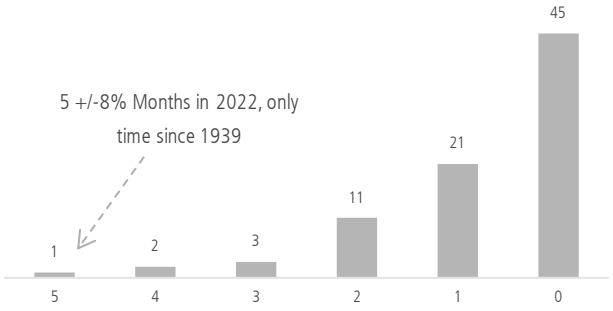
NEUBERGER | BERMAN

Option Group

The 4th Quarter

Despite another 125 bps of tightening from the U.S. Federal Reserve Board of Governors over the 4th quarter, financial markets tried to salvage 2022 with broad gains. The MSCI EAFE Index was a clear winner posting an exceptional return of 17.34%, well ahead of the S&P 500 Index and MSCI EM Index returns of 7.56% and 9.70%, respectively. However, despite the holiday rebounds, all three indexes ended 2022 squarely in negative double-digits: S&P 500 -18.11%, MSCI EAFE -14.45% and MSCI EM -20.09%. To paint the year with a single chart, we offer the below. 2022 had the most +/-8% monthly returns than any year since 1939.

S&P 500 INDEX: NUMBER OF MONTHS WITH +/-8% PER CALENDAR YEAR
January 1940 – December 2022



Source: Bloomberg LP

Equity index putwrite indexes performed as designed and finished the year well ahead of their underlying equity index exposures. Specifically, the Cboe S&P 500 PutWrite Index ("PUT") declined a more modest -7.66% having benefited from a few 'lucky' monthly option rolls. Similarly, the Cboe MSCI EAFE PutWrite Index ("PXEA") and the Cboe MSCI EM PutWrite Index ("PXEF") fell -8.24% and -7.31% on the year, respectively.

As would be expected, the quarter, was a 'risk-off' environment with equity index implied volatility levels declining across markets. The Cboe S&P 500 Volatility Index ("VIX") fell approximately -11pts to finish 2022 at 21.7. The Cboe iShares EFA Volatility Index declined -10.5pts in similar fashion to 20.5. Meanwhile, the Cboe iShares EM Volatility Index only slipped -5.8pts to end the year at 24.2.

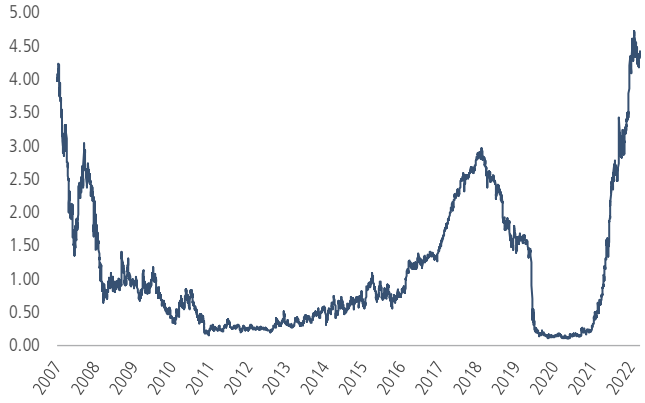
Hedge funds continued to post mixed results with the media focused on extreme winners and losers, while we believe most were moderate losers on the year clustering around the peer group averages/medians. The HFRI Equity Hedge (Total) Index seems to support our beliefs with a 4th quarter finish of 3.99% lifting its 2022 return to -10.37%. The HFRI Equity Market-Neutral Index on the other hand managed to deliver a slightly positive return on the year of 1.59% after a fourth quarter return of 1.17%.

Fixed income markets suffered a similar fate as equity markets for the quarter with the Bloomberg U.S. Aggregate Index and the Bloomberg U.S. High Yield Index rallying 1.87% and 4.17%, respectively. However, 425bps of U.S. Fed rate increases doomed the indexes to 2022 losses of -13.01% and -11.19%, respectively. Short-term U.S. Treasury index returns weathered the inflation storm with the ICE BofA U.S. 3-Month T-Bill index posting an attractive 1.46% for the year with 84bps accruing in the 4th quarter. The slightly longer duration ICE BofA 1-3Y U.S. Treasury Index rose 73bps in the quarter but remained in negative territory for the year at -3.65%. This 2022 performance differential was the most notable headwind for our strategies' relative performance as passive option strategy indexes generally hold 1- to 3-month U.S. T-Bills as collateral which brings us to our first real topic of this letter.

The Worst Thing First

In general, our option strategies performed in line with expectations for 2022. Yet, unprecedented interest rate increases in 2022 proved to create a modest relative performance challenge versus option strategy indexes.

2-YEAR U.S. TREASURY YIELDS
September 2007 – December 2022 (Daily)



Source: Bloomberg LP

We reduced the duration of funded strategy collateral portfolios to approximately 1 year by the end of 2021, but any duration exposure was a detractor in 2022. For the year, the ICE BofA 1-3 Year U.S. Treasury Index ("ICE 1-3Y UST") returned -3.65% marking only the second negative calendar year since 1978—2021 was the first with a modest -0.55% loss.

In sharp contrast, the ICE BofA 0-3 Month U.S. T-Bill Index's ("ICE 3M USB") positive 1.46% return resulted in a material relative underperformance for ICE 1-3Y UST Index, a -511bps differential. The following chart highlights the historical annual excess returns of the ICE 1-3Y UST Index over the ICE 0-3 Month USB Index. **Importantly, the 2022 performance dispersion between short-dated U.S. Treasury securities accounts for basically all of our equity index putwrite strategy underperformance versus the PUT Index which holds U.S. T-Bills as collateral.** The good news is that collateral portfolio losses suffered in 2022 are largely mark-to-market in nature and discounted position prices should accrue back towards par at maturity.

ICE BOFA INDEX RELATIVE RETURNS (1-3Y UST VS. 0-3M USB)
December 1977 – December 2022

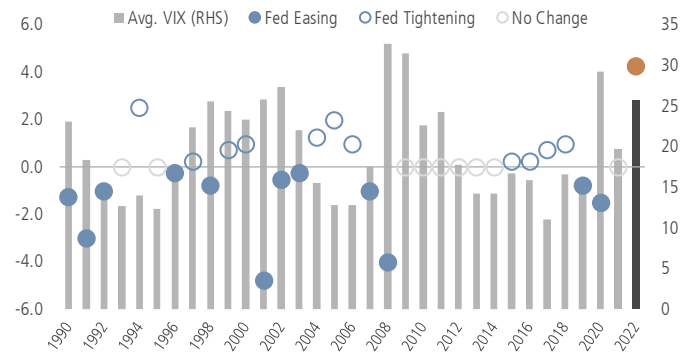
Source: Bloomberg LP

'Tis the Season of Excessive Reasoning

The annual cycle of financial and economic prognostication is upon us and while we generally attempt to gracefully avoid forecasting or predicting what lies ahead in the coming year, the future seems best described as a growing multiverse of risks. The next decade looks far more challenging than the last as investors face a combination of risks not seen in our careers, if ever. Specifically, investors face a 'dirty dozen': higher interest rates, aging demographics, polarized politics, uncertain inflation, pandemic policies, ESG regulation (social taxation), energy/commodity insecurity, decentralized finance (DeFi), climate disasters, social media (conspiracies), decreasing financial liquidity, and armed conflicts (war has many modern names).

Each of the above will potentially impact global economic outcomes in the coming decade but it's impossible to handicap what combinations will emerge as the key economic drivers/influences. Regardless, we believe their confluence will lead to an unprecedented equity market volatility landscape characterized by less cyclical implied volatility levels that remain 'higher for longer'. The last two volatility cycles have largely been dictated by the U.S. Federal Reserve's ("Fed") easing. The chart below plots the average VIX level and the change in the Fed's target interest rate. This, of course, is one way to illustrate the 'Fed Put' that had become implicitly or explicitly imbedded in most investment strategies.

ABOVE AVERAGE: CBOE S&P 500 VOLATILITY INDEX ("VIX")
January 1990 – December 2022

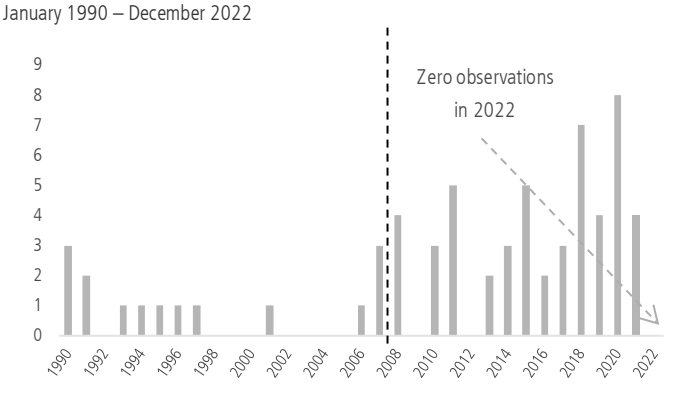


Source: Bloomberg LP

In general, sharp increases in market risk have been met with reductions in the Fed's target interest rate (dark blue dots). However, 2022 (orange dot) stands in contrast to history as relatively high U.S. inflation rates have pushed the Fed to raise rates at an unprecedented pace. We expect the debate around the Fed's optimal course of monetary action to remain a fixture of 2023 and help support our 'higher for longer' outlook.

In turn, higher sustained volatility levels tend to reduce the frequency of 'vol spikes' that became a prominent characteristic of option markets post 2008. The chart below highlights a notable increase in the annual frequencies of daily jumps in the VIX Index level of 25% or more since 2008. Prior to 2008, 'jump' frequencies were much lower. Of note, this will also change the efficacy of hedging strategies that have relied on relatively cheap volatility and convexity.

VIX INDEX: NUMBER OF DAILY MOVES GREATER THAN 25%
January 1990 – December 2022

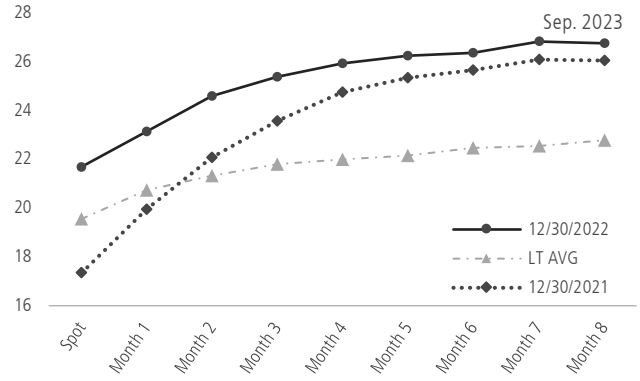


Source: Bloomberg LP

Lastly, VIX futures markets seem to agree with our expectations that 2023 will experience persistent elevated levels of equity implied volatility.

BETTER SAFE THAN SORRY

VIX Futures Curves (As of December 31, 2022)



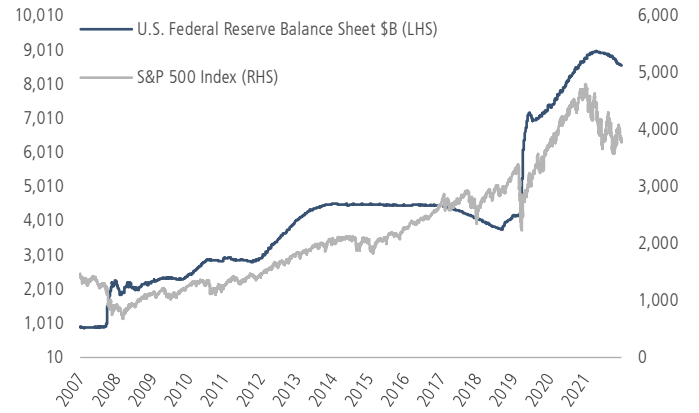
Source: Bloomberg LP

Financial Fusion Fantasy

While uncertainty about the potential for a 'soft landing' remains high, the opportunity to monetize elevated volatility going forward endures in our opinion as we do not believe that the growth in the Fed's balance sheet (below) is an asymmetric benefit to financial markets. Monetary policy is not 'financial fusion'. The Fed didn't generate 'costless' economic expansion and it can't offer investors free 'Fed Puts' indefinitely.

U.S. FEDERAL RESERVE BALANCE SHEET VS. S&P 500

December 2007 – December 2022 (Daily)

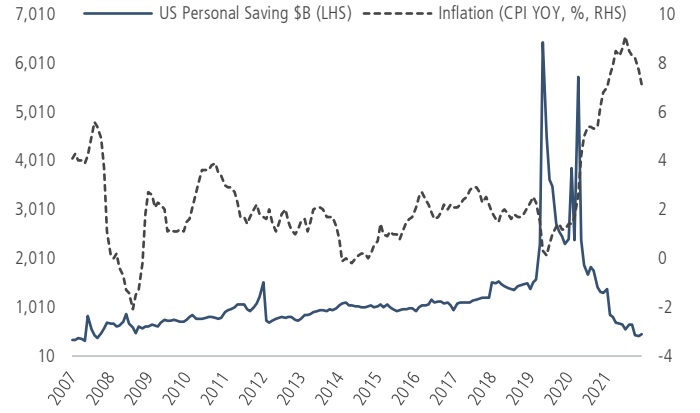


Source: Bloomberg LP

Combine the current state of the Fed's balance sheet with the following chart demonstrating higher inflation in conjunction with minimal personal savings levels not seen since 2007 and we believe recovering from the resulting hangover will take an extended period and may even result in structural economic changes.

UNFAMILIAR PLACES

December 2007 – November 2022 (Monthly)



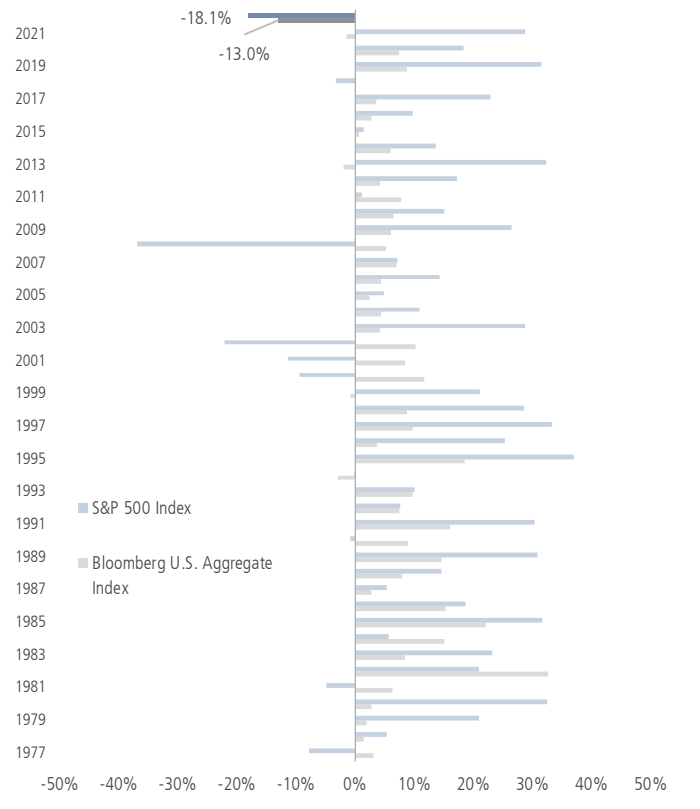
Source: Bloomberg LP

A Year to Forget but a Future to Consider

With nowhere to 'hide', investors felt the full wrath of concurrent equity and fixed income declines (following chart). The coincident losses create a unique challenge for the next few years as fixed income markets offer return potentials not seen in years and present clear competition for investor dollars alongside private and public equity.

CALENDAR YEAR RETURNS: S&P 500 & BLOOMBERG U.S. AGGREGATE

1977 – 2022

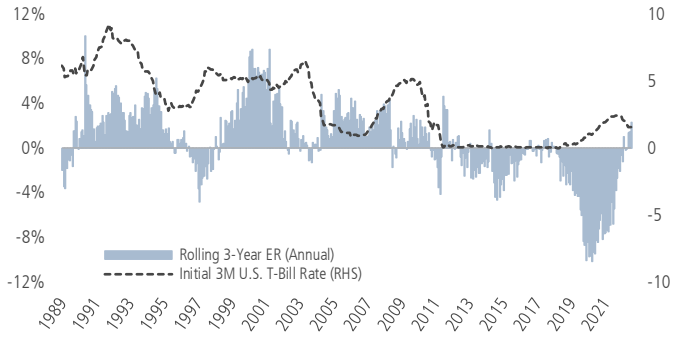


Source: Bloomberg LP

Gone are the days of simply holding a traditional 60/40 blend of equity and bonds to achieve investment goals. The coming years will require investors to diversify into investment strategies that seek to generate returns beyond equity risk premiums (value, growth, size, momentum, etc.) and bond income. The push to diversify will present new challenges such as the effects of institutional portfolio rebalancing, illiquidity (private investments) and higher management fees. In addition to offering a proven source of additional portfolio returns, index option writing can help address these challenges and offer capital efficient formats that provide allocators increased portfolio flexibility. As published previously, the chart below highlights the potential diversifying returns provided by the naïve PUT Index relative to the traditional 60/40 portfolio allocation[1].

60/40 MONOPOLY: PUT EXCESS RETURN OVER 60/40 PORTFOLIO

June 1986 – December 2023



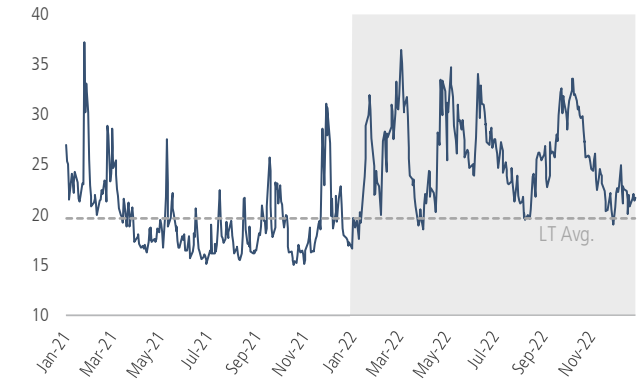
Source: Bloomberg LP

Rolling thru 2022

The VIX index continues to price higher equity market risk levels and resist returning to below long-term average levels.

CBOE S&P 500 VOLATILITY INDEX ("VIX")

December 2020 – December 31, 2022 (Daily)

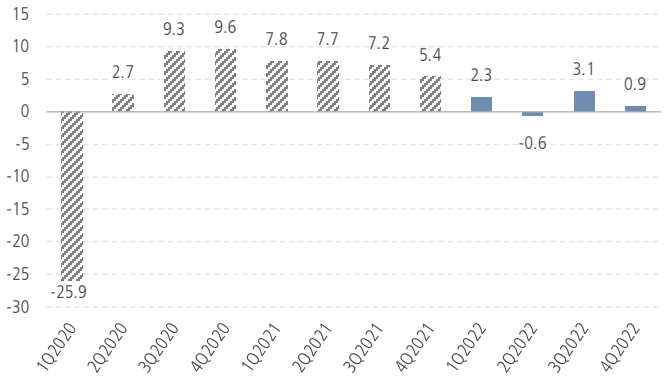


Source: Bloomberg LP

With increased levels of implied volatility over the course of the year, implied volatility premiums were positive in three out of four quarters and averaged 1.42 for the full period.

S&P 500 INDEX OPTION IMPLIED PREMIUMS

Average Implied Volatility Premium Estimates (Daily)

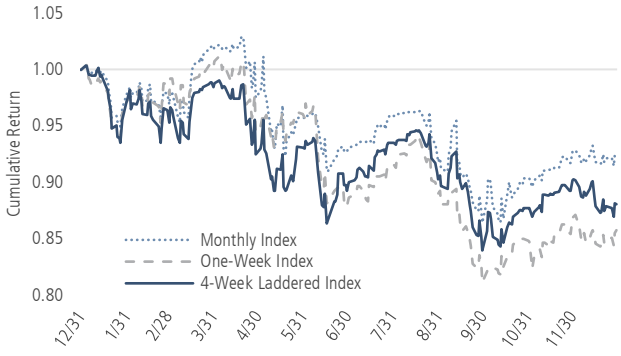


Source: Bloomberg LP

While U.S. equity implied volatility premiums were positive on the year, not all option tenors were treated equally. The one-month, 3rd Friday rolling index outperformed the comparable one-week and laddered 4-week indexes[2]. Specifically, the monthly index (following chart) suffered notably reduced losses of -7.66% relative to the one-week and laddered indexes' losses of -14.25% and -11.97%, respectively.

TENOR VS. TENOR

December 2021 – December 2022



Source: Bloomberg LP

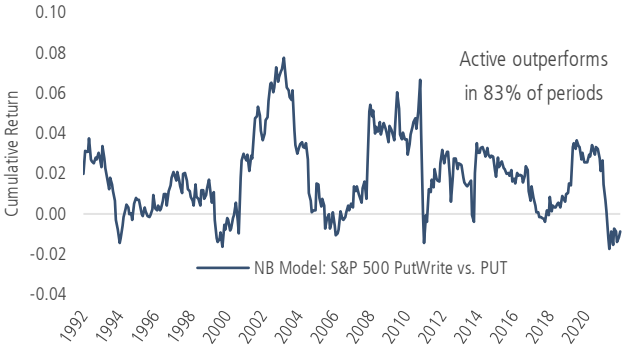
Again, the exceptional performance of the one-month index is a short-term phenomenon that typically 'averages out' over multi-year periods. To be more specific, the graph below plots the rolling 3-year annualized return differential between our active S&P 500 putwrite model and the PUT Index. Our active S&P 500 putwrite model outperforms the PUT in 83% of the observations.

[1] The traditional 60/40 portfolio allocation is represented by 60% S&P 500 Index and 40% Bloomberg U.S. Aggregate Bond Index.

[2] The monthly index is represented by the Cboe S&P 500 PutWrite Index (PUT), the one-week index is represented by the Cboe S&P 500 One-Week PutWrite Index (WPUT) and the laddered 4-week index is represented by the Cboe S&P 500 Multi-Week BuyWrite Index (BXMW).

S&P 500 PUTWRITE: ACTIVE VS. PASSIVE[3]

December 1992 – December 2022



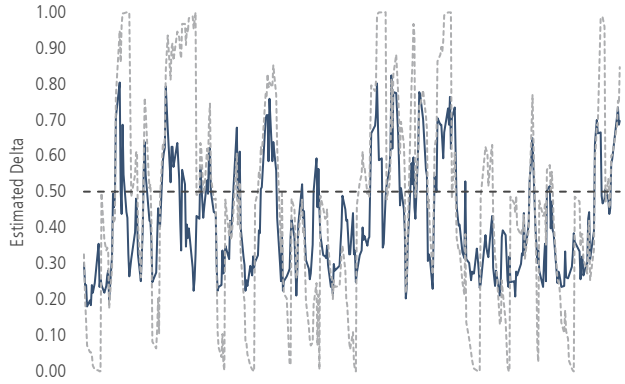
Source: Bloomberg LP

Periods of underperformance have been relatively short-lived as they tend to coincide with one or two 'lucky' option rolls captured by the passive indexes that are ultimately balanced by 'unlucky' option rolls.

Somewhat counterintuitively, the less frequent rolling of many option indexes can allow their equity exposures to vary more widely which, in turn, makes them 'more active'. The following chart plots the estimated deltas of a one-month rolling putwrite vs. a 4-week laddered putwrite. Ultimately, these roll timing differences can lead to short-term performance differences, while risk-adjusted returns for the laddered approach are almost always higher than the more variable one-month approach.

WHEN PASSIVE IS MORE 'ACTIVE'

Hypothetical Example



Source: Bloomberg LP

Bitcoin: The End of the Beginning

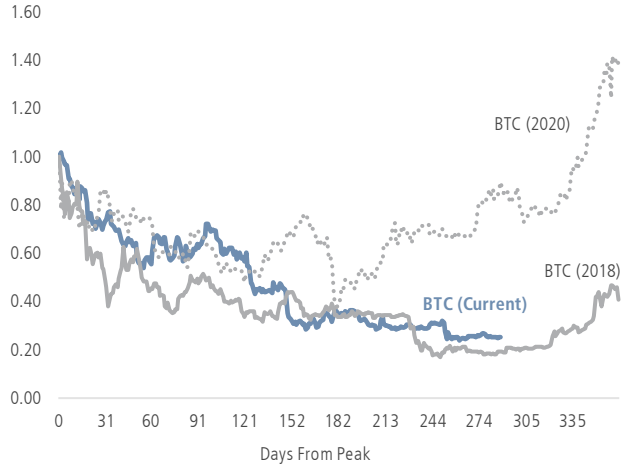
**For additional detail please request our Hedged Cryptocurrency Volatility Strategy commentary.*

2022 was a wildly traumatic year for cryptocurrency/DeFi (decentralized finance) markets that included multiple bankruptcies, including accusations of fraud, and numerous devaluations to zero. However, while the process was excessively painful, Bitcoin has experienced similar losses in prior years (chart following) and the Bloomberg Galaxy Bitcoin Index's approximate -64% decline on the year is in the same zip code as many mega-cap technology companies that lost over half their value in 2022. Further, per Galaxy Research, venture capital flows into crypto investments slowed towards the end of 2022, but in aggregate the year saw just over $30 billion invested, falling just short of 2021's record.

We believe the events of 2022 further galvanize Bitcoin as the primary cryptocurrency going forward—the proverbial last coin standing. Other tokens may find prominence in the Web3 digital ecosystem, i.e., Ethereum, but we believe Bitcoin will be the primary digital reference currency.

SELECTED BITCOIN PRICE PATHS

As of December 30, 2022



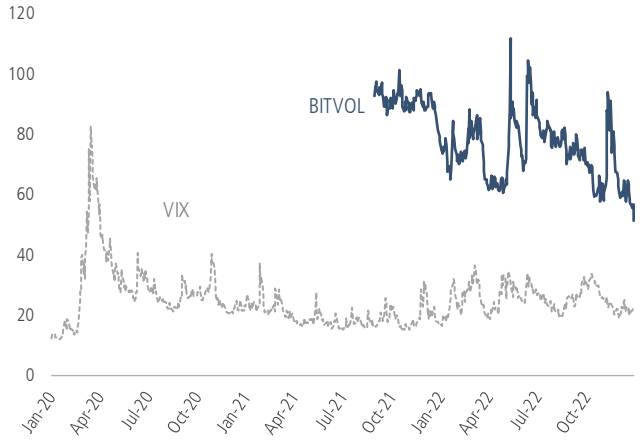
Source: Bloomberg LP

To this end, we believe 2023 will bring formal U.S. regulations on cryptocurrency markets that help define and solidify their relevance in the traditional economy. Ultimately, regulation will help usher in broader price stability and speed incorporation of DeFi tools into traditional financial markets. In the meantime, the opportunity to monetize cryptocurrency volatility through the secure and traditional structures of CME Group Bitcoin futures options remains alive and well.

[3] The hypothetical data shown is based on back-tested model portfolios and is shown for illustrative and discussion purposes only. The results are shown on a supplemental basis and do not represent the performance of any Neuberger Berman managed account or product and do not reflect the fees and expenses associated with managing a portfolio. Hypothetical performance has certain inherent limitations. As with all back-tested results, the results reflect the retroactive application of models designed with the benefit of hindsight. Unlike actual investment performance, hypothetical model results do not represent actual trading and accordingly they may not reflect the impact that material economic and market factors might have had on decision making if assets were actually managed during the relevant period. PLEASE SEE "HYPOTHETICAL PERFORMANCE DISCLOSURES" AT THE END OF THIS MATERIAL FOR IMPORTANT DISCLOSURES REGARDING THE HYPOTHETICAL BACKTESTED PERFORMANCE SHOWN IN THIS PRESENTATION.

CRYPTO IMPLIED VOLATILITY REMAINS HIGH

As of December 30, 2022



Source: Bloomberg LP

In 2022, monetizing Bitcoin volatility via a hedged, listed structured option strategy held up well relative to the heavy losses sustained investing in Bitcoin or Bitcoin futures and, we believe, remaining directionally long Bitcoin will ensure participation in any potential growth of Bitcoin from its current, relatively depressed levels.

We are going to have to work for it

It is difficult for us to look at the past few years, pandemics aside, and not marvel at how technological advancement and social progress seem to have brought volatility to global financial markets. The 'dirty dozen' challenges we listed earlier could have been much longer. The constant and amplified social, political, financial, and environment issues are exhausting. Many of us have enjoyed a few decades of tackling big challenges in a serial fashion rather than a plurality of struggles concurrently. Hence, we believe those expecting old cycles to persist, like value vs. growth, developed vs. non-developed, cheap money for private equity investors, may find the coming years to be less 'traditional'. Of course, all the 'drama' will present opportunity, investors will just have to work harder than buying and holding stocks and bonds.

Happy New Year,

Derek Devens, CFA
Senior Portfolio Manager

Rory Ewing
Portfolio Manager

Eric Zhou
Portfolio Manager

Beryl Lou
Research Analyst

Rachel White, CFA
Portfolio Specialist

Hypothetical Performance Disclosures

The hypothetical performance results included in this material are of various hypothetical portfolios, including simulated backtests portfolio, that are shown for illustrative purposes only. The results do not reflect actual performance results. The hypothetical results we calculated by running the hypothetical/model portfolios using the stated methodologies and assumptions. No representation or warranty is made as to the reasonableness of the assumptions made or that all assumptions used in achieving the hypothetical results have been stated or fully considered. Changes in the model assumptions may have a material impact on the hypothetical returns presented. The results are shown on a supplemental basis and do not represent the performance of any Neuberger Berman managed account. There are frequently material differences between hypothetical performance results and actual results achieved by a Strategy or asset allocation portfolio. Unless otherwise indicated, results assume no withdrawals or additional contributions and reinvestment of any dividends and distributions.

Hypothetical performance has certain inherent limitations. Unlike actual investment performance, hypothetical results does not represent actual trading and accordingly the performance results may have under- or over-compensated for the impact, if any, that certain economic or other market factors, such as lack of liquidity or price fluctuations, might have had on the investment decision-making process or results if assets were actually being managed. Hypothetical performance may also not accurately reflect the impact, if any, of other material economic and market factors, or the impact of financial risk and the ability to withstand losses. Hypothetical performance results are also subject to the fact that they are generally designed with the benefit of hindsight and established at a point in time. As a result, the hypothetical assumptions, including any asset allocations, could theoretically be modified in order to produce more favorable simulated performance results. In addition, the results are based, in part, on hypothetical assumptions. Certain of the assumptions have been made for modeling or simulation purposes and may not have been realized in the actual management of accounts. No representation or warranty is made as to the reasonableness of the assumptions made or that all assumptions used in achieving the hypothetical results have been stated or fully considered. Changes in the hypothetical assumptions may have a material impact on the hypothetical returns presented. To the extent a hypothetical portfolio or asset allocation includes asset class returns, such returns are for illustrative purposes only and not reflective of the returns of a specific strategy. There are frequently material differences between hypothetical performance results and actual results achieved by any investment strategy.

Hypothetical asset allocation models reflect the blended the performance of the indicated components (i.e. strategy, model or index) with the indicated allocation percentages Unless otherwise indicated the target allocations are static with no rebalancing, contributions, withdrawals, redemptions or corporate actions and reinvestment of any dividends or distributions.

This following is a summary of simulated models show and the associated methodology and assumptions:

NB Model: S&P 500 PutWrite vs. PUT

The option strategy back-testing platform is designed to estimate historical performance of portfolios that implement systematic option writing strategies. Models support a multitude of variables including option strategy, e.g., put writing or call writing, underlying exposure (index or stock), tenor, moneyness, risk management parameters and collateral investments. While models incorporate different parameter sets, they adhere to a consistent structure across all back-tested model scenarios and our model architecture is such that returns are estimated independent of account size.

All models rely on a Black-Scholes pricing to estimate option prices based on historical implied volatility surfaces. We compile daily implied volatility surfaces from exchange listed option price and/or option implied volatility data available from external data providers including the Chicago Board of Options Exchange ("CBOE") and Bloomberg LP. Additional inputs for option pricing (dividends, risk-free rate, etc.) are sourced from Bloomberg LP.

Daily implied volatility surfaces allow models to price weekly expiration dates even though weekly option expirations may not have been actively traded on an exchange over the full history of a model back-test. Models methodically allocate options across weekly expirations to promote diversification across expiration dates and are assumed to settle on each Friday consistent with current option market practices.

Exposures are rebalanced on a daily basis at the close of each trading day. Daily model rebalancing adjusts portfolio exposures and rolls (covers and writes) option positions consistent with specified risk management targets. Options are rolled in a manner that seeks to preserve exposures across multiple expiration dates, and risk management targets, e.g., option delta and or moneyness, are set at the inception of a back-test and applied over its full history. All trading is assumed to be transacted at market closing prices derived from closing implied volatility levels and includes estimates for transaction costs. Option strike prices follow standard option market conventions unique to the underlying index/security. Models may round up, down or to the nearest strike price when selecting option to write.

Funded/collateralized models assume fully collateralized such that model portfolios are assumed to hold fixed income securities whose aggregate market values are greater than or equal to the aggregate notional exposure of the options. Collateral is assumed to be invested in a widely followed index(s) that approximates the performance of short-term U.S. Treasuries. Models may vary from actual strategy performance due to assignment risk for American style options, exchanged traded option contract availability, intra-day trading and differences in transaction costs (implicit and explicit).

Overlay models assume sufficient collateral and no margin calls, but do not reflect investment of collateral or any appreciation or depreciation thereon. Models may vary from actual strategy performance due to assignment risk for American style options, exchanged traded option contract availability, intra-day trading and differences in transaction costs (implicit and explicit).

Index Definitions

The **Bloomberg Galaxy Bitcoin Index** is designed to measure the performance of bitcoin traded in USD.

The **Bloomberg U.S. Aggregate Bond Index** represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and assetbacked securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis.

The **Bloomberg US Corporate High Yield Bond Index** measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Bloomberg EM country definition, are excluded.

The **Cboe EFA Volatility Index (VXEFA)** is a VIX style estimate of the expected 30-day volatility of returns on the iShares MSCI EAFE, an exchange traded product (ETP) that offers exposure to developed-market stocks in Europe, Australia, Asia and the Far East.

The **Cboe Emerging Markets Volatility Index (VXEEM)** is a VIX-style estimate of the expected 30-day volatility of returns on the MSCI EEM Index. Like VIX, VXEEM is calculated by interpolating between two weighted sums of option midquote values, in this case options on EEM. The two sums essentially represent the expected variance of MSCi EEM Index returns up to two option expiration dates that bracket a 30-day period of time. VXEEM is obtained by annualizing the interpolated value, taking its square root and expressing the result in percentage points.

The **Cboe MSCI EAFE PutWrite Index** is designed to track the performance of a hypothetical passive investment strategy that collects option premiums from writing an At-the-Money MXEA Put option on a monthly basis and holds a rolling money market account invested in one-month T-bills to cover the liability from the short MXEA Put option position, generally on the third Friday each month.

The **Cboe MSCI Emerging Markets PutWrite Index** is designed to track the performance of a hypothetical passive investment strategy that collects option premiums from writing an At-the-Money (ATM) MXEF Put option on a monthly basis and holds a rolling money market account invested in one-month Tbills to cover the liability from the short MXEF Put option position, generally on the third Friday each month.

The **Cboe S&P 500 Multi-Week BuyWrite Index** is a variation of the Cboe BuyWrite index (BXM) that buffers the impact of negative S&P 500 returns by selling calls on a weekly basis instead of once a month. The BXMW tracks the value of a portfolio (BXMW) composed of an investment in S&P 500 stocks overlaid by short positions in 1/4 each of weekly SPX options that expire over the next four consecutive weeks. The BXMW portfolio is rebalanced every Friday, after one the SPX options expires, at the open of the third Friday of the month, and the close on the other Fridays. That option is replaced by a quarter of a new SPX option expiring approximately four weeks later.

The **Cboe S&P 500 One-Week PutWrite Index (WPUT)** is designed to track the performance of a hypothetical strategy that sells an at-the-money (ATM) S&P 500 Index (SPX) put option on a weekly basis. The maturity of the written SPX put option is one week to expiry. The written SPX put option is collateralized by a money market account invested in one-month Treasury bills. The Index rolls on a weekly basis, typically every Friday.

The **Cboe S&P 500 PutWrite Index (PUT)** tracks the value of a hypothetical portfolio of securities (PUT portfolio) that yields a buffered exposure to S&P 500 stock returns. The PUT portfolio is composed of one- and three-month Treasury bills and of a short position in at-the-money put options on the S&P 500 index (SPX puts). The number of puts sold is selected to ensure that the value of the portfolio does not become negative when the portfolio is rebalanced. The PUT portfolio is rebalanced monthly, typically on the third Friday of the month when SPX options expire. A new number of SPX puts is then sold.

The **CBOE S&P 500 Volatility Index (VIX)** is a key measure of market expectations of near-term volatility conveyed by S&P 500 stock index option prices. Since its introduction in 1993, VIX has been considered by many to be the world's premier barometer of investor sentiment and market volatility. Several investors expressed interest in trading instruments related to the market's expectation of future volatility, and so VIX futures were introduced in 2004, and VIX options were introduced in 2006.

The **HFRI EH Equity Market Neutral Index** consists of hedge funds that employ Equity Market Neutral strategies which typically employ sophisticated quantitative techniques 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.

The **HFRI Equity Hedge Index** is comprised of Investment Managers who maintain positions both long and short 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 on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. EH managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities, both long and short.

The **ICE BofA 3-Month U.S. Treasury Bill Index** is a total return index designed to track the performance of the direct sovereign debt of the U.S. government. It tracks U.S. dollar-denominated U.S. Treasury Bills with a remaining term to maturity of three months.

The **ICE BofA 1-3 Year US Treasury Index** is a subset of The ICE BofA US Treasury Index including all securities with a remaining term to final maturity less than 3 years. The ICE BofA US Treasury Index tracks the performance of US dollar denominated sovereign debt publicly issued by the US government in its domestic market.

The **MSCI EAFE (Net) Index** (Europe, Australasia and Far East) is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada. The MSCI EAFE Index consists of the following 21 developed market country indices: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. Net total return indexes reinvest dividends after the deduction of withholding taxes, using (for international indexes) a tax rate applicable to non-resident institutional investors who do not benefit from double taxation treaties.

The **MSCI Emerging Markets (Net) Index** is a free float-adjusted market capitalization-weighted index that is designed to measure the equity market performance of emerging markets. The index consists of the following 24 emerging market country indexes: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates. Net total return indexes reinvest dividends after the deduction of withholding taxes, using (for international indexes) a tax rate applicable to non-resident institutional investors who do not benefit from double taxation treaties. In June 2016, the benchmark was changed from the MSCI Emerging Markets (Gross) Index to the MSCI Emerging Markets (Net) Index. The benchmark was changed to better reflect how account returns are calculated.

The **S&P 500 Index** consists of 500 stocks chosen for market size, liquidity and industry group representation. It is a market value-weighted index (stock price times number of shares outstanding), with each stock's weight in the Index proportionate to its market value. The S&P 500 Index is one of the most widely used benchmarks of U.S. equity performance.

Additional Disclosures

Unless otherwise noted, information is as of December 31, 2022.

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Options involve investment strategies and risks different from those associated with ordinary portfolio securities transactions. By writing put options, an investor assumes the risk of declines in the value of the underlying instrument and the risk that it must purchase the underlying instrument at an exercise price that may be higher than the market price of the instrument, including the possibility of a loss up to the entire strike price of each option it sells but without the corresponding opportunity to benefit from potential increases in the value

of the underlying instrument. The investor will receive a premium from writing options, but the premium received may not be sufficient to offset any losses sustained from exercised put options.

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