NOTTINGHAM ADVISORS
ASSET MANAGEMENT

Monthly Market Wrap
as of 4/30/2022

ECONOMIC OVERVIEW

The Federal Open Market Committee will meet this week and likely announce a 50 basis point hike in the Fed Funds rate, taking the short-term marker from .50% to 1.00%. Market forecasters will be keenly monitoring the Fed's subsequent dot-plot, as well as Chair Powell's comments at the post-meeting debrief, for clues into the pace of future interest rate hikes.

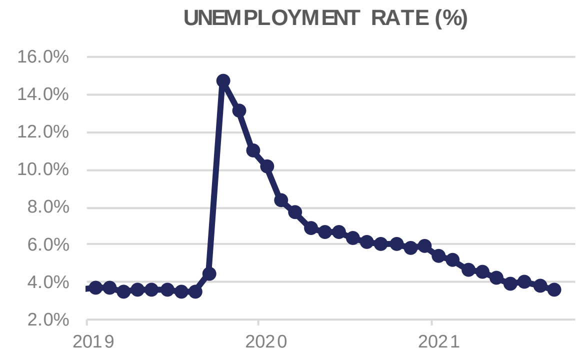
With the March Consumer Price Index showing a +1.2% MoM rise and the Producer Price Index edging up a greater than expected +1.4% MoM, it's clear the Fed has a long way to go before it catches up to today's inflation readings. CPI is running at +8.5% on a YoY basis while PPI has surged +11.2%. The Fed's favored measure the PCE Core Deflator is even up +5.2%, while the Fed Funds rate remains sub 1%.

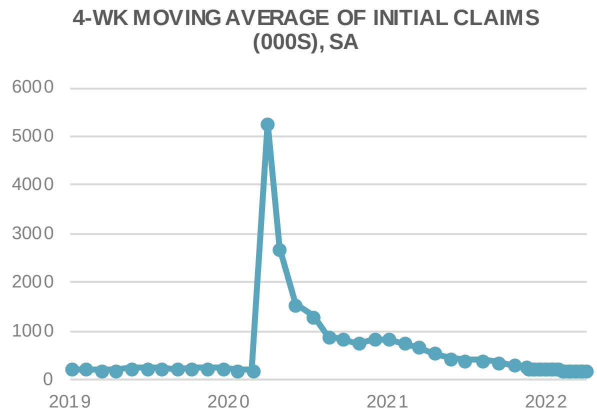
Despite the move higher in mortgage interest rates, the housing market remains hot. The S&P CoreLogic CS 20-City index surged +2.4% MoM in February and is now up +20.2% YoY. The fundamental mismatch between the current supply and current demand for housing suggests that prices may remain robust, even in the face of higher mortgage rates. Housing Starts rose +0.3% in March, while Existing Home Sales fell -2.7% and New Home Sales dropped -8.6%.

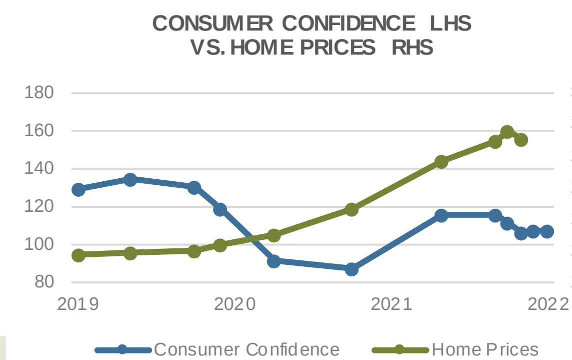
The first look at Q1 GDP came in lower than expected with the report showing the economy contracted -1.4% on an annualized basis (expectations were for growth of +1.0%). The consumer remained strong in March as Personal Income rose +0.5% while Personal Spending surged +1.1%, beating expectations for a +0.6% rise. The ISM Manufacturing reading for April came in below expectations at 55.4, although still suggestive of expansion.

The labor market remains challenged as the Unemployment Rate for March came in at 3.6% while the latest JOLTS report showed more than 11 million jobs available. The Employment Cost Index is up +4.5% YoY as of the end of Q1, and upward pressure remains on wages as the world continues to grapple with Covid-related disruption.

The aforementioned Federal Reserve meeting this week should offer a glimpse into its thinking on inflation and the subsequent pace of interest rate hikes needed to quell rising prices. Markets are nervously anticipating various outcomes, including a 75 basis point hike this week. Further hawkishness will be required in order to convince investors the Fed truly grasps the pernicious nature of inflation. Having hidden behind the "transitory" thesis for too long, the Fed's credibility with regard to inflation fighting is clearly on the line.

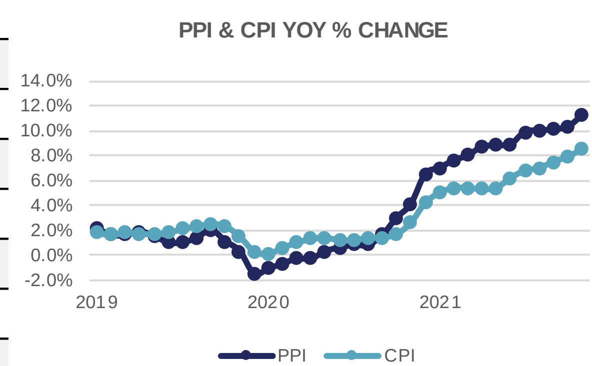






KEY DATA POINTS

Data Point	Current	For	Previous	For
Retail Sales ex. Autos MOM %	1.1%	March	1.8%	February
Housing Starts	1793K	March	1788K	February
Factory Orders MOM %	-0.5%	February	1.5%	January
Leading Indicators MOM %	0.3%	March	0.6%	February
Unit Labor Costs	0.9%	Q4 2021	10.6%	Q3 2021
GDP QOQ (Annualized)	-1.4%	Q1 2022	6.9%	Q4 2021
Wholesale Inventories	2.3%	March	2.6%	February
MBA Mortgage Applications	-8.3%	April	-5.0%	March



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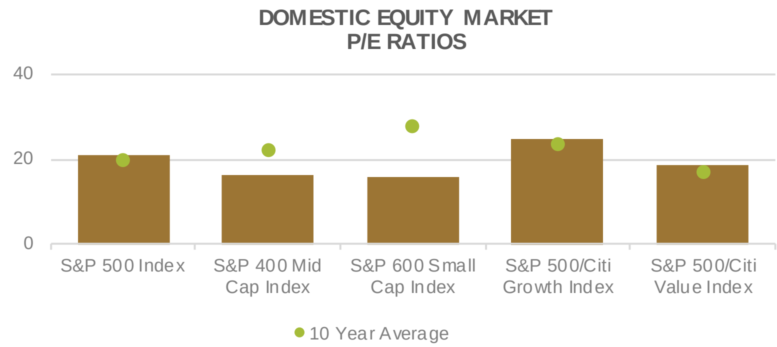
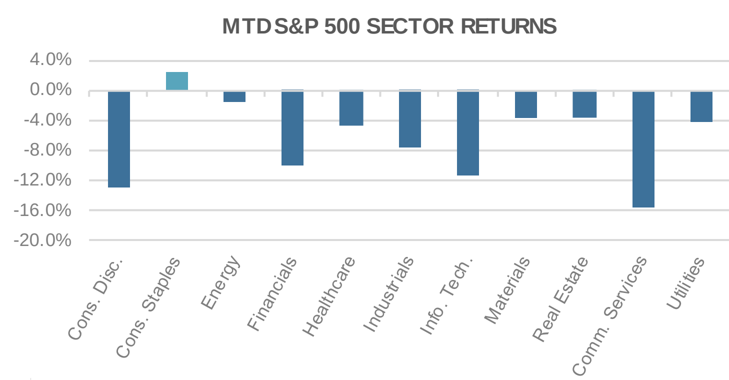
DOMESTIC EQUITY

U.S equities suffered their worst month since March 2020 this past month, with the benchmark S&P 500 Index falling -8.72% during the period to close at 4,132. Mid- and Small-Caps, as measured by the S&P 400 and 600 Indices fared slightly better, losing -7.11% and -7.81%, respectively. The subtle outperformance versus Large-Caps can be primarily attributed to “FAANG” (Facebook, Apple, Amazon, Netflix, Google), or the lack thereof in the SMID-cap space. The FAANG cohort was responsible for 37% of the S&P 500’s April decline according to S&P Dow Jones Indices. Extrapolating further, Growth stocks, as measured by the S&P 500/Citi Growth Index lost -12.48% during the period, compared to a -4.86% loss for the S&P 500/Citi Value Index. For the year, Growth stocks are down a firm -20.00%, in line with the NASDAQ Composite Index, which is down fractionally more. Value stocks, on the other hand, have held their own, losing only -5.02% year to date, compared with -12.92% for the S&P 500 as a whole.

Last week marked one of the busiest weeks for corporate earnings so far this earnings season, headlined by reports from Google (Alphabet), Microsoft, Facebook (Meta), and Apple. Netflix reported earnings the week prior, after which its stock plummeted more than -30%. Amazon shed nearly -14% post its earnings release, and even Apple wasn’t immune despite beating both top and bottom line estimates. The market continues to digest a host of earnings releases amidst surging inflation, supply chain woes, China’s Zero COVID policy, and Federal Reserve monetary policy uncertainty. The Federal Open Market Committee is scheduled to deliver a widely anticipated 50bp rate hike on Wednesday, and all eyes will be glued towards Fed Chair Powell’s commentary on the pace of future rate hikes, balance sheet runoff, and the overall central tendency of the Fed’s “Dot Plot”. Adding to the uncertainty around the Fed, the US economy contracted -1.4% in Q1 on the heels of the Omicron variant surge back in January. Put bluntly, much uncertainty abounds; however, valuations continue to remain supportive.

Earnings estimates for the S&P 500 continue to increase for FY 2022 ($228) and 2023 ($250), putting the S&P 500 at approximately 16.9x 2023 earnings estimates. Perhaps more importantly, Small-Cap earnings estimates for 2022 ($90) and 2023 ($103) also continue to rise, putting the S&P 600 Index at 12.2x 2023 earnings, essentially back to its March 2020 COVID lows. Given Small-caps exposure to Financials and Value oriented sectors, the group can viewed as strong barometer of both the U.S. economy (nearly 80% of sales) and of risk appetite.At the sector level, only Consumer Staples posted positive performance on the month, and remains the only sector in positive territory for the year outside of Energy, which has surged +36.85% on the back of higher oil prices.





S&P 500 SECTOR RETURNS

Sector	MTD	QTD	YTD	1 Year	3 Year	5 Year	%S&P 500
Consumer Discretionary	-13.00%	-13.00%	-20.85%	-10.82%	11.14%	13.37%	12.06%
Consumer Staples	2.56%	2.56%	1.53%	16.50%	14.02%	10.48%	7.42%
Energy	-1.54%	-1.54%	36.85%	60.50%	10.37%	6.97%	4.08%
Financials	-9.87%	-9.87%	-11.21%	-3.05%	9.51%	10.17%	10.47%
Healthcare	-4.71%	-4.71%	-7.16%	9.16%	15.64%	13.63%	13.95%
Industrials	-7.53%	-7.53%	-9.71%	-5.27%	8.77%	9.12%	7.91%
Information Technology	-11.28%	-11.28%	-18.70%	1.89%	22.85%	23.16%	26.91%
Materials	-3.49%	-3.49%	-5.79%	4.35%	16.41%	12.15%	2.69%
Real Estate	-3.56%	-3.56%	-9.66%	11.83%	12.51%	11.73%	2.88%
Communication Services*	-15.62%	-15.62%	-25.68%	-22.49%	6.87%	6.63%	8.86%
Utilities	-4.25%	-4.25%	0.32%	10.12%	10.25%	10.28%	2.77%

*The S&P 500 Communciation Services Sector was reclassified from the Telecommunications Sector on September 21st, 2018

DOMESTIC EQUITY RETURNS

Name	MTD	QTD	YTD	1 Year	3 Year	5 Year
S&P 500 Index	-8.72%	-8.72%	-12.92%	0.20%	13.83%	13.63%
S&P 400 Mid Cap Index	-7.11%	-7.11%	-11.65%	-7.06%	9.89%	9.26%
S&P 600 Small Cap Index	-7.81%	-7.81%	-13.01%	-8.61%	9.10%	8.84%
S&P 500/Citi Growth Index	-12.48%	-12.48%	-20.00%	-3.24%	15.63%	16.28%
S&P 500/Citi Value Index	-4.86%	-4.86%	-5.02%	3.22%	10.72%	10.02%

Nottingham Advisors
Asset Management

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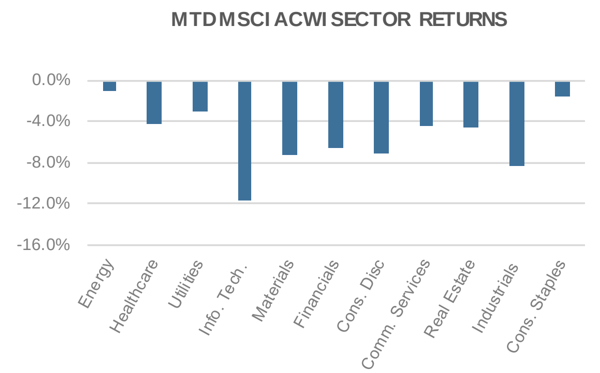
INTERNATIONAL EQUITY

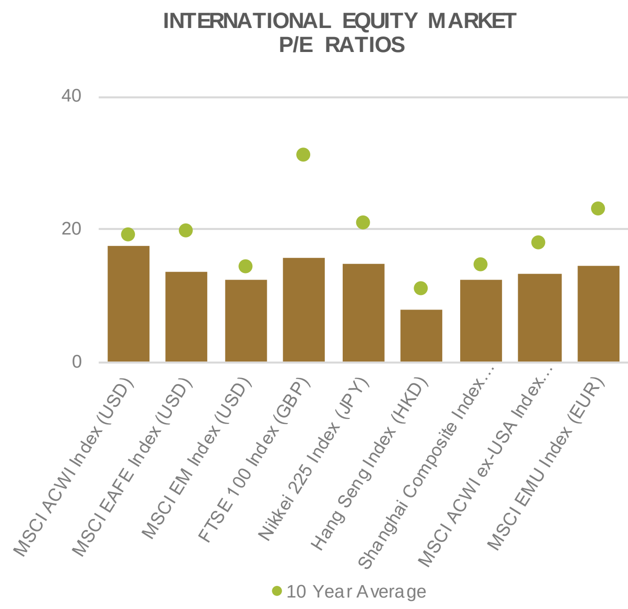
International equities had a rough time in April, with both Developed Markets (DM) and Emerging Markets (EM) losing ground. DM equities, as measured by the MSCI EAFE Index lost -6.40% on the month, while EM equities fared slightly better, losing -5.55% during the period. Compared to the S&P 500's -8.72% return, both DM and EM outperformed; however, all segments remain firmly in negative territory on the year, with DM down -11.79% and EM down -12.13%. Global equities as a whole, as measured by the MSCI ACWI Index are down -12.81% on the year; however, still sport a 5-year annualized return slightly greater than +10%.

From a regional standpoint, Eurozone equities, as measured by the MSCI EMU Index lost -1.82% in EUR terms, and -6.54% in USD terms as the Euro fell to $1.05 from $1.10 the month prior. A slew of factors have negatively impacted the Euro versus the Dollar year to date including the war in Ukraine, interest rate differentials, and the overall direction of monetary policy. The Euro last tested the $1.05 level in December 2016. Expanding within Europe, UK equities, as measured by the FTSE 100 Index gained +0.69% in GBP terms, but lost -3.61% in USD terms as the Pound weakened to $1.26 from $1.31 the month prior.

At the individual country level, Canada lost -5.10% in CAD and -7.58% in USD term. Japanese equities lost -3.50% in JPY terms, and -10.43% in USD terms as the Yen weakened to 130 per Dollar from 122 the month prior. The Bank of Japan re-emphasized its commitment to yield curve control in April, pledging unlimited purchases of government bonds to hold rates down, creating massive divergence in policy compared to the Fed and other major global central banks. The knock on impacts have been felt in Korea and China, as other Asian currencies have weakened in sympathy, in addition to their own idiosyncratic reasons.

Pivoting to China, the Shanghai Composite Index lost -6.27% on the month in CNY terms, and -10.08% in USD terms. This compares to the MSCI China Index which returned -4.07% in USD terms. The primary differences in the indices boils down to sector exposure, with the latter heavily tilted towards Technology and Internet related equities. China's Politiburo pledged to work on policy more favorable to Internet companies after the recent rout and spate of uncertainty, while the Peoples Bank of China (PBOC) cut reserve ratio requirements for banks by 1% to help stem the decline in the Yuan. With absolute levels of rates nearly on par with US rates, and an increasingly weaker Chinese economy, the Yuan remains a key barometer of risk moving forward given President Xi's Zero COVID policy. Last check, CNY/USD traded at 6.60, weakening by more than 4% on the month. Stay tuned.





MSCI ACWI EX U.S. SECTOR RETURNS

Sector	MTD	QTD	YTD	1 Year	3 Year	5 Year	% of ACWI
Energy	-0.92%	-0.92%	6.11%	22.66%	2.17%	5.91%	10.71%
Healthcare	-4.20%	-4.20%	-8.86%	-4.73%	9.07%	7.43%	7.71%
Utilities	-3.02%	-3.02%	-1.63%	5.43%	8.56%	8.92%	5.99%
Information Technology	-11.67%	-11.67%	-24.96%	-20.11%	14.01%	13.52%	9.63%
Materials	-7.28%	-7.28%	-2.21%	-3.77%	11.73%	10.05%	8.04%
Financials	-6.60%	-6.60%	-5.04%	-0.29%	3.80%	4.03%	18.62%
Consumer Discretionary	-6.96%	-6.96%	-20.28%	-27.66%	0.47%	2.01%	10.28%
Communication Services*	-4.37%	-4.37%	-10.14%	-21.78%	0.89%	1.64%	6.18%
Real Estate	-4.50%	-4.50%	-7.05%	-13.25%	-4.70%	-0.04%	2.51%
Industrials	-8.31%	-8.31%	-16.09%	-11.52%	4.53%	5.13%	11.09%
Consumer Staples	-1.61%	-1.61%	-8.61%	-4.31%	2.65%	3.99%	9.23%

*The MSCI ACWI Ex U.S. Communication Services Sector was reclassified on November 30th, 2018

INTERNATIONAL EQUITY RETURNS

Name	MTD	QTD	YTD	1 Year	3 Year	5 Year
MSCI ACWI Index (USD)	-7.97%	-7.97%	-12.81%	-5.03%	9.95%	10.01%
MSCI EAFE Index (USD)	-6.40%	-6.40%	-11.79%	-7.64%	5.02%	5.35%
MSCI EAFE Ext. ESG Focus Index (USD)	-6.25%	-6.25%	-12.27%	-8.15%	5.03%	5.30%
MSCI EM Index (USD)	-5.55%	-5.55%	-12.13%	-18.09%	2.57%	4.66%
MSCI EM Ext. ESG Focus Index (USD)	-6.15%	-6.15%	-12.67%	-18.51%	2.85%	4.79%
FTSE 100 Index (GBP)	0.69%	0.69%	3.60%	12.27%	4.38%	4.92%
Nikkei 225 Index (JPY)	-3.50%	-3.50%	-5.92%	-5.09%	8.44%	9.02%
Hang Seng Index (HKD)	-4.12%	-4.12%	-9.54%	-24.70%	-7.97%	0.20%
Shanghai Composite Index (CNY)	-6.27%	-6.27%	-16.25%	-9.72%	1.97%	1.58%
MSCI ACWI ex-USA Index (USD)	-6.23%	-6.23%	-11.22%	-9.88%	4.82%	5.47%
MSCI EMU Index (EUR)	-1.82%	-1.82%	-10.73%	-1.54%	5.52%	4.72%

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FIXED INCOME

In the month of April, Treasury yields moved higher across the curve, most significantly amongst longer maturities. Year to date, the move higher in rates has been most significant in the 2 to 3 year maturity area. This was spurred by the rapid re-evaluation of the number of Federal Reserve rate hikes that are expected to be implemented as Chairperson Powell pivots to fight inflation. At the Federal Reserve meeting that ends this Wednesday, we expect to see the Fed raise rates by 50 basis points and to discuss shrinking their balance sheet by not reinvesting maturities/selling bonds that they purchased during Quantitative Easing (QE). It is possible for the Fed to emphasize their aggressiveness by raising rates or shrinking the balance sheet by more than market expectations, but that would likely lead to increased volatility which they typically prefer to avoid.

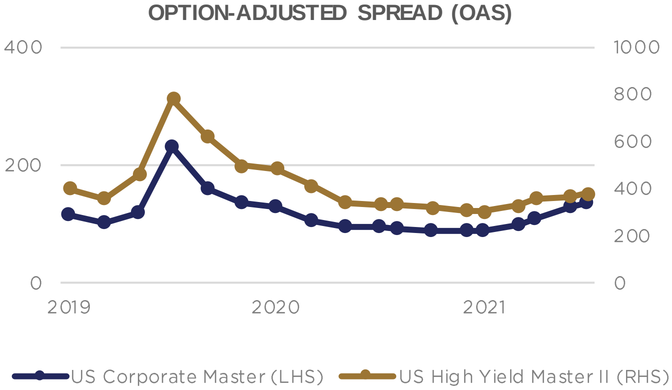
As interest rates rose in the month of April, most bond indices produced negative returns. Treasury bonds provided were the least negatively affected, as they were spared from the additional pain of spread widening.

Credit spreads drifted slightly wider in the month of April. Single A corporate bonds and High Yield spreads remain inside of the wides experienced in mid-March, while BBB rated corporate bonds have breached the mid-March levels and are now at their widest level of 2022. This widening has put renewed pressure on corporate bond returns, as spread widening acts negatively on bond prices in the same way that higher interest rates do, by forcing the price of the bond to adjust lower. This has made investment grade corporate bonds the worst performer in April, and year to date.

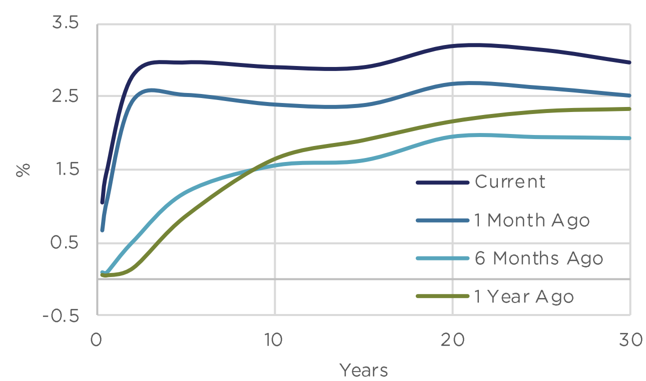
Municipal bonds were one of the best performers in April, and are roughly in line with the rest of the market year to date. Relative to Treasury bonds, municipals appear to offer significant value. Historically, munis do not remain this attractive on a relative basis for significant periods of time.

On April 1st, we saw the 2 year Treasury yield exceed the 10 year Treasury yield. While it did not last long, it was an inversion of the yield curve, which typically precedes a recession by 12-18 months. It is certainly not a sure thing, but given the inversion, an aggressive Fed, geopolitical tensions, rising economic uncertainty, and high inflation among other concerns, it is a prospect that we must consider in our decision making process.

OPTION-ADJUSTED SPREAD (OAS)



TREASURY YIELD CURVE



U.S. TREASURY YIELDS

Period	3 Month	2 Year	5 Year	10 Year	20 Year	30 Year
Current	104%	2.80%	2.97%	2.90%	3.19%	2.97%
1Month Ago	0.67%	2.46%	2.53%	2.40%	2.68%	2.52%
6 Months Ago	0.08%	0.51%	1.19%	156%	196%	194%
1Year Ago	0.06%	0.16%	0.87%	164%	2.15%	2.32%

CENTRAL BANK ACTIVITY

Name	Current	1 Month Ago	6 Months Ago	1 Year Ago
Fed Funds Rate	0.50%	0.50%	0.25%	0.25%
Bank of Japan Target Rate	0.10%	0.10%	0.10%	0.10%
European Central Bank Rate	0.00%	0.00%	0.00%	0.00%
Bank of England Base Rate	0.75%	0.75%	0.10%	0.10%

FIXED INCOME RETURNS

Name	MTD	QTD	YTD	1 Year	3 Year	5 Year
Bloomberg Barclays US Government Index	-3.05%	-3.05%	-8.41%	-7.31%	0.45%	0.99%
Bloomberg Barclays US Agg Index	-3.79%	-3.79%	-9.50%	-8.51%	0.38%	120%
Bloomberg Barclays US Corporate Index	-5.47%	-5.47%	-12.73%	-10.43%	0.93%	196%
Bloomberg Barclays US Corporate High Yield Index	-3.56%	-3.56%	-8.22%	-5.22%	2.84%	3.69%
Bloomberg Barclays EM USD Agg Index	-4.33%	-4.33%	-13.15%	-12.67%	-0.94%	0.75%
Bloomberg Barclays Global Agg Treasuries USD Index	-2.21%	-2.21%	-6.53%	-5.83%	0.32%	152%
Bloomberg Barclays Municipal Index	-2.77%	-2.77%	-8.82%	-7.88%	0.46%	180%

ALTERNATIVE INVESTMENTS

Alternative investments were mainly positive for the month of April. Broad Commodities, as measured by the Bloomberg Commodity Index, were up +4.08% for the month despite a stronger US Dollar. There is generally an inverse relationship between the price of commodities and the Dollar over time.

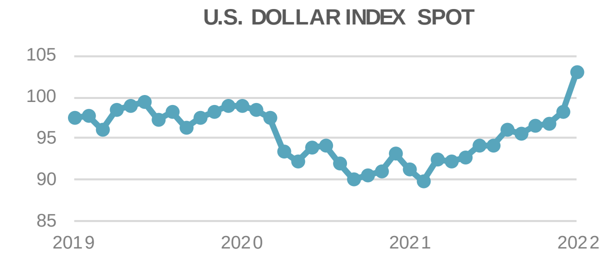
In a continuation of a trend seen throughout the year, many commodities and specifically energy prices were positive for the month while other risk assets were broadly negative. WTI Crude Oil was up +5.51% for the month, closing the month at a price of $104.69 per barrel. Oil is up over +50% for the year as supply/demand remains imbalanced and effects from the Russian invasion of Ukraine ripple through the global economy.

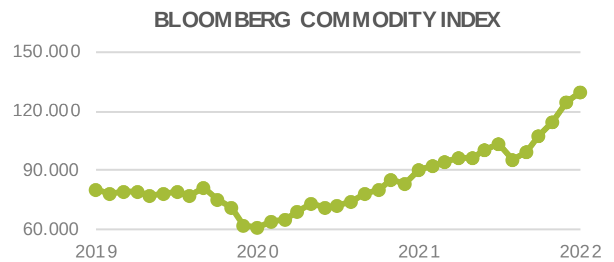
EU countries are accelerating their efforts to replace Russian oil and gas after Russia started demanding payments in rubles. After originally avoiding using sanctions on Russian energy, the EU is now considering a full on oil embargo after Russia cut off the gas supply to Poland and Bulgaria after they declined to pay in the Russian currency.

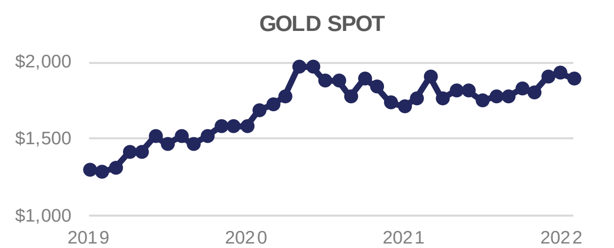
Although the fall of Russian oil production remains one of the main factors pushing energy prices higher, some counteracting bearish factors exist such as lower demand from China as the country continues to implement strict lockdowns.

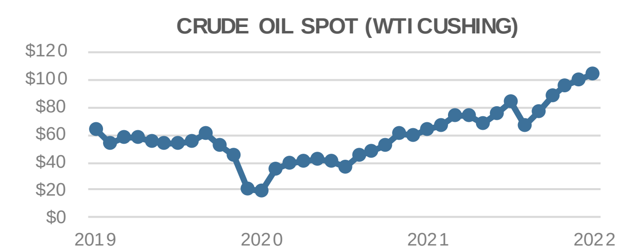
Gold finished the month down -2.09% but remains positive YTD, up +3.70%. Although the precious metal usually struggles to keep up in equity bull markets, it remains a useful portfolio diversifier and potential hedge during volatile markets. Demand for the asset has been strong this year as inflation remains elevated and 1970's style stagflation remains a possibility (although not our base case).

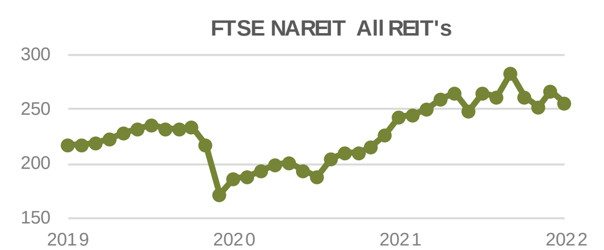
Hedge fund strategies had mixed results during the month, with three out of nine strategies tracked posting positive returns on average. Macro strategies were the top performer for the month, up +1.90%, and remain the top performer for the year. Convertible Arbitrage strategies were the worst performer for the month as well as YTD.











SPOT RATES

Description	Current	1 Mth Ago	3 Mths Ago	6 Mths Ago	1 Year Ago
CAD / USD	129	125	127	124	123
JPY / USD	129.94	122.52	114.46	113.96	109.29
USD / GBP	126	131	136	136	138
USD / EUR	105	110	113	116	120

HEDGE FUNDS

Name	MTD	QTD	YTD	1 Year	3 Year	5 Year
Global Hedge	-0.70%	-0.70%	-2.05%	-137%	4.48%	2.67%
Convertible Arbitrage	-2.54%	-2.54%	-6.61%	-6.08%	5.19%	3.94%
Equity Hedge (L/S)	-129%	-129%	-158%	4.40%	6.21%	4.24%
Equity Market Neutral	0.57%	0.57%	0.67%	-140%	-106%	-146%
Event Driven	-0.70%	-0.70%	-2.57%	-5.23%	5.00%	124%
Macro	190%	190%	2.80%	0.32%	3.59%	2.20%
Merger Arbitrage	-0.58%	-0.58%	-0.04%	-0.25%	3.40%	162%
Relative Value Arbitrage	-163%	-163%	-5.00%	-4.96%	2.25%	2.18%
Absolute Return	0.83%	0.83%	0.95%	103%	3.09%	2.40%

Note: Price Return, Returns as of 4/28/2022

COMMODITIES

	MTD	QTD	YTD	1 Year	3 Year	5 Year
Dollar	4.46%	4.46%	6.09%	10.64%	1.15%	0.46%
BCOM	4.08%	4.08%	30.57%	43.60%	17.13%	9.03%
Gold	-2.09%	-2.09%	3.70%	7.04%	14.00%	8.37%
WTI	5.51%	5.51%	52.07%	79.06%	19.63%	17.07%
FTSENAREIT	-3.66%	-3.66%	-8.72%	10.62%	10.33%	9.66%

ESG

ESG integrated indices continue to produce mixed results as carbon intensive exposures produce outsized returns due to inflationary pressures. This month Russia took the step of turning off the natural gas flowing in to Poland and Bulgaria to punish them for refusing to pay for their gas imports in Russian Rubles.

Fatih Birol, the executive director of the Paris-based International Energy Agency, said the cutoff was a “weaponization of energy supplies.” Ursula von der Leyen, the EU Commission President described it as, “yet another attempt by Russia to use gas as an instrument of blackmail.”

This was the most aggressive use of energy as a weapon thus far. Putin has threatened to cut off the supply to other countries as well, alongside military threats for providing support to Ukraine.

So far, these issues do not seem to have completely derailed the path to greater global sustainability. They present a challenge, clearly. We have moved away from the kumbaya feeling that we are all friends and will work together for each other’s benefit. It makes the transition more difficult, but does not reduce the need to move forward in a more sustainable manner.

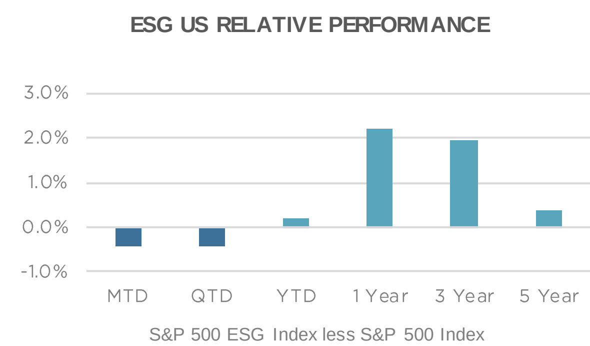
2022 returns for the ESG equity indices continue to be choppy. In April, the ESG integrated U.S. and Emerging Markets indices trailed their respective benchmarks, while the EAFE ESG integrated index outperformed its benchmark. ESG integrated Fixed Income also outperformed its non-ESG integrated counterpart.

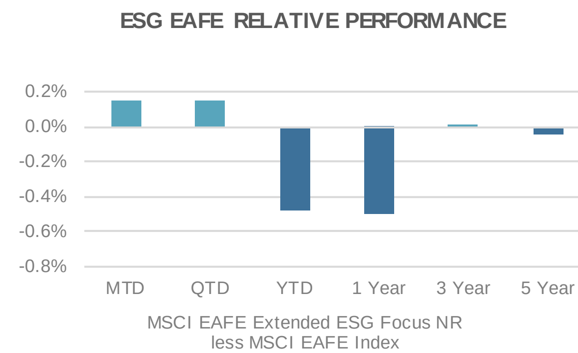
The ESG aligned U.S. index underperformed its non-ESG counterpart by 43 basis points in the month. Year to date it has outperformed by 22 basis points. One, three, and five year time periods remain additive to performance compared to the non-ESG aligned benchmark.

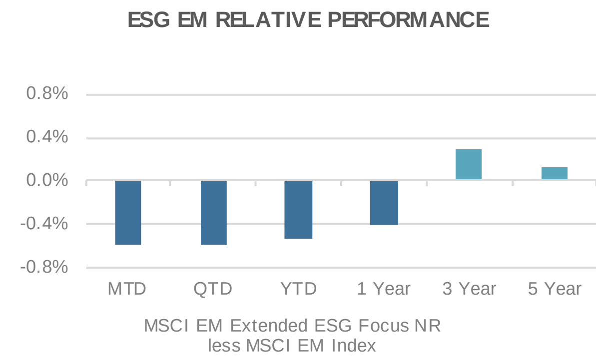
ESG integrated EAFE returns experienced 15 basis points of outperformance in April. Year to date, the performance of ESG integrated EAFE trailed its benchmark by 48 basis points. One year and five year periods trail non-ESG slightly, with the three year number continuing to show marginal outperformance.

Emerging Markets ESG equity performance lagged its benchmark by 60 basis points in April, reverting from its strong track record of being accretive to performance. The year to date number is better, with only 54 basis points of underperformance. Longer time horizons remain supportive of ESG integration into Emerging Markets portfolios.

ESG integrated Investment Grade corporate bonds outperformed their non-ESG equivalent by 9 basis points in April. Year to date ESG integrated IG bonds are again 9 basis points ahead of their benchmark. All time periods remain supportive of ESG integration into fixed income portfolios as this index has most consistently produced positive returns over its benchmark.







ESG INDEX RETURNS VS ORDINARY INDEX RETURNS

Name	MTD	QTD	YTD	1 Year	3 Year	5 Year
S&P 500 Index	-8.72%	-8.72%	-12.92%	0.20%	13.83%	13.63%
S&P 500 ESG Index	-9.15%	-9.15%	-12.70%	2.41%	15.79%	14.03%
MSCI USA GR Index	-9.07%	-9.07%	-13.80%	-1.60%	13.86%	13.63%
MSCI USA Extended ESG Focus GR Index	-9.07%	-9.07%	-14.38%	-2.36%	14.17%	13.89%
MSCI EAFE Index	-6.40%	-6.40%	-11.79%	-7.64%	5.02%	5.35%
MSCI EAFE Extended ESG Focus NR Index	-6.25%	-6.25%	-12.27%	-8.15%	5.03%	5.30%
MSCI EM Index	-5.55%	-5.55%	-12.13%	-18.09%	2.57%	4.66%
MSCI EM Extended ESG Focus NR Index	-6.15%	-6.15%	-12.67%	-18.51%	2.85%	4.79%
Bloomberg Barclays MSCI US Corp 1-5 Yr ESG Focus TR Index	-1.36%	-1.36%	-5.04%	-5.35%	1.24%	1.76%
Bloomberg Barclays US Corporate Index	-5.47%	-5.47%	-12.73%	-10.43%	0.93%	1.96%
Bloomberg Barclays MSCI US Corp ESG Focus TR Index	-5.38%	-5.38%	-12.64%	-10.32%	1.21%	2.12%

If you have any questions or comments, please feel free to contact any member of our investment team:

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S&P 500 Index (SPX) – Standard and Poor's 500 Index is a capitalization-weighted index of 500 stocks. The index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.

S&P 500 Sector Indices (S5COND, S5CONS, S5ENRS, S5FINL, S5HLTH, S5INDU, S5INFT, S5MATR, S5TELS, S5UTIL, S5RLST) – The S&P 500 is broken down into eleven sub-indices according to the Global Industry Classification Standard (GICS) sectors. These eleven sectors include Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Information Technology, Materials, Communication Services, Utilities, and Real Estate.

S&P 400 Mid Cap Index (MID) – Standard and Poor's Mid Cap 400 Index is a capitalization-weighted index, which measures the performance of the mid-range sector of the U.S. stock market.

S&P 600 Small Cap Index (SML) – Standard & Poor's Small Cap 600 Index is a capitalization-weighted index that measures the performance of selected U.S. stocks with a small market capitalization.

S&P 500/Citigroup Growth Index (SGX) – The S&P 500/Citigroup Growth Index is a market capitalization weighted index. All the stocks in the underlying parent index are allocated into value or growth. Stocks that do not have pure value or pure growth characteristics have their market caps distributed between the value & growth indices.

S&P 500/Citigroup Value Index (SVX) – The S&P 500/Citigroup Value Index is a market capitalization-weighted index. All the stocks in the underlying parent index are allocated into value or growth. Stocks that do not have pure value or pure growth characteristics have their market caps distributed between the value & growth indices.

MSCI AC World Index (MXWD) – The MSCI AC World Index is a free float-weighted equity index. The index includes both emerging and developed world markets.

MSCI EAFE Index (MXEA) – The MSCI EAFE Index is a capitalization-weighted index that monitors the performance of stocks from developed markets in Europe, Australia-Asia, and the Far East.

MSCI Emerging Market Index (MXEF) – The MSCI Emerging Market Index is a free-float weighted index that is designed to measure the equity performance of international emerging markets.

FTSE 100 Index (UKX) – The FTSE 100 Index is a capitalization weighted index of the 100 most highly capitalized companies traded on the London Stock Exchange. The equities use an investability quotient weighting in the index calculation.

Nikkei 225 Stock Average Index (NKY) – The Nikkei-225 Stock Average is a price-weighted average of 225 top-rated Japanese companies listed in the First Section of the Tokyo Stock Exchange.

Hang Seng Index (HSI) – The Hang Seng is a free-float capitalization-weighted index of selected companies from the Stock Exchange of Hong Kong. The components of the index are divided into four sub-indexes: Commerce and Industry, Finance, Utilities, and Properties.

Shanghai Stock Exchange Composite Index (SHCOMP) – The Shanghai Stock Exchange Composite Index is a capitalization weighted index. The index tracks the daily price performance of all A-shares and B-shares listed on the Shanghai Stock Exchange.

MSCI USA Extended ESG Focus Index - The Index is designed to maximize exposure to positive environmental, social and governance (ESG) factors while exhibiting risk and return characteristics similar to those of the MSCI USA Index.

MSCI EAFE Extended ESG Focus Index - The Index is designed to maximize exposure to positive environmental, social and governance (ESG) factors while exhibiting risk and return characteristics similar to those of the MSCI EAFE Index.

MSCI Emerging Markets Extended ESG Focus Index - The Index is designed to maximize exposure to positive environmental, social and governance (ESG) factors while exhibiting risk and return characteristics similar to those of the MSCI Emerging Markets Index.

MSCI ACWI ex USA Index (MXWDU) – The MSCI ACWI ex USA Index is a free-float weighted index.

MSCI ACWI ex USA Sector Indices – The MSCI ACWI ex USA Index is broken down into eleven sub-indices according to the Global Industry Classification Standard (GICS) sectors. These eleven sectors include Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Information Technology, Materials, Communication Services, Utilities, and Real Estate.

MSCI EMU Index (MXEM) – The MSCI EMU (European Economic and Monetary Union) Index is a free-float weighted equity index.

Bloomberg Barclays Global Treasuries USD Hedged Index (LGTRTRUH) – The Bloomberg Barclays Global Treasury Index tracks fixed-rate, local currency government debt of investment grade countries. The index represents the treasury sector of the Global Aggregate Index and contains issues from 37 countries denominated in 24 currencies.

Bloomberg Barclays Municipal Bond Index (LMBITR) – The Bloomberg Barclays Municipal Bond Index covers the USD denominated long-term tax exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds.

Bloomberg Barclays U.S. Government Index - Bloomberg Barclays US Government Bond Index is compromised of the US Treasury and US Agency Indices. The index includes US dollar-denominated, fixed-rate, nominal US Treasuries and US agency debentures (securities issued by US government owned or government sponsored entities, and debt explicitly guaranteed by the US government).

Bloomberg Barclays EM Hard Currency Aggregate Index (LG20TRUU) - The Bloomberg Barclays Emerging Markets Hard Currency Aggregate Index is a hard currency Emerging Markets debt benchmark that includes USD-denominated debt from sovereign, quasi-sovereign, and corporate EM issuers.

Bloomberg Barclays U.S. Aggregate Bond Index (LBUSTRUU) - The Bloomberg Barclays US Aggregate Bond Index is a broad-based benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-through), ABS and CMBS (agency and non-agency).

Bloomberg Barclays U.S. Corporate Index (LUACTRUU) - The Bloomberg Barclays US Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

Bloomberg Barclays U.S. Corp High Yield Index (LFTR ML U.S. Corporate Index (C0A0) – The Bloomberg Barclays US Corporate High Yield Bond Index measures the USD denominated, high yield, below-investment grade fixed-rate corporate bond market.

S&P Green Bond Select Index (SPGRSLLT) - The S&P Green Bond Select Index is a market value-weighted subset of the S&P Green Bond Index that seeks to measure the performance of green-labeled bonds issued globally, subject to stringent financial and extra-financial eligibility criteria.

ML U.S. Corporate Index (C0A0) – The Merrill Lynch U.S. Corporate Index tracks the performance of U.S. dollar denominated investment grade corporate debt publicly issued in the U.S. domestic market.

ML U.S. High Yield Index (H0A0) – The Merrill Lynch U.S. High Yield Index tracks the performance of U.S. dollar denominated below investment grade corporate debt publicly issued in the U.S. domestic market.

FTSE NAREIT All REITs Index (FNAR) – The FTSE NAREIT All REITs Index is a free float adjusted market capitalization-weighted index that includes all tax qualified REITs listed in the NYSE, AMEX, and NASDAQ National Market.

Bloomberg Commodity Index (BCOM) – Bloomberg Commodity Index (BCOM) is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification. Roll period typically occurs from 6th-10th business day based on the roll schedule.

U.S. Dollar Index (DXY) – The U.S. Dollar Index (USDX) indicates the general int'l value of the USD. The USDX does this by averaging the exchange rates between the USD and 6 major world currencies. The ICE US computes this by using the rates supplied by some 500 banks.

HFRX Global Hedge Fund Index (HFRXGL) – The HFRX Global Hedge Fund Index is designed to be representative of the overall composition of the hedge fund universe. It is comprised of all eligible hedge fund strategies.

HFRX Convertible Arbitrage Index (HFRXCA) – The HFRX Convertible Arbitrage Index is designed to reflect the general performance of strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a convertible fixed income instrument.

HFRX Distressed Securities Index (HFRXDS) – The HFRX Distressed Securities Index is designed to reflect the general performance of strategies focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance of obliged (par value) at maturity as a result of either formal bankruptcy pro

HFRX Macro Index (HFRXM) – The HFRX Macro Index reflects the general performance of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency, and commodity markets.

HFRX Equity Hedge Index (HFRXEH) – The HFRX Equity Hedge Index is designed to reflect the general performance of strategies that maintain both long and short positions in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques. Strategies can be broadly diversified or narrowly focused.

HFRX Equity Market Neutral Index (HFRXEMN) – The HFRX Equity Market Neutral Index is designed to reflect the general performance of strategies that employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities.

HFRX Event Driven Index (HFRXED) – The HFRX Event Driven Index reflects the general performance of strategies that maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including, but not limited to, mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance, or other capital structure adjustments.

HFRX Merger Arbitrage Index (HFRXMA) – The HFRX Merger Arbitrage Index reflects the general performance of strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are current engaged in a corporate transaction.

HFRX Relative Value Arbitrage Index (HFRXRVA) – The HFRX Relative Value Arbitrage Index reflects the general performance of strategies that maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities.

Economic Data Sources:

PPI & CPI – Bureau of Labor Statistics

Unemployment Rate – Bureau of Labor Statistics

Consumer Confidence – Conference Board

SP/Case-Shiller Composite 20 – Case-Shiller

Industrial Production – Federal Reserve

Capacity Utilization – Federal Reserve

Retail Sales – U.S. Census Bureau

Housing Starts – U.S. Department of Commerce

Factory Orders – U.S. Census Bureau

Leading Indicators – Conference Board

Unit Labor Costs – Bureau of Labor Statistics

GDP – Bureau of Economic Analysis

Wholesale Inventories – U.S. Census Bureau

MBA Mortgage Applications – Mortgage Bankers Association

4-Week Moving Average of Initial Claims, SA – Bureau of Labor Statistics

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