

The second quarter of 2022 offered up a toxic brew for capital markets with steep losses in almost every traditional asset class. Alternatives on the other hand offered a brighter picture for investors. Most alternative categories did well on a relative basis and others even posting positive returns amidst the carnage. The economic situation grew dimmer with projected slowing and even potentially negative GDP growth and inflation levels so high they threaten to induce hypoxia or at least a 1970s flashback. There was some hope that peak inflation had been reached and more moderate levels would allow for a less aggressive rate path. Unfortunately, the Producer Price Index (“PPI”) (see Figure 1) remained above 10% and the Consumer Price Index (“CPI”) (see Figure 2) moved higher and the war in Ukraine continued with little hope for a near-term solution.

In June, the Federal Reserve (the “Fed”) raised the Fed Funds Target Rate by 75 basis point (“bps”), the largest increase since 1994. Along with a stunning large hike, there was a reiteration that reigning in of inflation was the top priority no matter the economic costs. This of course is quite a turnaround from two years ago (August 2020) when at the annual

Jackson Hole symposium, Fed Chair Jerome Powell announced a major shift in policy: the central bank would allow inflation to move above its 2% target as inflation was not a worry. In hindsight, the timing of that policy change looks just short of disastrous. Investors are understandably nervous that once again, the Fed may be implementing a significant policy shift with questionable timing. One indicator of how challenging the situation is, is the gap between the CPI and Fed Funds rate. While it has recently narrowed, it is still near record highs or the 99th percentile, (see Figure 3) which means there is a long way to go in the inflation battle.

Alternative Investments (“alternatives”) had a mixed quarter on an absolute basis, with positive returns in 4 of 10 categories. However, the average outperformance versus the S&P 500 Index was over 1200 basis points (see Figure 4) and 10 of 10 categories beat the S&P 500 Index returns for the quarter. Five of 10 categories outperformed the Bloomberg US Aggregate Bond Index. Lower correlation/lower beta strategies on average fared substantially better which is expected given the negative returns in stocks, investment

Figure 1 U.S. PPI Final Demand YoY NSA



Source: Bloomberg, data from 12/31/10 - 5/31/22 (latest data available), not seasonally adjusted (NSA).

Figure 2 U.S. CPI Urban Consumers YoY NSA



Source: Bloomberg, data from 12/31/70 - 5/31/22 (latest data available), (NSA).

Figure 3 CPI vs Fed Funds Rate



Source: Bloomberg, data from 12/31/70 - 6/30/22.

Figure 4 Alternative Outperformance vs S&P 500 Index

	Q2 2022
Hedged Equity	7.80%
Event Driven	9.36%
Equity Market Neutral	17.19%
Real Estate	1.64%
Commodities	10.44%
Distressed/Restructuring	12.96%
Volatility Arbitrage	16.92%
Credit Arbitrage	10.41%
Macro	18.25%
Managed Futures	22.84%

Source: Bloomberg, data as of 6/30/22.

References to specific companies or securities should not be construed as a recommendation to buy or sell any such security, nor should they be assumed profitable.

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grade bonds, and high-yield bonds. Managed futures was the best performing category by far (+6.74%). Other notable gainers were macro (+2.14%) and equity market neutral (+1.09%). Real estate (-14.46%) and hedged equity (-8.30%) were the worst performing categories (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 shorting as part of their approach. Strategies that had lower 2-year correlations to U.S. equities (less than 0.60), on average, significantly outperformed those strategies that had a higher correlation with U.S. equities. The spread was 931 bps (see Figure 6). As the dollar appreciated and nominal rates rose sharply, real asset returns suffered. Real estate was especially hard hit as mortgage rates soared and recession worries weighed heavily on the sector (see Figure 7).

Cryptocurrencies had what some might characterize as a near death experience in the second quarter. Both the broader Bloomberg Galaxy Crypto Index, the bellwether Bitcoin and other major cryptocurrencies fell -59% or more (see Figure 8). Unfortunately, performance issues were not the only sobering news in the sector. Highlighting just a few key happenings: cryptocurrency hacking losses were reported to be over \$600 million in the second quarter, the Terra Luna cryptocurrency collapsed (shedding \$40 billion in market value going from over \$100 to near \$0) and Three Arrows Capital (3AC), a Singapore based multi-billion dollar hedge fund, failed to meet margin calls, and was forced into liquidation. Two primary founders of 3AC are reportedly not cooperating with the process and the extent of estimated losses have not been disclosed. On the regulatory front, news wasn't much more

encouraging. The U.S. Securities and Exchange Commission (the "SEC") rejected the Bitcoin ETF application of Grayscale Investments, which runs the largest publicly traded bitcoin fund, and wanted to convert the fund into an ETF. Grayscale Investments promptly filed a legal challenge to the decision.

Returns for major asset classes were deeply negative in the second quarter of 2022 except for the U.S. Dollar. The S&P 500 Index led the move downward (-16.10%) followed by the MSCI EAFE Index (-14.51%) and Real Estate Index (-14.46%). Commodities fell (-5.66%) as investors began to grapple with the notion of a possible recession and waning demand due to higher rates and continued lockdowns in China. These recession concerns did not prevent long-dated 20+ year U.S. Treasuries from selling off sharply (-12.14%). High-yield bonds were also hard hit (-10.48%). The U.S. Dollar Index continued to advance strongly (+6.48%) on expectations of a resolute Fed (see Figure 9). Nominal yields moved higher across the curve, yet real yields remained deeply negative (see Figure 10) as inflation, as measured by the CPI, continued to move higher. May's year-over-year CPI reading hit 8.6% and consensus expectations are that June's reading will be even higher.

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 suitable for all investors. Diversification does not guarantee a profit or protect against loss.**

Figure 5 Alternative Category Performance

	Q2 2022	YTD 2022
Hedged Equity	-8.30%	-12.28%
Event Driven	-6.75%	-8.00%
Equity Market Neutral	1.09%	0.60%
Real Estate	-14.46%	-20.02%
Commodities	-5.66%	18.44%
Distressed/Restructuring	-3.14%	-1.93%
Volatility Arbitrage	0.82%	3.07%
Credit Arbitrage	-5.69%	-6.13%
Macro	2.14%	8.98%
Managed Futures	6.74%	16.50%

Source: Bloomberg, data as of 6/30/22.

Figure 6 Correlations (2yr) & Returns

	S&P 500 Index	Q2 2022
Hedged Equity	0.83	-8.30%
Event Driven	0.77	-6.75%
Equity Market Neutral	0.45	1.09%
Real Estate	0.86	-14.46%
Commodities	0.32	-5.66%
Distressed /Restructuring	0.58	-3.14%
Volatility Arbitrage	0.35	0.82%
Credit Arbitrage	0.59	-5.69%
Macro	0.29	2.14%
Managed Futures	0.18	6.74%
Lower Correlation Avg TR (<=0.60)		-0.53%
Higher Correlation Avg TR (>0.60)		-9.84%

Source: Bloomberg, data as of 6/30/22. Correlation of monthly returns over 24 months.

Figure 7 Real Assets

	Q2 2022	YTD 2022
Real Estate	-14.46%	-20.02%
Commodities	-5.66%	18.44%
Gold	-6.72%	-1.20%
Average	-8.95%	-0.93%

Source: Bloomberg, data as of 6/30/22.

Figure 8 Cryptocurrency Returns

	Q2 2022	YTD 2022
BB Galaxy Crypto Index	-65.20%	-68.02%
Bitcoin	-59.07%	-59.57%
Ethereum	-69.38%	-72.61%
XRP (Ripple)	-61.21%	-61.76%
Litecoin	-59.18%	-65.11%

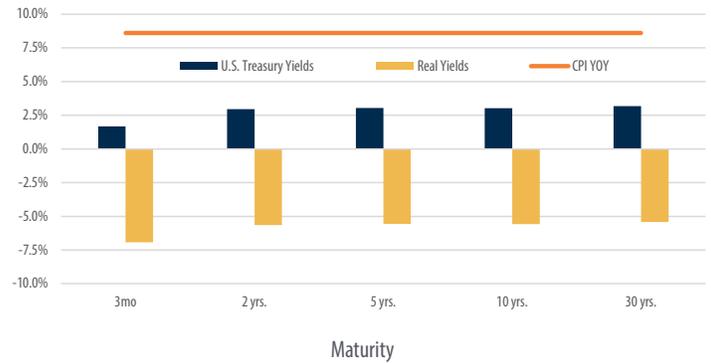
Source: Bloomberg, data as of 6/30/22.

Figure 9 Asset Class Returns

	Q2 2022	YTD 2022
US Equities	-16.10%	-19.96%
International Developed	-14.51%	-19.57%
Emerging Markets	-11.45%	-17.63%
U.S. Treasury	-12.14%	-21.66%
Real Estate	-14.46%	-20.02%
Commodities	-5.66%	18.44%
High Yield Bonds	-10.48%	-14.80%
U.S. Aggregate Bonds	-4.69%	-10.35%
U.S. Dollar	6.48%	9.42%

Source: Bloomberg, data as of 6/30/22.

Figure 10 U.S. Treasury Yield Curve and CPI



Source: Bloomberg. U.S. Treasury Yields as of 6/30/22. CPI YoY as of 5/31/22 (latest available data).

Definitions

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

Aggregate Bonds: The Bloomberg US Aggregate Bond Index is a broad-based benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market.

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

Central Bank: A central bank is a financial institution given privileged control over the production and distribution of money and credit for a nation or a group of nations.

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.

Cryptocurrency is a digital or virtual currency that is secured by cryptography, which makes it nearly impossible to counterfeit or double-spend.

Distressed/Restructuring: 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.

Gross Domestic Product (GDP): The monetary value of all finished goods and services made within a country during a specific period.

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 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 min amount outstanding of USD500mn and less than five years from issue date.

Inflation is the decline of purchasing power of a given currency over time.

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.

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.

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.

Nominal yield of a bond, depicted as a percentage, is calculated by dividing total interest paid annually by the face, or par, value of a bond.

Producer Price Index (PPI) is a group of indexes that calculates and represents the average movement in selling prices from domestic production over time.

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.

Real Yield or Real Interest Rate has been adjusted to remove the effects of inflation to reflect the real cost of funds to the borrower and the real yield to the lender or to an investor.

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.

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.

Year-over-Year (YoY): is a calculation that helps compare growth over the previous 12 months and automatically negates the effect of seasonality.

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.

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