NOTTINGHAM ADVISORS
ASSET MANAGEMENT

Monthly Market Wrap
as of 7/31/2022

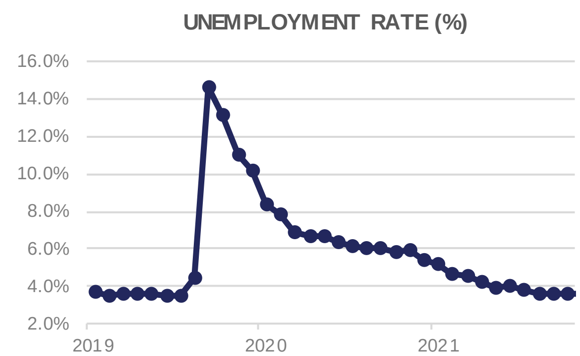
ECONOMIC OVERVIEW

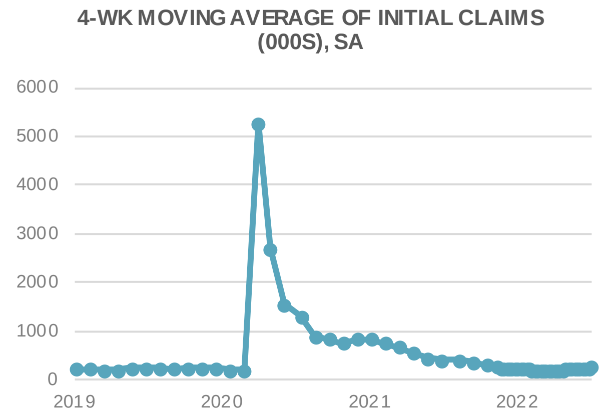
Second quarter GDP declined by an unanticipated -0.9%, following Q1's -1.6% pullback, fitting the historical definition of a Recession of two consecutive quarters of negative GDP. The National Bureau of Economic Research, the arbiter of what actually qualifies as a recession, has more recently broadened its actual definition to include the qualitative component of "a significant decline in economic activity that is spread across the economy and that lasts more than a few months". Given the world's recent emergence from a pandemic (or in China's case, an ongoing battle with Covid), we're willing to cut the NBER some slack and go with the more qualitative version of the definition.

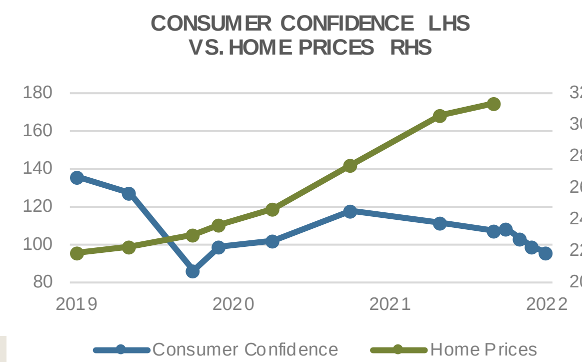
Regardless, economic data is pointing to a slowdown in the U.S. economy, which is not too surprising given the Federal Reserve's +250 basis points of tightening thus far in 2022. July's 75 bp hike in the Fed Funds rate likely brings the Fed "current" in its battle with inflation, although history suggests Fed Funds needs to be raised above the rate of inflation before victory can be declared. June's +1.3% MoM rise in CPI (+9.1% YoY) along with PPI's +1.1% MoM increase (+11.3% YoY) suggests inflation continues to run hot, although perhaps peak price pressures have been set. Ex Food & Energy, consumer prices have risen +5.9% from a year ago while Producer Prices are up +8.2%. The Fed's favored measure of inflation, the PCE Core Deflator has risen +4.8% over the past 12 months.

In order to gauge the effectiveness of Fed rate hikes in the battle against inflation, economists are watching Initial Jobless Claims closely to see whether corporate America is cutting back on hiring in the face of higher interest rates and slowing growth. Any rise in claims would likely be viewed favorably in that destroying the demand for labor is a necessary element in bringing inflation down. Weekly Initial Jobless Claims numbers began July at 235k per week and closed the month up at 256k, so perhaps the medicine is working. The Unemployment Rate in June came in at +3.6%, near historic lows, while the JOLTS Job Openings number for May remained robust, north of +11 million.

Corporate earnings for the second quarter have thus far been a mixed bag (more on that in the Equity section); however, the major tech companies reporting so far have indicated that things may not be quite as bad as feared. The Fed will likely need to continue raising rates into the 4th quarter, although probably at the more measured pace of 25 bps per meeting. Signs of a slowing US economy will give the Fed cover for a more deliberate and perhaps slower pace of tightening, perhaps spurring risk assets higher. In essence, bad news in the short term could prove to be good news in the long run.

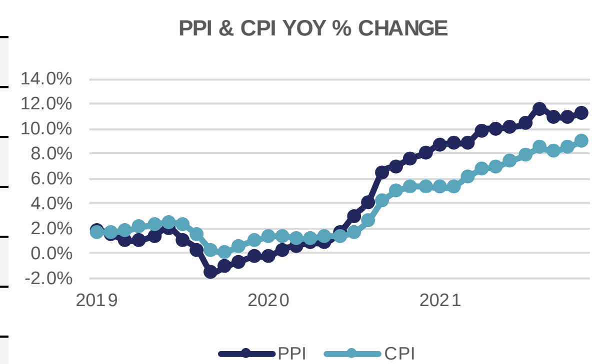






KEY DATA POINTS

Data Point	Current	For	Previous	For
Retail Sales ex. Autos MOM %	1.0%	June	0.6%	May
Housing Starts	1559K	June	1549K	May
Factory Orders MOM %	1.6%	May	0.7%	April
Leading Indicators MOM %	-0.8%	June	-0.6%	May
Unit Labor Costs	12.6%	Q1 2022	3.7%	Q4 2021
GDP QOQ (Annualized)	-0.9%	Q2 2022	-1.6%	Q1 2022
Wholesale Inventories	1.9%	June	1.9%	May
MBA Mortgage Applications	-1.8%	July	-6.3%	June



DOMESTIC EQUITY

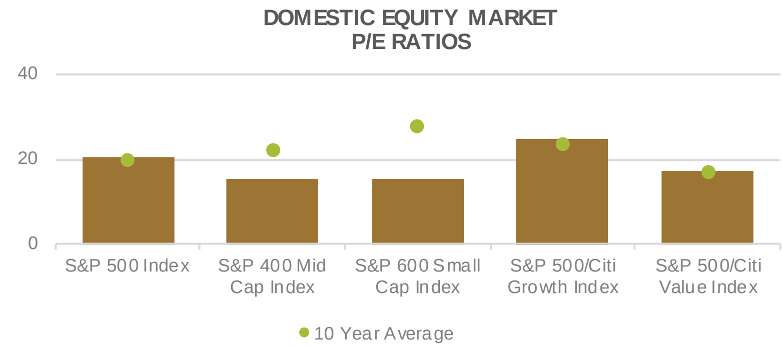
U.S equities breathed signs of life in July on the back of better than expected earnings news and a potential Fed pivot. The benchmark S&P 500 Index closed out the month on a high note, gaining +9.22% to close at 4,130. July's gains represented the highest monthly return since November 2020. Mid- and Small-Caps rallied sharply as well, with the S&P 400 and 600 Indices gaining +10.85% and +10.01%, respectively. With July's gains, the S&P 500, 400, and 600 Indices are now down -12.59%, -10.82%, and -10.85%, respectively, having clawed back nearly half their respective losses since June 16's bottom. Whether or not the actual bottom is in or not remains to be seen of course, and will only be known with the benefit of hindsight; however, with the earnings apocalypse that wasn't, and a Federal Reserve that appears to have pivoted in its monetary policy outlook equities appear to have a green light in the near-term.

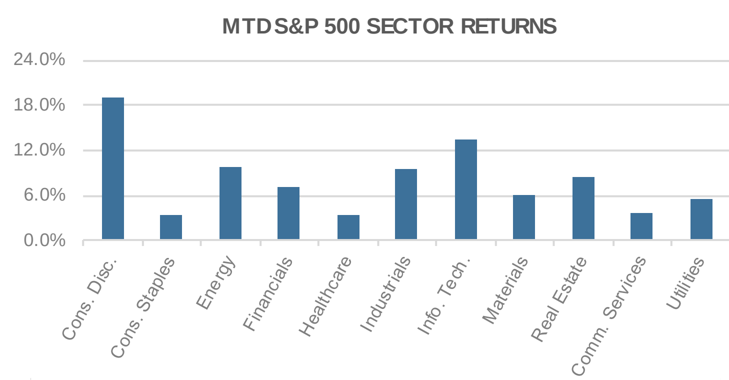
From a style perspective, the S&P 500 Growth Index rebounded sharply in July, gaining +12.82%, while the S&P 500 Value Index rose only +5.91%. Despite July's outperformance, Growth has still underperformed Value by more than 12 percentage points year to date.

From a sector perspective, Consumer Discretionary surged +18.94% last month on the back of a positive earnings release from Amazon, which represents nearly a quarter of the sector market cap. Similarly positive announcements from Apple and Microsoft helped propel Information Technology by +13.54% (the companies make up nearly half the sector market cap). Apple's results beat expectations, with the impact from China more muted than last quarter's guidance (re: $4-8 Billion impact during the quarter was actually less than $4 Billion), while Microsoft posted strong cloud results from Azure and offered a positive outlook (after recently pre-announcing weaker expectations). Energy and Industrials were the next best performers, gaining +9.72% and +9.50%. Record profits from the likes of Exxon and Chevron, coupled with resilient economic activity boosted the sectors during the period.

After a outperforming the market on a relative basis for much of the year, defensive sectors such as Consumer Staples, Healthcare, and Utilities were laggards on the month, gaining +3.30%, +3.32%, and +5.50%, respectively. Another laggard was Communications Services, which rose +3.71% on the month. While not defensive in nature, the sector lagged on an earnings miss from Meta, and a better than feared report from Google.

Looking ahead, earnings estimates have started to get revised lower at the margin. At last check S&P 500 2023 earnings estimates have been revised from $252 to $246, a less than -3% cut. More revisions may come, but with inflationary pressures beginning to ease and the Fed's recognition that the Fed Funds rate may be near "neutral", we'll have to wait and see just how much damage has been done to the underlying economy. Stay tuned.





S&P 500 SECTOR RETURNS

Sector	MTD	QTD	YTD	1 Year	3 Year	5 Year	%S&P 500
Consumer Discretionary	18.94%	18.94%	-20.10%	-10.29%	11.30%	13.21%	12.16%
Consumer Staples	3.30%	3.30%	-2.47%	7.43%	11.16%	9.37%	7.17%
Energy	9.72%	9.72%	44.44%	66.91%	14.18%	8.40%	4.26%
Financials	7.21%	7.21%	-12.86%	-6.02%	8.29%	8.30%	10.21%
Healthcare	3.32%	3.32%	-5.29%	1.82%	15.49%	12.73%	14.08%
Industrials	9.50%	9.50%	-8.88%	-6.04%	9.06%	8.70%	7.79%
Information Technology	13.54%	13.54%	-17.01%	-5.51%	22.51%	22.27%	27.52%
Materials	6.14%	6.14%	-12.86%	-5.07%	12.62%	9.71%	2.46%
Real Estate	8.54%	8.54%	-13.29%	-1.78%	9.30%	9.99%	2.84%
Communication Services*	3.71%	3.71%	-27.57%	-28.96%	5.47%	5.61%	8.63%
Utilities	5.50%	5.50%	4.92%	15.58%	11.10%	10.44%	2.88%

*The S&P 500 Communciation Services Sector was reclassifed 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	9.22%	9.22%	-12.59%	-4.66%	13.35%	12.82%
S&P 400 Mid Cap Index	10.85%	10.85%	-10.82%	-5.73%	10.16%	9.05%
S&P 600 Small Cap Index	10.01%	10.01%	-10.85%	-6.32%	10.31%	9.01%
S&P 500/Citi Growth Index	12.82%	12.82%	-18.34%	-9.14%	15.78%	15.64%
S&P 500/Citi Value Index	5.91%	5.91%	-6.19%	-0.07%	9.67%	9.13%

S&P 500 FACTOR RETURNS

Name	MTD	QTD	YTD	1 Year	3 Year	5 Year
S&P 500 Quality	8.29%	8.29%	-13.74%	-7.31%	12.77%	12.11%
S&P 500 Momentum	7.76%	7.76%	-12.61%	-6.68%	12.68%	14.42%
S&P 500 Equal Weight	8.70%	8.70%	-9.44%	-2.75%	12.52%	11.37%
S&P 500 High Beta	15.77%	15.77%	-13.63%	-5.67%	18.88%	14.39%
S&P 500 Low Volatility	-4.27%	-6.99%	-8.58%	3.98%	6.45%	9.29%

INTERNATIONAL EQUITY

International equities were a mixed bag in July. Developed Markets (DM), as measured by the MSCI EAFE Index rose +5.00%, dented slightly by a stronger US Dollar. Emerging Markets (EM), as measured by the MSCI EM Index, were basically flat on the month, down -0.17%. After China's sharp rebound in June, the MSCI China Index gave back most of its outperformance, and ended the month down -9.42%. China's drag on the broad index is perhaps most pronounced by the MSCI EM ex-China Index, which gained +4.80% during the month.

China's impact on Emerging Markets cannot go understated at nearly one third of the EM market cap; however, diverging results from many other EM countries risks painting all of EM with a broad brush. To be sure, EM is not immune from the risks facing global equities; however, many have hiked rates to combat inflation already and may be in a stronger position than past downturns (i.e. able to cut rates).

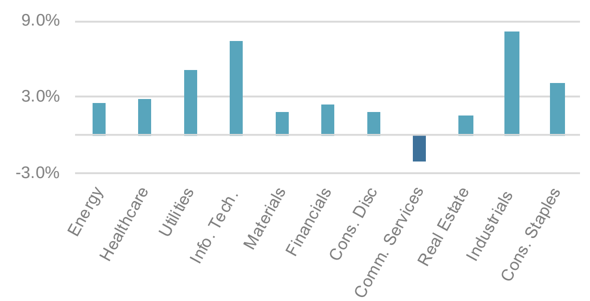
Strength in the US Dollar was pronounced in the performance of the Eurozone, with the MSCI EMU Index returning +7.38% in EUR terms, but only +4.45% in USD terms. The Euro fell below parity with the Dollar for the first time in more than 20 years as economic weakness and inflationary pressures cloud the bloc's outlook. The European Central Bank (ECB) hiked rates by 0.50% in July, but risks pushing the economy into a deeper recession. In the near term, Germany's economic slowdown is of paramount concern, as are widening borrowing costs on the periphery (i.e. Italy). How the ECB manages diverging needs from its economic powerhouses remains to be seen.

In Japan, the Nikkei 225 Index rose +5.34% in JPY terms and +7.21% in USD terms as the Yen strengthened against the Dollar. The Bank of Japan (BoJ) remained steadfast in its monetary policy framework of low rates. The Fed's pivot could put upward pressure on the Yen, causing it to rally versus the Dollar if the pace of Fed rate hikes has indeed slowed.

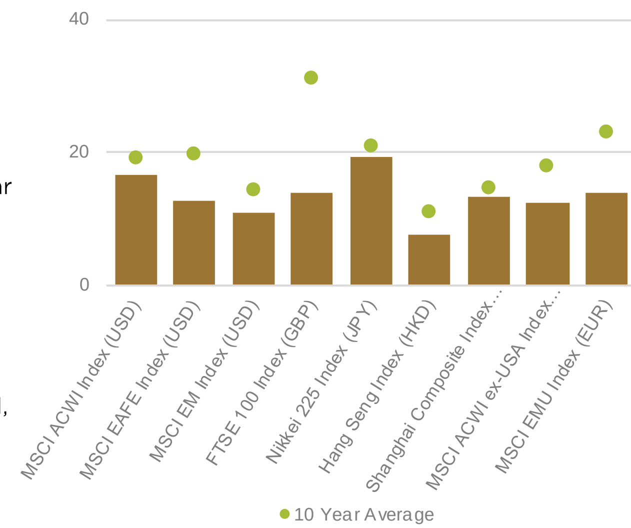
Looking north of the border to Canada, the MSCI Canada Index gained +4.26% on the month in USD terms after a 100bp rate hike by the Bank of Canada during the month. The Loonie has remained incredibly stable versus the Dollar when compared to other global currencies, helped by a close dependence on the USA and heavy exposure to energy and commodities. The MSCI Canada Index is down -5.85% year to date, compared to -14.35% for the MSCI All Country World Index (ACWI), and essentially flat over the trailing 1-year period, down only -0.07%.

At the sector level, Industrials and Information Technology were the top MSCI ACWI ex-US sectors on the month, up +8.12% and +7.49%, respectively. Communication Services was the lone negative performer, down -2.14% during the period.

MTD MSCI ACWI SECTOR RETURNS



INTERNATIONAL EQUITY MARKET P/E RATIOS



MSCI ACWI EX U.S. SECTOR RETURNS

Sector	MTD	QTD	YTD	1 Year	3 Year	5 Year	% of ACWI
Energy	2.58%	2.58%	4.90%	16.91%	2.85%	4.95%	10.83%
Healthcare	2.81%	2.81%	-11.48%	-12.26%	6.97%	6.05%	7.69%
Utilities	5.19%	5.19%	-0.73%	6.65%	7.88%	7.85%	6.35%
Information Technology	7.49%	7.49%	-29.29%	-26.31%	11.84%	9.03%	9.58%
Materials	1.82%	1.82%	-15.52%	-19.50%	6.98%	5.18%	7.50%
Financials	2.34%	2.34%	-10.48%	-6.51%	2.54%	1.03%	17.82%
Consumer Discretionary	1.78%	1.78%	-19.90%	-25.30%	1.00%	0.97%	10.91%
Communication Services*	-2.14%	-2.14%	-17.76%	-21.64%	-1.49%	-1.62%	5.83%
Real Estate	1.56%	1.56%	-14.52%	-18.13%	-6.98%	-3.22%	2.32%
Industrials	8.12%	8.12%	-17.84%	-16.06%	4.17%	3.70%	11.63%
Consumer Staples	4.16%	4.16%	-10.41%	-8.81%	1.44%	2.50%	9.53%

*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)	7.02%	7.02%	-14.35%	-10.06%	9.06%	8.43%
MSCI EAFE Index (USD)	5.00%	5.00%	-15.18%	-13.78%	3.74%	3.20%
MSCI EM Index (USD)	-0.17%	-0.17%	-17.68%	-19.82%	1.21%	1.29%
FTSE 100 Index (GBP)	3.66%	3.66%	2.61%	9.50%	2.95%	4.06%
Nikkei 225 Index (JPY)	5.34%	5.34%	-2.37%	3.90%	11.00%	8.99%
Hang Seng Index (HKD)	-7.32%	-7.32%	-11.79%	-19.92%	-7.33%	-2.76%
Shanghai Composite Index (CNY)	-3.10%	-3.10%	-8.61%	-1.84%	5.95%	2.25%
MSCI ACWI ex-USA Index (USD)	3.46%	3.46%	-15.32%	-14.80%	3.43%	2.98%
MSCI EMU Index (EUR)	7.38%	7.38%	-12.06%	-7.87%	5.13%	4.47%
MSCI China Index (USD)	-9.42%	-9.42%	-19.02%	-27.51%	-3.44%	-1.35%
MSCI Canada Index (USD)	4.26%	4.26%	-5.85%	-0.07%	9.08%	8.33%
MSCI EM ex-China (USD)	4.80%	4.80%	-16.99%	-15.68%	3.46%	2.44%

Monthly Market Wrap
as of 7/31/2022

FIXED INCOME

In the month of July, the yield curve performed a twist, with short-term yields rising as longer maturity yields declined. The curve pivoted on the three year maturity point, with that maturity's yield roughly flat for the month.

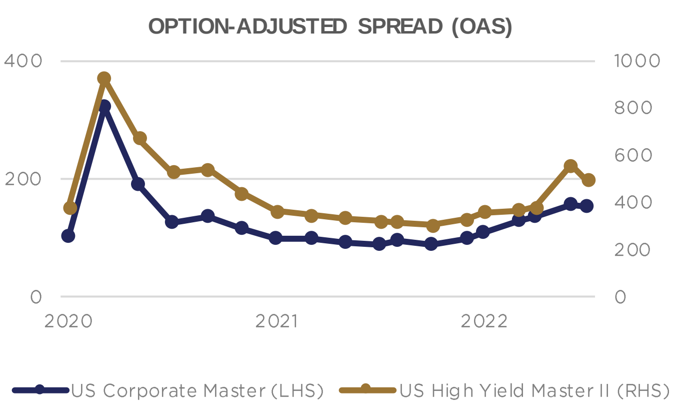
With inflation continuing to print much higher than the Federal Reserve's two percent target, a large increase in the Federal Funds interest rate was expected at the most recent meeting, ended on July 27th. Chairperson Jerome Powell did not disappoint, announcing a 75 basis point increase to the target range, which is now 2.25% to 2.50%. This increase was expected by the market. In the press conference following the announcement, Powell's tone was judged to be less aggressive than expected, seeming to imply that the Federal Funds rate was now at/near the neutral rate. This fueled a rally in risk assets. The next day, second quarter GDP was released, showing a second consecutive quarter of negative economic growth.

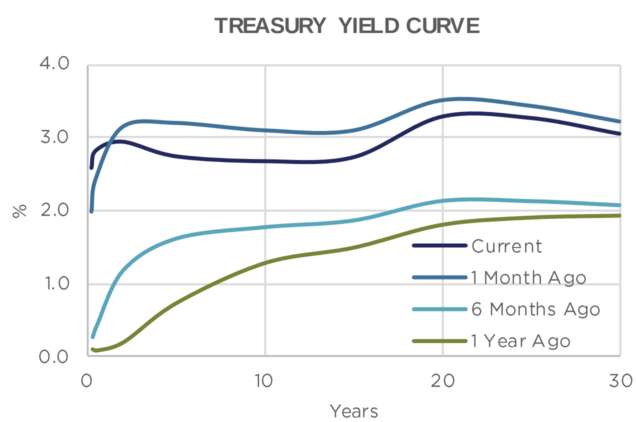
The Government bond index posted positive performance in July, but returned less than all the competing indices tracked. This is driven by the risk rally witnessed in July, creating a performance tailwind for the higher risk (not government backed) bond exposures. Year to date, Government bond exposure remains among the best performers because it is immune to the negative impact of spread widening which has hurt corporate bond performance.

Investment Grade corporate bonds saw their credit spreads tighten marginally in the month. This combined with falling yields on longer maturities gave Investment Grade bond prices a significant boost, resulting in the second best monthly performance.

High Yield credit spreads contracted noticeably in July, as risk assets rallied. This provided a strong boost to prices in the month, and combined with the additional income provided by High Yield exposure, resulted in this index leading the way in July performance by a wide margin. Year to date, High Yield performance does continue to lag Government and broad fixed income market exposure, but the gap has decreased given the recent performance surge.

Municipal bonds also had a strong month of performance, as their prices rose more than similar maturity Treasury bonds.





U.S. TREASURY YIELDS

Period	3 Month	2 Year	5 Year	10 Year	20 Year	30 Year
Current	2.58%	2.94%	2.74%	2.67%	3.29%	3.05%
1 Month Ago	2.00%	3.14%	3.19%	3.09%	3.50%	3.21%
6 Months Ago	0.28%	1.20%	1.63%	1.78%	2.14%	2.08%
1 Year Ago	0.09%	0.19%	0.73%	1.28%	1.80%	1.93%

CENTRAL BANK ACTIVITY

Name	Current	1 Month Ago	6 Months Ago	1 Year Ago
Fed Funds Rate	2.50%	1.75%	0.25%	0.25%
Bank of Japan Target Rate	0.10%	0.10%	0.10%	0.10%
European Central Bank Rate	0.50%	0.00%	0.00%	0.00%
Bank of England Base Rate	1.25%	1.25%	0.25%	0.10%

FIXED INCOME RETURNS

Name	MTD	QTD	YTD	1 Year	3 Year	5 Year
Bloomberg Barclays US Government Index	1.58%	1.58%	-7.60%	-8.60%	-0.29%	1.04%
Bloomberg Barclays US Agg Index	2.44%	2.44%	-8.16%	-9.12%	-0.21%	1.28%
Bloomberg Barclays US Corporate Index	3.24%	3.24%	-11.61%	-12.61%	-0.12%	1.78%
Bloomberg Barclays US Corporate High Yield Index	5.90%	5.90%	-9.12%	-8.02%	1.95%	3.06%
Bloomberg Barclays EM USD Agg Index	2.11%	2.11%	-15.39%	-16.43%	-3.19%	-0.04%
Bloomberg Barclays Global Agg Treasuries USD Index	2.20%	2.20%	-6.05%	-7.22%	-0.77%	1.57%
Bloomberg Barclays Municipal Index	2.64%	2.64%	-6.58%	-6.93%	0.43%	1.88%

Nottingham Advisors
Asset Management

Monthly Market Wrap
as of 7/31/2022

ALTERNATIVE INVESTMENTS

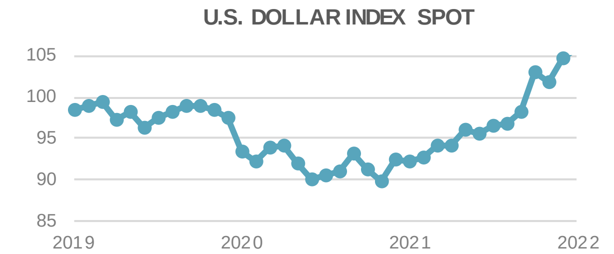
Alternative investments had mixed results in July. High inflation and monetary tightening hit consumer demand for some commodities but general risk assets rebounded during the month. Broad commodities, as measured by the Bloomberg Commodity Index, were up +4.08% for the month.

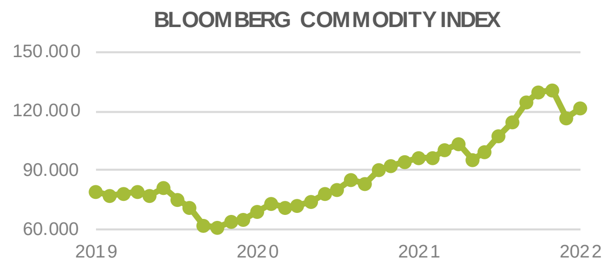
Several areas of the commodity market have sold off significantly from their highs and a strong US Dollar has been one cause. Commodities are usually negatively correlated to the US Dollar as a higher dollar often means raw inputs are more expensive for buyers around the world. The US Dollar and Euro hit parity intra-month for the first time in 20 years amid US Central bank tightening before the US Dollar slightly weakened near the end of the month. Any significant weakening in the US Dollar in the future could act as a further boon for commodities.

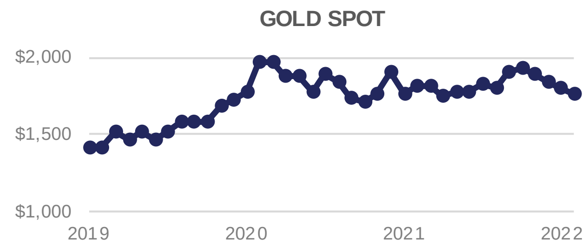
WTI crude oil returned -2.25% for the month, as the price of oil closed July at $98.62 per barrel. This was a rare negative monthly return in 2022 as oil remains up +61.8% YTD. The slight decline also translated to AAA's measure of the average US gas price, which ended the month at $4.212 per gallon, a more than 50 cent decline from a month ago.

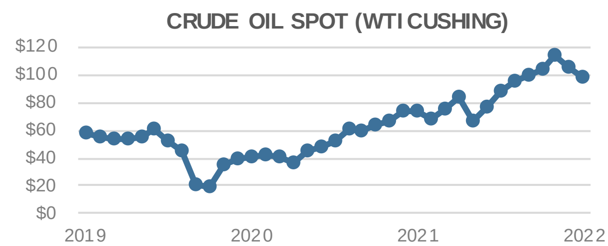
Real estate also rallied in-line with global equities, as the FTSE NAREIT Index returned +8.55% in July. Slightly lower interest rates and a return of risk-on mentality supported the rally.

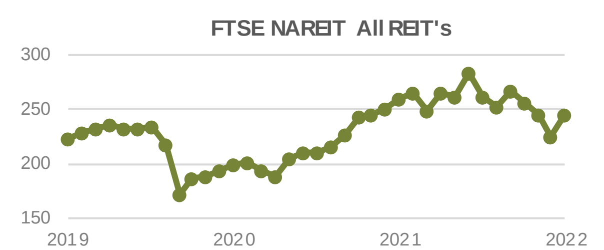
Hedge fund strategies had mainly positive results during the month, with six out of nine strategies tracked posting positive returns on average. Convertible Arbitrage strategies were the top performer during the month, while Macro strategies were the worst performing strategy over the period.











SPOT RATES

Description	Current	1 Mth Ago	3 Mths Ago	6 Mths Ago	1 Year Ago
CAD / USD	128	129	128	127	125
JPY / USD	132.48	135.21	129.77	114.71	109.69
USD / GBP	122	121	126	135	139
USD / EUR	102	104	106	113	119

HEDGE FUNDS

Name	MTD	QTD	YTD	1 Year	3 Year	5 Year
Global Hedge	0.48%	0.48%	-4.59%	-4.24%	2.99%	185%
Convertible Arbitrage	191%	191%	-1162%	-1149%	2.63%	2.42%
Equity Hedge (L/S)	0.99%	0.99%	-3.77%	-0.41%	5.28%	3.54%
Equity Market Neutral	0.68%	0.68%	-173%	-2.28%	-162%	-186%
Event Driven	-0.32%	-0.32%	-6.54%	-7.61%	3.08%	0.02%
Macro	-118%	-118%	2.05%	0.33%	195%	184%
Merger Arbitrage	145%	145%	-2.52%	-102%	2.66%	0.97%
Relative Value Arbitrage	183%	183%	-7.52%	-7.91%	0.78%	135%
Absolute Return	-0.63%	-0.63%	-158%	-141%	188%	170%

Note: Price Return, Returns as of 7/28/2022

COMMODITIES

	MTD	QTD	YTD	1 Year	3 Year	5 Year
Dollar	0.56%	0.56%	7.99%	11.11%	165%	186%
BCOM	4.08%	4.08%	22.85%	26.54%	16.55%	7.85%
Gold	-2.29%	-2.29%	-3.46%	-2.66%	6.92%	6.84%
WTI	-2.25%	-2.25%	61.18%	33.36%	29.40%	18.96%
FTSENAREIT	8.55%	8.55%	-12.27%	-195%	7.71%	8.15%

ESG

With inflation and energy prices continuing to dominate the news, it is not particularly surprising to see strategies that try to manage/minimize their carbon footprint trailing their unconstrained benchmarks. An interesting outlier, the ESG integrated EAFE exposure (arguably, the hardest hit by rising energy prices) was able to post outperformance in the month of July.

The current energy struggles have created more interest in energy independence, and reducing/eliminating a dependence on fossil fuels, particularly those supplied by unfriendly nations. This should create a longer-term tailwind for green energy development and increasing the sustainability of company practices, reducing fossil fuel usage.

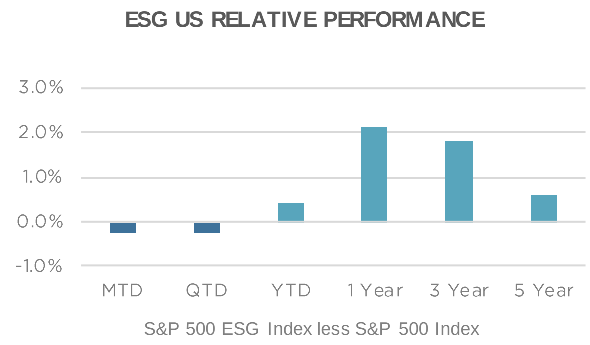
In July, the ESG integrated EAFE return beat its benchmark. The ESG integrated S&P 500 and the Emerging Markets exposures underperformed their non-ESG integrated counterparts in the month. The ESG integrated corporate bond index also underperformed its non-ESG integrated benchmark in July.

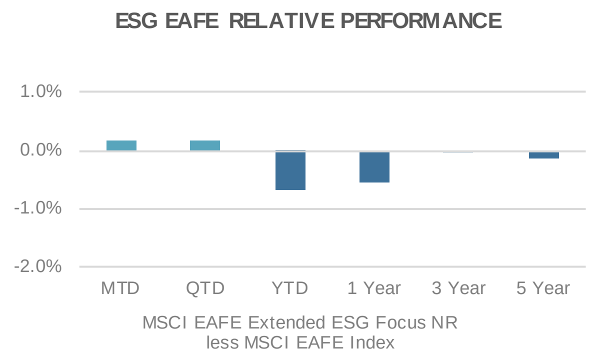
The ESG aligned U.S. index underperformed its non-ESG counterpart by 25 basis points in the month of July. Year-to-date the ESG exposure outperformed by 43 basis points. The one year, three year, and five year time periods also remain additive to performance compared to the non-ESG aligned benchmark, strongly supporting ESG integration in portfolios.

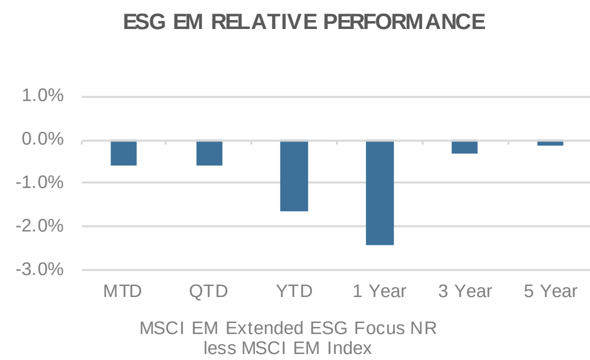
ESG integrated EAFE returns experienced 17 basis points of outperformance in July. Year-to-date, the performance of ESG integrated EAFE trailed its benchmark by 70 basis points. Longer time periods also demonstrate some level of underperformance, with the three year and five year numbers being close to breakeven.

Emerging Markets ESG equity performance trailed its benchmark in July, underperforming by 60 basis points. This year has been particularly volatile in the Emerging Market category, reversing its strong track record of being accretive to performance. The year-to-date number shows 168 basis points of underperformance. All longer time horizons also currently trail the non-ESG integrated benchmarks. Similar to the EAFE results noted above, three year and five year time horizons begin to approach breakeven with the non-ESG integrated exposures.

ESG integrated Investment Grade corporate bonds underperformed their non-ESG equivalent by 3 basis points in July. Year-to-date ESG integrated Investment Grade bonds also slightly trail their non-ESG benchmark, lagging by 8 basis points. The one year return trails by 11 basis points, while the three and five year numbers continue to show outperformance.







ESG INDEX RETURNS VS ORDINARY INDEX RETURNS

Name	MTD	QTD	YTD	1 Year	3 Year	5 Year
S&P 500 Index	9.22%	9.22%	-12.59%	-4.66%	13.35%	12.82%
S&P 500 ESG Index	8.97%	8.97%	-12.16%	-2.55%	15.17%	13.42%
MSCI USA GR Index	9.33%	9.33%	-13.75%	-6.87%	13.21%	12.76%
MSCI USA Extended ESG Focus GR Index	9.41%	9.41%	-14.26%	-7.48%	13.57%	13.04%
MSCI EAFE Index	5.00%	5.00%	-15.18%	-13.78%	3.74%	3.20%
MSCI EAFE Extended ESG Focus NR Index	5.17%	5.17%	-15.88%	-14.32%	3.70%	3.06%
MSCI EM Index	-0.17%	-0.17%	-17.68%	-19.82%	1.21%	1.29%
MSCI EM Extended ESG Focus NR Index	-0.77%	-0.77%	-19.36%	-22.25%	0.88%	1.17%
Bloomberg Barclays MSCI US Corp 1-5 Yr ESG Focus TR Index	1.43%	1.43%	-4.25%	-5.14%	0.91%	1.74%
Bloomberg Barclays US Corporate Index	3.24%	3.24%	-11.61%	-12.61%	-0.12%	1.78%
Bloomberg Barclays MSCI US Corp ESG Focus TR Index	3.21%	3.21%	-11.69%	-12.72%	0.09%	1.90%

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