If ever there were ever a case of the Emperor's new clothes, it was the Federal Reserve's (the "Fed") insistence for most of 2020 and 2021 that inflation was not a cause for concern. As late as November 2021, the Federal Open Market Committee's ("FOMC") official statement was still using "transitory" and sticking with the narrative that longer-term inflation expectations remained well anchored at 2 percent. After a stunning 9.6% year-over-year ("YoY") increase for the Producer Price Index ("PPI") (see Figure 1) and 6.8% YoY increase for the Consumer Price Index ("CPI") for November (see Figure 2), the Fed admitted what the entire world knew: inflation was not transitory, a target inflation of 2% was so far in the past, one would need the soon to be decommissioned Hubble telescope to detect it and consumers were acutely feeling the pain of higher prices. The last time inflation was rising and at these levels was the 1970s, not exactly the regime any Fed governor would likely want to revisit.

The December FOMC statement, in addition to acknowledging inflation concerns, put forth further reductions in Treasury and mortgage-backed securities purchases. However, this marginally hawkish tone was accompanied by several caveats surrounding employment, general economic conditions and the continuing need to provide accommodative and supportive financial conditions. While some might consider this pivot as the harbinger of truly restrictive financial conditions, history might offer some guidance to potentially temper this perspective.

Since January 1996, the Fed has raised rates 33 times. Only once has the rate increased by more than 25 basis points ("bps") and that was in May of 2000, more than two decades ago. The last time the Fed tried to normalize rates (2016-2018), a significant drop in the S&P 500 Index in the 4th quarter of 2018, after a number of rate increases, forced them into full retreat. From December 2016 to August of 2019 only $691 billion of the $4.5 trillion balance sheet was shed (16%) before it resumed growing again. The Fed didn't get anywhere near normalizing their stance 10 years after the 2008 recession. Given that the Fed's actions and interventions during the pandemic have been so much more intensive and of greater magnitude, it's anyone's guess as to how far the Fed can go before they have to hit pause or risk an economic slowdown. Inflation running as high as it is with no signs of abating is likely unacceptable for much longer, but so are the prospects of a Fed induced slowdown or capital market wreckage due to significant liquidity reductions.

While the hawkish rhetoric has definitely increased, the Fed fund rate is still at an all-time low, the Fed's balance sheet is still growing and is now over $8.7 Trillion (38% of GDP). The Federal budget deficit continues to be enormous (11.9% of GDP) by historical standards (see Figure 3) and the Federal Reserve Money Supply (M2) YoY change is still at levels (13.1%) not seen since the 1970s (see Figure 4). President Biden's hallmark $1 Trillion infrastructure plan was passed but his often revised multi-trillion dollar Build Back Better initiative continues to be stuck in limbo. YoY changes in several items still indicates that for many consumers, a CPI of 7.0% seems optimistic and the impact on one's wallet might be a little closer to the 9.6% PPI. Real yields continue to remain deeply negative and likely indicate challenging times ahead for many asset classes. Amidst several potential regime shifts,

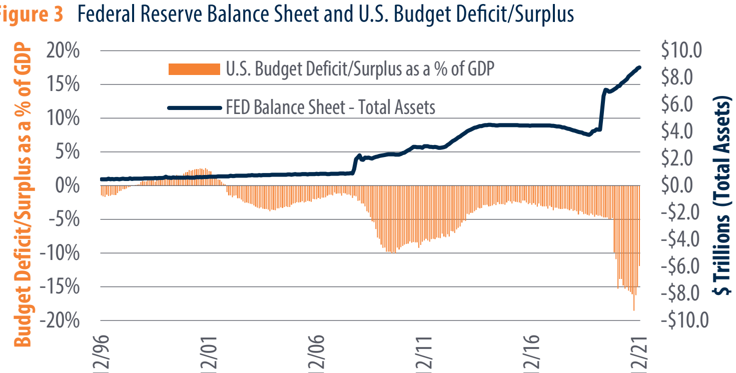
Figure 1 U.S. PPI Final Demand YoY NSA

Source: Bloomberg, data from 12/31/10 - 11/30/21 (latest data available), not seasonally adjusted (NSA).

Figure 2 U.S. CPI Urban Consumers YoY NSA

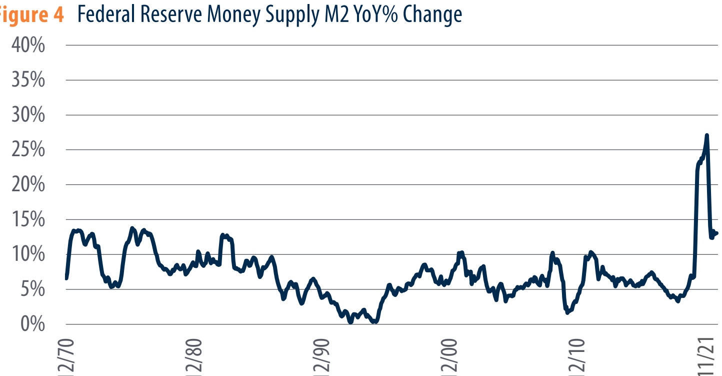
Source: Bloomberg, data from 12/31/90 - 12/31/21, (NSA).

Figure 3 Federal Reserve Balance Sheet and U.S. Budget Deficit/Surplus



Source: Bloomberg, data from 12/31/96 - 12/31/21.

Figure 4 Federal Reserve Money Supply M2 YoY% Change



Source: Bloomberg, data from 1/31/70 - 11/30/21 (lastest data available).

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.

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.*

alternative strategies and real assets might be poised to reassert themselves after subdued performance in the 2010s.

Alternative Investments ("alternatives") had a solid quarter with positive returns in 7 of 10 categories. Higher correlation/higher beta strategies on average fared better which is not surprising given the outsized returns on the S&P 500 Index as compared to just about every other asset class, as well as the relative performance of growth over value. Real estate was the best performing category by far (+14.58%) and the only alternative category with double digit gains. Other notable gainers were volatility arbitrage (+2.34%), managed futures (+1.98%), and event driven strategies (+1.63%). Taking a pause from their torrid advance in prior quarters, commodities was the worst performer (-1.56%) along with equity market neutral (-0.68%) (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 underperformed those strategies that had a higher correlation with U.S. equities over the quarter. The spread was 289 bps (see Figure 6). Two of three real asset categories had positive returns, with real estate leading the way (+14.58%). Gold posted a solid gain (+4.11%) despite a stronger dollar, while broad commodities declined slightly (-1.56%) (see Figure 7).

True to form, cryptocurrencies took investors on a rollercoaster ride in the quarter. While both the broader Bloomberg Galaxy Crypto Index and the bellwether Bitcoin ended the quarter in positive territory, both traded off over 30% from their intra-quarter highs (see Figure 8). The first bitcoin ETF launched during the quarter using futures contracts for their exposure and amassed over $1 billion in assets within a week of launching. Others quickly followed, though none have had anywhere near that level of success. No ETF using actual bitcoin or other cryptocurrencies has been approved by the SEC and there continues to be mixed messages regarding the likelihood of that happening in 2022.

Figure 5 Alternative Category Performance

	Q4 2021	YTD 2021
Hedged Equity	0.91%	11.96%
Event Driven	1.63%	13.06%
Equity Market Neutral	-0.68%	5.72%
Real Estate	14.58%	38.99%
Distressed/Restructuring	0.81%	15.70%
Commodities	-1.56%	27.11%
Volatility Arbitrage	2.34%	4.09%
Credit Arbitrage	0.36%	9.16%
Macro	-0.53%	7.52%
Managed Futures	1.98%	10.37%

Source: Bloomberg, 12/31/21.

Figure 6 Correlations (2yr) & Returns

	S&P 500 Index	Q4 2021
Hedged Equity	0.87	0.91%
Event Driven	0.80	1.63%
Real Estate	0.89	14.58%
Commodities	0.57	-1.56%
Distressed/Restructuring	0.64	0.81%
Credit Arbitrage	0.65	0.36%
Equity Market Neutral	0.73	-0.68%
Volatility Arbitrage	0.64	2.34%
Managed Futures	0.52	1.98%
Macro	0.49	-0.53%
Lower Correlation Avg TR (<=0.60)		-0.04%
Higher Correlation Avg TR (>0.60)		2.85%

Source: Bloomberg, 12/31/21. Correlation of monthly returns over 24 months.

Figure 7 Real Assets

	Q4 2021	YTD 2021
Real Estate	14.58%	38.99%
Commodities	-1.56%	27.11%
Gold	4.11%	-3.64%
Average	5.71%	20.82%

Source: Bloomberg, 12/31/21.

Figure 8 Cryptocurrency Returns

	Q4 2021	YTD 2021
BB Galaxy Crypto Index	8.08%	153.39%
Bitcoin	6.67%	59.79%
Ethereum	24.09%	399.10%
XRP (Ripple Digital Assets)	-12.03%	268.34%
Litecoin	-3.37%	17.75%

Source: Bloomberg, 12/31/21.

Returns for major asset classes were generally positive in the 4th quarter of 2021. Equity markets were led by the S&P 500 Index (+11.03%), followed by the MSCI EAFE Index (+2.69%). The MSCI Emerging Markets Index was down (-1.31%) likely impacted by a rising dollar. Commodities took a pause (-1.56%) from their great run in 2021 but ended the year with a robust (+27.11%) return. Long-dated U.S. Treasuries rallied (+3.78%) despite staggering inflation, while high-yield bonds were positive (+0.70%). The U.S. Dollar Index rose sharply (+1.53%) (see Figure 9). With inflation continuing to move much higher and nominal Treasury yields advancing only slightly higher (30 year yields actually fell in the quarter), real yields pushed further into already deeply negative territory (see Figure 10) and underscored what is likely to be an extraordinarily challenging total return environment for fixed rate, longer duration assets in the coming years.

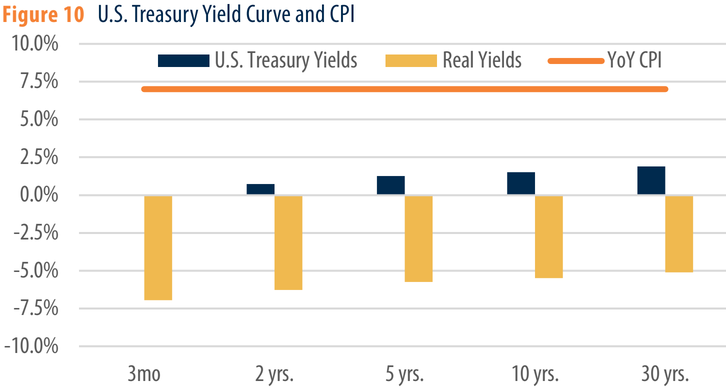
Returns for "Risk On" assets (+3.62% average return) outperformed the returns for "Risk Off" assets (+1.62% average return). Year-to-date "Risk On" assets were up (+8.38%), trouncing "Risk Off" assets (-5.52%). The Chinese Renminbi and the Australian Dollar both had a positive 4th quarter (+2.26%, +0.50%), respectively. Focusing on non-currencies, equities had a stellar quarter as did high-yield bonds, long-dated (20 yr. +) U.S. Treasuries and gold (see Figure 11). 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: Diversification does not guarantee a profit or protect against a loss. Alternative investments may employ complex strategies, have unique investment, and risk characteristics that may not be suitable for all investors.**

Figure 9 Asset Class Returns

	Q4 2021	YTD 2021
U.S. Equities	11.03%	28.71%
International Developed	2.69%	11.26%
Emerging Markets	-1.31%	-2.54%
U.S .Treasury	3.78%	-4.34%
Real Estate	14.58%	38.99%
Commodities	-1.56%	27.11%
High Yield Bonds	0.70%	4.51%
U.S. Aggregate Bonds	0.01%	-1.54%
Bitcoin	6.67%	59.79%
U.S. Dollar	1.53%	6.37%

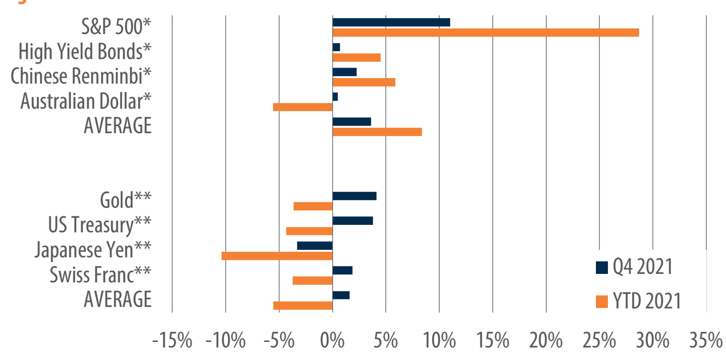
Source: Bloomberg, 12/31/21.

Figure 10 U.S. Treasury Yield Curve and CPI



Source: Bloomberg, 12/31/21.

Figure 11 Risk On vs. Risk Off Assets



Source: Bloomberg, 12/31/21 *Considered to be "Risk On" asset class. **Considered to be "Risk Off" asset class.

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.

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 of 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.

FOMC: Federal Open Market Committee is the committee that decides how to manage monetary policy.

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.

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

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.

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.

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.

Risk-On and Risk-Off is an investment setting in which price behavior responds to and is driven by changes in investor risk tolerance. Risk-on risk-off refers to changes in investment activity in response to global economic patterns.

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 (USDX) indicates the general international value of the U.S. dollar. The USDX 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.

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.