

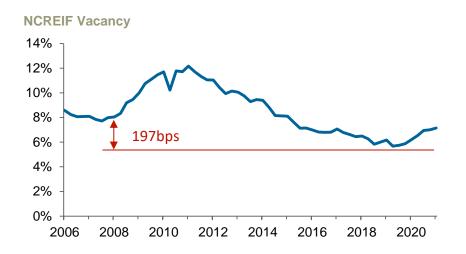
June 2021

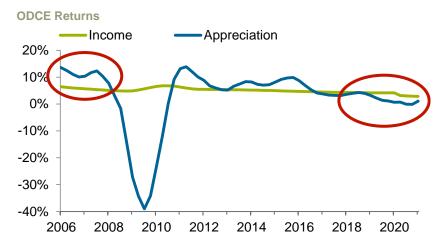
Callan

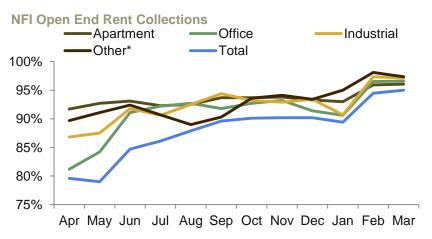
Semiannual Ending March 31, 2021 Real Estate Performance Measurement Report

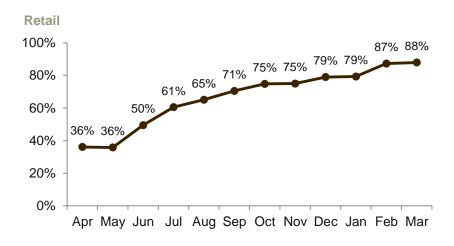
Avery Robinson, CAIASenior Vice President

U.S. Private Real Estate Market Trends









- Source: NCREIF, JPMAM, Moody's Analytics
- *Other refers to specialty property types e.g. medical office, life sciences, self-storage, student housing etc.

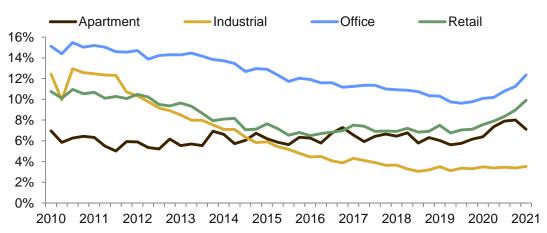


U.S. Private Real Estate Market Trends

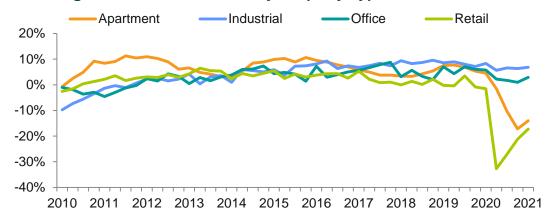
U.S. real estate fundamentals

- Vacancy rates for all property types are or will be impacted.
- Net operating income has declined as retail continues to suffer.
- 1Q21 rent collections showed relatively stable income throughout the quarter in the Industrial, Apartment, and Office sectors. The Retail sector remains challenged, with regional malls impacted most heavily.
- Class A/B urban apartments were relatively strong, followed by Industrial and Office.
- Supply was in check before the pandemic.
- New construction of preleased industrial and multifamily is occurring.

Vacancy by Property Type



Rolling 4-Quarter NOI Growth by Property Type





Alameda County Employees' Retirement Association Performance Measurement Report Summary

Portfolio Measurement Presentation

This is the Performance Measurement Report presentation for the Alameda County Employees' Retirement Association ("ACERA") Real Estate Portfolio ("Portfolio") Quarter ending March 31, 2021.

Funding Status as of March 31, 2021

	(\$) Millions	(%)
ACERA Plan Assets	10,050.174	100.00%
Real Estate Target ⁽¹⁾	804.014	8.00%
Plan's Real Estate Market Value	628.099	6.25%
Net Unfunded Commitments	104.014	1.03%
RE Market Value & Unfunded Commitments	732.113	7.28%
Remaining Allocation	175.914	1.75%

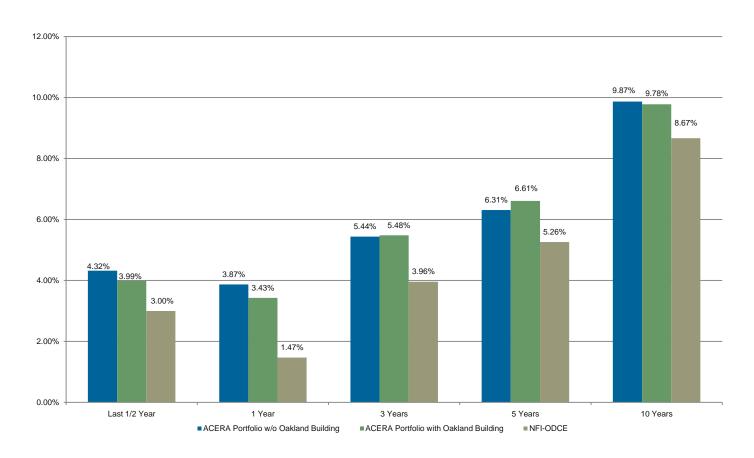
	Target	Funded	Funded & Committed
Core	70.00%	77.18%	66.21%
Non-Core	30.00%	22.82%	33.79%



Portfolio Net Returns

For Period Ended March 31, 2021

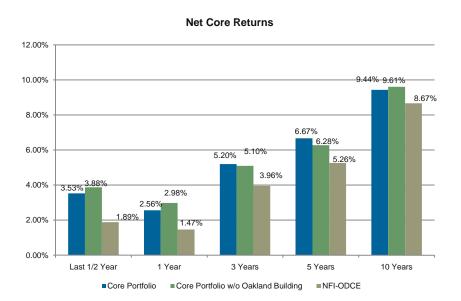
Total Net Real Estate Portfolio Returns

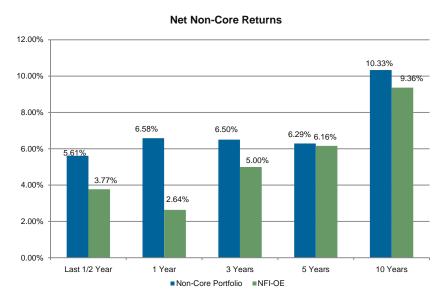




Portfolio Returns by Style

For Period Ended March 31, 2021





Net Portfolio w/o Oakland Building	Last ½ Year	1 Year	3 Years	5 Years	10 Years
Core Portfolio w/o Oakland Building	3.88%	2.98%	5.10%	6.28%	9.61%
Non-Core Portfolio	5.61%	6.58%	6.50%	6.29%	10.33%
Total Portfolio w/o Oakland Building	4.32%	3.87%	5.44%	6.31%	9.87%
Net Total Portfolio	Last ½ Year	1 Year	3 Years	5 Years	10 Years
Core Portfolio	3.53%	2.56%	5.20%	6.67%	9.44%
Non-Core Portfolio	5.61%	6.58%	6.50%	6.29%	10.33%
Total Portfolio	3.99%	3.43%	5.48%	6.61%	9.78%

Performance Drivers and Detractors by Style

Core Portfolio (Excluding Oakland Building)

- The ACERA Core Portfolio outperformed the NFI-ODCE Value Weight Index (Net) by 88 bps for the last six months ending 03/31/2021. The core portfolio has outperformed the benchmark over the last year, last 3 years, last 5 years, and last 10 years.
- The Lion Industrial Trust was the strongest performer over the period.
- Jamestown Premier Property Fund was the largest detractor from performance over the period.

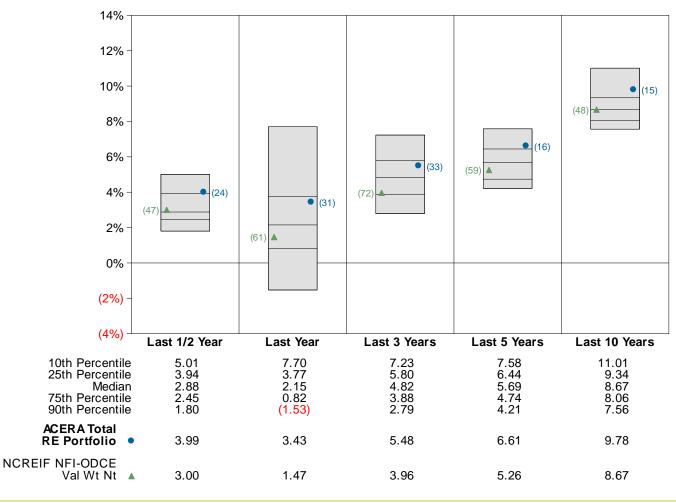
Non-Core Portfolio

- The Non-Core Portfolio outperformed the NFI-OE Value Weight Index (Net) by 184 bps for the period.
- CIM VI Urban REIT was the worst performer over the period.
- Heitman Value Partners IV and Angelo Gordon X were the primary drivers of performance.

Performance vs. Peer Group

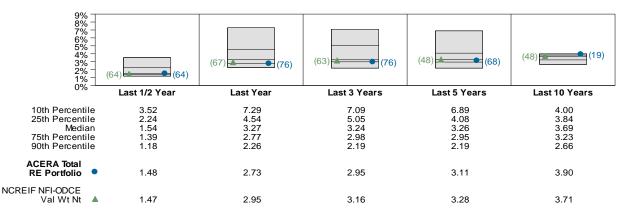
For Period Ended March 31, 2021

Performance vs Callan Open End Core Cmmingled Real Est

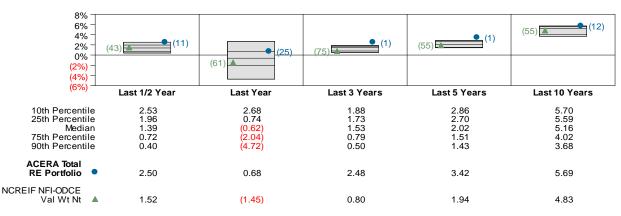


Performance vs. Peer Group

Income Rankings vs Callan OE Core Cmngld RE Periods ended March 31, 2021



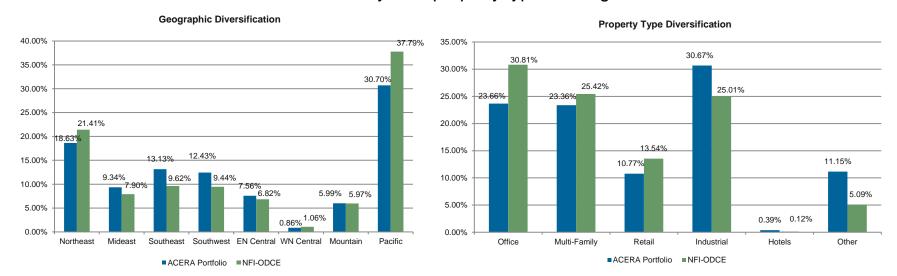
Appreciation Rankings vs Callan OE Core Cmngld RE Periods ended March 31, 2021



Diversification & Debt

Diversification – Total Portfolio (excluding Oakland Building)

- The ACERA Portfolio is well diversified by both property type and region.



Debt Compliance

- The ACERA Strategic Plan limits leverage to 40.0% at the Portfolio level. As of March 31, 2021, the loan-to-value ("LTV") ratio of the Portfolio was 28.93%.

Performance

Capitalization rate: Commonly known as cap rate, is a rate that helps in evaluating a real estate investment. Cap rate = Net operating income / Current market value (Sale price) of the asset.

Net operating income: Commonly known as NOI, is the annual income generated by an income-producing property, taking into account all income collected from operations, and deducting all expenses incurred from operations.

Real Estate Appraisal: The act of estimating the value of a property. A real estate appraisal may take into account the quality of the property, values of surrounding properties, and market conditions in the area.

Income Return ("INC"): Net operating income net of debt service before deduction of capital items (e.g., roof replacement, renovations, etc.)

Appreciation Return ("APP"): Increase or decrease in an investment's value based on internal or third party appraisal, recognition of capital expenditures which did not add value, uncollectible accrued income, or realized gain or loss from sales.

Total Gross Return ("TGRS"): The sum of the income return and appreciation return before adjusting for fees paid to and/or accrued by the manager.

Total Net Return ("TNET"): Total gross return less Advisor fees reported. All fees are requested (asset management, accrued incentives, paid incentives). No fee data is verified. May not include any fees paid directly by the investor as opposed to those paid from cash flows.

Inception Returns: The total net return for an investment or portfolio over the period of time the client has had funds invested. Total portfolio Inception Returns may include returns from investments no longer held in the current portfolio.

Net IRR: IRR after advisory fees, incentive, and promote. This includes actual cash flows and a reversion representing the LP Net Assets at market value as of the period end reporting date.

Equity Multiple: The ratio of Total Value to Paid-in-Capital (TVPIC). It represents the Total Return of the investment to the original investment not taking into consideration the time invested. Total Value is computed by adding the Residual Value and Distributions. It is calculated net of all investment advisory and incentive fees and promote.



Style Groups

The Style Groups consist of returns from commingled funds with similar risk/return investment strategies. Investor portfolios/investments are compared to comparable style groupings.

Core: Direct investments in operating, fully leased, office, retail, industrial, or multifamily properties using little or no leverage (normally less than 30%).

Value-Added: Core returning investments that take on moderate additional risk from one or more of the following sources: leasing, re-development, exposure to non-traditional property types, the use of leverage.

Opportunistic: Investments that take on additional risk in order to achieve a higher return. Typical sources of risks are: development, land investing, operating company investing, international exposure, high leverage, distressed properties.

Indices

Stylized Index: Weights the various style group participants so as to be comparable to the investor's portfolio holdings for each period.

Open-End Diversified Core Equity Index ("ODCE"): A core index that includes only open-end diversified core strategy funds with at least 95% of their investments in U.S. markets. The ODCE is the first of the NCREIF Fund Database products, created in May 2005, and is an index of investment returns reporting on both a historical and current basis (24 active vehicles). The ODCE Index is capitalization-weighted and is reported gross and net of fees. Measurement is time-weighted and includes leverage.

NCREIF Fund Index Open-End Index ("OE"): NFI-OE is an aggregate of open-end, commingled equity real estate funds with diverse investment strategies. Funds comprising NFI-OE have varied concentrations of sector and region, core and non-core, leverage, and life cycle.

NAREIT Equity Index: This is an index of Equity Real Estate Investment Trust returns reflecting the stock value changes of REIT issues as determined through public market transactions.



Cash Flow Statements

Beginning Market Value: Value of real estate, cash, and other holdings from prior period end.

Contributions: Cash funded to the investment for acquisition and capital items (i.e., initial investment cost or significant capital improvements).

Distributions: Actual cash returned from the investment, representing distributions of income from operations.

Withdrawals: Cash returned from the investment, representing returns of capital or net sales proceeds.

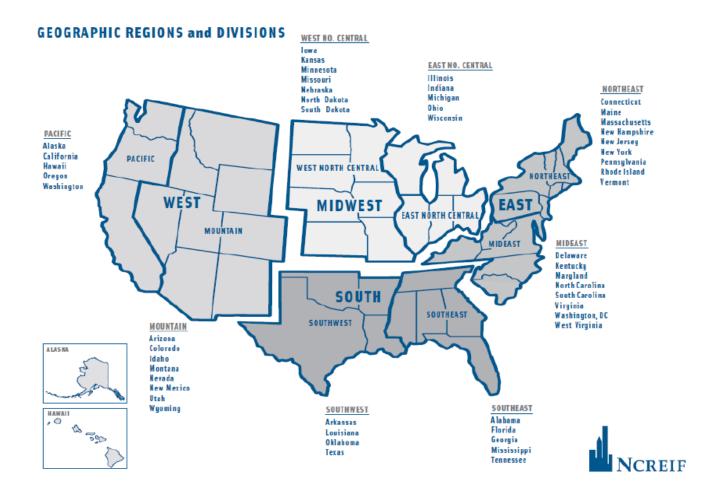
Ending Market Value: The value of an investment as determined by actual sales dollars invested and withdrawn plus the effects of appreciation and reinvestment; market value is equal to the ending cumulative balance of the cash flow statement (NAV).

Unfunded Commitments: Capital allocated to managers which has not yet been called for investment. Amounts are as reported by managers.

Remaining Allocation: The difference between the ending market value + the unfunded commitments and the target allocation. This figure represents dollars available for allocation.



NCREIF Region Map









PERIOD ENDING: MARCH 31, 2021

Investment Performance Review for

Alameda County Employees' Retirement Association - Public

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Past performance is no guarantee of future results. This document is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and is not intended for retail investors. Nothing herein constitutes investment, legal, accounting or tax advice, or a recommendation to buy, sell or hold a security or pursue a particular investment vehicle or any trading strategy. This document may include or imply estimates, outlooks, projections and other "forward-looking statements." No assurance can be given that future results described or implied by any forward -looking information will be achieved. Investing entails risks, including possible loss of principal. Additional information about Verus Advisory, Inc. is available on the SEC's website at www.adviserinfo.sec.gov. Verus − also known as Verus Advisory™



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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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Economic environment		
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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

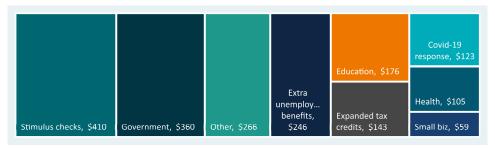
"OECD More Than Doubles US Economic Growth Forecast"

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

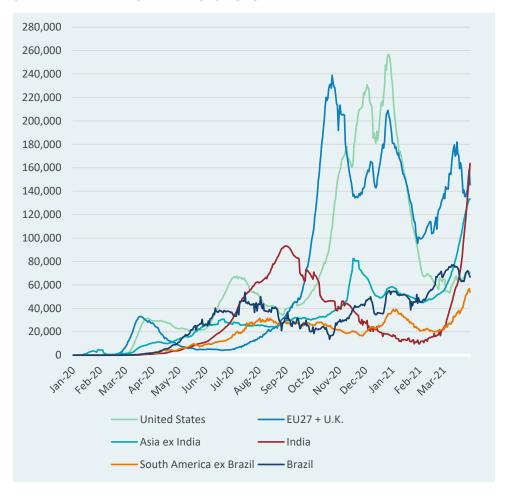
- such as power grid, railway, and public transit.
- U.S. core inflation remained low and stable, at 1.6% year-over-year in March. A jump in gasoline prices, along with base effects from the 2020 recession, pushed up headline inflation to 2.6%. It appears likely that inflation will continue to see a 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
GDP (YoY)	(2.4%) 12/31/20	2.3% 12/31/19
Inflation (CPI YoY, Core)	1.6% 3/31/21	2.1% 3/31/20
Expected Inflation (5yr-5yr forward)	2.20% 3/31/21	1.25% 3/31/20
Fed Funds Target Range	0% – 0.25% 3/31/21	0% – 0.25% 3/31/20
10-Year Rate	1.74% 3/31/21	0.67% 3/31/20
U-3 Unemployment	6.0% 3/31/21	4.4% <i>3/31/20</i>
U-6 Unemployment	10.7% 3/31/21	8.8% 3/31/20

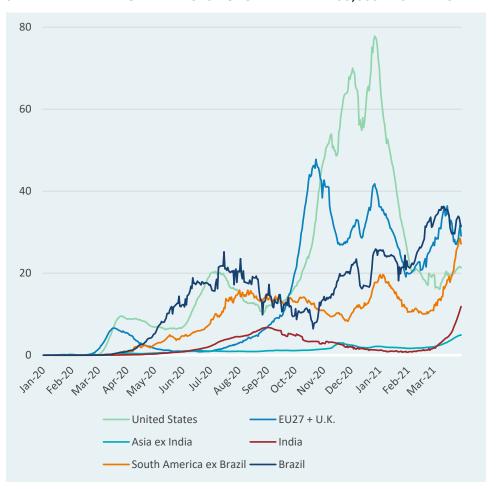


COVID-19 case growth

SEVEN-DAY AVERAGE DAILY CASE GROWTH



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

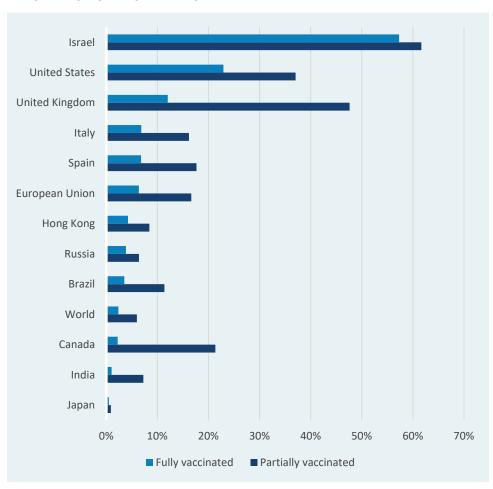


Source: Bloomberg, as of 4/15/21

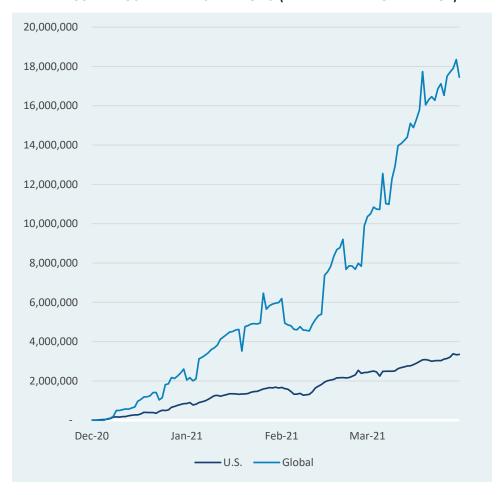


Global vaccination campaign

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.

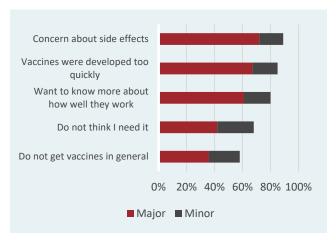
Though today these side effects appear quite rare, these developments will likely result in further delays in the push toward herd immunity over the short-term. If suspensions are lifted in the intermediate term, the vaccines in question are likely to face public relations issues which could

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.

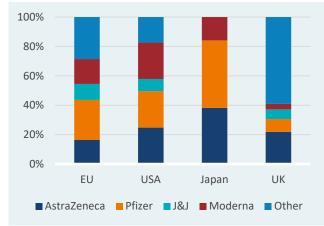
VACCINE WILLINGNESS



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

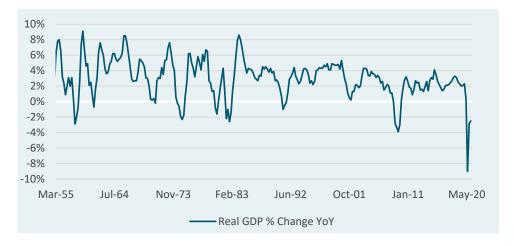
Real GDP grew at a -2.4% rate year-over-year in the fourth quarter (+4.3% quarterly annualized rate) as the U.S. economic recovery continued. The Atlanta Fed's GDPNow forecast for 2021 Q1 growth was 6.0% on a quarter-over-quarter annualized basis as of April 9th, suggesting an even quicker pace than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

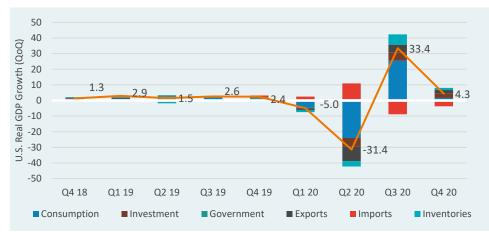
Large government stimulus programs are typically implemented during earlier stages of a recession, with the intent to fill a gap in demand and offset initial weakness. The current stimulus plans are very large and are being implemented at a time when the economy is well on the way to recovery. This creates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

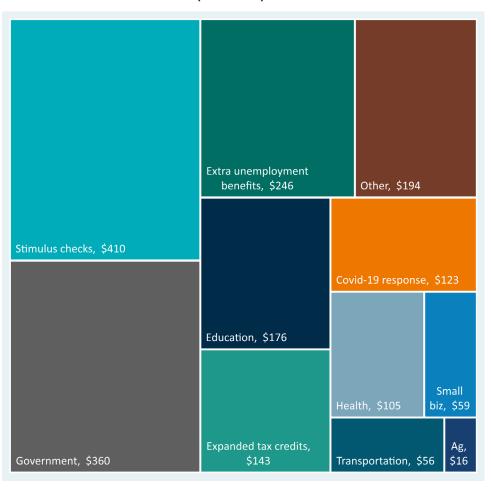


Source: BEA, annualized quarterly rate, as of 12/31/20

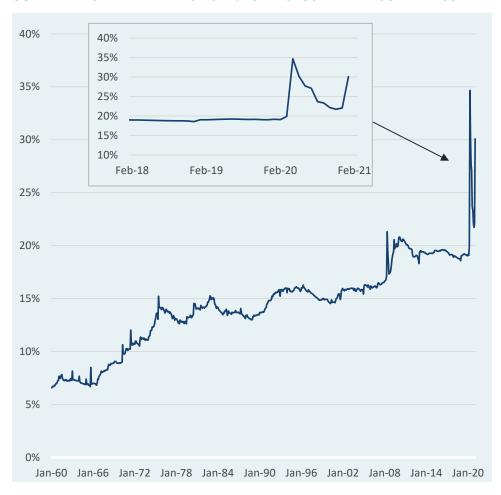


American Rescue Plan Act of 2021

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-overyear 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.

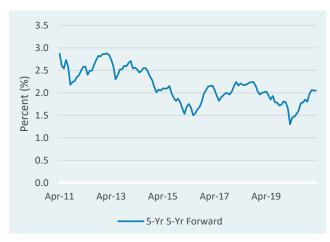
The 10-year TIPS breakeven inflation rate continued higher during the quarter to nearly 2.4% from 2.0%. Most inflation indicators have risen, though we believe that government purchases of TIPS may be artificially pushing up the breakeven rate.

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





BREAKEVEN INFLATION RATES

Source: FRED, as of 3/31/21

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.

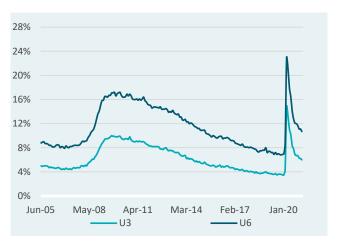
The U.S. labor force showed a strong rebound during the fall of 2020, but more recently appears to have stalled. Approximately 2% of the total U.S. workforce remains out of a job and is not seeking work, relative to pre-COVID levels. This effect is illustrated in the labor participation rate, which is 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: FRED, as of 3/31/21



Source: NFIB, 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.

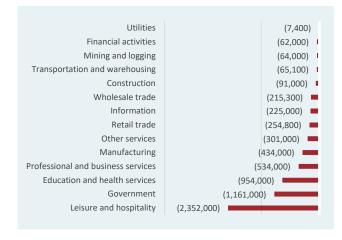
NON-FARM PAYROLLS - ONE-MONTH CHANGE



NON-FARM PAYROLLS - THREE-MONTH CHANGE



NON-FARM PAYROLLS - ONE-YEAR CHANGE



Source: BLS, as of 3/31/21



The consumer

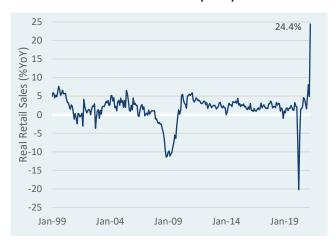
U.S. retail sales rocketed higher in the first quarter, accelerating to a 9.8% month-over-month pace in March (this rate was an astounding 24.4% on a year-over-year basis, though this metric is more difficult to interpret since it calculates growth from a starting point of March 2020—the depths of the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

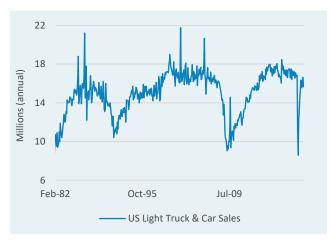
began to surge, many types of activities dipped once again. It now appears that activity such as retail, recreation, and grocery shopping are moving back to normal levels. At the same time, public transit usage and travel to workplaces remains depressed.

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

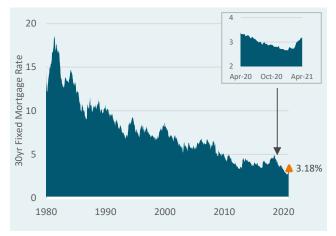
Sales of existing homes continued at a near-record pace through fall of 2020 and the beginning of 2021, before decelerating to 9.1% year-over-year in February. Sales of new homes followed a similar directional trend, though new homes have shown an even stronger growth rate consistently over the past 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.

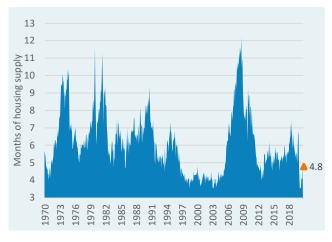
U.S. HOME SALES (YOY)



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%) 12/31/20	5.8% 3/31/21	5.4% 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)

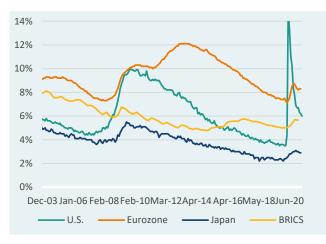


INFLATION (CPI YOY)



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%.

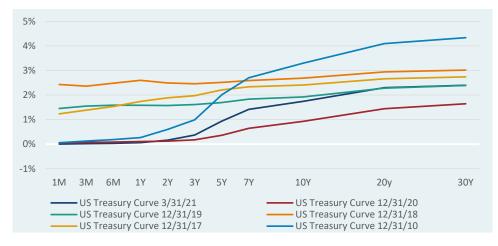
Area	Short Term (3M)	10-Year
United States	0.02%	1.74%
Germany	(0.67%)	(0.29%)
France	(0.62%)	(0.05%)
Spain	(0.56%)	0.34%
Italy	(0.54%)	0.67%
Greece	(0.24%)	0.86%
U.K.	(0.01%)	0.85%
Japan	(0.11%)	0.09%
Australia	0.00%	1.79%
China	2.28%	3.19%
Brazil	3.32%	9.28%
Russia	4.70%	7.00%

Source: Bloomberg, as of 3/31/21



Yield environment

U.S. YIELD CURVE

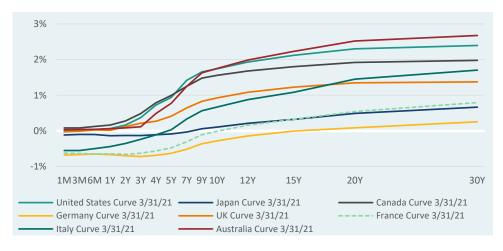


YIELD CURVE CHANGES OVER LAST FIVE YEARS



Source: Bloomberg, as of 3/31/21

GLOBAL GOVERNMENT YIELD CURVES



IMPLIED CHANGES OVER NEXT YEAR





Yield increases have tested central banks

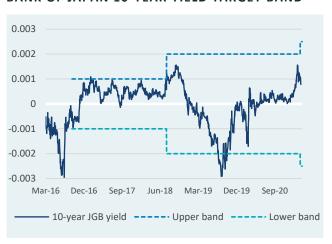
Bank of Japan: Clarified that 10-year yields can move within 25 basis points of the 0.00% target; tweaked guidance around buying ¥6 trillion in equity ETFs to make its purchases more "flexible and nimble".

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.

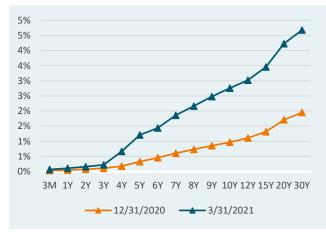
European Central Bank: Elected not to expand the size of its Pandemic Emergency Purchase Programme (PEPP), but elected to frontload bond purchases to increase short-term accommodation.

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.

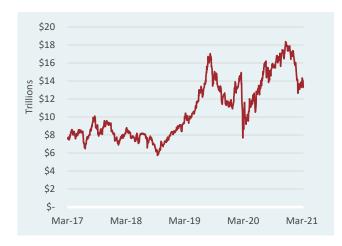
BANK OF JAPAN 10-YEAR YIELD TARGET BAND



AUD AUSTRALIAN YIELD CURVE



VALUE OF GLOBAL NEGATIVE YIELDING DEBT



Source: Bloomberg, as of 3/31/21



Credit environment

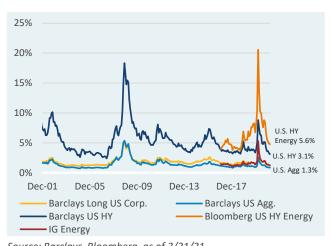
During the first quarter, credit market performance largely reflected the movements of the US Treasury curve, which steepened significantly as 10-year yields rose 82 basis points while 2-year yields remained anchored near zero. Investment grade credit, with an effective duration of 8.5, returned -4.65% 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.

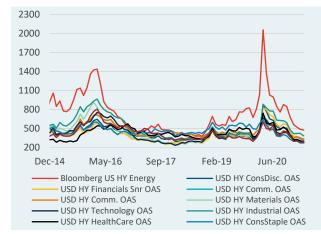
Spreads in higher quality investment grade assets have continued to compress over the past year. Notably, the BBB/A spread is now at an all-time low of 40 basis points, down from a high of 163 basis points experienced in Q1 2020. Similarly, the BB/BBB spread is now 155 basis points, down from recent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

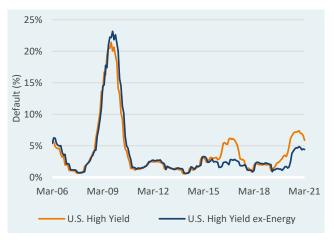
Default activity was modest over the quarter, with 5 companies totaling \$3.2 billion defaulting on bonds and loans. The par-weighted U.S. high yield default rate retreated 139 basis points from recent highs to end the quarter at 5.4%. Similarly, the loan par-weighted default rate ended the quarter at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

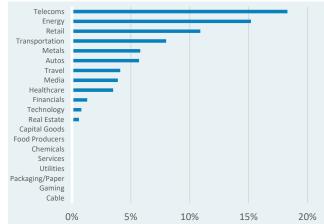
billion. Quarterly issuance remains significantly elevated relative to the ten-year average of \$79.9 billion. Notably, \$44.8 billion was issued to take-out leverage loans in Q1, which was roughly 60% of the previous annual record of \$78.5 billion set in 2012. \$154.6 billion in leverage loans were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

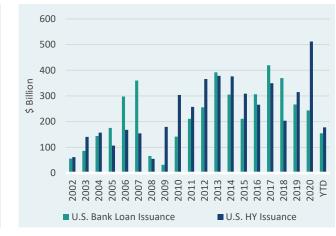


U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)



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	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

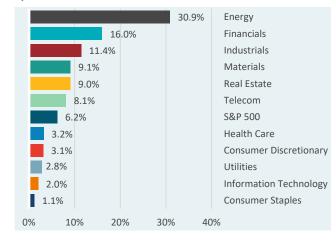


DIVIDEND YIELD VS BOND YIELD



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

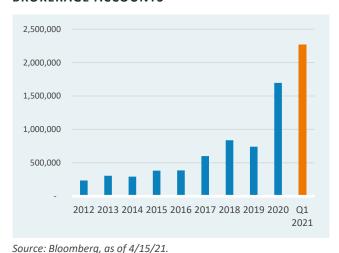
In recent years, trading has become free on certain platforms, making day trading a more attractive proposition. Retail's portion of total market trading has increased from 10% in 2010 to 23% in 2020, according to Bloomberg Intelligence.

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.

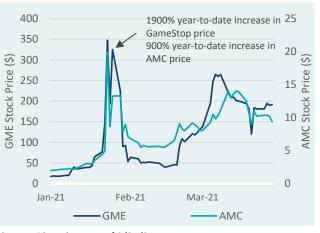
Lockdowns due to COVID-19 have prevented many Americans from pursuing their usual hobbies, leading to boredom. Stock trading may have become an entertaining outlet for otherwise non-traders. And government stimulus checks may have provided idle cash to fuel this new hobby.

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.

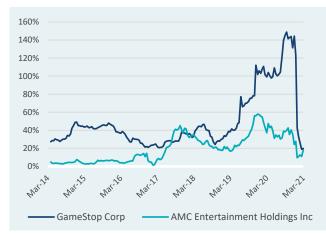
SCHWAB - ORGANIC CHANGE IN ACTIVE BROKERAGE ACCOUNTS*



GAMESTOP & AMC THEATERS STOCK PRICES



SHORT INTEREST AS A PERCENTAGE OF FLOAT



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



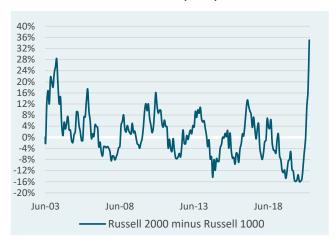
Domestic equity size & style

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)

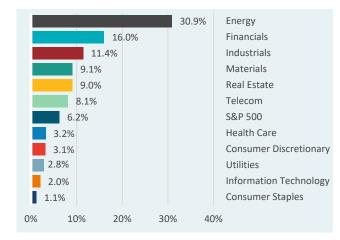


VALUE VS GROWTH (YOY)



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

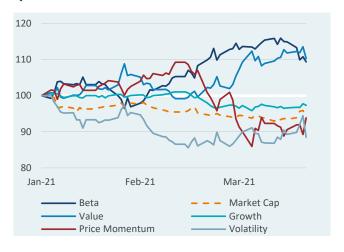
Factor portfolios in 2021

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



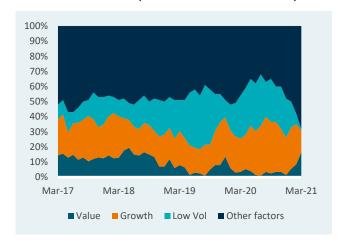
Source: J.P. Morgan, as of 3/27/21

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

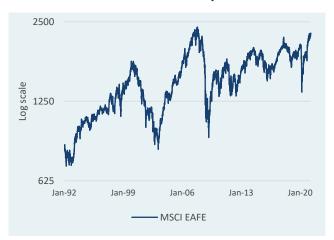
International equities delivered +3.5% (MSCI EAFE Index) during the first quarter on an unhedged currency basis. International developed underperformed the S&P 500 Index (+6.2%) while outperforming the MSCI Emerging Markets Index (+2.3%). The trend towards U.S. dollar weakness has boosted the performance 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.

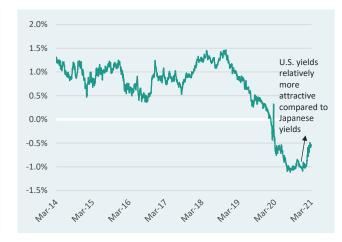
INTERNATIONAL DEVELOPED EQUITIES



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

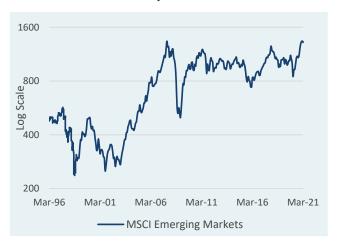
Emerging market equity

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%).

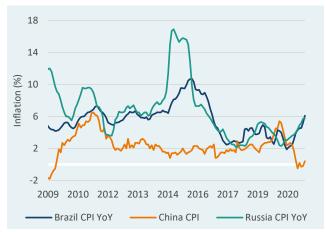
Chinese mainland equities, which account for roughly 36% of the MSCI EM Index, slumped -0.4%, dampening overall index returns. Many analysts attributed the relative weakness in China to tightening liquidity conditions, as the People's Bank of China shifted focus away from promoting economic recovery 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

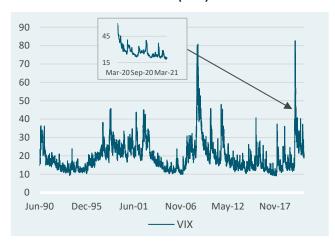
The Cboe VIX Index has slowly been falling back towards the longer-term average of 19. The index fluctuated in the low 20s during Q1, falling below 19 briefly in late March.

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

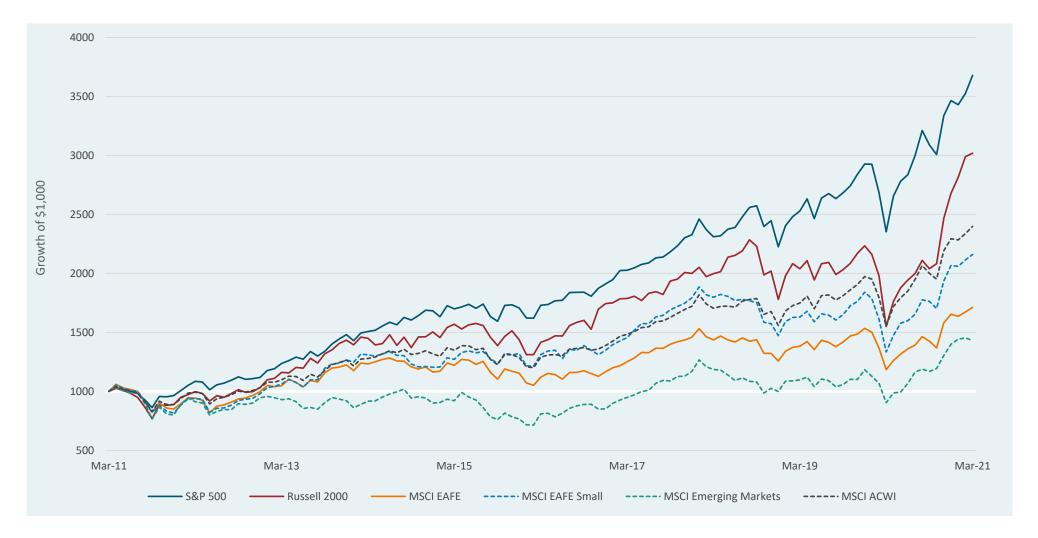


Source: Standard & Poor's, MSCI, Bloomberg, as of 3/31/21



Source: Choe, as of 3/31/21

Long-term equity performance



Source: Morningstar, as of 3/31/21



Other assets



Currency

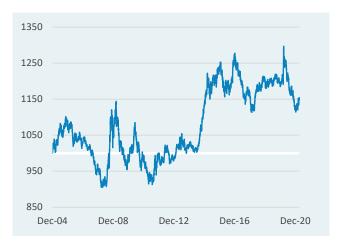
U.S. dollar weakness had prevailed for most of 2020, but turned around in the first quarter of 2021. The Bloomberg Dollar Spot Index increased 2.8% over the quarter, after slipping -5.4% in 2020. Strength in the dollar was attributed to rising relative yields in the U.S., the relatively effective vaccination 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 equally-weighted 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

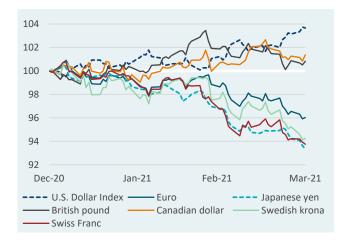


CURRENCY BETA (ONE-YEAR RETURNS)



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

U.S. DOLLAR INDEX CONSTITUENTS



Source: Bloomberg, as of 3/31/21



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

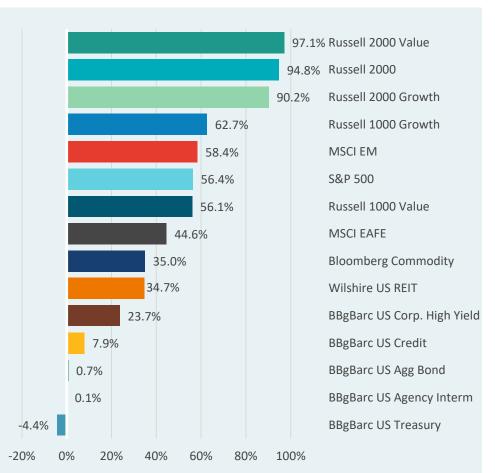


Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF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

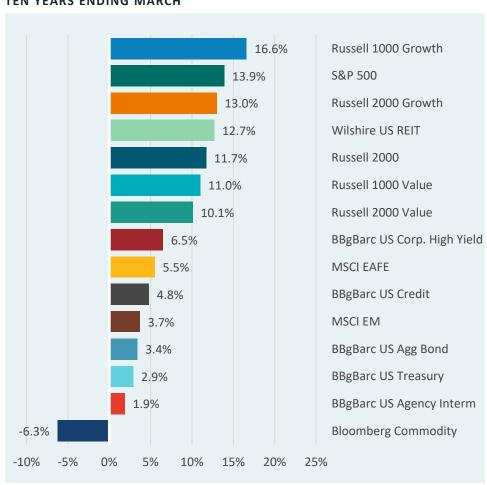


Major asset class returns

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.

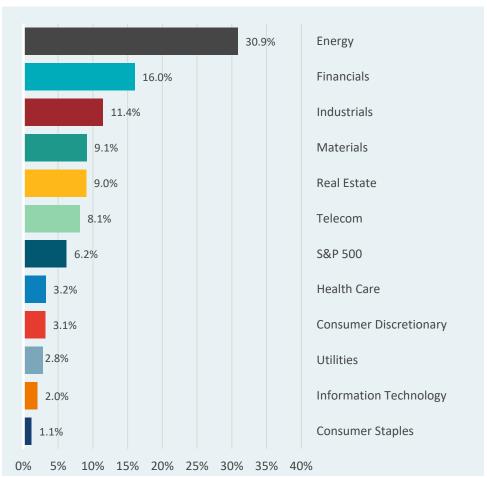
Source: Morningstar, as of 3/31/21

Source: Morningstar, as of 3/31/21

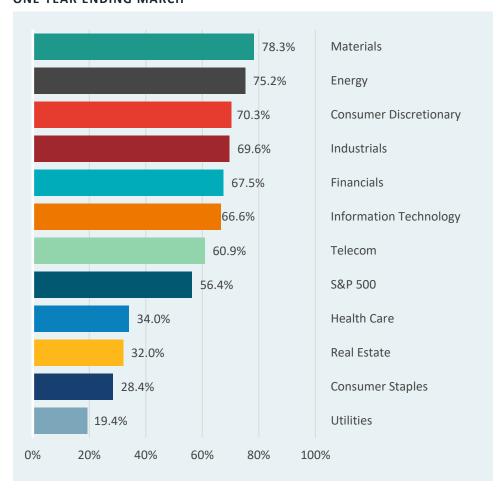


S&P 500 sector returns

Q1 2021



ONE YEAR ENDING MARCH



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



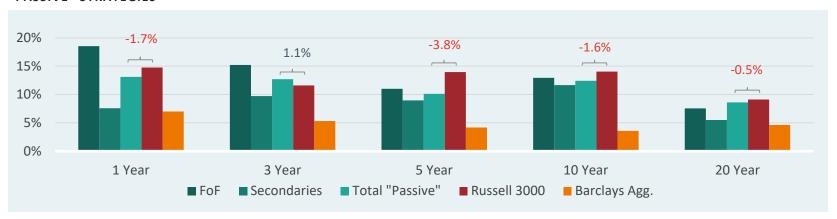
Private equity vs. traditional assets performance

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.



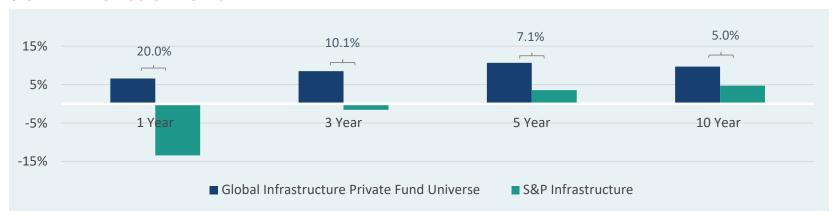
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



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

GLOBAL INFRASTRUCTURE FUNDS



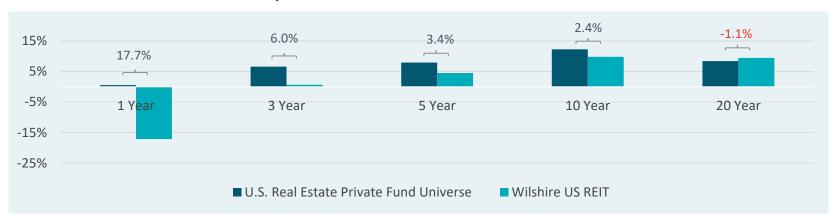
Infra. funds outperformed the S&P Infra. across all periods.

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.

Notices & disclosures

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PERIOD ENDING: MARCH 31, 2021
Investment Performance Review for

Alameda County Employees' Retirement Association

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.
- 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.
- The Europe Union has been slower to roll out vaccinations, suggesting member countries may be grappling with the virus for longer periods of time.

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.
- 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.

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.
- 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.

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.
- 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%).

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



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
GDP (YoY)	(2.4%) 12/31/20	2.3% 12/31/19
Inflation (CPI YoY, Core)	1.6% 3/31/21	2.1% 3/31/20
Expected Inflation (5yr-5yr forward)	2.20% 3/31/21	1.25% 3/31/20
Fed Funds Target Range	0% – 0.25% 3/31/21	0% – 0.25% 3/31/20
10-Year Rate	1.74% 3/31/21	0.67% 3/31/20
U-3 Unemployment	6.0% 3/31/21	4.4% <i>3/31/20</i>
U-6 Unemployment	10.7% 3/31/21	8.8% 3/31/20



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.

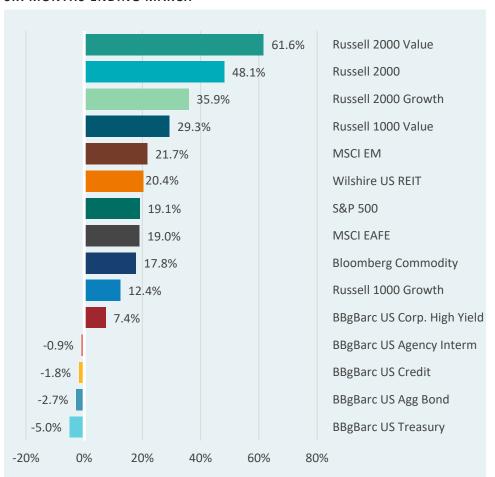
Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	(2.4%)	2.6%	6.0%
	12/31/20	3/31/21	3/31/21
Eurozone	(4.9%)	1.3%	8.3%
	12/31/20	3/31/21	2/28/21
Japan	(1.4%)	(0.2%)	2.8%
	12/31/20	3/31/21	2/28/21
BRICS	1.6%	1.4%	5.7%
Nations	12/31/20	3/31/21	12/31/20
Brazil	(4.1%)	6.1%	14.2%
	12/31/20	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

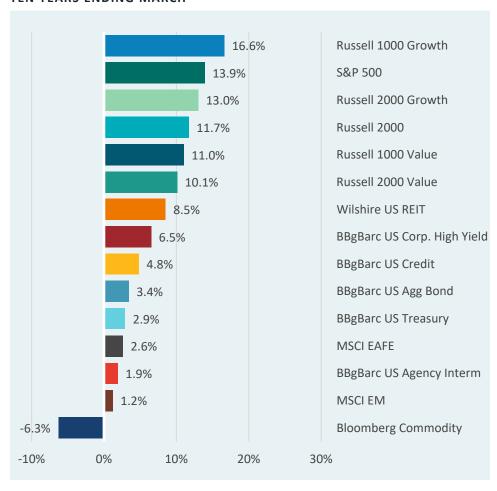


Major asset class returns

SIX MONTHS ENDING MARCH



TEN YEARS ENDING MARCH



Source: Bloomberg, as of 3/31/21

Source: Morningstar, as of 3/31/21



- The composite fund returned 4.4% for the first quarter of 2021 and ranked in the 16th percentile among public funds greater than \$1 billion (median of 3.4%). The fund beat its policy index return of 4.2% during this time period. Longer term, the five (11.2%), and ten year (8.8%) returns ranked in the 15th and 36th percentile of large public plans respectively.
- First quarter results were enhanced by the following factors:
 - 1. William Blair Small Cap Growth beat the Russell 2000 Growth (7.8% vs 4.9%). Strong stock selection in the health care sector drove relative performance.
 - 2. Loomis lost 2.2% beating the Bloomberg Barclays US Credit BAA (-4.3%.) Loomis was positioned with slightly less duration than the benchmark in Q1. This helped the strategy as long-term rates rose during the quarter.
- First quarter results were hindered by the following factors:
 - Capital Group trailed the MSCI ACWI ex US gaining 2% versus 3.6% for the index. While underperforming the core benchmark the strategy outperformed the MSCI ACWI ex US Growth which was flat for the quarter. Having a growth tilt, while beneficial in 2020, hurt in Q1 2021 with the comeback of value.
 - 2. Newton lost -0.47% trailing the 2.3% return for the MSCI EM. The shift to value over the quarter, hurt the returns of some of the strategies portfolio companies. Specifically, EV supply chain and solar companies hurt relative performance in Q1



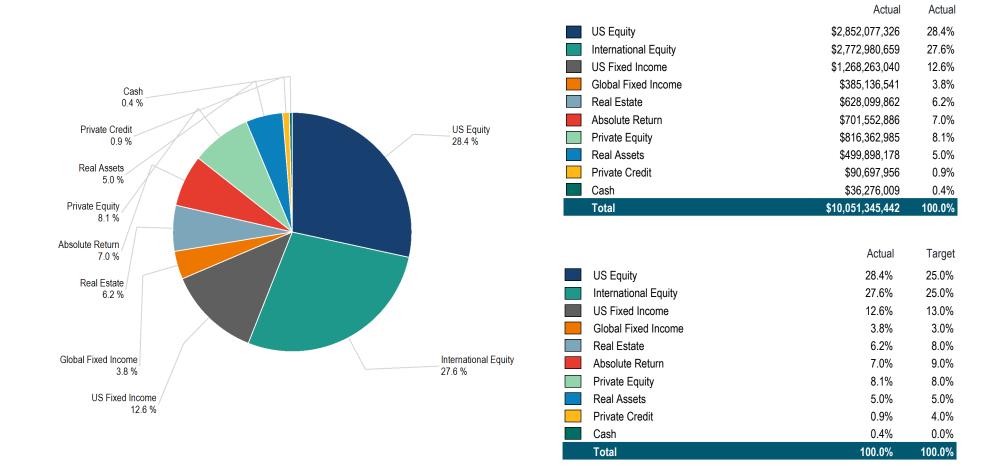
	Beginning	Net Cash Flow	Net Investment	Ending
	Market Value		Change	Market Value
Absolute Return ¹	\$676,776,371	-\$2,342,934	\$27,119,450	\$701,552,887
Alta	\$5,249	\$0	\$0	\$5,249
Applied Research Investments	\$27,852,621	-\$820,000	-\$745,040	\$26,287,581
AQR	\$6,009,177	-\$4,211,216	-\$145,236	\$1,652,725
Arga Investment Management	\$27,278,268	-\$820,000	\$3,176,412	\$29,634,680
Aristotle	\$136,877,998	-\$94,278	\$13,946,638	\$150,730,357
Baird Advisors	\$741,163,039	\$142,200,000	-\$28,394,809	\$854,968,230
Bivium Cash	\$0	\$0	\$0	\$0
BlackRock MSCI World ex-US Index Fd A	\$687,181,334	-\$18,566,735	\$28,371,694	\$696,986,292
BlackRock Russell 1000 Index Fund	\$2,144,843,522	-\$20,000,000	\$126,986,562	\$2,251,830,085
Brandywine	\$400,857,610	-\$262,059	-\$15,459,010	\$385,136,541
Capital Group	\$695,621,553	-\$30,691,998	\$14,814,965	\$679,744,520
Cash Account	\$61,656,850	-\$25,442,744	\$61,904	\$36,276,009
Denali Advisors	\$27,045,083	-\$820,000	\$2,466,910	\$28,691,993
Dundas Partners	\$27,744,210	-\$820,000	-\$50,990	\$26,873,220
Global Alpha Capital Management	\$10,303,432	\$0	\$574,379	\$10,877,812
Huber	\$1,651	\$0	\$0	\$1,651
Kennedy	\$129,466,612	-\$225,899	\$26,266,228	\$155,506,940
Loomis Sayles	\$422,796,783	-\$289,895	-\$9,212,078	\$413,294,810
Mondrian	\$693,998,669	-\$26,044,511	\$44,230,342	\$712,184,500
Newton Emerging Mkt	\$292,153,237	-\$36,350,000	\$2,200,712	\$258,003,949
Next Century-SCG	\$44,717	-\$44,720	\$433	\$431
OakBrook	\$146	-\$146	\$0	\$0
Private Credit ¹	\$59,247,492	\$29,650,399	\$1,800,065	\$90,697,956
Private Equity	\$718,825,860	-\$29,820,528	\$127,357,653	\$816,362,985
Pzena	\$57,437	-\$40,084	-\$2,025	\$15,328
Radin Capital Partners	\$10,892,671	-\$250,000	\$1,072,526	\$11,715,197
RVX Asset Management	\$6,996,344	\$0	\$388,437	\$7,384,781
Real Assets ¹	\$480,788,044	-\$3,819,807	\$21,758,749	\$499,898,178
Real Estate	\$610,503,035	\$3,899,554	\$13,697,273	\$628,099,862
Sec. Lending	\$0	-\$826,604	\$826,604	\$0
TCW	\$129,834,071	-\$140,105	\$671,366	\$130,365,332
Templeton	\$274,426,388	-\$6,760,000	\$15,176,895	\$282,843,282
Transition Account	\$141,402	-\$39,641	-\$1,632	\$100,128
Willliam Blair Small Cap Growth	\$172,296,544	-\$22,546,091	\$13,871,501	\$163,621,954
Total	\$9,673,687,417	-\$56,340,044	\$432,826,877	\$10,051,345,442

¹ Preliminary ending market value



	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Alta	\$5,249	\$0	\$0	\$5,249
Bivium Cash	\$0	\$0	\$0	\$0
Huber	\$1,651	\$0	\$0	\$1,651
OakBrook	\$146	-\$146	\$0	\$0
Total	\$7,046	-\$146	\$0	\$6,900
	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Applied Research Investments	\$27,852,621	-\$820,000	-\$745,040	\$26,287,581
Arga Investment Management	\$27,278,268	-\$820,000	\$3,176,412	\$29,634,680
Denali Advisors	\$27,045,083	-\$820,000	\$2,466,910	\$28,691,993
Dundas Partners	\$27,744,210	-\$820,000	-\$50,990	\$26,873,220
Global Alpha Capital Management	\$10,303,432	\$0	\$574,379	\$10,877,812
Radin Capital Partners	\$10,892,671	-\$250,000	\$1,072,526	\$11,715,197
RVX Asset Management	\$6,996,344	\$0	\$388,437	\$7,384,781
Total	\$138,112,629	-\$3,530,000	\$6,882,634	\$141,465,263





Bivium Portfolio Liquidated U.S. Equities and invested in International Equities



	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Fund (Gross)	4.42	14	16.92	13	38.51	18	9.87	38	11.40	13	8.53	27	9.04	17	9.79	Sep-85
Total Fund (Net)	4.38	16	16.82	14	38.26	19	9.68	42	11.16	15	8.27	39	8.75	36	9.60	
Policy Index ¹	4.19	21	15.47	26	35.88	28	9.50	47	10.82	33	8.58	23	9.05	16	10.01	Sep-85
Allocation Index	4.36	16	16.16	18	37.07	23	9.73	42	10.88	29	8.52	28	8.90	27		Sep-85
InvMetrics Public DB > \$1B Gross Median	3.43		14.11		32.47		9.33		10.17		8.00		8.37		8.89	Sep-85
US Equity (Gross)	6.71	67	22.87	71	64.23	47	16.81	34	17.54	12	13.26	32	13.74	25	12.15	Sep-85
US Equity (Net)	6.67	68	22.79	72	64.00	49	16.63	40	17.28	16	12.98	46	13.43	43	-	
Russell 3000	6.35	81	21.96	83	62.53	65	17.12	25	16.64	37	13.44	22	13.79	23		Sep-85
InvMetrics All DB US Eq Gross Median	7.38		24.19		63.84		16.23		16.24		12.88		13.26		11.30	Sep-85
BlackRock Russell 1000 Index Fund (Gross)	5.93	60	20.43	40	60.64	29									17.76	Apr-18
BlackRock Russell 1000 Index Fund (Net)	5.93	60	20.43	40	60.62	29									17.75	
Russell 1000	5.91	61	20.41	40	60.59	30									17.71	Apr-18
Large Cap Active Equity (Gross)	5.48		18.36		59.32		12.53		15.19		11.73		12.76		8.53	Mar-00
Large Cap Active Equity (Net)	5.39		18.13		58.52		11.97		14.68	-	11.27	-	12.30		8.09	
Russell 1000	5.91		20.41		60.59		17.31		16.66		13.64		13.97		7.03	Mar-00
Aristotle (Gross)	10.19	65													27.68	Oct-20
Aristotle (Net)	10.12	65													27.60	
Russell 1000 Value	11.25	53													31.06	Oct-20
TCW (Gross)	0.52	77	9.33	91	57.53	67	23.39	31	21.27	40	16.82	46	16.15	45	9.13	Jun-99
TCW (Net)	0.41	80	9.09	91	56.67	70	22.81	36	20.76	46	16.39	56	15.74	56	-	
Russell 1000 Growth	0.94	70	12.44	65	62.74	40	22.80	36	21.05	43	17.50	34	16.63	32		Jun-99

Total Fund and asset class composites are ranked against InvestorForce universes. Managers are ranked against eVestment Alliance style universes.

Ranking of 1 is a top ranking and a ranking of 100 is a bottom ranking. The InvestorForce Public DB> \$1B Gross universe consists of 96 members with a total market value of \$1,164.9 Trillion..

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

1 See Policy Index and Benchmark History.

^{*} Funded October 2020.



	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Small Cap Equity (Gross)	13.72		48.56		100.22		18.67		19.71		12.48		12.79		14.10	Jul-85
Small Cap Equity (Net)	13.43		48.07	-	98.60		17.66		18.67	-	11.54	-	11.85		-	
Russell 2000	12.70		48.05		94.85		14.76		16.35		11.05		11.68			Jul-85
Kennedy (Gross)	20.30	43	57.97	42	97.24	43	10.52	63	13.42	46	9.51	47	11.09	50	13.21	Sep-10
Kennedy (Net)	20.11	45	57.47	43	95.82	45	9.56	75	12.43	66	8.61	70	10.18	78	12.31	
Russell 2000 Value	21.17	33	61.59	30	97.05	43	11.57	46	13.56	45	8.93	63	10.06	81	11.74	Sep-10
William Blair Small Cap Growth (Gross)	8.15	33	40.72	24	101.62	40									40.23	Oct-19
William Blair Small Cap Growth (Net)	7.78	36	40.24	27	99.82	42									39.35	
Russell 2000 Growth	4.88	55	35.92	42	90.20	62									34.97	Oct-19
International Equity (Gross)	3.99	32	21.98	43	57.84	30	8.94	22	12.09	22	7.24	25	7.10	25	8.63	Dec-90
International Equity (Net)	3.90	38	21.78	47	57.25	35	8.58	24	11.70	26	6.85	33	6.70	34	-	
MSCI ACWI ex USA IMI Gross 1	3.87	40	21.83	47	52.55	69	7.01	52	10.35	53	5.93	59	5.59	73		Dec-90
InvMetrics All DB ex-US Eq Gross Median	3.61		21.51		55.38		7.12		10.44		6.19		6.22		7.27	Dec-90
Bivium Intl Equity (Gross)	5.12	41	24.16	40	57.75	49									16.09	Oct-18
Bivium Intl Equity (Net)	4.82	44	23.44	44	55.91	56									14.76	
MSCI ACWI ex USA Gross	3.60	61	21.29	60	50.03	87									13.42	Oct-18
BlackRock MSCI World ex-US Index Fd A (Gross)	4.19	50	20.84	48	46.54	68						-			14.21	May-19
BlackRock MSCI World ex-US Index Fd A (Net)	4.19	50	20.84	48	46.54	68									14.21	
MSCI World ex US Gross	4.17	50	20.74	49	46.51	69									14.26	<i>May-19</i>
Capital Group (Gross)	1.99	39	17.48	34	57.36	38	13.26	31	16.06	24	9.48	60	8.36	62	9.26	Dec-90
Capital Group (Net)	1.93	39	17.42	35	56.78	40	12.95	39	15.77	27	9.18	70	8.03	69		
MSCI ACWI ex USA Gross	3.60	8	21.29	6	50.03	73	7.02	99	10.28	94	5.75	99	5.41	99		Dec-90
MSCI ACWI ex USA Growth Gross	0.00	74	13.96	66	49.76	74	10.70	83	12.42	85	8.13	82	7.06	99		Dec-90

¹ See Policy Index and Benchmark History.



	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Mondrian (Gross)	6.52	72	27.19	67	47.04	78	4.65	61	7.63	72	4.28	55	5.17	58	7.20	Nov-03
Mondrian (Net)	6.42	73	26.89	68	46.43	80	4.21	69	7.19	83	3.87	83	4.80	84	6.87	
MSCI ACWI ex USA Gross	3.60	99	21.29	96	50.03	61	7.02	16	10.28	25	5.75	7	5.41	10	7.44	Nov-03
MSCI ACWI ex USA Value Gross	7.20	64	29.18	43	49.52	65	3.02	90	7.89	66	3.20	89	3.62	99	6.61	Nov-03
Newton Emerging Mkt (Gross)	-0.31	93	26.71	36	95.95	3									40.17	May-19
Newton Emerging Mkt (Net)	-0.47	94	26.37	38	95.26	3									39.83	
MSCI Emerging Markets Gross	2.34	69	22.58	68	58.92	72									19.49	May-19
Templeton (Gross)	5.62	43	20.97	56	69.45	50	5.50	71	10.16	80	6.95	74	-		7.51	Apr-11
Templeton (Net)	5.47	44	20.63	56	68.48	58	4.84	77	9.44	87	6.26	82			6.80	
MSCI ACWI ex US Small Cap Gross	5.61	43	25.29	36	70.42	43	7.02	55	10.82	67	7.07	73			6.26	Apr-11
MSCI ACWI ex US Small Cap Value GD	7.76	32	30.64	11	66.83	62	4.63	77	9.48	87	5.63	85			5.45	Apr-11
Total Fixed Income (Gross)	-3.17	76	1.27	28	11.79	16	5.54	28	5.35	23	4.71	20	5.35	17	7.30	Sep-86
Total Fixed Income (Net)	-3.21	76	1.19	29	11.58	17	5.34	36	5.14	28	4.51	22	5.14	19	-	
Fixed Income Blend ¹	-3.53	84	-1.59	74	3.77	69	4.34	74	3.46	78	3.21	79	3.43	83		Sep-86
InvMetrics All DB Total Fix Inc Gross Median	-2.13		-0.15		6.67		4.97		4.40		3.77		4.14		6.72	Sep-86
US Fixed Income (Gross)	-2.94	66	-0.73	44	7.91	26	6.19	22	5.34	24	4.91	22	5.48	20	7.19	Sep-86
US Fixed Income (Net)	-2.96	67	-0.78	45	7.75	28	6.03	26	5.17	28	4.74	27	5.31	22	-	
BBgBarc US Aggregate TR	-3.37	74	-2.73	79	0.71	86	4.65	75	3.10	82	3.31	75	3.44	80		Sep-86
InvMetrics All DB US Fix Inc Gross Median	-2.24		-1.12		4.52		5.22		4.24		3.95		4.35		6.58	Sep-86
Baird Advisors (Gross)	-3.29	61	-2.23	57	3.48	47	5.48	28	4.16	17	4.34	9	4.71	7	5.13	Oct-01
Baird Advisors (Net)	-3.29	61	-2.25	57	3.40	48	5.40	35	4.08	23	4.26	11	4.62	11	5.04	
BBgBarc US Aggregate TR	-3.37	66	-2.73	79	0.71	91	4.65	90	3.10	91	3.31	92	3.44	93	4.25	Oct-01
Loomis Sayles (Gross)	-2.18	23	2.46	6	17.31	2	7.69	3	7.68	1	6.04	1	6.91	1	8.34	Dec-00
Loomis Sayles (Net)	-2.25	24	2.32	7	16.96	2	7.36	4	7.33	1	5.71	2	6.57	1	7.99	
BBgBarc US Credit BAA TR	-4.32	98	-0.46	42	13.06	6	6.55	10	5.63	10	4.87	9	5.47	5	6.35	Dec-00

¹ See Policy Index and Benchmark History.



	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Global Fixed Income (Gross)	-3.86	61	7.27	8	23.49	4	3.33	67	5.10	43	3.93	43	4.81	64	7.34	Nov-01
Global Fixed Income (Net)	-3.92	65	7.12	8	23.10	6	3.04	73	4.79	67	3.64	66	4.48	70	7.03	
FTSE WGBI TR	-5.68	75	-3.07	88	1.82	92	2.09	81	2.15	97	1.54	82	1.66	99	4.39	Nov-01
InvMetrics All DB Glbl Fix Inc Gross Median	-2.27		3.02		17.34		4.22		4.92		3.83		5.17		6.37	Nov-01
Brandywine (Gross)	-3.86	72	7.27	16	23.49	18	3.33	71	5.10	43	3.93	45	4.81	31	7.34	Nov-01
Brandywine (Net)	-3.92	73	7.12	16	23.10	20	3.04	77	4.79	48	3.64	48	4.48	36	7.03	
BBgBarc Global Aggregate TR	-4.46	81	-1.32	86	4.67	87	2.80	81	2.66	85	2.00	81	2.23	82	4.48	Nov-01
FTSE WGBI TR	-5.68	92	-3.07	96	1.82	95	2.09	89	2.15	93	1.54	87	1.66	91	4.39	Nov-01
Absolute Return (Gross)	4.01	39	11.33	51	14.28	83	0.44	87	2.79	82	2.45	77	-		3.03	Sep-11
Absolute Return (Net)	4.01	39	11.33	51	14.28	83	0.44	87	2.79	82	2.45	77	-		3.03	
HFRI Fund of Funds Composite Index	1.87	65	10.13	57	23.83	58	5.43	59	5.61	60	3.87	60			4.29	Sep-11
InvMetrics All DB Hedge Funds Gross Median	3.01		11.37		25.37		6.23		6.44		4.49		4.79		5.61	Sep-11
Private Equity (Gross)	17.72		30.44		26.62		17.66		16.26		16.41	-	15.14		6.00	Nov-08
Private Equity (Net)	17.72		30.44		26.62		17.66		16.26	-	16.41	-	15.14		6.00	
Thomson Reuters C A Global All PE 1 Qtr Lag	18.20		27.67		25.21		12.81		12.94		10.38		10.40		9.07	Nov-08
Real Assets (Gross)	4.80		21.06		38.26		0.24		1.71	-	-3.57				-3.24	Sep-11
Real Assets (Net)	4.77		20.96		38.06		0.18		1.68		-3.59				-3.25	
Real Asset Blend ¹	6.41		24.76		49.61		5.27		6.73		5.98				5.68	Sep-11
Private Credit (Gross)	2.11		4.76		20.68					-			-		3.80	Oct-19
Private Credit (Net)	2.11		4.76		20.68	-			-	-		-	-		3.80	
S&P/LSTA Leveraged Loan Index +1.75%	2.22		6.57		22.79										6.91	Oct-19

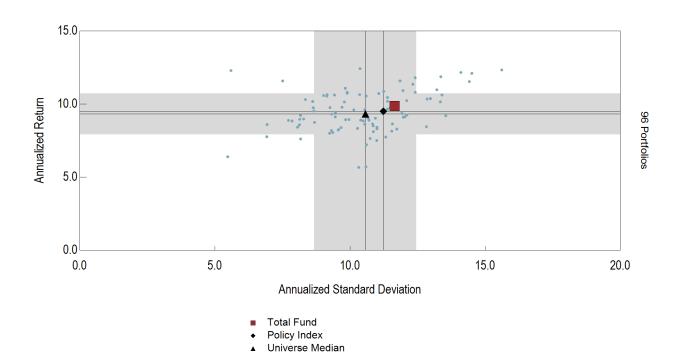
¹ See Policy Index and Benchmark History.



	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Cash (Gross)	0.14		0.17	-	0.32		1.27		1.12	-	0.82	-	0.60		3.05	Sep-85
Cash (Net)	0.14		0.17		0.32		1.27		1.12		0.82		0.60		3.05	
91 Day T-Bills	0.01		0.03		0.09		1.36		1.12		0.82		0.59		3.14	Sep-85
Real Estate (Gross)	2.24	44	4.02	45	3.46	39	5.48	45	6.75	35	9.00	26	10.37	22	6.96	Mar-86
Real Estate (Net)	2.24	44	4.02	45	3.46	39	5.48	45	6.61	40	8.60	34	9.79	39	5.95	
NCREIF-ODCE	2.09	53	3.42	60	2.30	62	4.88	60	6.20	54	8.25	45	9.67	43	7.10	Mar-86
InvMetrics All DB Real Estate Pub+Priv Gross Median	2.11		3.80		2.63		5.30		6.27		8.15		9.44		7.37	Mar-86

¹ See Policy Index and Benchmark History.

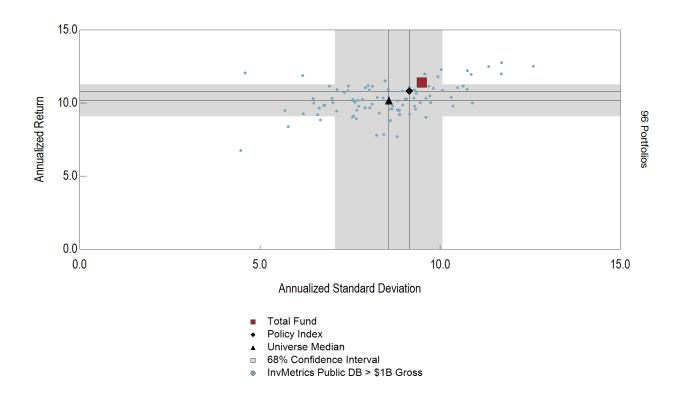




	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	9.87%	38	11.65%	77	0.73	56	0.17	36	2.19%	65
Policy Index	9.50%	47	11.23%	66	0.73	61		-	0.00%	1
Allocation Index	9.73%	42	11.69%	77	0.72	66	0.36	29	0.62%	3
InvMetrics Public DB > \$1B Gross Median	9.33%		10.57%		0.76		-0.04		1.66%	

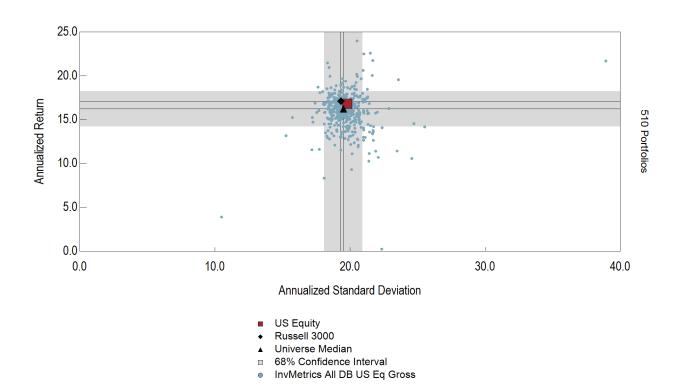
68% Confidence Interval InvMetrics Public DB > \$1B Gross





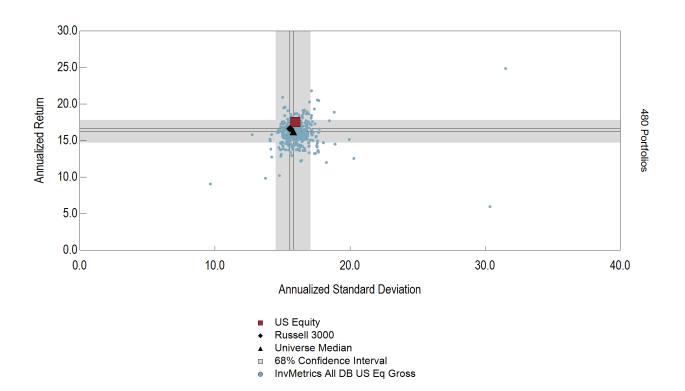
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	11.40%	13	9.49%	78	1.08	46	0.32	42	1.84%	65
Policy Index	10.82%	33	9.14%	68	1.06	49		-	0.00%	1
Allocation Index	10.88%	29	9.53%	78	1.02	57	0.12	54	0.57%	1
InvMetrics Public DB > \$1B Gross Median	10.17%		8.58%	-	1.05		0.15	-	1.52%	-





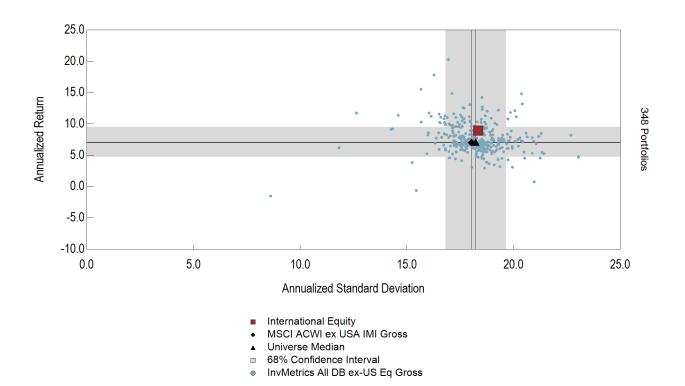
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
US Equity	16.81%	34	19.80%	64	0.78	43	-0.31	48	0.99%	13
Russell 3000	17.12%	25	19.33%	42	0.82	27			0.00%	1
InvMetrics All DB US Eq Gross Median	16.23%		19.51%		0.77		-0.37		2.28%	





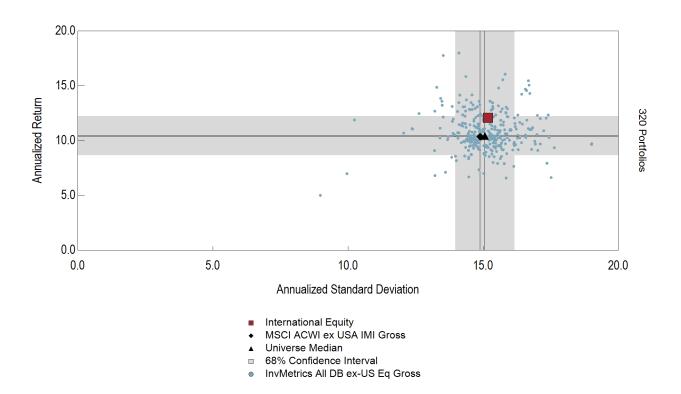
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
US Equity	17.54%	12	15.96%	58	1.03	16	0.68	7	1.34%	22
Russell 3000	16.64%	37	15.56%	35	1.00	31		-	0.00%	1
InvMetrics All DB US Eq Gross Median	16.24%		15.80%		0.96		-0.21		2.15%	





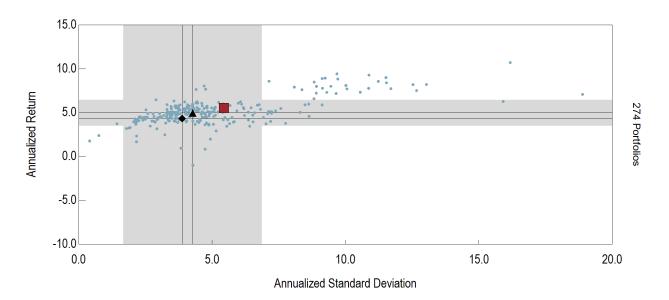
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
International Equity	8.94%	22	18.34%	54	0.41	24	1.35	5	1.43%	7
MSCI ACWI ex USA IMI Gross	7.01%	52	18.02%	44	0.31	50		-	0.00%	1
InvMetrics All DB ex-US Eq Gross Median	7.12%		18.22%		0.31		0.15		3.21%	





	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
International Equity	12.09%	22	15.18%	53	0.72	24	1.22	3	1.42%	7
MSCI ACWI ex USA IMI Gross	10.35%	53	14.89%	44	0.62	50		-	0.00%	1
InvMetrics All DB ex-US Eq Gross Median	10.44%		15.06%		0.62		0.21		3.04%	

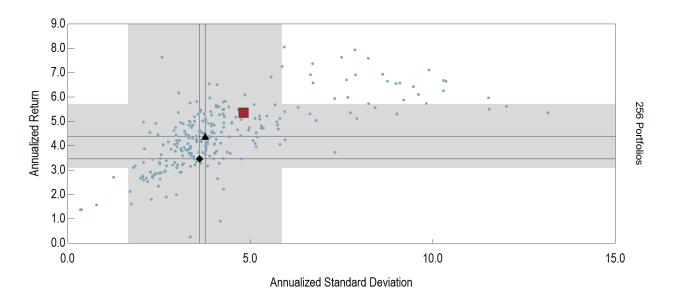




- Total Fixed Income
- Fixed Income Blend
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics All DB Total Fix Inc Gross

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fixed Income	5.54%	28	5.44%	75	0.77	60	0.44	23	2.74%	53
Fixed Income Blend	4.34%	74	3.87%	39	0.77	60		-	0.00%	1
InvMetrics All DB Total Fix Inc Gross Median	4.97%		4.27%		0.84		0.16		2.59%	





- Total Fixed Income
- Fixed Income Blend
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics All DB Total Fix Inc Gross

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fixed Income	5.35%	23	4.81%	76	0.88	37	0.83	14	2.28%	52
Fixed Income Blend	3.46%	78	3.61%	46	0.65	77		-	0.00%	1
InvMetrics All DB Total Fix Inc Gross Median	4.40%		3.77%		0.79		0.44		2.22%	



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 TO	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)	0.0	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

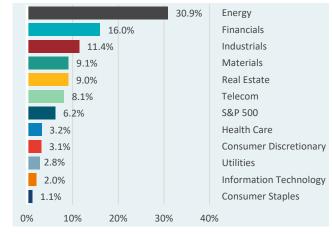


DIVIDEND YIELD VS BOND YIELD



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

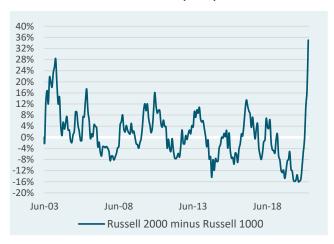
Domestic equity size & style

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)

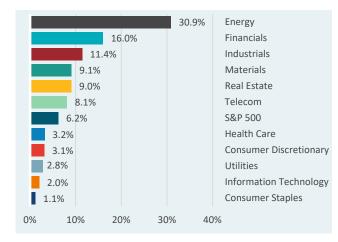


VALUE VS GROWTH (YOY)



Source: FTSE, as of 3/31/21

O1 SECTOR PERFORMANCE

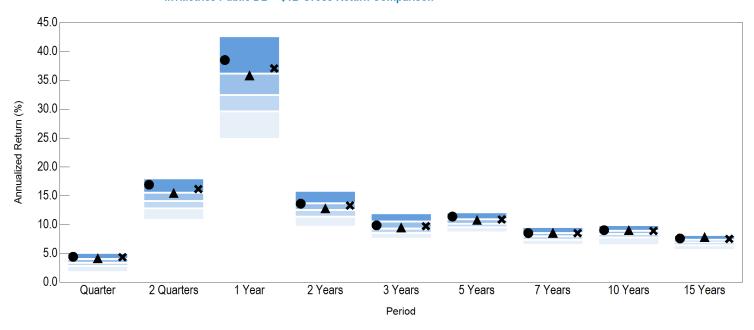


Source: Standard & Poor's, as of 3/31/21



Source: FTSE, as of 3/31/21

InvMetrics Public DB > \$1B Gross Return Comparison



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

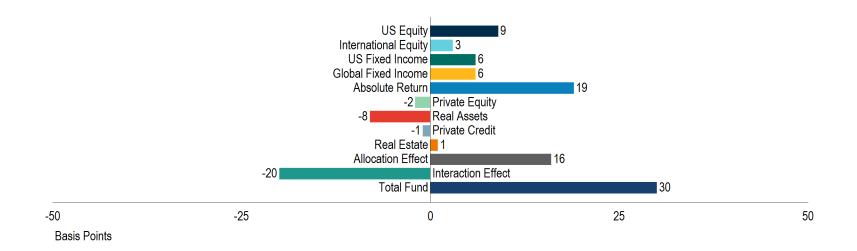
Total Fund

Policy Index

× Allocation Index

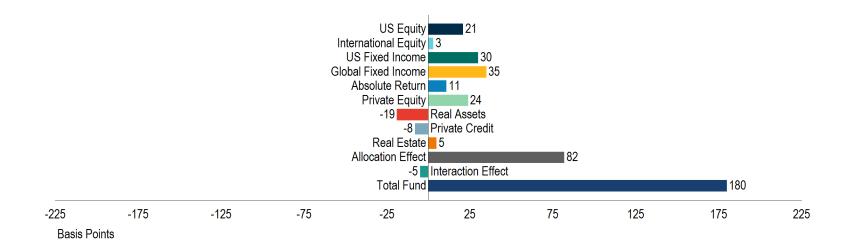
Return	(Rank)																
5.07		18.01		42.64		15.84		11.93		12.10		9.57		9.89		8.20	
4.08		15.53		36.18		13.71		10.56		10.93		8.54		8.93		7.40	
3.43		14.11		32.47		12.54		9.33		10.17		8.00		8.37		6.97	
2.86		12.83		29.65		11.41		8.56		9.57		7.42		7.79		6.46	
1.80		10.82		24.88		9.68		7.59		8.68		6.52		6.48		5.60	
96		96		96		96		96		96		95		91		84	
4.42	(14)	16.92	(13)	38.51	(18)	13.63	(28)	9.87	(38)	11.40	(13)	8.53	(27)	9.04	(17)	7.60	(16)
4.19	(21)	15.47	(26)	35.88	(28)	12.82	(45)	9.50	(47)	10.82	(33)	8.58	(23)	9.05	(16)	7.86	(10)
4.36	(16)	16.16	(18)	37.07	(23)	13.30	(36)	9.73	(42)	10.88	(29)	8.52	(28)	8.90	(27)	7.53	(19)





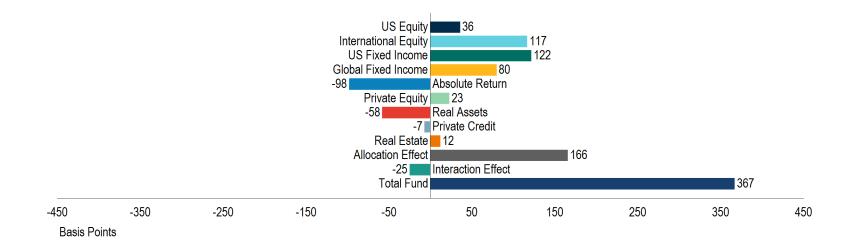
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	6.71%	6.35%	0.37%	0.09%	0.06%	0.01%	0.16%
International Equity	3.99%	3.87%	0.11%	0.03%	0.00%	0.01%	0.04%
US Fixed Income	-2.94%	-3.37%	0.43%	0.06%	0.00%	0.00%	0.06%
Global Fixed Income	-3.86%	-5.68%	1.82%	0.06%	-0.10%	0.02%	-0.03%
Absolute Return	4.01%	1.87%	2.15%	0.19%	0.04%	-0.04%	0.19%
Private Equity	17.72%	18.20%	-0.48%	-0.02%	0.08%	-0.20%	-0.14%
Real Assets	4.80%	6.41%	-1.61%	-0.08%	0.00%	0.00%	-0.08%
Private Credit	2.11%	2.22%	-0.11%	-0.01%	0.06%	0.01%	0.06%
Real Estate	2.24%	2.09%	0.15%	0.01%	0.04%	0.00%	0.05%
Total	4.44%	4.14%	0.30%	0.34%	0.16%	-0.20%	0.30%





	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
LIC Fauity	22.87%	21.96%	0.91%	0.21%			
US Equity	22.01%	21.90%	0.91%	0.2170	0.20%	0.02%	0.44%
International Equity	21.98%	21.83%	0.15%	0.03%	0.18%	0.01%	0.21%
US Fixed Income	-0.73%	-2.73%	2.00%	0.30%	0.09%	-0.01%	0.38%
Global Fixed Income	7.27%	-3.07%	10.33%	0.35%	-0.22%	0.14%	0.27%
Absolute Return	11.33%	10.13%	1.20%	0.11%	0.09%	-0.03%	0.17%
Private Equity	30.44%	27.67%	2.77%	0.24%	0.03%	-0.25%	0.03%
Real Assets	21.06%	24.76%	-3.70%	-0.19%	-0.02%	0.01%	-0.20%
Private Credit	4.76%	6.57%	-1.81%	-0.08%	0.31%	0.07%	0.30%
Real Estate	4.02%	3.42%	0.61%	0.05%	0.15%	-0.01%	0.20%
Total	17.05%	15.25%	1.80%	1.03%	0.82%	-0.05%	1.80%

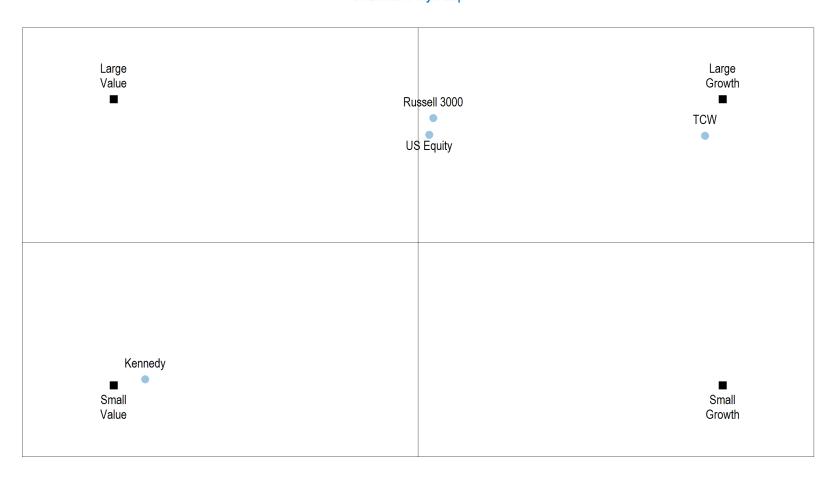




	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	64.23%	62.53%	1.70%	0.36%	0.69%	0.04%	1.09%
• •							
International Equity	57.84%	52.55%	5.29%	1.17%	0.30%	0.09%	1.55%
US Fixed Income	7.91%	0.71%	7.20%	1.22%	0.26%	-0.09%	1.39%
Global Fixed Income	23.49%	1.82%	21.67%	0.80%	-0.45%	0.32%	0.66%
Absolute Return	14.28%	23.83%	-9.55%	-0.98%	0.10%	-0.04%	-0.92%
Private Equity	26.62%	25.21%	1.40%	0.23%	0.13%	-0.65%	-0.28%
Real Assets	38.26%	49.61%	-11.35%	-0.58%	-0.03%	0.02%	-0.59%
Private Credit	20.68%	22.79%	-2.10%	-0.07%	0.46%	0.06%	0.45%
Real Estate	3.46%	2.30%	1.16%	0.12%	0.21%	-0.01%	0.32%
Total	38.96%	35.29%	3.67%	2.26%	1.66%	-0.25%	3.67%

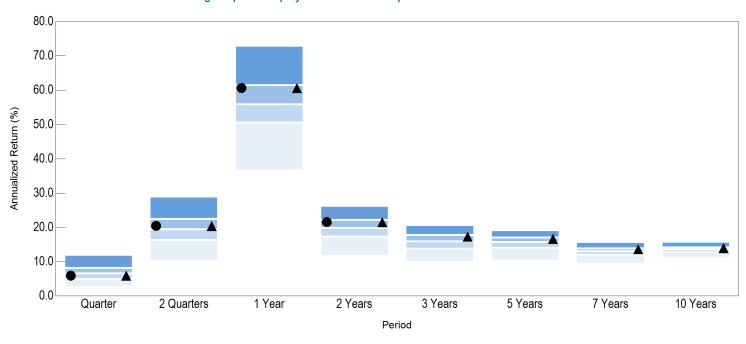


US Effective Style Map





eV US Large Cap Core Equity Gross Return Comparison



	Return (R	lank)														
5th Percentile	11.94		28.97		72.96		26.24		20.67		19.15		15.73		15.78	
25th Percentile	8.27		22.49		61.52		22.22		17.86		17.11		13.97		14.26	
Median	6.62		19.51		55.96		19.87		15.97		15.80		13.10		13.66	
75th Percentile	4.98		16.38		50.66		17.40		13.82		14.16		12.06		12.80	
95th Percentile	2.74		10.29		36.57		11.79		9.96		10.41		9.44		11.07	
# of Portfolios	321		321		321		314		309		285		267		227	
 BlackRock Russell 1000 Index Fund Russell 1000 	5.93 5.91	(60) (61)	20.43 20.41	(40) (40)	60.64 60.59	(29) (30)	21.57 21.53	(31) (32)	 17.31	() (31)	 16.66	() (33)	 13.64	() (32)	 13.97	() (34)



Characteristics

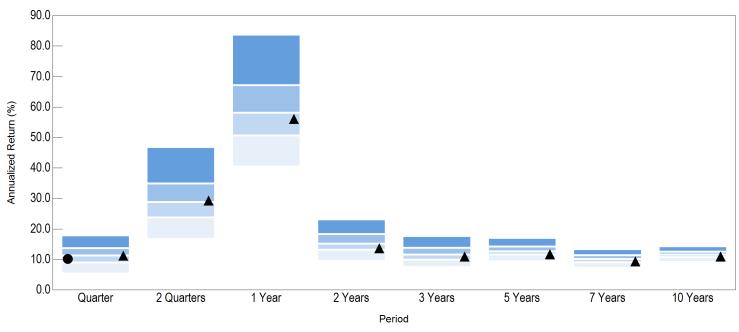
	Portfolio	Russell 1000
Number of Holdings	1,000	1,012
Weighted Avg. Market Cap. (\$B)	414.9	414.5
Median Market Cap. (\$B)	14.3	14.4
Price To Earnings	29.9	29.9
Price To Book	4.5	4.5
Price To Sales	3.2	3.2
Return on Equity (%)	19.8	19.9
Yield (%)	1.4	1.4

Top Holdings		Best Performers		Worst Performers
APPLE INC	5.2%		Return %	I
MICROSOFT CORP	4.7%	TRIPADVISOR INC (TRIP)	86.9%	SAREPTA THERAPEUTICS INC (SRPT)
AMAZON.COM INC	3.5%	WILLIAMS-SONOMA INC. (WSM)	76.7%	ACADIA PHARMACEUTICALS INC (ACAD)
FACEBOOK INC	1.9%	TERADATA CORP (TDC)	71.5%	UNITY SOFTWARE INC (U)
ALPHABET INC	1.7%	COHERENT INC (COHR)	68.6%	ADAPTIVE BIOTECHNOLOGIES CORP
		SIGNATURE BANK (SBNY)	67.7%	(ADPT)
ALPHABET INC	1.6%	L BRANDS INC (LB)	66.3%	ALTERYX INC (AYX)
TESLA INC	1.4%	MARATHON OIL CORP (MRO)	60.6%	IOVANCE BIOTHERAPEUTICS INC (IOVA)
BERKSHIRE HATHAWAY INC	1.3%	CIMAREX ENERGY CO. (XEC)	59.0%	AMERICAN WELL CORP (AMWL)
		CONTINENTAL RESOURCES INC (CLR)	58.7%	ARRAY TECHNOLOGIES INC (ARRY)
JPMORGAN CHASE & CO	1.2%	WESTERN ALLIANCE BANCORPORATION	00.1 70	BLUEBIRD BIO INC (BLUE)
JOHNSON & JOHNSON	1.2%	(WAL)	58.0%	JFROG LTD (FROG)



Return %
-56.3%
-51.7%
-34.6%
-31.9%
-31.8%
-31.4%
-30.9%
-30.3%
-29.4%

eV US Large Cap Value Equity Gross Return Comparison



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

AristotleRussell 1000 Value

Return (R	ank)															
17.84		46.86		83.69		23.17		17.70		17.03		13.35		14.29		
13.79		34.96		67.23		18.41		13.87		14.33		11.44		12.59		
11.38		28.94		58.16		15.28		11.70		12.75		10.23		11.67		
9.08		23.86		50.78		13.28		9.97		11.66		9.16		10.83		
5.53		16.85		40.58		9.63		7.62		9.44		7.38		9.31		
327		327		326		324		320		305		289		260		
10.19 11.25	(65) (53)	 29.34	() (49)	 56.09	() (57)	 13.70	() (71)	 10.96	() (60)	 11.74	() (73)	 9.40	() (70)	 10.99	() (70)	
11.20	(55)	23.34	(49)	50.09	(37)	13.70	$(I \mid I)$	10.90	(00)	11.74	(13)	3.40	(10)	10.99	(10)	



Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	44	849
Weighted Avg. Market Cap. (\$B)	156.6	146.6
Median Market Cap. (\$B)	42.4	13.0
Price To Earnings	27.0	24.1
Price To Book	3.3	2.7
Price To Sales	2.9	2.3
Return on Equity (%)	15.7	10.8
Yield (%)	1.5	2.0

Top Holdings	Rest Performers	Worst Performers
1 Op 1 Ioluli 193	Best Performers	WOISE FEITUINEIS

MICROSOFT CORP	3.8%
DANAHER CORP	3.7%
ADOBE INC	3.7%
SONY GROUP CORPORATION	3.6%
ANSYS INC	3.4%
LENNAR CORP	3.2%
MICROCHIP TECHNOLOGY INC	3.1%
CORTEVA INC	3.0%
CAPITAL ONE FINANCIAL CORP.	3.0%
PARKER-HANNIFIN CORP	3.0%

Best Performers	
	Return %
EAST WEST BANCORP INC (EWBC)	46.3%
PIONEER NATURAL RESOURCES CO (PXD)	39.9%
WALGREENS BOOTS ALLIANCE INC (WBA)	39.0%
OSHKOSH CORP (OSK)	38.3%
LENNAR CORP (LEN)	33.2%
CAPITAL ONE FINANCIAL CORP. (COF)	29.1%
JOHNSON CONTROLS INTERNATIONAL PLC (JCI)	28.7%
CULLEN/FROST BANKERS INC (CFR)	25.5%
GENERAL DYNAMICS CORP (GD)	22.9%
MITSUBISHI UFJ FINANCIAL GROUP (MUFG)	21.4%

Worst Performers	
	Return %
QUALCOMM INC. (QCOM)	-12.5%
ANSYS INC (ANSS)	-6.7%
NOVARTIS AG (NVS)	-6.0%
ADOBE INC (ADBE)	-4.9%
ELANCO ANIMAL HEALTH INC (ELAN)	-4.0%
COCA-COLA CO (THE) (KO)	-3.1%
PROCTER & GAMBLE CO (THE) (PG)	-2.1%
SUN COMMUNITIES INC. (SUI)	-0.7%
EQUITY LIFESTYLE PROPERTIES INC (ELS)	1.0%
MEDTRONIC PLC (MDT)	1.3%

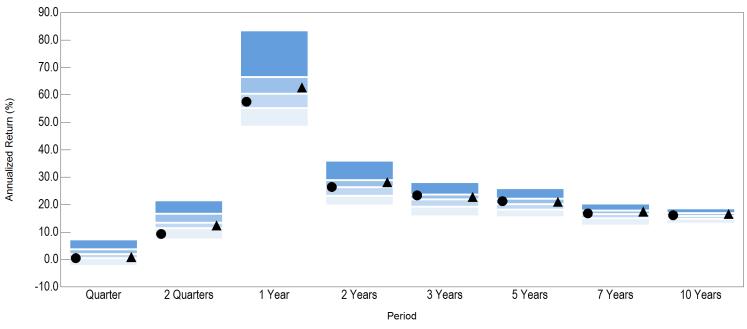


Aristotle Performance Attribution vs. Russell 1000 Value

		Attribution Effects			Re	eturns	Secto	Sector Weights		
	Total	Selection	Allocation	Interaction						
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark		
Energy	-0.26%	-0.41%	0.16%	-0.01%	20.78%	30.76%	4.61%	3.94%		
Materials	0.20%	0.15%	-0.01%	0.06%	13.64%	10.71%	7.00%	4.81%		
Industrials	0.27%	0.39%	-0.06%	-0.06%	16.77%	13.72%	12.06%	13.52%		
Consumer Discretionary	0.09%	0.08%	0.00%	0.00%	16.01%	14.88%	7.19%	7.57%		
Consumer Staples	0.33%	0.32%	0.02%	-0.01%	7.32%	3.07%	7.27%	7.62%		
Health Care	-0.32%	-0.39%	0.05%	0.01%	1.39%	4.19%	13.34%	13.51%		
Financials	0.48%	0.71%	-0.12%	-0.11%	21.30%	17.52%	17.90%	19.70%		
Information Technology	-2.45%	-1.21%	0.00%	-1.24%	-0.66%	11.12%	20.46%	9.72%		
Communication Services	0.73%	2.29%	0.33%	-1.89%	17.51%	6.11%	2.21%	9.68%		
Utilities	0.48%		0.48%			2.87%	0.00%	5.51%		
Real Estate	-0.08%	-0.23%	0.04%	0.12%	3.95%	9.09%	2.24%	4.42%		
Cash	-0.33%	0.00%	-0.33%	0.00%	0.01%		3.60%	0.00%		
Unclassified	-0.09%	0.00%	-0.09%	0.00%	6.36%		2.11%	0.00%		
Portfolio	-0.95%	= 1.71%	+ 0.47%	+ -3.13%	10.23%	11.18%	100.00%	100.00%		



eV US Large Cap Growth Equity Gross Return Comparison



	Return (R	lank)												
5th Percentile	7.26		21.55	.55	83.53		35.99	28.23		25.98		20.4	20.42	
25th Percentile	3.77		16.76		66.54		28.99		23.76		22.30		17.90	
Median	2.08		13.52		60.55		26.38		21.98		20.22		16.63	
75th Percentile	0.57		11.46		55.31		23.32		19.30		18.31		15.10	
95th Percentile	-2.24		7.46		48.45		19.83		15.84		15.42		12.44	
# of Portfolios	259		259		259		256		254		234		226	
● TCW	0.52	(77)	9.33	(91)	57.53	(67)	26.46	(50)	23.39	(31)	21.27	(40)	16.82	(46)
▲ Russell 1000 Growth	0.94	(70)	12.44	(65)	62.74	(40)	28.15	(34)	22.80	(36)	21.05	(43)	17.50	(34)



(45)

(32)

18.59 17.01 15.96 14.89 13.14 210 16.15

16.63

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	33	453
Weighted Avg. Market Cap. (\$B)	361.8	689.0
Median Market Cap. (\$B)	98.1	17.3
Price To Earnings	51.9	38.3
Price To Book	10.3	11.5
Price To Sales	8.5	5.5
Return on Equity (%)	40.0	36.9
Yield (%)	0.4	0.8
Beta	1.0	1.0

Top Holdings	Rest Performers	Worst Performers
1 Op 1 Ioluli 193	Best Performers	WOISE FEITUINEIS

AMAZON.COM INC	7.1%
ALPHABET INC	6.3%
SERVICENOW INC	6.0%
ADOBE INC	6.0%
PAYPAL HOLDINGS INC	5.6%
FACEBOOK INC	5.1%
VISA INC	4.6%
AMERICAN TOWER CORP	4.1%
NVIDIA CORPORATION	4.0%
SALESFORCE.COM INC	4.0%

Best Performers					
	Return %				
ASML HOLDING NV (ASML)	26.6%				
SCHWAB (CHARLES) CORP (SCHW)	23.3%				
ALPHABET INC (GOOG)	18.1%				
HOME DEPOT INC. (THE) (HD)	15.6%				
IHS MARKIT LTD (INFO)	8.0%				
FACEBOOK INC (FB)	7.8%				
IQVIA HOLDINGS INC (IQV)	7.8%				
ULTA BEAUTY INC (ULTA)	7.7%				
S&P GLOBAL INC (SPGI)	7.6%				
BOSTON SCIENTIFIC CORP (BSX)	7.5%				

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3.3%
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TCW Performance Attribution vs. Russell 1000 Growth

			Attribution Effect	S	R	eturns	Secto	r Weights
	Total	Selection	Allocation	Interaction				
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	-0.01%		-0.01%	-		19.56%	0.00%	0.08%
Materials	0.00%		0.00%			0.88%	0.00%	0.81%
Industrials	-0.12%	-0.10%	0.06%	-0.08%	1.22%	3.63%	8.21%	4.53%
Consumer Discretionary	0.29%	0.29%	0.10%	-0.09%	0.80%	-0.94%	11.13%	16.70%
Consumer Staples	-0.10%	-0.24%	0.02%	0.12%	-6.27%	-0.70%	2.33%	4.53%
Health Care	-0.07%	-0.06%	-0.03%	0.02%	0.69%	1.34%	11.40%	13.56%
Financials	0.46%	0.22%	0.04%	0.20%	15.35%	2.68%	3.41%	1.88%
Information Technology	-1.30%	-1.39%	0.04%	0.06%	-3.81%	-0.73%	43.36%	45.15%
Communication Services	0.35%	0.30%	0.04%	0.01%	11.15%	8.45%	10.06%	11.14%
Utilities	0.00%		0.00%			1.27%	0.00%	0.02%
Real Estate	-0.02%	-0.07%	0.26%	-0.21%	2.18%	6.99%	6.29%	1.61%
Cash	0.00%	0.00%	0.00%	0.00%	0.01%		3.81%	0.00%
Portfolio	-0.52%	= -1.06%	+ 0.52%	+ 0.02%	0.43%	0.96%	100.00%	100.00%



eV US Small Cap Value Equity Gross Return Comparison 140.0 130.0 120.0 110.0 100.0 90.0 80.0 70.0 60.0 50.0 40.0 30.0 20.0 10.0 0.0 5 Years 7 Years 2 Years 10 Years Quarter 2 Quarters 1 Year 3 Years Period

Annualized Return (%)

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

Kennedy ▲ Russell 2000 Value

Return (F	Rank)														
27.50		75.46		139.10		27.84		18.90		19.12		13.04		13.99	
22.31		62.41		108.65		20.43		13.65		15.34		10.83		12.19	
19.34		55.02		92.87		18.06		11.19		13.21		9.38		11.08	
15.60		48.27		82.29		15.32		9.55		11.48		8.38		10.25	
11.81		37.91		64.65		10.73		7.09		9.50		6.17		8.73	
215		215		214		212		206		201		191		177	
20.30 21.17	(43) (33)	57.97 61.59	(42) (30)	97.24 97.05	(43) (43)	18.95 17.74	(40) (56)	10.52 11.57	(63) (46)	13.42 13.56	(46) (45)	9.51 8.93	(47) (63)	11.09 10.06	(50) (81)



Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	272	1,474
Weighted Avg. Market Cap. (\$B)	3.1	3.2
Median Market Cap. (\$B)	1.9	0.9
Price To Earnings	21.5	19.3
Price To Book	2.1	2.0
Price To Sales	1.4	1.3
Return on Equity (%)	-0.2	-6.0
Yield (%)	1.2	1.5
Beta	1.0	1.0

Top Holdings	
CLEVELAND-CLIFFS INC	1.0%
CADENCE BANCORPORATION	1.0%
BUILDERS FIRSTSOURCE INC	0.9%
AMERIS BANCORP	0.9%
INTERNATIONAL BANCSHARES CORP	0.9%
PDC ENERGY INC	0.9%
BANCORP INC (THE)	0.9%
THE SHYFT GROUP INC	0.8%
PACWEST BANCORP	0.8%
TRONOX HOLDINGS PLC	0.8%

Best Performers	
	Return %
CALLON PETROLEUM CO/DE (CPE)	192.9%
BABCOCK & WILCOX ENTERPRISES INC (BW)	169.8%
DESIGNER BRANDS INC (DBI)	127.5%
FARMER BROTHERS CO (FARM)	123.6%
VERITIV CORP (VRTV)	104.6%
PBF ENERGY INC (PBF)	99.3%
YELLOW CORP (YELL)	98.4%
ROCKY BRANDS INC (RCKY)	93.2%
SIENTRA INC (SIEN)	87.4%
HIMAX TECHNOLOGIES INC (HIMX)	84.7%

Worst Performers	
	Return %
FREQUENCY THERAPEUTICS INC (FREQ)	-73.1%
CONCERT PHARMACEUTICALS INC (CNCE)	-60.5%
ASPEN GROUP INC (ASPU)	-46.1%
BLUEBIRD BIO INC (BLUE)	-30.3%
QUIDEL CORP (QDEL)	-28.8%
LENDINGTREE INC (TREE)	-22.2%
CYBERARK SOFTWARE LTD (CYBR)	-20.0%
MERCURY SYSTEMS INC (MRCY)	-19.8%
REATA PHARMACEUTICALS INC (RETA)	-19.3%
CONSTELLATION PHARMACEUTICALS INC (CNST)	-18.8%

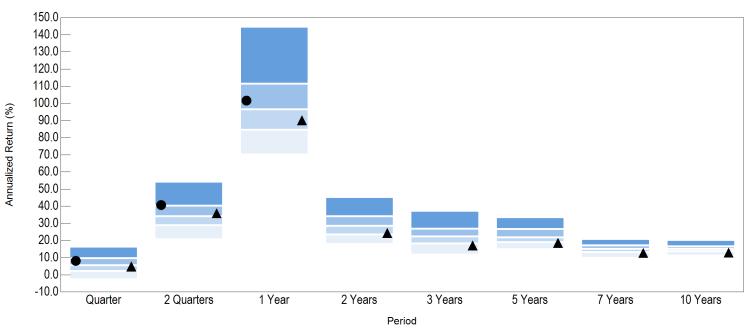


Kennedy Performance Attribution vs. Russell 2000 Value

			Attribution Effect	s	R	eturns	Secto	r Weights
	Total	Selection	Allocation	Interaction				
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	-0.45%	-0.13%	-0.37%	0.05%	38.92%	41.95%	2.42%	4.24%
Materials	0.00%	-0.01%	0.01%	0.00%	23.34%	23.56%	6.44%	6.00%
Industrials	0.00%	0.03%	-0.02%	0.00%	19.60%	19.46%	18.13%	16.87%
Consumer Discretionary	-1.27%	-1.21%	-0.16%	0.10%	26.74%	36.26%	11.69%	12.75%
Consumer Staples	-0.18%	-0.19%	0.00%	0.01%	13.34%	18.72%	3.45%	3.60%
Health Care	-0.36%	-0.59%	0.08%	0.15%	7.16%	16.36%	4.74%	6.37%
Financials	1.05%	1.18%	0.02%	-0.16%	24.90%	20.65%	24.15%	27.81%
Information Technology	0.52%	0.51%	-0.37%	0.38%	21.65%	13.81%	11.36%	6.46%
Communication Services	0.17%	0.24%	0.01%	-0.08%	30.13%	20.32%	1.66%	2.45%
Utilities	0.10%	0.05%	0.06%	0.00%	6.73%	5.71%	4.00%	4.40%
Real Estate	-0.41%	-0.35%	-0.04%	-0.02%	8.43%	12.34%	9.46%	9.05%
Cash	-0.53%	0.00%	-0.53%	0.00%	0.01%		2.49%	0.00%
Portfolio	-1.35%	= -0.49%	+ -1.30%	+ 0.44%	19.97%	21.32%	100.00%	100.00%



eV US Small Cap Growth Equity Gross Return Comparison



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

William Blair Small Cap Growth

Russell 2000 Growth

Return (R	ank)														
16.36		54.36		144.63		45.36		37.23		33.51		20.78		20.25	
9.92		40.38		111.56		34.37		26.93		26.86		17.29		16.76	
5.67		34.37		96.63		28.77		22.58		22.07		15.32		15.19	
2.33		29.05		84.67		23.69		18.52		19.15		13.32		13.94	
-2.49		20.77		70.32		18.15		11.81		15.12		10.01		11.41	
157		157		157		155		155		149		141		135	
8.15	(33)	40.72	(24)	101.62	(40)		()		()		()		()		()
4.88	(55)	35.92	(42)	90.20	(62)	24.44	(69)	17.16	(84)	18.61	(78)	12.77	(82)	13.02	(86)



Top Holdings

Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	2,648	1,114
Weighted Avg. Market Cap. (\$B)	248.5	4.2
Median Market Cap. (\$B)	10.8	1.2
Price To Earnings	27.8	33.5
Price To Book	3.6	5.3
Price To Sales	2.3	3.1
Return on Equity (%)	13.3	-8.2
Yield (%)	1.5	0.4

BRINK'S CO (THE)	2.4%		Return %
DUCOMMUN INC	2.3%	VERICEL CORP (VCEL)	79.9%
BWX TECHNOLOGIES INC	2.2%	GENMARK DIAGNOSTICS INC (GNMK)	63.7%
GRID DYNAMICS HOLDINGS INC	1.9%	MONTROSE ENVIRONMENTAL GROUP INC (MEG)	62.1%
BOOT BARN HOLDINGS INC	1.7%	DINE BRANDS GLOBAL INC (DIN)	55.2%
CASELLA WASTE SYSTEMS INC	1.7%	PENUMBRA INC (PEN)	54.6%

BWX TECHNOLOGIES INC	2.2%	GENM
GRID DYNAMICS HOLDINGS INC	1.9%	MONT (MEG)
BOOT BARN HOLDINGS INC	1.7%	DINE I
CASELLA WASTE SYSTEMS INC	1.7%	PENU
GRAND CANYON EDUCATION INC	1.7%	LIGAN
BROOKS AUTOMATION INC	1.6%	SKYLI
CAMECO CORP	1.6%	REVO
MONTROSE ENVIRONMENTAL GROUP INC	1.6%	BOOT

best Performers		
	Return %	
VERICEL CORP (VCEL)	79.9%	
GENMARK DIAGNOSTICS INC (GNMK)	63.7%	
MONTROSE ENVIRONMENTAL GROUP INC (MEG)	62.1%	
DINE BRANDS GLOBAL INC (DIN)	55.2%	
PENUMBRA INC (PEN)	54.6%	
LIGAND PHARMACEUTICALS INC (LGND)	53.3%	
SKYLINE CHAMPION CORP (SKY)	46.3%	
REVOLVE GROUP INC (RVLV)	44.1%	
BOOT BARN HOLDINGS INC (BOOT)	43.7%	
HOME BANCSHARES INC (HOMB)	39.7%	

Rest Performers

Worst Performers	
	Return 9
AMICUS THERAPEUTICS INC (FOLD)	-57.29
VERTEX INC (VERX)	-36.99
LIVERAMP HOLDINGS INC (RAMP)	-29.19
RUSH STREET INTERACTIVE INC	-24.59
MERCURY SYSTEMS INC (MRCY)	-19.89
PROG HOLDINGS INC (PRG)	-19.69
CERTARA INC (CERT)	-19.09
PDF SOLUTIONS INC (PDFS)	-17.79
ALARM.COM HOLDINGS INC (ALRM)	-16.59
PROS HOLDINGS INC (PRO)	-16.39



Willliam Blair Small Cap Growth Performance Attribution vs. Russell 2000 Growth

			Attribution Effects			eturns	Sector Weights		
	Total	Selection	Allocation	Interaction					
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	0.21%	-0.02%	0.37%	-0.14%	23.96%	40.17%	1.28%	0.16%	
Materials	-0.06%	0.07%	-0.10%	-0.04%	15.05%	13.40%	1.25%	2.45%	
Industrials	-0.25%	-0.41%	0.43%	-0.27%	7.29%	11.44%	20.32%	13.82%	
Consumer Discretionary	0.30%	1.15%	-0.53%	-0.31%	27.22%	18.43%	8.97%	13.32%	
Consumer Staples	0.10%	0.31%	-0.06%	-0.15%	22.63%	11.93%	2.43%	2.94%	
Health Care	3.28%	3.52%	0.69%	-0.94%	7.83%	-1.97%	25.87%	34.39%	
Financials	0.32%	0.30%	-0.10%	0.13%	10.25%	2.76%	6.59%	4.11%	
Information Technology	-0.70%	-0.58%	-0.06%	-0.05%	0.08%	2.71%	23.51%	21.38%	
Communication Services	-0.08%	-0.14%	0.01%	0.04%	-5.32%	2.27%	1.76%	2.29%	
Utilities	0.10%		0.10%			-0.61%	0.00%	1.59%	
Real Estate	0.11%	0.18%	0.01%	-0.09%	9.30%	4.67%	1.83%	3.55%	
Cash	-0.18%	0.00%	-0.18%	0.00%	0.01%		2.54%	0.00%	
Unclassified	-0.05%	0.00%	-0.05%	0.00%	3.26%		3.66%	0.00%	
Portfolio	3.10%	= 4.38%	+ 0.53%	+ -1.81%	8.08%	4.99%	100.00%	100.00%	



International developed equity

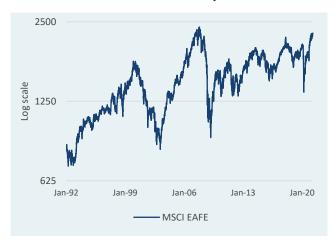
International equities delivered +3.5% (MSCI EAFE Index) during the first quarter on an unhedged currency basis. International developed underperformed the S&P 500 Index (+6.2%) while outperforming the MSCI Emerging Markets Index (+2.3%). The trend towards U.S. dollar weakness has boosted the performance 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%).

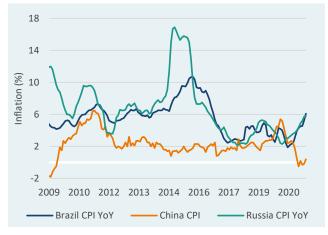
Chinese mainland equities, which account for roughly 36% of the MSCI EM Index, slumped -0.4%, dampening overall index returns. Many analysts attributed the relative weakness in China to tightening liquidity conditions, as the People's Bank of China shifted focus away from promoting economic recovery 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

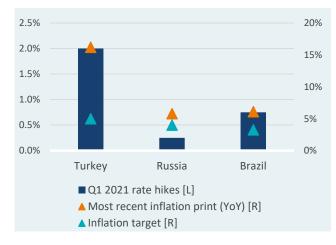


INFLATION (YOY)



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

SURPRISE CENTRAL BANK RATE HIKES

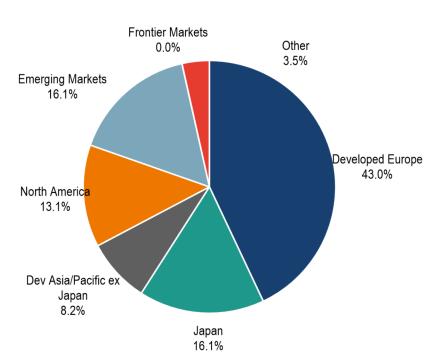


Source: Bloomberg, as of 3/31/21

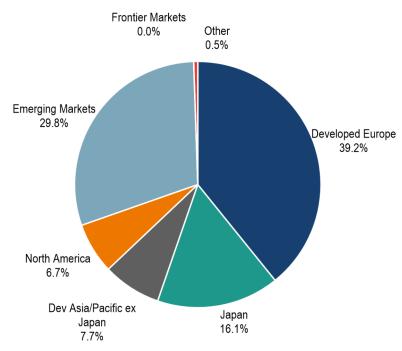


Source: MSCI, as of 3/31/21

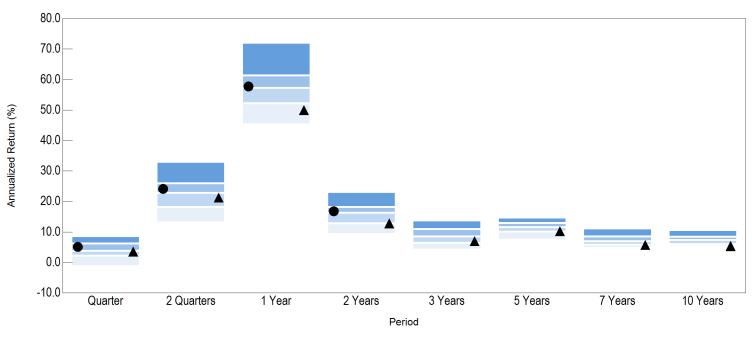
International Equity



MSCI ACWI ex US IMI



eV ACWI ex-US All Cap Core Eq Gross Return Comparison



_	th Percentile 5th Percentile
N	ledian
7	5th Percentile
9	5th Percentile
#	of Portfolios
•	Bivium Intl Equity MSCI ACWI ex USA Gross

Return (R	lank)														
8.57		32.94		72.04		23.13		13.79		14.75		11.17		10.58	
6.31		26.10		61.49		18.33		11.02		13.05		8.59		8.47	
3.94		22.92		57.31		16.40		8.57		11.63		7.06		7.51	
2.29		18.28		52.27		12.96		6.54		10.24		5.92		6.11	
-1.10		13.27		45.33		9.42		4.28		7.52		4.87		5.34	
54		54		54		53		52		50		46		35	
5.12	(41)	24.16	(40)	57.75	(49)	16.81	(46)		()		()		()		()
3.60	(61)	21.29	(60)	50.03	(87)	12.83	(78)	7.02	(71)	10.28	(75)	5.75	(79)	5.41	(94)



Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	333	2,345
Weighted Avg. Market Cap. (\$B)	70.6	102.8
Median Market Cap. (\$B)	13.2	9.7
Price To Earnings	24.5	21.6
Price To Book	3.0	2.7
Price To Sales	1.4	1.5
Return on Equity (%)	9.7	10.4
Yield (%)	1.5	2.3

Top Holdi	nas	Best Performers	Worst Performers
	1190	Deat Ferrorites	110100100101111010

ISHARES CORE MSCI EMERGING MARKETS ETF	6.6%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.9%
ASML HOLDING NV	1.5%
LVMH MOET HENNESSY LOUIS VUITTON SE	1.4%
AIRBUS SE	1.3%
POSCO	1.2%
DIAGEO PLC	1.1%
SAMSUNG ELECTRONICS CO LTD	1.1%
L'OREAL S.A., PARIS	1.0%
H D F C BANK LTD	0.9%

Best Performers	
	Return %
ALCHIP TECHNOLOGIES INC	42.9%
NATIXIS	40.4%
NORSK HYDRO ASA	37.9%
CHINA LESSO GROUP HOLDINGS LTD	37.3%
KERRY LOGISTICS NETWORK LTD	36.7%
GOODBABY INTERNATIONAL HOLDINGS LTD	35.8%
JARDINE STRATEGIC HOLDINGS LTD (BERMUDAS)	32.7%
JGC HOLDINGS CORP	32.4%
ARC RESOURCES LTD (ARX.)	31.3%
KOSMOS ENERGY LTD (KOS)	30.6%

Worst Performers	
	Return %
BIOGAIA AB	-28.1%
M3 INC	-27.4%
STONECO LTD (STNE)	-27.0%
YDUQS PARTICIPACOES SA	-25.5%
WESTGOLD RESOURCES LTD	-25.5%
NEW ORIENTAL EDUCATION & TECHNOLOGY GROUP INC (EDU)	-24.7%
PINDUODUO (PDD)	-24.6%
PETROLEO BRASILEIRO S.A PETROBRAS (PBR)	-24.5%
GUANGZHOU AUTOMOBILE GROUP CO LTD	-24.5%
DIASORIN SPA	-22.8%



			Attribution Effects		R	eturns	Sector Weights		
	Total	Selection	Allocation	Interaction					
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	0.07%	0.34%	-0.12%	-0.15%	19.58%	9.87%	2.10%	4.31%	
Materials	0.32%	0.41%	0.00%	-0.09%	9.40%	5.36%	8.77%	8.09%	
Industrials	0.45%	0.36%	0.11%	-0.02%	8.13%	5.14%	14.14%	11.55%	
Consumer Discretionary	0.21%	-0.01%	0.03%	0.18%	2.43%	2.07%	8.20%	13.81%	
Consumer Staples	-0.11%	-0.08%	-0.03%	0.00%	-2.94%	-2.28%	9.23%	8.93%	
Health Care	-0.51%	-0.23%	-0.14%	-0.14%	-6.25%	-3.62%	11.28%	9.57%	
Financials	-0.23%	-0.23%	-0.17%	0.17%	7.37%	8.58%	13.32%	18.10%	
Information Technology	-0.02%	-0.19%	0.03%	0.13%	3.33%	3.45%	14.33%	12.71%	
Communication Services	0.55%	0.80%	0.04%	-0.29%	18.75%	5.35%	3.97%	6.99%	
Utilities	0.18%	0.18%	0.08%	-0.09%	1.51%	-1.23%	1.50%	3.34%	
Real Estate	0.07%	0.08%	0.00%	0.00%	6.55%	3.72%	2.29%	2.60%	
Cash	-0.17%	0.00%	-0.17%	0.00%	0.01%		2.56%	0.00%	
Unclassified	-0.09%	0.00%	0.00%	-0.10%	5.78%	-	8.30%	0.00%	
Portfolio	0.71%	= 1.44%	+ -0.33%	+ -0.40%	4.32%	3.62%	100.00%	100.00%	



		Returns and	Weights		Attribution Effects				
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects
Europe									
Austria	12.10%	9.16%	0.71%	0.11%	0.00%	0.04%	-0.03%	0.02%	0.04%
Belgium	-6.19%	-2.61%	0.53%	0.62%	-0.02%	0.00%	0.00%	0.00%	-0.01%
Czech Republic*		5.46%	0.00%	0.03%	-	0.00%	0.00%		0.00%
Denmark	5.51%	-2.88%	2.86%	1.58%	0.14%	-0.07%	-0.06%	0.11%	0.12%
Finland	0.86%	-0.94%	0.50%	0.66%	0.01%	0.01%	0.01%	0.00%	0.02%
France	3.51%	4.43%	11.64%	6.89%	-0.07%	0.10%	-0.19%	-0.05%	-0.21%
Germany	-6.35%	4.03%	2.62%	5.87%	-0.62%	-0.05%	0.14%	0.35%	-0.19%
Greece*		1.39%	0.00%	0.03%	-	0.00%	0.00%		0.00%
Hungary*		0.37%	0.00%	0.07%	-	0.00%	0.00%		0.00%
Ireland	9.85%	5.39%	2.20%	0.44%	0.00%	0.06%	0.02%	0.00%	0.08%
Italy	0.70%	4.95%	1.65%	1.41%	-0.06%	0.01%	-0.01%	-0.01%	-0.07%
Luxembourg	21.65%	3.62%	0.38%	0.00%	0.00%	0.00%	-0.02%	0.07%	0.06%
Netherlands	10.91%	10.99%	3.94%	2.42%	-0.01%	0.14%	-0.07%	0.00%	0.06%
Norway	-2.68%	11.44%	1.05%	0.37%	-0.05%	0.03%	0.00%	-0.10%	-0.12%
Poland*	-14.87%	-7.21%	0.98%	0.21%	-0.02%	-0.07%	-0.04%	-0.06%	-0.18%
Portugal		-4.38%	0.00%	0.11%	-	0.01%	0.00%		0.01%
Russia*	28.28%	6.23%	0.45%	0.82%	0.16%	-0.01%	0.02%	-0.07%	0.10%
Spain	1.56%	0.88%	1.70%	1.53%	0.01%	0.00%	-0.01%	0.00%	0.00%
Sweden	8.41%	11.42%	1.28%	2.10%	-0.07%	-0.10%	0.06%	0.03%	-0.08%
Switzerland	-2.89%	-1.67%	6.99%	6.06%	-0.10%	-0.02%	-0.03%	-0.02%	-0.16%
United Kingdom	7.33%	6.14%	9.12%	8.82%	0.12%	0.00%	-0.01%	0.00%	0.11%



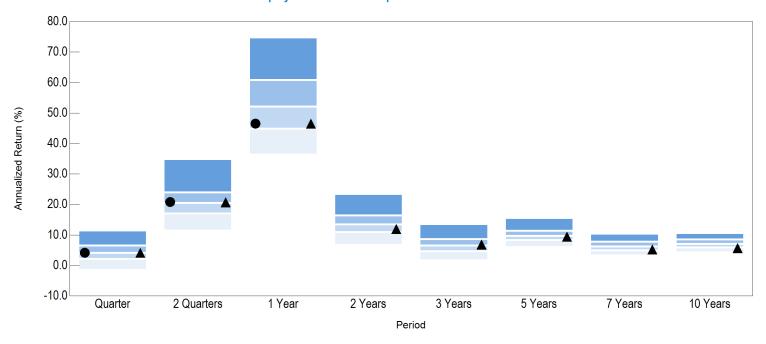
		Returns and	Weights			Attribution Effects				
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total	
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects	
AsiaPacific										
Australia	-4.36%	3.43%	2.38%	4.43%	-0.35%	0.04%	0.03%	0.16%	-0.12%	
China*	-1.76%	0.24%	4.81%	12.16%	-0.26%	0.46%	0.02%	0.16%	0.38%	
Hong Kong	12.74%	7.26%	2.76%	2.04%	0.11%	0.01%	0.00%	0.04%	0.16%	
India*	5.47%	5.18%	1.02%	2.89%	0.00%	0.02%	0.01%	0.00%	0.03%	
Indonesia*	0.91%	-8.28%	0.57%	0.42%	0.04%	-0.02%	-0.01%	0.01%	0.03%	
Japan	2.48%	1.57%	13.68%	15.90%	0.16%	-0.05%	0.15%	-0.02%	0.24%	
Korea*	8.26%	1.61%	3.58%	4.21%	0.15%	0.01%	0.14%	-0.02%	0.27%	
Malaysia*		-5.75%	0.00%	0.47%		0.05%	0.01%		0.06%	
New Zealand	-4.98%	-10.48%	1.03%	0.19%	0.01%	-0.12%	-0.02%	0.05%	-0.09%	
Pakistan*		0.58%	0.00%	0.01%		0.00%	0.00%		0.00%	
Philippines*	-0.91%	-10.45%	0.14%	0.23%	0.02%	0.01%	0.00%	-0.01%	0.03%	
Singapore	13.04%	8.75%	1.38%	0.66%	0.03%	0.03%	-0.01%	0.03%	0.07%	
Taiwan*	11.53%	11.07%	2.64%	3.99%	-0.04%	-0.08%	0.06%	0.01%	-0.05%	
Thailand*	0.92%	4.57%	0.09%	0.57%	-0.03%	-0.01%	0.02%	0.03%	0.01%	
Americas										
Argentina*		-5.96%	0.00%	0.04%		0.00%	0.00%		0.00%	
Brazil*	-18.94%	-9.71%	0.26%	1.60%	-0.21%	0.11%	0.12%	0.18%	0.19%	
Canada	8.84%	9.82%	6.48%	6.33%	-0.06%	0.00%	0.00%	0.00%	-0.06%	
Chile*		19.60%	0.00%	0.16%		-0.02%	0.00%		-0.02%	
Colombia*		-17.25%	0.00%	0.06%		0.01%	0.00%		0.01%	
Mexico*	-1.47%	4.05%	0.21%	0.54%	-0.03%	0.00%	0.01%	0.02%	0.00%	
Peru*		-10.58%	0.00%	0.08%		0.01%	0.00%		0.01%	
United States	4.31%	5.37%	7.00%	0.00%	0.00%	-0.09%	0.00%	-0.07%	-0.17%	



		Returns and	Weights			Attribution Effects					
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total		
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects		
Other											
Egypt*		-2.83%	0.00%	0.03%	-	0.00%	0.00%		0.00%		
Israel	17.71%	0.19%	0.39%	0.38%	0.08%	0.00%	-0.01%	0.00%	0.07%		
Kuwait*		6.82%	0.00%	0.15%		0.00%	0.00%		0.00%		
Qatar*		3.44%	0.00%	0.22%		0.01%	0.00%		0.01%		
Saudi Arabia*		19.01%	0.00%	0.76%		-0.09%	0.00%		-0.09%		
South Africa*	-4.36%	12.07%	0.21%	1.05%	-0.18%	-0.05%	0.01%	0.14%	-0.08%		
Turkey*		-19.91%	0.00%	0.12%	-	0.02%	0.01%		0.03%		
United Arab Emirates*	-9.09%	15.56%	0.12%	0.16%	-0.04%	0.00%	0.00%	0.01%	-0.03%		
Totals											
Americas	5.89%	5.67%	13.95%	8.80%	-0.09%	-0.02%	0.13%	-0.05%	-0.02%		
Europe	3.61%	4.02%	48.60%	40.16%	-0.26%	0.07%	-0.19%	-0.05%	-0.42%		
Asia/Pacific	3.79%	2.53%	34.07%	48.16%	0.70%	0.13%	0.39%	-0.20%	1.02%		
Other	6.80%	10.15%	0.72%	2.87%	-0.05%	-0.09%	0.01%	0.04%	-0.10%		
Cash	0.01%		2.65%	0.00%	0.00%	-0.18%	0.00%	0.00%	-0.18%		
Unclassified			0.00%	0.00%		0.00%	0.00%		0.00%		
Total	3.92%	3.62%	100.00%	100.00%	0.31%	-0.08%	0.35%	-0.27%	0.30%		
Totals											
Developed	4.17%	4.04%	82.26%	68.93%	-0.29%	0.14%	-0.04%	-0.06%	-0.24%		
Emerging*	3.22%	2.69%	15.08%	31.07%	-0.10%	0.38%	0.39%	0.05%	0.72%		
Cash	0.01%		2.65%	0.00%	0.00%	-0.18%	0.00%	0.00%	-0.18%		



eV All EAFE Equity Gross Return Comparison



	Return (R	ank)														
5th Percentile	11.48		34.87		74.73		23.44		13.55		15.55		10.37		10.66	
25th Percentile	6.59		24.05		60.87		16.52		8.71		11.47		7.90		8.63	
Median	4.16		20.57		52.15		13.53		6.66		9.73		6.32		7.12	
75th Percentile	2.18		17.08		45.00		11.00		4.79		8.45		5.09		6.02	
95th Percentile	-1.35		11.54		36.49		6.79		1.84		6.05		3.36		4.38	
# of Portfolios	391		391		391		378		372		340		294		248	
 BlackRock MSCI World ex-US Index Fd A MSCI World ex US Gross 	4.19 4.17	(50) (50)	20.84 20.74	(48) (49)	46.54 46.51	(68) (69)	 11.97	() (61)	6.88	() (46)	9.48	() (56)	 5.28	() (70)	5.73	() (84)



Characteristics

	Portfolio	MSCI World ex USA
Number of Holdings	969	964
Weighted Avg. Market Cap. (\$B)	70.9	71.2
Median Market Cap. (\$B)	12.7	12.9
Price To Earnings	23.0	22.8
Price To Book	2.6	2.5
Price To Sales	1.5	1.4
Return on Equity (%)	9.9	9.8
Yield (%)	2.2	2.4

Top Holdings	Best Performers	Worst Performers
1 op 1 oldings	Dest Performers	Worst renormers

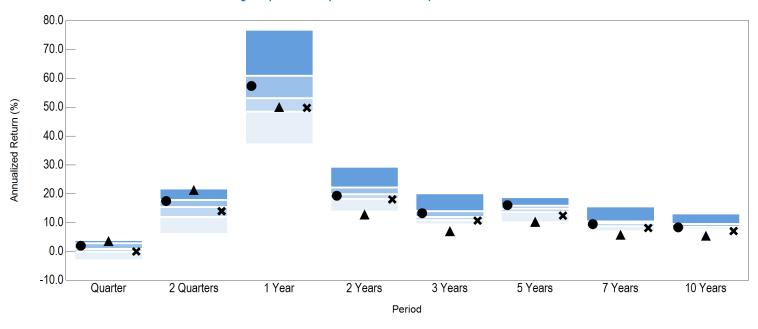
NESTLE SA, CHAM UND VEVEY	1.7%
ASML HOLDING NV	1.4%
ROCHE HOLDING AG	1.2%
LVMH MOET HENNESSY LOUIS VUITTON SE	1.0%
NOVARTIS AG	1.0%
TOYOTA MOTOR CORP	0.9%
AIA GROUP LTD	0.8%
UNILEVER PLC	0.8%
SOFTBANK GROUP CORP	0.7%
SONY GROUP CORPORATION	0.7%

Best Performers							
	Return %						
RICOH CO LTD	55.9%						
INTER PIPELINE LTD (IPL.)	54.5%						
BAUSCH HEALTH COS INC (BHC.)	52.9%						
NIPPON YUSEN KK	50.8%						
VOLKSWAGEN AG	50.2%						
SHAW COMMUNICATIONS INC. (SJR.B)	50.1%						
EVOLUTION AB (PUBL)	45.1%						
NATIXIS	40.4%						
TENARIS SA, LUXEMBOURG	39.2%						
NORSK HYDRO ASA	37.9%						

Return %
-34.3%
-30.6%
-28.8%
-28.5%
-28.3%
-27.4%
-25.9%
-25.6%
-25.1%
-24.4%



eV ACWI ex-US Large Cap Growth Eq Gross Return Comparison



	Return (R	lank)														
5th Percentile	3.93		21.81		76.79		29.31		20.13		18.73		15.62		13.12	
25th Percentile	2.91		17.92		60.95		22.25		13.97		15.92		10.42		9.58	
Median	0.90		15.43		53.13		19.90		11.98		14.91		9.92		8.60	
75th Percentile	-0.13		12.07		48.56		18.26		10.90		13.66		8.83		7.74	
95th Percentile	-2.95		6.16		37.25		13.93		9.46		10.15		6.98		7.51	
# of Portfolios	37		37		37		35		35		32		26		17	
Capital Group	1.99	(39)	17.48	(34)	57.36	(38)	19.31	(62)	13.26	(31)	16.06	(24)	9.48	(60)	8.36	(62)
▲ MSCI ACWI ex USA Gross	3.60	(8)	21.29	(6)	50.03	(73)	12.83	(97)	7.02	(99)	10.28	(94)	5.75	(99)	5.41	(99)
★ MSCI ACWI ex USA Growth Gross	0.00	(74)	13.96	(66)	49.76	(74)	18.05	(77)	10.70	(83)	12.42	(85)	8.13	(82)	7.06	(99)



Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	210	2,345
Weighted Avg. Market Cap. (\$B)	95.2	102.8
Median Market Cap. (\$B)	33.0	9.7
Price To Earnings	29.9	21.6
Price To Book	4.0	2.7
Price To Sales	3.0	1.5
Return on Equity (%)	9.2	10.4
Yield (%)	1.5	2.3
Beta	1.0	1.0

ASML HOLDING NV	3.1%
EVOLUTION AB (PUBL)	2.8%
OCADO GROUP PLC	2.8%
AIA GROUP LTD	2.6%
BEIGENE LTD	2.5%
ENEL ENTE NAZIONALE PER L'ENERGIA ELETTRICA SPA, ROMA	2.0%
YANDEX NV	1.9%
PING AN INSURANCE GROUP	1.9%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.8%
TAIWAN SEMICONDUCTOR MANUFACTURING	1.7%

Top Holdings

Best Performers							
	Return %						
TCS GROUP HOLDING PLC	77.0%						
TCS GROUP HOLDING PLC	76.4%						
COUNTRY GARDEN SERVICES HOLDINGS COMPANY LIMITED	49.8%						
TFI INTERNATIONAL INC (TFII.)	46.1%						
MERIDA INDUSTRY (TW:MER)	45.8%						
EVOLUTION AB (PUBL)	45.1%						
ZOOPLUS AG	37.6%						
BEIGENE LTD (BGNE)	34.7%						
ROSNEFT OIL COMPANY	34.1%						
ING GROEP NV	32.8%						

Worst Performers	
TOTAL CHAINING	Return %
CD PROJECT RED (PO:CDR)	-34.4%
SURYA CITRA MEDIA (ID:SCM)	-29.0%
ONECONNECT FINANCIAL TECHNOLOGY CO LTD (OCFT)	-25.0%
SHANGHAI INTERNATIONAL AIRPORT CO LTD	-23.8%
LONDON STOCK EXCHANGE GROUP PLC	-22.3%
GALAPAGOS (B:GLPG)	-21.2%
JBI SOFT ENTERTAINMENT SA	-21.0%
LOJAS AMERICANAS SA	-20.8%
DYE DURHAM LTD COMMON (DND.)	-20.4%
TEAMVIEWER AG	-20.3%



COLTD

		•	Attribution Effect	s	R	eturns	Secto	r Weights
	Total	Selection	Allocation	Interaction				
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	-0.10%	-0.02%	-0.13%	0.05%	9.05%	9.81%	1.50%	4.32%
Materials	0.01%	0.03%	-0.05%	0.03%	4.22%	5.34%	4.13%	8.07%
Industrials	-0.13%	-0.25%	-0.07%	0.19%	3.32%	5.14%	9.13%	11.58%
Consumer Discretionary	0.69%	0.63%	-0.05%	0.11%	7.01%	2.08%	17.30%	13.69%
Consumer Staples	0.38%	0.10%	0.20%	0.07%	-1.04%	-2.33%	5.56%	8.94%
Health Care	0.44%	0.37%	-0.06%	0.13%	1.48%	-3.61%	10.58%	9.60%
Financials	-1.10%	-1.39%	-0.09%	0.38%	1.89%	8.51%	16.02%	18.11%
Information Technology	-0.57%	-0.19%	0.01%	-0.39%	1.59%	3.55%	19.08%	12.74%
Communication Services	-0.50%	-0.77%	-0.03%	0.30%	-4.46%	5.56%	5.23%	7.01%
Utilities	-0.23%	-0.02%	-0.10%	-0.11%	-2.76%	-1.22%	5.24%	3.34%
Real Estate	0.24%	0.13%	0.00%	0.11%	11.18%	3.72%	3.60%	2.60%
Cash	-0.15%	0.00%	-0.15%	0.00%	0.01%		2.31%	0.00%
Unclassified	-0.06%	0.00%	-0.04%	-0.02%	-12.51%	-	0.32%	0.00%
Portfolio	-1.10%	= -1.38%	+ -0.56%	+ 0.83%	2.52%	3.62%	100.00%	100.00%



		Returns and	•		Attribution Effects							
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total			
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects			
Europe												
Austria	11.26%	9.16%	0.17%	0.11%	0.00%	0.00%	0.00%	0.00%	0.01%			
Belgium	-5.58%	-2.61%	1.28%	0.62%	-0.02%	-0.04%	-0.03%	-0.02%	-0.10%			
Czech Republic*		5.46%	0.00%	0.03%		0.00%	0.00%		0.00%			
Denmark	-5.67%	-2.88%	4.90%	1.58%	-0.05%	-0.18%	-0.10%	-0.11%	-0.45%			
Finland		-0.94%	0.00%	0.66%	-	0.02%	0.03%		0.05%			
France	-1.07%	4.43%	7.71%	6.89%	-0.40%	0.02%	-0.02%	-0.05%	-0.44%			
Germany	-7.48%	4.03%	4.13%	5.87%	-0.69%	-0.03%	0.08%	0.21%	-0.43%			
Greece*		1.39%	0.00%	0.03%	-	0.00%	0.00%		0.00%			
Hungary*		0.37%	0.00%	0.07%	-	0.00%	0.00%		0.00%			
Ireland	4.48%	5.39%	0.56%	0.44%	-0.02%	0.00%	0.01%	0.00%	-0.01%			
Italy	0.47%	4.95%	2.80%	1.41%	-0.07%	0.04%	-0.06%	-0.06%	-0.15%			
Luxembourg	7.15%	3.62%	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
Netherlands	7.48%	10.99%	9.40%	2.42%	-0.11%	0.62%	-0.22%	-0.32%	-0.03%			
Norway	2.49%	11.44%	0.58%	0.37%	-0.03%	0.01%	0.00%	-0.02%	-0.04%			
Poland*	-34.44%	-7.21%	0.18%	0.21%	-0.06%	0.00%	0.00%	0.01%	-0.04%			
Portugal	8.73%	-4.38%	0.24%	0.11%	0.01%	-0.01%	-0.01%	0.02%	0.02%			
Russia*	10.35%	6.23%	1.12%	0.82%	0.02%	0.00%	0.02%	0.01%	0.04%			
Spain	-4.05%	0.88%	1.72%	1.53%	-0.08%	0.00%	0.00%	-0.01%	-0.10%			
Sweden	40.97%	11.42%	2.48%	2.10%	0.66%	0.04%	-0.07%	0.12%	0.75%			
Switzerland	3.26%	-1.67%	3.30%	6.06%	0.32%	0.05%	0.17%	-0.14%	0.39%			
United Kingdom	-2.90%	6.14%	9.60%	8.82%	-0.79%	-0.01%	0.00%	-0.07%	-0.87%			



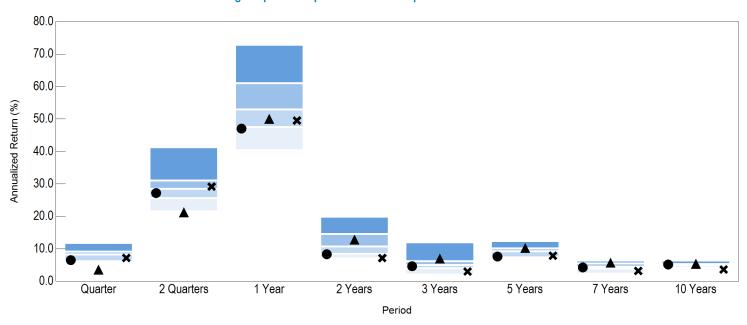
		Returns and	Weights			Attribution Effects							
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total				
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects				
AsiaPacific													
Australia	-9.88%	3.43%	0.29%	4.43%	-0.65%	0.08%	0.06%	0.61%	0.10%				
China*	12.49%	0.24%	9.25%	12.16%	1.49%	0.18%	0.01%	-0.36%	1.32%				
Hong Kong	5.66%	7.26%	6.18%	2.04%	-0.03%	0.04%	-0.01%	-0.07%	-0.07%				
India*	6.22%	5.18%	3.20%	2.89%	0.02%	0.00%	0.01%	0.00%	0.03%				
Indonesia*	-4.45%	-8.28%	1.07%	0.42%	0.02%	-0.07%	-0.03%	0.03%	-0.06%				
Japan	-3.56%	1.57%	12.42%	15.90%	-0.87%	-0.08%	0.30%	0.19%	-0.46%				
Korea*	-3.62%	1.61%	1.10%	4.21%	-0.23%	0.04%	0.12%	0.17%	0.10%				
Malaysia*		-5.75%	0.00%	0.47%		0.05%	0.01%		0.06%				
New Zealand	-5.21%	-10.48%	0.17%	0.19%	0.01%	0.00%	0.00%	0.00%	0.01%				
Pakistan*		0.58%	0.00%	0.01%		0.00%	0.00%		0.00%				
Philippines*		-10.45%	0.00%	0.23%		0.04%	0.00%		0.04%				
Singapore	12.99%	8.75%	0.18%	0.66%	0.03%	-0.02%	0.01%	-0.02%	0.00%				
Taiwan*	13.62%	11.07%	4.79%	3.99%	0.07%	0.05%	0.02%	0.01%	0.16%				
Thailand*	1.08%	4.57%	0.38%	0.57%	-0.02%	0.00%	0.01%	0.01%	-0.01%				
Americas													
Argentina*	-12.12%	-5.96%	1.62%	0.04%	0.00%	-0.20%	0.00%	-0.10%	-0.30%				
Brazil*	-0.47%	-9.71%	3.30%	1.60%	0.08%	-0.14%	0.00%	0.09%	0.03%				
Canada	2.21%	9.82%	1.17%	6.33%	-0.48%	-0.09%	-0.07%	0.39%	-0.25%				
Chile*		19.60%	0.00%	0.16%		-0.02%	0.00%		-0.02%				
Colombia*		-17.25%	0.00%	0.06%		0.01%	0.00%		0.01%				
Mexico*	-14.85%	4.05%	0.09%	0.54%	-0.11%	0.00%	0.01%	0.09%	-0.01%				
Peru*		-10.58%	0.00%	0.08%		0.01%	0.00%		0.01%				
United States	-16.55%	5.37%	0.96%	0.00%	0.00%	-0.01%	-0.03%	-0.19%	-0.22%				



		Returns and	Weights			Attribution Effects							
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total				
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects				
Other													
Egypt*		-2.83%	0.00%	0.03%		0.00%	0.00%		0.00%				
Israel		0.19%	0.00%	0.38%		0.02%	0.01%		0.02%				
Kuwait*	-	6.82%	0.00%	0.15%		0.00%	0.00%		0.00%				
Qatar*		3.44%	0.00%	0.22%		0.01%	0.00%		0.01%				
Saudi Arabia*		19.01%	0.00%	0.76%		-0.09%	0.00%		-0.09%				
South Africa*	-3.22%	12.07%	0.99%	1.05%	-0.16%	0.00%	0.00%	0.01%	-0.15%				
Turkey*		-19.91%	0.00%	0.12%		0.02%	0.01%		0.03%				
United Arab Emirates*		15.56%	0.00%	0.16%		-0.01%	0.00%		-0.01%				
Totals													
Americas	-5.01%	5.67%	7.14%	8.80%	-0.83%	0.01%	-0.08%	0.16%	-0.75%				
Europe	1.79%	4.02%	50.48%	40.16%	-1.03%	0.09%	-0.19%	-0.26%	-1.40%				
Asia/Pacific	4.66%	2.53%	39.03%	48.16%	0.76%	0.08%	0.51%	-0.14%	1.21%				
Other	-3.22%	10.15%	0.99%	2.87%	-0.39%	-0.08%	0.02%	0.26%	-0.20%				
Cash	0.01%		2.36%	0.00%	0.00%	-0.16%	0.00%	0.00%	-0.16%				
Total	2.34%	3.62%	100.00%	100.00%	-1.49%	-0.06%	0.26%	0.00%	-1.28%				
Totals													
Developed	0.87%	4.04%	70.56%	68.93%	-2.29%	0.02%	0.05%	-0.05%	-2.28%				
Emerging*	6.36%	2.69%	27.08%	31.07%	0.98%	0.09%	0.20%	-0.13%	1.15%				
Cash	0.01%		2.36%	0.00%	0.00%	-0.16%	0.00%	0.00%	-0.16%				



eV ACWI ex-US Large Cap Value Eq Gross Return Comparison



	Return (R	ank)														
5th Percentile	11.77		41.29		72.83		19.89		11.97		12.37		6.33		6.31	
25th Percentile	9.19		31.06		61.13		14.68		6.27		10.19		5.57		5.32	
Median	8.30		28.53		52.96		10.84		5.07		9.31		4.62		5.23	
75th Percentile	6.27		25.72		47.53		8.55		4.06		7.48		3.99		4.98	
95th Percentile	5.62		21.59		40.44		7.11		2.06		6.94		2.37		4.15	
# of Portfolios	19		19		19		19		19		19		17		12	
Mondrian	6.52	(72)	27.19	(67)	47.04	(78)	8.33	(81)	4.65	(61)	7.63	(72)	4.28	(55)	5.17	(58)
▲ MSCI ACWI ex USA Gross	3.60	(99)	21.29	(96)	50.03	(61)	12.83	(36)	7.02	(16)	10.28	(25)	5.75	(7)	5.41	(10)
✗ MSCI ACWI ex USA Value Gross	7.20	(64)	29.18	(43)	49.52	(65)	7.17	(95)	3.02	(90)	7.89	(66)	3.20	(89)	3.62	(99)



Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	62	2,345
Weighted Avg. Market Cap. (\$B)	48.7	102.8
Median Market Cap. (\$B)	30.6	9.7
Price To Earnings	17.7	21.6
Price To Book	1.6	2.7
Price To Sales	0.9	1.5
Return on Equity (%)	0.9	10.4
Yield (%)	2.9	2.3
Beta	1.1	1.0

Top Holdings	
CK HUTCHISON HOLDINGS LTD	3.8%
COMPAGNIE DE SAINT GOBAIN SA	3.5%
UNITED OVERSEAS BANK LTD	3.3%
HONDA MOTOR CO LTD	3.2%
SCOTTISH AND SOUTHERN ENERGY PLC	3.2%
LLOYDS BANKING GROUP PLC	3.2%
ALLIANZ	3.1%
SANOFI	3.1%
BANCO SANTANDER SA	3.1%
TAKEDA PHARMACEUTICAL CO LTD	3.1%

Best Performers		Worst Performers						
	Return %		Return %					
COMPAGNIE DE SAINT GOBAIN SA	28.8%	NOVARTIS AG	-5.9%					
SOCIETE GENERALE GROUP	25.8%	TOKIO MARINE HOLDINGS INC	-5.7%					
JARDINE MATHESON HOLDINGS LTD	19.0%	KONINKLIJKE AHOLD DELHAIZE NV	-1.4%					
KINGFISHER PLC	18.8%	GLAXOSMITHKLINE PLC	-1.4%					
BP PLC	18.3%	OTSUKA HOLDINGS CO LTD	-1.0%					
ENI SPA	17.8%	SCOTTISH AND SOUTHERN ENERGY PLC	-0.6%					
LLOYDS BANKING GROUP PLC	17.8%	TESCO PLC	-0.4%					
WPP PLC	16.1%	ENEL ENTE NAZIONALE PER L'ENERGIA	0.5%					
TRAVIS PERKINS PLC	15.5%	ELETTRICA SPA, ROMA	0.570					
CK HUTCHISON HOLDINGS LTD	14.2%	ESSITY AKTIEBOLAG	0.7%					
55.555.EII.05.ETB	71.270	FUJITSU LTD	0.8%					



			Attribution Effects			eturns	Sector Weights		
	Total	Selection	Allocation	Interaction					
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	0.43%	0.18%	0.16%	0.09%	14.10%	9.87%	7.58%	4.31%	
Materials	0.16%	0.41%	-0.06%	-0.19%	8.46%	5.36%	3.04%	8.09%	
Industrials	1.43%	0.97%	0.14%	0.32%	14.55%	5.14%	16.50%	11.55%	
Consumer Discretionary	1.06%	1.50%	0.02%	-0.46%	9.91%	2.07%	13.05%	13.81%	
Consumer Staples	0.75%	0.67%	0.16%	-0.08%	4.57%	-2.28%	4.64%	8.93%	
Health Care	-0.09%	0.35%	-0.33%	-0.11%	-0.74%	-3.62%	14.13%	9.57%	
Financials	0.28%	0.66%	-0.17%	-0.21%	10.95%	8.58%	14.73%	18.10%	
Information Technology	0.48%	1.06%	0.00%	-0.59%	7.37%	3.45%	8.06%	12.71%	
Communication Services	0.18%	0.24%	0.04%	-0.11%	7.70%	5.35%	8.62%	6.99%	
Utilities	-0.12%	0.09%	-0.26%	0.05%	1.87%	-1.23%	8.45%	3.34%	
Real Estate	0.12%	0.08%	0.00%	0.03%	10.09%	3.72%	1.20%	2.60%	
Cash	0.00%		-				0.00%	0.00%	
Portfolio	4.61%	= 6.21%	+ -0.33%	+ -1.27%	8.23%	3.62%	100.00%	100.00%	



		Returns and	Weights		Attribution Effects							
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total			
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects			
Europe												
Austria		9.16%	0.00%	0.11%		-0.01%	0.01%		0.00%			
Belgium		-2.61%	0.00%	0.62%		0.03%	0.02%		0.06%			
Czech Republic*		5.46%	0.00%	0.03%		0.00%	0.00%		0.00%			
Denmark	7.72%	-2.88%	1.41%	1.58%	0.17%	0.01%	0.00%	-0.02%	0.17%			
Finland	-	-0.94%	0.00%	0.66%		0.02%	0.03%		0.05%			
France	16.92%	4.43%	8.63%	6.89%	0.90%	0.04%	-0.12%	0.23%	1.04%			
Germany	8.46%	4.03%	3.07%	5.87%	0.28%	-0.04%	0.10%	-0.14%	0.21%			
Greece*		1.39%	0.00%	0.03%		0.00%	0.00%		0.00%			
Hungary*	-	0.37%	0.00%	0.07%		0.00%	0.00%		0.00%			
Ireland		5.39%	0.00%	0.44%		-0.01%	0.02%		0.01%			
Italy	7.57%	4.95%	5.06%	1.41%	0.04%	0.10%	-0.17%	0.10%	0.07%			
Netherlands	9.05%	10.99%	1.67%	2.42%	-0.05%	-0.07%	0.03%	0.01%	-0.06%			
Norway	-	11.44%	0.00%	0.37%		-0.02%	0.00%		-0.02%			
Poland*		-7.21%	0.00%	0.21%		0.02%	0.01%		0.03%			
Portugal		-4.38%	0.00%	0.11%		0.01%	0.00%		0.01%			
Russia*		6.23%	0.00%	0.82%		-0.01%	0.02%		0.00%			
Spain	9.34%	0.88%	5.00%	1.53%	0.14%	-0.05%	-0.17%	0.31%	0.22%			
Sweden	4.89%	11.42%	2.65%	2.10%	-0.15%	0.06%	-0.03%	-0.04%	-0.15%			
Switzerland	2.74%	-1.67%	6.22%	6.06%	0.28%	0.00%	-0.03%	0.01%	0.26%			
United Kingdom	8.94%	6.14%	23.44%	8.82%	0.24%	-0.22%	0.14%	0.41%	0.58%			



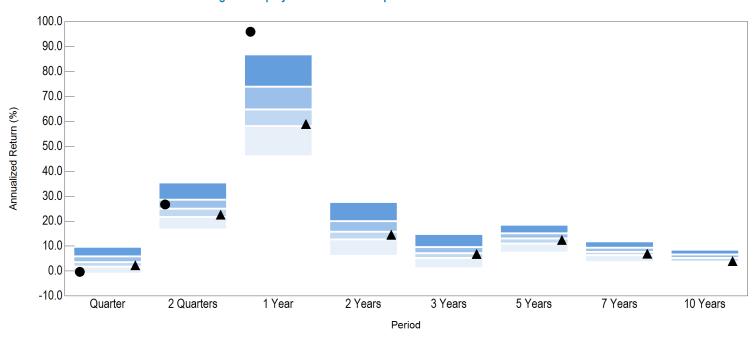
		Returns and	Weights			Attribution Effects						
	Manager	•			Selection	Allocation	Currency	Interaction	Total			
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects			
AsiaPacific												
Australia	11.25%	3.43%	1.05%	4.43%	0.35%	0.06%	0.05%	-0.27%	0.19%			
China*		0.24%	0.00%	12.16%		0.76%	0.03%		0.78%			
Hong Kong	14.19%	7.26%	3.79%	2.04%	0.14%	0.02%	-0.01%	0.12%	0.27%			
India*		5.18%	0.00%	2.89%		0.04%	0.01%		0.04%			
Indonesia*		-8.28%	0.00%	0.42%		0.05%	0.02%		0.06%			
Japan	4.96%	1.57%	32.28%	15.90%	0.58%	0.36%	-1.27%	0.60%	0.26%			
Korea*		1.61%	0.00%	4.21%		0.06%	0.15%		0.21%			
Malaysia*		-5.75%	0.00%	0.47%		0.05%	0.01%		0.06%			
New Zealand		-10.48%	0.00%	0.19%		0.03%	0.01%		0.03%			
Pakistan*		0.58%	0.00%	0.01%		0.00%	0.00%		0.00%			
Philippines*		-10.45%	0.00%	0.23%		0.04%	0.00%		0.04%			
Singapore	10.17%	8.75%	4.27%	0.66%	0.01%	0.14%	-0.07%	0.05%	0.14%			
Taiwan*		11.07%	0.00%	3.99%		-0.24%	0.06%		-0.18%			
Thailand*		4.57%	0.00%	0.57%		-0.01%	0.02%		0.01%			
Americas												
Argentina*		-5.96%	0.00%	0.04%		0.00%	0.00%		0.00%			
Brazil*		-9.71%	0.00%	1.60%		0.13%	0.13%		0.26%			
Canada	10.09%	9.82%	1.21%	6.33%	0.02%	-0.09%	-0.07%	-0.01%	-0.16%			
Chile*		19.60%	0.00%	0.16%		-0.02%	0.00%		-0.02%			
Colombia*		-17.25%	0.00%	0.06%		0.01%	0.00%		0.01%			
Mexico*		4.05%	0.00%	0.54%		0.00%	0.02%		0.01%			
Peru*		-10.58%	0.00%	0.08%		0.01%	0.00%		0.01%			



		Returns and	Weights		Attribution Effects							
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total			
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects			
Other												
Egypt*		-2.83%	0.00%	0.03%	-	0.00%	0.00%		0.00%			
Israel		0.19%	0.00%	0.38%		0.02%	0.01%		0.02%			
Kuwait*		6.82%	0.00%	0.15%	-	0.00%	0.00%		0.00%			
Qatar*		3.44%	0.00%	0.22%		0.01%	0.00%		0.01%			
Saudi Arabia*		19.01%	0.00%	0.76%		-0.09%	0.00%		-0.09%			
South Africa*		12.07%	0.00%	1.05%		-0.07%	0.01%		-0.06%			
Turkey*		-19.91%	0.00%	0.12%		0.02%	0.01%		0.03%			
United Arab Emirates*		15.56%	0.00%	0.16%		-0.01%	0.00%		-0.01%			
Totals												
Americas	10.09%	5.67%	1.21%	8.80%	0.21%	0.02%	0.08%	-0.18%	0.13%			
Europe	9.14%	4.02%	57.15%	40.16%	1.72%	0.15%	-0.11%	0.73%	2.48%			
Asia/Pacific	6.50%	2.53%	41.40%	48.16%	3.32%	0.06%	-0.99%	-0.47%	1.93%			
Other		10.15%	0.00%	2.87%		-0.13%	0.03%		-0.10%			
Cash	0.01%		0.24%	0.00%	0.00%	-0.02%	0.00%	0.00%	-0.02%			
Total	8.04%	3.62%	100.00%	100.00%	5.24%	0.09%	-1.00%	0.08%	4.42%			
Totals												
Developed	8.06%	4.04%	99.76%	68.93%	3.02%	0.33%	-1.51%	1.35%	3.20%			
Emerging*		2.69%	0.00%	31.07%		0.73%	0.50%		1.24%			
Cash	0.01%		0.24%	0.00%	0.00%	-0.02%	0.00%	0.00%	-0.02%			



eV Emg Mkts Equity Gross Return Comparison



	Return (R	lank)															
5th Percentile	9.71		35.46		86.85		27.63		14.85		18.48		11.82		8.46		_
25th Percentile	5.95		28.71		74.01		20.13		9.68		15.17		9.47		6.69		
Median	3.60		25.07		64.83		15.87		7.28		13.12		7.74		5.26		
75th Percentile	1.89		21.76		58.22		12.71		5.33		11.14		6.45		3.93		
95th Percentile	-1.00		16.67		46.11		6.17		1.20		7.45		3.63		3.13		
# of Portfolios	382		382		382		369		352		318		269		191		
Newton Emerging MktMSCI Emerging Markets Gross	-0.31 2.34	\ /	26.71 22.58	(36) (68)	95.95 58.92	(3) (72)	 14.60	() (62)	6.87	() (55)	 12.48	() (59)	6.97	() (64)	4.02	() (75)	



Characteristics

	Portfolio	MSCI Emerging Markets Gross
Number of Holdings	50	1,381
Weighted Avg. Market Cap. (\$B)	139.9	176.6
Median Market Cap. (\$B)	14.1	7.1
Price To Earnings	37.4	19.2
Price To Book	5.2	3.0
Price To Sales	3.4	1.6
Return on Equity (%)	16.2	12.0
Yield (%)	0.6	2.0

Top Holdings	Pact Parformars	Worst Performers

1 op 1101am.go	
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	5.7%
ALIBABA GROUP HOLDING LTD	5.0%
SAMSUNG SDI CO LTD	4.7%
AIA GROUP LTD	4.3%
HOUSING DEVELOPMENT FINANCE CORP LTD	4.3%
NEW ORIENTAL EDUCATION & TECHNOLOGY GROUP INC	3.9%
PROSUS ORD	3.6%
TENCENT HOLDINGS LTD	3.5%
INFO EDGE (INDIA) LTD	3.4%
ILJIN MATERIALS CO LTD	3.4%

Dest Performers	
	Return %
COMPAGNIE DE SAINT GOBAIN SA	28.8%
SOCIETE GENERALE GROUP	25.8%
JARDINE MATHESON HOLDINGS LTD	19.0%
KINGFISHER PLC	18.8%
BP PLC	18.3%
ENI SPA	17.8%
LLOYDS BANKING GROUP PLC	17.8%
WPP PLC	16.1%
TRAVIS PERKINS PLC	15.5%
CK HUTCHISON HOLDINGS LTD	14.2%

Worst Performers	
	Return %
NOVARTIS AG	-5.9%
TOKIO MARINE HOLDINGS INC	-5.7%
KONINKLIJKE AHOLD DELHAIZE NV	-1.4%
GLAXOSMITHKLINE PLC	-1.4%
OTSUKA HOLDINGS CO LTD	-1.0%
SCOTTISH AND SOUTHERN ENERGY PL	-0.6%
TESCO PLC	-0.4%
ENEL ENTE NAZIONALE PER L'ENERGIA ELETTRICA SPA, ROMA	0.5%
ESSITY AKTIEBOLAG	0.7%
FUJITSU LTD	0.8%



		0 0			0 0			
			Attribution Effect	ts	R	eturns	Secto	r Weights
	Total	Selection	Allocation	Interaction				
	Effects	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	0.06%	-	-0.05%	-	-	3.12%	0.00%	5.05%
Materials	-1.34%	-1.26%	0.22%	-0.30%	-4.93%	9.79%	10.09%	7.50%
Industrials	0.16%	0.34%	0.01%	-0.20%	12.13%	1.89%	0.67%	4.24%
Consumer Discretionary	-1.57%	-0.52%	-0.72%	-0.33%	-5.68%	-3.06%	29.25%	18.40%
Consumer Staples	0.16%	-0.21%	0.15%	0.22%	-5.33%	-1.75%	1.99%	5.81%
Health Care	0.47%	1.11%	0.32%	-0.96%	20.08%	-4.37%	0.38%	4.76%
Financials	-0.75%	-1.28%	-0.03%	0.56%	-2.19%	3.45%	13.96%	18.08%
Information Technology	-1.03%	-0.82%	0.22%	-0.43%	1.20%	4.93%	29.06%	20.62%
Communication Services	-0.52%	-0.59%	0.05%	0.02%	2.49%	6.83%	12.95%	11.44%
Utilities	0.05%		0.01%			1.86%	0.00%	2.03%
Real Estate	-0.04%		-0.06%			6.35%	0.00%	2.07%
Cash	0.00%						0.00%	0.00%
Unclassified	0.19%	0.00%	0.19%	0.00%	15.90%		1.65%	0.00%
Portfolio	-4.17%	= -3.22%	+ 0.30%	+ -1.24%	-1.48%	2.69%	100.00%	100.00%



		- 3				- 5 5			
		Returns and	Weights			Attri	bution Effects	;	
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects
Europe									
Czech Republic*		5.46%	0.00%	0.10%		0.00%	0.00%		0.00%
Greece*		1.39%	0.00%	0.11%		0.00%	0.00%		0.00%
Hungary*		0.37%	0.00%	0.21%		0.00%	0.01%		0.01%
Luxembourg	-4.60%	2.69%	2.59%	0.00%	0.00%	0.00%	0.00%	-0.23%	-0.23%
Netherlands	10.41%	11.19%	4.12%	0.00%	0.00%	0.47%	-0.19%	-0.03%	0.25%
Poland*		-7.21%	0.00%	0.68%		0.04%	0.04%		0.08%
Russia*	12.13%	6.23%	0.67%	2.64%	0.10%	-0.08%	0.05%	-0.08%	0.00%



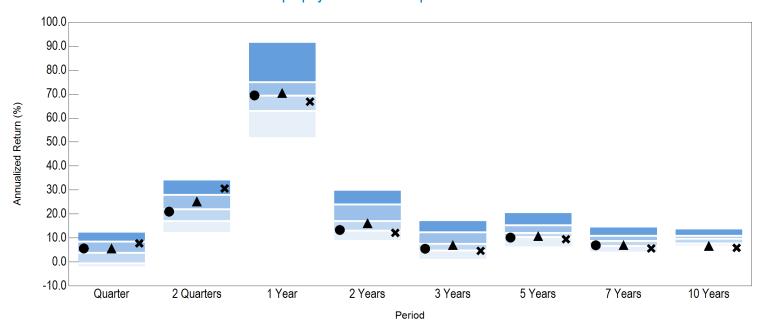
		Returns and	Weights		Attribution Effects						
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total		
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects		
AsiaPacific											
Australia	8.03%	3.43%	2.15%	0.00%	0.00%	0.01%	-0.03%	0.10%	0.08%		
China*	-6.17%	0.24%	35.17%	39.13%	-2.53%	0.15%	0.02%	0.26%	-2.09%		
Hong Kong	-1.01%	7.26%	4.46%	0.00%	0.00%	0.14%	-0.01%	-0.37%	-0.24%		
India*	-3.51%	5.18%	23.12%	9.31%	-0.81%	0.15%	-0.02%	-1.20%	-1.89%		
Indonesia*	-17.87%	-8.28%	1.21%	1.35%	-0.13%	0.01%	0.01%	0.01%	-0.10%		
Korea*	9.56%	1.61%	8.68%	13.55%	1.12%	-0.05%	0.15%	-0.40%	0.82%		
Malaysia*		-5.75%	0.00%	1.52%		0.11%	0.04%		0.15%		
Pakistan*		0.58%	0.00%	0.02%		0.00%	0.00%		0.00%		
Philippines*		-10.45%	0.00%	0.74%		0.10%	0.01%		0.11%		
Taiwan*	9.32%	11.07%	6.05%	12.84%	-0.23%	-0.57%	0.11%	0.12%	-0.56%		
Thailand*		4.57%	0.00%	1.83%		-0.08%	0.08%		0.00%		
Americas											
Argentina*	-12.12%	-5.96%	2.02%	0.12%	-0.01%	-0.20%	0.00%	-0.12%	-0.32%		
Brazil*	-28.60%	-9.71%	0.40%	5.14%	-1.38%	0.29%	0.41%	1.27%	0.59%		
Chile*	8.11%	19.60%	1.37%	0.51%	-0.07%	0.15%	0.01%	-0.11%	-0.03%		
Colombia*		-17.25%	0.00%	0.20%		0.03%	0.01%		0.04%		
Mexico*		4.05%	0.00%	1.74%		-0.04%	0.05%		0.00%		
Peru*		-10.58%	0.00%	0.25%		0.04%	0.00%		0.04%		
United States	3.38%	5.37%	6.22%	0.00%	0.00%	0.07%	0.00%	-0.12%	-0.06%		



			Attribution Effects						
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Other									
Egypt*		-2.83%	0.00%	0.08%		0.01%	0.00%		0.01%
Kuwait*		6.82%	0.00%	0.49%		-0.01%	0.00%		-0.01%
Qatar*		3.44%	0.00%	0.70%		0.01%	0.00%		0.01%
Saudi Arabia*		19.01%	0.00%	2.46%		-0.36%	0.00%		-0.36%
South Africa*	-8.98%	12.07%	1.76%	3.37%	-0.72%	-0.14%	0.02%	0.34%	-0.50%
Turkey*		-19.91%	0.00%	0.38%		0.06%	0.03%		0.09%
United Arab Emirates*		15.56%	0.00%	0.53%		-0.06%	0.00%		-0.06%
Totals									
Americas	-0.36%	-4.98%	10.02%	7.95%	-0.11%	-0.07%	0.48%	-0.03%	0.27%
Europe	5.31%	3.30%	7.38%	3.74%	0.07%	0.07%	-0.09%	0.06%	0.11%
Asia/Pacific	-2.07%	2.52%	80.84%	80.29%	-4.05%	0.00%	0.35%	-0.03%	-3.72%
Other	-8.98%	11.69%	1.76%	8.02%	-1.66%	-0.51%	0.05%	1.29%	-0.83%
Total	-1.48%	2.69%	100.00%	100.00%	-5.75%	-0.51%	0.79%	1.30%	-4.17%
Totals									
Developed	3.31%		19.53%	0.00%	0.00%	0.00%	-0.24%	0.04%	-0.20%
Emerging*	-2.64%	2.69%	80.47%	100.00%	-6.22%	0.00%	1.03%	1.21%	-3.97%



eV ACWI ex-US Small Cap Equity Gross Return Comparison



	Return (R	ank)														
5th Percentile	12.50	-	34.29		91.66		30.02		17.33		20.71		14.69		13.83	
25th Percentile	8.58		28.00		75.07		24.06		12.37		15.42		10.97		10.91	
Median	3.85		22.06		69.38		17.06		7.64		12.14		8.83		9.77	
75th Percentile	-0.46		17.16		63.01		13.14		4.86		10.38		6.65		7.77	
95th Percentile	-2.05		12.19		51.63		8.84		0.90		6.21		3.97		6.60	
# of Portfolios	56		56		56		54		51		47		37		23	
Templeton	5.62	(43)	20.97	(56)	69.45	(50)	13.33	(74)	5.50	(71)	10.16	(80)	6.95	(74)		()
▲ MSCI ACWI ex US Small Cap Gross	5.61	(43)	25.29	(36)	70.42	(43)	16.15	(64)	7.02	(55)	10.82	(67)	7.07	(73)	6.71	(94)
★ MSCI ACWI ex US Small Cap Value GD	7.76	(32)	30.64	(11)	66.83	(62)	12.13	(87)	4.63	(77)	9.48	(87)	5.63	(85)	5.88	(99)



Characteristics

	Portfolio	MSCI ACWI ex US Small Cap Gross
Number of Holdings	109	4,205
Weighted Avg. Market Cap. (\$B)	3.0	2.9
Median Market Cap. (\$B)	1.7	1.1
Price To Earnings	19.9	19.8
Price To Book	2.5	2.4
Price To Sales	1.4	1.1
Return on Equity (%)	9.3	6.5
Yield (%)	1.9	1.9
Beta	1.0	1.0

Top Holdings	
BUCHER INDUSTRIES AG, NIEDERWENINGEN	2.0%
INTERPUMP GROUP SPA, SANT'ILARIO (RE)	2.0%
SIEGFRIED HOLDING AG, ZOFINGEN	1.9%
MERIDA INDUSTRY	1.9%
TSUMURA & CO	1.9%
TECHNOGYM SPA	1.8%
THULE GROUP AB	1.7%
DOMETIC GROUP AB	1.7%
MEITEC CORP	1.6%
HUHTAMAKI OY	1.6%

Best Performers							
	Return %						
ACCELL GROUP (H:ACCE)	46.1%						
MERIDA INDUSTRY (TW:MER)	45.8%						
SHIMA SEIKI MNFG. (J:SHMA)	37.6%						
GOODBABY INTERNATIONAL HOLDINGS LTD	35.8%						
CANADA GOOSE HOLDINGS INC (GOOS.)	32.1%						
QOL HOLDINGS CO LTD	30.2%						
VALUE PARTNERS GROUP LTD	28.7%						
PRIMAX ELECTRONICS LTD	28.6%						
GREGGS PLC	26.5%						
FLOW TRADERS NV	26.4%						

Worst Performers	
	Return %
PT XL AXIATA TBK	-26.8%
KOBAYASHI PHARMACEUTICAL CO LTD	-23.6%
ALPARGATAS SA	-19.4%
M DIAS BRANCO INDUSTRIA ON (BR:MDB)	-17.2%
ASICS CORP	-16.8%
NISSEI ASB MACHINE CO LTD	-16.7%
RATIONAL AG, LANDSBERG AM LECH	-16.5%
GREATVIEW ASEPTIC PACKAGING CO LTD	-14.8%
HOLLYSYS AUTOMATION TECHNOLOGIES LTD (HOLI)	-14.8%
COATS GROUP PLC	-14.7%



	Attribution Effects						eturns	Secto	Sector Weights	
	Total	Selection	Allocation	Currency	Interaction					
	Effects	Effect	Effect	Effect	Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	0.05%	0.16%	-0.05%	0.05%	-0.11%	20.35%	10.07%	0.69%	2.24%	
Materials	-0.36%	-0.68%	0.00%	0.04%	0.29%	-1.91%	5.89%	6.31%	10.95%	
Industrials	-0.78%	-0.30%	0.09%	-0.52%	-0.05%	4.37%	7.49%	23.88%	20.57%	
Consumer Discretionary	0.50%	0.23%	0.46%	-0.42%	0.22%	11.02%	9.20%	23.95%	12.20%	
Consumer Staples	-0.42%	-0.07%	-0.04%	-0.28%	-0.04%	0.63%	3.65%	8.78%	5.66%	
Health Care	0.79%	0.99%	0.11%	-0.11%	-0.21%	8.47%	-1.73%	6.13%	7.73%	
Financials	0.21%	0.05%	0.01%	0.14%	0.00%	12.21%	10.25%	10.38%	10.24%	
Information Technology	0.13%	0.01%	-0.01%	0.13%	0.00%	5.19%	3.91%	12.77%	12.12%	
Communication Services	-0.17%	-0.33%	0.04%	0.00%	0.13%	-7.19%	2.82%	2.59%	4.18%	
Utilities	0.25%		0.16%	0.10%			1.47%	0.00%	3.51%	
Real Estate	0.82%	0.65%	0.48%	0.30%	-0.62%	2.70%	0.67%	0.51%	10.59%	
Cash	-0.35%	0.00%	-0.35%	0.00%	0.00%	0.01%		4.00%	0.00%	
Portfolio	0.66%	= 0.71%	+ 0.91%	+ -0.57%	+ -0.38%	6.03%	5.37%	100.00%	100.00%	



	Returns and Weights					Attri	bution Effects				
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total		
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects		
Europe											
Austria		10.27%	0.00%	0.64%		-0.04%	0.03%		-0.01%		
Belgium	6.66%	1.48%	2.48%	1.07%	0.06%	-0.04%	-0.07%	0.08%	0.03%		
Czech Republic*		1.29%	0.00%	0.01%		0.00%	0.00%		0.00%		
Denmark	-7.65%	2.58%	0.68%	1.17%	-0.12%	0.01%	0.02%	0.05%	-0.04%		
Finland	-5.44%	6.09%	2.87%	1.19%	-0.14%	0.03%	-0.06%	-0.20%	-0.37%		
France	14.31%	2.95%	2.72%	2.27%	0.27%	-0.01%	-0.03%	0.05%	0.28%		
Germany	-9.86%	2.20%	3.47%	3.61%	-0.45%	0.00%	0.02%	0.02%	-0.41%		
Greece*	5.54%	4.40%	0.57%	0.32%	0.00%	0.00%	-0.01%	0.00%	0.00%		
Hungary*		-1.29%	0.00%	0.02%		0.00%	0.00%		0.00%		
Ireland		15.25%	0.00%	0.35%		-0.04%	0.02%		-0.02%		
Italy	2.43%	9.04%	5.40%	1.96%	-0.14%	0.17%	-0.14%	-0.24%	-0.34%		
Luxembourg	0.56%	5.37%	1.47%	0.00%	0.00%	0.00%	-0.06%	-0.06%	-0.12%		
Netherlands	19.61%	16.92%	5.05%	1.89%	0.06%	0.40%	-0.17%	0.10%	0.40%		
Norway	24.55%	7.04%	0.51%	1.62%	0.28%	0.02%	0.00%	-0.19%	0.11%		
Poland*		0.57%	0.00%	0.29%		0.01%	0.02%		0.02%		
Portugal		3.30%	0.00%	0.16%		0.00%	0.01%		0.01%		
Russia*		5.54%	0.00%	0.20%		0.00%	0.00%		0.01%		
Spain	-2.45%	7.83%	0.94%	1.44%	-0.15%	-0.02%	0.03%	0.05%	-0.09%		
Sweden	9.96%	0.40%	6.11%	5.37%	0.55%	-0.02%	-0.08%	0.08%	0.52%		
Switzerland	9.83%	1.79%	6.78%	3.74%	0.25%	-0.01%	-0.12%	0.21%	0.34%		
United Kingdom	7.50%	6.98%	7.18%	12.48%	0.19%	0.14%	-0.12%	-0.08%	0.13%		



	Returns and Weights					Attri	bution Effects	ffects			
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total		
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects		
AsiaPacific											
Australia		1.26%	0.00%	6.35%		0.38%	0.09%		0.47%		
China*	1.21%	11.49%	4.09%	2.30%	-0.24%	0.05%	0.00%	-0.18%	-0.37%		
Hong Kong	18.45%	19.94%	4.14%	1.32%	-0.02%	0.33%	-0.01%	-0.04%	0.26%		
India*		15.90%	0.00%	3.63%		-0.27%	0.01%		-0.26%		
Indonesia*	-26.78%	-5.14%	0.80%	0.48%	-0.11%	-0.03%	-0.01%	-0.07%	-0.22%		
Japan	0.41%	3.36%	23.22%	20.40%	-0.65%	0.06%	-0.16%	-0.09%	-0.84%		
Korea*	18.20%	2.32%	1.56%	4.35%	0.72%	0.07%	0.09%	-0.46%	0.43%		
Malaysia*		2.31%	0.00%	0.77%		0.03%	0.02%		0.05%		
New Zealand		-5.25%	0.00%	0.75%		0.08%	0.02%		0.10%		
Pakistan*		6.98%	0.00%	0.11%		0.01%	-0.01%		0.00%		
Philippines*		-5.95%	0.00%	0.20%		0.03%	0.00%		0.03%		
Singapore		4.42%	0.00%	1.27%		0.03%	0.02%		0.05%		
Taiwan*	22.94%	9.94%	8.02%	4.89%	0.64%	0.09%	-0.06%	0.41%	1.08%		
Thailand*		14.69%	0.00%	0.81%		-0.09%	0.04%		-0.05%		
Americas											
Argentina*		-1.79%	0.00%	0.14%		0.01%	0.00%		0.01%		
Brazil*	-16.67%	-7.60%	2.50%	1.55%	-0.15%	-0.08%	-0.06%	-0.09%	-0.38%		
Canada	13.92%	9.08%	4.72%	6.25%	0.30%	0.02%	-0.02%	-0.07%	0.22%		
Chile*		9.09%	0.00%	0.22%		0.00%	0.00%		0.00%		
Colombia*		-16.41%	0.00%	0.07%		0.01%	0.00%		0.02%		
Mexico*		-0.39%	0.00%	0.46%		0.03%	0.01%		0.04%		
Peru*	-	-7.57%	0.00%	0.03%	-	0.00%	0.00%		0.00%		
United States	-8.07%	5.37%	0.65%	0.00%	0.00%	-0.02%	0.00%	-0.09%	-0.11%		



	Returns and Weights					Attri	bution Effects					
	Manager	Index	Manager	Index	Selection	Allocation	Currency	Interaction	Total			
	Return	Return	Weight	Weight	Effect	Effect	Effect	Effect	Effects			
Other												
Egypt*		-2.34%	0.00%	0.07%	-	0.01%	0.00%		0.01%			
Israel		3.69%	0.00%	1.61%		0.03%	0.05%		0.08%			
Kuwait*		7.60%	0.00%	0.17%		0.00%	0.00%		0.00%			
Qatar*		7.47%	0.00%	0.20%		0.00%	0.00%		0.00%			
Saudi Arabia*		9.82%	0.00%	0.55%	-	-0.01%	0.00%		-0.01%			
South Africa*		15.11%	0.00%	0.76%		-0.06%	0.01%		-0.05%			
Turkey*		-4.86%	0.00%	0.36%		0.01%	0.04%		0.05%			
United Arab Emirates*		1.94%	0.00%	0.13%		0.01%	0.00%		0.01%			
Totals												
Americas	2.39%	5.17%	7.87%	8.72%	-0.17%	0.02%	-0.06%	0.02%	-0.19%			
Europe	6.67%	5.27%	46.22%	39.79%	1.02%	-0.03%	-0.73%	0.16%	0.43%			
Asia/Pacific	6.74%	5.42%	41.83%	47.64%	0.85%	-0.05%	0.05%	-0.10%	0.74%			
Other		6.22%	0.00%	3.85%		0.00%	0.10%		0.09%			
Cash	0.01%		4.07%	0.00%	0.00%	-0.35%	0.00%	0.00%	-0.35%			
Total	6.09%	5.37%	100.00%	100.00%	1.69%	-0.41%	-0.64%	0.08%	0.72%			
Totals												
Developed	5.76%	4.87%	78.39%	76.91%	1.36%	0.00%	-0.74%	0.03%	0.64%			
Emerging*	8.97%	7.04%	17.54%	23.09%	0.49%	-0.04%	0.10%	-0.12%	0.43%			
Cash	0.01%		4.07%	0.00%	0.00%	-0.35%	0.00%	0.00%	-0.35%			



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

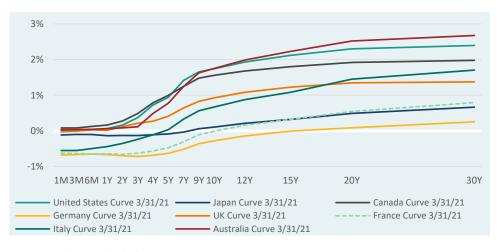


YIELD CURVE CHANGES OVER LAST FIVE YEARS



Source: Bloomberg, as of 3/31/21

GLOBAL GOVERNMENT YIELD CURVES



IMPLIED CHANGES OVER NEXT YEAR





Currency

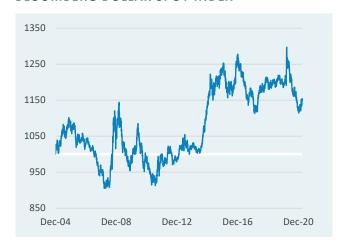
U.S. dollar weakness had prevailed for most of 2020, but turned around in the first quarter of 2021. The Bloomberg Dollar Spot Index increased 2.8% over the quarter, after slipping -5.4% in 2020. Strength in the dollar was attributed to rising relative yields in the U.S., the relatively effective vaccination 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 equally-weighted 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



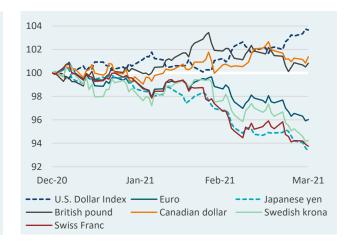
Source: Bloomberg, as of 3/31/21

CURRENCY BETA (ONE-YEAR RETURNS)



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

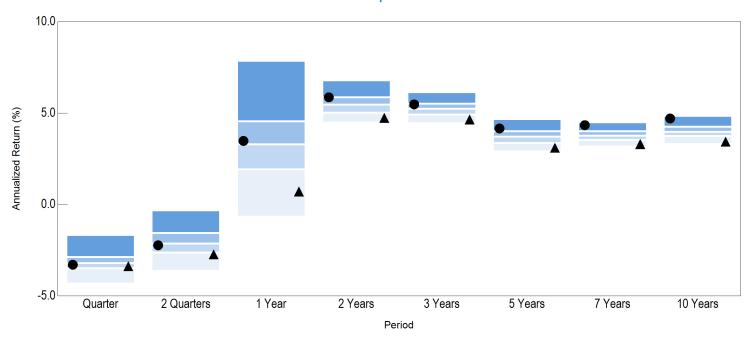
U.S. DOLLAR INDEX CONSTITUENTS



Source: Bloomberg, as of 3/31/21



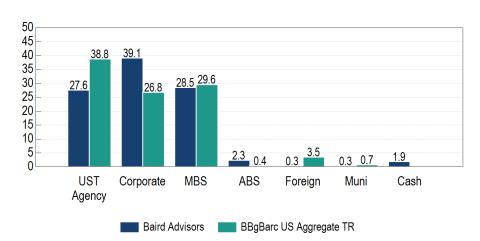
eV US Core Fixed Inc Gross Return Comparison



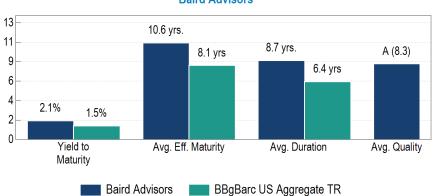
_	ith Percentile 25th Percentile
Λ	/ledian
7	'5th Percentile
9	5th Percentile
#	f of Portfolios
	Baird Advisors
A	BBgBarc US Aggregate TR

Return (R	ank)															
-1.67		-0.33		7.86		6.79		6.13		4.67		4.49		4.84		
-2.86		-1.55		4.57		5.88		5.52		4.02		4.01		4.26		
-3.19		-2.12		3.30		5.48		5.24		3.72		3.77		3.98		
-3.48		-2.62		1.93		5.03		4.93		3.38		3.55		3.76		
-4.31		-3.61		-0.65		4.50		4.46		2.92		3.17		3.33		
217		217		217		215		213		210		206		200		
-3.29 -3.37	(61) (66)	-2.23 -2.73	(57) (79)	3.48 0.71	(47) (91)	5.86 4.74	(26) (88)	5.48 4.65	(28) (90)	4.16 3.10	(17) (91)	4.34 3.31	(9) (92)	4.71 3.44	(7) (93)	

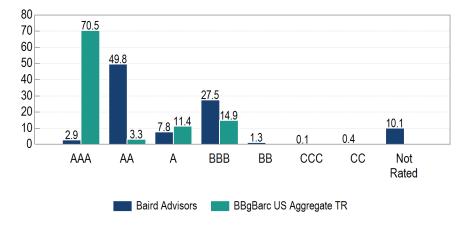
US Sector Allocation Baird Advisors



Characteristics
Baird Advisors



Credit Quality Allocation Baird Advisors





PERFORMANCE BY QUALITY

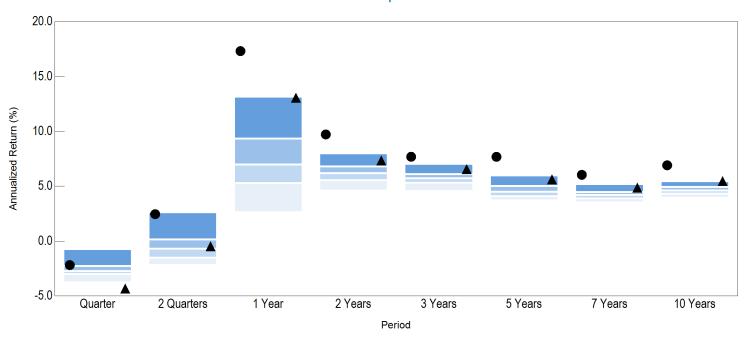
	NUMBER OF ISSUES	FINAL MARKET VALUE (\$000)	FINAL MARKET VALUE %	QUARTERLY RETURN %	QUARTERLY CONTRIBUTION TO TOTAL RETURN %
Cash & Equiv	1	16,243	1.9	0.02	0.00
Govt & Agency	127	426,595	49.9	-3.72	-1.86
AAA	28	65,827	7.7	-3.40	-0.26
AA	7	4,275	0.5	-7.99	-0.04
Α	38	93,184	10.9	-3.15	-0.34
BAA	98	229,968	26.9	-3.01	-0.81
Below BAA	15	18,808	2.2	1.45	0.03
Other	0	-	0.0	0.00	0.00
Total Account	314	\$854,900	100.0	-3.28	-3.28

PERFORMANCE BY DURATION

	NUMBER OF ISSUES	FINAL MARKET VALUE (\$000)	FINAL MARKET VALUE %	QUARTERLY RETURN %	QUARTERLY CONTRIBUTION TO TOTAL RETURN %
Under 1 Year	20	39,325	4.6	-0.01	0.00
1 - 3 Years	85	230,823	27.0	-0.05	-0.01
3 - 6 Years	124	265,874	31.1	-1.06	-0.33
Over 6 Years	85	318,878	37.3	-7.87	-2.94
Total Account	314	\$854,900	100.0	-3.28	-3.28



eV US Core Plus Fixed Inc Gross Return Comparison



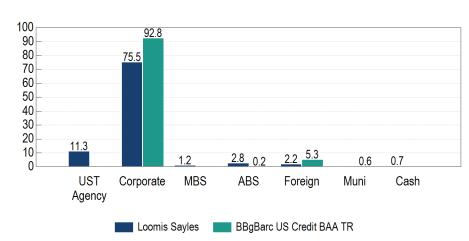
5th Percentile 25th Percentile
Median
75th Percentile
95th Percentile
of Portfolios

Loomis SaylesBBgBarc US Credit BAA TR

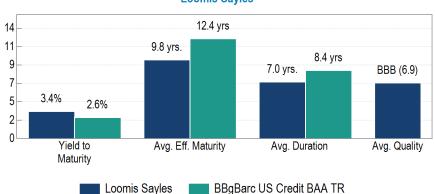
Return (R	lank)														
-0.73		2.62		13.17		7.98		7.04		5.97		5.19		5.45	
-2.26		0.18		9.35		6.83		6.13		5.04		4.50		4.97	
-2.71		-0.68		7.00		6.20		5.73		4.52		4.21		4.62	
-2.98		-1.48		5.31		5.58		5.34		4.12		3.91		4.34	
-3.73		-2.15		2.66		4.64		4.57		3.73		3.55		3.95	
126		126		126		124		120		117		110		104	
-2.18 -4.32	(23) (98)	2.46 -0.46	(6) (42)	17.31 13.06	(2) (6)	9.72 7.34	(2) (14)	7.69 6.55	(3) (10)	7.68 5.63	(1) (10)	6.04 4.87	(1) (9)	6.91 5.47	(1) (5)



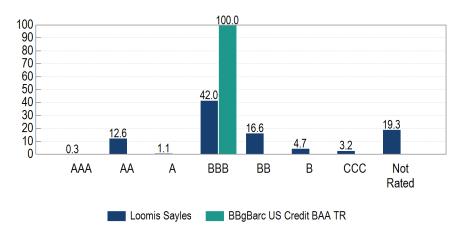
US Sector Allocation Loomis Sayles







Credit Quality Allocation Loomis Sayles





Summary	
Account Return	-2.12
Benchmark Return	-4.31
Excess Return	2.20
Sector Allocation	0.00
Security Selection	2.26
Trading	-0.06
Pricing Differences	0.00
Compounding	0.00

Details

Scheme	Average Weight Account	Average Weight Benchmark	Return Account	Return Benchmark	Contribution to Return Account	Contribution to Se Return Benchmark	ctor Allocation Effect	Security Selection Effect	Total Effect	Excess Total Effect
Total	100.00	100.00	-2.06	-4.32	-2.06	-4.32	0.00	2.26	2.26	2.26
CASH	3.57	0.00	0.11	-4.32	0.00	0.00	0.00	0.19	0.19	0.19
AAA	10.97	0.00	-2.67	-4.32	-0.34	0.00	0.00	0.08	0.08	0.08
AA	0.93	0.00	-0.86	-4.32	-0.01	0.00	0.00	0.04	0.04	0.04
A	5.65	0.00	-2.86	-4.32	-0.18	0.00	0.00	0.10	0.10	0.10
BAA	43.62	100.00	-3.70	-4.32	-1.64	-4.32	0.00	0.27	0.27	0.27
BA	19.73	0.00	-0.72	-4.32	-0.15	0.00	0.00	0.70	0.70	0.70
В	5.08	0.00	1.38	-4.32	0.06	0.00	0.00	0.28	0.28	0.28
CAA	4.44	0.00	0.65	-4.32	0.02	0.00	0.00	0.21	0.21	0.21
CA	0.07	0.00	36.12	-4.32	0.04	0.00	0.00	0.04	0.04	0.04
С	0.13	0.00	16.09	-4.32	0.02	0.00	0.00	0.02	0.02	0.02
NR	5.80	0.00	2.14	-4.32	0.10	0.00	0.00	0.32	0.32	0.32



Summary	
Account Return	-2.12
Benchmark Return	-4.31
Excess Return	2.20
Sector Allocation	1.22
Security Selection	1.04
Trading	-0.06
Pricing Differences	0.00
Compounding	0.00

Details

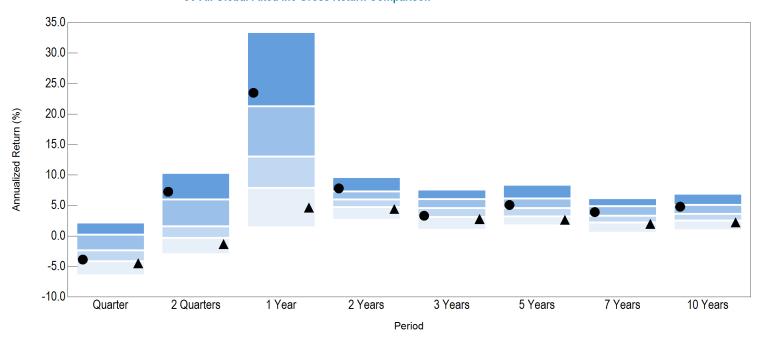
Scheme	Average Weight Account	Average Weight Benchmark	Return Account	Return Benchmark	Contribution to Return Account	Contribution to Sector Return Benchmark	r Allocation Effect	Security Selection Effect	Total Effect	Excess Total Effect
Total	100.00	100.00	-2.06	4.32	-2.06	-4.32	1.22	1.04	2.26	2.26
Less than 0.5	8.04	0.16	2.99	1.18	0.24	0.00	0.44	0.14	0.58	0.58
0.5 - 1.0	1.10	0.99	1.31	0.24	0.00	0.00	0.01	0.00	0.01	0.01
1.0 - 1.5	4.60	2.99	1.74	0.12	0.08	0.00	0.09	0.05	0.14	0.14
1.5 - 2.0	8.95	3.36	1.46	0.08	0.12	0.00	0.18	0.11	0.29	0.29
2.0 - 2.5	2.95	3.97	1.51	-0.01	0.06	0.00	-0.04	0.05	0.01	0.01
2.5 - 3.0	7.85	3.88	0.13	-0.08	0.02	0.00	0.18	0.03	0.20	0.20
3.0 - 3.5	4.51	3.45	0.77	-0.34	0.06	-0.01	0.05	0.06	0.11	0.11
3.5 - 4.0	5.71	6.26	-0.81	-1.20	-0.06	-0.08	-0.03	0.01	-0.02	-0.02
4.0 - 4.5	3.33	4.76	-0.75	-1.81	-0.03	-0.09	-0.04	0.04	0.00	0.00
4.5 - 5.0	3.41	3.88	-0.78	-2.19	-0.03	-0.08	-0.01	0.05	0.03	0.03
5.0 - 5.5	4.44	4.19	-1.12	-2.27	-0.04	-0.09	0.02	0.05	0.07	0.07
5.5 - 6.0	4.34	3.37	-0.43	-2.68	-0.04	-0.09	0.01	0.10	0.11	0.11
6.0 - 6.5	4.09	4.52	-2.39	-3.19	-0.08	-0.15	-0.01	0.03	0.02	0.02
6.5 - 7.0	2.30	3.81	-3.95	-3.86	-0.10	-0.15	-0.01	0.00	-0.01	-0.01
7.0 - 7.5	4.81	3.00	-3.98	-3.67	-0.18	-0.11	0.01	-0.02	-0.01	-0.01
7.5 - 8.0	5.20	4.73	-3.98	-4.79	-0.21	-0.23	-0.01	0.04	0.03	0.03
8.0 - 8.5	3.32	3.04	-5.08	-5.19	-0.18	-0.16	0.00	0.00	0.00	0.00
8.5 - 9.0	2.54	2.39	-4.26	-5.87	-0.12	-0.14	0.00	0.04	0.03	0.03
9.0 - 9.5	-0.60	0.99	1.52	-6.53	0.07	-0.07	0.05	0.04	0.09	0.09
9.5 - 10.0	0.54	0.80	1.53	-5.45	0.00	-0.04	0.00	0.02	0.02	0.02



Scheme	Average Weight Account	Average Weight Benchmark	Return	Return	Return	Contribution to Sec Return	tor Allocation Effect	Security Selection	Total Effect	Excess Total Effect
10.0 - 10.5	0.55	1.13	Account -3.54	Benchmark -4.84	Account -0.02	Benchmark -0.06	0.01	Effect 0.01	0.01	0.01
10.5 - 11.0	0.22	1.58	-5.12	-5.45	-0.02	-0.09	0.02	0.00	0.01	0.01
11.0 - 11.5	0.29	2.22	-2.01	-4.79	0.00	-0.11	0.01	0.01	0.02	0.02
11.5 - 12.0	0.41	1.32	0.80	-4.90	0.00	-0.06	0.01	0.02	0.03	0.03
12.0 - 12.5	0.10	1.53	-7.16	-5.47	-0.01	-0.09	0.02	0.00	0.01	0.01
12.5 - 13.0	0.62	1.20	-7.02	-5.35	-0.05	-0.07	0.00	-0.01	-0.01	-0.01
13.0 - 13.5	1.11	0.96	-5.03	-5.92	-0.05	-0.05	0.00	0.01	0.01	0.01
13.5 - 14.0	0.56	1.41	-5.86	-6.53	-0.04	-0.10	0.02	-0.01	0.01	0.01
14.0 - 14.5	0.71	1.91	-4.95	-6.89	-0.04	-0.13	0.03	0.01	0.03	0.03
14.5 - 15.0	0.90	2.49	-3.38	-7.20	-0.05	-0.19	0.06	0.01	0.06	0.06
15.0 - 15.5	1.55	2.92	-6.17	-7.64	-0.12	-0.23	0.04	0.02	0.06	0.06
15.5 - 16.0	1.89	2.90	-6.19	-7.92	-0.13	-0.25	0.03	0.04	0.07	0.07
16.0 - 16.5	1.29	2.89	-4.28	-8.85	-0.03	-0.23	0.07	0.06	0.13	0.13
16.5 - 17.0	0.56	2.19	-7.30	-9.46	-0.04	-0.23	0.09	0.02	0.11	0.11
17.0 - 17.5	0.48	2.12	-7.12	-9.90	-0.03	-0.22	0.10	0.02	0.12	0.12
17.5 - 18.0	0.54	1.36	-10.30	-10.49	-0.07	-0.14	0.05	-0.01	0.04	0.04
18.0 - 18.5	0.76	1.14	-9.17	-10.17	-0.11	-0.14	0.02	0.01	0.02	0.02
18.5 - 19.0	0.99	1.13	-3.53	-9.29	0.00	-0.11	0.04	0.06	0.10	0.10
19.0 - 19.5	1.40	1.03	-9.30	-9.67	-0.13	-0.10	-0.03	0.01	-0.02	-0.02
19.5 - 20.0	0.43	0.63	-2.27	-8.88	-0.03	-0.05	0.01	0.01	0.02	0.02
20.0 - 20.5	0.39	0.46	-9.20	-11.24	-0.05	-0.06	0.01	0.00	0.01	0.01
20.5 - 21.0	0.29	0.24	-10.73	-13.52	-0.06	-0.03	-0.01	-0.01	-0.02	-0.02
21.0 - 21.5	0.38	0.18	-8.69	-10.57	-0.06	-0.03	-0.01	-0.02	-0.03	-0.03
21.5 - 22.0	0.08	0.14	-9.22	-14.64	-0.03	-0.03	0.01	-0.01	0.00	0.00
22.0 - 22.5	0.13	0.11	-4.62	-10.36	-0.01	-0.01	0.00	-0.01	-0.01	-0.01
22.5 - 23.0	0.48	0.07	-9.31	-13.93	-0.12	-0.01	-0.06	-0.03	-0.09	-0.09
23.0 - 23.5	0.19	0.06	-1.96	-14.92	-0.05	-0.01	-0.03	0.01	-0.02	-0.02
23.5 - 24.0	0.00	0.05	0.00	-14.57	0.00	-0.01	0.01	0.00	0.01	0.01
24.0 - 24.5	1.21	0.04	-7.16	-9.05	-0.23	0.00	-0.15	-0.04	-0.18	-0.18
Greater than 25.0	0.00	0.03	0.01	-12.75	0.00	0.00	0.00	0.00	0.00	0.00
24.5 - 25.0	0.05	0.02	-0.31	-2.91	-0.01	0.00	0.00	-0.01	0.00	0.00



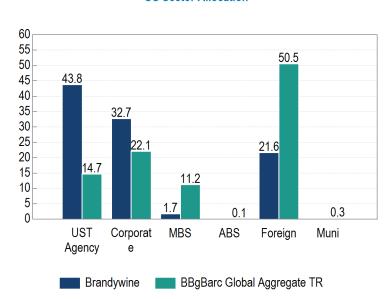
eV All Global Fixed Inc Gross Return Comparison



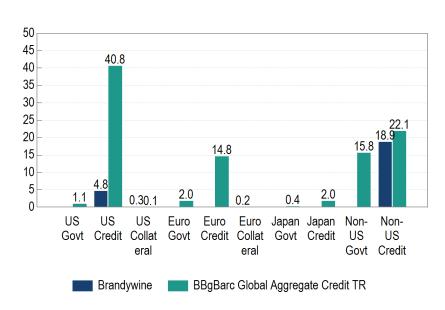
	Return (R	lank)														
5th Percentile	2.18		10.34		33.42		9.64		7.63		8.37		6.17		6.95	
25th Percentile	0.28		6.01		21.30		7.36		6.09		6.19		4.95		5.15	
Median	-2.31		1.63		13.06		6.04		4.59		4.60		3.36		3.66	
75th Percentile	-4.12		-0.25		7.90		4.77		3.14		3.27		2.24		2.55	
95th Percentile	-6.39		-2.93		1.45		2.67		1.03		1.75		0.59		0.99	
# of Portfolios	507		507		507		499		484		446		395		293	
BrandywineBBgBarc Global Aggregate TR	-3.86 -4.46	(72) (81)	7.27 -1.32	(16) (86)	23.49 4.67	(18) (87)	7.81 4.43	(18) (80)	3.33 2.80	(71) (81)	5.10 2.66	(43) (85)	3.93 2.00	(45) (81)	4.81 2.23	(31) (82)



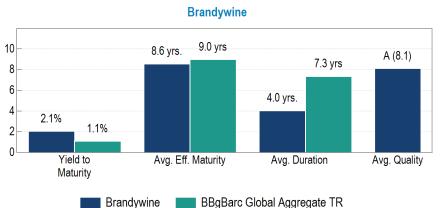
US Sector Allocation

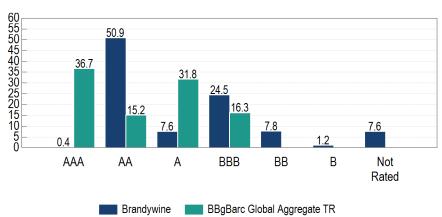


Global Sector Allocation



Characteristics



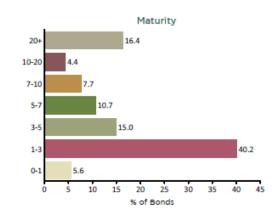


Credit Quality Allocation Brandywine



Portfolio Characteristics

	Portfolio	Primary Benchmark
Yield to Maturity (%)	3.35	0.55
Yield to Worst (%)	3.30	0.55
Modified Duration	2.61	8.55
Effective Duration	2.48	8.72
Average Maturity	7.99	9.67
Average Market Price	102.35	-
Average Coupon (%)	4.09	1.80
Current Yield (%)	3.75	-
# of Issues	187	1,083





Sector Breakdown

	Market Value (%)	Duration Contribution (in Years)
Government Sovereign	59.55	1.60
Corporate Bond - Investment Grade	15.40	1.05
Corporate Bond - High Yield	11.36	0.64
Government Owned - No Guarantee	3.90	0.43
Supranational	1.61	0.07
Mortgage Backed Securities	1.14	0.03
Government Regional Agencies	2.36	0.00
Cash	5.09	-
Derivatives	(0.40)	(1.21)
Total:	100.00	2.61

Portfolio Credit Quality (Blended Weighted Average Rating)

Combined Rating	%	Cumulative %	
AAA	37.1	37.1	AAA
AA	5.7	42.8	B BE
Α	7.2	50.0	
BBB	26.7	76.7	
BB	16.6	93.2	
В	5.7	98.9	
ccc	1.1	100.0	
Average Q	uality: A		AA BE

PRIMARY BENCHMARK is FTSE WGBI (USD)

All Averages are US DOLLAR - weighted by the net market value. Average Market Price includes accrued interest. The "Blended Weighted Average Rating" is determined as follows: in line with the methodology used by Barclays Global indices, the middle rating from the three major NRSROs (S & P, Moody's, and Fitch) will be assigned to each security. In the event that ratings are provided by only two agencies, the lowest rating will be assigned. If only one agency assigns a rating, that rating will be applied. If the security is not rated by one of the three major agencies, U.S. treasuries and certain U.S. agencies are given the U.S. issuer rating. Sovereign treasuries are given the sovereign issuer rating. All other unrated security based on the Security based on the Security based on the Security based on the Security and Portfolio Level scale is applied on the weighted average calculation to round for fractional numerical ratings and then converted to an alpha weighted average rating. Cash is included and received the highest ratings.

Data included on this page show the aggregate holdings of the Brandywine Emerging Markets Debt Fund ("EMD Fund"), in which the portfolio is invested. Holdings in the EMD Fund are not subject to ACERA's Investment Guidelines. Please note that ACERA owns units of the EMD Fund, not the underlying holdings. Data and characteristics shown are for illustrative purposes only.

Derivatives market value represents the unrealized profit/loss of all derivatives in the portfolio.



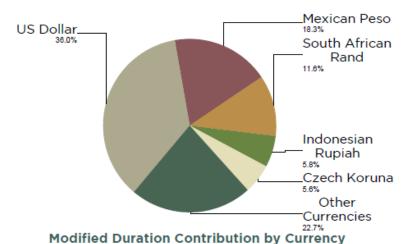
Country		3/31/202	12/31/2020			
Allocation	Portfolio	Index	Active	Portfollo	Change	
United States	50.62	36.94	13.68	44.60	6.02	
*Mexico	9.27	0.67	8.60	12.34	(3.07)	
France	0.59	8.78	(8.19)	0.64	(0.05)	
United Kingdom	0.11	5.39	(5.28)	0.11	-	
Spain	0.14	5.00	(4.86)	0.14	-	
*South Africa	4.71	-	4.71	3.45	1.25	
*Colombia	4.37	-	4.37	4.65	(0.28)	
Canada	5.43	1.66	3.76	5.18	0.25	
*Russian Federation	3.61	-	3.61	3.67	(0.06)	
*Indonesia	3.44	-	3.44	3.64	(0.20)	
*Brazil	2.69	-	2.69	5.32	(2.63)	
Australia	4.48	1.82	2.66	6.10	(1.63)	
*Egypt	2.09	-	2.09	1.65	0.44	
Supranational	1.61	-	1.61	-	1.61	
*Czech Republic	1.58	-	1.58	-	1.58	
*Peru	1.36	-	1.36	1.54	(0.18)	
*Malaysia	1.72	0.39	1.33	1.90	(0.18)	
*China	0.39	-	0.39	0.43	(0.03)	
*Poland	0.22	0.55	(0.32)	0.23	-	
*Zambia	0.32	-	0.32	0.31	0.01	
*Chile	0.23	-	0.23	0.06	0.16	
*Turkey	0.21	-	0.21	0.30	(0.10)	
*Uruguay	0.19	-	0.19	0.05	0.14	
Israel	0.55	0.38	0.18	0.32	0.23	
Bahamas	0.11	-	0.11	-	0.11	
*Saudi Arabia	0.11	-	0.11	0.57	(0.46)	
*Ukraine	0.10	-	0.10	0.11	(0.01)	
Luxembourg	0.07	-	0.07	0.07	-	
Other Countries	0.09	38.43	(38.33)	0.97	(0.87)	
Derivative P/L	(0.40)	-	(0.40)	1.66	(2.06)	
Total:	100.00	100.00	-	100.00	-	

Currency	3	3/31/202	12/31/2020			
Allocation	Portfolio	Index	Active	Portfollo	Change	
Euro	4.98	34.07	(29.08)	0.63	4.36	
US Dollar	16.46	36.94	(20.48)	16.23	0.23	
Japanese Yen	4.28	16.86	(12.58)	-	4.28	
*Chilean Peso	10.94	-	10.94	5.03	5.91	
*Mexican Peso	10.01	0.67	9.35	13.10	(3.09)	
South Korean Won	5.80	-	5.80	4.80	1.00	
*Polish Zloty	6.19	0.55	5.65	2.90	3.29	
Canadian Dollar	5.90	1.66	4.24	2.97	2.93	
*Russian Ruble	4.05	-	4.05	5.29	(1.24)	
*Brazilian Real	3.48	-	3.48	3.90	(0.42)	
*Czech Koruna	3.48	-	3.48	3.07	0.41	
*Hungarian Forint	3.39	-	3.39	3.83	(0.44)	
*Indonesian Rupiah	3.30	-	3.30	3.74	(0.44)	
*Malaysian Ringgit	3.54	0.39	3.14	3.70	(0.16)	
Norwegian Krone	3.19	0.21	2.98	3.06	0.14	
*Egyptian Pound	1.84	-	1.84	0.97	0.87	
*Indian Rupee	1.61	-	1.61	3.77	(2.16)	
Australian Dollar	0.25	1.82	(1.56)	3.00	(2.75)	
*South African Rand	0.75	-	0.75	2.52	(1.77)	
*Colombian Peso	0.58	-	0.58	1.97	(1.39)	
*Peruvian Nuevo Sol	0.49	-	0.49	1.41	(0.92)	
Danish Krone	-	0.42	(0.42)	-	-	
Israeli Shekel	-	0.38	(0.38)	-	-	
Singapore Dollar	-	0.36	(0.36)	-	-	
Swedish Krona	-	0.30	(0.30)	-	-	
British Pound Sterling	5.48	5.39	0.09	14.12	(8.64)	
Total:	100.00	100.00	-	100.00	-	

^{*}Emerging Markets are defined as any country and currency included in the JP Morgan Government Bond Index-Emerging Market or the JP Morgan Emerging Market Bond Index Global indices.



Source of Portfolio Duration by Currency Denomination



3/31/2021 12/31/2020 Total 0-3 >3-10 >10-20 >20+ Total Currency Change US Dollar 0.06 0.39 (1.11)1.59 0.94 (0.73)*Mexican Peso 0.13 0.14 0.21 0.48 (0.26)*South African Rand 0.18 0.13 0.30 0.10

(In Years)

*Indonesian Rupiah 0.15 0.15 (0.07)*Czech Koruna 0.15 0.15 0.15 *Russian Ruble 0.14 0.14 (0.07)*Peruvian Nuevo Sol 0.11 0.11 (0.02)*Colombian Peso 0.10 0.10 (0.23)*Indian Rupee 0.07 0.07 0.07 *Malaysian Ringgit 0.01 0.04 0.05 (0.01)*Brazilian Real 0.03 0.03 (0.07)Australian Dollar 0.03 0.03 (0.40)*Chilean Peso 0.03 0.03 0.03 *Egyptian Pound 0.01 0.01 0.00 0.00 0.01 0.01 (0.00)

0.00

1.39

(0.86)

1.93

0.00

0.14

Modified Duration Contribution by Country vs. FTSE WGBI (USD)

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	12/	/31/2020 Total						
Country	0-3	>3-10	>10-20	>20+	Total	Index	Active	Change
United States	0.05	0.25	(1.12)	1.07	0.25	2.43	(2.18)	(0.41)
*Mexico	-	0.15	0.14	0.51	0.79	0.03	0.76	(0.40)
United Kingdom	-	0.00	-	-	0.00	0.71	(0.71)	(0.00)
France	-	0.00	-	0.10	0.10	0.80	(0.70)	(0.01)
Spain	-	-	-	0.01	0.01	0.42	(0.41)	(0.00)
*South Africa	-	0.18	-	0.13	0.30	-	0.30	0.10
*Brazil	0.00	0.06	-	0.11	0.17	-	0.17	(0.14)
*Indonesia	-	0.15	-	-	0.15	-	0.15	(0.07)
*Czech Republic	-	0.15	-	-	0.15	-	0.15	0.15
*Russian Federation	-	0.14	-	-	0.14	-	0.14	(0.07)
*Colombia	0.00	0.13	-	-	0.13	-	0.13	(0.23)
*Peru	-	0.01	0.11	-	0.12	-	0.12	(0.02)
Canada	0.00	0.01	-	-	0.01	0.11	(0.11)	0.00
Australia	0.03	-	-	-	0.03	0.13	(0.10)	(0.40)
Supranational	-	0.07	-	-	0.07	-	0.07	0.07
- *Chile	0.03	0.01	-	-	0.04	-	0.04	0.04
*Malaysia	0.01	0.04	-	-	0.05	0.03	0.02	(0.01)
*Saudi Arabia	-	-	-	0.02	0.02	-	0.02	(0.08)
*Egypt	0.01	0.01	-	-	0.02	-	0.02	(0.02)
*Ukraine	-	-	0.01	-	0.01	-	0.01	(0.00)
*Zambia	0.00	0.01	-	-	0.01	-	0.01	0.00
*China	0.01	-	-	-	0.01	-	0.01	0.01
*Turkey	0.00	0.00	-	-	0.01	-	0.01	(0.02)
Israel	0.00	0.02	-	-	0.02	0.03	0.00	0.01
*Panama	-	0.00	-	-	0.00	-	0.00	(0.00)
*Uruguay	-	0.00	-	-	0.00	-	0.00	0.00
Luxembourg	-	0.00	-	-	0.00	-	0.00	0.00
Bahamas	0.00	-	-	-	0.00	-	0.00	0.00
*Ecuador	-	0.00	-	-	0.00	-	0.00	(0.00)
Other Countries	0.00	-	-	-	0.00	3.86	(3.86)	(0.07)
Total	0.14	1.39	(0.86)	1.93	2.61	8.55	(5.95)	(1.59)

^{2.61} *Emerging Markets are defined as any country and currency included in the JP Morgan Government Bond Index-Emerging Market or the JP Morgan Emerging Market Bond Index Global indices.

0.00

0.00

0.00

(0.00)

(1.52)



Canadian Dollar

Total

Other Currencies

Total Plan Policy Index	As of: 6/1/19	10/1/17	7/1/16	1/1/13	10/1/11	4/1/11	1/1/09	7/1/06	4/1/03	6/1/01	10/1/97	1/1/96	10/1/94	1/1/92	1/1/80
91-day US T-Bill	0/1/13	10/1/11	171110	1/1/13	10/1/11	7/1/11	1/1/03	171700	4/1/00	0/1/01	1%	1%	1%	1%	2%
BBgBarc Aggregate	11.40%	11.25%	11.25%	11.25%	15%	18%	18%	21%	23%	26%	33%	29%	32%	37%	30%
BBgBarc High Yield	1.60%	1.50%	1.50%	1.50%	2.0%	2.4%	2%	3%	3%	3%	3070	2070	0270	01 70	0070
Bloomberg Commodity	0.75%	0.75%	0.75%	110070			=/-		• 7.0	• / (
FTSE WGBI	3.00%	2.25%	2.25%	2.25%	3%	3.6%	3.6%	4%	4%	5%					
CPI-U +3% (RR)				5.00%	5%										
MSCI ACWI ex ÚS							23%	22%	22%	22%					
MSCI ACWI ex US IMI	25.00%	26.00%	26.00%	27.00%	25%	23%									
MSCI EAFE											10%	10%	10%	10%	
MSCI Emg Mkts Free ex Malaysia											3%				
MSCI World net															10%
NCREIF						6%	6%	9%	9%	9%					
NCREIF ODCE	8.00%	8.00%	8.00%	6.00%	6%										
Russell 3000	25.00%	28.00%	28.00%	32.00%	34%	37%	37%	41%	39%	35%	42%	49%	47%	40%	
HFRI FoF Composite	9.00%	9.00%													
Thomson Reuters C A Global All PE	8.00%	9.00%													
Russell 3000 +1% (PE)			18.00%	15.00%	10%										
Russell 3000 +1.5% (PE)						10%	10%								
Russell 3000 +4% (AI)											2%				
S&P 500															55%
S&P Global Infrastructure	1.75%	1.75%	1.75%												
S&P Global Large Mid Commodity & Resource	2.50%	2.50%	2.50%												
S&P/LSTA Leveraged Loan	4.00%														



ACERA

US Equity Benchmark	As of:				
B. 110000	1/1/92	1/1/80			
Russell 3000	100%	0%			
S&P 500	0%	100%			
	100.0%	100.0%			
International Equity Benchmark	As of:				
. ,	4/1/11	6/1/01	10/1/97	1/1/92	1/1/80
MSCI ACWI ex US		100%			
MSCI ACWI ex US IMI	100%				
MSCI EAFE			77%	100%	
MSCI Emg Mkts Free ex Malaysia			23%		
MSCI World net					100%
	100.0%	100.0%	100.0%	100.0%	100.0%
Fixed Income Benchmark	As of:		44400		
	6/1/19	6/1/01	1/1/80		
BBgBarc Aggregate	71.25%	75%	100%		
BBgBarc High Yield	10.00%	10%			
FTSE WGBI	18.75%	15%	400.00/		
	100.0%	100.0%	100.0%		
Real Estate Benchmark	As of:				
	1/1/80				
NCREIF ODCE	100%				
	100.0%				
Real Assets Benchmark	As of:	40/4/4			
CPI-U +3%	7/1/16	10/1/11 100%			
Bloomberg Commodity	15%	10070			
S&P Global Infrastructure	35%				
S&P Global Large Mid Commodity & Resource	50%				
2.5. 2.5. Ed. goa John Hourty & 1.0504100	100.00%	100.0%			



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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PERIOD ENDING: MARCH 31, 2021

Absolute Return Performance Report

Alameda County Employees' Retirement Association

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Hedge Fund Environment

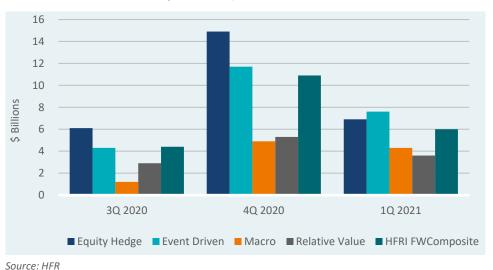


Hedge fund trends & flows

Hedge funds see third consecutive quarter of inflows

- Performance for Q1 (+6.0% for HFRI Composite) was the strongest first quarter return of any year since 2000.
- Investors allocated an estimated net \$6.1 billion into hedge funds in the first quarter of 2021, the third consecutive quarterly inflow and bringing net inflows since 3Q 2020 to \$22.1 billion. Inflows were led by Relative Value fixed income strategies which received an estimated \$5.6 billion in new flows during the quarter.
- After strong performance in Q1, Event Driven strategies now account for more than \$1 trillion of the \$3.8 trillion hedge fund industry, with Equity Hedge strategies slightly ahead (\$1.2 trillion). Event Driven Special Situations strategies were the best performing substrategy during Q1, gaining +10.0%.
- Relative Value Multi-Strategy firms continue to dominate investor inflows with \$4.3 billion coming in Q1 on top of strong Q4 2020 inflows.

HFRI STRATEGY RETURNS, LAST 3 QUARTERS



QUARTERLY NET FLOWS TO HEDGE FUNDS



Source: HFR



Factors additive over the long term but diminished by short term returns



Fama-French 5-Factor model factors are mostly positive over last 20 years, as has been global trend following, a key component of most alt beta strategies.

2020 saw major drawdowns in several factors – including Value – with only minor gains elsewhere to offset those losses.

Factor returns have shifted tremendously since October 2020. Notably, Value and Trend following have seen significant reversals.

Factor detail: Quality = Fama French Robust Minus Weak, Small Cap = FF Small Minus Big, Investment = FF Conservative Minus Aggressive, Value = FF High Minus Low, Momentum = FF-Carrhart Momentum, LT Reversion = FF Long Term Reversal, ST Reversion = FF Short Term Reversal, Global Trend Following = SocGen Trend Index (representing momentum in equity + non equity assets)



Treasury yields and value

UST YIELDS AND EXCESS CUMULATIVE RETURNS FROM LARGE CAP VALUE, INDEXED TO 100



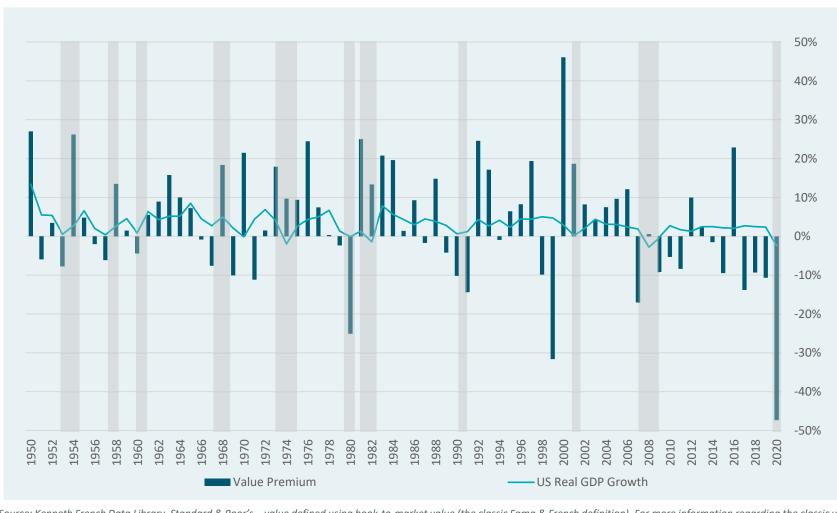


The recent period of value outperformance corresponds with rising rates

Source: Bloomberg. Excess returns defined by Russell 1000 Value cumulative total return subtracted by Russell 1000 Growth cumulative total return



Value & the economic cycle



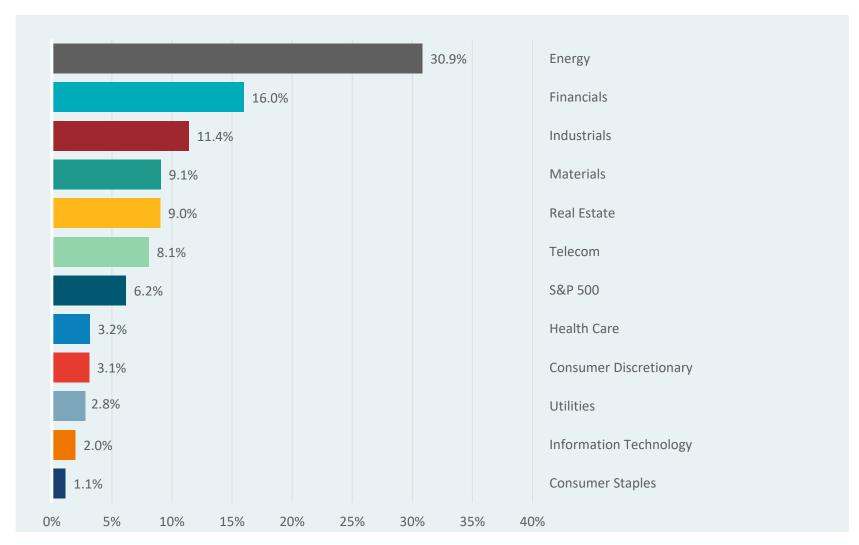
Value often outperforms during economic recession & during the early stages of recovery

Though this relationship has only held some of the time

Source: Kenneth French Data Library, Standard & Poor's – value defined using book-to-market value (the classic Fama & French definition). For more information regarding the classic value premium definition see Fama and French, 1993, "Common Risk Factors in the Returns on Stocks and Bonds," Journal of Financial Economics



Value is exposed to sector swings (Q1 2021)



Source: Bloomberg, as of 3/31/21



ACERA Performance



Allocations

Target

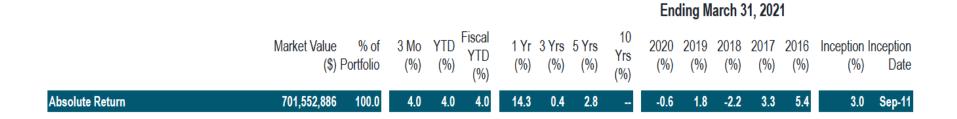
Sub	-categories	Target Allocations	Min./Max. Ranges			
AR	Portfolio	9.0%	5% to 10.5%			
•	Alternative Premia Strategies	4.5%	2% to 6%			
•	Fund of Funds	3.6%	2% to 6%			
•	Other Alternatives/Opportunistic	0.9%	0% to 4.5%			

Current (as of 3/31/2021)

Sub-categories		Current Allocations	Min./Max. Ranges
AR Portfolio		7.0%	5% to 10.5%
•	Alternative Premia Strategies	1.9%	2% to 6%
•	Fund of Funds	3.5%	2% to 6%
•	Other Alternatives/Opportunistic	1.5%	0% to 4.5%



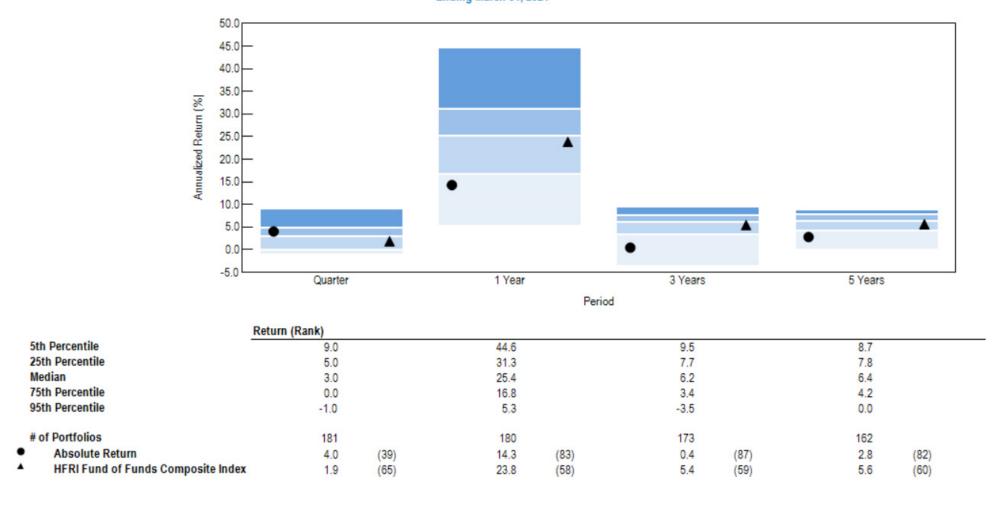
Performance Summary





Relative Performance

InvMetrics All DB Hedge Funds Gross Return Comparison Ending March 31, 2021





Portfolio Statistics* (as of 3/31/2021)

	Benchmark HFRI FoF Composite	Absolute Return Portfolio	MSCI ACWI
Max Drawdown	-9.0	-10.5	-21.3
Sharpe Ratio	0.66	0.46	0.78
Beta	0.30	0.12	1.00
Correlation to MSCI ACWI	0.85	0.37	1.00
Annualized StDev	5.0	4.4	14.0
*Since inception of AR Portfolio (9/2011)			

Portfolio performance and risk targets are:

AR portfolio returns to exceed benchmark

Correlation to global equities less than or equal to 0.5



Appendix

Glossary

Beta - A measure of systematic (undiversifiable) 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.

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 optimize the benefits of diversification when constructing an investment portfolio.

Internal Rate of Return (IRR) – the interest rate which is the net present value of all the cash flows (both positive and negative) of an investment.

Maximum Drawdown – the maximum loss from a peak to a trough of a portfolio before a new peak attained. Maximum drawdown measures the downside risk over a specified time period.

Standard Deviation - A measure of volatility, or risk. Measures risk by indicating how far from the average, or mean, return one is likely to fall in any given time period. The rules of statistics dictate that you will fall within 1 standard deviation of the mean 2/3 of the time and within 2 standard deviations 95% of the time. 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%.

Glossary

Sharpe Ratio - A measure of that explains the return of an investment compared to its risk. The Sharpe Ratio indicates excess portfolio return for each unit of risk over the risk free rate (usually short-term Treasuries or LIBOR) per unit of volatility. The higher the Sharpe Ratio, the greater its risk-adjusted return.

Time Weighted Return – A measure of the compound rate of growth in a portfolio, which eliminates the distorting effects of growth rates created by inflows and outflows of money.







PERIOD ENDING DECEMBER 31, 2020*

Private Equity Review

Alameda County Employees' Retirement Association

*Pages 7-9 and 14 as of September 30, 2020, the latest date benchmark data available on publication date of this report.

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PE Portfolio Diversification by Industry

PE Portfolio Diversification by Vintage Year



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DEBT RELATED

- HY issuance was up and leveraged loan issuance was down. In 2020, US high yield issuance was up 54.2% at a record high of \$411.6 billion compared to 2019¹. Leverage loan issuance volume was \$711 billion in 2020, down 12.0% from the same time last year¹.
- HY Credit Index and BB index spreads loosened, while CCC index spreads tightened. US HY Credit Index and BB index spreads loosened by 20 bps and 43 bps in 2020 (+5.4% and +16.4 from 2019, respectively)². At the same time, CCC index tightened by 198 bps (-14.5% versus 2019 levels)². B spreads remained flat, tightening by 1bp².
- With decline in LBO debt issuance, interest coverage increased significantly in US. Total leverage averaged 5.7x (Debt / EBITDA) in 2020 for US new issue loans, down 3.0% from 2019³. Interest coverage averaged 3.5x (EBITDA / Cash Interest), up 27.8% from 2019³. In Europe with 2020 LBO Loan volume at \$43.8 billion down 17.5% from 2019 and down 68.2% from \$137.7 billion peak in 2007¹¹, leverage multiples nudged up 4.5% to 5.9x in 2020¹⁰, still below 6.1x peak in 2007¹¹.

GLOBAL

- Investment activity was down, average deal size was up. During 2020, global PE firms invested in \$810.1 billion worth of deals, up 6.3% from the same time prior year and closed on 24,482 transactions, down 5.1% from same time in 2019⁶.
- PE dry powder continued to surge globally. In 2020, global total PE dry powder was at \$1.75 trillion, up 10.6% from 2019⁴. US total PE was up by 12.5% to \$970.7 billion; Europe total PE increased by 6.6% to \$329.5 billion; Asia total PE was up by 7.8% to \$363.1 billion; and the rest of world total PE was up by 3.6% to \$57.6 billion⁴. By sub-asset, VC dry powder grew most in the US (26.5%), Europe (23.0%), and Asia (17.8%)⁴.

US BUYOUTS

- Dry powder increased. In 2020, US buyout dry powder was \$525.3 billion, up by 8.2% from the same time in 2019⁴.
- Fundraising activity was down significantly. In 2020, US firms across all buyout strategies raised \$172.0 billion, down by 39.5% from same time prior year⁵. Average fund size decreased 30.3%, from \$1.79 billion in 2019 to \$1.25 billion in 2020⁵.
- Investment activity was up, average deal size was down. During 2020, US buyout firms invested in \$241.1 billion worth of deals (-4.7% from 2019) into 3,244 deals (+2.9%)⁶.



- LBO price multiples were up. As of December 31, 2020, US LBO purchase price multiples (Enterprise Value / EBITDA) were at 11.4x, a 2.2% increase from end of 2019⁷.
- Exit activity increased, but with smaller transactions. During 2020, US buyout firms exited 3,244 companies, representing \$241.1 billion in total transaction value¹². This represented a 2.9% increase in the number of exits and a 4.7% decrease in total transaction value compared to the same time last year¹².

US VENTURE CAPITAL

- Dry powder increased. In 2020, US VC dry powder was at \$153.6 billion, up 26.5% from 2019⁴.
- Fundraising activity slowed down, but average fund size increased. US VC firms raised \$77.3 billion during 2020, a 45.3% increase from the same period last year⁵. 459 funds closed in 2020, a 13.1% decrease from the same period last year⁵. The average US VC fund size increased to \$168.4million by 67.1% versus the same period last year⁵.
- Investment activity was down, average deal size was up. US VC firms deployed \$181.8 billion in capital in 2020, a 28.8% increase from 2019 as deal activity skewed from early to late stage⁶. The number of rounds closed at 6,384, a 10.2% decrease from the same time last year⁶. The average investment per deal increased to \$35.7 million, a 43.4% increase from prior year⁶.
- Seed stage valuation was down, but Early and Late VC valuations increased. Compared to December 31, 2020, the average pre-money valuations decreased for Seed-stage VC in 2020, down 16.7% at from \$6.0 million to \$5.0 million⁸. The average pre-money valuations increased for both early VC and late VC stages in 2020: up 7.1% at \$30.0 million for Early-stage VC, and 18.3% at \$76.9 million for Late-stage⁸. Over the past 3 years, the average pre-money valuations of Seed-, Early- and Late-stage investments were up 16.7%, 66.7%, and 61.8%, respectively⁹.
- Exit activity increased significantly with larger transactions. US VC firms exited 998 companies in 2020, up by 47.9% from last year and 47.6% from three years ago⁶. This represented the record high \$241.0 billion in transaction value, up by 201.3% from the same period last year and 366.1% from three years ago⁶. Largest sectors exited were Technology Services and Health Technology.



EX US

- Dry powder grew ex-US, but absolute level still less than in the US. PE dry powder outside the US grew to \$776.9 billion for 2020, an 8.4% increase versus last year⁴. However, dry powder outside the US was still 20% less than dry powder in the US (\$970.7 billion)⁴.
 - Europe VC and buyout dry powders both up. VC at \$37.5 billion and buyout at \$218.6 billion were up 23.0% and 8.2% from 2019, respectively⁴.
 - In Asia, VC dry powder increase paralleled US and Europe. Growth equity dry powder decreased as buyout saw increase. VC dry powder at \$124.0 billion was up 17.8% from 2019⁴. Growth equity declined to \$116.2 billion (-4.8% from 2019), but with larger funds raised targeting control deals, buyout dry powder increased to \$99.7 billion (+16.7%)⁴. In aggregate, growth equity and buyout dry powder was \$215.9 billion, up 4.2% from 2019⁴.
- Ex-US fundraising down, driven by a significant drop in Asia. In 2020, ex-US fundraising dropped 12.9% from 2019 to \$274.3 billion⁵. The decrease was caused by Asian funds which raised \$95.5 billion, down 44.7%⁵. Fundraising in Europe and ROW increased by 24.4% and 34.7% from 2019 to \$155.5 billion and \$23.3 billion, respectively⁵.
- Capital deployment increased in all but European buyouts.
 - In both Europe and Asia, VCs invested more capital into fewer deals. Investment activity declined by 3.6% and 7.1% in Europe and Asia from 2019⁶. But capital deployed increased by 11.9% to \$46.2 billion and by 26.5% to \$119.8 billion, respectively, in Europe and Asia⁶.
 - Buyout deal activity and capital deployment declined in Europe, but rose in Asia. In Europe, buyout firms transacted invested \$115.5 billion in aggregate value (-14.6% from 2019) in 2,038 deals (-3.1%)⁶. Asia buyout firms invested \$75.8 billion in aggregate value (+18.1%) in 494 deals (+6.5%)⁶.
- Europe purchase price multiples dropped. As of December 31, 2020, Europe median purchase price multiples dropped 7.6% from 8.7x to 8.1x
 EBITDA from the same time last year¹.
- Similar to US, exit activity strengthened in Asia and Europe. Exits were smaller in Asia, but larger in Europe. Europe PE aggregate exit value amounted to \$184.8 billion, a 31.5% increase from 2019, while Asia PE exit value declined by 6.5% to \$105.1 billion⁶.



Outlook

- PE allocations likely to continue rising steadily. A recent survey of institutional investors conducted in December 2020 indicated that 39% intend to increase their allocation for private equity compared to 45% during the same period last year; 38% intend to maintain their allocation for private equity compared to 36% during the same period last year; 2% intend to commit less capital to private equity compared to 2% during the same period last year¹².
- Institutional investors most interested in investing in North America and like small- to mid-market buyouts. Based on the survey conducted in December 2020, institutional investors view North America as the most attractive location to invest in the current economic climate with 91% choosing it as their preferred developed market investment destination, followed by Western Europe (82%) and Asia (68%) ¹². China (58%) and India (27%) are the top two desired countries in the emerging markets for investors ¹². In the same survey, North American respondents were heavily focused on U.S. Middle Market (78%), U.S. Growth Capital Funds (59%), and Small Market Buyouts (56%) with European Middle Market Buyouts (44%) just slightly behind ¹².

Notes

- 1. Leveraged Loan Monthly Thomson Reuters LPC
- 2. Guggenheim High-Yield Bank Loan Outlook
- 3. LCD's Leveraged Buyout Review
- 4. Pregin Dry powder by Geography (Pregin Website) Dry powder includes Buyout, Distressed PE, Growth, Mezzanine, Co-investments, Balanced, and Venture Strategies.
- Pregin Private Equity Historical Fundraising Statistics
- 6. Pregin Pro Buyout and Venture Deals and Exits
- 7. US LBO Review
- 8. PitchBook-NVCA Venture Monitor
- 9. PitchBook's VC Valuations
- 10. LCD European Leveraged Buyout Review
- 11. European Leveraged Lending Review
 - a. Ex US Multiples were estimated utilizing a number of sources including Pregin Private Equity-Backed Buyout Deals and Exits Factsheet, LCD's Leveraged
 - b. Buyout Review, Pitchbook Europe M&A and Leveraged Loan Monthly Thomson Reuters LPC.
- 12. Probitas Partners 2021 Institutional Investors Private Equity Survey



					Unfunded	
	Policy Target	Policy Range	Market Value %	Market Value \$(000)	Commitment \$(000)	Market Value + Unfunded \$(000)
ACERA Plan Assets - Total	raiget	Nange	70	\$8,685,488	۶(۵۵۵)	Omanaea 5(000)
	0.00/	0.139/	0.40/	\$728,849	\$481,030	¢1 200 970
Private Equity:	8.0%	0-13%	8.4%	\$728,849	\$481,030	\$1,209,879
Buyouts	60.0%	30-80%	51.6%	\$376,180	\$323,404	\$699,584
Venture Capital	20.0%	0-40%	30.6%	\$223,099	\$37,957	\$261,056
Debt-Related/Special Situations	20.0%	0-70%	17.8%	\$129,570	\$119,669	\$249,239

Portfolio Summary

- As of September 30, 2020, the Private Equity portfolio had a total market value of \$728.8M, with \$376.2M in Buyouts, \$223.1M in Venture Capital, and \$129.6M in Debt-Related / Special Situations. Total market value is the current reported value of investments, excluding unfunded commitments.
- Since its initial allocation to Private Equity in Q4 2008, ACERA has contributed \$953.8M towards its Private Equity commitments, with \$495.3M to Buyouts, \$170.5M to Venture Capital, and \$287.9M in Debt-Related / Special Situations. Unfunded commitments total \$481.0.0M
- The portfolio exposure at 8.4% is above the 8.0% policy target but within its 0-13% target range. Compared to December 31, 2019, portfolio exposure is up 0.5%, driven by Venture Capital's strong performance relative to Public Markets. Buyout remains under its policy target, Venture capital above its target and Debt-Related / Special Situations below its policy target but all within policy ranges.

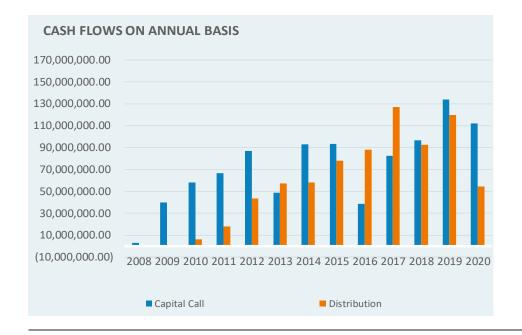
Portfolio Activity

In the fourth quarter of 2020, ACERA committed \$35.0M to CD&R XI, L.P. and \$20M to Canvas Ventures III, L.P.

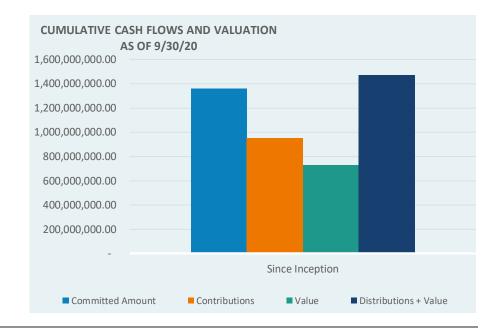


Performance

- Current Private Equity portfolio is valued at \$728.8M. Capital calls continued to outpace distributions by a ratio of 2.061:1.0 in 30'20 as commitments have increased over the last several years in order to meet higher allocation target to Private Equity. Portfolio investments have a capital-weighted average life of 4.7 vears.
- Since inception (2008):
 - The portfolio has produced +14.66% net IRR, outperforming its Thomson Reuters C|A Global PE benchmark pooled IRR of 13.38% by 128 basis points. Portfolio returns rank above Median on net IRR, Total Value Multiple (TVPI), and Distribution Multiple (DPI).
 - Relative to same Vintage global benchmark peers, Buyout ranks above Median on IRR, TVPI, and DPI; Venture Capital ranks above Top-Quartile on TVPI and DPI and slightly below Top-Quartile on IRR; and Debt Related/ Special Situations ranks above Median on DPI and slightly below Median on IRR and TVPI.
- Together with \$743.1M in realized distributions (0.78x cost), Private Equity's Total Value at \$1.471.9M is approximately \$518.1M above \$953.8M cost (1.54x cost). net of fees. Return drivers include:



- Venture Capital up \$233.9M/+137.2% versus cost (Third Rock Venture II & III, General Catalyst VI, Great Hill IV, Khosla Ventures IV & Seed B, and NEA 13 and 14 leading), with 106.4% of called capital realized and distributed. Since inception, this portfolio produced 21.4% net IRR versus its peer global benchmark of 18.05% pooled IRR.
- Buyout up \$230.7M/+46.6% versus cost (Great Hill V and VI. Sycamore Partners I, Warburg XI, Insight II and Peak Rock Capital Fund II leading) with 70.6% of called capital realized and distributed. Since inception, the Buyout portfolio produced 13.58% net IRR versus its peer global benchmark of 14.83% pooled
- Debt-Related / Special Situations was up \$53.5M/+18.6% versus cost (Centerbridge Special Credit Partners, ABRY Advanced Securities II and Senior Equity IV, and Partners Group 2008 leading), with 73.6% of called capital realized and distributed. Since inception, this portfolio produced 8.36% net IRR versus its peer global benchmark of 9.03% pooled IRR.
- Within Private Equity, the current allocation of invested capital is 51.6% to Buyouts, 30.6% to Venture Capital and 17.8% to Debt / Special Situations. Of \$743.1M in cash distributions, 47.1% were from Buyouts, 28.5% from Debt-Related/Special Situations, and 24.4% from Venture Capital.



	1-Year	3-Year	5-Year	10-Year	Since Inception ²
Buyout	11.62%	11.72%	10.66%	13.95%	13.58%
Thomson Reuters C/A Global Buyout Benchmark ¹	16.52%	15.01%	16.55%	15.68%	14.83%
Venture Capital	37.96%	22.52%	18.21%	21.53%	21.42%
Thomson Reuters C/A Global Venture Capital & Growth Equity Benchmark ¹	27.80%	21.52%	17.40%	18.54%	18.05%
Debt-Related / Special Situation	-9.76%	-5.67%	1.80%	6.95%	8.36%
Thomson Reuters C/A Global All Debt Benchmark ¹	3.87%	5.55%	7.63%	8.63%	9.63%
Total Private Equity	14.93%	12.79%	12.20%	14.60%	14.66%
Thomson Reuters C/A Global All Private Equity Benchmark ¹	14.76%	13.54%	13.60%	13.69%	13.38%

Identical cash flows from the portfolio inception through 9/30/2020 invested in the Russell 3000 Total Return index would yield a 13.61% (Long Nickels). The Private Equity Portfolio outperformed the Russell 3000 by 1.05%. Public Market Equivalent analysis provided by Solovis.



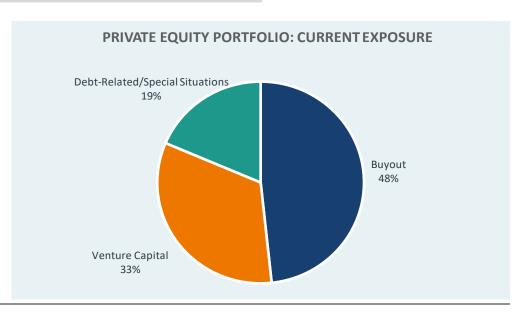
¹ Benchmarks: Thomson Reuters C/A as of 9/30/20, vintage 2008 through present.

² ACERA's inception date of November 21, 2008 vs. Thomson Reuters C/A's inception date of January 1, 2008.

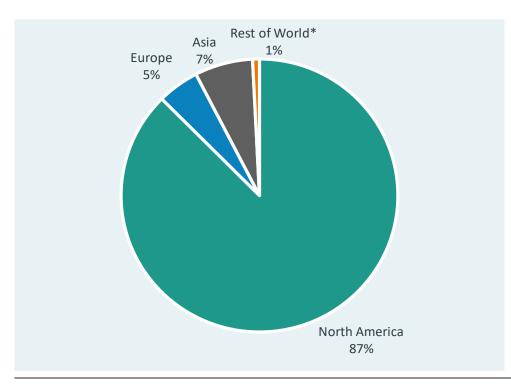
			Current Exposure as %
Investment Type	Commitment	Current Exposure	of Private Equity
Buyout	806,806,404	408,692,265	48.3%
Venture Capital	218,100,000	279,913,704	33.1%
Debt-Related/Special Situations	325,247,675	157,222,435	18.6%
Total Private Equity	1,350,154,079	845,828,404	100.0%

Current Exposure as %

Investment Type	Target Range	Target Exposure	of Target	Difference
Buyout	4%-8%	4.8%	4.2%	-0.6%
Venture Capital	0%-3%	1.6%	2.8%	1.2%
Debt-Related/Special Situations	1%-3%	1.6%	1.7%	0.1%
Total Private Equity	0%-13%	8.0%	8.7%	0.7%



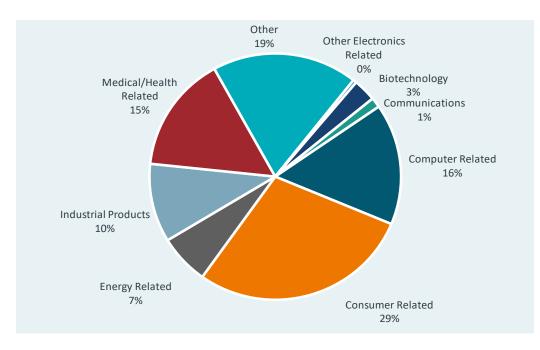
Geography	Current Exposure
North America	740,901,368
Europe	41,452,636
Asia	57,164,294
Rest of World*	6,359,293
Total Private Equity	845,828,404



Based on the value of private equity portfolio companies as of December 31, 2020, as provided by the partnerships. Differences between reported value and the private equity portfolio valuation is due to temporary cash funds, fees, other expenses, and holdings with undisclosed industry breakdown.

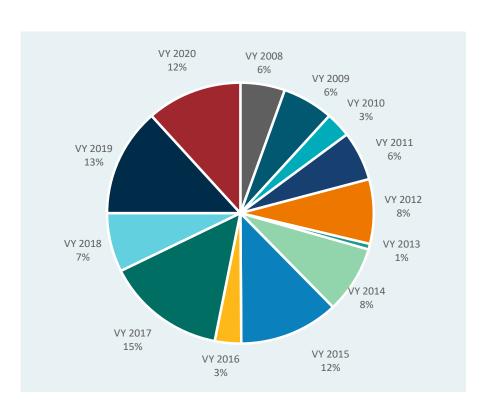
* Rest of World includes: Brazil, New Zealand, Kenya, Israel, United Arab Emirates, Australia, and Turkey.

Industry	Current Exposure
Biotechnology	25,051,639
Communications	11,081,618
Computer Related	134,595,639
Consumer Related	241,521,549
Energy Related	54,977,951
Industrial Products	87,297,337
Medical/Health Related	129,325,710
Other	158,396,608
Other Electronics Related	3,660,636
Total Private Equity	845,828,404



Based on the value of private equity portfolio companies as of December 31, 2020, as provided by the partnerships. Differences between reported value and the private equity portfolio valuation is due to temporary cash funds, fees, other expenses, and holdings with undisclosed industry breakdown.

	Commitment as	% of Portfolio	Reported Value as
Vintage Year	of 12/31/20	Commitment	of 12/31/20
2008	72,370,855	5.4%	8,909,011
2009	83,500,000	6.2%	49,324,382
2010	42,500,000	3.1%	3,762,517
2011	82,500,000	6.1%	70,031,731
2012	108,500,000	8.0%	124,578,091
2013	10,000,000	0.7%	20,300,627
2014	112,080,000	8.3%	93,336,010
2015	163,250,000	12.1%	155,189,129
2016	43,250,000	3.2%	27,167,303
2017	197,251,820	14.6%	170,518,731
2018	98,000,000	7.3%	30,352,794
2019	181,000,000	13.4%	62,814,030
2020	155,951,404	11.6%	29,544,047
Total Private Equity	1,350,154,079	100%	845,828,404



Significant Events / Material Exceptions to Policy

 As of September 30, 2020, the Private Equity Portfolio's market value at 8.4% is above its target allocation of 8.0%, but within its target range. In the second half of 2019, ACERA reduced the allocation to Private Equity from 9.0% to 8.0%.

Appendix



					Unfunded	
	Policy Target	Policy Range	Market Value %	Market Value \$(000)	Commitment \$(000)	Market Value + Unfunded \$(000)
ACERA Plan Assets - Total				\$9,673,687		
Private Credit:	4.0%	3-5%	0.6%	\$57,124	\$172,623	\$229,747

Portfolio Summary

- As of December 31, 2020, the Private Credit portfolio had a total market value of \$57.1M. Total market value is the current reported value of investments, excluding the remaining amount of unfunded commitments.
- Since ACERA's initial allocation to Private Credit in Q1 2019, the Plan has contributed \$58.5M towards its Private Credit commitments.
 Unfunded commitments total \$172.6M.
- The portfolio exposure at 0.6% is below the policy target of 4.0% and falls short of the policy range of 3-5%. ACERA continues to make new commitments to the allocation to reach its policy target.

Portfolio Activity

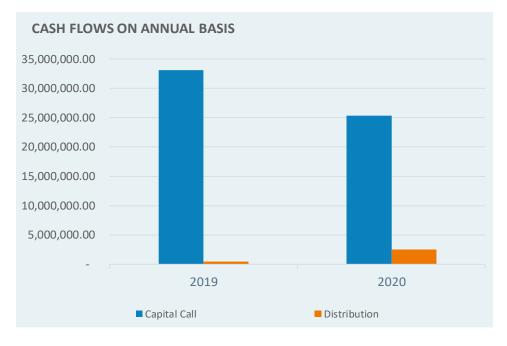
Most recently ACERA made two new commitments to Private Credit in the second half of 2020: \$75.0M to Blackrock Direct Lending Fund IX,
 L.P., and \$75.0M to HPS Specialty Loan Fund V, L.P.

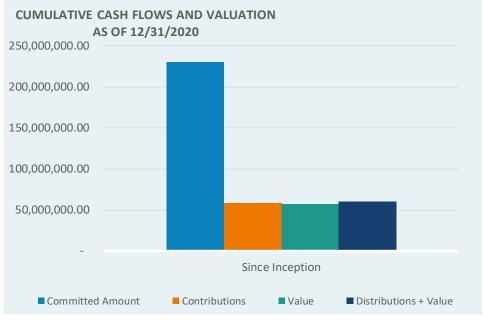
Performance

- The Private Credit's performance, as measured by net IRR, is 3.29%, 227 The Portfolio has three commitments to date: bps below the same cash flow invested in the S&P LSTA U.S. Leveraged Loan 100 Index of 5.56%. With a capital-weighted average life of investments at 0.7 years, portfolio IRR is not meaningful.
- The portfolio is currently valued at \$57.1M. Together with \$2.9M in realized distributions (0.05x cost), Private Credit's Total Value at \$60.1M is approximately \$1.6M above \$58.5M cost (1.03x cost), net of fees.
- Capital calls continued to dominate the portfolio's cash-flow activity as new investments are made to reach the target exposure.

Owl Rock First Lien, LP	\$80.0M
HPS Specialty Loan Fund V, LP	\$75.0M
 Owl Rock Direct Lending Fund IX, LP 	\$75.0M

As of year, end Owl Rock First Lien is the only fund to call capital.











PERIOD ENDING: DECEMBER 31, 2020

Real Assets Review

Alameda County Employees' Retirement Association

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RA Portfolio Diversification by Vintage Year



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RA Portfolio Diversification by StrategyRA Portfolio Diversification by Geography		

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Real Asset Outlook



Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Private Real Estate	Transaction volumes are picking up after a slow 2020, which should help price discovery in some sectors. Private market valuations have been slower to adjust than the public markets. Rent collections are back to normal levels for all but retail and hospitality however uncertainty remains on the demand side as the recovery progresses. It will likely take several years to fully understand the impact that work from home will have on office demand.	 Core real estate returns tend to have high correlation to overall GDP growth. Any hiccup to the recovery or reversal in vaccination progress will have an impact. A sharp rise in interest rates could create upward pressure on cap rates, hurting asset values. Increasing e-commerce adoption rates may continue to impact retail. 	Our outlook remains neutral; however, we continue to take a barbell approach. A lagging appraisal process may impact office/retail values, giving us concern over existing traditional core assets. We recommend leaning away from traditional core and diversifying into alternative property types such as self storage, senior/student housing, medical office, life science as well as dedicated industrial. We also continue to recommend deploying fresh capital in non-core closed end funds with value added or opportunistic strategies.	Neutral
REITs	REITs experienced high volatility in 2020, declining almost 40% by April and recovering to down only 10% for the year, yet still underperforming broad equities. Sector dispersion was incredibly high as Covid-19 shutdowns negatively impacted some sectors (retail/office/hospitality), while others benefited (industrial/data centers).	 REITs have higher leverage than core real estate and have higher exposures to non-core sectors such as hotels, self-storage, for-rent residential homes and senior/student housing. Rising interest rates can have a negative effect on REITs and all yield-sensitive assets over short periods. REITs are sensitive to economic decline and general equity market volatility. 	Although performance diverged in 2020 as REITs experienced more pain than private real estate, current premiums to NAV remain high and relatively unattractive. REITs can provide liquid exposure to real estate with the following caveats: high sensitivity to equity market volatility over shorter holding periods, higher leverage and higher exposures to non-core sectors such as hotels, self- storage, for-rent residential. Active management is preferred.	Neutral
Commodities	Commodities futures have had lackluster performance over the last decade. An upward sloping futures curve has been a headwind for the asset class, and, with the exception of oil futures, this condition remains for most commodities today. The current economic recovery and re-opening is creating higher forecasted demand from energy and industrial metals which has led to a strong recent recovery in performance.	 Oversupply issues across energy, metals and agriculture have driven much of the negative performance, that condition could remain. Energy prices remaining at sustainable levels is largely dependent upon a continuation of OPEC led production restraint. Any reversal in the economic recovery or vaccination roll-out will impact demand for energy and industrial metals. 	Futures based commodities strategies continue to face structural headwinds with steep contango and low collateral rates. A strong economic recovery could be bullish for spot prices, however. Futures based commodities potentially offer insurance against an unexpected spike in inflation, although that can be an expensive policy as we've seen over the past decade.	Neutral



Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
TIPS	Declining nominal interest rates have led to positive total returns and recent increases in inflation expectations have caused TIPs to outperform nominal bonds. Breakeven rates have risen sharply during the recovery, although it may be technically driven through government purchases.	 Decreasing inflation expectations or rising nominal interest rates would be a headwind to TIPS. Continued low rates creates a high cost of carry. 	Low absolute current yields and moderate inflation expectations has led to low total return expectations for TIPS, especially relative to other real asset investment opportunities. If inflation continues higher, TIPS could provide protection to portfolios.	Neutral
Core Infrastructure	Performance within infrastructure was mixed for 2020 as several sectors faced Covid-related challenges, while some industries in communication and logistics thrived. With the global economy is set for a recovery, we expect lower risk infrastructure assets will continue to deliver modest high single digit returns. The asset class could see some tailwinds as investors search for income above that available in fixed income. In addition, inflation concerns from some investors may lead to additional capital entering the space.	 We remain cautious on public-private (PPP) infrastructure assets, especially in the U.S and Europe. Assets with high regulatory oversight have had a mixed history of success and the recent political environment has seen an uptick in hostility to private ownership of public goods. Strong fundraising trends in infrastructure has, in part, kept valuations elevated despite the asset classes challenges. For open-end infrastructure funds with mature portfolios, we would pay particular attention to valuations and embedded risks from exposure to energy and transportation assets. 	The asset class offers a compelling return profile that aligns well with long duration pools of capital. We favor private infrastructure funds that have in-house capability to improve operations and manage complex deal structures.	Neutral
Value-add Infrastructure	Similar to core infrastructure, exposure to certain transportation assets and midstream energy likely presented performance challenges in 2020 for infrastructure investors. In addition, the markets desire for high growth assets led to underperformance within traditionally low growth industries like infrastructure. While we would not call infrastructure cheap, on a relative basis, the segment appears attractive.	 Regulatory risk, falling power prices, demand for green energy and Covid-19 are just a sample of the challenges that infrastructure has faced in the past year. Opportunities are also created from those challenges, and we believe with the right manager, value-add infrastructure will be best positioned to take advantage of any disruptions in the industry. 	The asset class offers a compelling return profile that aligns well with long duration pools of capital. Value-add infrastructure comes with higher operational/execution risk than Core so investors should expect a broader range of outcomes and greater emphasis on manager selection.	Positive



Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Energy Transition	New development projects of renewable assets will continue to accelerate as solar and wind farms are now the cheapest form of new build electricity generation for over two-thirds of the global population. However, there is continued downward pressure on the cost of capital in the sector to mid-single digits. Outside of traditional solar & wind, there are potentially higher returning opportunities for newer technologies such as battery storage.	 Several approaches to a carbon-neutral energy system such as green hydrogen and carbon capture technology are nascent and not yet economically viable. Investments in this space will take venture-like risk and rely on significant cost reductions as well as favorable policy regimes to be successful. 	While the opportunity to achieve an attractive return in solar & wind has passed, we do think there will be potentially attractive opportunities in sectors that still require innovation. However, it is difficult to find areas where investors will be appropriately compensated for risk given the amount of capital in the space.	Neutral
Oil & Gas	The oil & gas industry enters 2021 with hopes for an improved market environment following several years of weak commodity prices. The dual impact of Covid related demand destruction and the disintegration of OPEC+ supply controls sent oil markets into a tailspin last year. Higher commodity prices have begun to breathe some life into publicly-listed upstream companies and likely some areas of the capital markets will return to provide funding for independent drillers. Our belief is that the private markets that funded a lot of the growth in energy production will continue to shrink as institutions shift capital towards cleaner forms of energy.	 The industry could see a rebound in 2021 if prices stabilize around \$65-70/bbl, or higher. Public equity and debt markets could re-open for oil/gas producers as investors look for higher potential returns. We expect fundraising within private markets will remain challenging for carbon-heavy industries. Longer-term, oil demand is expected to decline as non-carbon sources of power outcompete hydrocarbons. Geopolitics and the tension between OPEC and non-OPEC producers presents an additional risk for investors. 	Higher commodity prices have improved the outlook for the energy industry and if prices hold at current levels, or move higher, the sector could rebound sharply. That said, there is still too much uncertainty around oil/gas demand, access to capital, and geopolitics for us to gain comfort in the long-term outlook for the oil/gas industry. As long-term investors, we recommend avoiding the upstream energy market but recognize that performance in the short-term could be exceptional.	Negative
Midstream Energy / MLPs	As in prior years, the MLP/midstream market appears cheap both historically and relative to other areas of the market with a yield above 8.0%. An uptick in drilling rig count and an improving outlook for the broader economy provide some tailwinds for the sector. On the flipside, the Biden administration will likely usher in greater regulatory risk and perhaps hasten the move away from carbon-based forms of energy. We wouldn't be surprised to see midstream energy perform quite well in 2021 but we remain cautious on the long-term outlook for the industry.	 Expectations have improved for the midstream industry and a strong rally in the beaten down sector is highly probable if oil prices stabilize at or above current levels. But the experience of the last several years has taught investors how quickly the tide can shift and how unpredictable those shifts can be. Regulatory risk has gone up considerably in the U.S. with the Biden administration and both houses in Democratic hands. 	We retained a negative outlook for midstream energy, despite the positive tailwinds that higher oil prices and economic growth could bring to this sector in the near-term. Longer-term, we think the unknown risks remain too high for our comfort.	Negative



Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Mining	The mining industry has not suffered quite like the oil & gas market, but it has been a weak sector for several years. Unlike oil, we see growing demand for industrial metals like copper, nickel, zinc and steel inputs as electrification takes market share from carbon-based power generation.	 Global GDP growth and the economy in China are the two biggest risks in the sector. China represents a disproportionately large buyer of industrial metals, so its economy and industrial output have a large impact on metal prices. 	Longer-term, we believe the demand outlook looks favorable for several industrial metals. However, there are a host of idiosyncratic risks in funding mining operations outside of the macroeconomic environment. We will look for skilled GPs with a track record of successfully managing these risks while generating attractive returns.	Positive
Timberland	Timber markets in North America continue to face challenges from excess inventory, low interest rates and unfavorable transaction market. Homebuilding has surged back to life after the initial decline due to the Covid lockdown. Despite the rise in homebuilding and appreciation in lumber prices, stumpage prices for southern pine remained flat. Our outlook on timber has been negative for several years due to the headwinds the asset class has faced. Despite broadly negative sentiment towards the timber industry, we struggle to make a case for returns to reach higher than mid-single digits.	 Coming off trade war headwinds, the timber market hit another bump when Covid-19 stalled exports to Asia and home building activity declined. Exports resumed in the Pacific Northwest and prices have recovered for Douglas Fir. Southern pine stumpage, on the other hand, saw little appreciation. Timber markets outside the U.S. face varying degrees of currency and political risk which in many cases has resulted in disappointing returns for investors. With few exceptions, returns do not justify the additional risk. 	For most investors, high single-digit expected returns for timberland in the U.S. is too low for the illiquidity and risk assumed within the asset class. Fundraising has been slow for several years which has resulted in a slow transaction market and less competition but finding attractive deals remains elusive.	Negative
Agriculture	Farmland prices nationally leveled off after 2014 but remain too expensive for the income and return potential. Rental income yield for permanent crop farmland hovers around 3.5% which after fees/expenses leaves little income return for investors. We are interested in opportunities where we can control more of the value-chain associated with food production.	 Similar to timber markets, we have concerns around valuations and the risk/return proposition for farmland investments. The income potential within farmland is slightly more attractive than timber and the global growth in food is a more compelling macro trend than pulp and paper but we remain bearish on the sector, in general. 	Currently, we find the asset class to be broadly expensive. We are selectively looking at agriculture business investments where crop and land are a component of a broader value-add investment strategy.	Negative



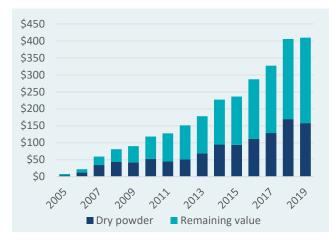
Private infrastructure

- Fundraising within Infrastructure declined in 2020 though most of that was due to challenges with fundraising across all asset classes during a lockdown. With the oil/gas sector out of favor with institutional investors, infrastructure has been a recipient for some of the commitments which used to go into natural resources. One effect of that shift has been a surge in "energy transition" funds from many of the large upstream energy managers as they try and pivot towards clean energy. It's still too early to say how successful that pivot will be, but competition should creep up for renewable energy production and storage assets.
- With deal activity slowing during the pandemic, dry powder ticked up during the year though we expect a robust transaction market in 2021.
- As institutions look for asset classes that can deliver returns above their target rates, private infrastructure should be a consideration for many investors. Historical returns range from 8-12% (net) on average, with income of 4-6% for core infrastructure funds.

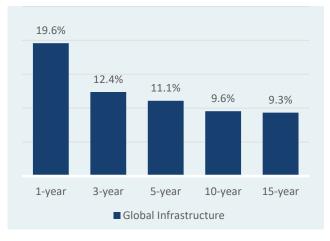
FUNDRAISING IN INFRASTRUCTURE (\$B)



INFRASTRUCTURE DRY POWDER (\$B)



INFRASTRUCTURE PERFORMANCE (NET)



Source: Pitchbook, weighted horizon IRRs as of 12/31/19



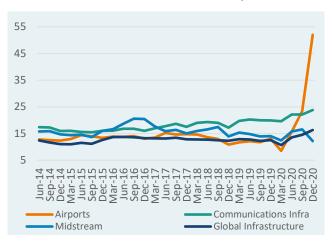
Source: Pregin/Pitchbook

Real Assets Outlook May 2021

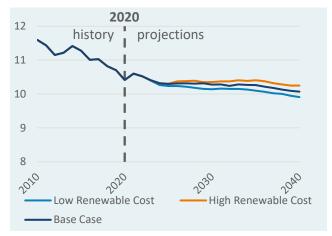
Private infrastructure (cont.)

- One of the industries hardest hit by the pandemic has been transportation infrastructure. Airport passenger traffic fell as much 90% during March/April as the full impact of social distancing orders took effect, and was off 50-60% in 2020, relative to the prior year. With traffic volumes declining in such a short period, revenue and earnings took a major hit causing what appears to be a spike in valuations. In contrast, communications infrastructure has largely been a beneficiary as data usage surged. Despite the challenges within segments of the transportation market, we find better opportunities elsewhere in the infrastructure market.
- Communication infrastructure trades at a considerable premium, 23x vs. 16x for infrastructure broadly, which reflects the stability of their earnings and future growth potential. The macro tailwinds within mobile data usage and video streaming are compelling, though valuations, at least within public markets, appear to be pricing in much of the future growth opportunity. Transactions in private markets for digital infrastructure are growing rapidly as more capital is raised to take advantage of the buildout in data storage and transmission. There are still attractive opportunities globally for digital infrastructure, but returns are coming down and finding managers that can identify underserved markets and successfully develop infrastructure will be an area of focus for our team.
- One challenging area for investors has been power production assets in the U.S. as electricity prices have been marching down for several years. The growth in low-cost renewables and stagnant/declining demand for power has hurt investment returns in both thermal and renewable power. This is a challenge for base load power assets and isn't likely to reverse as more renewables hit the grid. An area that we are seeing opportunities is within battery storage and independent power systems for commercial & industrial customers.

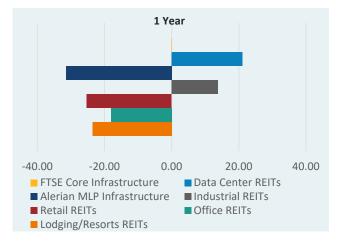
INFRASTRUCTURE VALUATIONS - EV/EBITDA



U.S. AVERAGE ELECTRICITY PRICES (CENTS PER KILOWATT HOUR)



LISTED INFRASTRUCTURE PERFORMANCE



Source: Bloomberg; Dow Jones Brookfield; S&P Indices

Source: EIA

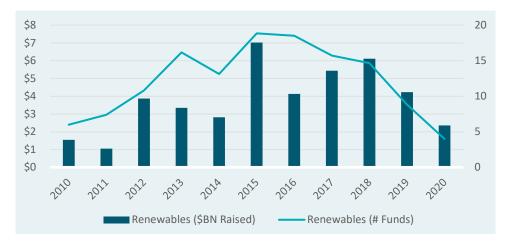
Source: eVestment; FTSE NAREIT; Alerian



Infrastructure – Energy transition

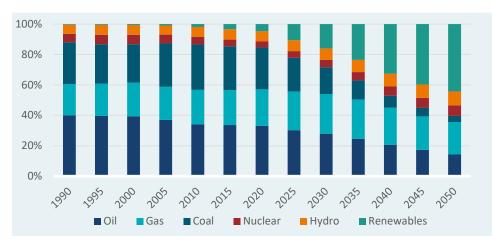
- Fundraising in dedicated renewables moderated in 2020 to \$2.4 billion. However, this universe is not easily defined and excludes funds that invest in renewables or related energy transition assets as a portion of their strategy. Taken as a whole, investment in the sector has been on a consistent upward trend, with only more room to grow as renewables have become the cheapest form of electricity generation in most geographies and costs continue to decline. According to Bloomberg¹, over \$15 trillion of investment in new renewable energy generation and battery storage assets is needed by 2050 in order to meet demand purely from economic considerations, excluding any effects of policy changes to meet emission goals.
- Despite a strong outlook for demand, there are challenges to deploying capital in the space. Returns for owning operating wind and solar assets have compressed to the mid-single digits, and the additional returns for taking development risk are only marginal due to the level of competition and the relatively straight forward operational requirements.
- We recommend investors gain exposure to this space through GPs that can invest opportunistically in projects across the energy transition, as opposed to a dedicated solar & wind development mandate.

FUNDRAISING IN ENERGY TRANSITION (\$B)



Source: Pitchbook

GLOBAL ENERGY SOURCES



Source: BP



^{1.} Bloomberg New Energy Finance, New Energy Outlook 2020.

Midstream energy/MLPs

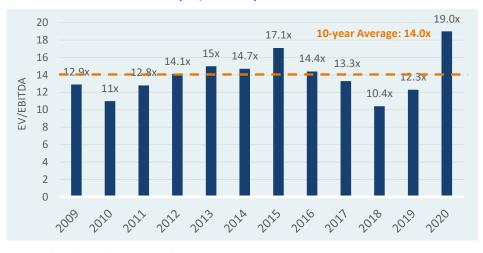
- Midstream energy stocks were down around 30% in 2020. Energy stocks, both upstream and midstream, were down over 50% in the first quarter of 2020 and unlike the broader equity market, failed to recoup those early losses by year-end.
- Yields for listed midstream companies continue to trade at a premium relative to high yield bonds and government bonds but as we cautioned last year that spread comes with an enormous amount of volatility and uncertainty. While higher oil and gas prices have improved the outlook for the upstream and midstream sectors, we remain concerned about the long-term viability of the industry. Like most investors, we've been humbled by the unpredictable nature of the global oil/gas industry. Having informed views on geopolitics, government regulations and social attitudes towards fossil fuels all have an impact on the industry and we do not claim to have special insight into those areas. So, while we recognize that higher commodity prices is a positive development, we think the risks are too great for a tactical investment opportunity in midstream energy.
- Midstream companies on average are trading around 19.0x EV/EBITDA (vs. 13-14.0x long-term average) which would seem to indicate that they are overvalued but much like airports, this is really a function of the denominator deteriorating rapidly in 2020 as earnings took a hit in the oil market sell-off. If you were to normalize earnings, we would expect a discount to historical values but as we've indicated above, cheapness is not enough for us to recommend an allocation.

MLP SPREADS VS HIGH YIELD & TREASURIES



Source: Bloomberg

MIDSTREAM VALUATIONS (EV/EBITDA)



Source: Bloomberg; Alerian MLP Index



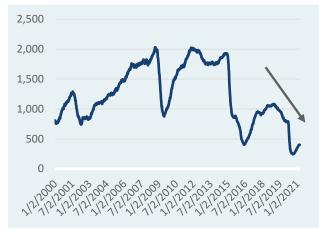
Energy – Oil/gas

- According to Pitchbook, fundraising within Oil/Gas private equity has collapsed and that mirrors our own experience within the asset class.
 Historical performance has been poor, more institutions are adopting standards in ESG, and the long-term outlook for the industry appears unfavorable. We do not see this trend reversing in any meaningful way and it would appear the private energy managers agree as they seek to pivot their business towards energy transition funds.
- Historically, oil/gas production levels in the U.S. followed drilling rig activity. If you look at the weekly drilling rig chart below, you would assume that production fell-off starting around 2016. That is not the case. Production has grown each year, hitting a peak in 2019 at around 12 million barrels/day. 2020 production levels declined by around 1 million barrels, but the U.S. is still producing oil at record levels.
 Without delving into the cause of that divergence, it has frustrated any recovery in oil prices. At some point, if the industry doesn't reinvest in drilling activity, production will fall further but capital spending discipline has not been a strength of the industry.
- For now, we would recommend investors avoid putting new capital into the sector. We recognize that if commodity prices continue to
 move north of \$65/bbl that energy stocks could be in for a strong recovery, but the long-term trends are not in the sectors favor as
 renewable energy continues to take market share.

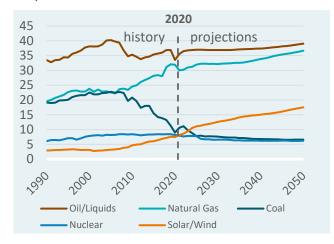
FUNDRAISING IN OIL/GAS



US WEEKLY DRILLING RIG COUNT



ENERGY CONSUMPTION BY FUEL (QUADRILLION BTU)



Source: Baker Hughes Source: EIA



Source: Pitchbook

Metals and mining

- Fundraising in the private equity mining segment has been lumpy and quite modest since the GFC, with virtually no private capital raised in the space in 2020. ESG issues in the sector have been a barrier for LPs, but it is possible for fundraising to improve if investors see the benefit of funding the extraction of materials that contribute to our shift away from fossil fuels, such as copper and lithium.
- After a modest recovery from a cyclical low in 2016, mining exploration budgets decreased by 11% in 2020 due to an initial demand shock for industrial metals and lockdown measures put in place in many countries mining companies operate. However, the surge in metal prices that followed along with the persistent low investment over the last several years leading to under-supply is expected to drive an increase in budgets for 2021. Our overall outlook within mining is positive with a notable challenge in finding enough investment opportunities that meet our underwriting criteria.
- On the investment side, we have participated in the mining sector by backing teams with expertise in financing mining projects which
 delivers a high income return with some upside associated with a structured equity security. We are more bullish on base/industrial metals
 which longer-term will benefit from a shift away from fossil fuels. We are less bullish on bulk and energy-related commodities.

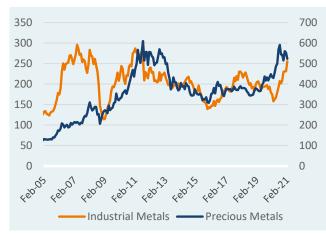
FUNDRAISING IN MINING (\$B)



CAPITAL EXPENDITURE IN MINING (\$B)



METAL PRICES



Source: S&P Global Market Intelligence

Source: Bloomberg, as of 2/26/2021

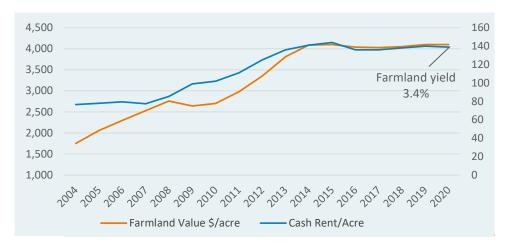


Source: Pitchbook

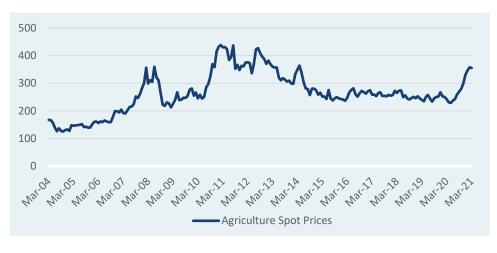
Agriculture

- Farmland values nationally have remained largely flat since 2014, despite a challenging commodity price environment over the last 5 years.
 That has put pressure on investment returns as income yields have been flat-to-down and capital appreciation has not materialized. For new investors, the investment return potential looks disappointing as rental yields remain stubbornly low (3-4% on average) and land values appear expensive.
- In the row crop segment, rental yields hover around 3% which is insufficient in our opinion for most institutional investors. Permanent crops offer the potential of higher income yields but also carry greater risk and operational expertise. There are additional ways to add value through crop selection, improving crop yields and selling land for higher-and-better-use cases. In addition, managers can control a greater share of the food production value-chain which carries higher returns but also higher operational risk.
- We tend to favor agriculture strategies that both own land for crop production and control the operating verticals that bring food to the consumer. Strategies that can capture more value through processing, storage and marketing, offer the potential of higher returns.

U.S. NATIONAL FARMLAND VALUES VS CASH RENTS



BLOOMBERG AGRICULTURE PRICES



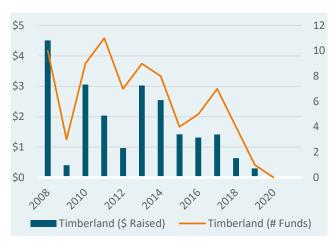
Source: USDA Source: Bloomberg, as of 3/31/20



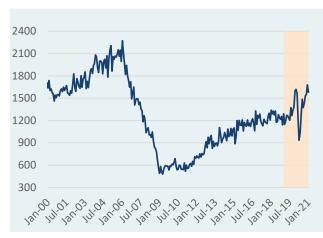
Timberland

- Fundraising has continued to be a challenge within the timber industry. According to Pitchbook, one timber fund was raised in 2019 and there were no reported funds raised in 2020 (Note: this data does not include any separate accounts that may have been raised). Despite a lack of capital being raised by TIMOs, the investment opportunity within timber has not materially improved.
- Housing starts have experienced a slow rebound since the GFC as millennials delayed buying and urban living trends reduced demand for single family homes. There was a surge in housing starts in 2019 but the impact of Covid-19 caused a sharp reversal in the first quarter of 2020. Much like the broader capital markets, housing starts recovered quickly and have surpassed the highs reached pre-Covid.
- As the chart on the bottom right indicates, one of the challenges that timber investors have faced is that the price they received for their trees (southern pine stumpage) began to decline during the GFC and largely never recovered. With housing construction turning around in 2015/16, lumber prices began to respond but the prices that timberland owners received did not. Two critical issues have kept stumpage prices depressed, excess supply of trees in the region and a lack of mill density that has created bottle necks in lumber production.

FUNDRAISING IN TIMBERLAND



US HOUSING STARTS



Source: St. Louis Fed

SOUTHERN PINE STUMPAGE VS SOFTWOOD LUMBER PRICES



Source: St. Louis Fed



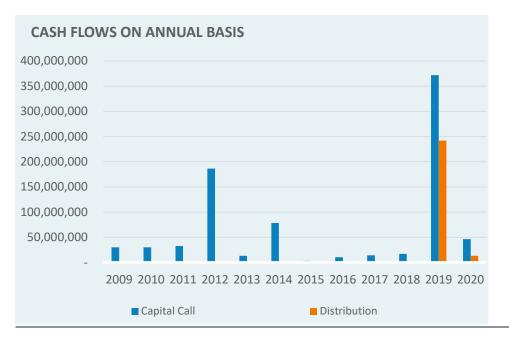
Source: Pregin/Pitchbook

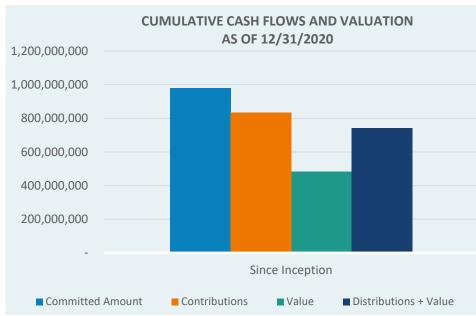
Real Asset Performance



Performance

— ACERA's Real Asset Pool has produced a -2.91% IRR since inception. The portfolios poor performance has been driven primarily by the large weighting in commodity futures (Gresham and AQR) and from earlier investments in energy (Sheridan). That said, the portfolio is beginning to see the success of more recent fund investments with Quantum now posting positive performance, several of the infrastructure investments have matured and are delivering double digit returns since inception, and the liquid pool has also performed well in 2021.





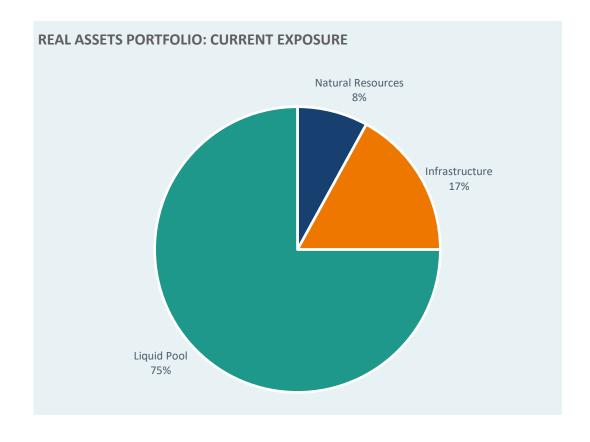


					Since
	1-Year	3-Year	5-Year	10-Year	Inception
Natural Resources Funds	6.21%	-7.39%	-2.30%	-8.99%	-9.03%
S&P Global Natural Resources Index ¹	-1.27%	0.48%	5.47%	1.93%	1.93%
Infrastructure Funds	15.67%	14.76%			12.53%
S&P Global Infrastructure Index ¹	-15.62%	-5.51%	-4.01%	-4.01%	-4.01%
Liquid Pool Funds	-0.43%	-0.37%	1.73%	-3.88%	-3.13%
Bloomberg Commodity Index ¹	0.00%	-2.23%	0.83%	-5.98%	-5.34%
Total Real Assets	2.21%	0.25%	2.21%	-3.57%	-2.91%
Blended Real Assets Benchmark ²	-1.29%	1.90%	5.73%	5.35%	5.12%

¹ Benchmarks: Identical cash flows invested in the appropriate benchmarks through the life of the portfolio up through 12/31/2020. Analysis provided by Solovis.

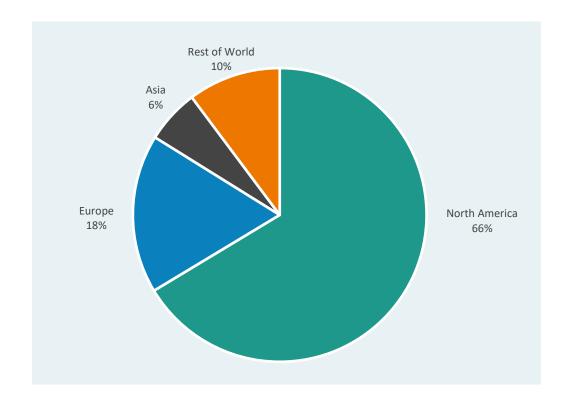
² Blendeed Real Assets Benchmark calculated on a time-weighted return basis

		Current	Current Exposure as %
Investment Type	Commitment	Exposure	of Portfolio
Natural Resources	104,000,000	40,592,307	8.4%
Infrastructure	185,000,000	79,934,323	16.6%
Liquid Pool	689,235,893	360,931,073	75.0%
Total Portfolio	978,235,893	481,457,703	100.0%



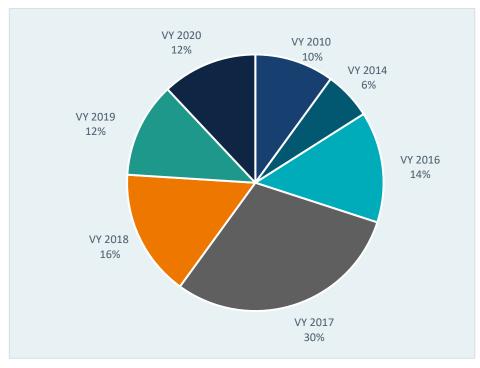
Geography	Reported Fair Value
North America	79,990,866
Europe	21,082,542
Asia	7,138,319
Rest of World	12,314,903
Total Portfolio*	120,526,630

^{*} Excludes Liquid assets.



	Commitment as	% of Portfolio	Reported Value as
Vintage Year	of 12/31/20	Commitment	of 12/31/20
2010	24,000,000	9.6%	0
2014	15,000,000	6.0%	6,792,639
2016	35,000,000	14.1%	24,479,505
2017	75,000,000	30.1%	54,205,759
2018	40,000,000	16.1%	25,857,701
2019	30,000,000	12.0%	9,191,026
2020	30,000,000	12.0%	0
Total Portfolio	249,000,000	100%	120,526,630

^{*} Excludes open-end vehicles and liquid assets.



- ACERA committed \$25 million to Vision Ridge Sustainable Asset Fund III within the infrastructure portfolio at the March Investment Committee Meeting.
- Several GPs that we have invested with previously are coming back to market in 2021 so we will be revisiting those opportunities for potential re-ups.
- As mentioned previously, we plan to increase the allocation to infrastructure investments at the expense of natural resource strategies as we move away from investments in the oil & gas industry.