

# Capital Market Outlook

December 5, 2022

All data, projections and opinions are as of the date of this report and subject to change.

## IN THIS ISSUE

**Macro Strategy—*Quantitative Tightening is Older than the Fed:*** Just as the Federal Reserve (Fed) and consensus economists missed the surge in inflation during the past two years, we believe they are underestimating the degree to which inflation will fall over the next two years, with negative implications for the economy, corporate revenues and earnings growth.

Basically, aggressive quantitative easing (QE) caused the surprise upswing in inflation, and quantitative tightening (QT) is likely to cause a comparable drop in inflation, in our view. That's because these policies have caused swings in money supply growth of a magnitude that, since the 1850s, only occurred during wartimes, including the Civil War, World War I (WWI) and World War II (WWII). In each instance, the economy quickly went from historically high inflation, during the war-time expansion of the money supply, to deflation, in the post-war reversal of money supply growth. The pandemic policy money supply surge exceeded all prior peacetime policy surges and was comparable in size to these wartime inflation periods. History suggests that current tightening is on course to follow those post-war deflation patterns.

**Market View—*Some Key Macro Lessons of 2022:*** There were plenty of lessons to be learned in 2022. Chief among them: Big government is back; it's a fossil-fueled global economy; there is no going back per the great power rivalry between the U.S. and China; and the U.S. dollar remains the world's "safe haven" asset.

Against this backdrop, we are mindful of state intervention that includes more protectionism, state subsidies and budget deficits. We remain long Energy and Defense, and believe a cyclically weaker U.S. dollar in 2023 favors the Emerging Markets, U.S. Large-cap and leading commodity producers.

**Thought of the Week—*Bundle Up! Why It's More Expensive to Stay Warm this Winter:*** The global energy market has faced significant headwinds this year that have led to diminishing commodity stockpiles, soaring prices and a consumer left to bear the burden.

While there are longer-term difficulties confronting many European countries, the U.S. may also be facing its own energy crisis this winter. U.S. households and businesses face significantly higher energy bills as a result of higher prices for diesel, natural gas, heating oil and electricity.

## MACRO STRATEGY ►

**Chief Investment Office  
Macro Strategy Team**

## MARKET VIEW ►

**Joseph P. Quinlan**  
Managing Director and Head of CIO Market Strategy

**Lauren J. Sanfilippo**  
Director and Senior Investment Strategy Analyst

## THOUGHT OF THE WEEK ►

**Niladri Mukherjee**  
Managing Director and Head of CIO Portfolio Strategy

## MARKETS IN REVIEW ►

**Data as of 12/5/2022,  
and subject to change**

### Portfolio Considerations

We remain neutral Equities, with a preference for U.S. Equities relative to International, and a slight overweight to high-quality Fixed Income. We continue to emphasize broad portfolio diversification, including Alternatives\*, as we continue to monitor trends in inflation, the Federal Reserve (Fed), corporate earnings, rates, and the dollar.

\*Many products that pursue Alternative Investment strategies are available only to qualified investors.

Merrill Lynch, Pierce, Fenner & Smith Incorporated (also referred to as "MLPF&S" or "Merrill") makes available certain investment products sponsored, managed, distributed or provided by companies that are affiliates of Bank of America Corporation ("BofA Corp."). MLPF&S is a registered broker-dealer, registered investment adviser, Member SIPC and a wholly owned subsidiary of BofA Corp. Investment products:

Are Not FDIC Insured	Are Not Bank Guaranteed	May Lose Value
----------------------	-------------------------	----------------

Please see last page for important disclosure information.

5279555 12/2022

## Quantitative Tightening is Older than the Fed

### Chief Investment Office Macro Strategy Team

A lot of ink has been spilt trying to quantify the effect of QT on the economy. Typically, researchers try to measure the additional impact of QT on various financial conditions measures and assign an incremental amount of interest rate tightness to the actual federal funds rate for a more comprehensive estimate of the monetary-policy stance. A recent study at the Federal Reserve Bank of San Francisco, for example, finds the 2.5% average fed funds rate in September was closer to 5.25% when the incremental tightness in financial conditions is attributed to QT.

Still, the problem with this approach is that interest rates are not a reliable measure of policy ease or tightness. How easy or tight the policy is depends on the underlying economic environment. For example, a 10% fed funds rate in the 1970s was hardly restrictive because inflation and money supply growth were similarly high, whereas a 3% interest rate in the early 1930s was punitively restrictive given rampant deflation and collapsing money supply.

By curbing money supply growth, QT has a more direct effect on financial conditions than Fed interest rate changes, and only by looking at money supply growth is it possible to see whether monetary policy has become more restrictive or less restrictive, and by how much. Quantitative Easing (QE) increases and QT decreases the monetary base supplied by the Fed. The monetary base is multiplied through banks' expansion of their assets, which creates new money.

In turn, monetary history shows fluctuations in money supply growth are associated with fluctuations in inflation and nominal gross domestic product (GDP) growth (Exhibit 1). Professors Milton Friedman and Anna Schwartz demonstrated this in their seminal book *A Monetary History of the United States 1867-1960*. As shown in Exhibit 1, that relationship has continued to hold up since 1960, when their available data ended. In fact, the outcome of the unusually stimulative government policy response to the pandemic has reaffirmed their finding, which was the basis for the few accurate forecasts that inflation would surge as a result of the policy-induced money supply explosion. Economists who had been taught that money supply does not matter missed the boat but are now rediscovering the ancient truth that inflation is always and everywhere a monetary phenomenon.

### Exhibit 1: Large Swings In Money Supply Growth Followed By Large Swings In Inflation And Nominal GDP.



Standard deviation is a basic mathematical concept that measures volatility in the market or the average amount by which individual data points differ from the mean. Sources: Federal Reserve Board; Bureau of Economic Analysis/Haver Analytics; Chief Investment Office. Data as of November 29, 2022. Last datapoints: Actual Q3 2022 for GDP and October level assumed for Q4 2022 money supply average.

Viewed in this light, QE and QT transcend current institutional arrangements and modern central banks. They simply refer to the increase and decrease in the monetary base deliberately engineered by government authorities with power to change base money (i.e., amount of currency in circulation and bank reserves). Indeed, prior to WWII, it was typical for monetary policy to reverse the wartime inflation created by excessive money printing (to fund wars) by restoring prices to prewar levels, which required reducing the excessive money supply.

### Investment Implications

A shift toward strong disinflationary forces suggests high quality Fixed Income assets will outperform Equities until leading economic indicators reverse their strong downtrends, perhaps in the second half of 2023.

The Civil War, which occurred prior to the Fed's establishment in 1913, provides a classic example of extreme expansion and subsequent contraction of the U.S. monetary base and their effects. The Treasury printed over \$400 million of "greenbacks" to fund the war. These "greenbacks" were not backed by gold, which anchored the monetary system at the time. This explosion in the spendable money supply unleashed a major inflation. After the war, however, a policy of retiring some of the "greenbacks" from circulation and giving them a prewar gold value created deflation and the longest recession in U.S. history at 65 months, according to the National Bureau of Economic Research (NBER) cycle-dating record. By comparison, the Great Depression of the early 1930s lasted a "mere" 43 months. Worse than that, the debate over tight money dominated U.S. politics after the Civil War, as the U.S. economy spent over half the time from 1869 until 1889 in depression and recession, with persistent deflation.

Another example of extreme QE and QT occurred during WWI and its aftermath, when the Fed was a brand new institution. Money growth surged to fund the war, and inflation surged as well. After the war, QT set off sharp deflation and a depression that set the stage for the Roaring '20s bull market. Indeed, after WWI, the Shiller Cyclically Adjusted Price Earnings (CAPE) multiple hit its lowest level in history going back to the 1870s. Low CAPEs are associated with strong 10-year forward returns, and the 1920s were no exception.

As a result of longer-term zero-inflation policies, the purchasing power of a dollar was the same when WWII started as 100 years before, as big wartime money supply growth was subsequently offset by QT and money supply contractions that resulted in offsetting deflation. In contrast, inflation has been persistent for the past 75 years, with the dollar today holding a small fraction of its past purchasing power. Indeed, by WWII, public attitude toward inflation was changing, with people starting to expect more government help. Money supply growth surged to finance WWII and then subsided, as government deficits and spending shrank sharply after the war. However, rather than restoring the value of money to pre-war levels, which would have required major deflation, the U.S. simply brought the inflation rate lower. By 1949, consumer price inflation was slightly negative after peaking at double-digit levels in the mid-1940s. The postwar Equity bear market that accompanied this period of QT ended in 1949, a few months before that year's recession was over.

The WWII experience illustrates the misleading signal interest rates can send as an indicator of the monetary-policy stance. Judged by QE, QT and money supply growth, policy went from one extreme to the other, and the economy and Equities responded accordingly. However, interest rates were low throughout both QE and QT periods, because the Fed was committed to pegging the Treasury yield curve at very low levels. What made the quantitative indicators shift extremely was the deficit shift. During the war, the Fed had to help finance a deficit that was about 25% of GDP by massive money printing (QE), and the monetary base exploded with the money supply. After the war, the deficit dropped and, with it, the need to purchase Treasuries to keep rates fixed at a lower level. As a result, the growth in the monetary base and the money supply dropped dramatically. Interest rates were a useless indicator for distinguishing the inflationary QE period from the disinflationary (QT) period.

In sum, the result of the recent pandemic policies has validated the key tenets of monetarism that Fed Chair Powell has said have not worked since the 1980s. Importantly, however, the monetary policy response to the pandemic was an order of magnitude greater than anything seen since WWII. Not surprisingly, inflation has responded as only seen in war times, the only other examples of similar acceleration in money supply growth. Based on the historical pattern discussed above, the rapid decline in money supply growth this year is likely to cause inflation to drop faster and further than the markets expect based on incorrect analogies with periods such as the 1970s, when money supply growth and inflation persisted at high levels until Fed Chairman Paul Volcker began to target the M2 money supply growth rate in the early 1980s.

## Some Key Macro Lessons of 2022

Joseph P. Quinlan, Managing Director and Head of CIO Market Strategy

Lauren J. Sanfilippo, Director and Senior Investment Strategy Analyst

We learned this year that macro dynamics matter—or that large, overarching forces outside of more traditional drivers of market returns like valuations, earnings growth, interest rates, etc., can determine relative and absolute asset prices. In that spirit, below we discuss some key macro lessons of 2022.

**Big government is back.** Capital markets are never left to their own devices, but unlike the 1980s and subsequent decades, when the state retreated in favor of the private sector, big government is back and with a vengeance. Power, for instance, in China’s command-and-control economy has never been more politically centralized under one figure—Xi Jinping, General Secretary of the Chinese Communist Party—than it is today. In the U.S., free-market capitalism has run headlong into the Biden administration’s Inflation Reduction Act and CHIPS and Science Act, unabashedly billed as industrial policies. And in Europe, always enthralled with big government, the role of the state continues to expand in multiple sectors, ranging from Energy, Healthcare, Semiconductors and electric vehicles, to name a few.

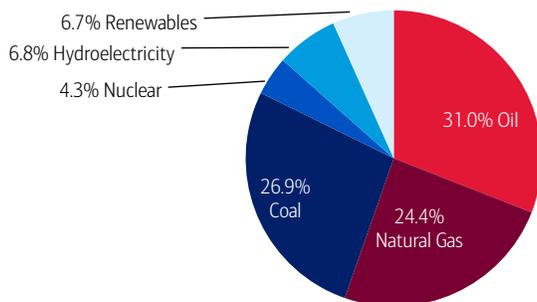
The hand of the government has become more visible since the pandemic, with the latter inducing a massive wave of public sector spending that has yet to recede and that has left many governments deep in debt. Meanwhile, thanks to the great power rivalry between the U.S. and China, and Russia’s invasion of Ukraine, U.S. national security interests now trump economics, free markets and profits. Rarely has Corporate America been so actively courted and cajoled to bring production home, cut ties with China, fight climate change, and align the interests of the firm with the interests of the state.

The dangers and risks to more government intervention via protectionism, state-directed subsidies and incentives, local content rules, and related policies are manifold. Based on history, think slower growth, higher budget deficits, rising costs for firms, declining productivity, and less crossborder trade and investment. In turn, all of the above equate to slower earnings growth and muted market returns over the long run.

**It’s a fossil fuel-driven global economy, like it or not.** Notwithstanding massive capital investments in renewable energy, dire calls to tackle climate change, and the hype around the “Green Revolution,” the world economy, at the end of the day, pivots on fossil fuels. Investors learned this lesson the hard way this year following Russia’s invasion of Ukraine and subsequent cuts in Russian energy supplies, notably natural gas.

By weaponizing energy, Russia has forced Europe, and many states in Asia, to build out their fossil fuel infrastructure to stave off the punishing effects of higher energy prices. Not only has nuclear power made a comeback, so has coal. Black is back. While the production of renewable energy (solar and wind, in particular) has expanded over the past decade, fossil fuels (coal, oil and natural gas) still account for 80% of the world’s energy supply, according to British Petroleum (Exhibit 2).

### Exhibit 2: Fossil Fuels Rule: Global Energy Consumption by Source.



Source: British Petroleum Statistical Review. Data for 2021 as of November 30, 2022.

What about efforts to decarbonize the global economy by 2050? The energy shock of 2022 will potentially delay—not derail—global efforts to curtail greenhouse gas emissions. If anything, the overreliance on Russian fossil fuels has added more urgency to the primacy of renewables. Near term, however, governments have had to change tack and embrace fossil fuels to offset supply disruptions. As recently noted in the *Financial Times*, “unpalatable as it is for ecological

### Investment Implications

Investing can be more art than science. Traditional metrics of future market returns like valuations and earnings growth need to be paired with macro dynamics that include geopolitics, energy policies, climate change, U.S.-Sino relations and related items. Rarely has the macro backdrop mattered as much as in 2022, and we expect macro to play another outsized role in market returns next year.

reasons, economic growth requires fossil fuel production.”<sup>1</sup> The CIO remains overweight Energy heading into 2023 and constructive on metals, minerals and nuclear energy.

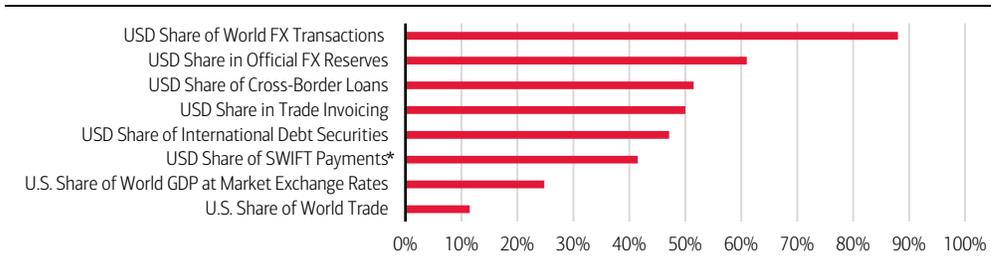
**The U.S.-China rivalry—no turning back.** “Less sweet, more sour” is the best definition of the state of play of U.S.-China relations. Indeed, the Biden administration, contrary to expectations, has been even tougher on China than its Republican predecessor. It was former President Trump who started the trade war with China by imposing tariffs on Chinese goods in 2018, but there has been no détente or let up under President Biden. His administration has declined to revise the tariffs imposed on Chinese imports by the previous White House, has applied sanctions on additional Chinese firms, and greatly upped the ante by imposing stringent export controls on advanced semiconductors and chip-making technologies in October 2022. The latter is designed to slow the technological advancement of China and diminish the mainland’s capabilities when it comes to technology and high-end military applications. As the *Financial Times* put it, “The U.S. has essentially declared war on China’s ability to advance the country’s use of high-performance computing for economic and security gains.”<sup>2</sup>

In short, the great power rivalry between the world’s two largest economies is heating up, posing significant risks not only to each party but also the world at large. The risks to the U.S. are not insignificant given that China is a key export market for U.S. goods and services; a key source of capital for savings-deficit America; and a critical supplier of various industrial inputs like rare earth elements, electronic parts and related components. We don’t expect the cold war between the U.S. and China to turn hot anytime soon. But in an era of heightened geopolitical risks, and with U.S.-Sino relations front and center, we remain bullish on Defense and cybersecurity leaders.

**The dollar is still king.** The last key lesson of 2022 is one investors have learned before: that in times of global uncertainty and volatility, the U.S. dollar is the world’s “safe haven”, refuge. While the dollar has given up some of the gains of this year, with the Bloomberg Dollar Spot index down 7% from its September high, the point here is that despite all the chatter about digital currencies and the rise of China, the greenback, like fossil fuels, remains pivotal to the global economy.

That’s clear from Exhibit 3. Whether foreign exchange transactions, crossborder loans or swift payments, the world beats to the tune of the U.S. dollar. Hence, supersized moves in the U.S. dollar create their own global ripples, with the strong buck this year adding to the spike in global energy and food prices, and layering on more debt stress to governments holding dollar-denominated debt. A strong dollar has also squeezed U.S. exporters and the foreign earnings of U.S. multinationals this year. Technology and Materials are the most exposed globally among the top sectors of the S&P 500.

**Exhibit 3: King Dollar: The Dollar's Disproportionate Share in Global Assets and Transactions.**



\*Society for Worldwide Interbank Financial Telecommunication. Source: The Global Dollar Cycle, M. Obstfeld and H. Zhou. Data as of August 2022.

Dollar relief could be on the way in 2023, with the consensus expecting the U.S. dollar to roll over and weaken as the Fed tightening cycle nears its peak sometime in the first quarter. The dollar’s turn, as a result, could provide a tailwind to many Emerging Markets, Large-cap U.S. stocks and leading commodity producers.

Looking into 2023, macro will again matter because, like it or not, we live in an era defined by outsized macro forces. A war in the heart of Europe, inflation rates at multidecade highs, a cold war between the world’s two largest economies, unpredictable climate change, massive public sector deficits—the list goes on and warrants that investors, while paying heed to traditional metrics of investment, also pay close attention to mega macro forces.

<sup>1</sup> *Financial Times*, “An Energy Reckoning Looms for the West,” August 21, 2022.

<sup>2</sup> *Financial Times*, “U.S. Hits China With Sweeping Tech Export Control,” October 7, 2022.

## Bundle Up!: Why It’s More Expensive to Stay Warm this Winter

*Niladri Mukherjee, Managing Director and Head of CIO Portfolio Strategy*

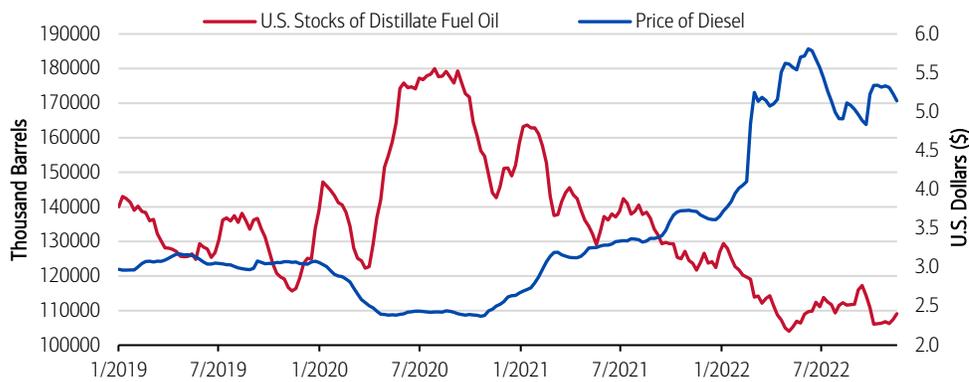
The global energy market has faced significant challenges this year with diminishing commodity stockpiles, soaring prices and a consumer left to bear the burden. Many European countries are facing an energy crunch after Russia’s decision to cut natural gas exports (in retaliation for sanctions) while the U.S. may also be facing its own energy crisis this winter. Compared to recent years, U.S. households and businesses face significantly higher energy bills as a result of higher prices for diesel, natural gas, heating oil and electricity.

Diesel, a petroleum product refined from crude oil, is widely used by the transportation sector—trucks and trains use diesel engines, and diesel is used for farm, construction and military equipment.<sup>3</sup> Given strong demand, prices have surged to \$5.14 per gallon, up from \$3.72 per gallon a year ago (Exhibit 4).<sup>4</sup> Equally concerning is that U.S. distillate stockpiles have decreased from around 121.7 million barrels in November 2021 to 109.1 million barrels in November 2022, according to the U.S. Energy Information Administration. Higher diesel prices, leading to higher transportation costs, ultimately feeds into goods and food prices, keeping inflation levels high.

The household sector could face higher energy bills, especially in colder parts of the country, with concerns rising that in colder parts of the country, like in New England, stockpiles of diesel and heating oil are a third of typical levels, and prices for gasoline in all Northeast states are above the national average.<sup>5</sup> According to the U.S. Energy Information Administration, U.S. households that use heating oil could incur, on average, a 45% increase in their bills this winter in their “base case” forecast. In a “10% colder” winter scenario, the bill jumps by 52%. Households that use natural gas to heat their homes could see a “base case” increase in prices of 25% and a jump of 37% for the “10% colder” scenario.

While the average U.S. household will face a difficult winter in the short term, the government plans to release more oil from the Strategic Petroleum Reserve later this year, which should help alleviate pressure on colder regions like the Northeast.<sup>6</sup> In the longer term, factors such as a shift to green energy, lower domestic refining capacity, a slowing growth picture, the outcome of the conflict in Ukraine, and China’s potential reopening will alter the supply and demand forces within both the domestic and global energy markets.

**Exhibit 4: U.S. Stocks of Distillate Fuel Oil & Diesel Prices.**



Sources: U.S. Energy Information Administration. Data as of November 28, 2022.

<sup>3</sup> U.S. Energy Information Administration, July 6, 2022.

<sup>4</sup> U.S. Energy Information Administration, November 28, 2022.

<sup>5</sup> Bloomberg, “The US Northeast is Hurling Towards a Winter Heating Crisis,” November 7, 2022.

<sup>6</sup> The White House, “President Biden to Announce New Actions to Strengthen U.S. Energy Security, Encourage Production, and Bring Down Costs,” October 18, 2022.

### Investment Implications

We favor the Energy sector which is supported by structural global supply constraints in the medium term. Utilities provides a more stable and consistent earnings outlook, especially relative to more cyclical sectors. Additionally, we are neutral Equities, with a preference for U.S. Equities relative to International given the insulation from geopolitical risk and a lower likelihood of a deeper energy shock.

Equities

	Total Return in USD (%)			
	Current	WTD	MTD	YTD
DJIA	34,429.88	0.4	-0.4	-3.3
NASDAQ	11,461.50	2.1	0.0	-26.2
S&P 500	4,071.70	1.2	-0.2	-13.3
S&P 400 Mid Cap	2,574.00	0.6	-0.1	-8.1
Russell 2000	1,892.84	1.3	0.3	-14.6
MSCI World	2,733.03	1.1	0.5	-14.1
MSCI EAFE	1,983.24	1.1	2.0	-12.8
MSCI Emerging Markets	973.85	3.5	0.2	-18.8

Fixed Income<sup>†</sup>

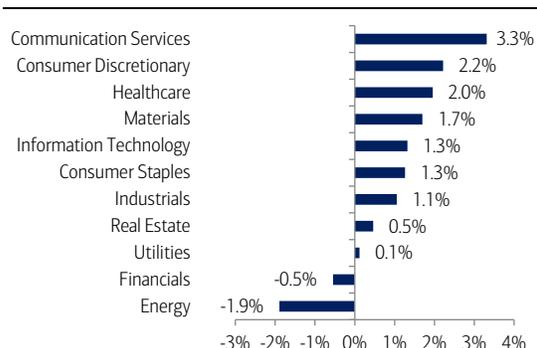
	Total Return in USD (%)			
	Current	WTD	MTD	YTD
Corporate & Government	4.37	1.59	1.35	-11.99
Agencies	4.36	0.85	0.47	-7.39
Municipals	3.47	1.09	0.49	-8.34
U.S. Investment Grade Credit	4.39	1.54	1.34	-11.44
International	5.12	1.72	1.67	-13.98
High Yield	8.38	0.94	0.92	-9.81
90 Day Yield	4.25	4.26	4.32	0.03
2 Year Yield	4.27	4.45	4.31	0.73
10 Year Yield	3.49	3.68	3.61	1.51
30 Year Yield	3.55	3.73	3.74	1.90

Commodities & Currencies

	Total Return in USD (%)			
	Current	WTD	MTD	YTD
Commodities				
Bloomberg Commodity	248.68	-0.3	-1.3	17.4
WTI Crude \$/Barrel <sup>††</sup>	79.98	4.9	-0.7	6.3
Gold Spot \$/Ounce <sup>††</sup>	1797.63	2.4	1.6	-1.7

	Total Return in USD (%)			
	Current	Prior Week End	Prior Month End	2020 Year End
Currencies				
EUR/USD	1.05	1.04	1.04	1.14
USD/JPY	134.31	139.19	138.07	115.08
USD/CNH	7.02	7.19	7.05	6.36

S&P Sector Returns



Sources: Bloomberg; Factset. Total Returns from the period of 11/28/2022 to 12/2/2022. <sup>†</sup>Bloomberg Barclays Indices. <sup>††</sup>Spot price returns. All data as of the 12/2/2022 close. Data would differ if a different time period was displayed. Short-term performance shown to illustrate more recent trend. **Past performance is no guarantee of future results.**

Economic Forecasts (as of 12/2/2022)

	Q4 2022E	2022E	Q1 2023E	Q2 2023E	Q2 2023E	Q4 2023E	2023E
Real global GDP (% y/y annualized)	-	3.4	-	-	-	-	2.2
Real U.S. GDP (% q/q annualized)	0.5	1.8	-1.0	-2.0	-1.5	1.0	-0.4
CPI inflation (% y/y)	7.5	8.1	6.2	4.5	3.8	3.2	4.4
Core CPI inflation (% y/y)	6.1	6.2	5.6	4.8	3.8	3.2	4.4
Unemployment rate (%)	3.6	3.6	3.7	4.2	4.8	5.3	4.5
Fed funds rate, end period (%)	4.38	4.38	5.13	5.13	5.13	4.88	4.88

The forecasts in the table above are the base line view from BofA Global Research. The Global Wealth & Investment Management (GWIM) Investment Strategy Committee (ISC) may make adjustments to this view over the course of the year and can express upside/downside to these forecasts. Historical data is sourced from Bloomberg, FactSet, and Haver Analytics. **There can be no assurance that the forecasts will be achieved. Economic or financial forecasts are inherently limited and should not be relied on as indicators of future investment performance.**

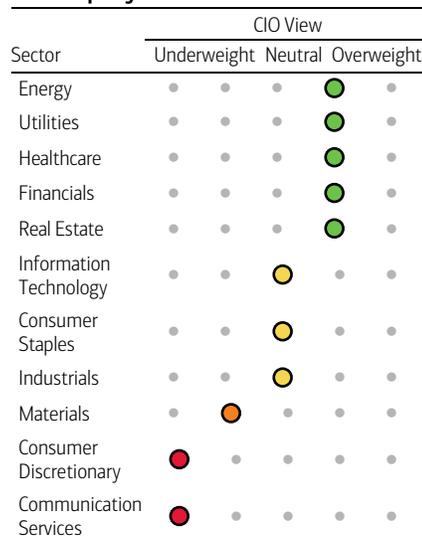
A = Actual. E/\* = Estimate.

Sources: BofA Global Research; GWIM ISC as of December 2, 2022.

Asset Class Weightings (as of 11/7/2022)



CIO Equity Sector Views



\*Many products that pursue Alternative Investment strategies, specifically Private Equity and Hedge Funds, are available only to qualified investors. CIO asset class views are relative to the CIO Strategic Asset Allocation (SAA) of a multi-asset portfolio. Source: Chief Investment Office as of November 7, 2022. All sector and asset allocation recommendations must be considered in the context of an individual investor's goals, time horizon, liquidity needs and risk tolerance. Not all recommendations will be in the best interest of all investors.

## Index Definitions

**Securities indexes assume reinvestment of all distributions and interest payments. Indexes are unmanaged and do not take into account fees or expenses. It is not possible to invest directly in an index. Indexes are all based in U.S. dollars.**

**S&P 500 Index** includes a representative sample of 500 leading companies in leading industries of the U.S. economy. Although the index focuses on the large-cap segment of the market, with approximately 75% coverage of U.S. equities, it is also an ideal proxy for the total market.

**Bloomberg Dollar Spot index** tracks the performance of a basket of 10 leading global currencies versus the U.S. Dollar.

## Important Disclosures

**Investing involves risk, including the possible loss of principal. Past performance is no guarantee of future results.**

This material does not take into account a client's particular investment objectives, financial situations, or needs and is not intended as a recommendation, offer, or solicitation for the purchase or sale of any security or investment strategy. Merrill offers a broad range of brokerage, investment advisory (including financial planning) and other services. There are important differences between brokerage and investment advisory services, including the type of advice and assistance provided, the fees charged, and the rights and obligations of the parties. It is important to understand the differences, particularly when determining which service or services to select. For more information about these services and their differences, speak with your Merrill financial advisor.

Bank of America, Merrill, their affiliates and advisors do not provide legal, tax or accounting advice. Clients should consult their legal and/or tax advisors before making any financial decisions.

This information should not be construed as investment advice and is subject to change. It is provided for informational purposes only and is not intended to be either a specific offer by Bank of America, Merrill or any affiliate to sell or provide, or a specific invitation for a consumer to apply for, any particular retail financial product or service that may be available.

The Chief Investment Office ("CIO") provides thought leadership on wealth management, investment strategy and global markets; portfolio management solutions; due diligence; and solutions oversight and data analytics. CIO viewpoints are developed for Bank of America Private Bank, a division of Bank of America, N.A., ("Bank of America") and Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S" or "Merrill"), a registered broker-dealer, registered investment adviser and a wholly owned subsidiary of Bank of America Corporation ("BofA Corp.").

The Global Wealth & Investment Management Investment Strategy Committee ("GWIM ISC") is responsible for developing and coordinating recommendations for short-term and long-term investment strategy and market views encompassing markets, economic indicators, asset classes and other market-related projections affecting GWIM.

All recommendations must be considered in the context of an individual investor's goals, time horizon, liquidity needs and risk tolerance. Not all recommendations will be in the best interest of all investors.

Asset allocation, diversification and rebalancing do not ensure a profit or protect against loss in declining markets.

Investments have varying degrees of risk. Some of the risks involved with equity securities include the possibility that the value of the stocks may fluctuate in response to events specific to the companies or markets, as well as economic, political or social events in the U.S. or abroad. Investing in fixed-income securities may involve certain risks, including the credit quality of individual issuers, possible prepayments, market or economic developments and yields and share price fluctuations due to changes in interest rates. When interest rates go up, bond prices typically drop, and vice versa. Bonds are subject to interest rate, inflation and credit risks. Treasury bills are less volatile than longer-term fixed income securities and are guaranteed as to timely payment of principal and interest by the U.S. government. Investments in foreign securities involve special risks, including foreign currency risk and the possibility of substantial volatility due to adverse political, economic or other developments. These risks are magnified for investments made in emerging markets. Investments in a certain industry or sector may pose additional risk due to lack of diversification and sector concentration. There are special risks associated with an investment in commodities, including market price fluctuations, regulatory changes, interest rate changes, credit risk, economic changes and the impact of adverse political or financial factors.

**Alternative Investments are speculative and involve a high degree of risk.**

Alternative investments are intended for qualified investors only. Alternative Investments such as derivatives, hedge funds, private equity funds, and funds of funds can result in higher return potential but also higher loss potential. Changes in economic conditions or other circumstances may adversely affect your investments. Before you invest in alternative investments, you should consider your overall financial situation, how much money you have to invest, your need for liquidity and your tolerance for risk.

Nonfinancial assets, such as closely-held businesses, real estate, fine art, oil, gas and mineral properties, and timber, farm and ranch land, are complex in nature and involve risks including total loss of value. Special risk considerations include natural events (for example, earthquakes or fires), complex tax considerations, and lack of liquidity. Nonfinancial assets are not in the best interest of all investors. Always consult with your independent attorney, tax advisor, investment manager, and insurance agent for final recommendations and before changing or implementing any financial, tax, or estate planning strategy.

© 2022 Bank of America Corporation. All rights reserved.