

CHIEF INVESTMENT OFFICE

Capital Market Outlook

August 1, 2022

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

IN THIS ISSUE

Macro Strategy—*Powell On A Mission*: U.S. policymakers responded to the pandemic shutdowns with the most aggressive fiscal and monetary stimulus in over 75 years (Exhibit 1). As a result, monetary policy since the pandemic is most like that of the years right after World War II (WWII). Strong M2 money-supply growth in the mid-1940s was three standard deviations* above normal, creating double-digit inflation that quickly subsided as M2 growth then fell two standard deviations below normal, causing slight consumer price deflation by 1949.

A similar pattern today suggests inflation could fall much faster than expected over the next two years. The economy is expected to continue to lose momentum until the Federal Reserve (Fed) stops draining liquidity with its aggressive quantitative tightening (QT) schedule.

Market View—*Chips and Competitiveness One Year On*: Last year, the White House reported on U.S. vulnerabilities across critical supply chains, including strategic sectors such as semiconductor manufacturing, large-capacity batteries, critical minerals/materials and pharmaceuticals. One year on, and passage/funding of a legislative package addressing semiconductor manufacturing is in motion, which will likely be a small, incremental positive for sentiment.

To embellish our technological leadership globally, the U.S. chip industry ultimately requires funding in the hundreds of billions of dollars from both the public and private sectors.

Thought of the Week—*Diverging Equity and Bond Volatility Sends Mixed Signals*: Investor uncertainty appears more complex these days amid recent volatility trends in financial markets. The spread between volatility gauges for bonds and stocks has widened to levels not seen since the 2008/2009 Great Financial Crisis. A pickup in Equity volatility as earnings estimates moderate could narrow this gap.

For now, investors should continue to emphasize diversification across and within asset classes as the reset period continues.

*Standard deviation is used as an indicator of market volatility and thus of risk.

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MACRO STRATEGY ►

**Chief Investment Office
Macro Strategy Team**

MARKET VIEW ►

Lauren J. Sanfilippo
Director and Senior Investment Strategy Analyst

Hayley A. Licata
Wealth Management Analyst

THOUGHT OF THE WEEK ►

Kirsten Cabacungan
Assistant Vice President and Investment Strategist

MARKETS IN REVIEW ►

**Data as of 8/1/2022,
and subject to change**

Portfolio Considerations

As this period of uncertainty matures, markets, in our view, will be searching for signs of stability to finally bottom out and create a new base. While risks remain, global Equities still have the support of higher nominal growth levels, healthy corporate profits, a strong consumer and an improvement in the service sectors in the near term. We still expect high-quality Fixed Income to be a diversifier, and this diversification effect has historically been true when rate volatility decreases. For investors, there is a growing list of reasons to consider shoring up and maintaining strategic exposure to commodity prices.

Powell On A Mission

Chief Investment Office, Macro Strategy Team

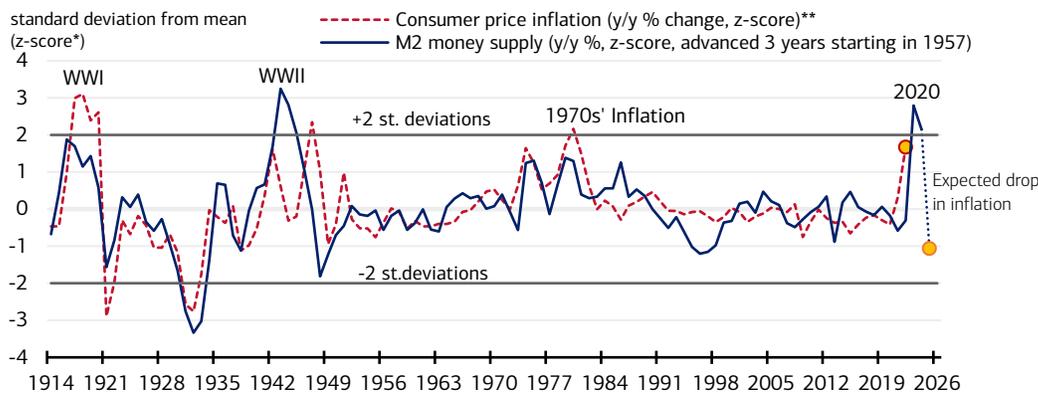
As expected given eye-popping inflation readings through June, the Fed hiked the federal funds rate by 75 basis points (bps) at its July 26–27 interest-rate setting meeting. Citing unusual uncertainty about the outlook, Chairman Powell made it clear that future monetary-policy decisions will be data dependent rather than on a preset course, with a 50 bps hike our best guess at present for the September 20–21 meeting. Indeed, the sharp drop in gasoline prices in recent weeks suggests the July Consumer Price Index (CPI) print is likely to be much lower than in June. Nevertheless, “core” prices, especially for housing-related costs, are likely to remain sticky, keeping inflation much above the Fed’s 2% target in the months ahead.

The inflation surge over the past year has surprised the consensus, including the Fed, especially because interest rates had been set at the same rock-bottom level between 2009 and 2015 as after the pandemic struck, without a surge in inflation. However, money-supply dynamics couldn’t be more different. As shown in Exhibit 1, recent inflation and M2 money-supply growth most closely resemble the pattern seen during, and after, WWII. After increasing the most since WWII, M2 growth has dropped sharply this year from more than two standard deviations above trend in 2020 and 2021, and it’s now growing well below trend. As QT shrinks the monetary base by over a trillion dollars during the next year according to Fed projections, the money-supply growth rate is likely to fall two standard deviations below normal, as it did in the late 1940s, likely resulting in a faster-than-consensus-expected drop in inflation ahead.

Investment Implications

In our view, the recent rally in risk assets is an opportunity to rotate into more defensive positions as the Fed continues to slow global economic momentum by withdrawing dollar liquidity from the financial system with its unprecedented QT plan.

Exhibit 1: Recent Monetary Policy and Inflation Tracking 1946–1949 Script.



*z-score is a numerical measurement that describes a value’s relationship to the mean of a group of values. **Last data points show 2022 running rates to date. Sources: Bureau of Labor Statistics; Federal Reserve Board; Haver Analytics. Data as of July 27, 2022.

Inflation rose sharply after the money-supply explosion of WWII. Similar to their behavior during the pandemic shutdowns, consumers saved a lot during the war as the economy was experiencing full employment but a lack of consumer-spending opportunities. For example, consumers could not buy new cars and other goods that were displaced by wartime production of tanks, planes and other defense needs. After the war, pent-up demand surged beyond the capacity of the economy to supply, and inflation rose sharply, akin to the government stimulus-fueled demand gusher and inflation shock of the post-pandemic reopening over the past year.

As the money-supply growth rate slowed after 1946, the economy and inflation slowed as well, with two negative quarters of real gross domestic product (GDP) growth in 1947, similar to the two-quarter contraction in the first-half of 2022, without an official recession designation, followed by 11 months of recession from November 1948 to October 1949. Inflation came down from about 10% in 1947 to slightly negative in 1949.

The stock market, as measured by the Dow Jones Industrial Average, dropped about 40% from its January 1946 peak to its bear-market bottom in June 1949. As usually happens, the stock market bottom occurred a few months before the recession ended.

Notably, interest rates were little changed throughout this period from the low range the Fed was keeping them at in order to help fund the wartime deficit. Instead, it was the end of the massive money creation that had helped fund the big wartime deficits that caused the stagflation of the mid-to-late 1940s. Similarly today, the end of the monetized pandemic fiscal stimulus is causing a return to a better demand and supply balance. However, with nominal GDP growth still near 10%, there is a lot of demand destruction likely to occur in the year ahead as money-supply growth collapses in a way not seen since the 1940s, causing both real growth and inflation to weaken more than the consensus expects, in our view (Exhibit 1).

Prior to WWII, it was traditional for policy to restore the value of money after wartime inflation bouts. This was the pattern after the Civil War and after WWI. Since major inflation episodes occurred only during wartime to finance big government deficits, the postwar deflation was meant to make whole the bond holders who helped finance the war. In fact, postwar deflations were expected as a way to restore the value of the money lent to finance the war. As a result of this deflation, the value of money remained stable over the long run, despite short-term volatility. A dollar in 1935 had the same purchasing power as a dollar in 1835.

This all changed after WWII, surprising investors relying on historical precedents. While price stability used to mean that inflation averaged zero over time, today's central banks, including the Fed, use a looser definition of price stability, defined by a low, stable inflation rate, which results in persistent inflation. That's why today it takes \$27 to buy what \$1 bought 100 years ago. Thus, in contrast to investors' expectations for a deep recession and deflation after WWII because of this monetary-policy tradition, a new era of persistent inflation began following a relatively mild recession.

The persistent inflation era since WWII has encouraged increasingly large debt accumulation and leverage across the economy and changed fundamental economic relationships that were anchored by the pursuit of true price stability prior to the 1940s. For example, because of the heightened possibility of deflation, it was a rule of thumb in the zero-inflation era that stocks were overvalued when their dividend yields were below Treasury bond yields. That meant value-oriented investors would typically wait until dividend yields rose above Treasury bonds yields to purchase Equities. After WWII, as the stock market reclaimed its 1929 peak in the mid-1950s, many veteran money managers using the old dividend-to-Treasury-yield rule of thumb missed the big bull market of the late 1950s and early 1960s, as dividend yields remained below bond yields. Persistent inflation causes a fixed-payment bond to lose purchasing power over time and makes stocks relatively more attractive as they generally grow dividends with inflation while also rising in value with inflation. As a result, stock dividends seldom rise above bond yields in the persistent inflation era.

The lessons from the 1940s illustrate the role of outsized swings in money growth as a destabilizing influence on the economy and suggest that interest-rate policy is more of a side show in the current environment. While the equity market turned exuberant when Fed Chair Powell suggested that rate hikes could moderate or even stop in the year ahead, money growth will likely fall dramatically if QT continues as planned, financial conditions will continue to tighten, and the dollar will keep strengthening. In fact, as currently projected, the monetary-base shrinkage over the next year would be unparalleled, and the dollar shortage this would create in a heavily dollar-indebted global economy would put more and more strains on the global financial system until something would break. It would be unprecedented for the economy to bottom before the Fed stops removing liquidity from the system.

Chips and Competitiveness One Year On

Lauren J. Sanfilippo, Director and Senior Investment Strategy Analyst

Hayley A. Licata, Wealth Management Analyst

Last year an Executive Order mandated a review of vulnerabilities across critical supply chains, including strategic sectors such as semiconductor manufacturing, large capacity batteries, critical minerals/materials and pharmaceuticals. The belief was that securing supply chains closer to home would insulate the U.S. economy, bolster U.S. national security, and embellish the global technological leadership position of the U.S.

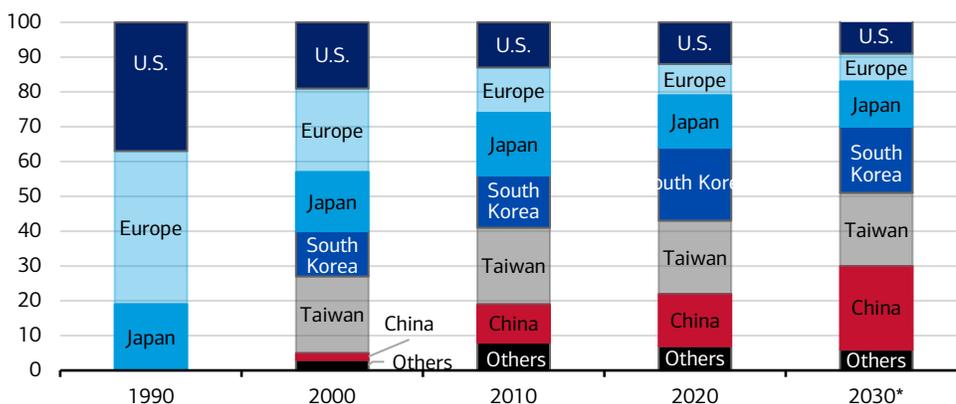
One year on and for a number of reasons, reality has fallen short of all the hype. While our view is that such a dramatic reorientation of supply chains would be particularly costly to the U.S., building in more resiliencies is a likely longer term goal for corporate America. Accordingly, and on the path to passage/funding is a legislative package that includes the CHIPS Act¹, providing \$52 billion to boost U.S. semiconductor manufacturing while offering additional subsidies and tax credits. The congressional delay had put large chip manufacturers’ investment plans at risk, of which were counting on billions in subsidies. For example—and contingent on funding—one chipmaker has said it’s unwilling to move forward on two \$10 billion foundries in Ohio if the bill doesn’t pass.

Emphasis on and incentives for domestic semiconductor production is a global initiative, as the European Commission passed the European Chips Act last May, directing billions of dollars in local chip production. Riding that news, some chipmakers have announced plans to expand plants in France, while one chipmaker penciled in an \$88 billion investment across Europe, namely Germany.² All of the above should help boost Europe’s meager 8% of the global manufacturing capacity.

The stars of semiconductor production are housed in Asia, where two-thirds of global chips are manufactured, and China, where a quarter of that is produced (Exhibit 2). The U.S.’s share of global manufacturing has decreased from 37% in the 1990s, to an insufficient 10%, ceding the bulk of its market share of past decades to Asian giants. South Korean heavyweight overtook the U.S. largest chipmaker as the biggest chipmaker by revenue last year.³

Exhibit 2: Losing U.S. Semiconductor Market Share Was A Multidecade Process—Gaining It Back Will Be Too.

Global Manufacturing Capacity by Location (%)



*Estimate. “Others” includes Israel, Singapore and the rest of the world. Sources: Boston Consulting Group, VLSI Research. Data as of July 27, 2022. Pas

¹ Creating Helpful Incentives to Produce Semiconductors, The CHIPS and Science Act of 2022.

² Barron’s, edition Vol. CII No. 30, July 25, 2022.

³ Bloomberg, “The U.S. Has Lost Its Way on Computer Chips,” July 21, 2022.

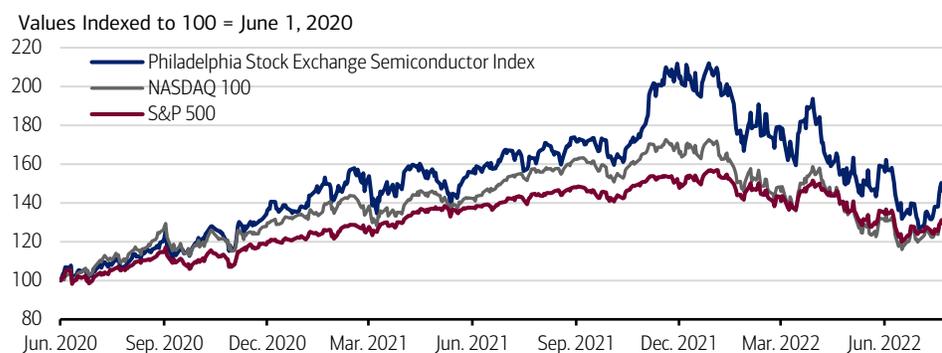
Portfolio Implications

Last week, the Senate approved a chips funding bill aligning with a broader goal of investing in domestic production and innovation capabilities while reinforcing sources of supply and reducing unfriendly/concentrated geographic risk. From an investment perspective, and with those policy initiatives in mind, we maintain a neutral weighting to the Technology sector and would emphasize exposure to both hard (Commodity) assets and light (Technology) assets.

Not unexpectedly, China's state-led economy is focused on building out its own indigenous supply of chips. China hopes to have domestic suppliers meet 70% of the nation's semiconductor needs by 2025.⁴ While that target is ambitious, the trend is clear: China, much like Europe and many parts of Asia, is scaling up its chip production.

From Silicon Valley's chip hub to Portland's Silicon Forest to Austin's Silicon Hills—a web of industries that directly depend on chips has been at the mercy of supply chain interruptions and global shortages going on two years and has been subject to market volatility since the original date of the CHIPS Act proposal in June 2020 (Exhibit 3). Year-to-date, the broader market pullback has been unkind to chip stocks, down 26%⁵ so far in 2022. With Q2 earnings season as the ultimate guide, we expect a tougher outlook coming off of pulled-forward spending during the stay-at-home quarters for chip makers or equipment manufacturers along the gamut. The semiconductor industry continues to be driven by uncertain supply and demand constraints, although potentially offering reasonable valuations for longer-term investors looking to build positions in these tech names. As of July 2022, a widely tracked semiconductor index, the Philadelphia Semiconductor Index, traded at 15 times forward earnings, a discount to the NASDAQ Index which trades at a forward multiple of 24.

Exhibit 3: Semis At the Whim of Broader Market Choppiness.



Sources: Bloomberg. Data as of July 27, 2022. **Past performance is no guarantee of future results. It is not possible to invest directly in an index. Please refer to asset class proxies and index definitions at the end of this report.**

Given the policy intentions surrounding this bill, a number of catalysts underpin a strong global capital expenditure cycle: Nations favoring self-sufficiency in the production of critical goods such as semiconductors; the accelerating race for technological leadership in various industries; and the urgent need to grapple with supply and demand dynamics. America has the technological wherewithal to compete against China and other Asian chip foundries. While this bill is an incremental positive, especially for sentiment, the chip industry will require funding in the hundreds of billions of dollars from both the public and private sectors. Other proposed China competitiveness bills take a parallel stance of increasing U.S. research and development spending in a number of sectors under threat from China.

From a portfolio perspective, we maintain a neutral weighting to the Technology sector but expect the further digitalization of the global economy as a clear positive for semi demand considering the energy transition, the need to automate the labor force, and future electric vehicle adoption. A secular rise in spending on supply chains should boost demand for industrial and service automation and its related investments. With policy and public investment serving as tailwinds, we believe long-term growth opportunities exist more broadly within technology subindustries such as software and services, semiconductor capital equipment and hardware applications such as networking equipment, and cloud servers.

As Pat Gelsinger, chief executive officer of Intel, said, “[The location of] oil has defined geopolitics in the past five decades. But fabs [i.e. fabrication factories for chips] will shape the next five—this is the new geopolitics.”⁶ Consider staying long chips.

⁴ Congressional Research Service, “China’s New Semiconductor Policies: Issues for Congress”, April 2021.

⁵ SOX Philadelphia Semiconductor Index year-to-date performance through July 27, 2022.

⁶ *Financial Times*, “The semiconductor chip pendulum is slowly swinging west,” July 21, 2022.

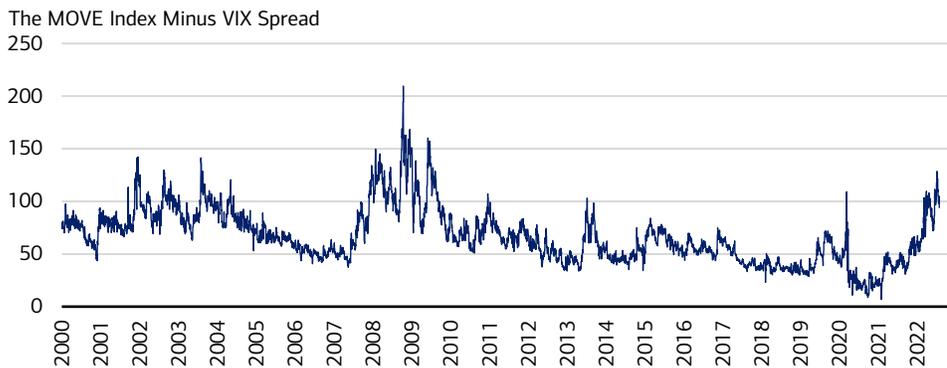
Diverging Equity and Bond Volatility Sends Mixed Signals

Kirsten Cabacungan, Assistant Vice President and Investment Strategist

Investor uncertainty appears more complex these days amid recent volatility trends in financial markets. Fear gauges, which are designed to represent real-time market expectations for near term volatility, have diverged among asset classes. The ICE MOVE Index, a measure of interest rate volatility, has jumped roughly 50 points since the start of the year and remains at a level not seen since March 2020. Levels of fear in equity markets, on the other hand, paint a more sanguine picture. While the Chicago Board Options Exchange (CBOE) Volatility Index (VIX), a measure of equity volatility, has remained above its long term historical average of 20 roughly 92% of the days this year, it peaked at 36 in March and has since come down to 23.⁷ Heightened interest rate volatility can be attributed to several factors including the Ukraine crisis, persistent inflation, a more aggressive Fed and a lower liquidity environment. The move lower in Equity volatility remains more puzzling given the same risk backdrop and indicators pointing to economic weakness going forward.

This divergence in volatility readings has widened the spread between The MOVE Index and the VIX to its highest range since the 2008/2009 Great Financial Crisis (Exhibit 4). The sustainability of this spread, however, remains in question. BofA Global Research suspects the large gap signals an underpricing of recession risks by the stock market and expects to see the difference eventually narrow through higher equity volatility, especially as investors start to price in a slowdown in corporate earnings and economic indicators.

Exhibit 4: Widening Spread between Interest Rate and Equity Volatility Gauges.



Source: Bloomberg. Data as of July 27, 2022.

Previous bear market trends further support the prospects for higher equity volatility ahead. Historically, the VIX and the stock market have maintained an inverse relationship, with stocks falling as the VIX rises and the reverse. Investors have often taken cues from the VIX to call market bottoms. And while the S&P 500 has recovered some of its decline in the last several weeks, all bear markets, except for one in 1990, bottomed when the VIX reached levels well above 40.⁸ The VIX only rose to 34 as the S&P 500 fell to its recent low in mid-June, which was the same level the VIX was at the month before when the S&P 500 was roughly 8% higher.⁹

Considering the drawdown in Equities this year has been entirely driven by a compression in the price-to-earnings (P/E) ratio, a pickup in volatility is not out of the question as analysts likely revise earnings estimates lower over the coming quarters. For now, these dynamics further support an “on guard” approach to portfolio positioning and a high degree of diversification as the reset in financial markets continues.

⁷ Bloomberg. Data as of July 27, 2022.

⁸ Strategas. Data as of July 18, 2022.

⁹ Bloomberg. Data as of July 27, 2022.

Portfolio Implications

Investors should maintain a high degree of diversification as this period of uncertainty matures and focus on a balanced approach to asset allocation. We remain neutral on Equities overall in multi-asset portfolios and emphasize a more defensive posture.

Equities

	Total Return in USD (%)			
	Current	WTD	MTD	YTD
DJIA	32,845.13	3.0	6.8	-8.6
NASDAQ	12,390.69	4.7	12.4	-20.5
S&P 500	4,130.29	4.3	9.2	-12.6
S&P 400 Mid Cap	2,512.73	4.9	10.8	-10.8
Russell 2000	1,885.23	4.3	10.4	-15.4
MSCI World	2,746.37	3.6	7.9	-14.2
MSCI Europe, Australasia, Far East	1,937.26	2.1	5.0	-15.6
MSCI Emerging Markets	993.78	0.4	-0.2	-17.8

Fixed Income[†]

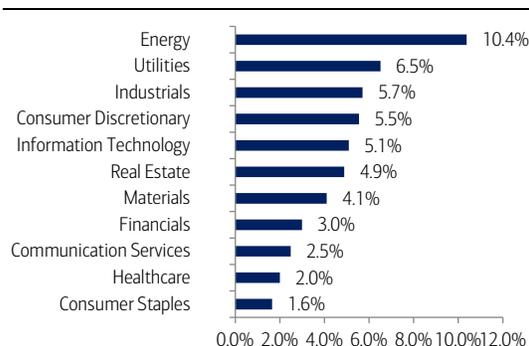
	Total Return in USD (%)			
	Current	WTD	MTD	YTD
Corporate & Government	3.43	0.39	2.16	-9.12
Agencies	3.08	0.40	1.08	-4.96
Municipals	2.79	0.92	2.64	-6.58
U.S. Investment Grade Credit	3.42	0.64	2.44	-8.16
International	4.33	0.50	3.24	-11.61
High Yield	7.73	1.53	5.90	-9.12
90 Day Yield	2.32	2.38	1.63	0.03
2 Year Yield	2.88	2.97	2.95	0.73
10 Year Yield	2.65	2.75	3.01	1.51
30 Year Yield	3.01	2.97	3.18	1.90

Commodities & Currencies

	Total Return in USD (%)			
	Current	WTD	MTD	YTD
Commodities				
Bloomberg Commodity	261.55	4.6	4.3	23.5
WTI Crude \$/Barrel ^{††}	98.62	4.1	-6.8	31.1
Gold Spot \$/Ounce ^{††}	1765.94	2.2	-2.3	-3.5

	Total Return in USD (%)			
	Current	Prior Week End	Prior Month End	2020 Year End
Currencies				
EUR/USD	1.02	1.02	1.05	1.14
USD/JPY	133.27	136.12	135.72	115.08
USD/CNH	6.75	6.77	6.69	6.36

S&P Sector Returns



Sources: Bloomberg; Factset. Total Returns from the period of 7/25/2022 to 7/29/2022. [†]Bloomberg Barclays Indices. ^{††}Spot price returns. All data as of the 7/29/2022 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 7/29/2022)

	2021A	Q1 2022A	Q2 2022E	Q3 2022E	Q4 2022E	2022E
Real global GDP (% y/y annualized)	6.1	-	-	-	-	3.0
Real U.S. GDP (% q/q annualized)	5.7	-1.6	-0.9	-0.5	-2.0	1.2
CPI inflation (% y/y)	4.7	8.0	8.6*	8.2	6.9	7.9
Core CPI inflation (% y/y)	3.6	6.3	6.0*	6.2	5.9	6.1
Unemployment rate (%)	5.4	3.8	3.6	3.7	4.2	3.8
Fed funds rate, end period (%)	0.07	0.33	1.58	2.88	3.38	-

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.**

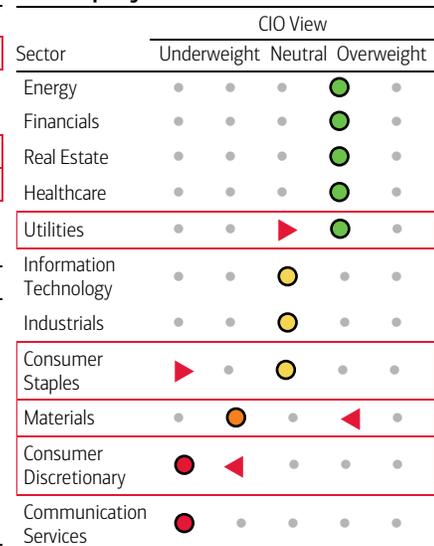
A = Actual. E/* = Estimate.

Sources: BofA Global Research; GWIM ISC as of July 29, 2022.

Asset Class Weightings (as of 7/5/2022)



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 July 5, 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.

Chicago Board Options Exchange (CBOE) Volatility Index (VIX) is a real-time index that represents the market's expectations for the relative strength of near-term price changes of the S&P 500 Index (SPX). Because it is derived from the prices of SPX index options with near-term expiration dates, it generates a 30-day forward projection of volatility.

Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. Indexes are available for the U.S. and various geographic areas.

The ICE MOVE Index is a well-recognized measure of U.S. interest rate volatility that tracks the movement in U.S. Treasury yield volatility implied by current prices of one-month over-the-counter options on 2-year, 5-year, 10-year and 30-year Treasuries.

S&P 500 Equity Index is a stock market index tracking the stock performance of 500 large companies listed on exchanges in the United States. It is one of the most commonly followed equity indices.

Philadelphia Semiconductor Index capitalization-weighted index composed of the 30 largest companies primarily involved in the design, distribution, manufacture, and sale of semiconductors. It was created in 1993 by the Philadelphia Stock Exchange.

NASDAQ 100 Index is a stock market index made up of 102 equity securities issued by 101 of the largest non-financial companies listed on the Nasdaq stock exchange. It is a modified capitalization-weighted index.

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