

PERIOD ENDING: MARCH 31, 2021Investment Performance Review for

San Mateo County Employees' Retirement Association

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SEATTLE 206-622-3700 LOS ANGELES 310-297-1777 SAN FRANCISCO 415-362-3484 PITTSBURGH 412-784-6678

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



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



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 (unhedged) | L RETURN (hedged) | 1 YEAR TOT | AL RETURN (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

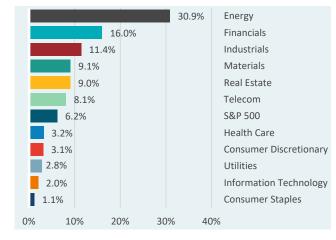


DIVIDEND YIELD VS BOND YIELD



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

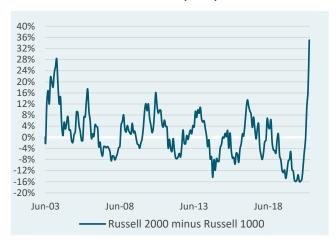
Domestic equity size & style

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)

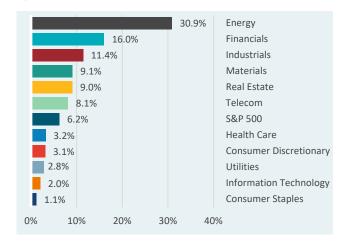


VALUE VS GROWTH (YOY)



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

International developed equity

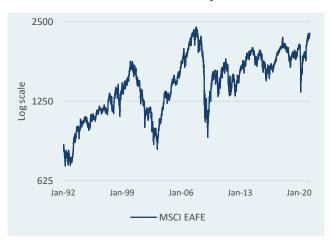
International equities delivered +3.5% (MSCI EAFE Index) during the first quarter on an unhedged currency basis. International developed underperformed the S&P 500 Index (+6.2%) while outperforming the MSCI Emerging Markets Index (+2.3%). The trend towards U.S. dollar weakness has boosted the performance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

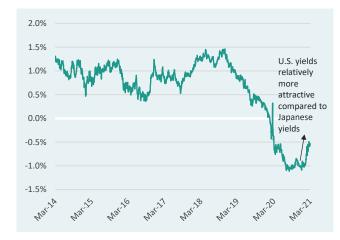
INTERNATIONAL DEVELOPED EQUITIES



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



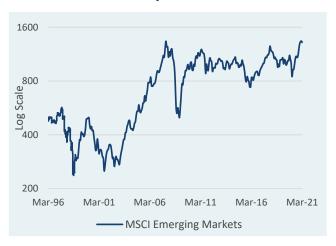
Emerging market equity

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%).

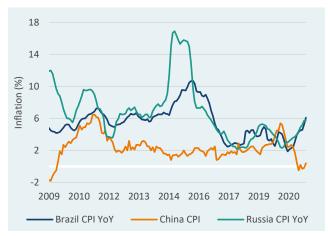
Chinese mainland equities, which account for roughly 36% of the MSCI EM Index, slumped -0.4%, dampening overall index returns. Many analysts attributed the relative weakness in China to tightening liquidity conditions, as the People's Bank of China shifted focus away from promoting economic recovery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

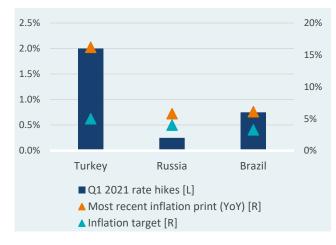


INFLATION (YOY)



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

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

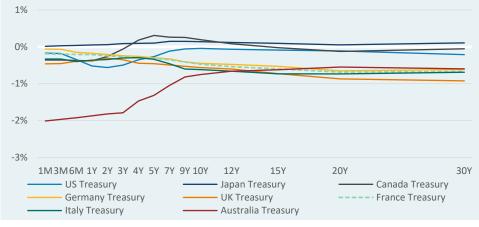


Yield environment

U.S. YIELD CURVE

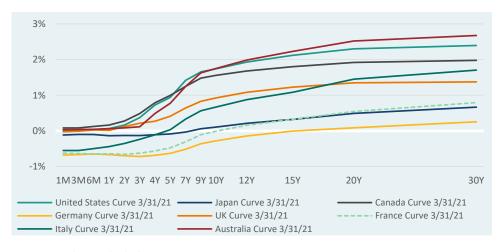


YIELD CURVE CHANGES OVER LAST FIVE YEARS



Source: Bloomberg, as of 3/31/21

GLOBAL GOVERNMENT YIELD CURVES



IMPLIED CHANGES OVER NEXT YEAR





Currency

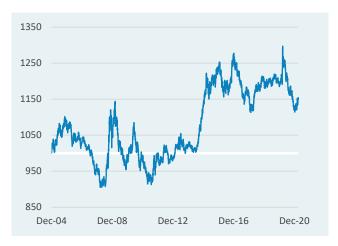
U.S. dollar weakness had prevailed for most of 2020, but turned around in the first quarter of 2021. The Bloomberg Dollar Spot Index increased 2.8% over the quarter, after slipping -5.4% in 2020. Strength in the dollar was attributed to rising relative yields in the U.S., the relatively effective vaccination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



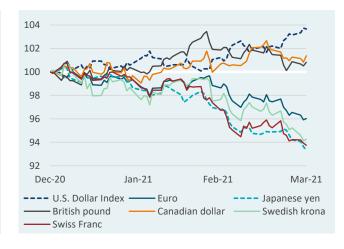
Source: Bloomberg, as of 3/31/21

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



- The Total Fund, net of manager fees, returned 2.6% in the first quarter of 2021 and ranked in the 78th percentile among other public plans greater than \$1 billion (median of 3.3%). It lagged the policy index return of 3.6%. The Total Fund ex Overlay returned 2.6% for the quarter. The Total Fund one-year return of 28.2% beat the policy index return of 27.4% and ranked in the 88th percentile of its peer universe. The three-year return of 7.8% (87th percentile) lagged the median large public plan (8.8%) and the policy index (8.8%).
- First quarter results were enhanced by the following factors:
 - QMA rose 16.5% beating its index (12.7%). After a long stretch where value leaning strategies underperformed, the small cap
 portfolio's value tilt strongly outperformed the broad benchmark during the quarter.
 - Beach Point Select returned 6.0%, outperforming the Bloomberg Barclays BA Intermediate High Yield Index (0.1%) and 50% BB HY/50% Bank Loan (1.4%) indexes. Opportunistic/Distressed names were the biggest contributors for the quarter.
 - Similarly, Brigade returned 6.6% for the quarter, outperforming the Bloomberg Barclays BA Intermediate High Yield Index (0.1%) and 50% BB HY/50% Bank Loan (1.4%) indexes. High yield spread tightening was a tailwind for the strategy during the period.
- First quarter results were hindered by the following factors:
 - 1. DE Shaw U.S. Broad Market Core underperformed the Russell 1000 Index for the quarter (2.9% vs. 5.9% for the index). Idiosyncratic factors and an underweight to the financial sector detracted during the quarter.
 - Acadian and PanAgora's low volatility portfolios underperformed again during the first quarter as lower beta and lower volatility names underperformed the broad Russell 1000 Index.



| | 3 Mo (%) | Fis Rank* | cal YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|--|-------------|--------------|----------------|------|-------------|------|--------------|------|--------------|------|--------------|------|---------------|------|
| Total Fund [™] | 2.6 | 78 | 18.2 | 80 | 28.2 | 88 | 10.3 | 90 | 7.8 | 87 | 8.8 | 89 | 7.7 | 58 |
| Policy Index ¹ | 3.6 | 36 | 17.9 | 85 | 27.4 | 92 | 11.6 | 67 | 8.8 | 55 | 9.7 | 57 | 8.2 | 35 |
| InvMetrics Public DB > \$1B Net Median | 3.3 | | 19.4 | | 32.6 | | 11.8 | | 8.8 | _ | 9.8 | | 7.8 | |
| Total Fund ex Overlay | 2.6 | 78 | 18.3 | 80 | 27.9 | 88 | 10.3 | 90 | 7.7 | 88 | 8.8 | 89 | 7.6 | 64 |
| Policy Index ¹ | 3.6 | 36 | 17.9 | 85 | 27.4 | 92 | 11.6 | 67 | 8.8 | 55 | 9.7 | 57 | 8.2 | 35 |
| InvMetrics Public DB > \$1B Net Median | 3.3 | | 19.4 | | 32.6 | | 11.8 | | 8.8 | | 9.8 | | 7.8 | |
| Public Equity | 5.4 | 56 | 29.6 | 78 | 53.6 | 87 | 16.2 | 85 | 11.3 | 78 | 12.7 | 86 | 9.9 | 65 |
| Blended Public Equity Index1 | 5.8 | 42 | 30.7 | 67 | 55.9 | 70 | 17.5 | 55 | 12.2 | 57 | 13.7 | 49 | 10.3 | 47 |
| InvMetrics All DB Total Eq Net Median | 5.5 | | 32.3 | | 58.7 | | 17.6 | | 12.5 | | 13.7 | | 10.3 | |
| US Equity | 5.9 | 88 | 29.4 | 94 | 55.1 | 96 | 17.3 | 92 | 14.0 | 87 | 14.6 | 85 | 12.3 | 73 |
| Blended US Equity Index ¹ | 6.3 | 78 | 33.2 | 68 | 62.5 | 60 | 21.5 | 22 | 17.1 | 16 | 16.7 | 18 | 13.6 | 15 |
| Russell 3000 | 6.3 | 78 | 33.2 | 68 | 62.5 | 60 | 21.5 | 22 | 17.1 | 16 | 16.6 | 21 | 13.8 | 8 |
| InvMetrics All DB US Eq Net Median | 7.3 | | 34.3 | | 63.4 | | 20.5 | | 15.9 | | 16.0 | | 12.9 | |
| Large Cap Equity | 5.0 | 64 | 27.5 | 65 | 52.2 | 72 | 17.4 | 61 | 14.7 | 52 | 15.4 | 44 | 13.0 | 45 |
| Russell 1000 | 5.9 | 57 | 31.8 | 41 | 60.6 | 37 | 21.5 | 36 | 17.3 | 34 | 16.7 | 32 | 14.0 | 30 |
| eV US Large Cap Equity Net Median | 6.8 | | 29.6 | | 57.3 | | 19.3 | | 14.8 | | 14.7 | | 12.7 | |
| Acadian US MGD V | 4.1 | 82 | 18.7 | 94 | 36.0 | 94 | 10.0 | 97 | | | | | - | |
| BlackRock Russell 1000 | 5.9 | 58 | 31.8 | 28 | 60.6 | 25 | 21.5 | 19 | 17.3 | 17 | | | | |
| DE Shaw | 2.9 | 92 | 30.8 | 33 | 57.2 | 35 | 18.4 | 52 | 14.8 | 48 | 16.3 | 18 | 14.3 | 8 |
| PanAgora Defuseq | 5.5 | 66 | 21.2 | 89 | 40.0 | 90 | 11.5 | 92 | | | | | | |
| Russell 1000 | 5.9 | 59 | 31.8 | 28 | 60.6 | 25 | 21.5 | 19 | 17.3 | 17 | 16.7 | 13 | 14.0 | 13 |
| eV US Large Cap Core Equity Net Median | 6.5 | | 28.5 | | 54.7 | | 18.5 | | 14.6 | | 14.8 | | 12.8 | |

^{1.} See Appendix for Benchmark History.



^{*} Total Fund and asset class aggregates are ranked in InvMetrics universes. Managers are ranked in eVest (eA) manager universes.

^{**} Includes Parametric Minneapolis manager funded in August 2013.

| | 3 Mo (%) | Rank ^{Fi} | scal YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|-------------|--------------------|-----------------|------|-------------|------|--------------|------|--------------|------|--------------|------|---------------|------|
| Small Cap Equity | 16.5 | 37 | 51.7 | 54 | 88.8 | 57 | 14.0 | 89 | 8.6 | 87 | 10.9 | 84 | 9.1 | 87 |
| Russell 2000 | 12.7 | 57 | 55.4 | 40 | 94.8 | 42 | 21.7 | 41 | 14.8 | 44 | 16.4 | 43 | 11.7 | 48 |
| eV US Small Cap Equity Net Median | 13.8 | | 52.2 | | 91.5 | | 19.8 | | 13.8 | | 14.9 | | 11.5 | |
| QMA US Small Cap | 16.5 | 23 | 51.7 | 49 | 88.8 | 54 | 14.0 | 90 | 8.6 | 92 | | | | |
| Russell 2000 | 12.7 | 56 | 55.4 | 28 | 94.8 | 32 | 21.7 | 36 | 14.8 | 37 | 16.4 | 33 | 11.7 | 48 |
| eV US Small Cap Core Equity Net Median | 13.3 | | 51.4 | | 90.0 | | 19.5 | | 13.3 | | 14.8 | | 11.5 | |
| Domestic Equity Overlay | 10.6 | | 56.0 | - | - | | | | | | | | | |
| International Equity | 4.7 | 17 | 29.8 | 63 | 51.6 | 75 | 14.9 | 32 | 8.3 | 21 | 10.3 | 42 | 5.8 | 44 |
| Blended International Equity Index ¹ | 5.2 | 11 | 27.8 | 85 | 48.1 | 90 | 12.7 | 75 | 6.6 | 58 | 10.1 | 54 | 5.4 | 62 |
| MSCI EAFE Gross | 3.6 | 47 | 26.1 | 92 | 45.2 | 93 | 11.8 | 85 | 6.5 | 60 | 9.4 | 77 | 6.0 | 39 |
| InvMetrics All DB ex-US Eq Net Median | 3.5 | | 30.7 | | 55.4 | | 13.8 | | 6.8 | | 10.1 | | 5.7 | |
| Baillie Gifford | 0.3 | 47 | 32.9 | 25 | 67.1 | 33 | 25.7 | 21 | 14.5 | 20 | 14.5 | 40 | | |
| MSCI ACWI ex US ¹ | 3.6 | 9 | 29.0 | 51 | 50.0 | 80 | 12.8 | 94 | 7.0 | 91 | 10.3 | 85 | | |
| MSCI ACWI ex US Growth | 0.0 | 55 | 25.6 | 74 | 49.8 | 81 | 18.1 | 64 | 10.7 | 58 | 12.4 | 71 | | |
| eV ACWI ex-US Growth Equity Net Median | 0.2 | | 29.1 | | 60.0 | | 20.0 | | 11.6 | | 13.7 | | 8.4 | |
| Mondrian | 6.1 | 76 | 31.1 | 71 | 45.7 | 84 | 7.6 | 67 | 4.0 | 36 | 7.1 | 56 | 4.7 | 50 |
| MSCI ACWI ex USA Value Gross | 7.2 | 60 | 32.3 | 69 | 49.5 | 70 | 7.2 | 75 | 3.0 | 53 | 7.9 | 51 | 3.6 | 86 |
| MSCI ACWI ex USA Gross | 3.6 | 92 | 29.0 | 82 | 50.0 | 69 | 12.8 | 24 | 7.0 | 15 | 10.3 | 21 | 5.4 | 32 |
| eV ACWI ex-US Value Equity Net Median | 8.3 | | 36.0 | | 56.1 | | 9.5 | | 3.2 | | 8.1 | | 4.7 | |
| BlackRock MSCI ACWI EX-US IMI* | 3.8 | 38 | 30.0 | 64 | | | | | | | | | | |
| MSCI ACWI ex USA IMI | 3.8 | 40 | 29.9 | 65 | 51.9 | 70 | 12.8 | 81 | 6.5 | 74 | 9.8 | 72 | 5.1 | 84 |
| eV ACWI ex-US All Cap Core Eq Net Median | 3.4 | | 31.0 | | 54.9 | | 16.0 | | 8.6 | | 11.1 | | 6.7 | |
| Int'l Equity Currency Overlay | | | | | | | | | | | | | | |
| International Equity Overlay | 8.1 | | 26.8 | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

^{1.} See Appendix for Benchmark History.



^{*} Funded June 2020.

| | 3 Mo (%) | Rank Fis | scal YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|--|-------------|----------|-----------------|------|-------------|------|--------------|------|--------------|------|--------------|------|---------------|------|
| Fixed Income | -1.3 | 23 | 3.3 | 27 | 8.5 | 35 | 5.4 | 46 | 4.8 | 46 | 5.2 | 22 | 4.7 | 25 |
| Blended Fixed Income Index ¹ | -2.2 | 50 | 1.4 | 48 | 6.6 | 51 | 5.5 | 43 | 5.4 | 27 | 4.2 | 50 | 3.9 | 52 |
| InvMetrics All DB Total Fix Inc Net Median | -2.2 | | 1.3 | | 6.6 | | 5.2 | | 4.7 | | 4.2 | | 4.0 | |
| Core Fixed | -2.8 | - | -0.4 | - | 3.8 | - | 4.9 | - | 4.4 | | 3.9 | - | 4.0 | |
| BBgBarc US Aggregate TR | -3.4 | | -2.1 | - | 0.7 | | 4.7 | | 4.7 | | 3.1 | | 3.4 | |
| DoubleLine | -2.6 | 98 | -0.9 | 97 | 2.3 | 66 | | | | | | | | |
| BBgBarc US Aggregate TR | -3.4 | 99 | -2.1 | 99 | 0.7 | 90 | 4.7 | 12 | 4.7 | 13 | 3.1 | 53 | 3.4 | 53 |
| eV US Securitized Fixed Inc Net Median | -0.3 | | 1.6 | | 5.6 | | 3.5 | | 3.8 | | 3.2 | | 3.6 | |
| FIAM Bond | -3.1 | 39 | -0.3 | 25 | 5.5 | 15 | 6.3 | 6 | 5.7 | 6 | 4.2 | 6 | 4.2 | 15 |
| NISA Core Bond** | -3.4 | 68 | -2.1 | 81 | | | | | | | | | | |
| BBgBarc US Aggregate TR | -3.4 | 62 | -2.1 | 82 | 0.7 | 91 | 4.7 | 79 | 4.7 | 79 | 3.1 | 77 | 3.4 | 75 |
| eV US Core Fixed Inc Net Median | -3.2 | | -1.3 | | 3.1 | | 5.2 | | 4.9 | | 3.5 | | 3.7 | |
| Western TRU | -2.2 | 7 | 4.2 | 1 | 13.9 | 1 | 5.0 | 64 | 3.5 | 99 | 4.9 | 2 | | |
| 3-Month Libor Total Return USD | 0.0 | 1 | 0.2 | 12 | 0.3 | 95 | 1.2 | 99 | 1.6 | 99 | 1.5 | 99 | 0.9 | 99 |
| BBgBarc US Aggregate TR | -3.4 | 62 | -2.1 | 82 | 0.7 | 91 | 4.7 | 79 | 4.7 | 79 | 3.1 | 77 | 3.4 | 75 |
| eV US Core Fixed Inc Net Median | -3.2 | | -1.3 | | 3.1 | | 5.2 | | 4.9 | | 3.5 | | 3.7 | |
| Core Fixed Income Overlay | -5.2 | | -6.0 | | | | | | | | | | | |
| Opportunistic Credit | 1.7 | | 11.2 | - | 18.5 | | 6.3 | | 5.6 | | 8.0 | | 7.3 | |
| BBgBarc BA Intermediate HY | 0.1 | | 8.9 | - | 19.9 | | 7.5 | | 7.2 | | 6.9 | | 5.8 | - |
| AG CSF Annex Dislocation⁺* | 5.9 | | 20.0 | | | | | | | | | | | |
| BBgBarc BA Intermediate HY | 0.1 | | 8.9 | | 19.9 | | 7.5 | | 7.2 | | 6.9 | | 5.8 | |
| Angelo Gordon Opportunistic+ | 5.1 | | 25.3 | | 34.6 | | 6.5 | | 9.6 | | 11.9 | | | |
| Angelo Gordon Credit Solutions | 9.6 | 1 | 27.7 | 1 | 39.5 | 2 | | | | | | | | |
| BBgBarc BA Intermediate HY | 0.1 | 86 | 8.9 | 84 | 19.9 | 69 | 7.5 | 27 | 7.2 | 13 | 6.9 | 61 | 5.8 | 63 |
| eV US High Yield Fixed Inc Net Median | 1.0 | | 11.5 | | 21.7 | | 6.7 | | 6.1 | | 7.2 | | 6.0 | |

^{1.} See Appendix for Benchmark History.



⁺ Preliminary return as of 3/31/2021.

^{*} Funded April 2020.

^{**} Funded May 2020.

| | 3 Mo (%) | Rank ^{Fis} | scal YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---------------------------------------|-------------|---------------------|-----------------|------|-------------|------|--------------|------|--------------|------|--------------|------|---------------|------|
| Beach Point Select | 6.0 | 1 | 22.7 | 2 | 33.4 | 5 | 12.2 | 1 | 9.4 | 1 | 10.3 | 2 | | |
| BBgBarc BA Intermediate HY | 0.1 | 86 | 8.9 | 84 | 19.9 | 69 | 7.5 | 27 | 7.2 | 13 | 6.9 | 61 | 5.8 | 63 |
| eV US High Yield Fixed Inc Net Median | 1.0 | | 11.5 | | 21.7 | | 6.7 | | 6.1 | | 7.2 | | 6.0 | |
| Brigade Capital | 6.6 | 1 | 22.6 | 2 | 35.5 | 3 | 7.6 | 25 | 5.8 | 66 | 8.9 | 5 | 5.9 | 58 |
| BBgBarc BA Intermediate HY | 0.1 | 86 | 8.9 | 84 | 19.9 | 69 | 7.5 | 27 | 7.2 | 13 | 6.9 | 61 | 5.8 | 63 |
| 50% Barclays HY/ 50% Bank Loan | 1.4 | 32 | 11.2 | 57 | 22.3 | 48 | 5.9 | 73 | 5.5 | 74 | 6.7 | 65 | 5.5 | 79 |
| eV US High Yield Fixed Inc Net Median | 1.0 | | 11.5 | | 21.7 | | 6.7 | | 6.1 | | 7.2 | | 6.0 | |
| PIMCO Diversified | -2.5 | 99 | 4.6 | 99 | 12.1 | 95 | 5.2 | 79 | 5.3 | 77 | | | | |
| Blended PIMCO Diversified Index | -2.4 | 99 | 4.7 | 99 | 14.4 | 92 | 5.6 | 75 | 5.4 | 75 | 5.6 | 88 | 5.7 | 72 |
| BBgBarc BA Intermediate HY | 0.1 | 86 | 8.9 | 84 | 19.9 | 69 | 7.5 | 27 | 7.2 | 13 | 6.9 | 61 | 5.8 | 63 |
| eV US High Yield Fixed Inc Net Median | 1.0 | | 11.5 | | 21.7 | | 6.7 | | 6.1 | | 7.2 | | 6.0 | |
| Franklin Templeton | -3.1 | 64 | -2.8 | 99 | -2.8 | 99 | -4.6 | 99 | -3.2 | 99 | 0.7 | 99 | 1.8 | 89 |
| BBgBarc Multiverse TR | -4.3 | 81 | 1.7 | 81 | 5.5 | 87 | 4.5 | 75 | 2.9 | 77 | 2.9 | 79 | 2.4 | 78 |
| eV All Global Fixed Inc Net Median | -2.0 | | 5.5 | | 14.1 | | 5.8 | | 4.2 | | 4.6 | | 3.7 | |
| Private Credit | 0.9 | | 7.0 | | 12.0 | | 6.7 | | 7.2 | | | | | |
| Cliffwater Direct Lending Index+ | 3.7 | | 11.3 | | 14.9 | - | 7.7 | | 8.0 | | 8.9 | | 9.3 | |
| Blackrock DL Feeder IX-U⁺ | 0.6 | 69 | 5.4 | 99 | 14.1 | 92 | | | | | | | - | |
| Cliffwater Direct Lending Index | 3.7 | 5 | 11.3 | 56 | 14.9 | 92 | 7.7 | 25 | 8.0 | 4 | 8.9 | 5 | 9.3 | 1 |
| eV US High Yield Fixed Inc Net Median | 1.0 | | 11.5 | | 21.7 | | 6.7 | | 6.1 | | 7.2 | | 6.0 | |
| PIMCO Private Income+ | 1.7 | 24 | 11.3 | 56 | 19.9 | 70 | | | | | | | | |
| BBgBarc BA Intermediate HY | 0.1 | 86 | 8.9 | 84 | 19.9 | 69 | 7.5 | 27 | 7.2 | 13 | 6.9 | 61 | 5.8 | 63 |
| Cliffwater Direct Lending Index | 3.7 | 5 | 11.3 | 56 | 14.9 | 92 | 7.7 | 25 | 8.0 | 4 | 8.9 | 5 | 9.3 | 1 |
| eV US High Yield Fixed Inc Net Median | 1.0 | | 11.5 | | 21.7 | | 6.7 | | 6.1 | | 7.2 | | 6.0 | |

⁺ Preliminary return as of 3/31/2021.



| | 3 Mo (%) | Rank ^{Fis} | scal YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|-------------|---------------------|-----------------|------|-------------|------|--------------|------|--------------|------|--------------|------|---------------|------|
| TCP Direct Lending VIII⁺ | 2.0 | 19 | 7.5 | 91 | 11.1 | 97 | 6.6 | 54 | 7.3 | 12 | | | | |
| White Oak Yield ⁺ | 0.0 | 94 | 3.2 | 99 | 5.9 | 99 | 5.2 | 79 | 5.9 | 61 | | | | |
| White Oak YSF V ⁺ * | 0.0 | 94 | | | | | | | | | | | | |
| Cliffwater Direct Lending Index | 3.7 | 5 | 11.3 | 56 | 14.9 | 92 | 7.7 | 25 | 8.0 | 4 | 8.9 | 5 | 9.3 | 1 |
| eV US High Yield Fixed Inc Net Median | 1.0 | | 11.5 | | 21.7 | | 6.7 | | 6.1 | | 7.2 | | 6.0 | |
| Alternatives | 1.2 | | 37.7 | | 36.0 | | 20.1 | | 13.5 | | 11.9 | | 8.4 | |
| Blended Alternatives Index ¹ | 7.5 | | 26.1 | | 13.9 | | 16.7 | | 11.7 | | 12.0 | | 9.0 | |
| Private Equity*** ++ | 2.1 | 65 | 65.9 | 2 | 61.4 | 3 | 43.3 | 2 | 31.6 | 3 | 25.5 | 3 | 16.4 | 9 |
| Blended Private Equity Index1 | 15.3 | 5 | 54.4 | 3 | 23.9 | 28 | 28.9 | 4 | 17.5 | 22 | 18.1 | 13 | 16.0 | 12 |
| InvMetrics All DB Private Eq Net Median | 5.4 | | 23.4 | | 17.5 | | 13.9 | | 13.4 | | 13.0 | | 12.1 | |
| Hedge Fund/Absolute Return | 0.0 | 74 | 5.3 | 94 | 6.2 | 96 | -5.1 | 98 | -6.2 | 99 | -3.0 | 99 | | |
| Absolute Return Custom Index ¹ | 1.0 | 67 | 3.2 | 95 | 4.3 | 97 | 5.1 | 74 | 5.5 | 53 | 5.3 | 57 | | |
| InvMetrics All DB Hedge Funds Net Median | 2.9 | | 16.4 | | 25.2 | | 8.3 | | 5.9 | | 5.7 | | 4.2 | |
| Aberdeen Standard GARS | -2.1 | 88 | 5.5 | 76 | 8.3 | 76 | 4.9 | 63 | 3.4 | 61 | 2.7 | 72 | | |
| Acadian MAAR Fund LLC** | 0.0 | 76 | | | | | | | | | | | | |
| CFM Systematic Global Macro** | 5.5 | 32 | | | | | | | | | | | | |
| Graham Quant Macro | -1.4 | 84 | 5.7 | 75 | 8.7 | 75 | | | | | | | | |
| PIMCO MAARS Fund LP*** | 1.5 | 65 | 1.9 | 85 | | | | | | | | | | |
| Absolute Return Custom Index ¹ | 1.0 | 69 | 3.2 | 84 | 4.3 | 83 | 5.1 | 63 | 5.5 | 46 | 5.3 | 55 | | |
| eV Alt All Multi-Strategy Median | 3.0 | | 13.2 | | 21.9 | | 7.4 | | 4.9 | | 6.0 | | 4.9 | |

^{1.} See Appendix for Benchmark History.



⁺ Preliminary return as of 3/31/2021.

^{*} Funded December 2020.

^{**} Funded October 2020.

^{***} Funded April 2020.

^{***} Returns are one-quarter lag.

^{**} Excludes EnCap Energy Capital Fund and Sheridan Production Partners.

| | 3 Mo (%) | Rank Fis | cal YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|--|-------------|----------|----------------|------|-------------|------|--------------|------|--------------|------|--------------|------|---------------|------|
| Inflation Hedge | 3.8 | | 10.5 | | 10.6 | | 0.1 | | 1.1 | | 3.5 | | | |
| Blended Inflation Hedge Index ¹ | 5.0 | | 15.0 | | 14.5 | | 5.0 | | 4.5 | | 5.6 | | | |
| Real Estate | 1.7 | 60 | 3.7 | 56 | 0.6 | 83 | 3.6 | 42 | 4.9 | 49 | 6.5 | 13 | 9.5 | 15 |
| NCREIF ODCE | 2.1 | 46 | 3.9 | 51 | 2.3 | 64 | 3.6 | 44 | 4.9 | 50 | 6.2 | 30 | 9.7 | 9 |
| InvMetrics All DB Real Estate Pub Net Median | 2.0 | | 3.9 | | 2.8 | | 3.4 | | 4.9 | | 5.4 | | 8.6 | |
| Harrison Street Core Property | 1.4 | | 3.8 | | 3.5 | | | | | | | | | |
| NCREIF ODCE | 2.1 | | 3.9 | | 2.3 | | 3.6 | | 4.9 | | 6.2 | | 9.7 | |
| Invesco | 1.4 | | 2.7 | | -1.9 | - | 2.3 | | 4.0 | | 6.0 | | 9.2 | |
| NCREIF ODCE | 2.1 | | 3.9 | | 2.3 | | 3.6 | | 4.9 | | 6.2 | | 9.7 | |
| Invesco US Val IV | 0.1 | | 6.6 | | 1.8 | | 5.9 | | 8.3 | | 9.2 | | | |
| NCREIF ODCE | 2.1 | | 3.9 | | 2.3 | | 3.6 | | 4.9 | | 6.2 | | 9.7 | |
| NCREIF ODCE + 2% | 2.6 | | 5.5 | | 4.3 | | 5.7 | | 7.0 | | 8.3 | | 11.8 | |
| Invesco US Val V | 9.5 | | 14.7 | | 9.8 | - | 11.1 | | | | | | - | |
| NCREIF ODCE | 2.1 | | 3.9 | | 2.3 | | 3.6 | | 4.9 | | 6.2 | | 9.7 | |
| NCREIF ODCE + 2% | 2.6 | | 5.5 | | 4.3 | | 5.7 | | 7.0 | | 8.3 | | 11.8 | |
| PGIM RE US Debt Fund | 1.4 | | 3.9 | | 4.9 | | 5.2 | | 5.7 | | | | | |
| NCREIF ODCE | 2.1 | | 3.9 | | 2.3 | | 3.6 | | 4.9 | | 6.2 | | 9.7 | |
| Private Real Asset [™] | 8.5 | | 16.7 | | 7.3 | | 4.4 | | 0.8 | | -0.6 | | | |
| Blended Private Real Asset Index ¹ | 10.6 | | 41.4 | | -1.2 | | 9.6 | | 3.1 | | 4.7 | | | |
| Blended Secondary CA Private RA Index ¹ | 6.4 | | 13.2 | | -1.6 | | 0.0 | | 1.1 | | 5.8 | | | |

^{1.} See Appendix for Benchmark History.



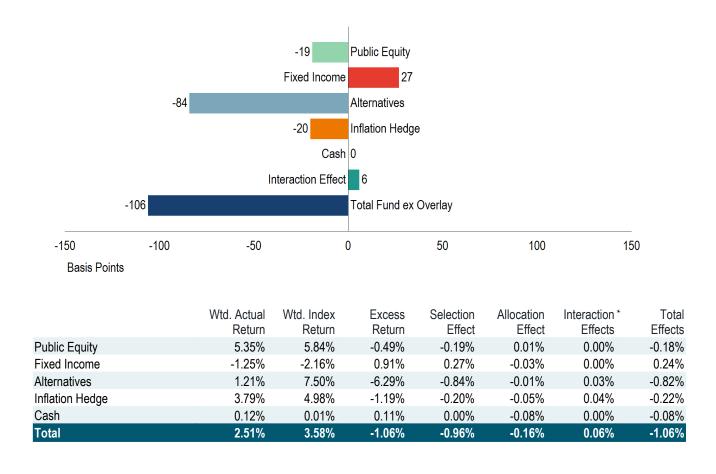
^{**} Returns are one-quarter lag.

| | 3 Mo (%) | Rank Fis | cal YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|--|-------------|----------|----------------|------|-------------|------|--------------|------|--------------|------|--------------|------|---------------|------|
| Public Real Assets | 5.0 | | 21.8 | | 36.0 | | -4.2 | | -2.6 | | | | | |
| Blended Public Real Asset Index ¹ | 5.1 | | 21.9 | | 37.4 | | 2.4 | | 2.3 | | 4.8 | | | |
| SSgA Custom Real Asset | 5.0 | | 21.8 | | 36.0 | | 2.4 | | 2.3 | | | | | |
| SSgA Custom Real Asset Index ¹ | 5.1 | | 21.9 | | 37.4 | | 2.4 | | 2.3 | | | | | |
| Cash | 0.1 | | 0.4 | | 0.5 | | 0.8 | | 1.0 | | 0.9 | | 0.8 | |
| 91 Day T-Bills | 0.0 | | 0.1 | | 0.1 | | 1.0 | | 1.4 | | 1.1 | | 0.6 | |
| General Account | 0.2 | | 0.5 | | 0.9 | | 1.8 | | 2.9 | | 2.4 | | 1.5 | |
| Treasury & LAIF | 0.2 | | 1.0 | | 1.5 | | 2.0 | | 2.4 | | 2.2 | | 1.5 | |
| 91 Day T-Bills | 0.0 | | 0.1 | | 0.1 | | 1.0 | | 1.4 | | 1.1 | | 0.6 | |
| Currency Hedge Cash Overlay | -0.1 | | -0.2 | | | | | | | | | | | |

^{1.} See Appendix for Benchmark History.

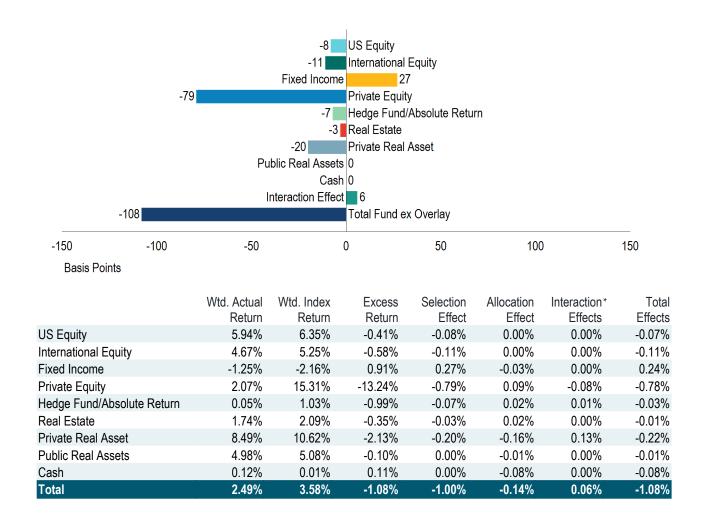


⁺ Liquidating as of March 2020.



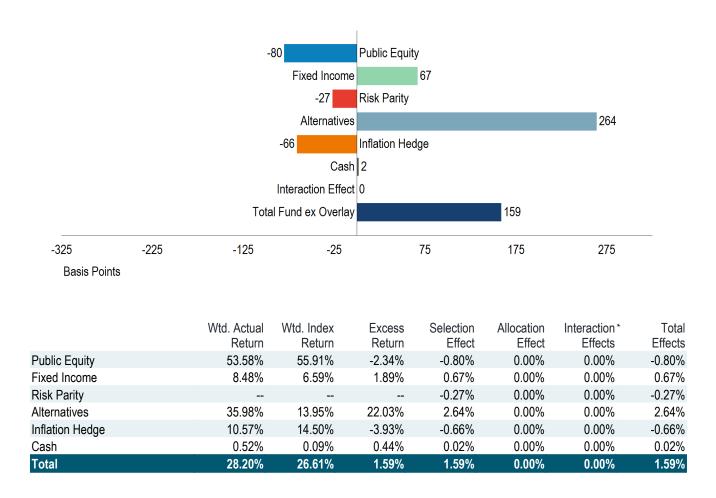
Attribution does not include the impact of the Parametric Minneapolis strategy. * Interaction Effects include Residual Effects.





Attribution does not include the impact of the Parametric Minneapolis strategy. * Interaction Effects include Residual Effects.

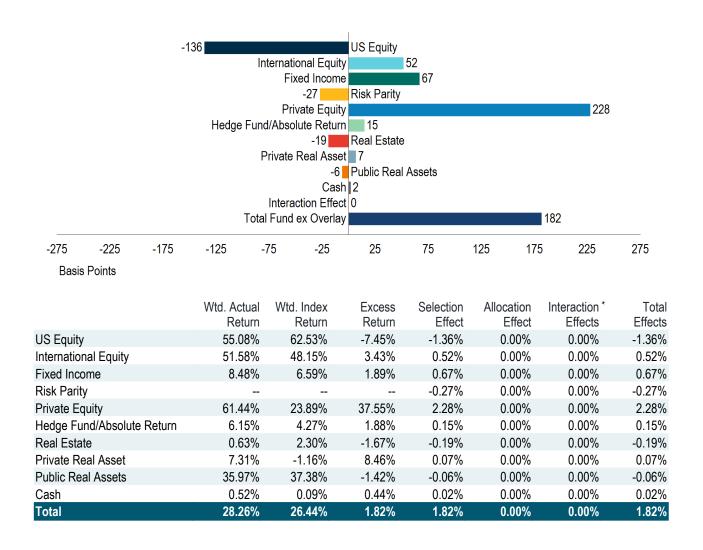




Attribution does not include the impact of the Parametric Minneapolis strategy. Risk Parity closed June 2020.

* Interaction Effects include Residual Effects.



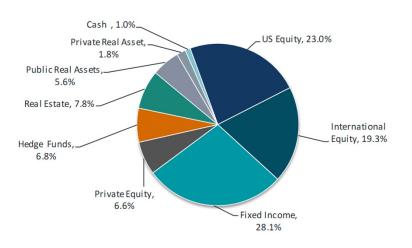


Attribution does not include the impact of the Parametric Minneapolis strategy. Risk Parity closed June 2020.

* Interaction Effects include Residual Effects.

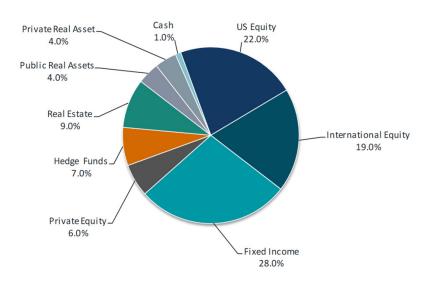


Current w/ Overlay

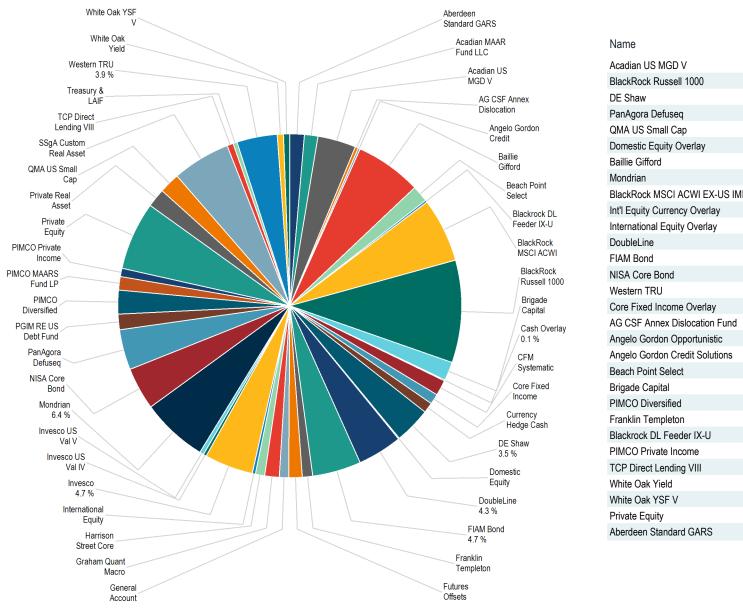


| ASSET ALLOCATION | MARKET VALUE W/ OVERLAY | W/ OVERLAY | W/O OVERLAY |
|----------------------|----------------------------|------------|-------------|
| US Equity | 1,298,761,265 | 23.0% | 23.0% |
| International Equity | 1,086,753,773 | 19.3% | 19.0% |
| Fixed Income | 1,580,849,773 | 28.1% | 27.0% |
| Private Equity | 374,248,452 | 6.6% | 6.6% |
| Hedge Funds | 382,006,413 | 6.8% | 6.8% |
| Real Estate | 437,081,621 | 7.8% | 7.8% |
| Public Real Assets | 315,185,037 | 5.6% | 5.6% |
| Private Real Asset | 101,078,678 | 1.8% | 1.8% |
| Cash | 58,590,177 | 1.0% | 2.4% |
| TOTAL | 5,634,555,188 | 100.0% | 100.0% |

Target

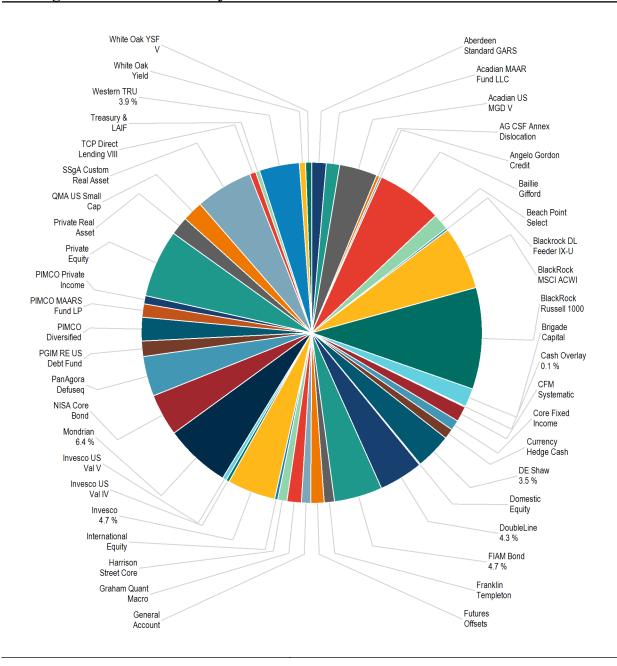


| ASSET ALLOCATION | W/ OVERLAY | TARGET | DIFF |
|----------------------|------------|--------|-------|
| US Equity | 23.0% | 22.0% | 1.0% |
| International Equity | 19.3% | 19.0% | 0.3% |
| Fixed Income | 28.1% | 28.0% | 0.1% |
| Private Equity | 6.6% | 6.0% | 0.6% |
| Hedge Funds | 6.8% | 7.0% | -0.2% |
| Real Estate | 7.8% | 9.0% | -1.2% |
| Public Real Assets | 5.6% | 4.0% | 1.6% |
| Private Real Asset | 1.8% | 4.0% | -2.2% |
| Cash | 1.0% | 1.0% | 0.0% |
| TOTAL | 100.0% | 100.0% | 0.0% |



| Name | Market Value | % of Portfolio |
|--------------------------------|---------------|----------------|
| Acadian US MGD V | \$209,613,223 | 4% |
| BlackRock Russell 1000 | \$555,875,029 | 10% |
| DE Shaw | \$198,408,132 | 4% |
| PanAgora Defuseq | \$220,495,657 | 4% |
| QMA US Small Cap | \$110,044,569 | 2% |
| Domestic Equity Overlay | \$4,324,655 | 0% |
| Baillie Gifford | \$359,692,161 | 6% |
| Mondrian | \$360,663,827 | 6% |
| BlackRock MSCI ACWI EX-US IMI | \$352,128,710 | 6% |
| Int'l Equity Currency Overlay | \$0 | 0% |
| International Equity Overlay | \$14,269,075 | 0% |
| DoubleLine | \$244,933,819 | 4% |
| FIAM Bond | \$263,280,582 | 5% |
| NISA Core Bond | \$233,089,997 | 4% |
| Western TRU | \$219,944,558 | 4% |
| Core Fixed Income Overlay | \$57,365,266 | 1% |
| AG CSF Annex Dislocation Fund | \$14,087,050 | 0% |
| Angelo Gordon Opportunistic | \$2,096,853 | 0% |
| Angelo Gordon Credit Solutions | \$12,887,330 | 0% |
| Beach Point Select | \$89,524,186 | 2% |
| Brigade Capital | \$103,389,080 | 2% |
| PIMCO Diversified | \$130,946,041 | 2% |
| Franklin Templeton | \$56,904,649 | 1% |
| Blackrock DL Feeder IX-U | \$9,524,119 | 0% |
| PIMCO Private Income | \$42,506,912 | 1% |
| TCP Direct Lending VIII | \$31,716,643 | 1% |
| White Oak Yield | \$34,204,765 | 1% |
| White Oak YSF V | \$34,447,924 | 1% |
| Private Equity | \$374,248,452 | 7% |
| Aberdeen Standard GARS | \$79,606,282 | 1% |
| | | |





| Name | Market Value | % of Portfolio |
|-------------------------------|-----------------|----------------|
| Acadian MAAR Fund LLC | \$71,110,441 | 1% |
| CFM Systematic Global Macro | \$83,092,096 | 1% |
| Graham Quant Macro | \$76,600,570 | 1% |
| PIMCO MAARS Fund LP | \$71,597,025 | 1% |
| Harrison Street Core Property | \$51,901,255 | 1% |
| Invesco | \$264,373,688 | 5% |
| Invesco US Val IV | \$14,968,415 | 0% |
| Invesco US Val V | \$20,495,919 | 0% |
| PGIM RE US Debt Fund | \$85,342,344 | 2% |
| Private Real Asset | \$101,078,678 | 2% |
| SSgA Custom Real Asset | \$315,185,037 | 6% |
| General Account | \$48,527,456 | 1% |
| Treasury & LAIF | \$21,772,333 | 0% |
| Transition Account | \$9 | 0% |
| Currency Hedge Cash Overlay | \$57,121,687 | 1% |
| Cash Overlay | \$7,127,688 | 0% |
| Futures Offsets (SMCE02001) | -\$75,958,995 | -1% |
| Total | \$5,634,555,188 | 100% |



3 Years

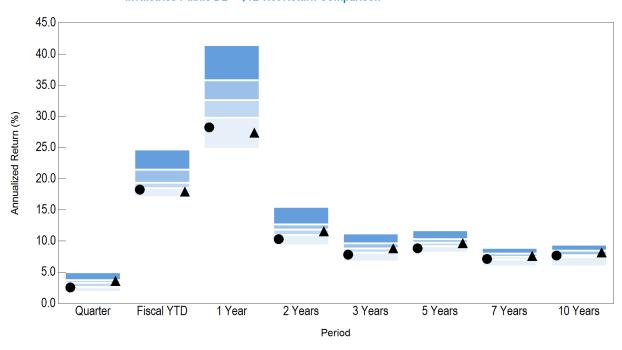
| | Anlzd Return | Anlzd Return Rank | Anlzd Standard Deviation | Anlzd Standard Deviation Rank | Sharpe Ratio | Sharpe Ratio Rank | Information Ratio | Information Ratio Rank | Tracking Error | Tracking Error Rank |
|---|-----------------|----------------------|--------------------------------|--|-----------------|----------------------|----------------------|---------------------------|-------------------|------------------------|
| Total Fund | 7.8% | 87 | 9.4% | 20 | 0.7 | 47 | -0.5 | 63 | 2.2% | 74 |
| Policy Index | 8.8% | 55 | 9.3% | 19 | 8.0 | 29 | | | 0.0% | 1 |
| InvMetrics Public DB > \$1B Net Median | 8.8% | | 10.8% | | 0.7 | | -0.2 | | 1.3% | |

Statistics Summary

| | 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 | 8.8% | 89 | 7.6% | 20 | 1.0 | 39 | -0.5 | 75 | 1.8% | 71 |
| Policy Index | 9.7% | 57 | 7.6% | 20 | 1.1 | 25 | | | 0.0% | 1 |
| InvMetrics Public DB > \$1B Net Median | 9.8% | | 8.8% | | 1.0 | | -0.1 | | 1.3% | |



InvMetrics Public DB > \$1B Net Return Comparison

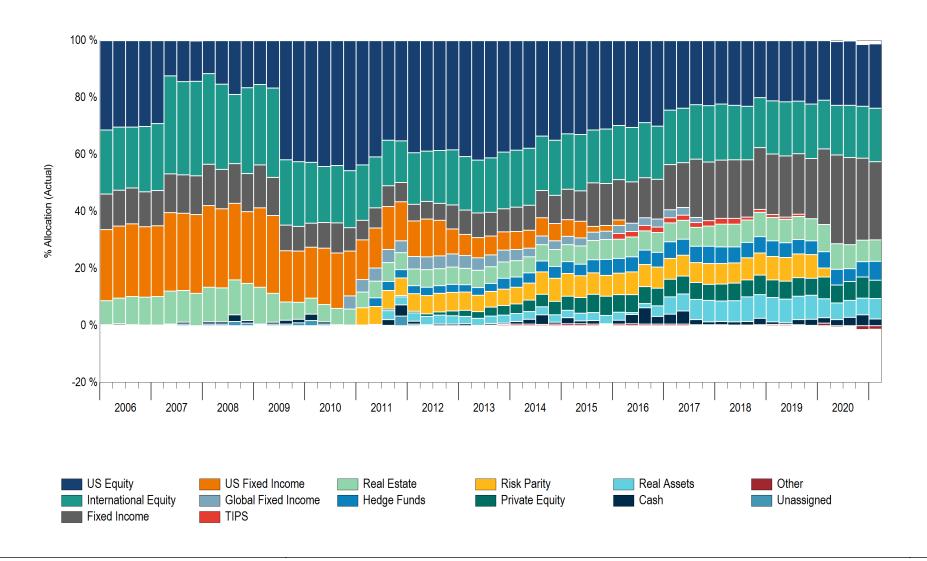


| 5th Percentile |
|-----------------|
| 25th Percentile |
| Median |
| 75th Percentile |
| 95th Percentile |
| # of Portfolios |

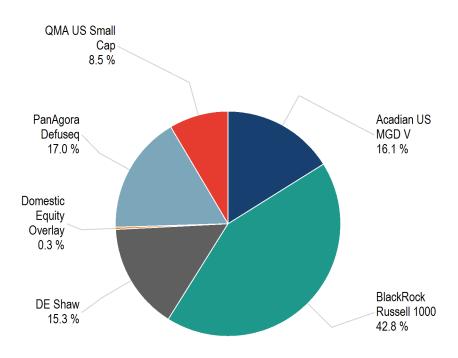
Total FundPolicy Index

| Return (| Rank) | | | | | | | | | | | | | | |
|----------|-------|------|------|------|------|------|------|------|------|------|------|-----|------|-----|------|
| 5.0 | | 24.7 | | 41.4 | | 15.5 | | 11.2 | | 11.7 | | 8.9 | | 9.4 | |
| 3.7 | | 21.5 | | 35.8 | | 12.7 | | 9.6 | | 10.3 | | 8.0 | | 8.5 | |
| 3.3 | | 19.4 | | 32.6 | | 11.8 | | 8.8 | | 9.8 | | 7.5 | | 7.8 | |
| 2.7 | | 18.5 | | 29.8 | | 11.0 | | 8.2 | | 9.2 | | 7.1 | | 7.5 | |
| 1.9 | | 17.1 | | 24.8 | | 9.4 | | 6.7 | | 8.2 | | 5.9 | | 6.0 | |
| 57 | | 57 | | 57 | | 57 | | 57 | | 57 | | 56 | | 53 | |
| 2.6 | (78) | 18.2 | (80) | 28.2 | (88) | 10.3 | (90) | 7.8 | (87) | 8.8 | (89) | 7.1 | (75) | 7.7 | (58) |
| 3.6 | (36) | 17.9 | (85) | 27.4 | (92) | 11.6 | (67) | 8.8 | (55) | 9.7 | (57) | 7.6 | (44) | 8.2 | (35) |









| | Actual \$ | Actual % | Manager Contribution to Excess Return % |
|-------------------------------------|-----------------|----------|---|
| Acadian US MGD V | \$209,613,223 | 16.1% | -0.3% |
| BlackRock Russell 1000 | \$555,875,029 | 42.8% | 0.0% |
| DE Shaw | \$198,408,132 | 15.3% | -0.5% |
| PanAgora Defuseq | \$220,495,657 | 17.0% | -0.1% |
| QMA US Small Cap | \$110,044,569 | 8.5% | 0.3% |
| Domestic Equity Overlay | \$4,324,655 | 0.3% | 0.0% |
| Actual vs. Policy Weight Difference | | | 0.1% |
| Total | \$1,298,761,265 | 100.0% | -0.4% |

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| US Equity | 14.0% | 18.8% | 0.7 | -1.9 | 1.7% |
| Blended US Equity Index | 17.1% | 19.3% | 0.8 | | 0.0% |
| Russell 3000 | 17.1% | 19.3% | 0.8 | | 0.0% |



| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Large Cap Equity | 14.7% | 18.1% | 0.7 | -1.4 | 1.8% |
| Russell 1000 | 17.3% | 19.0% | 0.8 | | 0.0% |
| BlackRock Russell 1000 | 17.3% | 19.0% | 0.8 | 0.9 | 0.0% |
| Russell 1000 | 17.3% | 19.0% | 0.8 | | 0.0% |
| DE Shaw | 14.8% | 19.4% | 0.7 | -0.9 | 2.9% |
| Russell 1000 | 17.3% | 19.0% | 0.8 | | 0.0% |
| Small Cap Equity | 8.6% | 27.3% | 0.3 | -1.2 | 5.0% |
| Russell 2000 | 14.8% | 25.7% | 0.5 | | 0.0% |
| QMA US Small Cap | 8.6% | 27.3% | 0.3 | -1.2 | 5.0% |
| Russell 2000 | 14.8% | 25.7% | 0.5 | | 0.0% |



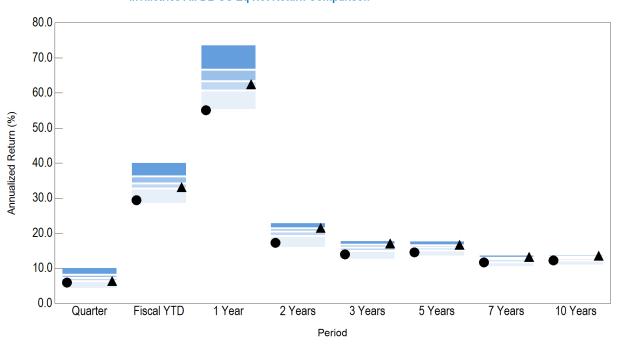
| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| US Equity | 14.6% | 15.1% | 0.9 | -1.5 | 1.4% |
| Blended US Equity Index | 16.7% | 15.6% | 1.0 | | 0.0% |
| Russell 3000 | 16.6% | 15.6% | 1.0 | -0.9 | 0.1% |



| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Large Cap Equity | 15.4% | 14.6% | 1.0 | -0.8 | 1.7% |
| Russell 1000 | 16.7% | 15.3% | 1.0 | | 0.0% |
| DE Shaw | 16.3% | 15.5% | 1.0 | -0.1 | 2.7% |
| Russell 1000 | 16.7% | 15.3% | 1.0 | | 0.0% |
| Small Cap Equity | 10.9% | 22.1% | 0.4 | -1.3 | 4.2% |
| Russell 2000 | 16.4% | 21.0% | 0.7 | | 0.0% |



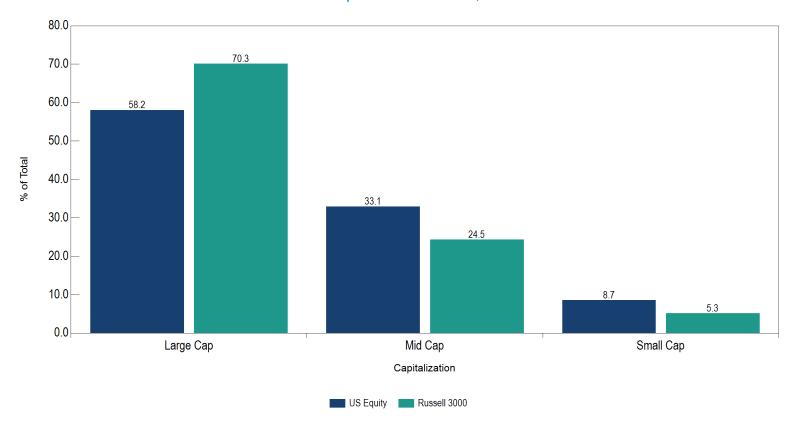
InvMetrics All DB US Eq Net Return Comparison



| | Return | (Rank) | | | | | | |
|---|------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|----------------------------------|
| 5th Percentile | 10.3 | 40.3 | 73.8 | 23.1 | 18.0 | 17.9 | 13.8 | 14.0 |
| 25th Percentile | 8.2 | 36.3 | 66.7 | 21.4 | 16.8 | 16.6 | 13.0 | 13.4 |
| Median | 7.3 | 34.3 | 63.4 | 20.5 | 15.9 | 16.0 | 12.6 | 12.9 |
| 75th Percentile | 6.4 | 32.8 | 60.8 | 19.3 | 15.0 | 15.1 | 11.8 | 12.2 |
| 95th Percentile | 4.2 | 28.4 | 55.2 | 15.9 | 12.5 | 13.4 | 10.4 | 10.9 |
| # of Portfolios | 445 | 445 | 445 | 442 | 440 | 417 | 404 | 325 |
| US EquityBlended US Equity Index | 5.9 6.3 | (88) 29.4 (78) 33.2 | (94) 55.1 (68) 62.5 | (96) 17.3 (60) 21.5 | (92) 14.0 (22) 17.1 | (87) 14.6 (16) 16.7 | (85) 11.7 (18) 13.2 | (78) 12.3 (73) (18) 13.6 (15) |



Market Capitalization as of March 31, 2021



See appendix for the market capitalization breakpoints.



Characteristics

| | Portfolio | Russell 3000 |
|---------------------------------|-----------|--------------|
| Number of Holdings | 2,871 | 3,035 |
| Weighted Avg. Market Cap. (\$B) | 299.0 | 385.9 |
| Median Market Cap. (\$B) | 4.4 | 2.3 |
| Price To Earnings | 26.9 | 29.5 |
| Price To Book | 4.0 | 4.3 |
| Price To Sales | 2.6 | 3.0 |
| Return on Equity (%) | 17.1 | 15.2 |
| Yield (%) | 1.5 | 1.4 |

| Top Holdings | Worst Performers |
|--------------|-------------------|
| TOD HOIGHIGS | Worst Ferioliners |

| | | • | |
|--------------------|----------|---|------|
| APPLE INC | | | 3.7% |
| MICROSOFT CORP | | | 3.6% |
| AMAZON.COM INC | | | 2.0% |
| ALPHABET INC | | | 1.5% |
| FACEBOOK INC | | | 1.3% |
| JOHNSON & JOHNSON | | | 1.1% |
| PROCTER & GAMBLE C | O (THE) | | 1.0% |
| TESLA INC | | | 1.0% |
| VERIZON COMMUNICA | TIONS IN | 0 | 1.0% |
| CISCO SYSTEMS INC | | | 0.8% |

| Best Performers | |
|--------------------------------------|----------|
| | Return % |
| GAMESTOP CORP. (GME) | 907.6% |
| AMC ENTERTAINMENT HOLDINGS INC (AMC) | 381.6% |
| EXPRESS INC (EXPR) | 341.8% |
| KOPIN CORP (KOPN) | 331.7% |
| PANDION THERAPEUTICS INC (PAND) | 304.4% |
| GLOBALSTAR INC (GSAT) | 298.7% |
| ACLARIS THERAPEUTICS INC (ACRS) | 289.5% |
| EVOLUS INC (EOLS) | 286.6% |
| RING ENERGY INC (REI) | 250.1% |
| RUBIUS THERAPEUTICS INC (RUBY) | 249.1% |

| WOIST FEHRIHEIS | |
|------------------------------------|----------|
| | Return % |
| ODONATE THERAPEUTICS INC (ODT) | -82.2% |
| FREQUENCY THERAPEUTICS INC (FREQ) | -73.1% |
| LUMOS PHARMA INC (LUMO) | -67.2% |
| WASHINGTON PRIME GROUP INC (WPG) | -65.7% |
| MMUNOVANT INC (IMVT) | -65.3% |
| DERA PHARMACEUTICALS INC (IDRA) | -64.6% |
| IMARA INC (IMRA) | -61.7% |
| ATHENEX INC (ATNX) | -61.1% |
| CONCERT PHARMACEUTICALS INC (CNCE) | -60.5% |
| AMICUS THERAPEUTICS INC (FOLD) | -57.2% |
| | |

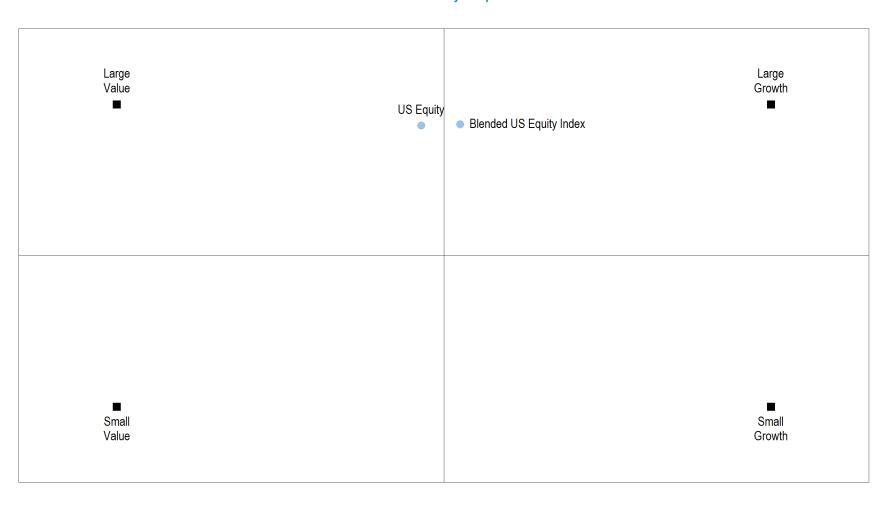


US Equity Performance Attribution vs. Russell 3000

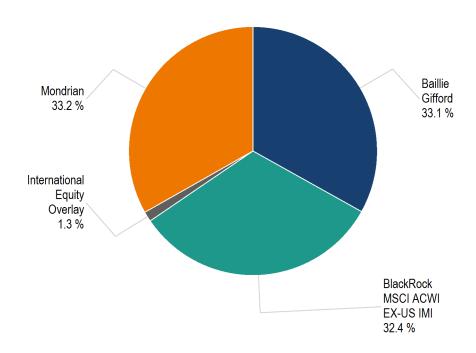
| | | | Attribution Effects | | | eturns | Sector Weights | |
|------------------------|---------|-----------|---------------------|-------------|-----------|-----------|----------------|-----------|
| | Total | Selection | Allocation | Interaction | | | | |
| | Effects | Effect | Effect | Effects | Portfolio | Benchmark | Portfolio | Benchmark |
| Energy | 0.1% | 0.0% | 0.1% | 0.0% | 30.1% | 31.0% | 2.3% | 1.9% |
| Materials | 0.0% | 0.0% | 0.0% | 0.0% | 9.4% | 10.4% | 3.8% | 2.8% |
| Industrials | 0.0% | 0.0% | 0.0% | 0.0% | 11.4% | 11.6% | 8.8% | 9.3% |
| Consumer Discretionary | 0.3% | 0.3% | 0.0% | 0.0% | 7.5% | 5.3% | 11.2% | 12.4% |
| Consumer Staples | -0.1% | 0.0% | -0.1% | 0.0% | 2.4% | 2.1% | 9.3% | 5.9% |
| Health Care | -0.1% | -0.1% | 0.0% | 0.0% | 2.1% | 2.6% | 15.2% | 14.1% |
| Financials | -0.2% | 0.1% | -0.2% | 0.0% | 16.9% | 16.3% | 8.7% | 10.8% |
| Information Technology | 0.5% | 0.4% | 0.2% | 0.0% | 2.8% | 1.4% | 23.5% | 27.4% |
| Communication Services | -0.1% | -0.1% | 0.0% | 0.0% | 6.4% | 7.5% | 9.7% | 10.0% |
| Utilities | 0.0% | 0.0% | 0.0% | 0.0% | 4.3% | 3.5% | 4.0% | 2.4% |
| Real Estate | 0.0% | 0.0% | 0.0% | 0.0% | 8.3% | 8.7% | 3.0% | 3.2% |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 0.2% | 0.0% |
| Unclassified | 0.0% | 0.0% | 0.0% | 0.0% | 7.9% | | 0.1% | 0.0% |
| Portfolio | 0.3% | = 0.5% | + -0.1% | + -0.1% | 6.6% | 6.4% | 100.0% | 100.0% |



U.S. Effective Style Map







| | | | Manager |
|-------------------------------------|-----------------|----------|-----------------|
| | | | Contribution to |
| | Actual \$ | Actual % | Excess Return % |
| Baillie Gifford | \$359,692,161 | 33.1% | -1.1% |
| Mondrian | \$360,663,827 | 33.2% | -0.3% |
| BlackRock MSCI ACWI EX-US IMI | \$352,128,710 | 32.4% | 0.0% |
| International Equity Overlay | \$14,269,075 | 1.3% | 0.0% |
| Actual vs. Policy Weight Difference | | | 0.9% |
| Total | \$1,086,753,773 | 100.0% | -0.6% |

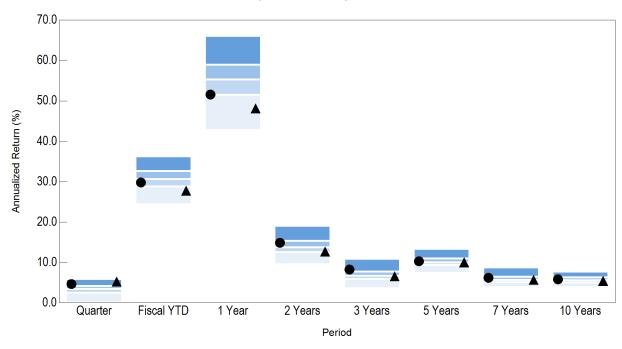
| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| International Equity | 8.3% | 16.7% | 0.4 | 1.1 | 1.5% |
| Blended International Equity Index | 6.6% | 16.8% | 0.3 | | 0.0% |
| Baillie Gifford | 14.5% | 18.5% | 0.7 | 1.2 | 6.3% |
| MSCI ACWI ex US | 7.0% | 17.6% | 0.3 | | 0.0% |
| Mondrian | 4.0% | 19.1% | 0.1 | 0.4 | 2.8% |
| MSCI ACWI ex USA Value Gross | 3.0% | 20.2% | 0.1 | | 0.0% |



| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| International Equity | 10.3% | 14.0% | 0.7 | 0.2 | 1.7% |
| Blended International Equity Index | 10.1% | 14.0% | 0.6 | | 0.0% |
| Baillie Gifford | 14.5% | 15.6% | 0.9 | 0.8 | 5.6% |
| MSCI ACWI ex US | 10.3% | 14.6% | 0.6 | | 0.0% |
| Mondrian | 7.1% | 15.7% | 0.4 | -0.2 | 3.7% |
| MSCI ACWI ex USA Value Gross | 7.9% | 16.6% | 0.4 | | 0.0% |



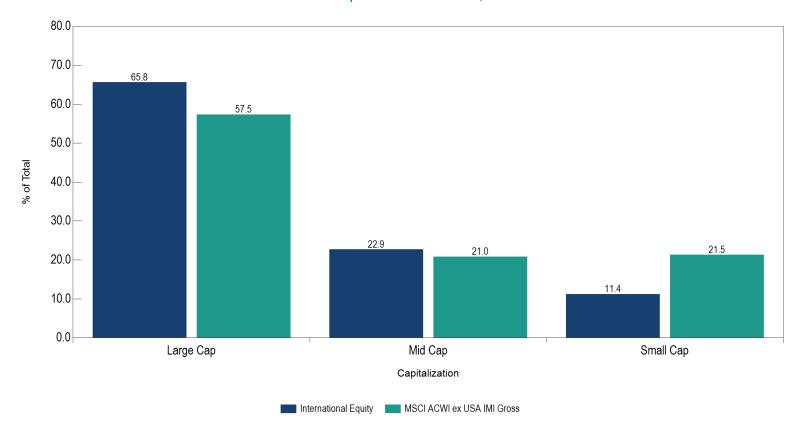
InvMetrics All DB ex-US Eq Net Return Comparison



| | Return (| (Rank) | | | | | | | |
|---|------------|------------------------|------------------------|------------------------|----------------------|------------------------|----------------------|------------------------------|---|
| 5th Percentile | 5.9 | 36.3 | 66.1 | 19.1 | 10.9 | 13.3 | 8.8 | 7.7 | |
| 25th Percentile | 4.2 | 32.7 | 59.0 | 15.4 | 7.8 | 11.0 | 6.5 | 6.4 | |
| Median | 3.5 | 30.7 | 55.4 | 13.8 | 6.8 | 10.1 | 5.7 | 5.7 | |
| 75th Percentile | 2.6 | 28.9 | 51.6 | 12.6 | 6.0 | 9.5 | 5.2 | 5.1 | |
| 95th Percentile | 0.2 | 24.4 | 42.8 | 9.6 | 3.7 | 7.5 | 4.0 | 4.0 | |
| # of Portfolios | 293 | 293 | 293 | 292 | 288 | 271 | 261 | 203 | |
| International EquityBlended International Equity Index | 4.7 5.2 | (17) 29.8 (11) 27.8 | (63) 51.6 (85) 48.1 | (75) 14.9 (90) 12.7 | (32) 8.3 (75) 6.6 | (21) 10.3 (58) 10.1 | (42) 6.2 (54) 5.7 | (32) 5.8 (44 (50) 5.4 (62 | , |







See appendix for the market capitalization breakpoints.



Characteristics

| | Portfolio | MSCI ACWI ex USA IMI Gross |
|---------------------------------|-----------|----------------------------|
| Number of Holdings | 6,521 | 6,554 |
| Weighted Avg. Market Cap. (\$B) | 90.5 | 88.8 |
| Median Market Cap. (\$B) | 2.2 | 1.9 |
| Price To Earnings | 23.8 | 21.3 |
| Price To Book | 2.9 | 2.6 |
| Price To Sales | 1.5 | 1.4 |
| Return on Equity (%) | 9.0 | 9.6 |
| Yield (%) | 2.0 | 2.2 |

| 1.4% |
|------|
| 1.3% |
| 1.3% |
| 1.2% |
| 1.2% |
| 1.1% |
| 0.9% |
| 0.9% |
| 0.9% |
| 0.9% |
| |

| Best Performers | |
|--------------------------------|-----------|
| | Return % |
| POSEIDON CONCEPTS CORP (POOSF) | 49,899.8% |
| HENGTEN NETWORKS GROUP LTD | 267.3% |
| FUTU HOLDINGS LTD (FUTU) | 247.1% |
| MEDIGEN VACCINE BIOLOGICS CORP | 176.7% |
| TILRAY INC (APHA.) | 165.8% |
| PPDAI GROUP INC (FINV) | 162.5% |
| HYOSUNG TNC CORP | 162.1% |
| ORGANIGRAM HOLDINGS INC (OGI.) | 160.7% |
| ADANI TOTAL GAS LTD | 155.4% |
| IIFL FINANCE LTD | 151.1% |
| | |

| Worst Performers | |
|---------------------------------------|----------|
| | Return % |
| FREEDOM FOODS GROUP (A:FNPX) | -84.6% |
| PIRAEUS FINANCIAL HOLDINGS SA | -67.8% |
| G-TREEBNT CO LTD | -61.2% |
| DL HOLDINGS CO LTD | -54.9% |
| AI INSIDE INC | -54.8% |
| CANTARGIA AB | -54.5% |
| YOMA STRATEGIC (T:SVIW) | -52.9% |
| CHINA FORTUNE LAND DEVELOPMENT CO LTD | -51.6% |
| ILYANG PHARM. (KO:IYP) | -51.5% |
| GUORUI PROPERTIES LTD | -49.5% |



International Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

| | | | Attribution Effec | ts | Re | eturns | Secto | r Weights |
|------------------------|---------|-----------|-------------------|-------------|-----------|-----------|-----------|-----------|
| | Total | Selection | Allocation | Interaction | | | | |
| | Effects | Effect | Effect | Effects | Portfolio | Benchmark | Portfolio | Benchmark |
| Energy | 0.0% | 0.0% | 0.0% | 0.0% | 10.6% | 9.8% | 3.6% | 4.0% |
| Materials | 0.0% | -0.1% | 0.0% | 0.2% | 4.1% | 5.4% | 5.1% | 8.5% |
| Industrials | 0.3% | 0.3% | 0.0% | 0.0% | 8.0% | 5.7% | 13.8% | 12.8% |
| Consumer Discretionary | -0.3% | -0.1% | 0.0% | -0.1% | 2.2% | 2.9% | 16.7% | 13.5% |
| Consumer Staples | 0.0% | 0.0% | 0.0% | 0.0% | -2.4% | -1.8% | 8.2% | 8.5% |
| Health Care | 0.3% | 0.3% | 0.0% | 0.0% | -0.8% | -3.4% | 9.1% | 9.3% |
| Financials | -0.3% | -0.3% | -0.1% | 0.2% | 7.1% | 8.7% | 13.8% | 17.0% |
| Information Technology | -0.2% | -0.1% | 0.0% | -0.1% | 3.0% | 3.6% | 15.6% | 12.7% |
| Communication Services | -0.4% | -0.3% | 0.0% | -0.1% | 1.6% | 5.3% | 8.8% | 6.6% |
| Utilities | 0.1% | 0.0% | 0.0% | 0.0% | 0.8% | -0.8% | 3.0% | 3.4% |
| Real Estate | 0.1% | 0.0% | 0.0% | 0.1% | 4.2% | 2.5% | 1.4% | 3.7% |
| Cash | -0.1% | 0.0% | -0.1% | 0.0% | 0.0% | | 0.9% | 0.0% |
| Unclassified | 0.0% | | - | | | - | 0.0% | 0.0% |
| Portfolio | -0.4% | = -0.3% | + -0.1% | + 0.1% | 3.5% | 3.9% | 100.0% | 100.0% |



Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

| | | Returns and V | Neights | | | Attri | bution Effects | | |
|-----------------|---------|---------------|---------|--------|-----------|------------|----------------|-------------|---------|
| | Manager | Index | Manager | Index | Selection | Allocation | Currency | Interaction | Total |
| | Return | Return | Weight | Weight | Effect | Effect | Effect | Effect | Effects |
| Europe | | | | | | | | | |
| Austria | 8.2% | 9.7% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Belgium | -1.3% | -1.7% | 0.2% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Czech Republic* | 5.5% | 5.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Denmark | 1.6% | -2.3% | 0.8% | 1.5% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| Finland | 3.5% | 0.6% | 0.7% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| France | 6.1% | 4.4% | 5.5% | 6.3% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| Germany | -6.7% | 3.9% | 4.8% | 5.6% | -0.6% | 0.0% | 0.0% | 0.1% | -0.5% |
| Greece* | 3.3% | 3.4% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Hungary* | 0.3% | 0.3% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Ireland | 15.8% | 6.5% | 0.7% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| Italy | 6.7% | 5.7% | 1.6% | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Luxembourg | -12.5% | 3.9% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | -0.1% | -0.1% |
| Netherlands | 11.7% | 11.6% | 2.8% | 2.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Norway | 9.6% | 9.7% | 0.2% | 0.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Poland* | -2.7% | -5.8% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Portugal | -0.6% | -2.9% | 0.4% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russia* | 10.8% | 6.2% | 0.4% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Spain | 6.2% | 1.8% | 2.1% | 1.5% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| Sweden | 8.4% | 8.3% | 3.4% | 2.5% | 0.0% | 0.1% | -0.1% | 0.0% | 0.0% |
| Switzerland | 1.3% | -1.4% | 3.8% | 5.7% | 0.2% | 0.0% | 0.1% | -0.1% | 0.3% |
| United Kingdom | 5.9% | 6.3% | 12.0% | 9.3% | 0.0% | 0.0% | 0.0% | 0.0% | -0.1% |



Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

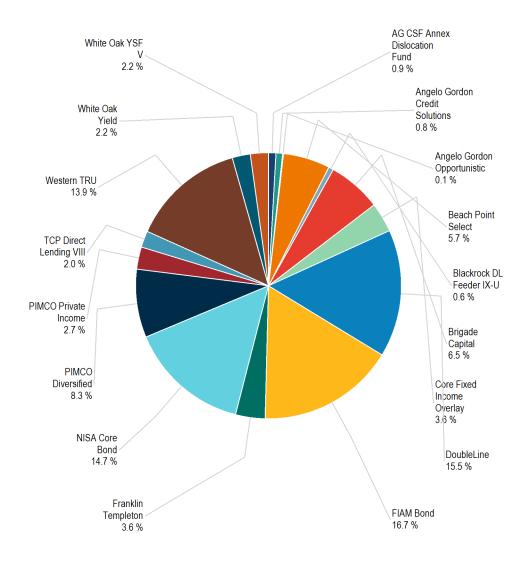
| | Returns and Weights | | | | | Attribution Effects | | | | |
|---------------|---------------------|--------|---------|--------|-----------|---------------------|----------|-------------|---------|--|
| | Manager | Index | Manager | Index | Selection | Allocation | Currency | Interaction | Total | |
| | Return | Return | Weight | Weight | Effect | Effect | Effect | Effect | Effects | |
| AsiaPacific | | | | | | | | | | |
| Australia | 5.2% | 3.0% | 2.8% | 4.7% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% | |
| China* | 0.3% | 0.6% | 10.1% | 10.8% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| Hong Kong | 9.1% | 8.4% | 3.1% | 1.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| India* | 0.4% | 6.9% | 3.9% | 3.0% | -0.2% | 0.0% | 0.0% | -0.1% | -0.3% | |
| Indonesia* | -3.3% | -7.8% | 0.3% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| Japan | 0.9% | 1.9% | 19.5% | 16.5% | -0.2% | 0.1% | -0.2% | 0.0% | -0.3% | |
| Korea* | 2.7% | 1.7% | 2.9% | 4.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | |
| Malaysia* | -3.1% | -4.1% | 0.2% | 0.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| New Zealand | -14.1% | -8.5% | 0.7% | 0.3% | 0.0% | -0.1% | 0.0% | 0.0% | -0.1% | |
| Pakistan* | 5.4% | 5.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| Philippines* | -9.9% | -9.9% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| Singapore | 10.2% | 7.7% | 1.6% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| Taiwan* | 11.9% | 10.9% | 4.5% | 4.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | |
| Thailand* | 4.2% | 6.4% | 0.3% | 0.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| Americas | | | | | | | | | | |
| Argentina* | -12.1% | -4.4% | 0.6% | 0.1% | 0.0% | -0.1% | 0.0% | 0.0% | -0.1% | |
| Brazil* | -8.9% | -9.4% | 1.4% | 1.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| Canada | 6.1% | 9.7% | 4.1% | 6.3% | -0.2% | 0.0% | -0.1% | 0.1% | -0.2% | |
| Chile* | 17.7% | 17.7% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| Colombia* | -17.2% | -17.1% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| Mexico* | 6.0% | 3.5% | 0.4% | 0.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| Peru* | -13.2% | -10.4% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| United States | 1.3% | 5.4% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |



Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

| | | 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* | -2.6% | -2.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Israel | 1.6% | 1.6% | 0.2% | 0.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Kuwait* | 6.8% | 6.9% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Qatar* | 3.9% | 4.0% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Saudi Arabia* | 18.1% | 18.1% | 0.3% | 0.7% | 0.0% | -0.1% | 0.0% | 0.0% | -0.1% |
| South Africa* | 14.8% | 12.4% | 0.9% | 1.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Turkey* | -14.8% | -15.0% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| United Arab Emirates* | 13.9% | 14.1% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Totals | | | | | | | | | |
| Americas | 1.3% | 5.6% | 7.3% | 8.8% | -0.3% | 0.0% | 0.0% | 0.1% | -0.3% |
| Europe | 4.3% | 4.2% | 40.2% | 40.1% | -0.1% | 0.0% | 0.2% | 0.0% | 0.1% |
| Asia/Pacific | 2.7% | 2.9% | 50.0% | 48.1% | -0.1% | 0.0% | -0.1% | 0.0% | -0.2% |
| Other | 11.9% | 9.5% | 1.6% | 3.0% | 0.1% | -0.1% | 0.0% | 0.0% | 0.0% |
| Cash | 0.0% | | 0.9% | 0.0% | 0.0% | -0.1% | 0.0% | 0.0% | -0.1% |
| Total | 3.4% | 3.9% | 100.0% | 100.0% | -0.5% | -0.1% | 0.1% | 0.0% | -0.5% |
| Totals | | | | | | | | | |
| Developed | 3.7% | 4.2% | 72.4% | 70.0% | -0.4% | 0.0% | -0.1% | 0.0% | -0.4% |
| Emerging* | 2.7% | 3.1% | 26.7% | 30.0% | -0.3% | 0.1% | 0.2% | 0.0% | 0.0% |
| Cash | 0.0% | | 0.9% | 0.0% | 0.0% | -0.1% | 0.0% | 0.0% | -0.1% |
| | | | | | | | | | |





| | | | Manager Contribution to |
|-------------------------------------|-----------------|----------|----------------------------|
| | Actual \$ | Actual % | Excess Return % |
| AG CSF Annex Dislocation Fund | \$14,087,050 | 0.9% | 0.1% |
| Angelo Gordon Credit Solutions | \$12,887,330 | 0.8% | 0.1% |
| Angelo Gordon Opportunistic | \$2,096,853 | 0.1% | 0.0% |
| Beach Point Select | \$89,524,186 | 5.7% | 0.3% |
| Blackrock DL Feeder IX-U | \$9,524,119 | 0.6% | 0.0% |
| Brigade Capital | \$103,389,080 | 6.5% | 0.4% |
| DoubleLine | \$244,933,819 | 15.5% | 0.1% |
| FIAM Bond | \$263,280,582 | 16.7% | 0.1% |
| Franklin Templeton | \$56,904,649 | 3.6% | 0.0% |
| NISA Core Bond | \$233,089,997 | 14.7% | 0.0% |
| PIMCO Diversified | \$130,946,041 | 8.3% | 0.0% |
| PIMCO Private Income | \$42,506,912 | 2.7% | 0.0% |
| TCP Direct Lending VIII | \$31,716,643 | 2.0% | 0.0% |
| Western TRU | \$219,944,558 | 13.9% | -0.3% |
| White Oak Yield | \$34,204,765 | 2.2% | -0.1% |
| White Oak YSF V | \$34,447,924 | 2.2% | -0.1% |
| Core Fixed Income Overlay | \$57,365,266 | 3.6% | 0.0% |
| Actual vs. Policy Weight Difference | | | 0.3% |
| Total | \$1,580,849,773 | 100.0% | 0.9% |



| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Fixed Income | 4.8% | 3.6% | 1.0 | -0.3 | 1.8% |
| Blended Fixed Income Index | 5.4% | 4.1% | 1.0 | | 0.0% |
| Core Fixed | 4.4% | 3.1% | 1.0 | -0.1 | 1.5% |
| BBgBarc US Aggregate TR | 4.7% | 3.6% | 0.9 | | 0.0% |
| FIAM Bond | 5.7% | 4.0% | 1.1 | 0.7 | 1.6% |
| BBgBarc US Aggregate TR | 4.7% | 3.6% | 0.9 | | 0.0% |
| Western TRU | 3.5% | 6.8% | 0.3 | 0.3 | 6.8% |
| 3-Month Libor Total Return USD | 1.6% | 0.3% | 0.9 | | 0.0% |
| Opportunistic Credit | 5.6% | 6.8% | 0.6 | -0.4 | 4.3% |
| BBgBarc BA Intermediate HY | 7.2% | 8.0% | 0.7 | | 0.0% |
| Angelo Gordon Opportunistic | 9.6% | 18.3% | 0.4 | 0.3 | 18.6% |
| BBgBarc US Aggregate TR | 4.7% | 3.6% | 0.9 | | 0.0% |
| Beach Point Select | 9.4% | 8.9% | 0.9 | 0.5 | 4.9% |
| BBgBarc BA Intermediate HY | 7.2% | 8.0% | 0.7 | | 0.0% |
| Brigade Capital | 5.8% | 12.2% | 0.4 | -0.2 | 7.1% |
| BBgBarc BA Intermediate HY | 7.2% | 8.0% | 0.7 | | 0.0% |
| PIMCO Diversified | 5.3% | 6.9% | 0.6 | -0.1 | 1.3% |
| Blended PIMCO Diversified Index | 5.4% | 7.8% | 0.5 | | 0.0% |
| Franklin Templeton | -3.2% | 6.8% | -0.7 | -0.8 | 7.7% |
| BBgBarc Multiverse TR | 2.9% | 4.6% | 0.3 | | 0.0% |



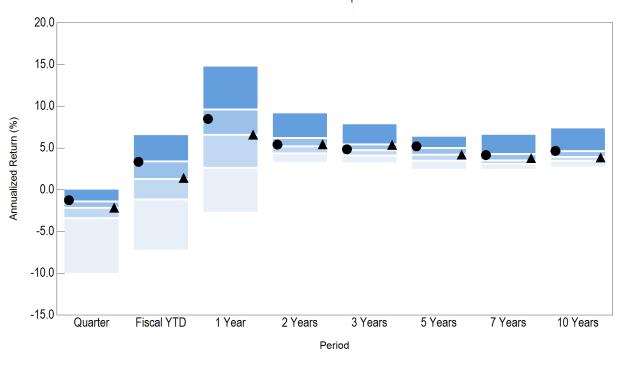
| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Private Credit | 7.2% | 4.1% | 1.4 | -0.3 | 2.7% |
| Cliffwater Direct Lending Index | 8.0% | 5.5% | 1.2 | | 0.0% |
| TCP Direct Lending VIII | 7.3% | 2.9% | 2.0 | -0.2 | 4.5% |
| Cliffwater Direct Lending Index | 8.0% | 5.5% | 1.2 | | 0.0% |
| White Oak Yield | 5.9% | 3.1% | 1.5 | -0.6 | 3.6% |
| Cliffwater Direct Lending Index | 8.0% | 5.5% | 1.2 | | 0.0% |



| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|--------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Fixed Income | 5.2% | 3.1% | 1.3 | 0.5 | 1.8% |
| Blended Fixed Income Index | 4.2% | 3.6% | 0.8 | | 0.0% |
| Core Fixed | 3.9% | 2.9% | 1.0 | 0.6 | 1.4% |
| BBgBarc US Aggregate TR | 3.1% | 3.3% | 0.6 | | 0.0% |
| FIAM Bond | 4.2% | 3.6% | 0.8 | 0.9 | 1.3% |
| BBgBarc US Aggregate TR | 3.1% | 3.3% | 0.6 | | 0.0% |
| Western TRU | 4.9% | 5.5% | 0.7 | 0.6 | 5.5% |
| 3-Month Libor Total Return USD | 1.5% | 0.2% | 1.4 | | 0.0% |
| Opportunistic Credit | 8.0% | 5.5% | 1.2 | 0.3 | 3.7% |
| BBgBarc BA Intermediate HY | 6.9% | 6.4% | 0.9 | | 0.0% |
| Angelo Gordon Opportunistic | 11.9% | 15.1% | 0.7 | 0.6 | 15.3% |
| BBgBarc US Aggregate TR | 3.1% | 3.3% | 0.6 | | 0.0% |
| Beach Point Select | 10.3% | 7.0% | 1.3 | 0.8 | 4.0% |
| BBgBarc BA Intermediate HY | 6.9% | 6.4% | 0.9 | | 0.0% |
| Brigade Capital | 8.9% | 9.9% | 0.8 | 0.3 | 5.9% |
| BBgBarc BA Intermediate HY | 6.9% | 6.4% | 0.9 | | 0.0% |
| Franklin Templeton | 0.7% | 6.2% | -0.1 | -0.3 | 7.8% |
| BBgBarc Multiverse TR | 2.9% | 4.7% | 0.4 | | 0.0% |

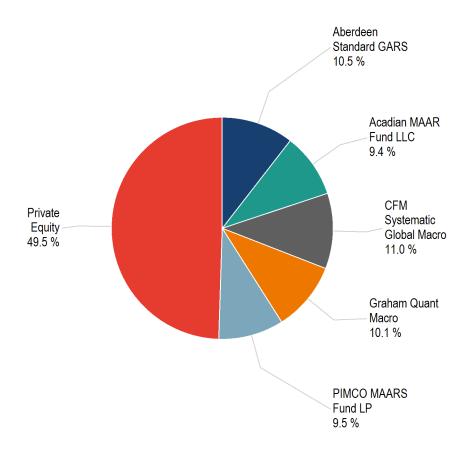


InvMetrics All DB Total Fix Inc Net Return Comparison



| | Return (| Rank) | | | | | | | |
|---|--------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------|
| 5th Percentile | 0.1 | 6.6 | 14.9 | 9.3 | 8.0 | 6.5 | 6.7 | 7.5 | |
| 25th Percentile | -1.4 | 3.4 | 9.6 | 6.2 | 5.4 | 5.0 | 4.3 | 4.7 | |
| Median | -2.2 | 1.3 | 6.6 | 5.2 | 4.7 | 4.2 | 3.5 | 4.0 | |
| 75th Percentile | -3.4 | -1.2 | 2.6 | 4.4 | 4.1 | 3.5 | 3.1 | 3.5 | |
| 95th Percentile | -10.1 | -7.2 | -2.7 | 3.3 | 3.2 | 2.4 | 2.4 | 2.7 | |
| # of Portfolios | 258 | 258 | 258 | 257 | 255 | 237 | 226 | 189 | |
| Fixed Income▲ Blended Fixed Income Index | -1.3 -2.2 | (23) 3.3 (50) 1.4 | (27) 8.5 (48) 6.6 | (35) 5.4 (51) 5.5 | (46) 4.8 (43) 5.4 | (46) 5.2 (27) 4.2 | (22) 4.2 (50) 3.8 | (29) 4.7 (38) 3.9 | (25) (52) |





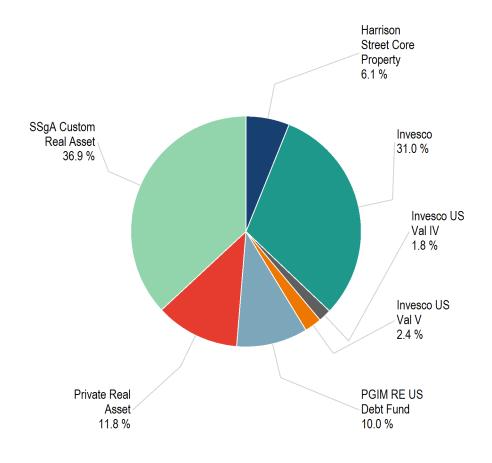
| | | | Manager Contribution to |
|-------------------------------------|---------------|----------|----------------------------|
| | Actual \$ | Actual % | Excess Return % |
| Aberdeen Standard GARS | \$79,606,282 | 10.5% | -0.4% |
| Acadian MAAR Fund LLC | \$71,110,441 | 9.4% | -0.1% |
| CFM Systematic Global Macro | \$83,092,096 | 11.0% | 0.2% |
| Graham Quant Macro | \$76,600,570 | 10.1% | -0.3% |
| PIMCO MAARS Fund LP | \$71,597,025 | 9.5% | 0.0% |
| Private Equity | \$374,248,452 | 49.5% | -7.7% |
| Actual vs. Policy Weight Difference | | | 1.8% |
| Total | \$756,254,865 | 100.0% | -6.3% |

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Alternatives | 13.5% | 14.5% | 0.8 | 0.1 | 14.3% |
| Blended Alternatives Index | 11.7% | 9.5% | 1.1 | | 0.0% |
| Private Equity | 31.6% | 24.2% | 1.2 | 0.6 | 24.4% |
| Blended Private Equity Index | 17.5% | 19.1% | 0.8 | | 0.0% |
| Hedge Fund/Absolute Return | -6.2% | 6.7% | -1.1 | -1.7 | 6.8% |
| Absolute Return Custom Index | 5.5% | 0.3% | 15.3 | | 0.0% |
| Aberdeen Standard GARS | 3.4% | 4.9% | 0.4 | -0.4 | 4.9% |
| Absolute Return Custom Index | 5.5% | 0.3% | 15.3 | | 0.0% |



| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Alternatives | 11.9% | 11.8% | 0.9 | 0.0 | 11.6% |
| Blended Alternatives Index | 12.0% | 7.7% | 1.4 | | 0.0% |
| Private Equity | 25.5% | 19.7% | 1.2 | 0.4 | 20.0% |
| Blended Private Equity Index | 18.1% | 15.3% | 1.1 | | 0.0% |
| Hedge Fund/Absolute Return | -3.0% | 5.9% | -0.7 | -1.4 | 5.9% |
| Absolute Return Custom Index | 5.3% | 0.2% | 17.8 | | 0.0% |
| Aberdeen Standard GARS | 2.7% | 4.3% | 0.4 | -0.6 | 4.3% |
| Absolute Return Custom Index | 5.3% | 0.2% | 17.8 | | 0.0% |





| | | | Manager Contribution to |
|-------------------------------------|---------------|----------|----------------------------|
| | Actual \$ | Actual % | Excess Return % |
| Harrison Street Core Property | \$51,901,255 | 6.1% | 0.0% |
| Invesco | \$264,373,688 | 31.0% | -0.2% |
| Invesco US Val IV | \$14,968,415 | 1.8% | 0.0% |
| Invesco US Val V | \$20,495,919 | 2.4% | 0.2% |
| PGIM RE US Debt Fund | \$85,342,344 | 10.0% | -0.1% |
| Private Real Asset | \$101,078,678 | 11.8% | -0.3% |
| SSgA Custom Real Asset | \$315,185,037 | 36.9% | 0.0% |
| Actual vs. Policy Weight Difference | | | -0.7% |
| Total | \$853,345,336 | 100.0% | -1.2% |

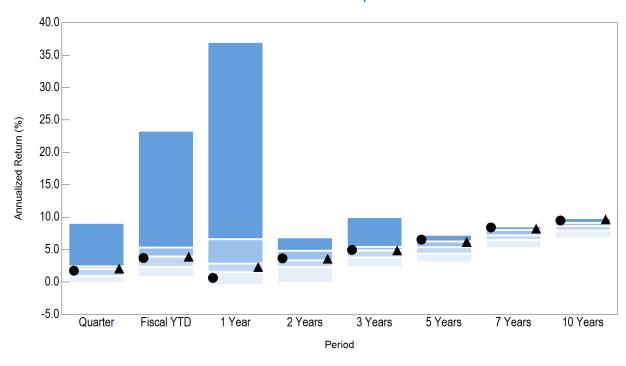
| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|----------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Inflation Hedge | 1.1% | 7.0% | 0.0 | -1.1 | 3.1% |
| Blended Inflation Hedge Index | 4.5% | 6.4% | 0.5 | | 0.0% |
| Real Estate | 4.9% | 3.4% | 1.0 | 0.1 | 1.2% |
| NCREIF ODCE | 4.9% | 2.8% | 1.3 | | 0.0% |
| Invesco | 4.0% | 4.0% | 0.7 | -0.4 | 2.0% |
| NCREIF ODCE | 4.9% | 2.8% | 1.3 | | 0.0% |
| Invesco US Val IV | 8.3% | 6.3% | 1.1 | 0.8 | 4.4% |
| NCREIF ODCE | 4.9% | 2.8% | 1.3 | | 0.0% |
| PGIM RE US Debt Fund | 5.7% | 2.3% | 1.9 | 0.4 | 1.9% |
| NCREIF ODCE | 4.9% | 2.8% | 1.3 | | 0.0% |
| Private Real Asset | 0.8% | 10.8% | -0.1 | -0.1 | 20.5% |
| Blended Private Real Asset Index | 3.1% | 20.7% | 0.1 | | 0.0% |
| Public Real Assets | -2.6% | 19.8% | -0.2 | -1.1 | 4.4% |
| Blended Public Real Asset Index | 2.3% | 16.6% | 0.1 | | 0.0% |
| SSgA Custom Real Asset | 2.3% | 16.3% | 0.1 | -0.1 | 0.8% |
| SSgA Custom Real Asset Index | 2.3% | 16.6% | 0.1 | | 0.0% |



| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error Rank |
|----------------------------------|--------------|-----------------------------|--------------|-------------------|---------------------|
| Real Estate | 6.5% | 3.6% | 1.5 | 0.3 | 24 |
| NCREIF ODCE | 6.2% | 3.0% | 1.7 | | 1 |
| Invesco | 6.0% | 4.0% | 1.2 | -0.1 | |
| NCREIF ODCE | 6.2% | 3.0% | 1.7 | | |
| Invesco US Val IV | 9.2% | 5.7% | 1.4 | 0.8 | |
| NCREIF ODCE | 6.2% | 3.0% | 1.7 | | |
| Private Real Asset | -0.6% | 9.1% | -0.2 | -0.3 | |
| Blended Private Real Asset Index | 4.7% | 16.3% | 0.2 | | |



InvMetrics All DB Real Estate Pub Net Return Comparison



| | Return (Rai | ık) | | | | | | |
|---|--------------------|------|------|----------------------|----------------------|----------------------|---------------------|---------------------|
| 5th Percentile | 9.1 | 23.3 | 37.0 | 6.8 | 10.0 | 7.3 | 8.5 | 9.8 |
| 25th Percentile | 2.4 | 5.3 | 6.6 | 4.8 | 5.4 | 6.3 | 8.1 | 9.1 |
| Median | 2.0 | 3.9 | 2.8 | 3.4 | 4.9 | 5.4 | 7.2 | 8.6 |
| 75th Percentile | 0.9 | 2.4 | 1.5 | 2.4 | 3.8 | 4.4 | 6.5 | 7.9 |
| 95th Percentile | -0.1 | 8.0 | -0.5 | -0.2 | 2.3 | 3.0 | 5.2 | 6.8 |
| # of Portfolios | 76 | 76 | 76 | 75 | 74 | 70 | 67 | 53 |
| ■ Real Estate▲ NCREIF ODCE | 1.7 (60 2.1 (46 | , | , , | 3.6 (42) 3.6 (44) | 4.9 (49) 4.9 (50) | 6.5 (13) 6.2 (30) | 8.4 (7) 8.2 (12) | 9.5 (15) 9.7 (9) |



Aberdeen Standard (ASI) Global Absolute Return Strategy (GARS)

The Standard Life Aberdeen Global Absolute Return Strategy (GARS) was initially launched in 2005 to help address Standard Life's own pension plan's deficit problem. GARS' primary investment objective is to deliver a positive absolute return over the medium to long term with lower volatility than equities, irrespective of market conditions. It seeks returns through dynamic allocation to investment opportunities in traditional and advanced asset classes, and also separately exploits the team's security selection expertise. In the search for attractive investment positions, the team follows a rigorous research process. This includes a variety of research techniques, including broad global macro-economic, fundamental analysis, quantitative research and valuation modeling. The GARS investment process is designed to capitalize on an array of research and investment techniques and draws together the team's three-year investment insights. The team then rigorously examines and review position proposals to approve a high conviction, short list of positions that work well together. Having a cash benchmark means that GARS has a potentially unrestricted investment universe and all portfolio holdings are at the Portfolio Manager's discretion. The GARS portfolio also routinely uses a variety of conventional derivatives for investment, liquidity, efficiency, and hedging purposes. The GARS strategy has experienced significant growth in its asset under management since it becomes available to external investors in 2006.

Acadian Asset Management - Acadian U.S. Managed Volatility

Acadian attempts to take advantage of the mispricing of risk by building low-risk equity portfolios that hold predominantly low-risk stocks, and then also adding information on the correlation structure of equities to help further reduce risk through diversification.

Acadian Asset Management - MAAR Fund

This is a multi-factor strategy that aims to exploit behavioral inefficiencies within and across global markets and is designed to be diversifying, dynamic and defensive. It is market neutral, implemented using long and short positions across five primary asset classes (equity, fixed income, currency, commodities, and volatility) and over 100 underlying assets with a focus on liquid instruments.

Angelo, Gordon & Co. - AG Opportunistic Whole Loan Fund

As bank balance sheets have strengthened since the crisis, Angelo Gordon expects approximately \$40 billion of re-performing loans and non-performing loans will trade hands each year in the near term. By acquiring these loans at a discounted price and replacing original servicers with better-focused special servicers, Angelo Gordon believes it can improve operational efficiency and generate attractive returns. To take advantage of this opportunity, Angelo Gordon established this Opportunistic Whole Loan Fund to make investments primarily in a portfolio of non-performing loans and re-performing but will also include investments in new residential mortgage loans and excess mortgage servicing rights. Opportunistic investments in commercial mortgage loans and other mortgage related investments may also be included in the Fund's portfolio. Angelo Gordon has been an active participant in the residential and consumer debt market since 2008. The Partnership's investment approach to residential mortgage loans and securities is guided by an analytically based investment process anchored by distressed asset valuation and cash flow modeling. Angelo Gordon's analysis of re-performing and non-performing loans begins with its loan due diligence process. This process will include a review of substantially all of the properties in the pool, as well as a review of the loan files backing the loan pool. In addition, a macro overlay is embedded in the investment process which incorporates general economic trends, along with specific views on interest rates, unemployment, collateral appreciation or depreciation, governmental intervention in creditors' rights and liquidation timelines.



Angelo, Gordon & Co. - Credit Solutions

This fund is Angelo, Gordon's re-entry into the special situations private fund market. The fund expects to hold concentrated positions in the US and within Europe in both public and private markets.

Angelo, Gordon & Co. – CSF (Annex) Dislocation

Angelo Gordon completed syndication of its AG Credit Solutions Fund ("CSF") in December of 2019. CSF was designed to capture opportunities in a late-cycle credit market and the initial stages of a market dislocation. Angelo Gordon designed and documented CSF to allow the placement of an annex fund in times of dislocation and credit deterioration. Given the price movements in the credit markets in March of 2020, driven by the lack of liquidity, financing needs of investment grade and non-investment grade borrowers, and anticipated impacts (restructurings, rescue financings, liquidations, etc.), Angelo Gordon came to market with the \$1.8 billion AG CSF Annex Dislocation Fund ("ADF"). ADF's investment aim is to target senior securities of world-class businesses with irreplaceable assets and strong cash flow profiles which, because of market stress, can be purchased at a material discount to what we believe is a company's long-term intrinsic value. ADF will address corporate credit-based opportunities created in three main areas: 1) trading-based price dislocations that reduce creation multiples (price through the debt that must be repaid before value accrues to other stakeholders) while generating high current income; 2) opportunities in issuers tied to industries directly impacted by COVID-19 where the market's perception of the impact differs from the actual impact; and 3) corporate debt issuers that will be materially impacted by the crisis and will need to restructure, but whose creation value is materially lower than the issuer's intrinsic value.

Baillie Gifford – ACWI ex US Focus Equities

ACWI ex US Focus is a fundamental growth strategy. Research is organized primarily by regional teams, with each member of the ACWI ex US Focus Portfolio Construction Group representing a regional team. Four global sector groups also contribute research. Baillie Gifford conducts approximately 2000 company meetings annually both in Edinburgh and onsite. Companies are evaluated on their growth opportunity relative to the average company, their ability to execute on that opportunity, and the degree to which probability of future success is already valued by the market. Baillie Gifford's basic philosophy is that share prices ultimately follow earnings. They believe that the stock market has a recurring tendency to under-appreciate the value of long-term compound growth. The process seeks to add value through use of proprietary fundamental research to identify companies exhibiting some combination of sustained above average growth, and attractive financial characteristics. The portfolio generally holds 80-120 stocks, with country and sector weights +/-6% relative to the index and industry weights +/-5% relative to the index.

Beach Point Capital Management, L.P. - Beach Point Select Fund

Beach Point Select Fund is a commingled fund vehicle within the firm's Opportunistic Credit strategy. This fund focuses on off-the-run, complex, and less-liquid securities. It is a best ideas portfolio of distressed debt, special situations, private/direct loans, catalyst-driven high yield bonds and bank loans, and credit-informed equities with a North American and European focus. The Select Fund differs from other funds and accounts in the Opportunistic Credit strategy by pursuing a more concentrated portfolio and emphasizing a higher percentage of less-liquid/private investments. Beach Point invests up and down the entire capital structure and it constructs portfolios with a bottom-up, research-driven approach that also takes into account top-down macro considerations. Its investment process includes idea generation, detailed credit analysis, relative value decision making and investment selection, portfolio construction and on-going monitoring. The ultimate goal of its investment process is to produce a well-diversified investment portfolio with limited downside risk and substantial upside potential.



BlackRock - MSCI ACWI ex US IMI Index

The ACWI ex US IMI Index Fund seeks to replicate the return of the MSCI ACWI ex US IMI Index. This index represents the developed equity markets outside of North America, including small cap equity.

BlackRock - Russell 1000 Index

The Russell 1000 Index Fund tracks large U.S. companies and achieve broad diversification with low costs by fully replicating the Russell 1000 Index.

BlackRock - Direct Lending Fund

Upon completion of the TCP acquisition, the former TCP team is raising a direct lending portfolio. The fund will invest in privately originated, performing senior secured debt primarily in North American based companies with an average EV of \$750 million.

BlackRock (formerly Tennenbaum Capital Partners) - Direct Lending Fund VIII

TCP Direct Lending Fund VIII is a private investment fund managed by Tennenbaum Capital Partners ("TCP"). The Fund is designed to continue TCP's successful strategy of investing in privately-originated, performing senior secured debt primarily in North America-based companies with target enterprise values between \$100 million and \$1.5 billion. The Fund will include positions in 1st lien, 2nd lien and unitranche debt, with a preference for floating-rate debt, which TCP believes provides better flexibility to adapt to market conditions. TCP's direct lending strategy has generated attractive investment opportunities across market cycles, as evidenced by the Firm's prior direct lending track record. Fund VIII targets an unlevered annual yield of approximately 9-12%, with its return primarily driven by current income.

Brigade – Opportunistic Credit

Opportunistic Credit is a fundamental, bottom-up strategy focused on high yield corporate bonds and bank loans with tactical allocations to structured securities, convertibles, and other sectors of the bond markets as they become attractive on a relative value basis. While performing credits represent the majority, Brigade will invest up to 35% of the portfolio in distressed securities and restructuring situations if these types of opportunities are attractive on a risk-adjusted basis and the timing is right with respect to the credit cycle. The portfolio is comprised of mostly North American issuers, but they are not restricted geographically and expect to have a moderate allocation to Europe over time. Although the portfolio is generally long-only, Brigade has the ability to implement a limited amount of tactical macro hedges.

CFM Systematic Global Macro

Capital Fund Management (CFM) Systematic Global Macro (SGM) is a directional strategy that takes long and short positions in liquid futures and forwards across 130+ markets and across equities, bonds, currencies, and commodities.



DE Shaw - DE Shaw US Broad Market Core Alpha Extension Fund

The D. E. Shaw group believes that there exist some market inefficiencies that may be identified through quantitative analysis, advanced technology, and the insight of practitioners. Identifying these inefficiencies involves a process of hypothesis formulation, testing, and validation. Importantly, to avoid data-mining, the hypothesis formulation precedes the analysis of the historical data. D.E. Shaw's Structured Equity strategies rely largely on quantitative and computational investment techniques developed by the D. E. Shaw over the last 19 years in the course of research conducted for purposes of managing the firm's hedge funds. In addition to its beta one strategies, D.E. Shaw manages substantial assets in its hedge fund strategies. D.E. Shaw's investment process involves a suite of quantitative models, each designed to capitalize on a distinct and uncorrelated set of market inefficiencies. Some of these models are technical in nature and involve price and volume inputs. Other models rely on fundamental data, such as figures gleaned from corporate balance sheets or income statements. Still others, again quantitative, anticipate or react to a particular corporate event or set of events. These models typically operate with forecast horizons of a few weeks to many months. The ability to trade on shorter-term signals distinguishes D.E. Shaw from many of its long only and 130/30 peers. Portfolio construction involves the use of a proprietary optimizer which runs dynamically throughout the trading day. The portfolio is broadly diversified with several hundred long and short positions. Over- and under-weighting of sectors and industries relative to the benchmark will be quite modest, with the intention that most of the alpha be generated by security selection. The US Broad Market Core Alpha Extension Fund is a 130/30 strategy which maintains a beta that is approximately neutral to the Russell 1000 Index.

DoubleLine – Securitized Income

The DoubleLine Securitized Income strategy is an actively managed, liquid, long only, intermediate-term fixed income product. The primary objective of the strategy is to seek and maximize current income and total return by utilizing a combination of Agency MBS and structured credit. The DoubleLine Structured Products team aims to offer clients investment grade exposure to both interest rate duration and credit spread to provide a more attractive total return profile compared to the benchmark in its Securitized Income portfolios.

Fidelity (FIAM) - Broad Market Duration Commingled Pool

Pyramis' Broad Market Duration (BMD) investment strategy seeks to achieve absolute and risk-adjusted returns in excess of the BC U.S. Aggregate Index, focusing its investments in US Treasuries, agencies, investment grade corporate bonds, mortgage-backed and asset-backed securities. The BMD commingled pool can also hold small, opportunistic positions in out-of-benchmark securities, such as inflation-linked bonds. The investable universe includes all US dollar denominated, investment grade debt securities. The BMD investment approach emphasizes issuer and sector valuation and individual security selection. Through the integration of fundamental and quantitative research and trading, the BMD strategy is implemented in a team environment. Risk management technology is utilized to explicitly quantify benchmark exposures on a daily basis, and Pyramis uses the same analytical framework to assess both index and portfolio risk. Tracking error should range between 40 and 60 basis points per annum over the benchmark, and stringent portfolio construction risk control rules are strictly adhered to.



Franklin Templeton Investments – Global Fixed Income

Franklin Templeton manages the global bond mandate in an unconstrained fashion using a top-down, fundamental framework. In the short term and on a country-by-country basis there are often inefficiencies in global bond and currency markets, however, over the longer term the market will generally price to fundamentals. Thus, FT focuses on fundamental research to identify long-term opportunities and uses short-term market inefficiencies to build positions in such investments. The investment and portfolio construction process begin with the determination of the Fund's or institutional client's investment objectives, resulting in a set of risk-return parameters and exposure limits within which the portfolio is managed. Next the firm's global economic outlook for the industrialized countries is developed, with a focus on interest rate and exchange rate forecasts. The portfolio's interest rate outlook is a function of global general equilibrium macroeconomic analysis as well as country-specific research. Macroeconomic conditions in the G-3 economies are analyzed first, primarily with respect to how current and projected growth and inflation dynamics are expected to influence monetary policy. This analysis is then extended out to the rest of the industrialized countries (G-13) as well as emerging markets, which results in broad targets for cash, duration, currencies and the developed/emerging market mix. Using the firm's interest rate and exchange rate outlook, probability-weighted horizon returns for bonds of various countries are then calculated. This analysis is used to establish specific country weights and duration targets based on risk-adjusted expected total return measured in the portfolio's base currency. Analysis of emerging markets includes sovereign credit analysis along with greater emphasis on capital flows, inter-market dynamics and trends in the level of risk aversion in the market.

Graham - Quant Macro Fund

Graham Quant Macro ("GQM") is a directional, long and short strategy that utilizes fundamental and price-based indicators to establish return forecasts across global interest rates, foreign exchange, stock indices and commodities. The strategy incorporates a variety of submodels that generate macro fundamental forecasts, assess yield and earnings differentials, compare current valuations relative to historic fair value, and analyze directional price trends across markets. Quantitative risk management and portfolio construction techniques are used to diversify risk across the portfolio and enhance risk-adjusted returns. Historically, the average holding period has been approximately eight to ten weeks, although the sub-models will make daily adjustments to positions. The strategy is designed to have low correlation to traditional markets and other alternative strategies and has the potential to provide significant portfolio diversification benefits.

Harrison Street Core Property

Based in Chicago, Harrison Street's exclusive focus since inception in 2005 has been investing in non-core property sectors of the real estate market. The Harrison Street Core Fund is an open-end fund that invests primarily in stabilized education, healthcare, and self-storage real estate assets in the United States using modest leverage with an emphasis on generating current income. The focus on these alternative property types is intended to concentrate on areas of the real estate market that are less GDP sensitive with demand drivers that are more demographic driven such as aging populations, education growth and healthcare delivery. Each of these areas tend to be less tied to the business cycle, have fragmented ownership and more operationally intensive. The fund acts as a diversifier within real estate portfolios with sector exposures that are not a typical focus of other core ODCE funds.

INVESCO Realty Advisors – INVESCO Core Equity, LLC

SamCERA is a founding member of INVESCO's open-end Core Equity real estate fund and rolled its separate account properties into the fund. INVESCO Core Equity, LLC (the "Fund") is a perpetual life, open-end vehicle which invests in a diversified portfolio of institutional quality office, retail, industrial and multifamily residential real estate assets. The Fund buys core properties that are located within the United States, typically requiring an investment of \$10 million or more. The portfolio cannot be more than 30% leveraged.



INVESCO Realty Advisors – INVESCO US Val IV

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund. The Invesco real estate team manages around \$62B in assets with investments and offices around the globe. Invesco Value Fund IV will look to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments will be limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA's). Invesco Value Fund IV will provide a nice compliment to the more conservative Invesco Core Fund and offer the potential of enhanced returns to the SamCERA Real Estate portfolio.

INVESCO Realty Advisors – INVESCO US Val V

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund and through the Invesco US Value IV Fund since December 2015. The Invesco real estate team manages around \$62B in assets with investments and offices around the globe. Invesco Value Fund V will be similar to the Value Add IV and look to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments will be limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA's).

Mondrian Investment Partners – International Equity

Mondrian is a value-oriented, defensive manager whose investment philosophy is based on the principle that investments must be evaluated for their fundamental long-term value. The firm's philosophy involves three stated investment objectives: 1) provide a rate of return meaningfully greater than the client's domestic rate of inflation, 2) structure client portfolios that preserve capital during protracted international market declines, and 3) provide portfolio performance that is less volatile than benchmark indices and other international managers. Mondrian applies typical value screening criteria to a universe of 1,500 stocks, from which 500 are selected for more detailed work. Through fundamental research, and the deliberations of the Investment Committee, the universe is further reduced to a list of 150 stocks. The investment team conducts detailed fundamental analysis on the remaining stocks, a process which includes applying the firm's dividend discount model consistently across all markets and industries. Mondrian also uses a purchasing power parity model to give an accurate currency comparison of the value of the stocks under consideration. The firm will only consider buying stocks in countries with good investor protection practices and relatively simple repatriation procedures. A computer-based optimization program is employed in the portfolio construction process. Mondrian's portfolio holds 80-125 issues.

NISA - Core Bond

NISA's investment strategy consists of strategic top-down and tactical bottom-up decisions. The Investment committee meets monthly and sets the strategic parameters including sector selection and yield curve positioning.

PanAgora Asset Management – Defensive U.S. Equity Low Volatility

PanAgora's Defensive Equity strategy seeks to balance risk exposures within the portfolio across multiple dimensions to achieve true diversification. The Defensive Equity approach is used to construct equity portfolios designed to achieve tailored exposure to certain factors, including low volatility, multi-factor (value, quality, and momentum), and high dividend yield while maintaining less risk concentration throughout the portfolio.



Parametric Currency Overlay - Currency Hedge

An overlay hedge placed on half of the notional value of international equities. The portfolio uses Parametric for this overlay.

PIMCO Diversified

PIMCO Diversified Income Fund offers a broad and flexible multi-credit approach in a liquid and cost-effective format. The Diversified Income Fund seeks to produce consistent above benchmark performance using diversified sources of alpha from a universe that includes global credit as well as "non-core" credit sectors (ex., securitized, emerging markets).

PIMCO - MAARS

PIMCO MAARS is an alternative risk premia strategy that looks for risks associated with: (1) Supply and Demand Constraints, (2) Behavioral Biases, and (3) Asymmetric Risks (event risk).

PIMCO Private Income Fund

PIMCO Private Income Fund provides an attractive total return oriented global credit exposure utilizing both top-down sector relative value and bottom up security selection. The strategy invests across private residential, commercial, corporate and specialty finance markets.

PGIM RE Debt

PGIM Real Estate US Debt Fund focuses on a loan origination strategy with a mix of 20% senior long duration loans on stable assets, 60% senior short/medium duration loans on stable and transitional assets, and 20% mezzanine mid/long duration debt.

Quantitative Management Associates – QMA Small-Cap Core

Quantitative Management Associates (QMA) utilizes a bottom-up quantitative framework in order provide a diversified exposure to core U.S. small-cap stocks, while attempting to produce consistent outperformance versus the benchmark with moderate tracking error levels. QMA uses an adaptive, systematic investment process to exploit opportunities created by mispriced securities to consistently add value over long time periods. Bottom-up stock selection drives exposure to key sources of alpha (valuation, growth, and quality). The QMA stock selection model adapts to changes in company growth rates and market environments by putting more emphasis on valuation for slowly growing companies, and more emphasis on future growth projections for companies with higher projected growth rates.

State Street Global Advisors (SSgA) Custom Real Asset

SSgA Custom Real Asset portfolio uses a portfolio of liquid real assets to proxy private real assets. The portfolio is comprised of equal weightings of the Bloomberg Commodity Index, S&P Global Natural Resources Index, and S&P Global Infrastructure Index. The portfolio is used to fund upcoming private real asset mandates.



Western Asset Management – Total Return Unconstrained (TRU)

Western Asset's Total Return Unconstrained strategy (TRU) seeks to provide bond-like risk and return over the long term but does not have a benchmark. This allows for asset allocation based on value rather than using the construction of a benchmark as baseline positioning. The investment approach is active with very broad latitude on duration (-3 to +8 years) and on asset allocation across all of the eligible sectors in a core plus mandate. The portfolio must have at least 50% of its holdings in investment-grade securities. The flexibility offered by this strategy allows for defensive positioning in rising rate environments and opportunistic deployment of capital when value opportunities arise. It also allows the portfolio managers to emphasize (or deemphasize) either credit or rates when one or the other appears to offer greater (or lesser) value.um non-US exposure.

White Oak - White Oak Yield Spectrum Fund

The White Oak Yield Spectrum Fund's objective is to earn substantial current income by originating, extending, and/or investing in a diversified portfolio of primarily senior secured corporate credit and debt instruments consisting of term loans, asset-based loans and equipment leases and loans issued by small to middle-market companies located primarily in the United States and Canada. It focuses on providing self-originated deals for predominantly non-sponsored, privately-held borrowers.

White Oak - White Oak Yield Spectrum Fund V

The White Oak Yield Spectrum Fund's objective is to earn substantial current income by originating, extending, and/or investing in a diversified portfolio of primarily senior secured corporate credit and debt instruments consisting of term loans, asset-based loans and equipment leases and loans issued by small to middle-market companies located primarily in the United States and Canada. It focuses on providing self-originated deals for predominantly non-sponsored, privately-held borrowers.



| March Marc | Total Plan Policy Index | As of | | | | | | | | | | | | |
|--|--|--------|--------|--------|--------|---------|--------|--------|--------|---------|--------|---------|--------|--------|
| 10 Veer Treasury - 2% 0.0% | | 2/1/21 | 1/1/21 | 7/1/20 | 4/1/20 | 10/1/19 | 7/1/19 | 4/1/19 | 1/1/19 | 10/1/18 | 4/1/18 | 10/1/17 | 2/1/17 | 1/1/17 |
| BOAM DIC World/BEgBarc Clobal Aggregate (RP) 0.0% | 60/40 MSCI World/BBgBarc Global Aggregate (RP) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 60/40 Russell 3000/BBgBarc US Aggregate (RP) | | 0.0% | 0.0% | 0.0% | 4.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% |
| B Day T-Bills | 60/40 MSCI World/BBgBarc Global Aggregate (RP) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc Aggregate 10.0% 10.0% 10.0% 10.0% 8.0% 8.0% 7.0% 7.0% 7.0% 7.0% 7.0% 7.0% 6.0% | 60/40 Russell 3000/BBgBarc US Aggregate (RP) | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc BA Intermediate HY | 91 Day T-Bills | 18.0% | 21.0% | 21.0% | 18.0% | 14.0% | 14.0% | 14.0% | 14.0% | 14.0% | 14.0% | 14.0% | 12.0% | 10.0% |
| BBgBarc CRedit BAA 0.0% | BBgBarc Aggregate | 10.0% | 10.0% | 10.0% | 8.0% | 8.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 6.0% | 6.0% |
| BBgBarc Credit BAA | BBgBarc BA Intermediate HY | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BegBarc Multiverse | BBgBarc BBB | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BB\tag{Barc TIPS} | BBgBarc Credit BAA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.0% | 3.0% |
| Blomberg Commodity 0.0% | BBgBarc Multiverse | 0.0% | 0.0% | 0.0% | 0.0% | 1.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| Citigroup non-US WGBI 0.0% | BBgBarc TIPS | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| CPÏ + 5% (RA) | Bloomberg Commodity | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Blended Public Real Asset 4.0% 3.0% 3.0% 2.0% 2.0% 2.0% 2.0% 2.0% 2.0% 2.0% 2.0% 3.0% 5.0% | Citigroup non-US WGBI | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Blended Private Real Asset 0.0% 0.0% 6.0% 6.0% 6.0% 6.0% 6.0% 6.0% 6.0% 6.0% 6.0% 6.0% 6.0% 5.0% 6.0% | CPI + 5% (RA) | 4.0% | 4.0% | 4.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 0.0% | 0.0% | 0.0% |
| Libor +4% (HF) 7.0% 6.0% 0.0% | Blended Public Real Asset | 4.0% | 3.0% | 3.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 8.0% | 7.0% | 5.0% |
| MSCI ACWI ex-US 0.0% | Blended Private Real Asset | 0.0% | 0.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 5.0% |
| MSCI ACWI ex US IMI 100% Hedged (Net) 9.5% 9.0% 9.0% 9.0% 9.0% 7.6% 5.7% 3.8% 1.9% 0.0% 0.0% 0.0% MSCI ACWI ex-US IMI 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 19.0 | Libor +4% (HF) | 7.0% | 6.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex-US IMI 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 19.0% 19.0% 19.0% MSCI ACWI ex-US IMI (Net) 9.5% 9.0% 9.0% 9.0% 11.4% 13.3% 15.2% 17.1% 19.0% 19.0% 0.0% 0.0% MSCI EAFE 0.0% <td< td=""><td>MSCI ACWI ex-US</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td></td<> | MSCI ACWI ex-US | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex-US IMI (Net) 9.5% 9.0% 9.0% 9.0% 9.0% 11.4% 13.3% 15.2% 17.1% 19.0% 19.0% 0.0% | MSCI ACWI ex US IMI 100% Hedged (Net) | 9.5% | 9.0% | 9.0% | 9.0% | 9.0% | 7.6% | 5.7% | 3.8% | 1.9% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI EAFE 0.0% | MSCI ACWI ex-US IMI | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 19.0% | 19.0% |
| NCREIF ODCE 9.0% 10.0% 10.0% 9.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 7.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% 8.0% | MSCI ACWI ex-US IMI (Net) | 9.5% | 9.0% | 9.0% | 9.0% | 9.0% | 11.4% | 13.3% | 15.2% | 17.1% | 19.0% | 19.0% | 0.0% | 0.0% |
| NCREIF Property 0.0% | MSCI EAFE | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 1000 0.0% | NCREIF ODCE | 9.0% | 10.0% | 10.0% | 9.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 7.0% | 7.0% |
| Russell 1000 Value 0.0% <td>NCREIF Property</td> <td>0.0%</td> | NCREIF Property | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 2000 0.0% 22.0% 20.0% 20.0% < | Russell 1000 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 3000 22.0% 21.0% 21.0% 22.0% 22.0% 22.0% 22.0% 22.0% 22.0% 22.0% 21.0% 21.0% 23.0% 28.0% Russell 3000 +3% (PE) 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 7.0% <td>Russell 1000 Value</td> <td>0.0%</td> | Russell 1000 Value | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 3000 +3% (PE) 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0 | Russell 2000 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 3000 +3% 1Q Lag (PE) 6.0% 6.0% 6.0% 6.0% 6.0% 6.0% 6.0% 6.0% | Russell 3000 | 22.0% | 21.0% | 21.0% | 22.0% | 22.0% | 22.0% | 22.0% | 22.0% | 22.0% | 21.0% | 21.0% | 23.0% | 28.0% |
| S&P 500 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% | Russell 3000 +3% (PE) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 7.0% | 7.0% | 7.0% |
| | Russell 3000 +3% 1Q Lag (PE) | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 7.0% | 0.0% | 0.0% | 0.0% |
| 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% | S&P 500 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |



| Total Plan Policy Index | As of: | | | | | | | | | | | | | |
|--|---------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|
| | 10/1/16 | 9/1/16 | 1/1/16 | 7/1/14 | 1/1/14 | 2/1/13 | 1/1/11 | 10/1/10 | 1/1/09 | 5/1/07 | 6/1/00 | 3/1/99 | 9/1/98 | 7/1/96 |
| 60/40 MSCI World/BBgBarc Global Aggregate (RP) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 8.0% | 10.0% | 10.0% |
| 10 Year Treasury +2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 60/40 MSCI World/BBgBarc Global Aggregate (RP) | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 6.0% | 6.0% | 6.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 60/40 Russell 3000/BBgBarc US Aggregate (RP) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 91 Day T-Bills | 10.0% | 10.0% | 10.0% | 10.0% | 9.3% | 11.0% | 11.0% | 12.9% | 27.0% | 27.0% | 29.0% | 25.0% | 21.0% | 21.0% |
| BBgBarc Aggregate | 6.0% | 5.0% | 5.0% | 5.0% | 5.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc BA Intermediate HY | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 1.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc BBB | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.5% | 3.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc Credit BAA | 3.0% | 3.0% | 3.0% | 3.0% | 3.8% | 4.4% | 4.4% | 4.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc Multiverse | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 3.1% | 3.3% | 3.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| BBgBarc TIPS | 0.0% | 3.0% | 3.0% | 3.0% | 3.0% | 3.0% | 3.0% | 3.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Bloomberg Commodity | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 5.0% | 9.0% | 9.0% |
| Citigroup non-US WGBI | 0.0% | 2.0% | 2.0% | 2.0% | 2.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| CPI + 5% (RA) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Blended Public Real Asset | 5.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Blended Private Real Asset | 5.0% | 5.0% | 5.0% | 4.0% | 4.0% | 3.0% | 3.0% | 3.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Libor +4% (HF) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex-US | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 18.0% | 18.0% | 18.0% | 21.0% | 21.0% | 15.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex US IMI 100% Hedged (Net) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex-US IMI | 19.0% | 20.0% | 20.0% | 20.0% | 20.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex-US IMI (Net) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI EAFE | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 20.0% | 20.0% | 20.0% |
| NCREIF ODCE | 7.0% | 7.0% | 7.0% | 6.0% | 6.0% | 5.0% | 5.0% | 5.0% | 6.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| NCREIF Property | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 6.0% | 6.0% | 0.0% | 0.0% | 0.0% |
| Russell 1000 | 0.0% | 0.0% | 24.0% | 24.0% | 24.0% | 28.0% | 28.0% | 28.0% | 37.0% | 37.0% | 40.0% | 22.0% | 20.0% | 20.0% |
| Russell 1000 Value | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 5.0% | 5.0% | 0.0% |
| Russell 2000 | 0.0% | 0.0% | 4.0% | 6.0% | 6.0% | 7.0% | 7.0% | 7.0% | 9.0% | 9.0% | 10.0% | 15.0% | 15.0% | 15.0% |
| Russell 3000 | 28.0% | 28.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 3000 +3% (PE) | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 8.0% | 8.0% | 8.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Russell 3000 +3% 1Q Lag (PE) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| S&P 500 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 5.0% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |



| | | | | | | | | | | | | | | | 0 | | | - , | |
|--|------------------------|------------------------|------------------------|---------|------------------------|---------|------------------------|---------|----------|---------|--------|--------|---------|---------|--------|--------|--------|----------------|--------|
| | | | | | | | | | | | | | | | | | | | |
| Public Equity Benchmark | As of: | = | | | | | | | | | | | | | | | | | |
| MOCLACIAL LIC | 2/1/21 | 7/1/20 | 10/1/19 | 7/1/19 | 4/1/19 | 1/1/19 | 10/1/18 | 10/1/17 | 2/1/17 | 10/1/16 | 9/1/16 | 1/1/16 | 1/1/14 | 10/1/10 | 5/1/07 | 6/1/00 | 3/1/99 | 9/1/98 | 1/1/96 |
| MSCI ACWI ex US | 0.0% 23.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 34.0% | 31.3% | 23.1% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex US IMI 100% Hedged (Net) | | 23.1% | 22.5% | 18.5% | 13.9% | 9.3% | 4.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| MSCI ACWI ex-US IMI | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 47.5% | 45.2% | 40.4% | 41.7% | 41.7% | 40.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex US IMI (Net) | 23.2% | 23.1% | 22.5% | 27.8% | 32.4% | 37.0% | 41.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MSCI EAFE | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 32.3% | 33.3% | 33.3% |
| Russell 1000 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 50.0% | 48.0% | 52.8% | 55.2% | 61.5% | 35.5% | 33.3% | 33.3% |
| Russell 1000 Value | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 8.0% | 8.4% | 0.0% |
| Russell 2000 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 8.3% | 12.0% | 13.2% | 13.5% | 15.4% | 24.2% | 25.0% | 25.0% |
| Russell 3000 | 53.7% | 53.9% | 55.0% | 53.7% | 53.7% | 53.7% | 53.7% | 52.5% | 54.8% | 59.6% | 58.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| S&P 500 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 8.4% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| US Equity Benchmark | As of: | | | | | | | | | | | | | | | | | | |
| | 9/1/16 | 1/1/16 | 6/1/00 | 3/1/99 | 9/1/98 | 7/1/96 | 1/1/95 | | | | | | | | | | | | |
| Russell 1000 | 0.0% | 85.7% | 80.0% | 52.0% | 50.0% | 50.0% | 69.0% | | | | | | | | | | | | |
| Russell 1000 Value | 0.0% | 0.0% | 0.0% | 12.0% | 12.5% | 0.0% | 0.0% | | | | | | | | | | | | |
| Russell 2000 | 0.0% | 14.3% | 20.0% | 36.0% | 37.5% | 37.5% | 14.0% | | | | | | | | | | | | |
| Russell 3000 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | | | | | | | | | | |
| S & P 500 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 12.5% | 17.0% | | | | | | | | | | | | |
| 3 & F 300 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| International Equity Benchmark | As of: | 7/4/40 | 4/1/19 | 1/1/19 | 40/4/40 | 10/1/17 | 1/1/14 | 6/1/00 | 1/1/96 | | | | | | | | | | |
| MSCI ACWI ex US | 10/1/19 0.0% | 7/1/19 0.0% | 0.0% | 0.0% | 10/1/18 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| MSCI ACWI ex US IMI 100% Hedged (Net) | 50.0% | 40.0% | 30.0% | 20.0% | 10.0% | 0.0% | 0.0% | 100.0% | 0.0% | | | | | | | | | | |
| MSCI ACWI ex US IMI | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | | | | | | | | | | |
| MSCI ACWI ex US IMI (Net) | 50.0% | 60.0% | 70.0% | 80.0% | 90.0% | 100.0% | 0.0% | 0.0% | 0.0% | | | | | | | | | | |
| MSCI EAFE | 0.0% 100.0% | 0.0% 100.0 % | 0.0% 100.0 % | 0.0% | 0.0% 100.0 % | 0.0% | 0.0% 100.0 % | 0.0% | 100.0% | | | | | | | | | | |
| | 100.078 | 100.076 | 100.076 | 100.078 | 100.076 | 100.078 | 100.070 | 100.078 | 100.0 /6 | | | | | | | | | | |
| Fixed Income Benchmark | As of: | | | | | | | | | | | | | | | | | | |
| | 2/1/21 | 7/1/20 | 4/1/20 | 10/1/19 | 10/1/17 | 2/1/17 | 10/1/16 | 4/1/16 | 7/1/14 | 1/1/14 | 2/1/13 | 1/1/11 | 10/1/10 | 6/1/00 | 3/1/99 | 7/1/96 | | | |
| BBgBarc Aggregate | 64.3% | 67.7% | 69.2% | 63.6% | 66.7% | 57.1% | 52.6% | 55.5% | 50.0% | 46.3% | 50.0% | 50.0% | 58.6% | 100.0% | 83.3% | 70.0% | | | |
| BBgBarc BA Intermediate HY | 35.7% | 32.3% | 30.8% | 36.4% | 33.3% | 28.6% | 31.6% | 27.8% | 25.0% | 25.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | |
| BBgBarc BBB | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 7.3% | 0.0% | 0.0% | 0.0% | | | |
| BBgBarc Credit BAA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 16.0% | 15.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | |
| BBgBarc Multiverse | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 14.3% | 15.8% | 16.7% | 15.0% | 18.8% | 20.0% | 20.0% | 20.5% | 0.0% | 0.0% | 0.0% | | | |
| BBgBarc TIPS | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 10.0% | 10.0% | 14.0% | 15.0% | 13.6% | 0.0% | 0.0% | 0.0% | | | |
| Citigroup non-US WGBI | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 16.7% | 30.0% | | | |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | | | |
| Opportunistic Credit Benchmark | As of: | | | | | | | | | | | | | | | | | | |
| •• | 1/1/14 | 12/1/09 | | | | | | | | | | | | | | | | | |
| BBgBarc BA Intermediate HY | 100.0% | 0.0% | | | | | | | | | | | | | | | | | |
| BBgBarc Credit BAA | 0.0% | 100.0% | | | | | | | | | | | | | | | | | |
| Degrade of our provi | 100.0% | 100.0% | | | | | | | | | | | | | | | | | |
| Alternatives Benchmark | An of: | | | | | | | | | | | | | | | | | | |
| Alternatives benchmark | As of: 2/1/21 | 1/1/21 | 10/1/18 | 4/1/18 | 2/1/17 | 4/1/16 | 1/1/16 | 1/1/14 | 1/1/11 | | | | | | | | | | |
| 60/40 Russell 3000/BBgBarc US Aggregate (RP) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 30.0% | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| Bloomberg Commodity | 0.0% 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 17.7% | 18.8% | 15.0% | | | | | | | | | | |
| CPI +5% (RA) | | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 11.8% | 12.5% | 0.0% | | | | | | | | | | |
| Libor +4% (HF) | 0.0% | 0.0% | 50.0% | 46.2% | 46.2% | 41.7% | 29.4% | 25.0% | 15.0% | | | | | | | | | | |
| SOFR +4% (HF) | 53.8% | 50.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | | | | | | | | |
| Russell 3000 +3% (PE) | 0.0% | 0.0% | 0.0% | 0.0% | 53.8% | 58.3% | 41.2% | 43.8% | 40.0% | | | | | | | | | | |
| Russell 3000 +3% 1Q Lag (PE) | 46.2% | 50.0% | 50.0% | 53.8% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | | | | | | | | |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | | | | | | | | | | |



| Private Equity Benchmark | As of: | | | | | | | |
|---|------------------|---------|---------|---------|-----------------|--------|---------|--------|
| | 4/1/18 | 10/1/10 | | | | | | |
| Russell 3000 +3% 1Q Lag | 100.0% | 0.0% | | | | | | |
| Russell 3000 +3% | 0.0% | 100.0% | | | | | | |
| | 100.0% | 100.0% | | | | | | |
| Hedge Fund Benchmark | As of: | | | | | | | |
| neago i ana bonomian | 1/1/21 | 10/1/10 | | | | | | |
| Libor +4% | 0.00% | 100.00% | | | | | | |
| SOFR +4% | 100.0% | 0.0% | | | | | | |
| | 100.0% | 100.0% | | | | | | |
| Inflation Hedge | As of: | | | | | | | |
| illiation neage | 2/1/21 | 7/1/20 | 4/1/20 | 10/1/19 | 4/1/18 | 2/1/17 | 10/1/16 | 4/1/16 |
| BBqBarc TIPS | 0.00% | 0.00% | 0.00% | 5.88% | 11.1% | 12.5% | 14.3% | 14.3% |
| Bloomberg Commodity | 0.00% | 0.00% | 0.00% | 0.00% | 0.0% | 0.0% | 0.0% | 21.4% |
| CPI +5% (RA) | 0.00% | 0.00% | 0.00% | 0.00% | 0.0% | 0.0% | 0.0% | 14.3% |
| Blended Public Real Asset | 23.53% | 23.53% | 35.29% | 35.29% | 33.3% | 0.0% | 0.0% | 0.0% |
| | | | | | | | | |
| Blended Private Real Asset | 23.53% | 17.65% | 11.77% | 11.77% | 11.1% | 43.8% | 35.7% | 0.0% |
| NCREIF ODCE | 52.94% 100.0% | 58.82% | 52.94% | 47.06% | 44.4% 100.0% | 43.8% | 50.0% | 50.0% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Public Real Asset Benchmark | As of: | | | | | | | |
| | 5/1/20 | 10/1/16 | 1/1/14 | | | | | |
| Bloomberg Roll Select Commodity | 25.0% | 34.0% | 0.0% | | | | | |
| S&P Global Large-MidCap Commodity and Resources | 25.0% | 33.0% | 0.0% | | | | | |
| S&P Global Infrastructure | 25.0% | 33.0% | 0.0% | | | | | |
| CPI +5% | 0.0% | 0.0% | 100.0% | | | | | |
| BBgBarc TIPS | 25.0% | 0.0% | 0.0% | | | | | |
| bbgbale ill d | 100.0% | 100.0% | 100.0% | | | | | |
| | | | | | | | | |
| Private Real Asset Benchmark | As of: | | | | | | | |
| | 1/1/21 | 4/1/18 | 10/1/16 | 1/1/14 | | | | |
| Bloomberg Roll Select Commodity | 0.00% | 0.00% | 34.00% | 0.0% | | | | |
| S&P Global Large-MidCap Commodity and Resources | 0.00% | 0.00% | 33.00% | 0.0% | | | | |
| S&P Global Infrastructure | 0.00% | 0.00% | 33.00% | 0.0% | | | | |
| 50/50 S&P Global Infra & Lrg-MidCap Com & Resources +2% 1QL | 0.00% | 100.00% | 0.00% | 0.0% | | | | |
| 75/25 S&P Global Infra & Lrg-MidCap Com & Resources +2% 1QL | 100.00% | 0.00% | 0.00% | 0.0% | | | | |
| CPI +5% | 0.00% | 0.00% | 0.00% | 100.0% | | | | |
| | 100.0% | 100.0% | 100.0% | 100.0% | | | | |
| Private RA Secondary Benchmark | As of: | | | | | | | |
| Finale IVA Secondary Denominals | AS 01: 9/1/14 | | | | | | | |
| Cambridge Associates Private Natural Resources 4 Ot 1 | 50.0% | | | | | | | |
| Cambridge Associates Private Natural Resources 1 Qtr Lag | | | | | | | | |
| Cambridge Associates Private Infrastructure 1 Qtr Lag | 50.0% 100.0% | | | | | | | |
| Deal Safety Developed | A 5 | | | | | | | |
| Real Estate Benchmark | As of: 1/1/09 | 6/1/00 | 7/1/96 | | | | | |
| 10 Year Treasury +2% | 0.0% | 0.0% | 100.0% | | | | | |
| NCREIF ODCE | 100.0% | 0.0% | 0.0% | | | | | |
| NCREIF Property | 0.0% | 100.0% | 0.0% | | | | | |
| TOTALIT TOPOTO | 100.0% | 100.0% | 100.0% | | | | | |
| | 100.0% | 100.070 | 100.070 | | | | | |



| Baillie Gifford Benchmark | As of: | |
|---|------------------|---------|
| | 1/1/14 | 5/1/12 |
| MSCI ACWI ex-US | 100.0% | 0.0% |
| MSCI EAFE | 0.0% | 100.0% |
| | 100.0% | 100.0% |
| | | |
| Baillie Gifford Secondary Benchmark | As of: | |
| | 1/1/14 | 5/1/12 |
| MSCI ACWI ex-US Growth | 100.0% | 0.0% |
| MSCI EAFE Growth | 0.0% | 100.0% |
| | 100.0% | 100.0% |
| | | |
| Brigade Secondary Benchmark | As of: | |
| | 8/1/10 | |
| BBgBarc High Yield | 50.0% | |
| Credit Suisse Leveraged Loans | 50.0% | |
| | 100.0% | |
| DIMOG D: IT I | | |
| PIMCO Diversified | As of: | |
| IDM EMBLOLL I | 9/1/17 | |
| JPMorgan EMBI Global | 33.333% | |
| BofAMLBB-BRatedDvlpdMktsHYHdgdUSD | 33.333% | |
| Global Agg Credit Ex EM USD hedged | 33.334% | |
| | 100.0% | |
| SSgA Custom Real Asset | As of: | |
| SSYA Custom Real Asset | AS 01. 5/1/20 | 11/1/16 |
| Bloomberg Roll Select Commodity | 25.00% | 33.33% |
| , | 25.00% | 33.33% |
| S&P Global Large-MidCap Commodity and Resources S&P Global Infrastructure | 25.00% | 33.33% |
| | 25.00% | 0.00% |
| BBgBarc TIPS | | |
| | 100.0% | 100.0% |



| <u>Acadian Asset Management</u> | |
|---|------------------|
| First \$50 million: | 0.27% per annum |
| Next \$50 million: | 0.225% per annum |
| Thereafter: | 0.18% per annum |
| | |
| Baillie Gifford | |
| First \$25 million: | 0.60% per annum |
| Next \$75 million: | 0.50% per annum |
| Next \$300 million: | 0.40% per annum |
| Thereafter: | 0.30% per annum |
| | |
| BlackRock-Russell 1000 Index Fund | |
| On All Assets: | 0.01% per annum |
| | |
| BlackRock-Intermediate Govt Bond Index Fund | |
| On All Assets: | 0.025% per annum |
| | |
| BlackRock-MSCI ACWI ex US IMI Index Fund | |
| On All Assets: | 0.045% per annum |
| | |
| <u>DoubleLine</u> | |
| On All Assets: | 0.30% per annum |
| | |

| Franklin Templeton Investment | |
|--------------------------------------|------------------|
| First \$50 million: | 0.40% per annum |
| Next \$50 million: | 0.30% per annum |
| Thereafter: | 0.25% per annum |
| | |
| FIAM Bond | |
| First \$50 million: | 0.25% per annum |
| Next \$50 million: | 0.20% per annum |
| Next \$100 million: | 0.125% per annum |
| Thereafter: | 0.10% per annum |
| | |
| PanAgora Asset Management | |
| First \$50 million: | 0.25% per annum |
| Next \$50 million: | 0.15% per annum |
| Thereafter: | 0.10% per annum |
| | |
| Parametric Overlay | |
| First \$50 million: | 0.12% per annum |
| Next \$100 million: | 0.10% per annum |
| Thereafter: | 0.05% per annum |
| Plus monthly reporting fee of \$1500 | |
| | |
| Parametric Currency Overlay | |
| First \$250 million: | 0.05% per annum |
| Thereafter: | 0.03% per annum |
| | |
| | |

| PIMCO Diversified | |
|------------------------------|-----------------|
| On All Assets: | 0.75% per annum |
| | |
| <u>QMA</u> | |
| First \$100 million: | 0.55% per annum |
| Next \$100 million: | 0.53% per annum |
| Thereafter: | 0.49% per annum |
| | |
| Western Asset Management | |
| On All Assets: | 0.25% per annum |
| Performance Fee: | 20.00% |
| | |
| Mondrian Investment Partners | |
| | |
| Assets Below \$190 million | |
| First \$20 million: | 1.00% per annum |
| Thereafter: | 0.33% per annum |
| | |
| Assets Above \$190 million | |
| First \$50 million: | 1.00% per annum |
| Next \$150 million: | 0.19% per annum |
| Thereafter: | 0.33% per annum |
| | |
| <u>NISA</u> | |
| First \$500 million: | 0.15% per annum |



Thereafter:

0.125% per annum

| Name | Primary Benchmark | Rule 1 | Rule 2 | Rule 3 |
|--------------------------------|---------------------------------|--------------|--------------|--------------|
| Acadian US MGD V | Russell 1000 | - | - | |
| DE Shaw | Russell 1000 | R | \checkmark | R |
| PanAgora Defuseq | Russell 1000 | - | - | |
| QMA US Small Cap | Russell 2000 | - | | |
| Baillie Gifford | MSCI ACWI ex US | \checkmark | \checkmark | \checkmark |
| Mondrian | MSCI ACWI ex USA Value Gross | B | R | B |
| DoubleLine | BBgBarc US Aggregate TR | | | |
| FIAM Bond | BBgBarc US Aggregate TR | \checkmark | \checkmark | \checkmark |
| NISA Core Bond | BBgBarc US Aggregate TR | - | - | |
| Western TRU | 3-Month Libor Total Return USD | \checkmark | \checkmark | B |
| AG CSF Annex Dislocation Fund | BBgBarc BA Intermediate HY | | | |
| Angelo Gordon Opportunistic | BBgBarc US Aggregate TR | \checkmark | | \checkmark |
| Angelo Gordon Credit Solutions | BBgBarc BA Intermediate HY | | | |
| Beach Point Select | BBgBarc BA Intermediate HY | \checkmark | \checkmark | \checkmark |
| Brigade Capital | BBgBarc BA Intermediate HY | \checkmark | \checkmark | B |
| PIMCO Diversified | Blended PIMCO Diversified Index | | | |
| Franklin Templeton | BBgBarc Multiverse TR | - | - | |
| Blackrock DL Feeder IX-U | Cliffwater Direct Lending Index | | | |
| PIMCO Private Income | BBgBarc BA Intermediate HY | | | |
| TCP Direct Lending VIII | Cliffwater Direct Lending Index | | | |
| White Oak Yield | Cliffwater Direct Lending Index | | | |
| White Oak YSF V | Cliffwater Direct Lending Index | | | |
| Aberdeen Standard GARS | Absolute Return Custom Index | R | R | B |
| Acadian MAAR Fund LLC | Absolute Return Custom Index | | | |
| CFM Systematic Global Macro | Absolute Return Custom Index | - | - | |
| Graham Quant Macro | Absolute Return Custom Index | | | |
| PIMCO MAARS Fund LP | Absolute Return Custom Index | | | |

Rule 1 - Manager has underperformed the benchmark index for the five year period.



Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive

| Acadian US MGD V Russel 1000 - </th <th>Name</th> <th>Primary Benchmark</th> <th>Rule 1</th> <th>Rule 2</th> <th>Rule 3</th> | Name | Primary Benchmark | Rule 1 | Rule 2 | Rule 3 |
|--|--------------------------------|---------------------------------|--------------|--------------|--------------|
| Panagora Defuseq Russell 1000 | Acadian US MGD V | Russell 1000 | - | | |
| QMA US Small Cap Russell 2000 -< | DE Shaw | Russell 1000 | ✓ | \checkmark | B |
| Ballie Gifford MSCI ACWI ex USA Value Gross ✓ | PanAgora Defuseq | Russell 1000 | - | - | - |
| Mondrian MSCI ACWI ex USA Value Gross P P P DoubleLine BBgBarc US Aggregate TR - - - FIAM Bond BBgBarc US Aggregate TR - - - NISA Core Bond BBgBarc US Aggregate TR - - - Western TRU 3-Month Libor Total Return USD √ ✓ P AG CSF Annex Dislocation Fund BBgBarc BA Intermediate HY - - - Angelo Gordon Opportunistic BBgBarc US Aggregate TR √ √ √ Angelo Gordon Credit Solutions BBgBarc BA Intermediate HY - - - Beach Point Select BBgBarc BA Intermediate HY √ √ √ Brigade Capital BBgBarc BA Intermediate HY √ √ √ PIMCO Diversified BBgBarc BA Intermediate HY √ √ √ BBgAcro St. Leeder IX-U Cliffwater Direct Lending Index - - - PIMCO Diversified BBgBarc BA Intermediate HY - - - - | QMA US Small Cap | Russell 2000 | | | - |
| DoubleLine BBgBar US Aggregate TR - < | Baillie Gifford | MSCI ACWI ex US | ✓ | \checkmark | \checkmark |
| FIAM Bond BBgBarc US Aggregate TR ✓ < | Mondrian | MSCI ACWI ex USA Value Gross | R | R | R |
| NISA Core Bond BBgBarc US Aggregate TR Westem TRU AG CSF Annex Dislocation Fund BBgBarc BA Intermediate HY Angelo Gordon Opportunistic BBgBarc US Aggregate TR Angelo Gordon Opportunistic BBgBarc US Aggregate TR Angelo Gordon Credit Solutions BBgBarc BA Intermediate HY Angelo Gordon Credit Solutions BBgBarc BA Intermediate HY BBgBarc Multiverse TR Blackrock DL Feeder IX-U Cliffwater Direct Lending Index CLIffwater Direct Lendin | DoubleLine | BBgBarc US Aggregate TR | | | |
| Western TRU 3-Month Libor Total Return USD ✓ | FIAM Bond | BBgBarc US Aggregate TR | ✓ | \checkmark | \checkmark |
| AG CSF Annex Dislocation Fund Angelo Gordon Opportunistic BBgBarc US Aggregate TR Angelo Gordon Credit Solutions BBgBarc BA Intermediate HY Beach Point Select BBgBarc BA Intermediate HY Brigade Capital BBgBarc BA Intermediate HY Bigdac Capital BBgBarc BA Intermediate HY BBgBarc BAIntermediate HY BBgBarc BAIntermediate HY BBgBarc BAIntermediate | NISA Core Bond | BBgBarc US Aggregate TR | - | | |
| Angelo Gordon Opportunistic BBgBarc US Aggregate TR Angelo Gordon Credit Solutions BBgBarc BA Intermediate HY Brigade Capital BBgBarc BA Intermediate HY Brigade Capital BBgBarc BA Intermediate HY Bigade Capital BBgBarc Multiverse TR Blackrock DL Feeder IX-U Bidkrock Private Income BBgBarc BA Intermediate HY Cliffwater Direct Lending Index BBgBarc BA Intermediate HY Bidkrock Yiel Bidkro | Western TRU | 3-Month Libor Total Return USD | \checkmark | \checkmark | R |
| Angelo Gordon Credit Solutions BBgBarc BA Intermediate HY Brigade Capital BBgBarc BA Intermediate HY BBGBARC BAGCH | AG CSF Annex Dislocation Fund | BBgBarc BA Intermediate HY | - | | |
| Beach Point Select BBgBarc BA Intermediate HY ✓ ✓ ✓ Brigade Capital BBgBarc BA Intermediate HY ✓ ✓ ✓ ✓ PIMCO Diversified Blended PIMCO Diversified Index - - - - Franklin Templeton BBgBarc Multiverse TR - - - - Blackrock DL Feeder IX-U Cliffwater Direct Lending Index - - - PIMCO Private Income BBgBarc BA Intermediate HY - - - - TCP Direct Lending VIII Cliffwater Direct Lending Index - - - White Oak Yield Cliffwater Direct Lending Index - - - White Oak YSF V Cliffwater Direct Lending Index - - - Absolute Return Custom Index - - - - Acadian MAAR Fund LLC Absolute Return Custom Index - - - - CFM Systematic Global Macro Absolute Return Custom Index - - - - Graham Quant Macro Absolute Return Custom Index - - - - Graham Quant Macro Absolute Return Custom Index - - - - | Angelo Gordon Opportunistic | BBgBarc US Aggregate TR | ✓ | | \checkmark |
| Brigade Capital BBgBarc BA Intermediate HY PIMCO Diversified Blended PIMCO Diversified Index Franklin Templeton BBgBarc Multiverse TR Blackrock DL Feeder IX-U PIMCO Private Income BBgBarc BA Intermediate HY Cliffwater Direct Lending Index Cliffwater Dir | Angelo Gordon Credit Solutions | BBgBarc BA Intermediate HY | - | | |
| PIMCO Diversified | Beach Point Select | BBgBarc BA Intermediate HY | \checkmark | \checkmark | \checkmark |
| Franklin Templeton BBgBarc Multiverse TR - - - - Blackrock DL Feeder IX-U Cliffwater Direct Lending Index - - - PIMCO Private Income BBgBarc BA Intermediate HY - - - TCP Direct Lending VIII - Cliffwater Direct Lending Index - - - White Oak YSF V Cliffwater Direct Lending Index - - - - Aberdeen Standard GARS Absolute Return Custom Index - - - - Acadian MAAR Fund LLC Absolute Return Custom Index - - - - CFM Systematic Global Macro Absolute Return Custom Index - - - - Graham Quant Macro Absolute Return Custom Index - - - - | Brigade Capital | BBgBarc BA Intermediate HY | \checkmark | \checkmark | B |
| Blackrock DL Feeder IX-UCliffwater Direct Lending IndexPIMCO Private IncomeBBgBarc BA Intermediate HYTCP Direct Lending VIIICliffwater Direct Lending IndexWhite Oak YieldCliffwater Direct Lending IndexWhite Oak YSF VCliffwater Direct Lending IndexAberdeen Standard GARSAbsolute Return Custom IndexAcadian MAAR Fund LLCAbsolute Return Custom IndexCFM Systematic Global MacroAbsolute Return Custom IndexGraham Quant MacroAbsolute Return Custom Index | PIMCO Diversified | Blended PIMCO Diversified Index | - | | |
| PIMCO Private IncomeBBgBarc BA Intermediate HYTCP Direct Lending VIIICliffwater Direct Lending IndexWhite Oak YieldCliffwater Direct Lending IndexWhite Oak YSF VCliffwater Direct Lending IndexAberdeen Standard GARSAbsolute Return Custom IndexAcadian MAAR Fund LLCAbsolute Return Custom IndexCFM Systematic Global MacroAbsolute Return Custom IndexGraham Quant MacroAbsolute Return Custom Index | Franklin Templeton | BBgBarc Multiverse TR | | | |
| TCP Direct Lending VIIICliffwater Direct Lending IndexWhite Oak YieldCliffwater Direct Lending IndexWhite Oak YSF VCliffwater Direct Lending IndexAberdeen Standard GARSAbsolute Return Custom IndexAcadian MAAR Fund LLCAbsolute Return Custom IndexCFM Systematic Global MacroAbsolute Return Custom IndexGraham Quant MacroAbsolute Return Custom Index | Blackrock DL Feeder IX-U | Cliffwater Direct Lending Index | | | |
| White Oak YieldCliffwater Direct Lending IndexWhite Oak YSF VCliffwater Direct Lending IndexAberdeen Standard GARSAbsolute Return Custom IndexAcadian MAAR Fund LLCAbsolute Return Custom IndexCFM Systematic Global MacroAbsolute Return Custom IndexGraham Quant MacroAbsolute Return Custom Index | PIMCO Private Income | BBgBarc BA Intermediate HY | - | | |
| White Oak YSF VCliffwater Direct Lending IndexAberdeen Standard GARSAbsolute Return Custom IndexAcadian MAAR Fund LLCAbsolute Return Custom IndexCFM Systematic Global MacroAbsolute Return Custom IndexGraham Quant MacroAbsolute Return Custom Index | TCP Direct Lending VIII | · · | - | | |
| Aberdeen Standard GARS Absolute Return Custom Index Acadian MAAR Fund LLC Absolute Return Custom Index CFM Systematic Global Macro Absolute Return Custom Index Graham Quant Macro Absolute Return Custom Index | White Oak Yield | Cliffwater Direct Lending Index | - | | |
| Acadian MAAR Fund LLC CFM Systematic Global Macro Graham Quant Macro Absolute Return Custom Index | White Oak YSF V | Cliffwater Direct Lending Index | - | | |
| CFM Systematic Global Macro Absolute Return Custom Index Graham Quant Macro Absolute Return Custom Index | Aberdeen Standard GARS | Absolute Return Custom Index | R | R | B |
| Graham Quant Macro Absolute Return Custom Index | Acadian MAAR Fund LLC | Absolute Return Custom Index | | | |
| | CFM Systematic Global Macro | Absolute Return Custom Index | | | |
| PIMCO MAARS Fund LP Absolute Return Custom Index | Graham Quant Macro | Absolute Return Custom Index | | | |
| | PIMCO MAARS Fund LP | Absolute Return Custom Index | - | | |

Rule 1 - Manager has underperformed the benchmark index for the five year period.



Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive



Recent Verus research

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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 | (|
|-----------------------------|----|
| Fixed income rates & credit | 2: |
| Equity | 27 |
| Other assets | 38 |
| Appendix | 40 |

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

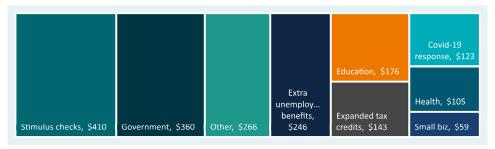
"OECD More Than Doubles US Economic Growth Forecast"

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

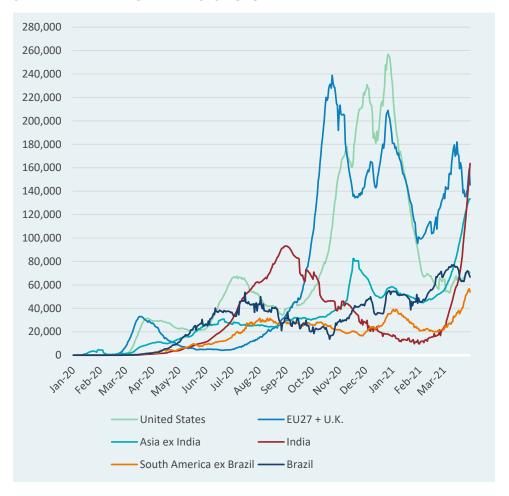
- such as power grid, railway, and public transit.
- U.S. core inflation remained low and stable, at 1.6% year-over-year in March. A jump in gasoline prices, along with base effects from the 2020 recession, pushed up headline inflation to 2.6%. It appears likely that inflation will continue to see a 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% 1.25% 3/31/21 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 |

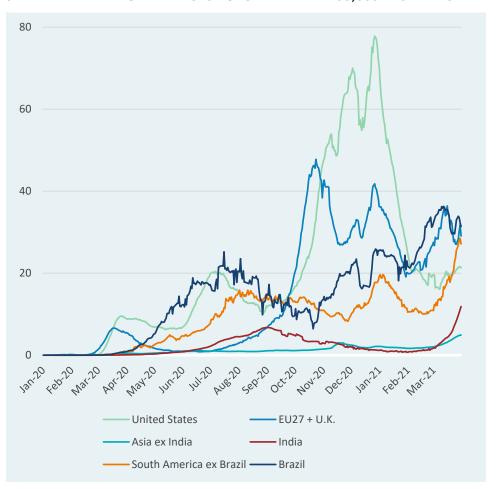


COVID-19 case growth

SEVEN-DAY AVERAGE DAILY CASE GROWTH



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

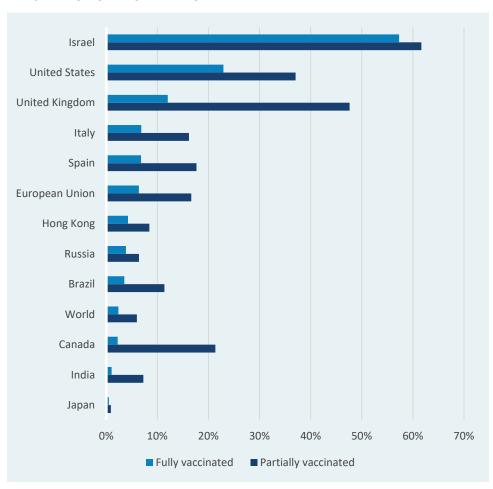


Source: Bloomberg, as of 4/15/21

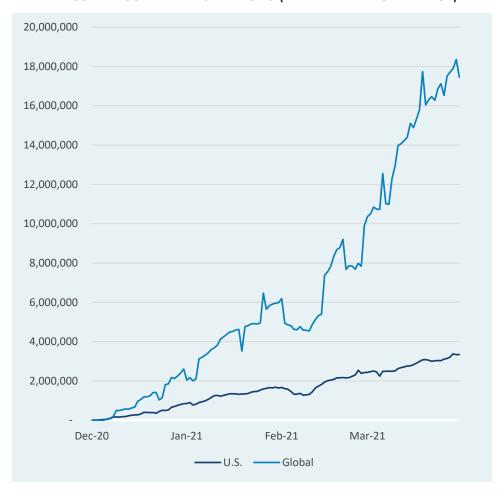


Global vaccination campaign

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.

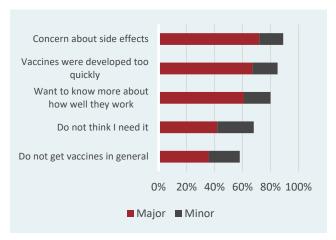
Though today these side effects appear quite rare, these developments will likely result in further delays in the push toward herd immunity over the short-term. If suspensions are lifted in the intermediate term, the vaccines in question are likely to face public relations issues which could

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.

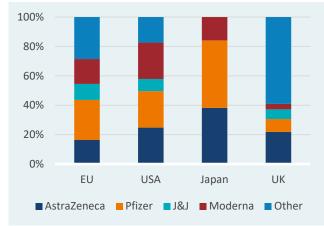
VACCINE WILLINGNESS



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

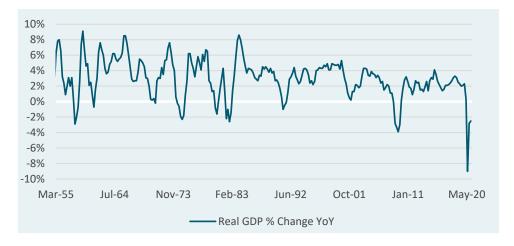
Real GDP grew at a -2.4% rate year-over-year in the fourth quarter (+4.3% quarterly annualized rate) as the U.S. economic recovery continued. The Atlanta Fed's GDPNow forecast for 2021 Q1 growth was 6.0% on a quarter-over-quarter annualized basis as of April 9th, suggesting an even quicker pace than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

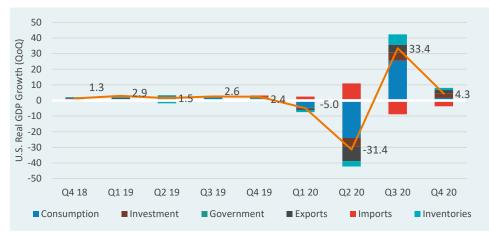
Large government stimulus programs are typically implemented during earlier stages of a recession, with the intent to fill a gap in demand and offset initial weakness. The current stimulus plans are very large and are being implemented at a time when the economy is well on the way to recovery. This creates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

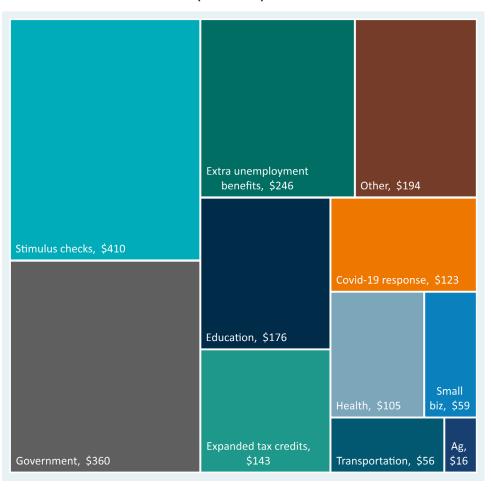


Source: BEA, annualized quarterly rate, as of 12/31/20

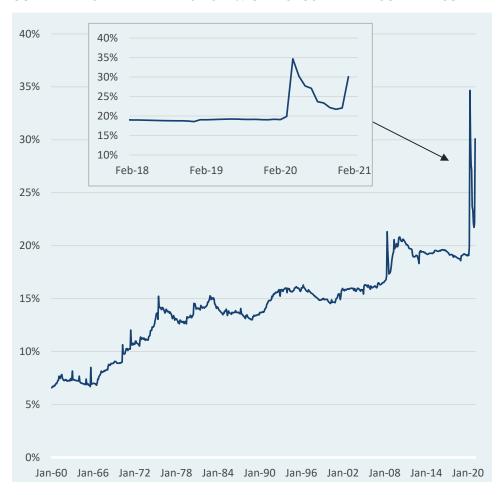


American Rescue Plan Act of 2021

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



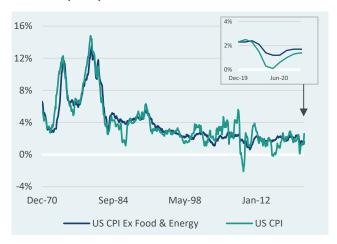
Inflation

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.

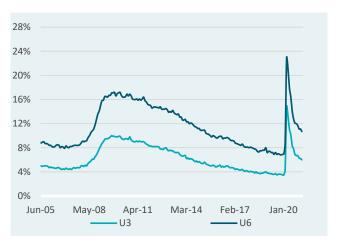
The U.S. labor force showed a strong rebound during the fall of 2020, but more recently appears to have stalled. Approximately 2% of the total U.S. workforce remains out of a job and is not seeking work, relative to pre-COVID levels. This effect is illustrated in the labor participation rate, which is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

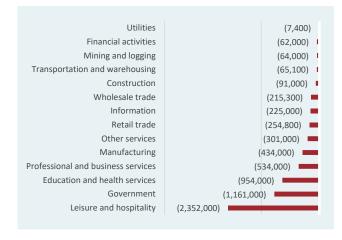
NON-FARM PAYROLLS - ONE-MONTH CHANGE



NON-FARM PAYROLLS - THREE-MONTH CHANGE



NON-FARM PAYROLLS - ONE-YEAR CHANGE



Source: BLS, as of 3/31/21



The consumer

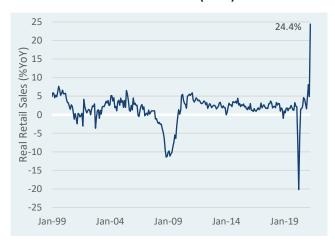
U.S. retail sales rocketed higher in the first quarter, accelerating to a 9.8% month-over-month pace in March (this rate was an astounding 24.4% on a year-over-year basis, though this metric is more difficult to interpret since it calculates growth from a starting point of March 2020—the depths of the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

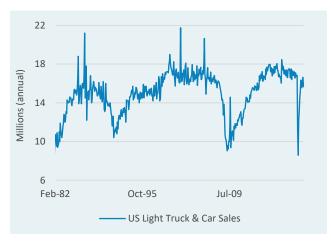
began to surge, many types of activities dipped once again. It now appears that activity such as retail, recreation, and grocery shopping are moving back to normal levels. At the same time, public transit usage and travel to workplaces remains depressed.

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.

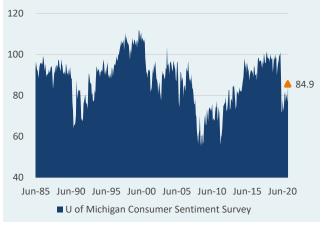
The NFIB Small Business Optimism Index returned to an average reading in Q4 and remains materially weaker than pre-pandemic levels. Participants in the survey expressed uncertainty around business conditions, and extreme difficulties in finding qualified workers due to attractive unemployment benefits.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

CONSUMER COMFORT



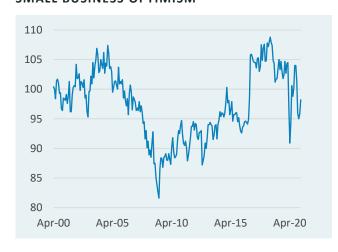
Source: Bloomberg, Langer, as of 3/28/21

CONSUMER SENTIMENT



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

SMALL BUSINESS OPTIMISM



Source: NFIB, as of 3/31/21



Housing

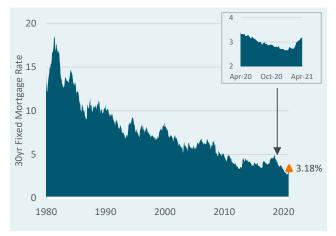
Sales of existing homes continued at a near-record pace through fall of 2020 and the beginning of 2021, before decelerating to 9.1% year-over-year in February. Sales of new homes followed a similar directional trend, though new homes have shown an even stronger growth rate consistently over the past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

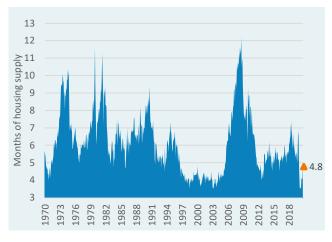
U.S. HOME SALES (YOY)



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)

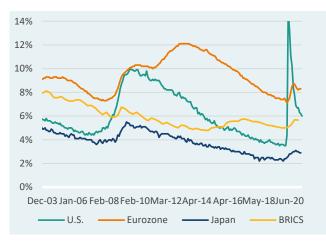


INFLATION (CPI YOY)



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%.

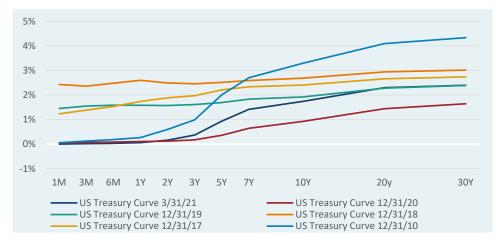
| Area | Short Term (3M) | 10-Year | |
|---------------|-----------------|---------|--|
| United States | 0.02% | 1.74% | |
| Germany | (0.67%) | (0.29%) | |
| France | (0.62%) | (0.05%) | |
| Spain | (0.56%) | 0.34% | |
| Italy | (0.54%) | 0.67% | |
| Greece | (0.24%) | 0.86% | |
| U.K. | (0.01%) | 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

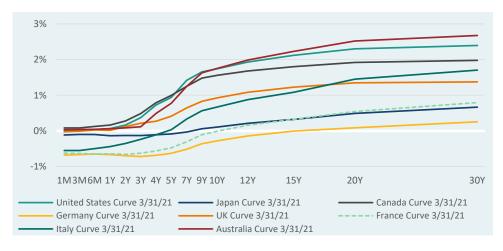


YIELD CURVE CHANGES OVER LAST FIVE YEARS



Source: Bloomberg, as of 3/31/21

GLOBAL GOVERNMENT YIELD CURVES



IMPLIED CHANGES OVER NEXT YEAR





Yield increases have tested central banks

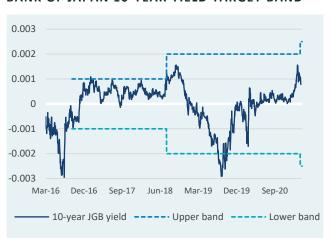
Bank of Japan: Clarified that 10-year yields can move within 25 basis points of the 0.00% target; tweaked guidance around buying ¥6 trillion in equity ETFs to make its purchases more "flexible and nimble".

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.

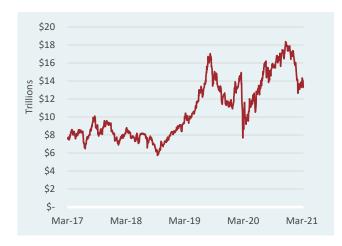
BANK OF JAPAN 10-YEAR YIELD TARGET BAND



AUD AUSTRALIAN YIELD CURVE



VALUE OF GLOBAL NEGATIVE YIELDING DEBT



Source: Bloomberg, as of 3/31/21



Credit environment

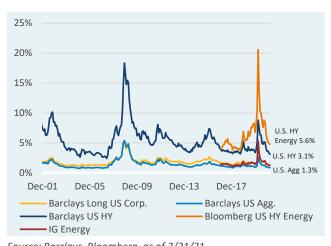
During the first quarter, credit market performance largely reflected the movements of the US Treasury curve, which steepened significantly as 10-year yields rose 82 basis points while 2-year yields remained anchored near zero. Investment grade credit, with an effective duration of 8.5, returned -4.65%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

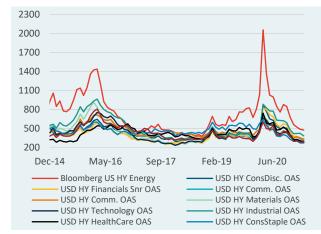
Spreads in higher quality investment grade assets have continued to compress over the past year. Notably, the BBB/A spread is now at an all-time low of 40 basis points, down from a high of 163 basis points experienced in Q1 2020. Similarly, the BB/BBB spread is now 155 basis points, down from recent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

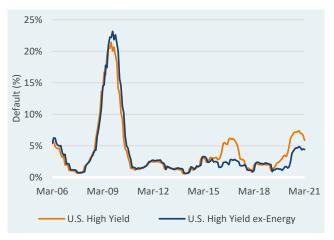
Default & issuance

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.

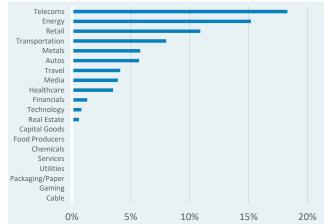
Given the market perception of upside rate risk throughout the remainder of 2021, high yield bond issuers continued to come to market at a blistering pace. Gross issuance for the quarter set a new quarterly record of \$158.6 billion, outpacing the previous record set in Q2 2020 of \$145.5 billion. Quarterly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

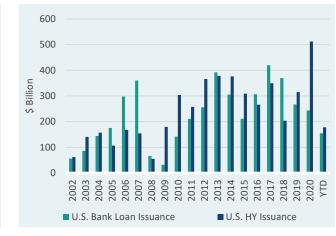


U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)



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 TOTAL RETURN | | 1 YEAR TOTAL RETURN (unhedged) (hedged) | |
|---|--------------------------|-------|---|-------|
| US Large Cap (S&P 500) | (unhedged) (hedged) 6.2% | | 56.4% | |
| US Small Cap (Russell 2000) | 12.7% | | 94.8% | |
| US Large Value (Russell 1000 Value) | 11.3% | | 56.1% | |
| US Large Growth (Russell 1000 Growth) | 0.9% | | 62.7% | |
| International Large (MSCI EAFE) | 3.5% | 7.6% | 44.6% | 37.7% |
| Eurozone (Euro Stoxx 50) | 6.3% | 10.6% | 53.7% | 45.3% |
| U.K. (FTSE 100) | 5.9% | 5.0% | 35.6% | 22.5% |
| Japan (NIKKEI 225) | (0.2%) | 7.0% | 52.6% | 57.4% |
| Emerging Markets (MSCI Emerging Markets) | 2.3% | 3.7% | 58.4% | 52.2% |

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



Domestic equity

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

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

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

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

S&P 500 INDEX

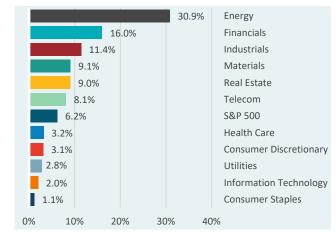


DIVIDEND YIELD VS BOND YIELD



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

Q1 SECTOR PERFORMANCE



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



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

Retail market speculation

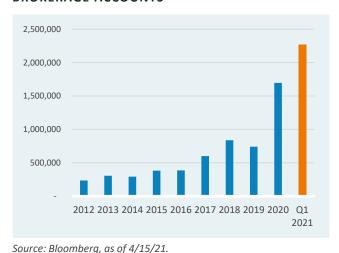
In recent years, trading has become free on certain platforms, making day trading a more attractive proposition. Retail's portion of total market trading has increased from 10% in 2010 to 23% in 2020, according to Bloomberg Intelligence.

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

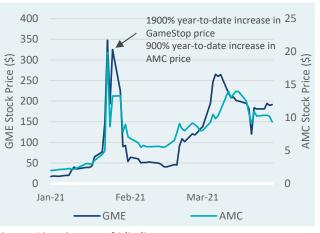
Lockdowns due to COVID-19 have prevented many Americans from pursuing their usual hobbies, leading to boredom. Stock trading may have become an entertaining outlet for otherwise non-traders. And government stimulus checks may have provided idle cash to fuel this new hobby.

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

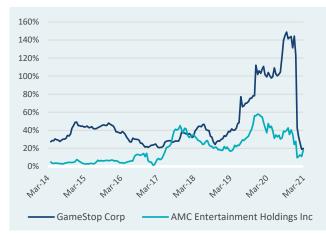
SCHWAB - ORGANIC CHANGE IN ACTIVE BROKERAGE ACCOUNTS*



GAMESTOP & AMC THEATERS STOCK PRICES



SHORT INTEREST AS A PERCENTAGE OF FLOAT



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



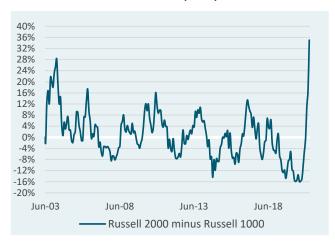
Domestic equity size & style

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)

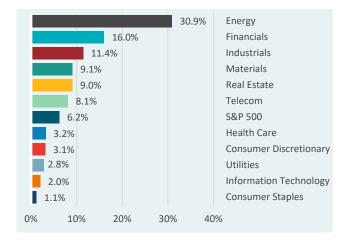


VALUE VS GROWTH (YOY)



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



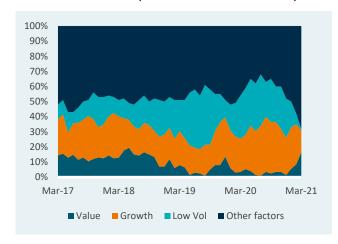
Source: J.P. Morgan, as of 3/27/21

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

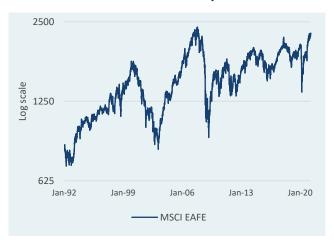
International equities delivered +3.5% (MSCI EAFE Index) during the first quarter on an unhedged currency basis. International developed underperformed the S&P 500 Index (+6.2%) while outperforming the MSCI Emerging Markets Index (+2.3%). The trend towards U.S. dollar weakness has boosted the performance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

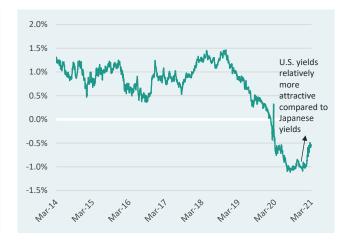
INTERNATIONAL DEVELOPED EQUITIES



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

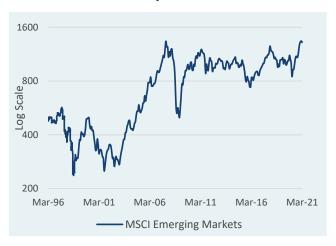
Emerging market equity

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

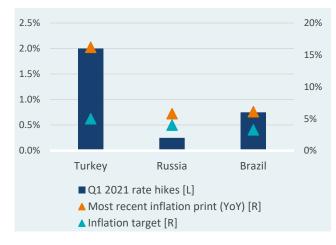


INFLATION (YOY)



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

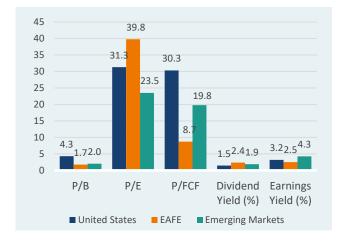


S&P 500 PRICE & EARNINGS EXPECTATIONS



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

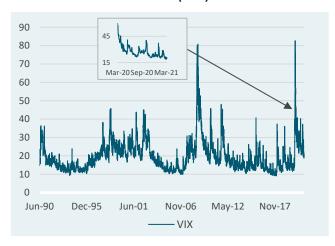
The Cboe VIX Index has slowly been falling back towards the longer-term average of 19. The index fluctuated in the low 20s during Q1, falling below 19 briefly in late March.

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

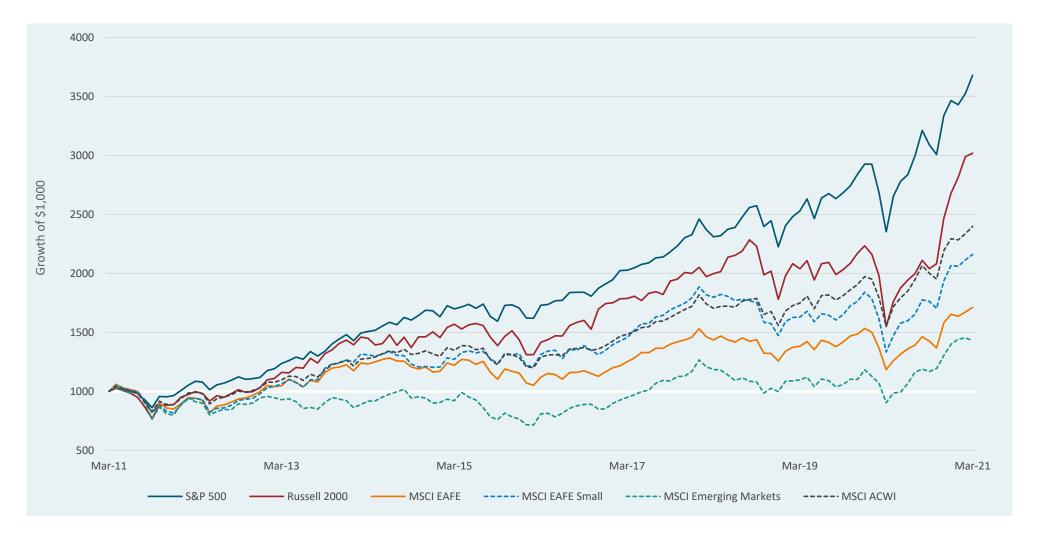


Source: Standard & Poor's, MSCI, Bloomberg, as of 3/31/21



Source: Choe, as of 3/31/21

Long-term equity performance



Source: Morningstar, as of 3/31/21



Other assets



Currency

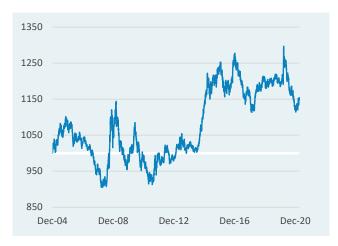
U.S. dollar weakness had prevailed for most of 2020, but turned around in the first quarter of 2021. The Bloomberg Dollar Spot Index increased 2.8% over the quarter, after slipping -5.4% in 2020. Strength in the dollar was attributed to rising relative yields in the U.S., the relatively effective vaccination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

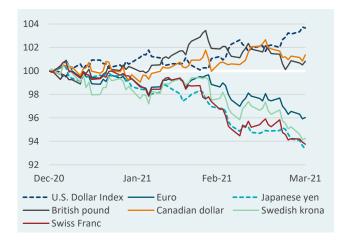


CURRENCY BETA (ONE-YEAR RETURNS)



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 |

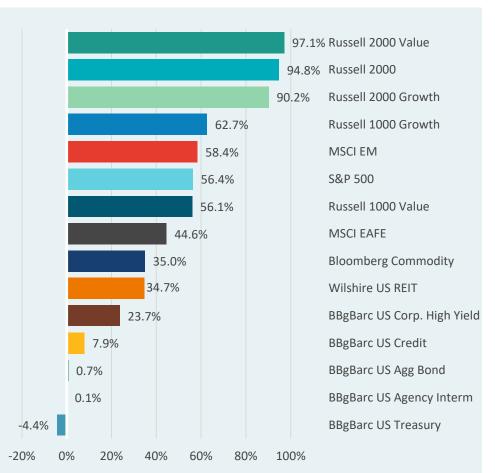


Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF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

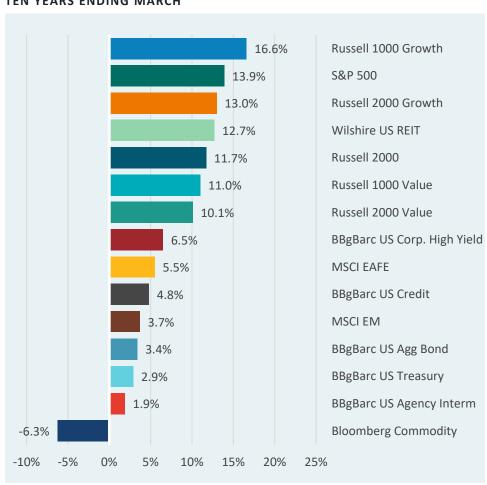


Major asset class returns

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.

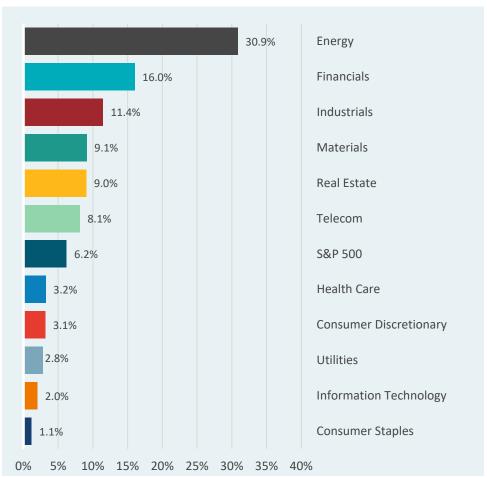
Source: Morningstar, as of 3/31/21

Source: Morningstar, as of 3/31/21

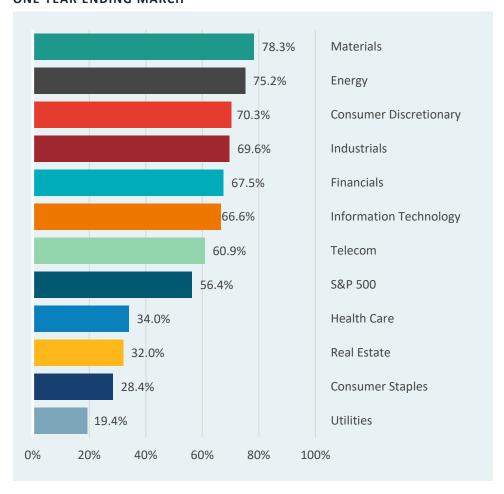


S&P 500 sector returns

Q1 2021



ONE YEAR ENDING MARCH



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



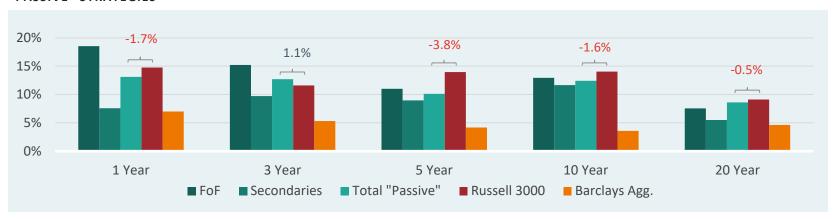
Private equity vs. traditional assets performance

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.



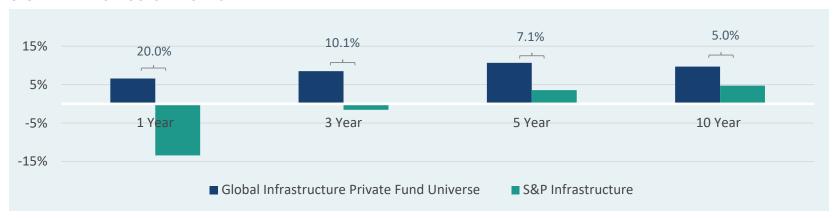
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



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

GLOBAL INFRASTRUCTURE FUNDS



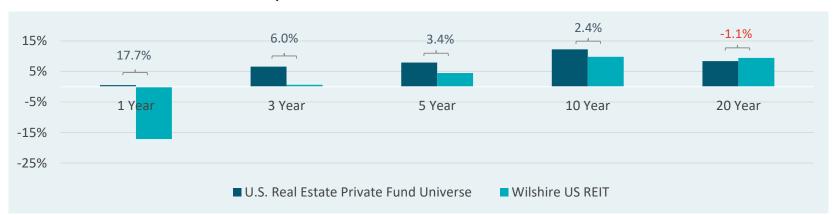
Infra. funds outperformed the S&P Infra. across all periods.

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 |
| MSCIUK | 2.8 | 6.2 | 6.2 | 33.5 | 0.9 | 4.3 | 3.3 | HFRI FOF Composite | 0.4 | 2.0 | 2.0 | 23.9 | 5.4 | 5.6 | 3.4 |
| MSCI Japan | 1.1 | 1.6 | 1.6 | 39.7 | 6.3 | 10.5 | 7.2 | Currency (Spot) | | | | | | | |
| MSCI Europe | 3.1 | 4.1 | 4.1 | 44.9 | 5.6 | 8.2 | 5.1 | Euro | (3.2) | (3.9) | (3.9) | 7.1 | (1.5) | 0.6 | (1.9) |
| MSCI EM Asia | (3.0) | 2.2 | 2.2 | 60.1 | 9.5 | 14.5 | 6.6 | Pound Sterling | (1.3) | 0.9 | 0.9 | 11.3 | (0.6) | (0.8) | (1.5) |
| MSCI EM Latin American | 4.6 | (5.3) | (5.3) | 50.1 | (6.1) | 4.0 | (4.1) | Yen | (3.6) | (6.6) | (6.6) | (2.3) | (1.3) | 0.3 | (2.8) |

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



Definitions

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

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

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

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

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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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