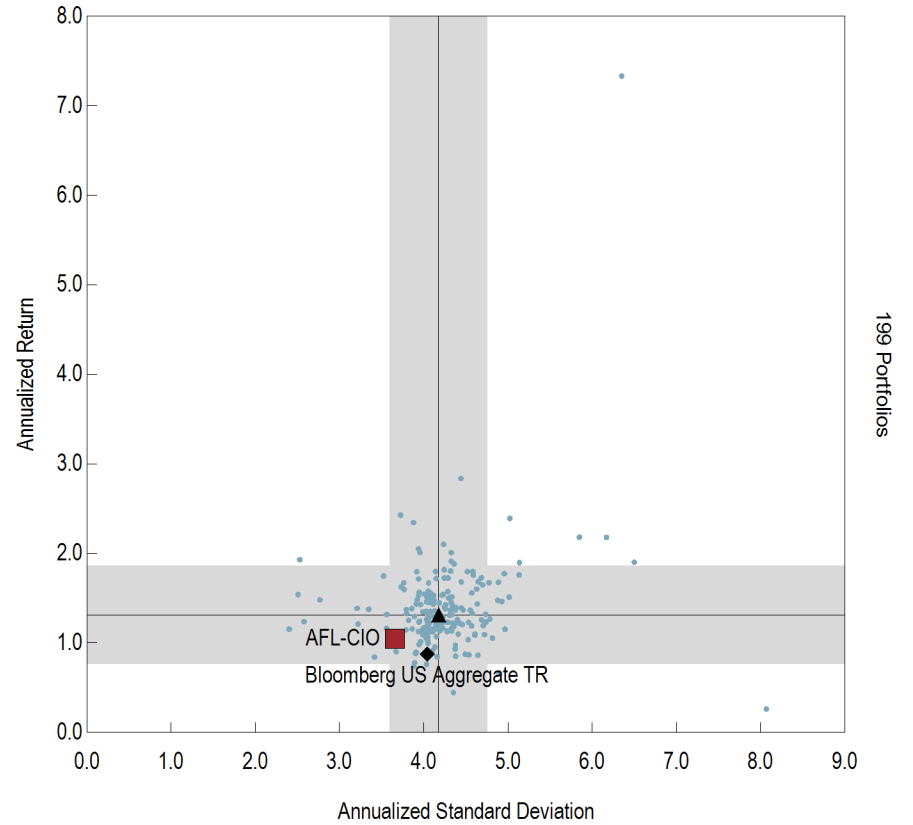
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
AFL-CIO	-0.9%	4.0%	-0.3
Bloomberg US Aggregate TR	-0.9%	4.6%	-0.3
eV US Core Fixed Inc Gross Median	-0.4%	4.8%	-0.2

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
AFL-CIO	1.0%	3.7%	0.0
Bloomberg US Aggregate TR	0.9%	4.0%	0.0
eV US Core Fixed Inc Gross Median	1.3%	4.2%	0.1

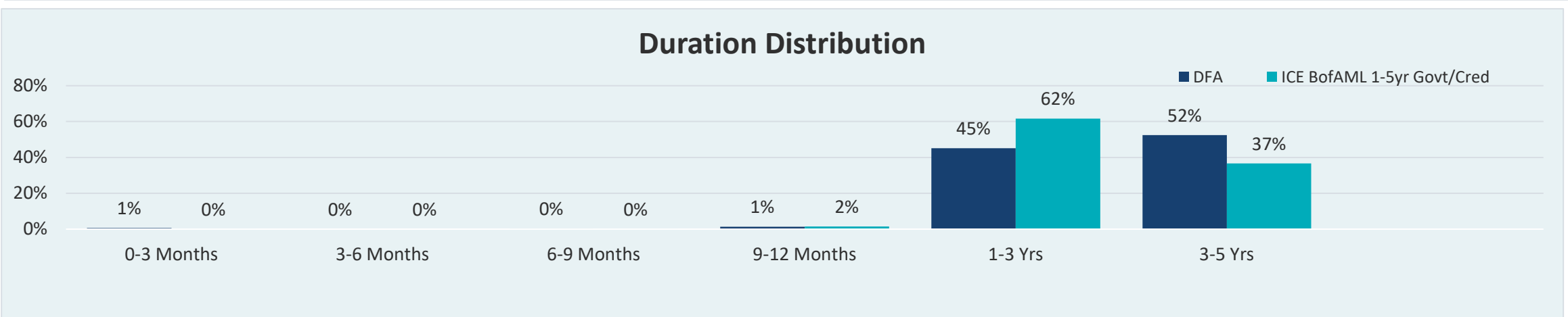
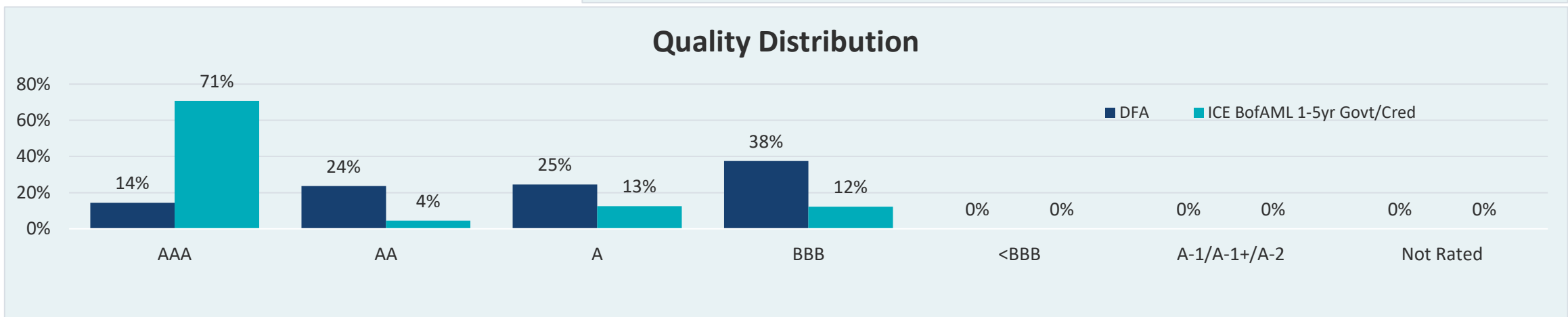
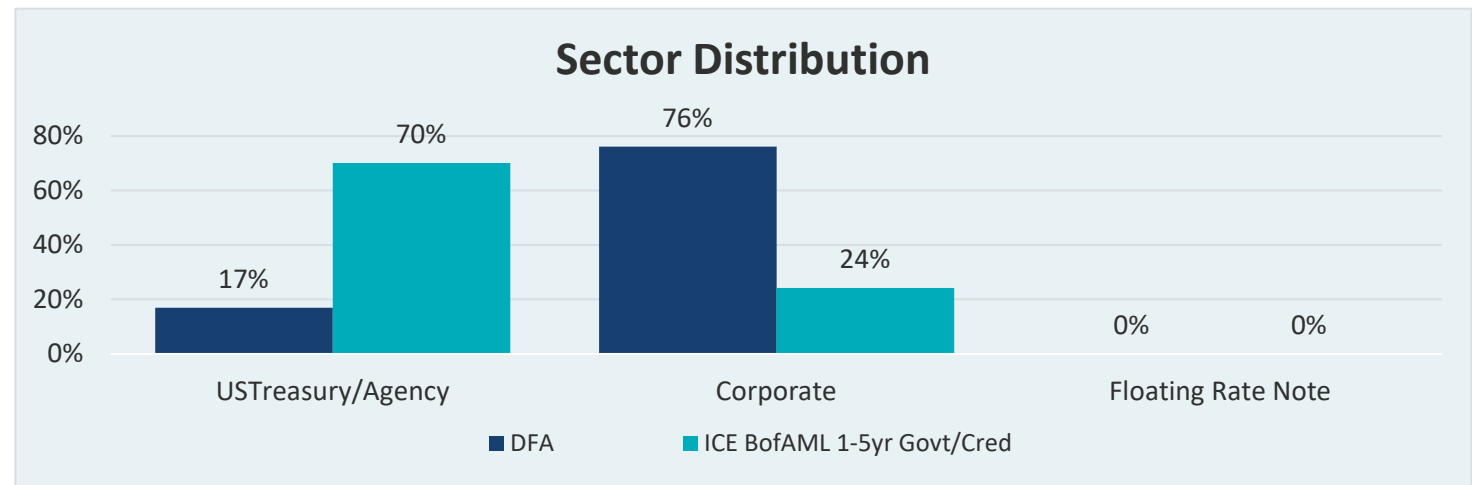
Liquidity Managers

DFA Short Credit Manager Portfolio Overview

Period Ending: June 30, 2022

Domestic short term US credit fixed income portfolio that maximizes total return through income and capital appreciation. Primary personnel include Dave Plecha and Joseph Kolerich.

	DFA	ICE BofAML 1-5yr Govt/Cred
Effective Duration	2.89	2.63
Yield to Maturity	4.04	3.33
Average Quality	A	AA+
Average Coupon	2.13%	1.96%

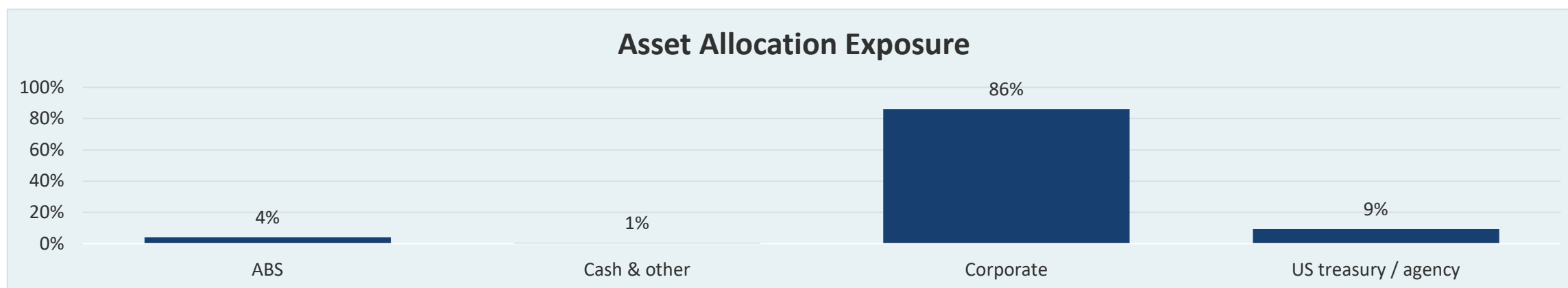
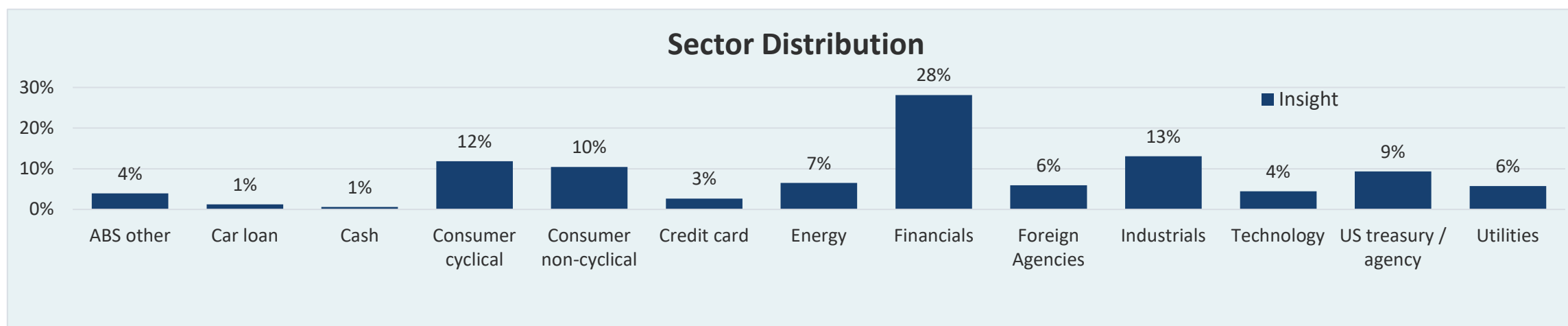
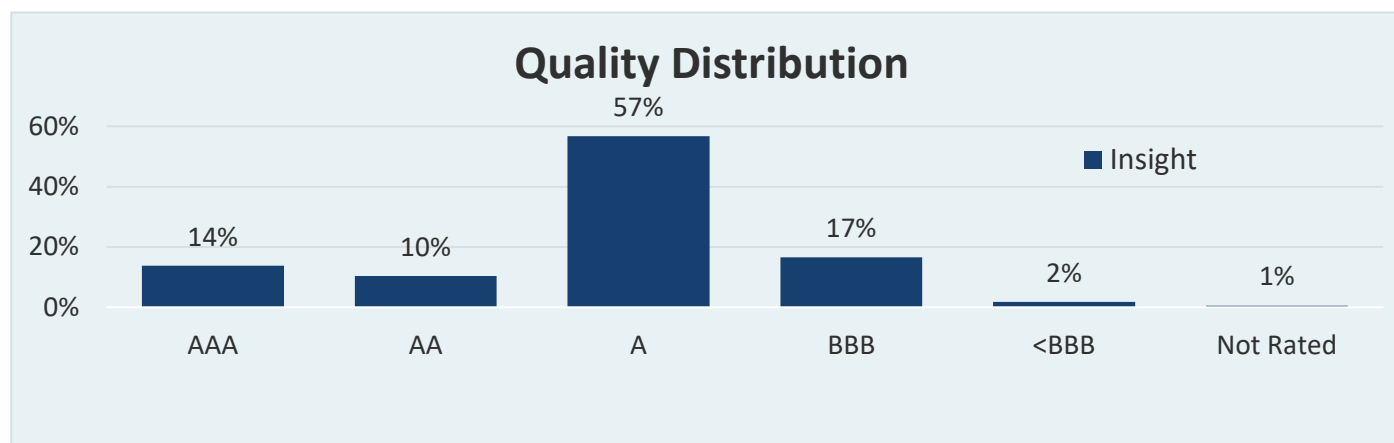


Insight Short Duration Manager Portfolio Overview

Period Ending: June 30, 2022

High quality, short duration multi-sector fixed income portfolio comprised of Treasuries, Agencies, investment grade corporates, and ABS designed specifically to meet CCCERA's liabilities. Key personnel include Gerard Berrigan and Jesse Fogarty.

	Insight	BBgBarc 1-3yr Govt
Effective Duration	0.94	1.90
Yield to Maturity	3.45	2.94
Average Quality	A	AAA
Average Coupon	2.69%	1.50%

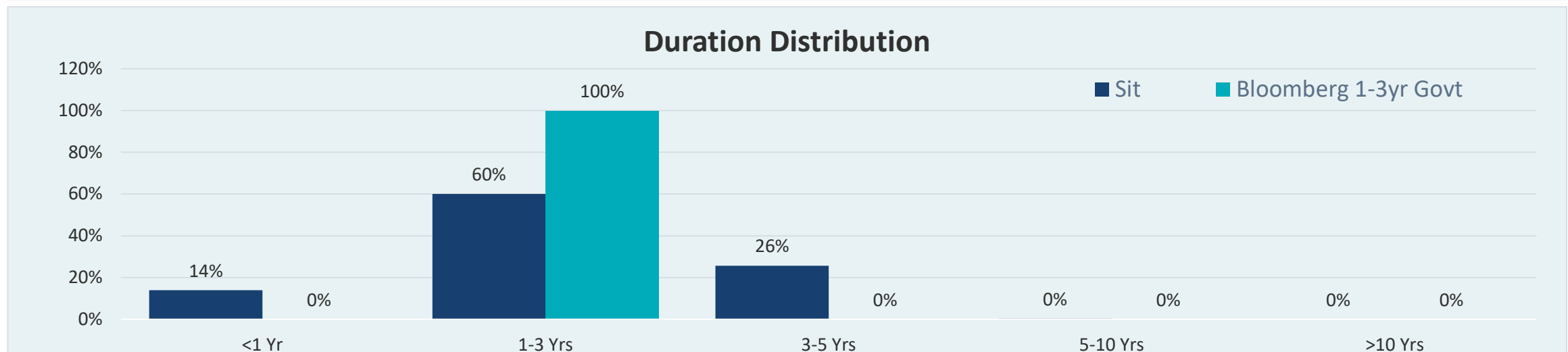
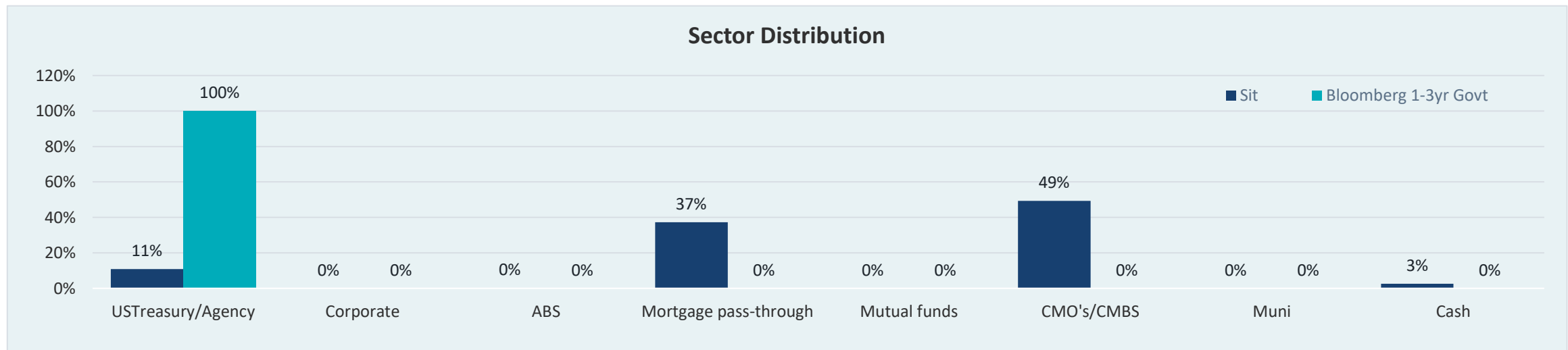
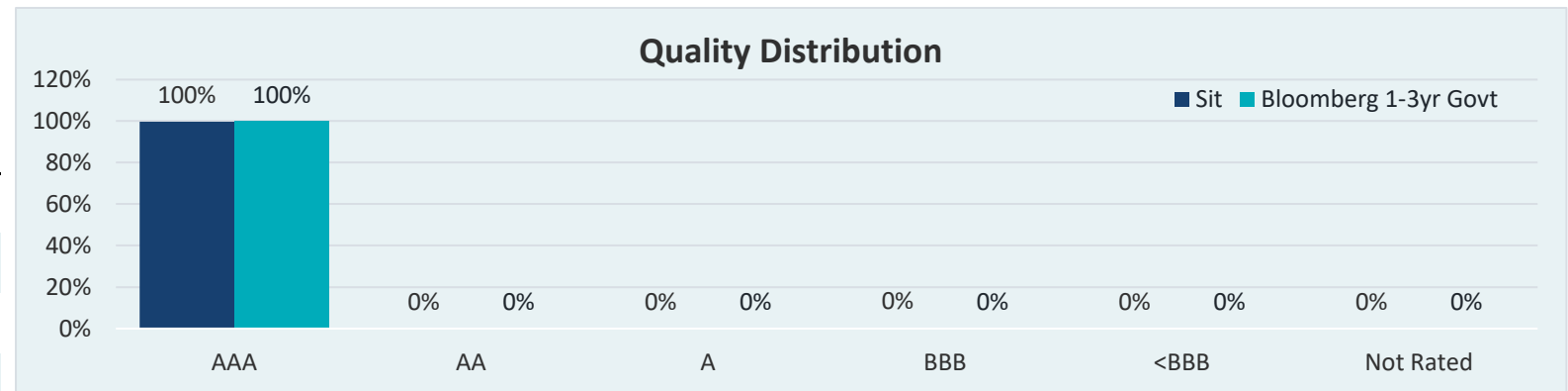


Sit Short Duration Manager Portfolio Overview

Period Ending: June 30, 2022

Short duration fixed income portfolio with a focus on earning high levels of interest income. Primary personnel include Bryce Doty, Paul Jungquist and Michael Brilley.

	Sit	BBgBarc 1-3yr Govt
Modified Duration	2.70	1.90
Yield to Maturity	5.10	2.94
Average Quality	AAA	AAA
Average Coupon	5.20%	1.50%



Performance Return Calculations

Performance is calculated using Modified Dietz and for time periods with large cash flow (generally greater than 10% of portfolio value), Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are geometrically linked 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.

Policy & Custom Index Composition

Policy Index (7/1/2021 - present)	16% Russell 3000, 16% MSCI ACWI ex-US (Gross), 9% MSCI ACWI (Net), 2% Wilshire REIT, 8% Private Real Estate composite returns, 3% CPI + 4%, 11% Private Equity composite returns, 8% Private Credit composite returns, 2% ICE BofAML High Yield Master II, 18% Bloomberg 1-3 Yr Gov/Credit, 2.5% Bloomberg US Aggregate, 3% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate, 1.5% HFRI EH Equity Market Neutral.
Policy Index (1/1/2021 - present)	9% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 8% Private Real Estate composite returns, 1.5% CPI + 4%, 11% Private Equity composite returns, 7% Private Credit composite returns, 1.5% ICE BofAML High Yield Master II, 25% Bloomberg 1-3 Yr Gov/Credit, 3% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2% HFRI EH Equity Market Neutral.
Policy Index (7/1/2020 - 12/31/2020)	9% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 1.5% CPI + 4%, 11% S&P 500 +4% (Lagged), 7% ICE BofAML High Yield Master II +2%, 1.5% ICE BofAML High Yield Master II, 25% Bloomberg 1-3 Yr Gov/Credit, 3% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2% HFRI EH Equity Market Neutral.
Policy Index (7/1/2019 - 6/30/2020)	10% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2% CPI + 4%, 11% S&P 500 +4% (Lagged), 5% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 23% Bloomberg 1-3 Yr Gov/Credit, 3.5% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2.5% HFRI EH Equity Market Neutral.
Policy Index (7/1/2018 - 6/30/2019)	11% Russell 3000, 19% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.8% NCREIF Property Index, 7.2% NCREIF ODCE Index, 2% CPI + 4%, 10% S&P 500 +4% (Lagged), 4% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 23% Bloomberg 1-3 Yr Gov/Credit, 3.5% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2.5% HFRI EH Equity Market Neutral.
Policy Index (10/1/2017 - 6/30/2018)	16.3% Russell 3000, 18.8% MSCI ACWI ex-US (Gross), 8.6% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2.5% CPI + 4%, 10.1% S&P 500 +4% (Lagged), 1.9% ICE BofAML High Yield Master II +2%, 4.3% ICE BofAML High Yield Master II, 25% Bloomberg 1-3 Yr Gov/Credit, 3.5% Bloomberg US Aggregate.
Policy Index (1/1/2017 - 9/30/2017)	22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI + 4%, 8.1% S&P 500 +4% (Lagged), 1.7% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML High Yield Master II, 22.4% Bloomberg 1-3 Yr Gov/Credit, 3.2% Bloomberg US Aggregate, 1.6% 91-Day T-Bills.
Policy Index (4/1/2012-12/31/2016)	27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% Bloomberg U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 13.5% Real Estate Benchmark, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.

Policy & Custom Index Composition (continued)

Policy Index (4/1/2011-3/31/2012)	31% Russell 3000, 10.4% MSCI EAFE (Gross), 9.6% MSCI ACWI (Net), 25% Bloomberg U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Policy Index (4/1/2010-3/31/2011)	35.6% Russell 3000, 10.4% MSCI EAFE (Gross), 5% MSCI ACWI (Net), 25% Bloomberg U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Policy Index (7/1/2009-3/31/2010)	40.6% Russell 3000, 10.4% MSCI EAFE (Gross), 25% Bloomberg U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Custom Growth Benchmark (7/1/2021 - present)	21.33% Russell 3000, 21.33% MSCI ACWI ex-US (Gross), 12% MSCI ACWI (Net), 2.67% Wilshire REIT, 10.67% Private Real Estate composite returns, 14.67% Private Equity composite returns, 10.67% Private Credit composite returns, 2.67% ICE BofAML High Yield Master II, 4% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate
Custom Growth Benchmark (1/1/2021 - 6/30/2021)	13.14% Russell 3000, 26.28% MSCI ACWI ex-US (Gross), 16.06% MSCI ACWI (Net), 1.46% Wilshire REIT, 11.68 Private Real Estate composite returns%, 16.06% Private Equity composite returns, 10.22% Private Credit composite returns, 2.19% ICE BofAML High Yield Master II, 2.92% Bloomberg Global Bond
Custom Growth Benchmark (7/1/2020 - 12/31/2020)	13.14% Russell 3000, 26.28% MSCI ACWI ex-US (Gross), 16.06% MSCI ACWI (Net), 1.46% Wilshire REIT, 2.34% NCREIF Property Index, 9.33% NCREIF ODCE Index, 16.06% S&P 500 +4% (Lagged), 10.22% ICE BofAML High Yield Master II +2%, 2.19% ICE BofAML High Yield Master II, 2.92% Bloomberg Global Bond
Custom Growth Benchmark (7/1/2019 - 6/30/20)	14.7% Russell 3000, 26.4% MSCI ACWI ex-US (Gross), 16.2% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.4% NCREIF Property Index, 9.4% NCREIF ODCE Index, 16.2% S&P 500 +4% (Lagged), 7.4% ICE BofAML High Yield Master II +2%, 2.9% ICE BofAML High Yield Master II, 2.9% Bloomberg Global Bond
Custom Growth Benchmark (7/1/2018 - 6/30/2019)	16.0% Russell 3000, 27.5% MSCI ACWI ex-US (Gross), 15.9% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.6% NCREIF Property Index, 10.4% NCREIF ODCE Index, 14.5% S&P 500 +4% (Lagged), 5.8% ICE BofAML High Yield Master II +2%, 2.9% ICE BofAML High Yield Master II, 2.9% Bloomberg Global Bond
Custom Growth Benchmark (9/30/2017- 6/30/2018)	23.6% Russell 3000, 27.2% MSCI ACWI ex-US (Gross), 12.5% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.3% NCREIF Property Index, 9.3% NCREIF ODCE Index, 14.6% S&P 500 +4% (Lagged), 2.8% ICE BofAML High Yield Master II +2%, 6.2% ICE BofAML High Yield Master II
Custom Growth Benchmark (1/1/2017-9/30/2017)	32.6% Russell 3000, 15.7% MSCI ACWI ex-US (Gross), 15.5% MSCI ACWI (Net), 1.4% Wilshire REIT, 2.4% NCREIF Property Index, 9.6% NCREIF ODCE Index, 1.6% CPI +4%, 11.5% S&P 500 +4% (Lagged), 2.4% ICE BofAML High Yield Master II +2%, 7.3% ICE BofAML High Yield Master II
Custom Growth Benchmark (Prior to 1/1/2017)	Weighted-average of the benchmarks of the sub-composites that make up the composite.
Custom Diversifying Benchmark (7/1/2021-present)	35.71% Bloomberg US Aggregate, 21.43% FTSE 3-Month T-bill +4%, 21.43 FTSE 3-Month T-bill +5%, 21.43% Bloomberg Barclays US Aggregate +1%
Custom Diversifying Benchmark (8/1/2020 - 6/30/2021)	46.15% Bloomberg US Aggregate, 30.77 FTSE 3-Month T-bill +4%, 23.08 FTSE 3-Month T-bill +5%.
Custom Diversifying Benchmark (7/1/2018 - 7/31/2020)	43.75% Bloomberg US Aggregate, 25% CPI + 4%, 31.25% HFRI EH Equity Market Neutral.
Custom Diversifying Benchmark (10/1/2017 - 6/30/2018)	58.33% Bloomberg US Aggregate, 41.67% CPI + 4%.
Custom Diversifying Benchmark (1/1/2017 - 9/30/2017)	56.1% Bloomberg US Aggregate, 43.9% CPI + 4%.
Custom Diversifying Benchmark (Prior to 1/1/2017)	Weighted-average of the benchmarks of the sub-composites that make up the composite.
Custom Diversifying Multi-Asset Benchmark (current)	50% FTSE 3-Month T-bill +5%, 50% Bloomberg Barclays US Aggregate +1%
Real Estate Benchmark (current)	20% Wilshire REIT, 80% Private Real Estate composite returns.
Real Estate Benchmark (4/1/2012-11/30/2016)	40% Wilshire REIT, 50% NCREIF Property Index, 10% FTSE/EPRA NAREIT Developed ex-US.

Manager Line Up					
Manager	Inception Date	Data Source	Manager	Inception Date	Data Source
BlackRock Russell 1000 Index	4/20/2017	BlackRock	Oaktree REOF V	12/31/2011	Oaktree
Boston Partners	6/1/1995	Northern Trust	Oaktree REOF VI	9/30/2013	Oaktree
Emerald Advisors	4/7/2003	Northern Trust	Oaktree REOF VII	4/1/2015	Oaktree
Ceredex	11/6/2011	Northern Trust	PCCI IX	4/28/222	PCCP
Pyrford	4/25/2014	State Street	Siguler Guff DREOF	1/25/2012	Siguler Guff
William Blair	10/29/2010	William Blair	Siguler Guff DREOF II	8/31/2013	Siguler Guff
PIMCO RAE Emerging Markets	2/28/2017	State Street	Siguler Guff DREOF II Co-Inv	1/27/2016	Siguler Guff
TT Emerging Markets	7/27/2017	TT	Paulson Real Estate Fund II	11/10/2013	Paulson
Artisan Partners	10/1/2012	SEI Trust	AE Industrial Partners Fund II	4/8/2019	StepStone Group
First Eagle	1/18/2011	Northern Trust	Adams Street Partners	3/18/1996	StepStone Group
Allianz Global Investors	4/25/2000	Northern Trust	Adams Street Partners II	1/16/2009	StepStone Group
Adelante	9/30/2001	Northern Trust	Adams Street Partners Venture	4/28/2017	StepStone Group
AQR Global Risk Premium - EL	1/18/2019	AQR	Adams Street Partners - BFP	1/18/1996	StepStone Group
Panagora Risk Parity Multi Asset	3/15/2019	Panagora	Adams Street Partners - Fund 5	9/21/2012	StepStone Group
AFL-CIO	6/30/1991	AFL-CIO	Aether Real Assets IV	3/16/2016	StepStone Group
Wellington Real Total Return (in Liquidation)	2/26/2013	Wellington	Aether Real Assets III	11/27/2013	StepStone Group
Acadian Multi-Asset Absolute Return Fund	8/4/2020	Northern Trust	Aether Real Assets III Surplus	11/30/2013	StepStone Group
Sit LLCAR	4/15/2021	Northern Trust	Bay Area Equity Fund	6/14/2004	StepStone Group
Sit Short Duration	11/2/2016	Northern Trust	Bay Area Equity Fund II	12/7/2009	StepStone Group
DFA Short Credit	11/21/2016	Northern Trust	Commonfund	6/28/2013	StepStone Group
Insight Short Duration	11/18/2016	Northern Trust	EIF US Power Fund II	8/16/2005	StepStone Group
Parametric Overlay	3/29/2017	Northern Trust	EIF US Power Fund III	5/30/2007	StepStone Group
Cash	-	Northern Trust	EIF US Power Fund IV	11/28/2011	StepStone Group
Angelo Gordon Energy Credit Opp	9/24/2015	StepStone Group	EIF US Power Fund V	11/28/2016	StepStone Group
StepStone CC Opportunities Fund	2/1/2018	StepStone Group	Genstar Capital Partners IX, L.P.	2/21/2019	StepStone Group
Torchlight II	9/30/2006	StepStone Group	Oaktree PIF 2009	2/28/2010	StepStone Group
Torchlight IV	7/1/2012	StepStone Group	Paladin III	11/30/2007	StepStone Group
Torchlight V	7/1/2012	StepStone Group	Ocean Avenue Fund II	6/11/2014	StepStone Group
Angelo Gordon Realty Fund VIII	1/23/2012	Angelo Gordon	Ocean Avenue Fund III	4/15/2016	StepStone Group
Angelo Gordon Realty Fund IX	12/8/2014	Angelo Gordon	Pathway 6	5/24/2011	StepStone Group
DLJ RECP III	6/23/2005	DLJ	Pathway 7	2/7/2013	StepStone Group
DLJ RECP IV	2/11/2008	DLJ	Pathway 8	11/23/2015	StepStone Group
DLJ RECP V	7/1/2014	DLJ	Pathway	11/9/1998	StepStone Group
DLJ RECP VI	3/19/2019	DLJ	Pathway 2008	12/26/2008	StepStone Group
LaSalle Income & Growth VI	7/16/2013	LaSalle	Siguler Guff CCCERA Opps	6/3/2014	StepStone Group
LaSalle Income & Growth VII	2/28/2017	LaSalle	Siguler Guff Secondary Opps	11/30/2016	StepStone Group
Hearthstone II	6/17/1998	Hearthstone	Siris Partners IV	3/15/2019	StepStone Group
Long Wharf Fund IV	7/3/2013	Long Wharf	TPG Healthcare Partners, L.P.	6/28/2019	StepStone Group
Long Wharf Fund V	9/30/2016	Long Wharf	Trident VIII, L.P.	5/24/2019	StepStone Group
Long Wharf Fund VI	2/5/2020	Long Wharf	Wastewater Opp. Fund	12/8/2015	StepStone Group
Invesco Real Estate IV	6/30/2014	Invesco			
Invesco Real Estate V	2/20/2019	Invesco			

Other Disclosures

All data prior to 12/31/2014 was provided by previous consultant.
 As of 7/1/2018 all Private Equity and Private Credit data is provided by StepStone Group.

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: $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$.

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: $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$.

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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Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.



Meeting Date
08/24/2022
Agenda Item
#5b.

Memorandum

Date: August 24, 2022
To: CCCERA Board of Retirement Trustees
From: Timothy Price, Chief Investment Officer
Subject: Investment Staff Report – Q2 2022

Overview

On a quarterly basis CCCERA’s Board receives a report which details critical elements of CCCERA’s Functionally Focused Portfolio’s sub-portfolios. The purpose of the report is to highlight elements of the sub-portfolios which are good indicators to the Board of the program’s efficient and effective operation.

Summary

In the wake of some extraordinary market behavior over the past three years, CCCERA’s Total Fund is performing as expected, exhibiting returns above expectations for the amount of risk taken. This is measured by the Sharpe Ratio (risk-adjusted return), and a comparison to the Simple Target Index. The Simple Target Index is the most basic index which could replicate CCCERA’s Total Fund, and is made up of 75% MSCI ACWI, 18% Bloomberg 1-3 Year Gov/Credit, and 7% 3-Month Treasury Bills (please see the Total Fund pages in the appendix for additional details). CCCERA’s portfolio is much more complex, especially as it relates to allocations to private equity, private credit, and real estate.

CCCERA has been rewarded for implementing a more complex portfolio and has outperformed the Simple Target Index over the trailing ten years and all shorter periods, while experiencing less risk (volatility). Details on performance relative to this index are included in the appendix. It is worth noting that CCCERA’s Total Fund return is an aggregate of the performance of the Liquidity, Growth, and Risk Diversifying sub-portfolios.

1) Liquidity

The purpose of the liquidity program is to match three years of benefit payments with high credit quality, low duration assets. The liquidity sub-portfolio is made up of three fixed income managers, all of whom pursue a high quality, low duration investment approach. In the second quarter of 2022, all managers held high quality (as measured by credit ratings), low duration portfolios. The average credit quality for the entire liquidity program is A+ (AAA is the highest rating), and the duration is 2.1 years, which is considered short.

2) Growth

The Growth portfolio is designed to take advantage of capital appreciation and income opportunities globally. To achieve this, the Growth portfolio includes a variety of assets, from stocks and growth-oriented bonds to private equity, real estate, and private credit.

For the trailing five-year period ending June 30, 2022, the Growth portfolio returned 7.7% relative to the index return of 7.0%, for a relative outperformance of 0.7%. Over this period, the Growth program produced a superior Sharpe ratio of 0.5 relative to the index's 0.3. During the second quarter of 2022, the MSCI ACWI Index returned -15.7% relative to CCCERA's Growth sub-portfolio return of -9.0%.

3) Risk Diversifying

The Risk Diversifying mandate holds assets that are expected to diversify the growth portfolio's volatility while offering moderate growth. The mandate as a whole seeks to be highly liquid, have a low beta to the growth market, and produce positive real returns. In the second quarter, the Risk Diversifying mandate fulfilled two of these goals. The entire mandate can be liquidated within 90 days, meeting the requirement of high liquidity. The correlation of the mandate to growth markets is 0.8, similar to what it was in March 2022. The trailing real (net of inflation) return over the past five years is -3.5%, remaining below expectations. Recent changes to diversify this portion of the portfolio away from fixed income have been beneficial over the past six months.

By and large, the product teams and asset managers across all managers are stable, and we have no significant organizational concerns with our investment managers. CCCERA's Total Fund in aggregate is performing in line with expectations, having a similar or higher risk-adjusted return but a lower level of volatility compared to the Simple Target Index. Enclosed are additional details on CCCERA's Total Fund, sub-portfolios, and individual investment strategies.

CCCERA Portfolio Report Card

Below we have itemized those elements of each of CCCERA’s sub-portfolios and Total Fund which we believe the Board should pay particular attention to. Additional details on each of the sub-portfolios are available in the appendix. All CCCERA performance is stated on a net of fees basis.

Liquidity

Objective	Measurement	Current Period Data	Status
High Quality	Credit Quality	A+	Meeting Expectations
Low Risk	Duration	2.1 years	Meeting Expectations
Appropriately Sized	Months of Benefit Payments Invested	25 Months	Meeting Expectations

Growth

Objective	Measurement	Current Period Data	Status
Growth of Plan Assets	Absolute Returns	Trailing 5 yr return: 7.7%	Meeting Expectations
	Benchmark Relative Returns	0.7% relative to ACWI over trailing 5 years	Meeting Expectations
Efficient Capital Deployment	Sharpe Ratio	CCCERA: 0.5 MSCI ACWI: 0.3 (over trailing 5 years)	Meeting Expectations

Risk Diversifying

Objective	Measurement	Current Period Data	Status
Offset Volatility in Growth Portfolio	Correlation	0.8 over trailing 5 years	Below Expectations
Positive Real Returns	Returns	5 yr real return: -3.5% 5 yr nominal return: 0.4%	Below Expectations
High Liquidity	% of Portfolio that can be liquidated within 90 days	100%	Meeting Expectations

Total Fund

Objective	Component/Measurement	Status
Store 3 Years of Benefit Payments	Liquidity Sub-portfolio	Meeting Expectations
Participate in Growth Opportunities	Growth Sub-portfolio	Meeting Expectations
Provide an offset to Growth volatility	Risk Diversifying Sub-portfolio	Below Expectations
Produce superior risk adjusted returns	Total Fund Sharpe Ratio	Meeting Expectations

Appendix – Liquidity Sub-Portfolio

Manager Reviews

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
Insight	Good	7%	-3%	N
Sit	Good	-12%	-8%	N
DFA	Good	2%	-13%	N

Performance

	Portfolio Average Credit Quality	Portfolio Average Duration	Portfolio Average Yield	1 Year Total Return
Insight	A	0.9	3.5	-3.2%
Sit	AAA	2.7	5.1	-4.2%
DFA	A	2.9	4.0	-5.6%

Manager Notes:

Fixed income securities have continued to trade off as rates have risen across all fixed income durations. The shorter duration of CCCERA’s mandates have provided relative protection, as has the buy and maintain bias of the portfolio.

Manager Theses:

The Liquidity Portfolio is a combination of three managers which work together to match three years of CCCERA’s liabilities. The portfolio is refreshed every year during the annual funding plan.

Insight: Insight plays a completion role in the liquidity program, matching out liabilities with short duration government and corporate fixed income securities.

DFA: Dimensional Fund Advisors runs a strategy that focuses on obtaining fixed income exposures via the most liquid securities available. DFA contributes to the Liquidity Program by selling securities at regular intervals to pay a portion of CCCERA’s monthly benefit payment.

Sit: Sit invests in high yielding government backed mortgages. The cash flow from these securities is harvested monthly to make up a portion of CCCERA’s monthly benefit payment.

Appendix – Growth Sub-Portfolio

Manager Reviews

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
Boston Partners	Good	-9%	-9%	N
BlackRock Index Fund	Good	-22%	-11%	N
Emerald Advisors	Good	-35%	-36%	N
Ceredex	Good	-30%	-24%	N
Pyrford	Good	-22%	-20%	N
William Blair	Good	-37%	-24%	N
First Eagle	Good	-12%	-11%	N
Artisan Global	Good	-32%	-25%	N
PIMCO/RAE EM	Good	-27%	-17%	N
TT EM	Good	-37%	-38%	N
Adelante	Good	-15%	-9%	N
Invesco REIT	Good	-14%	-9%	N
Allianz	Good	-2%	-9%	N
AQR	Good	-37%	-27%	N
PanAgora	Good	-11%	-20%	N
Private Equity	Good	--	--	N
Private Credit	Good	--	--	N
Real Estate	Good	--	--	N

Performance

	Trailing 1-Yr Return	Trailing 5-yr Return	Trailing 10-yr Return	Performance in Line with Expectations?	Inception Date
MSCI ACWI-ND	-16%	7%	9%		
Boston Partners	-3%	9%	12%	Y	04/30/1995
BlackRock Index Fund	-13%	11%	13%	Y	03/31/2017
Emerald Advisors	-30%	6%	11%	Y	03/31/2003
Ceredex	-11%	4%	9%	Y	09/30/2011
Total Domestic Equity	-17%	9%	12%	Y	
Pyrford	-10%	3%	5%	Y	03/31/2014
William Blair	-30%	5%	7%	Y	09/30/2010
PIMCO/RAE EM	-19%	3%	3%	N	01/31/2017
TT EM	-33%	1%	6%	N	06/30/2017
Total International Equity	-23%	3%	6%	Y	
First Eagle	-9%	5%	7%	Y	12/31/2010
Artisan Global	-27%	8%	11%	Y	11/30/2012
Total Global Equity	-18%	7%	9%	Y	
Adelante	-6%	7%	8%	Y	07/31/2001
Invesco REIT	N/A	N/A	N/A	Y	02/28/2022
Allianz	-13%	1%	4%	Y	04/30/2000
AQR	-10%	5%	4%	Y	12/31/2018
PanAgora	-18%	4%	6%	Y	02/28/2019
Private Equity	34%	18%	15%	Y	
Private Credit	10%	8%	10%	Y	
Real Estate	11%	7%	9%	Y	

For periods longer than inception date within CCCERA's Total Fund, the return is from a representative composite account.

Manager Notes:

The second quarter of 2022 was quite difficult as major equity markets dropped sharply on continued high inflation readings, the prospect of higher rates and no significant easing of geopolitical issues related to Russia and China.

We terminated the Jackson Square mandate during the quarter and assets were reallocated to existing managers.

Manager Theses:

The growth portfolio includes all managers in public and private equity, real estate, and private credit. These managers grow CCCERA's assets for future benefit payments (beyond the three years already covered by the Liquidity program).

Boston Partners: Large cap domestic equity which follows a value discipline. Boston Partners will buy out of favor companies and sell them when their intrinsic values are reflected in the market. Expected to outperform in flat to falling markets.

BlackRock Index Fund: Large cap domestic equity portfolio which should follow the Russell 1000 Index.

Emerald Advisors: Small cap growth equity seeking companies with high growth rates. Expected to produce strong returns in rising markets, and weak returns in falling markets.

Ceredex: Domestic equity small cap value portfolio of companies with dividend yields and low valuations. This portfolio should outperform flat markets.

Pyrford (Columbia): International equity value portfolio of non-US companies with low valuations at the country and stock level. This portfolio should outperform in flat markets.

William Blair: International equity growth portfolio of non-US companies with high growth rates constructed from the security level. This portfolio should outperform in rapidly rising markets.

First Eagle: Global equity portfolio that is benchmark agnostic comprised of companies with low valuations.

Artisan Global Opportunities: Global equity portfolio of companies that is benchmark agnostic with accelerating profit cycles and a focus on capital allocation.

PIMCO/RAE Emerging Markets: Quantitative equity with a value orientation. This portfolio follows the fundamental indexing approach (ranking companies by metrics other than market capitalization), resulting in a diversified, low turnover portfolio. This portfolio underperforms in momentum driven markets.

TT International Emerging Markets: Concentrated, growth oriented manager which invests in small and mid-cap emerging market companies. TT employs both a top-down and a bottom-up research approach, and seeks to outperform by identifying companies that have a catalyst to drive future growth.

Adelante: Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets. Adelante is a public market proxy of the core real estate market.

INVESCO Fundamental Beta REIT: Invesco invests in US REITs following a sector neutral strategy that allocates to the securities that INVESCO believes have the strongest financial conditions.

Allianz High Yield Fixed Income: Domestic high yield fixed income portfolio with a focus on security selection. Allianz will focus on the higher quality segment of the high yield universe. Allianz should provide a steady income stream, and provide downside protection in falling markets.

Private Equity: CCCERA invests in private equity to generate returns above those available in the public equity markets.

Private Credit: CCCERA invests in private credit to generate cash flow streams above those available in the public debt markets.

Real Estate: CCCERA invests in value-add, distressed, and opportunistic real estate to generate returns from the capital appreciation and cash flow associated with commercial real estate investment.

Risk Parity: Multi-asset approach that strives for balanced contributions to total portfolio risk from multiple asset classes.

Appendix – Risk Diversifying Sub-Portfolio

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
AFL-CIO	Good	-8%	-8%	N
Acadian	Good	23%	-23%	N
Sit	Good	---	---	N

Performance

	Trailing 1 Year Correlation to Growth	Trailing 3 Year Correlation to Growth	1 Year Return	5 Year Return	% of Portfolio Liquid in 90 Days
AFL-CIO	0.7	0.2	-10%	1%	100%
Acadian	-0.5	-0.4	1%	N/A	100%
Sit	0.2	N/A	-1%	N/A	100%

Manager Notes:

The Sit LLCAR was funded in the second quarter of 2021. As it is a custom strategy, we have only one year of data to measure at this time.

Manager Theses:

Managers in the risk diversifying allocation seek to have a low correlation with the growth portfolio, positive returns in flat and falling equity markets, and a high degree of liquidity. These managers work together to offset some of the risks in the growth portfolio.

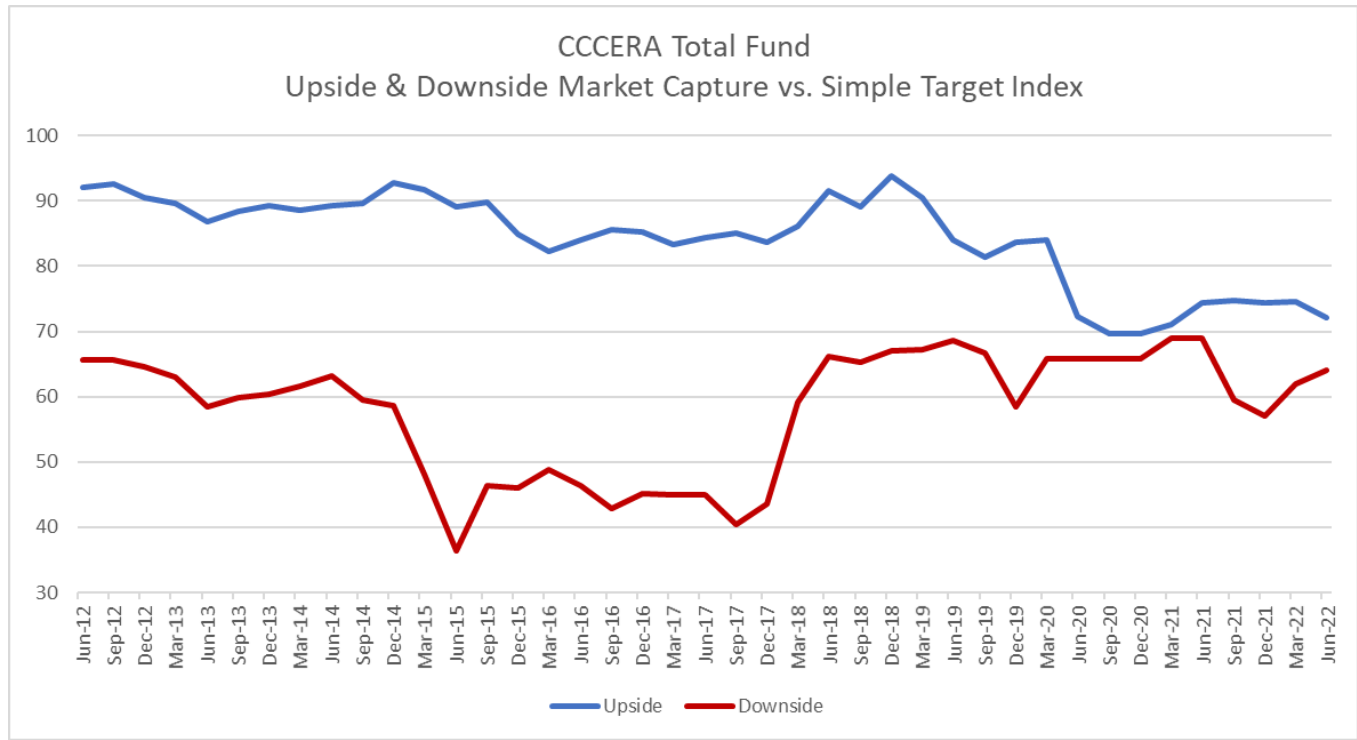
AFL-CIO: Portfolio of domestic, high quality fixed income securities which are backed by commercial and residential mortgages.

Acadian: Quantitatively managed multi-asset absolute return strategy that uses various models to capture pricing dislocations.

Sit LLCAR: Multiple fixed income strategies (closed end funds, mortgages, Treasuries) actively managed to target a modest positive return in most market environments

Appendix Data – Total Fund

Rolling 3-Year Total Fund Upside/Downside Market Capture



*The composition of the Simple Target Index has mirrored changes in CCCERA’s asset allocation over time: from 2008 to 2012 the benchmark was 73% MSCI ACWI, 23% Bloomberg 1-3 Year Gov/Credit, and 4% 3-Month Treasury Bills. From 2012 to 2016 the composition was 74% MSCI ACWI, 18% Bloomberg 1-3 Year Gov/Credit, and 9% 3-Month Treasury Bills. From 2016 to 2017 the composition was 63% MSCI ACWI, 25% Bloomberg 1-3 Year Gov/Credit, and 12% 3-Month Treasury Bills, from 2017 to September 2018 the composition was 61% MSCI ACWI, 27% Bloomberg 1-3 Year Gov/Credit, and 12% 3-Month Treasury Bills, from July 2018 to September 2019 the composition is 69% MSCI ACWI, 23% Bloomberg 1-3 Year Gov/Credit, and 8% 3-Month Treasury Bills, from July 2019 to September 2020 the composition is 68% MSCI ACWI, 24% Bloomberg 1-3 Year Gov/Credit, and 8% 3-Month Treasury Bills, from July 2020 to the May 2022 the composition is 68.5% MSCI ACWI, 25% Bloomberg 1-3 Year Gov/Credit, and 6.5% 3-Month Treasury Bills; from July 2022 to the present the composition is 75% MSCI ACWI, 18% Bloomberg 1-3 Year Gov/Credit, and 7% 3-Month Treasury Bills.

Total Fund Quarterly Attribution

	CCCERA Total Fund			Simple Target Index			Analysis		
	Allocation	Return	Contribution	Allocation	Return	Contribution	Allocation Difference	Return Difference	Total Effect
Liquidity	16.8%	-0.8%	-0.1%	18.0%	-0.6%	-0.1%	-1.2%	-0.1%	0.0%
Growth	75.0%	-9.0%	-6.7%	75.0%	-15.7%	-11.7%	0.0%	6.7%	5.0%
Risk Diversifying	7.1%	-0.7%	-0.1%	7.0%	0.1%	0.0%	0.1%	-0.8%	-0.1%
Overlay	1.0%	-52.3%	-0.5%	0%	0%	0%	1.0%	-52.3%	-0.5%
Total Fund	100%		-7.4%	100%		-11.9%	-0.1%		4.4%

CCCERA Total Fund Performance vs. Simple Target Index

	One Year		Three Years		Five Years		Ten Years	
	CCCERA	STI	CCCERA	STI	CCCERA	STI	CCCERA	STI
Return	-6.7	-12.3	5.1	4.6	5.7	5.2	7.4	6.3
Volatility	9.8	14.0	11.2	16.5	9.5	13.9	7.4	10.5
Sharpe	-0.7	-0.9	0.4	0.2	0.5	0.3	0.9	0.5

The Simple Target Index is made up of 75% MSCI ACWI, 18% Bloomberg 1-3 Year Gov/Credit, and 7% 3-Month Treasury Bill. This purpose of this index is to examine whether CCCERA is being rewarded for pursuing a more nuanced portfolio versus a very simple representative portfolio.

CCCERA's Total Fund has produced strong risk adjusted over all trailing time periods and has produced a strong absolute return over the past ten years. This indicates that CCCERA has been rewarded over time for engaging in more complex investments which target outperformance versus investing passively in the publicly traded market even though these more complex structures.

The Sharpe ratio is a measure of risk adjusted returns which shows the amount of return a portfolio earns above the risk free rate per unit of volatility. The Total Fund has exceeded the Sharpe ratio relative to the Simple Target Index over all trailing time periods, indicating that CCCERA is being favorably rewarded for the level of risk taken in the portfolio.



Memorandum

Date: August 24, 2022

To: CCCERA Board of Retirement Trustees

From: Timothy Price, Chief Investment Officer

Subject: 2022 Rebalancing

Overview

Every year, CCCERA receives the bulk of annual employer contributions in late July as employers take advantage of the CCCERA pre-payment discount policy. This creates a large influx of cash that is incorporated into our annual rebalancing, which both refreshes the Liquidity sub-portfolio with the next tranche of benefit payments and provides an opportunity to rebalance the Growth and Diversifying sub-portfolios. A preview of these shifts was provided previously in our Annual Funding Plan memo and actual activity largely followed the plan outlined in that document.

CCCERA received annual pre-payments of employer contributions in late July of approximately \$330 million and used these proceeds in conjunction with several withdrawals from investment managers to rebalance the portfolio. Through both pre-payments and withdrawals CCCERA raised approximately \$775 mm in cash. Withdrawals occurred in the international equity, high yield and risk parity mandates as well as from the cash allocation. Contributions were made to the Liquidity sub-portfolio managers as well as domestic equity, global equity and diversifying assets. The net result of the rebalancing shifted CCCERA's portfolio towards the asset allocation which was approved by the Board on July 27, 2022 (BOR Resolution 2022-2).

The following tables show the rebalancing trades which occurred between the end of July and early August, 2022. Funds were raised from the following sources:

Employer Pre-Payments	\$330	million
-----------------------	-------	---------

Manager Withdrawals

Allianz	\$25	million
AQR	\$25	million
PanAgora	\$50	million
Pyrford	\$25	million
Cash	\$320	million*
Total Cash Raised	\$775	million

Proceeds were invested with the following investment managers:

DFA	\$140	million
Insight	\$210	million
Sit	\$250	million
BlackRock	\$125	million
Artisan	\$25	million
Sit LLCAR	\$25	million
Total Invested	\$775	million

*The cash position is overlaid with futures to replicate the overall asset allocation mix.

CCCERA Asset Allocation as of August 3, 2022

Liquidity	Market Value	Percentage of Total Fund	Current Target* Percentage	Current Target Over/(Under)	Long Term Target	Long Term Over/(Under)
Dimensional Fund Advisors	400,628,668	3.8%	4.0%	-0.2%		
Insight	650,569,876	6.1%	6.5%	-0.4%		
Sit	737,243,837	6.9%	6.5%	0.4%		
Total Liquidity	1,788,442,380	16.8%	17.0%	-0.2%	17.0%	-0.2%
		Range				
		11-22%				
Growth						
Domestic Equity						
Boston Partners	392,250,682	3.7%	4.0%	-0.3%		
Jackson Square	80,056	0.0%	0.0%	0.0%		
BlackRock Index Fund	935,433,394	8.8%	9.0%	-0.2%		
Emerald Advisers	206,687,423	1.9%	1.5%	0.4%		
Ceredex	191,161,592	1.8%	1.5%	0.3%		
Total Domestic Equity	1,725,613,147	16.2%	16.0%	0.2%	13.0%	3.2%
Global & International Equity						
Pyrford (Columbia)	429,772,565	4.0%	4.0%	0.0%		
William Blair	424,061,139	4.0%	4.0%	-0.0%		
First Eagle	485,282,382	4.6%	4.5%	0.1%		
Artisan Global Opportunities	459,618,620	4.3%	4.5%	-0.2%		
PIMCO/RAE Emerging Markets	324,030,742	3.0%	3.5%	-0.5%		
TT Emerging Markets	334,738,918	3.1%	3.5%	-0.4%		
Total Global & International Equity	2,457,504,367	23.1%	24.0%	-0.9%	19.0%	4.1%
Private Equity**						
Private Credit	1,431,124,177	13.4%	13.0%	0.4%	18.0%	-4.6%
Real Estate - Value Add	902,185,815	8.5%	8.0%	0.5%	13.0%	-4.5%
Real Estate - Opportunistic & Distressed	223,152,921	2.1%	4.0%	-1.9%	5.0%	-2.9%
Real Estate - REIT	358,397,295	3.4%	4.0%	-0.6%	5.0%	-1.6%
Adelante	95,662,885	0.9%	2.0%	0.0%	0.0%	2.0%
Invesco	121,492,737	1.1%				
High Yield (Allianz)	143,876,776	1.4%	1.5%	-0.1%	0.0%	1.4%
Risk Parity			3.0%	0.2%	3.0%	0.2%
AQR GRP EL	171,593,496	1.6%				
PanAgora	168,706,438	1.6%				
Total Other Growth Assets	3,616,192,539	34.0%	35.5%	-1.5%	44.0%	-10.0%
Total Growth Assets	7,799,310,053	73.3%	75.5%	-2.2%	76.0%	-2.7%
		Range				
		65-85%				
Risk Diversifying						
AFL-CIO	236,144,780	2.2%	2.5%	-0.3%	2.5%	-0.3%
Acadian MAARS	253,857,473	2.4%	2.5%	-0.1%	1.5%	0.9%
Sit LLCAR	308,020,495	2.9%	2.5%		1.5%	
Wellington Real Total Return	114,127	0.0%	0.0%			
Total Risk Diversifying	798,136,874	7.5%	7.5%	0.0%	7.0%	0.5%
		Range				
		0% - 10%				
Cash and Overlay						
Overlay (Parametric)	109,220,775	1.0%		1.0%		
Cash	145,549,037	1.4%		1.4%		
Total Cash and Overlay	254,769,812	2.4%	0.0%	2.4%	0.0%	2.4%
Total Fund	10,640,659,119	100%	100%		100%	

*Current targets and ranges reflect asset allocation targets accepted by the Board on July 27, 2022 (BOR Resolution 2022-2).

**Private Equity long-term target includes Real Assets/Infrastructure (see Asset Allocation Mix 5 adopted December 9, 2020).

Meeting Date
08/24/2022
Agenda Item
#7

Verus⁷⁷⁷



**PERSPECTIVES
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AUGUST 2022

Private Real Estate Review

Contra Costa County Employees' Retirement Association

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Executive Summary

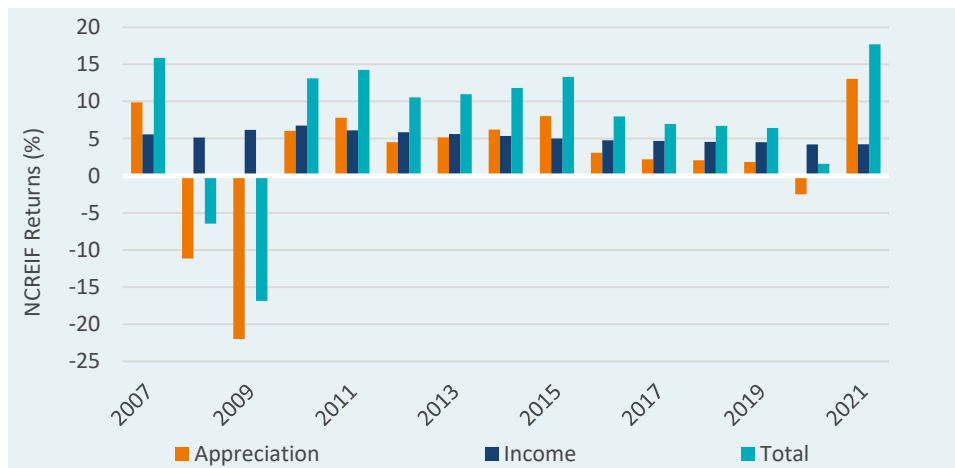
- CCCERA's private real estate program has performed roughly in line with expectations with varying levels of performance across GPs.
- Our proprietary pacing model implies a commitment level of approximately \$300-\$500 million may be required to meet long-term allocation goals, given current positioning.
- Current market conditions favor light industrial, multi-family housing, and non-traditional sectors.
- CCCERA also maintains a public REIT allocation, which provides additional exposure to the asset class as the private program ramps up; a recent increase in the REIT allocation includes positions in non-traditional sectors.

Market review

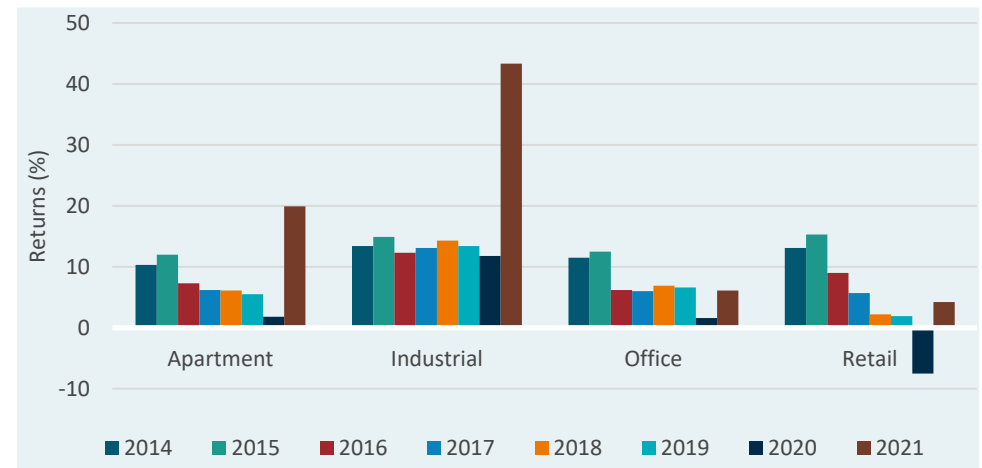
Performance

- Core private real estate rebounded quickly to produce an all-time record calendar year performance in 2021. The NCREIF Property Index returned 17.7%, while the levered NFI-ODCE Index returned 22.1%.
- Property type sector dispersion remained high with industrial (+43.3%) and multifamily (+19.9%) leading the way. Office and retail were the laggards; however, both were positive at +6.1% and +4.2%, respectively at 2021 year-end.
- Public real estate securities (REITs) continued to see elevated volatility. After a 10% decline in 2020, REITs rebounded in 2021 to be one of the top returning asset classes, finishing the year up over 46% and outperforming the S&P 500 by over 17%.

NCREIF PROPERTY INDEX RETURNS (CORE)



CORE SECTOR ANNUAL RETURNS (%)

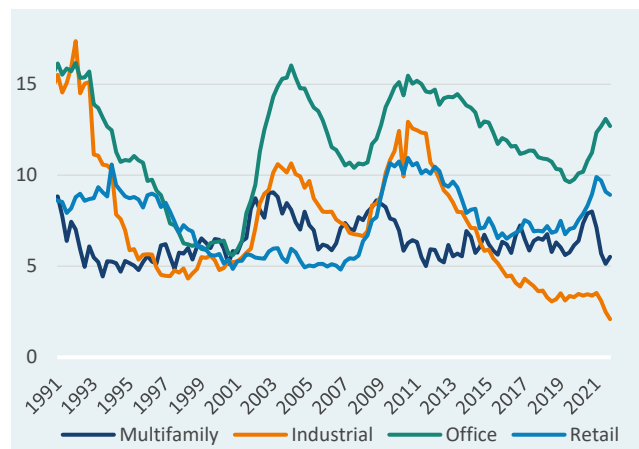


Source: NCREIF, as of 12/31/21

Fundamentals

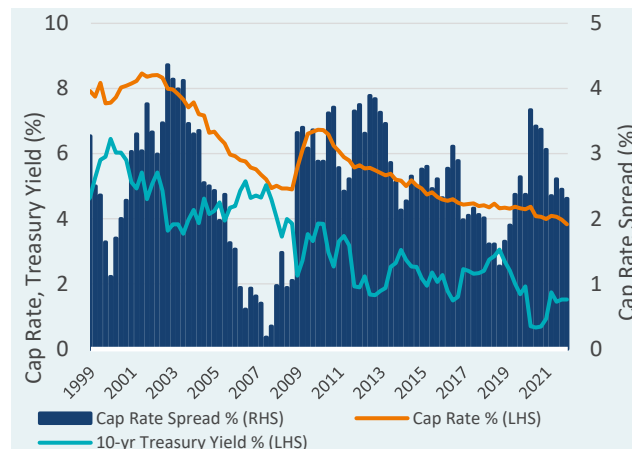
- Private real estate fundamentals have seen steady improvement in vacancy rates and net operating income (NOI) growth rates in 2021. The office sector has been one exception where vacancy rates have continued to climb, and NOI growth has been modest (although positive).
- Vacancy rates for multifamily and industrial have been at or near all time lows, leading those sectors to drive overall returns in real estate.
- Private market cap rates continued to trend downward throughout 2021. Spreads remained healthy at year end, however rising interest rates in early 2022 and beyond will likely eat into that spread. Historically, cap rates and interest rates do not trade in lock-step over short periods but will track over longer time frames. A protracted rising rate environment would present a meaningful headwind to the sector.
- NOI growth rates have been strong, recovering broadly in 2021. Multifamily and Retail showed the highest growth rates, however these were off a low base during the depths of the pandemic.
- Industrial has provided record level growth as vacancy rates have converged to near zero in that sector. It will be a challenge to maintain the record pace of growth and may moderate over the intermediate term, although we remain positive on the long-term fundamentals

VACANCY BY PROPERTY TYPE



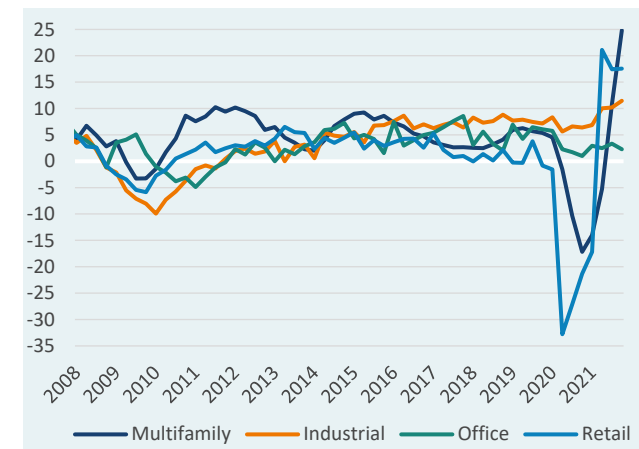
Source: NCREIF, as of 12/31/21

CAP RATE SPREADS



Source: FRED, NCREIF, as of 12/31/21

4-QTR ROLLING NOI GROWTH (%) BY PROPERTY TYPE



Source: NCREIF, as of 12/31/21

New supply and absorption

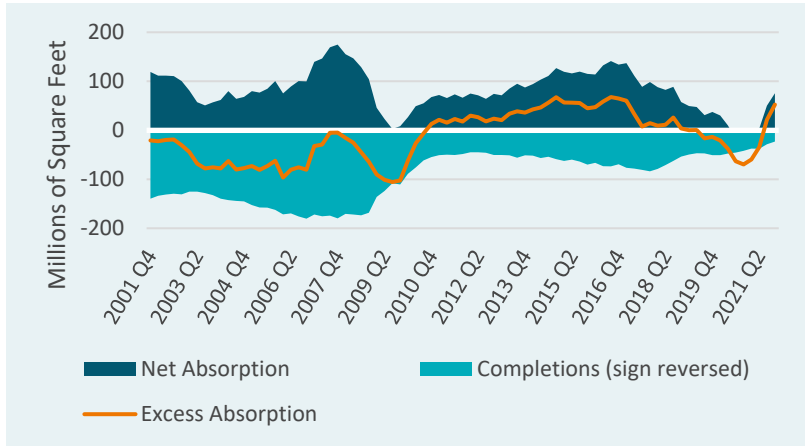
Demand outpaced new supply in 2021 for all sectors other than Office.

Heavy demand for industrial and multifamily outpaced near record levels of new supply.

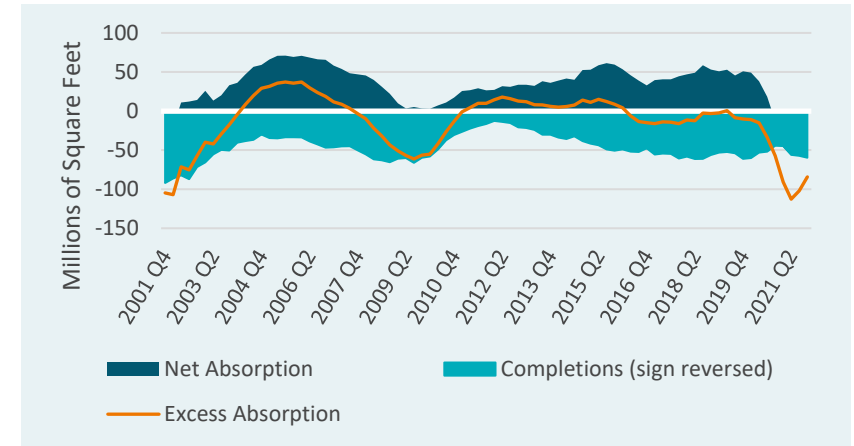
Retail excess absorption moved positive in 2021 as new supply has virtually ground to a halt, yet demand has started to recover.

Office demand has fallen off dramatically, while new supply remained modest in 2021, likely due to completions of projects started pre-pandemic.

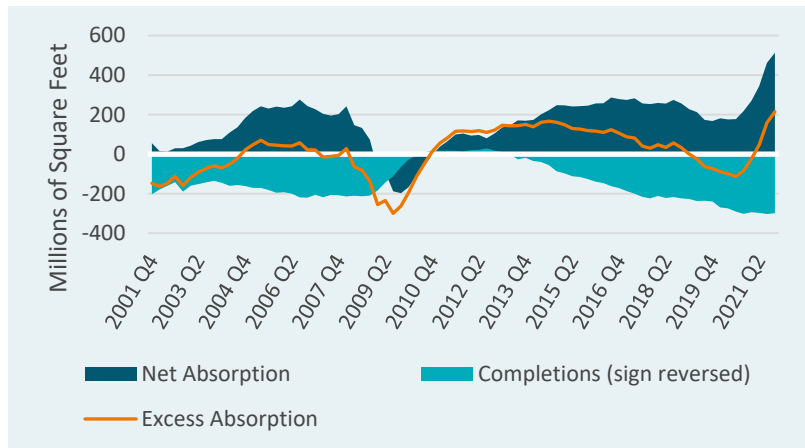
RETAIL



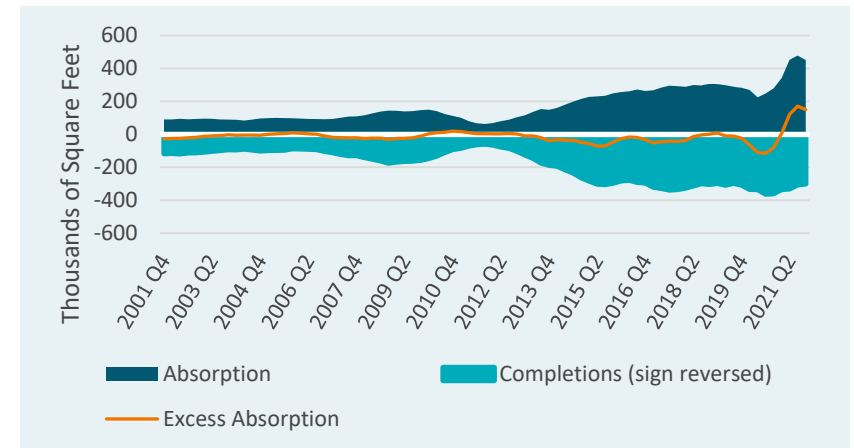
OFFICE



INDUSTRIAL



MULTIFAMILY

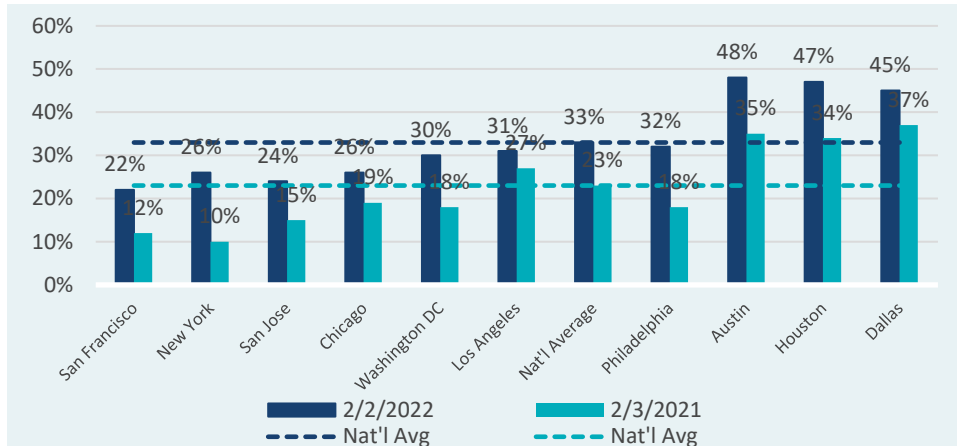


Source: American Realty Advisors utilizing CoStar data as of 12/31/21

Challenges in office

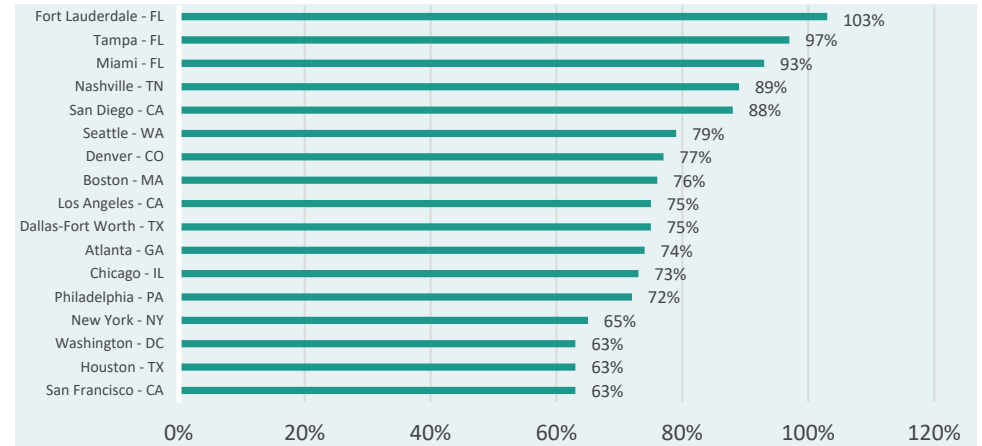
- There have been slow improvements in the office sector, however uncertainty regarding the magnitude of impact to overall demand remains. Most companies have selected hybrid work models and are working through the dynamics of surge capacity and space needs.
- Physical office usage is still significantly down, although rising from a year ago as more companies have started coming back to the office in the spring. Office utilization varies meaningfully by metro area as urban markets such as San Francisco and New York have been slower to come back versus markets in the South and Southeast.
- Leasing volumes are still well below pre-pandemic levels overall and are also seeing varied results depending on the market. Some sun belt markets have seen continued demographic growth and have leasing volumes at or near pre-pandemic levels, while other urban markets continue to lag.
- The leasing cycle for office tends to average 5-7 years, so many leases are still paying at pre-pandemic levels. It will take several years to work through the system and reset rent levels. Current valuations may not necessarily reflect these changes as uncertainty remains. There will likely be winners and losers as tenants flock to higher quality assets and those with desired amenities.

OFFICE PHYSICAL USAGE TRENDS



Source: JPMorgan, JLL Research, Kastle, as of 2/2/2022

2021 LEASING VOLUME AS % OF 2019 LEVEL

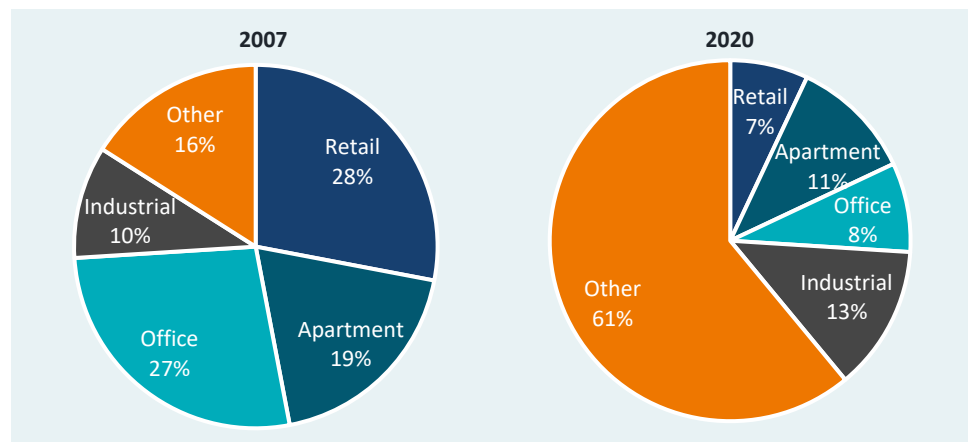


Source: CoStar, JPMorgan, as of 12/31/2021

Growth in alternative property types

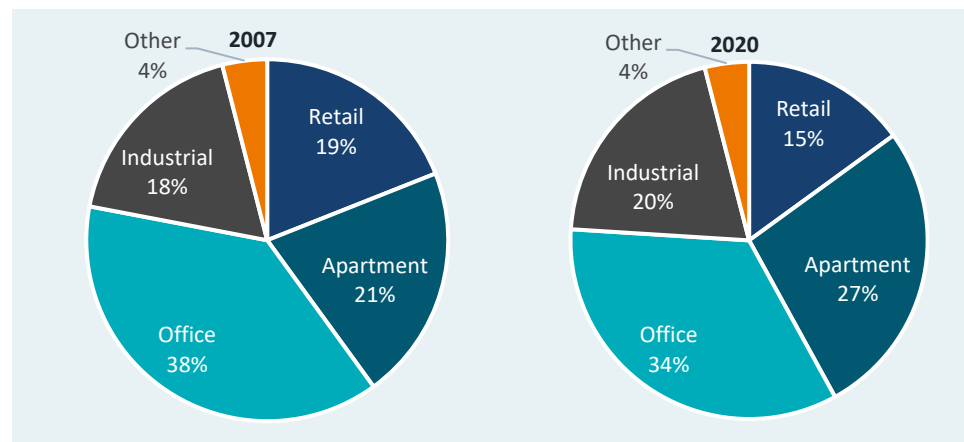
- Over the last decade, the relative weighting of the traditional core property types (office, retail, industrial and multifamily) has decreased as a total component of the public REIT markets from approximately 58% to 37%.
- Meanwhile, the current composition of the NCREIF ODCE index is still hovering around 95% in these four traditional property types.
- The total market capitalization of the REIT market is \$1.25 trillion at the end of 2020, according to NAREIT, while the NCREIF index (private core RE) has a total capitalization of \$735 billion. As indicated in the charts below, the public REIT market provides a larger representative sample of investable options in real estate which we believe reflects how slow the private core market has been to adopt new sector allocations, rather than REITs being a more attractive space to allocate capital.
- Clients that lack dedicated exposure to alternative property types are likely underweight their current market value. Said another way, client portfolios in many cases are overweight traditional real estate sectors, particularly office and retail, as the market has increasingly shifted away from these core sectors. These alternative property types include self storage, senior/student housing, life science, data centers and single-family home rentals.

CHANGING COMPOSITION OF REIT MARKET



Source: NCREIF, Green Street, Heitman

PRIVATE CORE REAL ESTATE COMPOSITION



Source: NCREIF, Heitman

Private real estate summary

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Core	Over the last year there has been a sharp recovery in many segments of the real estate market. Transaction volumes are exceeding pre-Covid levels with record performance experienced broadly for the year 2021. Sector dispersion has been high, led by industrial and multifamily. Fundamentals have been improving with declines in vacancy, increasing NOI growth and cap rate compression. Office has been the exception and has continued to experience uncertainty.	<ul style="list-style-type: none"> — Core real estate returns tend to have high correlation to overall GDP growth. Any hiccup to the recovery or reversal in Covid-19 progress will have a negative impact. — A sharp rise in interest rates could create upward pressure on cap rates, hurting asset values. 	We expect strength to continue over the near term, however concerns remain with higher entry prices and pressure for rising cap rates as interest rates move upward. We recommend continued diversification into alternative property types and are favorable on the long-term tailwinds in industrial.	Neutral
Value-Add	Transaction levels have returned to pre-pandemic prices. Value-add strategies have gravitated to heavier weights in high growth sectors like industrial and multifamily. Increasing borrowing costs and higher entry prices will likely apply pressure on returns for strategies reliant upon higher leverage.	<ul style="list-style-type: none"> — Rising interest rates will increase borrowing costs on higher leveraged value-add strategies, pressuring total returns. — Competition could be a challenge as lots of capital has been raised and sitting as dry powder. 	We continue to favor strategies with limited focus on office and retail, instead preferring higher growth industrial, multifamily and alternative property types. Many funds are targeting these sectors, we favor those that have long experience and deep relationships in these areas.	Neutral
Opportunistic	Certain sectors have seen pockets of stress such as hospitality, retail and office. Levels of distress are modestly elevated compared to pre-pandemic but have not reached broad systemic levels as asset owners and lenders are generally in stronger financial shape and are not facing the same illiquidity and stress they faced after the global financial crisis. Tight vacancies in growth sectors are feeding demand for new construction.	<ul style="list-style-type: none"> — Rising interest rates will increase borrowing costs on higher leveraged strategies, pressuring total returns. — Competition could be a challenge as large sums of capital has been raised waiting to be deployed. — Increasing construction costs due to materials and labor may pressure development strategies. 	Non-core funds with vintage years during periods of economic stress tend to be some of the best performing vintages. The impact from the pandemic will likely continue to create opportunities across the stressed and distressed spectrum, including complex projects and Covid-19 impacted sectors.	Neutral to Positive
REITs	REITs rebounded in 2021 to be one of the top performing asset classes, returning over 46%. Sector dispersion has been high as some areas beaten up in 2020 recovered sharply in 2021. Regional Malls and shopping centers were each up over 75%, There was continued strength in self storage, industrial and apartments, each up over 50%, while office continued to be a laggard, although positive.	<ul style="list-style-type: none"> — REITs have higher leverage than core real estate and have higher exposures to non-core sectors such as hotels, self-storage, for-rent residential homes and senior/student housing. — Rising interest rates can have a negative effect on REITs and all yield-sensitive assets over short periods. — REITs are sensitive to economic decline and general equity market volatility. 	Verus believes REITs can provide liquid exposure to real estate with the following caveats: high sensitivity to equity market volatility over shorter holding periods, higher leverage and higher exposures to non-core sectors. Active management is preferred. REIT valuations are currently slightly favorable and may provide a reasonable entry point for those clients looking for new exposure.	Neutral

Portfolio review

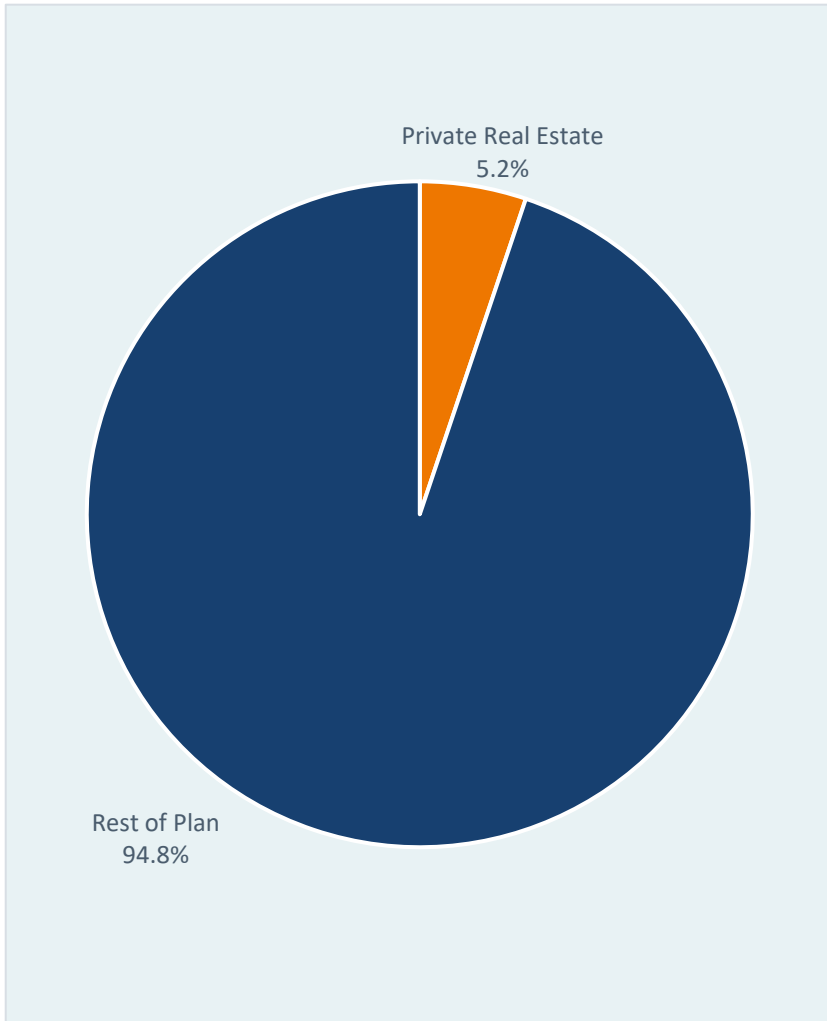
Portfolio allocation

Asset Class	Current Actual (6/30/22)	Current Policy Target ¹	Long Term Policy
Growth	74.9%	75.5%	76%
Public Equities	38.3%	40%	32%
High Yield	1.6%	1.5%	0%
REITs	2.0%	2%	0%
Private Real Estate	5.9%	8%	10%
Private Equity	14.1%	13%	15%
Private Credit	8.9%	8%	13%
Infrastructure	0%	0%	3%
Risk Parity	4.1%	3%	3%
Diversifying	7.6%	7.5%	7%
Liquidity	12.2%	17%	17%
Cash	5.3%	0%	0%

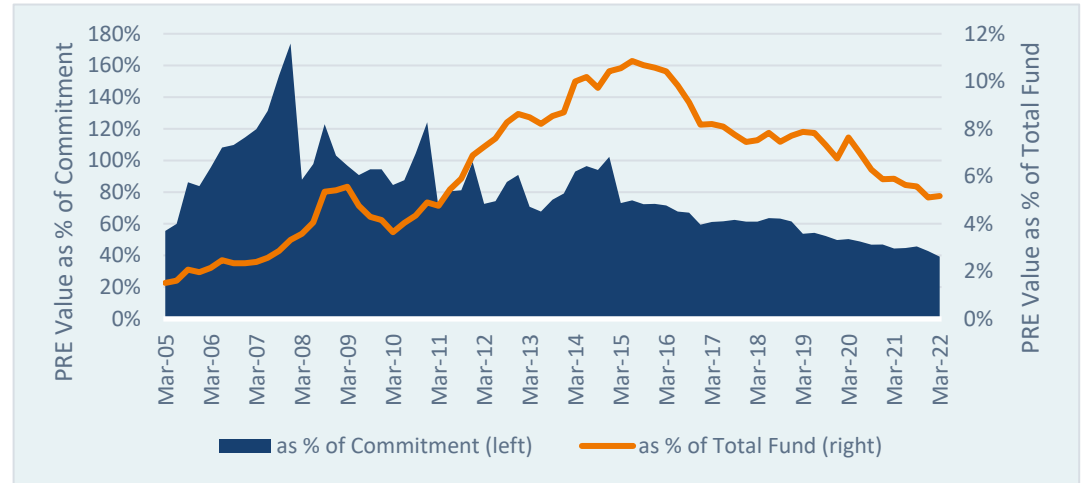
(1) From Investment Asset Allocation Resolution 2022-2

Private real estate program at a glance

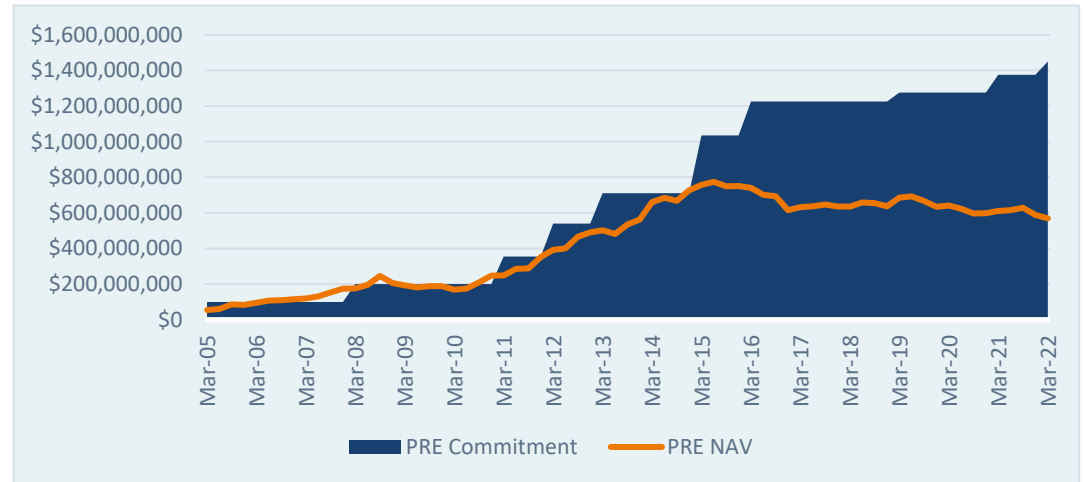
PRIVATE REAL ESTATE AS % OF TOTAL FUND



PRIVATE REAL ESTATE VALUE AS % OF COMMITMENT AND TOTAL FUND



PRIVATE REAL ESTATE IN DOLLAR TERMS



as of 3/31/22; does not include \$100 million commitment to Blackstone Fund X made on 7/1/22

Current private real estate holdings

Verus Internal Analysis												
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 3/31/2022 ¹	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions ⁸	Remaining Commitment	Distrib./Paid-In (DPI) ²	Tot. Value/Paid-In (TVPI) ³	Latest Valuation
Real Estate												
1/23/2012	Angelo Gordon Realty Fund VIII ⁴	\$15,333,535	\$80,000,000	94%	\$75,401,855	\$0	\$0	\$101,711,550	\$12,334,302	1.35	1.55	3/31/2022
12/8/2014	Angelo Gordon Realty Fund IX	\$39,624,797	\$65,000,000	93%	\$60,125,000	\$0	\$4,550,000	\$52,000,001	\$7,572,500	0.86	1.52	3/31/2022
6/23/2005	DLJ RECP III	\$15,678,712	\$75,000,000	134%	\$100,709,313 ⁴	\$0	\$0	\$69,364,915	\$4,031,338	0.69	0.84	3/31/2022
2/11/2008	DLJ RECP IV	\$54,897,897	\$100,000,000	130%	\$129,892,605 ⁵	\$0	\$2,311,274	\$99,841,735	\$1,876,084	0.77	1.19	3/31/2022
7/1/2014	DLJ RECP V	\$30,558,376	\$75,000,000	132%	\$98,684,517 ⁶	\$0	\$0	\$97,880,214	\$15,567,682	0.99	1.30	3/31/2022
3/19/2019	DLJ RECP VI	\$22,014,741	\$50,000,000	63%	\$31,544,190	\$0	\$0	\$11,589,841	\$22,707,500	0.37	1.07	3/31/2022
6/30/2013	Invesco Real Estate III ⁴	\$0	\$35,000,000	93%	\$32,386,423	\$0	\$0	\$47,576,839	\$2,613,577	1.47	1.47	3/31/2022
6/30/2014	Invesco Real Estate IV ⁴	\$2,821,874	\$35,000,000	87%	\$30,546,401	\$0	\$0	\$38,913,181	\$4,453,599	1.27	1.37	3/31/2022
2/20/2019	Invesco Real Estate V	\$77,485,738	\$75,000,000	91%	\$68,009,397	\$4,328,563	\$0	\$7,217,922	\$11,690,503 ⁹	0.11	1.25	3/31/2022
	Invesco Real Estate VI	\$0	\$100,000,000	0%	\$0	\$0	\$0	\$0	\$100,000,000	0.00	0.00	
7/16/2013	LaSalle Income & Growth VI ⁴	\$20,208,434	\$75,000,000	95%	\$71,428,571	\$0	\$0	\$84,535,301	\$0	1.18	1.47	3/31/2022
2/28/2017	LaSalle Income & Growth VII	\$63,555,317	\$75,000,000	107%	\$79,936,634	\$2,643,052	\$0	\$52,979,429	\$8,502,405	0.66	1.46	3/31/2022
7/3/2013	Long Wharf Fund IV ⁴	\$1,441,579	\$25,000,000	100%	\$25,000,000	\$0	\$0	\$34,824,789	\$0	1.39	1.45	6/30/2022
9/30/2016	Long Wharf Fund V ⁴	\$31,960,263	\$50,000,000	100%	\$50,000,000	\$0	\$0	\$37,244,373	\$0	0.74	1.38	6/30/2022
6/27/2019	Long Wharf Fund VI	\$27,660,734	\$50,000,000	71%	\$35,252,724	\$1,090,188	\$2,081,269	\$14,568,879	\$14,747,276	0.41	1.20	6/30/2022
12/31/2011	Oaktree REOF V ⁴	\$1,209,092	\$50,000,000	101%	\$50,315,673	\$0	\$0	\$85,975,916	\$5,000,000 ⁹	1.71	1.73	6/30/2022
9/30/2013	Oaktree REOF VI ⁴	\$25,686,057	\$80,000,000	100%	\$80,000,000	\$0	\$0	\$86,843,996	\$18,400,000 ⁹	1.09	1.41	6/30/2022
4/1/2015	Oaktree REOF VII	\$49,657,865	\$65,000,000	100%	\$65,000,000	\$0	\$0	\$42,932,991	\$18,915,000 ⁹	0.66	1.42	6/30/2022
11/10/2013	Paulson Real Estate Fund II ⁴	\$16,671,486	\$20,000,000	97%	\$19,345,623	\$0	\$3,084,633	\$24,069,538	\$654,377	1.24	2.11	3/31/2022
4/28/2022	PCCP IX	\$43,557,683	\$75,000,000	32%	\$23,801,564	\$23,801,564	\$0	\$0	\$51,198,436	0.00	1.83	
1/25/2012	Siguler Guff DREOF	\$21,670,223	\$75,000,000	93%	\$69,375,000	\$0	\$2,382,123	\$98,000,021	\$5,625,000	1.41	1.72	3/31/2022
8/31/2013	Siguler Guff DREOF II	\$37,412,422	\$70,000,000	89%	\$61,985,000	\$0	\$2,600,715	\$46,578,654	\$8,015,000	0.75	1.36	3/31/2022
1/27/2016	Siguler Guff DREOF II Co-Inv	\$12,695,131	\$25,000,000	82%	\$20,537,862	\$0	\$0	\$13,871,261	\$4,462,138	0.68	1.29	3/31/2022
	Total Closed End Real Estate	\$611,809,956	\$1,450,000,000	90%	\$1,299,216,816	\$31,863,367	\$17,010,013	\$1,175,998,615	\$318,366,716	0.91	1.38	
	% of Portfolio (Market Value)	6.1%										

¹Latest valuation + capital calls - distributions

²(DPI) is equal to (capital returned / capital called)

³(TVPI) is equal to (market value + capital returned) / capital called

⁴Capital has been fully called and fund is in redemption.

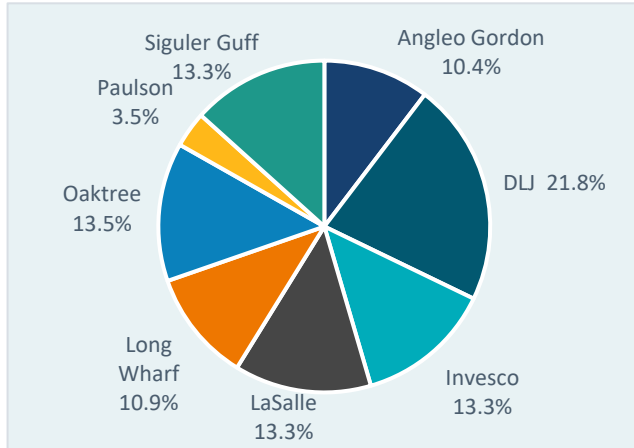
⁵Total distributions may include recallable distributions

⁶Remaining commitment includes recallable distributions

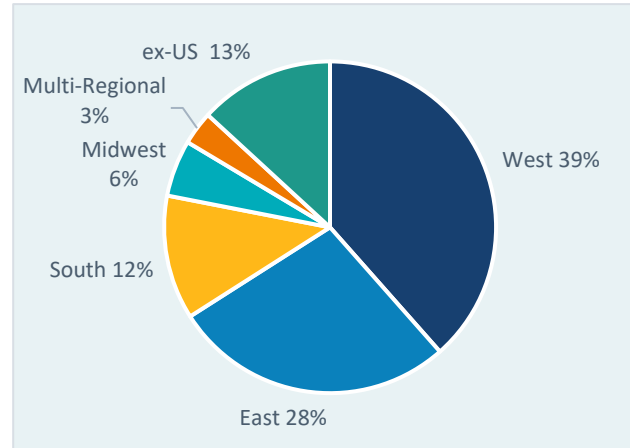
Excerpt from CCCERA's 6/30/22 performance report. Private real estate holdings data are reported on a lagged cycle and are reflective of the last known values at the time of the report.

Program diversification

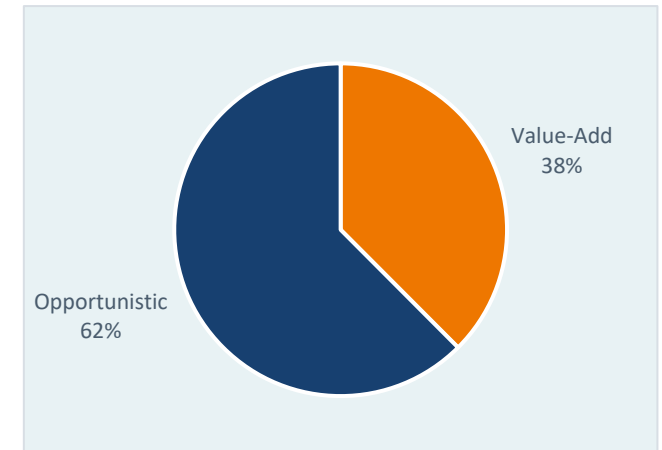
BY MANAGER



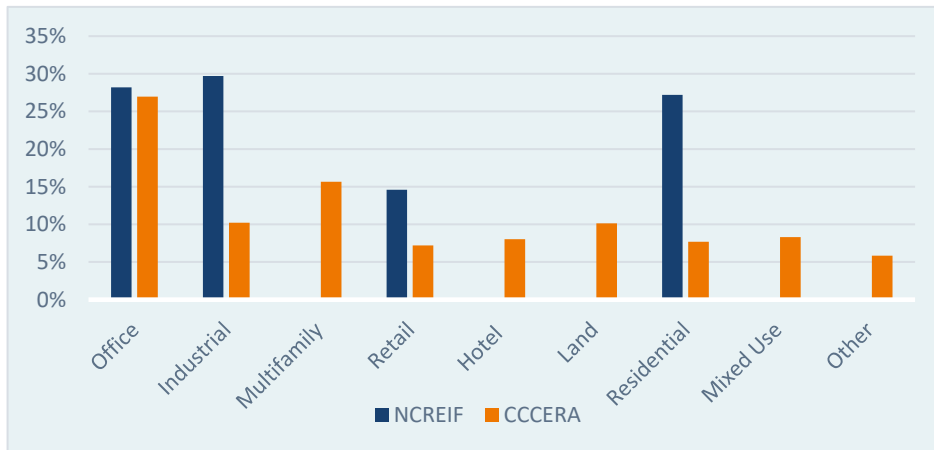
BY GEOGRAPHY



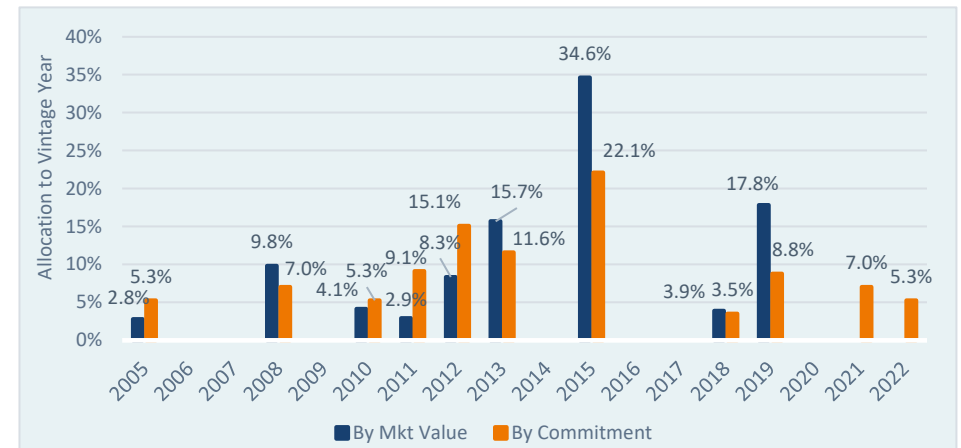
BY STRATEGY



BY PROPERTY TYPE



BY VINTAGE YEAR

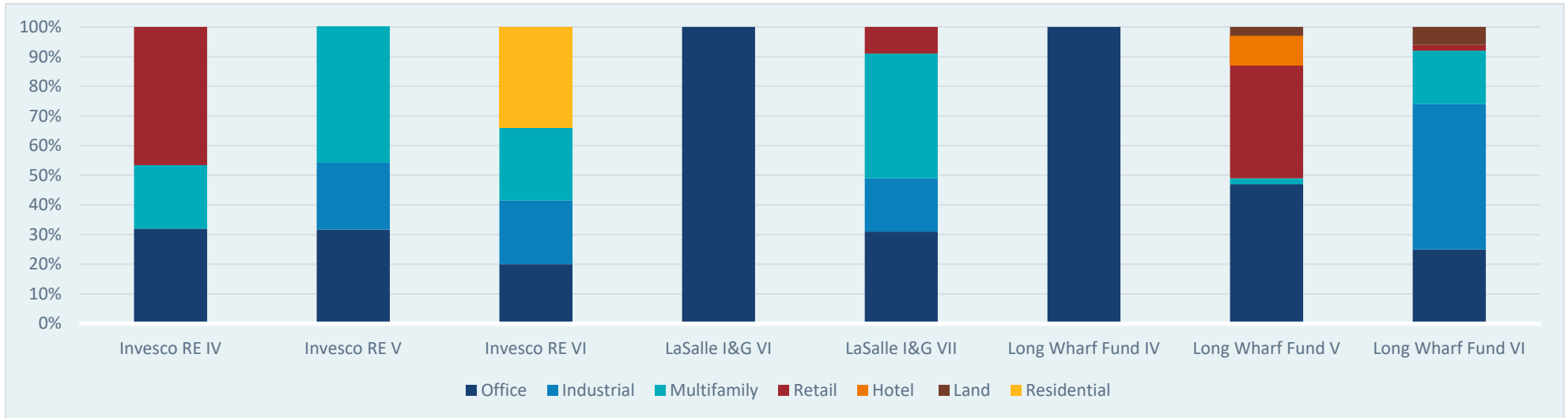


All calculations based on data provided by managers

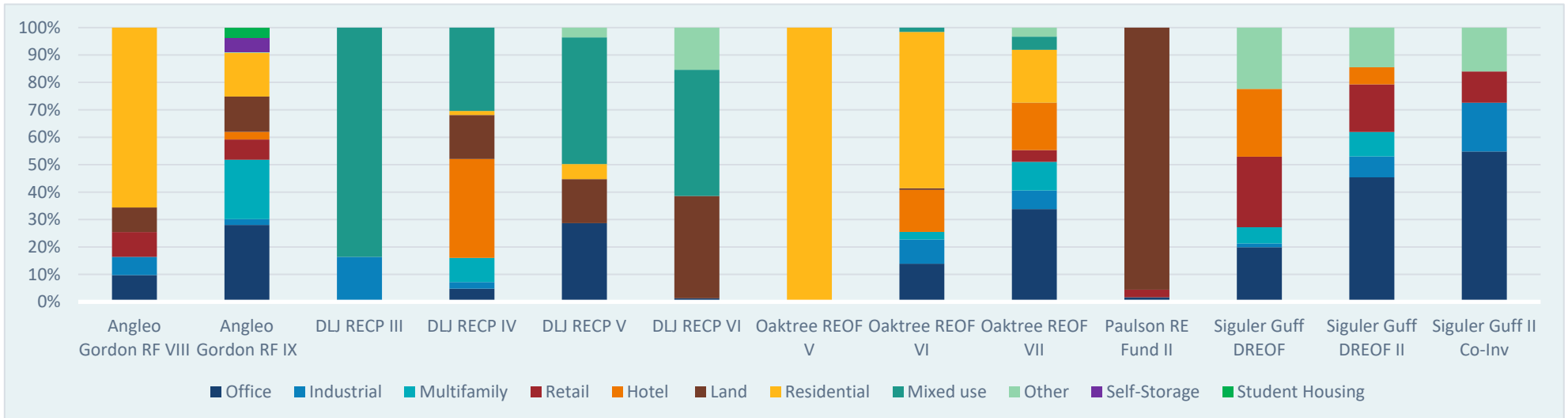
Data is based on 3/31/22 market values and therefore does not include \$175 million of recent commitments to 2 funds, both with \$0 current market value. \$100 million Blackstone Fund X is as of 7/1/22 and not included in this report.

Property type allocation by fund

VALUE ADD FUNDS



OPPORTUNISTIC FUNDS



Source: respective managers

Private real estate performance – value-add

Fund	Vintage	Net IRR		TVPI	
		CCCERA	PME (FTSE NAREIT) ¹	CCCERA	Median Peer ²
Invesco Real Estate III	2012	15.0%	9.9%	1.47	1.61
Invesco US Value-Add Fund IV	2015	10.6%	9.6%	1.37	1.47
Invesco US Value-Add Fund V	2019	18.5%	17.4%	1.35	1.27
LaSalle Income & Growth VI	2011	10.5%	11.2%	1.46	1.66
LaSalle Income & Growth VII	2014	12.3%	9.2%	1.41	1.45
Long Wharf Fund IV	2011	11.8%	11.2%	1.45	1.66
Long Wharf Fund V	2014	9.4%	9.2%	1.35	1.45
Long Wharf Fund VI	2019	36.0%	17.4%	1.29	1.27

As of 3/31/22

(1) FTSE NAREIT PME from Cambridge Modified Public Market Equivalent (MPMR) since inception based on vintage year

(2) Cambridge Associates non-core real estate universe data

Private real estate performance – opportunistic

Fund	Vintage	Net IRR		TVPI	
		CCCERA	PME (FTSE NAREIT) ²	CCCERA	Median Peer ³
Angelo Gordon Real Estate Fund VIII	2010	13.2%	12.0%	1.55	1.42
Angelo Gordon Real Estate Fund IX	2014	9.4%	9.2%	1.47	1.45
DLJ RECP Fund III	2005	-3.0%	7.3%	0.85	0.90
DLJ RECP Fund IV	2008	2.0%	11.7%	1.18	1.29
DLJ RECP Fund V	2013	10.0%	10.0%	1.30	1.46
DLJ RECP Fund VI	2018	4.0%	15.7%	1.12	1.30
Oaktree REOF V	2011	12.3% ⁴	11.2%	1.73	1.59
Oaktree REOF VI	2012	7.8% ⁴	9.9%	1.37	1.59
Oaktree REOF VII	2015	17.5% ⁴	9.6%	1.43	1.51
Paulson Real Estate Fund II ¹	2012	12.7%	9.9%	2.11	1.59
Siguler Guff DREOF	2010	12.2%	12.0%	1.73	1.42
Siguler Guff DREOF II	2013	9.1%	10.0%	1.43	1.46
Siguler Guff DREOF II Co-Inv	2014	5.8%	9.2%	1.29	1.45

As of 3/31/22

(1) As of 12/31/21; (2) From Cambridge Modified Public Market Equivalent (MPMR) since inception based on vintage year; (3) Cambridge Associates non-core real estate universe data; (4) Fund level net IRR

Pacing forecast

Private real estate projections – value-add

Fund	Vintage Year	Commitment	Remaining Commitment	Cumulative To Date*	(Contributions) / Distributions									
					2022	2023	2024	2025	2026	2027	2028	2029	2030	
Invesco U.S. VA Fund IV	2015	\$35.0	\$4.5											
Net Cash Flow					\$5.8									
NAV				\$3.0	\$0.0									
Invesco U.S. VA Fund V	2019	\$75.0	\$28.9											
Net Cash Flow					\$4.6	\$28.4	\$8.5	\$56.6						
NAV				\$72.7	\$75.4	\$54.5	\$51.5	\$0.0						
Invesco U.S. V Fund VI	2022	\$100.0	\$100.0											
Net Cash Flow					(\$37.3)	(\$13.9)	(\$18.6)	(\$4.5)	\$23.0	\$23.5	\$26.7	\$26.7	\$0.0	
NAV				\$0.0	\$37.3	\$54.9	\$79.0	\$91.3	\$77.4	\$61.7	\$41.1	\$18.5	\$20.3	
LaSalle I&G VI	2012	\$75.0	\$3.6											
Net Cash Flow					\$0.0	\$19.8								
NAV				\$20.1	\$19.9	\$0.0								
LaSalle I&G VII	2015	\$75.0	\$2.8											
Net Cash Flow					\$9.4	\$22.2	\$38.6							
NAV				\$55.9	\$52.1	\$35.1	\$0.0							
Long Wharf Fund IV	2012	\$25.0	\$0.0											
Net Cash Flow					\$1.5	\$0.0	\$0.0							
NAV				\$1.5	\$0.0	\$0.0	\$0.0							
Long Wharf Fund V	2015	\$50.0	\$0.0											
Net Cash Flow					\$16.6	\$10.8	\$5.4	\$3.5						
NAV				\$31.6	\$17.4	\$8.0	\$3.2	\$0.0						
Long Wharf Fund VI	2019	\$50.0	\$18.0											
Net Cash Flow					(\$11.0)	(\$10.0)	\$10.0							
NAV				\$28.7	\$24.4	\$21.4	(\$0.0)							
Value-Add Balance		\$485.0	\$157.83	\$213.52	\$151.17	\$173.94	\$133.72	\$91.35	\$77.45	\$61.66	\$41.10	\$18.49	\$20.33	
% of Total Assets				1.9%	1.3%	1.4%	1.1%	0.7%	0.6%	0.5%	0.3%	0.1%	0.1%	
Total Plan Assets				\$11,022	\$11,576	\$12,030	\$12,451	\$12,842	\$13,197	\$13,516	\$13,797	\$14,681	\$15,620	

*As of 3/31/22

Note: Assumptions for this model are detailed in the appendix. 5% value-add target

Private real estate projections - opportunistic

Fund	Vintage Year	Commitment	Remaining Commitment	Cumulative To Date	(Contributions) / Distributions						
					2022	2023	2024	2025	2026	2027	2028
Angelo Gordon Realty Fund VIII Net Cash Flow NAV	2011	\$80.0	\$4.6		\$4.4	\$10.1	\$4.5				
				\$15.3	\$12.7	\$4.0	\$0.0				
Angelo Gordon Realty Fund IX Net Cash Flow NAV	2015	\$65.0	\$4.9		\$27.1	\$21.5	\$3.7	\$0.3	\$0.0	\$0.0	\$0.3
				\$43.7	\$22.3	\$3.7	\$0.4	\$0.2	\$0.2	\$0.2	\$0.0
DLJ RECP III Net Cash Flow NAV	2005	\$75.0	\$0.0		\$3.6	\$9.5	\$5.1				
				\$15.9	\$13.4	\$4.8	\$0.0				
DLJ RECP IV Net Cash Flow NAV	2008	\$100.0	\$0.0		\$0.7	\$6.9	\$58.2				
				\$55.8	\$58.4	\$55.0	\$0.0				
DLJ RECP V Net Cash Flow NAV	2013	\$75.0	\$0.0		\$13.6	\$2.2	\$15.7	\$23.2	\$23.0		
				\$30.2	\$27.0	\$34.1	\$30.1	\$17.2	\$0.0		
DLJ RECP VI Net Cash Flow NAV	2018	\$50.0	\$24.7		\$2.4	\$5.7	\$13.7	\$50.7			
				\$22.1	\$28.8	\$35.1	\$35.9	\$0.0			
Oaktree REOF V ¹ Net Cash Flow NAV	2011	\$50.0	\$0.0		\$0.3						
				\$1.2	\$0.0						
Oaktree REOF VI ¹ Net Cash Flow NAV	2012	\$80.0	\$0.0		\$1.5						
				\$25.9	\$0.0						
Oaktree REOF VII ¹ Net Cash Flow NAV	2015	\$65.0	\$0.0		\$2.6						
				\$49.9	\$0.0						
Paulson Real Estate Fund II Net Cash Flow NAV	2013	\$20.0	\$0.7		\$8.0	\$8.0	\$8.0	\$5.2			
				\$19.8	\$15.5	\$10.4	\$4.4	\$0.0			
Siguler Guff DREOF Net Cash Flow NAV	2010	\$75.0	\$5.6		\$18.8	\$7.5	\$2.3	\$1.5			
				\$23.6	\$8.9	\$3.0	\$1.3	\$0.0			
Siguler Guff DREOF II Net Cash Flow NAV	2013	\$70.0	\$8.0		\$16.5	\$11.5	\$4.0	\$2.5			
				\$39.2	\$20.1	\$7.2	\$2.7	\$0.0			
Siguler Guff DREOF II Co-Inv Net Cash Flow NAV	2015	\$25.0	\$4.5		\$7.0	(\$1.0)	\$10.8				
				\$13.0	\$7.6	\$9.6	\$0.0				
Opportunistic Balance		\$830.0	\$53.0	\$355.63	\$214.69	\$166.75	\$74.74	\$17.34	\$0.20	\$0.23	\$0.00
% of Total Assets				3.2%	1.9%	1.4%	0.6%	0.1%	0.0%	0.0%	0.0%
Total Plan Assets				\$11,022	\$11,576	\$12,030	\$12,451	\$12,842	\$13,197	\$13,516	\$13,797

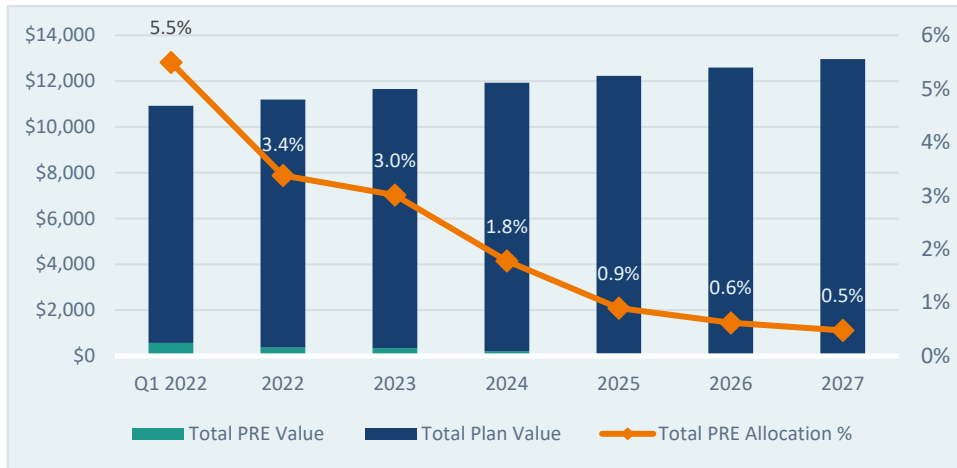
As of 3/31/22; Assumptions for this model are detailed in the appendix. 5% opportunistic target. No projections known yet for \$75 mm PCCP Fund or \$100mm Blackstone X and therefore not included in this report.

Program projections

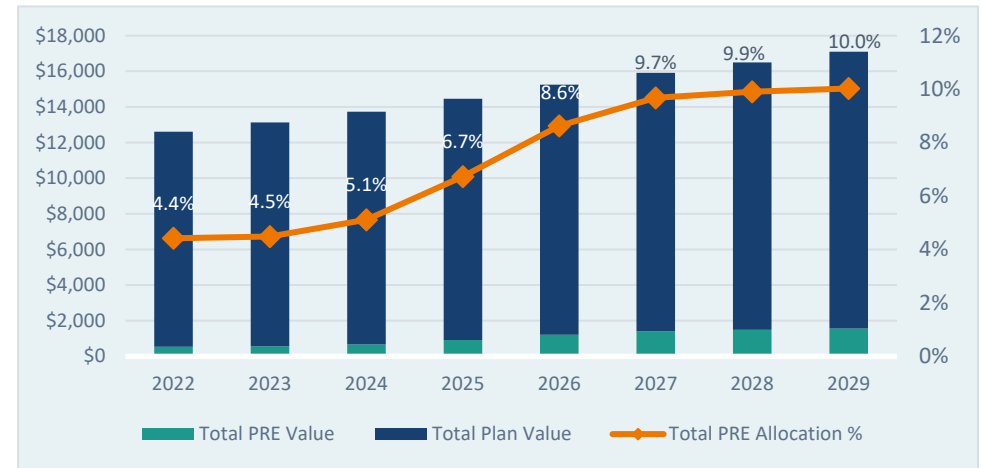
- Many funds within the CCCERA private real estate program are mature and consequently total market values will continue to decline.
- Without a planned commitment schedule, a 10% target allocation to private real estate cannot be realized.
- The following commitment schedule can achieve the 10% target allocation by 2029:

	2022 ¹	2023	2024	2025	2026	2027	2028	2029	2030
Projected additional commitment	\$300.0	\$400.0	\$400.0	\$400.0	\$450.0	\$450.0	\$500.0	\$500.0	\$500.0
Total PRE program value	\$534.2	\$563.2	\$667.5	\$911.4	\$1,210.7	\$1,403.7	\$1,486.0	\$1,558.0	\$1,633.5
Total Plan Value	\$12,077.8	\$12,569.8	\$13,060.2	\$13,549.1	\$14,038.2	\$14,509.7	\$15,011.3	\$15,545.0	\$16,112.9
Total PRE program allocation %	4.4%	4.5%	5.1%	6.7%	8.6%	9.7%	9.9%	10.0%	10.1%

WITH NO ADDITIONAL COMMITMENTS



WITH PLANNED COMMITMENT SCHEDULE



1 - \$175 million has been committed in 2022 as of 7/1/22

All \$ values are in millions

Pacing models are only guides

- While our proprietary pacing model base case shows projected annual commitments between \$300 - \$500 million to meet the target allocation by 2030, there are several potential mitigating factors due to the uncertainty of the forecasting exercise:
 - Slower than expected distributions
 - REIT exposure partially fills the exposure gap
 - Potential to add additional exposure through open-end VA Fund if needed

Recommendations

Recommendations

- Implementation recommendations should be deemed sufficiently flexible to adjust to evolving market conditions and portfolio positioning
- Based on current conditions and positioning, we recommend the following:
 - Continue to build allocation to reach the 10% strategic target with annual commitments of approximately \$300-\$500 million or 3-5 funds per year as practical given market conditions.
 - Consider broadly diversified funds with emphasis on industrial, multi-family, and non-traditional sectors
 - Consider specialty funds as opportunities present themselves

Appendix

Projection assumptions and notes

- Total Plan assets are assumed to grow at an annual rate of 6.4% based on policy forecasted returns using Verus 2022 capital market assumptions adjusted by net contributions taken from the Governmental Accounting Standard (GAS) 67 Actuarial Valuation as of December 31, 2021, provided by Segal Consulting.
- All market values are based on last known balance and are adjusted for capital calls and distributions. Distributions are solely within the discretion of the general partner of each fund. There can be no assurance that a fund will make any distributions.
- Projected capital activity is estimated and subject to change and based on estimated acquisition and/or disposition activity.
- Distributions are solely within the discretion of the general partner of the fund. There can be no assurance that a fund will make any distributions.
- Contributions to date may include capital distributions that were subject to recall.
- Projected returns are subject to certain inherent limitations including the projection of market and economic risks.
- The actual returns achieved on unrealized investments will depend on, among other factors, future operating results, the value of the assets and market conditions at the time of disposition, and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which the valuations used in the projected performance data contained herein are based.
- Angelo Gordon projections are based on their December 31, 2021, projection model and includes \$2,762,500 distributed YTD 2022 for AG Realty Fund IX . Remaining commitment for AG Realty Fund VIII includes recallable capital of \$7,736,157 and remaining commitment for AG Realty Fund IX includes recallable capital of \$2,697,500.
- Oaktree did not provide future projections, so estimates were used based on Oaktree assumptions provided.
- Invesco Real Estate Fund III was liquidated and dissolved as of March 31, 2022, and therefore not included in the projection study.
- LaSalle Income & Growth VII projections include \$5.7M of return of capital distributions subject to recall, which are recorded as an offset to distributions rather than contributions.
- Capital call pacing excludes calls for management fees and distributions.

Fund descriptions

Angelo Gordon Realty Funds VIII - IX

- An opportunistic real estate fund series managed by Angelo, Gordon & Co. The Funds targeted a 20% gross return to investors using leverage of approximately 55-65%. The Fund's strategy was to acquire sub-performing real estate properties, principally in the United States, across a broad range of geographical markets and product types, including office buildings, hotels, retail properties, industrial properties and apartment buildings.

DLJ RECP

- The investment strategy of the Partnership's investees is to acquire, develop, redevelop, manage, operate, and otherwise deal in and with real estate investments. The Partnership may receive distributions during the investment period, upon liquidation of the investee's underlying assets or upon sale of or redemption of its investments, over time.

Invesco Real Estate III

- A real estate investment fund created by Invesco Real Estate ("Invesco" or "IRE"). The fund will invest in value-added real estate opportunities. Investments will be made solely in the United States in four specific product types – multi-family, industrial, retail and office properties. Invesco will draw on its extensive investment history in these property types to attempt to deliver superior returns for the Fund investors.

Invesco Real Estate IV

- A value-added real estate fund sponsored by Invesco Real Estate ("IRE"). Invesco Real Estate is the real estate investment management center of Invesco Advisers, Inc., a subsidiary of Invesco Ltd. (together with its affiliates, "Invesco"). Fund Investments will be made solely in the United States in four specific property types – multi-family, industrial, retail and office. The Fund will rely upon IRE's extensive resources, experience in the real estate investment market and deep knowledge of value-added investing to seek superior returns for Fund investors. The Fund seeks to provide investors with a gross internal rate of return ("IRR") of 12-15%.

Invesco Real Estate V - VI

- A value-add real estate investment fund sponsored by Invesco Advisers, Inc. (the "Investment Manager") and is managed by Invesco Real Estate, the real estate investment management center of the Investment Manager ("Invesco Real Estate" or "IRE"), a subsidiary of Invesco Ltd. (collectively, "Invesco"). The Fund is being formed to continue the execution of Invesco Real Estate's U.S. value-add fund series. Consistent with its predecessor funds, the Fund expects to pursue a similar investment strategy of acquiring fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. The Fund will seek to achieve a gross annual compounded internal rate of return ("IRR") of 11-14% on its investments. Targeted returns are not predicated on significant rental rate growth, excessive use of leverage or macro trends. Rather, the Fund will seek to acquire sub-performing, transitional assets where Invesco Real Estate can utilize its operational and managerial experience to add value at the property level, grow net operating income ("NOI") and maximize asset value at monetization.

Fund descriptions continued

LaSalle Income & Growth VI - VII

- The Fund intends to pursue non-core properties (including office, industrial, retail and multifamily properties) that LaSalle believes exhibit sound fundamentals and have the potential to provide attractive income and the opportunity for value creation through: (1) the strategic lease-up of vacant or roll-over space, (2) creative property repositioning and refurbishment, (3) build to suit expansion or new construction and/or (4) tenancy upgrades. LaSalle believes that once properties have been repositioned, such properties will have the potential to attract buyers seeking “core” returns. From a geographic perspective, the Fund will seek to acquire non-core assets in major markets and high-quality properties in targeted secondary markets that it believes are temporarily out of favor but may come back into favor if more capital flows to real estate.

Long Wharf Fund IV – V

- Funds formed in (2012, 2015, 2019) to make value-added investments in multiple property sectors in markets across the U.S. With (\$254, \$438, \$505) million of capital commitments, the fund seeks to generate an annualized net IRR of 12-15%. LREP (IV, V, VI) employs a value-oriented philosophy that focuses on total cost basis relative to asset quality, and where the potential return is driven by improving and stabilizing a property's operations rather than attempting to predict trends in the broader capital markets. The fund primarily pursues smaller to medium-sized investments, while selectively considering investments in larger properties or portfolios. Long Wharf believes middle market transactions – those with a gross value under \$75 million represent a more attractive portion of the overall commercial real estate market based on relative value and liquidity.

Oaktree REOF V - VII

- The primary objective of the Fund is to achieve superior risk-adjusted returns without subjecting principal to undue risk of loss primarily through investments in real estate and real estate-related debt, companies, securities and other assets on a global basis, with an emphasis on investments in the United States.

Paulson Real Estate Fund II

- A value-added real estate fund sponsored by Invesco Real Estate (“IRE”). Invesco Real Estate is the real estate investment management center of Invesco Advisers, Inc., a subsidiary of Invesco Ltd. (together with its affiliates, “Invesco”). Fund Investments will be made solely in the United States in four specific property types – multi-family, industrial, retail and office. The Fund will rely upon IRE’s extensive resources, experience in the real estate investment market and deep knowledge of value-added investing to seek superior returns for Fund investors. The Fund seeks to provide investors with a gross internal rate of return (“IRR”) of 12-15%.

Siguler Guff DREOF

- The Siguler Guff Distressed Real Estate Opportunities Funds are diversified portfolios that invest in various types of real property interests, including equity interests in commercial property, commercial mortgages and commercial mortgage-backed securities, and the debt and equity securities of real estate operating companies or real estate investment trusts primarily in the U.S. and Europe.

Fund descriptions – recently added

Blackstone Real Estate Partners X

- This is Blackstone’s flagship global opportunistic fund, with target allocation of 70% North America, 20% Europe, and 10% Asia. The fund’s thematic sectors are logistics, rental housing, and lodging, taking advantage of the growing penetration of e-commerce and supply chain disruption, the need for affordable housing, and market volatility for hotels. Leverage ratio is typical opportunistic range between 60% and 75%, with average deal size of \$100M.

PCCP Equity IX

- The Fund will consist of a portfolio of U.S. middle market real estate assets, diversified by geography, asset class, strategy type and operating partner. The fund will invest primarily in the four main property types (office, industrial, multifamily and retail/mixed use). The fund expects to invest in 40-50 investments with an average deal size of \$25-30 million in equity commitments. Leverage will be capped at 65% at the portfolio level and development will be capped at 30%. PCCP expects property type allocations to be approximately 30% each to industrial/multifamily/office and 10% to other (retail and/or hotel), with some potential for distressed opportunities. The development budget will be targeted towards industrial and multifamily.

Glossary of terms

Capitalization Rates: The rate of return of a real estate investment, which is calculated by dividing the property's net operating income by the property's purchase price.

Core Real Estate: This category of real estate will include a preponderance of stabilized properties. Core real estate should achieve relatively high income returns and exhibit relatively low volatility. Core real estate funds tend to use less leverage.

Consumer Price Index (CPI): A measure of purchasing power and inflation that takes the average prices of a basket of consumer goods and services, such as food, medical care, and transportation, and compares the same basket of goods in terms of prices to the same period in a previous year. Changes in CPI are used to assess price changes associated with the cost of living.

Double Promote: A joint venture private equity structure is considered to have a "double promote" if the sponsor of a project is in fact comprised of two separate parties who each have a profit waterfall agreement or cash flow disbursements.

Dry Powder: Investment reserves raised by investment funds to cover future obligations or to purchase assets in the future.

GDP: The total value of all services and goods produced within a country's borders, for a given time period. This calculation includes both private and public consumption, government expenditures, investments, along with total exports net of total imports.

Internal Rate of Return (IRR): the IRR is the discount rate that equates the present value of cash outflows (investment) with the present value of cash inflows (return of capital). IRR is often referred to as a dollar-weighted rate of return that accounts for the timing of cash inflows and outflows.

LIBOR: Is a benchmark rate that some of the world's largest banks charge each other for short-term loans. It stands for London Interbank Offered Rate and serves as the first step in calculating interest rates on various loans throughout the world.

Net Operating Income (NOI): A calculation which is used to analyze real estate investments that generate income. NOI is the property's annual income generated by operations after deducting all expenses incurred from those operations. The growth rate in NOI is a common metric used in determining the health of a property.

Opportunistic Real Estate: An opportunistic fund is one that includes preponderantly non-core assets. The fund as a whole is expected to derive most of its return from property appreciation which may result in volatile returns. These funds may employ a variety of tools such as development, significant leasing risk and potentially high leverage.

Real Estate Investment Trusts (REITs): A REIT is a company that owns and operates commercial real estate properties. REITs can be publicly traded or privately held. There are two main type of REITs: Equity REITs which generate income from the operation of properties, and Mortgage REITs, which invest in mortgages or mortgage securities.

Value-Added Real Estate: A value-added real estate fund often holds a combination of core assets and other assets characterized by less dependable cash flows. These strategies are likely to have moderate lease exposure and employ moderate leverage. Consequentially, these strategies seek significant returns from property appreciation and typically exhibit moderate volatility.

Vacancy Rates: The vacancy rate is calculated as the total number of unoccupied units of a property divided by the total units of the property, at a particular point in time.

Vintage Year: Represents the year the first capital call or portfolio company investment was made.



MEMORANDUM

Date: August 24, 2022
To: CCCERA Board of Retirement
From: Karen Levy, General Counsel
Subject: Continuing teleconference meetings under Government Code section 54953 (e)

Background

All meetings of the Board of Retirement are open to the general public, as required by the Ralph M. Brown Act, California Government Code sections 54950 *et seq.* Section 54953 (e) of the Brown Act authorizes conducting public meetings via teleconferencing during a state of emergency. The Board has approved conducting its meetings via teleconferencing under Section 54953 (e), finding that in-person meetings of the Board are open to the general public and would risk the health or safety of the public, staff, outside consultants and trustees attending public meetings, in light of the COVID-19 pandemic and related state of emergency. Under the law, if the Board wishes to continue using these special teleconferencing rules it must reconsider the circumstances of the state of emergency and make certain findings.

Proclaimed State of Emergency and Health and Safety Guidance

Currently, the COVID-19 state of emergency proclaimed by the Governor is in effect. The Contra Costa County Health Officer updated its recommendations for safely holding public meetings on August 9, 2022. The recommendations include measures to promote social distancing. (See Attachment A, Health Officer's Recommendations). The Health Officer has recommended as follows:

Online meetings (i.e. teleconferencing meetings) are encouraged, where practical, as these meetings present the lowest risk of transmission of SARS CoV-2, the virus that causes COVID 19. This is particularly important when community prevalence rates are high. Our current trends as of August 9, 2022 in Covid-19 case rate, test positivity, Covid-19 hospitalizations, and Covid-19 wastewater surveillance are stable, but still remain high at this time. In addition to this, the predominant variant of Covid-19 being identified continues to be the Omicron variant and it's subvariants the impact of which on the spread of Covid-19 has shown to dramatically increase COVID-19 transmission.

Recommendation

Consider and take possible action to authorize the Board and its committee(s) to continue to conduct teleconference meetings for the next 30 days under Government Code section 54953 (e) and make the following findings:

1. The Board has reconsidered the circumstances of the statewide state of emergency proclaimed by the Governor on March 4, 2020 and the countywide local emergency proclaimed by the Governor on March 10, 2020.
2. The following circumstances currently exist:
 - a. The statewide state of emergency and the countywide local emergency continue to directly impact the ability of the Board and its committee(s) to meet safely in person at meetings that are open to the general public because of the COVID-19 pandemic.
 - b. The County Health Officer's recommendations for safely holding public meetings, which encourage virtual meetings and other measures to promote social distancing, are still in effect.

Attachment

A



Recommendations for safely holding public meetings

Each local government agency is authorized to determine whether to hold public meetings in person, on-line (teleconferencing only), or via a combination of methods. The following are recommendations from the Contra Costa County Health Officer to minimize the risk of COVID 19 transmission during a public meeting.

1. Online meetings (i.e. teleconferencing meetings) are encouraged, where practical, as these meetings present the lowest risk of transmission of SARS CoV-2, the virus that causes COVID 19. This is particularly important when community prevalence rates are high. Our current trends as of August 9, 2022 in Covid-19 case rate, test positivity, Covid-19 hospitalizations, and Covid-19 wastewater surveillance are stable, but still remain high at this time. In addition to this, the predominant variant of Covid-19 being identified continues to be the Omicron variant and it's subvariants the impact of which on the spread of Covid-19 has shown to dramatically increase COVID-19 transmission.
2. If a local agency determines to hold in-person meetings, offering the public the opportunity to attend via a call-in option or an internet-based service option is recommended, when possible, to give those at higher risk of and/or higher concern about COVID-19 an alternative to participating in person.
3. A written safety protocol should be developed and followed. It is recommended that the protocol require social distancing, where feasible – i.e. six feet of separation between attendees; and consider requiring or strongly encouraging face masking of all attendees and encouraging attendees to be up-to-date on their COVID-19 vaccine.
4. Seating arrangements should allow for staff and members of the public to easily maintain at least six-foot distance from one another at all practicable times.
5. Consider holding public meetings outdoors. Increasing scientific consensus is that outdoor airflow reduces the risk of COVID-19 transmission compared to indoor spaces. Hosting events outdoors also may make it easier to space staff and members of the public at least 6 feet apart. If unable to host outdoors, consider ways to [increase ventilation and flow](#) of the indoor space to reduce the risk of COVID-19 while indoors.
6. Current evidence is unclear as to the added benefit of temperature checks in addition to symptom checks. We encourage focus on symptom checks as they may screen out individuals with other Covid-19 symptoms besides fever and help reinforce the message to not go out in public if you are not feeling well.
7. Consider a voluntary attendance sheet with names and contact information to assist in contact tracing of any cases linked to a public meeting.

Revised 8-9-2022

Sefanit Mekuria

Sefanit Mekuria, MD, MPH
Deputy Health Officer, Contra Costa County





Meeting Date
08/24/2022
Agenda Item
#9a.

SACRS Program Committee Meeting

Date: Monday, September 26, 2022

SACRS Board of Directors Meeting

Date: Tuesday, September 27, 2022

Time: 9 am – 1:00 pm

Location:

Santa Barbara, California


Hotel TBD

or

Zoom Teleconference

Private Equity for the Trustee

 **COMPREHENSIVE COURSE**



Meeting Date
08/24/2022
Agenda Item
#9b.

The Private Equity for Trustees course, part of ILPA's "Comprehensive" class series, provides a complete experience for the participant who wishes to understand and evaluate private equity investing from a trustee or a stakeholder perspective. The course explores the basic aspects of the private equity asset class, the economics of a private equity investment, the current state of the market and its external perception.

This course combines (i) an especially intelligent curriculum design built around the rhythm of private equity investment, with an infusion of (ii) ILPA's Principles, templates and associated resources and (iii) significant interactivity and peer-to-peer learning driven through structured conversations and the use of

Key Learning Objectives

- Articulate the basics of the asset class and the role it plays in a balanced portfolio
- Explain fees required to invest in private equity and how the economics benefit the investor
- Define the rationale for particular private equity investments within the portfolio and the importance of manager selection
- Understand the key terms and regulatory bodies that serve as protections for the private equity investor
- Interpret key financial metrics in private equity and identify benchmarks for evaluating fund performance
- Evaluate the internal resources needed to support a private equity investment program
- Apply a forward-looking perspective to private equity investing and anticipate how to react to market cycles

Who Should Attend?

This course is designed for trustees and those responsible for fund governance or for those who work closely with trustees to understand the program management perspective on private equity investments.

ILPA Members May Take This Course in the Following Formats:

All classes (other than asynchronous) are delivered live by ILPA's leading practitioner faculty. Groups of up to 35 participants from multiple LP organizations or a single LP organization engage in active lecture, discussion and peer-to-peer learning (including use of a custom-designed case study).



Live With Participants From Multiple LP Organizations



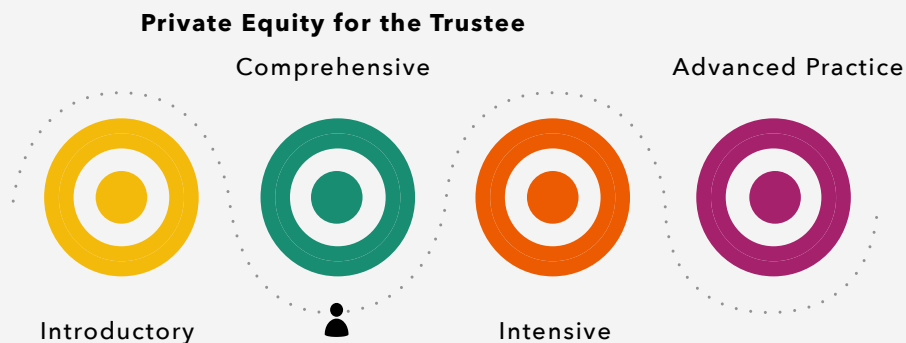
Live With Participants From a Single LP Organization



Have questions about the different formats and finding the right fit for your schedule this upcoming calendar year?

Reach out to **ILPA Education** at education@ilpa.org

Typical Lifecycle of ILPA Institute Courses





ILPA Institute Course Registration Form

Register online at ilpa.org or submit completed forms to: milk@ilpa.org

PARTICIPANT INFORMATION

First Name: _____

Last Name: _____

Badge Name: _____

Title: _____

Organization: _____

Address: _____

City: _____

State: _____ Zip/Postal Code: _____

Country: _____

Phone: _____ Email: _____

Member of the ILPA? Yes No

ILPA is a registered sponsor on the National Registry of CPE Sponsors; do you require a NASBA Certificate of Completion? Yes No

Year started in private equity: _____

Year started managing and monitoring a private equity portfolio: _____

Dietary Restrictions (if any): _____

(continue on next page)

TERMS AND CONDITIONS

COURSE FEE: The fee entitles the registered delegate to attend all training sessions, meals and breaks. The fee also includes instructional materials.

PAYMENT: Payment in full must be received prior to the date of the event. Payments can be made by Visa, MasterCard, Amex, company check or by wire transfer.

CANCELLATION POLICY: Cancellation of attendance will only be accepted if received in writing more than 30 days prior to the program and will be subject to a charge of 50% of the program fee. No refunds will be made for cancellations within 30 days of this program.

SUBSTITUTION POLICY: Substitutions within organizations are permitted, without penalty, at any time prior to the start of the program. No external substitutions may be made and under no circumstances may registrations be shared. Change of delegate request must be made in writing to milk@ilpa.org

PHOTOGRAPHY/VIDEO: Photographs and/or video may be taken and utilized for marketing purposes. By nature of your attendance, you are granting permission for your image to be used for our promotion purposes as we see fit.

EVENT CANCELLATION: Neither Party shall be liable for the non-performance of its obligation under this Agreement for a maximum period of five (5) days if such performance is caused by weather, natural disasters, health threats as determined by the World Health Organization, strikes, war, terrorism, utility outages, communication outages, or any other circumstances which could not have been reasonably foreseen and avoided by commercially reasonable action or are beyond the reasonable control of a Party ("Force Majeure"). A Party shall be excused from performance under this Agreement for the duration of the effects of such Force Majeure circumstances.

POSTPONEMENT: ILPA reserves the right to postpone an event due to insufficient class size, commercial impracticability of hosting the event (for any reason as detailed in the Event Cancellation clause or a change in event protocol or travel restriction due to the ongoing COVID19 pandemic). In the event that ILPA postpones an event, delegate payments already received will be credited to a future ILPA Institute in-person or virtual event, on a date convenient to the attendee.

CHANGE IN CLASS FORMAT: In the event in-person gatherings are not feasible, the scheduled class will run virtually via Zoom on the same dates and at the same times as the class was originally scheduled. Participants will receive a minimum of 6-weeks' notice if this change is to occur.

IN-PERSON GATHERINGS: ILPA will adhere to all health policies and safety protocols enforced by the Event venue and local state/city mandates, in addition to our own health and safety requirements, which may include sharing of vaccination status/negative test, social distancing protocols or signing a COVID waiver. ILPA will communicate any procedures to attendees prior to the Event start date and to inquire into specific requirements please contact milk@ilpa.org. For up-to-date information on ILPA's COVID-19 policies visit our website <https://ilpa.org/ilpa-covid19/>

FACULTY: Please be aware that all faculty were confirmed at the time of the published course, however, circumstances beyond the control of the organizers may necessitate substitutions, alterations or cancellations of the faculty. ILPA reserves the right to alter or modify the faculty and /or course outline topics if necessary.

DIVERSITY: ILPA reserves the right to limit the number of participants from one organization to ensure a diverse learning environment.

ILPA Institute Course Registration Form

COURSE NAME	MEMBER EARLY BIRD	MEMBER RATE	NON-MEMBER RATE
Theory & Concepts of Private Equity	<input type="checkbox"/> \$2,599	<input type="checkbox"/> \$3,199	<input type="checkbox"/> \$5,299
Private Equity for the Limited Partner	<input type="checkbox"/> \$1,199	<input type="checkbox"/> \$1,499	<input type="checkbox"/> \$2,799
	<input type="checkbox"/> \$1,499	<input type="checkbox"/> \$1,999	<input type="checkbox"/> \$3,499
Private Credit for the Limited Partner	<input type="checkbox"/> \$720	<input type="checkbox"/> \$899	<input type="checkbox"/> \$1,440
Private Equity for the Trustee	<input type="checkbox"/> \$1,499	<input type="checkbox"/> \$1,999	<input type="checkbox"/> \$3,499
Private Equity Co-Investing for the Limited Partner	<input type="checkbox"/> \$720	<input type="checkbox"/> \$899	<input type="checkbox"/> \$1,440
	<input type="checkbox"/> \$899	<input type="checkbox"/> \$1,199	<input type="checkbox"/> \$1,799
Legal Documents	<input type="checkbox"/> \$1,199	<input type="checkbox"/> \$1,499	<input type="checkbox"/> \$2,799
	<input type="checkbox"/> \$1,499	<input type="checkbox"/> \$1,999	<input type="checkbox"/> \$3,499
Portfolio Construction	<input type="checkbox"/> \$1,499	<input type="checkbox"/> \$1,999	<input type="checkbox"/> \$3,499
Investment Due Diligence	<input type="checkbox"/> \$1,499	<input type="checkbox"/> \$1,999	<input type="checkbox"/> \$3,499
An Insider's Look at Private Equity Managers	<input type="checkbox"/> \$899	<input type="checkbox"/> \$1,199	<input type="checkbox"/> \$1,799
GP Value Creation	<input type="checkbox"/> \$1,499	<input type="checkbox"/> \$1,999	<input type="checkbox"/> \$3,499
Operational Due Diligence	<input type="checkbox"/> \$1,499	<input type="checkbox"/> \$1,999	<input type="checkbox"/> \$3,499
Secondary Fund Modeling	<input type="checkbox"/> \$899	<input type="checkbox"/> \$1,199	<input type="checkbox"/> \$1,799
Essential Conversations in Private Equity	<input type="checkbox"/> \$720	<input type="checkbox"/> \$899	<input type="checkbox"/> \$1,440

PLEASE INDICATE THE PROGRAM DATE:

[Click here to look up program dates](#)

PRE-REQUISITES

- I meet the pre-requisites of the Intensive course(s) that I am registering for.
([See course pages for prerequisite details](#))

RECEIPT AND ACKNOWLEDGEMENT OF MATERIALS:

- By checking below, you acknowledge that the Program Materials are the copyrighted property of ILPA or its licensors and may only be reproduced or distributed with the express prior written consent of the ILPA, and further acknowledges and agrees that (except as required by applicable law) the Program Materials may not be distributed or otherwise provided (in whole or part) to anyone outside of the undersigned's organization without the express prior written consent of the ILPA.

(continue to payment)

ILPA Institute Course Registration Form

TOTAL:

(Calculate from selection on page 2)

METHOD OF PAYMENT

WIRE TRANSFER

ACH FUND TRANSFER

CHECK

CREDIT CARD

CHARGE TO: VISA MasterCard

CARD NUMBER

CVV

EXPIRATION DATE

CARD HOLDER NAME

ADDRESS OF CARD HOLDER



**Sacramento County Retired Employees
Association
P.O. Box 161414
Sacramento, Ca. 95816**

**Meeting Date
08/24/2022
Agenda Item
#9c.**

**CRCEA Fall Conference 2022
October 9-12, 2022**

Hosted by Sacramento County Retired Employees Association

SCREA cordially invites you to attend the CRCEA Fall Conference of 2022. The conference will be held at the Embassy Suites Sacramento- Riverfront Promenade. Three ways to make reservations.

1. Use the link below:

Your web page address is:

<https://www.hilton.com/en/book/reservation/deeplink/?ctvhocn=SAACES&groupCode=CESSCR&arrivaldate=2022-10-09&departuredate=2022-10-12&cid=OMLWW.HILTONLINK.EN.DirectLink&fromId=HILTONLINKDIRECT>

2. Visit www.sacramento.embassysuites.com and make a reservation using the group/convention code: SCR.
3. Call (916) 326-5000 and let the Front Desk Agent know you would like to make a reservation under the SCREA – Retired Employees Assn discounted rate.

Reservations must be in by September 17,2022.

The hotel conference price is good for two days before and two days after the scheduled event.

Hotel guests enjoy a hot cooked breakfast in the morning and Happy Hour nightly (free with hotel registration). Room cost is \$195.00 plus sales tax of 8.75% and TOT of 12%.

Other costs: Registration \$75.00, Banquet Dinner (Tuesday night) \$60.00, and parking \$24.00 daily maximum (Front/Capitol Mall).

Any questions regarding the conference or registration shot be referred to Nancy Gust at njgust@Hotmail.com. Or (916) 725-6752.

Sacramento County Retired Employees Association (SCREA) looks forward to seeing you and enjoying your participation in the CRCEA Fall Conference 2022.

A handwritten signature in blue ink that reads "Randal P. Angeloni".

Randal P. Angeloni
President, SCREA

Rpangel0704@gmail.com

Delegates Only: please bring 25 copies of your association's newsletter for placement on the information table.



**CRCEA 2022 Fall Conference in Sacramento
October 9-12, 2022
Hosted by Sacramento County Retired Employees
Association (SCREA)**

*Mark Your Calendar, Extend Your Stay!
Lot's To Do, Every Single Day!*

Get Here!

Fly, Sacramento International Airport (SMF)
Train, AMTRAK to Downtown Sacramento
Drive, I-5, 80, 50, 99 or Country roads

Stay Here!

Stay at the **Embassy Suites**, steps from historic “Old Town” and River Front Promenade along the **Sacramento River!** Why not take a **River Cruise?**

Sacramento Activities

Take a boat cruise in Old Sacramento

Sacramento Cruises, Boat Rides & Sightseeing Tours | City Cruises (cityexperiences.com)

Museums

We have the **California State Capitol Museum** (M-F 9-5), the **California Museum**, the **California State Railroad Museum**, **California Automobile Museum**, the **Crocker Art Gallery**, **Sacramento History Museum**, and more...

Theater, Sports, Tours and Zoos

What else do we have? How about the **Sacramento Theater Company**, **B Street Theatre**, **Old Sacramento Underground Tour**, home of the **Sacramento Kings**, historical **Sutter's Fort**, the **Sacramento Zoo**, and much more!

Upcoming Events

Go online to [Visit Sacramento | Hotels, Restaurants, Events, & Things to Do](#) and click on “**Events**”, “**Restaurants& Drinks**”, or “**Things To Do**” prior to the conference to see current activities.

Hope to See You in Sacramento!

PARKING

Tower Bridge Garage (Front & Capitol Mall)

Daily Rates (6 a.m. to 6 p.m.)

\$1.50 each half hour or fraction thereof

\$15.00 day maximum charge

\$24.00 24-hour daily maximum

Evening Rates (6 p.m. to 6 a.m.)

\$9.00 nightly maximum charge

ALL RATES SUBJECT TO CHANGE. Daily rates subject to change during Special Events or Prepay Operations.

Height Clearance is 6' 9"

Embassy Suites – 100 Capitol Mall, Sacramento CA 95814

Valet parking \$35.00

Self-parking not available



CRCEA FALL 2022 CONFERENCE REGISTRATION FORM
OCTOBER 9-12, 2022
Embassy Suites Riverfront Promenade
100 Capitol Mall, Sacramento, CA 95814
Hosted by Sacramento County Retired Employees Association

NAME(S) _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

TELEPHONE # _____ E-MAIL _____

EMERGENCY CONTACT NAME _____ PHONE _____

ASSOCIATION/AFFILIATE/SYSTEM NAME _____

FALL CONFERENCE REGISTRATION DEADLINE IS SEPTEMBER 17, 2022

Tell us what designation you wish on your name badge:

- CRCEA Officer (indicate title) _____ Delegate
- Alternate Delegate Member Guest Retired Board Member Retired Board Member, Alternate
- Affiliate Organization _____ (Title) _____ + _____
- Retirement System Ret Sys Name _____ Title _____

ATTENDEE FEE OF \$75 EACH (SPOUSE \$35.00) (To be paid by every attendee, including spouses, except Affiliates & Host Conference Volunteers) \$ _____

BANQUET FEE \$60 PER PERSON (tax and tip included)

- Chicken Breast Florentine w/Sauteed Spinach & Parmesan Cheese,
 Thyme Veloute, Yukon Gold Baked Potatoes and Baby Carrots QUANTITY ____ @ \$60 Each \$ _____
- Boneless Pork Loin w/Buttermilk mashed potatoes, Caramelized baby
 carrots, Bourbon/Brown Sugar Demi Glace: QUANTITY ____ @ \$60 Each \$ _____
- Orecchiette Verde w/Peas, Asparagus, Spinach, Almond Basil
 Pesto, Charred Lemon & Olive Oil: QUANTITY ____ @ \$60 Each \$ _____

All meals include Napa Valley Salad (mixed greens, cherry tomatoes, olives, crumbled feta, and balsamic vinaigrette), Chef Selection of Vegetables, fresh rolls & butter, Starbucks coffee, Decaffeinated Coffee & Ice Tea, Apple Tart w/Cinnamon Powdered Sugar for dessert.

If you have dietary requirements, please indicate here so Embassy Suites can be notified in advance

TOTAL AMOUNT ENCLOSED (Includes Attendee fee, & Banquet fee) \$ _____

RESERVE SPOT FOR UNDERGROUND TOUR

Sunday, October 9, 2022 Quantity _____ or Monday, October 10, 2022 Quantity _____

ARE YOU ATTENDING HAPPY HOUR?

SUN (Oct 9, 2022) Yes ____ No ____ MON (October 10, 2022) Yes ____ No ____ TUE (October 11, 2022) Yes ____ No ____

PLEASE MAIL CHECK (payable to SCREA), ALONG WITH THIS FORM TO:

SCREA, Attention: CRCEA Conference
 P.O. 573
 Fair Oaks, CA 95628

If you have questions regarding this reservation form, please contact Nancy Gust at 916-725-6752 or at njgust@hotmail.com

DRAFT
CRCEA 2022 FALL CONFERENCE – SACRAMENTO
OCTOBER 9-12, 2022

SUNDAY, OCTOBER 9, 2022

- 2:00 p.m. – 5:00 p.m. **Conference Registration: Embassy Suites Atrium 1**
- 4:00 p.m. – 5:00 p.m. **Optional Event – Sacramento Underground Tour (Starts at Sacramento History Museum)**
- 5:30 p.m. – 7:00 p.m. **Embassy Suites Hospitality Reception – Terrace (2nd Floor)**
- 7:00 p.m. **Dinner On Your Own**

MONDAY, OCTOBER 10, 2022

- 6:00 a.m. – 8:30 a.m. **Breakfast On Your Own**
- 9:00 a.m. – 4:30 p.m. **Conference Registration: Embassy Suites Atrium 1**
- 9:00 a.m. – 11:00 a.m. **CRCEA Membership Committee Meeting – Steamboat/Central Pacific**
- 10:00 a.m. – 11:00 a.m. **Optional Event – Sacramento Underground Tour (Starts at Sacramento History Museum)**
- 1:00 p.m. to 1:30 p.m. **Opening Session: Steamboat/Central Pacific**
Call to Order: Skip Murphy CRCEA President
Invocation: Law Enforcement Chaplaincy Sacramento
Presentation of Colors: Sacramento County Sheriff's Honor Guard
Pledge of Allegiance: Randy Angeloni, SCREA President
Roll Call of Counties: CRCEA Secretary, Virginia Adams
Introduction of first- time attendees: President Skip Murphy
- 1:30 p.m. – 2:00 p.m. **Welcome Address**
Speaker: Don Nottoli, Sacramento County Supervisor District 5
Introduction: Randy Angeloni, SCREA President
- 2:00 p.m. – 2:45 p.m. **Topic – Fraud Prevention for Seniors**
Speaker: Dave Irish, SCREA Treasurer
Introduction: Nancy Gust, SCREA Vice President
- 2:45 p.m. – 3:15 p.m. **Afternoon Break (Root beer Floats)**
- 3:15 p.m. – 4:00 p.m. **Topic – Wills & Trusts**
Speaker: Ed Fong Esq. – The Law Office of Ed Fong
Introduction: Nancy Gust, SCREA Vice President
- 4:00 p.m.- 5:00 p.m. **Round Table Session:** President Skip Murphy
- 5:30 p.m. – 7:00 p.m. **Embassy Suites Hospitality Reception – Terrace (2nd Floor)**
- 7:00 p.m. **Dinner On Your Own**

TUESDAY, OCTOBER 11, 2022

- 6:00 a.m. – 8:30 a.m. **Breakfast On Your Own**
- 8:00 a.m. – 4:30 p.m. **Conference Registration: Embassy Suites Atrium 1**
- 8:30 a.m. – 8:45 a.m. **Morning General Session: Steamboat/Central Pacific**
Call to Order: President Skip Murphy
Announcements: Nancy Gust, SCREA Vice-President
- 8:45 a.m. – 9:30 a.m. **Topic: ScholarShare 529 California’s College Savings Program**
Speaker: Dana Salas, Outreach Specialist | California State Treasurer’s Office – ScholarShare Investment Board
Introduction: Nancy Gust, SCREA Vice President
- 9:30 a.m. – 10:15 a.m. **Topic: Retrospective on Pension Reform: Before and After Pepra**
Speaker: Eric Stern, CEO Sacramento County Employees Retirement System (SCERS)
Introduction: Randy Angeloni, SCREA President
- 10:15 a.m. – 10:30 a.m. **Morning Break**
- 10:30 a.m. – 11:00 a.m. **Introduction of Affiliates:** Carlos Gonzalez, Affiliate Committee Chair
- 11:00 a.m. – 11:45 p.m. **Topic – Levels of Care in Nursing Homes and Skilled Living Facilities**
Speaker: Dr. Lisa Chai – Chief of Elder Care - Kaiser Permanente Sacramento Medical Center
Introduction: Nancy Gust, SCREA Vice-President
- 11:45 p.m. – 1:30 p.m. **Lunch on your own**
- 1:30 p.m. – 2:15 p.m. **Topic – Staying in Your Home Safely**
Speaker: Pamala Dallas, Residential Living Advisor – Eskaton Lodge Granite Bay
Introduction: Nancy Gust, SCREA Vice-President
- 2:15 p.m. – 2:45 p.m. **Legislative Update:** Skip Murphy, CRCEA President
- 2:45 p.m. – 3:00 p.m. **Afternoon Break**
- 3:00 p.m. – 4:15 p.m. **Committee Breakout Sessions:** If you are not assigned to a committee, please join any committee you like.
- 5:30 p.m. – 6:45 p.m. **Embassy Suites Hospitality Reception – Terrace (2nd Floor)**
- 7:00 p.m. – 8:00 p.m. **Banquet Dinner:** Steamboat/Central Pacific
- 8:00 p.m. – 9:00 p.m. **Entertainment:** Comedian Jack Gallagher
Introduction: Nancy Gust, SCREA Vice President
- 9:00 p.m. – 9:30 p.m. **Raffle Drawing**

WEDNESDAY, OCTOBER 12, 2022

6: a.m. – 8:30 a.m. **Breakfast on your own**

8:30 a.m. – 11:00 a.m. **Business Session: Steamboat/Central Pacific**
Call to Order: President Skip Murphy
Announcements: Nancy Gust, Conference Chair
Approval of May 3, 2022, Business Session Minutes: Virginia Adams
Executive Committee Report: President Murphy
Financial Report: Treasurer Carlos Gonzalez
Committee Reports by Committee Chairs:
Affiliates: Carlos Gonzalez
Bylaws: David Muir
Communications: Virginia Adams
Audit/Finance: Jerry Jacobs
Legislation: Skip Murphy
Membership/Benefits: Rhonda Biesemeier
Nominating: Will Hoag: Election of Vice President and Secretary
Conference: Mike Sloan
Invitation to the Spring 2023 Conference:
San Bernardino County

Closing Remarks: President Skip Murphy



Save the Date!

Please join us at the **2022 Invesco Real Estate Global Client Conference**.

Location:

The Lodge at Torrey Pines
San Diego, California

Date:

Begins Tuesday November 15*
Cocktails/Dinner 6 p.m.

Ends Thursday, November 17
Cocktails/Dinner 6 p.m.

*Fund meetings for Existing Fund Investors and Advisory Board Members will take place on Tuesday afternoon and Thursday morning.