

After the fastest descent into a bear market ever in the first quarter of 2020, the capital markets posted a rebound of historic proportions in the second quarter of 2020. The S&P 500 Index had its best quarter since 1998 and the NASDAQ Composite Index had its best quarter since 1999. Despite S&P 500's first and second quarter earnings being estimated at down -48% and -30% from 2019 levels, fiscal and monetary stimulus programs continued unabated across the globe giving financial assets a mighty tailwind. Meanwhile, fallout from the pandemic shutdowns continued to wreak havoc on Main Street as government officials at all levels struggled with how to deal with the surge in cases that have accompanied re-openings. Amidst the many uncertainties/points of contention being grappled with (mask or no mask, sports or no sports, in person school or online), the Federal Reserve and its Chairman have offered much more certainty. Along with the Treasury, they have unambiguously embraced the role of capital markets insurance provider. The Federal Reserve balance sheet surpassed \$7 Trillion, a level nearly eight times its level prior to the financial crisis of 2008 and nearly 50% higher than its peak after 2008 (see Figure 1). With all the stimulus, it is no surprise that the New York Federal Reserve's recession model has shown the odds of a recession in the next 12 months falling sharply (see Figure 2).

Skeptics might characterize the extraordinary levels of liquidity and ever-expanding direct securities purchases as price control interventionism, central bank planning a la the Bank of Japan, or creating a bubble/liquidity trap that the Fed and Treasury cannot extricate themselves from going forward. The market response in the fourth quarter of 2018 to the Fed withdrawing liquidity does give some credence to this last point. While Wall Street has cheered both fiscal and monetary actions, investors should consider the long and dismal history of any governmental entity to allocate capital well. The most heralded characteristic of free capital markets is that they are wonderfully efficient at removing dead weight, rewarding innovators and punishing

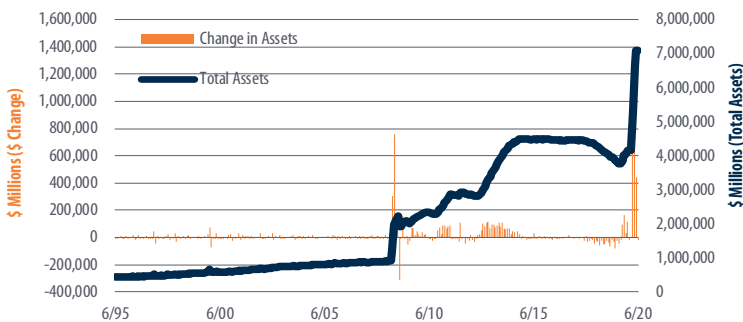
poorly run companies or bad ideas. Suppressing this function for too long is likely to encourage regulatory capture through lobbying, create more volatility, not less, and ultimately create a drag on growth and investing confidence.

Returns for traditional asset classes were generally exceptional in the second quarter of 2020. Equity markets soared on the tsunami of fiscal and monetary policy. The S&P 500 Index was up 20.54%, the MSCI EAFE Index was up 14.88% and the MSCI Emerging Markets Index was up 18.08%. Commodities posted a more modest gain of 5.08%. West Texas Intermediate crude oil rose 23.58% for the quarter as technical driven selling abated. However, it is still down -58.63% YTD. Long-dated U.S. Treasuries were nearly down -0.70% as capital aggressively sought out more risky assets. The U.S. Dollar continued its downward trend falling -1.67% (see Figure 3).

Alternative Investments ("alternatives") had a wide dispersion of returns owing to their starkly differing exposures, but had positive returns in every category. Low correlation/low beta strategies which had been the best performers in the first quarter of 2020, lagged substantially in the second quarter while higher correlation strategies excelled (see Figure 4). Real estate was the best performing category (+13.91%) followed by hedged equity (+13.64%) and credit arbitrage (+9.76%). Managed futures (+0.45%) and macro (+0.52%) were the worst performing categories. Despite strong returns in a number of categories, none could keep pace with the torrid returns of the S&P 500 Index (see Figure 5).

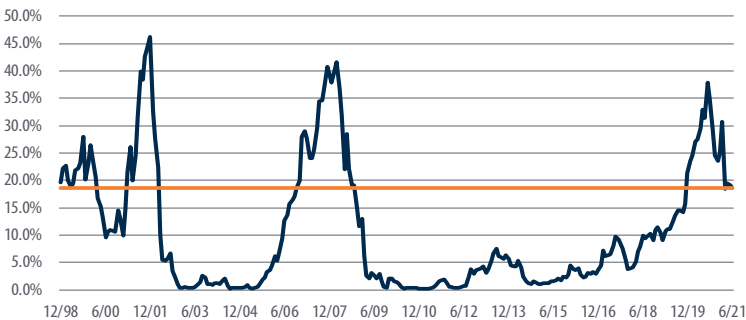
Traditionally, managed futures and macro strategies are viewed as having lower correlations to equities because they are generally diversified across a variety of markets and often employ short-selling as part of their approach. Strategies that had higher 2-year correlations to U.S. equities (greater than 0.60), on average, significantly outperformed those strategies that had a

Figure 1 Federal Reserve Balance Sheet



Source: Bloomberg, Data from 6/30/95 - 6/30/20.

Figure 2 New York Federal Reserve Probability of a Recession



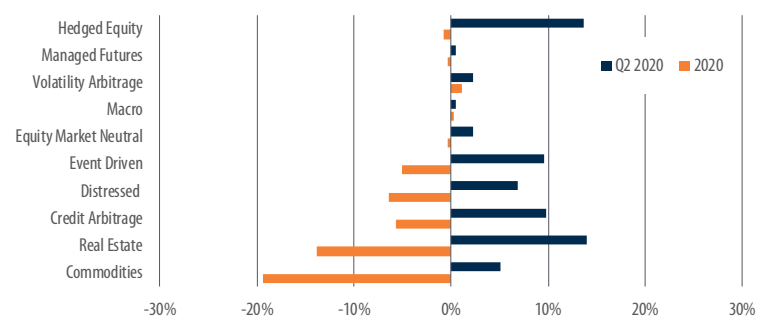
Source: Bloomberg, Data from 12/31/98 - 6/30/21.

Figure 3 Asset Class Returns

	Q2 2020	YTD 2020
U.S. Equities	20.54%	-3.08%
International Developed	14.88%	-11.34%
Emerging Markets	18.08%	-9.78%
U.S. Treasury	-0.70%	21.63%
Real Estate	13.91%	-13.87%
Commodities	5.08%	-19.40%
High Yield Bonds	9.00%	-4.43%
U.S. Aggregate Bonds	2.90%	6.14%
Bitcoin	41.13%	27.78%
U.S. Dollar	-1.67%	1.04%

Source: Bloomberg, 6/30/20.

Figure 4 Alternative Category Performance



Source: Bloomberg, 6/30/20.

All charts shown herein are for illustrative purposes only and not indicative of any investment. The performance illustrations exclude the effects of taxes and brokerage commissions or other expenses incurred when investing. Past performance is not indicative of future results and there can be no assurance past trends will continue in the future. An investor cannot invest directly in an index. See last page for definitions of asset class indexes and other terms discussed herein.

lower correlation with U.S. equities. The spread was 872 basis points (bps) (see Figure 6). All real asset categories had a strong second quarter (see Figure 7). Real estate was the best performer (+13.91%) likely benefitting from a marginally more optimistic economic outlook and low mortgage rates. Gold (+12.92%) continued its ascent that began last year, as investors pondered the impact of wave after wave of trillion dollar aid packages and little fiscal or monetary discipline. Commodities were the laggard among real assets (+5.08%) held back by a lack of demand and the possible continuation of global trade frictions.

Managed futures, commodities, and macro strategies have historically shown low correlations and beta to stocks and bonds over the course of a market cycle, thus they may serve as potentially strong portfolio diversifiers. Strategies such as credit arbitrage, event driven, hedged equity, et al., which have historically had higher correlations with equities and bonds, may provide attractive risk/return profiles through lower volatility. These characteristics may allow investors to broaden their investment choices and create more efficient portfolios.

Figure 5 Excess Return vs. S&P 500

Category	Q2 2020
Hedged Equity	-6.91%
Macro	-20.02%
Event Driven	-10.97%
Managed Futures	-20.09%
Equity Market Neutral	-18.32%
Volatility Arbitrage	-18.25%
Distressed	-13.67%
Real Estate	-6.63%
Credit Arbitrage	-10.79%
Commodities	-15.46%

Source: Bloomberg, 6/30/20.

Figure 6 Correlations (2yr) & Returns

	S&P 500	Q2 2020
Hedged Equity	0.94	13.64%
Event Driven	0.83	9.57%
Real Estate	0.82	13.91%
Commodities	0.70	5.08%
Distressed	0.72	6.88%
Credit Arbitrage	0.66	9.76%
Equity Market Neutral	0.71	2.22%
Volatility Arbitrage	0.80	2.29%
Managed Futures	0.22	0.45%
Macro	0.44	0.52%
Lower Correlation Avg TR (<=0.60)		1.09%
Higher Correlation Avg TR (>0.60)		8.72%

Source: Bloomberg, 6/30/20. Monthly returns over 24 months.

Figure 7 Real Assets

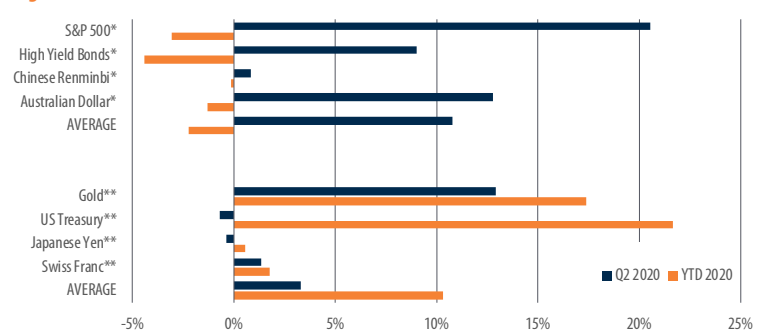
	Q2 2020	YTD 2020
Real Estate	13.91%	-13.87%
Commodities	5.08%	-19.40%
Gold	12.92%	17.38%
Average	10.64%	-5.30%

Source: Bloomberg, 6/30/20.

Returns for "Risk On" assets (+10.78% average return) considerably outperformed the returns for "Risk Off" assets (+3.30% average return). The S&P 500 Index had the best return in the second quarter and U.S. Treasuries the most negative return (see Figure 8). Focusing on non-currencies, equities and high-yield bonds outperformed Gold and long-dated (20-yr.+) U.S. Treasuries by an average of over 866 bps in the second quarter, through YTD, Gold and Treasuries have outperformed by 2326 bps. Alternatives have historically provided significant diversification benefits when paired with a portfolio of traditional assets, in addition to both competitive absolute returns and attractive risk-adjusted returns. Please Note: Alternative investments may employ complex strategies, have unique investment and risk characteristics that may not be appropriate for all investors.

Returns in the cryptocurrencies sector were generally good (see Figure 9). Bitcoin, the flagship cryptocurrency, was up 41.13%, while the wider universe of cryptocurrencies, as measured by the Bloomberg Galaxy Crypto Index, rose 31.07%. Ethereum was on fire, returning 67.49%, while

Figure 8 Risk On vs. Risk Off Assets



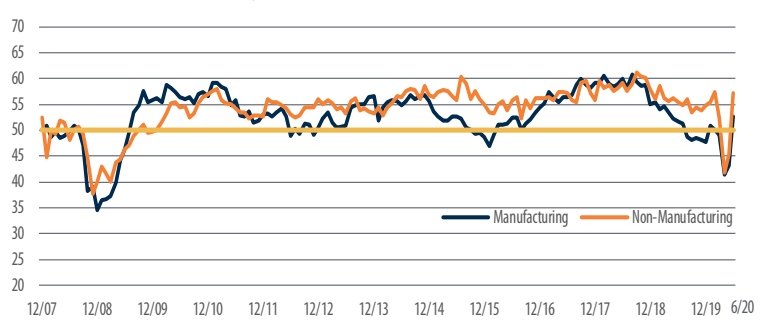
Source: Bloomberg, 6/30/20. *Considered to be "Risk On" asset class. **Considered to be "Risk Off" asset class.

Figure 9 Cryptocurrency Returns

	Q2 2020	YTD 2020
BB Galaxy Crypto Index	31.07%	29.11%
Bitcoin	41.13%	27.78%
Ethereum	67.49%	75.75%
Ripple	-1.07%	-7.71%
Litecoin	4.87%	-0.28%

Source: Bloomberg, 6/30/20.

Figure 10 Institute for Supply Management (ISM) Data



Source: Bloomberg, Data from 12/31/07 - 6/30/20. Seasonally adjusted (SA). Numbers above 50% indicate an expansion, below 50% indicates a contraction.

Litecoin was up 4.87%, and Ripple fell -1.07%. The CME bitcoin futures contract (cash delivery) has seen volume tail off a bit earlier in the year, but at a level that is appreciably above levels in 2019. Bakkt's bitcoin futures (actual bitcoin delivery) hit a monthly volume high in May, but overall the volume has been modest. No significant progress has been made on the regulatory front regarding the launch of a retail approved bitcoin fund. It may strike some cryptocurrency proponents as a bit hypocritical that while the SEC has listed price manipulation as one reason it has not approved a retail bitcoin strategy, the Fed has funneled billions into stabilizing the price of corporate bonds via bond and ETF purchases.

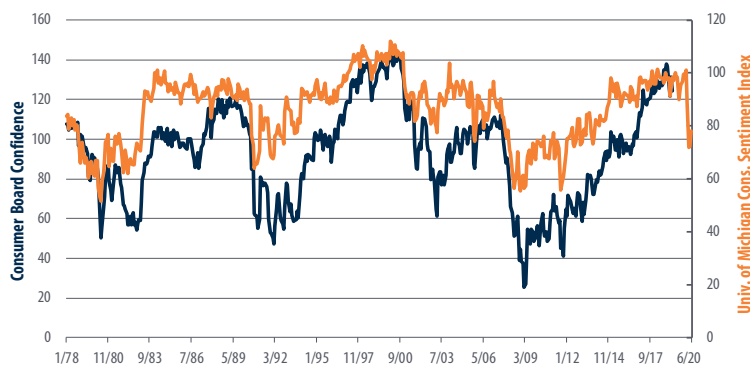
As the full scope of lockdowns worked its way into the economic data, it was no surprise that April and May were historically bad across the board, though as lockdowns eased, June data showed a surprisingly strong rebound. The ISM manufacturing indicator which had been in a downtrend since August of 2018, hit bottom in April posting its lowest reading (41.50) since 2008 before rebounding to 52.60 in June. The ISM non-manufacturing indicator (services) also hit a low in April (41.50) but bounced back sharply ending the second quarter at 57.10

Figure 11 U.S. Unemployment Rate (U-3)



Source: Bloomberg, Data from 12/31/60 - 6/30/20. Seasonally adjusted (SA).

Figure 12 Economic Measures of Sentiment



Source: Bloomberg, 1/31/78 - 6/30/20.

Figure 13 U.S. CPI Y Urban Consumers YoY NSA

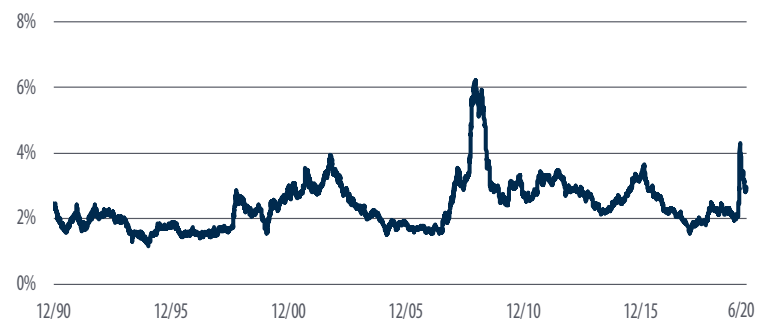


Source: Bloomberg, 12/31/90 - 5/31/20 (most recent data available), not seasonally adjusted (NSA).

(see Figure 10). For both indicators, levels below 50 represent a contraction. Unemployment, as measured by the U-3 seasonally adjusted rate, hit 14.7% in April, the highest level since the Great Depression. By June, the number had fallen to 11.10% but that is estimated to be nearly 18 million people. (see Figure 11). The unemployment rate is up over 7% since the beginning of the year. With the continuing pandemic and waves of layoffs, it is not surprising that consumer sentiment, as measured by the University of Michigan Consumer Sentiment Index, plunged to a low of 71.8 before recovering to 78.1. Another sentiment indicator, the Conference Board Consumer Confidence Index, tumbled to a low of 85.7 before recovering a bit to 98.1 (see Figure 12). The year-over-year (YoY) consumer price index (CPI) fell sharply ending at 0.1% (see Figure 13). U.S Initial jobless claims, while still at a staggering level, has shown a marked decrease in a very short amount of time and provided some hope for a V-shaped recovery in the economy.

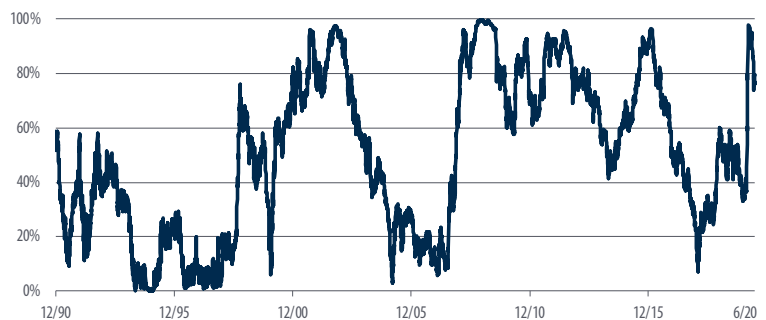
As the Federal Reserve began using \$250 billion authorized by the CARES act to support various bond markets with direct purchases and purchases of select bond ETFs, Baa/BBB rated corporate bonds outperformed 10-yr. U.S. Treasuries by a wide margin. Baa/BBB over 10-yr. U.S. Treasuries

Figure 14 BAA Corp Credit Spread over 10-Yr U.S. Treasury (%)



Source: Bloomberg, 12/31/90 - 6/30/20.

Figure 15 Credit Spread Percentile Rank (%)



Source: Bloomberg, 12/31/90 - 6/30/20.

Figure 16 B/CA Credit Spread over BBB (US Corp) (%)



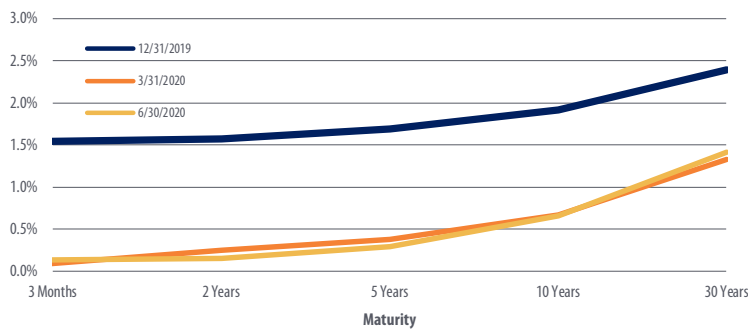
Source: Bloomberg, Data from 12/31/10 - 06/30/20.

yields narrowed 103 basis points (bps) during the second quarter (see Figure 14). Treasury yields were nearly unchanged, and thus all the spread change came from falling corporate yields. The spread ended the second quarter at the 79th percentile (see Figure 15). The spread between below investment grade corporate bonds (B/CA rated) and investment grade (BBB rated corporate bonds) narrowed over 280 bps during the second quarter to a spread of 471 bps representing the 94th percentile. While BBB yields fell 104 bps, B/CA rated yields narrowed 280 bps reflecting a strong desire by investors to buy riskier assets (see Figure 16).

Having aggressively cut rates in March, the Federal Reserve made no changes to interest rates in the second quarter. Jerome Powell and other Fed Governors continued to express that despite an expectation of -20% to -30% GDP in the second quarter, they would not pursue negative interest rates or enact yield curve control. While expecting a strong rebound in the third quarter Powell made it clear on various occasions, the Federal Reserve would keep liquidity flowing to help move

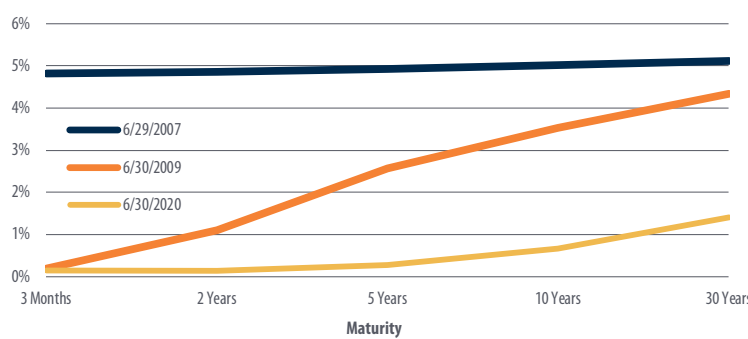
the economy forward, and that it still had several tools left by which to help advance growth but did not articulate what those tools were. Changes along the yield curve were slight during the second quarter. U.S. Treasury 10-yr. yields fell 1 bp to 0.66%, the lowest quarter-end value ever. The long-end of the U.S. Treasury curve (30-yr. maturity) rose 9 bps to a yield of 1.41%. The yield spread between 30-yr. to 10-yr. U.S. Treasuries widened 10 bps to a spread of just over 76 bps. The Treasury yield curve marginally steepened as the yield spread between 30-yr. Treasuries and T-bills (3-mo. maturity) widened out and ended the second quarter at 127 bps (see Figure 17). It has been over a decade since the Federal Reserve initiated several aggressive programs designed to repair the economy from the Financial Crisis though looking at the yield curve progression over time, one has to wonder if such efforts can be considered to be successful as the curve seems to shift lower and lower without normalizing to anything resembling the world pre-2008 (see Figure 18). Real yields along the entire curve are now positive due to the extraordinarily low CPI of 0.10% (See Figure 19).

Figure 17 U.S. Treasury Yield Curve



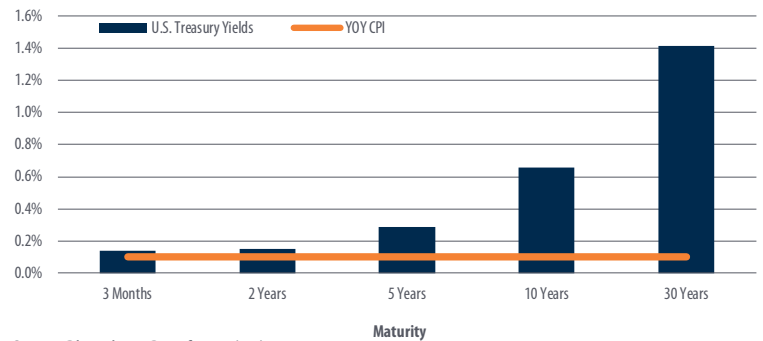
Source: Bloomberg, 6/30/20.

Figure 18 U.S. Treasury Yield Curve



Source: Bloomberg, 6/30/20.

Figure 19 U.S. Treasury Yield Curve and CPI



Source: Bloomberg, Data from 6/30/20.

Definitions

10-Yr Treasury: Yield of U.S. Treasury securities maturing in approximately 10 years.

Aggregate Bonds: 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.

Australian Dollar: The return from selling the short currency (USD) to buy the long currency (AUD) and earning interest. The return is calculated by adding the spot return to the interest earned from the long currency position. It is designed to measure the performance of the Australian dollar vs. the U.S. dollar.

BAA Corp: Moody's Bond Indices Corporate BAA. Moody's Long-Term Corporate Bond Yield Averages are derived from pricing data on a regularly replenished population of corporate bonds in the U.S. market, each with current outstandings over \$100 million. The bonds have maturities as close as possible to 30 years; they are dropped from the list if their remaining life falls below 20 years, if they are susceptible to redemption, or if their ratings change. All yields are yield-to-maturity calculated on a semi-annual basis.

Beta: A measure of price variability relative to the market.

Bitcoin: A digital currency using encryption techniques created for use in peer-to-peer online transactions introduced in 2008 by a person or group using the name Satoshi Nakamoto.

Bloomberg Barclays US Corp B-Ca Capped Index: The Bloomberg Barclays index measures the performance of the taxable B1 – Ca rated range of the fixed-rate U.S. dollar-denominated corporate bond market. The index is market capitalization weighted and caps individual issuers at 3% of the total market value.

Bloomberg Galaxy Crypto Index (BGCI): The BGCI is designed to measure the performance of the largest cryptocurrencies traded in USD.

CARES Act (The) is a \$2 trillion economic stimulus bill passed by the U.S. Congress and signed into law in March 2020 in response to the economic fallout of the COVID-19 pandemic in the United States.

Chinese Renminbi: The S&P Chinese Renminbi Index is designed as a tradable index that replicates the performance of the Chinese Renminbi versus the U.S. Dollar.

Commodities: The Bloomberg Commodity Index is made up of exchange-traded futures on physical commodities and represents 20 commodities, which are weighted to account for economic significance and market liquidity.

Consumer Price Index (CPI): A measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food, and medical care. It is calculated by taking price changes for each item in the predetermined basket of goods and averaging them. Changes in the CPI are used to assess price changes associated with the cost of living.

Correlation: A statistical measure that quantifies the extent to which two or more data series fluctuate together. Values run from -1.0 to +1.0.

Credit Arbitrage: Hedge Fund Research HFRI Event-Driven Credit Arbitrage Index. Credit Arbitrage strategies employ an investment process designed to isolate attractive opportunities in corporate fixed-income securities; these include both senior and subordinated claims as well as bank debt and other outstanding obligations, structuring positions with little or no broad credit market exposure. These may also contain a limited exposure to government, sovereign, equity, convertible or other obligations but the focus of the strategy is primarily on fixed corporate obligations and other securities are held as component of positions within these structures.

Credit Spread: The difference in yield between two fixed-income instruments with differing credit profiles.

Distressed: Hedge Fund Research HFRI Event-Driven Distressed/Restructuring Total Index. Distressed/Restructuring strategies employ an investment process focused on corporate fixed-income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

Emerging Markets: The MSCI Emerging Markets Index captures large and mid cap representation across Emerging Markets (EM) countries. The index covers 85% of the free float-adjusted market capitalization in each country.

Equity Market Neutral: Hedge Fund Research HFRI Equity Hedge Equity Market Neutral Index. Equity Market Neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Ethereum: Ethereum is a platform that offers programming code of any decentralized application. It has been linked to payment style transactions. Ether is the cryptocurrency issued through open-source code executed on thousands of nodes.

Event Driven: Hedge Fund Research HFRI Event-Driven (Total) Index. Investment Managers who 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.

Gold: The return of the gold spot price as quoted as U.S. dollars per Troy Ounce.

Hedged Equity: Hedge Fund Research HFRI Equity Hedge (Total) Index. Investment Managers who maintain positions both long (positions that are owned) and short (positions that are owed) in primarily equity and equity derivative securities. Hedged Equity managers would typically maintain at least 50%, and may in some cases be substantially entirely invested in equities, both long and short.

High-Yield Bonds: The Bloomberg Barclays US High Yield Very Liquid Index (VLI) is a component of the US Corporate High Yield Index that is designed to track a more liquid component of the USD-denominated, high yield, fixed-rate corporate bond market. The US High Yield VLI uses the same eligibility criteria as the US Corporate High Yield Index, but includes only the three largest bonds from each issuer that have a minimum amount outstanding of USD500mn and less than five years from issue date.

International Developed: The MSCI EAFE Index is designed to represent the performance of large and mid-cap securities across 21 developed markets, including countries in Europe, Australasia and the Far East, excluding the U.S. and Canada. The index is a free-float weighted equity index.

Japanese Yen: The return from selling the short currency (USD) to buy the long currency (JPY) and earning interest. The return is calculated by adding the spot return to the interest earned from the long currency position. It is designed to measure the performance of the Japanese yen vs. the U.S. dollar.

Litecoin: A peer-to-peer cryptocurrency and open source software project similar to Bitcoin, Litecoin uses blockchain technology to process transactions. Litecoin, referred to as an alt-coin can process blocks faster than Bitcoin, uses a different mining algorithm and has larger supply.

Long/Short: "Long" and "short" are investment terms used to describe ownership of securities. To buy securities is to "go long." The opposite of going long is "selling short." Short selling is an advanced trading strategy that involves selling a borrowed security. Short sellers make a profit if the price of the security goes down and they are able to buy the security at a lower amount than the price at which they sold the security short. A put gives the holder the right to sell the underlying asset at a specified price on or before expiration.

Macro: Hedge Fund Research HFRI Macro (Total) Index. Investment Managers which trade a broad range 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.

Managed Futures: BarclayHedge US Managed Futures Industry Top 50 (BTop 50) Index. The Index seeks to replicate the overall composition of the managed futures industry with regard to trading style and overall market exposure.

Overnight Repurchase Agreements: A repurchase agreement (repo) is a form of short-term borrowing for dealers in government securities. In the case of a repo, a dealer sells government securities to investors, usually on an overnight basis, and buys them back the following day at a slightly higher price. That small difference in price is the implicit overnight interest rate.

Real Estate: The Dow Jones US Real Estate Index is designed to track the performance of real estate investment trusts (REITs) & other companies that invest directly or indirectly in real estate through development, management or ownership, including property agencies.

Ripple: Known as XRP, Ripple is a cryptocurrency that can be used on open source distributed ledger created by the company Ripple. It is built upon the principles of blockchain as an on-demand option for faster cross border payments.

Swiss Franc: The return from selling the short currency (USD) to buy the long currency (CHF) and earning interest. The return is calculated by adding the spot return to the interest earned from the long currency position. It is designed to measure the performance of the Swiss franc vs. the U.S. dollar.

U.S. Equities: The S&P 500 Index. An unmanaged index of 500 stocks (currently 505) used to measure large-cap U.S. stock market performance.

U.S. 30-Yr Treasury Yield: Yield of U.S. Treasury securities maturing in approximately 30 years.

U.S. Dollar: The U.S. Dollar Index (USDIX) indicates the general international value of the U.S. dollar. The USDIX does this by averaging the exchange rates between the USD and major world currencies. The ICE US computes this by using the rates supplied by some 500 banks.

U.S. Treasury: The ICE U.S. Treasury 20+ Years Bond Index is part of a series of indices intended to assess U.S. Treasury issued debt. Only U.S. dollar denominated, fixed-rate securities with minimum term to maturity greater than twenty years are included.

U.S. Treasury Bill (T-Bill) is a short-term U.S. government debt obligation backed by the Treasury Department with a maturity of one year or less.

Volatility Arbitrage: Hedge Fund Research HFRI Relative Value Volatility Index. Volatility strategies trade volatility as an asset class, employing arbitrage, directional, market neutral or a mix of types of strategies, and include exposures which can be long, short, neutral or variable to the direction of implied volatility, and can include both listed and unlisted instruments. Directional volatility strategies maintain exposure to the direction of implied volatility of a particular asset or, more generally, to the trend of implied volatility in broader asset classes. Arbitrage strategies employ an investment process designed to isolate opportunities between the price of multiple options or instruments. Volatility arbitrage positions typically maintain characteristic sensitivities to levels of implied and realized volatility, levels of interest rates and the valuation of the issuer's equity, among other more general market and idiosyncratic sensitivities.

Alternative investments may employ complex strategies, have unique investment and risk characteristics that may not be suitable for all investors.

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