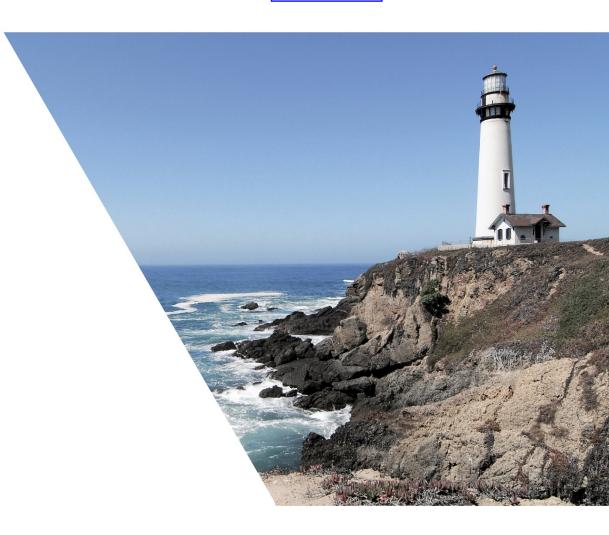
Meeting Date 05/26/2021







PERIOD ENDING: MARCH 31, 2021

Investment Performance Review for

Contra Costa County Employees' Retirement Association

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Investment Performance	TAB II
Review	



Recent Verus research

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

Topics of interest

IS THERE ALPHA AVAILABLE FROM EMERGING & DIVERSE MANAGERS?

While discussion on the alpha-generating ability of emerging and diverse managers has been part of institutional conversation for decades, the use of emerging and diverse managers has become a mainstay of industry conferences and in many Board meetings more recently. This paper explores the alpha-generating ability of emerging and diverse firms across asset classes and structures.

LEVERAGE IN PORTFOLIOS

Our latest Topics of Interest paper hopes to shed light on one segment of today's investment challenge, the benefits and risks associated with using leverage. This paper finds that for investors with sufficient capital to leverage market opportunities and allocate to a wide range of asset classes, and with an appropriate Enterprise Risk Tolerance to accept the range of outcomes involved, modest leverage may be responsibly employed to provide greater diversification of risk while maintaining a similar return target.

HOW TO MAKE MANAGER DECISIONS

Manager research decisions are made harder if you use the wrong tools and approaches. In this new paper, we outline the reasons why many investors may be finding these decisions harder than they need to and discuss a different way of thinking that may make the task of manager assessment clearer and more effective.

DEVELOPING AN END-GAME STRATEGY FOR CORPORATE PENSIONS

As a plan sponsor's de-risking strategy ultimately bears fruit and the plan approaches full funding, a new phase of the pension management lifecycle brings with it new challenges. Navigating the later stages of the assetliability journey requires that plan sponsors establish a clear and well-defined view of the end-state. Doing so requires careful consideration of costs (some knowable, some not), risks, and less tangible company-specific considerations. Once this end-state is defined, investment and contribution strategy can be cohesively aligned to maximize the probability of success. With greater flexibility, the probability of a successful outcome increases.

Annual research

ACTIVE MANAGEMENT ENVIRONMENT

We are pleased to release the Verus 2021 Active Management Environment. The past year has been one of extreme volatility and divergence in many respects, creating interesting opportunities for active managers to show differentiated performance and deliver alpha to clients. We hope the insights from this research will allow for a deeper understanding of active manager behavior and inform selection in the future.

IMPLICATIONS OF RISK TOLERANCE ON ESTABLISHING AN EFFECTIVE INVESTMENT STRATEGY FOR PUBLIC PENSION PLANS

The future health of public pension plans is dependent on many factors and faces many risks, including low prospective returns, unfavorable plan demographics, and stressed plan sponsor financial conditions. This paper will explore these risks and provide a framework for discussion and evaluation designed to ensure a plan's investment program is appropriately aligned with its risk tolerance.

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1st quarter summary

THE ECONOMIC CLIMATE

- Real GDP grew at a -2.4% rate year-over-year in the fourth quarter (+4.3% quarterly annualized rate) as the U.S. economic recovery continued at a brisk pace. p. 11
- The speed of vaccinations in the U.S. has exceeded expectations, reaching more than 3 million doses per day during the first week of April. Approximately 23% of the country have been fully vaccinated, and 37% have received a first dose. p. 7
- The Europe Union has been slower to roll out vaccinations, suggesting member countries may be grappling with the virus for longer periods of time. p. 19

PORTFOLIO IMPACTS

- We believe the U.S. economy is playing catch-up to the markets in the current environment. While it seems increasingly likely that the economy will rapidly come back to life over the next year, this optimism may already be baked into equity prices. p. 29
- U.S. core inflation remained low and stable, at 1.6% year-over-year in March. A jump in gasoline prices, along with base effects from the 2020 recession, pushed up headline inflation to 2.6%. It appears likely that inflation will continue to see a temporary rise in the coming months due to the lower prices of Q2 2020, since inflation is a year-over-year measure. p. 13

THE INVESTMENT CLIMATE

- President Biden announced his \$2 trillion Infrastructure Plan. In its initial form, the plan did not have bipartisan support, reportedly due to the lower proportion of the plan that related to traditional infrastructure spending, the size of the plan, and the proposed methods to fund it. Negotiations will commence in late-April, though it remains possible that the bill is modified in order to pass it via the "reconciliation" process, to avoid the need for Republican support. p. 11
- According to FactSet, S&P 500 earnings expectations for 2021 improved by 5.0% during the quarter. Analysts are now forecasting 25.4% earnings growth for 2021—an incredible recovery from the -11.2% earnings drop expected of 2020. p. 28

ASSET ALLOCATION ISSUES

- U.S. equities were a top performer in Q1, returning +6.2%.
 International equities returned +3.5% (MSCI EAFE Index) and emerging markets returned +2.3% (MSCI Emerging Markets Index), on an unhedged currency basis. p. 28
- Size and value factors both delivered strong relative performance. U.S. value stocks beat growth stocks (Russell 1000 Value +11.3%, Russell 1000 Growth +0.9%), as growth stocks entered a correction in February. Small capitalization stocks continued their rally (Russell 2000 +12.7%, Russell 1000 +5.9%). p. 31

Prospects for a strong economic rebound are compelling, though this good news may already be reflected in asset prices

We believe a neutral risk stance is warranted in the current environment

What drove the market in Q1?

"Biden signs \$1.9 trillion Covid relief bill, clearing way for stimulus checks, vaccine aid"

U.S. PERSONAL INCOME GROWTH (YEAR-OVER-YEAR)

Sep	Oct	Nov	Dec	Jan	Feb
6.0%	5.0%	3.2%	3.7%	13.1%	4.3%

Article Source: CNBC, as of March 11th, 2021

"U.S. vaccination campaign gains steam as White House speeds shipments"

AVERAGE DAILY VACCINE DOSE ADMINISTRATIONS (TRAILING SEVEN DAYS)

1/15	1/31	2/14	2/28	3/15	3/31
843,447	1,348,021	1,681,951	1,735,053	2,427,429	2,828,491

Article Source: Reuters, March 31st, 2021

"Bond Traders Gird for More Pain After Biggest Loss Since 1980"

BLOOMBERG BARCLAYS US LONG TREASURY INDEX TOTAL RETURN

Oct	Nov	Dec	Jan	Feb	Mar
-3.01%	+1.20%	-1.18%	-3.61%	-5.57%	-4.99%

Article Source: Bloomberg, March 31st, 2021

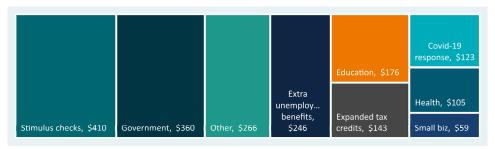
"OECD More Than Doubles US Economic Growth Forecast"

U.S. 2021 GDP GROWTH FORECAST (BLOOMBERG MEDIAN ESTIMATE)

Oct	Nov	Dec	Jan	Feb	Mar
3.8%	3.8%	3.9%	4.1%	4.9%	5.7%

Article Source: Chief Investment Officer, March 17th, 2021

AMERICAN RESCUE PLAN ACT ALLOCATIONS



Source: Wall Street Journal, as of 3/11/21

U.S. COVID-19 VACCINATION CAMPAIGN



Source: Bloomberg, as of 3/31/21

INTEREST RATES AND INFLATION EXPECTATIONS



Source: Bloomberg, as of 3/31/21



Economic environment



U.S. economics summary

- Real GDP grew at a -2.4% rate year-over-year in the fourth quarter (+4.3% quarterly annualized rate) as the U.S. economic recovery continued. The Atlanta Fed's GDPNow forecast for 2021 Q1 growth was 6.0% on a quarter-over-quarter annualized basis as of April 9th, suggesting an even more robust pace than the prior quarter.
- The speed of vaccinations in the U.S. has exceeded expectations, reaching 3 million doses per day. Approximately 23% of the country have been fully vaccinated, and 37% have received a first dose.
- President Biden announced his \$2 trillion Infrastructure Plan. In its initial form, the bill would spend \$400b on expanded care for the elderly and disabled, spend \$500b on electric vehicle subsidies and incentives, and spend \$100B on national high-speed broadband internet access, with a smaller portion of the spending going towards traditional infrastructure

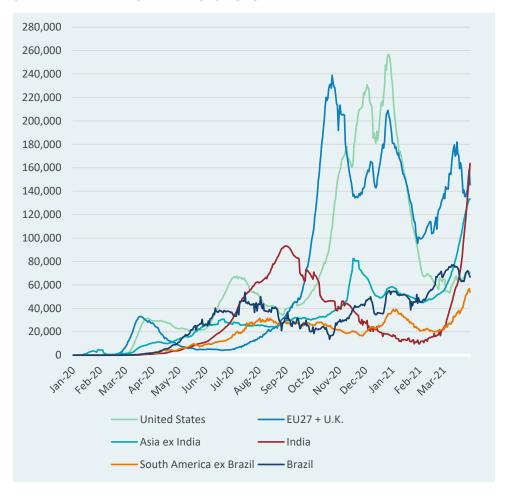
- such as power grid, railway, and public transit.
- U.S. core inflation remained low and stable, at 1.6% year-over-year in March. A jump in gasoline prices, along with base effects from the 2020 recession, pushed up headline inflation to 2.6%. It appears likely that inflation will continue to see a temporary rise in the coming months due to the lower prices of Q2 2020, since inflation is a year-over-year measure.
- While the U.S. unemployment rate continues to improve, falling from 6.7% to 6.0% during the quarter, the overall labor participation rate has stagnated. A disconnect seems to exist between the strong economy and weaker labor market.
- Consumer sentiment improved during Q1, along with the economic recovery. Sentiment is now at an average level relative to history.

Most Recent	12 Months Prior
(2.4%)	2.3%
12/31/20	12/31/19
1.6%	2.1%
3/31/21	3/31/20
2.20%	1.25%
3/31/21	3/31/20
0% – 0.25%	0% – 0.25%
3/31/21	3/31/20
1.74%	0.67%
3/31/21	3/31/20
6.0%	4.4%
3/31/21	3/31/20
10.7%	8.8%
3/31/21	3/31/20
	(2.4%) 12/31/20 1.6% 3/31/21 2.20% 3/31/21 0% - 0.25% 3/31/21 1.74% 3/31/21 6.0% 3/31/21 10.7%

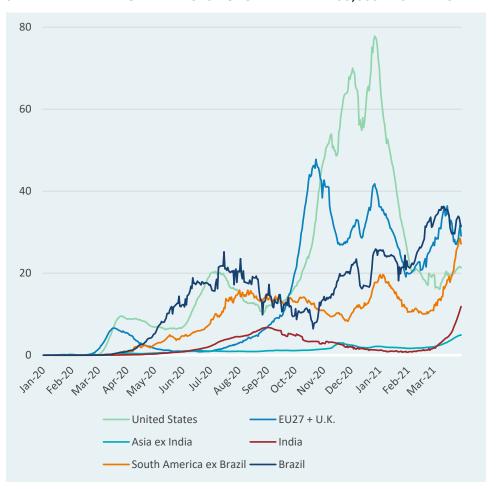


COVID-19 case growth

SEVEN-DAY AVERAGE DAILY CASE GROWTH



SEVEN-DAY AVERAGE DAILY CASE GROWTH - PER 100,000 RESIDENTS

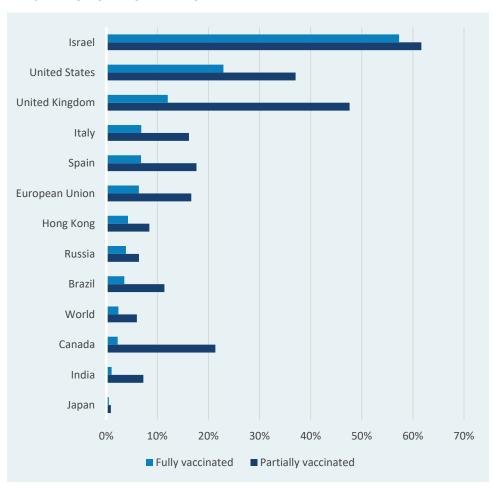


Source: Bloomberg, as of 4/15/21

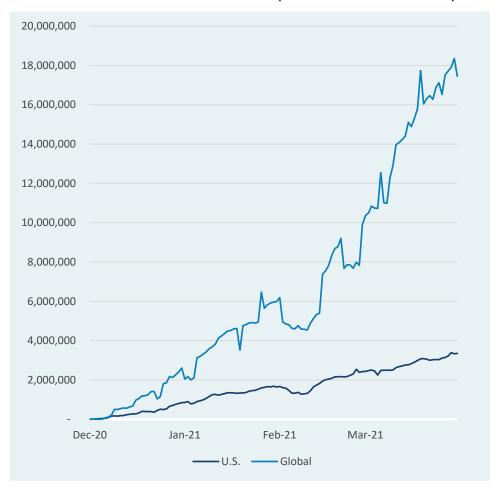


Global vaccination campaign

PERCENTAGE OF PEOPLE WHO ARE...



DAILY VACCINE DOSE ADMINISTRATIONS (7-DAY TRAILING AVERAGE)



Source: Our World in Data, as of 4/14/21, or most recent release.

Source: Bloomberg, as of 4/15/21



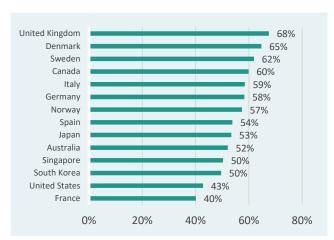
Vaccine hesitancy

Toward quarter-end, concerns over the development of blood clots in a very small percentage of recipients of the AstraZeneca/Oxford and Johnson & Johnson vaccines led policymakers in many countries to suspend administrations pending further investigation.

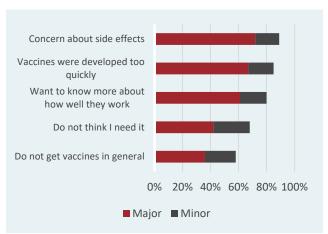
Though today these side effects appear quite rare, these developments will likely result in further delays in the push toward herd immunity over the short-term. If suspensions are lifted in the intermediate term, the vaccines in question are likely to face public relations issues which could

further hamper vaccination efforts. This dynamic is currently playing out in Europe with regard to the AstraZeneca vaccine—most of the Western part of the continent is taking a more cautious approach, while the Eastern segment has largely dismissed any clot-related concerns. Over the longer term, we believe that expanded vaccine production capacity, sufficiently diversified vaccine portfolios, and the coming online of new vaccines will reduce significantly the risk that idiosyncratic vaccine concerns create problems for the global vaccination campaign.

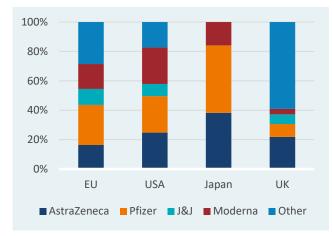
VACCINE WILLINGNESS



AMONG U.S. ADULTS ELECTING NOT TO BE VACCINATED, THE PERCENTAGE WHO SAY EACH OF THE FOLLOWING IS A MAJOR/MINOR REASON



VACCINE PORTFOLIO COMPOSITION ESTIMATE



Source: Our World in Data, Pew Research, Duke Global Health Innovation Centre, as of 3/31/21, or most recent release. The bars in the "Vaccine Willingness" chart indicate the percentage of people who agree with the following statement: "If a COVID-19 vaccine were made available to me this week, I would definitely get it."



GDP growth

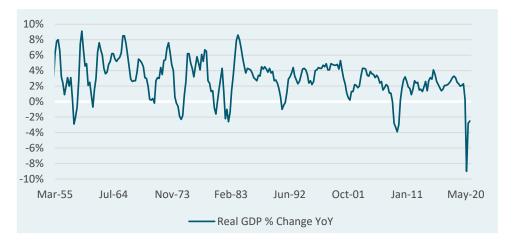
Real GDP grew at a -2.4% rate year-over-year in the fourth quarter (+4.3% quarterly annualized rate) as the U.S. economic recovery continued. The Atlanta Fed's GDPNow forecast for 2021 Q1 growth was 6.0% on a quarter-over-quarter annualized basis as of April 9th, suggesting an even quicker pace than the prior quarter.

President Biden announced his \$2 trillion Infrastructure Plan. In its initial form, the bill would spend \$400b on care for the elderly and disabled, \$500b on electric vehicle subsidies and incentives, and \$100b on national high-speed broadband internet access, with a smaller portion of spending going towards traditional infrastructure such as power grid, railway, and transit.

The plan as originally proposed did not have bipartisan support, reportedly due to the lower proportion of the plan dedicated to traditional infrastructure spending, its size, and its funding methods. Negotiations will commence in late-April, though it remains possible that the bill is modified in order to pass it via the "reconciliation" process, to avoid the need for Republican support.

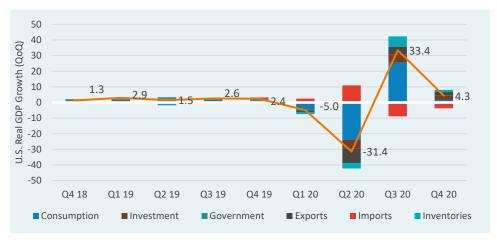
Large government stimulus programs are typically implemented during earlier stages of a recession, with the intent to fill a gap in demand and offset initial weakness. The current stimulus plans are very large and are being implemented at a time when the economy is well on the way to recovery. This creates risks of economic overheating, excesses, and inflation.

U.S. REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 12/31/20

U.S. GDP GROWTH ATTRIBUTION

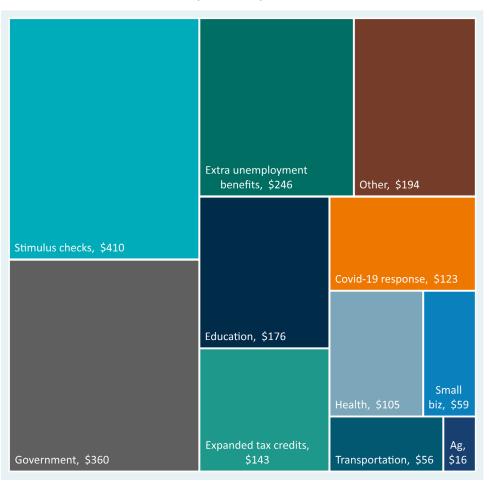


Source: BEA, annualized quarterly rate, as of 12/31/20

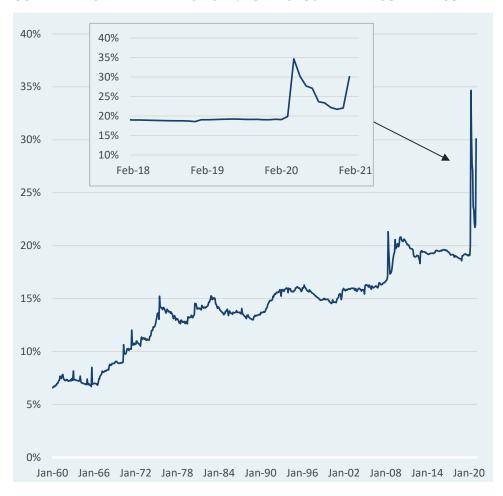


American Rescue Plan Act of 2021

STIMULUS BILL ALLOCATIONS (BILLIONS)



GOVT. TRANSFER PAYMENTS AS A % OF DISPOSABLE PERSONAL INCOME



Source: Wall Street Journal, as of 3/13/21

Source: BEA, as of 2/28/21



Inflation

U.S. core inflation remained low and stable, at 1.6% year-over-year in March. A jump in gasoline prices, along with base effects from the 2020 recession, pushed up headline inflation to 2.6%. It appears likely that inflation may jump temporarily in the coming months due to the lower prices of spring 2020, which will flow through to inflation, since inflation is a year-over-year measure.

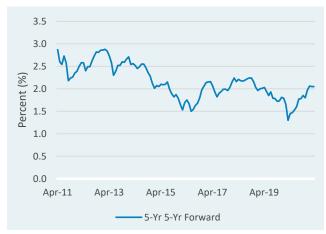
The 10-year TIPS breakeven inflation rate continued higher during the quarter to nearly 2.4% from 2.0%. Most inflation indicators have risen, though we believe that government purchases of TIPS may be artificially pushing up the breakeven rate.

Investor fears persist around potential inflation. Following the response of central banks to the Global Financial Crisis, and very little inflationary effects resulting from that monetary experiment, it is reasonable to have doubts around whether ultra low interest rates and easy money are highly inflationary. Some have argued that most money "printed" after 2008-2009 ended up on bank balance sheets, rather than in the real economy, which resulted in muted inflationary effects. In the current environment, much easy money is arriving in the form of checks delivered straight to households. This new form of stimulus, along with broader government spending, may suggest possible rising inflation, though we believe the probability of this remains low.

U.S. CPI (YOY)



MARKET INFLATION EXPECTATIONS



Source: FRED, as of 3/31/21

BREAKEVEN INFLATION RATES



Source: Bloomberg, as of 3/31/21



Source: Bloomberg, as of 3/31/21

Labor market

Unemployment fell from 6.7% in December to 6.0% in March. However, the overall labor force participation rate paints a less optimistic picture. At 61.5% participation in March, this metric has not budged since June of 2020.

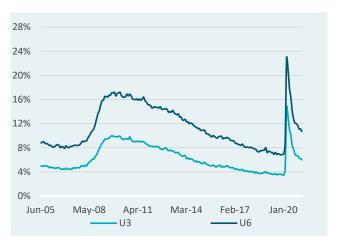
The U.S. labor force showed a strong rebound during the fall of 2020, but more recently appears to have stalled. Approximately 2% of the total U.S. workforce remains out of a job and is not seeking work, relative to pre-COVID levels. This effect is illustrated in the labor participation rate, which is a broad measure of employment—defined as the percentage of the country's population that is currently employed, among all

eligible workers. The participation rate fell from 63.3% immediately before the pandemic, to 60.2% in April, then back to 61.7% in August. The labor market remains weak despite an impressive economic comeback.

The most recent NFIB Small Business Optimism report explained "Main Street is doing better as state and local restrictions are eased, but finding qualified labor is a critical issue for small businesses nationwide... Small business owners are competing with the pandemic and increased unemployment benefits that are keeping some workers out of the labor force."

A large portion of the U.S. labor force remains neither employed nor seeking work

U.S. UNEMPLOYMENT



LABOR PARTICIPATION RATE

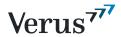


NFIB SMALL BUSINESS HIRING PLANS INDEX



Source: FRED, as of 3/31/21 Source: NFIB, as of 3/31/21

Source: FRED, as of 3/31/21



Employment conditions

Hiring activity picked up considerably in the first quarter of 2021, supported by strong progress on the vaccination campaign and the concurrent relaxation of social distancing controls. While the broad unemployment rate dipped from 6.7% to 6.0%, that number probably overstates the magnitude of the labor market recovery thus far. Labor force participation dropped from 63.4% in January of 2020 to 60.2% in April, and as of the end of the first quarter, that number had recovered to just 61.5%. As a result, while unemployment has improved, there remain roughly nine million U.S. citizens who have yet to regain employment.

The primary concern of the Federal Reserve remains limiting the potential scarring of the labor market as a result of the shutdowns over the last year, and the Fed's accommodation, paired with continued progress on the vaccination campaign should lay the foundation for a continued recovery in the labor market over the next several quarters. There remains much wood to chop.

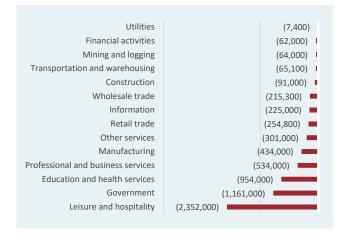
NON-FARM PAYROLLS - ONE-MONTH CHANGE



NON-FARM PAYROLLS - THREE-MONTH CHANGE



NON-FARM PAYROLLS – ONE-YEAR CHANGE



Source: BLS, as of 3/31/21



The consumer

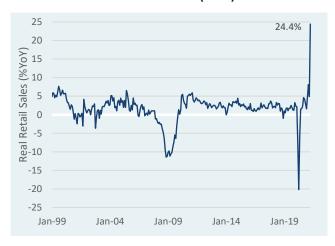
U.S. retail sales rocketed higher in the first quarter, accelerating to a 9.8% month-over-month pace in March (this rate was an astounding 24.4% on a year-over-year basis, though this metric is more difficult to interpret since it calculates growth from a starting point of March 2020—the depths of the recession). As expected, vast government stimulus is translating to red hot consumer spending.

According to anonymized cellular phone data collected by Google for COVID-19 public health research, Americans began returning to their daily routines through late spring and summer, as activity began moving back towards normalcy. Then, as COVID-19 cases

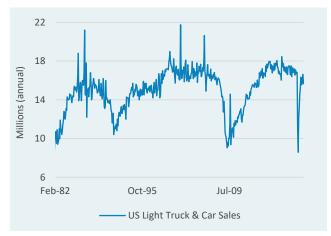
began to surge, many types of activities dipped once again. It now appears that activity such as retail, recreation, and grocery shopping are moving back to normal levels. At the same time, public transit usage and travel to workplaces remains depressed.

In last quarter's landscape we discussed concerns around the difficulty in determining what portion of the economic bounceback may have been due to unprecedented government stimulus, rather than a "natural" recovery of jobs and the financial health of Americans. We remain cautious, as certain aspects of the economy remain very weak, such as the labor market trends outlined earlier in this document.

REAL RETAIL SALES GROWTH (YOY)

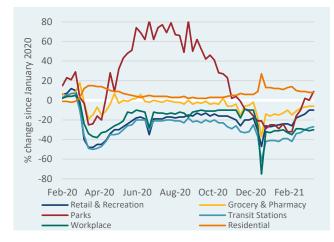


AUTO SALES



Source: Federal Reserve, as of 2/28/21

GOOGLE U.S. ACTIVITY TRACKER



Source: Google anonymized U.S. citizen mobility, as of 3/31/21



Source: FRED, as of 3/31/21

Sentiment

Consumer sentiment has seen only mild improvement, despite the stronger-than-expected pace of economic recovery.

The Bloomberg Consumer Comfort Index attempts to gauge Americans' views on the economy, their personal financial situation, and buying conditions. The index rose from 44.6 to 50.0 during the quarter. The University of Michigan Consumer Sentiment Survey attempts to gauge attitudes about the business climate, personal finances, and spending conditions. The index jumped from 80.7 to 84.9 in Q1,

directionally in line with the continued economic recovery.

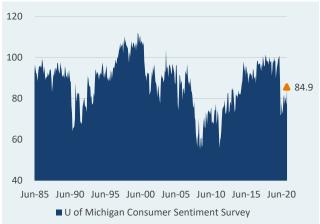
The NFIB Small Business Optimism Index returned to an average reading in Q4 and remains materially weaker than pre-pandemic levels. Participants in the survey expressed uncertainty around business conditions, and extreme difficulties in finding qualified workers due to attractive unemployment benefits. A surprising 42% of small business owners reported job openings that could not be filled, which was a record-high figure.

CONSUMER COMFORT



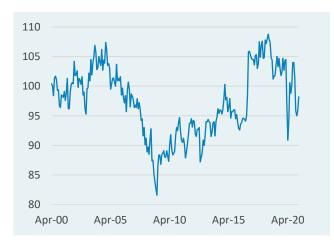
Source: Bloomberg, Langer, as of 3/28/21

CONSUMER SENTIMENT



Source: University of Michigan, as of 3/31/21

SMALL BUSINESS OPTIMISM



Source: NFIB, as of 3/31/21



Housing

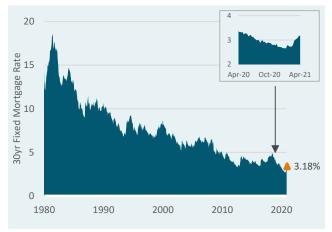
Sales of existing homes continued at a near-record pace through fall of 2020 and the beginning of 2021, before decelerating to 9.1% year-over-year in February. Sales of new homes followed a similar directional trend, though new homes have shown an even stronger growth rate consistently over the past decade. The impressive number of sales were achieved despite there being an extremely slim inventory of homes available on the market.

It has been surprising to witness a housing boom coincide with a sharp and deep global recession, although the dynamics that led to this environment are fairly simple to understand with hindsight. Record-low interest rates, record-low inventory of homes, and a desire of Americans for more space during the work-from-home environment, have lifted the cost of homes significantly. Some of these influences appear to be easing. Rising interest rates since the beginning of the year have contributed to higher mortgage rates, as the 30-year fixed average mortgage rate has risen from 2.65% to 3.18%. And the nationwide inventory of homes has improved to 4.8 months worth of supply. A further easing of conditions may help to cool down an extremely hot market.

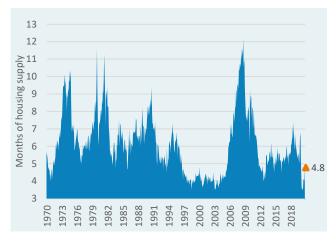
U.S. HOME SALES (YOY)



30-YEAR FIXED MORTGAGE RATE (AVERAGE)



HOUSING INVENTORY



Source: FRED, as of 3/31/21 Source: FRED, as of 2/28/21



Source: FRED, as of 2/28/21

International economics summary

- Economic growth continued to recover during the fourth quarter, though was still negative on a yearover-year basis in many countries.
 Growth expectations have risen as successful vaccine rollouts suggest that the world may get back to normal more quickly than originally assumed.
- Europe may unfortunately be excluded from this optimism, as a renewed wave of COVID-19 has once again led to lockdowns and restrictions. The Europe Union has been slower to rollout vaccinations, suggesting member countries may be grappling with the virus for longer periods of time.
- Unemployment was stable in the Eurozone and Japan, and fell modestly in the United States. As we described in prior quarters, governments have taken very different approaches to supporting workers, which makes labor market comparisons difficult.

- Despite heightened discussions about inflation risk, inflation remains muted and stable around the world, though the rebound in energy prices from record-low levels last year is having a lifting impact. This influence, driven by base effects, will most likely persist for the next few months.
- The gap between the manufacturing and services sectors of the economy narrowed toward the end of the quarter, as the beaten-down services sector showed signs of life across Europe. Extended periods of service sector activity expansion will likely depend on manageable levels of case growth and relaxed social distancing controls.
- Vaccine campaigns across mainland Europe as well as Japan have materially lagged those of the U.S. and the U.K., and the indefinite suspension of the AstraZeneca vaccine in many countries is likely to widen the gap in the short-term.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	(2.4%)	2.6%	6.0%
	12/31/20	3/31/21	3/31/21
Eurozone	(4.9%)	1.3%	8.3%
	12/31/20	3/31/21	2/28/21
Japan	(1.4%)	(0.2%)	2.8%
	12/31/20	3/31/21	2/28/21
BRICS	1.6%	1.4%	5.7%
Nations	12/31/20	3/31/21	12/31/20
Brazil	(4.1%)	6.1%	14.2%
	12/31/20	3/31/21	1/31/21
Russia	(3.0%)	5.8%	5.4%
	12/31/20	3/31/21	3/31/21
India	0.4%	5.5%	6.5%
	12/31/20	3/31/21	3/31/21
China	18.3% 3/31/21	0.4% 3/31/21	4.2 % 12/31/20

NOTE: India lacks reliable government unemployment data. Unemployment rate shown above is estimated from the Centre for Monitoring Indian Economy



International economics

Economic growth continued to recover during the fourth quarter, though still negative on a year-over-year basis in many countries. Growth expectations have risen as successful vaccine rollouts suggest that the world may move back to normal more quickly than originally expected, although the speed of vaccine distribution has differed wildly. As of quarter-end, the U.S. and United Kingdom lead in vaccine rollouts, while the European Union and Japan lag behind. Europe is seeing a renewed wave of COVID-19, which has once again led to lockdowns and restrictions.

Despite heightened discussions about inflation risk, inflation around the world remains muted and stable, though the rebound in energy prices from record-low levels last year is having a lifting impact. This influence, driven by base effects, will most likely persist for the next few months.

Unemployment was stable in the Eurozone and Japan, and fell modestly in the United States. As we have described in prior quarters, governments have taken very different approaches to supporting workers, which has made global labor market comparisons difficult.

REAL GDP GROWTH (YOY)

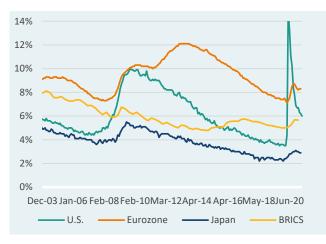


INFLATION (CPI YOY)



Source: Bloomberg, as of 3/31/21 – or most recent release

UNEMPLOYMENT



Source: Bloomberg, as of 3/31/21 – or most recent release



Source: Bloomberg, as of 12/31/20

Fixed income rates & credit



Interest rate environment

- Ten-year U.S. Treasury yields moved sharply higher, rising from 0.91% to 1.74%. Higher interest rates and tighter financial conditions create concerns for currently aboveaverage risk asset prices, and for the economic recovery more broadly.
- Bond yields around the world rose in tandem with the United States, though the yield of shorter-dated bonds and cash remained anchored near zero. Rising bond yields at longer tenors and relatively steady movement in short tenor yields resulted in yield curve steepening in many countries.
- The spike in global interest rates tested the standing policies at a number of major central banks. The Reserve Bank of Australia was forced to step in to defend its 3-year bond yield target, the Bank of Japan widened the target band for its 10-year bond yield, and the ECB tweaked its asset purchase program to allow for more flexible purchases.

- The Federal Reserve maintained an accommodative tone and signaled it will continue to provide support until substantial progress has been made in the labor market and the pandemic is clearly in the rear-view mirror. On balance, the Fed remains of the view that any pickup in inflation over the next few months is likely to be transitory.
- Breakeven inflation rates surged as reflation bets continued to mount.
 The five-year breakeven inflation rate closed the quarter at 2.6%, its highest level since 2008.
- Credit spreads compressed to near decade-tights as demand for higheryielding bonds remained high, and concerns over a wave of pandemicdriven defaults abated.
- Long-duration Treasuries posted their worst quarter since Q1 of 1980. The Bloomberg Barclays U.S. Long Treasury Index delivered a total return of -13.5%.

Area	Short Term (3M)	10-Year
United States	0.02%	1.74%
Germany	(0.67%)	(0.29%)
France	(0.62%)	(0.05%)
Spain	(0.56%)	0.34%
Italy	(0.54%)	0.67%
Greece	(0.24%)	0.86%
U.K.	(0.01%)	0.85%
Japan	(0.11%)	0.09%
Australia	0.00%	1.79%
China	2.28%	3.19%
Brazil	3.32%	9.28%
Russia	4.70%	7.00%

Source: Bloomberg, as of 3/31/21



Yield environment

U.S. YIELD CURVE

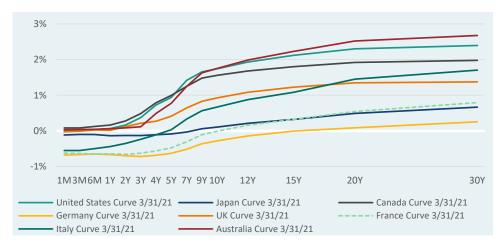


YIELD CURVE CHANGES OVER LAST FIVE YEARS

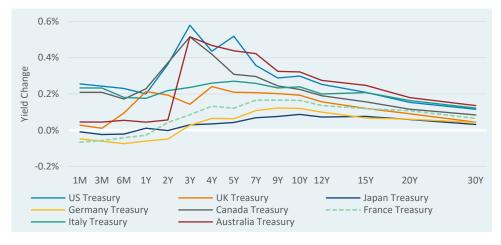


Source: Bloomberg, as of 3/31/21

GLOBAL GOVERNMENT YIELD CURVES



IMPLIED CHANGES OVER NEXT YEAR





Yield increases have tested central banks

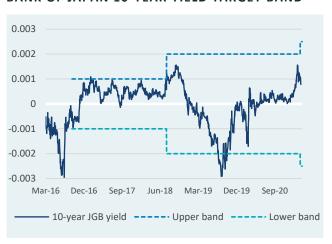
Bank of Japan: Clarified that 10-year yields can move within 25 basis points of the 0.00% target; tweaked guidance around buying ¥6 trillion in equity ETFs to make its purchases more "flexible and nimble".

Reserve Bank of Australia: Purchased A\$7 billion of bonds in a matter of days, A\$5 billion more than the scheduled amount, in order to defend its 0.10% target for its three-year bond yield.

European Central Bank: Elected not to expand the size of its Pandemic Emergency Purchase Programme (PEPP), but elected to frontload bond purchases to increase short-term accommodation.

Federal Reserve: Fed officials have largely avoided comment and have been sticking to the script that financial conditions remain loose, and that higher long rates are indicative of an improving economic outlook. As a result, some have surmised that the ambiguity around the Fed's reaction function may result in elevated levels of bond market volatility in the near-term.

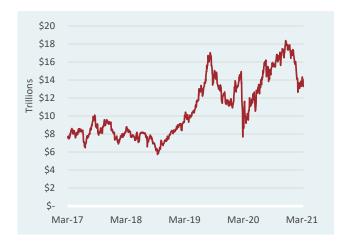
BANK OF JAPAN 10-YEAR YIELD TARGET BAND



AUD AUSTRALIAN YIELD CURVE



VALUE OF GLOBAL NEGATIVE YIELDING DEBT



Source: Bloomberg, as of 3/31/21



Credit environment

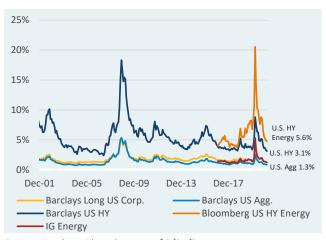
During the first quarter, credit market performance largely reflected the movements of the US Treasury curve, which steepened significantly as 10-year yields rose 82 basis points while 2-year yields remained anchored near zero. Investment grade credit, with an effective duration of 8.5, returned -4.65% over the quarter while high yield, with an effective duration of 3.9, return +0.85%. Bank Loans outperformed, returning +2.0% over the quarter.

Credit spreads continued to tighten during the quarter, as the vaccine rollout, which accelerated faster than expected, led to higher growth expectations for 2021. High yield spreads

tightened 51 basis points, to 308 basis points, while investment grade tightened a more modest 6 basis points to end the quarter at 90 basis points.

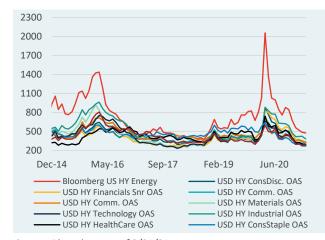
Spreads in higher quality investment grade assets have continued to compress over the past year. Notably, the BBB/A spread is now at an all-time low of 40 basis points, down from a high of 163 basis points experienced in Q1 2020. Similarly, the BB/BBB spread is now 155 basis points, down from recent high of 512 basis points established in March of 2020 and below the ten-year average of 215 basis points.

SPREADS



Source: Barclays, Bloomberg, as of 3/31/21

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 3/31/21

	Credit Spread (OAS)		
Market	3/31/21	3/31/20	
Long U.S. Corp	1.3%	2.8%	
U.S. Inv Grade Corp	0.9%	2.7%	
U.S. High Yield	3.1%	8.8%	
U.S. Bank Loans*	4.3%	8.3%	

Source: Barclays, Credit Suisse, Bloomberg, as of 3/31/21

*Discount margin (4-year life)



Default & issuance

Default activity was modest over the quarter, with 5 companies totaling \$3.2 billion defaulting on bonds and loans. The par-weighted U.S. high yield default rate retreated 139 basis points from recent highs to end the quarter at 5.4%. Similarly, the loan par-weighted default rate ended the quarter at an eleven-month low of 3.3%, down 61 basis points year-to-date.

Given the market perception of upside rate risk throughout the remainder of 2021, high yield bond issuers continued to come to market at a blistering pace. Gross issuance for the quarter set a new quarterly record of \$158.6 billion, outpacing the previous record set in Q2 2020 of \$145.5

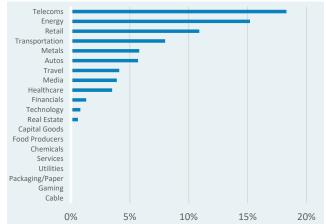
billion. Quarterly issuance remains significantly elevated relative to the ten-year average of \$79.9 billion. Notably, \$44.8 billion was issued to take-out leverage loans in Q1, which was roughly 60% of the previous annual record of \$78.5 billion set in 2012. \$154.6 billion in leverage loans were issued during the quarter, an amount eclipsing the previous record of \$139.5 in Q1 2017.

Investment grade issuance for the quarter totaled \$423 billion, which remains elevated from the 4-year average first quarter issuance of \$375, but lower than \$480 billion issued in Q1 2020 when supply surged due to COVID funding.

HY DEFAULT RATE (ROLLING 1-YEAR)

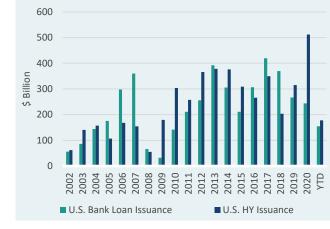


U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)



Source: BofA Merrill Lynch, as of 3/31/21 - par weighted

U.S. ISSUANCE (\$ BILLIONS)



Source: BofA Merrill Lynch, as of 3/31/21



Source: BofA Merrill Lynch, as of 3/31/21

Equity



Equity environment

- U.S. equities were a top performer in Q1, delivering +6.2%.
 International equities delivered +3.5% (MSCI EAFE Index) and emerging markets delivered +2.3% (MSCI Emerging Markets Index), on an unhedged currency basis.
 Trailing one-year returns hit extremely high levels, reflecting low base effects (markets bottomed out during March of 2020), and a recovery from those depressed levels year-over-year.
- We believe the U.S. economy is playing catch-up to the markets in the current environment. While it seems increasingly likely that the economy will rapidly recover over the next year, this optimism may already be baked into equity prices. It is reasonable to be enthusiastic about U.S. economic prospects while also being cautions about lofty equity valuations.
- According to FactSet, S&P 500 earnings expectations for 2021 improved by 5.0% during the

- quarter. Analysts are now forecasting 25.4% earnings growth for 2021—an incredible recovery from the -11.2% earnings drop expected of 2020.
- The Cboe VIX Index has slowly been falling back towards the longer-term average of 19. The index fluctuated in the low 20s during Q1, falling below 19 briefly in late March.
- The U.S. dollar stabilized in the first quarter, paring some of the losses accrued in the final three quarters of last year. Rising relative yields helped the dollar to appreciate materially relative to the euro, yen, and a broad basket of emerging market currencies.
- A rotation towards value stocks persisted during the quarter, as beaten-down sectors delivered outsized performance. Energy, financials, industrials, and materials were the strongest performers.

	QTD TOTA	L RETURN	1 YEAR TOT	AL RETURN
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (S&P 500)	6.2	2%	56.	4%
US Small Cap (Russell 2000)	12.	7%	94.8%	
US Large Value (Russell 1000 Value)	11.	3%	56.	1%
US Large Growth (Russell 1000 Growth)	0.9%		62.7%	
International Large (MSCI EAFE)	3.5%	7.6%	44.6%	37.7%
Eurozone (Euro Stoxx 50)	6.3%	10.6%	53.7%	45.3%
U.K. (FTSE 100)	5.9%	5.0%	35.6%	22.5%
Japan (NIKKEI 225)	(0.2%)	7.0%	52.6%	57.4%
Emerging Markets (MSCI Emerging Markets)	2.3%	3.7%	58.4%	52.2%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 3/31/21



Domestic equity

U.S. equities moved higher in Q1, returning +6.2%. According to FactSet, S&P 500 earnings expectations for 2021 improved by 5.0% during the quarter. Analysts are now forecasting 25.4% earnings growth for 2021—an incredible recovery from the -11.2% earnings drop expected of 2020.

Equities continued upward and valuations have followed. The U.S. market has been a top performer but has also remained one of the most expensive markets. On the other hand, successful COVID-19 vaccinate rollouts, rosy earnings expectations, and the potential for an impressive economic

reopening may be supportive of high prices. This reopening appears to be fueling a rotation towards traditional cyclical sectors, such as energy, financials, and industrials.

As markets move higher, it appears to us that the economy may be playing catch-up to the markets. While it seems increasingly likely that the economy will rapidly recover during the next year, this optimism may already be reflected in equity prices. In other words, it is reasonable to be enthusiastic about U.S. economic prospects while also being cautions about higher equity valuations.

S&P 500 INDEX

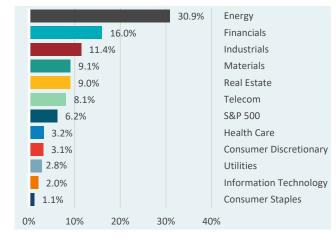


DIVIDEND YIELD VS BOND YIELD



Source: Standard & Poor's, as of 3/31/21

Q1 SECTOR PERFORMANCE



Source: Standard & Poor's, as of 3/31/21



Source: Standard & Poor's, as of 3/31/21

Retail market speculation

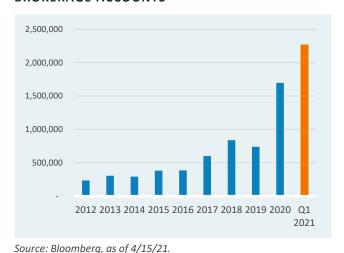
In recent years, trading has become free on certain platforms, making day trading a more attractive proposition. Retail's portion of total market trading has increased from 10% in 2010 to 23% in 2020, according to Bloomberg Intelligence.

Some trading platforms have attracted users by designing the trading process to be entertaining, similar to a video game. Discussion sites such as Reddit have also become popular places to talk about trades in a social setting.

Lockdowns due to COVID-19 have prevented many Americans from pursuing their usual hobbies, leading to boredom. Stock trading may have become an entertaining outlet for otherwise non-traders. And government stimulus checks may have provided idle cash to fuel this new hobby.

This environment appears to have contributed to intense speculation in stocks such as GME and AMC. In these instances, retail traders aimed to force a "short squeeze" on these heavily-shorted stocks.

SCHWAB - ORGANIC CHANGE IN ACTIVE BROKERAGE ACCOUNTS*



GAMESTOP & AMC THEATERS STOCK PRICES



SHORT INTEREST AS A PERCENTAGE OF FLOAT



Source: Bloomberg, as of 3/31/21

^{*}Excludes 15.6 million brokerage accounts which Schwab added in 2020 as a result of its acquisition of TD Ameritrade and its acquisition of the assets of USAA's Investment Management Company.



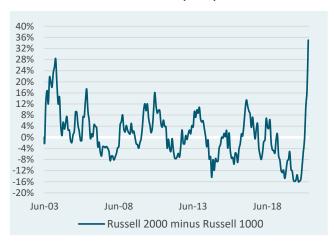
Domestic equity size & style

Factor performance surged during the quarter, as small capitalization and value stocks delivered strong relative returns. U.S. value stocks beat growth stocks by a wide margin (Russell 1000 Value +11.3%, Russell 1000 Growth +0.9%), as growth entered a correction in February and value marched higher. Small cap stocks continued their surprisingly strong rally, outperforming growth (Russell 2000 +12.7%, Russell 1000 +5.9%).

A rotation towards value occurred as beaten-down sectors such as energy, financials, and materials delivered outsized performance—sectors which tend to possess a heavier concentration of value stocks. Companies which benefited from the pandemic due to a shift in household habits may see a further reversal of that windfall as households begin to go back to normal life. Additionally, value stocks typically exhibit strength during economic recoveries. These dynamics of growth and value may suggest further value factor strength, though factor trends are noisy and extremely difficult to predict.

Small cap and value stocks delivered strong relative performance during Q1

SMALL CAP VS LARGE CAP (YOY)

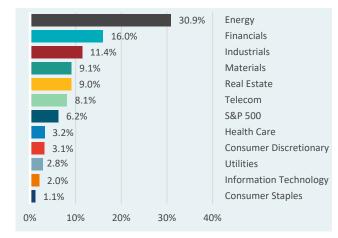


VALUE VS GROWTH (YOY)



Source: FTSE, as of 3/31/21

Q1 SECTOR PERFORMANCE



Source: Standard & Poor's, as of 3/31/21



Source: FTSE, as of 3/31/21

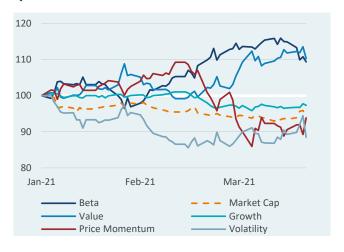
Factor portfolios in 2021

Factor performance trends that started with positive COVID vaccine news in late 2020 continued into 2021 Q1. Investors kept favoring the value factor; they also bought stocks with higher betas and higher volatility (long/short, sector neutral, S&P 500 Index quintiles). This was a significant change from pre-vaccine pandemic behavior when investors had bid up the low volatility, growth, and price momentum factors.

From a longer-term perspective, the latest rotation did not come close to reversing the trend of positive results accruing to the momentum and low volatility factors.

Value stocks, which were largely beaten down during the pandemic, remain an ongoing beneficiary of the economic recovery rooted in both positive medical news and ongoing government stimulus programs. Higher interest rates and a steepening yield curve, which are related to the recovery trade, also help certain cheap financial stocks. In contrast, certain growth stocks are hurt by higher rates as future profits are further discounted. The recent market activity is reflected within the momentum factor itself as investors sold growth and low volatility stocks to keep buying stocks with higher exposure to value and other factors.

Q1 2021 PERFORMANCE



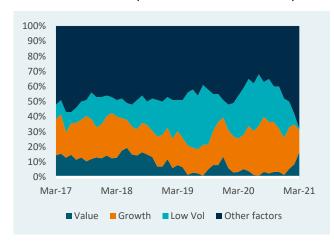
Source: J.P. Morgan, as of 3/27/21

VALUE PERFORMANCE AND RATE MOVEMENT



Source: J.P. Morgan, as of 3/31/21

J.P. MORGAN MOMENTUM BUCKET: LONG-SIDE FACTOR EXPOSURES (S&P 500 INDEX UNIVERSE)



Source: J.P. Morgan, as of 3/31/21



International developed equity

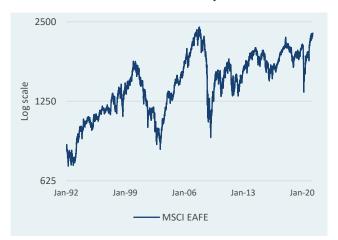
International equities delivered +3.5% (MSCI EAFE Index) during the first quarter on an unhedged currency basis. International developed underperformed the S&P 500 Index (+6.2%) while outperforming the MSCI Emerging Markets Index (+2.3%). The trend towards U.S. dollar weakness has boosted the performance of unhedged international equities, adding +6.8% over the past year, though this trend may have begun to reverse in the first quarter.

International developed equity weakness may be partly attributed to snags in the European COVID-19 vaccination

campaign, which has materially lagged the rest of the world. However, European equities (+4.1%) managed to outperform Japanese equities (+1.6%) in U.S. dollar terms, primarily due to currency movements, as the yen (-6.7%) depreciated more sharply relative to the U.S. dollar than the euro (-4.0%) or swiss franc (-6.2%).

Bets against the Japanese yen rose to multi-year highs amid a backdrop of increasing relative interest rates available in the U.S., and a wave of risk-on sentiment pouring cold water on the appeal of traditional safe-haven assets.

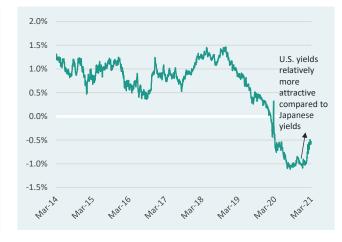
INTERNATIONAL DEVELOPED EQUITIES



EFFECT OF CURRENCY (1-YEAR ROLLING)



10-YEAR REAL YIELD SPREAD (US MINUS JAPAN)



Source: MSCI, as of 3/31/21 Source: Bloomberg, as of 3/31/21



Source: MSCI, as of 3/31/21

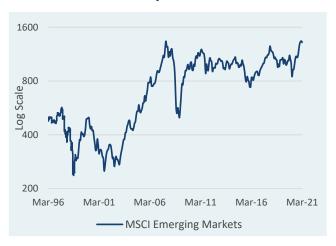
Emerging market equity

Emerging market equities (MSCI EM +2.3%) underperformed U.S. (S&P 500 +6.2%) and international developed equities (MSCI EAFE +3.5%) during the quarter. Latin American equities pulled back from strong performance in Q4, underperforming the broader index (MSCI Latin America -5.3%).

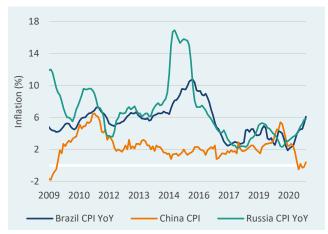
Chinese mainland equities, which account for roughly 36% of the MSCI EM Index, slumped -0.4%, dampening overall index returns. Many analysts attributed the relative weakness in China to tightening liquidity conditions, as the People's Bank of China shifted focus away from promoting economic recovery and toward clamping down on real estate speculation and leverage broadly, in the interest of preventing the buildup of financial excesses.

Central banks from Turkey to Russia to Brazil delivered surprise rate hikes in part to respond to a resurgence in inflation, which weighed on markets. Idiosyncratic political developments further pressured returns in Turkey (-20.4%) and Brazil (-10.0%), while Russian equities held up better (+2.4%) despite a weaker ruble (-2.1%).

EMERGING MARKET EQUITY

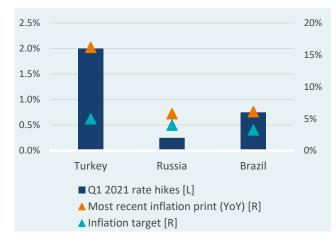


INFLATION (YOY)



Source: Bloomberg, as of 3/31/21 or most recent data

SURPRISE CENTRAL BANK RATE HIKES



Source: Bloomberg, as of 3/31/21



Source: MSCI, as of 3/31/21

Equity valuations

Valuations remain at very high levels relative to history. However, prices may be somewhat justified, considering the historically low (though slightly higher over the quarter) level of interest rates, and the fact that earnings are expected to rebound sharply later this year. Additionally, some have projected that aggressive cost-cutting measures and pandemic-driven innovation could result in higher operating leverage within U.S. companies, which would allow them to generate more earnings per dollar of revenue than before the pandemic began, and perhaps more earnings overall if revenues were to return to near pre-pandemic levels.

Equity prices proved quite resilient to the significant increase in global interest rates, leaving investors pondering the level at which rising interest rates would materially impact the present value of equities. While this is difficult to gauge, the answer is likely dependent on the sector and duration characteristics of the various global equity benchmarks. Additionally, central bank accommodation remains a crucial support for equity prices. Looking ahead, if central bankers were to adopt a more hawkish tone as the developed world approaches herd immunity, valuations may be challenged.

FORWARD P/E RATIOS

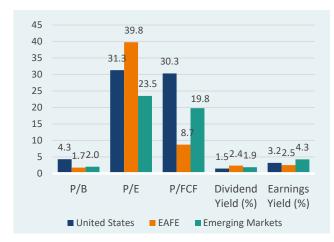


S&P 500 PRICE & EARNINGS EXPECTATIONS



Source: Bloomberg, as of 3/31/21

VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI as of 3/31/21 - trailing P/E



Source: MSCI, 12m forward P/E, as of 3/31/21

Equity volatility

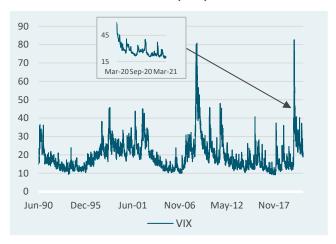
The Cboe VIX Index has slowly been falling back towards the longer-term average of 19. The index fluctuated in the low 20s during Q1, falling below 19 briefly in late March.

One-year trailing realized volatility began to fade alongside implied volatility in the first quarter of the year, as the tumultuous markets of Q1 2020 fell out of the lookback period. Central bank accommodation has translated to easy global financial conditions, though policy normalization and liquidity tightening in China has likely contributed to recent

weakness in Chinese equity markets.

Since seeing recoveries during Q3 and Q4 of last year, respectively, U.S. and international equities have headed higher with relatively low volatility. Idiosyncratic political developments across the emerging markets universe, surprise central bank rate hikes, and the high concentration of tech in Asian EM countries in a period of rising rates, all contributed to a more volatile quarter for the emerging markets complex.

U.S. IMPLIED VOLATILITY (VIX)



REALIZED VOLATILITY



Source: Standard & Poor's, MSCI, as of 3/31/21

MAX DRAWDOWNS FROM PRIOR PEAKS

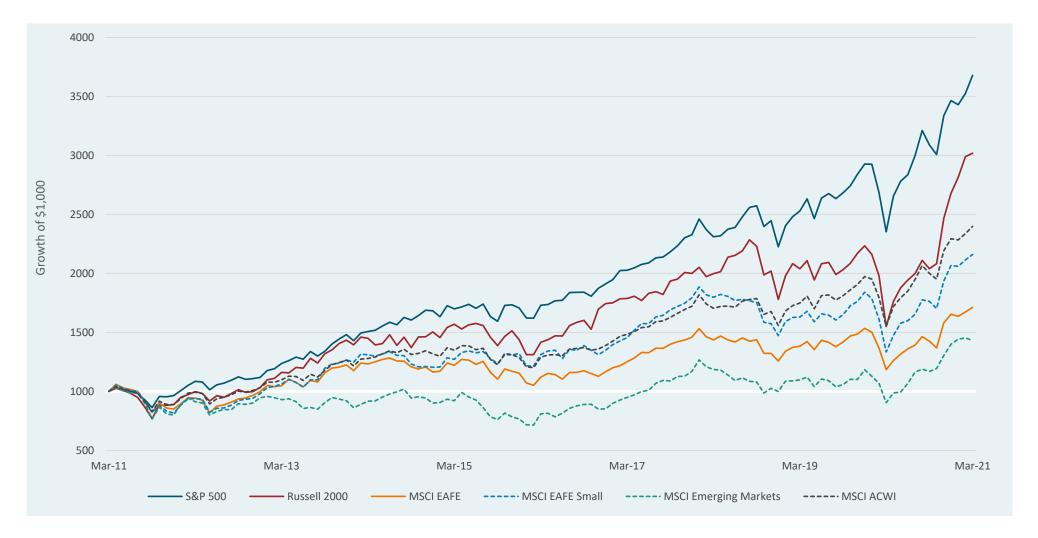


Source: Standard & Poor's, MSCI, Bloomberg, as of 3/31/21



Source: Choe, as of 3/31/21

Long-term equity performance



Source: Morningstar, as of 3/31/21



Other assets



Currency

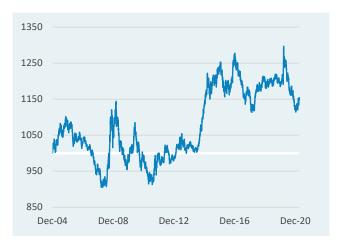
U.S. dollar weakness had prevailed for most of 2020, but turned around in the first quarter of 2021. The Bloomberg Dollar Spot Index increased 2.8% over the guarter, after slipping -5.4% in 2020. Strength in the dollar was attributed to rising relative yields in the U.S., the relatively effective vaccination campaign, and speculation that a series of fiscal support packages might fuel supernormal growth over the next few years.

Currency beta returns, or the returns of a long-short portfolio of G10 currencies constructed by investing in three equallyweighted factors (carry, value, momentum), remained negative over the trailing year. Rotations back into the U.S. dollar and

out of the euro and yen supported performance for the carry factor while detracting from the performance of the currency momentum factor.

International developed currencies fared poorly, pressured by risk-on sentiment, a lackluster European vaccination effort, and concerns expressed by the European Central Bank about rising global interest rates. The embedded currency portfolio of the MSCI EAFE Index returned -4.1%, as the yen (-6.7%) and euro (-4.0%) weakened relative to the U.S. dollar. Emerging market currencies (-3.1%) softened, driven by declines in the Brazilian real (-7.8%) and Turkish lira (-9.9%).

BLOOMBERG DOLLAR SPOT INDEX



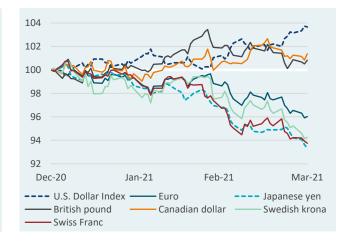
Source: MSCI, Bloomberg, as of 3/31/21

CURRENCY BETA (ONE-YEAR RETURNS)



Source: Bloomberg, as of 3/31/21

U.S. DOLLAR INDEX CONSTITUENTS





Source: Bloomberg, as of 3/31/21

Appendix

Periodic table of returns

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	YTD	5-Year	10-Year
Small Cap Value	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	21.2	21.0	16.6
Small Cap Equity	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	34.6	12.7	18.6	14.0
Large Cap Value	33.2	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	28.5	21.0	11.3	16.7	13.0
Commodities	27.3	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	26.5	20.0	6.9	16.4	11.7
Large Cap Equity	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	25.5	18.3	5.9	13.6	11.0
Small Cap Growth	21.3	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	22.4	14.0	4.9	12.1	10.1
International Equity	24.3	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	22.0	10.3	3.5	11.7	8.6
Emerging Markets Equity	20.9	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	18.6	7.8	2.3	9.2	6.6
Hedge Funds of Funds	13.2	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	18.4	7.5	2.0	8.8	5.5
60/40 Global Portfolio	11.4	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	8.7	4.6	1.0	5.6	3.7
Large Cap Growth	7.3	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	7.8	2.8	0.9	5.4	3.4
Cash	4.8	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	7.7	0.5	0.0	3.1	3.4
Real Estate	-0.8	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	6.4	0.5	0.0	2.3	0.6
US Bonds	-1.5	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	2.1	-3.1	-3.4	1.1	-6.3

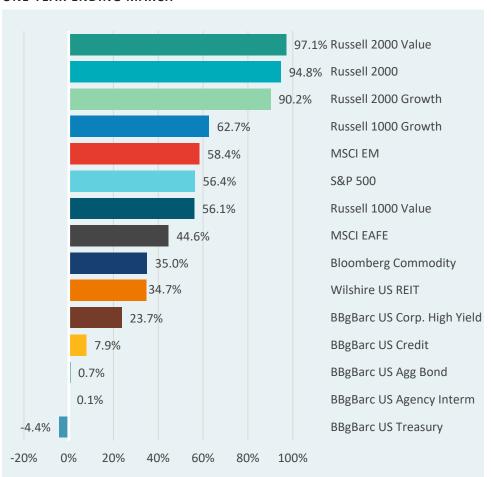


Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 12/31/20.

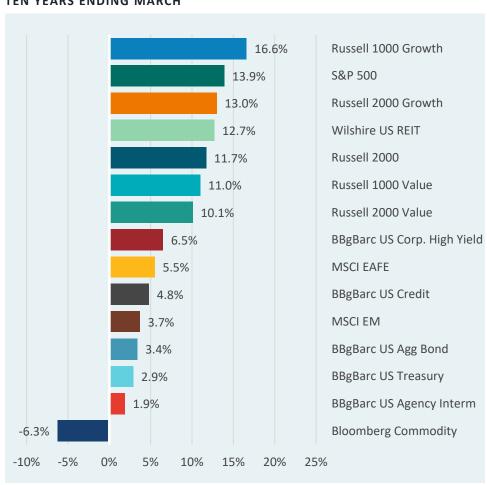


Major asset class returns

ONE YEAR ENDING MARCH



TEN YEARS ENDING MARCH



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

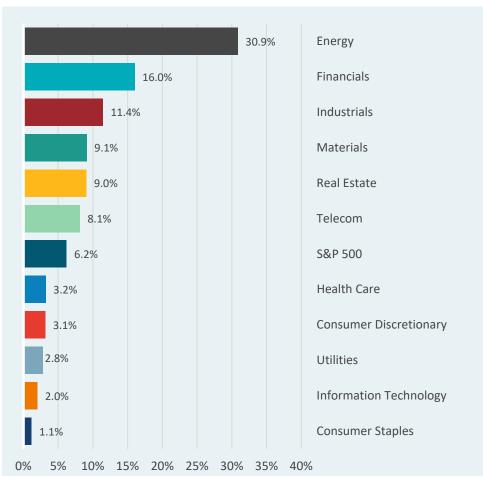
Source: Morningstar, as of 3/31/21

Source: Morningstar, as of 3/31/21

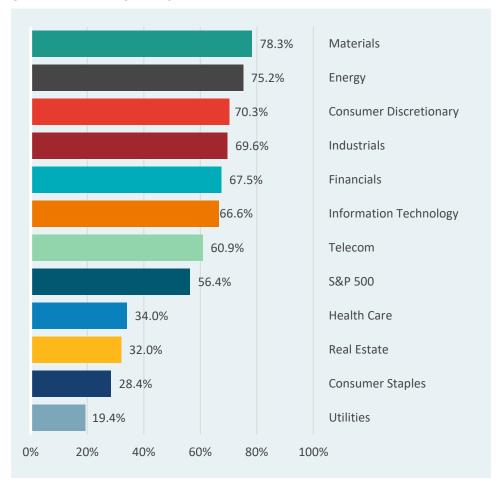


S&P 500 sector returns

Q1 2021



ONE YEAR ENDING MARCH



Source: Morningstar, as of 3/31/21 Source: Morningstar, as of 3/31/21



Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



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

"PASSIVE" STRATEGIES



"Passive" strategies underperformed comparable public equities across all time periods, aside from the 3-year basis.

Sources: Refinitiv Cambridge Universe's PME Module: U.S. Private Equity Funds sub asset classes as of September 30, 2020. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.



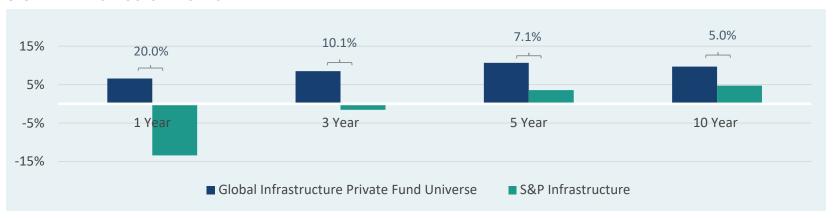
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



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

GLOBAL INFRASTRUCTURE FUNDS



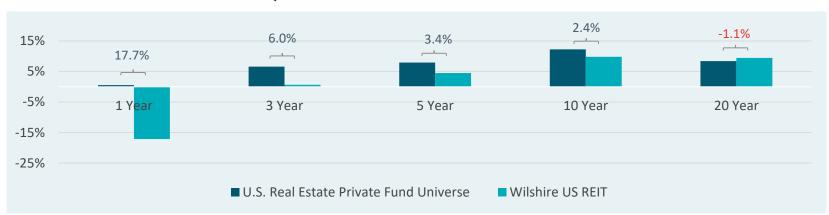
Infra. funds outperformed the S&P Infra. across all periods.

Sources: Refinitiv C/A 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 September 30, 2020. 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
outperformed
the Wilshire
U.S. REIT Index
across all time
periods, aside on
a 20-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, aside on a 1-year basis.

Sources: Refinitiv C|A PME: Global and U.S. Real Estate universes as of September 30, 2020. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.



Detailed index returns

DOMESTIC EQUITY								FIXED INCOME							
	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year		Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index								Broad Index							
S&P 500	4.4	6.2	6.2	56.4	16.8	16.3	13.9	BBgBarc US TIPS	(0.2)	(1.5)	(1.5)	7.5	5.7	3.9	3.4
S&P 500 Equal Weighted	6.0	11.5	11.5	71.6	14.9	14.7	13.1	BBgBarc US Treasury Bills	0.0	0.0	0.0	0.1	1.5	1.2	0.7
DJ Industrial Average	6.8	8.3	8.3	53.8	13.6	16.0	13.1	BBgBarc US Agg Bond	(1.2)	(3.4)	(3.4)	0.7	4.7	3.1	3.4
Russell Top 200	4.2	5.1	5.1	56.3	18.3	17.4	14.6	BBgBarc US Universal	(1.2)	(3.1)	(3.1)	3.0	4.9	3.6	3.8
Russell 1000	3.8	5.9	5.9	60.6	17.3	16.7	14.0	Duration							
Russell 2000	1.0	12.7	12.7	94.8	14.8	16.4	11.7	BBgBarc US Treasury 1-3 Yr	(0.0)	(0.1)	(0.1)	0.3	2.8	1.7	1.3
Russell 3000	3.6	6.3	6.3	62.5	17.1	16.6	13.8	BBgBarc US Treasury Long	(5.0)	(13.5)	(13.5)	(15.8)	5.9	3.1	6.3
Russell Mid Cap	2.7	8.1	8.1	73.6	14.7	14.7	12.5	BBgBarc US Treasury	(1.5)	(4.3)	(4.3)	(4.4)	4.1	2.2	2.9
Style Index								Issuer							
Russell 1000 Growth	1.7	0.9	0.9	62.7	22.8	21.0	16.6	BBgBarc US MBS	(0.5)	(1.1)	(1.1)	(0.1)	3.7	2.4	2.8
Russell 1000 Value	5.9	11.3	11.3	56.1	11.0	11.7	11.0	BBgBarc US Corp. High Yield	0.1	0.9	0.9	23.7	6.8	8.1	6.5
Russell 2000 Growth	(3.1)	4.9	4.9	90.2	17.2	18.6	13.0	BBgBarc US Agency Interm	(0.4)	(1.0)	(1.0)	0.1	3.2	2.0	1.9
Russell 2000 Value	5.2	21.2	21.2	97.1	11.6	13.6	10.1	BBgBarc US Credit	(1.6)	(4.5)	(4.5)	7.9	5.9	4.7	4.8
INTERNATIONAL EQUITY								OTHER							
Broad Index								Index							
MSCI ACWI	2.7	4.6	4.6	54.6	12.1	13.2	9.1	Bloomberg Commodity	(2.1)	6.9	6.9	35.0	(0.2)	2.3	(6.3)
MSCI ACWI ex US	1.3	3.5	3.5	49.4	6.5	9.8	4.9	Wilshire US REIT	4.8	8.8	8.8	34.7	9.0	5.7	12.7
MSCI EAFE	2.3	3.5	3.5	44.6	6.0	8.8	5.5	CS Leveraged Loans	0.1	2.0	2.0	20.8	4.1	4.6	5.0
MSCI EM	(1.5)	2.3	2.3	58.4	6.5	12.1	3.7	Alerian MLP	6.9	22.0	22.0	99.1	(4.0)	(2.1)	(0.7)
MSCI EAFE Small Cap	2.2	4.5	4.5	62.0	6.3	10.5	8.0	Regional Index							
Style Index								JPM EMBI Global Div	(1.0)	(4.5)	(4.5)	16.0	4.0	5.1	5.6
MSCI EAFE Growth	1.2	(0.6)	(0.6)	42.6	9.8	10.8	7.2	JPM GBI-EM Global Div	(3.1)	(6.7)	(6.7)	13.0	(8.0)	3.1	0.5
MSCI EAFE Value	3.4	7.4	7.4	45.7	1.8	6.6	3.7	Hedge Funds							
Regional Index								HFRI Composite	1.0	6.1	6.1	34.0	7.7	7.5	4.6
MSCI UK	2.8	6.2	6.2	33.5	0.9	4.3	3.3	HFRI FOF Composite	0.4	2.0	2.0	23.9	5.4	5.6	3.4
MSCI Japan	1.1	1.6	1.6	39.7	6.3	10.5	7.2	Currency (Spot)							
MSCI Europe	3.1	4.1	4.1	44.9	5.6	8.2	5.1	Euro	(3.2)	(3.9)	(3.9)	7.1	(1.5)	0.6	(1.9)
MSCI EM Asia	(3.0)	2.2	2.2	60.1	9.5	14.5	6.6	Pound Sterling	(1.3)	0.9	0.9	11.3	(0.6)	(0.8)	(1.5)
MSCI EM Latin American	4.6	(5.3)	(5.3)	50.1	(6.1)	4.0	(4.1)	Yen	(3.6)	(6.6)	(6.6)	(2.3)	(1.3)	0.3	(2.8)

Source: Morningstar, HFRI, as of 3/31/21



Definitions

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

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

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

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

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Contra Costa County Employees' Retirement Association

Investment Performance Review

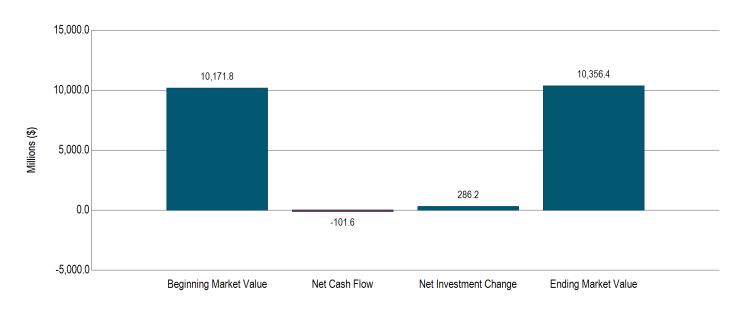
Period Ending: March 31, 2021



Portfolio Reconciliation

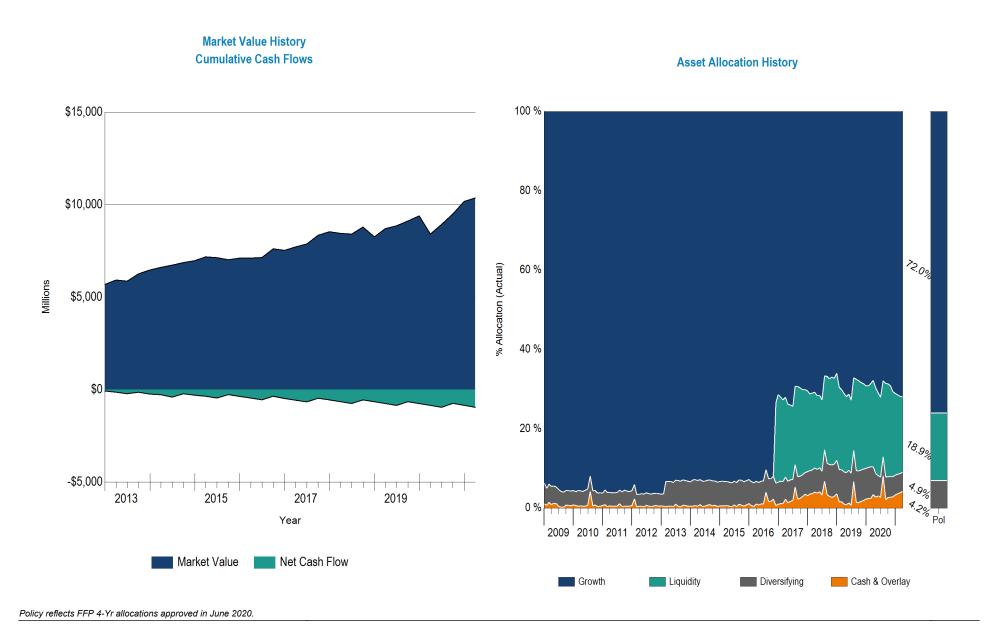
	Last Three Months	Year-To-Date
Beginning Market Value	\$10,171,802,463	\$10,171,802,463
Net Cash Flow	-\$101,564,968	-\$101,564,968
Net Investment Change	\$286,173,346	\$286,173,346
Ending Market Value	\$10,356,410,842	\$10,356,410,842

Change in Market Value Last Three Months



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







Difference

-\$414,024,317

\$201,584,337 -\$222,611,124

\$435,051,104

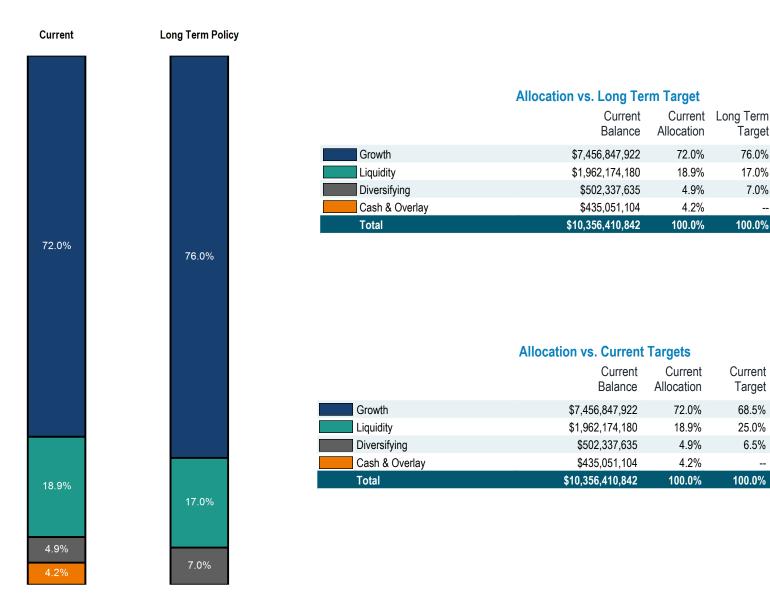
Difference

\$362,706,496

-\$626,928,531

-\$170,829,070

\$435,051,104



Long Term Targets reflect FFP 4-Yr allocations approved in June 2020. Current Targets reflect targets approved in June 2020.



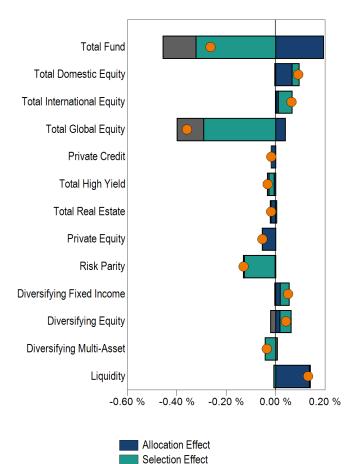
	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016
Total Fund	100.0	2.8	24.1	7.8	8.6	8.0	9.2	14.6	-2.7	13.9	6.9
Policy Index		3.2	25.1	8.9	9.4	8.7	10.8	14.6	-0.9	13.7	8.9
Growth	72.0	4.0	33.3	9.7	10.8		12.0	18.4	-3.9	18.7	7.6
Custom Growth Benchmark		4.7	37.1	11.4	12.2		13.8	19.3	-2.1	19.3	10.1
Diversifying	4.9	-0.4	3.1	1.0	1.5	1.4	-1.7	6.8	-2.3	2.6	8.0
Custom Diversifying Benchmark		-1.0	3.0	3.7	3.5	3.8	4.7	6.1	1.4	4.7	4.1
Liquidity	18.9	-0.1	3.2	3.3			3.4	4.8	1.7	1.4	
BBgBarc US Govt/Credit 1-3 Yr. TR		0.0	1.6	3.0			3.3	4.0	1.6	0.8	

Policy Index (1/1/2021-Present): 9% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 25% BBgBarc 1-3 Yr Gov/Credit, 3% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 7% Private Credit composite returns, 1.5% ICE BofAML High Yield Master II, 1% Wilshire REIT, 8% Private Real Estate composite returns, 1.5% CPI +4%, 11% Private Equity composite returns, 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), 25% BBgBarc 1-3 Yr Gov/Credit, 3% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 7% ICE BofAML High Yield Master II +2%, 1.5% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 1.5% CPI +4%, 11% S&P 500 +4%(Lagged), 2% HFRI EH Equity Market Neutral.



^{*}Correlation between the Growth and Diversifying composites is .50, .64 and .55 over the previous 1, 3 and 5 year periods respectively.

Attribution Effects
3 Months Ending March 31, 2021



Interaction Effects
Total Effect

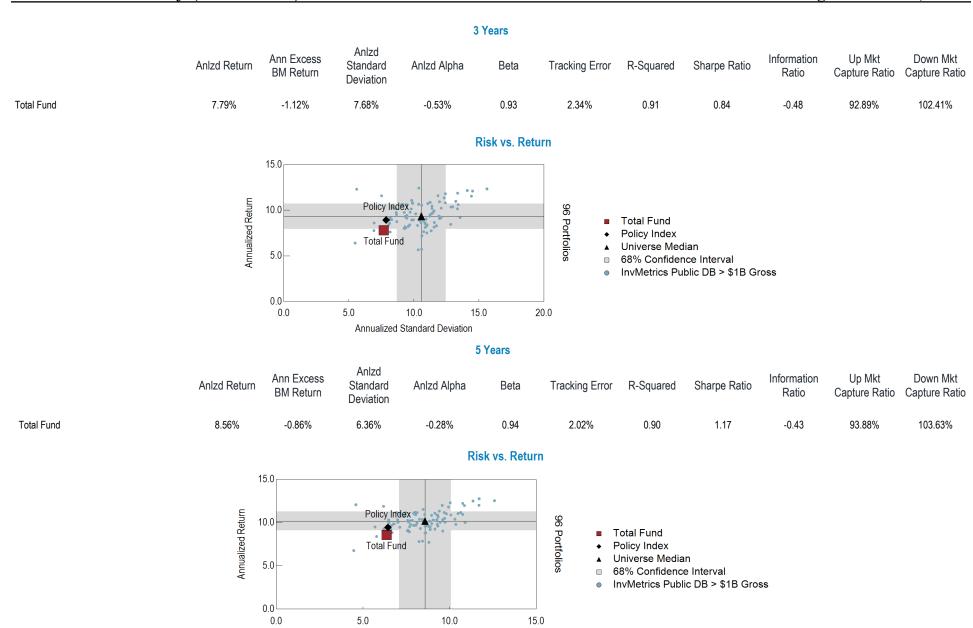
Performance Attribution

	Quarter
Wtd. Actual Return	2.89%
Wtd. Index Return *	3.13%
Excess Return	-0.24%
Selection Effect	-0.32%
Allocation Effect	0.19%
Interaction Effect	-0.13%

^{*}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
Total Damastia Fauity		6.3%	0.3%		0.1%		
Total Domestic Equity	6.6%			0.0%		0.0%	0.1%
Total International Equity	3.9%	3.6%	0.3%	0.1%	0.0%	0.0%	0.1%
Total Global Equity	0.9%	4.6%	-3.6%	-0.3%	0.0%	-0.1%	-0.4%
Private Credit	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Total High Yield	-0.5%	0.9%	-1.4%	0.0%	0.0%	0.0%	0.0%
Total Real Estate	4.1%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Private Equity	10.7%	10.7%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Risk Parity	-1.6%	0.9%	-2.5%	-0.1%	0.0%	0.0%	-0.1%
Diversifying Fixed Income	-2.2%	-3.4%	1.1%	0.0%	0.0%	0.0%	0.1%
Diversifying Equity	3.7%	1.7%	2.0%	0.0%	0.0%	0.0%	0.0%
Diversifying Multi-Asset	-0.1%	2.7%	-2.8%	0.0%	0.0%	0.0%	0.0%
Liquidity	-0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
Total	2.9%	3.1%	-0.2%	-0.3%	0.2%	-0.1%	-0.3%



Annualized Standard Deviation

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016	Inception	Inception Date
Total Fund	10,356,410,842	100.0	2.9	24.4	8.1	8.9	8.5	9.5	15.0	-2.5	14.2	7.4		
Policy Index			3.2	25.1	8.9	9.4	8.7	10.8	14.6	-0.9	13.7	8.9		
InvMetrics Public DB > \$1B Gross Rank	-		73	96	89	93	47	78	83	25	83	74		
Total Fund ex Overlay & Cash	9,921,359,737	95.8	3.0	24.6	8.2	9.0	8.5	9.7	14.7	-2.1	14.1	7.4		
Policy Index			3.2	25.1	8.9	9.4	8.7	10.8	14.6	-0.9	13.7	8.9		
InvMetrics Public DB > \$1B Gross Rank			70	96	85	92	45	72	84	20	84	74		
Growth	7,456,847,922	72.0	4.0	33.7	10.1	11.2		12.4	18.8	-3.6	19.1	8.1		
Custom Growth Benchmark			4.7	37.1	11.4	12.2		13.8	19.3	-2.1	19.3	10.1		
Total Domestic Equity	1,138,840,038	11.0	6.7	69.6	15.7	16.3	13.7	22.2	26.7	-7.2	23.9	11.5		
Russell 3000			6.3	62.5	17.1	16.6	13.8	20.9	31.0	-5.2	21.1	12.7		
InvMetrics Public DB US Eq Gross Rank			77	15	67	44	26	10	87	78	6	77		
BlackRock Russell 1000 Index	243,392,950	2.4	5.9	60.6	17.3			21.0	31.4	-4.8			16.5	Apr-17
Russell 1000			5.9	60.6	17.3			21.0	31.4	-4.8			16.5	Apr-17
eV US Large Cap Equity Gross Rank			58	40	39			36	39	47				
Jackson Square Partners	237,239,524	2.3	-2.5	61.2	20.3	18.4	15.7	44.8	27.9	-2.0	29.3	-4.4	12.1	May-05
Russell 1000 Growth			0.9	62.7	22.8	21.0	16.6	38.5	36.4	-1.5	30.2	7.1	12.6	May-05
eV US Large Cap Growth Equity Gross Rank			97	48	66	74	59	20	93	59	47	98		
Boston Partners	270,191,010	2.6	15.1	66.1	10.9	13.2	12.1	3.0	24.3	-8.7	20.1	15.1	10.9	Jun-95
Russell 1000 Value			11.3	56.1	11.0	11.7	11.0	2.8	26.5	-8.3	13.7	17.3	9.6	Jun-95
eV US Large Cap Value Equity Gross Rank			16	29	61	43	38	61	77	55	23	50		
Emerald Advisers	199,810,544	1.9	2.5	88.1	19.2	20.3	15.2	39.0	30.3	-10.1	28.8	10.1	14.9	Apr-03
Russell 2000 Growth			4.9	90.2	17.2	18.6	13.0	34.6	28.5	-9.3	22.2	11.3	12.9	Apr-03
eV US Small Cap Growth Equity Gross Rank			73	66	71	64	50	57	45	85	26	54		
Ceredex	188,206,009	1.8	14.6	75.4	8.5	10.5		2.3	18.4	-11.3	11.4	29.8	11.6	Nov-11
Russell 2000 Value			21.2	97.1	11.6	13.6		4.6	22.4	-12.9	7.8	31.7	12.3	Nov-11
eV US Small Cap Value Equity Gross Rank			82	87	85	89		69	87	25	48	32		



	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016	Inception	Inception Date
Total International Equity	2,017,432,062	19.5	4.0	58.0	8.3	10.2	6.9	15.8	23.7	-14.3	25.5	1.2		
MSCI ACWI ex USA Gross			3.6	50.0	7.0	10.3	5.4	11.1	22.1	-13.8	27.8	5.0		
MSCI EAFE Gross			3.6	45.2	6.5	9.4	6.0	8.3	22.7	-13.4	25.6	1.5		
InvMetrics Public DB ex-US Eq Gross Rank			29	20	23	61	26	23	28	44	90	89		
International Equity	1,138,629,634	11.0	0.5	47.7	9.8	10.7	7.1	19.0	27.0	-13.6	25.3	1.2		
MSCI ACWI ex USA Gross InvMetrics Public DB ex-US Eq Gross Rank			3.6 95	50.0 87	7.0 12	10.3 39	5.4 19	11.1 13	22.1 7	-13.8 21	27.8 93	5.0 89		
Pyrford	520,286,529	5.0	2.4	32.5	6.2	7.2		4.7	22.1	-10.1	19.8	3.4	4.7	May-14
MSCI ACWI ex USA Value eV ACWI ex-US Value Equity Gross Rank			7.1 99	48.7 99	2.4 22	7.2 66	 	-0.8 33	15.7 35	-14.0 5	22.7 84	8.9 74	2.4	May-14
William Blair	618,343,105	6.0	-1.0	62.7	13.0	14.0	9.2	33.3	32.0	-16.8	30.9	-1.4	9.2	Oct-10
MSCI ACWI ex USA Growth			-0.1	49.4	10.3	12.0	6.7	22.2	27.3	-14.4	32.0	0.1	7.1	Oct-10
eV ACWI ex-US Growth Equity Gross Rank			70	40	41	57	50	30	39	69	81	55		
Emerging Markets Equity	878,802,429	8.5	8.9	73.6	6.3			11.4	19.4	-15.3				
MSCI Emerging Markets			2.3	58.4	6.5			18.3	18.4	-14.6				
InvMetrics Public DB Emg Mkt Eq Gross Rank			4	4	49			81	31	51				
PIMCO RAE Emerging Markets	418,111,180	4.0	11.6	70.3	3.5			2.1	14.6	-12.3			7.4	Feb-17
MSCI Emerging Markets Value NR eV Emg Mkts All Cap Value Equity Gross			4.1	52.5	2.6			5.5	12.0	-10.7			6.6	Feb-17
Rank			3	19	72			85	72	44	-			
TT Emerging Markets	460,691,249	4.4	6.5	76.6	9.1			20.8	24.8	-18.4			11.1	Jul-17
MSCI Emerging Markets			2.3	58.4	6.5			18.3	18.4	-14.6			8.3	Jul-17
eV Emg Mkts Equity Gross Rank			21	21	31			39	24	83				
Total Global Equity	1,095,104,189	10.6	1.1	50.0	14.2	14.8	10.4	25.3	28.9	-7.8	23.7	7.6		
MSCI ACWI			4.6	54.6	12.1	13.2	9.1	16.3	26.6	-9.4	24.0	7.9		
InvMetrics Public DB Glbl Eq Gross Rank			98	72	4	4	5	2	3	60	79	40		
Artisan Partners	588,130,287	5.7	-1.6	59.7	19.4	19.9		41.7	37.0	-7.9	32.9	5.6	16.1	Oct-12
MSCI ACWI Growth NR USD			0.3	59.0	17.5	17.1		33.6	32.7	-8.1	30.0	3.3	13.6	Oct-12
eV All Global Equity Gross Rank			96	41	12	9		9	7	40	11	61		
First Eagle	506,842,348	4.9	4.5	39.1	8.7	9.5	8.3	8.5	21.0	-7.6	15.1	11.7	8.6	Jan-11
MSCI ACWI Value NR USD			8.9	48.8	6.2	9.0	6.4	-0.3	20.6	-10.8	18.3	12.6	6.8	Jan-11
eV All Global Equity Gross Rank			60	85	76	81	79	70	82	38	89	19		



	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016	Inception	Inception Date
Private Credit	743,969,878	7.2	0.1	4.1	5.5	7.5	10.4	4.0	7.7	8.3	10.4	8.2		
Total High Yield	176,316,258	1.7	-0.4	17.3	6.0	7.0	5.9	5.1	16.0	-3.2	6.5	14.3		
ICE BofAML High Yield Master II			0.9	23.3	6.5	7.9	6.3	6.2	14.4	-2.3	7.5	17.5		
eV US High Yield Fixed Inc Gross Rank			99	85	77	69	82	74	15	88	74	47		
Allianz Global Investors	176,316,258	1.7	-0.4	17.3	6.0	7.0	5.9	5.1	16.0	-3.2	6.5	14.3	6.9	Apr-00
ICE BofAML High Yield Master II			0.9	23.3	6.5	7.9	6.3	6.2	14.4	-2.3	7.5	17.5	7.1	Apr-00
eV US High Yield Fixed Inc Gross Rank			99	85	77	69	82	74	15	88	74	47		
Total Real Estate	693,762,659	6.7	4.1	-1.1	3.7	5.5	9.5	-5.9	8.1	7.4	11.1	5.5		
Real Estate Benchmark			4.1	7.0	6.0	5.8	8.9	0.6	7.5	6.8	7.1	6.7		
NCREIF-ODCE			2.1	2.3	4.9	6.2	9.7	1.2	5.3	8.3	7.6	8.8		
NCREIF Property Index			1.7	2.6	4.9	5.8	8.8	1.6	6.4	6.7	7.0	8.0		
Adelante	83,443,913	0.8	9.0	35.9	10.7	6.5	9.5	-4.6	28.2	-5.0	7.8	4.1	10.2	Sep-01
Wilshire REIT			8.8	34.8	9.0	5.0	8.5	-7.9	25.8	-4.8	4.2	7.2	9.7	Sep-01
Total Private Real	610,318,746	5.9	3.5	-4.6	2.9	5.4		-6.1	6.2	8.8	11.4	6.0		
Estate Private Equity	1,095,477,088	10.6	10.7	17.7	13.4	11.8	12.4	8.7	8.4	12.1	11.9	9.4		
Risk Parity	495,945,751	4.8	-1.5	20.1				10.0						
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			0.9	32.7				14.0						
AQR Global Risk Premium-EL	247,937,376	2.4	-0.8	16.9				6.2					10.4	Jan-19
HFR Risk Parity Vol 10 Index	. ,		-1.5	16.0				3.6					8.8	Jan-19
PanAgora Risk Parity Multi Asset	248,008,375	2.4	-2.1	23.5				14.0					12.1	Feb-19
HFR Risk Parity Vol 10 Index	•		-1.5	16.0				3.6					6.4	Feb-19



	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016	Inception	Inception Date
Diversifying	502,337,635	4.9	-0.3	3.6	1.3	1.8	1.8	-1.3	7.1	-2.0	2.8	1.3		
Custom Diversifying Benchmark			-1.0	3.0	3.7	3.5	3.8	4.7	6.1	1.4	4.7	4.1		
Diversifying Fixed Income	262,385,933	2.5	-2.1	1.0	2.3	1.8	2.9	1.6	8.6	-1.7	2.8	2.8		
eV US Core Fixed Inc Gross Rank			8	88	99	99	99	99	80	99	96	72		
AFL-CIO	262,263,894	2.5	-2.1	0.8	4.8	3.2	3.7	6.6	8.2	0.6	3.6	2.4	6.1	Jun-91
BBgBarc US Aggregate TR			-3.4	0.7	4.7	3.1	3.4	7.5	8.7	0.0	3.5	2.6	5.6	Jun-91
eV US Core Fixed Inc Gross Rank			8	90	84	87	82	95	88	16	76	87		
Diversifying Equity	112,348,727	1.1	3.8	8.7				-8.9	3.3					
Parametric Defensive Equity	112,348,727	1.1	3.8	8.7	-			-8.9	3.3		-		-1.8	Jul-18
91 Day T-Bill +4%			1.1	4.1				4.5	6.1				5.3	Jul-18
Diversifying Multi-Asset	127,602,974	1.2	0.0											
FTSE 3-Month T-bill +5%			1.2											
Acadian Multi-Asset Absolute Return Fund	127,602,974	1.2	0.0										1.8	Aug-20
FTSE 3-Month T-bill +5%			1.2										3.4	Aug-20
Liquidity	1,962,174,180	18.9	0.0	3.3	3.4			3.5	4.9	1.8	1.5			
BBgBarc US Govt/Credit 1-3 Yr. TR			0.0	1.6	3.0			3.3	4.0	1.6	0.8			
eV US Short Duration Fixed Inc Gross Rank			37	49	49			77	34	24	50			
DFA Short Credit	380,581,485	3.7	-0.3	3.7	3.3			2.9	5.2	1.2	1.9		2.6	Nov-16
ICE BofA 1-5 Yrs US Corp & Govt TR			-0.5	2.1	3.7			4.6	5.1	1.4	1.3		2.7	Nov-16
eV US Short Duration Fixed Inc Gross Rank			68	42	63			90	21	93	26			
Insight Short Duration	985,650,693	9.5	0.0	4.4	3.2			3.2	4.7	1.7	1.5		2.5	Nov-16
BBgBarc US Govt/Credit 1-3 Yr. TR			0.0	1.6	3.0			3.3	4.0	1.6	0.8		2.3	Nov-16
eV US Short Duration Fixed Inc Gross Rank			36	36	72			86	45	38	50			
Sit Short Duration	595,942,002	5.8	0.1	1.4	4.0			4.6	4.9	2.5	1.3		3.1	Nov-16
BBgBarc US Govt 1-3 Yr TR			-0.1	0.4	2.8			3.1	3.6	1.6	0.4		2.0	Nov-16
eV US Short Duration Fixed Inc Gross Rank			21	88	13			26	35	1	68			
Total Cash	302,475,480	2.9	0.1	0.9	2.0	1.6	3.1	1.3	3.3	1.7	0.9	0.9		
91 Day T-Bills			0.0	0.1	1.4	1.1	0.6	0.5	2.1	1.9	0.9	0.3		
Cash	302,455,423	2.9	0.1	8.0	2.1	1.6	3.2	1.3	3.4	1.7	0.9	0.9		
Northern Trust Transition	20,057	0.0	-4.8	91.5	-			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. \$122,039.04 in residual value is reflected in the Diversifying Fixed Income composite. State Street Cash/Tax Reclaims balance of \$-28,918 in cash and \$223,127 in potential tax reclaims at State Street after assets were transferred to Northern Trust.



	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016	Inception	Inception Date
Total Fund	10,356,410,842	100.0	2.8	24.1	7.8	8.6	8.0	9.2	14.6	-2.7	13.9	6.9		
Policy Index			3.2	25.1	8.9	9.4	8.7	10.8	14.6	-0.9	13.7	8.9		
Total Fund ex Overlay & Cash	9,921,359,737	95.8	2.9	24.2	7.9	8.6	8.0	9.4	14.4	-2.4	13.8	6.9		
Policy Index			3.2	25.1	8.9	9.4	8.7	10.8	14.6	-0.9	13.7	8.9		
Growth	7,456,847,922	72.0	4.0	33.3	9.7	10.8		12.0	18.4	-3.9	18.7	7.6		
Custom Growth Benchmark			4.7	37.1	11.4	12.2		13.8	19.3	-2.1	19.3	10.1		
Total Domestic Equity	1,138,840,038	11.0	6.6	69.0	15.2	15.8	13.3	21.8	26.1	-7.6	23.5	11.1		
Russell 3000			6.3	62.5	17.1	16.6	13.8	20.9	31.0	-5.2	21.1	12.7		
BlackRock Russell 1000 Index	243,392,950	2.4	5.9	60.6	17.3			20.9	31.4	-4.8			16.5	Apr-17
Russell 1000			5.9	60.6	17.3			21.0	31.4	-4.8			16.5	Apr-17
Jackson Square Partners	237,239,524	2.3	-2.6	60.5	19.8	17.9	15.2	44.1	27.3	-2.4	28.7	-4.8	11.7	May-05
Russell 1000 Growth			0.9	62.7	22.8	21.0	16.6	38.5	36.4	-1.5	30.2	7.1	12.6	May-05
Boston Partners	270,191,010	2.6	15.0	65.6	10.6	12.8	11.8	2.6	23.8	-8.9	19.7	14.7	10.6	Jun-95
Russell 1000 Value			11.3	56.1	11.0	11.7	11.0	2.8	26.5	-8.3	13.7	17.3	9.6	Jun-95
Emerald Advisers	199,810,544	1.9	2.3	87.0	18.5	19.5	14.5	38.2	29.4	-10.7	28.0	9.4	14.2	Apr-03
Russell 2000 Growth			4.9	90.2	17.2	18.6	13.0	34.6	28.5	-9.3	22.2	11.3	12.9	Apr-03
Ceredex	188,206,009	1.8	14.4	74.4	7.9	9.9		1.7	17.7	-11.8	10.7	29.1	11.0	Nov-11
Russell 2000 Value			21.2	97.1	11.6	13.6		4.6	22.4	-12.9	7.8	31.7	12.3	Nov-11
Total International Equity	2,017,432,062	19.5	3.9	57.2	7.8	9.7	6.4	15.2	23.2	-14.7	25.0	0.8		
MSCI ACWI ex USA Gross			3.6	50.0	7.0	10.3	5.4	11.1	22.1	-13.8	27.8	5.0		
MSCI EAFE Gross			3.6	45.2	6.5	9.4	6.0	8.3	22.7	-13.4	25.6	1.5		
International Equity	1,138,629,634	11.0	0.4	47.1	9.3	10.3	6.7	18.5	26.5	-13.9	24.8	0.8		
MSCI ACWI ex USA Gross			3.6	50.0	7.0	10.3	5.4	11.1	22.1	-13.8	27.8	5.0		
Pyrford	520,286,529	5.0	2.3	32.0	5.8	6.8		4.2	21.6	-10.5	19.3	3.0	4.2	May-14
MSCI ACWI ex USA Value			7.1	48.7	2.4	7.2		-0.8	15.7	-14.0	22.7	8.9	2.4	May-14
William Blair	618,343,105	6.0	-1.0	62.1	12.6	13.6	8.8	32.8	31.5	-17.1	30.4	-1.8	8.7	Oct-10
MSCI ACWI ex USA Growth			-0.1	49.4	10.3	12.0	6.7	22.2	27.3	-14.4	32.0	0.1	7.1	Oct-10
Emerging Markets Equity	878,802,429	8.5	8.7	72.6	5.7			10.7	18.7	-15.7				
MSCI Emerging Markets			2.3	58.4	6.5			18.3	18.4	-14.6				
PIMCO RAE Emerging Markets	418,111,180	4.0	11.5	69.4	3.0			1.6	14.0	-12.6			6.9	Feb-17
MSCI Emerging Markets Value NR			4.1	52.5	2.6			5.5	12.0	-10.7			6.6	Feb-17
TT Emerging Markets	460,691,249	4.4	6.4	75.5	8.4			20.0	24.0	-18.9			10.4	Jul-17
MSCI Emerging Markets			2.3	58. <i>4</i>	6.5			18.3	18.4	-14.6			8.3	Jul-17



Total Fund Performance Summary (Net of Fees)

Period Ending: March 31, 2021

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016	Inception	Inception Date
Total Global Equity	1,095,104,189	10.6	0.9	48.9	13.4	14.0	9.6	24.4	27.9	-8.5	22.8	6.9		
MSCI ACWI			4.6	54.6	12.1	13.2	9.1	16.3	26.6	-9.4	24.0	7.9		
Artisan Partners	588,130,287	5.7	-1.8	58.5	18.5	19.0		40.6	36.0	-8.6	31.9	4.8	15.3	Oct-12
MSCI ACWI Growth NR USD			0.3	59.0	17.5	17.1		33.6	32.7	-8.1	30.0	3.3	13.6	Oct-12
First Eagle	506,842,348	4.9	4.3	38.1	7.9	8.7	7.5	7.7	20.1	-8.3	14.3	10.9	7.8	Jan-11
MSCI ACWI Value NR USD			8.9	48.8	6.2	9.0	6.4	-0.3	20.6	-10.8	18.3	12.6	6.8	Jan-11
Private Credit	743,969,878	7.2	0.1	4.1	5.5	7.3	9.5	4.0	7.7	8.3	10.4	6.9		
Total High Yield	176,316,258	1.7	-0.5	16.9	5.5	6.6	5.5	4.7	15.4	-3.6	6.1	13.9		
ICE BofAML High Yield Master II			0.9	23.3	6.5	7.9	6.3	6.2	14.4	-2.3	7.5	17.5		
Allianz Global Investors	176,316,258	1.7	-0.5	16.9	5.5	6.6	5.5	4.7	15.4	-3.6	6.1	13.9	6.5	Apr-00
ICE BofAML High Yield Master II			0.9	23.3	6.5	7.9	6.3	6.2	14.4	-2.3	7.5	17.5	7.1	Apr-00
Total Real Estate	693,762,659	6.7	4.1	-1.2	3.6	5.4	8.8	-6.0	8.1	7.4	11.0	4.8		
Real Estate Benchmark			4.1	7.0	6.0	5.8	8.9	0.6	7.5	6.8	7.1	6.7		
NCREIF-ODCE			2.1	2.3	4.9	6.2	9.7	1.2	5.3	8.3	7.6	8.8		
NCREIF Property Index			1.7	2.6	4.9	5.8	8.8	1.6	6.4	6.7	7.0	8.0		
Adelante	83,443,913	0.8	8.9	35.1	10.0	5.9	9.0	-5.2	27.5	-5.5	7.2	3.6	9.7	Sep-01
Wilshire REIT			8.8	34.8	9.0	5.0	8.5	-7.9	25.8	-4.8	4.2	7.2	9.7	Sep-01
Total Private Real	610,318,746	5.9	3.5	-4.6	2.9	5.3		-6.1	6.2	8.8	11.4	5.2		
Estate Private Equity	1,095,477,088	10.6	10.7	17.7	13.4	11.7	11.3	8.7	8.4	12.1	11.9	8.9		
Risk Parity	495,945,751	4.8	-1.6	19.6				9.6						
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			0.9	32.7				14.0						
AQR Global Risk Premium-EL	247,937,376	2.4	-0.9	16.4				5.8					10.0	Jan-19
HFR Risk Parity Vol 10 Index			-1.5	16.0				3.6					8.8	Jan-19
PanAgora Risk Parity Multi Asset	248,008,375	2.4	-2.2	23.0				13.6					11.7	Feb-19
HFR Risk Parity Vol 10 Index			-1.5	16.0				3.6					6.4	Feb-19



Total Fund Performance Summary (Net of Fees)

Period Ending: March 31, 2021

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016	Inception	Inception Date
Diversifying	502,337,635	4.9	-0.4	3.1	1.0	1.5	1.4	-1.7	6.8	-2.3	2.6	0.8		
Custom Diversifying Benchmark			-1.0	3.0	3.7	3.5	3.8	4.7	6.1	1.4	4.7	4.1		
Diversifying Fixed Income	262,385,933	2.5	-2.2	0.6	2.0	1.4	2.6	1.2	8.3	-2.0	2.6	2.3		
AFL-CIO	262,263,894	2.5	-2.2	0.4	4.3	2.8	3.3	6.2	7.8	0.2	3.2	1.9	5.7	Jun-91
BBgBarc US Aggregate TR			-3.4	0.7	4.7	3.1	3.4	7.5	8.7	0.0	3.5	2.6	5.6	Jun-91
Diversifying Equity	112,348,727	1.1	3.7	8.2	-			-9.4	3.0					
Parametric Defensive Equity	112,348,727	1.1	3.7	8.2				-9.4	3.0				-2.1	Jul-18
91 Day T-Bill +4%			1.1	4.1				4.5	6.1				5.3	Jul-18
Diversifying Multi-Asset	127,602,974	1.2	-0.1	-	-									
FTSE 3-Month T-bill +5%			1.2											
Acadian Multi-Asset Absolute Return Fund	127,602,974	1.2	-0.1										1.4	Aug-20
FTSE 3-Month T-bill +5%			1.2										3.4	Aug-20
Liquidity	1,962,174,180	18.9	-0.1	3.2	3.3			3.4	4.8	1.7	1.4			
BBgBarc US Govt/Credit 1-3 Yr. TR			0.0	1.6	3.0			3.3	4.0	1.6	0.8			
DFA Short Credit	380,581,485	3.7	-0.3	3.5	3.2			2.8	5.2	1.1	1.8		2.5	Nov-16
ICE BofA 1-5 Yrs US Corp & Govt TR			-0.5	2.1	3.7			4.6	5.1	1.4	1.3		2.7	Nov-16
Insight Short Duration	985,650,693	9.5	-0.1	4.3	3.2			3.1	4.6	1.7	1.5		2.5	Nov-16
BBgBarc US Govt/Credit 1-3 Yr. TR			0.0	1.6	3.0			3.3	4.0	1.6	0.8		2.3	Nov-16
Sit Short Duration	595,942,002	5.8	0.0	1.2	3.8			4.4	4.7	2.3	1.1		2.9	Nov-16
BBgBarc US Govt 1-3 Yr TR			-0.1	0.4	2.8			3.1	3.6	1.6	0.4		2.0	Nov-16
Total Cash	302,475,480	2.9	0.1	0.9	2.0	1.6	3.1	1.3	3.3	1.7	0.9	0.9		
91 Day T-Bills			0.0	0.1	1.4	1.1	0.6	0.5	2.1	1.9	0.9	0.3		
Cash	302,455,423	2.9	0.1	0.8	2.1	1.6	3.1	1.3	3.4	1.7	0.9	0.9		
Northern Trust Transition	20,057	0.0	-4.8	91.5				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. \$122,039.04 in residual value is reflected in the Diversifying Fixed Income composite.



Total Private Credit

\$743,969,878

7.2%

				StepStone Group Analysis (*)								
Closing Date	Manager Name/Fund Name	Estimated Market Value as of 3/31/2021 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 Credi	t											
8/31/2015	Angelo Gordon Energy Credit Opp.4	\$2,347,372	\$16,500,000	114%	\$18,750,000	\$0	\$0	\$18,829,566	\$2,319,783	1.00	1.13	12/31/2020
12/18/2017	Stepstone CC Opportunities Fund	\$711,825,537	\$1,020,000,000	68%	\$690,599,992	\$0	\$0	\$41,561,970	\$370,864,909	0.06	1.09	9/30/2020
7/1/2006	Torchlight II	-\$59,952	\$128,000,000	171%	\$218,263,562	\$0	\$0	\$208,623,727	\$0	0.96	0.96	9/30/2020
12/12/2008	Torchlight III	-\$13,696	\$75,000,000	112%	\$83,825,058	\$0	\$0	\$124,848,870	\$0	1.49	1.49	9/30/2020
8/1/2012	Torchlight IV	\$9,678,825	\$60,000,000	141%	\$84,866,971	\$0	\$0	\$104,809,507	\$0	1.23	1.35	12/31/2020
3/12/2015	Torchlight V	\$20,191,792	\$75,000,000	80%	\$60,000,000	\$0	\$1,204,472	\$56,243,734	\$15,000,000	0.94	1.27	12/31/2020

% of Portfolio (Market Value)



^{*}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.

				Verus Internal Analysis								
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 3/31/2021 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 ⁷	\$18,365,714	\$80,000,000	94%	\$75,401,855	\$0	\$0	\$98,433,174	\$12,334,302	1.31	1.55	12/31/2020
12/8/2014	Angelo Gordon Realty Fund IX	\$60,562,230	\$65,000,000	93%	\$60,125,000	\$0	\$3,087,501	\$18,362,501	\$7,572,500	0.31	1.31	12/31/2020
6/23/2005	DLJ RECP III	\$16,565,544	\$75,000,000	134%	\$100,709,313 ⁴	\$0	\$0	\$69,364,915	\$4,031,338	0.69	0.85	12/31/2020
2/11/2008	DLJ RECP IV	\$56,669,479	\$100,000,000	130%	\$129,892,605 ⁵	\$0	\$0	\$90,463,629	\$3,162,610	0.70	1.13	12/31/2020
7/1/2014	DLJ RECP V	\$47,651,508	\$75,000,000	114%	\$85,612,038 ⁶	\$0	\$0	\$58,913,882	\$20,556,753	0.69	1.24	12/31/2020
3/19/2019	DLJ RECP VI	\$24,597,661	\$50,000,000	51%	\$25,335,866	\$0	\$0	\$220,742	\$25,050,462	0.01	0.98	12/31/2020
6/17/1998	Hearthstone II ⁷	\$7,458	\$25,000,000	80%	\$19,938,463	\$6,077	\$0	\$27,473,662	\$0	1.38	1.38	12/31/2020
6/30/2013	Invesco Real Estate III ⁷	\$162,975	\$35,000,000	93%	\$32,386,423	\$0	\$0	\$47,423,062	\$2,613,577	1.46	1.47	3/31/2021
6/30/2014	Invesco Real Estate IV ⁷	\$17,668,791	\$35,000,000	87%	\$30,546,401	\$0	\$0	\$22,353,948	\$4,453,599	0.73	1.31	3/31/2021
6/30/2013	Invesco Real Estate V	\$51,146,801	\$75,000,000	65%	\$48,997,669	\$2,885,709	\$0	\$4,723,439	\$29,743,834 ⁹	0.10	1.14	3/31/2021
7/16/2013	LaSalle Income & Growth VI ⁷	\$22,449,699	\$75,000,000	95%	\$71,428,571	\$0	\$16,763	\$81,417,763	\$3,571,429	1.14	1.45	12/31/2020
2/28/2017	LaSalle Income & Growth VII	\$57,272,398	\$75,000,000	103%	\$77,293,582	\$2,643,052	\$0	\$33,471,843	-\$2,293,582	0.43	1.17	12/31/2020
7/3/2013	Long Wharf Fund IV ⁷	\$1,862,422	\$25,000,000	100%	\$25,000,000	\$0	\$0	\$34,528,873	\$0	1.38	1.46	3/31/2021
9/30/2016	Long Wharf Fund V ⁷	\$35,689,598	\$50,000,000	100%	\$50,000,000	\$0	\$1,142,465	\$26,619,445	\$0	0.53	1.25	3/31/2021
6/27/2019	Long Wharf Fund VI	\$7,470,120	\$50,000,000	23%	\$11,278,493	\$4,212,091	\$5,153,617	\$5,153,617	\$38,721,507	0.46	1.12	3/31/2021
12/31/2011	Oaktree REOF V ⁷	\$3,789,870	\$50,000,000	100%	\$50,065,841	\$0	\$0	\$75,692,733	\$5,000,000°	1.51	1.59	3/31/2021
9/30/2013	Oaktree REOF VI ⁷	\$27,929,114	\$80,000,000	100%	\$80,000,000	\$0	\$0	\$84,010,175	\$18,400,000 9	1.05	1.40	3/31/2021
4/1/2015	Oaktree REOF VII	\$48,569,709	\$65,000,000	96%	\$62,400,000	\$0	\$3,884,587	\$27,040,000	\$21,515,000°	0.43	1.21	3/31/2021
11/10/2013	Paulson Real Estate Fund II ⁷	\$24,470,042	\$20,000,000	97%	\$19,345,623	\$0	\$994,197	\$7,790,387	\$654,377	0.40	1.67	12/31/2020
1/25/2012	Siguler Guff DREOF	\$27,013,985	\$75,000,000	93%	\$69,375,000	\$0	\$623,407	\$94,741,653	\$5,625,000	1.37	1.76	9/30/2020
8/31/2013	Siguler Guff DREOF II	\$43,989,324	\$70,000,000	89%	\$61,985,000	\$0	\$1,867,987	\$40,392,406	\$8,015,000	0.65	1.36	9/30/2020
1/27/2016	Siguler Guff DREOF II Co-Inv	\$16,414,305	\$25,000,000	82%	\$20,537,862	\$0	\$500,000	\$10,273,350	\$4,462,138	0.50	1.30	9/30/2020
	Total Closed End Real Estate	\$610,318,746	\$1,275,000,000	95%	\$1,207,655,607	\$9,746,929	\$17,270,525	\$958,865,200	\$213,189,842	0.79	1.30	

¹Latest valuation + capital calls - distributions

% of Portfolio (Market Value)

6.0%



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

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

⁴Includes \$7,360,987 in management fees charged outside the fund.

⁵Includes \$11,322,966 in management fees charged outside the fund.

⁶Includes \$986,559 in management fees charged outside the fund.

⁷Capital has been fully called and fund is in redemption.

⁸Total distributions may include recallable distributions

⁹Remianing commitment includes recallable distributions

				StepStone Group Analysis (*)								
Closing Date	Manager Name/Fund Name	Estimated Market Value as of 3/31/2021 ¹	Total Commitment	Total % 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 Equi	ty & Venture Capital											
2/11/2004	Adams Street Partners	\$176,375,748	\$210,000,000	89%	\$187,400,625	\$0	\$7,263,188	\$186,221,763	\$22,599,375	0.99	1.93	12/31/2020
1/15/2009	Adams Street Partners II	\$5,917,328	\$30,000,000	95%	\$28,365,000	\$0	\$0	\$42,951,012	\$1,635,000	1.51	1.72	12/31/2020
9/21/2012	Adams Street Partners - Fund 5	\$20,263,011	\$40,000,000	77%	\$30,845,875	\$0	\$0	\$19,649,219	\$9,154,125	0.64	1.29	12/31/2020
1/18/1996	Adams Street Partners - BPF	\$1,899,027	\$59,565,614		\$57,517,409	\$0	\$0	\$102,731,103	\$2,048,205	1.79	1.82	12/31/2020
3/31/2016	Adams Street Venture Innovation	\$109,832,564	\$75,000,000	74%	\$55,537,500	\$0	\$0	\$0	\$19,462,500	0.00	1.98	12/31/2020
5/18/2018	AE Industrial Partners Fund II, LP	\$17,306,235	\$35,000,000	47%	\$16,554,769	\$0	\$0	\$804,335	\$19,249,566	0.05	1.09	12/31/2020
11/27/2013	Aether Real Assets III	\$18,791,650	\$25,000,000	98%	\$24,407,721	\$0	\$0	\$3,913,883	\$2,817,919	0.16	0.93	12/31/2020
11/30/2013	Aether Real Assets III Surplus	\$45,903,200	\$50,000,000	103%	\$51,339,959	\$0	\$0	\$8,973,151	\$1,925,536	0.17	1.07	12/31/2020
1/30/2016	Aether Real Assets IV	\$41,894,145	\$50,000,000	87%	\$43,675,593	\$1,455,819	\$0	\$3,474,286	\$8,926,864	0.08	1.04	12/31/2020
4/30/2004	Bay Area Equity Fund I ⁴	\$2,392,861	\$10,000,000	100%	\$10,000,000	\$0	\$0	\$37,018,019	\$0	3.70	3.94	12/31/2020
6/29/2009	Bay Area Equity Fund II ⁴	\$11,210,395	\$10,000,000	100%	\$10,000,000	\$0	\$0	\$3,684,910	\$0	0.37	1.49	12/31/2020
6/30/2013	Commonfund	\$32,957,423	\$50,000,000	92%	\$45,899,994	\$0	\$0	\$12,693,451	\$4,100,006	0.28	0.99	9/30/2020
7/15/2005	EIF US Power Fund II ⁴	\$4,901,362	\$50,000,000	130%	\$65,029,556	\$0	\$0	\$74,001,371	\$0	1.14	1.21	12/31/2020
5/31/2007	EIF US Power Fund III4	\$13,258,474	\$65,000,000	110%	\$71,409,097	\$0	\$0	\$73,782,321	\$0	1.03	1.22	9/30/2020
11/28/2011	EIF US Power Fund IV	\$37,520,404	\$50,000,000	129%	\$64,534,462	\$378,988	\$526,142	\$32,266,448	-\$378,984	0.50	1.08	9/30/2020
11/28/2016	EIF US Power Fund V	\$37,933,167	\$50,000,000	106%	\$52,779,673	\$0	\$6,008,966	\$29,287,396	\$14,537,204	0.55	1.27	12/31/2020
2/21/2019	Genstar Capital Partners IX, L.P.	\$24,722,151	\$50,000,000	39%	\$19,628,275	\$0	\$0	\$1,166,668	\$31,525,882	0.06	1.32	12/31/2020
11/18/2009	Oaktree PIF 2009	\$947,789	\$40,000,000	87%	\$34,816,559	-\$170	\$325,175	\$46,124,785	\$6,308,961	1.32	1.35	12/31/2020
5/2/2013	Ocean Avenue Fund II	\$14,575,316	\$30,000,000	90%	\$27,000,000	\$0	\$9,000,000	\$31,639,096	\$3,000,000	1.17	1.71	9/30/2020
4/15/2016	Ocean Avenue Fund III	\$43,242,527	\$50,000,000	87%	\$43,500,000	\$0	\$4,500,000	\$22,000,000	\$6,500,000	0.51	1.50	9/30/2020
11/30/2007	Paladin III	\$27,924,818	\$25,000,000	137%	\$34,331,097	\$0	\$0	\$60,680,169	\$419,157	1.77	2.58	12/31/2020
8/22/2011	Pathway 6	\$37,892,364	\$40,000,000	97%	\$38,977,218	\$301,895	\$2,003,937	\$34,748,693	\$3,620,385	0.89	1.86	9/30/2020
7/10/2013	Pathway 7	\$73,148,855	\$70,000,000	96%	\$67,470,913	\$148,225	\$7,505,874	\$43,810,611	\$6,352,236	0.65	1.73	9/30/2020
11/23/2015	Pathway 8	\$59,514,608	\$50,000,000	87%	\$43,297,812	\$783,431	\$2,143,164	\$10,558,791	\$10,144,110	0.24	1.62	9/30/2020
1/19/1999	Pathway	\$10,177,565	\$125,000,000	100%	\$125,468,002	\$68,830	\$1,251,247	\$179,590,995	\$10,681,592	1.43	1.51	9/30/2020
7/31/2009	Pathway 2008	\$16,646,770	\$30,000,000	99%	\$29,574,269	\$85,361	\$2,531,601	\$36,155,169	\$2,995,774	1.22	1.79	9/30/2020
6/3/2014	Siguler Guff CCCERA Opportunities	\$156,015,694	\$200,000,000	85%	\$170,583,208	\$0	\$5,132,479	\$113,302,656	\$33,097,500	0.66	1.58	12/31/2020
11/30/2016	Siguler Guff Secondary Opportunities ⁴	\$0	\$50,000,000	60%	\$29.999.802	\$0	\$0	\$42,773,166	\$20,000,198	1.43	1.43	9/30/2020
5/18/2018	Siris Partners IV. L.P.	\$18,954,137	\$35,000,000	56%	\$19.610.842	\$127,342	\$2,695,958	\$2,894,896	\$17,473,632	0.15	1.11	12/31/2020
6/28/2019	TPG Healthcare Partners, L.P.	\$6,661,633	\$24,000,000	28%	\$6,796,104	\$0	\$294,013	\$1,382,305	\$18,491,481	-	-	12/31/2020
5/24/2019	Trident VIII, L.P.	\$14,068,898	\$40,000,000	34%	\$13,549,528	\$0	\$0	\$565,951	\$26,912,492	-	-	-
12/8/2015	Wastewater Opportunity Fund	\$12,660,001	\$25,000,000	115%	\$28,693,102	\$3,670,876	\$10,207,166	\$12,239,088	\$1,754,258	0.43	0.87	9/30/2020
т	otal Private Equity and Venture Capital	\$1,095,510,121	\$1,743,565,614	89%	\$1,548,593,964	\$7,020,598	\$61,388,909	\$1,271,085,707	\$305,354,971	0.82	1.53	
	% of Portfolio (Market Value)	10.6%										

^{*} All Data provided by StepStone Group

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



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

Private Credit	Inception	Fund Level (G) ²	CCCERA (G)	Fund Level (N) ²³	CCCERA (N) ³	IRR Date
Angelo Gordon Energy Cred Opp.4	09/24/2015	-	-	-	5.6%	12/31/2020
Stepstone CC Opportunities Fund	02/02/2018	-	8.8%	-	7.4%	09/30/2020
Torchlight IV	08/01/2012	12.0%	12.5%	9.7%	10.4%	12/31/2020
Torchlight V	03/12/2015	15.0%	15.0%	10.4%	10.4%	12/31/2020
Real Estate	Inception	Fund Level (G) ²	CCCERA (G)	Fund Level (N) ²³	CCCERA (N)3	IRR Date
Angelo Gordon VIII4	01/23/2012	-	-	-	13.6%	12/31/2020
Angelo Gordon IX	12/08/2014	-	-	-	8.6%	12/31/2020
DLJ RECP III	06/23/2005	-1.0%	-1.0%	-4.0%	-3.0%	12/31/2020
DLJRECPIV	02/11/2008	4.0%	4.0%	2.0%	2.0%	12/31/2020
DLJ RECPV	07/01/2014	16.0%	16.0%	9.0%	9.0%	12/31/2020
DLJ RECP VI ¹	03/19/2019	-	-	-	-	-
Hearthstone II ⁴	06/17/1998	-	30.1%	-	30.1%	03/31/2020
Invesco Fund III4	06/30/2013	16.6%	-	13.6%	-	12/31/2020
Invesco Fund IV4	06/30/2014	16.3%	-	12.3%	-	12/31/2020
Invesco Fund V	02/20/2019	12.5%	-	6.5%	-	12/31/2020
LaSalle Income & Growth VI ⁴	07/16/2013	13.0%	13.0%	10.8%	10.8%	12/31/2020
LaSalle Income & Growth VII	02/28/2017	8.7%	8.7%	6.9%	6.8%	12/31/2020
Long Wharf IV⁴	07/03/2013	16.6%	16.2%	12.0%	12.0%	03/31/2021
Long Wharf V⁴	09/30/2016	11.1%	11.7%	8.1%	8.5%	03/31/2021
Long Wharf VI	06/27/2019	33.2%	45.9%	12.5%	16.3%	03/31/2021
Oaktree REOF V ⁴	12/31/2011	16.7%	-	12.3%	-	03/31/2021
Oaktree REOF VI ⁴	09/30/2013	12.4%	-	8.5%	-	03/31/2021
Oaktree REOF VII	04/01/2015	25.1%	-	15.6%	-	03/31/2021
Paulson⁴	11/10/2013	-	-	13.8%	-	12/31/2020
Siguler Guff I	01/25/2012	13.0%	15.8%	11.5%	12.7%	12/31/2020
Siguler Guff II	08/31/2013	10.9%	10.9%	9.6%	8.7%	12/31/2020
Siguler Guff DREOF II Co-Inv	01/27 <i>[</i> 2016	8.3%	8.6%	7.3%	7.2%	12/31/2020

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.

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	-	14.3%	-	12.1%	12/31/2020
Adams Street Partners II	12/31/2008	-	17.9%	-	14.2%	12/31/2020
Adams Street Partners - Fund 5	12/31/2008	-	9.2%	-	6.6%	12/31/2020
Adams Street Partners Venture	1/18/1996	-	44.5%	-	40.9%	12/31/2020
Adams Street Partners - BPF	3/31/2016	-	14.3%	-	11.6%	12/31/2020
AE Industrial Partners Fund II, LP	5/18/2018	20.1%	-	11.7%	-	12/31/2020
Aether Real Assets III	11/27/2013	1.1%	1.1%	-2.2%	-2.2%	9/30/2020
Aether Real Assets III Surplus	11/30/2013	3.4%	3.4%	1.5%	1.5%	9/30/2020
Aether Real Assets IV	1/30/2016	6.0%	6.0%	1.5%	1.5%	9/30/2020
Bay Area Equity Fund I ⁹	11/26/2003	31.4%	31.4%	23.1%	23.1%	12/31/2020
Bay Area Equity Fund II ⁹	11/26/2003	10.0%	10.0%	5.4%	5.4%	12/31/2020
CommonFund	6/30/2013	-	-	-	1.5%	9/30/2020
Energy Investor Fund II ⁹	7/15/2005	6.1%	5.7%	3.5%	3.1%	12/31/2020
Energy Investor Fund III ⁹	5/31/2007	6.1%	6.1%	3.6%	3.6%	12/31/2020
Energy Investor Fund IV	8/31/2010	4.5%	4.5%	1.1%	0.9%	12/31/2020
Energy Investor Fund V	11/28/2016	20.1%	16.1%	16.1%	12.2%	12/31/2020
Genstar Capital Partners IX, L.P. ¹	2/21/2019	29.6%	-	-	-	12/31/2020
Oaktree PIF 2009	2/28/2010	6.8%	-	6.5%	-	3/31/2021
Ocean Avenue II	8/15/2013	-	-	17.3%	-	12/31/2020
Ocean Avenue III	4/15/2016	-	-	22.6%	-	12/31/2020
Paladin III	11/30/2007	22.2%	-	15.3%	-	12/31/2020
Pathway 6	8/22/2011	18.9%	18.9%	16.6%	16.6%	12/31/2020
Benchmark ⁴		14.0%	-	-	-	9/30/2020
Pathway 7	7/10/2013	20.6%	20.6%	18.4%	18.4%	12/31/2020
Benchmark ⁵		14.1%	-	-	-	9/30/2020
Pathway 8	11/23/2015	25.5%	25.7%	23.9%	24.3%	12/31/2020
Benchmark ⁶		14.2%	-	-	-	9/30/2020
Pathway Private Equity Fund	1/19/1999	10.2%	10.2%	8.4%	8.4%	12/31/2020
Benchmark ⁷		10.2%	-	-	-	9/30/2020
Pathway Private Equity Fund 2008	7/31/2009	16.3%	16.3%	13.9%	13.9%	12/31/2020
Benchmark ⁸		12.9%	-	-	-	9/30/2020
Siguler Guff CCCERA Opportunities	6/3/2014	17.2%	17.9%	16.7%	15.2%	12/31/2020
Siguler Guff Secondary Opportunities 9	8/31/2013	55.3%	118.4%	49.5%	69.0%	9/30/2020
Siris Partners IV, L.P. ¹	5/18/2018	-	-	-	-	-
TPG Healthcare Partners, L.P. ¹	6/28/2019	_	-	-	_	_
Trident VIII, L.P.1	5/24/2019	-	-	-	-	_
Wastewater Opportunity Fund	12/8/2015	3.7%	-	-0.9%	_	12/31/2020

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 June 30, 2020.

⁵Private iQ global all private equity median pooled return for vintage years 2012-2016, as of June 30, 2020.

⁶Private iQ global all private equity median pooled return for vintage years 2015-2018, as of June 30, 2020.

⁷Private iQ global all private equity median pooled return for vintage years 1999-2011, as of June 30, 2020.

⁸Private iQ global all private equity median pooled return for vintage years 2008-2014, as of June 30, 2020.

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

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	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	17.29%	-0.02%	18.98%	-0.01%	1.00	0.02%	1.00	0.84	-1.22	99.90%	99.98%
Jackson Square Partners	19.79%	-3.01%	19.58%	-2.01%	0.96	6.29%	0.90	0.94	-0.48	83.07%	92.84%
Boston Partners	10.58%	-0.38%	21.39%	-1.07%	1.06	2.90%	0.99	0.43	-0.13	104.26%	104.13%
Emerald Advisers	18.46%	1.30%	25.29%	1.91%	0.96	5.84%	0.95	0.68	0.22	101.68%	98.18%
Ceredex	7.88%	-3.69%	24.82%	-2.48%	0.90	6.46%	0.95	0.26	-0.57	79.04%	95.81%
Pyrford	5.79%	3.40%	14.84%	4.13%	0.69	7.84%	0.90	0.30	0.43	73.31%	73.41%
William Blair	12.59%	2.28%	17.88%	1.40%	1.08	3.59%	0.97	0.63	0.63	115.48%	103.06%
PIMCO RAE Emerging Markets	2.98%	0.39%	22.66%	0.08%	1.12	4.76%	0.97	0.07	0.08	114.43%	105.90%
Artisan Partners	18.54%	1.03%	17.03%	2.35%	0.92	4.29%	0.94	1.01	0.24	95.50%	91.10%
First Eagle	7.85%	1.63%	13.91%	3.46%	0.71	6.58%	0.94	0.47	0.25	70.75%	72.20%
Allianz Global Investors	5.52%	-1.01%	8.38%	-0.12%	0.86	2.30%	0.95	0.50	-0.44	85.75%	91.59%
Adelante	10.05%	1.01%	17.64%	1.54%	0.94	1.86%	0.99	0.49	0.54	97.33%	93.87%
AFL-CIO	4.32%	-0.33%	3.12%	0.41%	0.84	1.05%	0.92	0.95	-0.32	83.56%	72.72%

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



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	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
Jackson Square Partners	17.91%	-3.14%	16.41%	-2.47%	0.97	5.85%	0.87	1.02	-0.54	83.22%	98.67%
Boston Partners	12.85%	1.10%	17.41%	0.33%	1.07	3.05%	0.97	0.67	0.36	108.58%	101.02%
Emerald Advisers	19.54%	0.93%	20.67%	1.52%	0.97	5.13%	0.94	0.89	0.18	98.25%	96.13%
Ceredex	9.86%	-3.70%	20.30%	-2.00%	0.88	6.27%	0.92	0.43	-0.59	72.21%	94.95%
Pyrford	6.81%	-0.44%	12.43%	1.81%	0.69	7.07%	0.85	0.46	-0.06	61.61%	75.68%
William Blair	13.57%	1.54%	14.84%	0.83%	1.06	3.24%	0.96	0.84	0.48	110.87%	100.57%
Total Global Equity	14.01%	0.80%	12.43%	3.01%	0.83	3.88%	0.94	1.04	0.21	87.28%	84.18%
Artisan Partners	19.03%	1.96%	14.54%	2.89%	0.94	4.47%	0.91	1.23	0.44	102.35%	91.63%
First Eagle	8.66%	-0.39%	11.27%	2.29%	0.70	5.53%	0.92	0.67	-0.07	64.89%	73.02%
Allianz Global Investors	6.55%	-1.38%	6.77%	-0.23%	0.86	1.97%	0.94	0.80	-0.70	82.54%	92.64%
Adelante	5.93%	0.97%	15.28%	1.29%	0.94	1.85%	0.99	0.31	0.52	93.40%	93.04%
AFL-CIO	2.78%	-0.32%	2.89%	0.18%	0.84	0.97%	0.92	0.57	-0.33	80.45%	76.62%

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



Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
BlackRock Russell 1000 Index	Growth	0.03% of Assets	\$243,392,950	\$73,018	0.03%
Jackson Square Partners	Growth	0.50% of First 100.0 Mil, 0.40% of Next 150.0 Mil, 0.35% Thereafter	\$237,239,524	\$1,048,958	0.44%
Boston Partners	Growth	0.50% of First 25.0 Mil, 0.30% Thereafter	\$270,191,010	\$860,573	0.32%
Emerald Advisers	Growth	0.75% of First 10.0 Mil, 0.60% Thereafter	\$199,810,544	\$1,213,863	0.61%
Ceredex	Growth	0.85% of First 10.0 Mil, 0.68% of Next 40.0 Mil, 0.51% Thereafter	\$188,206,009	\$1,061,851	0.56%
Pyrford	Growth	0.70% of First 50.0 Mil, 0.50% of Next 50.0 Mil, 0.35% Thereafter	\$520,286,529	\$2,071,003	0.40%
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	\$618,343,105	\$2,270,029	0.37%
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	\$418,111,180	\$2,194,000	0.52%
TT Emerging Markets	Growth	0.70% of First 100.0 Mil, 0.65% of Next 100.0 Mil, 0.60% Thereafter	\$460,691,249	\$2,914,147	0.63%
Artisan Partners	Growth	0.75% of Assets	\$588,130,287	\$4,410,977	0.75%
First Eagle	Growth	0.75% of Assets	\$506,842,348	\$3,801,318	0.75%
Allianz Global Investors	Growth	0.50% of First 50.0 Mil, 0.40% of Next 50.0 Mil, 0.35% Thereafter	\$176,316,258	\$717,107	0.41%
AQR Global Risk Premium-EL	Growth	0.38% of Assets	\$247,937,376	\$942,162	0.38%

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

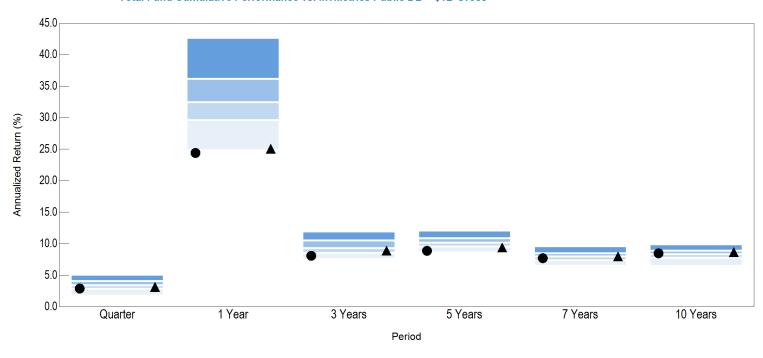


Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
PanAgora Risk Parity Multi Asset	Growth	0.35% of Assets	\$248,008,375	\$868,029	0.35%
AFL-CIO	Diversifying	0.43% of Assets	\$262,263,894	\$1,127,735	0.43%
Parametric Defensive Equity	Diversifying	0.42% of First 200.0 Mil, 0.39% Thereafter	\$112,348,727	\$471,865	0.42%
Acadian Multi-Asset Absolute Return Fund	Diversifying	0.50% of Assets	\$127,602,974	\$638,015	0.50%
DFA Short Credit	Liquidity	0.20% of First 25.0 Mil, 0.10% Thereafter	\$380,581,485	\$405,581	0.11%
Insight Short Duration	Liquidity	0.06% of First 500.0 Mil, 0.05% of Next 500.0 Mil, 0.04% Thereafter	\$985,650,693	\$542,825	0.06%

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



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



5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

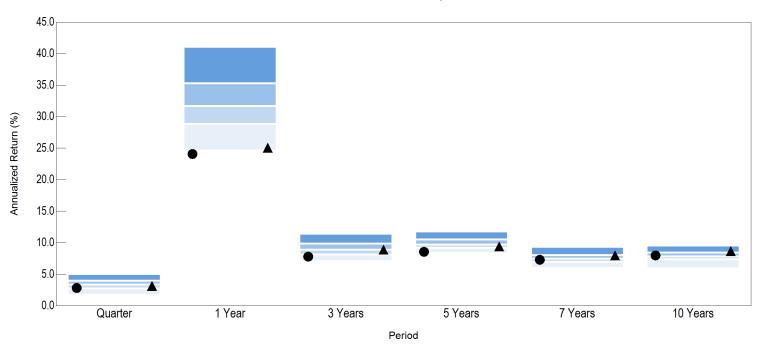
Total FundPolicy Index

	42.6		11.9		12.1		9.6		9.9	
	36.2		10.6		10.9		8.5		8.9	
	32.5		9.3		10.2		8.0		8.4	
	29.7		8.6		9.6		7.4		7.8	
	24.9		7.6		8.7		6.5		6.5	
	96		96		96		95		91	
(73) (61)	24.4 25.1	(96) (95)	8.1 8.9	(89) (64)	8.9 9.4	(93) (82)	7.7 8.0	(64) (51)	8.5 8.7	(47) (39)
	` '	36.2 32.5 29.7 24.9 96	36.2 32.5 29.7 24.9 96 (73) 24.4 (96)	36.2 10.6 32.5 9.3 29.7 8.6 24.9 7.6 96 96 (73) 24.4 (96) 8.1	36.2 10.6 32.5 9.3 29.7 8.6 24.9 7.6 96 96 (73) 24.4 (96) 8.1 (89)	36.2 10.6 10.9 32.5 9.3 10.2 29.7 8.6 9.6 24.9 7.6 8.7 96 96 96 (73) 24.4 (96) 8.1 (89) 8.9	36.2 10.6 10.9 32.5 9.3 10.2 29.7 8.6 9.6 24.9 7.6 8.7 96 96 96 (73) 24.4 (96) 8.1 (89) 8.9 (93)	36.2 10.6 10.9 8.5 32.5 9.3 10.2 8.0 29.7 8.6 9.6 7.4 24.9 7.6 8.7 6.5 96 96 96 95 (73) 24.4 (96) 8.1 (89) 8.9 (93) 7.7	36.2 10.6 10.9 8.5 32.5 9.3 10.2 8.0 29.7 8.6 9.6 7.4 24.9 7.6 8.7 6.5 96 96 96 95 (73) 24.4 (96) 8.1 (89) 8.9 (93) 7.7 (64)	36.2 10.6 10.9 8.5 8.9 32.5 9.3 10.2 8.0 8.4 29.7 8.6 9.6 7.4 7.8 24.9 7.6 8.7 6.5 6.5 96 96 96 95 91 (73) 24.4 (96) 8.1 (89) 8.9 (93) 7.7 (64) 8.5

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



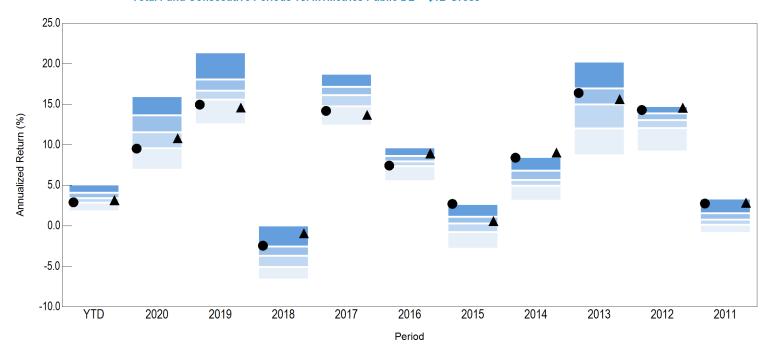
5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

Total FundPolicy Index

Return (Rank)											
5.0		41.1		11.4		11.8		9.3		9.6	
4.0		35.4		9.9		10.6		8.1		8.4	
3.4		31.7		8.9		9.7		7.5		7.9	
2.8		28.9		8.2		9.3		7.0		7.4	
1.7		24.6		7.1		8.4		6.0		6.0	
83		83		83		83		80		75	
2.8	(73)	24.1	(98)	7.8	(88)	8.6	(91)	7.3	(62)	8.0	(45)
3.2	(60)	25.1	(94)	8.9	(51)	9.4	(69)	8.0	(32)	8.7	(18)



Total Fund Consecutive Periods vs. InvMetrics Public DB > \$1B Gross



5th Percentile 25th Percentile Median 75th Percentile 95th Percentile # of Portfolios

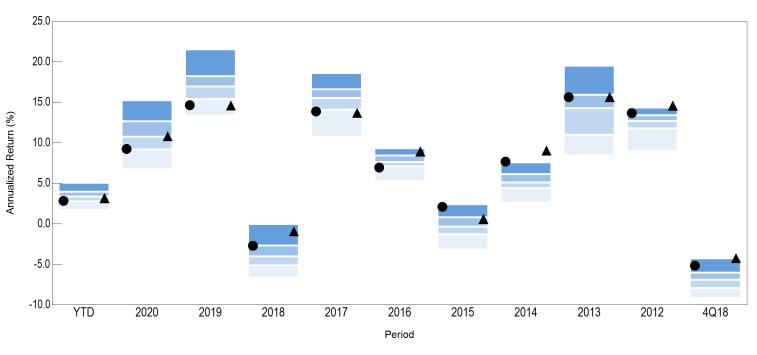
Total FundPolicy Index

Return (Ra	ank)										
5.1	16.0	21.4	0.0	18.8	9.7	2.7	8.5	20.2	14.7	3.3	
4.1	13.6	18.1	-2.6	17.2	8.6	1.1	6.8	17.0	13.9	1.6	
3.4	11.5	16.7	-3.7	16.2	8.0	0.3	5.7	15.0	13.0	8.0	
2.9	9.6	15.6	-5.1	14.8	7.4	-0.7	4.9	12.0	12.1	0.1	
1.8	6.9	12.5	-6.6	12.4	5.5	-2.8	3.1	8.7	9.2	-0.9	
96	94	81	71	98	92	98	79	67	74	68	
2.9 (73	9.5 (78)	15.0 (83)	-2.5 (25)	14.2 (83)	7.4 (74)	2.7 (5)	8.4 (6) 16.4 (33)	14.3 (13)	2.7 (9)	
3.2 (61) 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)	2.8 (9)	

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 Consecutive Periods vs. InvMetrics Public DB > \$1B Net

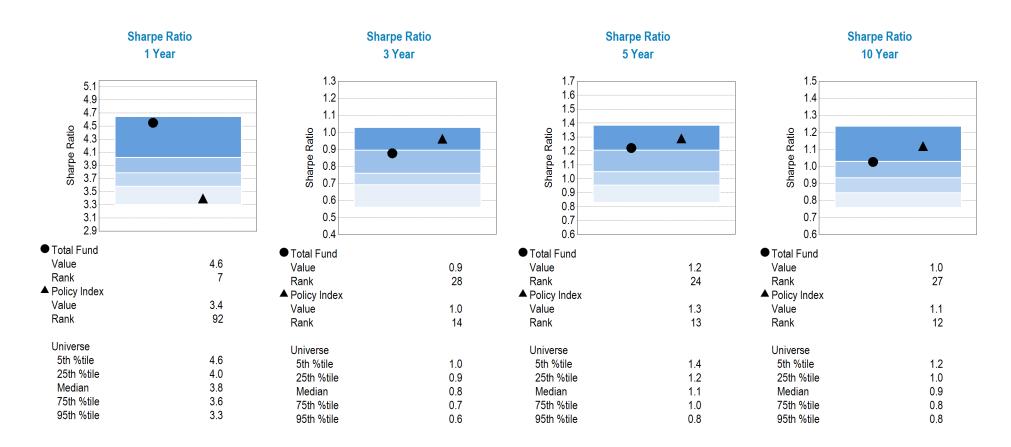


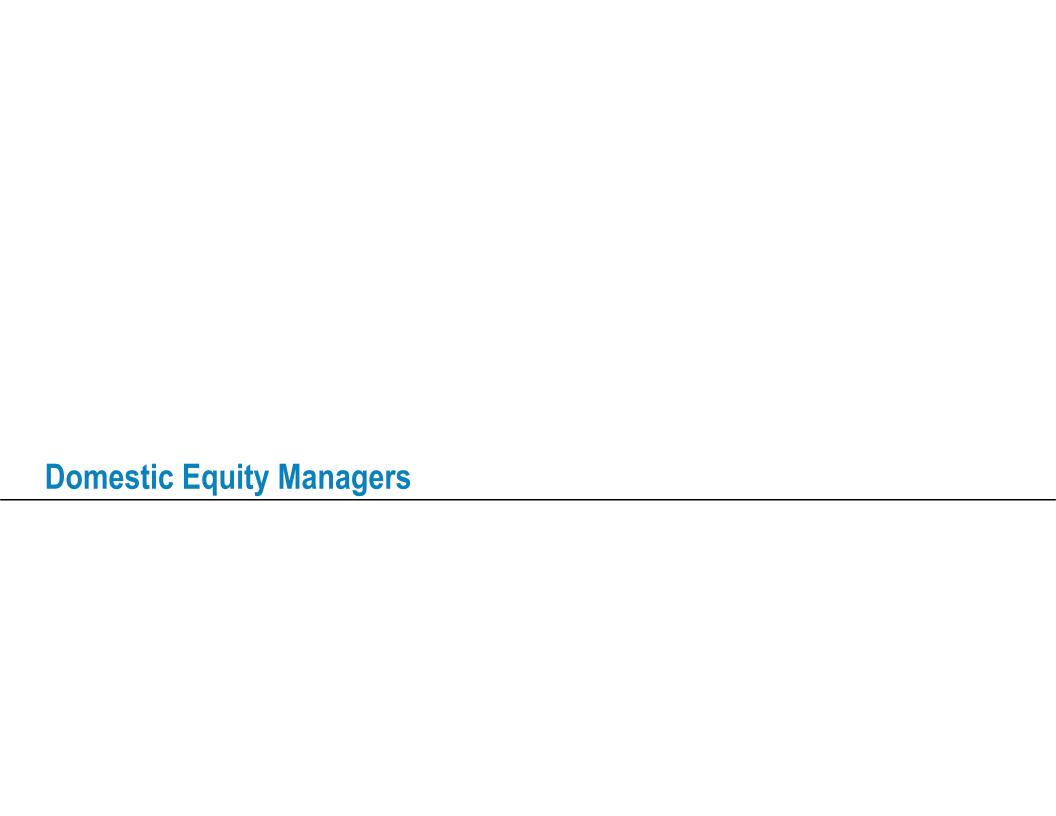
5th Percentile 25th Percentile Median 75th Percentile 95th Percentile # of Portfolios

Total FundPolicy Index

Return (Rai	1K)									
5.0	15.2	21.5	-0.1	18.6	9.3	2.4	7.6	19.5	14.3	-4.3
4.0	12.7	18.2	-2.7	16.6	8.4	8.0	6.1	16.0	13.4	-6.0
3.4	10.8	17.0	-4.0	15.6	7.7	-0.4	5.1	14.3	12.7	-6.9
2.8	9.2	15.4	-5.1	14.1	7.1	-1.3	4.4	11.0	11.8	-7.9
1.7	6.8	13.4	-6.6	10.7	5.3	-3.2	2.6	8.5	9.0	-9.1
83	80	69	63	61	62	57	55	48	44	64
2.8 (73) 3.2 (60)	9.2 (73) 10.8 (49)	14.6 (92) 14.6 (92)	-2.7 (27) -0.9 (8)	13.9 (81) 13.7 (85)	6.9 (78) 8.9 (13)	2.1 (12) 0.6 (29)	7.7 (5) 9.0 (2)	15.6 (33) 15.6 (33)	13.6 (21) 14.6 (1)	-5.2 (13) -4.3 (5)







Domestic equity large cap growth portfolio concentrated in companies with sustainable long-term growth characteristics. Primary personnel include Jeffrey Van Harte, Christopher Bonavico, Christopher Ericksen, and Daniel Prislin.

Characteristics

Russell Portfolio 1000 Growth Number of Holdings 27 453 Weighted Avg. Market Cap. (\$B) 688.96 369.12 Median Market Cap. (\$B) 81.37 17.32 Price To Earnings 48.85 38.26 Price To Book 11.53 10.97 Price To Sales 9.14 5.46 Return on Equity (%) 10.45 36.90 Yield (%) 0.31 0.79 Beta 1.00 0.95

Sector Allocation (%) vs Russell 1000 Growth



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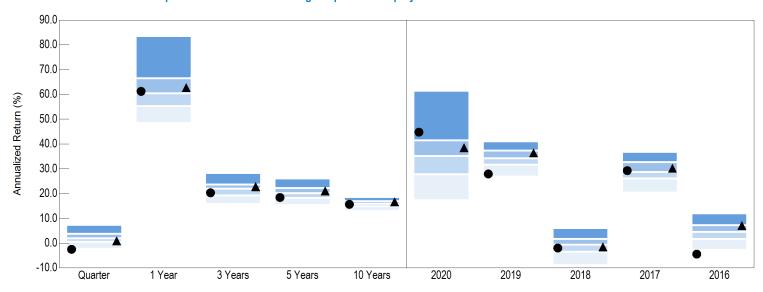
Top Contributors

Bottom Contributors

Largest	noidiligs			op Contributo	15		Bottom Contributors					
	End Weight	Return		Avg Wgt	Return	Contribution	n	Avg Wgt	Return	Contribution		
MICROSOFT CORP	8.91	6.25	KKR & CO INC	0.90	21.00	0.19	COUPA SOFTWARE INC	0.96	-24.91	-0.24		
UBER TECHNOLOGIES INC	6.63	6.88	ALPHABET INC	1.00	17.68	0.18	PAYCOM SOFTWARE INC	1.25	-18.17	-0.23		
AMAZON.COM INC	5.96	-5.00	MICROSOFT CORP	2.62	6.25	0.16	SERVICENOW INC	1.44	-9.14	-0.13		
VISA INC	5.80	-3.05	UBER TECHNOLOGIES	1.94	6.88	0.13	INTUITIVE SURGICAL INC	1.09	-9.68	-0.11		
TWILIO INC	5.19	0.67	INC	1.54	0.00	0.10	EDWARDS	1.21	-8.32	-0.10		
PAYPAL HOLDINGS INC	4.77	3.69	WASTE MANAGEMENT	0.98	9.93	0.10	LIFESCIENCES CORP	1.21	-0.32	-0.10		
MASTERCARD INC	4.64	-0.12	INC.				DATADOG INC	0.65	-15.34	-0.10		
CHARTER COMMUNICATIONS			WIX.COM LTD	0.76	11.71	0.09	CHARTER	4 47	C 72	0.40		
INC	4.39	-6.73	PAYPAL HOLDINGS INC	1.53	3.69	0.06	COMMUNICATIONS INC	1.47	-6.73	-0.10		
SERVICENOW INC	4.08	-9.14	ILLUMINA INC	0.86	3.80	0.03	AMAZON.COM INC	1.96	-5.00	-0.10		
EDWARDS LIFESCIENCES CORP	3.56	-8.32	META FINANCIAL GRP	0.10	24.07	0.02	AUTODESK INC.	0.91	-9.23	-0.08		
			INC	0.10	24.07	0.02	BALL CORP	0.83	-8.90	-0.07		
			STARBUCKS CORP	0.85	2.58	0.02						



Jackson Square Partners vs. eV US Large Cap Growth Equity Gross Universe



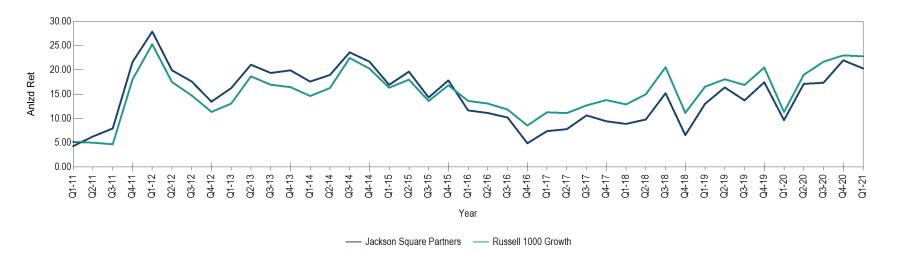
5th Percentile 25th Percentile
Median
75th Percentile 95th Percentile
of Portfolios

Jackson Square Partners
Russell 1000 Growth

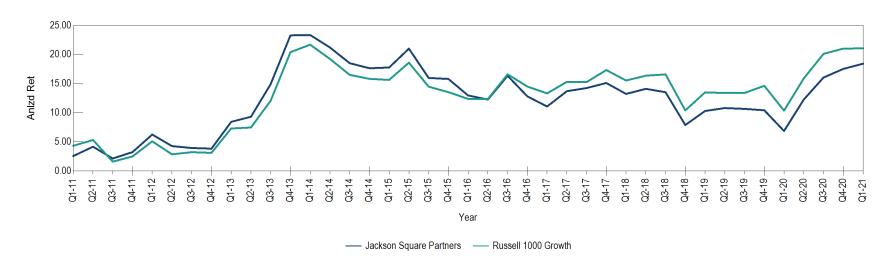
Return (I	Rank)																			
7.3		83.5		28.2		26.0		18.6		61.4		41.0		6.1		36.7		12.0		
3.8		66.5		23.8		22.3		17.0		41.6		37.3		1.7		32.7		7.3		
2.1		60.5		22.0		20.2		16.0		35.2		34.2		-0.6		28.8		4.6		
0.6		55.3		19.3		18.3		14.9		27.9		31.7		-3.5		26.2		1.8		
-2.2		48.4		15.8		15.4		13.1		17.4		26.9		-8.8		20.5		-2.7		
259		259		254		234		210		263		253		255		265		282		
-2.5	(97)	61.2	(48)	20.3	(66)	18.4	(74)	15.7	(59)	44.8	(20)	27.9	(93)	-2.0	(59)	29.3	(47)	-4.4	(98)	
0.9	(70)	62.7	(40)	22.8	(36)	21.0	(43)	16.6	(32)	38.5	(34)	36.4	(32)	-1.5	(57)	30.2	(42)	7.1	(26)	



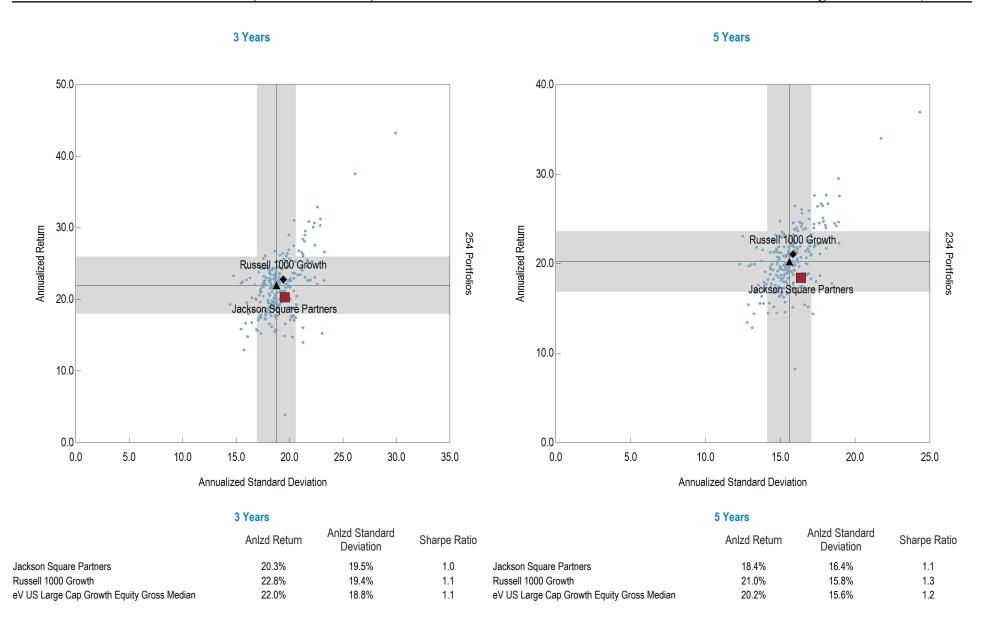
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)



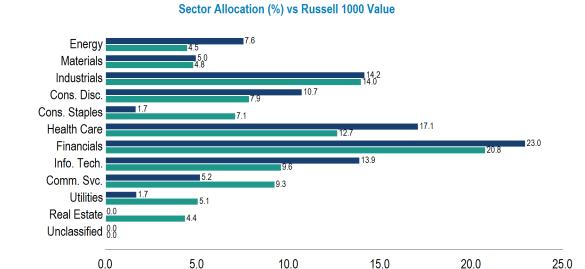




Domestic equity large cap value portfolio exhibiting low turnover in companies with low valuations relative to intrinsic value. Primary personnel include Mark Donovan and David Pyle.

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	95	849
Weighted Avg. Market Cap. (\$B)	154.49	146.56
Median Market Cap. (\$B)	41.31	12.99
Price To Earnings	22.88	24.09
Price To Book	2.58	2.72
Price To Sales	1.73	2.29
Return on Equity (%)	12.07	10.75
Yield (%)	1.72	2.01
Beta	1.10	1.00



Russell 1000 Value

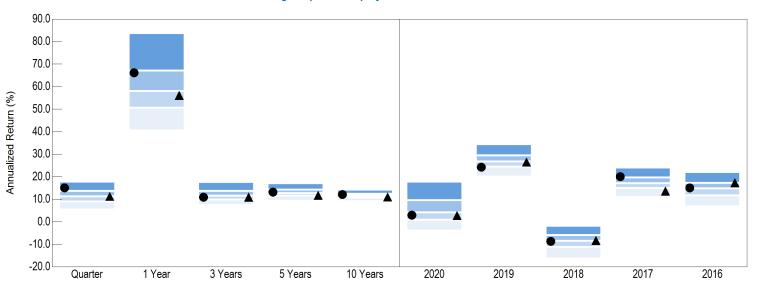
Boston Partners

Largest Holdings Top Contributors Bottom Contributors

	End Weight	Return		Avg Wgt	Return	Contributio	n	Avg Wgt	Return	Contribution
JPMORGAN CHASE & CO	3.40	20.66	APPLIED MATERIALS INC.	0.50	55.09	0.28	PETROLEO BRASILEIRO	0.20	-24.49	-0.05
JOHNSON & JOHNSON	3.26	5.08	BANK OF AMERICA CORP	0.91	28.28	0.26	S.A PETROBRAS	0.20	-24.43	-0.03
BANK OF AMERICA CORP	3.01	28.28	DEERE & CO	0.60	39.39	0.24	YAMANA GOLD INC	0.20	-23.52	-0.05
BERKSHIRE HATHAWAY INC	2.81	10.18	JPMORGAN CHASE & CO	1.09	20.66	0.23	VIATRIS INC	0.14	-25.45	-0.04
CISCO SYSTEMS INC	2.80	16.50	CONOCOPHILLIPS	0.59	33.69	0.20	T-MOBILE US INC	0.49	-7.09	-0.03
CIGNA CORP	2.10	16.61	LAM RESEARCH CORP	0.63	26.34	0.17	NOVARTIS AG	0.56	-6.01	-0.03
AUTOZONE INC	2.06	18.46	TRUIST FINANCIAL CORP	0.61	22.71	0.14	VISTRA CORP	0.28	-9.33	-0.03
CONOCOPHILLIPS	2.02	33.69	CIGNA CORP	0.81	16.61	0.13	EDISON INTERNATIONAL	0.34	-5.68	-0.02
DEERE & CO	1.98	39.39	CISCO SYSTEMS INC	0.79	16.50	0.13	SS&C TECHNOLOGIES	0.29	-3.73	-0.01
TRUIST FINANCIAL CORP	1.93	22.71	MOHAWK INDUSTRIES		20.44	2.12	HOLDINGS INC	0.20	0.70	0.01
110101111111101112 00111	1.00		INC.	0.36	36.44	0.13	KINROSS GOLD CORP	0.11	-8.71	-0.01
							FMC CORP.	0.21	-3.34	-0.01



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



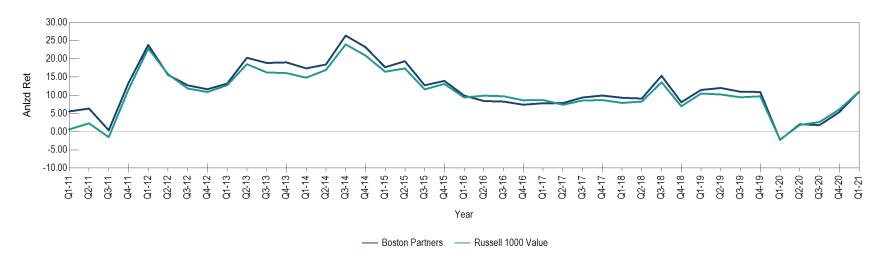
5th Percentile 25th Percentile Median 75th Percentile 95th Percentile # of Portfolios

Boston PartnersRussell 1000 Value

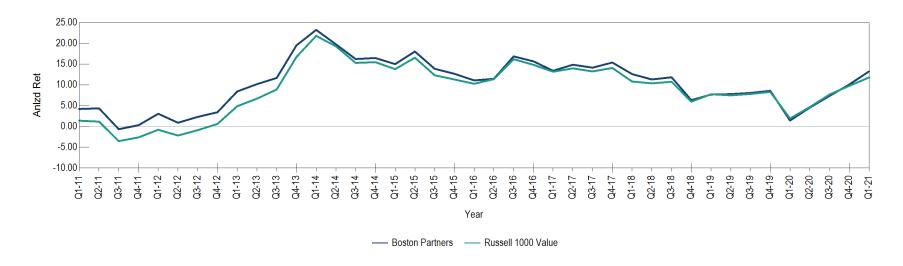
Return (Ra	nk)																	
17.8	83.7	7	17.7		17.0		14.3		17.8		34.4		-1.8		24.0		22.1	
13.8	67.2	2	13.9		14.3		12.6		9.6		29.6		-5.8		19.8		17.4	
11.4	58.2	2	11.7		12.8		11.7		4.2		26.9		-8.3		17.2		15.0	
9.1	50.8	3	10.0		11.7		10.8		1.1		24.5		-11.1		15.1		11.8	
5.5	40.6	6	7.6		9.4		9.3		-3.8		20.3		-16.1		11.2		7.0	
327	326	6	320		305		260		326		331		336		342		346	
,	16) 66. ⁻	(29)		(61)	13.2	(43)	12.1	(38)	3.0	(61)	24.3	(77)	-8.7	(55)	20.1	(23)	15.1	(50)
11.3	53) 56.1	(57)	11.0	(60)	11.7	(73)	11.0	(70)	2.8	(62)	26.5	(54)	-8.3	(50)	13.7	(87)	17.3	(2



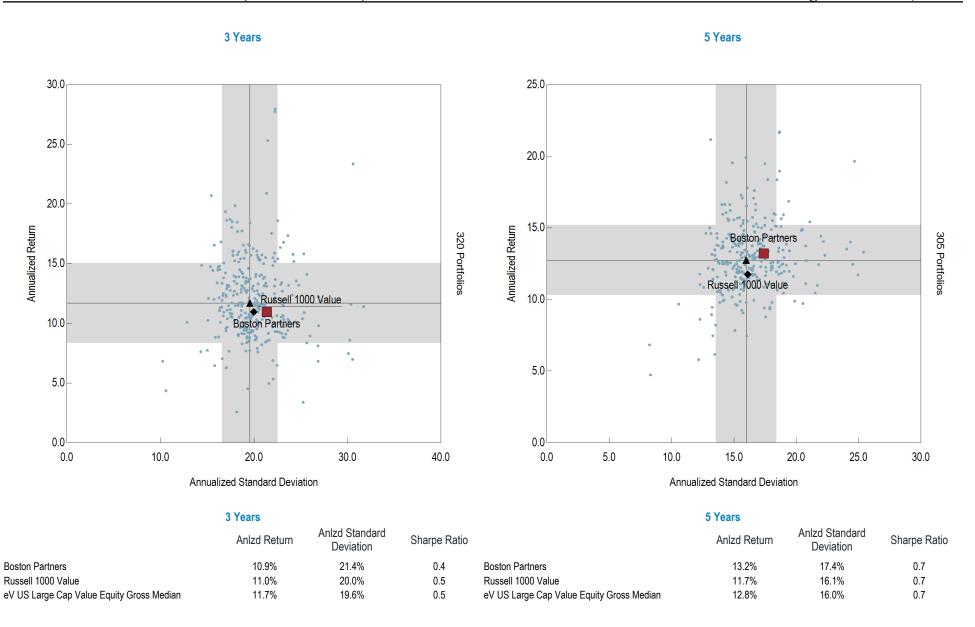
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)



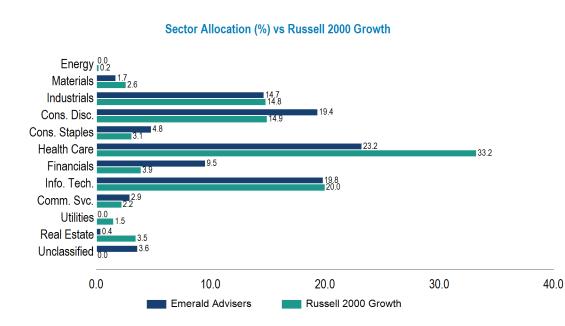




Domestic equity small cap growth portfolio of companies with significantly high growth rates. Primary personnel include Kenneth Mertz, Joseph Garner, and Stacey Sears.

Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	118	1,114
Weighted Avg. Market Cap. (\$B)	4.00	4.23
Median Market Cap. (\$B)	3.27	1.25
Price To Earnings	38.88	33.45
Price To Book	4.68	5.29
Price To Sales	3.46	3.13
Return on Equity (%)	-13.21	-8.16
Yield (%)	0.37	0.39
Beta	1.01	1.00

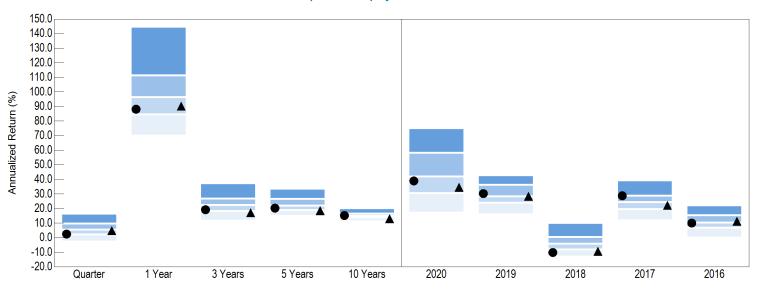


Largest Holdings Top Contributors Bottom Contributors

	End Weight	Return		Avg Wgt	Return	Contribution	1	Avg Wgt	Return	Contribution
FRESHPET INC	2.44	11.85	PACIFIC PREMIER	0.41	39.81	0.17	IMMUNOVANT INC	0.32	-65.27	-0.21
NEOGENOMICS INC	2.08	-10.42	BANCORP INC	0.41	33.01	0.17	RAPID7 INC	0.74	-17.25	-0.13
CHART INDUSTRIES INC	2.03	20.85	TRANSMEDICS GROUP	0.15	108.49	0.16	SVMK INC	0.42	-28.30	-0.12
CHURCHILL DOWNS INC	1.95	16.75	INC MONTROSE				TURNING POINT	0.50	-22.37	-0.11
CHEGG INC	1.86	-5.17	ENVIRONMENTAL GROUP	0.20	62.11	0.13	THERAPEUTICS INC			
MACOM TECHNOLOGY SOLUTIONS HOLDINGS INC	1.83	5.41	INC				KARYOPHARM THERAPEUTICS INC	0.31	-32.04	-0.10
VARONIS SYSTEMS INC	1.83	-5.86	CHART INDUSTRIES INC	0.58	20.85	0.12	LIVERAMP HOLDINGS INC	0.33	-29.12	-0.10
RAPID7 INC	1.77	-17.25	ONTO INNOVATION INC	0.28	38.19	0.11	PALOMAR HOLDINGS INC	0.39	-24.54	-0.09
TETRA TECH INC	1.68	17.37	SEAWORLD ENTERTAINMENT INC	0.17	57.23	0.10	NEOGENOMICS INC	0.80	-10.42	-0.08
JACK IN THE BOX INC.	1.67	18.75	CHUY'S HOLDINGS INC	0.15	67.31	0.10	REPLIMUNE GROUP INC	0.40	-20.03	-0.08
			DICK'S SPORTING GOODS INC.	0.27	36.11	0.10	Q2 HOLDINGS INC	0.33	-20.81	-0.07



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



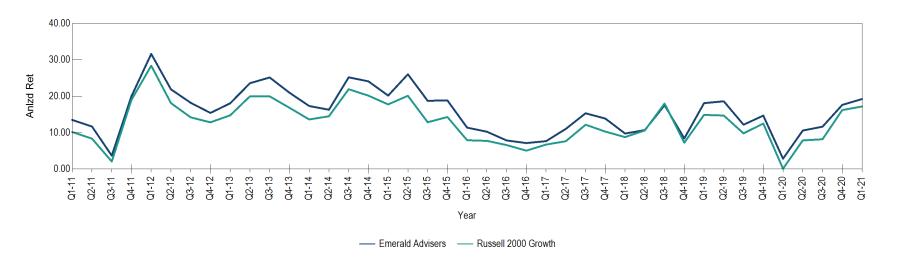
5th Percentile 25th Percentile Median 75th Percentile 95th Percentile # of Portfolios

Emerald AdvisersRussell 2000 Growth

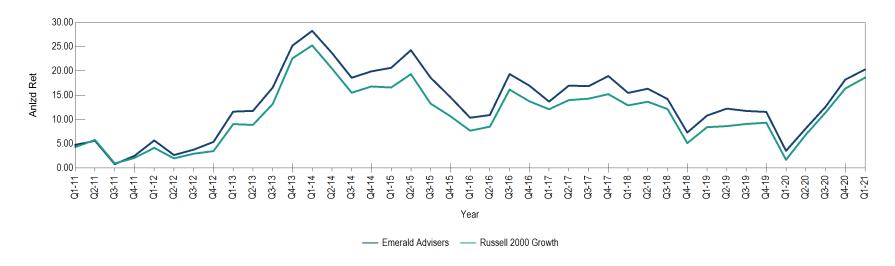
Return (Rar	ık)																	
16.4	144.6	6	37.2		33.5		20.2		75.0		42.8		10.2		39.2		22.2	
9.9	111.6	6	26.9		26.9		16.8		58.3		36.4		0.7		28.9		15.5	
5.7	96.6	6	22.6		22.1		15.2		42.2		28.5		-3.9		24.6		10.6	
2.3	84.	7	18.5		19.1		13.9		30.8		24.2		-7.9		19.8		7.1	
-2.5	70.3	3	11.8		15.1		11.4		17.4		16.2		-12.8		12.1		0.2	
157	15	,	155		149		135		161		157		164		174		170	
2.5 (7	7 3) 88.	(66)	19.2	(71)	20.3	(64)	15.2	(50)	39.0	(57)	30.3	(45)	-10.1	(85)	28.8	(26)	10.1	(54)
4.9 (5	55) 90.2	(62)	17.2	(84)	18.6	(78)	13.0	(86)	34.6	(66)	28.5	(51)	-9.3	(80)	22.2	(62)	11.3	(49)



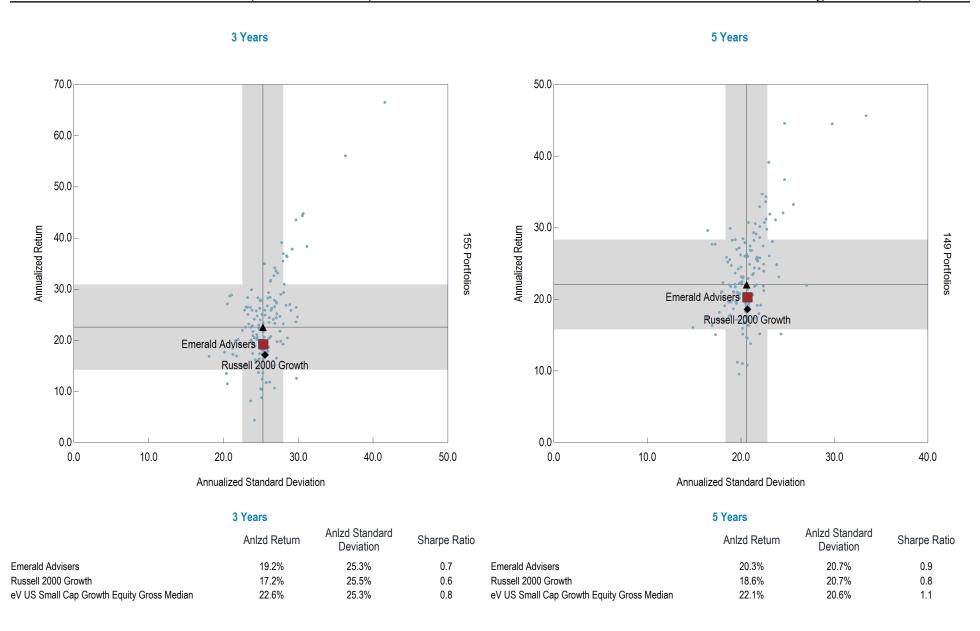
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)



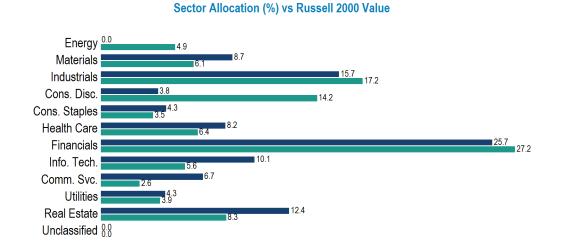




Domestic equity small cap value portfolio of companies with dividend yields and low valuations. Primary personnel include Brett Barner and David Maynard.

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	53	1,474
Weighted Avg. Market Cap. (\$B)	6.30	3.16
Median Market Cap. (\$B)	5.54	0.94
Price To Earnings	27.14	19.34
Price To Book	2.80	1.97
Price To Sales	2.17	1.30
Return on Equity (%)	11.27	-5.98
Yield (%)	2.03	1.46
Beta	0.86	1.00



15.0

Russell 2000 Value

20.0

10.0

Largest H	Holdings		То	p Contributo	rs		Bottom Contributors				
	End Weight	Return		Avg Wgt	Return	Contribution	l	Avg Wgt	Return	Contribution	
INTERPUBLIC GROUP OF COS	4.97	25.43	SLM CORP	1.51	45.31	0.68	ESSENTIAL UTILITIES INC	0.76	-4.87	-0.04	
INC (THE)	4.01	20.40	INTERPUBLIC GROUP OF	1.61	25.43	0.41	NATIONAL INSTRUMENTS	0.50	-1.09	-0.01	
APTARGROUP INC.	4.37	3.76	COS INC (THE)	1.01	20.40	0.41	CORP	0.50	-1.03	-0.01	
HILL-ROM HOLDINGS INC	3.94	13.02	FIRST CITIZENS	0.78	45.62	0.35	POWER INTEGRATIONS	1.44	-0.31	0.00	
POWER INTEGRATIONS INC	3.75	-0.31	BANCSHARES INC	0.70	70.02	0.55	INC	1.77	-0.01	0.00	
EVERCORE INC	3.70	20.77	EVERCORE INC	1.18	20.77	0.24	REYNOLDS CONSUMER	0.29	-0.09	0.00	
KEMPER CORP	3.66	4.19	FLIR SYSTEMS INC	0.80	29.25	0.23	PRODUCTS INC				
PHYSICIANS REALTY TRUST	3.36	1.94	JEFFERIES FINANCIAL	0.88	23.22	0.20	SOUTH STATE CORP	0.05	9.24	0.00	
FIRST CITIZENS BANCSHARES		1.01	GROUP INC	0.00	23.22	0.20	SENSIENT	0.08	6.28	0.01	
INC	3.33	45.62	STANTEC INC	0.61	32.43	0.20	TECHNOLOGIES CORP	0.00	0.20	0.01	
HEALTHCARE TRUST OF			HILL-ROM HOLDINGS INC	1.27	13.02	0.17	IDACORP INC.	0.16	4.94	0.01	
AMERICA INC	3.31	2.55	MKS INSTRUMENTS INC	0.65	23.39	0.15	DOLBY LABORATORIES	0.50	1.88	0.01	
STANTEC INC	3.23	32.43	CONMED CORP	0.86	16.79	0.14	INC				
Unclassified sector allocation includes ca	ash allocations.						AMERICAN CAMPUS COMMUNITIES INC	0.49	2.10	0.01	

0.0

5.0

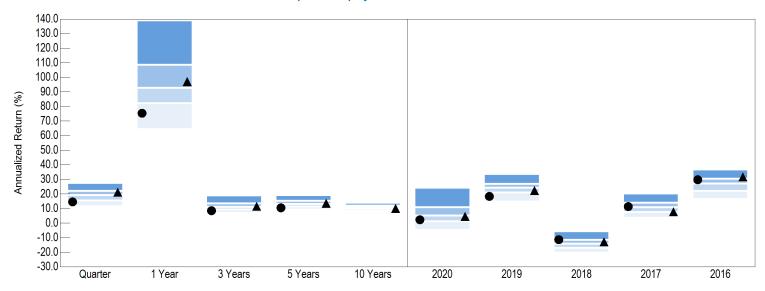
Ceredex



30.0

25.0

Ceredex vs. eV US Small Cap Value Equity Gross Universe



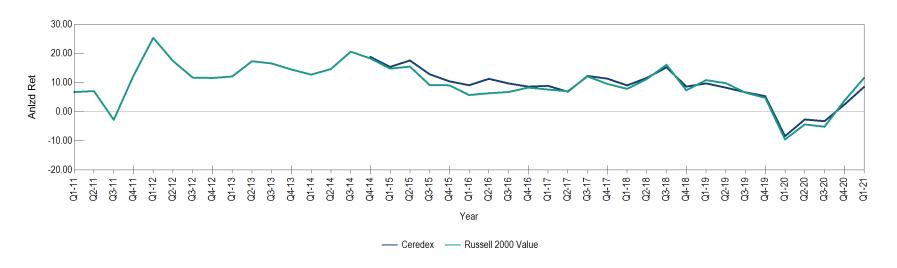
5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

CeredexRussell 2000 Value

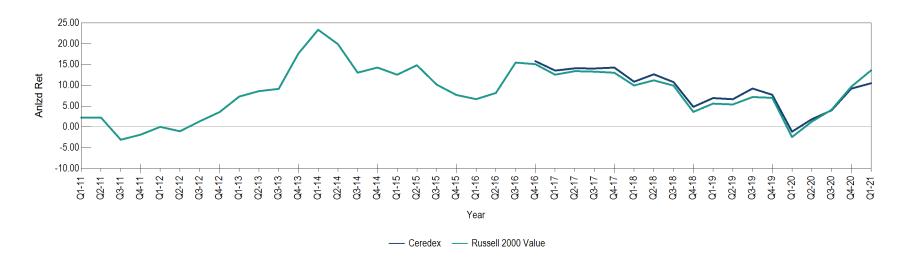
Return (Ran	k)																	
27.5	139.1		18.9		19.1		14.0		24.2		33.6		-5.7		20.2		36.7	
22.3	108.6		13.6		15.3		12.2		11.1		27.0		-11.4		14.1		30.7	
19.3	92.9		11.2		13.2		11.1		5.3		24.4		-14.0		11.1		27.2	
15.6	82.3		9.6		11.5		10.3		1.3		21.2		-16.7		7.8		22.2	
11.8	64.7		7.1		9.5		8.7		-4.6		15.0		-20.2		3.7		16.8	
215	214		206		201		177		219		217		220		224		222	
14.6 (82	2) 75.4	(87)	8.5	(85)	10.5	(89)		()	2.3	(69)	18.4	(87)	-11.3	(25)	11.4	(48)	29.8	(32)
21.2 (3	3) 97.1	(43)	11.6	(46)	13.6	(45)	10.1	(81)	4.6	(53)	22.4	(69)	-12.9	(39)	7.8	(75)	31.7	(17)



Rolling 3 Year Annualized Return (%)

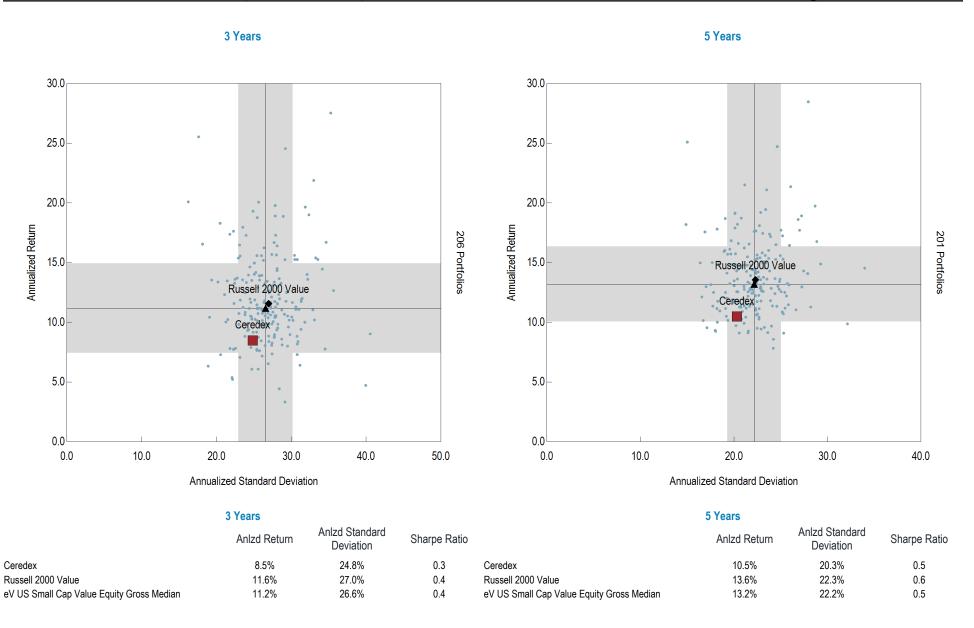


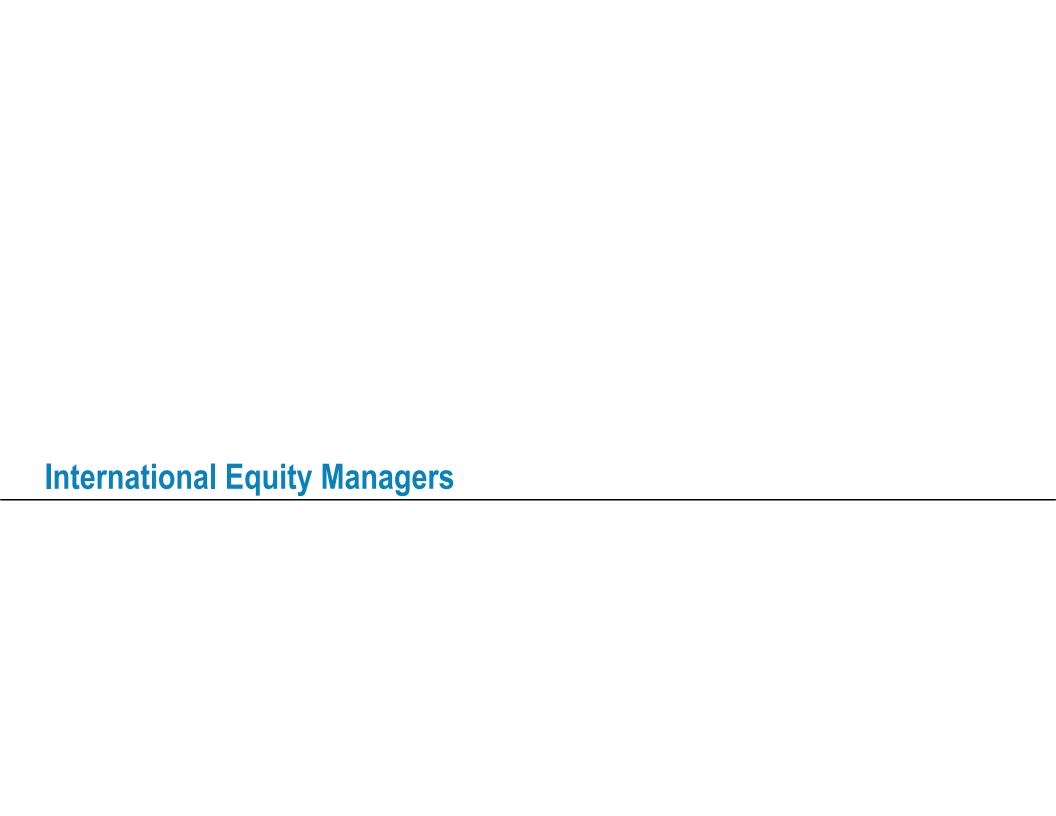
Rolling 5 Year Annualized Return (%)





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





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

	Portfolio	MSCI ACWI ex USA Value
Number of Holdings	71	1,593
Weighted Avg. Market Cap. (\$B)	64.02	61.77
Median Market Cap. (\$B)	30.16	9.06
Price To Earnings	19.30	16.24
Price To Book	2.36	1.85
Price To Sales	1.58	0.95
Return on Equity (%)	12.62	6.99
Yield (%)	3.53	3.22
Beta	0.71	1.00

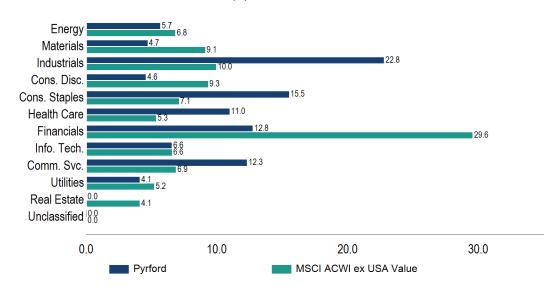
Country Allocation

Manager

Index

	Ending Allocation (USD)	Ending Allocation (USD)
Totals		
Developed	92.2%	70.5%
Emerging*	7.8%	29.5%
Top 10 Largest Countries		
United Kingdom	17.7%	11.8%
Japan	14.8%	15.5%
Switzerland	10.9%	3.8%
Australia	9.5%	4.8%
Germany	9.2%	7.4%
France	7.8%	7.3%
Singapore	6.2%	0.7%
Hong Kong	4.8%	2.0%
Netherlands	3.3%	1.2%
Malaysia*	2.9%	0.5%
Total-Top 10 Largest Countries	87.1%	54.9%

Sector Allocation (%) vs MSCI ACWI ex USA Value



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Bottom Contributors

	Avg Wgt	Return	Contribution	1	Avg Wgt	Return	Contribution
SUMITOMO RUBBER	1.23	37.29	0.46	NIHON KOHDEN CORP	1.85	-21.08	-0.39
INDUSTRIES LTD	1.20	01.20	0.40	JAPAN TOBACCO INC	3.25	-5.67	-0.18
BRENNTAG SE	2.03	10.28	0.21	NOVARTIS AG	2.47	-5.89	-0.15
UNITED OVERSEAS BANK LTD	1.59	12.37	0.20	NESTLE SA, CHAM UND VEVEY	2.78	-5.16	-0.14
CHINA MOBILE LTD	1.27	14.95	0.19	UNILEVER PLC COMMON	0.00	0.00	0.44
BP PLC	0.97	18.31	0.18	STOCK GBP.0311	2.02	-6.99	-0.14
TAIWAN				SAP SE	1.97	-6.56	-0.13
SEMICONDUCTOR	1.74	9.66	0.17	ROCHE HOLDING AG	2.42	-4.46	-0.11
MANUFACTURING CO LTD				MALAYAN BANKING BHD MAYBANK	1.98	-5.31	-0.11
VTECH HOLDINGS LTD	1.03	16.05	0.16	KONINKLIJKE VOPAK NV	1.19	-5.26	-0.06
DEUTSCHE POST AG	1.43	10.68	0.15	BUNZL PLC	1.18	-4.06	-0.05
LEGAL & GENERAL	2.52	5.79	0.15	DONZET EO	1.10	7.00	0.00

80.0 70.0 60.0 50.0 Annualized Return (%) 40.0 30.0 20.0 10.0 0.0 -10.0 -20.0 -30.0 2020 Quarter 1 Year 3 Years 5 Years 10 Years 2019 2018 2017 2016

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

5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

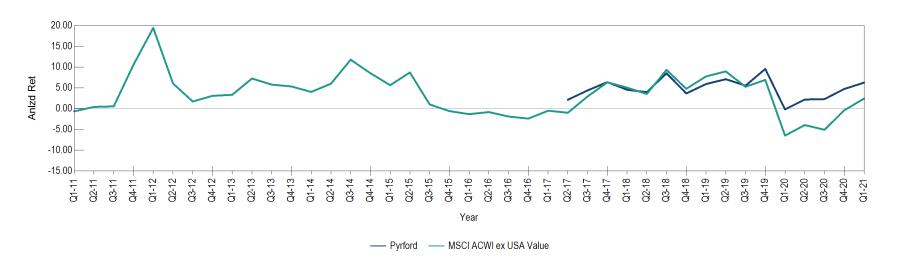
Pyrford

MSCI ACWI ex USA Value

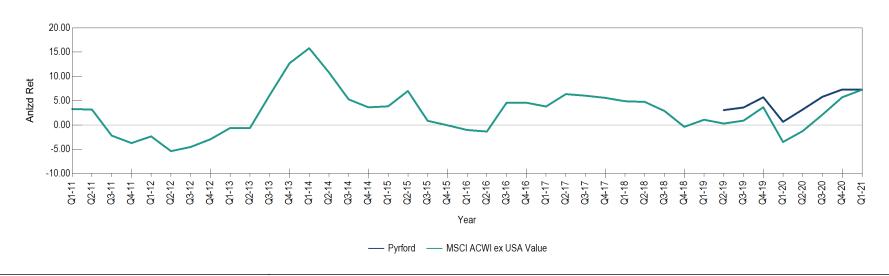
Return (R	lank)																			
11.9		74.8		11.6		13.7		8.3		18.8		29.6		-10.2		38.8		22.3		
9.5		64.8		5.8		9.7		6.2		6.2		24.0		-13.4		28.8		10.2		
8.0		55.4		4.0		8.4		5.3		2.1		19.5		-15.2		26.0		6.2		
6.3		48.7		2.2		6.9		4.4		-1.2		15.4		-17.9		23.0		3.3		
3.1		38.7		0.1		5.0		3.6		-3.5		10.8		-21.9		15.0		-0.1		
47		47		46		45		26		49		52		54		56		55		
2.4	(99)	32.5	(99)	6.2	(22)	7.2	(66)		()	4.7	(33)	22.1	(35)	-10.1	(5)	19.8	(84)	3.4	(74)	
7.1	(60)	48.7	(76)	2.4	(70)	7.2	(66)	3.0	(99)	-0.8	(73)	15.7	(74)	-14.0	(32)	22.7	(77)	8.9	(35)	

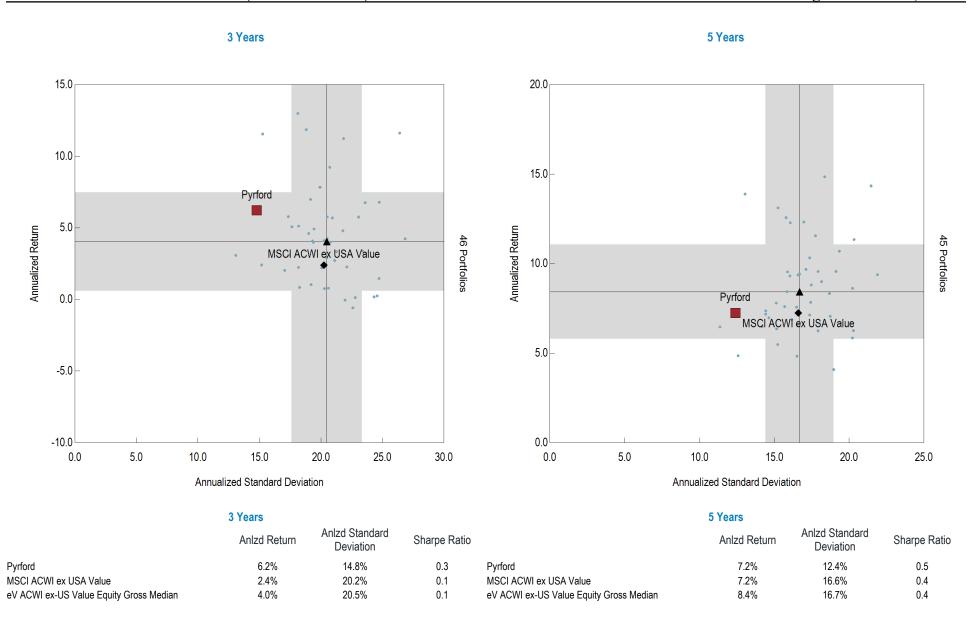


Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





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

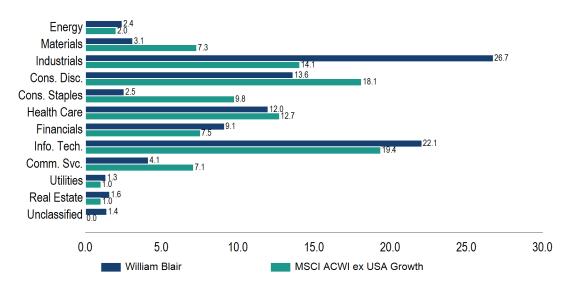
	Portfolio	MSCI ACWI ex USA Growth
Number of Holdings	196	1,013
Weighted Avg. Market Cap. (\$B)	81.24	145.73
Median Market Cap. (\$B)	12.30	9.99
Price To Earnings	43.85	31.79
Price To Book	6.15	4.13
Price To Sales	5.31	3.05
Return on Equity (%)	12.54	14.07
Yield (%)	0.73	1.24
Beta	1.18	1.00

Country Allocation

Index

	Ending Allocation (USD)	Ending Allocation (USD)
Totals		
Developed	78.1%	67.8%
Emerging*	21.9%	32.2%
Top 10 Largest Countries		
Japan	10.5%	15.6%
United Kingdom	10.5%	5.9%
China*	9.2%	12.4%
France	8.8%	6.6%
Switzerland	6.8%	7.8%
Sweden	6.1%	3.4%
Germany	6.1%	4.4%
Netherlands	5.9%	4.2%
Hong Kong	4.3%	2.2%
Denmark	4.2%	2.7%
Total-Top 10 Largest Countries	73.1%	65.2%

Sector Allocation (%) vs MSCI ACWI ex USA Growth

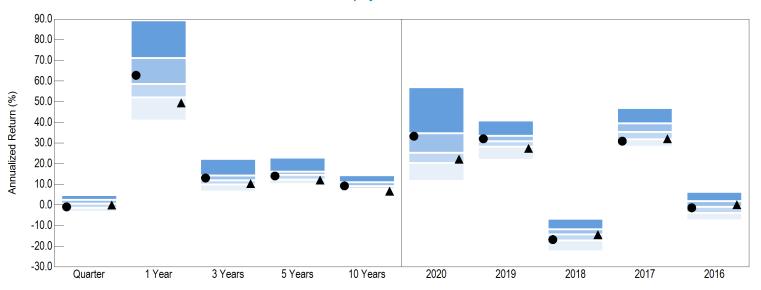


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Bottom Contributors

	Avg Wgt	Return	Contribution	ļ	Avg Wgt	Return	Contribution
ASML HOLDING NV	1.98	24.78	0.49	KEYENCE CORP	1.95	-18.97	-0.37
MEDIATEK	1.30	27.91	0.36	NESTE OYJ	1.19	-25.95	-0.31
INCORPORATION	1.50	21.31	0.30	TAL EDUCATION GROUP	0.90	-24.70	-0.22
EVOLUTION GAMING GROUP AB	0.74	45.05	0.34	LONDON STOCK EXCHANGE GROUP PLC	0.91	-22.26	-0.20
ATLAS COPCO AB	1.56	18.87	0.29	M3 INC	0.60	-27.37	-0.16
DSV PANALPINA A/S	1.54	17.96	0.28	ORSTED A/S	0.81	-19.96	-0.16
ASHTEAD GROUP PLC	0.88	27.24	0.24	LONZA GROUP AG.	4.00	40.00	0.40
COUNTRY GARDEN				ZUERICH	1.23	-12.80	-0.16
SERVICES HOLDINGS	0.47	49.82	0.24	GENMAB A/S	0.70	-18.64	-0.13
COMPANY LIMITED				OMRON CORP	1.08	-11.95	-0.13
TAIWAN SEMICONDUCTOR MANUFACTURING CO I TD	2.36	8.87	0.21	MTU AERO ENGINES AG	1.27	-9.76	-0.12

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



5th Percentile 25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

William Blair

▲ MSCI ACWI ex USA Growth

Return (R	lank)																		
4.7		89.3		22.2		22.9		14.3		57.0		40.8		-6.8		46.8		6.3	
2.6		71.1		14.3		16.2		11.0		34.8		33.6		-11.7		39.6		2.0	
0.6		58.6		12.0		14.6		9.2		25.4		31.0		-14.3		35.3		-0.9	
-1.3		52.1		9.9		12.3		8.0		20.3		28.3		-17.2		31.8		-3.9	
-3.2		41.0		6.5		10.2		7.2		11.6		21.8		-22.3		28.3		-7.4	
97		97		93		86		57		95		93		82		94		90	
-1.0	(70)	62.7	(40)	13.0	(41)	14.0	(57)	9.2	(50)	33.3	(30)	32.0	(39)	-16.8	(69)	30.9	(81)	-1.4	(55)
-0.1	(64)	49.4	(82)	10.3	(71)	12.0	(80)	6.7	(99)	22.2	(64)	27.3	(80)	-14.4	(51)	32.0	(75)	0.1	(45)



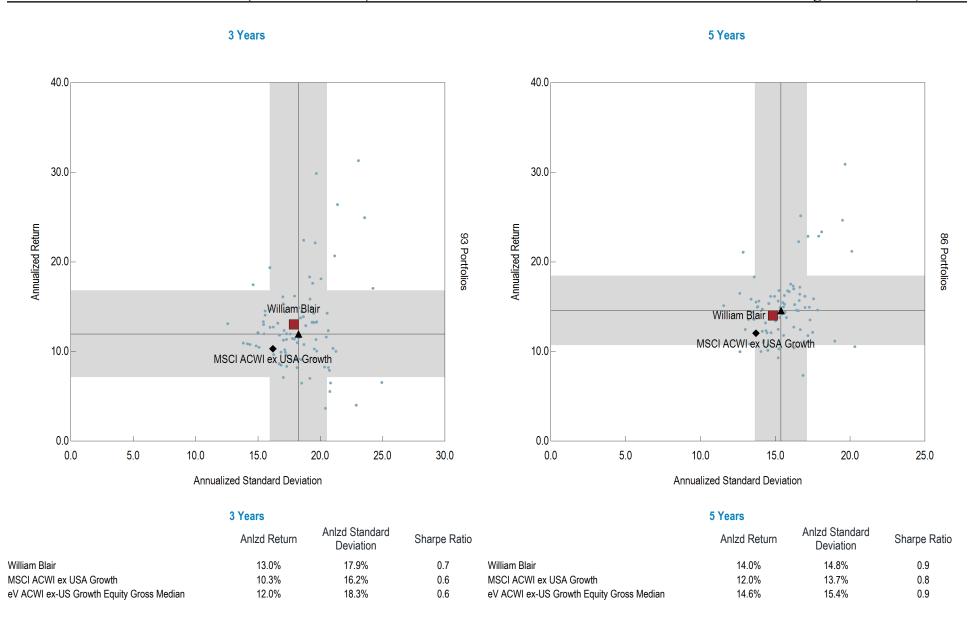
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)







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

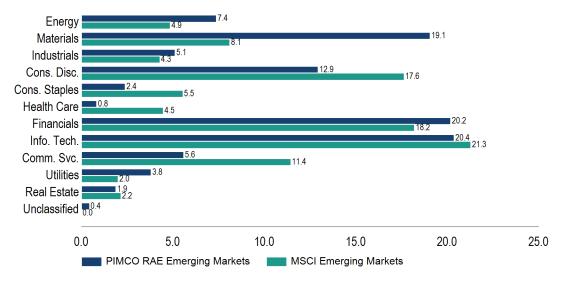
	Portfolio	MSCI Emerging Markets
Number of Holdings	430	1,381
Weighted Avg. Market Cap. (\$B)	37.35	176.64
Median Market Cap. (\$B)	4.77	7.07
Price To Earnings	11.62	19.15
Price To Book	1.75	3.03
Price To Sales	0.49	1.55
Return on Equity (%)	6.12	11.97
Yield (%)	3.05	1.96
Beta	1.16	1.00

Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	4.4%	0.0%
Emerging*	95.6%	100.0%
Top 10 Largest Countries		
India*	17.2%	9.7%



Sector Allocation (%) vs MSCI Emerging Markets



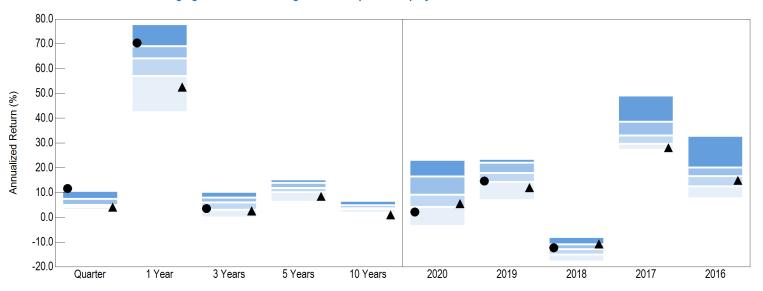
OHUH	ontribut

Bottom Contributors

	End Weight	Return	Contribution	1	End Weight	Return	Contribution
TATA MOTORS	4.73	63.85	3.02	BANCO DO BRASIL ON	0.95	-26.51	-0.25
LENOVO GROUP LTD	1.96	50.67	0.99	BANCO BRADESCO SA	2.31	-9.16	-0.21
AU OPTRONICS	2.00	48.26	0.96	BRAD	2.51	-3.10	-0.21
VEDANTA LTD	1.67	41.46	0.69	KOREA ELECTRIC	0.72	-18.46	-0.13
INNOLUX CORP	1.43	47.56	0.68	POWER CORP			
ASUSTEK COMPUTER	1.45	46.63	0.68	HACI OMER SABANCI HOLDING AS	0.32	-32.46	-0.10
KIA CORPORATION	1.83	28.21	0.52	ULTRAPAR			
HON HAI PRECISION	1.33	32.90	0.44	PARTICIPACOES SA	0.57	-16.04	-0.09
INDUSTRY CO LTD				AMERICA MOVIL SA DE	1 25	6.01	0.00
CEMEX SAB DE CV	1.10	36.69	0.40	CV, MEXICO	1.35	-6.21	-0.08
CEMEX SAB DE CV	1.06	34.82	0.37	EMLAK KONUT REIT	0.37	-19.68	-0.07
				TKI.GARANTI BKSI.	0.17	-41.94	-0.07
				INDIABULLS HOUSING FINANCE LTD	0.64	-10.97	-0.07



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



5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

PIMCO RAE Emerging Markets

MSCI Emerging Markets Value NR

Return (l	Rank)																		
10.7		77.9		10.2		15.3		6.6		23.1		23.5		-7.9		49.0		32.8	
7.5		69.1		8.0		14.0		4.9		16.6		22.1		-10.8		38.6		20.1	
5.1		64.2		6.0		11.9		3.7		9.2		18.0		-12.7		33.0		16.6	
4.3		57.1		3.1		10.2		3.4		4.3		14.4		-14.9		29.8		12.6	
3.1		42.5		0.1		6.3		1.9		-3.4		7.0		-17.8		27.4		7.8	
33		33		30		27		16		37		33		36		37		38	
11.6	(3)	70.3	(19)	3.5	(72)		()		()	2.1	(85)	14.6	(72)	-12.3	(44)		()		()
4.1	(82)	52.5	(85)	2.6	(78)	8.4	(88)	1.0	(99)	5.5	(73)	12.0	(86)	-10.7	(25)	28.1	(90)	14.9	(59)



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	77	1,381
Weighted Avg. Market Cap. (\$B)	156.62	176.64
Median Market Cap. (\$B)	15.11	7.07
Price To Earnings	20.04	19.15
Price To Book	3.34	3.03
Price To Sales	1.90	1.55
Return on Equity (%)	7.47	11.97
Yield (%)	1.64	1.96
Beta	1.17	1.00

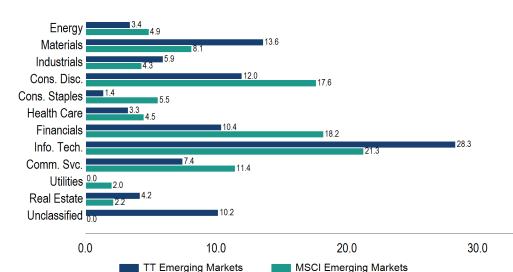
Country Allocation

Manager

Index

	Ending Allocation (USD)	Ending Allocation (USD)
Totals		
Developed	20.0%	0.0%
Emerging*	79.3%	100.0%
Frontier**	0.6%	0.0%
Top 10 Largest Countries		
China*	22.5%	38.0%
Korea*	15.8%	13.4%
Taiwan*	13.7%	13.9%
Netherlands	9.2%	0.0%
India*	8.3%	9.7%
Brazil*	7.4%	4.5%
Hong Kong	4.2%	0.0%
South Africa*	4.0%	3.8%
Mexico*	3.4%	1.7%
United Kingdom	2.4%	0.0%
Total-Top 10 Largest Countries	93.8%	85.0%

Sector Allocation (%) vs MSCI Emerging Markets



Top Contributor			
End Weight	Return	Contribution	
1.89	120.61	2.28	Е
2.14	34.82	0.75	
			0

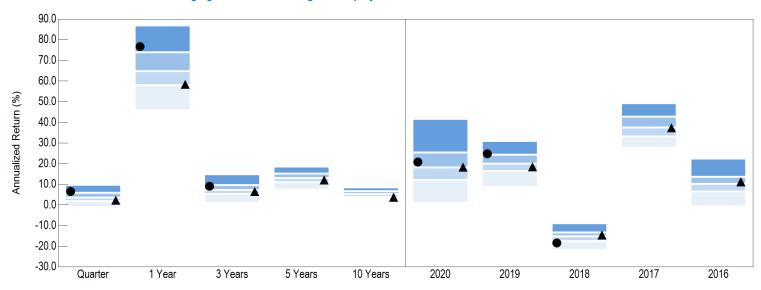
360 DIGITECH INC	1.89	120.61	2.28
CEMEX SAB DE CV	2.14	34.82	0.75
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	7.17	9.66	0.69
NASPERS LTD	2.96	16.08	0.48
PHARMARON BEIJING CO LTD	1.77	24.03	0.42
HANSOL CHEMICAL	1.59	18.36	0.29
SUNAC CHINA HOLDINGS LTD	1.80	16.08	0.29

Bottom Contributors

n		End Weight	Return	Contribution								
	B2W COMPANHIA DIGITAL	2.15	-26.18	-0.56								
	GEELY AUTOMOBILE HOLDINGS LTD	1.55	-25.57	-0.40								
	XINYI SOLAR HOLDINGS LTD	0.95	-37.06	-0.35								
	B3 S.ABRASIL BOLSA BALCAO	1.37	-16.63	-0.23								
	OI SA	1.06	-20.24	-0.21								
	POLYMETAL INTERNATIONAL PLC	1.35	-14.97	-0.20								
	SAMSUNG ELECTRONICS CO LTD	4.81	-3.82	-0.18								
	BANDHAN BANK LIMITED	1.11	-15.91	-0.18								



TT Emerging Markets vs. eV Emg Mkts Equity Gross Universe



5th Percentile 25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

TT Emerging Markets

MSCI Emerging Markets

Return (Rank)																			
9.7		86.9		14.8		18.5		8.5		41.6		30.9		-9.0		49.2		22.4		
5.9		74.0		9.7		15.2		6.7		25.5		24.4		-13.2		42.8		13.7		
3.6		64.8		7.3		13.1		5.3		18.2		20.1		-15.2		37.6		10.4		
1.9		58.2		5.3		11.1		3.9		12.2		16.5		-17.4		33.2		6.6		
-1.0		46.1		1.2		7.5		3.1		1.2		8.8		-21.8		27.8		-0.6		
382		382		352		318		191		391		386		355		343		337		
6.5	(21)	76.6	(21)	9.1	(31)		()		()	20.8	(39)	24.8	(24)	-18.4	(83)		()		()	
2.3	(70)	58.4	(74)	6.5	(60)	12.1	(64)	3.7	(84)	18.3	(49)	18.4	(63)	-14.6	(43)	37.3	(53)	11.2	(45)	





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

Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	47	2,965
Weighted Avg. Market Cap. (\$B)	152.35	298.11
Median Market Cap. (\$B)	55.98	12.91
Price To Earnings	38.98	26.09
Price To Book	5.39	3.61
Price To Sales	4.81	2.16
Return on Equity (%)	13.88	15.34
Yield (%)	0.97	1.77
Beta	0.98	1.00

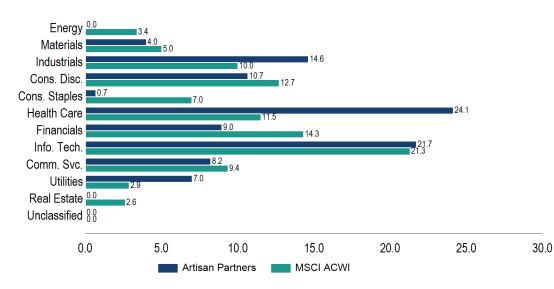
Country Allocation

Manager

Index

	Ending Allocation (USD)	Ending Allocation (USD)
Totals		
Developed	96.4%	87.0%
Emerging*	3.6%	13.0%
Top 10 Largest Countries		
United States	46.8%	57.8%
United Kingdom	11.9%	3.8%
Hong Kong	6.9%	0.9%
Switzerland	5.1%	2.4%
Denmark	5.1%	0.6%
Sweden	4.9%	1.0%
Netherlands	4.0%	1.1%
Spain	3.7%	0.6%
Japan	3.1%	6.5%
Canada	2.2%	2.8%
Total-Top 10 Largest Countries	93.7%	77.6%

Sector Allocation (%) vs MSCI ACWI



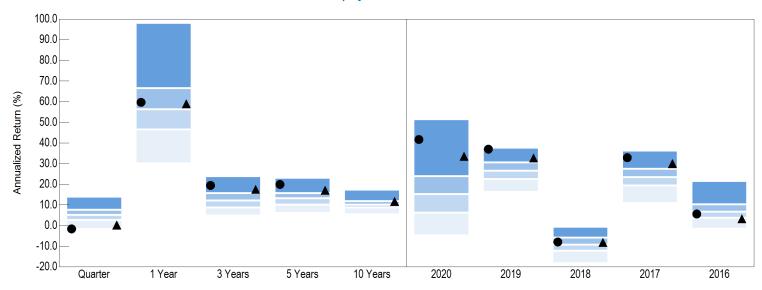
	ıtribu	

Bottom Contributors

	Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution	
TECHTRONIC	TECHTRONIC 5.13 19.92 1.02		GENMAB A/S	3.21	-18.64	-0.60		
INDUSTRIES CO LTD	0.10	10.02	1.02	LONDON STOCK	0.50	20.00	0.50	
LOWE'S COS INC	2.57	18.90	0.49	EXCHANGE GROUP PLC	2.53	-22.26	-0.56	
ALPHABET INC	2.13	17.68	0.38	ADVANCED MICRO	3.73	-14.40	-0.54	
TELEFONAKTIEBOLAGET	0.70	40.40	0.04	DEVICES INC	3.73	-14.40	-0.54	
LM ERICSSON	2.73	12.40	0.34	LONZA GROUP AG,	3.60	-12.80	-0.46	
IHS MARKIT LTD	2.94 7.98 0.23		0.23	ZUERICH	3.00	-12.00	0.40	
BOSTON SCIENTIFIC	2.76	7.51	0.21	PAGSEGURO DIGITAL	2.28	-18.60	-0.42	
CORP	2.70	7.51	0.21	LTD	0		v	
MICROSOFT CORP	2.64	6.25	0.17	VESTAS WIND SYSTEMS	2.88	-13.16	-0.38	
APTIV PLC	2.31	5.84	0.14	A/S				
UBS GROUP AG	1.14	10.16	0.12	KEYENCE CORP	1.91	-18.97	-0.36	
ODO GROOT 710	1.17	10.10	0.12	ORSTED A/S	1.76	-19.96	-0.35	
				CERIDIAN HCM HOLDING INC	1.26	-20.92	-0.26	



Artisan Partners vs. eV All Global Equity Gross Universe



5th Percentile 25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

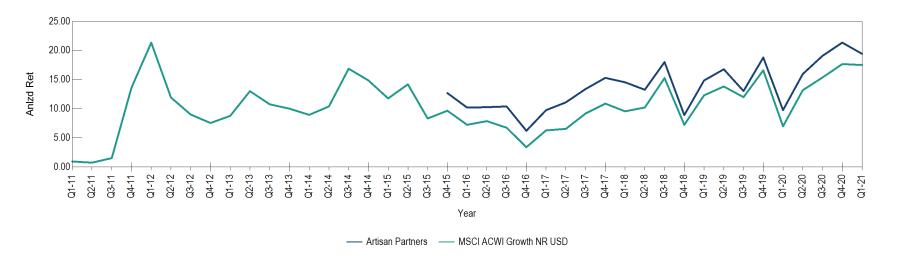
Artisan Partners

MSCI ACWI Growth NR USD

Return (Rank)																		
14.0		98.1		23.9		23.1		17.3		51.5		37.6		-0.7		36.3		21.5	
7.8		66.6		15.8		15.9		11.9		24.0		30.7		-5.8		27.6		10.3	
5.2		56.4		12.2		13.3		10.2		15.4		26.6		-9.1		23.5		6.8	
2.9		46.6		8.8		10.3		8.8		6.3		22.6		-12.2		19.6		3.9	
-1.5		30.2		4.9		6.2		5.6		-4.7		16.5		-18.1		11.0		-1.4	
1,090		1,088		1,000		882		556		1,093		989		920		880		842	
-1.6	(96)	59.7	(41)	19.4	(12)	19.9	(9)		()	41.7	(9)	37.0	(7)	-7.9	(40)	32.9	(11)	5.6	(61)
0.3	(92)	59.0	(43)	17.5	(18)	17.1	(19)	11.7	(27)	33.6	(14)	32.7	(17)	-8.1	(42)	30.0	(17)	3.3	(80)



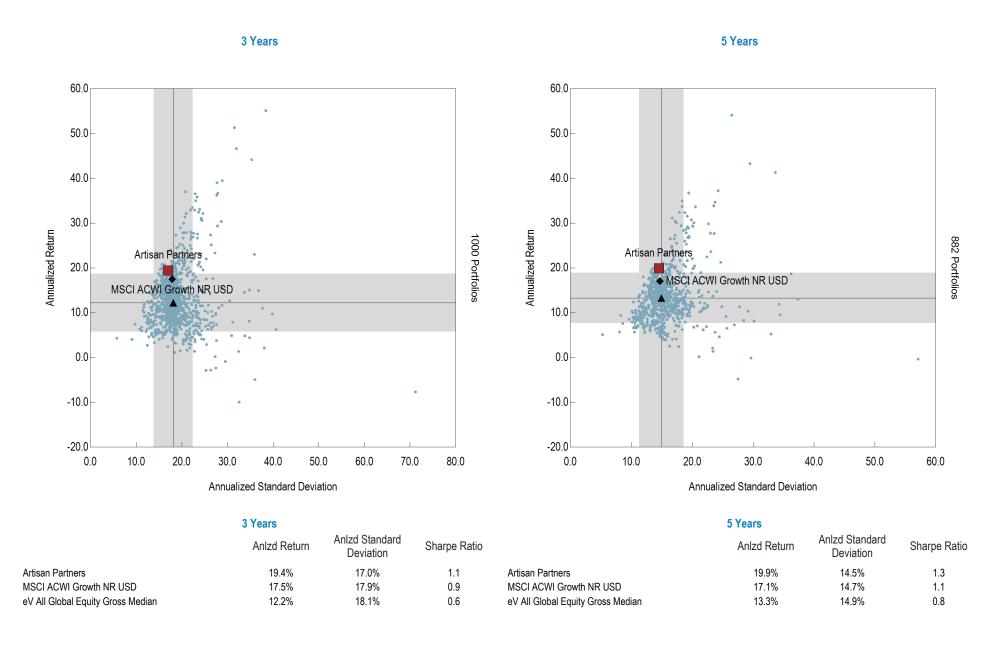
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)







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

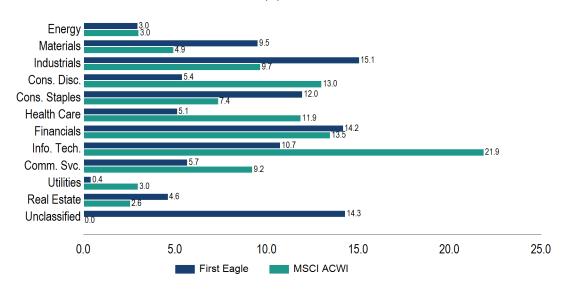
Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	126	2,982
Weighted Avg. Market Cap. (\$B)	119.31	306.44
Median Market Cap. (\$B)	27.58	12.22
Price To Earnings	22.17	25.54
Price To Book	2.90	3.68
Price To Sales	1.76	1.96
Return on Equity (%)	13.64	15.76
Yield (%)	2.05	1.81
Beta	0.76	1.00

Country Allocation

	Ending Allocation (USD)	Ending Allocation (USD)
Totals		
Developed	93.7%	86.7%
Emerging*	6.3%	13.3%
Top 10 Largest Countries		
United States	56.6%	57.3%
Japan	11.5%	6.8%
United Kingdom	5.7%	3.8%
Canada	5.4%	2.7%
France	5.1%	3.0%
Korea*	2.6%	1.8%
Switzerland	2.3%	2.6%
Belgium	1.7%	0.3%
Sweden	1.3%	0.9%
Taiwan*	1.2%	1.7%
Total-Top 10 Largest Countries	94.5%	80.7%

Sector Allocation (%) vs MSCI ACWI



Top Contributors	Bottom Contributors
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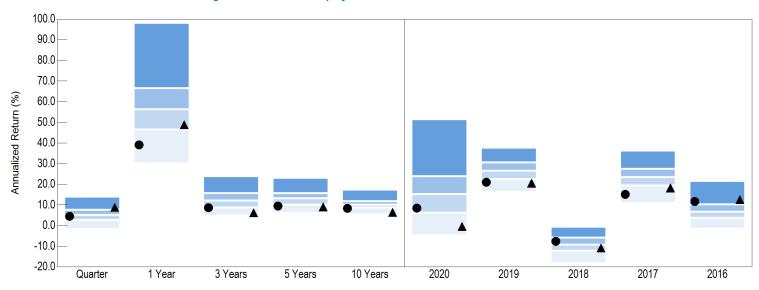
	End Weight	Return	Contribution		End Weight	Return	Contribution			
FANUC CORP	2.10	28.80	0.60	BARRICK GOLD CORP	0.99	-18.64	-0.18			
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.16	35.07	0.41	WHEATON PRECIOUS METALS CORP	1.14	-14.67	-0.17			
EXXON MOBIL CORP	1.67	22.90	0.38	C.H. ROBINSON	1.94	-7.64	-0.15			
CIE FINANCIERE	4.44	34.57	0.38	WORLDWIDE INC.	1.34	-7.04	-0.15			
RICHEMONT AG, ZUG	1.11	1.11 34.57 0.36 SALESFO		SALESFORCE.COM INC	0.79	-11.46	-0.09			
COMCAST CORP	2.76	13.86	0.38	NEWMONT CORPORATION	1.64	-4.97	-0.08			
SCHLUMBERGER LTD	0.90	41.13	0.37	AGNICO EAGLE MINES LTD	0.71	-11.21	-0.08			
DEERE & CO	1.66	21.74	0.36	NEWCREST MINING LTD	0.55	-11.19	-0.06			
BANK OF NEW YORK	1.19	24.67	0.29	SANOFI	1.21	-3.92	-0.05			
MELLON CORP (THE)	1.13	24.07	0.29	ROYAL GOLD INC	0.32	-11.29	-0.04			
NUTRIEN LTD	1.23	23.93	0.29	FRANCO-NEVADA CORP	0.28	-10.14	-0.03			
ORACLE CORP	3.23	8.79	0.28							

First Eagle holdings only available as of 12/31/2020. Unclassified sector allocation includes cash allocations and Gold allocations (11.2% as of 12/31/2020).

Index



First Eagle vs. eV All Global Equity Gross Universe



5th Percentile
25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

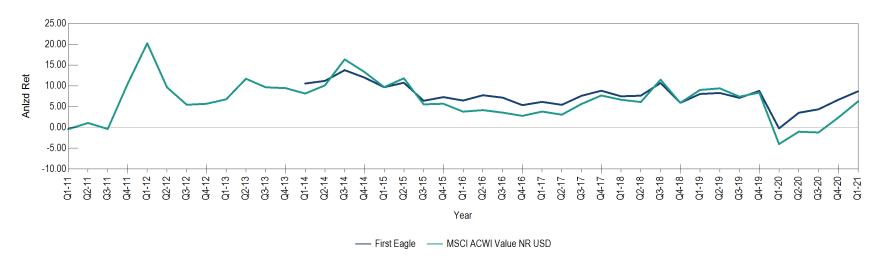
First Eagle

MSCI ACWI Value NR USD

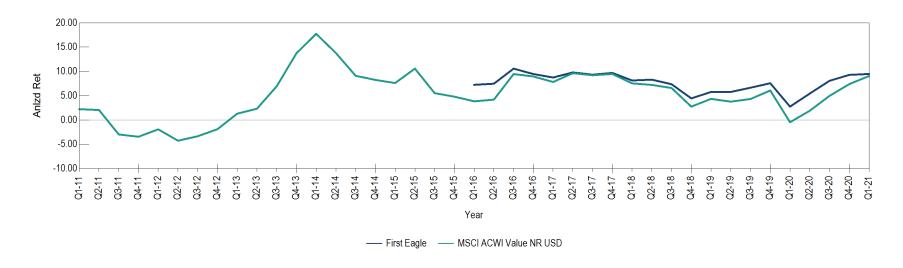
Return (Rank)																		
14.0		98.1		23.9		23.1		17.3		51.5		37.6		-0.7		36.3		21.5	
7.8		66.6		15.8		15.9		11.9		24.0		30.7		-5.8		27.6		10.3	
5.2		56.4		12.2		13.3		10.2		15.4		26.6		-9.1		23.5		6.8	
2.9		46.6		8.8		10.3		8.8		6.3		22.6		-12.2		19.6		3.9	
-1.5		30.2		4.9		6.2		5.6		-4.7		16.5		-18.1		11.0		-1.4	
1,090		1,088		1,000		882		556		1,093		989		920		880		842	
4.5	(60)	39.1	(85)	8.7	(76)	9.5	(81)	8.3	(79)	8.5	(70)	21.0	(82)	-7.6	(38)	15.1	(89)	11.7	(19)
8.9	(21)	48.8	(72)	6.2	(90)	9.0	(84)	6.4	(93)	-0.3	(89)	20.6	(83)	-10.8	(65)	18.3	(81)	12.6	(16)



Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





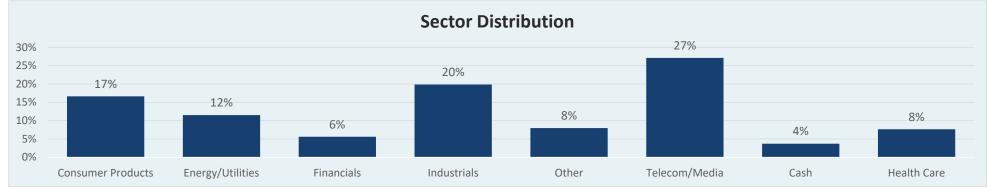
3 Years 5 Years 60.0 60.0 50.0 50.0 40.0 40.0 30.0 30.0 Annualized Return Annualized Return 1000 Portfolios 882 Portfolios 20.0 20.0 10.0 10.0 First Eagle MSCI ACWI Value NR USD 0.0 0.0 -10.0 -10.0 -20.0 -20.0 30.0 50.0 0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 0.08 0.0 10.0 20.0 40.0 60.0 Annualized Standard Deviation Annualized Standard Deviation 3 Years 5 Years Anlzd Standard Anlzd Standard Sharpe Ratio Sharpe Ratio Anlzd Return Anlzd Return Deviation Deviation 13.9% First Eagle 8.7% 0.5 irst Eagle 9.5% 11.3% 0.7 MSCI ACWI Value NR USD 6.2% 19.1% 0.3 SCI ACWI Value NR USD 9.0% 15.4% 0.5 eV All Global Equity Gross Median 12.2% 18.1% 0.6 V All Global Equity Gross Median 13.3% 14.9% 8.0

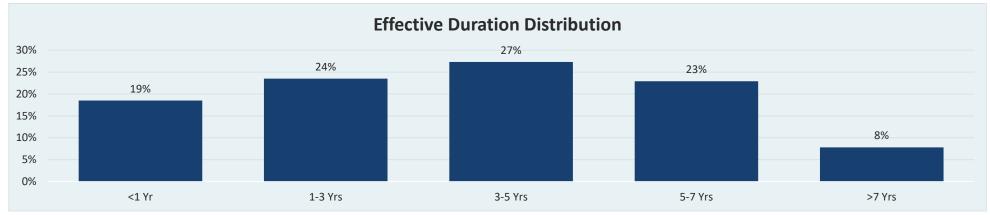


Domestic high yield fixed income portfolio with a focus on security selection. Primary personnel include Douglas Forsyth, Justin Kass, William Stickney, and Michael Yee.

	Allianz	ICE BofAML HY Master II
Effective Duration	3.60	4.00
Yield to Maturity	5.00	4.90
Average Quality	B1	B1
Average Coupon	6.2%	5.9%

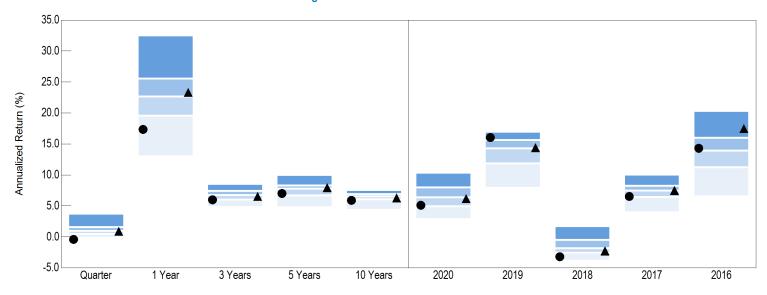








Allianz Global Investors vs. eV US High Yield Fixed Inc Gross Universe



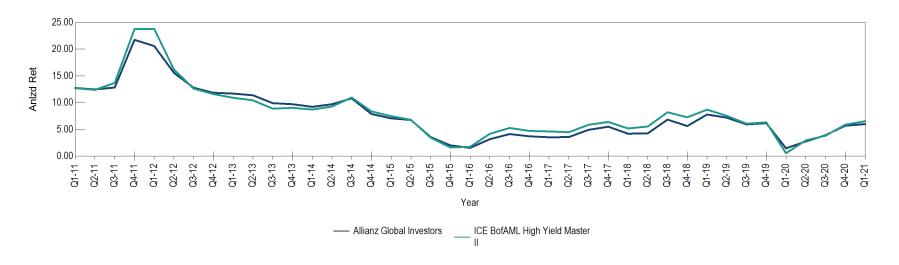
5th Percentile 25th Percentile
Median 75th Percentile
95th Percentile
of Portfolios

Allianz Global InvestorsICE BofAML High Yield Master II

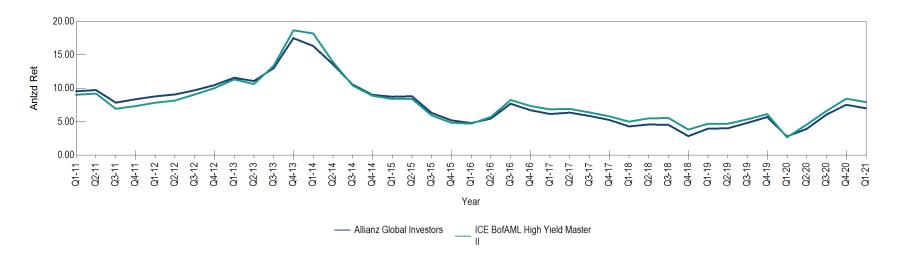
eturn (Rank	k)																	
3.7	32.5		8.5		10.0		7.6		10.3		16.9		1.7		10.0		20.3	
1.6	25.6		7.4		8.3		6.9		8.0		15.6		-0.5		8.3		16.0	
1.0	22.7		6.8		7.8		6.6		6.4		14.3		-1.8		7.5		14.0	
0.5	19.6		6.0		6.7		6.1		5.0		11.9		-2.5		6.5		11.3	
-0.1	13.0		4.9		4.8		4.4		2.9		8.0		-3.8		4.0		6.6	
210	210		205		190		140		217		226		210		198		183	
-0.4 (99	9) 17.3	(85)	6.0	(77)	7.0	(69)	5.9	(82)	5.1	(74)	16.0	(15)	-3.2	(88)	6.5	(74)	14.3	(47)
0.9 (59	23.3	(45)	6.5	(61)	7.9	(43)	6.3	(64)	6.2	(55)	14.4	(49)	-2.3	(69)	7.5	(53)	17.5	(14)



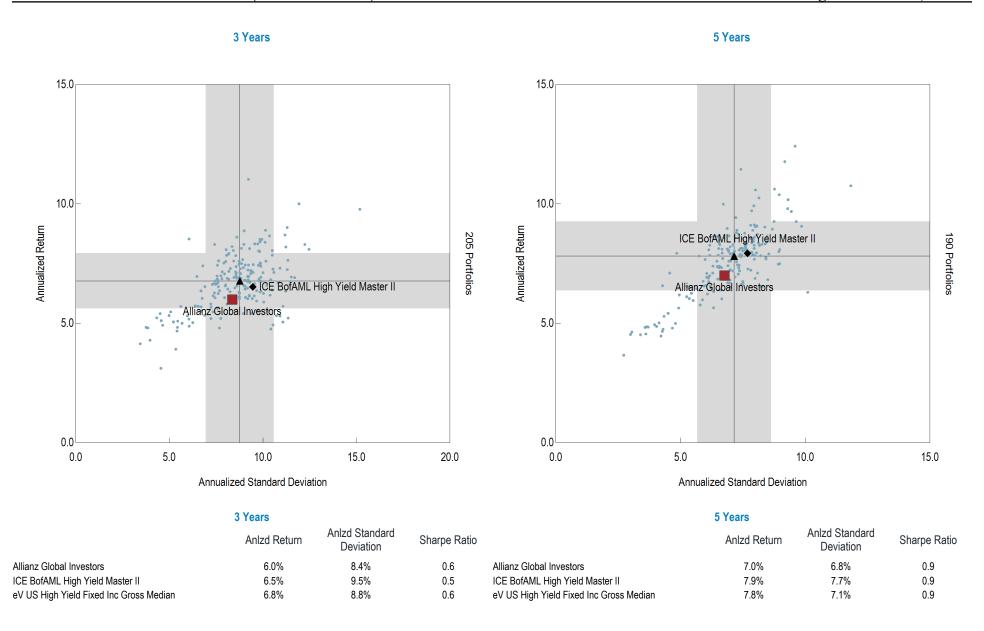
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)



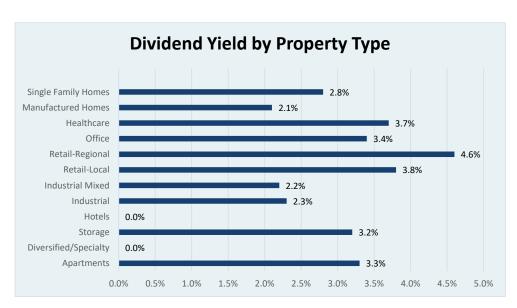


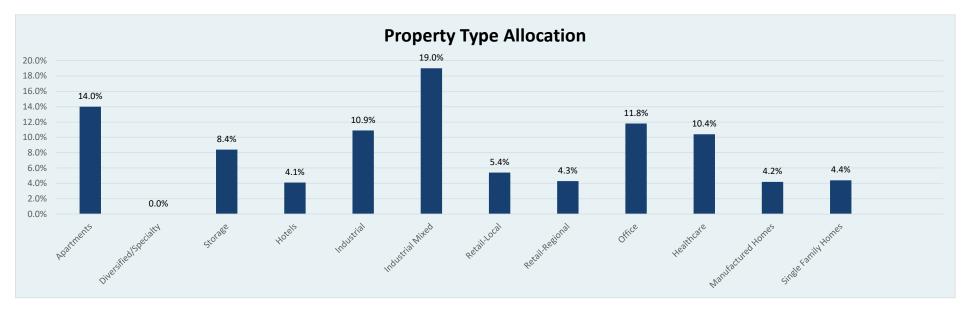




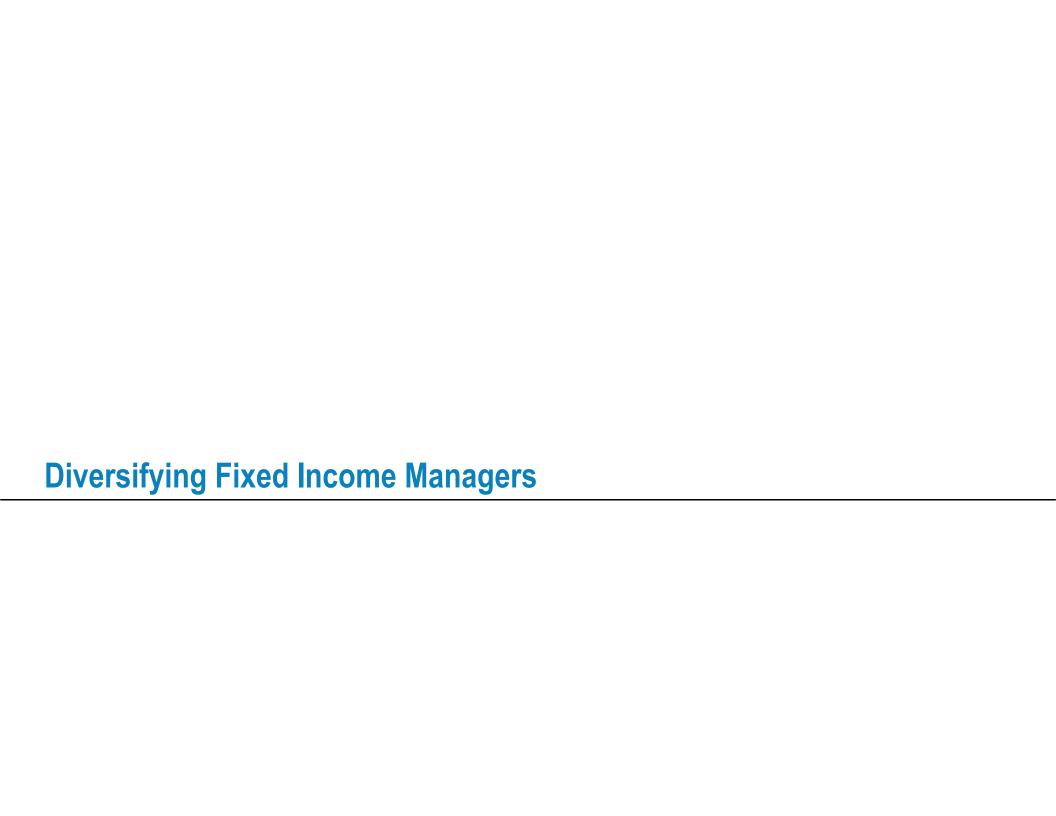
Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets

Top Five Holdings						
Company	Property Type	Allocation				
Equinix Inc	Industrial Mixed	9.7%				
ProLogis Inc.	Industrial	9.9%				
Welltower, Inc.	Healthcare	6.5%				
Equity Residential	Apartments	5.6%				
Duke Realty Corporation	Industrial Mixed	4.8%				







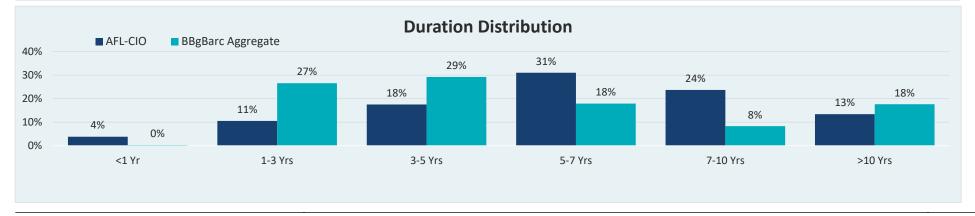


Domestic core fixed income portfolio with an exclusive focus on mortgage-related securities. Primary personnel include Stephen Coyle and Chang Su.

	AFL-CIO	BBgBarc Aggregate
Effective Duration	5.90	6.40
Yield to Maturity	2.63	1.61
Average Quality	AAA	AA/AA+
Average Coupon	2.7%	2.6%



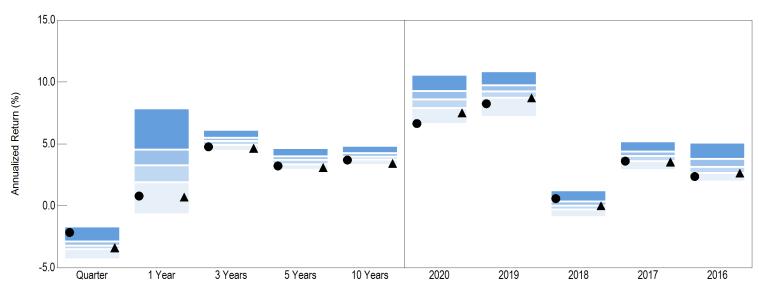






Return (Rank)

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



5th Percentile 25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

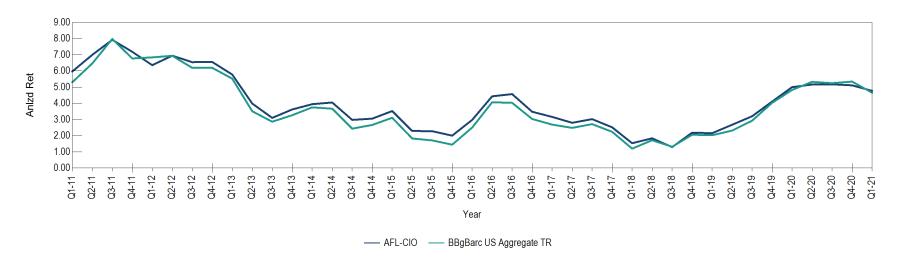
● AFL-CIO▲ BBgBarc US Aggregate TR

	,																
-1.7		7.9		6.1		4.7		4.8		10.6		10.9		1.2		5.2	
-2.9		4.6		5.5		4.0		4.3		9.3		9.8		0.4		4.4	
-3.2		3.3		5.2		3.7		4.0		8.6		9.3		0.0		4.0	
-3.5		1.9		4.9		3.4		3.8		7.9		8.7		-0.3		3.6	
-4.3		-0.7		4.5		2.9		3.3		6.6		7.2		-0.9		2.9	
217		217		213		210		200		225		228		240		233	
-2.1	(8)	8.0	(90)	4.8	(84)	3.2	(87)	3.7	(82)	6.6	(95)	8.2	(88)	0.6	(16)	3.6	(76
-3.4	(66)	0.7	(91)	4.7	(90)	3.1	(91)	3.4	(93)	7.5	(85)	8.7	(77)	0.0	(54)	3.5	(79

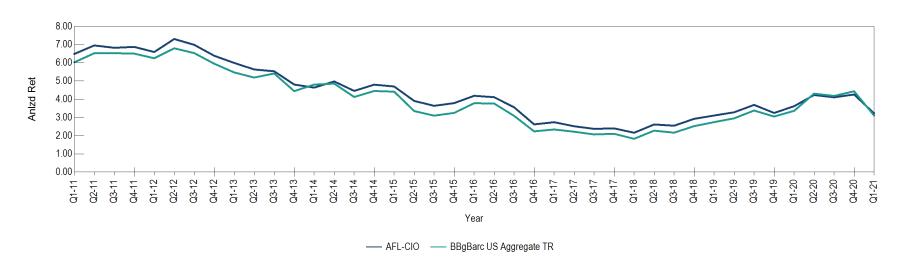


5.1 3.8 3.2 2.7 2.0 223

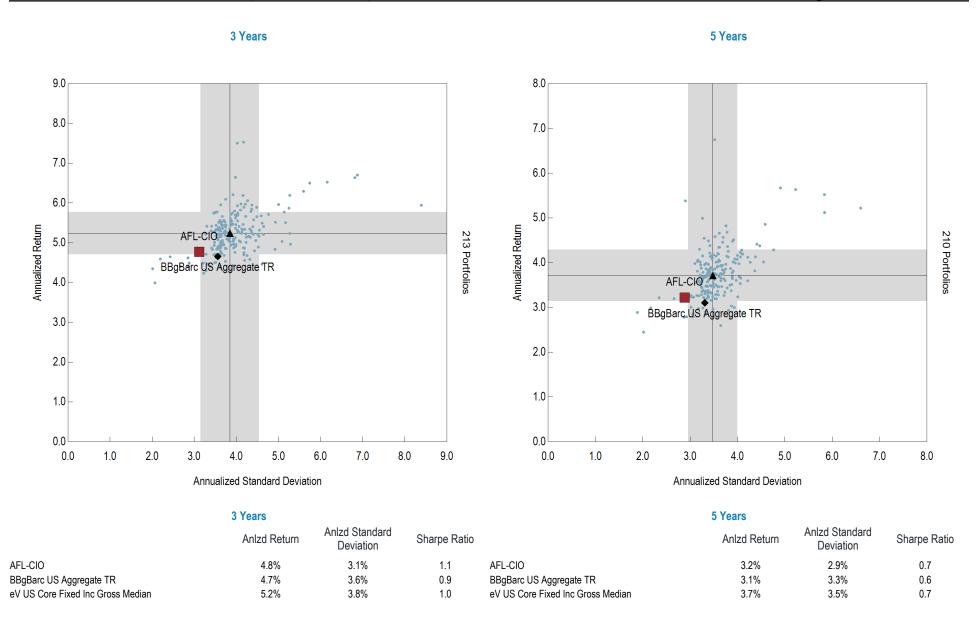
Rolling 3 Year Annualized Return (%)

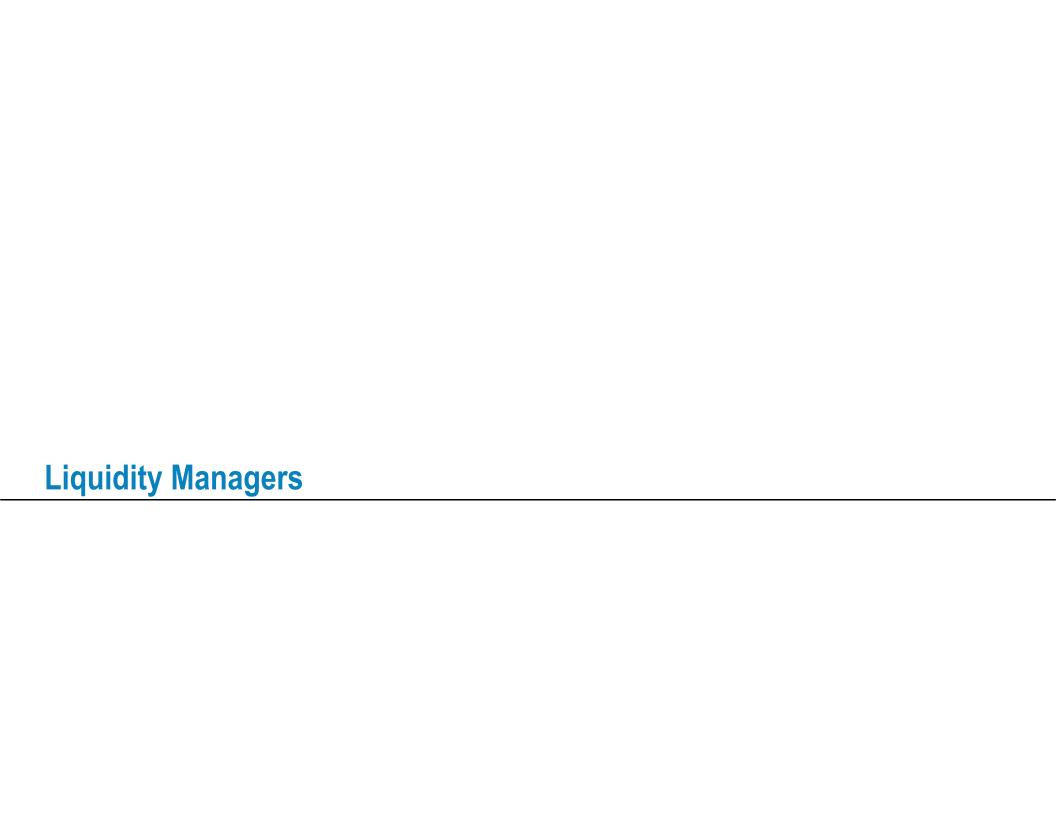


Rolling 5 Year Annualized Return (%)



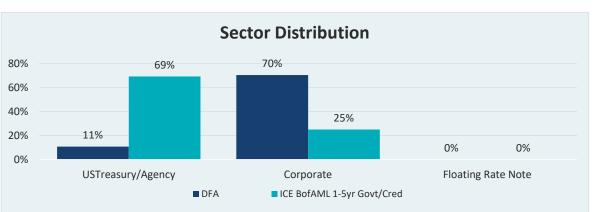






Domestic short term US credit fixed income portfolio that maximizes total return through income and capital appreciation. Primary personnel include Dave Plecha and Joseph Kolerich.

	DFA	ICE BofAML 1-5yr Govt/Cred
Effective Duration	1.67	2.71
Yield to Maturity	0.81	0.60
Average Quality	A+	AA+
Average Coupon	1.84%	2.05%





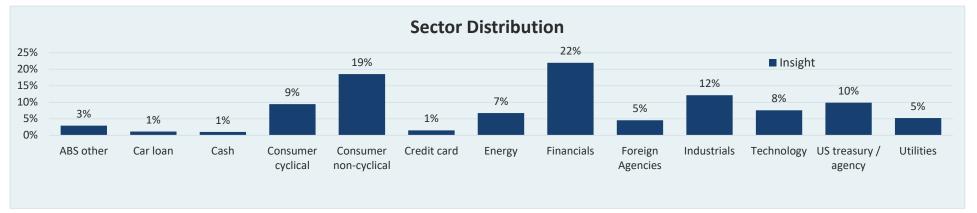


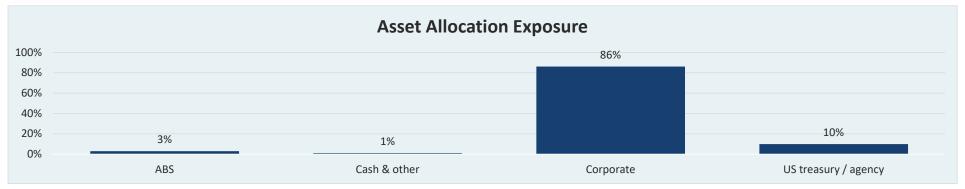


High quality, short duration multi-sector fixed income portfolio comprised of Treasuries, Agencies, investment grade corporates, and ABS designed specifically to meet CCCERA's liabilities. Key personnel include Gerard Berrigan and Jesse Fogarty.

	Insight	BBgBarc 1-3yr Govt
Effective Duration	1.47	1.97
Yield to Maturity	0.69	0.19
Average Quality	А	AAA
Average Coupon	2.76%	1.35%





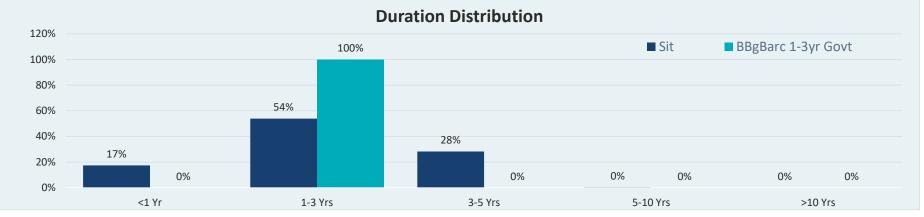




Short duration fixed income portfolio with a focus on earning high levels of interest income. Primary personnel include Bryce Doty, Paul Jungquist and Michael Brilley.









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.

9% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 8% Private Real Estate composite returns, 1.5% 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% BBgBarc 1-

9% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF
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% BBgBarc 1-3 Yr Gov/Credit, 3% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 2% HFRI EH Equity Market Neutral.

10% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF Policy Index (7/1/2019 - 6/30/2020)

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, 24% BBgBarc 1-3 Yr Gov/Credit, 3.5% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 2.5% HFRI EH Equity Market Neutral.

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% BBgBarc 1-3 Yr Gov/Credit, 3.5% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 2.5% HFRI EH Equity Market Neutral.

3 Yr Gov/Credit, 3% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 2% HFRI EH Equity Market Neutral.

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% BBgBarc 1-3 Yr Gov/Credit, 3.5% BBgBarc US Aggregate.

Policy & Custom Index Composition

Policy Index (7/1/2018 - 6/30/2019)

Policy Index (10/1/2017 - 6/30/2018)



Policy & Custom Index Composition (continued	
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% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc 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% BBgBarc U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 13.5% Real Estate Benchmark, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Policy Index (4/1/2011-3/31/2012)	31% Russell 3000, 10.4% MSCI EAFE (Gross), 9.6% MSCI ACWI (Net), 25% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc 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% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc 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% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc 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 (12/31/2020 - present)	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% BBgBarc 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% BBgBarc 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% BBgBarc 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% BBgBarc 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 (8/1/2020 - present)	46.15% BBgBarc 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% BBgBarc US Aggregate, 25% CPI + 4%, 31.25% HFRI EH Equity Market Neutral.
Custom Diversifying Benchmark (10/1/2017 - 6/30/2018)	58.33% BBgBarc US Aggregate, 41.67% CPI + 4%.
Custom Diversifying Benchmark (1/1/2017 - 9/30/2017)	56.1% BBgBarc 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.

11% Wilshire REIT, 89% Private Real Estate composite returns.



Real Estate Benchmark (current)

BlackRock Russell 1000 Index 4/20 Jackson Square Partners 5/1 Boston Partners 6/1 Emerald Advisors 4/7 Ceredex 11/6 Pyrford 4/26 William Blair 10/2 PIMCO RAE Emerging Markets 2/28 TT Emerging Markets 7/21 Artisan Partners 10/7 First Eagle 1/18 Allianz Global Investors 4/25 Adelante 9/30 AQR Global Risk Premium - EL 1/18 Panagora Risk Parity Multi Asset 3/15 AFL-CIO 6/30 Wellington Real Total Return (in Liquidation) 2/26 Acadian Multi-Asset Absolute Return Fund 8/4 Parametric Defensive Equity 7/23 Sit Short Duration 11/2 Insight Short Duration 11/2 Insight Short Duration 11/1 Parametric Overlay 3/29 Cash Angelo Gordon Energy Credit Opp 9/24 StepStone CC Opportunities Fund 2/1	7/2017 7/2005 1995	Data Source BlackRock Northern Trust Northern Trust Northern Trust Northern Trust State Street William Blair State Street TT SEI Trust Northern Trust Northern Trust	Manager Invesco Real Estate IV Invesco Real Estate V Oaktree REOF V Oaktree REOF VI Oaktree REOF VII Siguler Guff DREOF Siguler Guff DREOF II Siguler Guff DREOF II Co-Inv Paulson Real Estate Fund II Adams Street Partners	Inception Date 6/30/2014 2/20/2019 12/31/2011 9/30/2013 4/1/2015 1/25/2012 8/31/2013 1/27/2016 11/10/2013 4/8/2019 3/18/1996	Data Source Invesco Invesco Oaktree Oaktree Oaktree Siguler Guff Siguler Guff Siguler Guff Paulson StepStone Group
Jackson Square Partners 5/1 Boston Partners 6/1 Emerald Advisors 4/7 Ceredex 11/6 Pyrford 4/25 William Blair 10/2 PIMCO RAE Emerging Markets 2/26 TT Emerging Markets 7/27 Artisan Partners 10/7 First Eagle 1/18 Allianz Global Investors 4/25 AQR Global Risk Premium - EL 1/18 Panagora Risk Parity Multi Asset 3/15 AFL-CIO 6/30 Wellington Real Total Return (in Liquidation) 2/26 Acadian Multi-Asset Absolute Return Fund 8/4 Parametric Defensive Equity 7/25 Sit Short Duration 11/2 DFA Short Credit 11/2 Insight Short Duration 11/1 Parametric Overlay 3/29 Cash Angelo Gordon Energy Credit Opp 9/24 StepStone CC Opportunities Fund 2/1	/2005	Northern Trust Northern Trust Northern Trust Northern Trust State Street William Blair State Street TT SEI Trust Northern Trust	Invesco Real Estate V Oaktree REOF V Oaktree REOF VI Oaktree REOF VII Siguler Guff DREOF Siguler Guff DREOF II Siguler Guff DREOF II Co-Inv Paulson Real Estate Fund II AE Industrial Partners Fund II Adams Street Partners	2/20/2019 12/31/2011 9/30/2013 4/1/2015 1/25/2012 8/31/2013 1/27/2016 11/10/2013 4/8/2019	Invesco Oaktree Oaktree Oaktree Siguler Guff Siguler Guff Siguler Guff Paulson StepStone Group
Boston Partners 6/1 Emerald Advisors 4/7 Ceredex 11/6 Pyrford 4/25 William Blair 10/2 PIMCO RAE Emerging Markets 2/26 TT Emerging Markets 7/27 Artisan Partners 10/7 First Eagle 1/18 Allianz Global Investors 4/25 AQR Global Risk Premium - EL 1/18 Panagora Risk Parity Multi Asset 3/15 AFL-CIO 6/30 Wellington Real Total Return (in Liquidation) 2/26 Acadian Multi-Asset Absolute Return Fund 8/4 Parametric Defensive Equity 7/25 Sit Short Duration 11/2 DFA Short Credit 11/2 Insight Short Duration 11/1 Parametric Overlay 3/29 Cash Angelo Gordon Energy Credit Opp 9/24 StepStone CC Opportunities Fund 2/1	/1995 /2003 6/2011 6/2014 9/2010 8/2017 7/2017 //2012 8/2011 6/2000 6/2001	Northern Trust Northern Trust Northern Trust State Street William Blair State Street TT SEI Trust Northern Trust	Oaktree REOF V Oaktree REOF VI Oaktree REOF VII Siguler Guff DREOF Siguler Guff DREOF II Siguler Guff DREOF II Co-Inv Paulson Real Estate Fund II AE Industrial Partners Fund II Adams Street Partners	12/31/2011 9/30/2013 4/1/2015 1/25/2012 8/31/2013 1/27/2016 11/10/2013 4/8/2019	Oaktree Oaktree Oaktree Siguler Guff Siguler Guff Siguler Guff Paulson StepStone Group
Emerald Advisors 4/7 Ceredex 11/6 Pyrford 4/25 William Blair 10/2 PIMCO RAE Emerging Markets 2/26 TT Emerging Markets 7/27 Artisan Partners 10/7 First Eagle 1/18 Allianz Global Investors 4/25 Adelante 9/30 AQR Global Risk Premium - EL 1/18 Panagora Risk Parity Multi Asset 3/15 AFL-CIO 6/30 Wellington Real Total Return (in Liquidation) 2/26 Acadian Multi-Asset Absolute Return Fund 8/4 Parametric Defensive Equity 7/23 Sit Short Duration 11/2 DFA Short Credit 11/2 Insight Short Duration 11/1 Parametric Overlay 3/29 Cash 4 Angelo Gordon Energy Credit Opp 9/24 StepStone CC Opportunities Fund 2/1	/2003 1 1 1 1 1 1 1 1 1	Northern Trust Northern Trust State Street William Blair State Street TT SEI Trust Northern Trust	Oaktree REOF VI Oaktree REOF VII Siguler Guff DREOF Siguler Guff DREOF II Siguler Guff DREOF II Co-Inv Paulson Real Estate Fund II AE Industrial Partners Fund II Adams Street Partners	9/30/2013 4/1/2015 1/25/2012 8/31/2013 1/27/2016 11/10/2013 4/8/2019	Oaktree Oaktree Siguler Guff Siguler Guff Siguler Guff Paulson StepStone Group
Ceredex 11/6 Pyrford 4/25 William Blair 10/2 PIMCO RAE Emerging Markets 2/26 TT Emerging Markets 7/27 Artisan Partners 10/7 First Eagle 1/18 Allianz Global Investors 4/25 Adelante 9/30 AQR Global Risk Premium - EL 1/18 Panagora Risk Parity Multi Asset 3/15 AFL-CIO 6/30 Wellington Real Total Return (in Liquidation) 2/26 Acadian Multi-Asset Absolute Return Fund 8/4 Parametric Defensive Equity 7/23 Sit Short Duration 11/2 Insight Short Duration 11/2 Insight Short Duration 11/1 Parametric Overlay 3/29 Cash Angelo Gordon Energy Credit Opp 9/24 StepStone CC Opportunities Fund 2/1	6/2011 6/2014 9/2010 6/2017 6/2017 6/2012 6/2011 6/2000 6/2001	Northern Trust State Street William Blair State Street TT SEI Trust Northern Trust	Oaktree REOF VII Siguler Guff DREOF Siguler Guff DREOF II Siguler Guff DREOF II Co-Inv Paulson Real Estate Fund II AE Industrial Partners Fund II Adams Street Partners	4/1/2015 1/25/2012 8/31/2013 1/27/2016 11/10/2013 4/8/2019	Oaktree Siguler Guff Siguler Guff Siguler Guff Paulson StepStone Group
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	9/2019	DLJ	Pathway 2008	12/26/2008	StepStone Group
	6/2013	LaSalle	Siguler Guff CCCERA Opps	6/3/2014	StepStone Group
	3/2017	LaSalle	Siguler Guff Secondary Opps	11/30/2016	StepStone Group
	7/1998	Hearthstone	Siris Partners IV	3/15/2019	StepStone Group
	/2013	Long Wharf	TPG Healthcare Partners, L.P.	6/28/2019	StepStone Group
0)/2016	Long Wharf	Trident VIII, L.P.	5/24/2019	StepStone Group
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Invesco Real Estate III 6/30		Long Wharf Invesco	vvastewater Opp. Fund	12/0/2013	StepStone Group

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: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - Risk-free Rate)].

Beachmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager. **Beta:** A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios. Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

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

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

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

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

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

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

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

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

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

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

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

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

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



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