

# MARKET PERSPECTIVES

QUARTERLY | Q4 2022

## KEY TAKEAWAYS

- U.S. economic growth is likely to be below trend this year; unemployment is projected to average 3.8% in the fourth quarter.
- Inflation and Federal Reserve (Fed) policy are the main drivers of market volatility; on the minds of investors: When can the Fed ease?
- The Fed's dual mandate is askew, with unstable prices (elevated inflation) and a very strong job market (more than maximum employment); the Fed is willing to sacrifice economic growth to achieve price stability.
- Market valuations are below longer-term historical averages; S&P 500 earnings are still growing, but analysts are revising estimates lower.
- We suggest maintaining composure through these market challenges, with a focus on quality and traditional fundamentals.
- Risks we're monitoring: persistent inflation, consumer confidence, policy error, geopolitical tensions.

## OVERVIEW

Pent-up demand from the pandemic, supply chain shortages, the war in Ukraine, and China's zero-COVID approach have all contributed to stubbornly high inflation, which has been the main driver of this year's bear market. The Fed has underestimated the pace

of inflation, and officials have been ratcheting up the hawkish policy shift in response. Market interest rates have risen rapidly in response, and investors worry about weakening company earnings and a possible recession.

Investors have gotten the message loud and clear that the Fed will stay aggressive until its goal is met, with the S&P 500 falling over 14% following the Fed's August 26 Jackson Hole conference through quarter end. The environment remains highly uncertain, and heading into the fourth quarter, investors are asking when can the Fed ease monetary policy? Our view: The Fed will pivot if we see signs of improving inflation (a positive) or meaningful deterioration in employment (a negative).

Economic indicators suggest an economic slowdown is already underway, most notably in housing, given the effects of higher interest rates. We remain somewhat optimistic, however, that the U.S. may narrowly avoid a recession, supported by healthy consumer balance sheets and low unemployment. If we do happen to enter a recession, we expect it to be brief and shallow as households maintain healthy balance sheets overall and there are no apparent systemic stresses in the financial system.

It's important that investors maintain composure through this challenging market environment. The cycle of markets is inevitable, and market volatility is a part of investing. Going back to 1932, bull markets have, on average, lasted longer than bear markets and recessions. The average bull market period lasted 4.9 years while the

WEALTH MANAGEMENT INSIGHTS  
FROM STIFEL'S CIO OFFICE

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# STIFEL

**“Economic indicators suggest an economic slowdown is already underway, most notably in housing, given the effects of higher interest rates.”**

**“Inflation hasn’t stopped the consumer from spending as higher wages and savings have provided a cushion.”**

average bear market lasted 1.5 years. Attempting to time the market is difficult and often costly for long-term investors. If you are invested and have a longer-term time horizon, it’s better to stay invested. We continue to guide investors to consider active management selectively, where managers can apply their skills to focus on traditional fundamentals and quality.

Given the uncertainty surrounding the global economy, we do not have a high degree of conviction in the near-term direction of capital markets. We still believe, however, that the S&P 500 will be higher from current levels 12 months from now as we get clarity or resolution on some of the issues. As a result, during the third quarter we moved back our dynamic asset allocation to neutral versus our longer-term strategic asset allocation with a continued focus on quality.

We revisit our dynamic leanings regularly and will look to act swiftly as market conditions evolve.

## THE U.S. ECONOMY

The economy is slowing down, a progression accentuated by tightening central bank policy. Economists project 1.5% year-over-year (YoY) growth in the third quarter and no growth (0.0%) YoY in the fourth quarter. This is in line with the Fed’s latest projections, which see fourth quarter GDP growth of just 0.2% YoY.

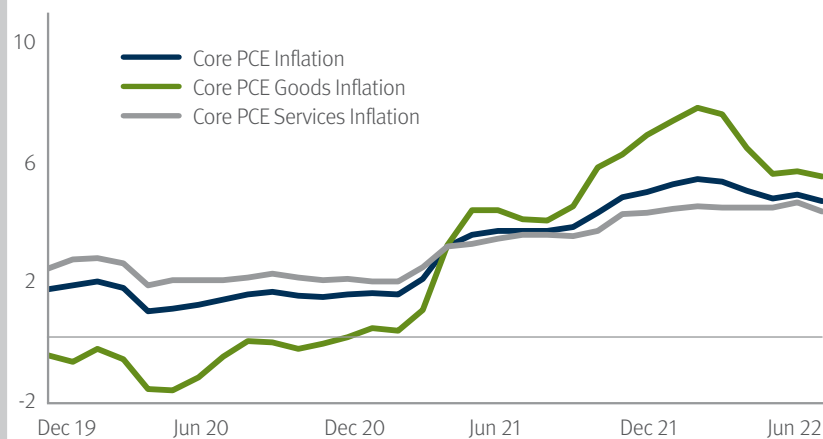
Consumers and investors alike are increasingly gloomy, fearful of the storm clouds that have formed and the Fed’s ability to pilot us to a “soft-ish” landing. We remain of the view that the U.S. may narrowly avoid a recession, supported by healthy consumer balance sheets and low unemployment, but if we do happen to enter a recession, we expect it to be brief and shallow.

## INFLATION – NO COOLING TREND, FOR NOW

The consumer price index (CPI) rose 0.1% in August after being flat in July. Core CPI, which excludes food and energy, rose 0.6% in August. CPI slowed on a YoY basis to 8.3% in August from 8.5% in July, but this is well above the Fed’s 2% target.

The Fed is determined to bring inflation down as Fed Chair Jerome Powell said that “without price stability, the economy does not work for anyone.” We expect inflation to decrease gradually as Fed policy slows the economy, supply chain imbalances resolve, and geopolitical concerns ebb. The one-year inflation breakeven rate at the end of the quarter had fallen by 2.5% to 1.72%. In the Fed’s latest Summary of Economic Projections (SEP), personal consumption expenditures (PCE) inflation is projected to rise to 5.4% by year-end 2022, up from 5.2% projected in June, then fall to 2.8% in 2023.

**FIGURE 1. PCE SERVICES INFLATION RISING AS GOODS INFLATION EASES**



Source: Stifel Investmet Strategy via Federal Reserve Bank of Dallas as of October 18, 2022

**“Recent labor market surveys have noted a reduction in hiring, but there are still close to two job openings for each person searching for a job.”**



## **EMPLOYMENT – STILL HISTORICALLY STRONG, FED EXPECTS IT TO WEAKEN**

The strong labor market has so far been a bright spot for the economy. Recent labor market surveys have noted a reduction in hiring, but there are still close to two job openings for each person searching for a job. The unemployment rate rose to 3.7% in August but fell back to 3.5% in September. The Fed forecasts unemployment to average 3.8% in the fourth quarter and rise to 4.4% in the fourth quarter of 2023.

## **CONSUMER – SPENDING HASN'T STOPPED**

Consumer spending on services continues to outpace spending on goods as we get further away from the COVID-19 pandemic, but overall spending has moderated somewhat. PCE, the value of the goods and services purchased by persons who reside in the U.S., rose 0.1% in August after declining 0.1% in July. PCE contributed 1.38% of growth to the second-quarter GDP reading of -0.6%.

Consumer confidence rose in August and September off of historic lows, supported by jobs, wages, and declining gas prices. Concerns about rising prices prevail but were at the lowest level since the start of the year. Rising consumer sentiment may bode well for consumer spending during the fourth quarter.

Inflation hasn't stopped the consumer from spending as higher wages and savings have provided a cushion.

## **SERVICE AND MANUFACTURING SECTORS – CONFLICTING SIGNALS, BUT PACE OF GROWTH SLOWING**

There are two measures that track business activity in the service and manufacturing sectors. Sometimes these two surveys diverge to send conflicting signals on the health of these sectors. This is one of those times. For example, the ISM Services PMI stood at 56.7 in September, and the S&P Global U.S. Services PMI was at 49.3.

A reading above 50 signals growth while a reading below 50 represents a contraction. Both the ISM and S&P Global indicators are currently hovering around this point of neutrality (50), meaning that the pace of growth has slowed or is modestly contracting, depending on which provider you look at.

## **HOUSING – MORTGAGE RATES SLOWING DEMAND**

The average 30-year fixed mortgage rate was at 6.38% at the end of September, 3.32% higher than a year ago and at a level last seen in 2008. Rising rates have negatively impacted affordability and led to a slowing in demand. This, in turn, has led to a decline in housing prices and a rise in inventories.

Existing home sales fell 0.4% in August and 19.9% over the year. The National Association of Home Builders Market Index, which measures builders view of market conditions, has fallen for nine consecutive months to 46 in September, down from 83 in January.

Residential construction contributes approximately 10% to GDP, so it's possible for this segment of the economy to contract while overall economic output still grows.



**“Given the decline in U.S. GDP in the first and second quarter and a strengthening dollar, analysts have been lowering earnings estimates for the S&P 500 as the year progresses.”**

## THE FEDERAL RESERVE – HIGHER RATES FOR LONGER

The Fed remains unconditionally committed to bringing inflation to its 2% target. It reinforced this message in the weeks leading up to the Federal Open Market Committee (FOMC) meeting on September 20-21.

At the Jackson Hole symposium on August 26, Fed Chair Powell reiterated that “restoring price stability will likely require maintaining a restrictive policy stance for some time” and another “unusually large” increase in the federal funds rate could be appropriate in September. So, the Fed’s unanimous decision to raise the benchmark rate 0.75% to a target range of 3.00%-3.25% at its latest meeting was expected.

The Fed once again raised its 2022 inflation forecast, this time to 5.4%, up from the 5.2% rate projected in June. Fed members signaled more rate hikes, with the year-end fed funds forecast rising to 4.4%, up a full 1% from the June SEP of 3.4%. And, with higher rates slowing the economy, the Fed lowered further its 2022 and 2023 GDP growth forecasts to 0.2% and 1.2%, respectively, a decline from the expected 1.7% growth rate forecast in the June SEP for both calendar years. Chair Powell acknowledged that “the chances of a soft landing are likely to diminish to the extent that policy needs to be more restrictive or restrictive for longer.”

**FIGURE 2. THE FED’S SUMMARY OF ECONOMIC PROJECTIONS**

Economic Variable	2022	2023	2024	Longer Run
<b>Federal Funds Rate</b>				
FOMC September SEP	4.4%	4.6%	3.9%	2.5%
FOMC June SEP	3.4%	3.8%	3.4%	2.5%
<b>Real GDP (% Change 4Q/4Q)</b>				
FOMC September SEP	0.2%	1.2%	1.7%	1.8%
FOMC June SEP	1.7%	1.7%	1.9%	1.8%
<b>Unemployment Rate (4Q Average)</b>				
FOMC September SEP	3.8%	4.4%	4.4%	4.0%
FOMC June SEP	3.7%	3.9%	4.1%	4.0%
<b>PCE Inflation (% Change 4Q/4Q)</b>				
FOMC September SEP	5.4%	2.8%	2.3%	2.0%
FOMC June SEP	5.2%	2.6%	2.5%	2.0%
<b>Core PCE Inflation (% Change 4Q/4Q)</b>				
FOMC September SEP	4.5%	3.1%	2.3%	
FOMC March SEP	4.3%	2.7%	2.3%	

Source: Stifel Investment Strategy via Federal Reserve as of September 30, 2022

## EQUITY EARNINGS

Given the decline in U.S. GDP in the first and second quarter and a strengthening dollar, analysts have been lowering earnings estimates for the S&P 500 as the year progresses.

Current estimates are for earnings to grow 2.0% in the third quarter as compared to last year, 4.2% in fourth quarter, and 7.0% for the full year. If we go back to the end of the second quarter, the third-quarter estimated earnings growth rate for the S&P 500 was higher at 9.8%. The forward 12-month P/E ratio for the S&P 500 is 15.4. This P/E ratio is below the five-year average (18.6) as well as the 10-year average (17.1).



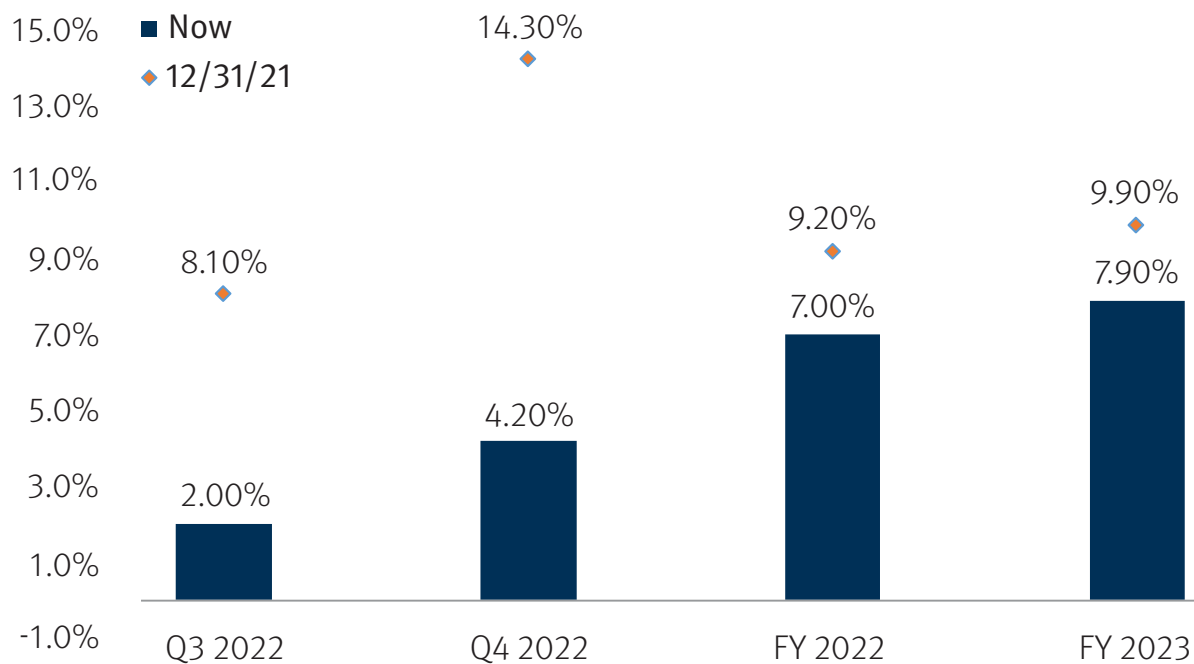
**“Companies that generate revenue outside of the U.S. are affected by a stronger dollar because foreign revenues will be converted into fewer dollars.”**



The U.S. dollar has strengthened 17.2% this year against a basket of currencies and reached parity with the euro for the first time in 20 years. Companies that generate revenue outside of the U.S. are affected by a stronger dollar because foreign revenues will be converted into fewer dollars. Within the S&P 500, the information technology and materials sectors generate more than 50% of their revenue outside the U.S.

Four of the 11 S&P 500 sectors are projected to report YoY earnings growth. Estimates for earnings growth in third quarter are highest for the energy sector, with expected YoY growth of 115.7% on base effects from rising oil prices. The communication services sector is expected to be the largest detractor to earnings growth with an estimated earnings decline of 13.2%.

**FIGURE 3. ANALYSTS HAVE BEEN REVISING LOWER EARNINGS ESTIMATES FOR THE S&P 500**











Source: Stifel Investment Strategy via FactSet as of October 18, 2022

## INVESTMENT THEMES

The following table summarizes our thinking across various asset classes and regions.

 Underweight
  Neutral
  Overweight









EQUITY	ASSET CLASS	CHANGE	CURRENT			COMMENTS
						
	U.S. Equity vs. Non-U.S. Equity	→				Non-U.S. equity valuations remain attractive relative to the U.S., but we are not compelled to remain overweight given the economic and geopolitical risks stemming from the war in Ukraine and China's zero-COVID policy.
	U.S. Large Cap vs. U.S. Small Cap	→				We suggest a neutral allocation to small cap companies relative to large caps as higher rates, a shortage of labor, and higher cost pressures pose a challenge for smaller companies, which, while generally more nimble, tend to be more domestically oriented.
	U.S. Large Value vs. U. S. Large Growth	←				We believe investors should have an allocation to both value and growth styles, with a preference for companies with stable profits and solid financial metrics. Rising rates and higher inflation are conditions that typically benefit the value style while the backdrop of a slowing economy typically favors growth stocks.
	Non-U.S. Developed Markets vs. Emerging Markets	=				We are neutral within non-U.S. equity between developed and emerging markets, as we find the risks to be balanced between both. Our team is closely following the developments in Europe and China, and we are prepared to act swiftly as we receive further clarity on the macroeconomic outlook.
	Europe vs. Japan	=				We are increasingly positive on the corporate governance reform in Japan that is likely to enhance shareholder value in the medium-to-long term. Given the highly uncertain environment, we elected to maintain our neutral leaning for the time being.

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## INVESTMENT THEMES (CONTINUED)

The following table summarizes our thinking across various asset classes and regions.

 Underweight
  Neutral
  Overweight

	ASSET CLASS	CHANGE	CURRENT			COMMENTS
						
FIXED INCOME	U.S. Investment Grade vs. U.S. High Yield	→				Within fixed income, we had been overweight of U.S. high yield relative to U.S. investment grade with the use of active management for almost 24 months. Strong commodity prices have helped many companies shore up their balance sheets. We have moved back to neutral relative to our strategic asset allocation given the rising risk of recession and limited upside potential in the near term.
	Corporates Government/Agency MBS	=				We recommend a diversified approach to the full spectrum of investment-grade fixed income.
	Duration	=				We don't expect longer-tenure interest rates to rise much higher from here. We view duration as a diversifier in a multiasset class portfolio and remain neutral to the overall market.
ALTERNATIVES	Private Assets	=				For investors interested in alternative investments and able to handle illiquidity, exposure to some combination of private equity, private debt, and/or private real estate can be considered as part of a diversified portfolio.
	Hedge Funds	=				For investors interested in alternative investments and able to handle less liquidity who have conviction about manager skill, exposure to hedge funds can be a helpful part of a diversified portfolio. This is especially true in volatile, low-return environments.

**“After a strong rally in July, the S&P 500 reentered bear market territory as the Fed stuck to its hawkish message and rates rose.”**



## CAPITAL MARKETS RECAP

For the third quarter in a row, stocks and bonds posted negative returns. After a strong rally in July, the S&P 500 reentered bear market territory as the Fed stuck to its hawkish message and rates rose. The dollar index strengthened, gold prices fell, and West Texas Intermediate crude prices fell for the first time since first quarter 2020.

### EQUITY

U.S. equity markets rallied 14% (June 30 through August 16) on the prospect that inflation is easing and the Fed may soon pivot away from its aggressive tightening campaign. This belief was struck down by various Fed officials, including Chair Powell during the Jackson Hole symposium. The message was clear: The Fed will do everything it can to bring down inflation even if it means sacrificing economic growth. This was the main driver of the sharp rise in bond yields and the equity market decline in the second half of the quarter.

The S&P 500 fell 4.88% during the quarter and is down 23.87% for the year. Nine of the 11 S&P 500 sectors were down in the third quarter, with consumer discretionary and energy faring the best, up 4.1% and 1.2%, respectively. Communication services was the worst-performing sector, down 12.9% for the quarter.

Value stocks, as measured by the Russell 1000 Value Index, underperformed growth (Russell 1000 Growth Index) by 2%, -5.6% versus -3.6%, respectively. Small cap stocks, as measured by the Russell 2000 Index, outperformed their large cap peers, down -2.2% versus -4.6%, respectively.

Non-U.S. markets underperformed the U.S. on a relative basis. For the quarter, the MSCI EAFE Index, representing non-U.S. developed markets, was down -9.4%. As measured by the MSCI EM Index, emerging markets were down -11.6%.

### FIXED INCOME

Bonds yields have risen to their highest level in more than a decade. The yield on the 10-year U.S. Treasury reached 3.94% before settling at 3.83% at the end of September. The yield curve remains inverted with the yield on the 2-year Treasury at 4.28% at the end of the quarter.

The Bloomberg U.S. Aggregate Index, representing investment-grade taxable bonds, was down 4.75% for the quarter. The Bloomberg U.S. Municipal Bond Index, representing investment-grade municipal bonds, returned -3.46%. As measured by the Bloomberg Corporate High Yield Index, high-yield bonds were down -0.65%.

### COMMODITIES

Demand concerns stemming from fears of a recession are overshadowing supply concerns for many commodities. West Texas Intermediate fell 24.8% to \$79.49 a barrel. Copper and silver also fell, down 8.1% and 6.2%, respectively. The Bloomberg Commodity Index fell 4.1% during the quarter but is up 13.6% for the year.

As mentioned, the U.S. dollar strengthened against a basket of currencies, closing the third quarter at 112.12, up 7.1%. Gold reached a two-year low of \$1,622.36 per ounce, down 8.1% during the third quarter.



**FIGURE 4. CAPITAL MARKET RETURNS (AS OF SEPTEMBER 30, 2022)**

<b>NORTH AMERICAN EQUITY</b>	<b>MTD (%)</b>	<b>QTD (%)</b>	<b>YTD (%)</b>	<b>1 YEAR (%)</b>	<b>3 YEAR (%)*</b>	<b>5 YEAR (%)*</b>
Russell 3000 Index	-9.27	-4.46	-24.62	-17.63	7.70	8.62
Standard & Poor's 500	-9.21	-4.88	-23.87	-15.47	8.16	9.24
Standard & Poor's/TSX (CAD)	-4.26	-1.41	-11.14	-5.39	6.59	6.54
<b>U.S. EQUITY BY SIZE/STYLE</b>						
Russell 1000 Index	-9.25	-4.61	-24.59	-17.22	7.95	9.00
Russell 1000 Growth Index	-9.72	-3.60	-30.66	-22.59	10.67	12.17
Russell 1000 Value Index	-8.77	-5.62	-17.75	-11.36	4.36	5.29
Russell 2000 Small Cap Index	-9.58	-2.19	-25.10	-23.50	4.29	3.55
Russell 2000 Small Cap Growth Index	-9.00	0.24	-29.28	-29.27	2.94	3.60
Russell 2000 Small Cap Value Index	-10.19	-4.61	-21.12	-17.69	4.72	2.87
Russell Microcap Index	-9.64	-0.48	-25.48	-27.46	6.86	3.11
<b>INTERNATIONAL EQUITY (USD)</b>						
MSCI AC World ex U.S.	-9.99	-9.91	-26.50	-25.17	-1.52	-0.81
MSCI EAFE	-9.35	-9.36	-27.09	-25.13	-1.83	-0.84
MSCI Europe	-8.70	-10.15	-28.83	-24.80	-1.72	-1.24
MSCI Pacific	-10.63	-8.82	-18.72	-18.79	-1.39	0.59
MSCI Japan	-10.36	-7.67	-26.38	-29.30	-2.65	-0.63
MSCI Emerging Markets	-11.72	-11.57	-27.16	-28.11	-2.07	-1.81

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**FIGURE 4. CAPITAL MARKET RETURNS (AS OF SEPTEMBER 30, 2022)**

U.S. FIXED INCOME	MTD (%)	QTD (%)	YTD (%)	1 YEAR (%)	3 YEAR (%)*	5 YEAR (%)*
Bloomberg U.S. Treasury Bills: 1-3 Months	0.21	0.48	0.63	0.64	0.55	1.10
Bloomberg U.S. Aggregate	-4.32	-4.75	-14.61	-14.60	-3.26	-0.27
Bloomberg Gov't/Credit	-4.08	-4.56	-15.10	-14.95	-3.15	-0.05
Bloomberg Treasury	-3.45	-4.35	-13.09	-12.94	-3.11	-0.23
Bloomberg U.S. TIPS	-6.62	-5.14	-13.61	-11.57	0.79	1.95
Bloomberg Municipal Bond Index	-3.84	-3.46	-12.13	-11.50	-1.85	0.59
Bloomberg U.S. Credit	-5.07	-4.95	-18.07	-17.89	-3.61	-0.05
Bloomberg Corporate High Yield	-3.97	-0.65	-14.74	-14.14	-0.45	1.57
REAL ESTATE/COMMODITIES/ALTERNATIVES						
Wilshire U.S. Real Estate Securities Index	-12.25	-10.20	-29.63	-17.56	-2.17	2.89
Wilshire Global ex U.S. Real Estate Securities Index	-13.34	-13.86	-28.72	-26.45	-9.26	-3.22
Wilshire Global Real Estate Securities	-12.54	-11.20	-29.39	-20.13	-4.30	1.01
Bloomberg Commodity Index	-8.11	-4.11	13.57	11.80	13.45	6.96
S&P GSCI Commodity (S&P GSCI)	-7.80	-10.31	21.80	23.64	12.19	7.75
Wilshire Liquid Alternatives Index	-2.58	-1.91	-7.30	-6.72	0.58	0.76
Wilshire Liquid Alternative Equity Hedge Index	-4.43	-3.54	-10.82	-7.82	2.04	1.36
Wilshire Liquid Alternative Event Driven Index	-1.25	0.38	-3.74	-4.08	1.44	1.92
Wilshire Liquid Alternative Global Macro Index	2.98	3.11	13.26	11.75	6.64	4.32
Wilshire Liquid Alternative Multi-strategy Index	-2.93	-2.46	-8.65	-7.76	-0.37	0.12
Wilshire Liquid Alternative Relative Value Index	-2.80	-2.26	-9.17	-9.76	-1.31	-0.25
Wilshire Focused Liquid Alternative Index	-1.69	-0.80	-4.91	-5.13	1.25	1.46

Source: Stifel Investment Strategy via Bloomberg as of September 30, 2022

\*Represents annualized returns

## DISCLOSURE

The MSCI Japan Index is designed to measure the performance of the large and mid cap segments of the Japanese market. With 322 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Japan.

The MSCI EM (Emerging Markets) Europe, Middle East and Africa Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the emerging market countries of Europe, the Middle East, and Africa.

The Bloomberg U.S. Aggregate Bond Index is a broad-based flagship benchmark that measures the investment-grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related, and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS, and CMBS (agency and nonagency). Provided the necessary inclusion rules are met, U.S. Aggregate-eligible securities also contribute to the multicurrency Global Aggregate Index and the U.S. Universal Index, which includes high yield and emerging markets debt.

The Bloomberg U.S. Government/Credit Bond Index is a broad-based flagship benchmark that measures the non-securitized component of the U.S. Aggregate Index. It includes investment-grade, U.S. dollar-denominated, fixed-rate Treasuries, government-related, and corporate securities.

The Bloomberg U.S. Treasury Index measures U.S. dollar-denominated, fixed-rate, nominal debt issued by the U.S. Treasury. Treasury bills are excluded by the maturity constraint, but are part of a separate Short Treasury Index. STRIPS are excluded from the index because their inclusion would result in double-counting. The U.S. Treasury Index is a component of the U.S. Aggregate, U.S. Universal, Global Aggregate, and Global Treasury Indices.

The Bloomberg U.S. Treasury U.S. TIPS index includes all publicly issued, U.S. Treasury inflation-protected securities that have at least one year remaining to maturity, are rated investment grade, and have \$250 million or more of outstanding face value.

The Bloomberg U.S. Municipal Index covers the U.S. dollar-denominated, long-term, tax-exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and prerefunded bonds.

The Bloomberg U.S. Credit Index measures the investment-grade, U.S. dollar-denominated, fixed-rate, taxable corporate and government-related bond markets. It is composed of the U.S. Corporate Index and a non-corporate component that includes foreign agencies, sovereigns, supranationals, and local authorities.

The Bloomberg U.S. Corporate High Yield Bond Index measures the U.S. dollar-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 Barclays EM country definition, are excluded.

The Bloomberg Global Aggregate Bond Index is a flagship measure of global investment-grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate, and securitized fixed-rate bonds from both developed and emerging markets issuers.

The Bloomberg Emerging Markets Hard Currency Aggregate Index is a flagship hard currency Emerging Markets debt benchmark that includes U.S. dollar-denominated debt from sovereign, quasi-sovereign, and corporate EM issuers.

The Wilshire U.S. REIT Index is a float-adjusted market capitalization-weighted index that measures U.S. publicly traded real estate investment trusts (REITs), excluding mortgage REITs, net-lease REITs, real estate finance companies, home builders, large landowners and sub-dividers, hybrid REITs, and companies that have more than 25% of their assets in direct mortgage investments.

The Wilshire ex U.S. Real Estate Investment Trust Index<sup>SM</sup> (Wilshire ex U.S. REIT) measures global publicly traded real estate investment trusts, less all U.S. securities.

The Wilshire ex U.S. REIT is a subset of the Wilshire ex U.S. Real Estate Securities Index<sup>SM</sup> (Wilshire ex U.S. RESI).

The Wilshire Global REIT Index is a float-adjusted, market capitalization-weighted index that measures global publicly traded real estate investment trusts (REITs), excluding mortgage REITs, net-lease REITs, real estate finance companies, home builders, large landowners and sub-dividers, hybrid REITs, and companies that have more than 25% of their assets in direct mortgage investments.

Bloomberg Commodity Index (BCOM) is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted two-thirds by trading volume and one-third by world production, and weight-caps are applied at the commodity, sector, and group level for diversification. Roll period typically occurs from the sixth to the tenth business day based on the roll schedule.

The S&P GSCI Crude Oil Index is a sub-index of the S&P GSCI Commodity Index. The production-weighted index reflects the returns that are potentially available through an unleveraged investment in the West Texas Intermediate (WTI) crude oil futures contract.

The Wilshire Liquid Alternative Index<sup>SM</sup> measures the collective performance of the five Wilshire Liquid Alternative strategies that make up the Wilshire Liquid Alternative Universe. The Wilshire Liquid Alternative Index (WLIQA) is designed to provide a broad measure of the liquid alternative market by combining the performance of the Wilshire Liquid Alternative Equity Hedge Index<sup>SM</sup> (WLIQAEH), Wilshire Liquid Alternative Global Macro Index<sup>SM</sup> (WLIQAGM), Wilshire Liquid Alternative Relative Value Index<sup>SM</sup> (WLIQARV), Wilshire Liquid Alternative Multi-Strategy Index<sup>SM</sup> (WLIQAMS), and Wilshire Liquid Alternative Event Driven Index<sup>SM</sup> (WLIQAED).

The Russell 2000 Index measures the performance of the 2,000 smallest companies in the broader Russell 3000 Index, which measures the performance of the 3,000 largest U.S. companies based on total market capitalization. The average market capitalization is approximately \$490 million, and the median market capitalization is approximately \$395 million.

The Russell 2000 Growth Index measures the performance of those Russell 2000 index companies with higher price-to-book ratios and higher forecasted growth values.

The Russell 2000 Value Index measures the performance of those Russell 2000 index companies with lower price-to-book ratios and lower forecasted growth values.

The Russell Microcap Index is a capitalization-weighted index of 2,000 small cap and micro cap stocks, including the smallest 1,000 companies in the Russell 2000 plus 1,000 smaller U.S. based listed stocks. Over-the-counter stocks and pink sheet securities are excluded.

The MSCI World ex USA All Cap Index captures large, mid, small, and micro cap representation across 22 of 23 Developed Markets (DM) countries (excluding the United States). With 8,138 constituents, the index covers approximately 99% of the free float-adjusted market capitalization in each country.

The MSCI EAFE Index (Europe, Australasia, and the Far East) is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the U.S. and Canada.

The MSCI Europe Index is a free float-adjusted market capitalization-weighted index that is designed to measure the equity market performance of the developed markets in Europe.

The MSCI Pacific Index captures large and mid cap representation across five Developed Markets (DM) countries in the Pacific region. With 470 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

High yield bonds have greater credit risk than higher quality bonds.

Small company stocks are typically more volatile and carry additional risks, since smaller companies generally are not as well established as larger companies.

There are special considerations associated with international investing, including the risk of currency fluctuations and political and economic events. Investing in emerging markets may involve greater risk and volatility than investing in more developed countries.

When investing in real estate companies, property values can fall due to environmental, economic, or other reasons, and changes in interest rates can negatively impact the performance.

Alternative investments involve a high degree of risk, often engage in leveraging and other speculative investment practices that may increase the risk of investment loss, can be highly illiquid, are not required to provide periodic pricing or valuation information to investors, may involve complex tax structures and delays in distributing tax information, are not subject to the same regulatory requirements as more traditional investments, and often charge high fees, which may erode performance. An investment is appropriate only for investors who have the capacity to absorb a loss of some or all of their investment.

Private equity funds are not appropriate for all investors. Investors should be aware that private equity funds may contain speculative investment practices that can lead to a loss of the entire investment. Private equity funds may invest in entities in which no secondary market exists and, as such, may be highly illiquid. The funds are not required to provide periodic pricing or valuation information to investors and often charge high fees that can erode performance. Additionally, they may involve complex tax structures and delays in distributing tax information.

*Investors should be aware that hedge funds often engage in leverage, short-selling, arbitrage, hedging, derivatives, and other speculative investment practices that may increase investment loss. Hedge funds can be highly illiquid, are not required to provide periodic pricing or valuation information to investors, and often charge high fees that can erode performance. Additionally, they may involve complex tax structures and delays in distributing tax information. While hedge funds may appear similar to mutual funds, they are not necessarily subject to the same regulatory requirements as mutual funds.*

Indices are unmanaged and are not available for direct investment. Past performance is no guarantee of future results. Index returns include the reinvestment of dividends but do not include adjustments for brokerage, custodian, and advisory fees.

Past performance is not indicative of future results.