

# Economic and Market Review

## Through Q4 2023

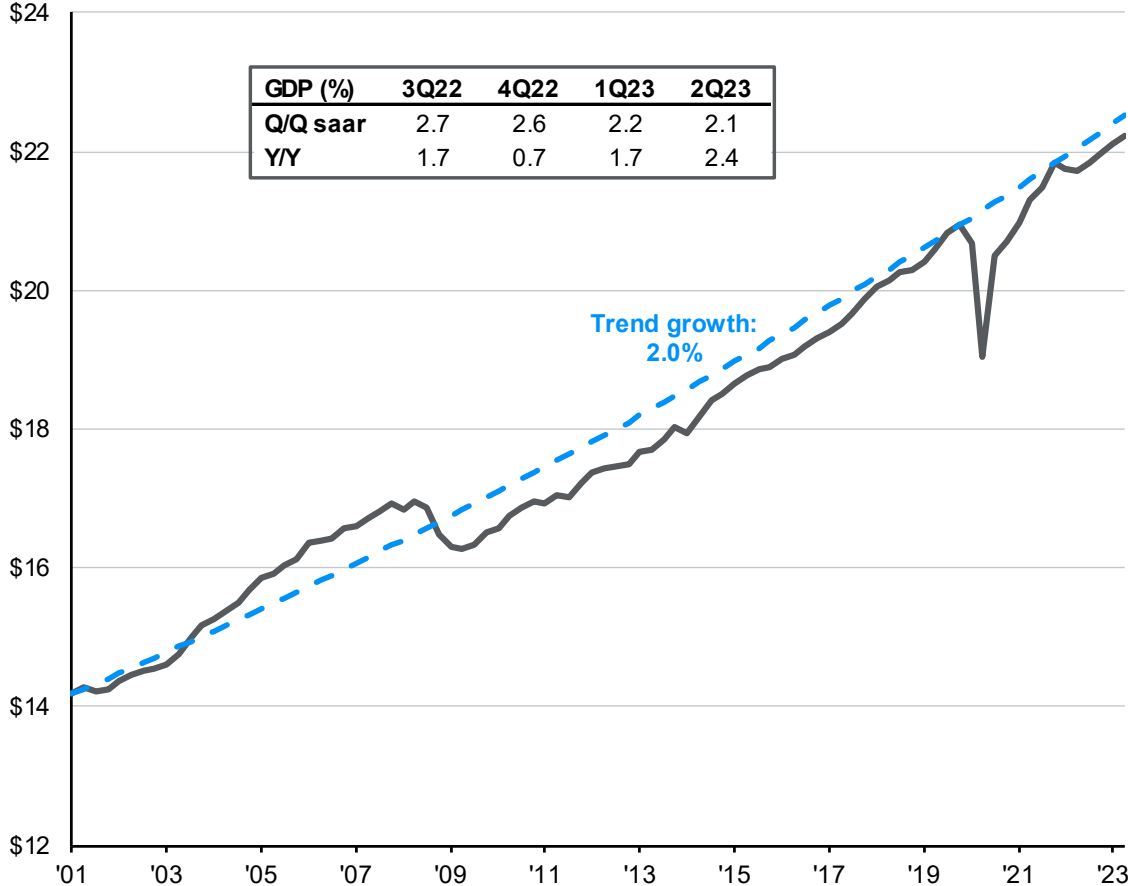
## Economic Review – 3<sup>rd</sup> Quarter 2023

- Interest rates surged in September as the Federal Reserve left the Federal Funds Rate unchanged at its latest policy meeting, instead using hawkish rhetoric and a revised “Dot Plot” to signal that rates will likely stay higher for longer. Even though the month’s economic data supported the notion of cooling inflation and waning growth, the Atlanta Fed’s GDPNow forecast still suggests economic growth near 5%. Continued fiscal spending and mounting federal deficits likely have as much to do with the rising level of interest rates as anything else one can point to.
- The supply of and demand for labor remains somewhat skewed, with U.S. job growth beating investors’ expectations in September. Nonfarm Payrolls increased by 336k jobs on the month, almost double the amount that economists’ had forecasted. September’s Unemployment Rate came in at 3.8%, unchanged from August’s reading. The Labor Force Participation Rate remained at 62.8%, while Average Hourly Earnings rose by +0.2% MoM and +4.2% YoY.
- Inflationary pressures appear to be “under control”, although still at levels that may prevent the Fed from declaring victory. Energy prices have surged and housing prices appear sticky, even with substantially higher mortgage rates (now over 7%). CPI for August came in at +0.6%, as expected, while Core CPI came in slightly higher than forecast at +0.3%. Year over year, consumer prices are up +3.7%, while ex-food and energy, prices rose +4.3%. Wholesale prices surged a higher than expected +0.7% in August, although remain just +1.6% higher YoY. Lastly, the PCE Core Deflator edged up only +0.1% in August, and +3.9% YoY.
- Oil was one of the few commodities that rose sharply in September, with WTI crude oil rising +6.1% to close the month at \$90.79 per barrel. This brought oil’s Q3 return to a staggering +28.5%, in contrast to its decline of -16.2% through the first 6 months of the year. The Organization of the Petroleum Exporting Countries and its allies (OPEC+) cut oil production earlier in the summer, which reduced global supply and pushed prices higher.
- Geopolitical issues remain but lower demand could keep a lid on oil prices from rising much further, as consumers domestic and abroad may travel less in response to higher prices. However, the rise in energy prices is still a concern for the U.S. economy and for the Fed, which has raised interest rates over 500 bps over the past 18 months in an attempt to curb inflation. U.S. consumers have been resilient as a whole in 2023, but higher gas prices, student loan payments resuming, and shrinking consumer savings may lead to a more uncertain economic backdrop.

# Economic Growth and the Composition of GDP

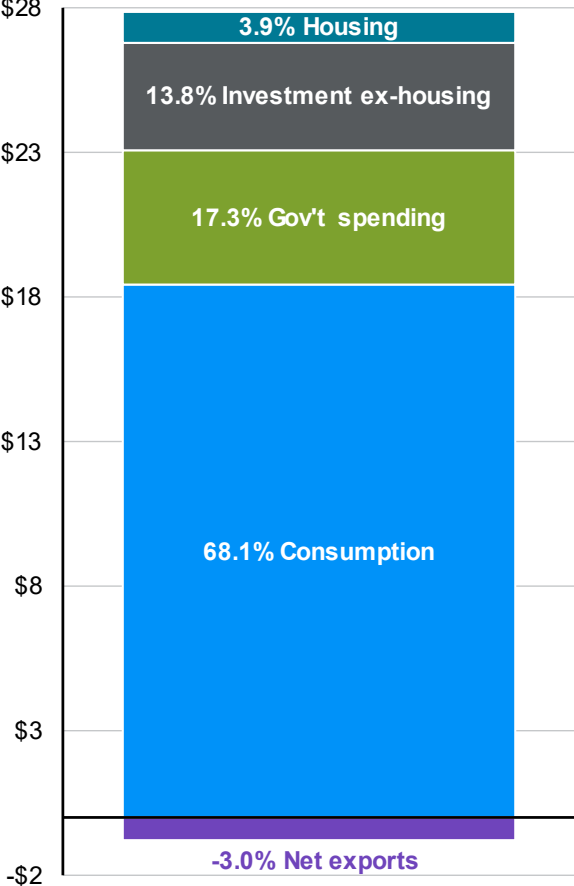
## Real GDP

Trillions of chained (2017) dollars, seasonally adjusted at annual rates



## Components of GDP

2Q23 nominal GDP, USD trillions



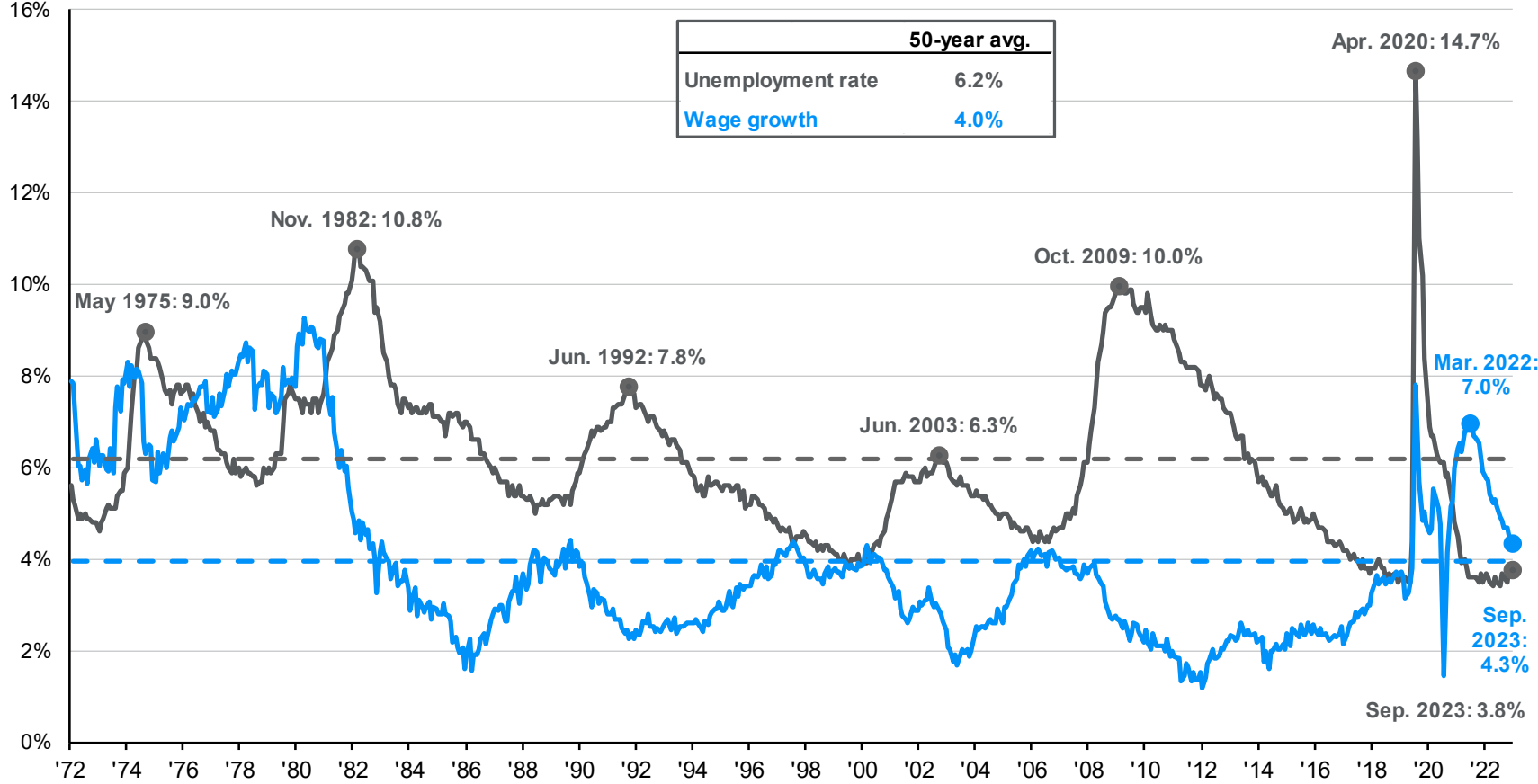
Source: BEA, FactSet, J.P. Morgan Asset Management. Values may not sum to 100% due to rounding. Trend growth is measured as the average annual growth rate from business cycle peak 1Q01 to business cycle peak 4Q19.

Guide to the Markets – U.S. Data are as of September 30, 2023.

# Unemployment Rate

## Civilian unemployment rate and year-over-year wage growth

Private production and non-supervisory workers, seasonally adjusted, percent



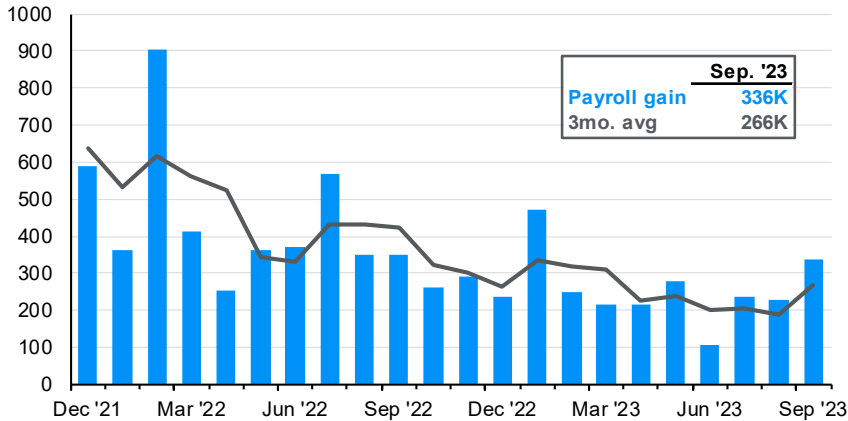
Source: BLS, FactSet, J.P. Morgan Asset Management. Private production and non-supervisory jobs represent just over 80% of total private nonfarm jobs.

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# Labor Market

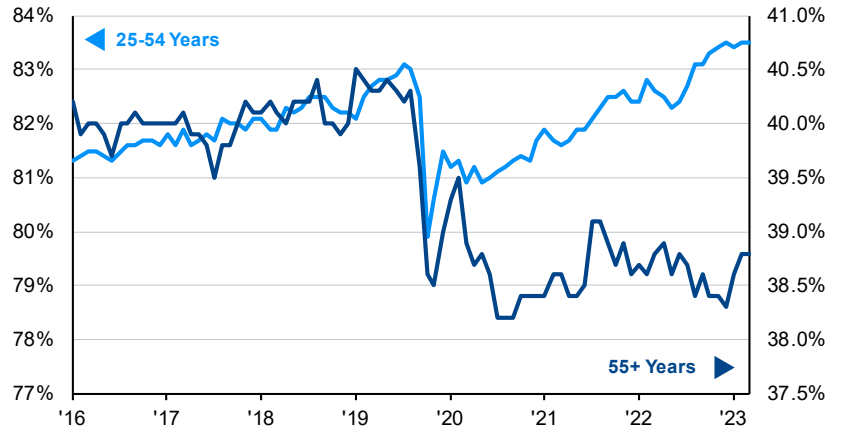
## Nonfarm payroll gains

Month-over-month change and 3mo. rolling average, SA

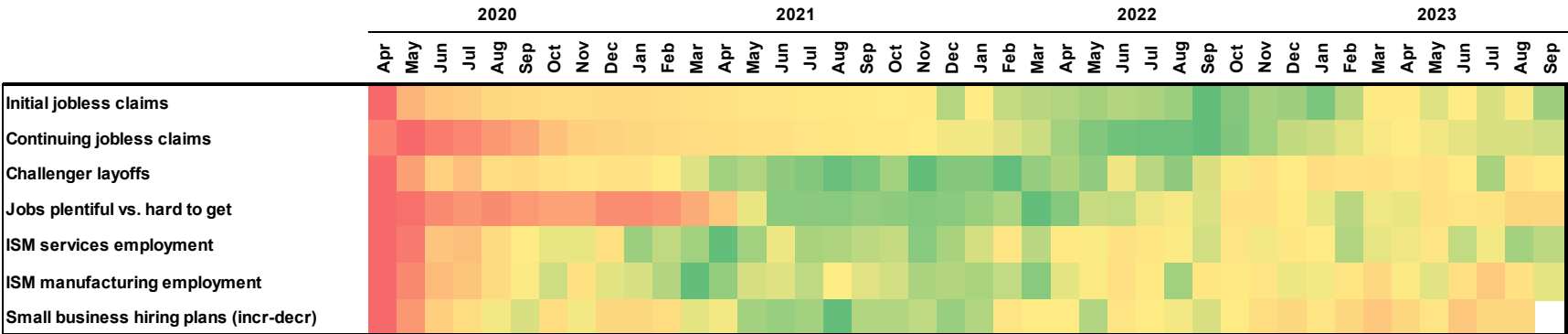


## Labor force participation

% of civilian noninstitutional population, SA



## Key labor market indicators



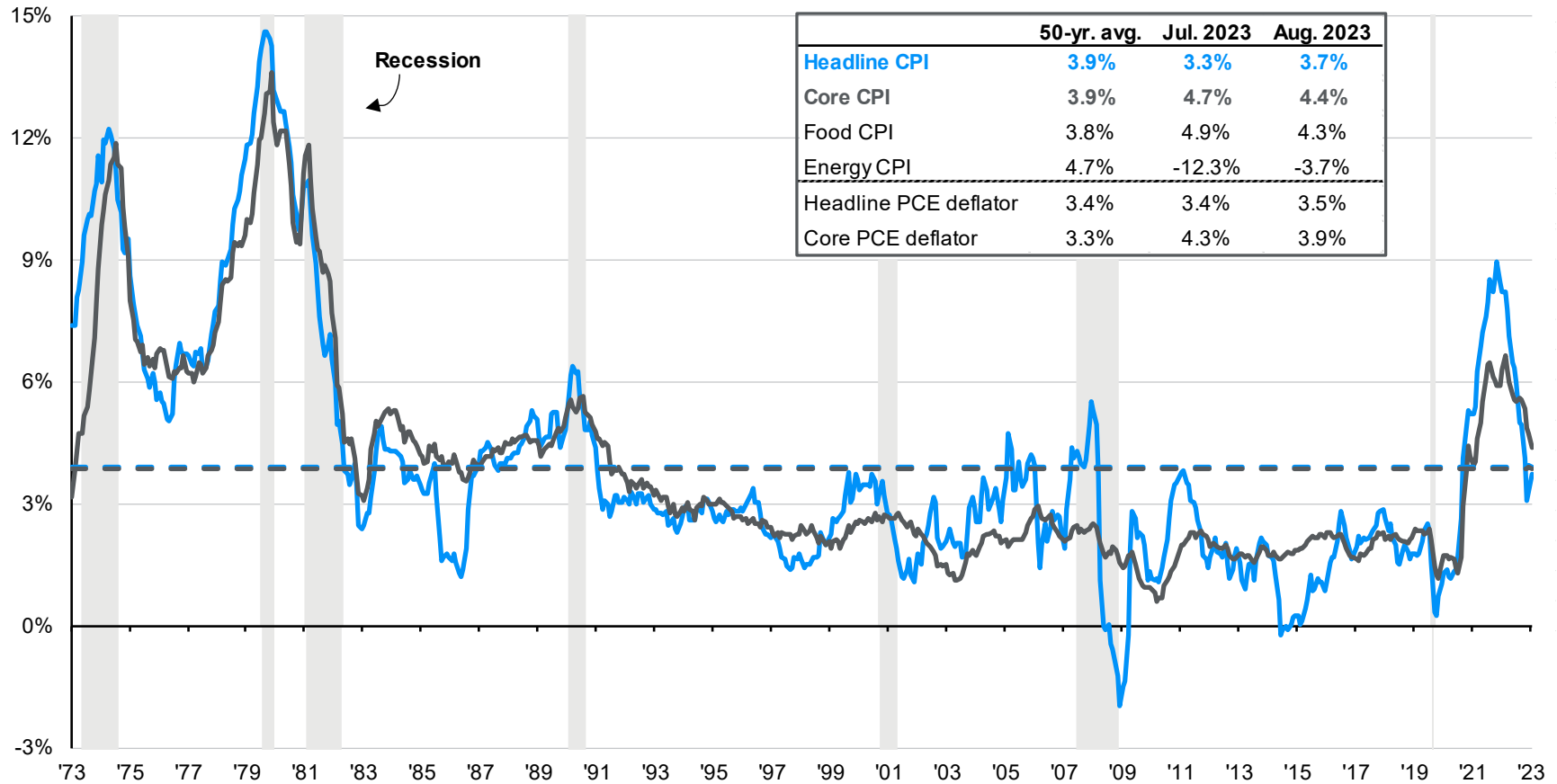
Source: BLS, Conference Board, FactSet, ISM, NFIB, J.P. Morgan Asset Management. Heatmap shading is relative to the time period shown. For jobless claims and layoffs, red reflects higher values and green reflects lower values. For ISM employment PMIs, shading is centered at a 50 level, with values above 50 indicating acceleration (shaded green) and below 50 indicating deceleration (shaded red) of employment. For jobs plentiful vs. hard to get and small business hiring plans, red reflects low survey values and green reflects high values.

Guide to the Markets – U.S. Data are as of October 6, 2023.

# U.S. Inflation

## CPI and core CPI

% change vs. prior year, seasonally adjusted



Source: BLS, FactSet, J.P. Morgan Asset Management.

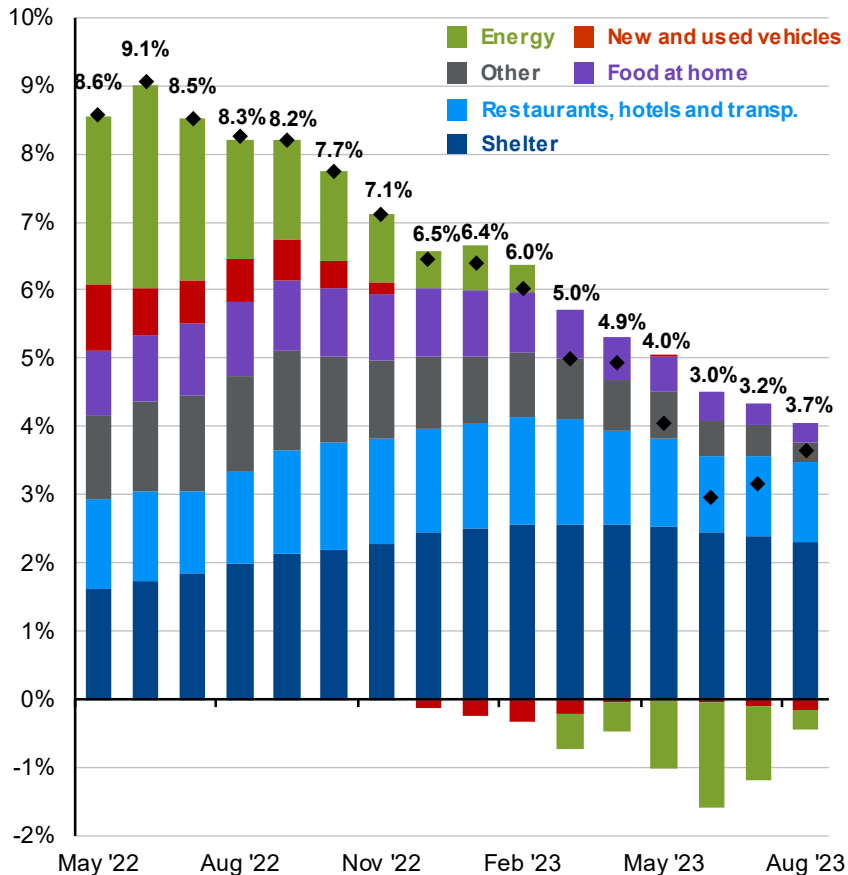
CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead of the fixed-weight basket used in CPI calculations.

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# Inflation Components

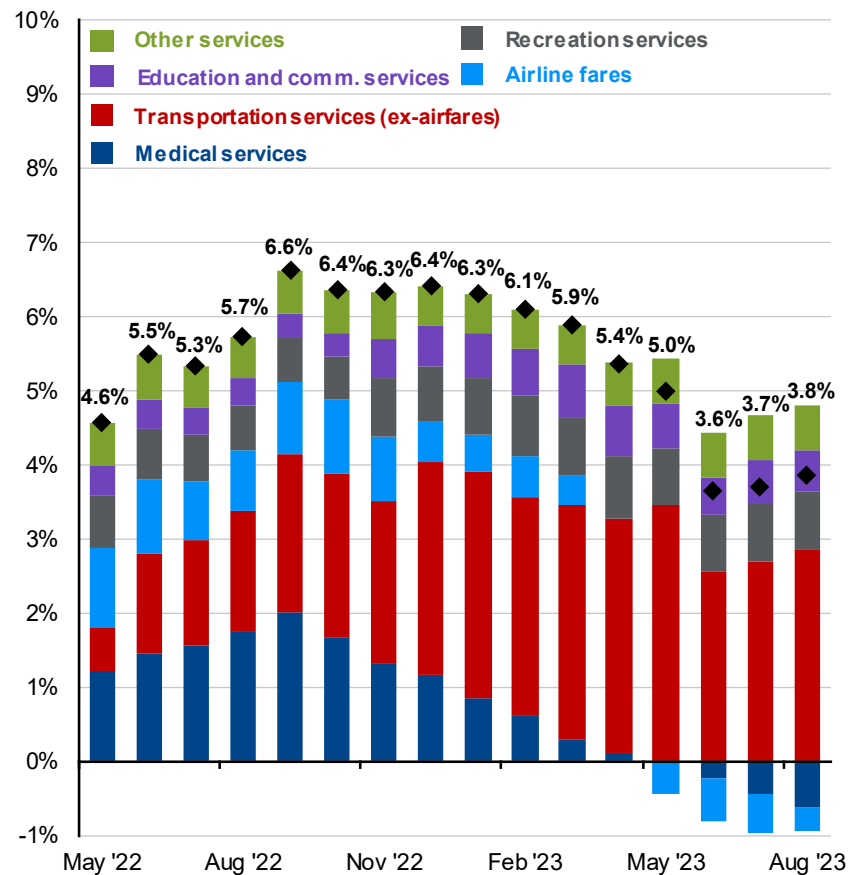
## Contributors to headline CPI inflation

Contribution to y/y % change in CPI, non-seasonally adjusted



## Contributors to core services ex-shelter CPI inflation\*

Contribution to y/y % change in custom CPI index, non-seasonally adj.



Source: Bureau of Labor Statistics, FactSet, J.P. Morgan Asset Management. Contributions mirror the BLS methodology on Table 7 of the CPI report. Values may not sum to headline CPI figures due to rounding and underlying calculations. \*Core services ex-shelter CPI is a custom index using CPI components created by J.P. Morgan Asset Management. Left: "Shelter" includes owners' equivalent rent and rent of primary residence; "Other" primarily reflects household furnishings, apparel, education and communication services, medical care services and other personal services. Right: "Transportation services" primarily includes leased cars and trucks, motor vehicle insurance and motor vehicle maintenance and repair. Airline fares are broken out from transportation services.

Guide to the Markets – U.S. Data are as of September 30, 2023.

# Oil Markets

## Change in production and consumption of liquid fuels

Production, consumption and inventories, millions of barrels per day

Production	2019	2020	2021	2022	2023*	2024*	2019-2023
U.S.	19.5	18.6	19.0	20.3	21.6	22.2	10.8%
OPEC	34.6	30.7	31.7	34.2	33.3	33.8	-3.7%
Russia	11.5	10.5	10.8	10.9	10.6	10.6	-7.2%
<b>Global</b>	<b>100.3</b>	<b>93.9</b>	<b>95.7</b>	<b>99.9</b>	<b>101.2</b>	<b>102.9</b>	<b>0.9%</b>

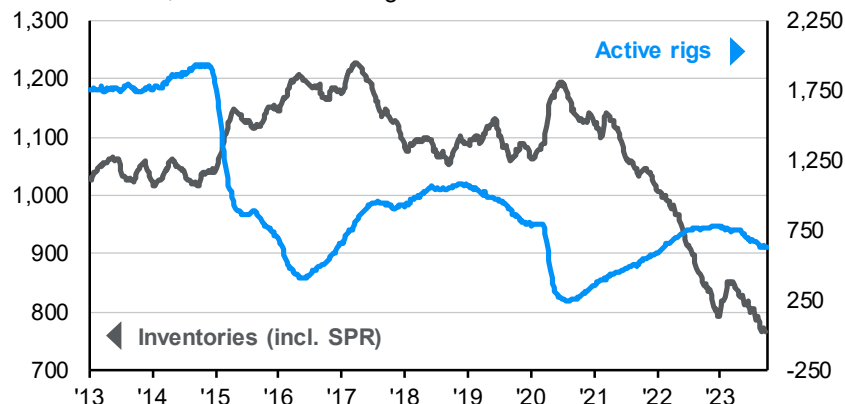
Consumption	2019	2020	2021	2022	2023*	2024*	2019-2023
U.S.	20.5	18.2	19.9	20.0	20.1	20.3	-1.9%
China	14.0	14.4	15.3	15.2	15.9	16.3	13.7%
India	4.9	4.5	4.7	5.0	5.3	5.6	8.1%
<b>Global</b>	<b>100.9</b>	<b>91.6</b>	<b>97.1</b>	<b>99.2</b>	<b>101.0</b>	<b>102.3</b>	<b>0.1%</b>

Inventory Change	2019	2020	2021	2022	2023*	2024*
	-0.6	2.3	-1.4	0.8	0.2	0.5

## U.S. crude oil inventories and rig count\*\*

Million barrels, number of active rigs



## Price of oil

WTI crude, nominal prices, USD/barrel



Source: J.P. Morgan Asset Management; (Top and bottom left) EIA; (Right) FactSet; (Bottom left) Baker Hughes.

\*Forecasts are from the September 2023 EIA Short-Term Energy Outlook and start in 2023. \*\*U.S. crude oil inventories include the Strategic Petroleum Reserve (SPR). Liquid fuels include crude oil, natural gas, biodiesel and fuel ethanol. Active rig count includes both natural gas and oil rigs. WTI crude prices are continuous contract NYM prices in USD.



## U.S. Equity Review – 3<sup>rd</sup> Quarter 2023

- U.S. equities closed the third quarter in the red, with the benchmark S&P 500 Index losing -3.3% to close at 4,288. Broadly speaking, equities moved lower as bond yields moved higher, a return to some degree of normalcy given stocks and bonds historically have zigged and zagged (i.e. negative correlations). The rise in yields also took a bite out of Mid- and Small-Cap stocks, with the S&P 400 and 600 Indices losing -4.2% and -4.9%, respectively. On a positive note, equities across the board are higher on a YTD basis, with Large-, Mid-, and Small-Caps returning +13.1%, +4.3%, and +0.8%, respectively; however, the bias has clearly been towards Large-Caps. According to JP Morgan, the top 10 holdings in the S&P 500 accounted for 31.9% of market cap, 21.9% of trailing 12 month earnings, and nearly 97% of YTD gains, as of month end.
- At the sector level, 9 of 11 sectors finished the quarter in the red, with the best performer being the Energy sector, which rose +12.2% on the back of higher oil prices. At the bottom of the pack was Real Estate, which fell -9.5%, and Utilities which fell -9.2%. For the year, 6 of 11 sectors have posted positive returns, but only 3 of those have beaten the market: Communication Services, +40.4%; Information Technology, +34.7%; Consumer Discretionary, +26.7%. The other positive performers are Energy, Industrials, and Materials, all beneficiaries of a strong economy, near term earnings catalysts (i.e. fiscal spending), and higher prices.
- Looking ahead, our attention focuses on earnings season, which is set to kick off mid-month, where we should get a real time view of the health of the consumer heading into the holiday season. Insights on spending trends and the early impact of student loan repayments will be key. The economy and labor market remain strong, which should help buoy corporate profits. Earnings estimates continue to rise, leaving the S&P 500's forward price to earnings ratio at 17.8x, roughly in line with its 25-yr average of 16.8x.

## International Equity Review – 3<sup>rd</sup> Quarter 2023

- International equities fell alongside their domestic counterparts in Q3, with the MSCI ACWI ex-US Index falling -3.7%. Emerging Markets declined less than their Developed counterparts as the MSCI EM Index fell -2.9% during the quarter, compared to the MSCI EAFE Index falling -4.0%.
- Changes in the interest rate outlook in Europe provided for some rate volatility in both bonds and European equities during the month of September. The Bank of England raised its key interest rate by a quarter of a point to 5.25%, which represents a 15-year high. The initial reading of Eurozone inflation was held steady during the month of August coming in at 5.3%, while the unemployment rate for the month came in at a record low of 6.4%. With these major economic data points causing a curious case for investors, the MSCI EMU Index fell -4.3% during the quarter (in EUR terms).
- Japanese equities declined in Q3 as the country dealt with concerns around China's broad economic weakness and its rocky property sector. However, Japan saw robust growth printed during the second quarter of the year, growing at an annualized rate of +4.8% compared to the consensus forecast of +2.9%. Perhaps this growth is adding to the increase in consumer prices as inflation data for the month of August came in at +3.1%, exceeding the Bank of Japan's goal of +2.1%. This mixed economic data, paired with broader macro concerns, caused the Nikkei 225 Index to fall -3.4% (in JPY terms) during the quarter. However, it still remains one of the top performing areas in the world on the year, returning +24.3% YTD.
- China has caused a lot of the concern for financial markets this year. After a year of Retail Sales and Industrial output continuing to miss the mark, official data for the month of August pointed to some stabilization as they both grew more than forecasted on the year over year level. However, continuing the yearly trend, fixed asset investment failed to grow again during the month of August as the country deals with a steep decline in property investment. In all, the MSCI China Index fell -1.9% during the quarter (in USD terms). On the year, the area still remains the black sheep, having fallen -6.8% YTD (in USD terms).

*Note: Returns as of September 30, 2023*

## Fixed Income Review – 3<sup>rd</sup> Quarter 2023

- The Bloomberg U.S. Aggregate Bond Index fell -3.2% during the quarter, mainly hurt by the sharp rise in interest rates (bond prices and interest rates are inversely related). The index is now down -1.2% YTD.
- Jerome Powell's Federal Reserve held the Federal Funds rate steady at the September 20th meeting, noting that unemployment remains low, job gains remain strong, and inflation remains elevated. All of these observations would support continued hawkish positioning, and the potential for a higher Federal Funds interest rate. The fixed income market has begun adjusting to a "higher for longer," scenario. The expectations of near-term rate cuts are being pushed out towards the end on 2024, along with the potential for a slowdown in economic growth.
- In the month of September, yields moved higher across the curve. The magnitude of the increase rose along with maturity, pushing the prices of the longest dated bonds down the most. Shorter maturities were spared some of the negative price impact due to being less interest rate sensitive, and exposures that provided additional income to offset the downward pressure on price also performed relatively well compared to the broader market.
- Investment Grade and High Yield spreads did not move considerably in the quarter, neither adding nor subtracting much from performance. However, the additional income produced by the higher nominal coupon on High Yield bonds, combined with their shorter average duration, allowed them to solidly outperform most other areas of the fixed income market.
- The yields available in today's fixed income markets are as high as they have been in over fifteen years. While riskier allocations may not yet provide adequate compensation to build positions, given rising default rates and lower recovery rates in the speculative grade market, high quality fixed income yields may have risen enough to provide a solid base of returns for portfolios going forward.

# U.S. Equity Returns

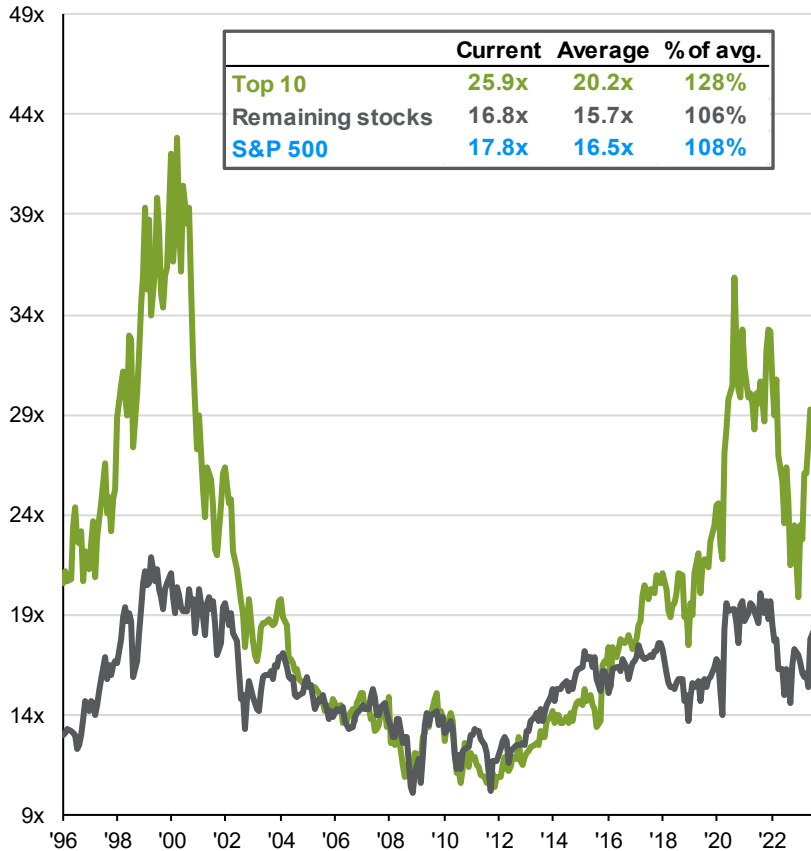
	Energy	Materials	Financials	Industrials	Cons. Disc.	Tech.	Comm. Services*	Real Estate	Health Care	Cons. Staples	Utilities	S&P 500 Index	
<b>S&amp;P weight</b>	4.7%	2.4%	12.8%	8.3%	10.7%	27.5%	8.9%	2.4%	13.4%	6.6%	2.4%	100.0%	<b>Weight</b>
Russell Growth weight	0.6%	0.7%	6.6%	6.0%	16.0%	42.1%	11.6%	0.9%	11.3%	4.3%	0.0%	100.0%	
Russell Value weight	9.1%	4.8%	20.6%	13.2%	5.0%	9.1%	5.0%	4.7%	15.3%	8.3%	4.9%	100.0%	
Russell 2000 weight	8.5%	4.6%	16.1%	17.1%	10.6%	13.3%	2.4%	6.1%	14.9%	3.6%	2.9%	100.0%	
<b>QTD</b>	12.2%	-4.8%	-1.1%	-5.2%	-4.8%	-5.6%	3.1%	-9.5%	-2.7%	-6.0%	-9.2%	-3.3%	<b>Return</b>
<b>YTD</b>	6.0%	2.6%	-1.6%	4.5%	26.7%	34.7%	40.4%	-8.1%	-4.1%	-4.8%	-14.4%	13.1%	
<b>Since market peak</b> (February 2020)	97.9%	40.4%	15.5%	28.7%	24.3%	67.1%	19.1%	-16.6%	31.8%	21.2%	-5.3%	34.3%	
<b>Since market low</b> (March 2020)	348.9%	119.7%	102.4%	120.7%	82.1%	142.7%	66.8%	34.6%	82.8%	59.6%	47.1%	102.8%	
<b>Beta to S&amp;P 500</b>	1.3	1.1	1.1	1.1	1.2	1.1	1.0*	0.8	0.7	0.6	0.5	1.0	<b>β</b>
<b>Correl. To Treas. Yields</b>	-0.1	-0.4	-0.3	-0.4	-0.5	-0.7	-0.8	-0.5	-0.3	-0.3	-0.4	-0.6	<b>ρ</b>
<b>Foreign % of sales</b>	37.8	55.2	20.8	32.3	34.3	57.6	42.8	15.9	35.7	43.1	1.8	39.5	<b>%</b>
<b>NTM earnings growth</b>	-6.7%	-1.7%	5.9%	13.2%	18.0%	13.4%	18.6%	3.4%	5.2%	6.5%	7.8%	9.1%	<b>EPS</b>
<b>20-yr. avg.</b>	99.6%	14.9%	20.6%	14.1%	17.1%	12.9%	10.3%*	6.8%	7.9%	7.7%	4.6%	11.0%	
<b>Forward P/E ratio</b>	11.7x	17.0x	13.1x	17.3x	23.5x	24.3x	16.3x	14.9x	16.8x	18.4x	15.0x	17.8x	<b>P/E</b>
<b>20-yr. avg.</b>	13.6x	14.8x	12.5x	16.3x	19.4x	17.9x	18.7x*	16.9x	15.0x	17.4x	15.6x	15.6x	
<b>Buyback yield</b>	4.5%	1.6%	2.7%	2.0%	1.4%	1.7%	3.7%	-1.7%	1.3%	0.9%	-1.0%	1.9%	<b>Bbk</b>
<b>20-yr. avg.</b>	1.7%	1.0%	0.4%	2.3%	2.5%	3.0%	1.7%	-1.4%	2.0%	1.8%	-0.8%	1.8%	
<b>Dividend yield</b>	3.2%	2.2%	2.1%	1.9%	0.9%	0.9%	0.9%	4.3%	1.8%	2.9%	3.9%	1.7%	<b>Div</b>
<b>20-yr. avg.</b>	2.8%	2.4%	2.3%	2.2%	1.4%	1.2%	1.2%	3.8%	1.9%	2.8%	3.8%	2.1%	

Source: FactSet, Refinitiv Datastream, Russell Investment Group, Standard & Poor's, J.P. Morgan Asset Management. All calculations are cumulative total return, not annualized, including dividends for the stated period. Since market peak represents period from 2/19/2020 to 3/31/2023. Since market low represents period from 3/23/2020 to 3/31/2023. Correlation to Treasury yields are trailing 2-year monthly correlations between S&P 500 sector price returns and 10-year Treasury yield movements. Next 12 months (NTM) earnings growth is the percent change in next 12-months earnings estimates compared to last 12-months earnings provided by brokers. Forward P/E ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates and J.P. Morgan Asset Management. Buyback yield is net of share issuance and is calculated as last 12-months net buybacks divided by market cap. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Beta calculations are based on 10-years of monthly price returns for the S&P 500 and its sub-indices. \*Communication Services (formerly Telecom) averages and beta are based on 5-years of backtested data by JPMAM. Past performance is not indicative of future returns.

# S&P 500 Index Concentration

## P/E ratio of the top 10 and remaining stocks in the S&P 500

Next 12 months, 1996 - present



## Weight of the top 10 stocks in the S&P 500

% of market capitalization of the S&P 500



## Earnings contribution of the top 10 in the S&P 500

Based on last 12 months' earnings



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

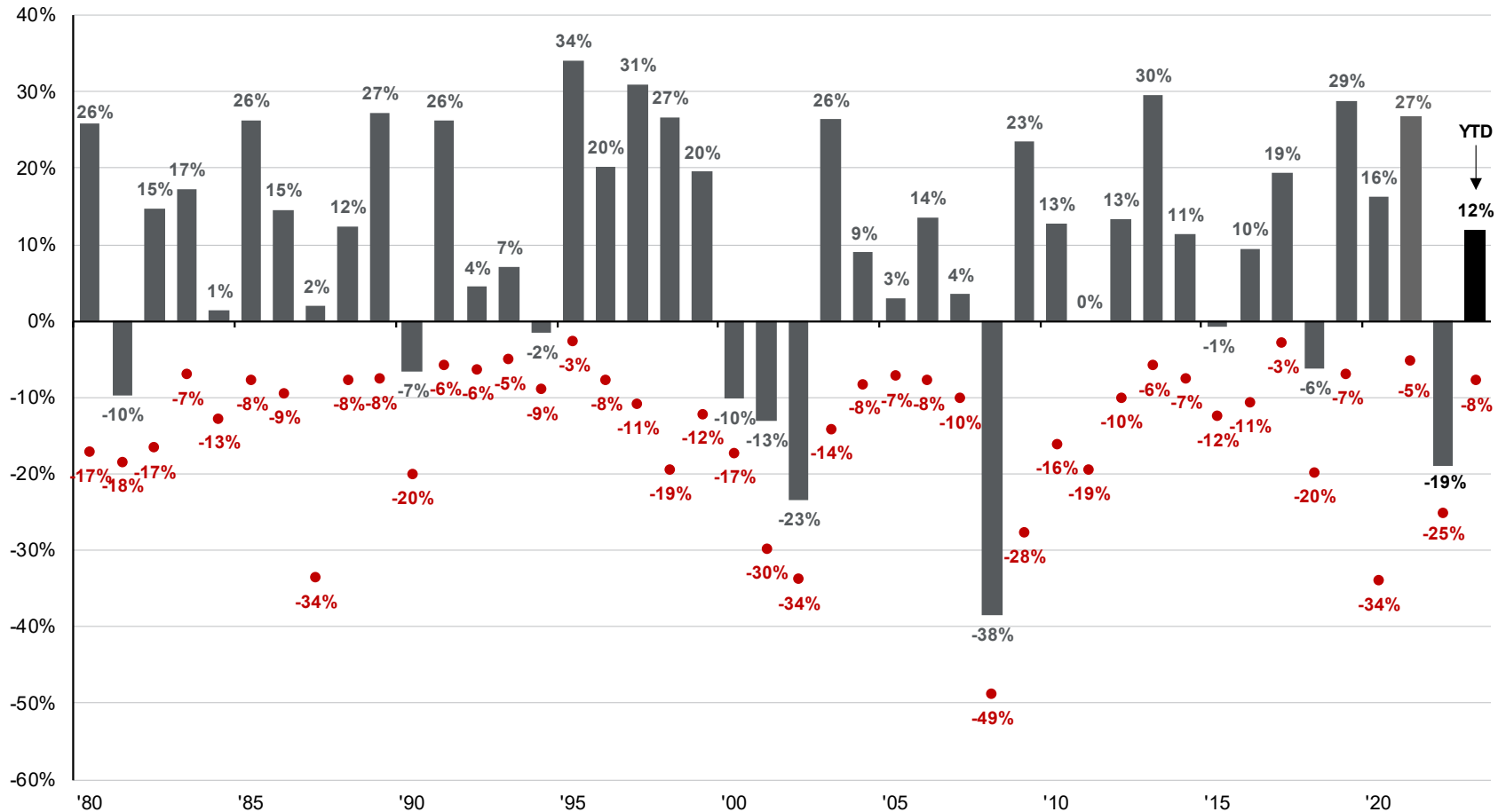
The top 10 S&P 500 companies are based on the 10 largest index constituents at the beginning of each month. As of 5/31/2023, the top 10 companies in the index were AAPL (7.5%), MSFT (7.0%), AMZN (3.1%), NVDA (2.7%), GOOGL (2.1%), GOOG (1.8%), Meta (1.7%), BRK.B (1.7%), TSLA (1.6%), UNH (1.3%) and XOM (1.2%). The remaining stocks represent the rest of the 494 companies in the S&P 500.

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# S&P 500 annual returns and intra-year declines

## S&P intra-year declines vs. calendar year returns

Despite average intra-year drops of 14.3%, annual returns were positive in 32 of 43 years



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1980 to 2022, over which time period the average annual return was 8.7%.

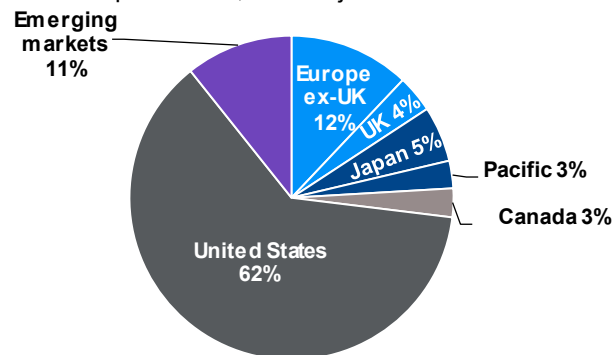
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# Global Equity Returns

Returns	2023		2022		15-years	
	Local	USD	Local	USD	Ann.	Beta
<b>Regions</b>						
U.S. (S&P 500)	-	13.1	-	-18.1	11.3	0.9
AC World ex-U.S.	8.7	5.8	-9.2	-15.6	4.8	1.0
EAFE	11.2	7.6	-6.5	-14.0	5.2	1.0
Europe ex-UK	10.0	9.2	-12.2	-17.3	5.5	1.2
Emerging markets	4.4	2.2	-15.2	-19.7	4.1	1.1
<b>Selected Countries</b>						
Japan	26.2	11.6	-4.1	-16.3	4.9	0.7
United Kingdom	5.2	6.8	7.2	-4.8	4.3	1.0
France	11.7	10.8	-6.9	-12.7	5.8	1.2
Canada	4.2	4.5	-5.8	-12.2	4.7	1.1
Germany	10.6	9.7	-16.5	-21.6	4.1	1.3
China	-6.1	-7.1	-20.6	-21.8	4.2	1.0
Taiwan	17.4	11.8	-21.3	-29.1	10.9	1.0
India	8.7	8.3	3.0	-7.5	7.7	1.1
Brazil	7.1	13.0	8.6	14.6	1.1	1.4

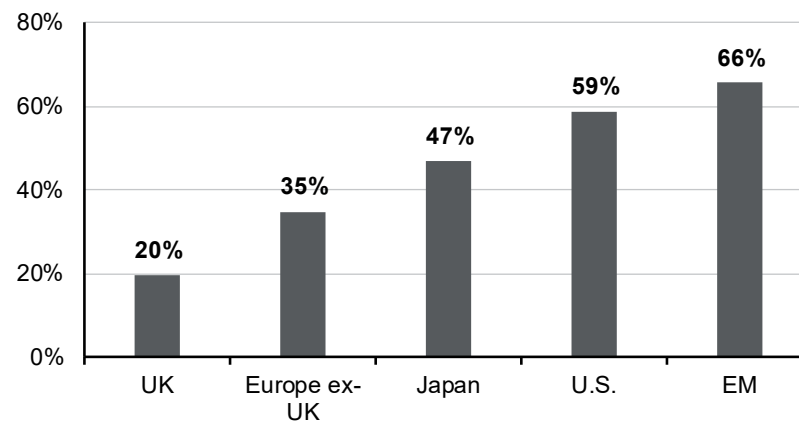
## Weights in MSCI All Country World Index

% global market capitalization, float adjusted



## Revenue exposure vs. country of listing

% of total revenue from home countries



Source: FactSet, Federal Reserve, MSCI, Standard & Poor's, J.P. Morgan Asset Management. All return values are MSCI Gross Index data. 15-year history based on USD returns. 15-year return and beta figures are calculated for the time period 12/31/2007 to 12/31/2022. Beta is for monthly returns relative to the MSCI AC World Index. Annualized volatility is calculated as the standard deviation of quarterly returns multiplied by the square root of 4. Chart is for illustrative purposes only. Please see disclosure page for index definitions. Past performance is not a reliable indicator of current and future results. Revenue exposure vs. country of listing is as of 3/31/2023.

Guide to the Markets – U.S. Data are as of September 30, 2023.

# U.S Treasury Yield Curve

## U.S. Treasury yield curve



Source: FactSet, Federal Reserve, J.P. Morgan Asset Management.

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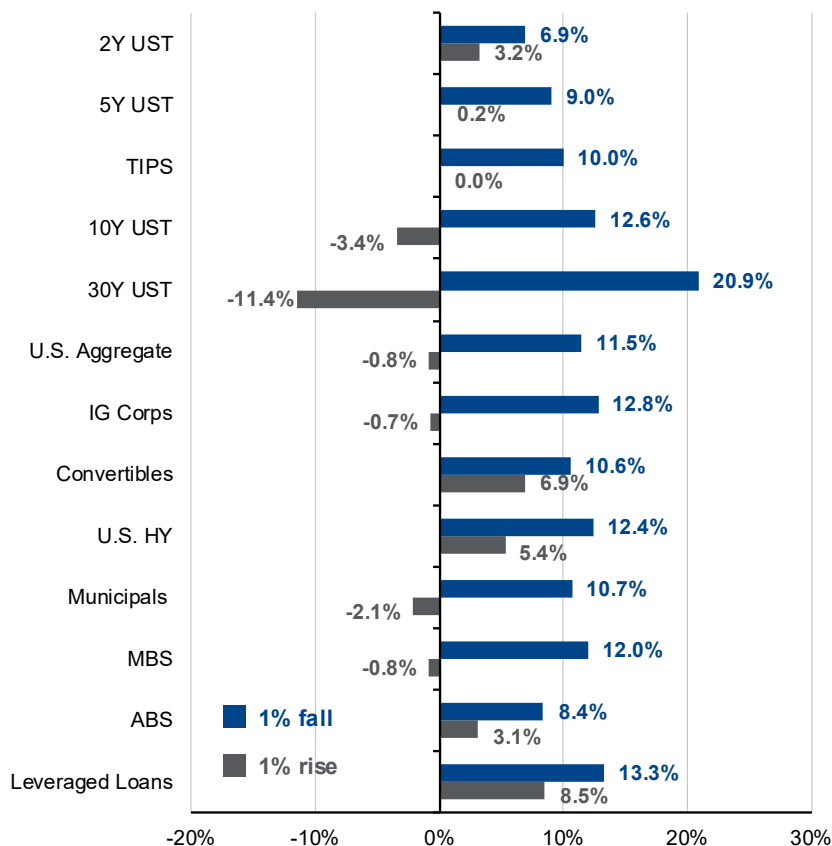


# Fixed Income Returns

U.S. Treasuries	Yield		Return			
	9/30/2023	12/31/2022	2023 YTD	Avg. Maturity	Correlation to 10-year	Correlation to S&P 500
<b>2-Year</b>	5.03%	4.41%	1.14%	2 years	0.74	-0.12
<b>5-Year</b>	4.60%	3.99%	-0.56%	5	0.93	-0.11
<b>TIPS</b>	5.02%	4.38%	-0.78%	7.1	0.62	0.37
<b>10-Year</b>	4.59%	3.88%	-3.43%	10	1.00	-0.12
<b>30-Year</b>	4.73%	3.97%	-9.68%	30	0.93	-0.15
<b>Sector</b>						
<b>U.S. Aggregate</b>	5.39%	4.68%	-1.21%	8.5	0.86	0.22
<b>IG Corps</b>	6.04%	5.42%	0.02%	10.6	0.58	0.46
<b>Convertibles</b>	8.37%	7.58%	6.48%	-	-0.13	0.87
<b>U.S. HY</b>	8.88%	8.96%	5.86%	5.0	-0.09	0.73
<b>Municipals</b>	4.32%	3.55%	-1.38%	13.0	0.57	0.20
<b>MBS</b>	5.57%	4.71%	-2.26%	8.4	0.78	0.17
<b>ABS</b>	6.36%	5.89%	4.03%	3.3	0.08	-0.02
<b>Leveraged Loans</b>	10.91%	11.41%	10.09%	2.4	-0.34	0.58

## Impact of a 1% rise or fall in interest rates

Total return, assumes a parallel shift in the yield curve

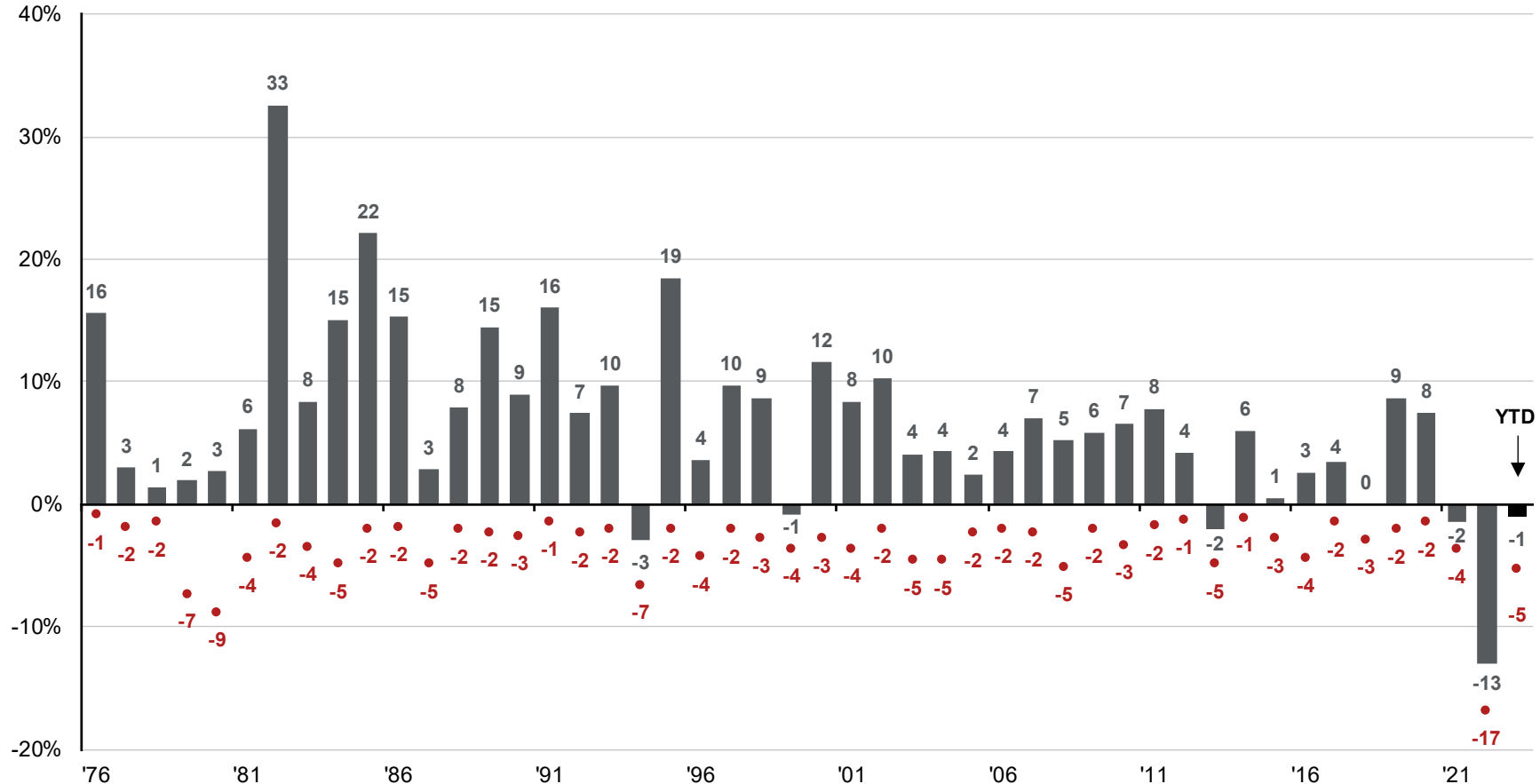


Source: Bloomberg, FactSet, Standard & Poor's, U.S. Treasury, J.P. Morgan Asset Management. Sectors shown above are provided by Bloomberg unless otherwise noted and are represented by – U.S. Aggregate; MBS: U.S. Aggregate Securitized - MBS; ABS: J.P. Morgan ABS Index; Corporates: U.S. Corporates; Municipals: Muni Bond; High Yield: Corporate High Yield; Leveraged Loans: J.P. Morgan Leveraged Loan Index; 10-Year TIPS: Bloomberg 10-Year TIPS On-The-Run Index; Convertibles: U.S. Convertibles Composite. Convertibles yield is as of most recent month-end and is based on U.S. portion of Bloomberg Global Convertibles Index. Yield and return information based on bellwethers for Treasury securities. Sector yields reflect yield-to-worst. Convertibles yield is based on U.S. portion of Bloomberg Global Convertibles. Correlations are based on 15-years of monthly returns for all sectors unless stated otherwise. Past performance is not indicative of future results. \*10-Year TIPS yields and calculations are based on on-the-run real yields. 10-Year TIPS correlations are based on monthly returns since 2011 due to data availability.

# Bloomberg U.S. Agg. annual returns and intra-year declines

## Bloomberg U.S. Aggregate intra-year declines vs. calendar year returns

Despite average intra-year drops of 3.3%, annual returns positive in 42 of 47 years



Source: Bloomberg, FactSet, J.P. Morgan Asset Management.

Returns are based on total return. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1976 to 2022, over which time period the average annual return was 6.6%. Returns from 1976 to 1989 are calculated on a monthly basis; daily data are used afterward.

Guide to the Markets – U.S. Data are as of September 30, 2023.

2008 - 2022		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD
Ann.	Vol.																
Large Cap	REITs	Fixed Income	EM Equity	REITs	REITs	REITs	Small Cap	REITs	REITs	Small Cap	EM Equity	Cash	Large Cap	Small Cap	REITs	Comdty.	Large Cap
8.8%	23.4%	5.2%	79.0%	27.9%	8.3%	19.7%	38.8%	28.0%	2.8%	21.3%	37.8%	1.8%	31.5%	20.0%	41.3%	16.1%	13.1%
Small Cap	Small Cap	Cash	High Yield	Small Cap	Fixed Income	High Yield	Large Cap	Large Cap	Large Cap	High Yield	DM Equity	Fixed Income	REITs	EM Equity	Large Cap	Cash	DM Equity
7.2%	23.2%	1.8%	59.4%	26.9%	7.8%	19.6%	32.4%	13.7%	1.4%	14.3%	25.6%	0.0%	28.7%	18.7%	28.7%	1.5%	7.6%
REITs	EM Equity	Asset Alloc.	DM Equity	EM Equity	High Yield	EM Equity	DM Equity	Fixed Income	Fixed Income	Large Cap	Large Cap	REITs	Small Cap	Large Cap	Comdty.	High Yield	High Yield
6.6%	23.0%	-25.4%	32.5%	19.2%	3.1%	18.6%	23.3%	6.0%	0.5%	12.0%	21.8%	-4.0%	25.5%	18.4%	27.1%	-12.7%	5.0%
Asset Alloc.	Comdty.	High Yield	REITs	Comdty.	Large Cap	DM Equity	Asset Alloc.	Asset Alloc.	Cash	Comdty.	Small Cap	High Yield	DM Equity	Asset Alloc.	Small Cap	Fixed Income	Asset Alloc.
6.1%	20.2%	-26.9%	28.0%	16.8%	2.1%	17.9%	14.9%	5.2%	0.0%	11.8%	14.6%	-4.1%	22.7%	10.6%	14.8%	-13.0%	4.5%
High Yield	DM Equity	Small Cap	Small Cap	Large Cap	Cash	Small Cap	High Yield	Small Cap	DM Equity	EM Equity	Asset Alloc.	Large Cap	Asset Alloc.	DM Equity	Asset Alloc.	Asset Alloc.	Cash
5.4%	20.0%	-33.8%	27.2%	15.1%	0.1%	16.3%	7.3%	4.9%	-0.4%	11.6%	14.6%	-4.4%	19.5%	8.3%	13.5%	-13.9%	3.7%
Fixed Income	Large Cap	Comdty.	Large Cap	High Yield	Asset Alloc.	Large Cap	REITs	Cash	Asset Alloc.	REITs	High Yield	Asset Alloc.	EM Equity	Fixed Income	DM Equity	DM Equity	Small Cap
2.7%	17.7%	-35.6%	26.5%	14.8%	-0.7%	16.0%	2.9%	0.0%	-2.0%	8.6%	10.4%	-5.8%	18.9%	7.5%	11.8%	-14.0%	2.5%
DM Equity	High Yield	Large Cap	Asset Alloc.	Asset Alloc.	Small Cap	Asset Alloc.	Cash	High Yield	High Yield	Asset Alloc.	REITs	Small Cap	High Yield	High Yield	High Yield	Large Cap	EM Equity
2.3%	13.0%	-37.0%	25.0%	13.3%	-4.2%	12.2%	0.0%	0.0%	-2.7%	8.3%	8.7%	-11.0%	12.6%	7.0%	1.0%	-18.1%	2.2%
EM Equity	Asset Alloc.	REITs	Comdty.	DM Equity	DM Equity	Fixed Income	Fixed Income	EM Equity	Small Cap	Fixed Income	Fixed Income	Comdty.	Fixed Income	Cash	Cash	EM Equity	Fixed Income
1.0%	12.4%	-37.7%	18.9%	8.2%	-11.7%	4.2%	-2.0%	-1.8%	-4.4%	2.6%	3.5%	-11.2%	8.7%	0.5%	0.0%	-19.7%	-1.2%
Cash	Fixed Income	DM Equity	Fixed Income	Fixed Income	Comdty.	Cash	EM Equity	DM Equity	EM Equity	DM Equity	Comdty.	DM Equity	Comdty.	Comdty.	Fixed Income	Small Cap	Comdty.
0.6%	4.2%	-43.1%	5.9%	6.5%	-13.3%	0.1%	-2.3%	-4.5%	-14.6%	1.5%	1.7%	-13.4%	7.7%	-3.1%	-1.5%	-20.4%	-3.4%
Comdty.	Cash	EM Equity	Cash	Cash	EM Equity	Comdty.	Comdty.	Comdty.	Comdty.	Cash	Cash	EM Equity	Cash	REITs	EM Equity	REITs	REITs
-2.6%	0.4%	-53.2%	0.1%	0.1%	-18.2%	-1.1%	-9.5%	-17.0%	-24.7%	0.3%	0.8%	-14.2%	2.2%	-5.1%	-2.2%	-24.9%	-5.6%

Source: Bloomberg, FactSet, MSCI, NAREIT, Russell, Standard & Poor's, J.P. Morgan Asset Management.

Large cap: S&P 500, Small cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, Comdty: Bloomberg Commodity Index, High Yield: Bloomberg Global HY Index, Fixed Income: Bloomberg US Aggregate, REITs: NAREIT Equity REIT Index, Cash: Bloomberg 1-3m Treasury. The "Asset Allocation" portfolio assumes the following weights: 25% in the S&P 500, 10% in the Russell 2000, 15% in the MSCI EAFE, 5% in the MSCI EME, 25% in the Bloomberg US Aggregate, 5% in the Bloomberg 1-3m Treasury, 5% in the Bloomberg Global High Yield Index, 5% in the Bloomberg Commodity Index and 5% in the NAREIT Equity REIT Index. Balanced portfolio assumes annual rebalancing. Annualized (Ann.) return and volatility (Vol.) represents period from 12/31/2007 to 12/31/2022. Please see disclosure page at end for index definitions. All data represents total return for stated period. The "Asset Allocation" portfolio is for illustrative purposes only. Past performance is not indicative of future returns.

Guide to the Markets – U.S. Data are as of September 30, 2023.

## Market Returns as of September 30, 2023

Asset Class	1 Month	Qtr	YTD	Annualized				Calendar Years				
				1 Yr	3 Yr	5 Yr	10 Yr	2022	2021	2020	2019	2018
S&P 500	-4.77	-3.27	13.07	21.62	10.15	9.92	11.91	-18.11	28.71	18.40	31.49	-4.38
Dow Jones Ind. Avg.	-3.42	-2.10	2.73	19.18	8.62	7.14	10.79	-6.86	20.95	9.72	25.34	-3.48
NASDAQ Composite	-5.77	-3.94	27.11	26.11	6.60	11.41	14.52	-32.54	22.18	44.92	36.69	-2.84
Large Cap Stocks	-4.70	-3.15	13.01	21.19	9.53	9.63	11.63	-19.13	26.45	20.96	31.43	-4.78
Large Cap Growth Stocks	-5.44	-3.13	24.98	27.72	7.97	12.42	14.48	-29.14	27.60	38.49	36.39	-1.51
Large Cap Value Stocks	-3.86	-3.16	1.79	14.44	11.05	6.23	8.45	-7.54	25.16	2.80	26.54	-8.27
Mid Cap Stocks	-5.02	-4.68	3.91	13.45	8.09	6.38	8.98	-17.32	22.58	17.10	30.54	-9.06
Mid Cap Growth Stocks	-4.87	-5.22	9.88	17.47	2.61	6.97	9.94	-26.72	12.73	35.59	35.47	-4.75
Mid Cap Value Stocks	-5.09	-4.46	0.54	11.05	10.98	5.18	7.92	-12.03	28.34	4.96	27.06	-12.29
Small Cap Stocks	-5.89	-5.13	2.54	8.93	7.16	2.40	6.65	-20.44	14.82	19.96	25.52	-11.01
Small Cap Growth Stocks	-6.60	-7.32	5.24	9.59	1.09	1.55	6.72	-26.36	2.83	34.63	28.48	-9.31
Small Cap Value Stocks	-5.21	-2.96	-0.53	7.84	13.32	2.59	6.19	-14.48	28.27	4.63	22.39	-12.86
International Stocks	-3.42	-4.11	7.08	25.65	5.75	3.24	3.82	-14.45	11.26	7.82	22.01	-13.79
Emerging Markets	-2.62	-2.93	1.82	11.70	-1.73	0.55	2.07	-20.09	-2.54	18.31	18.44	-14.58
US Real Estate	-7.28	-8.56	-4.86	-0.64	2.15	2.58	5.93	-25.17	38.99	-5.29	28.92	-4.03
Commodities	-0.69	4.71	-3.44	-1.30	16.23	6.13	-0.75	16.09	27.11	-3.12	7.69	-11.25
Bonds (US Aggregate)	-2.54	-3.23	-1.21	0.64	-5.21	0.10	1.13	-13.01	-1.54	7.51	8.72	0.01
3 month T-Bill	0.46	1.31	3.60	4.47	1.70	1.72	1.11	1.46	0.05	0.67	2.28	1.87

# Index Definitions & Disclosures

All indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees and expenses.

## Domestic Equity Indexes:

- The Russell 1000 Index® measures the performance of the 1,000 largest companies in the Russell 3000.
- The Russell 1000 Growth Index® measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.
- The Russell 1000 Value Index® measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.
- The Russell 2000 Index® measures the performance of the 2,000 smallest companies in the Russell 3000 Index.
- The Russell 2000 Growth Index® measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.
- The Russell 2000 Value Index® measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.
- The Russell 3000 Index® measures the performance of the 3,000 largest U.S. companies based on total market capitalization.
- The Russell Midcap Index® measures the performance of the 800 smallest companies in the Russell 1000 Index.
- The Russell Midcap Growth Index® measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth index.
- The Russell Midcap Value Index® measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value index.
- The S&P 500 Index is widely regarded as the best single gauge of the U.S. equities market. The index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. The S&P 500 Index focuses on the large-cap segment of the market; however, since it includes a significant portion of the total value of the market, it also represents the market.
- The Dow Jones Industrial Average is a price-weighted average of 30 actively traded blue-chip U.S. stocks.

## International Equity Indexes:

- The MSCI EAFE Index (Europe, Australasia, Far East) is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.
- The MSCI Emerging Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

## Fixed Income Indexes:

- The Bloomberg 1-3 Month U.S. Treasury Bill Index includes all publicly issued zero-coupon US Treasury Bills that have a remaining maturity of less than 3 months and more than 1 month, are rated investment grade, and have \$250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non convertible.
- The Bloomberg Global High Yield Index is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities.
- The Bloomberg Municipal Index: consists of a broad selection of investment-grade general obligation and revenue bonds of maturities ranging from one year to 30 years. It is an unmanaged index representative of the tax-exempt bond market.
- The Bloomberg US Dollar Floating Rate Note (FRN) Index provides a measure of the U.S. dollar denominated floating rate note market.
- The Bloomberg US Corporate Investment Grade Index is an unmanaged index consisting of publicly issued US Corporate and specified foreign debentures and secured notes that are rated investment grade (Baa3/BBB or higher) by at least two ratings agencies, have at least one year to final maturity and have at least \$250 million par amount outstanding. To qualify, bonds must be SEC-registered.
- The Bloomberg US High Yield Index covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.
- The Bloomberg US Mortgage Backed Securities Index is an unmanaged index that measures the performance of investment grade fixed-rate mortgage backed pass-through securities of GNMA, FNMA and FHLMC.
- The Bloomberg US TIPS Index consists of Inflation-Protection securities issued by the U.S. Treasury.

## Commodities & Real Estate Indexes:

- The Bloomberg Commodity Index and related sub-indices are composed of futures contracts on physical commodities and represents twenty two separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel, and zinc
- The NAREIT EQUITY REIT Index is designed to provide the most comprehensive assessment of overall industry performance, and includes all tax-qualified real estate investment trusts (REITs) that are listed on the NYSE, the American Stock Exchange or the NASDAQ National Market List.

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SOURCES: Morningstar, S&P, FRB, BLS, JP Morgan, Russell, NBER, Marketwatch.com and Goldman Sachs among others noted on individual slides.