Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

PERIOD ENDING: MARCH 31, 2022

Investment Performance Review for

San Mateo County Employees' Retirement Association

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1st quarter summary

THE ECONOMIC CLIMATE

— Real GDP grew at a 5.5% rate year-over-year in Q4 (+6.9% quarterly annualized rate). Strong expenditures into new inventory boosted growth, as many businesses have struggled to replenish inventory levels in the face of global supply chain issues. Business investment and rising exports also contributed to the strong pace of growth.

— The rate of unemployment in the U.S. has continued to fall, improving from 3.9% to 3.6% during the quarter. The labor force participation rate has gradually increased, rising from 61.6% to 62.4%. A historic shortage of workers may remain a sticky issue, as 11.3 million job openings are posted, but only 6.0 million Americans are seeking work.

PORTFOLIO IMPACTS

— High yield credit spreads expanded from 2.8% to 3.3%, although default activity is expected to remain historically low. It appears spread movement has been more of an effect of broader risk-off market moves, rather than a specific reflection of changing credit conditions.

— U.S. core CPI, excluding food & energy, rose by 6.5% year-over-year in March. Headline inflation, which is being closely watched at the moment as this includes energy & food prices, reached 8.5%. Prices in some other areas have stabilized. Many investors believe inflation peaked in March, though there remains much uncertainty around the path from here.

THE INVESTMENT CLIMATE

— In late February, Russian forces invaded Ukraine—a move which was anticipated by major Western intelligence communities. Ukraine has put together a remarkable defense thus far, as many citizens have taken up arms to defend their country.

— Multi-year underinvestment in energy, and now the Russia/Ukraine war, has created a shock to energy markets and crisis-level prices in many European countries. Government officials have been hesitant to vocally support increased local energy production, primarily due to climate concerns. In the U.S., many shale firms have opted to increase production on existing land, but have been slow to pursue new projects—partly due to supply chain issues (shortages in labor, truck drivers, and frack sand) and also due to prioritization of profits over growth.

ASSET ALLOCATION ISSUES

— Nearly every asset class delivered negative performance in Q1. Equity markets pulled back, credit spreads widened, and interest rates headed higher. Certain real assets including commodities were the exception.

— Value stocks outperformed Growth stocks by a substantial margin during Q1, as the Energy sector outpaced the index by 43.6% (Energy 39.0%, S&P 500 -4.6%). Large capitalization stocks outperformed small capitalization stocks (Russell 1000 +9.8%, Russell 2000 +2.1%).

Nearly every asset class delivered losses during Q1, as risk assets sold off, credit spreads widened, and interest rates moved higher

U.S. economics summary

— Real GDP grew at a 5.5% rate year-over-year in the fourth quarter (+6.9% quarterly annualized rate). Strong expenditures into new inventory boosted the economy during the quarter, as many businesses had struggled to replenish inventory levels in the face of global supply chain issues. Business investment and rising exports also contributed to the strong Q4 pace of growth.

— In economic terms, the effects of COVID-19 seem to be in the rearview mirror. Travel volumes have risen closer to prior levels, credit card transactions are extremely strong, and Americans are once again dining out and spending on entertainment.

— U.S. core CPI, which excludes food & energy prices, rose by 6.5% year-over-year in March. Headline inflation, which is being closely watched at the moment as this includes many of the goods that exhibited the largest prices gains (energy & food), reached 8.5%. Price rises have become more broad-based in recent months, with many goods and services experiencing increases.

— U.S. unemployment continued to fall, improving from 3.9% to 3.6%. The labor force participation rate has gradually increased, rising from 61.6% to 62.4%. The historic shortage of workers may remain a sticky issue, as 11.3 million job openings are currently posted, but only 6.0 million Americans are seeking work.

— The fast rise of 30-year fixed mortgage rates to near 5.0%, along with skyrocketing home prices, has made homeownership a nearly impossible goal for some Americans, and is squeezing the budgets of many (though at the same time generating much wealth for homeowners). This effect is captured in the Housing Affordability Index, which further deteriorated during Q1.

	Most Recent	**12 Months Prior**
Real GDP *(YoY)*	5.5% *12/31/21*	(2.3%) *12/31/21*
Inflation *(CPI YoY, Core)*	6.5% *3/31/22*	1.6% *3/31/21*
Expected Inflation *(5yr-5yr forward)*	2.4% *3/31/22*	2.3% *3/31/21*
Fed Funds Target Range	0.25% – 0.50% *3/31/22*	0.00% – 0.25% *3/31/21*
10-Year Rate	2.34% *3/31/22*	1.74% *3/31/21*
U-3 Unemployment	3.6% *3/31/22*	6.0% *3/31/21*
U-6 Unemployment	6.9% *3/31/22*	10.7% *3/31/21*

International economics summary

— The pace of economic growth has moved further back toward average levels in most economies. In January, the International Monetary Fund cut their 2021 advanced economy growth projections from 5.2% to 4.3%. Growth in 2022 is expected to slow to 3.1%.

— Unemployment continued to fall to, or below, pre-pandemic levels. However, in countries such as the United States these data do not tell the whole story, since the total size of the labor pool has shrunk substantially.

— Inflation trends have been surprisingly bifurcated by region. While the United States and Europe are generally contending with a spike in prices and inflation not seen in decades, Japan and China are experiencing very low inflation and muted price pressures.

— In late February, Russian forces invaded Ukraine—a move which was anticipated by major Western intelligence communities. Ukraine has put together a remarkable defense thus far, as many citizens have taken up arms to defend their country.

— Russia's invasion of Ukraine led to substantial spikes in energy and agricultural prices as concerns grew of a potential supply shock. Eurozone producer prices grew 31.4% over the 12 months ending February, reflecting the impact of surging natural gas prices (+58.4%).

— COVID-19 case growth rose to record levels in China, which led CCP officials to reinstate lockdowns in some of the largest provinces in the country. Continued commitment to the "zero-Covid" policy in China could weigh on the outlook for global growth, as well as elongate the process of supply chain normalization, particularly within the freight shipping industry.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	5.5% *12/31/21*	8.5% *3/31/22*	3.6% *3/31/22*
Eurozone	4.6% *12/31/21*	7.5% *3/31/22*	6.8% *2/28/22*
Japan	0.4% *12/31/21*	1.3% *3/31/22*	2.6% *2/28/22*
BRICS Nations	4.0% *12/31/21*	3.2% *3/31/22*	5.2% *12/31/21*
Brazil	1.6% *12/31/21*	10.5% *2/28/22*	11.2% *2/28/22*
Russia	5.0% *12/31/21*	9.2% *2/28/22*	4.1% *2/28/22*
India	5.4% *12/31/21*	6.1% *2/28/28*	7.6% *3/31/22*
China	4.8% *3/31/22*	0.9% *2/28/22*	5.8% *3/31/22*

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

Equity environment

— U.S. equities held up marginally better during the first quarter (S&P 500 -4.6%), followed by international developed equities (MSCI EAFE -5.9%) and emerging market equities (MSCI Emerging Markets -7.0%), on an unhedged currency basis.

— Currency movement during the quarter detracted from the performance of investors who do not hedge foreign currency exposure. Currency movements in international developed markets generated losses of -2.4% (MSCI EAFE).

— Value stocks outperformed Growth stocks by a substantial margin during Q1 (Russell 1000 Value -0.7% vs Russell 1000 Growth -9.0%) as Growth stocks fell sharply, reversing the gains delivered in the second half of 2021. Large capitalization stocks beat small capitalization stocks by a narrower margin (Russell 1000 -5.1%, Russell 2000 -7.5%).

— The Cboe VIX Index spiked mid-quarter during Russia's invasion of Ukraine, as fears of potential broader global conflict, food shortages, and higher inflation roiled markets. The index fell to 20 to end the quarter, moderately above the longer-term average. Realized volatility over the past year was more muted as the pandemic has moved into the rearview mirror.

— Emerging market equities appear attractively priced, as EM equities are in the 8th percentile of cheapness relative to U.S. equities, looking back to 2003. Much of this valuation difference is due to Chinese markets, which have sold off massively over concerns around possible sanctions due to relations with Russia, regulatory crackdowns on the real estate and internet sectors, and major city lockdowns due to COVID-19.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	(4.6%)		15.6%	
U.S. Small Cap (Russell 2000)	(7.5%)		(5.8%)	
U.S. Equity (Russell 3000)	(5.3%)		11.9%	
U.S. Large Value (Russell 1000 Value)	(0.7%)		11.7%	
US Large Growth (Russell 1000 Growth)	(9.0%)		15.0%	
Global Equity (MSCI ACWI)	(5.4%)	(4.8%)	7.3%	8.8%
International Large (MSCI EAFE)	(5.9%)	(3.5%)	1.2%	7.1%
Eurozone (Euro Stoxx 50)	(10.9%)	(8.7%)	(3.9%)	2.7%
U.K. (FTSE 100)	0.0%	2.8%	10.7%	16.4%
Japan (NIKKEI 225)	(7.8%)	(2.6%)	(11.9%)	(2.9%)
Emerging Markets (MSCI Emerging Markets)	(7.0%)	(7.0%)	(11.4%)	(11.5%)

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 3/31/22

Domestic equity

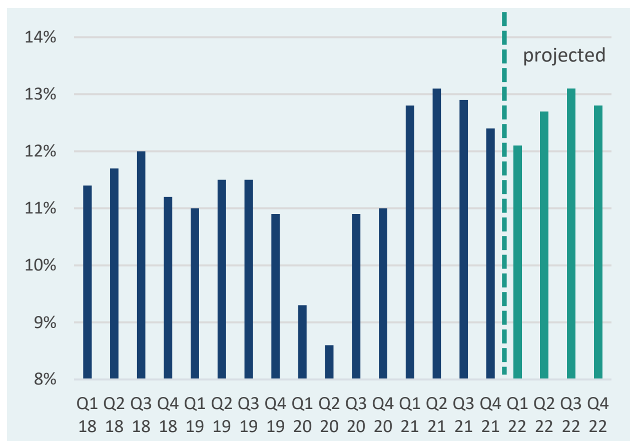
U.S. equities fell during the first quarter (S&P 500 -4.6%), though less so than other global markets (MSCI ACWI ex-USA -5.4%). Within the U.S. market, sector dispersion was very wide, with large-cap energy companies advancing 39.0% on spiking energy prices, and large-cap technology stocks (-8.4%) and consumer discretionary (-9.0%) selling off on concerns that higher inflation (influenced by spiking energy prices) might result in a much more hawkish outlook for Fed policy and interest rates. Energy sector earnings are expected to bolster overall index level earnings on a year-on-year basis in Q1, primarily due to the average price of oil rising from $58.14 to $95.01. If the energy sector were excluded, Q1 year-over-year earnings growth would be expected at -0.6%, instead of +5.1%.

Companies continue to contend with headwinds from supply chain disruptions, surging commodity prices which were given a leg higher by the conflict in Ukraine, ongoing labor shortages and higher prices in general. In Q4 of 2021, 365 S&P 500 companies mentioned "inflation" on earnings calls, which was the highest number in at least 10 years, per FactSet. Under this backdrop, companies are raising their prices to help offset higher costs, and the S&P 500 Index is expected to report a fifth consecutive quarter of revenue growth north of 10% in Q1. Interestingly, analysts expect net profit margins will be higher through the rest of the year than they are expected to be in Q1 (+12.1%).

S&P 500 PRICE INDEX

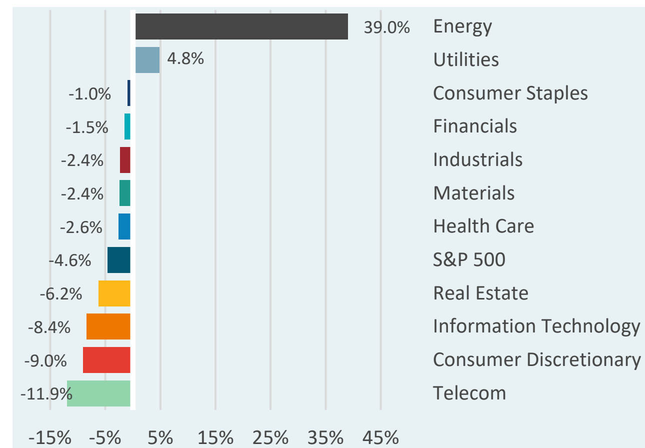
Source: Standard & Poor's, as of 3/31/22

NET PROFIT MARGIN – S&P 500 INDEX



Source: FactSet, as of 4/14/22

Q1 SECTOR PERFORMANCE



Source: Standard & Poor's, as of 3/31/22

Domestic equity size & style

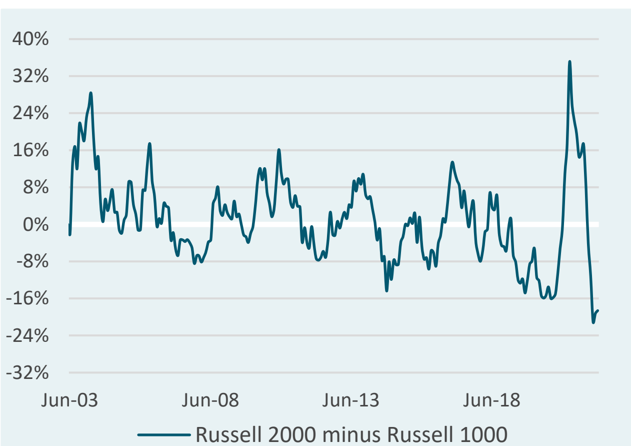
Value stocks outperformed Growth stocks by a substantial margin during the first quarter (Russell 1000 Value -0.7% vs Russell 1000 Growth -9.0%) as Growth stocks fell sharply, reversing the gains delivered in the second half of 2021. Large capitalization stocks outperformed small capitalization stocks by a narrower margin (Russell 1000 -5.1%, Russell 2000 -7.5%).

Energy stocks dramatically outperformed during Q1, as global demand has outpaced energy production for quite some time, pushing prices higher. Additionally, Russia's invasion of Ukraine led to widespread fears of an energy supply crunch, which temporarily sent oil to $123/bbl—the highest level since 2008. Attractive conditions for energy producers coincided with outperformance of Utilities, Financials, Industrials, and Materials sectors, which tend to have a Value tilt. During Q1, the Information Technology sector, which is tilted towards Growth, underperformed the index.

Further tightening of Fed policy and interest rate hikes will likely impact Value and Growth stock behavior, though these relationships are complex. For example, rate rises that result in a flattening of the yield curve may not be as boosting to financial sector performance, since banks profit from interest curve steepening (banks lend at the long end of the curve and borrow at the short end). The nature of the environment in which interest rates rise will contribute to future style factor behavior.

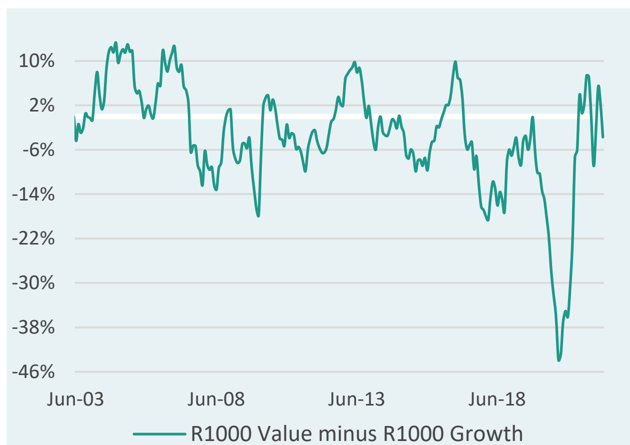
Value strongly outperformed during Q1

SMALL CAP VS LARGE CAP (YOY)



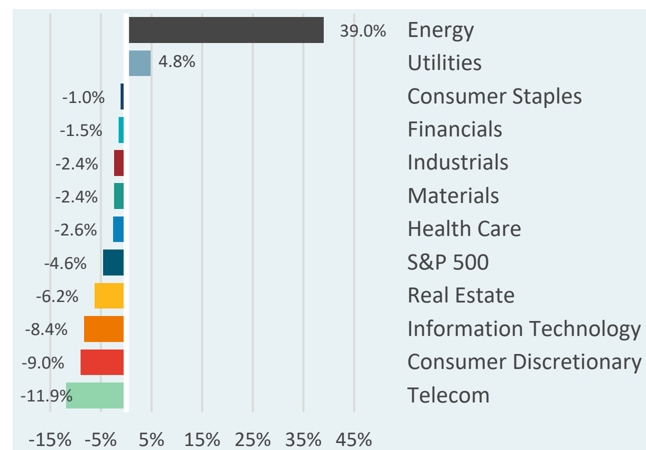
Source: FTSE, as of 3/31/22

VALUE VS GROWTH (YOY)



Source: FTSE, as of 3/31/22

Q1 SECTOR PERFORMANCE



Source: Standard & Poor's, as of 3/31/22

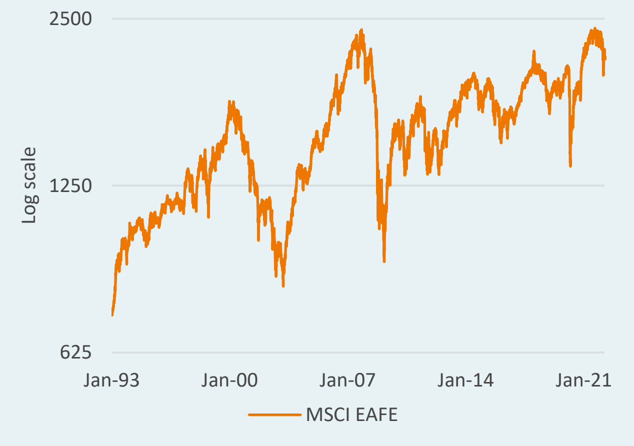
International developed equity

International developed equities fell -5.9% during the quarter, while U.S. equities performed slightly better (S&P 500 -4.6%) and emerging market equities trailed (MSCI Emerging Markets -7.0%), on an unhedged currency basis. Currency movement during the quarter detracted from the performance of investors who do not hedge foreign currency exposure. Currency movements in international developed markets generated losses of -2.4% (MSCI EAFE).

Eurozone and Japanese equities were among the worst performers during the quarter (Euro Stoxx 50 -10.9%, Nikkei 225 -7.8%), though much of these losses were driven by currency market movement. U.K. equities were among the top performers at 1.8% (MSCI UK). Investors with a currency hedging program would have outperformed unhedged investors by roughly +2.2% in Eurozone equities, +5.2% in Japanese equities, and +2.8% in U.K. equities.

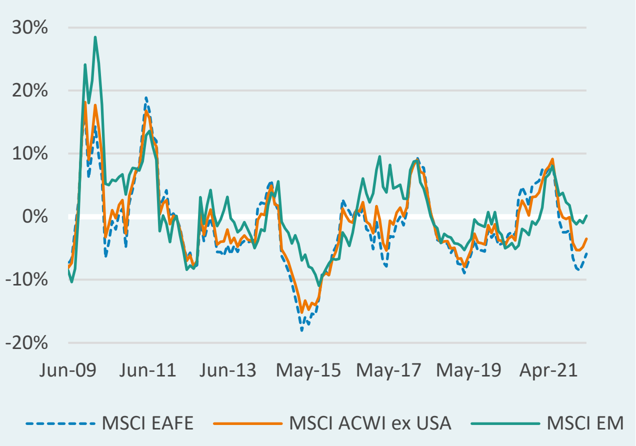
German equities (MSCI Germany -13.1%) detracted significantly from international developed equity returns, as investors expressed concern over the country's large exposure to Russian energy imports. Producer prices in Germany rose 25.9% year-over-year in February, partly due to surging gas prices. It is not yet known the degree to which businesses will be able to pass through higher prices to customers. Inflation in Germany rose to 7.3%—the highest level in decades.

INTERNATIONAL DEVELOPED EQUITY



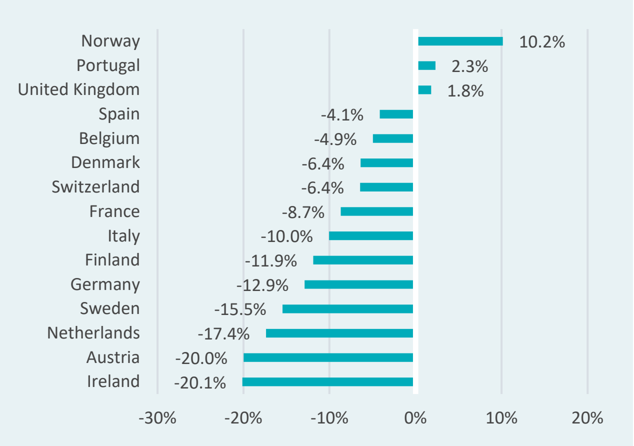
Source: MSCI, as of 3/31/22

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 3/31/22

EUROPEAN EQUITY PERFORMANCE – Q1 2022



Source: MSCI, Bloomberg, as of 3/31/22. Returns in USD terms.

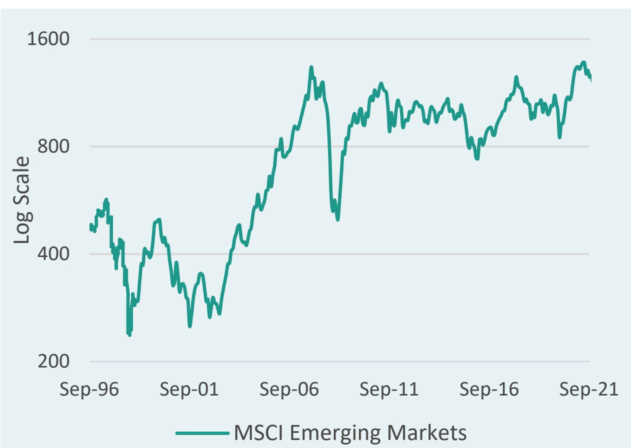
Emerging market equity

Emerging market equities delivered losses (MSCI EM -7.0%) on an unhedged currency basis, lagging developed markets during the quarter. Latin American markets substantially outperformed Asian markets (MSCI EM Latin America +27.3%, MSCI EM Asia -8.7%).

Chinese equities have seen large losses over the last year. The Nasdaq Golden Dragon China Index recently drew down further than its maximum loss during the Global Financial Crisis. Concerns over imposed sanctions due to relations with Russia, regulatory crackdowns on the real estate and internet sectors, and rising COVID-19 cases resulting in major city lockdowns have provided the backdrop to the massive sell-off in Chinese equities. More supportive government policies appear to be coming down the pike, which may contribute to a turnaround.

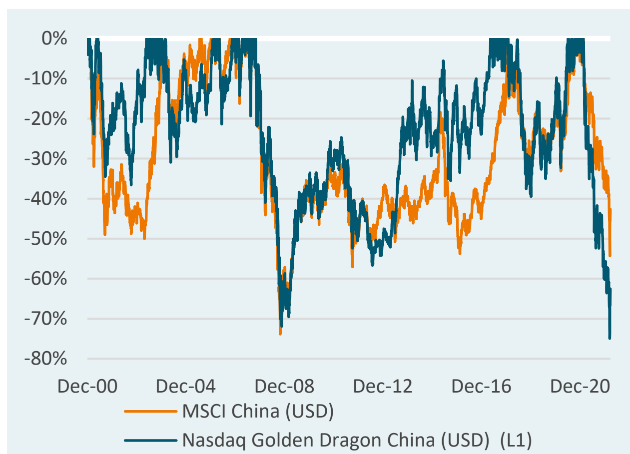
Emerging market equities are attractively priced relative to developed markets. The valuation divide is now extremely large. On a price-to-earnings basis, emerging market equities are in the 8th percentile cheap relative to U.S. equities going back to 2003, meaning they have been cheaper just 7% of the time since 2003. Emerging market equities have also recently fallen back to more average valuations relative to international developed markets.

EMERGING MARKET EQUITY



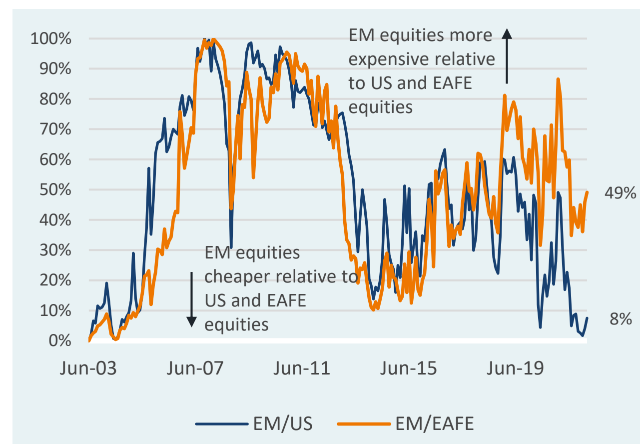
Source: MSCI, as of 12/31/21

CHINESE EQUITY DRAWDOWNS



Source: MSCI, Nasdaq, as of 3/22/22

VALUATION PERCENTILES



Source: MSCI, forward 12m price multiples, as of 2/28/22

Fixed income environment

— The 10-year U.S. Treasury yield jumped during Q1, from 1.51% to 2.34%, as the Federal Reserve signaled that more aggressive tightening is ahead.

— Fixed income broadly delivered losses during the first quarter, as interest rates headed higher and credit spreads expanded. Higher duration exposures (Bloomberg U.S. Aggregate -5.9%) underperformed lower duration exposures (Bloomberg U.S. Corporate High Yield -4.8%). This theme was also visible over the past year.

— The U.S. yield curve has flattened, or even inverted, depending on the measure. The 10-year minus 2-year yield spread ended the quarter at exactly +0.00%. Yield curve inversion is generally believed to be a sign of nearing recession, as in most cases recession occurs within 1 to 2 years following the initial inversion.

— History suggests that interest rate rises have been more of an effect of Federal Reserve action rather than solely due to spiking inflation. This likely means that the Fed's plans for moderate tightening will translate to only moderate rate rises. This statement is of course not intended to minimalize the pain of interest rate rises on bond portfolios, which has been notable.

— Credit spreads expanded during the quarter, with U.S. high yield spreads moving from 2.8% to 3.3% and U.S. investment grade spreads heading from 0.9% to 1.2%. Spread movement often occurs alongside broader market risk-off environments, which implies that investors should not necessarily assume that these moves were specific to the credit outlook.

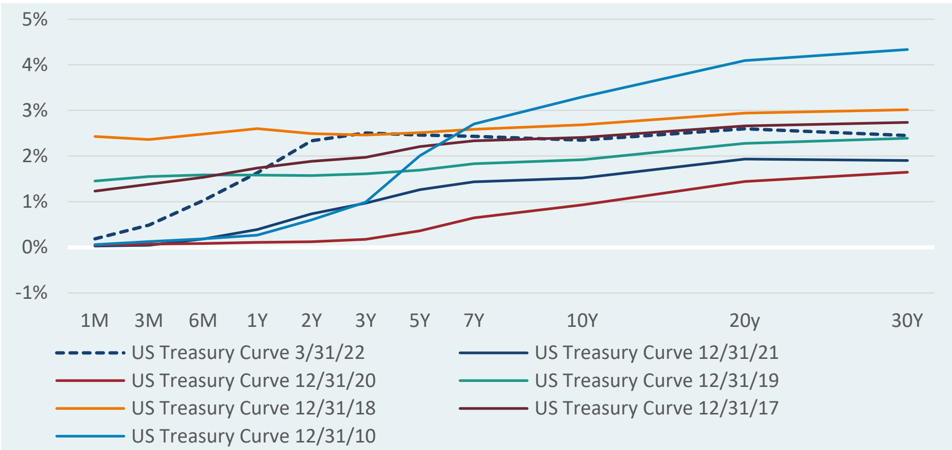
— Write-downs of Russian (-100%) and Ukrainian (-51.4%) bonds weighed heavily on hard-currency emerging market debt (JPM EMBI Global Diversified -10.0%).

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	(5.9%)	(4.2%)
Core Plus Fixed Income (Bloomberg U.S. Universal)	(6.1%)	(4.2%)
U.S. Treasuries (Bloomberg U.S. Treasury)	(5.6%)	(3.7%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	(4.8%)	(0.7%)
Bank Loans (S&P/LSTA Leveraged Loan)	(0.1%)	3.3%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	(6.5%)	(8.5%)
Emerging Market Debt Hard (JPM EMBI Global Diversified)	(10.0%)	(7.4%)
Mortgage-Backed Securities (Bloomberg MBS)	(5.0%)	(4.9%)

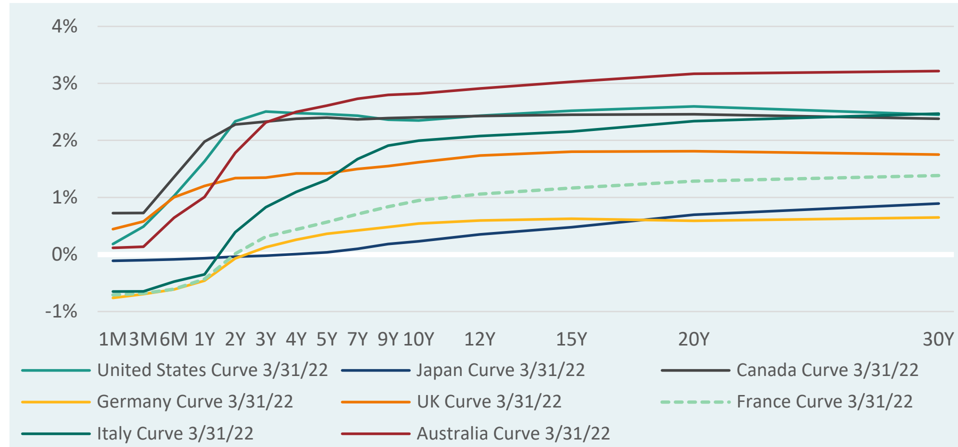
Source: Bloomberg, as of 3/31/22

Yield environment

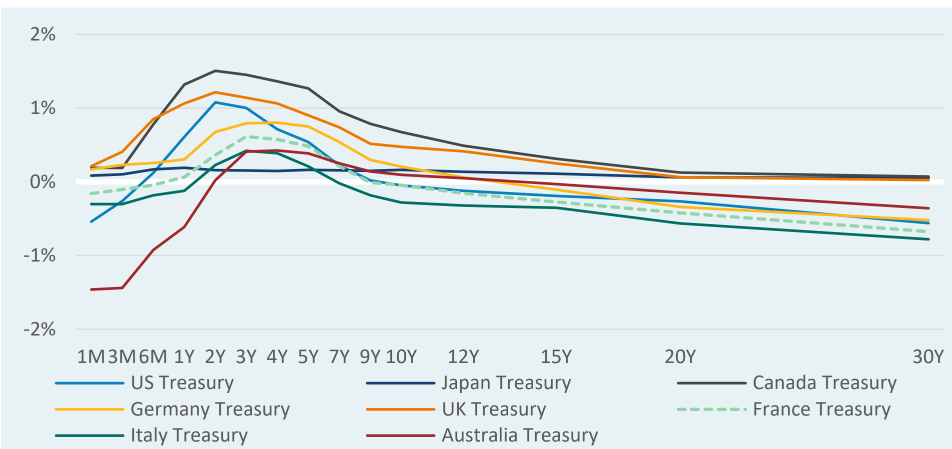
U.S. YIELD CURVE



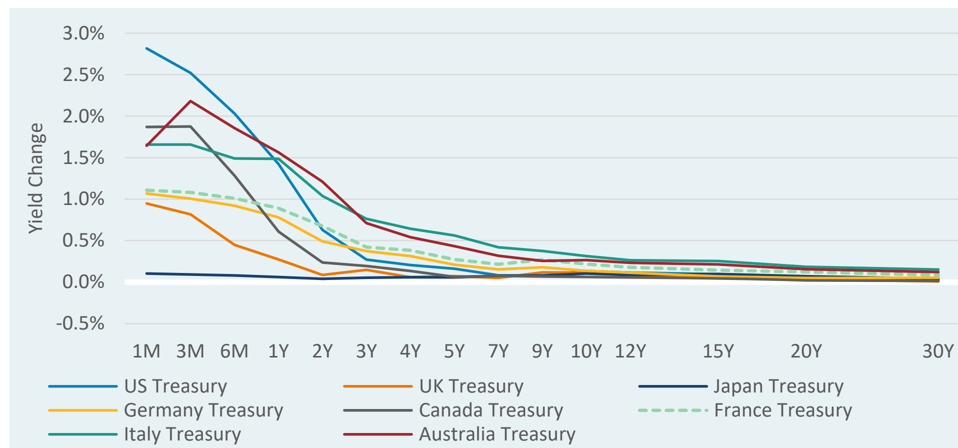
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 3/31/22

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	3.7	(4.6)	(4.6)	15.6	18.9	16.0	14.6
S&P 500 Equal Weighted	2.6	(2.7)	(2.7)	13.1	17.0	13.9	14.0
DJ Industrial Average	2.5	(4.1)	(4.1)	7.1	12.6	13.4	12.8
Russell Top 200	3.7	(4.9)	(4.9)	15.7	20.1	17.0	15.2
Russell 1000	3.4	(5.1)	(5.1)	13.3	18.7	15.8	14.5
Russell 2000	1.2	(7.5)	(7.5)	(5.8)	11.7	9.7	11.0
Russell 3000	3.2	(5.3)	(5.3)	11.9	18.2	15.4	14.3
Russell Mid Cap	2.6	(5.7)	(5.7)	6.9	14.9	12.6	12.9
Style Index							
Russell 1000 Growth	3.9	(9.0)	(9.0)	15.0	23.6	20.9	17.0
Russell 1000 Value	2.8	(0.7)	(0.7)	11.7	13.0	10.3	11.7
Russell 2000 Growth	0.5	(12.6)	(12.6)	(14.3)	9.9	10.3	11.2
Russell 2000 Value	2.0	(2.4)	(2.4)	3.3	12.7	8.6	10.5

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	2.2	(5.4)	(5.4)	7.3	13.8	11.6	10.0
MSCI ACWI ex US	0.2	(5.4)	(5.4)	(1.5)	7.5	6.8	5.6
MSCI EAFE	0.6	(5.9)	(5.9)	1.2	7.8	6.7	6.3
MSCI EM	(2.3)	(7.0)	(7.0)	(11.4)	4.9	6.0	3.4
MSCI EAFE Small Cap	(0.0)	(8.5)	(8.5)	(3.6)	8.5	7.4	8.3
Style Index							
MSCI EAFE Growth	0.6	(11.9)	(11.9)	(1.5)	9.8	8.9	7.5
MSCI EAFE Value	0.7	0.3	0.3	3.6	5.2	4.2	4.9
Regional Index							
MSCI UK	0.1	1.8	1.8	13.6	5.3	5.5	4.5
MSCI Japan	(0.5)	(6.6)	(6.6)	(6.5)	6.8	6.1	6.5
MSCI Euro	(1.7)	(11.1)	(11.1)	(3.4)	6.8	5.5	5.9
MSCI EM Asia	(3.1)	(8.7)	(8.7)	(15.2)	6.1	7.2	5.8
MSCI EM Latin American	13.1	27.3	27.3	23.5	3.2	4.1	(1.1)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	(1.9)	(3.0)	(3.0)	4.3	6.2	4.4	2.7
Bloomberg US Treasury Bills	(0.0)	(0.0)	(0.0)	(0.0)	0.8	1.1	0.6
Bloomberg US Agg Bond	(2.8)	(5.9)	(5.9)	(4.2)	1.7	2.1	2.2
Bloomberg US Universal	(2.7)	(6.1)	(6.1)	(4.2)	1.9	2.3	2.6
Duration							
Bloomberg US Treasury 1-3 Yr	(1.4)	(2.5)	(2.5)	(3.0)	0.8	1.0	0.8
Bloomberg US Treasury Long	(5.3)	(10.6)	(10.6)	(1.4)	3.3	3.9	4.0
Bloomberg US Treasury	(3.1)	(5.6)	(5.6)	(3.7)	1.4	1.8	1.7
Issuer							
Bloomberg US MBS	(2.6)	(5.0)	(5.0)	(4.9)	0.6	1.4	1.7
Bloomberg US Corp. High Yield	(1.1)	(4.8)	(4.8)	(0.7)	4.6	4.7	5.7
Bloomberg US Agency Interm	(2.1)	(3.7)	(3.7)	(3.9)	0.7	1.1	1.2
Bloomberg US Credit	(2.5)	(7.4)	(7.4)	(4.2)	2.8	3.2	3.4

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	8.6	25.5	25.5	49.3	16.1	9.0	(0.7)
Wilshire US REIT	6.9	(3.9)	(3.9)	29.1	11.9	10.0	9.9
CS Leveraged Loans	0.0	(0.1)	(0.1)	3.2	4.1	4.1	4.5
S&P Global Infrastructure	5.9	7.5	7.5	16.7	8.0	7.7	7.8
Alerian MLP	2.0	18.9	18.9	37.5	1.4	(1.1)	1.2
Regional Index							
JPM EMBI Global Div	(0.9)	(10.0)	(10.0)	(7.4)	0.0	1.7	3.7
JPM GBI-EM Global Div	(1.5)	(6.5)	(6.5)	(8.5)	(1.1)	0.2	(0.7)
Hedge Funds							
HFRI Composite	(0.1)	(1.6)	(1.6)	2.6	8.3	6.2	5.1
HFRI FOF Composite	0.6	(2.7)	(2.7)	1.3	5.9	4.6	3.9
Currency (Spot)							
Euro	(0.9)	(2.2)	(2.2)	(5.3)	(0.3)	0.8	(1.8)
Pound Sterling	(1.9)	(2.8)	(2.8)	(4.6)	0.3	1.0	(1.9)
Yen	(5.1)	(5.1)	(5.1)	(9.0)	(3.0)	(1.7)	(3.8)

Source: Morningstar, HFRI, as of 3/31/22.

— The Total Fund, net of manager fees, returned -1.9% in the first quarter of 2022 and ranked in the 17th percentile among other public plans greater than $1 billion (median of -3.5%). It lagged the policy index return of -1.7%. The Total Fund ex Overlay returned -1.9% for the quarter. The Total Fund one-year return of 6.9% lagged the policy index return of 7.8% and ranked in the 54th percentile of its peer universe. The three-year return of 9.2% (87th percentile) lagged the median large public plan (10.7%) and the policy index (10.3%).

— First quarter results were enhanced by the following factors:

1. PanAgora Low Volatility outperformed the Russell 1000 -0.8% versus -5.1% for the index. The low vol strategy is designed to be defensive and perform well in down markets.
2. QMA beat the Russell 2000 for second quarter in a row (-4.3% vs. -7.5%,). After a strong growth market through 2020 in which QMA lagged significantly; the recovery in value led QMA's factors to work and are providing strong relative performance to the benchmark.

— First quarter results were hindered by the following factors:

1. Baillie Gifford lost -18.2% trailing the MSCI ACWI ex US Growth which lost -10.7. Performance for the quarter reflects worries about inflation, supply chain issues, and geopolitical issues within portfolio companies. Baillie Gifford continually reviews its holdings for long term growth prospects and reviewed many companies in the first quarter.
2. Western TRU trailed Bloomberg Agg -7.8% versus -5.9%. Both duration and yield curve positioning hurt relative performance for the quarter.

Total Fund
Performance Summary (Net of Fees)

Period Ending: March 31, 2022

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank *	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Fund**	**-1.9**	**17**	**1.8**	**37**	**6.9**	**54**	**17.2**	**89**	**9.2**	**87**	**7.9**	**94**	**8.1**	**62**
Policy Index[1]	*-1.7*	*12*	*3.0*	*24*	*7.8*	*39*	*17.2*	*88*	*10.3*	*59*	*8.9*	*59*	*8.5*	*47*
InvMetrics Public DB > $1B Net Median	*-3.5*		*1.1*		*7.2*		*19.5*		*10.7*		*9.1*		*8.5*	
Total Fund ex Overlay	**-1.9**	**16**	**1.9**	**37**	**7.0**	**53**	**17.1**	**91**	**9.2**	**87**	**7.8**	**95**	**8.0**	**64**
Policy Index[1]	*-1.7*	*12*	*3.0*	*24*	*7.8*	*39*	*17.2*	*88*	*10.3*	*59*	*8.9*	*59*	*8.5*	*47*
InvMetrics Public DB > $1B Net Median	*-3.5*		*1.1*		*7.2*		*19.5*		*10.7*		*9.1*		*8.5*	
Public Equity	**-5.7**	**65**	**-1.7**	**74**	**4.5**	**79**	**26.7**	**94**	**12.2**	**93**	**10.6**	**86**	**10.2**	**71**
Blended Public Equity Index[1]	*-5.1*	*36*	*-0.3*	*60*	*6.6*	*67*	*28.9*	*78*	*13.7*	*55*	*11.7*	*57*	*10.9*	*55*
InvMetrics All DB Total Eq Net Median	*-5.4*		*0.1*		*7.1*		*29.9*		*13.9*		*11.9*		*11.1*	
US Equity	**-3.9**	**8**	**5.0**	**18**	**12.5**	**22**	**32.1**	**90**	**15.7**	**80**	**13.6**	**72**	**13.0**	**60**
Blended US Equity Index[1]	*-5.3*	*50*	*3.4*	*45*	*11.9*	*30*	*34.9*	*43*	*18.2*	*8*	*15.4*	*9*	*14.2*	*11*
Russell 3000	*-5.3*	*50*	*3.4*	*45*	*11.9*	*30*	*34.9*	*43*	*18.2*	*8*	*15.4*	*9*	*14.3*	*8*
InvMetrics All DB US Eq Net Median	*-5.3*		*3.1*		*10.9*		*34.8*		*17.0*		*14.3*		*13.3*	
Large Cap Equity	**-3.9**	**44**	**5.5**	**40**	**13.3**	**38**	**31.3**	**58**	**16.0**	**57**	**14.3**	**47**	**13.7**	**39**
Russell 1000	*-5.1*	*53*	*4.4*	*49*	*13.3*	*39*	*34.9*	*28*	*18.7*	*29*	*15.8*	*33*	*14.5*	*25*
eV US Large Cap Equity Net Median	*-4.8*		*4.2*		*12.1*		*32.2*		*16.5*		*14.0*		*13.1*	
Acadian US MGD V	-5.2	55	5.1	45	12.2	59	23.5	94	10.7	96	--	--	--	--
BlackRock Russell 1000	-5.2	53	4.3	53	13.2	47	34.8	19	18.7	21	15.8	20	--	--
DE Shaw	-2.7	16	6.4	28	14.6	32	34.2	27	17.1	38	15.0	36	14.6	10
PanAgora Defuseq	-0.8	6	7.8	15	13.5	45	26.1	86	12.2	93	--	--	--	--
Russell 1000	*-5.1*	*53*	*4.4*	*53*	*13.3*	*47*	*34.9*	*19*	*18.7*	*21*	*15.8*	*20*	*14.5*	*13*
eV US Large Cap Core Equity Net Median	*-5.0*		*4.6*		*13.1*		*31.7*		*16.6*		*14.2*		*13.3*	

* *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.*

1. See Appendix for Benchmark History.

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Small Cap Equity	**-4.3**	**30**	**-0.2**	**35**	**3.9**	**33**	**40.1**	**43**	**10.5**	**84**	**7.8**	**85**	**9.3**	**89**
Russell 2000	*-7.5*	*53*	*-9.7*	*75*	*-5.8*	*77*	*35.5*	*63*	*11.7*	*74*	*9.7*	*61*	*11.0*	*63*
eV US Small Cap Equity Net Median	*-7.2*		*-2.7*		*0.9*		*38.0*		*13.6*		*10.9*		*11.6*	
QMA US Small Cap	-4.3	11	-0.2	29	3.9	31	40.1	37	10.5	85	7.8	92	--	--
Russell 2000	*-7.5*	*57*	*-9.7*	*92*	*-5.8*	*91*	*35.5*	*69*	*11.7*	*77*	*9.7*	*68*	*11.0*	*66*
eV US Small Cap Core Equity Net Median	*-7.2*		*-2.5*		*1.6*		*38.1*		*13.8*		*11.0*		*11.6*	
Domestic Equity Overlay	97.1	--	93.9	--	94.2	--	--	--	--	--	--	--	--	--
International Equity	**-7.7**	**59**	**-8.8**	**64**	**-3.9**	**67**	**20.7**	**80**	**8.3**	**34**	**7.1**	**30**	**6.2**	**41**
Blended International Equity Index[1]	*-4.9*	*11*	*-4.5*	*10*	*0.5*	*14*	*22.0*	*56*	*8.5*	*30*	*7.4*	*25*	*6.2*	*40*
MSCI EAFE Gross	*-5.8*	*20*	*-3.5*	*8*	*1.6*	*9*	*21.5*	*67*	*8.3*	*34*	*7.2*	*27*	*6.8*	*19*
InvMetrics All DB ex-US Eq Net Median	*-7.2*		*-7.9*		*-2.7*		*22.5*		*7.7*		*6.7*		*6.0*	
Baillie Gifford	-18.2	83	-20.6	91	-15.3	90	18.9	73	10.2	55	8.6	65	--	--
MSCI ACWI ex US[1]	*-5.3*	*4*	*-6.3*	*13*	*-1.0*	*20*	*21.8*	*53*	*8.0*	*78*	*7.3*	*88*	--	--
MSCI ACWI ex US Growth[1]	*-10.7*	*33*	*-11.8*	*48*	*-5.9*	*51*	*18.7*	*75*	*9.5*	*65*	*9.0*	*62*	--	--
eV ACWI ex-US Growth Equity Net Median	*-13.8*		*-12.2*		*-5.8*		*22.4*		*10.7*		*10.1*		*7.9*	
Mondrian	-2.6	29	-6.1	59	-1.8	55	19.6	85	4.4	82	4.4	60	4.6	91
MSCI ACWI ex USA Value Gross	*0.3*	*3*	*-0.6*	*8*	*4.0*	*11*	*24.7*	*52*	*6.1*	*58*	*5.3*	*47*	*4.8*	*84*
MSCI ACWI ex USA Gross	*-5.3*	*62*	*-6.3*	*61*	*-1.0*	*49*	*21.8*	*76*	*8.0*	*31*	*7.3*	*22*	*6.0*	*45*
eV ACWI ex-US Value Equity Net Median	*-3.3*		*-4.9*		*-1.2*		*24.7*		*6.4*		*5.2*		*5.8*	
BlackRock MSCI ACWI EX-US IMI	-5.5	24	-6.4	40	-1.1	41	--	--	--	--	--	--	--	--
MSCI ACWI ex USA IMI	*-5.6*	*25*	*-6.5*	*40*	*-1.3*	*42*	*22.5*	*59*	*7.9*	*72*	*6.9*	*69*	*5.8*	*81*
eV ACWI ex-US All Cap Core Eq Net Median	*-8.5*		*-7.8*		*-2.0*		*23.0*		*9.3*		*7.6*		*7.1*	
Int'l Equity Currency Overlay														
International Equity Overlay	-4.8	--	-4.9	--	-8.8	--	--	--	--	--	--	--	--	--

1. See Appendix for Benchmark History.

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Fixed Income	**-4.6**	**37**	**-4.1**	**21**	**-1.9**	**15**	**3.2**	**20**	**3.0**	**23**	**3.1**	**24**	**3.8**	**13**
Blended Fixed Income Index[1]	-5.7	70	-5.1	55	-3.2	54	1.6	42	2.5	36	2.9	29	2.7	54
InvMetrics All DB Total Fix Inc Net Median	-5.0		-5.0		-3.1		1.0		2.2		2.6		2.8	
Core Fixed	**-6.2**	**--**	**-6.5**	**--**	**-4.5**	**--**	**-0.5**	**--**	**1.7**	**--**	**2.1**	**--**	**2.7**	**--**
Bloomberg US Aggregate TR	-5.9	--	-5.9	--	-4.2	--	-1.8	--	1.7	--	2.1	--	2.2	--
DoubleLine	-5.8	98	-6.5	98	-4.3	57	-1.1	64	--	--	--	--	--	--
Bloomberg US Aggregate TR	-5.9	98	-5.9	93	-4.2	52	-1.8	75	1.7	33	2.1	46	2.2	58
eV US Securitized Fixed Inc Net Median	-4.4		-4.3		-4.1		0.5		1.2		2.1		2.6	
FIAM Bond	-5.6	22	-5.3	16	-3.3	11	1.0	13	3.0	4	3.0	5	3.1	9
NISA Core Bond	-5.7	37	-5.6	27	-3.8	35	--	--	--	--	--	--	--	--
Bloomberg US Aggregate TR	-5.9	61	-5.9	47	-4.2	65	-1.8	88	1.7	78	2.1	77	2.2	77
eV US Core Fixed Inc Net Median	-5.8		-5.9		-4.0		-0.6		2.0		2.4		2.5	
Western TRU	-7.8	99	-8.9	99	-7.3	99	2.7	3	0.7	99	1.7	97	--	--
3-Month Libor Total Return USD	0.1	1	0.2	1	0.3	1	0.3	25	0.9	99	1.3	99	0.9	99
Bloomberg US Aggregate TR	-5.9	61	-5.9	47	-4.2	65	-1.8	88	1.7	78	2.1	77	2.2	77
eV US Core Fixed Inc Net Median	-5.8		-5.9		-4.0		-0.6		2.0		2.4		2.5	
Core Fixed Income Overlay	-2.3	--	0.8	--	3.0	--	--	--	--	--	--	--	--	--
Opportunistic Credit	**-1.8**	**--**	**0.2**	**--**	**3.0**	**--**	**10.7**	**--**	**5.3**	**--**	**5.3**	**--**	**7.3**	**--**
Bloomberg BA Intermediate HY	-5.3	--	-3.8	--	-1.5	--	8.7	--	4.4	--	4.5	--	4.6	--
AG CSF II*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bloomberg BA Intermediate HY	-5.3	--	-3.8	--	-1.5	--	8.7	--	4.4	--	4.5	--	4.6	--
Angelo Gordon Opportunistic+	-8.5	--	7.3	--	12.1	--	22.9	--	8.3	--	11.9	--	--	--
Bloomberg US Aggregate TR	-5.9	--	-5.9	--	-4.2	--	-1.8	--	1.7	--	2.1	--	2.2	--

** Funded February 2022.*
+ Preliminary return as of 3/31/2022.
1. See Appendix for Benchmark History.

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Angelo Gordon Credit Solutions+	1.3	1	6.9	1	13.8	1	25.8	1	--	--	--	--	--	--
Bloomberg BA Intermediate HY	*-5.3*	*95*	*-3.8*	*93*	*-1.5*	*93*	*8.7*	*78*	*4.4*	*53*	*4.5*	*40*	*4.6*	*86*
eV US High Yield Fixed Inc Net Median	*-3.9*		*-2.6*		*0.0*		*10.4*		*4.4*		*4.4*		*5.4*	
Beach Point Select	0.1	2	5.8	1	9.5	1	20.8	2	11.2	1	9.0	1	--	--
Bloomberg BA Intermediate HY	*-5.3*	*95*	*-3.8*	*93*	*-1.5*	*93*	*8.7*	*78*	*4.4*	*53*	*4.5*	*40*	*4.6*	*86*
eV US High Yield Fixed Inc Net Median	*-3.9*		*-2.6*		*0.0*		*10.4*		*4.4*		*4.4*		*5.4*	
Brigade Capital	-1.0	6	2.3	4	6.1	4	19.9	2	7.1	4	5.6	9	5.9	20
Bloomberg BA Intermediate HY	*-5.3*	*95*	*-3.8*	*93*	*-1.5*	*93*	*8.7*	*78*	*4.4*	*53*	*4.5*	*40*	*4.6*	*86*
50% Barclays HY/ 50% Bank Loan	*-2.5*	*26*	*-0.8*	*23*	*1.3*	*20*	*11.3*	*33*	*4.4*	*57*	*4.4*	*50*	*5.1*	*64*
eV US High Yield Fixed Inc Net Median	*-3.9*		*-2.6*		*0.0*		*10.4*		*4.4*		*4.4*		*5.4*	
PIMCO Diversified	-7.1	99	-7.0	99	-4.4	99	3.5	99	1.9	99	--	--	--	--
Blended PIMCO Diversified Index[1]	*-6.7*	*99*	*-6.4*	*99*	*-3.8*	*99*	*4.9*	*99*	*2.4*	*99*	*3.1*	*98*	*4.3*	*89*
Bloomberg BA Intermediate HY	*-5.3*	*95*	*-3.8*	*93*	*-1.5*	*93*	*8.7*	*78*	*4.4*	*53*	*4.5*	*40*	*4.6*	*86*
eV US High Yield Fixed Inc Net Median	*-3.9*		*-2.6*		*0.0*		*10.4*		*4.4*		*4.4*		*5.4*	
Franklin Templeton	-0.2	4	-3.1	22	-1.6	25	-2.2	95	-3.6	99	-2.1	99	1.3	80
Bloomberg Multiverse TR	*-6.1*	*66*	*-7.6*	*69*	*-6.2*	*73*	*-0.6*	*87*	*0.8*	*82*	*1.8*	*81*	*1.2*	*80*
eV All Global Fixed Inc Net Median	*-5.3*		*-5.8*		*-4.0*		*4.3*		*2.4*		*2.9*		*3.0*	
Private Credit	**0.2**	**--**	**3.0**	**--**	**5.2**	**--**	**9.3**	**--**	**6.7**	**--**	**7.0**	**--**	**--**	**--**
Cliffwater Direct Lending Index+	*2.3*	*--*	*7.5*	*--*	*11.8*	*--*	*13.1*	*--*	*8.9*	*--*	*8.8*	*--*	*9.5*	*--*
Blackrock DL Feeder IX-U+	0.9	1	4.7	1	6.6	3	11.0	40	--	--	--	--	--	--
Cliffwater Direct Lending Index	*2.3*	*1*	*7.5*	*1*	*11.8*	*1*	*13.1*	*15*	*8.9*	*2*	*8.8*	*1*	*9.5*	*1*
eV US High Yield Fixed Inc Net Median	*-3.9*		*-2.6*		*0.0*		*10.4*		*4.4*		*4.4*		*5.4*	
PIMCO Private Income+	0.0	2	3.5	2	7.6	3	15.4	8	--	--	--	--	--	--
Bloomberg BA Intermediate HY	*-5.3*	*95*	*-3.8*	*93*	*-1.5*	*93*	*8.7*	*78*	*4.4*	*53*	*4.5*	*40*	*4.6*	*86*
Cliffwater Direct Lending Index	*2.3*	*1*	*7.5*	*1*	*11.8*	*1*	*13.1*	*15*	*8.9*	*2*	*8.8*	*1*	*9.5*	*1*
eV US High Yield Fixed Inc Net Median	*-3.9*		*-2.6*		*0.0*		*10.4*		*4.4*		*4.4*		*5.4*	

+ *Preliminary return as of 3/31/2022.*
1. See Appendix for Benchmark History.

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
TCP Direct Lending VIII[+]	0.2	2	3.8	2	5.2	5	8.1	84	6.1	9	6.6	5	--	--
White Oak Yield White[+]	0.0	2	2.5	3	4.1	7	5.8	98	5.4	21	--	--	--	--
Oak YSF V[+]	0.0	2	1.1	7	1.6	17	--	--	--	--	--	--	--	--
Cliffwater Direct Lending Index	*2.3*	*1*	*7.5*	*1*	*11.8*	*1*	*13.1*	*15*	*8.9*	*2*	*8.8*	*1*	*9.5*	*1*
eV US High Yield Fixed Inc Net Median	*-3.9*		*-2.6*		*0.0*		*10.4*		*4.4*		*4.4*		*5.4*	
Alternatives	**2.2**	**--**	**7.2**	**--**	**15.1**	**--**	**25.1**	**--**	**18.4**	**--**	**12.2**	**--**	**9.5**	**--**
Blended Alternatives Index[1]	*5.2*	*--*	*10.8*	*--*	*15.0*	*--*	*14.5*	*--*	*16.1*	*--*	*12.3*	*--*	*10.0*	*--*
Private Equity[++]**	**2.1**	**30**	**12.2**	**46**	**26.4**	**43**	**42.7**	**1**	**37.3**	**1**	**26.2**	**3**	**21.0**	**1**
Blended Private Equity Index[1]	*10.0*	*1*	*20.0*	*20*	*28.7*	*29*	*26.3*	*56*	*28.8*	*9*	*19.5*	*18*	*17.8*	*5*
InvMetrics All DB Private Eq Net Median	*0.5*		*10.7*		*22.7*		*28.0*		*19.5*		*15.8*		*11.9*	
Hedge Fund/Absolute Return	**2.3**	**2**	**2.0**	**50**	**4.4**	**57**	**5.3**	**92**	**-2.0**	**93**	**-2.8**	**93**	**1.9**	**89**
Absolute Return Custom Index[1]	*1.0*	*6*	*3.1*	*39*	*4.1*	*59*	*4.2*	*94*	*4.8*	*80*	*5.2*	*62*	*4.7*	*61*
InvMetrics All DB Hedge Funds Net Median	*-1.8*		*2.0*		*5.0*		*16.8*		*7.7*		*5.5*		*5.3*	
Aberdeen Standard GARS	-5.1	81	-6.0	83	-5.6	85	1.1	92	1.3	83	1.1	88	--	--
Acadian MAAR Fund LLC	-2.5	67	-2.1	67	-0.8	70	--	--	--	--	--	--	--	--
CFM Systematic Global Macro	2.9	24	-2.0	67	4.2	49	--	--	--	--	--	--	--	--
Graham Quant Macro	13.1	6	7.4	21	12.0	24	10.3	61	--	--	--	--	--	--
PIMCO MAARS Fund LP	2.5	25	13.0	13	12.3	24	--	--	--	--	--	--	--	--
Absolute Return Custom Index	*1.0*	*35*	*3.1*	*40*	*4.1*	*50*	*4.2*	*84*	*4.8*	*66*	*5.2*	*55*	*4.7*	*56*
eV Alt All Multi-Strategy Median	*-0.4*		*0.2*		*4.0*		*13.2*		*6.7*		*5.4*		*5.3*	

[+] *Preliminary return as of 3/31/2022..*

*** Returns are one-quarter lag.*

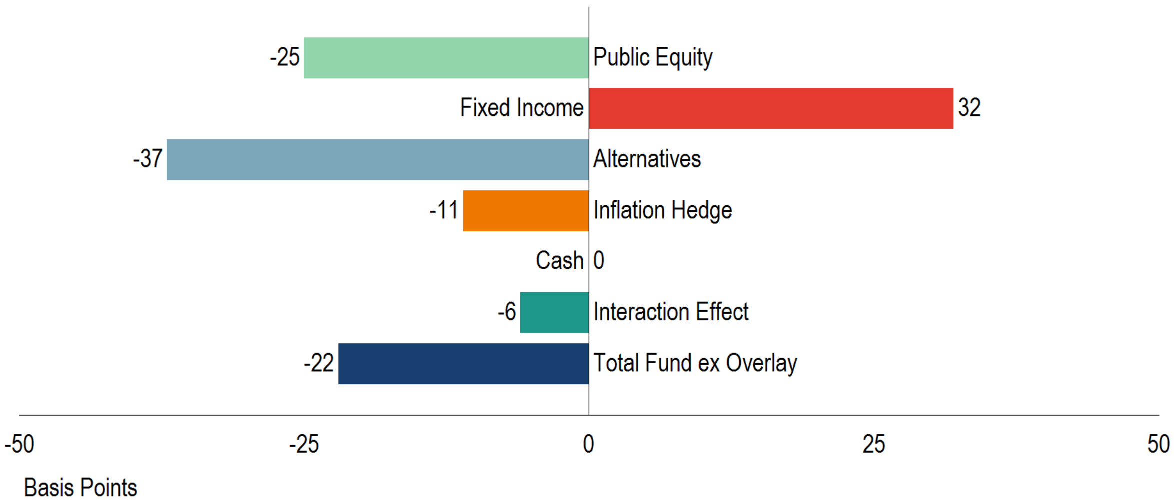
[++] *Excludes EnCap Energy Capital Fund and Sheridan Production Partners.*

1. See Appendix for Benchmark History.

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Inflation Hedge	**7.5**	**--**	**16.2**	**--**	**21.7**	**--**	**16.4**	**--**	**7.0**	**--**	**5.9**	**--**	**--**	**--**
Blended Inflation Hedge Index[1]	*8.1*	--	*19.4*	--	*25.3*	--	*19.9*	--	*11.5*	--	*8.8*	--	--	--
Real Estate	**4.7**	**58**	**15.7**	**54**	**19.9**	**59**	**9.8**	**77**	**8.8**	**67**	**8.4**	**48**	**10.0**	**22**
NCREIF ODCE	*7.4*	*6*	*23.6*	*13*	*28.5*	*9*	*14.6*	*23*	*11.3*	*8*	*9.9*	*7*	*10.9*	*5*
InvMetrics All DB Real Estate Pub Net Median	*5.0*		*16.9*		*21.5*		*11.5*		*9.4*		*8.3*		*9.4*	
Harrison Street Core Property	2.5	--	8.0	--	11.0	--	7.2	--	--	--	--	--	--	--
Invesco	6.5	--	21.0	--	26.7	--	11.5	--	9.9	--	9.0	--	10.3	--
NCREIF ODCE	*7.4*	--	*23.6*	--	*28.5*	--	*14.6*	--	*11.3*	--	*9.9*	--	*10.9*	--
Invesco US Val IV	0.3	--	8.1	--	12.6	--	7.1	--	8.1	--	9.8	--	--	--
Invesco US Val V	3.3	--	17.9	--	23.5	--	16.4	--	15.1	--	--	--	--	--
NCREIF ODCE	*7.4*	--	*23.6*	--	*28.5*	--	*14.6*	--	*11.3*	--	*9.9*	--	*10.9*	--
NCREIF ODCE + 2%	*7.9*	--	*25.4*	--	*31.0*	--	*16.9*	--	*13.5*	--	*12.1*	--	*13.1*	--
PGIM RE US Debt Fund	1.4	--	4.0	--	5.4	--	5.1	--	5.3	--	--	--	--	--
Stockbridge Value IV+	0.0	--	11.4	--	--	--	--	--	--	--	--	--	--	--
NCREIF ODCE	*7.4*	--	*23.6*	--	*28.5*	--	*14.6*	--	*11.3*	--	*9.9*	--	*10.9*	--
Private Real Asset**	**3.8**	**--**	**12.7**	**--**	**17.9**	**--**	**15.0**	**--**	**10.3**	**--**	**2.5**	**--**	**--**	**--**
Blended Private Real Asset Index[1]	*5.8*	--	*10.4*	--	*16.8*	--	*7.2*	--	*12.2*	--	*6.7*	--	--	--
Blended Secondary CA Private RA Index[1]	*7.3*	--	*17.8*	--	*23.4*	--	*10.0*	--	*7.2*	--	*7.6*	--	--	--
Public Real Assets	**12.4**	**--**	**18.6**	**--**	**26.0**	**--**	**30.9**	**--**	**5.0**	**--**	**4.6**	**--**	**--**	**--**
Blended Public Real Asset Index[1]	*12.1*	--	*18.5*	--	*25.6*	--	*31.4*	--	*9.7*	--	*7.6*	--	--	--
SSgA Custom Real Asset	12.4	--	18.6	--	26.0	--	30.9	--	9.7	--	7.7	--	--	--
SSgA Custom Real Asset Index[1]	*12.1*	--	*18.5*	--	*25.6*	--	*31.4*	--	*9.7*	--	*7.6*	--	--	--

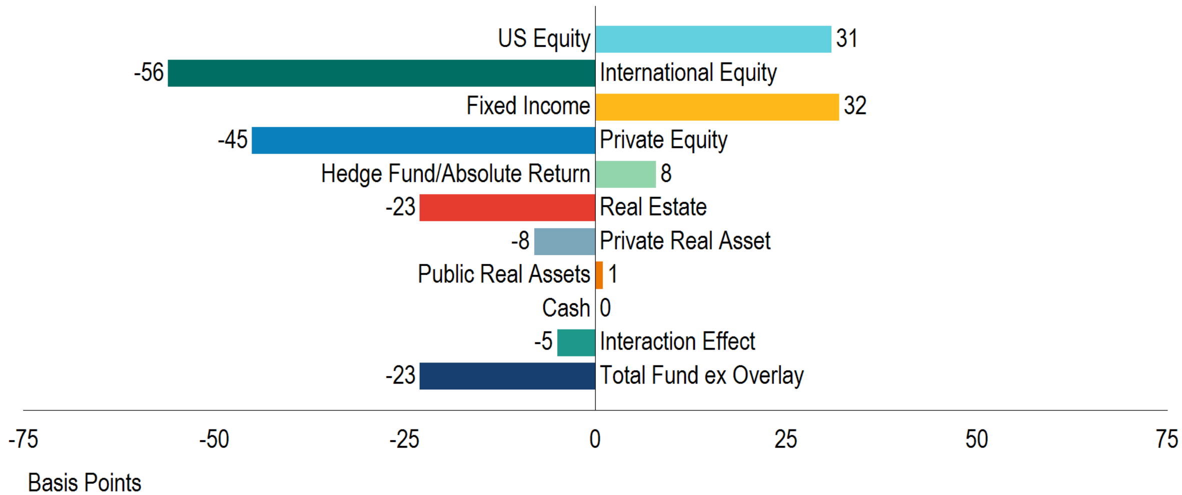
+ Preliminary return as of 3/31/2022.
*** Returns are one-quarter lag.*
1. See Appendix for Benchmark History.

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Cash	**0.1**	**--**	**0.2**	**--**	**0.2**	**--**	**0.4**	**--**	**0.6**	**--**	**0.8**	**--**	**0.8**	**--**
91 Day T-Bills	*0.0*	--	*0.1*	--	*0.1*	--	*0.1*	--	*0.7*	--	*1.1*	--	*0.6*	--
General Account	0.1	--	0.3	--	0.3	--	0.6	--	1.3	--	2.2	--	1.5	--
Treasury & LAIF	0.1	--	0.7	--	1.0	--	1.3	--	1.7	--	2.3	--	1.5	--
91 Day T-Bills	*0.0*	--	*0.1*	--	*0.1*	--	*0.1*	--	*0.7*	--	*1.1*	--	*0.6*	--
Currency Hedge Cash Overlay	-0.1	--	-0.2	--	-0.2	--	--	--	--	--	--	--	--	--



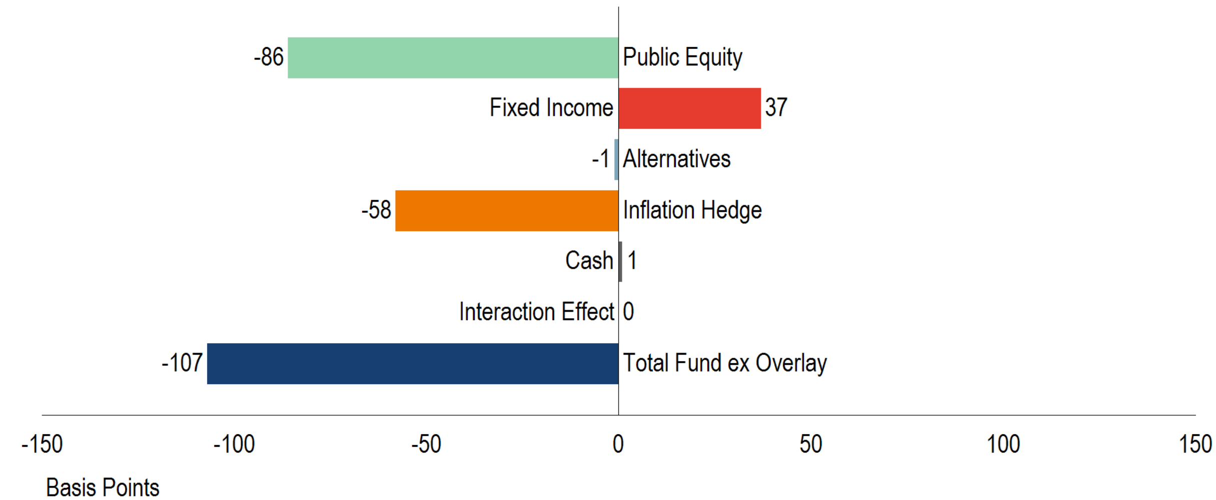
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction * Effects	Total Effects
Public Equity	-5.67%	-5.07%	-0.60%	-0.25%	0.01%	0.01%	-0.24%
Fixed Income	-4.58%	-5.69%	1.11%	0.32%	0.11%	-0.03%	0.40%
Alternatives	2.21%	5.16%	-2.96%	-0.37%	0.04%	-0.02%	-0.35%
Inflation Hedge	7.49%	8.14%	-0.65%	-0.11%	0.03%	-0.02%	-0.09%
Cash	0.05%	0.04%	0.01%	0.00%	0.06%	0.00%	0.06%
Total	**-1.91%**	**-1.68%**	**-0.22%**	**-0.42%**	**0.25%**	**-0.06%**	**-0.22%**

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



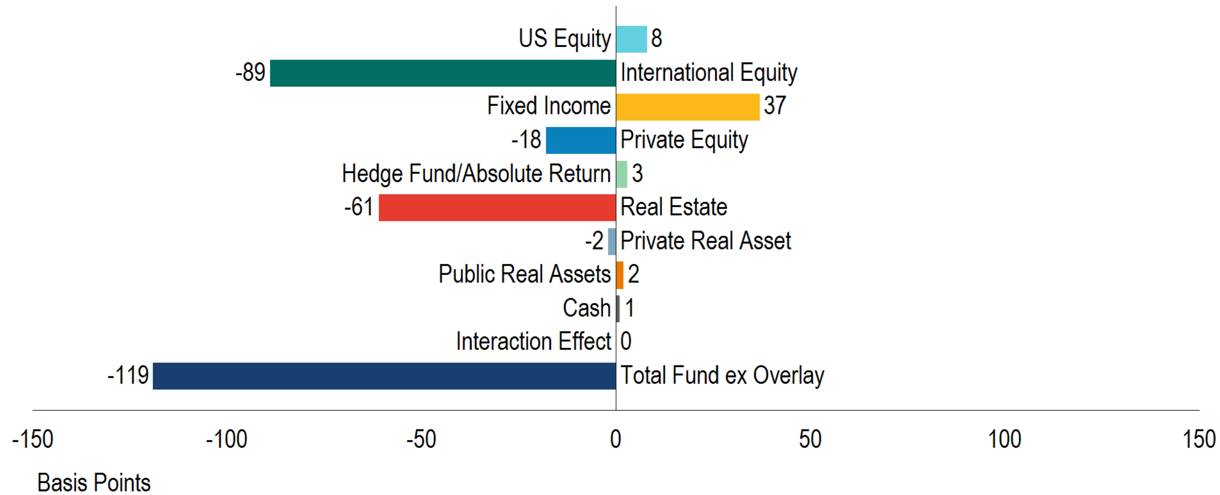
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction * Effects	Total Effects
US Equity	-3.86%	-5.28%	1.42%	0.31%	0.01%	-0.01%	0.32%
International Equity	-7.73%	-4.87%	-2.86%	-0.56%	0.00%	0.00%	-0.55%
Fixed Income	-4.58%	-5.69%	1.11%	0.32%	0.11%	-0.03%	0.40%
Private Equity	2.10%	10.00%	-7.90%	-0.45%	0.09%	-0.07%	-0.43%
Hedge Fund/Absolute Return	2.31%	1.05%	1.27%	0.08%	-0.01%	0.00%	0.07%
Real Estate	4.73%	7.36%	-2.63%	-0.23%	-0.09%	0.03%	-0.30%
Private Real Asset	3.80%	5.77%	-1.97%	-0.08%	-0.12%	0.02%	-0.18%
Public Real Assets	12.37%	12.08%	0.29%	0.01%	0.36%	0.01%	0.38%
Cash	0.05%	0.04%	0.01%	0.00%	0.06%	0.00%	0.06%
Total	**-1.91%**	**-1.68%**	**-0.23%**	**-0.60%**	**0.42%**	**-0.05%**	**-0.23%**

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



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction* Effects	Total Effects
Public Equity	4.52%	6.58%	-2.06%	-0.86%	0.00%	0.00%	-0.86%
Fixed Income	-1.85%	-3.21%	1.36%	0.37%	0.00%	0.00%	0.37%
Alternatives	15.14%	14.96%	0.17%	-0.01%	0.00%	0.00%	-0.01%
Inflation Hedge	21.72%	25.30%	-3.58%	-0.58%	0.00%	0.00%	-0.58%
Cash	0.24%	0.06%	0.18%	0.01%	0.00%	0.00%	0.01%
Total	**6.91%**	**7.98%**	**-1.07%**	**-1.07%**	**0.00%**	**0.00%**	**-1.07%**

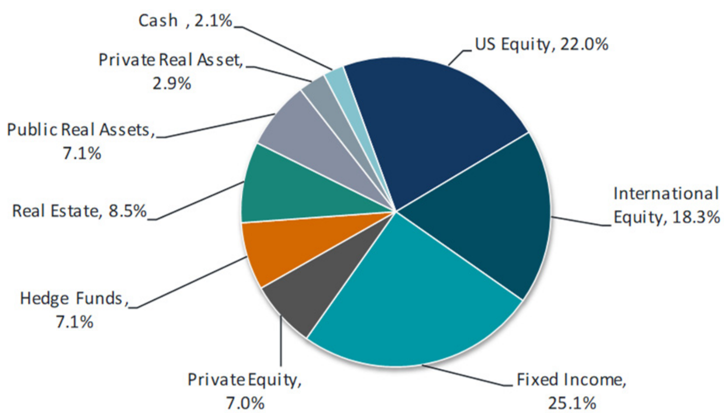
Attribution does not include the impact of the Parametric Minneapolis strategy.
** Interaction Effects include Residual Effects.*



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction * Effects	Total Effects
US Equity	12.48%	11.92%	0.55%	0.08%	0.00%	0.00%	0.08%
International Equity	-3.86%	0.52%	-4.39%	-0.89%	0.00%	0.00%	-0.89%
Fixed Income	-1.85%	-3.21%	1.36%	0.37%	0.00%	0.00%	0.37%
Private Equity	26.35%	28.66%	-2.31%	-0.18%	0.00%	0.00%	-0.18%
Hedge Fund/Absolute Return	4.45%	4.05%	0.40%	0.03%	0.00%	0.00%	0.03%
Real Estate	19.90%	28.46%	-8.56%	-0.61%	0.00%	0.00%	-0.61%
Private Real Asset	17.89%	16.82%	1.07%	-0.02%	0.00%	0.00%	-0.02%
Public Real Assets	25.95%	25.63%	0.33%	0.02%	0.00%	0.00%	0.02%
Cash	0.24%	0.06%	0.18%	0.01%	0.00%	0.00%	0.01%
Total	**6.93%**	**8.12%**	**-1.19%**	**-1.19%**	**0.00%**	**0.00%**	**-1.19%**

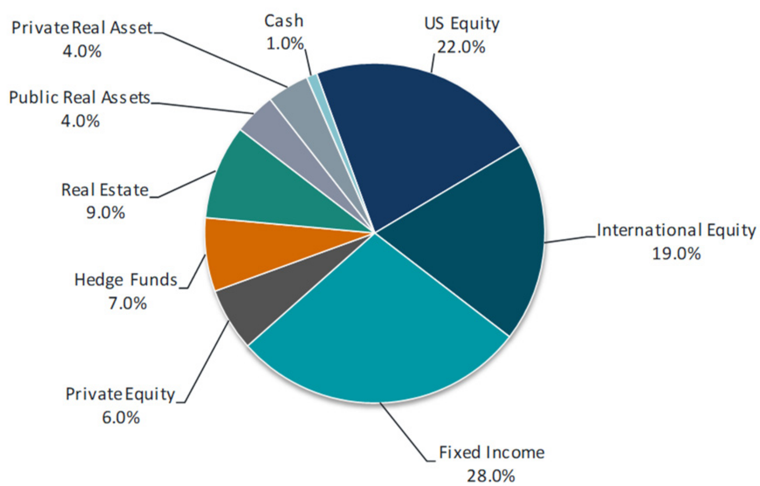
Attribution does not include the impact of the Parametric Minneapolis strategy.
** Interaction Effects include Residual Effects.*

Current w/ Overlay

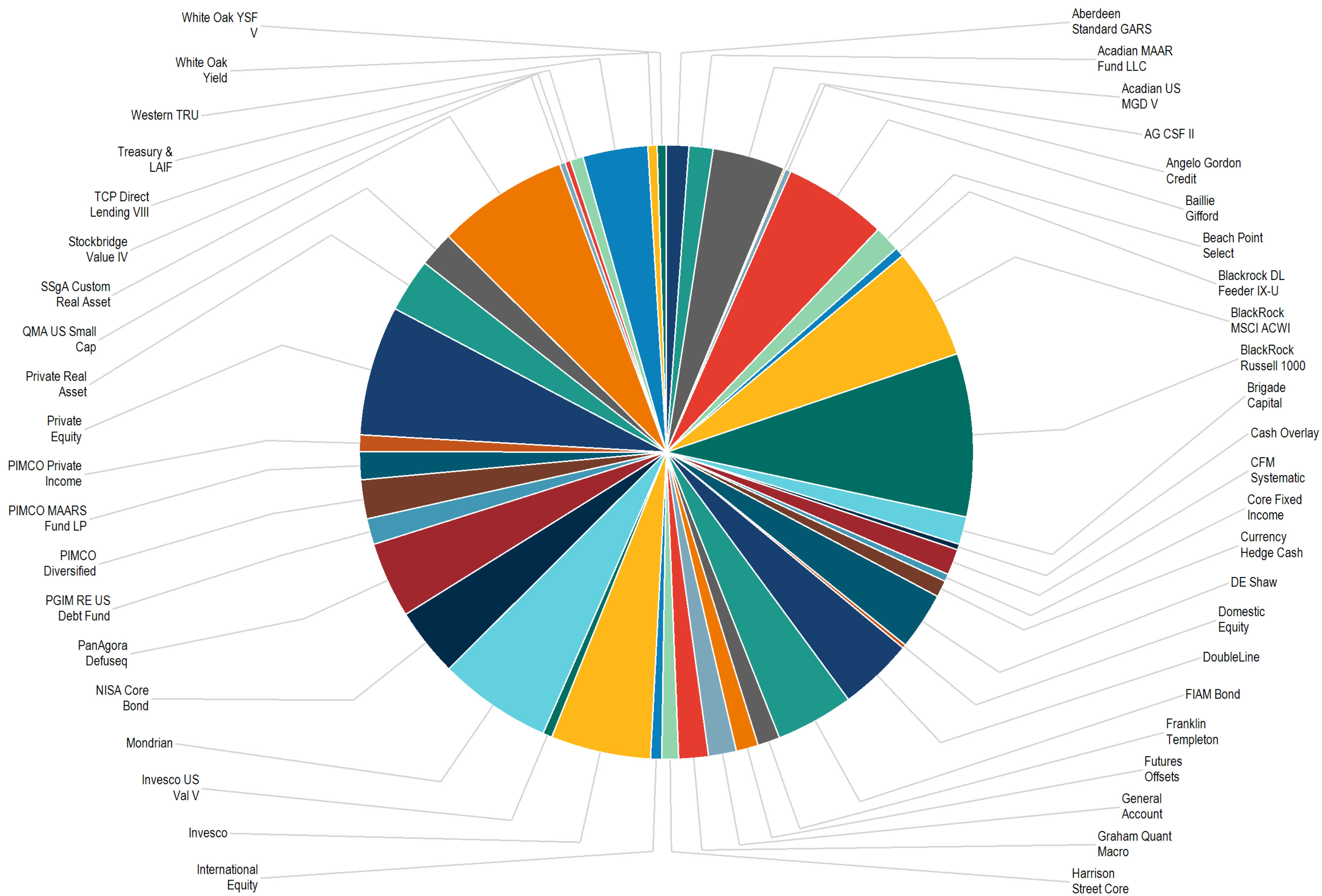


ASSET ALLOCATION	MARKET VALUE W/ OVERLAY	W/ OVERLAY	W/O OVERLAY
US Equity	1,339,109,412	22.0%	21.8%
International Equity	1,113,115,309	18.3%	17.7%
Fixed Income	1,525,719,807	25.1%	24.6%
Private Equity	427,640,222	7.0%	7.0%
Hedge Funds	429,756,200	7.1%	7.1%
Real Estate	516,201,799	8.5%	8.5%
Public Real Assets	432,462,094	7.1%	7.1%
Private Real Asset	173,978,855	2.9%	2.9%
Cash	130,890,963	2.1%	3.3%
TOTAL	**6,088,874,661**	**100.0%**	**100.0%**

Target



ASSET ALLOCATION	W/ OVERLAY	TARGET	DIFF
US Equity	22.0%	22.0%	0.0%
International Equity	18.3%	19.0%	-0.7%
Fixed Income	25.1%	28.0%	-2.9%
Private Equity	7.0%	6.0%	1.0%
Hedge Funds	7.1%	7.0%	0.1%
Real Estate	8.5%	9.0%	-0.5%
Public Real Assets	7.1%	4.0%	3.1%
Private Real Asset	2.9%	4.0%	-1.1%
Cash	2.1%	1.0%	1.1%
TOTAL	**100.0%**	**100.0%**	**0.0%**


White Oak YSF V
White Oak Yield
Western TRU
Treasury & LAIF
TCP Direct Lending VIII
Stockbridge Value IV
SSgA Custom Real Asset
QMA US Small Cap
Private Real Asset
Private Equity
PIMCO Private Income
PIMCO MAARS Fund LP
PIMCO Diversified
PGIM RE US Debt Fund
PanAgora Defuseq
NISA Core Bond
Mondrian
Invesco US Val V
Invesco
International Equity
Aberdeen Standard GARS
Acadian MAAR Fund LLC
Acadian US MGD V
AG CSF II
Angelo Gordon Credit
Baillie Gifford
Beach Point Select
Blackrock DL Feeder IX-U
BlackRock MSCI ACWI
BlackRock Russell 1000
Brigade Capital
Cash Overlay
CFM Systematic
Core Fixed Income
Currency Hedge Cash
DE Shaw
Domestic Equity
DoubleLine
FIAM Bond
Franklin Templeton
Futures Offsets
General Account
Graham Quant Macro
Harrison Street Core

Name	Market Value	% of Portfolio
Acadian US MGD V	$235,589,954	3.9%
BlackRock Russell 1000	$536,115,248	8.8%
DE Shaw	$190,699,624	3.1%
PanAgora Defuseq	$250,659,395	4.1%
QMA US Small Cap	$114,960,919	1.9%
Domestic Equity Overlay	$11,084,273	0.2%
Baillie Gifford	$339,506,917	5.6%
Mondrian	$370,312,212	6.1%
BlackRock MSCI ACWI EX-US IMI	$367,169,486	6.0%
International Equity Overlay	$36,126,694	0.6%
DoubleLine	$244,520,678	4.0%
FIAM Bond	$254,916,902	4.2%
NISA Core Bond	$224,476,819	3.7%
Western TRU	$214,321,456	3.5%
Core Fixed Income Overlay	$24,965,328	0.4%
AG CSF Annex Dislocation Fund	$20,275	0.0%
AG CSF II	$3,044,600	0.1%
Angelo Gordon Opportunistic	$571,499	0.0%
Angelo Gordon Credit Solutions	$15,295,500	0.3%
Beach Point Select	$87,978,817	1.4%
Brigade Capital	$89,248,962	1.5%
PIMCO Diversified	$125,224,436	2.1%
Franklin Templeton	$75,310,499	1.2%
Blackrock DL Feeder IX-U	$30,760,217	0.5%
PIMCO Private Income	$54,280,170	0.9%
TCP Direct Lending VIII	$18,162,589	0.3%
White Oak Yield	$32,110,313	0.5%
White Oak YSF V	$30,510,747	0.5%
Private Equity	$427,640,222	7.0%

Name	Market Value	% of Portfolio
Aberdeen Standard GARS	$75,149,490	1.2%
Acadian MAAR Fund LLC	$80,198,158	1.3%
CFM Systematic Global Macro	$86,560,133	1.4%
Graham Quant Macro	$96,681,912	1.6%
PIMCO MAARS Fund LP	$91,166,507	1.5%
Harrison Street Core Property	$57,607,607	0.9%
Invesco	$325,828,765	5.4%
Invesco US Val IV	$2,301,149	0.0%
Invesco US Val V	$29,199,026	0.5%
PGIM RE US Debt Fund	$85,885,234	1.4%
Stockbridge Value IV	$15,380,018	0.3%
Private Real Asset	$173,978,855	2.9%
SSgA Custom Real Asset	$432,462,095	7.1%
General Account	$88,947,131	1.5%
Treasury & LAIF	$39,775,720	0.7%
Transition Account	$9	0.0%
Currency Hedge Cash Overlay	$54,119,371	0.9%
Cash Overlay	$20,225,028	0.3%
Futures Offsets (SMCE02001)	-$72,176,295	-1.2%
Total	**$6,088,874,661**	**100.0%**

Statistics Summary

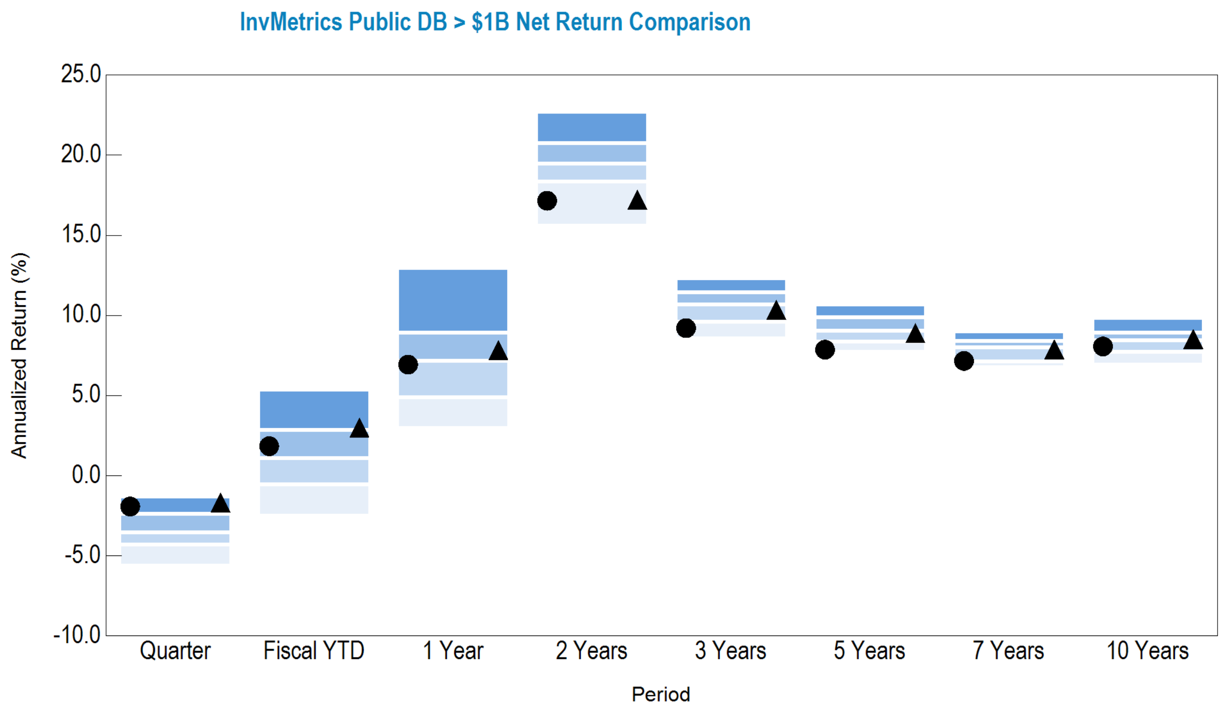
3 Years

	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	9.2%	87	9.0%	31	1.0	52	-0.5	87	2.3%	57
Policy Index	10.3%	59	8.8%	27	1.1	31	--	--	0.0%	1
InvMetrics Public DB > $1B Net Median	10.7%	--	10.2%	--	1.0	--	0.0	--	1.9%	--

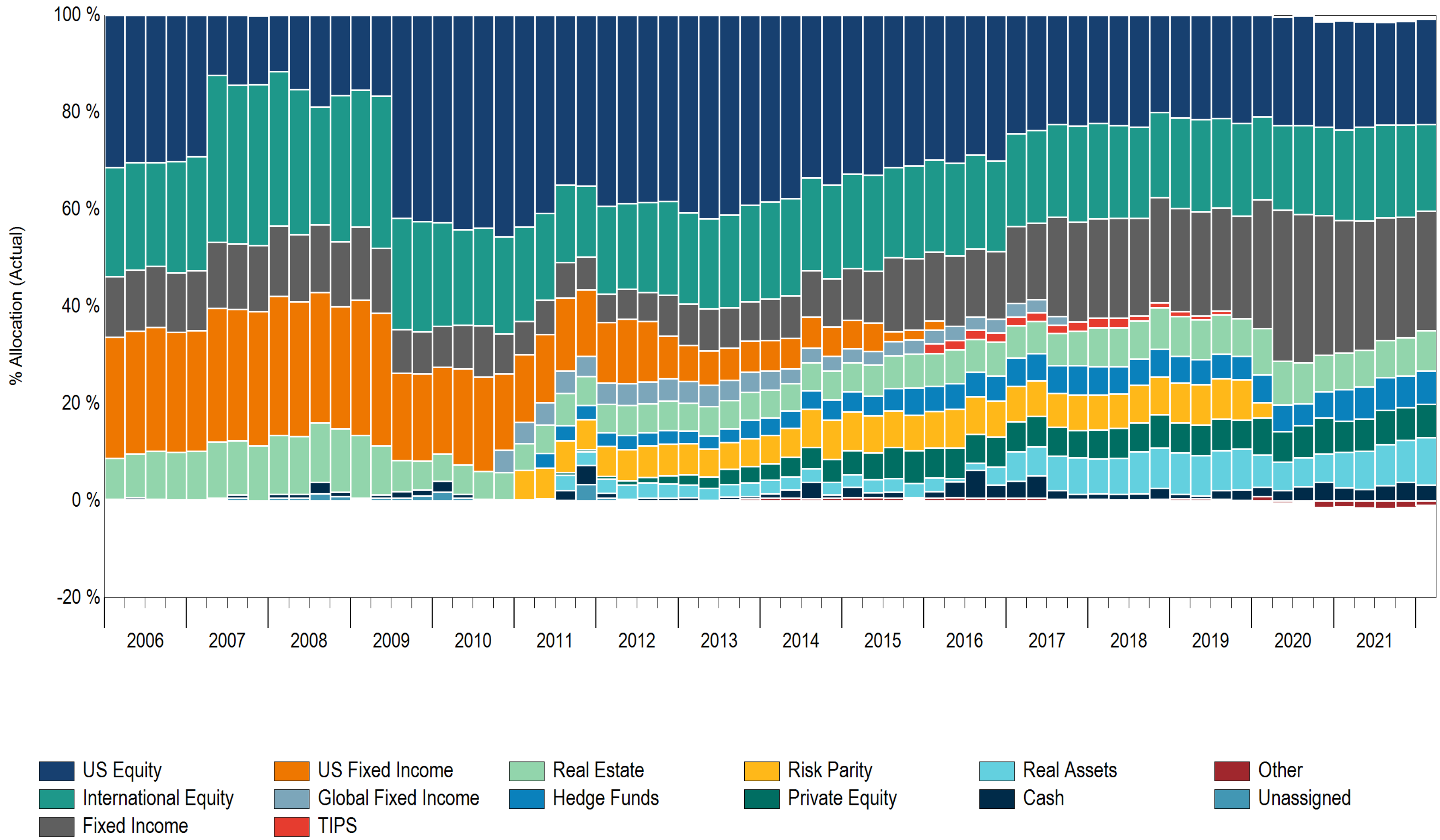
Statistics Summary

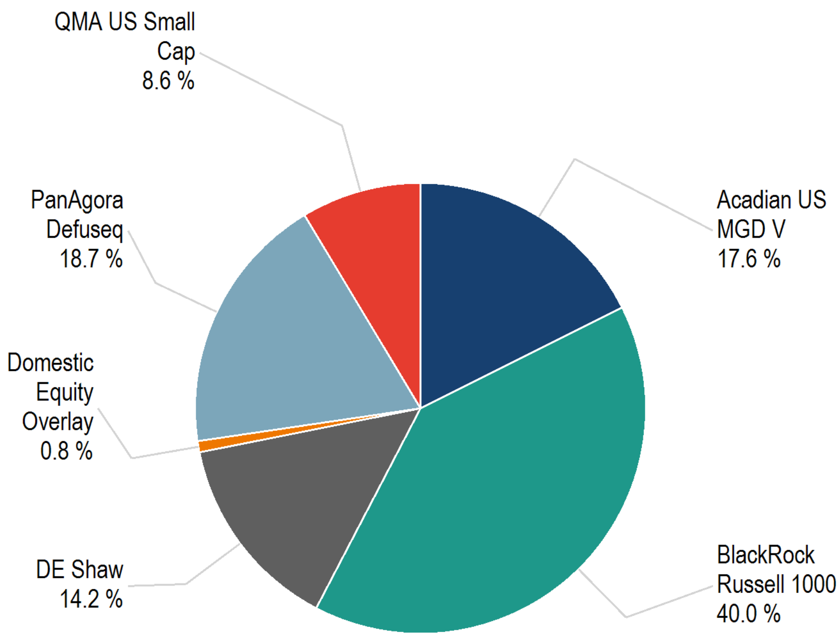
5 Years

	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	7.9%	94	7.9%	31	0.9	54	-0.6	92	1.9%	57
Policy Index	8.9%	59	7.8%	28	1.0	34	--	--	0.0%	1
InvMetrics Public DB > $1B Net Median	9.1%	--	9.0%	--	0.9	--	0.0	--	1.7%	--



	Return (Rank)															
5th Percentile	-1.3		5.4		12.9		22.7		12.3		10.7		9.0		9.8	
25th Percentile	-2.4		2.9		8.9		20.8		11.5		9.9		8.4		8.9	
Median	-3.5		1.1		7.2		19.5		10.7		9.1		8.0		8.5	
75th Percentile	-4.3		-0.5		4.9		18.4		9.6		8.4		7.2		7.8	
95th Percentile	-5.6		-2.5		3.0		15.6		8.6		7.7		6.8		6.9	
# of Portfolios	62		61		61		61		61		61		60		56	
● Total Fund	-1.9	(17)	1.8	(37)	6.9	(54)	17.2	(89)	9.2	(87)	7.9	(94)	7.2	(75)	8.1	(62)
▲ Policy Index	-1.7	(12)	3.0	(24)	7.8	(39)	17.2	(88)	10.3	(59)	8.9	(59)	7.9	(57)	8.5	(47)


100 %
80 %
60 %
40 %
20 %
0 %
-20 %
% Allocation (Actual)
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
US Equity
International Equity
Fixed Income
US Fixed Income
Global Fixed Income
TIPS
Real Estate
Hedge Funds
Risk Parity
Private Equity
Real Assets
Cash
Other
Unassigned



	Actual $	Actual %	Manager Contribution to Excess Return %
Acadian US MGD V	$235,589,954	17.6%	0.0%
BlackRock Russell 1000	$536,115,248	40.0%	0.0%
DE Shaw	$190,699,624	14.2%	0.3%
PanAgora Defuseq	$250,659,395	18.7%	0.8%
QMA US Small Cap	$114,960,919	8.6%	0.2%
Domestic Equity Overlay	$11,084,273	0.8%	0.0%
Actual vs. Policy Weight Difference			0.2%
Total	**$1,339,109,412**	**100.0%**	**1.4%**

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	15.7%	17.8%	0.8	-1.3	2.0%
Blended US Equity Index	18.2%	18.5%	1.0	--	0.0%
Russell 3000	18.2%	18.5%	1.0	--	0.0%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	16.0%	17.4%	0.9	-1.3	2.0%
Russell 1000	18.7%	18.3%	1.0	--	0.0%
Acadian US MGD V	10.7%	16.5%	0.6	-1.5	5.3%
Russell 1000	18.7%	18.3%	1.0	--	0.0%
BlackRock Russell 1000	18.7%	18.3%	1.0	-0.3	0.0%
Russell 1000	18.7%	18.3%	1.0	--	0.0%
DE Shaw	17.1%	18.7%	0.9	-0.5	3.0%
Russell 1000	18.7%	18.3%	1.0	--	0.0%
PanAgora Defuseq	12.2%	16.0%	0.7	-0.9	7.0%
Russell 1000	18.7%	18.3%	1.0	--	0.0%
Small Cap Equity	10.5%	25.1%	0.4	-0.2	5.7%
Russell 2000	11.7%	23.7%	0.5	--	0.0%
QMA US Small Cap	10.5%	25.1%	0.4	-0.2	5.7%
Russell 2000	11.7%	23.7%	0.5	--	0.0%

Statistics Summary

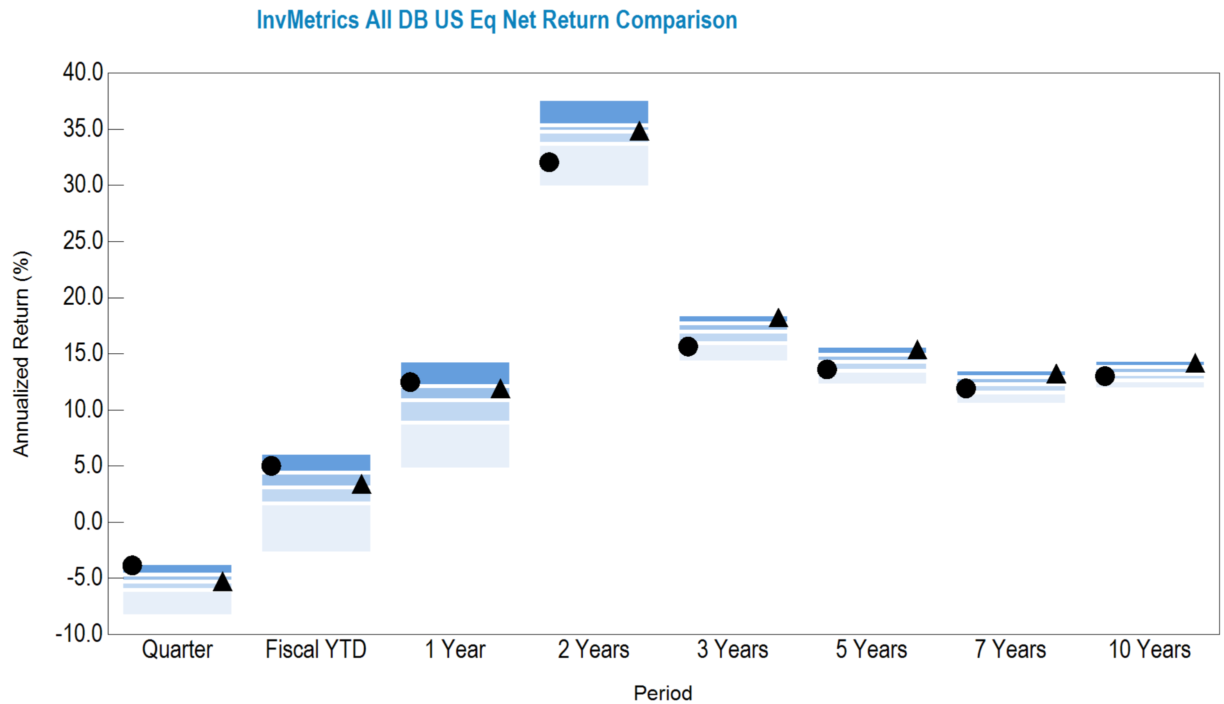
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	13.6%	15.8%	0.8	-1.1	1.7%
Blended US Equity Index	15.4%	16.4%	0.9	--	0.0%
Russell 3000	15.4%	16.4%	0.9	--	0.0%

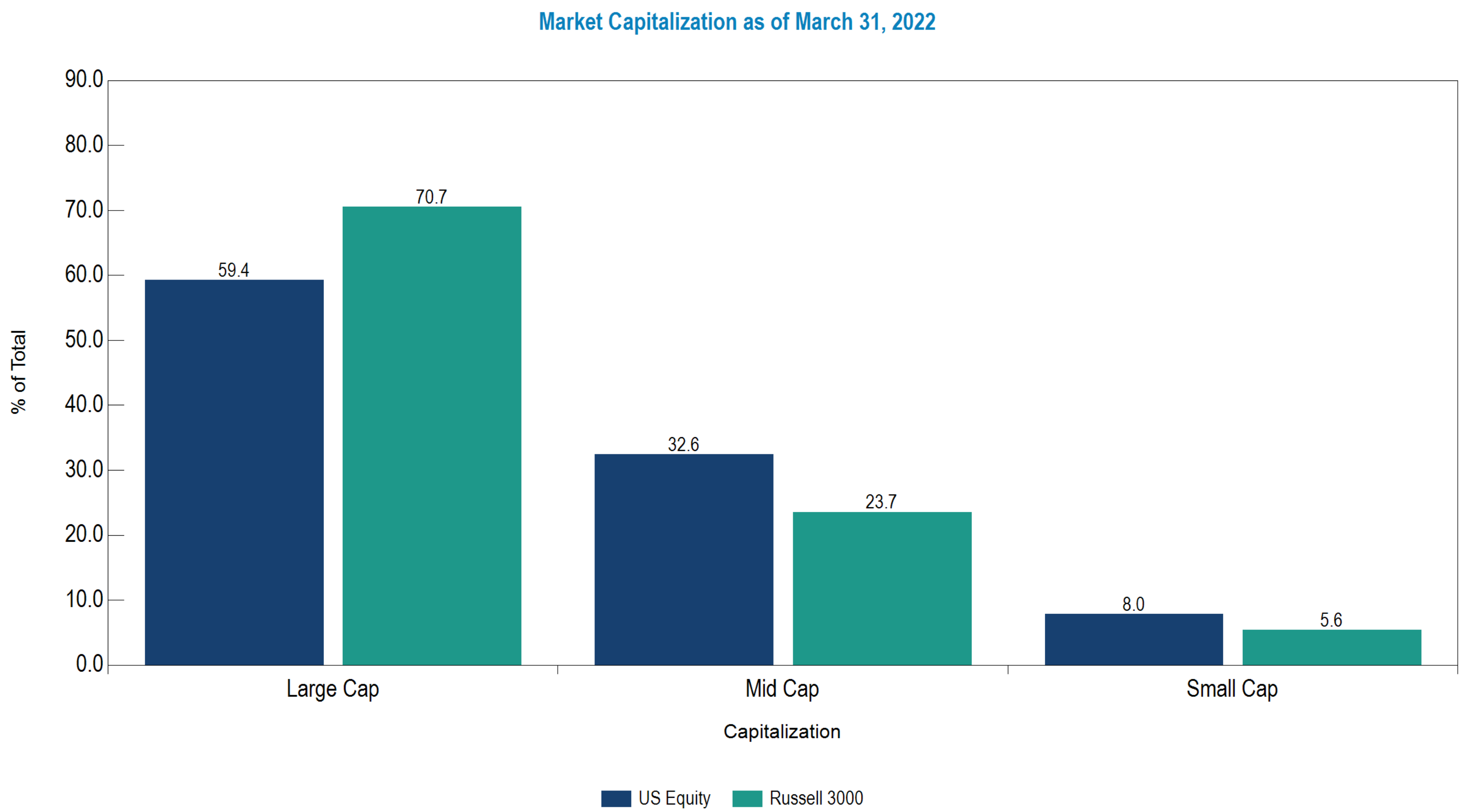
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	14.3%	15.4%	0.9	-0.9	1.7%
Russell 1000	15.8%	16.2%	0.9	--	0.0%
BlackRock Russell 1000	15.8%	16.2%	0.9	0.2	0.0%
Russell 1000	15.8%	16.2%	0.9	--	0.0%
DE Shaw	15.0%	16.2%	0.9	-0.3	2.9%
Russell 1000	15.8%	16.2%	0.9	--	0.0%
Small Cap Equity	7.8%	22.0%	0.3	-0.4	4.6%
Russell 2000	9.7%	21.2%	0.4	--	0.0%
QMA US Small Cap	7.8%	22.0%	0.3	-0.4	4.6%
Russell 2000	9.7%	21.2%	0.4	--	0.0%



	Return (Rank)															
5th Percentile	-3.7		6.2		14.4		37.7		18.5		15.7		13.6		14.5	
25th Percentile	-4.6		4.4		12.2		35.4		17.7		15.0		12.9		13.9	
Median	-5.3		3.1		10.9		34.8		17.0		14.3		12.3		13.3	
75th Percentile	-6.0		1.7		8.9		33.7		16.0		13.5		11.6		12.7	
95th Percentile	-8.4		-2.8		4.7		29.8		14.3		12.2		10.5		11.9	
# of Portfolios	333		330		330		328		325		312		290		232	
● US Equity	-3.9	(8)	5.0	(18)	12.5	(22)	32.1	(90)	15.7	(80)	13.6	(72)	11.9	(63)	13.0	(60)
▲ Blended US Equity Index	-5.3	(50)	3.4	(45)	11.9	(30)	34.9	(43)	18.2	(8)	15.4	(9)	13.3	(15)	14.2	(11)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	Russell 3000
Number of Holdings	3,020	3,040
Weighted Avg. Market Cap. ($B)	406.1	550.1
Median Market Cap. ($B)	4.7	2.6
Price To Earnings	19.9	21.6
Price To Book	3.8	4.2
Price To Sales	2.4	2.8
Return on Equity (%)	23.9	24.2
Yield (%)	1.5	1.4

Top Holdings

MICROSOFT CORP	4.1%
APPLE INC	4.1%
ALPHABET INC	2.0%
AMAZON.COM INC	2.0%
TESLA INC	1.3%
ALPHABET INC	1.0%
BERKSHIRE HATHAWAY INC	0.9%
JOHNSON & JOHNSON	0.9%
META PLATFORMS INC	0.9%
AT&T INC	0.9%

Best Performers

	Return %
NINE ENERGY SERVICE INC (NINE)	274.0%
VOYAGER THERAPEUTICS INC (VYGR)	181.2%
RESONANT INC (RESN)	162.0%
NEXTIER OILFIELD SOLUTIONS INC (NEX)	160.3%
Peabody Energy Corp (BTU)	143.6%
SEACOR MARINE HOLDINGS INC (SMHI)	137.4%
RPC INC. (RES)	135.0%
NEXTDECADE CORP (NEXT)	132.3%
ALPHA METALLURGICAL RESOURCE INC (AMR)	116.2%
EXTERRAN CORP (EXTN)	108.4%

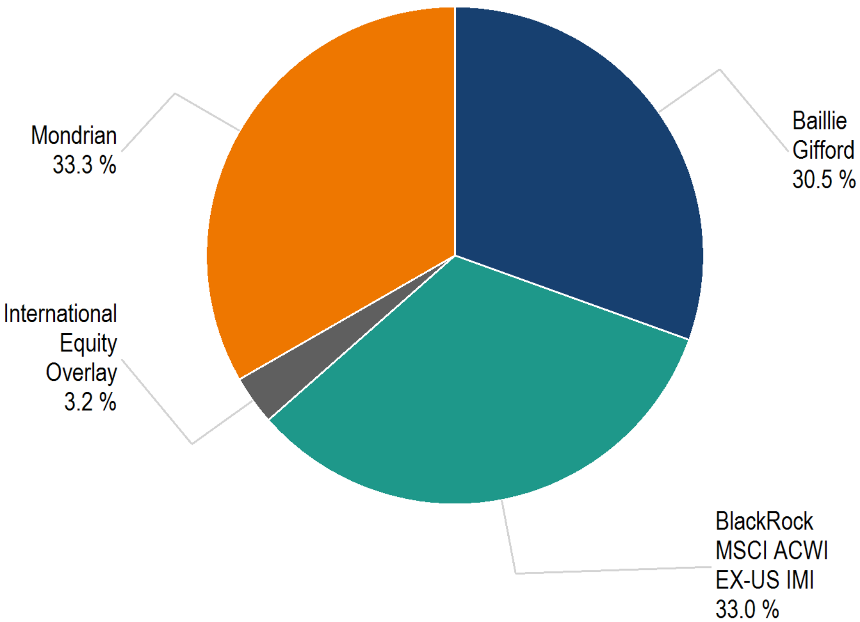
Worst Performers

	Return %
KODIAK SCIENCES INC (KOD)	-90.9%
PROQR THERAPEUTICS NV (PRQR)	-88.7%
MEI PHARMA INC (MEIP)	-77.4%
BAUDAX BIO INC (BXRX)	-76.9%
APPLIED THERAPEUTICS INC (APLT)	-76.4%
VROOM INC (VRM)	-75.3%
ACCELERATE DIAGNOSTICS INC (AXDX)	-72.4%
89BIO INC (ETNB)	-71.2%
LOGICBIO THERAPEUTICS INC (LOGC)	-70.6%
SELECTQUOTE INC (SLQT)	-69.2%

US Equity Performance Attribution vs. Russell 3000

	Attribution Effects					Returns		Sector Weights	
	Total Effects		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	0.5%		0.0%	0.5%	0.0%	38.9%	38.8%	3.5%	2.4%
Materials	0.1%		0.0%	0.1%	0.0%	-0.9%	0.0%	4.6%	2.5%
Industrials	0.0%		0.0%	0.0%	0.0%	-4.4%	-4.1%	8.7%	9.0%
Consumer Discretionary	-0.1%		-0.1%	0.0%	0.0%	-10.7%	-10.1%	12.1%	12.3%
Consumer Staples	0.1%		0.0%	0.1%	0.0%	-0.6%	-1.2%	7.8%	5.5%
Health Care	-0.2%		-0.2%	0.0%	0.0%	-5.5%	-4.4%	13.5%	13.5%
Financials	0.0%		0.0%	0.0%	0.0%	-2.1%	-2.1%	9.9%	11.3%
Information Technology	0.3%		0.2%	0.2%	0.0%	-8.6%	-9.1%	23.4%	28.4%
Communication Services	0.3%		0.3%	0.0%	0.0%	-9.2%	-12.1%	9.3%	9.2%
Utilities	0.2%		0.0%	0.1%	0.0%	5.4%	4.3%	3.7%	2.5%
Real Estate	0.0%		0.0%	0.0%	0.0%	-5.7%	-6.0%	3.2%	3.6%
Cash	0.0%		0.0%	0.0%	0.0%	0.0%	--	0.2%	0.0%
Unclassified	0.0%		0.0%	0.0%	0.0%	-5.2%	--	0.1%	0.0%
Portfolio	**1.2%**	**=**	**0.2% +**	**1.0% +**	**0.0%**	**-4.2%**	**-5.4%**	**100.0%**	**100.0%**

U.S. Effective Style Map



	Actual $	Actual %	Manager Contribution to Excess Return %
Baillie Gifford	$339,506,917	30.5%	-4.0%
Mondrian	$370,312,212	33.3%	-0.8%
BlackRock MSCI ACWI EX-US IMI	$367,169,486	33.0%	0.0%
International Equity Overlay	$36,126,694	3.2%	0.0%
Actual vs. Policy Weight Difference			2.0%
Total	**$1,113,115,309**	**100.0%**	**-2.9%**

Statistics Summary

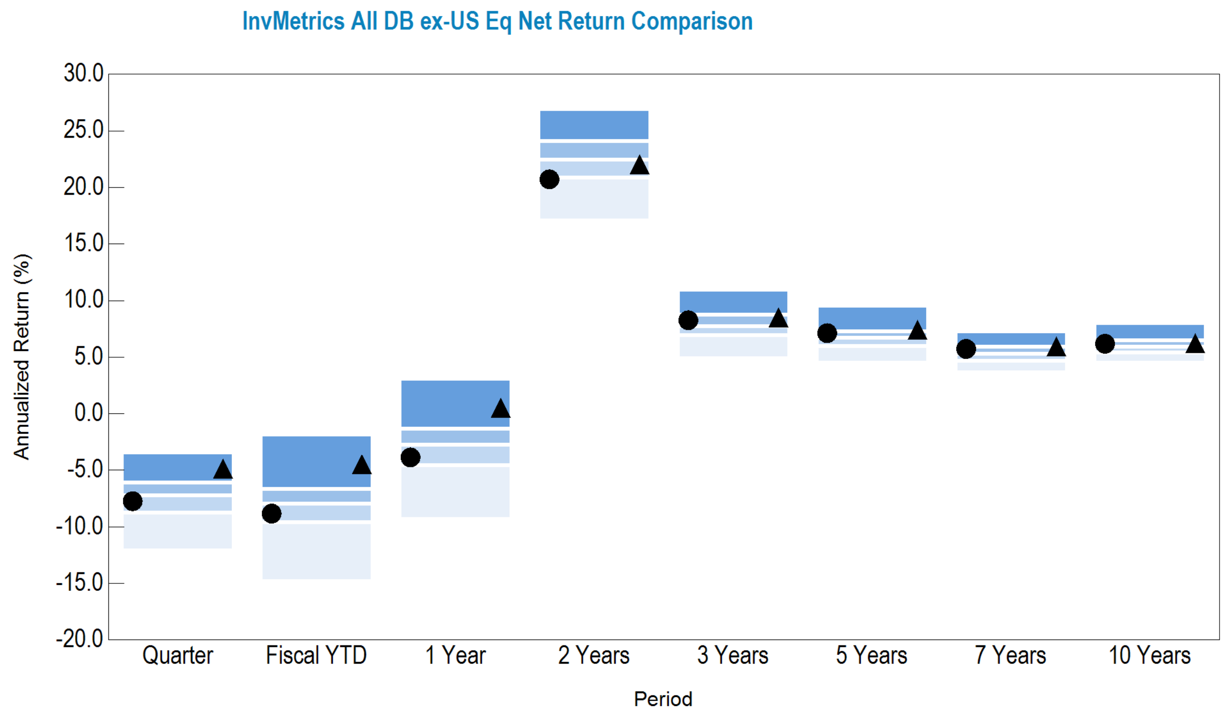
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	8.3%	16.0%	0.5	-0.1	1.9%
Blended International Equity Index	8.5%	15.7%	0.5	--	0.0%
Baillie Gifford	10.2%	18.9%	0.5	0.3	8.3%
MSCI ACWI ex US	8.0%	16.9%	0.4	--	0.0%
Mondrian	4.4%	18.6%	0.2	-0.6	2.8%
MSCI ACWI ex USA Value Gross	6.1%	19.5%	0.3	--	0.0%

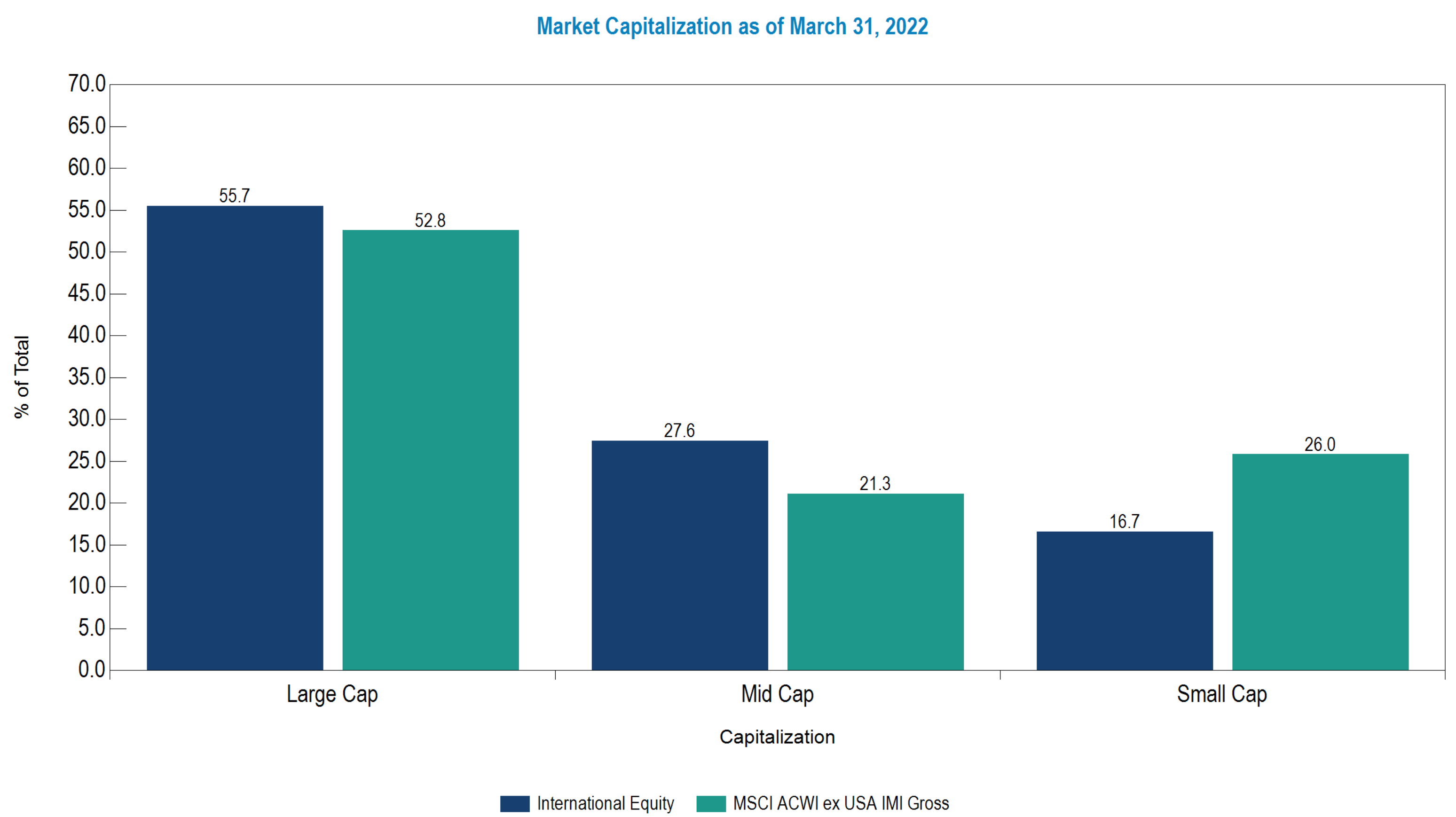
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	7.1%	14.2%	0.4	-0.2	1.7%
Blended International Equity Index	7.4%	14.1%	0.4	--	0.0%
Baillie Gifford	8.6%	16.8%	0.5	0.2	7.1%
MSCI ACWI ex US	7.3%	14.9%	0.4	--	0.0%
Mondrian	4.4%	15.9%	0.2	-0.3	2.9%
MSCI ACWI ex USA Value Gross	5.3%	16.7%	0.3	--	0.0%



	Return (Rank)															
5th Percentile	-3.4		-1.9		3.0		26.9		10.9		9.5		7.3		8.0	
25th Percentile	-6.1		-6.6		-1.3		24.1		8.8		7.3		6.0		6.5	
Median	-7.2		-7.9		-2.7		22.5		7.7		6.7		5.4		6.0	
75th Percentile	-8.7		-9.6		-4.5		20.9		7.0		6.0		4.7		5.4	
95th Percentile	-12.1		-14.8		-9.3		17.1		4.9		4.6		3.7		4.5	
# of Portfolios	216		214		214		210		209		195		182		147	
● **International Equity**	-7.7	(59)	-8.8	(64)	-3.9	(67)	20.7	(80)	8.3	(34)	7.1	(30)	5.7	(29)	6.2	(41)
▲ **Blended International Equity Index**	-4.9	(11)	-4.5	(10)	0.5	(14)	22.0	(56)	8.5	(30)	7.4	(25)	5.9	(26)	6.2	(40)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	MSCI ACWI ex USA IMI Gross
Number of Holdings	6,711	6,640
Weighted Avg. Market Cap. ($B)	78.8	81.0
Median Market Cap. ($B)	2.0	1.8
Price To Earnings	15.0	13.9
Price To Book	2.6	2.5
Price To Sales	1.4	1.4
Return on Equity (%)	15.2	14.6
Yield (%)	2.5	2.8

Top Holdings

UNITED OVERSEAS BANK LTD	1.6%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.4%
ASML HOLDING NV	1.4%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.3%
SANOFI	1.1%
HOUSING DEVELOPMENT FINANCE CORP LTD	1.1%
CK HUTCHISON HOLDINGS LTD	1.1%
NOVARTIS AG	1.0%
BANCO SANTANDER SA	0.9%
GLAXOSMITHKLINE PLC	0.9%

Best Performers

	Return %
THUNGELA RES LTD NPV	137.3%
THONBURI HEALTHCARE GROUP PUBLIC COMPANY LIMITED	126.6%
JASTRZEBSKA SPOLKA WEGLOWA SA	115.1%
HENSOLDT AG	106.7%
ERAMET SA	103.1%
SAYONA MINING LTD	90.5%
GUJARAT NARMADA VALLEY FERTILIZERS CO LTD	88.1%
TURQUOISE HILL RESOURCES LTD (TRQ.)	82.9%
ENAUTA PARTICIPACOES SA	82.7%
ADANI POWER LTD	82.3%

Worst Performers

	Return %
MAGNIT PJSC	-99.9%
PUBLIC JOINT STOCK COMPANY PHOSAGRO	-99.8%
NOVATEK JSC	-99.7%
SBERBANK OF RUSSIA OJSC	-99.7%
OIL CO LUKOIL PJSC	-99.2%
EVRAZ PLC	-86.9%
ZHENRO PPT ORD (6158)	-83.6%
PETROPAVLOVSK PLC	-79.7%
POLYMETAL INTERNATIONAL PLC	-77.3%
INTERNATIONAL GREETINGS (UKIR:IGR)	-74.6%

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

	Attribution Effects						Returns		Sector Weights	
	Total Effects		Selection Effect		Allocation Effect		Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	-0.4%		-0.3%		-0.2%		0.0%	6.5%	13.5%	3.0%	4.3%
Materials	-0.6%		-0.6%		-0.3%		0.2%	-1.6%	5.1%	5.2%	8.3%
Industrials	-0.4%		-0.3%		0.0%		-0.1%	-11.0%	-8.2%	14.7%	13.8%
Consumer Discretionary	-0.9%		-0.4%		-0.3%		-0.2%	-17.5%	-14.1%	15.8%	12.2%
Consumer Staples	0.1%		0.0%		0.0%		0.0%	-6.4%	-6.9%	7.7%	8.2%
Health Care	0.0%		0.0%		0.0%		0.0%	-6.2%	-6.2%	10.2%	9.1%
Financials	-0.1%		0.2%		-0.3%		-0.1%	2.4%	1.7%	13.8%	18.0%
Information Technology	-0.5%		-0.2%		-0.2%		-0.1%	-16.2%	-14.7%	15.5%	13.5%
Communication Services	-0.4%		-0.2%		0.0%		-0.2%	-10.2%	-5.8%	8.1%	5.9%
Utilities	0.0%		0.0%		0.0%		0.0%	-2.9%	-1.6%	3.5%	3.1%
Real Estate	0.0%		0.0%		0.0%		0.0%	-1.7%	-3.6%	1.5%	3.6%
Cash	0.0%		0.0%		0.0%		0.0%	0.0%	--	1.1%	0.0%
Unclassified	0.0%		--		--		--	--	--	0.0%	0.0%
Portfolio	**-3.3%**	**=**	**-1.8%**	**+**	**-1.2%**	**+**	**-0.3%**	**-8.5%**	**-5.2%**	**100.0%**	**100.0%**

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

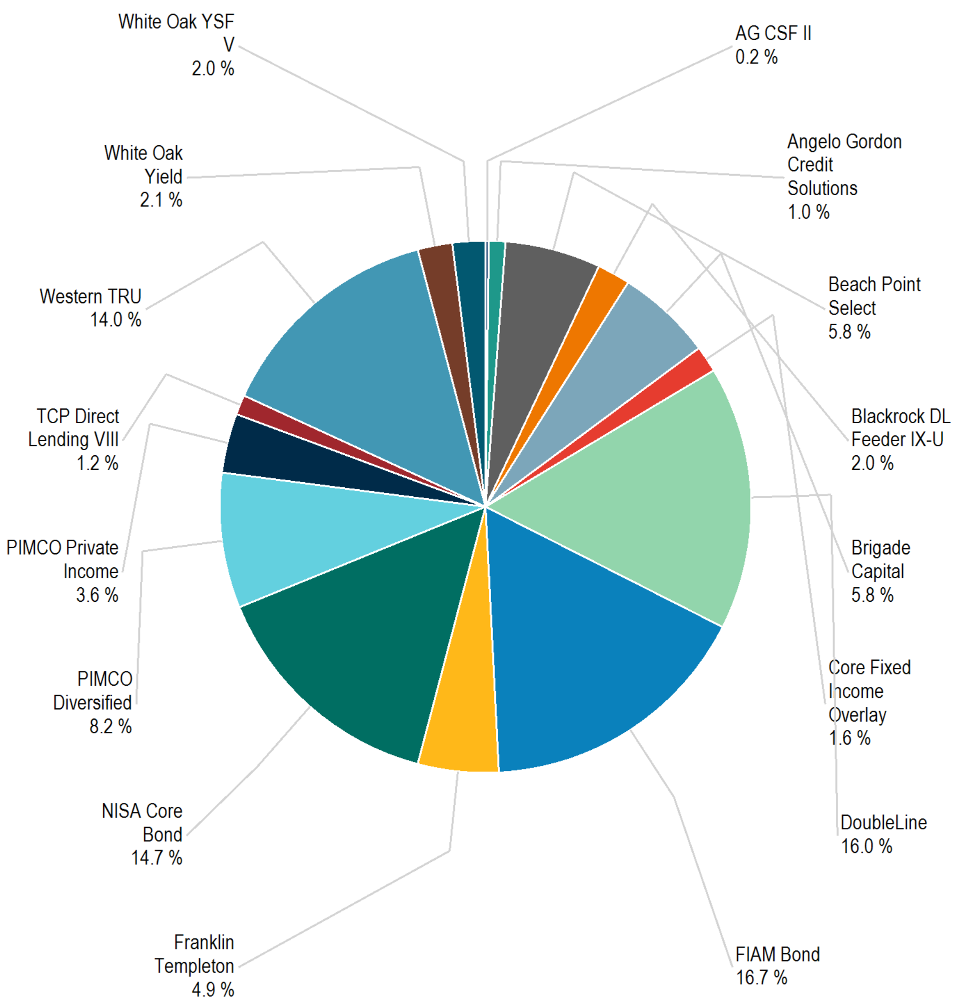
	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Europe									
Austria	-16.1%	-16.3%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Belgium	-4.2%	-4.8%	0.2%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	3.0%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Denmark	-6.6%	-6.9%	0.8%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Finland	-12.7%	-13.5%	0.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
France	-6.5%	-8.8%	6.2%	6.8%	0.2%	0.0%	0.0%	0.0%	0.2%
Germany	-23.2%	-12.6%	4.5%	5.4%	-0.6%	0.1%	0.0%	0.1%	-0.4%
Greece*	0.9%	1.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Hungary*	-19.0%	-19.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Ireland	-18.9%	-17.6%	0.3%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Italy	-6.6%	-10.4%	2.4%	1.7%	0.1%	0.0%	0.0%	0.0%	0.0%
Luxembourg	-30.7%	-4.8%	0.5%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Netherlands	-13.7%	-16.3%	3.6%	2.9%	0.1%	-0.1%	0.0%	0.0%	0.0%
Norway	4.8%	5.2%	0.2%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	-9.4%	-9.7%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Portugal	5.3%	2.8%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Russia	-62.9%	-42.2%	0.5%	0.0%	0.0%	-0.2%	0.0%	-0.1%	-0.3%
Spain	-7.8%	-3.8%	1.8%	1.4%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Sweden	-17.7%	-16.1%	3.3%	2.9%	0.0%	0.0%	0.0%	0.0%	-0.1%
Switzerland	-5.6%	-6.6%	3.8%	6.3%	0.1%	0.1%	0.0%	0.0%	0.1%
United Kingdom	-9.5%	-2.3%	12.1%	9.4%	-0.7%	0.1%	0.0%	-0.2%	-0.8%

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

	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
AsiaPacific									
Australia	6.6%	5.7%	2.1%	4.7%	0.0%	-0.2%	-0.1%	0.0%	-0.2%
China*	-13.4%	-14.3%	8.3%	8.5%	0.1%	0.0%	0.0%	0.0%	0.1%
Hong Kong	-2.5%	-2.3%	3.9%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%
India*	-5.3%	-2.7%	4.2%	3.9%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Indonesia*	14.1%	8.6%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Japan	-10.7%	-6.7%	19.4%	15.1%	-0.6%	0.1%	-0.2%	-0.2%	-0.9%
Korea*	-8.7%	-9.5%	2.9%	3.8%	0.0%	0.0%	0.0%	0.0%	0.1%
Malaysia*	0.1%	0.0%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	-22.5%	-5.6%	0.6%	0.2%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Philippines*	2.6%	2.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	15.2%	2.1%	1.6%	0.9%	0.1%	0.0%	0.0%	0.1%	0.2%
Taiwan*	-7.4%	-6.4%	4.8%	4.9%	-0.1%	0.0%	0.0%	0.0%	0.0%
Thailand*	5.6%	2.5%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Americas									
Argentina*	-11.8%	18.8%	0.5%	0.0%	0.0%	0.1%	0.0%	-0.1%	0.0%
Brazil*	31.9%	34.4%	1.2%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Canada	-5.9%	5.1%	3.9%	7.4%	-0.8%	-0.3%	-0.1%	0.4%	-0.7%
Chile*	26.1%	26.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Colombia*	30.8%	30.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mexico*	11.3%	9.2%	0.5%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru*	37.6%	34.7%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
United States	-23.2%	-5.3%	1.3%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.2%

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

	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Other									
Egypt*	-20.7%	-21.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Israel	-4.2%	-4.4%	0.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Kuwait*	19.2%	19.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	17.7%	17.8%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Saudi Arabia*	16.6%	16.6%	0.3%	0.9%	0.0%	-0.1%	0.0%	0.0%	-0.1%
South Africa*	-5.6%	19.3%	0.7%	0.9%	-0.2%	0.0%	0.0%	0.0%	-0.2%
Turkey*	11.0%	10.8%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	19.6%	19.5%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	-1.5%	9.6%	7.4%	9.4%	-1.0%	-0.2%	-0.1%	0.2%	-1.1%
Europe	-11.6%	-8.3%	41.1%	41.8%	-1.4%	0.0%	0.0%	0.0%	-1.3%
Asia/Pacific	-7.8%	-6.0%	48.7%	45.3%	-0.7%	0.0%	-0.2%	-0.1%	-1.0%
Other	3.3%	12.9%	1.6%	3.4%	-0.4%	-0.3%	0.0%	0.2%	-0.4%
Cash	0.0%	--	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	**-8.6%**	**-4.8%**	**100.0%**	**100.0%**	**-3.5%**	**-0.4%**	**-0.3%**	**0.4%**	**-3.8%**
Totals									
Developed	-9.4%	-5.3%	73.4%	72.2%	-2.7%	0.0%	-0.3%	0.0%	-3.0%
Emerging*	-6.7%	-3.5%	25.5%	27.8%	-0.9%	0.0%	0.0%	0.1%	-0.8%
Cash	0.0%	--	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



	Actual $	Actual %	Manager Contribution to Excess Return %
AG CSF Annex Dislocation Fund	$20,275	0.0%	0.0%
AG CSF II	$3,044,600	0.2%	0.0%
Angelo Gordon Credit Solutions	$15,295,500	1.0%	0.1%
Angelo Gordon Opportunistic	$571,499	0.0%	0.0%
Beach Point Select	$87,978,817	5.8%	0.3%
Blackrock DL Feeder IX-U	$30,760,217	2.0%	0.0%
Brigade Capital	$89,248,962	5.8%	0.2%
DoubleLine	$244,520,678	16.0%	0.0%
FIAM Bond	$254,916,902	16.7%	0.1%
Franklin Templeton	$75,310,499	4.9%	0.3%
NISA Core Bond	$224,476,819	14.7%	0.0%
PIMCO Diversified	$125,224,436	8.2%	0.0%
PIMCO Private Income	$54,280,170	3.6%	0.2%
TCP Direct Lending VIII	$18,162,589	1.2%	0.0%
Western TRU	$214,321,456	14.0%	-1.2%
White Oak Yield	$32,110,313	2.1%	0.0%
White Oak YSF V	$30,510,747	2.0%	0.0%
Core Fixed Income Overlay	$24,965,328	1.6%	0.0%
Actual vs. Policy Weight Difference			1.3%
Total	**$1,525,719,807**	**100.0%**	**1.1%**

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	3.0%	3.9%	0.6	0.3	1.8%
Blended Fixed Income Index	2.5%	4.5%	0.4	--	0.0%
Core Fixed	1.7%	3.8%	0.3	0.0	1.5%
Bloomberg US Aggregate TR	1.7%	4.0%	0.3	--	0.0%
FIAM Bond	3.0%	4.5%	0.5	0.8	1.5%
Bloomberg US Aggregate TR	1.7%	4.0%	0.3	--	0.0%
Western TRU	0.7%	7.1%	0.0	0.0	7.1%
3-Month Libor Total Return USD	0.9%	0.3%	0.8	--	0.0%
Opportunistic Credit	5.3%	6.7%	0.7	0.2	4.4%
Bloomberg BA Intermediate HY	4.4%	8.0%	0.5	--	0.0%
Angelo Gordon Opportunistic	8.3%	20.1%	0.4	0.3	19.9%
Bloomberg US Aggregate TR	1.7%	4.0%	0.3	--	0.0%
Beach Point Select	11.2%	8.7%	1.2	1.3	5.3%
Bloomberg BA Intermediate HY	4.4%	8.0%	0.5	--	0.0%
Brigade Capital	7.1%	12.0%	0.5	0.4	7.1%
Bloomberg BA Intermediate HY	4.4%	8.0%	0.5	--	0.0%
PIMCO Diversified	1.9%	7.2%	0.2	-0.4	1.2%
Blended PIMCO Diversified Index	2.4%	8.0%	0.2	--	0.0%
Franklin Templeton	-3.6%	5.4%	-0.8	-0.7	6.6%
Bloomberg Multiverse TR	0.8%	5.0%	0.0	--	0.0%

Statistics Summary

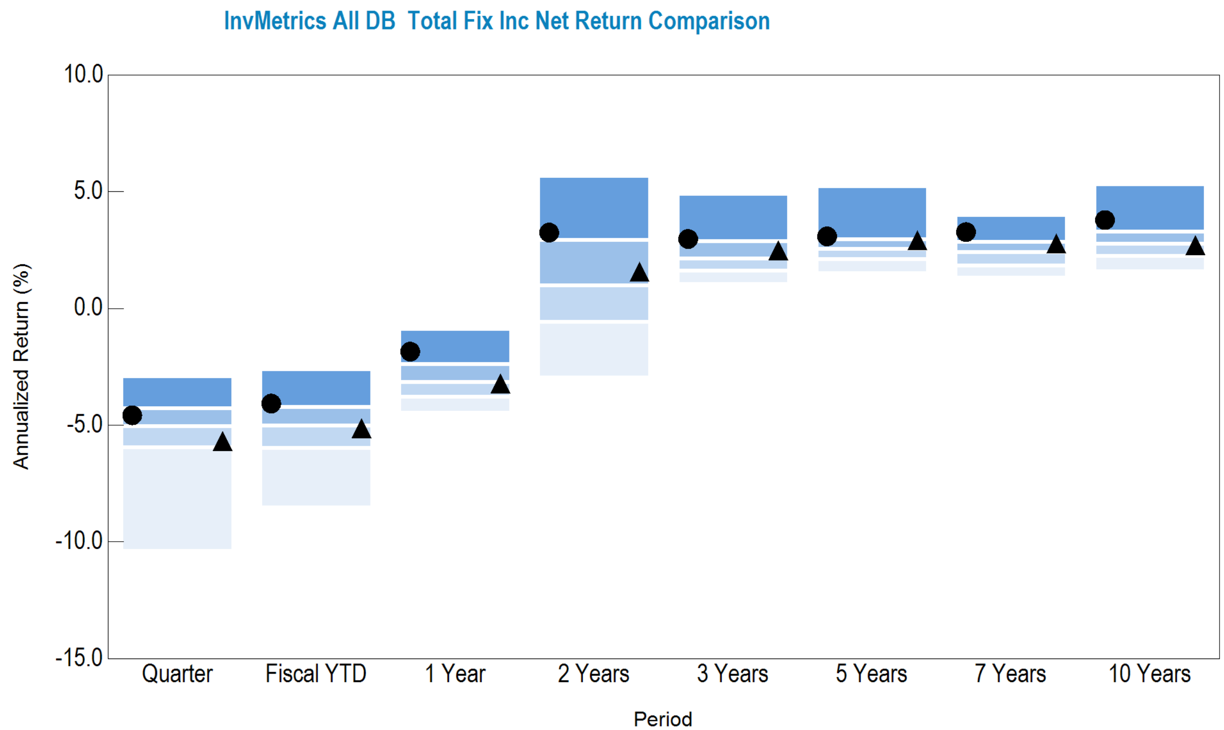
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Private Credit	6.7%	4.2%	1.4	-0.8	2.6%
Cliffwater Direct Lending Index	8.9%	5.8%	1.4	--	0.0%
TCP Direct Lending VIII	6.1%	3.0%	1.8	-0.6	4.9%
Cliffwater Direct Lending Index	8.9%	5.8%	1.4	--	0.0%
White Oak Yield	5.4%	2.9%	1.6	-0.9	3.7%
Cliffwater Direct Lending Index	8.9%	5.8%	1.4	--	0.0%

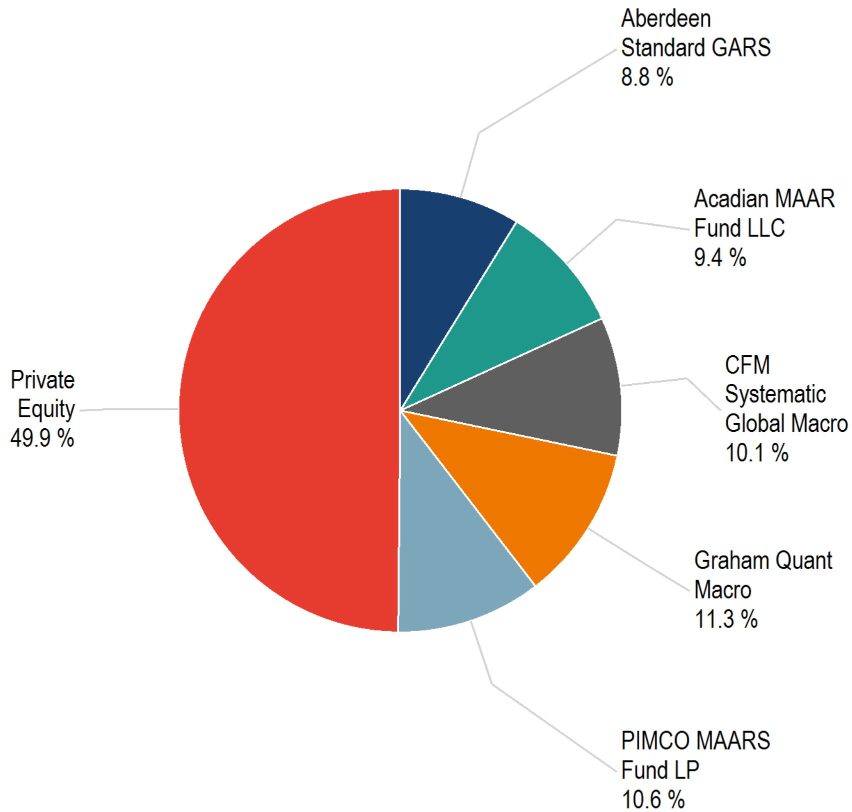
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	3.1%	3.2%	0.6	0.1	1.7%
Blended Fixed Income Index	2.9%	3.8%	0.5	--	0.0%
Core Fixed	2.1%	3.2%	0.3	0.0	1.3%
Bloomberg US Aggregate TR	2.1%	3.6%	0.3	--	0.0%
FIAM Bond	3.0%	3.8%	0.5	0.7	1.2%
Bloomberg US Aggregate TR	2.1%	3.6%	0.3	--	0.0%
Western TRU	1.7%	5.9%	0.1	0.1	5.9%
3-Month Libor Total Return USD	1.3%	0.3%	1.0	--	0.0%
Opportunistic Credit	5.3%	5.4%	0.8	0.2	3.7%
Bloomberg BA Intermediate HY	4.5%	6.6%	0.5	--	0.0%
Angelo Gordon Opportunistic	11.9%	16.7%	0.6	0.6	16.7%
Bloomberg US Aggregate TR	2.1%	3.6%	0.3	--	0.0%
Beach Point Select	9.0%	7.0%	1.1	1.0	4.4%
Bloomberg BA Intermediate HY	4.5%	6.6%	0.5	--	0.0%
Brigade Capital	5.6%	9.5%	0.5	0.2	5.8%
Bloomberg BA Intermediate HY	4.5%	6.6%	0.5	--	0.0%
Franklin Templeton	-2.1%	5.8%	-0.5	-0.6	6.9%
Bloomberg Multiverse TR	1.8%	4.5%	0.2	--	0.0%
Private Credit	7.0%	3.5%	1.7	-0.6	2.8%
Cliffwater Direct Lending Index	8.8%	5.0%	1.5	--	0.0%
TCP Direct Lending VIII	6.6%	2.5%	2.2	-0.5	4.6%
Cliffwater Direct Lending Index	8.8%	5.0%	1.5	--	0.0%



	Quarter		Fiscal YTD		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
	Return (Rank)															
5th Percentile	-2.9		-2.6		-0.9		5.7		4.9		5.2		4.0		5.3	
25th Percentile	-4.3		-4.2		-2.4		2.9		2.9		3.0		2.9		3.3	
Median	-5.0		-5.0		-3.1		1.0		2.2		2.6		2.4		2.8	
75th Percentile	-5.9		-6.0		-3.8		-0.6		1.6		2.1		1.8		2.3	
95th Percentile	-10.4		-8.5		-4.5		-2.9		1.0		1.5		1.3		1.6	
# of Portfolios	183		180		180		180		179		169		155		130	
● **Fixed Income**	-4.6	(37)	-4.1	(21)	-1.9	(15)	3.2	(20)	3.0	(23)	3.1	(24)	3.3	(13)	3.8	(13)
▲ **Blended Fixed Income Index**	-5.7	(70)	-5.1	(55)	-3.2	(54)	1.6	(42)	2.5	(36)	2.9	(29)	2.8	(32)	2.7	(54)



	Actual $	Actual %	Manager Contribution to Excess Return %
Aberdeen Standard GARS	$75,149,490	8.8%	-0.6%
Acadian MAAR Fund LLC	$80,198,158	9.4%	-0.3%
CFM Systematic Global Macro	$86,560,133	10.1%	0.2%
Graham Quant Macro	$96,681,912	11.3%	1.2%
PIMCO MAARS Fund LP	$91,166,507	10.6%	0.1%
Private Equity	$427,640,222	49.9%	-4.0%
Actual vs. Policy Weight Difference			0.5%
Total	**$857,396,422**	**100.0%**	**-3.0%**

Statistics Summary

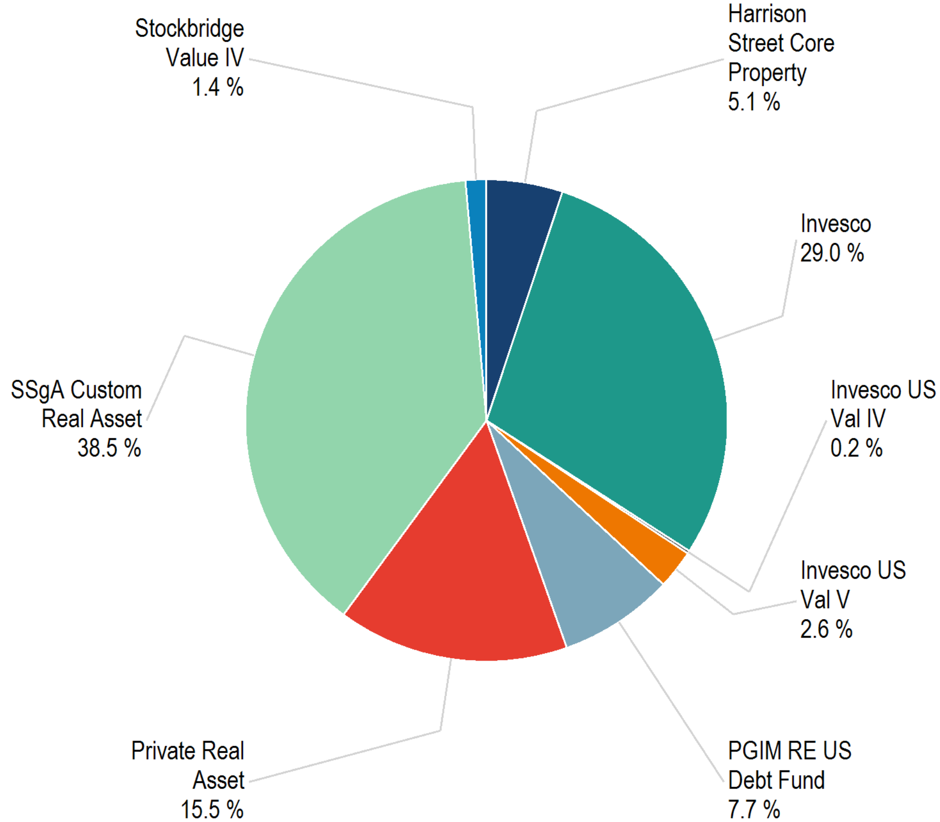
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	18.4%	15.1%	1.2	0.2	14.8%
Blended Alternatives Index	16.1%	8.7%	1.8	--	0.0%
Private Equity	37.3%	25.7%	1.4	0.3	25.8%
Blended Private Equity Index	28.8%	17.6%	1.6	--	0.0%
Hedge Fund/Absolute Return	-2.0%	6.9%	-0.4	-1.0	6.9%
Absolute Return Custom Index	4.8%	0.3%	15.0	--	0.0%
Aberdeen Standard GARS	1.3%	5.0%	0.1	-0.7	5.0%
Absolute Return Custom Index	4.8%	0.3%	15.0	--	0.0%

Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	12.2%	12.1%	0.9	0.0	12.0%
Blended Alternatives Index	12.3%	7.8%	1.4	--	0.0%
Private Equity	26.2%	20.5%	1.2	0.3	21.1%
Blended Private Equity Index	19.5%	15.7%	1.2	--	0.0%
Hedge Fund/Absolute Return	-2.8%	6.1%	-0.6	-1.3	6.1%
Absolute Return Custom Index	5.2%	0.3%	15.1	--	0.0%
Aberdeen Standard GARS	1.1%	4.6%	0.0	-0.9	4.6%
Absolute Return Custom Index	5.2%	0.3%	15.1	--	0.0%



	Actual $	Actual %	Manager Contribution to Excess Return %
Harrison Street Core Property	$57,607,607	5.1%	-0.3%
Invesco	$325,828,765	29.0%	-0.3%
Invesco US Val IV	$2,301,149	0.2%	0.0%
Invesco US Val V	$29,199,026	2.6%	-0.1%
PGIM RE US Debt Fund	$85,885,234	7.7%	-0.5%
Stockbridge Value IV	$15,380,018	1.4%	-0.1%
Private Real Asset	$173,978,855	15.5%	-0.3%
SSgA Custom Real Asset	$432,462,095	38.5%	0.1%
Actual vs. Policy Weight Difference			0.7%
Total	**$1,122,642,748**	**100.0%**	**-0.6%**

Statistics Summary

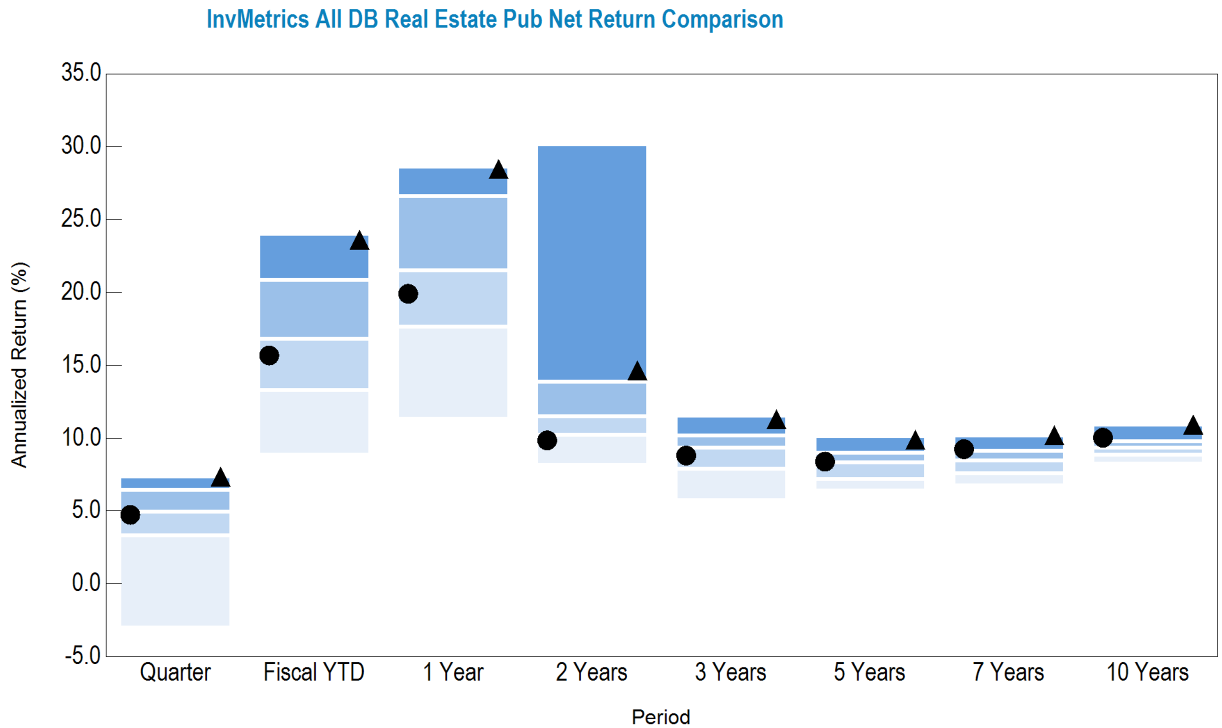
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Inflation Hedge	7.0%	7.7%	0.8	-1.2	3.9%
Blended Inflation Hedge Index	11.5%	7.8%	1.4	--	0.0%
Real Estate	8.8%	5.6%	1.5	-0.9	2.9%
NCREIF ODCE	11.3%	7.4%	1.4	--	0.0%
Invesco	9.9%	7.5%	1.2	-0.6	2.5%
NCREIF ODCE	11.3%	7.4%	1.4	--	0.0%
Invesco US Val IV	8.1%	6.6%	1.1	-0.5	6.5%
NCREIF ODCE	11.3%	7.4%	1.4	--	0.0%
Invesco US Val V	15.1%	9.7%	1.5	0.5	7.0%
NCREIF ODCE	11.3%	7.4%	1.4	--	0.0%
PGIM RE US Debt Fund	5.3%	1.7%	2.8	-0.8	7.2%
NCREIF ODCE	11.3%	7.4%	1.4	--	0.0%
Private Real Asset	10.3%	12.0%	0.8	-0.1	22.0%
Blended Private Real Asset Index	12.2%	20.3%	0.6	--	0.0%
Public Real Assets	5.0%	19.3%	0.2	-1.1	4.2%
Blended Public Real Asset Index	9.7%	16.3%	0.6	--	0.0%
SSgA Custom Real Asset	9.7%	16.0%	0.6	0.0	0.9%
SSgA Custom Real Asset Index	9.7%	16.3%	0.6	--	0.0%

Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error Rank
Inflation Hedge	5.9%	6.4%	0.8	-0.9	--
Blended Inflation Hedge Index	8.8%	6.5%	1.2	--	--
Real Estate	8.4%	4.7%	1.5	-0.7	31
NCREIF ODCE	9.9%	6.1%	1.4	--	1
Invesco	9.0%	6.2%	1.3	-0.4	--
NCREIF ODCE	9.9%	6.1%	1.4	--	--
Invesco US Val IV	9.8%	6.2%	1.4	0.0	--
NCREIF ODCE	9.9%	6.1%	1.4	--	--
Private Real Asset	2.5%	11.3%	0.1	-0.2	--
Blended Private Real Asset Index	6.7%	16.8%	0.3	--	--
Public Real Assets	4.6%	16.3%	0.2	-0.9	--
Blended Public Real Asset Index	7.6%	13.9%	0.5	--	--
SSgA Custom Real Asset	7.7%	13.7%	0.5	0.2	--
SSgA Custom Real Asset Index	7.6%	13.9%	0.5	--	--



	Return (Rank)															
5th Percentile	7.4		24.0		28.6		30.1		11.5		10.1		10.2		10.9	
25th Percentile	6.5		20.9		26.6		13.9		10.2		9.0		9.1		9.8	
Median	5.0		16.9		21.5		11.5		9.4		8.3		8.5		9.4	
75th Percentile	3.3		13.3		17.7		10.3		7.9		7.2		7.6		8.9	
95th Percentile	-3.0		8.9		11.3		8.2		5.7		6.4		6.8		8.3	
# of Portfolios	61		60		60		60		60		56		56		48	
● Real Estate	4.7	(58)	15.7	(54)	19.9	(59)	9.8	(77)	8.8	(67)	8.4	(48)	9.2	(24)	10.0	(22)
▲ NCREIF ODCE	7.4	(6)	23.6	(13)	28.5	(9)	14.6	(23)	11.3	(8)	9.9	(7)	10.2	(5)	10.9	(5)

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

The Aberdeen Standard Global Absolute Return Strategy (GARS) was designed in 2005 to address the needs of Standard Life's own Defined Benefit pension plan, with an objective to generate absolute returns with significantly less volatility than equity investments. 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 examines and reviews position proposals to approve a high conviction, short list of positions that should work well together. The GARS strategy is built using a broad range of return-seeking positions (i.e. multi-strategy) that incorporate multiple risk views when constructing the portfolio.The strategy will take some directional risk at times if the portfolio management team believes that it will earn positive returns over their three-year time horizon. Given the scale of the GARS portfolio, the team requires all investment positions to be both scalable and suitably liquid. In addition, the strategy's risk-based approach requires the team to be able to reliably model the risk behavior of each selected investment, so all assets used must be well-understood from a risk perspective before going into the portfolio.

Acadian Asset Management – Acadian U.S. Managed Volatility

Acadian's goal is to build a portfolio focused on absolute return and risk with the aim of achieving an absolute return similar to or better than that of a domestic equity index but with lower volatility over the long term. Acadian targets absolute risk to be 25-35% less than a typical capitalization-weighted benchmark. That said, tracking error is not a major consideration and can appear relatively high due in part to Acadian's comfort with carrying large sector variations versus the benchmark. Acadian seeks to combine the values of all of the security-level factors to determine a peer-relative return forecast for each stock. Separately they make a top-down forecast for the stock's peer group, and then add that forecast to the stock's score. Acadian's managed volatility strategies utilize the same alpha forecasts as Acadian's active equity strategies but with risk being the initial consideration when constructing portfolios. Alpha forecasts play a modest role relative to the importance of risk estimates but are important to the goal of achieving a higher risk-adjusted return. Incorporation of alpha forecasts generally results in higher exposure to value, size and quality.

Acadian Asset Management – MAARS Fund

Acadian Multi-Asset Absolute Return (MAARS) strategy was incepted in November 2017. MAARS targets a volatility of 6%-8% and a return of cash plus 5%. 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. Return forecasts incorporate asset-specific and macroeconomic insights and are utilized to harvest active returns from within and across asset classes through market selection and directional positioning. The strategy integrates risk and return across asset classes. Avoidance of downside events is highlighted in the approach with a greater weighting in their models allocated to down market beneficiaries, such as quality factors, and asymmetric positioning which reduces positions when risk rises. Differentiated attributes of this approach are its approach and weighting to commodities and its volatility sleeve which can incorporate long volatility.

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

The Angelo Gordon Opportunistic Whole Loan (OWL) Fund was established to make investments primarily in a portfolio of non-performing loans (NPLs) and re-performing loans (RPLs). AG sees a lot of operational inefficiency in the market place. By acquiring these loans at a discounted price and replacing original servicers with better-focused special servicers, AG believes it can improve operational efficiency and generate attractive returns. In addition, OWL may 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. OWL is towards the end of its fund life and is continuing to sell down the fund's holdings and distribute proceeds to LPs.

Angelo, Gordon & Co. – Credit Solutions

The Angelo Gordon (AG) Credit Solutions Fund (CSF) expects to hold concentrated positions of 5-8% of NAV (averaging 30 positions over the life of the Fund with recycling). The Fund is targeting a net 15% IRR with a 5-7% current yield. The Fund should be 70% concentrated in the U.S. with the balance in Europe. Finally, while the opportunities can be sourced from both the public markets and the private markets, AG is finding compelling sources of return at this time through structuring new privately placed secured term loans out of public investments made by the firm. CSF 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 pandemic and will need to restructure, but whose creation value is materially lower than the issuer's intrinsic value.

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 they 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 pandemic and will need to restructure, but whose creation value is materially lower than the issuer's intrinsic value.

Angelo, Gordon & Co. – Credit Solutions II

Like its predecessor funds, the Angelo Gordon (AG) Credit Solutions Fund II (CSF II) is an all-weather, solutions-based strategy that targets net returns of 14+% with 5-7% current yield. The Fund will invest in single-name opportunities where price movements and credit documents afford creative financing solutions. This could include companies with upcoming debt maturities, working capital issues, or inefficient capital structures that are inflating financing costs. In these cases, AG will seek to work with management and other creditors to structure a bespoke transaction that avoids bankruptcy and solves the issue for the company in exchange for debt securities with conservative attachment points and healthy yield. While the opportunities are likely to be sourced 75% from the public markets and 25% from the private markets, the "solutions" will likely be private products. During periods of dislocation, the Fund can pivot towards trading-oriented strategies where there is not a need for additional financing, such as sourcing debt in the secondary markets at discounts to intrinsic value. CSF II expects to hold concentrated positions of 5-8% of NAV (averaging 30 positions over the life of the Fund with recycling). The fund should be 70% concentrated in the U.S. with the balance in Europe.

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 60-90stocks, with country and sector weights +/-10% relative to the index and stock 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 monitors their funds daily to ensure that additions and deletions to the indexes, mergers and acquisitions, restructurings and other capitalization changes are made to the fund in such a way as to minimize tracking error and transactions costs.

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 monitors their funds daily to ensure that additions and deletions to the indexes, mergers and acquisitions, restructurings and other capitalization changes are made to the fund in such a way as to minimize tracking error and transactions costs.

BlackRock (formerly Tennenbaum Capital Partners) - Direct Lending Funds VIII and IX

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. SamCERA committed $35 million to DLF VIII in June 2016 in its unlevered fund sleeve and $35 million to the DLF IX in June 2019.

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 (SCM) is a directional strategy that takes long and short positions in liquid future and forwards across 130+ markets and across equities, bonds, currencies, and commodities. It is a new strategy that draws on model signals from existing strategies at the firm – Discus (diversified CTA), CFM ISTrends (trend following) and CFM ISTrend Equity Capped (defensive trend following) - and SamCERA is a seed investor with an attractive fee. SGM’s objective is to provide absolute returns that are uncorrelated with traditional asset classes over a long time horizon with an annualized volatility target between 8% and 12%. SGM uses a diverse set of trading strategies that are based on factors (momentum, value, carry, macro and sentiment) across asset classes. These technical and fundamental factors operate at different time scales and can have varying degrees of influence on performance depending on market and economic conditions. An additional global macro defensive overlay is combined with these outputs in constructing the final portfolio. CFM uses a form of portfolio construction known as agnostic risk parity to ensure that the SGM portfolio is diversified on an out-of-sample basis. The goal of SGM is to generate consistent returns while limiting drawdowns.

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 two decades in the course of research conducted for purposes of managing the firm’s hedge funds. 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. Securitized Income seeks to maximize income and total return by investing across the structured products universe, focusing on agency mortgage-backed securities (MBS) and investment grade securitized credit. DoubleLine takes a barbelled approach to investing in the securitized market, and they will separate rates from credit and will adjust the allocations to both at the based on the economic cycle and opportunities. Duration positioning is achieved through Agency MBS, Agency CMBS, and treasuries while credit exposure is attained through all areas of structured credit.

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 looks to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments are 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 provides a complement to the more conservative Invesco Core Fund and offers 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 applies a risk-controlled approach to all of its fixed income portfolios. This approach does not permit large bets or positions that generate significant tracking error versus the benchmark. Instead, NISA invests in a large number of small, diversified, active positions which seek tight tracking error to the chosen benchmark. Benchmark weight is a significant consideration when constructing and managing portfolios. The investment strategy is comprised of strategic (top-down) and tactical (bottom-up) decisions. Strategic decisions include sector selection and yield curve positioning while tactical decisions include industry and security selection and trading activity. Review of both strategic and tactical decisions is continual. The amount of portfolio risk budget devoted to one aspect versus the other will change as market conditions warrant. In general, strategic decisions change relatively infrequently, while tactical decisions, especially security selection, will change fairly often as market conditions provide opportunities. Over a typical market cycle, the bottom-up is expected to contribute to 70% of value-added while top-down is roughly 30%.

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

PanAgora's Defensive Equity strategy seeks to harness the 'low-volatility premium' through a systematic, factor-based investment approach focused on achieving market-like returns with less risk. This is accomplished by leveraging PanAgora's proprietary Risk Parity portfolio construction methodology, which seeks to efficiently capture the equity premium associated with low volatility, while taking minimal unintended risks. Since the firm's inception, PanAgora has been using quantitative techniques to integrate fundamental insights with large amounts of dynamic market data. They score individual securities on a factor basis and also on a diversification basis, in the context of a broadly diversified portfolio. The portfolio construction process optimizes the portfolio around the intended factor exposure (volatility) while maintaining equal risk contribution across sectors (ex., overweight utilities and consumer staples, underweight financials and technology). Shorter term volatility and longer term correlation analysis is combined in the approach. The result for the US Defensive Equity strategy is a portfolio expected to have lower volatility (beta around 0.65-0.75), and similar returns relative to the capitalization-weighted benchmark over a full market cycle. PanAgora expects the strategy to participate in approximately 75% of up markets and 55% in down markets.

Parametric Overlay – Cash Overlay and Currency Hedge

Parametric's cash overlay program is an efficient way for SamCERA to maintain its target asset allocation in a systematic fashion through cash securitization at the fund and manager level, transition/reallocation support and asset class rebalancing back to target within defined bands. The cash overlay program is invested synthetically using liquid futures with cash balances reviewed daily. A combination of large and small cap futures implementation is the proxy for private equity. SamCERA's investment guidelines initially allowed only for cash overlay. Rebalancing was added to the SamCERA program in January 2014. Cash overlay and rebalancing is expected to add 10-20 bps to the portfolio over time. An additional currency overlay hedge placed on half of the notional value of developed international equities. The addition of currency hedging started in September 2018 and was fully implemented on 10/1/2019. The purpose of the currency is first and foremost to lower portfolio risk and secondarily to add incremental performance.

PIMCO Diversified

PIMCO's Diversified Income (DI) Fund is a multi-sector strategy that invests across a broad spectrum of global credit market sectors, including investment grade and high yield corporate debt, as well as emerging markets. The allocation among these will vary based on PIMCO's assessment of global trends and relative valuations. This active and dynamic approach allows for increased responsiveness in asset allocation to changing economic and market conditions while remaining anchored by PIMCO's investment process and longer-term orientation. The ability to invest globally helps to improve diversification and may allow investors to benefit from differences in business cycles across regions and credit quality trends across credit sectors. PIMCO's DI investment strategy seeks to provide high yield-like returns with lower volatility against a blended index (1/3 Bloomberg Barclays Global Agg Credit ex-EM; 1/3 BofA Merrill Lynch BB-B rated Developed Markets High Yield; 1/3 JPMorgan EMBI Global). The fund allows for a duration band of 3-8 years. The team focuses its investments into these groups: credit strategies (investment grade, high yield, emerging markets and non-core credits including MBS, municipals and other govt-related sectors); duration strategies (U.S. and non-U.S. duration) and currencies (tactical non-USD exposure).

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). As reflected in the design of the MAARS strategies, PIMCO believes that alternative risk premia strategies are best implemented using a systematic approach that minimizes the discretionary inputs in day-to-day portfolio management. MAARS places a greater emphasis and weighting on global interest rates, currencies and commodities and a lesser emphasis on equities than many of its Alt Beta peers. Relative to Alt Beta peers, the strategy's rates and currency (FX) models are particularly robust, reflective of PIMCO's core competency and long history managing these asset classes using derivative instruments.

PIMCO Private Income Fund

PIMCO Private Income Fund (PIF) uses an opportunistic and flexible approach to global private credit. PIF provides a 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. PIMCO's Private Income Fund (PIF) is targeting 8-12% net returns with income providing most of the fund's returns. The Private Income Investment Committee (IC) identifies market themes and direction for their relative value framework, and sector specialists provide recommendations to the PM team within that construct. PIF has the ability to invest throughout the capitalization structure. The fund can use a moderate amount of leverage to enhance portfolio returns (1.5 times with a hard cap of 2 times).

PGIM RE Debt

PGIM Real Estate US Debt Fund (PREDS) 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. SamCERA was a founding investor in the PREDS strategy which invests in US commercial real estate debt in an open-ended vehicle with a return target of 7-8% (gross) coming from stable current income. The fund makes investments in first lien mortgages and mezzanine debt. First lien mortgages can be floating rate or fixed rate, but only floating rate loans will use leverage. Subordinate investments (mezzanine debt and preferred equity) will be limited by design. The fund can source and invest in secondary loans through a variety of Prudential real estate professionals, but the primary focus will be on direct origination through the real estate finance team.

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 Roll Select Commodity Index, S&P Global Mid-Large Cap Natural Resources Index, S&P Global Infrastructure Index, and Bloomberg Barclays TIPS Index. SSgA provides beta exposure through these underlying liquid components which can be customized to changing client needs (ex., TIPS was added in May 2020 with the other three parts of the portfolio reduced pro-rata). The portfolio is used to fund upcoming private real asset mandates.

Stockbridge Value IV

Stockbridge Value IV will implement a value-added strategy that will seek to own assets that are undervalued, underutilized, and/or not operating to their full potential. The manager will add value with their internal asset management team through active strategies including additional capital investment, leasing, recapitalization, renovation and/or development. The fund will target three to five year holding periods for investments, with disposition taking place after the completion of the value-add strategy. The fund will target 15 to 25 mid-sized investments, diversified by geography and property type. The strategy will target 21 markets in the United States in which the firm has boots on the ground coverage with dedicated acquisitions professionals and asset managers responsible for knowing each market extensively with a vast network of relationships.

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.

Policy Index and Benchmark History

Total Plan Policy Index	As of												
	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
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%
60/40 MSCI World/Bloomberg Global 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%
60/40 Russell 3000/Bloomberg 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%
91 Day T-Bills	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%
Bloomberg Aggregate	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%
Bloomberg BA Intermediate HY	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%
Bloomberg 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%
Bloomberg Credit BAA	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%
Bloomberg Multiverse	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%
Bloomberg TIPS	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%
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%
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%
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%
Blended Public Real Asset	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%
Blended Private 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%
Libor +4% (HF)	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%
SOFR +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	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 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 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%
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%
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%
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%
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 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 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 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	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%
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%
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%

Policy Index and Benchmark History

Period Ending: March 31, 2022

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
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%	8.0%	10.0%	10.0%
60/40 MSCI World/Bloomberg 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%	0.0%
60/40 Russell 3000/Bloomberg US 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%
91 Day T-Bills	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%
Bloomberg Aggregate	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%
Bloomberg BA Intermediate HY	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%
Bloomberg BBB	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%
Bloomberg Credit BAA	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%
Bloomberg Multiverse	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%
Bloomberg TIPS	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%
Bloomberg Commodity	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%
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%	5.0%	9.0%	9.0%
CPI + 5% (RA)	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%
Blended Public Real Asset	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 Private 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%
Libor +4% (HF)	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%
SOFR +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%

Public Equity Benchmark	As of: 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%	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)	23.2%	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%	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%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

International Equity Benchmark	As of: 10/1/19	7/1/19	4/1/19	1/1/19	10/1/18	10/1/17	1/1/14	6/1/00	1/1/96
MSCI ACWI ex US	0.0%	0.0%	0.0%	0.0%	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%	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%

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
Bloomberg 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%
Bloomberg 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%
Bloomberg 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%
Bloomberg 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%
Bloomberg 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%
Bloomberg 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
Bloomberg BA Intermediate HY	100.0%	0.0%
Bloomberg Credit BAA	0.0%	100.0%
	100.0%	100.0%

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/Bloomberg 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%	17.7%	18.8%	15.0%
CPI + 5% (RA)	0.0%	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%

Policy Index and Benchmark History

Period Ending: March 31, 2022

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: 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: 2/1/21	7/1/20	4/1/20	10/1/19	4/1/18	2/1/17	10/1/16	4/1/16
Bloomberg 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%	58.82%	52.94%	47.06%	44.4%	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%
Bloomberg TIPS	25.0%	0.0%	0.0%
	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: 9/1/14
Cambridge Associates Private Natural Resources 1 Qtr Lag	50.0%
Cambridge Associates Private Infrastructure 1 Qtr Lag	50.0%
	100.0%

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%
	100.0%	100.0%	100.0%

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
Bloomberg High Yield	50.0%
Credit Suisse Leveraged Loans	50.0%
	100.0%

PIMCO Diversified	As of:
	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:	
	5/1/20	11/1/16
Bloomberg Roll Select Commodity	25.00%	33.33%
S&P Global Large-MidCap Commodity and Resources	25.00%	33.33%
S&P Global Infrastructure	25.00%	33.34%
Bloomberg TIPS	25.00%	0.00%
	100.0%	100.0%

Acadian Asset Management

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-MSCI ACWI ex US IMI Index Fund

On All Assets:	0.045% per annum

DoubleLine

On All Assets:	0.30% per annum

NISA

First $500 million:	0.15% per annum
Next $1 billion:	0.125% per annum
Next $1 billion:	0.105% per annum
Next $1.5 billion	0.085% per annum
Thereafter:	0.065% 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

QMA

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

First $50 million:	1.00% per annum
Next $150 million:	0.19% per annum
Thereafter:	0.33% per annum

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
Acadian US MGD V	Russell 1000	--	--	--
DE Shaw	Russell 1000	⚑	✓	⚑
PanAgora Defuseq	Russell 1000	--	--	--
QMA US Small Cap	Russell 2000	⚑	⚑	⚑
Baillie Gifford	MSCI ACWI ex US	✓	⚑	⚑
Mondrian	MSCI ACWI ex USA Value Gross	⚑	⚑	⚑
DoubleLine	Bloomberg US Aggregate TR	--	--	--
FIAM Bond	Bloomberg US Aggregate TR	✓	✓	✓
NISA Core Bond	Bloomberg US Aggregate TR	--	--	--
Western TRU	3-Month Libor Total Return USD	✓	⚑	⚑
AG CSF II	Bloomberg BA Intermediate HY	--	--	--
Angelo Gordon Opportunistic	Bloomberg US Aggregate TR	✓	--	✓
Angelo Gordon Credit Solutions	Bloomberg BA Intermediate HY	--	--	--
Beach Point Select	Bloomberg BA Intermediate HY	✓	✓	✓
Brigade Capital	Bloomberg BA Intermediate HY	✓	✓	⚑
PIMCO Diversified	Blended PIMCO Diversified Index	--	--	--
Franklin Templeton	Bloomberg Multiverse TR	--	--	--
Blackrock DL Feeder IX-U	Cliffwater Direct Lending Index	--	--	--
PIMCO Private Income	Bloomberg 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	⚑	⚑	⚑
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

Manager Compliance (Gross)

Period Ending: March 31, 2022

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
Acadian US MGD V	Russell 1000	--	--	--
DE Shaw	Russell 1000	⚐	✓	⚐
PanAgora Defuseq	Russell 1000	--	--	--
QMA US Small Cap	Russell 2000	⚐	⚐	⚐
Baillie Gifford	MSCI ACWI ex US	✓	⚐	✓
Mondrian	MSCI ACWI ex USA Value Gross	⚐	⚐	⚐
DoubleLine	Bloomberg US Aggregate TR	--	--	--
FIAM Bond	Bloomberg US Aggregate TR	✓	✓	✓
NISA Core Bond	Bloomberg US Aggregate TR	--	--	--
Western TRU	3-Month Libor Total Return USD	✓	⚐	⚐
AG CSF II	Bloomberg BA Intermediate HY	--	--	--
Angelo Gordon Opportunistic	Bloomberg US Aggregate TR	✓	--	✓
Angelo Gordon Credit Solutions	Bloomberg BA Intermediate HY	--	--	--
Beach Point Select	Bloomberg BA Intermediate HY	✓	✓	✓
Brigade Capital	Bloomberg BA Intermediate HY	✓	✓	⚐
PIMCO Diversified	Blended PIMCO Diversified Index	--	--	--
Franklin Templeton	Bloomberg Multiverse TR	--	--	--
Blackrock DL Feeder IX-U	Cliffwater Direct Lending Index	--	--	--
PIMCO Private Income	Bloomberg 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	⚐	⚐	⚐
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.
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2ND QUARTER 2022
Investment Landscape

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Sound thinking

2022: BACK TOWARDS NORMAL?

As we do every year, during January we sit down to think about what might matter for the coming year – and that process always begins with us assessing how we did the previous year. The goal of this is to help boards prioritize their work, whether it is actually allocating money or simply setting the agenda of topics they should be thinking about. In the latest Sound Thinking, our CIO, Ian Toner, CFA will review topics from the previous year and outline the following topics that an investor might want to add to their agenda for the coming year.

Annual research

2022 ACTIVE MANAGEMENT ENVIRONMENT

Active manager dispersion has been very wide recently, as the pandemic-induced global recession and subsequent fast-paced recovery resulted in considerable economic divergence. These dynamics have created interesting opportunities for active managers to show differentiated performance and deliver alpha to clients. We hope that the insights from this unique mathematical approach provide a deeper understanding of active manager behavior and assists investors in their selection process.

Verus business update

Since our last Investment Landscape webinar:

— Verus has hired three employees. **Tim McEnery**, Managing Director | Senior Consultant; **Samantha Grant**, Senior Consultant; and **Kyle Jangard**, Public Markets Research Analyst.

- Tim and Samantha will establish a Verus office in Chicago. Expanding our Midwest presence has been a long-term strategic goal to grow our nationwide services.

— We've had success over the last three months in retaining several new clients. Our national client footprint expanded to 25 states, with our recent additions of clients in Hawaii and North Dakota.

— The IIDC grew to 25 consulting firms with over $42 trillion in assets under advisement. Verus founded the Institutional Investing Diversity Cooperative in December 2020, leading a call to action in the consulting industry for disclosure of asset manager diversity data at the investment team level.

TIM MCENERY, CFA
Managing Director | Senior Consultant

SAMANTHA GRANT, CFA, CAIA
Senior Consultant

KYLE JANGARD
Public Markets Research Analyst

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LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484

1st quarter summary

THE ECONOMIC CLIMATE

— Real GDP grew at a 5.5% rate year-over-year in Q4 (+6.9% quarterly annualized rate). Strong expenditures into new inventory boosted growth, as many businesses have struggled to replenish inventory levels in the face of global supply chain issues. Business investment and rising exports also contributed to the strong pace of growth. ***p. 8***

— The rate of unemployment in the U.S. has continued to fall, improving from 3.9% to 3.6% during the quarter. The labor force participation rate has gradually increased, rising from 61.6% to 62.4%. A historic shortage of workers may remain a sticky issue, as 11.3 million job openings are posted, but only 6.0 million Americans are seeking work. ***p. 11***

PORTFOLIO IMPACTS

— High yield credit spreads expanded from 2.8% to 3.3%, although default activity is expected to remain historically low. It appears spread movement has been more of an effect of broader risk-off market moves, rather than a specific reflection of changing credit conditions. ***p. 24***

— U.S. core CPI, excluding food & energy, rose by 6.5% year-over-year in March. Headline inflation, which is being closely watched at the moment as this includes energy & food prices, reached 8.5%. Prices in some other areas have stabilized. Many investors believe inflation peaked in March, though there remains much uncertainty around the path from here. ***p. 9***

THE INVESTMENT CLIMATE

— In late February, Russian forces invaded Ukraine—a move which was anticipated by major Western intelligence communities. Ukraine has put together a remarkable defense thus far, as many citizens have taken up arms to defend their country. ***p. 18***

— Multi-year underinvestment in energy, and now the Russia/Ukraine war, has created a shock to energy markets and crisis-level prices in many European countries. Government officials have been hesitant to vocally support increased local energy production, primarily due to climate concerns. In the U.S., many shale firms have opted to increase production on existing land, but have been slow to pursue new projects—partly due to supply chain issues (shortages in labor, truck drivers, and frack sand) and also due to prioritization of profits over growth. ***p. 38***

ASSET ALLOCATION ISSUES

— Nearly every asset class delivered negative performance in Q1. Equity markets pulled back, credit spreads widened, and interest rates headed higher. Certain real assets including commodities were the exception. ***p. 49***

— Value stocks outperformed Growth stocks by a substantial margin during Q1, as the Energy sector outpaced the index by 43.6% (Energy 39.0%, S&P 500 -4.6%). Large capitalization stocks outperformed small capitalization stocks (Russell 1000 +9.8%, Russell 2000 +2.1%). ***p. 30***

Nearly every asset class delivered losses during Q1, as risk assets sold off, credit spreads widened, and interest rates moved higher

What drove the market in Q1?

"U.S. Inflation Accelerated to 8.5% in March, Hitting Four-Decade High"

HEADLINE CONSUMER PRICE INFLATION (YEAR-OVER-YEAR)

Oct	Nov	Dec	Jan	Feb	Mar
6.2%	6.8%	7.0%	7.5%	7.9%	8.5%

Article Source: Wall Street Journal, April 12th, 2022

"Russian Stocks' 33% Crash Is Fifth-Worst in Market History"

MOEX RUSSIA EQUITY INDEX PRICE LEVEL

Oct	Nov	Dec	Jan	Feb	Mar
4150	3891	3787	3530	2470	2704

Article Source: Bloomberg, February 24th, 2022

"Commodity prices surge after Russia's Ukraine invasion"

BLOOMBERG COMMODITY SPOT INDEX

Oct	Nov	Dec	Jan	Feb	Mar
525.1	487.3	502.2	546.8	577.7	625.3

Article Source: Axios, March 1st, 2022

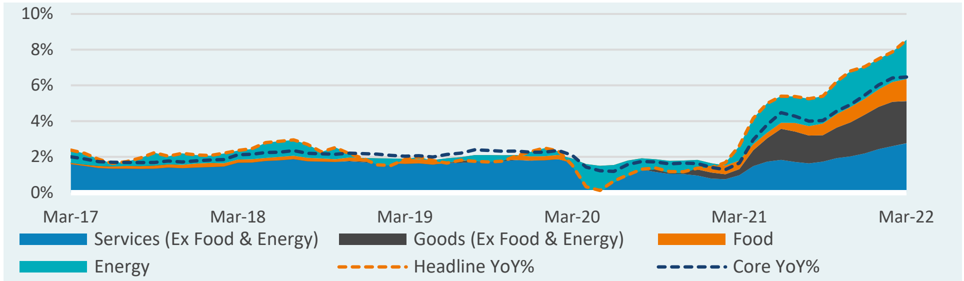
"Global Bond Rout Deepens on Fear Rate Hikes Will Stoke Recession"

BLOOMBERG GLOBAL AGGREGATE TREASURIES TOTAL RETURN

Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022
3.2%	(5.5%)	0.9%	(1.1%)	(1.0%)	(6.2%)

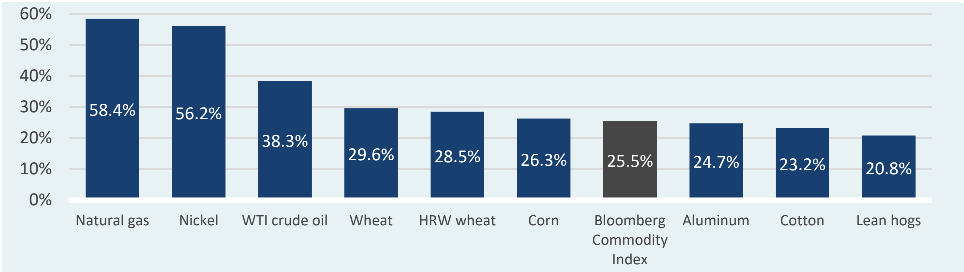
Article Source: Bloomberg, March 27th, 2022

CONTRIBUTION TO HEADLINE CONSUMER PRICE INFLATION



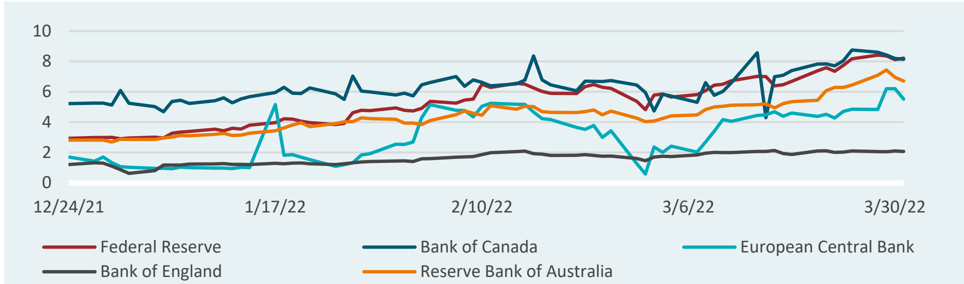
Source: Bureau of Labor Statistics, as of 3/31/22

COMMODITY Q1 PERFORMANCE



Source: Bloomberg, as of 3/31/22

EXPECTED NUMBER OF RATE HIKES BY DECEMBER 2022



Source: Bloomberg, as of 3/31/22

Economic environment

U.S. economics summary

— Real GDP grew at a 5.5% rate year-over-year in the fourth quarter (+6.9% quarterly annualized rate). Strong expenditures into new inventory boosted the economy during the quarter, as many businesses had struggled to replenish inventory levels in the face of global supply chain issues. Business investment and rising exports also contributed to the strong Q4 pace of growth.

— In economic terms, the effects of COVID-19 seem to be in the rearview mirror. Travel volumes have risen closer to prior levels, credit card transactions are extremely strong, and Americans are once again dining out and spending on entertainment.

— U.S. core CPI, which excludes food & energy prices, rose by 6.5% year-over-year in March. Headline inflation, which is being closely watched at the moment as this includes many of the goods that exhibited the largest prices gains (energy & food), reached 8.5%. Price rises have become more broad-based in recent months, with many goods and services experiencing increases.

— U.S. unemployment continued to fall, improving from 3.9% to 3.6%. The labor force participation rate has gradually increased, rising from 61.6% to 62.4%. The historic shortage of workers may remain a sticky issue, as 11.3 million job openings are currently posted, but only 6.0 million Americans are seeking work.

— The fast rise of 30-year fixed mortgage rates to near 5.0%, along with skyrocketing home prices, has made homeownership a nearly impossible goal for some Americans, and is squeezing the budgets of many (though at the same time generating much wealth for homeowners). This effect is captured in the Housing Affordability Index, which further deteriorated during Q1.

	Most Recent	**12 Months Prior**
Real GDP *(YoY)*	5.5% *12/31/21*	(2.3%) *12/31/21*
Inflation *(CPI YoY, Core)*	6.5% *3/31/22*	1.6% *3/31/21*
Expected Inflation *(5yr-5yr forward)*	2.4% *3/31/22*	2.3% *3/31/21*
Fed Funds Target Range	0.25% – 0.50% *3/31/22*	0.00% – 0.25% *3/31/21*
10-Year Rate	2.34% *3/31/22*	1.74% *3/31/21*
U-3 Unemployment	3.6% *3/31/22*	6.0% *3/31/21*
U-6 Unemployment	6.9% *3/31/22*	10.7% *3/31/21*

GDP growth

Real GDP grew at a 5.5% rate year-over-year in the fourth quarter (+6.9% quarterly annualized rate). Strong expenditures into new inventory boosted growth, as many businesses had struggled to replenish inventory levels in the face of global supply chain issues. Business investment and rising exports also contributed to strong fourth quarter GDP.

During Q1 2022, concerns rose around the possibility of slowing economic growth or even a recession in the near-term, though the chances of recession appear low. The Atlanta Fed GDPNow real-time forecast for first quarter growth was 1.1%, as of April 11th (seasonally adjusted QoQ annualized rate).

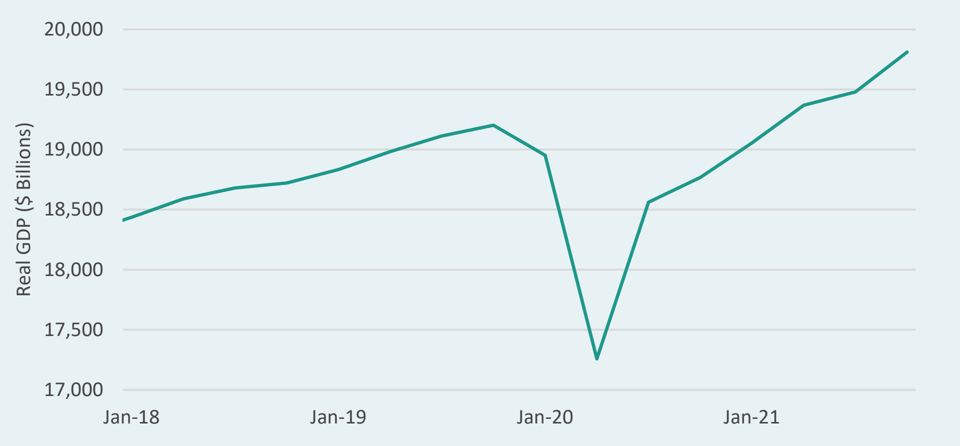
However, it is broadly expected that economic growth picks back up to around 3% throughout the remainder of 2022.

As we mentioned last quarter, U.S. GDP growth is quoted in *inflation-adjusted* terms. This will mean that inflation trends could have large impacts on upcoming U.S. GDP growth numbers. Higher inflation would depress the rate of GDP growth, and falling inflation would likely boost GDP figures, all else equal. Multiple past U.S. recessions were caused at least partially by rising inflation rather than solely by slowing growth (see 1970s, 1980s).

Q4 GDP growth was very strong

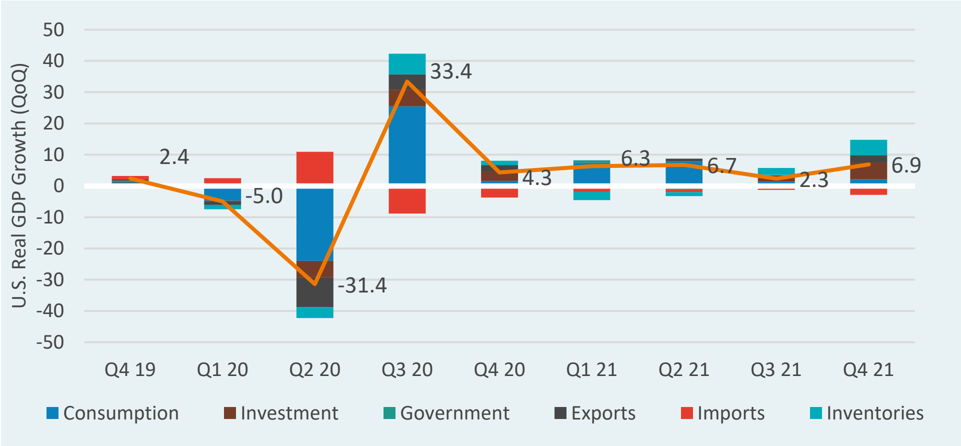
Economists expect weak growth in Q1, followed by a mild economic reacceleration

U.S. REAL GROSS DOMESTIC PRODUCT



Source: FRED, as of 12/31/21

U.S. REAL GDP COMPONENTS (QOQ)



Source: FRED, as of 12/31/21

Inflation

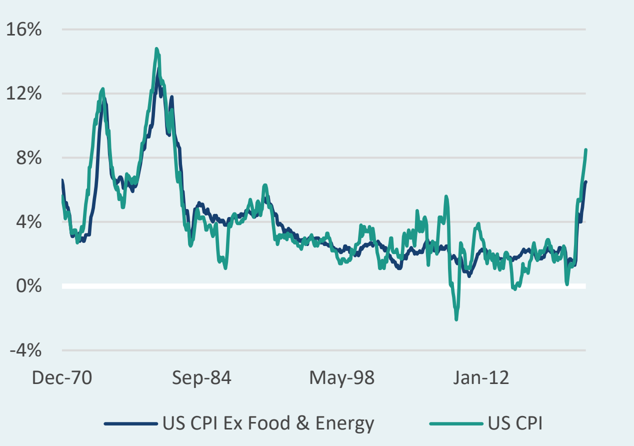
U.S. core CPI, which excludes food & energy prices, rose by 6.5% year-over-year in March. Headline inflation, which is being closely watched at the moment as this includes many goods that have exhibited the most notable prices gains (energy & food), reached 8.5%. While price rises in energy and food have been large in recent months, prices in some other areas have stabilized. Many investors believe inflation peaked in March, though much uncertainty exists regarding the path from here.

There are both inflationary and deflationary forces at play in the current environment. On the inflationary side, Russia's invasion of Ukraine has led to substantial disruptions to energy and agricultural markets, which flowed through to price spikes in many commodity markets. These moves can be seen in the March inflation report. Geopolitical crises tend to result in *upward* commodity price movement, which suggests continued war or wider conflict could have inflationary effects. On the *deflationary* side, large single-month inflation numbers are beginning to *fall out* of the 12-month CPI calculation window. This will naturally have a depressing effect on future CPI figures. Furthermore, many pandemic-specific issues are beginning to be resolved, such as clogged supply chains, unusually high demand for physical goods, and abnormally strong spending patterns. On the next slide we visualize some of these *inflationary* and *deflationary* effects.

Overall, we believe that inflation will most likely begin falling later in 2022, though this could be a slower process than originally believed.

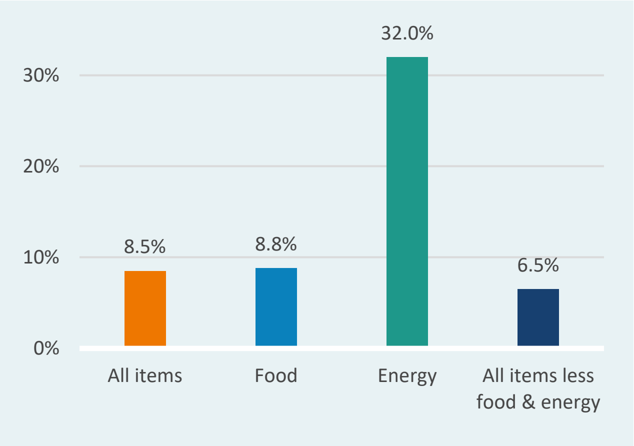
Inflation has proven more sticky (less transitory) than previously expected

U.S. CPI (YOY)



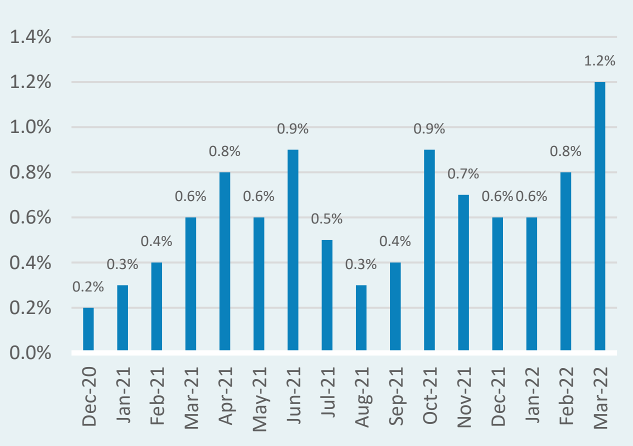
Source: BLS, as of 3/31/22

U.S. CPI (YOY)



Source: BLS, as of 3/31/22

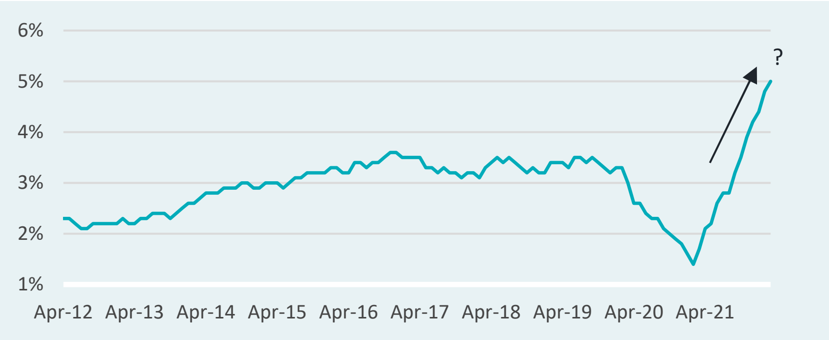
MONTHLY PRICE MOVEMENT



Source: BLS, as of 3/31/22

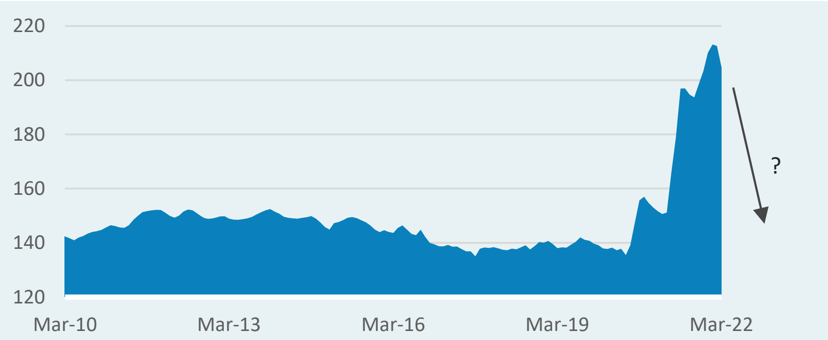
Inflationary & deflationary forces

CPI SHELTER COSTS (YEAR-OVER-YEAR)



Shelter costs, which account for ~40% of the core CPI gauge, have continued to track rent prices higher. The continuation of this trend could mute the impact of a potential rollover in prices for consumer durables like used cars, and result in a higher floor for inflation near-term.

USED CAR & TRUCK PRICES

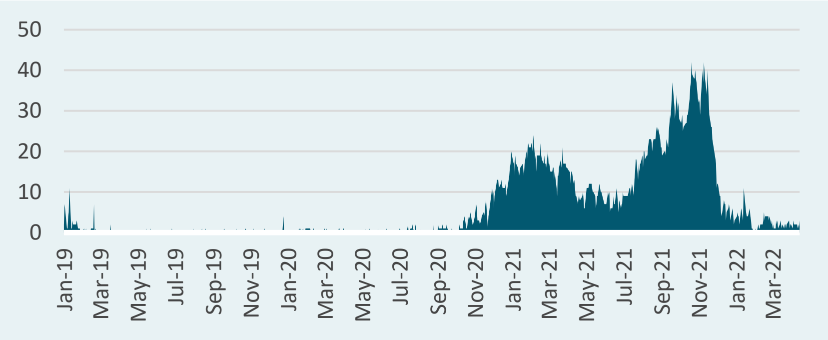


If certain pandemic-related price rises were to reverse as conditions ease, this could bring inflation down materially

U.S. CORNBELT AMMONIUM NITRATE (FERTILIZER) PRICES

Russia, the world's largest fertilizer exporter, imposed a two-month ban on ammonium nitrate exports, which will threaten the reduction of fertilizer supplies. The export ban is likely to result in higher prices for U.S. farmers.

SHIPS AT ANCHOR – PORT OF L.A.



Pandemic-related supply and demand complexities contributed to many supply shortages and price spikes. As these issues are resolved, we would expect prices of some goods to stabilize and perhaps even move closer to prior levels.

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

Source: FRED, as of 3/31/22 (upper), Bloomberg, as of 3/31/22 (lower)

Source: FRED, as of 3/31/22 (upper), Port of Los Angeles, as of 4/15/22 (lower)

Labor market

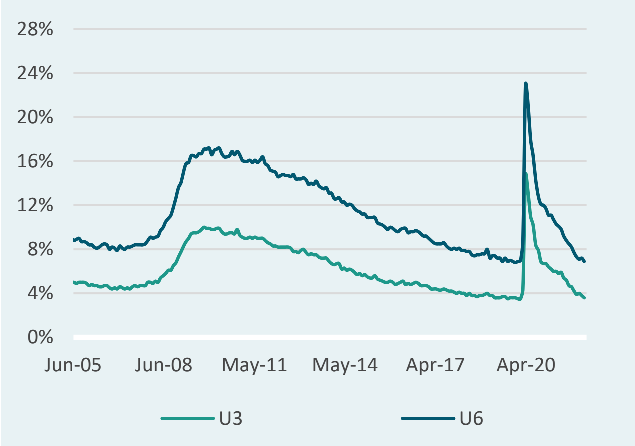
The rate of unemployment in the U.S. has continued to fall, improving from 3.9% to 3.6% during the quarter. The labor force participation rate has gradually increased, rising from 61.6% to 62.4%. The historic shortage of workers may remain a sticky issue, as 11.3 million job openings are posted, but only 6.0 million Americans seeking work.

Throughout the latter part of the pandemic, our belief has been that abnormally early retirements have shrunk the overall labor force, and that the U.S. labor participation rate will not likely fully rebound to prior levels. This forecast has proven accurate, as much of the 55+ U.S. worker age cohort remains out of the workforce and not seeking employment. This compares to younger age cohorts which have made greater progress toward rejoining the labor pool.

The shortage of workers is likely having a dampening effect on the U.S. economy, as fewer workers means less productive activity, which translates to fewer paychecks and total household income. At the onset of the labor supply shortage, some held the view that fewer workers might mean greater overall wage income if this gave workers more negotiating power with employers. Unfortunately, the results have not met those expectations, as wages have failed to keep up with inflation.

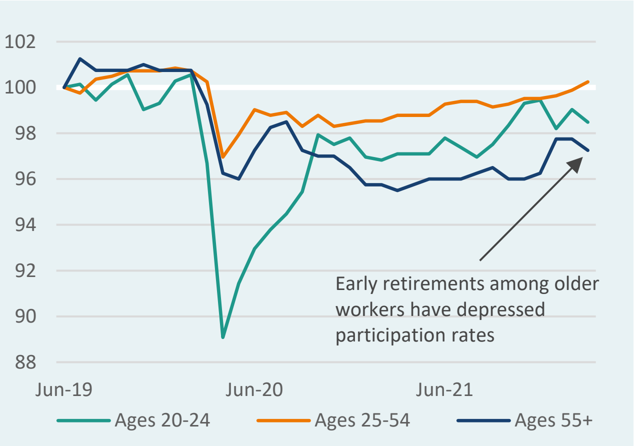
U.S. labor participation continues to see gradual improvement

U.S. UNEMPLOYMENT



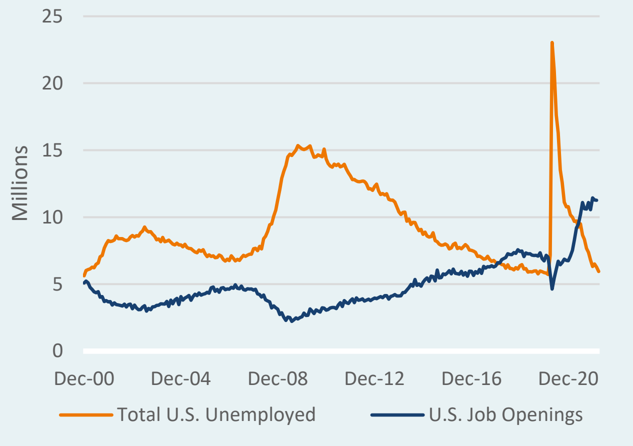
Source: FRED, as of 3/31/22

LABOR PARTICIPATION RATE



Source: FRED, as of 3/31/22

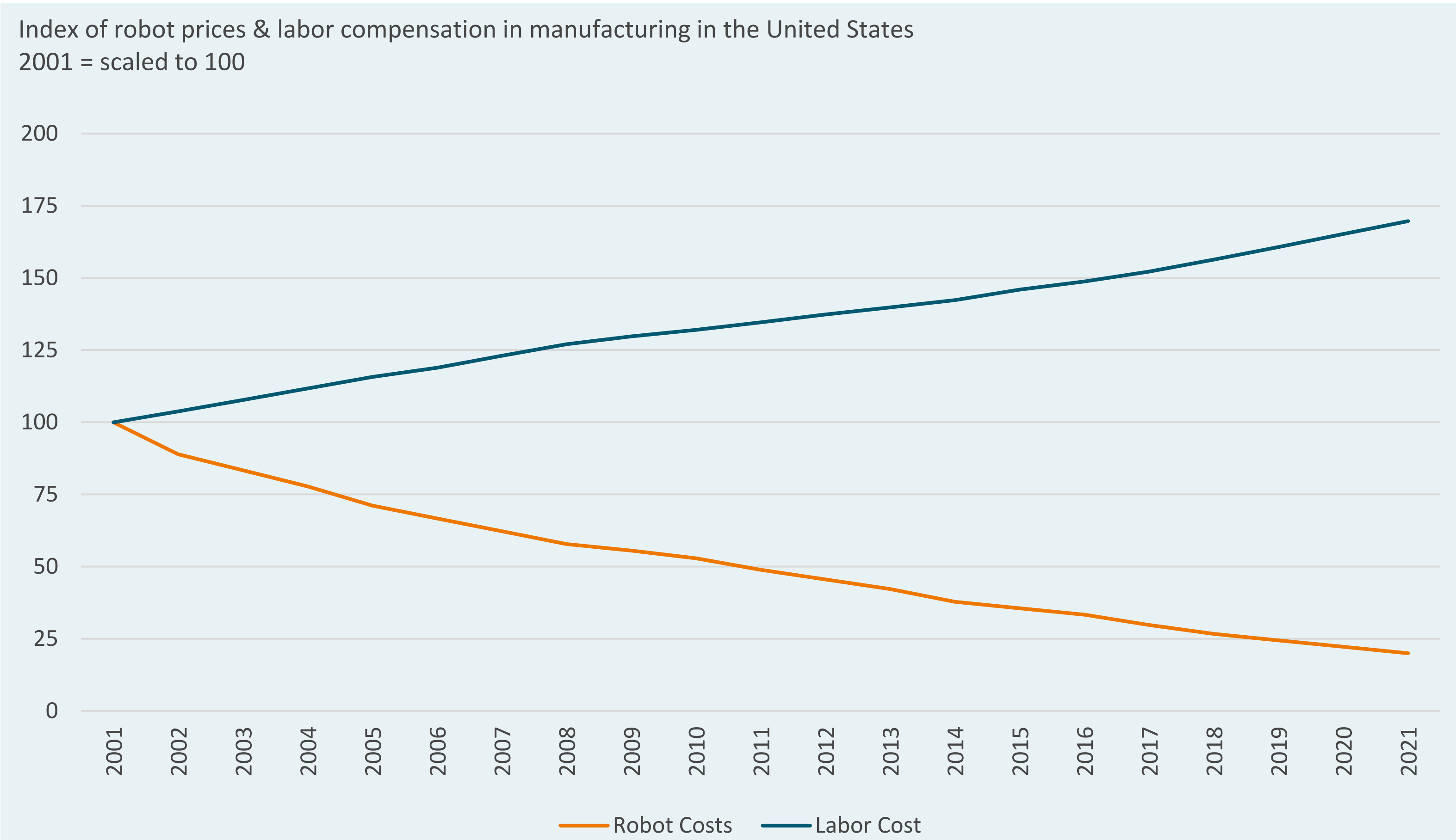
UNEMPLOYED VS # JOBS AVAILABLE



Source: FRED, as of 2/28/22 or most recent data

Labor costs alternatives

COSTS OF AUTOMATION



With widespread labor shortages, companies are increasingly adopting robotics and automation to stay competitive

Spending on robotics was approximately $2 billion in 2021 (a 14% increase over the previous high in 2017)

Source: U.S. Bureau of Labor Statistics; ARK Investment Management Ark-investment.com; United Nations Economic Commission; BCG

The consumer

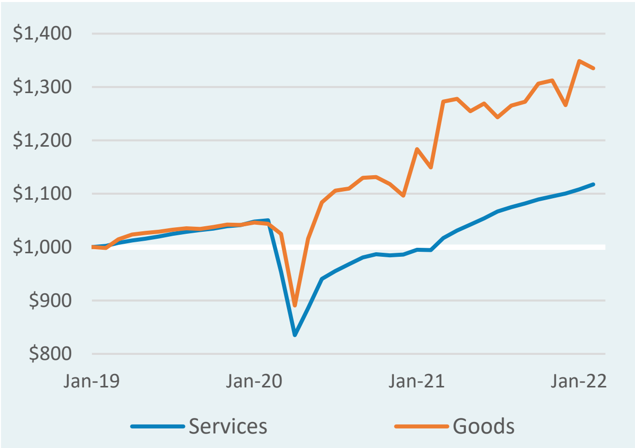
U.S. personal consumption expenditures (PCE) represents consumer spending across a broad basket of goods. Spending boomed during the COVID-19 recovery, with a surprisingly large shift towards purchases of goods and away from services. This substantial shift was believed to be a major contributor to demand/supply imbalances and price inflation of goods during the pandemic. After adjusting for inflation, consumption has risen 1.6% per year since February of 2020.

Auto sales remain depressed relative to pre-pandemic volumes and are at the lowest level since 2011. Sales have likely been hindered by supply chain and therefore inventory issues surrounding new vehicles as well as affordability issues for used vehicles due to the unprecedented rise in prices.

While economic growth and spending appears to be slowing, it is worth noting how significant the increase in U.S. household wealth has been. Asset prices broadly headed higher during the COVID-19 recovery, which included skyrocketing home prices. While these moves certainly create difficulties for new investors (dollars invested today are expected to generate relatively lower long-term returns) and also for future homebuyers (home affordability has been very negatively affected), rising markets have created great profits for many Americans, as indicated by surging total household wealth.

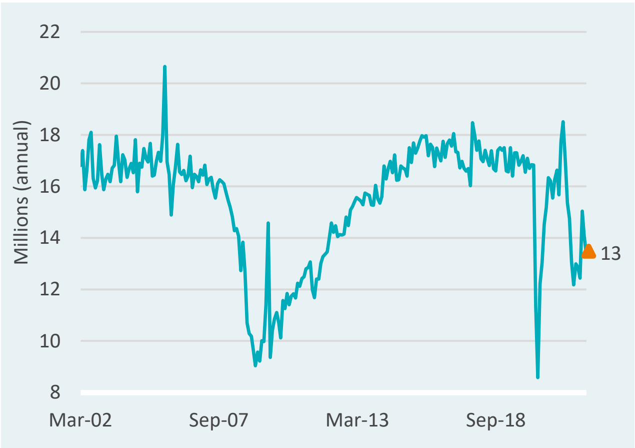
Despite vastly increased American wealth and strong job prospects, sentiment is very depressed as living costs rocket higher

PERSONAL CONSUMPTION EXPENDITURES



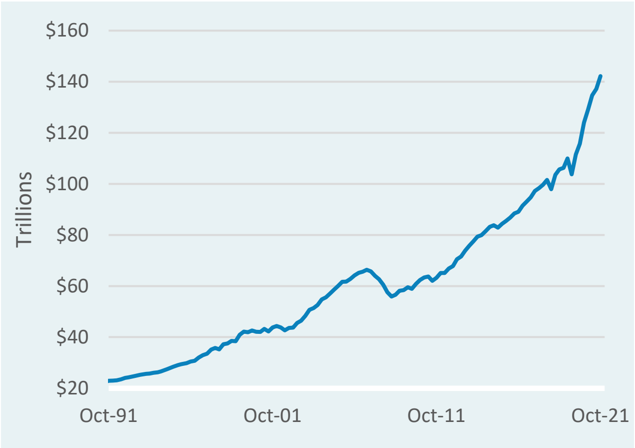
Source: FRED, as of 2/28/22

AUTO SALES



Source: Federal Reserve, as of 2/28/22

U.S. HOUSEHOLD WEALTH



Source: FRED, as of 12/31/21

Sentiment

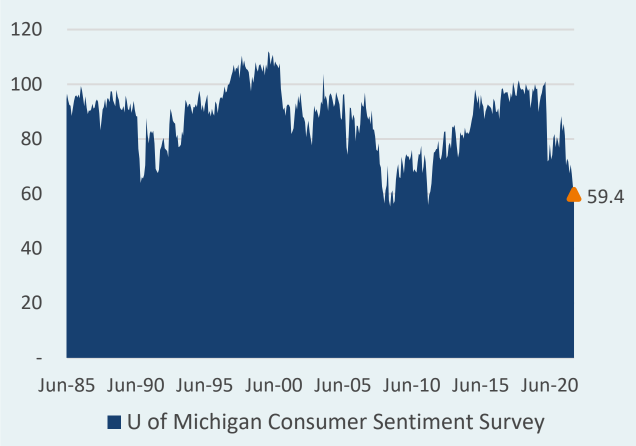
Consumer sentiment has collapsed to levels not seen since the depths of the 2008-2009 Global Financial Crisis. The University of Michigan survey fell from 70.6 to 59.4 during the quarter, as survey respondents indicated deteriorating living conditions due to high inflation and expectations that household financial conditions will worsen throughout the year. On a more positive note, Americans are reportedly optimistic about job prospects and the strong labor market.

There remain 11.3 million open jobs but only 6.0 million unemployed people in the labor force, indicating significant labor market tightness. Per the Conference Board, the percentage of Americans who believe it is difficult to land a job right now is at the lowest level since year 2000. A competitive market has led to strong nominal wage gains, but real (adjusted for inflation) average hourly earnings failed to keep up with inflation, and have actually contracted -2.7% over the last year.

The NFIB Small Business Optimism index weakened further. As detailed in the survey, 31% of small businesses see inflation as the largest problem they face. Labor shortages and supply chain issues continue to weigh on business activity.

Sentiment, by some measures, has reached lows not seen since the 2008-2009 Global Financial Crisis

CONSUMER SENTIMENT

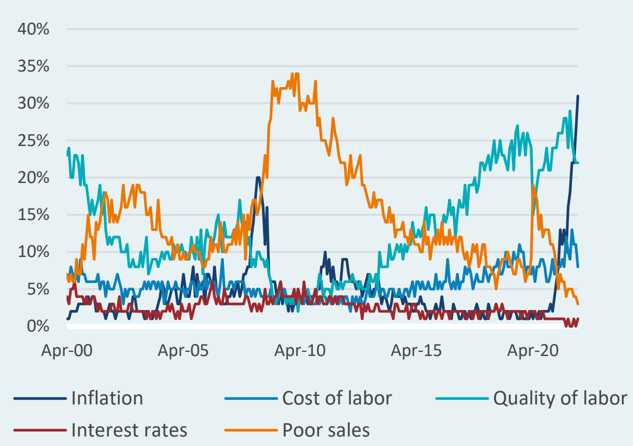


Source: University of Michigan, as of 3/31/22

CONSUMER VIEWS ON THE LABOR MARKET

Source: Conference Board, as of 3/31/22

BIGGEST ISSUES FOR SMALL BUSINESSES



Source: NFIB, as of 3/31/22

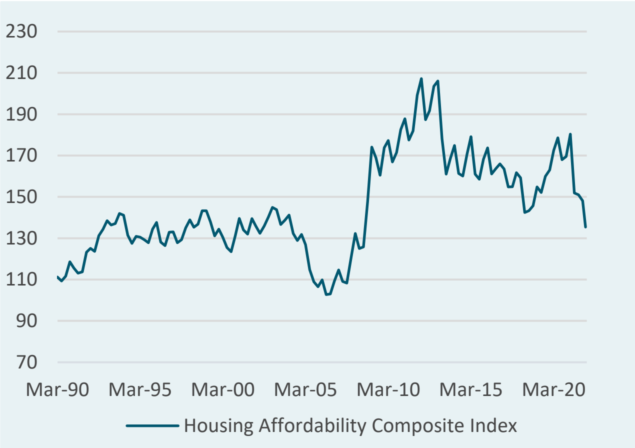
Housing

U.S. home prices continued higher, up +19% over the past year ending January, and up a whopping 32% since pre-pandemic. Price appreciation may be set to cool off as the 30-year fixed mortgage rate has risen to 5%, inventories have risen, and sales activity has slowed considerably.

The fast rise of 30-year fixed mortgage rates to near 5%, along with skyrocketing home prices, has made homeownership a nearly impossible goal for some Americans, and is squeezing the budgets of many (though at the same time generating much wealth for homeowners). This effect is captured in the Housing Affordability Index, which deteriorated during Q1.

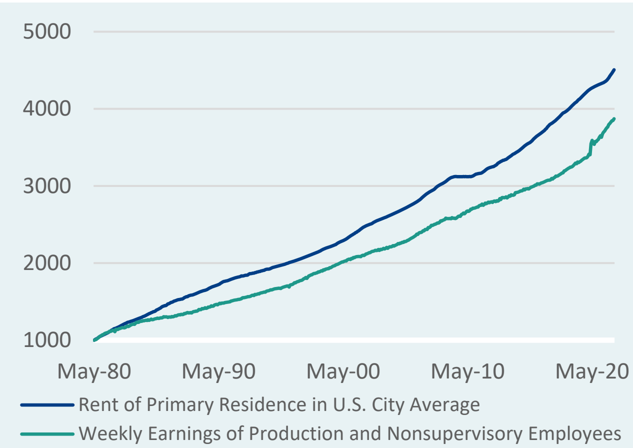
The cost of housing has outpaced wage gains for decades, although only mildly so (not as dramatically as some might assume). Lower and lower interest rates had largely counteracted higher home prices in terms of total ownership costs. This rough equilibrium seems to have swung in the other direction over the past year. Lack of affordability may mean a continued slowdown in home sales activity, and perhaps a plateauing or even decline in property values in some areas.

HOUSING AFFORDABILITY INDEX



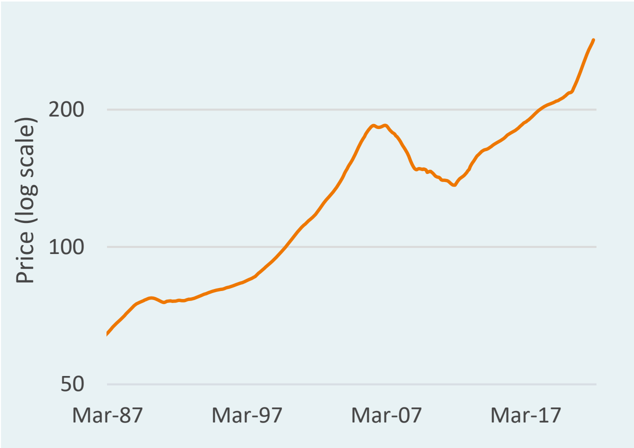
Source: NFIB, as of 2/28/22

WAGES VS RENTING COSTS



Source: FRED, as of 2/28/22

CASE-SHILLER HOME PRICE INDEX



Source: FRED, as of 1/31/22

International economics summary

— The pace of economic growth has moved further back toward average levels in most economies. In January, the International Monetary Fund cut their 2021 advanced economy growth projections from 5.2% to 4.3%. Growth in 2022 is expected to slow to 3.1%.

— Unemployment continued to fall to, or below, pre-pandemic levels. However, in countries such as the United States these data do not tell the whole story, since the total size of the labor pool has shrunk substantially.

— Inflation trends have been surprisingly bifurcated by region. While the United States and Europe are generally contending with a spike in prices and inflation not seen in decades, Japan and China are experiencing very low inflation and muted price pressures.

— In late February, Russian forces invaded Ukraine—a move which was anticipated by major Western intelligence communities. Ukraine has put together a remarkable defense thus far, as many citizens have taken up arms to defend their country.

— Russia's invasion of Ukraine led to substantial spikes in energy and agricultural prices as concerns grew of a potential supply shock. Eurozone producer prices grew 31.4% over the 12 months ending February, reflecting the impact of surging natural gas prices (+58.4%).

— COVID-19 case growth rose to record levels in China, which led CCP officials to reinstate lockdowns in some of the largest provinces in the country. Continued commitment to the "zero-Covid" policy in China could weigh on the outlook for global growth, as well as elongate the process of supply chain normalization, particularly within the freight shipping industry.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	5.5% *12/31/21*	8.5% *3/31/22*	3.6% *3/31/22*
Eurozone	4.6% *12/31/21*	7.5% *3/31/22*	6.8% *2/28/22*
Japan	0.4% *12/31/21*	1.3% *3/31/22*	2.6% *2/28/22*
BRICS Nations	4.0% *12/31/21*	3.2% *3/31/22*	5.2% *12/31/21*
Brazil	1.6% *12/31/21*	10.5% *2/28/22*	11.2% *2/28/22*
Russia	5.0% *12/31/21*	9.2% *2/28/22*	4.1% *2/28/22*
India	5.4% *12/31/21*	6.1% *2/28/28*	7.6% *3/31/22*
China	4.8% *3/31/22*	0.9% *2/28/22*	5.8% *3/31/22*

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

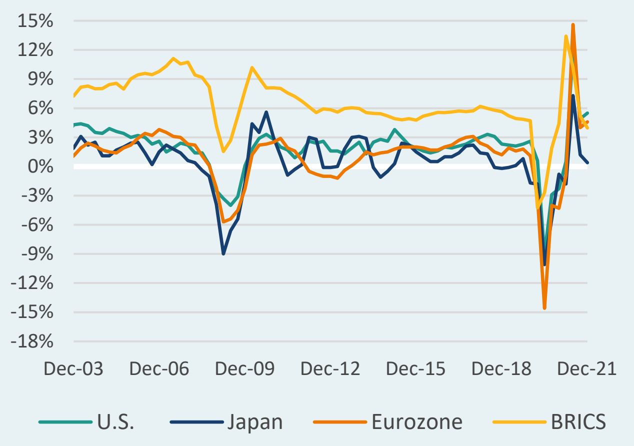
International economics

The pace of economic growth has moved further back towards average levels in most economies. This is reflected in quarter-over-quarter GDP growth figures, as these provide a better gauge of *short-term* growth trends. The International Monetary Fund estimates a 4.3% growth rate for calendar year 2021, and then a slowing to 3.1% in 2022. The IMF reports that recovery strength will likely vary considerably by location, due to access to medical care, types of government policy support, and regional cross-country spillovers.

Inflation trends continue to be disparate from country-to-country, as spiking inflation is a problem for a certain subset of economies. While the United States and Europe are generally contending with a jump in prices and inflation not seen in decades, Japan and China are experiencing very low inflation and muted price pressure.

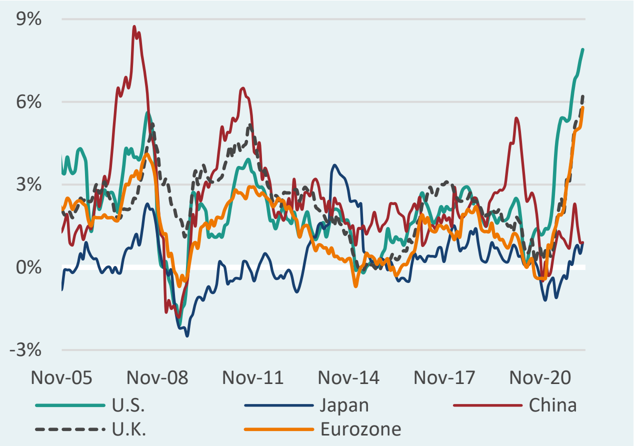
Unemployment has further improved to, or below, pre-pandemic levels. Investors should also note the change in labor market *size*. For example, disenfranchised workers falling out of the workforce or early retirements may not be captured in popular unemployment metrics but can have just as deleterious effects on economic activity as traditional job loss.

REAL GDP GROWTH (YOY)



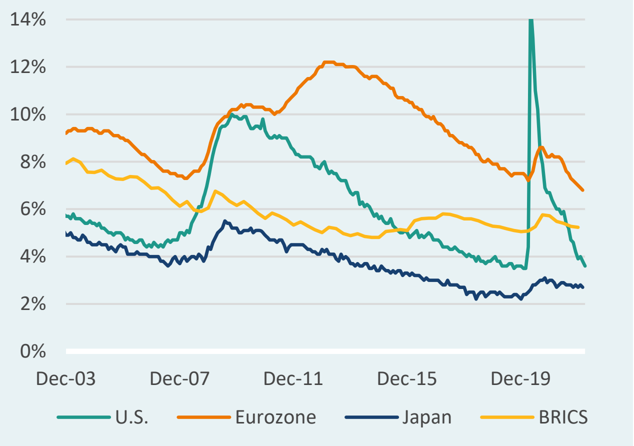
Source: Bloomberg, as of 12/31/21

INFLATION (CPI YOY)



Source: Bloomberg, as of 3/31/22 – or most recent release

UNEMPLOYMENT



Source: Bloomberg, as of 3/31/22 – or most recent release

Assessed control of terrain in Ukraine

3/15/2022 – 12:00PM PST

4/13/2022 – 12:00PM PST

Russian forces have been repelled from Kyiv, and have shifted their focus to consolidating control over area around the separatist-controlled Donetsk and Luhansk Oblasts in Eastern Ukraine

Source: Institute for the Study of War, as of 4/13/22, 12:00 PM PST

Conflict summary and key themes

Russian forces were unsuccessful in their attempt to take Kyiv, and have since withdrawn to refocus efforts on taking the territory around the Donetsk and Luhansk Oblasts in Eastern Ukraine. What have been the drivers of Ukrainian success thus far?

Ukrainian Tactics	— Effective withdrawal into major population centers which have proven easier to defend — Efficient utilization of anti-aircraft (Stinger) and anti-armor (Javelin) technology — Judicious use of airpower to disrupt Russian supply lines
Russian Military Incompetence	— Issues transporting adequate oil and fuel supplies to the front lines to support the advance — Lack of experienced troops (many conscripts have 1-2 years experience and were not expecting to actually be sent into combat) — Low morale (many troops have surrendered to Ukrainian forces, or have sabotaged their vehicles to slow the advance — Poor battlefield intelligence (many Russian troops are wandering into Ukrainian cities with little awareness of those cities, which has left them in an incredibly vulnerable positions and made it easier for Ukrainians to use their anti-armor weaponry) — NATO estimated that between 7-15K Russian troops have been killed, and another 15-30K have been injured
Western Sanctions	— The Federal Reserve and the European Central Bank officially sanctioned the Central Bank of Russia, an unprecedented strategy for containing a G20 economy — Key Russian banks have been excluded from SWIFT, disconnecting them from sources of foreign capital and preventing them from sending or receiving money from other financial institutions around the world. This is often considered the "nuclear option" relative to the menu of economic sanctions — Entire industries have instituted export controls, banning the shipment of key technology input goods such as semiconductors, aircraft, aircraft parts, and oil equipment to Russia

Source: Verus, as of 4/13/22

Fixed income rates & credit

Fixed income environment

— The 10-year U.S. Treasury yield jumped during Q1, from 1.51% to 2.34%, as the Federal Reserve signaled that more aggressive tightening is ahead.

— Fixed income broadly delivered losses during the first quarter, as interest rates headed higher and credit spreads expanded. Higher duration exposures (Bloomberg U.S. Aggregate -5.9%) underperformed lower duration exposures (Bloomberg U.S. Corporate High Yield -4.8%). This theme was also visible over the past year.

— The U.S. yield curve has flattened, or even inverted, depending on the measure. The 10-year minus 2-year yield spread ended the quarter at exactly +0.00%. Yield curve inversion is generally believed to be a sign of nearing recession, as in most cases recession occurs within 1 to 2 years following the initial inversion.

— History suggests that interest rate rises have been more of an effect of Federal Reserve action rather than solely due to spiking inflation. This likely means that the Fed's plans for moderate tightening will translate to only moderate rate rises. This statement is of course not intended to minimalize the pain of interest rate rises on bond portfolios, which has been notable.

— Credit spreads expanded during the quarter, with U.S. high yield spreads moving from 2.8% to 3.3% and U.S. investment grade spreads heading from 0.9% to 1.2%. Spread movement often occurs alongside broader market risk-off environments, which implies that investors should not necessarily assume that these moves were specific to the credit outlook.

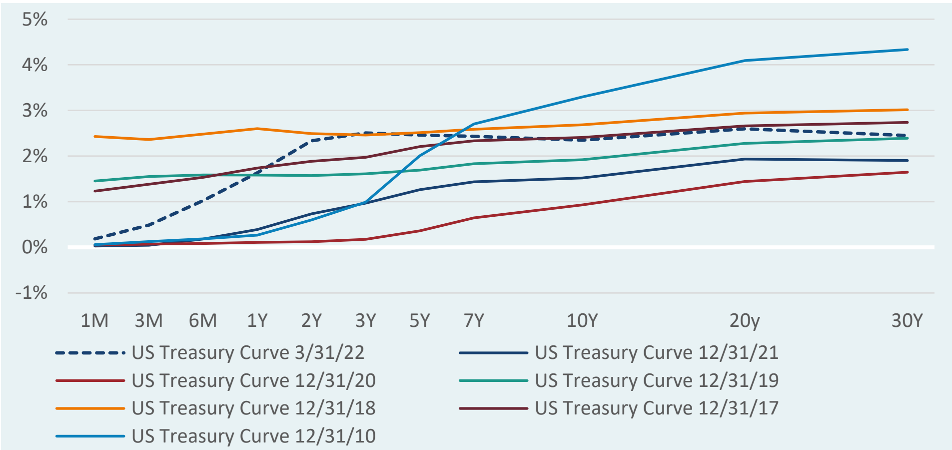
— Write-downs of Russian (-100%) and Ukrainian (-51.4%) bonds weighed heavily on hard-currency emerging market debt (JPM EMBI Global Diversified -10.0%).

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	(5.9%)	(4.2%)
Core Plus Fixed Income (Bloomberg U.S. Universal)	(6.1%)	(4.2%)
U.S. Treasuries (Bloomberg U.S. Treasury)	(5.6%)	(3.7%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	(4.8%)	(0.7%)
Bank Loans (S&P/LSTA Leveraged Loan)	(0.1%)	3.3%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	(6.5%)	(8.5%)
Emerging Market Debt Hard (JPM EMBI Global Diversified)	(10.0%)	(7.4%)
Mortgage-Backed Securities (Bloomberg MBS)	(5.0%)	(4.9%)

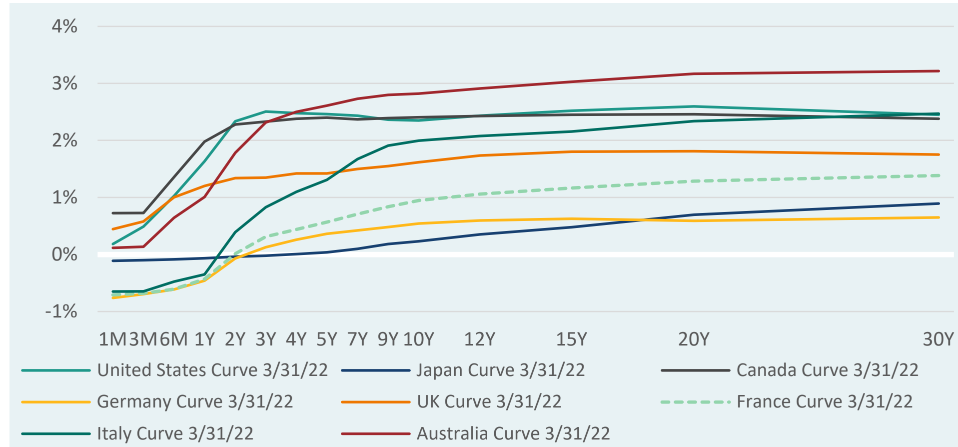
Source: Bloomberg, as of 3/31/22

Yield environment

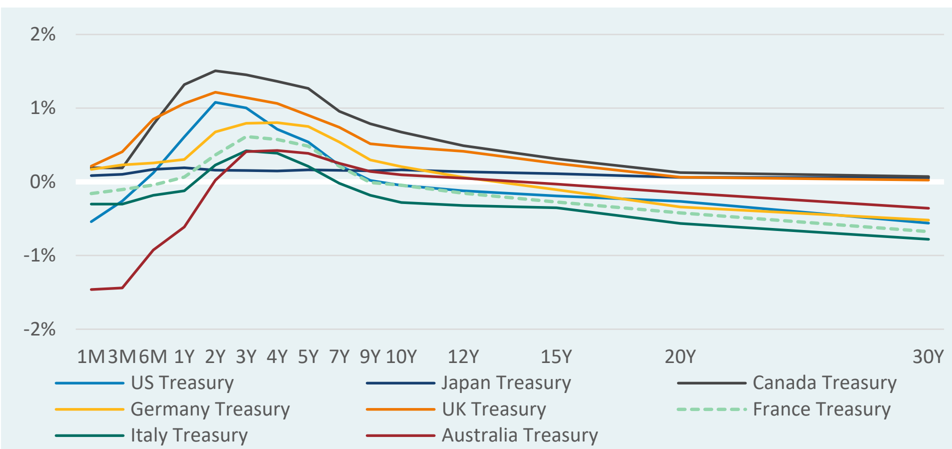
U.S. YIELD CURVE



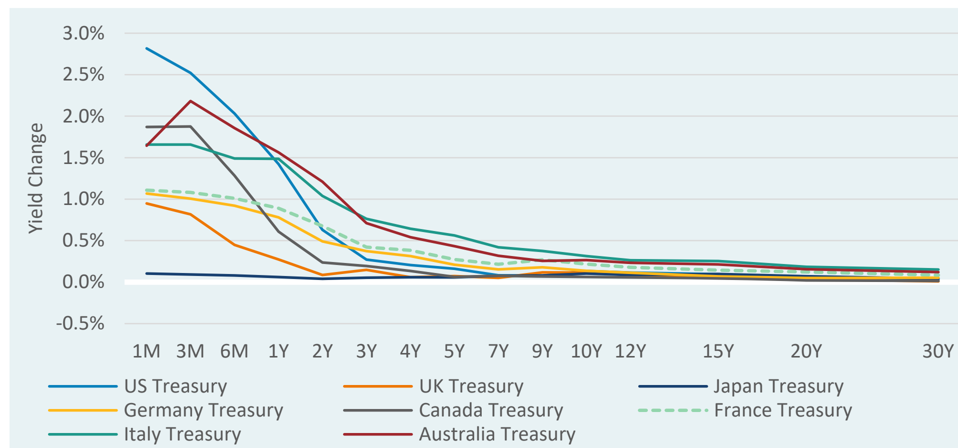
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR

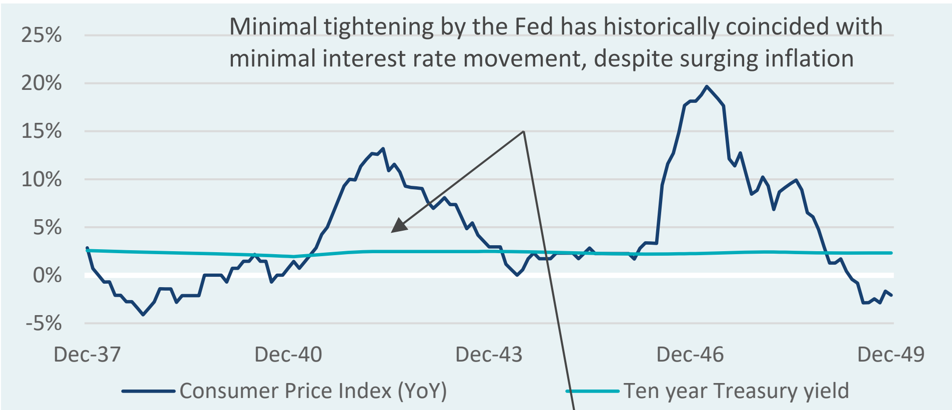


Source: Bloomberg, as of 3/31/22

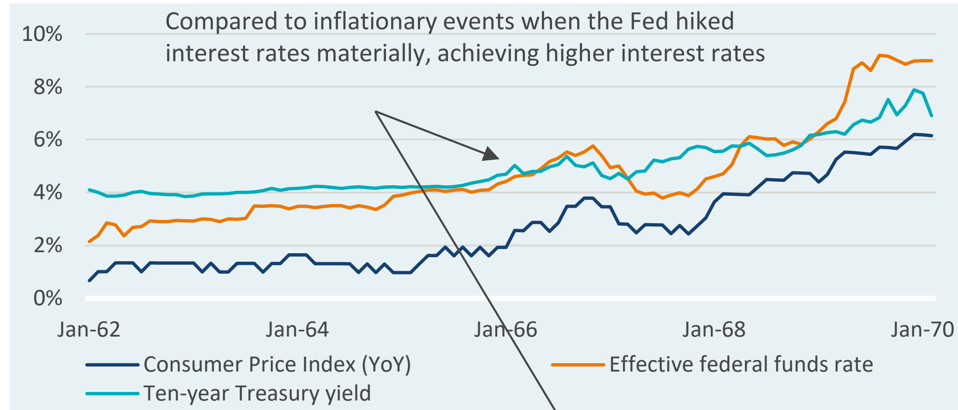
What history tells us about *rising rates*

During historical periods where inflation was rising but the Fed was not hiking rates, interest rate moves were minimal. This may mean that the Federal Reserve's currently moderate interest rate policy suggests only moderate interest rate rises from here.

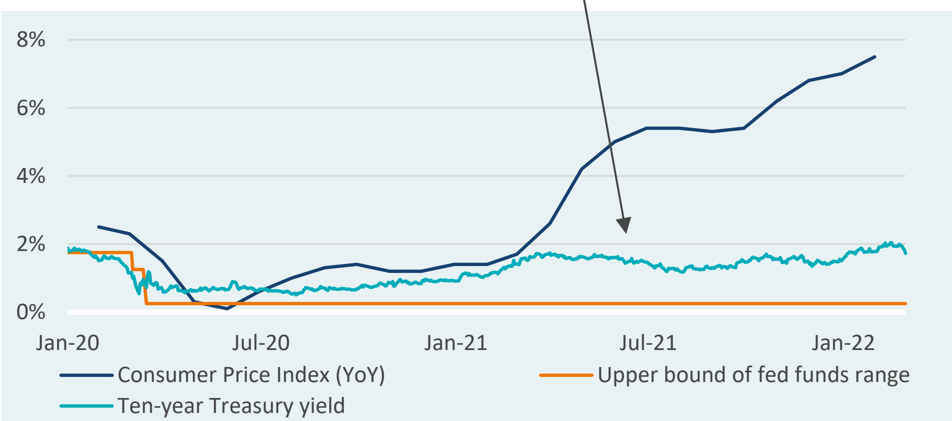
WORLD WAR II



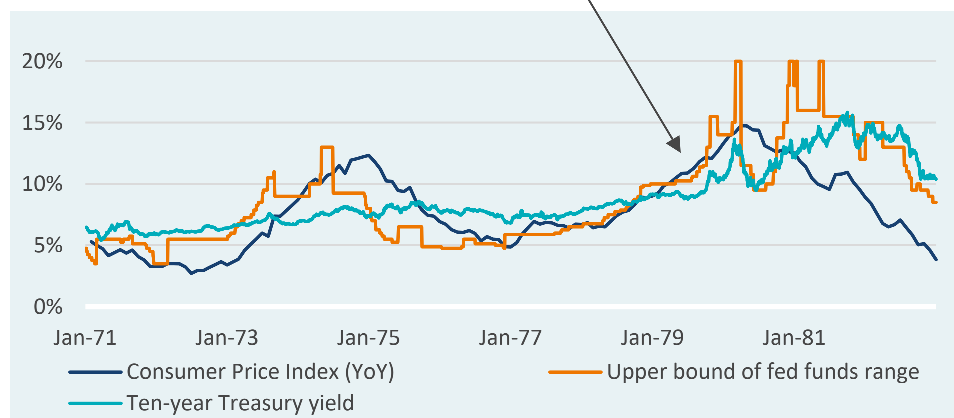
LATE 1960S



COVID-19



1970S OIL SHOCKS



Source: BLS, Federal Reserve, Bloomberg, as of 3/1/22

NOTE: These conclusions were reached via a broader historical inflation and interest rate analysis. For further information about these findings, please reach out to your Verus consultant.

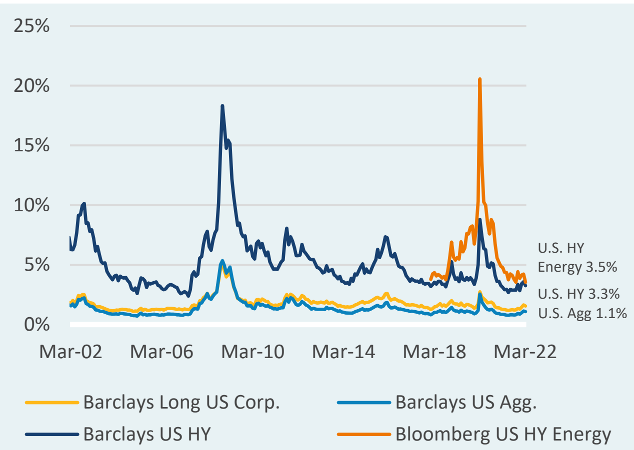
Credit environment

Fixed income broadly delivered losses during the first quarter, as interest rates headed higher and credit spreads expanded. Higher duration exposures such as core fixed income (Bloomberg U.S. Aggregate -5.9%) underperformed lower duration exposures such as U.S. high yield (Bloomberg U.S. Corporate High Yield -4.8%). This effect was also visible over the past year.

Credit spreads expanded moderately during the quarter, with U.S. high yield spreads moving from 2.8% to 3.3% and U.S. investment grade spreads heading upward from 0.9% to 1.2%. Spread movement of this nature often occurs alongside broader market risk-off environments, which implies investors should not necessarily assume that these moves are specific to a worsening credit outlook.

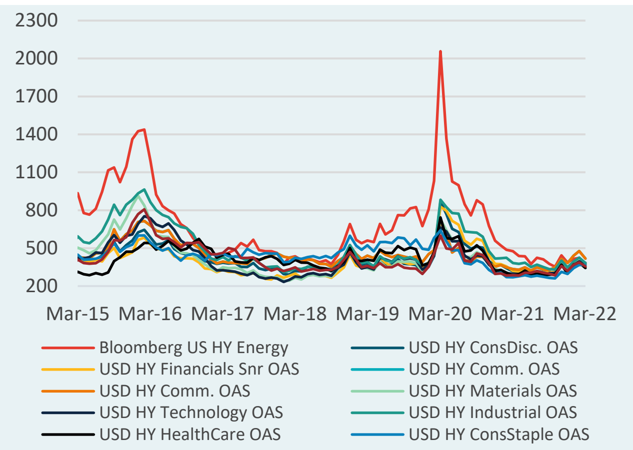
The low yield environment has pushed many investors to search for greater yield, such as through the pursuit of increased private markets exposure and/or taking on riskier holdings. The mild move higher in the yield curve likely helps ease this market environment issue, although high inflation has created new problems for investors. Looking further into the future, following the Fed's planned hiking cycle, markets are expecting interest rates to fall back down, presumably as economic conditions worsen and the Fed begins easing.

SPREADS



Source: Barclays, Bloomberg, as of 3/31/22

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 3/31/22

	Credit Spread (OAS)	
Market	**3/31/22**	**3/31/21**
Long U.S. Corp	1.6%	1.3%
U.S. Inv Grade Corp	1.2%	0.9%
U.S. High Yield	3.3%	3.1%
U.S. Bank Loans*	4.3%	4.3%

Source: Barclays, Credit Suisse, Bloomberg, as of 3/31/22
**Discount margin (4-year life)*

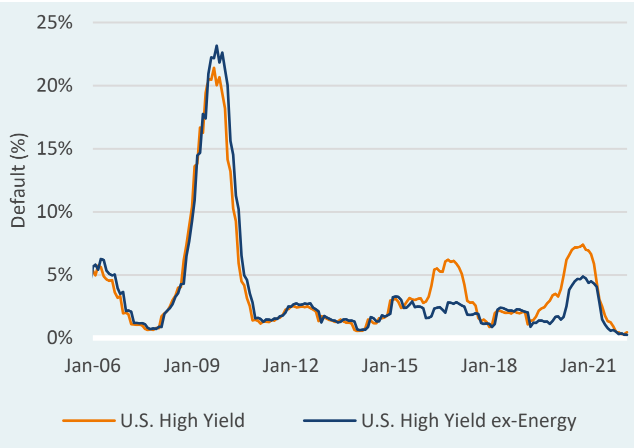
Default & issuance

Despite a general increase in volatility and a sell-off across high-yield and leveraged loan markets, default activity remained negligible. Over the first quarter only $1.6 billion in defaults occurred, marking the third-lowest quarterly total since Q4 2013. Realized recovery rates for high yield bonds over the past 12 months have lingered around 48%, significantly elevated above the 25-year average (39.9%). Loan recovery rates have come in slightly lower than the historical average (58.6% vs. 64.4%).

High-yield and loan default rates ended the quarter at 0.50% and 0.86%, respectively, and are expected to rise slightly through the rest of the year. J.P. Morgan forecasts default rates of 0.75% for high yield bonds and loans in 2022, with those rates picking up to 1.25% in 2023. For context, the long-term average historical default rates for bonds and loans have been around 3.6% and 3.1%, respectively.

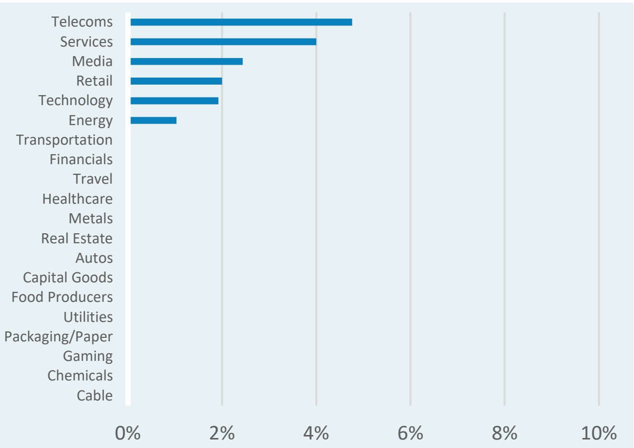
High yield issuance hit its lowest level since March 2020 in February, and then fell further in March, as issuers contended with a sharp increase in global bond yields. High-yield issuance totaled just $46.5 billion so far this year, down from $158.8 billion (-71%) over the same period a year ago. Year-to-date loan issuance is also down approximately 60% relative to Q1 2021. Extensive capital raises that occurred in 2021, as well as broadly higher interest rates, have likely contributed to very low financing activity so far this year.

HY DEFAULT RATE (ROLLING 1-YEAR)



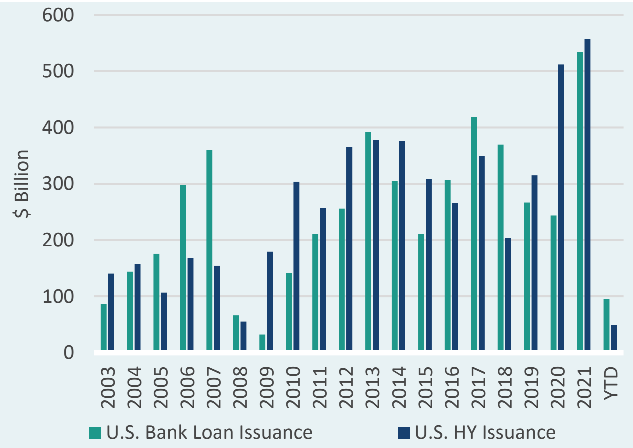
Source: BofA Merrill Lynch, as of 3/31/22

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



Source: BofA Merrill Lynch, as of 3/31/22 – par weighted

U.S. ISSUANCE ($ BILLIONS)



Source: BofA Merrill Lynch, as of 3/31/22

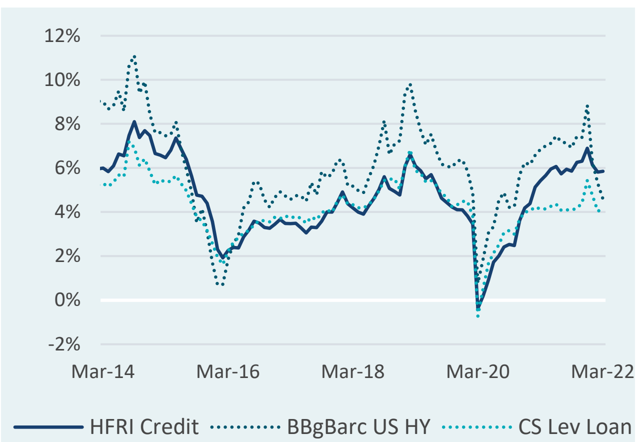
Alternative credit

Credit hedge fund strategies were a bright spot in Q1 relative to fixed income markets. The HFRI Credit Index, which typically tracks between high yield and leveraged loan indices, gained 0.2% during the quarter despite widening credit spreads and rising rates which detracted from the performance of traditional credit.

Looking more closely at hedge fund credit, distressed/restructuring strategies, as well as asset-backed, were strong performers during the quarter and have outperformed credit markets over the past year.

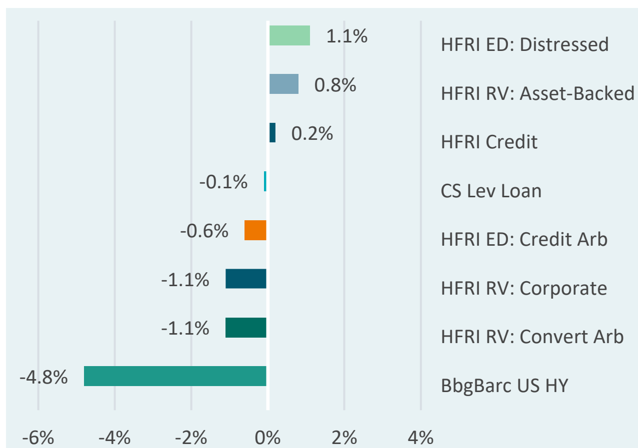
Distressed investors have benefitted from out-of-favor, deep value assets rebounding over the prior 18 months. Asset-backed strategies have been able to limit duration exposure while finding new ways to maintain access to higher yielding securitized instruments, such as by expanding into origination/ securitization or moving further out on the liquidity spectrum.

3 YEAR ROLLING RETURN



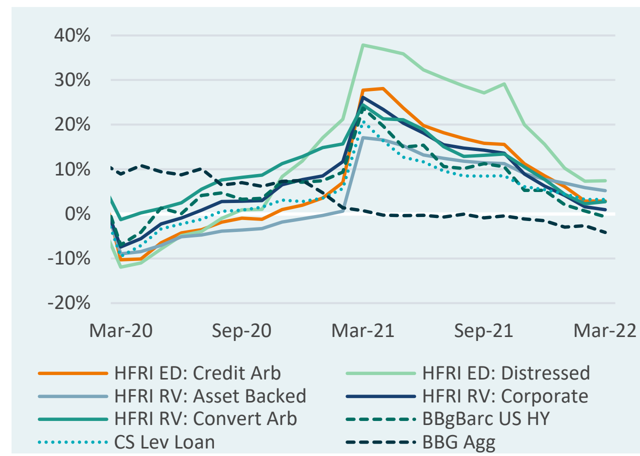
Source: HFRI, as of 3/31/22

1Q 2022 QUARTERLY RETURN



Source: HFRI, as of 3/31/22

1 YEAR ROLLING RETURN



Source: HFRI, as of 3/31/22

Equity

Equity environment

— U.S. equities held up marginally better during the first quarter (S&P 500 -4.6%), followed by international developed equities (MSCI EAFE -5.9%) and emerging market equities (MSCI Emerging Markets -7.0%), on an unhedged currency basis.

— Currency movement during the quarter detracted from the performance of investors who do not hedge foreign currency exposure. Currency movements in international developed markets generated losses of -2.4% (MSCI EAFE).

— Value stocks outperformed Growth stocks by a substantial margin during Q1 (Russell 1000 Value -0.7% vs Russell 1000 Growth -9.0%) as Growth stocks fell sharply, reversing the gains delivered in the second half of 2021. Large capitalization stocks beat small capitalization stocks by a narrower margin (Russell 1000 -5.1%, Russell 2000 -7.5%).

— The Cboe VIX Index spiked mid-quarter during Russia's invasion of Ukraine, as fears of potential broader global conflict, food shortages, and higher inflation roiled markets. The index fell to 20 to end the quarter, moderately above the longer-term average. Realized volatility over the past year was more muted as the pandemic has moved into the rearview mirror.

— Emerging market equities appear attractively priced, as EM equities are in the 8th percentile of cheapness relative to U.S. equities, looking back to 2003. Much of this valuation difference is due to Chinese markets, which have sold off massively over concerns around possible sanctions due to relations with Russia, regulatory crackdowns on the real estate and internet sectors, and major city lockdowns due to COVID-19.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	**(hedged)**	**(unhedged)**	**(hedged)**
U.S. Large Cap (S&P 500)	(4.6%)		15.6%	
U.S. Small Cap (Russell 2000)	(7.5%)		(5.8%)	
U.S. Equity (Russell 3000)	(5.3%)		11.9%	
U.S. Large Value (Russell 1000 Value)	(0.7%)		11.7%	
US Large Growth (Russell 1000 Growth)	(9.0%)		15.0%	
Global Equity (MSCI ACWI)	(5.4%)	(4.8%)	7.3%	8.8%
International Large (MSCI EAFE)	(5.9%)	(3.5%)	1.2%	7.1%
Eurozone (Euro Stoxx 50)	(10.9%)	(8.7%)	(3.9%)	2.7%
U.K. (FTSE 100)	0.0%	2.8%	10.7%	16.4%
Japan (NIKKEI 225)	(7.8%)	(2.6%)	(11.9%)	(2.9%)
Emerging Markets (MSCI Emerging Markets)	(7.0%)	(7.0%)	(11.4%)	(11.5%)

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 3/31/22

Domestic equity

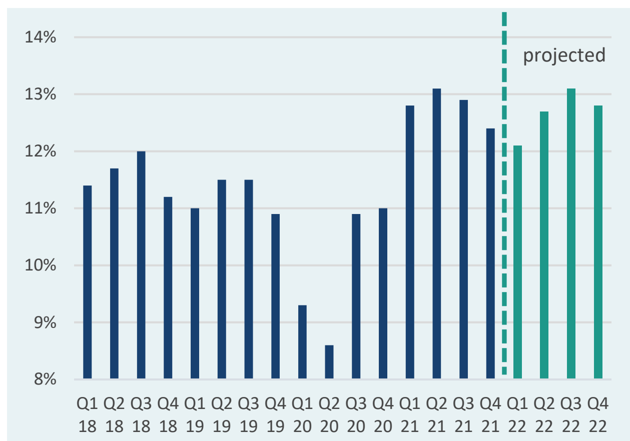
U.S. equities fell during the first quarter (S&P 500 -4.6%), though less so than other global markets (MSCI ACWI ex-USA -5.4%). Within the U.S. market, sector dispersion was very wide, with large-cap energy companies advancing 39.0% on spiking energy prices, and large-cap technology stocks (-8.4%) and consumer discretionary (-9.0%) selling off on concerns that higher inflation (influenced by spiking energy prices) might result in a much more hawkish outlook for Fed policy and interest rates. Energy sector earnings are expected to bolster overall index level earnings on a year-on-year basis in Q1, primarily due to the average price of oil rising from $58.14 to $95.01. If the energy sector were excluded, Q1 year-over-year earnings growth would be expected at -0.6%, instead of +5.1%.

Companies continue to contend with headwinds from supply chain disruptions, surging commodity prices which were given a leg higher by the conflict in Ukraine, ongoing labor shortages and higher prices in general. In Q4 of 2021, 365 S&P 500 companies mentioned "inflation" on earnings calls, which was the highest number in at least 10 years, per FactSet. Under this backdrop, companies are raising their prices to help offset higher costs, and the S&P 500 Index is expected to report a fifth consecutive quarter of revenue growth north of 10% in Q1. Interestingly, analysts expect net profit margins will be higher through the rest of the year than they are expected to be in Q1 (+12.1%).

S&P 500 PRICE INDEX

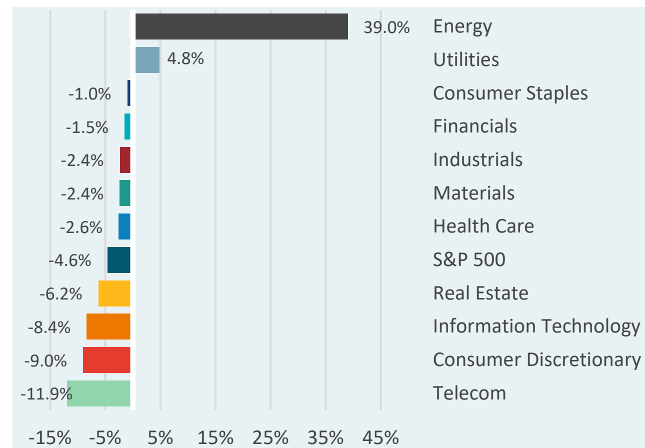
Source: Standard & Poor's, as of 3/31/22

NET PROFIT MARGIN – S&P 500 INDEX



Source: FactSet, as of 4/14/22

Q1 SECTOR PERFORMANCE



Source: Standard & Poor's, as of 3/31/22

Domestic equity size & style

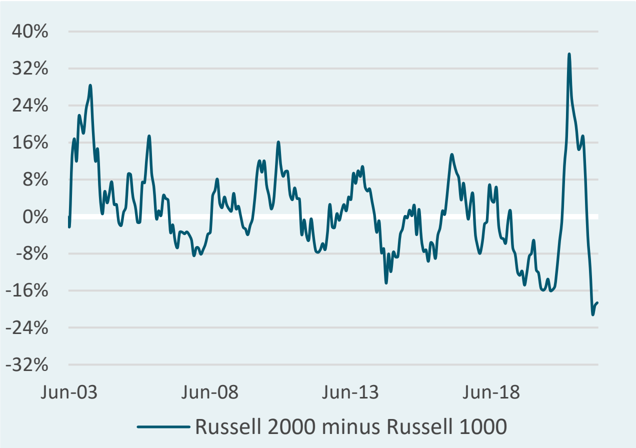
Value stocks outperformed Growth stocks by a substantial margin during the first quarter (Russell 1000 Value -0.7% vs Russell 1000 Growth -9.0%) as Growth stocks fell sharply, reversing the gains delivered in the second half of 2021. Large capitalization stocks outperformed small capitalization stocks by a narrower margin (Russell 1000 -5.1%, Russell 2000 -7.5%).

Energy stocks dramatically outperformed during Q1, as global demand has outpaced energy production for quite some time, pushing prices higher. Additionally, Russia's invasion of Ukraine led to widespread fears of an energy supply crunch, which temporarily sent oil to $123/bbl—the highest level since 2008. Attractive conditions for energy producers coincided with outperformance of Utilities, Financials, Industrials, and Materials sectors, which tend to have a Value tilt. During Q1, the Information Technology sector, which is tilted towards Growth, underperformed the index.

Further tightening of Fed policy and interest rate hikes will likely impact Value and Growth stock behavior, though these relationships are complex. For example, rate rises that result in a flattening of the yield curve may not be as boosting to financial sector performance, since banks profit from interest curve steepening (banks lend at the long end of the curve and borrow at the short end). The nature of the environment in which interest rates rise will contribute to future style factor behavior.

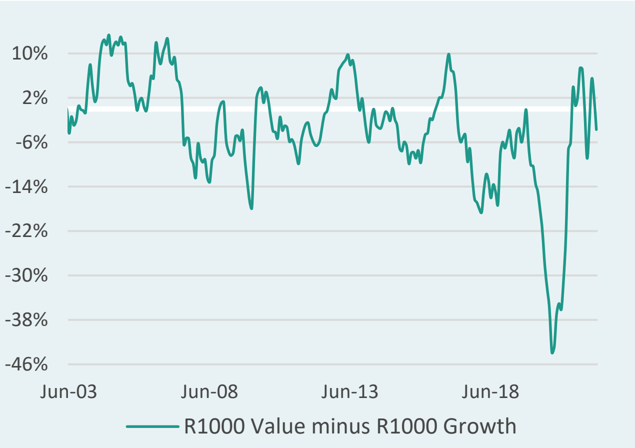
Value strongly outperformed during Q1

SMALL CAP VS LARGE CAP (YOY)



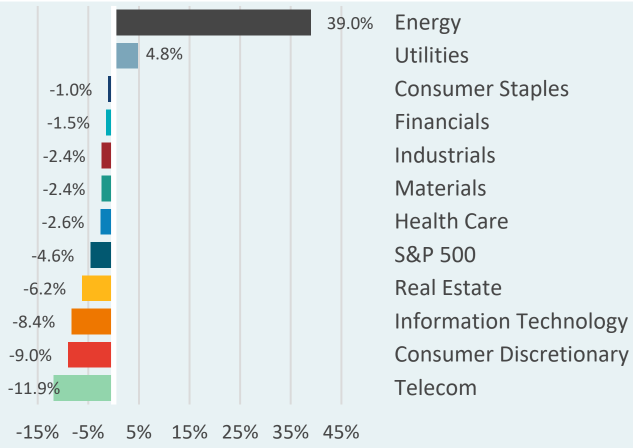
Source: FTSE, as of 3/31/22

VALUE VS GROWTH (YOY)



Source: FTSE, as of 3/31/22

Q1 SECTOR PERFORMANCE



Source: Standard & Poor's, as of 3/31/22

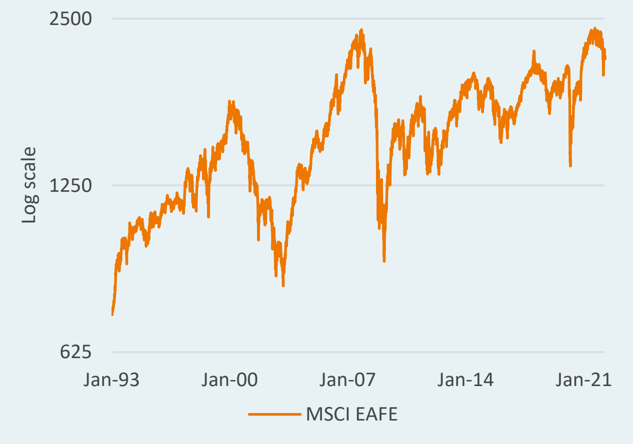
International developed equity

International developed equities fell -5.9% during the quarter, while U.S. equities performed slightly better (S&P 500 -4.6%) and emerging market equities trailed (MSCI Emerging Markets -7.0%), on an unhedged currency basis. Currency movement during the quarter detracted from the performance of investors who do not hedge foreign currency exposure. Currency movements in international developed markets generated losses of -2.4% (MSCI EAFE).

Eurozone and Japanese equities were among the worst performers during the quarter (Euro Stoxx 50 -10.9%, Nikkei 225 -7.8%), though much of these losses were driven by currency market movement. U.K. equities were among the top performers at 1.8% (MSCI UK). Investors with a currency hedging program would have outperformed unhedged investors by roughly +2.2% in Eurozone equities, +5.2% in Japanese equities, and +2.8% in U.K. equities.

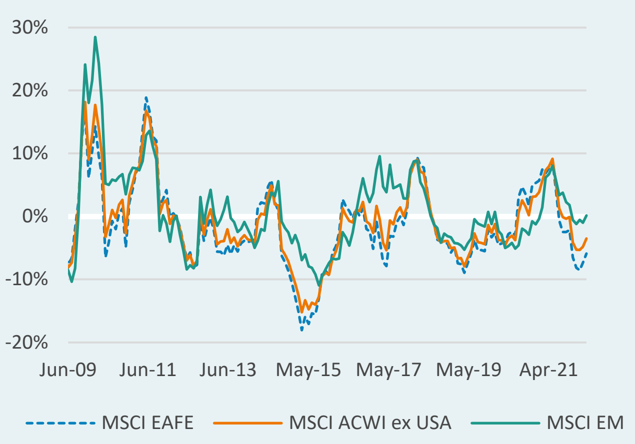
German equities (MSCI Germany -13.1%) detracted significantly from international developed equity returns, as investors expressed concern over the country's large exposure to Russian energy imports. Producer prices in Germany rose 25.9% year-over-year in February, partly due to surging gas prices. It is not yet known the degree to which businesses will be able to pass through higher prices to customers. Inflation in Germany rose to 7.3%—the highest level in decades.

INTERNATIONAL DEVELOPED EQUITY



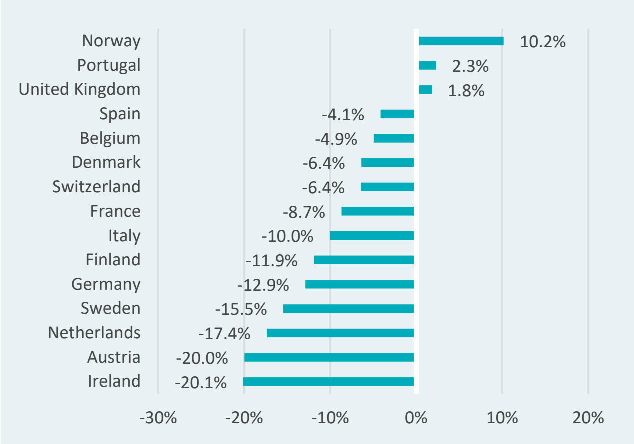
Source: MSCI, as of 3/31/22

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 3/31/22

EUROPEAN EQUITY PERFORMANCE – Q1 2022



Source: MSCI, Bloomberg, as of 3/31/22. Returns in USD terms.

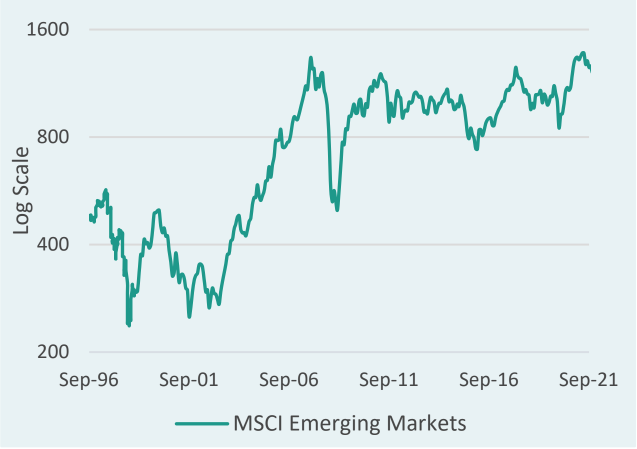
Emerging market equity

Emerging market equities delivered losses (MSCI EM -7.0%) on an unhedged currency basis, lagging developed markets during the quarter. Latin American markets substantially outperformed Asian markets (MSCI EM Latin America +27.3%, MSCI EM Asia -8.7%).

Chinese equities have seen large losses over the last year. The Nasdaq Golden Dragon China Index recently drew down further than its maximum loss during the Global Financial Crisis. Concerns over imposed sanctions due to relations with Russia, regulatory crackdowns on the real estate and internet sectors, and rising COVID-19 cases resulting in major city lockdowns have provided the backdrop to the massive sell-off in Chinese equities. More supportive government policies appear to be coming down the pike, which may contribute to a turnaround.

Emerging market equities are attractively priced relative to developed markets. The valuation divide is now extremely large. On a price-to-earnings basis, emerging market equities are in the 8th percentile cheap relative to U.S. equities going back to 2003, meaning they have been cheaper just 7% of the time since 2003. Emerging market equities have also recently fallen back to more average valuations relative to international developed markets.

EMERGING MARKET EQUITY

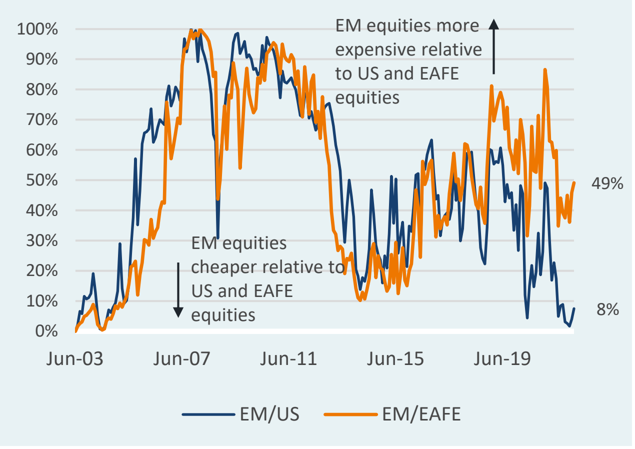


Source: MSCI, as of 12/31/21

CHINESE EQUITY DRAWDOWNS

Source: MSCI, Nasdaq, as of 3/22/22

VALUATION PERCENTILES



Source: MSCI, forward 12m price multiples, as of 2/28/22

Equity valuations

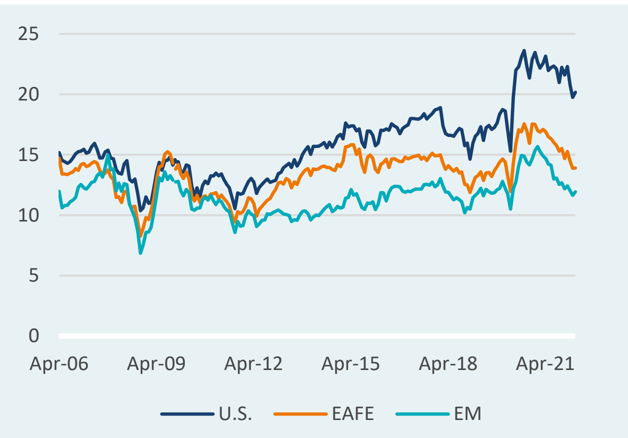
Valuations drifted lower over the first quarter as earnings expectations remained relatively steady and prices moderated. The forward 12-month P/E ratio for the S&P 500 closed the quarter at 19.0—slightly above the five-year average. Forward multiples have fallen back to pre-pandemic levels for most international developed and emerging equity markets.

In the domestic market, analysts appear optimistic about the outlook. If earnings over the next 12 months meet expectations and valuations hold at current levels, the S&P 500 Price Index is forecast to rise 18.5% to around an index level of 5250.

U.S. equity forward P/E valuations remain at historically stretched levels relative to international developed and emerging market equities. U.S. forward price multiples closed the quarter in the 99th percentile relative to EAFE, and in the 92nd percentile relative to EM, using monthly data going back to 2003. The strength of U.S. institutions, the resilience of the U.S. consumer, the United States' energy independence, as well its distance from ongoing conflict in Ukraine may help to tilt international investor flows toward U.S. equities, likely supporting a healthy U.S. equity valuation premium.

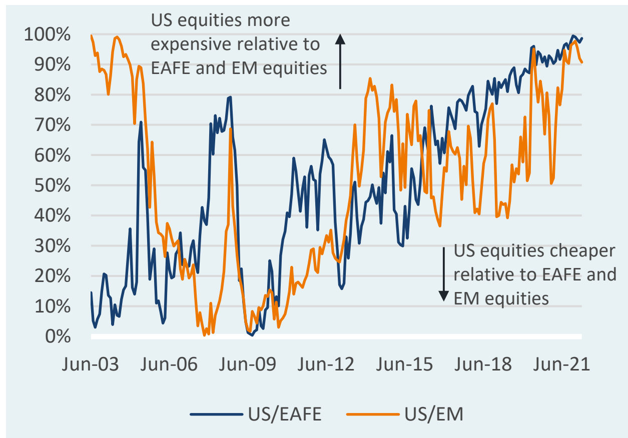
Most equity valuations have moved back towards normal levels, though U.S. prices remain rich

FORWARD P/E RATIOS



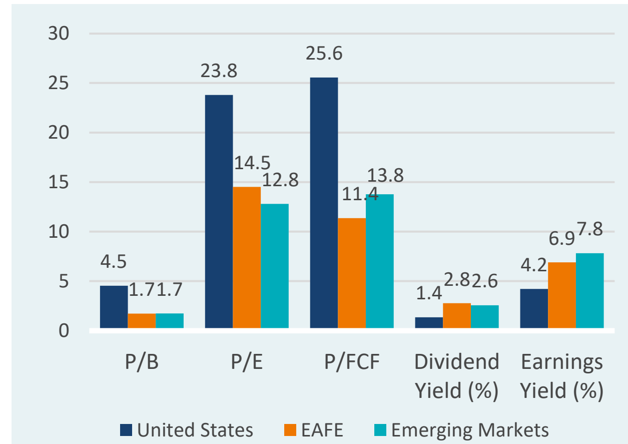
Source: MSCI, 12m forward P/E, as of 3/31/22

RELATIVE FORWARD PRICE MULTIPLES – VALUATION PERCENTILE ANALYSIS



Source: Bloomberg, MSCI, as of 3/31/22

VALUATION METRICS (3-MONTH AVERAGE)



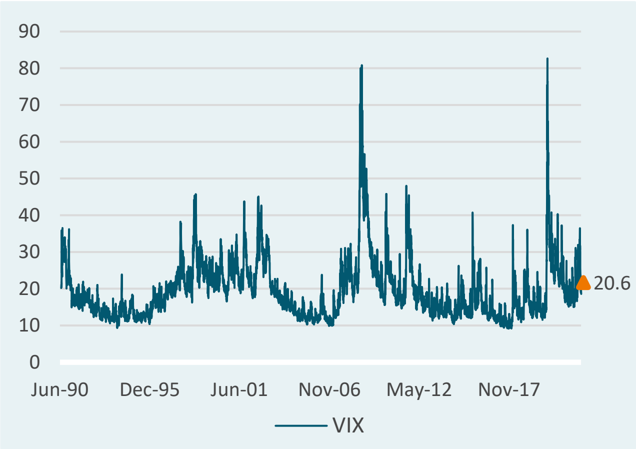
Source: Bloomberg, MSCI as of 3/31/22 - trailing P/E

Equity volatility

The Cboe VIX Index spiked mid-quarter during Russia's invasion of Ukraine, as fears of potential global conflict, food shortages, and higher inflation roiled markets. The index fell to 20 to end the quarter—moderately above the longer-term average. Realized volatility over the past year was muted as the pandemic and its associated pain has moved into the rearview mirror. U.S. markets were the most volatile among developed and emerging markets, which has been rare historically. Implied volatility for close-to-the-money put and call options on U.S. large-cap stocks appears to be reflecting fairly-neutral risk positioning. In short, the price of downside protection relative to upside participation is around average.

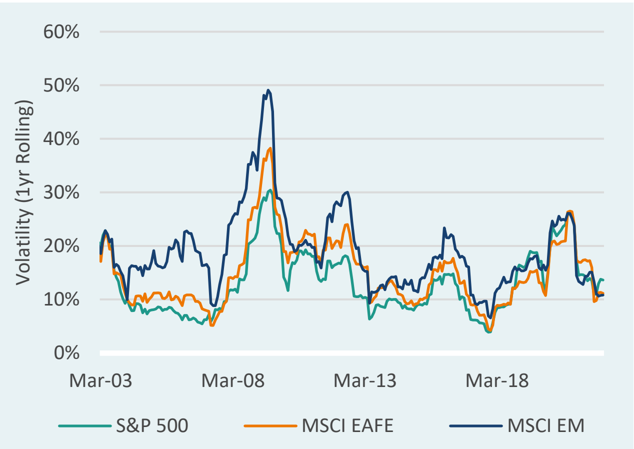
While realized volatility in emerging market equities was fairly low relative to history in Q1, weakness in tech shares and concerns over potential sanctions resulted in material selloffs in highly-tech-weighted regional markets. In U.S. dollar terms, the MSCI China Index closed the quarter -44% below previous records, and Russian stocks were marked down -100%. Moving forward, the exclusion of Russian equities from MSCI's Emerging Market benchmark will result in an even higher weighting for the Asian segment of the EM complex, which tends to be more growth-tilted and more volatile.

U.S. IMPLIED VOLATILITY (VIX)



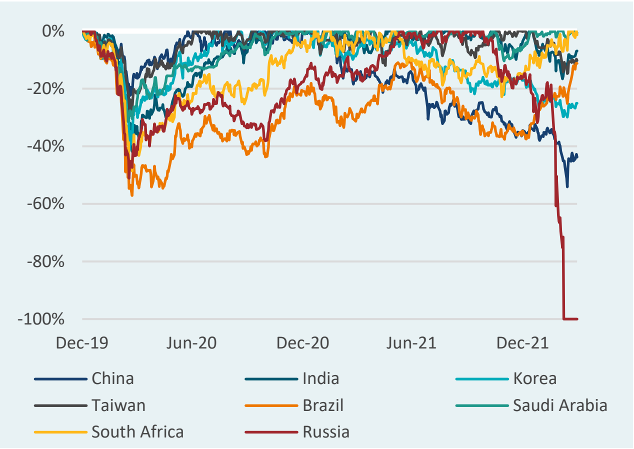
Source: Cboe, as of 3/31/22

REALIZED VOLATILITY



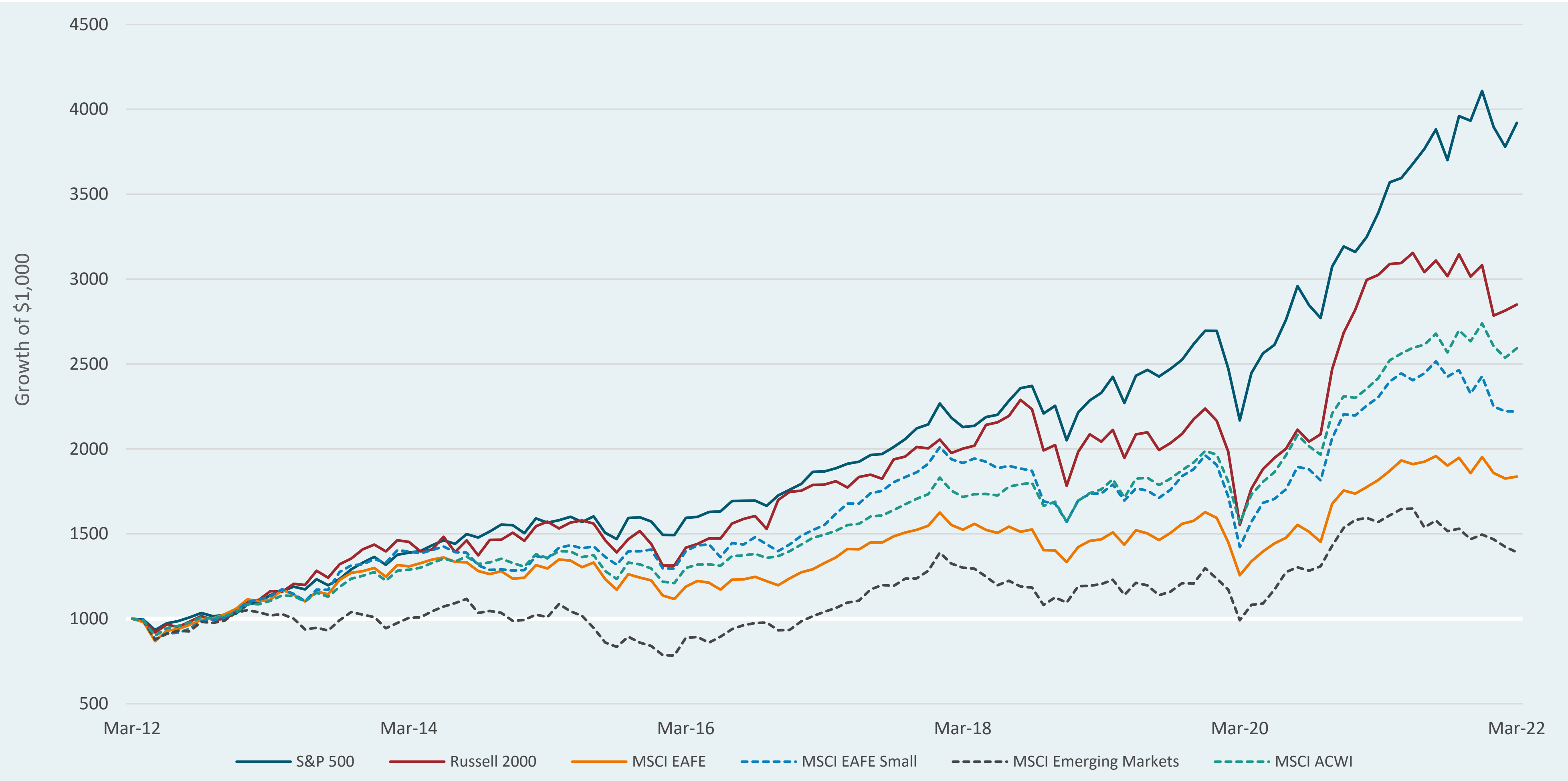
Source: Standard & Poor's, MSCI, as of 3/31/22

EM EQUITY – MAX DRAWDOWNS FROM PEAKS



Source: MSCI, Bloomberg, as of 3/31/22, returns in USD

Long-term equity performance



Source: Morningstar, as of 3/31/22

Other assets

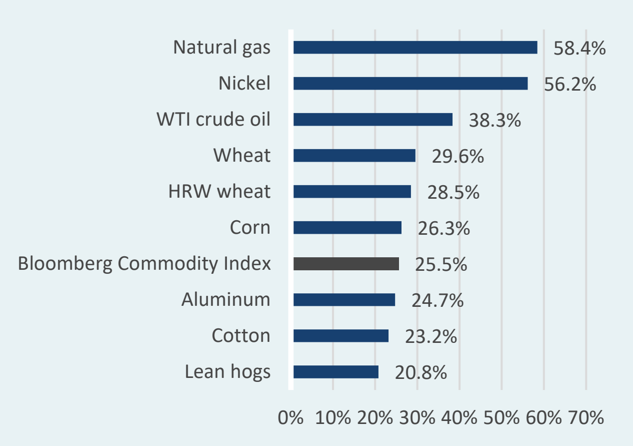
Commodities

Commodities were by far the best-performing major asset class in Q1 2022 (Bloomberg Commodity Index +25.5%), with every major sector contributing positively to overall index returns. The Energy (+47.9%) and Grains (+24.9%) sectors drove the advance, as investors speculated on what war in the Ukraine and the economic ostracization of Russia might mean for energy access and wheat and corn production.

Industrial metals (+22.7%) also rallied substantially, influenced by clean energy transition efforts that have ramped up in recent months. A short squeeze in nickel (+56.2%) was additive to performance.

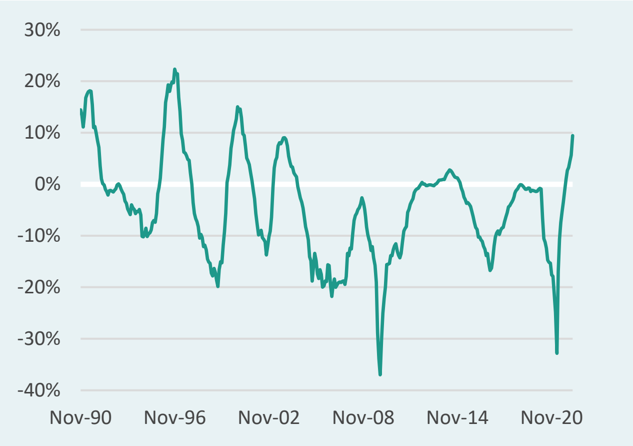
Improving roll yield has been a huge component of the outsized total return offered by commodities, adding +9.4% to performance over the last twelve months. Massive increases in spot prices relative to further-dated contracts pushed many commodity futures curves into relatively steep backwardation over the near-term, allowing investors to roll their contracts for a profit. In order for this roll yield to be sustainable, spot prices will need to stay elevated relative to futures pricing.

BLOOMBERG COMMODITY INDEX – Q1 2022



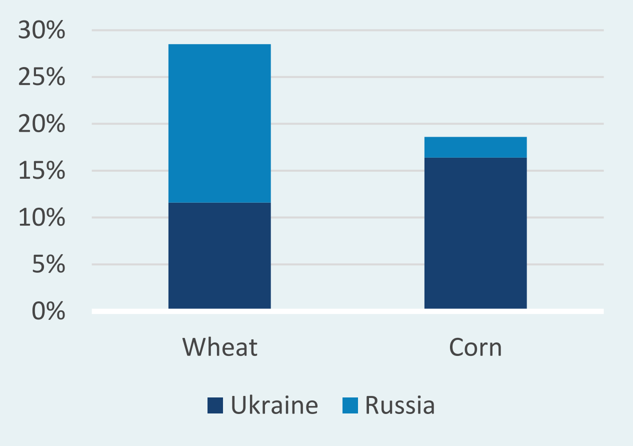
Source: Bloomberg, as of 3/31/22

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



Source: Standard & Poor's, Bloomberg, as of 3/31/22

SHARE OF GLOBAL GRAIN EXPORTS



Source: Food and Agriculture Organization of the United Nations

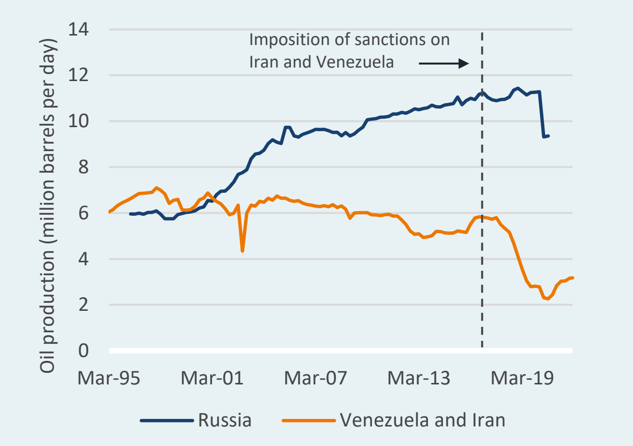
How can the Russian oil gap be filled?

Russia produced approximately 11 million barrels of oil per day prior the onset of Covid-19 and the recent economic sanctions. Since then, many countries have imposed embargoes on Russian oil, and higher prices have incentivized policymakers to reopen discussions with other producers, including Venezuela and Iran.

Prior to the imposition of sanctions on Venezuelan and Iranian oil in January 2019 and June 2019, respectively, the two countries were producing around 5.8 million barrels per day. Today, they are producing around 3.2 million barrels per day. Even if the two countries were able to ramp up production back to pre-sanction levels, which would be an impressive feat both diplomatically and physically, that would only replace roughly a quarter of Russian output.

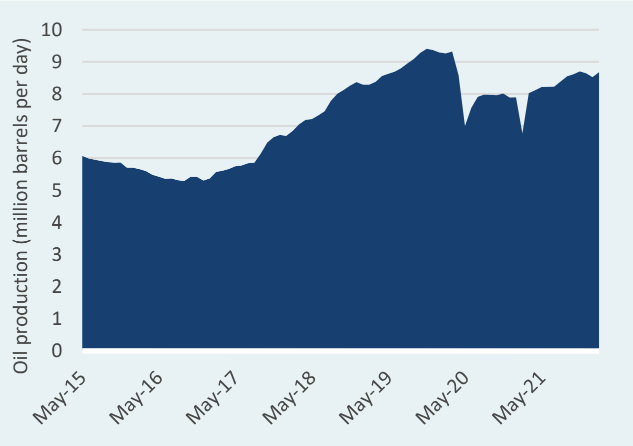
Increased energy production is needed to alleviate high prices, but this conflicts with the West's climate priorities. U.S. government officials have given mixed signals to oil producers. For example, the administration announced in April that it will resume its sale of leases for drilling on federal land, though 80% less land will be leased relative to the footprint that had been originally evaluated. Furthermore, required royalties for energy extraction were raised from 12.5% to 18.75%. In the U.S., many shale firms have opted to increase production on existing land, but have been slow to pursue new projects—partly due to supply chain issues (shortages in labor, truck drivers, and frack sand) and also due to prioritization of profits over growth. This newfound conservatism is reflected by recent comments from Scott Sheffield, CEO of Pioneer Natural Resources Co., who said his company, the largest oil producer in the Permian Basin, is not currently considering raising its long-term goal of increasing oil production by 0-5% per year. As shown on the bottom right, Pioneer's goal this year is to return 80% of cash flow to investors.

WHAT ABOUT VENEZUELA AND IRAN?



Source: Bloomberg News, as of 2/28/22

TOTAL U.S. SHALE PRODUCTION



Source: Rystad Energy, as of 4/30/22

SHALE PRODUCERS' FOCUS ON DIVIDENDS

Reinvesting **<35%** of cash flow supporting oil growth up to 5%

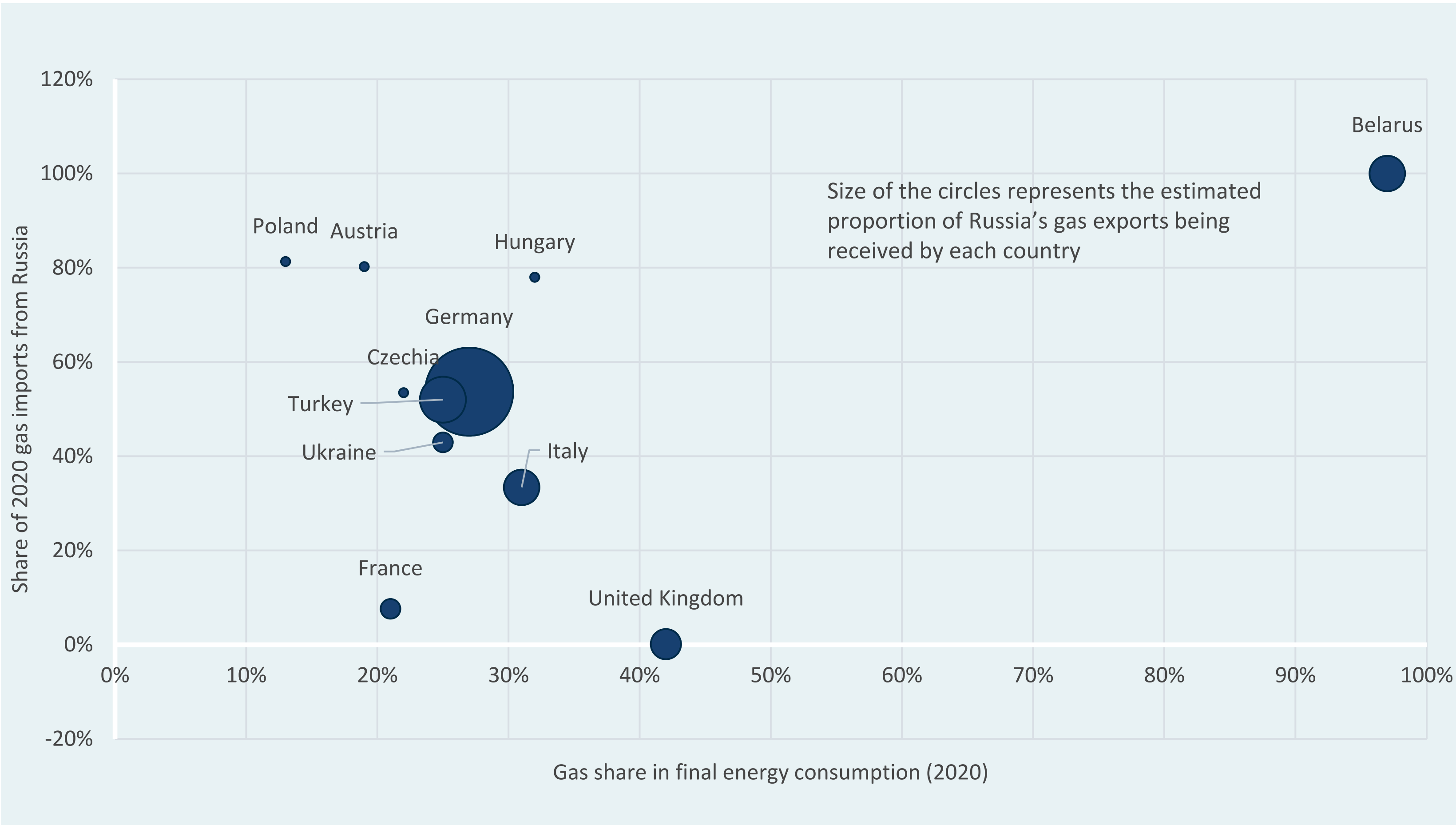
~80% of free cash flow returned through dividends[3]

Share repurchases **increase return of capital** above ~80% of free cash flow[3]

Source: Pioneer Natural Resources, Q4 2021 Earnings Presentation

Russian energy embargoes

RUSSIAN GAS EXPOSURE VS. GAS DEPENDENCE



Most countries which have banned Russian oil and gas do not rely heavily on Russia for their energy resources

Source: Bruegel, as of 2/28/22

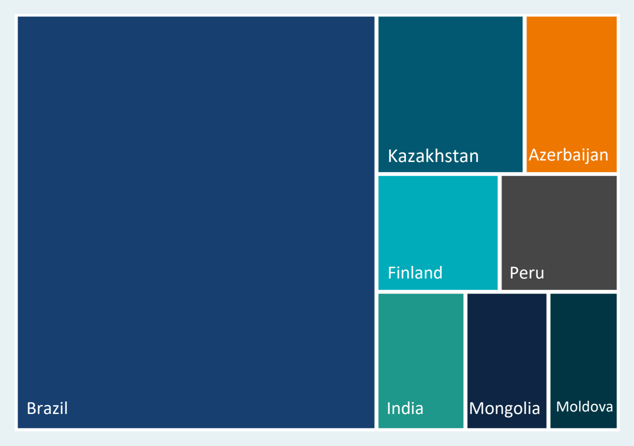
Grain supply outlook

Russia, the world's largest fertilizer exporter, imposed a two-month ban on ammonium nitrate exports, which threatens the availability of fertilizer supplies, especially to South America, as the region enters a critical point in the growing season. Although the United States is not a direct buyer of Russian ammonium nitrate, the export ban is likely to result in higher prices for U.S. farmers.

The outlook for South America's soybean crops has deteriorated as a second year of drought, brought on by La Nina, drags down yield and production forecasts. *Gro Intelligence*'s yield forecast model indicates a production decline which would take soybean stocks to the tightest levels since 2015/2016. The outlook for corn is less dire, as planted acreage is up approximately 5% in Brazil this year, though falling crop yields could offset greater acreage.

China, the world's largest grain consumer is also facing significant food shortages. Recently, the country's agriculture minister stated that the condition of the winter wheat crop was the "worst in history", and that yields are expected to fall around 20%.

MAJOR DESTINATIONS FOR RUSSIAN AMMONIUM NITRATE EXPORTS (VOLUME)

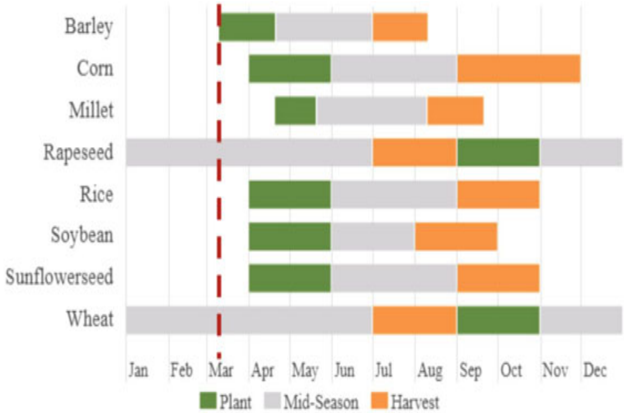


Source: COMTRADE, Gro Intelligence, as of 12/31/20

U.S. CORNBELT AMMONIUM NITRATE PRICES

Source: Bloomberg, as of 3/23/22

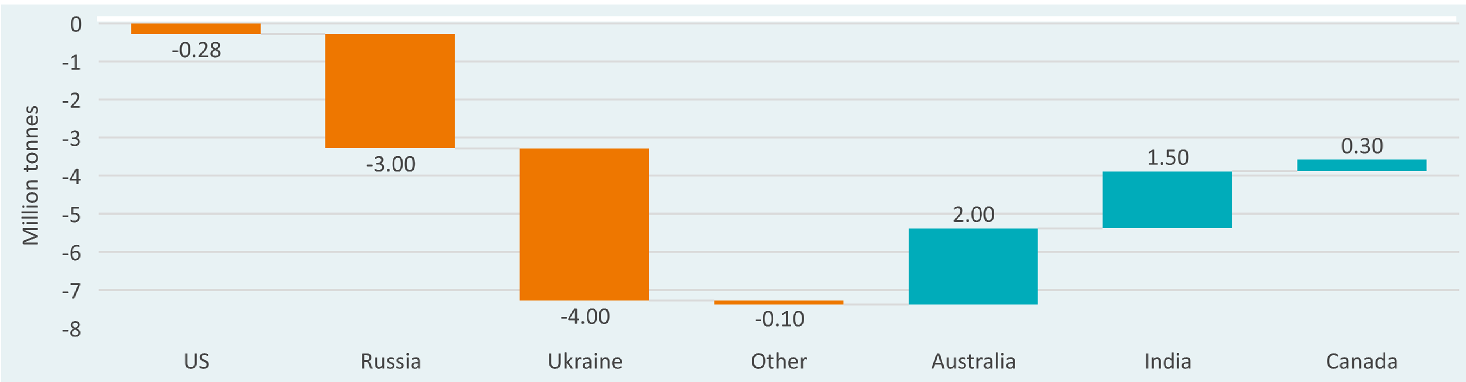
UKRAINE – CROP CALENDAR



Source: USDA, Ukraine Ministry of Agriculture

Where will incremental supply come from?

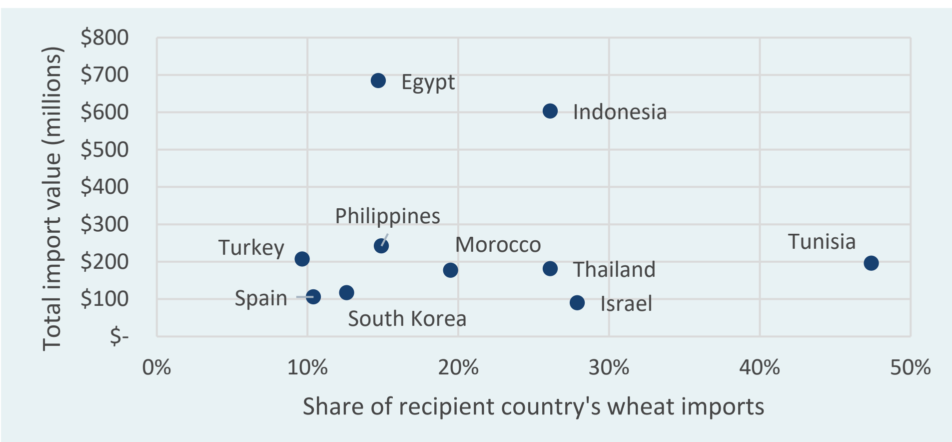
FEBRUARY TO MARCH CHANGE IN 2022 GLOBAL WHEAT EXPORTS



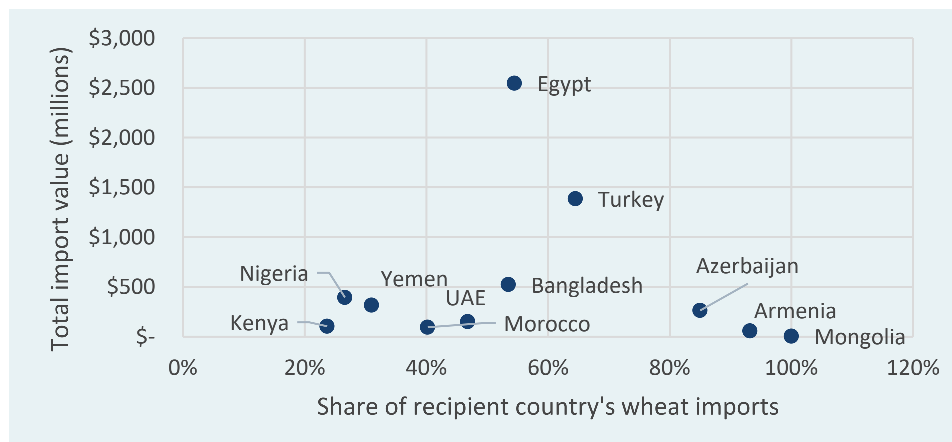
Global production is expected to drop 3.5 million metric tons in 2022, as substitution from farmers in Australia, India, and Canada is not expected to be able to fully offset production declines in the Black Sea region

Source: USDA March 2022 World Agricultural Supply and Demand Estimates. Export change based on revised projections from the USDA World Agricultural Supply and Demand Estimates

UKRAINIAN GLOBAL WHEAT EXPORTS



RUSSIAN GLOBAL WHEAT EXPORTS



Source: OEC, BACI

Appendix

Periodic table of returns

BEST ↑ … ↓ WORST

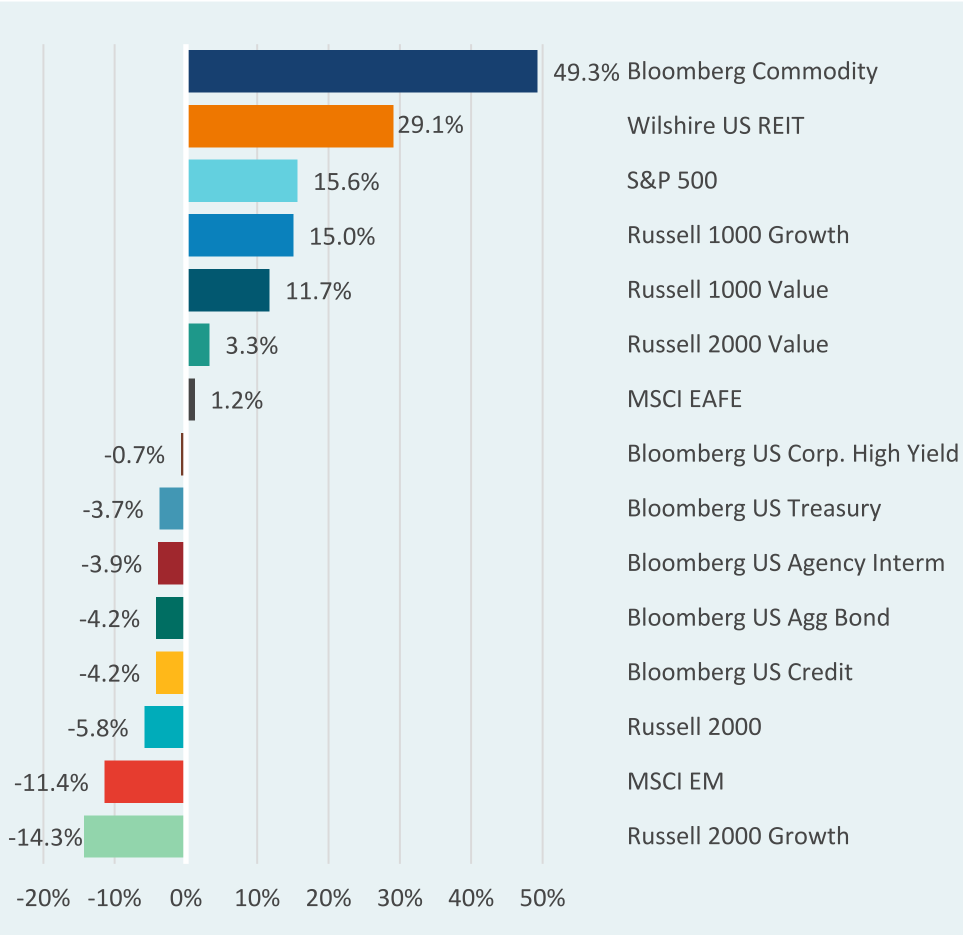
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	5-Year	10-Year
Commodities	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	28.3	15.6	20.2	17.0
Real Estate	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	34.6	27.6	0.0	15.1	14.5
Cash	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	28.5	21.0	27.1	0.0	10.5	11.7
US Bonds	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	26.5	20.0	26.5	-3.2	9.5	11.4
Large Cap Value	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	25.5	18.3	25.2	-3.5	9.5	11.2
Hedge Funds of Funds	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	17.7	-3.5	8.0	10.7
Small Cap Value	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	14.8	-4.3	8.0	9.3
Emerging Markets Equity	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	18.6	7.8	11.3	-4.8	7.8	6.5
60/40 Global Portfolio	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	18.4	7.5	8.9	-5.7	7.2	6.2
International Equity	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	8.7	4.6	6.5	-6.5	7.0	3.8
Large Cap Equity	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	7.8	2.8	2.8	-8.2	6.6	3.2
Small Cap Equity	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	7.7	0.5	0.0	-8.7	4.5	2.5
Large Cap Growth	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	6.4	0.5	-1.5	-12.5	2.7	0.6
Small Cap Growth	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	2.1	-3.1	-2.5	-13.0	1.1	-1.9

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

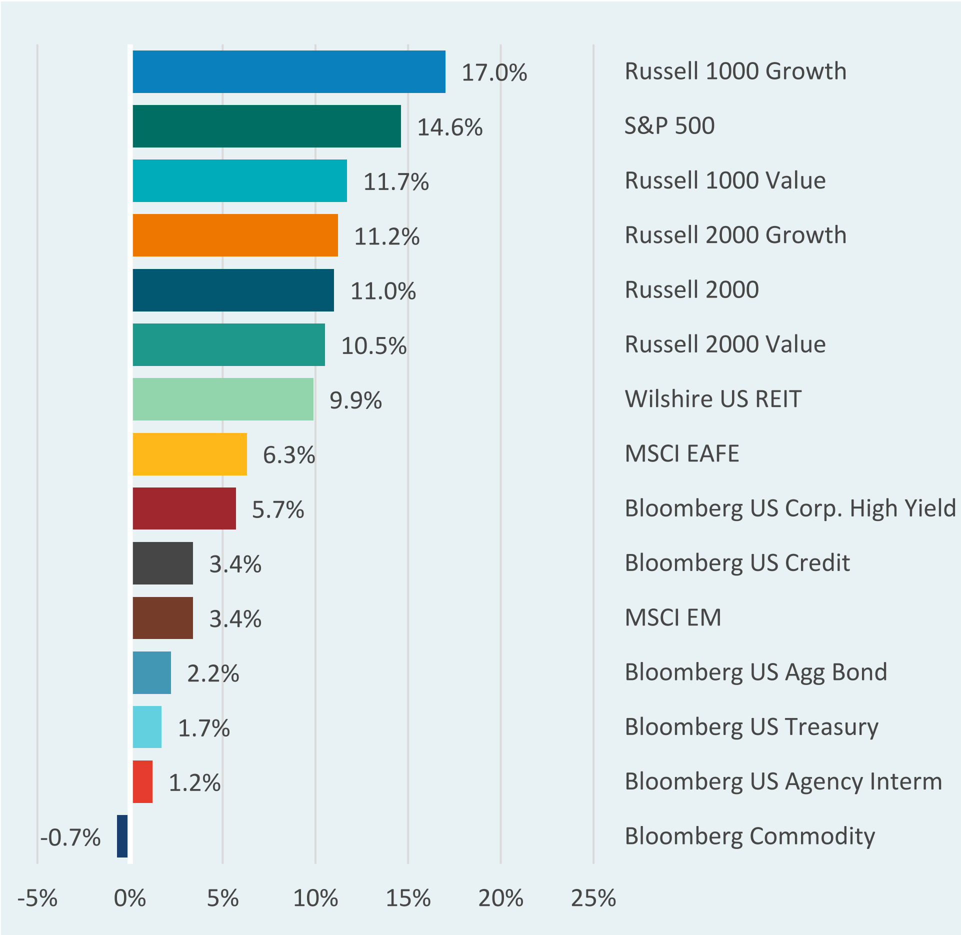
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 12/31/21.

Major asset class returns

ONE YEAR ENDING MARCH



TEN YEARS ENDING MARCH



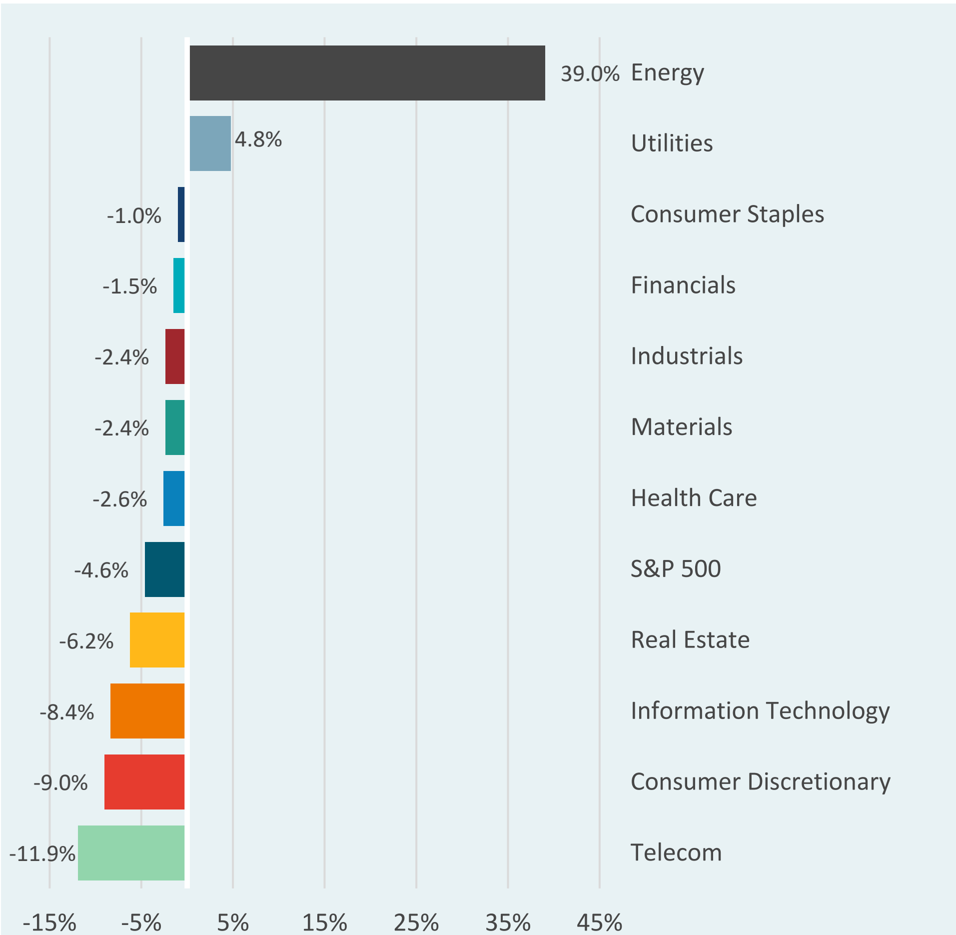
Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 3/31/22

Source: Morningstar, as of 3/31/22

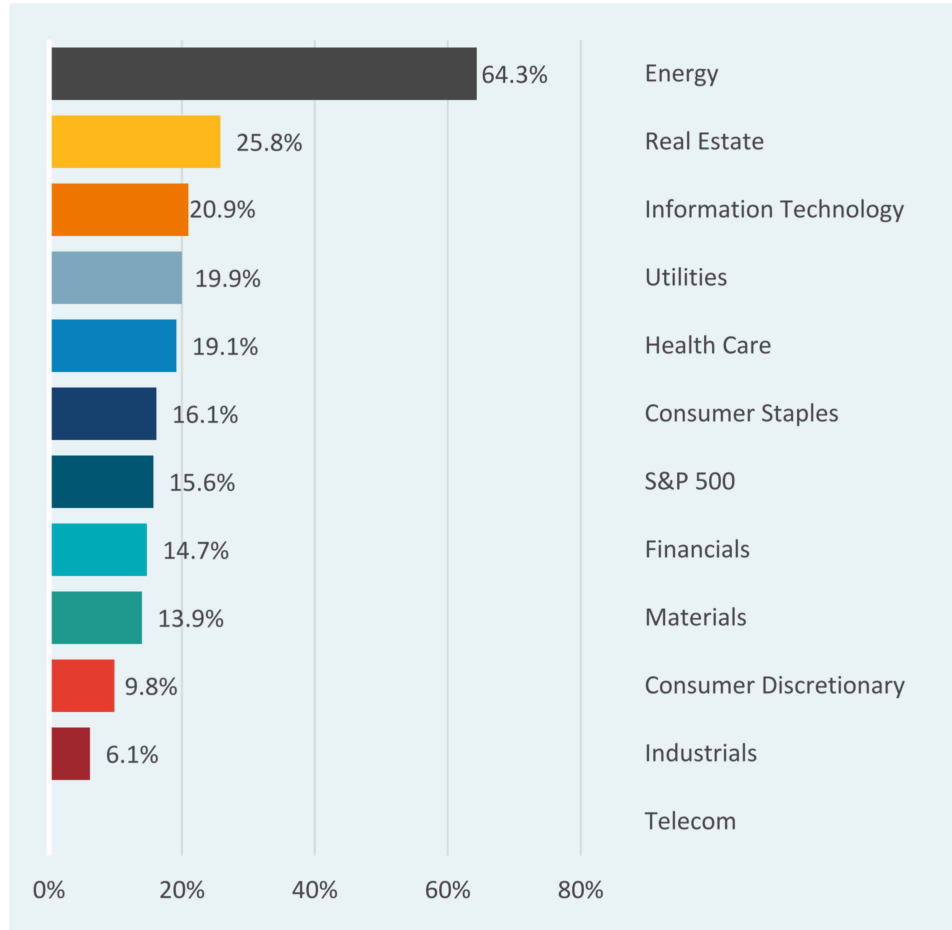
S&P 500 sector returns

Q1 2022



Source: Morningstar, as of 3/31/22

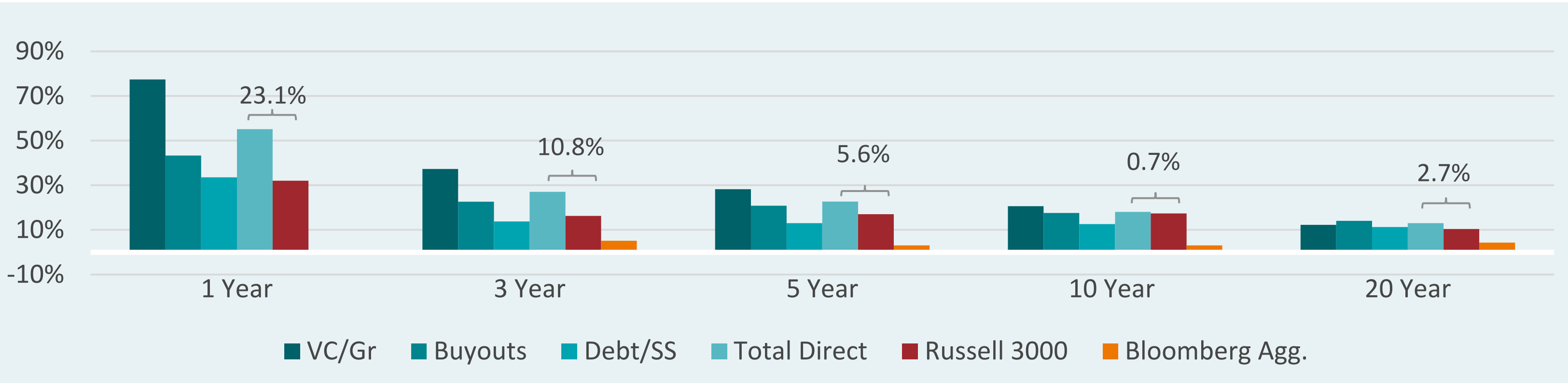
ONE YEAR ENDING MARCH



Source: Morningstar, as of 3/31/22

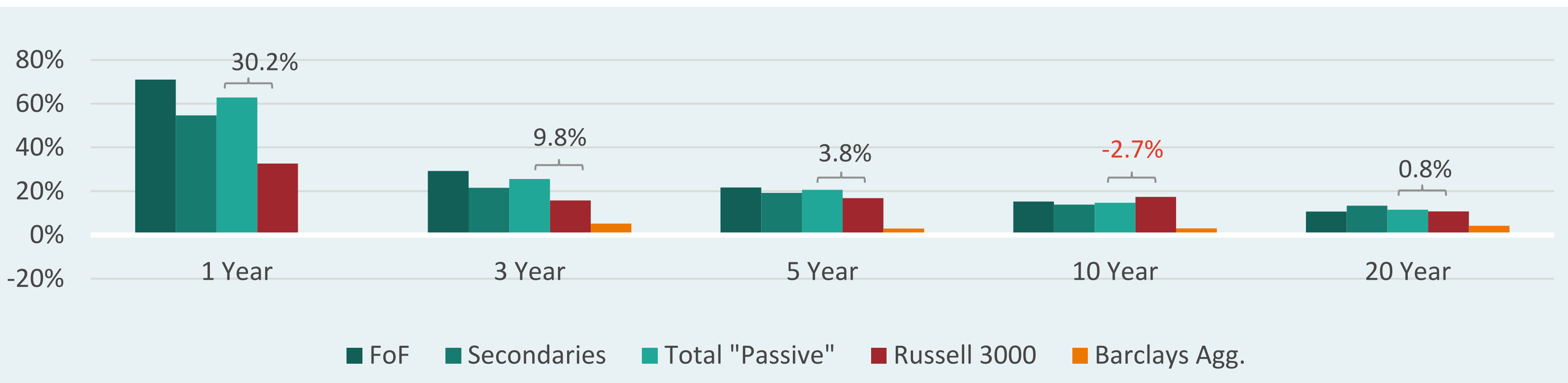
Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



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

"PASSIVE" STRATEGIES

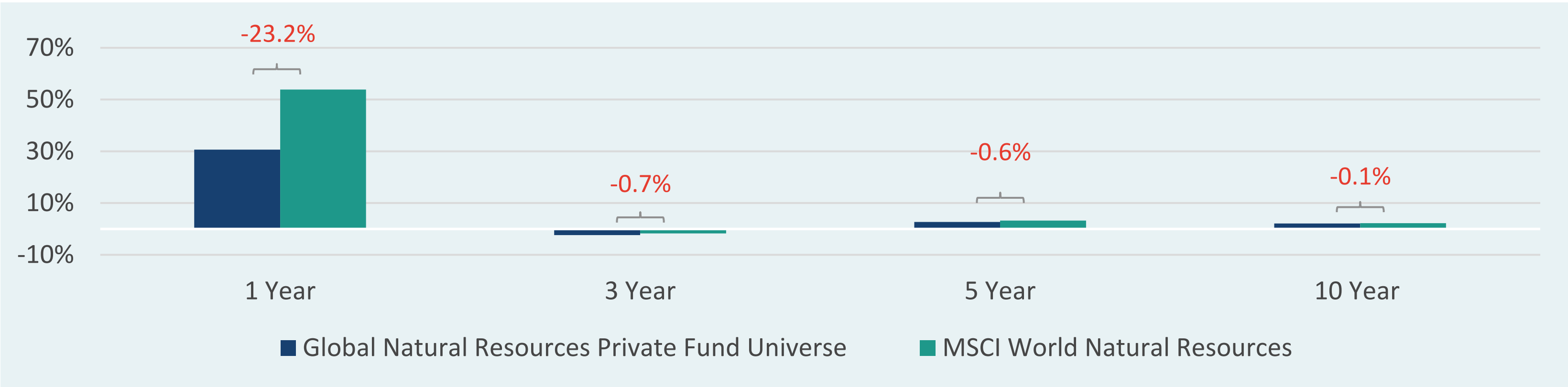


"Passive" strategies outperformed comparable public equities across all time periods, aside from the 10-year basis.

Sources: C|A PME: U.S. Private Equity Funds sub asset classes as of September 30, 2021. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.

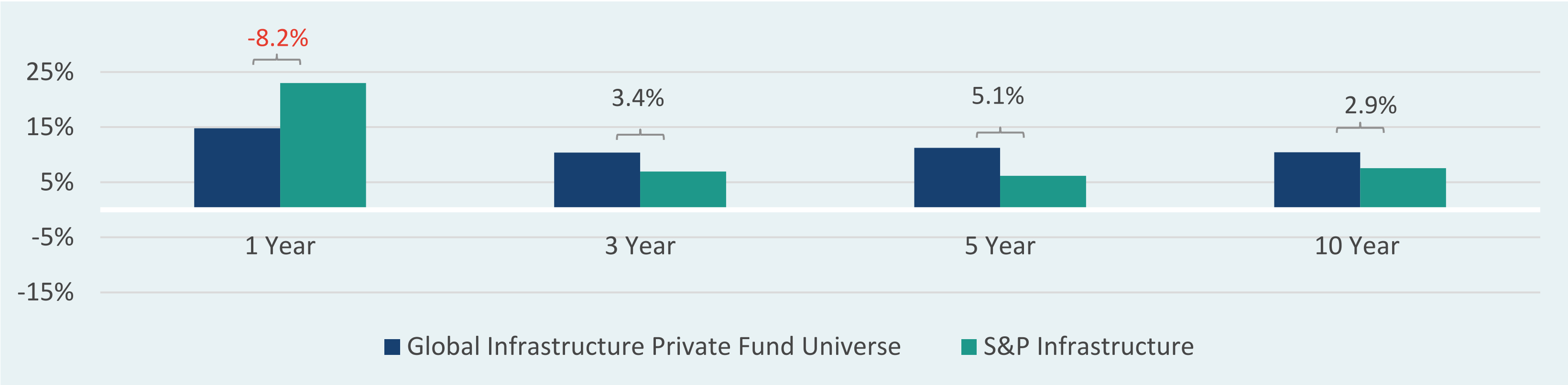
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



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

GLOBAL INFRASTRUCTURE FUNDS

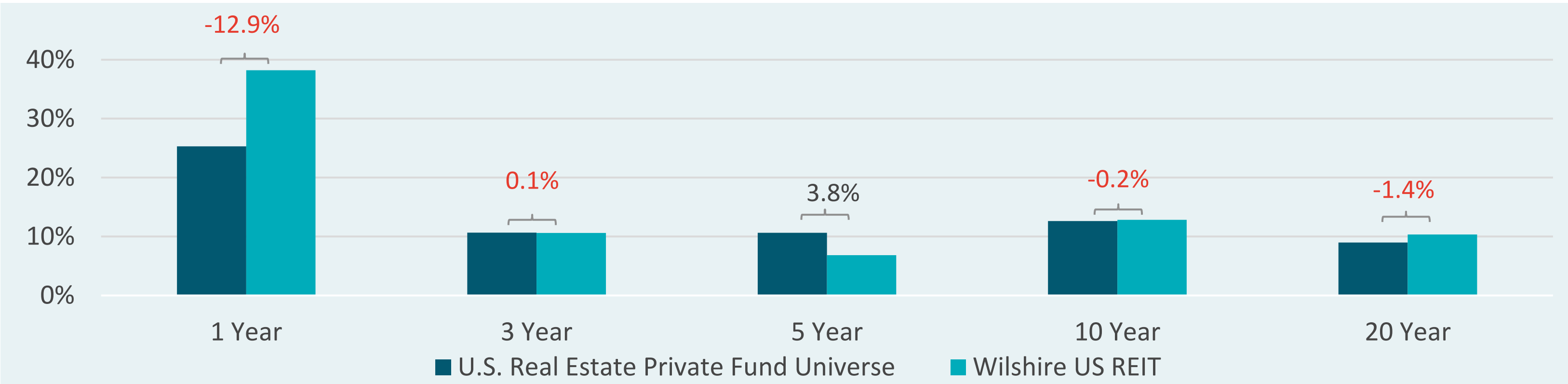


Infra. funds outperformed the S&P Infra. across all periods, aside from the 1-year basis.

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

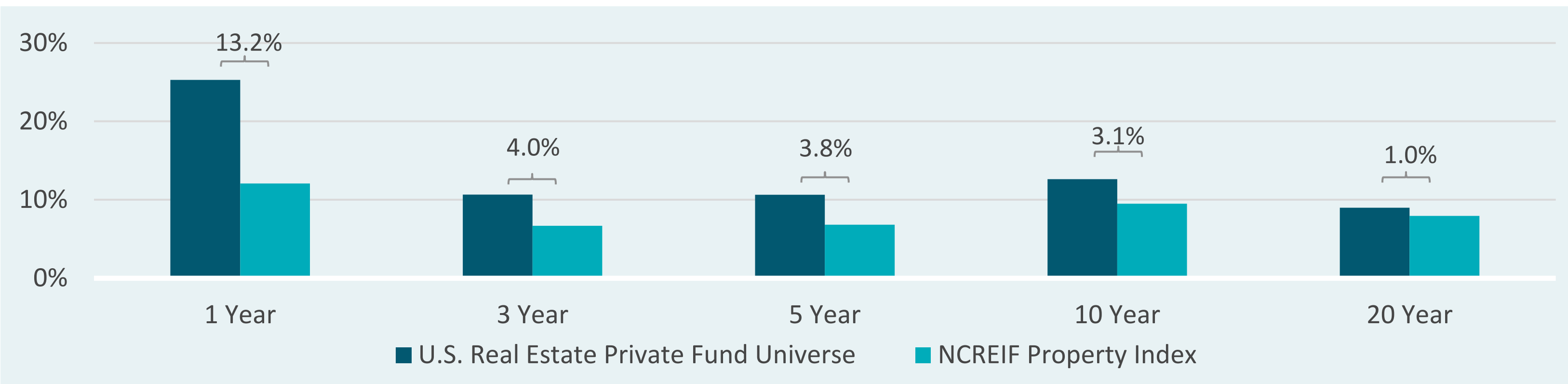
Private vs. liquid and core real estate performance

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



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

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



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

Sources: C|A PME: U.S. Real Estate universes as of September 30, 2021. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	3.7	(4.6)	(4.6)	15.6	18.9	16.0	14.6
S&P 500 Equal Weighted	2.6	(2.7)	(2.7)	13.1	17.0	13.9	14.0
DJ Industrial Average	2.5	(4.1)	(4.1)	7.1	12.6	13.4	12.8
Russell Top 200	3.7	(4.9)	(4.9)	15.7	20.1	17.0	15.2
Russell 1000	3.4	(5.1)	(5.1)	13.3	18.7	15.8	14.5
Russell 2000	1.2	(7.5)	(7.5)	(5.8)	11.7	9.7	11.0
Russell 3000	3.2	(5.3)	(5.3)	11.9	18.2	15.4	14.3
Russell Mid Cap	2.6	(5.7)	(5.7)	6.9	14.9	12.6	12.9
Style Index							
Russell 1000 Growth	3.9	(9.0)	(9.0)	15.0	23.6	20.9	17.0
Russell 1000 Value	2.8	(0.7)	(0.7)	11.7	13.0	10.3	11.7
Russell 2000 Growth	0.5	(12.6)	(12.6)	(14.3)	9.9	10.3	11.2
Russell 2000 Value	2.0	(2.4)	(2.4)	3.3	12.7	8.6	10.5

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	2.2	(5.4)	(5.4)	7.3	13.8	11.6	10.0
MSCI ACWI ex US	0.2	(5.4)	(5.4)	(1.5)	7.5	6.8	5.6
MSCI EAFE	0.6	(5.9)	(5.9)	1.2	7.8	6.7	6.3
MSCI EM	(2.3)	(7.0)	(7.0)	(11.4)	4.9	6.0	3.4
MSCI EAFE Small Cap	(0.0)	(8.5)	(8.5)	(3.6)	8.5	7.4	8.3
Style Index							
MSCI EAFE Growth	0.6	(11.9)	(11.9)	(1.5)	9.8	8.9	7.5
MSCI EAFE Value	0.7	0.3	0.3	3.6	5.2	4.2	4.9
Regional Index							
MSCI UK	0.1	1.8	1.8	13.6	5.3	5.5	4.5
MSCI Japan	(0.5)	(6.6)	(6.6)	(6.5)	6.8	6.1	6.5
MSCI Euro	(1.7)	(11.1)	(11.1)	(3.4)	6.8	5.5	5.9
MSCI EM Asia	(3.1)	(8.7)	(8.7)	(15.2)	6.1	7.2	5.8
MSCI EM Latin American	13.1	27.3	27.3	23.5	3.2	4.1	(1.1)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	(1.9)	(3.0)	(3.0)	4.3	6.2	4.4	2.7
Bloomberg US Treasury Bills	(0.0)	(0.0)	(0.0)	(0.0)	0.8	1.1	0.6
Bloomberg US Agg Bond	(2.8)	(5.9)	(5.9)	(4.2)	1.7	2.1	2.2
Bloomberg US Universal	(2.7)	(6.1)	(6.1)	(4.2)	1.9	2.3	2.6
Duration							
Bloomberg US Treasury 1-3 Yr	(1.4)	(2.5)	(2.5)	(3.0)	0.8	1.0	0.8
Bloomberg US Treasury Long	(5.3)	(10.6)	(10.6)	(1.4)	3.3	3.9	4.0
Bloomberg US Treasury	(3.1)	(5.6)	(5.6)	(3.7)	1.4	1.8	1.7
Issuer							
Bloomberg US MBS	(2.6)	(5.0)	(5.0)	(4.9)	0.6	1.4	1.7
Bloomberg US Corp. High Yield	(1.1)	(4.8)	(4.8)	(0.7)	4.6	4.7	5.7
Bloomberg US Agency Interm	(2.1)	(3.7)	(3.7)	(3.9)	0.7	1.1	1.2
Bloomberg US Credit	(2.5)	(7.4)	(7.4)	(4.2)	2.8	3.2	3.4

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	8.6	25.5	25.5	49.3	16.1	9.0	(0.7)
Wilshire US REIT	6.9	(3.9)	(3.9)	29.1	11.9	10.0	9.9
CS Leveraged Loans	0.0	(0.1)	(0.1)	3.2	4.1	4.1	4.5
S&P Global Infrastructure	5.9	7.5	7.5	16.7	8.0	7.7	7.8
Alerian MLP	2.0	18.9	18.9	37.5	1.4	(1.1)	1.2
Regional Index							
JPM EMBI Global Div	(0.9)	(10.0)	(10.0)	(7.4)	0.0	1.7	3.7
JPM GBI-EM Global Div	(1.5)	(6.5)	(6.5)	(8.5)	(1.1)	0.2	(0.7)
Hedge Funds							
HFRI Composite	(0.1)	(1.6)	(1.6)	2.6	8.3	6.2	5.1
HFRI FOF Composite	0.6	(2.7)	(2.7)	1.3	5.9	4.6	3.9
Currency (Spot)							
Euro	(0.9)	(2.2)	(2.2)	(5.3)	(0.3)	0.8	(1.8)
Pound Sterling	(1.9)	(2.8)	(2.8)	(4.6)	0.3	1.0	(1.9)
Yen	(5.1)	(5.1)	(5.1)	(9.0)	(3.0)	(1.7)	(3.8)

Source: Morningstar, HFRI, as of 3/31/22.

Definitions

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

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

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

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

Notices & disclosures

Glossary

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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