# 2022 Year End Letter to Investors

Dear Friends,

Merry Christmas, Happy Hanukkah, and Seasons Greetings to you and your families!

The end of the year is traditionally a time for reflection, providing us with the opportunity to speak with clients to review progress, discuss the events shaping the investment backdrop, revisit personal goals, and plan for the year ahead. As I reflect on 2022, I would summarize it as a pretty good “bad year” for our investors. While global markets have been plagued by uncertainty (and thus volatility), producing negative net returns for most investors, many of our key investment themes helped to mitigate those losses throughout the year. Our bias towards value, small cap, and quality have been particularly helpful, as has been our bias toward short-duration fixed income. Even our overweight to international and emerging market equities has now proven to be correct. Emerging Market Debt denominated in local currency has been the standout exception, having underperformed the US Aggregate Bond Index due in large part to the surprising strength of the US dollar. Still, we remain committed to this thesis, as we believe the Federal Reserve is approaching their terminal rate of interest rates, which creates the backdrop for foreign Central Banks to “catch-up” and for the US dollar to depreciate.

For our taxable accounts, regular tax loss harvesting has enabled us to take advantage of market volatility by realizing losses throughout the year. These losses can be used to offset capital gains, “neutralize” embedded gains in other investments in portfolios or be carried forward into 2023 and beyond. For many, this has been particularly helpful. As they say, when the stock market gives you lemons, make lemonade.

Finally, for those that took advantage of hedging opportunities, structured solutions have again shown their usefulness, limiting investors’ downside experience across multiple equity asset classes by providing a buffer to negative returns.

As we approach 2023, the lingering planning question seems to revolve around floating rate debt and lines of credit, and whether it makes sense to begin to pay off the outstanding balance from equity sales considering the depressed global stock market. While this is often a conversation that is specific to each individual’s situation, broadly speaking, we do believe that a repayment plan will serve investors well, even if the Fed is forced to pivot and cut rates in order to stimulate in 2024 or beyond.

**Market Outlook**

Economic and market conditions remain very challenging heading into the new year. While year-over-year inflation appears to have peaked in June, the inflation outlook remains very uncertain due to

Russia's continued war in Ukraine, very strict Chinese COVID policies, and a still very tight U.S. labor market.

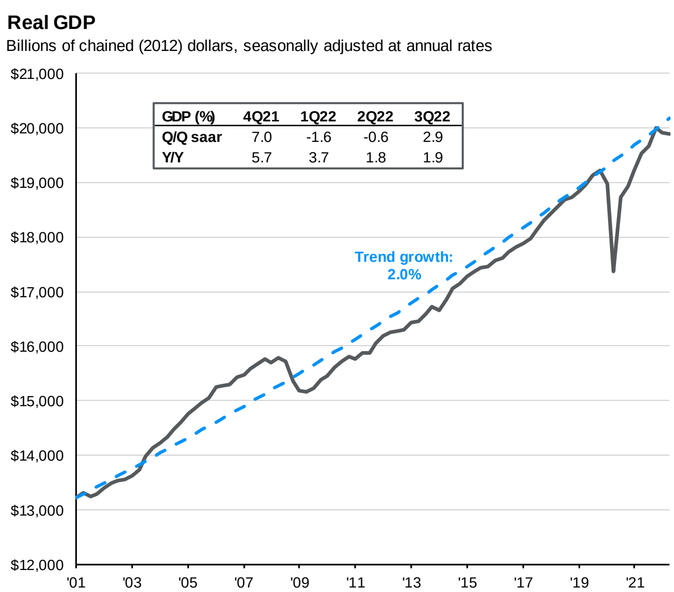
In response, the Federal Reserve has doubled down on its hawkish stance, reducing its balance sheet, raising the federal funds rate by a total of 4.25% percent this year, and signaling further aggressive tightening moves going forward. Meanwhile, recession worries have increased due to on-going fiscal drag, weakness overseas and sharp increases in both interest rates and the dollar.

Not surprisingly, this has led to further declines in both the stock and bond markets. However, this does leave valuations at much more reasonable levels than at the start of the year. The questions, for investors, are when to take advantage of these better valuations and which areas to overweight or underweight in a very complicated macro environment.

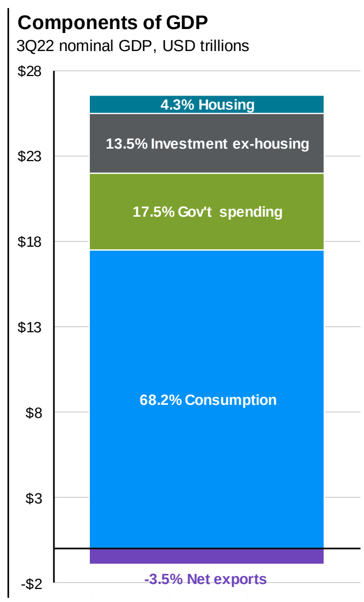
**US Economy Teetering on the Edge of Recession**
There is a growing danger that the U.S. economy could slip into recession. The twin effects of fiscal stimulus and post-pandemic reopening that were powering momentum have now faded and have been replaced by major drags on economic activity.

Fiscal drag in particular is slowing the economy. The federal budget deficit fell to less than $1 trillion in fiscal year 2022 after amounting to $3.2 trillion in 2020 and $2.8 trillion in 2021. This decline in the deficit has reduced the flow of government money, particularly to low- and middle-income families, and has already led to much slower growth in real consumer spending. The deficit looks set to fall further now that the country faces a divided government following the midterm elections.

In addition, mortgage rates have more than doubled since the start of the year, contributing to continued declines in home building, home sales and consumer spending associated with setting up new households. Moreover, the 20%+ year-over-year rise in the trade-weighted dollar, combined with weakness overseas, is also impeding U.S. exports. As the economy confronts these challenges, it is likely to see very weak real GDP growth with a greater than 50/50 probability of tipping into a recession by the end of 2023.




| GDP (%) | 4Q21 | 1Q22 | 2Q22 | 3Q22 |
|---|---|---|---|---|
| Q/Q saar | 7.0 | -1.6 | -0.6 | 2.9 |
| Y/Y | 5.7 | 3.7 | 1.8 | 1.9 |



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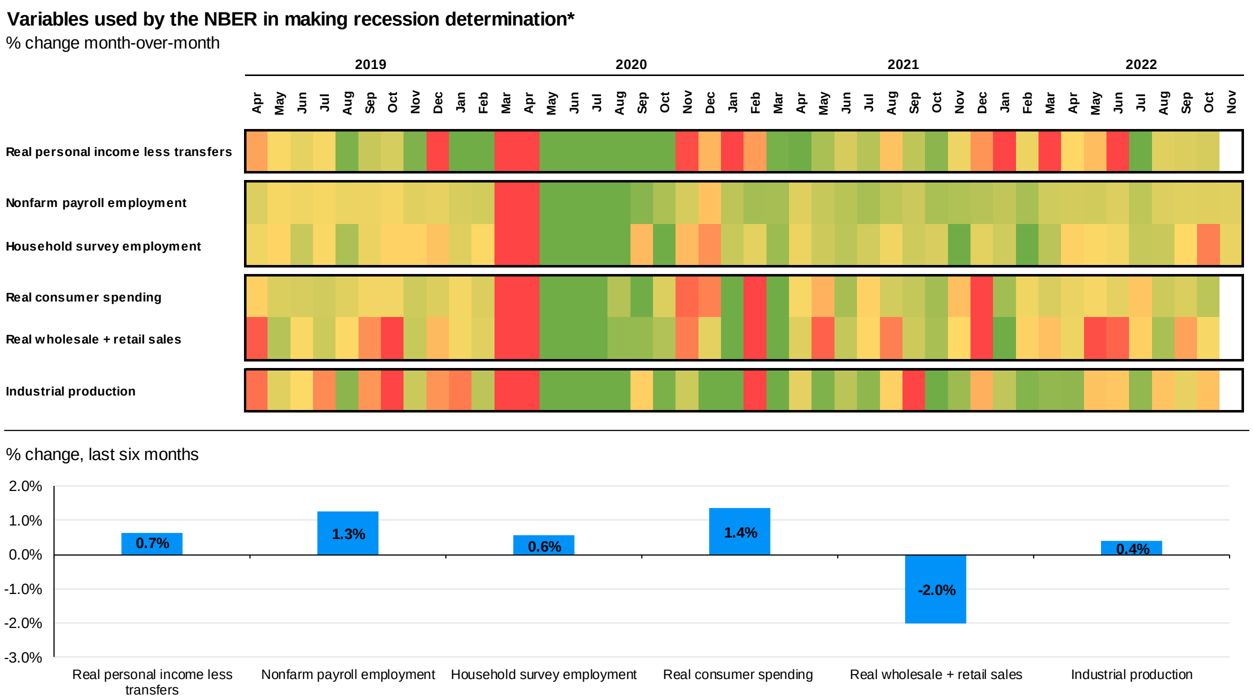
As economic growth slows and the Fed continues its hawkish path of monetary tightening, the likelihood that the U.S. economy slips into a recession in the near-term has risen. A common back-of-the-envelope definition of a recession is two consecutive quarters of negative GDP growth.

However, the unofficial scorekeeper of when recessions start and end is the National Bureau of Economic Research (the NBER), and they look for a broad-based decline in a variety of economic indicators to make their determination.

In the chart below, we show a heatmap of the economic variables the NBER has listed in their methodology on a monthly basis going back to 2019. Green means that these variables grew month-over-month and red means that they fell. The shading or boldness of the color illustrates how strong the gain or loss was relative to history.



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On the bottom, we show the percent change over the last 6 months in each of these variables. So far this basket of indicators has not seen broad based declines, with many variables still positive, although only modestly. The labor market continues to be a bright spot for the economy, while consumer spending and retail sales have recently come under pressure as inflation squeezes consumer wallets. With that said, we may see this turn negative as we finish the year, so while it doesn't look like the economy is currently in a recession, monitoring this basket of economic indicators will give us a better gauge for when the economy does enter one.

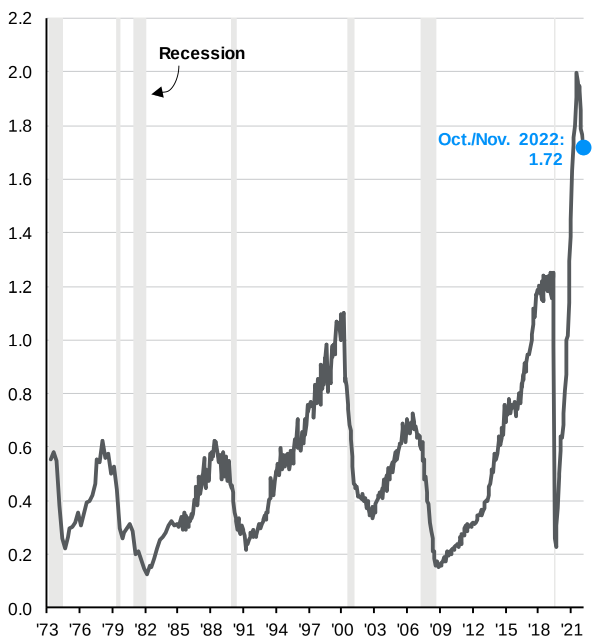
**Labor Demand, Unemployment and Wages**

While the economy is threatened by recession in the year ahead, the extraordinary excess demand in the labor market has prevented a recession thus far. Though this has eased slightly in recent months, there are still nearly two job openings for every unemployed worker. Workers have also felt more emboldened by the hot labor market to seek other job openings and companies have sought to retain their existing workers, resulting in elevated quits and suppressed layoffs in the economy.

On the demand side, excess demand has been driven by booming economic growth in 2021 as the economy reopened and many companies saw very strong revenue growth. On the supply side, diminished legal immigration and a large wave of early retirements during the pandemic shrunk the size of the labor pool significantly. Importantly, the strong demand for labor relative to supply also implies that if a recession does arrive, it should be a relatively mild one for workers.

**Ratio of job openings to job seekers**

Job openings* lagged 1 month divided by unemployed persons, SA

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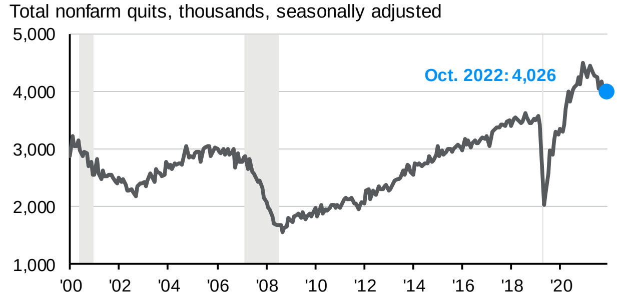
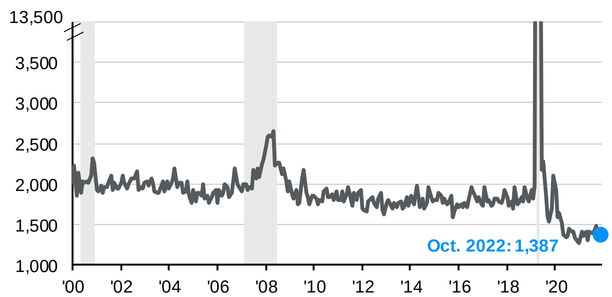
**JOLTS quits**

Total nonfarm quits, thousands, seasonally adjusted




**JOLTS layoffs**

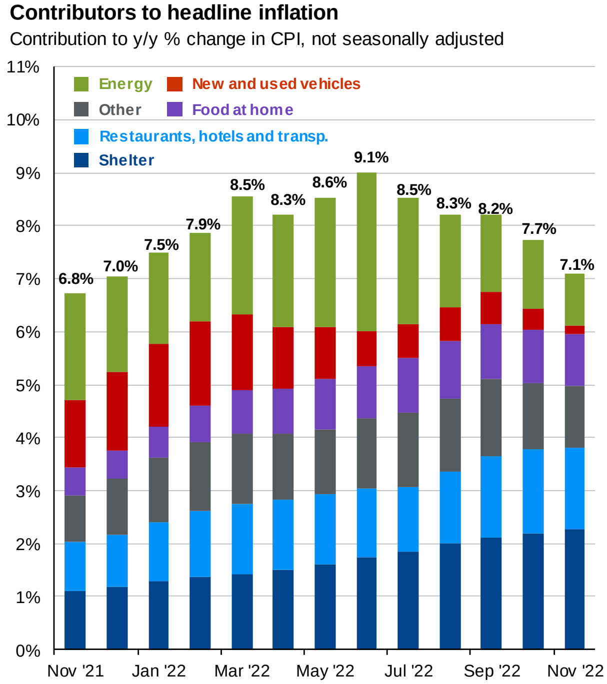
Total nonfarm layoffs, thousands, seasonally adjusted

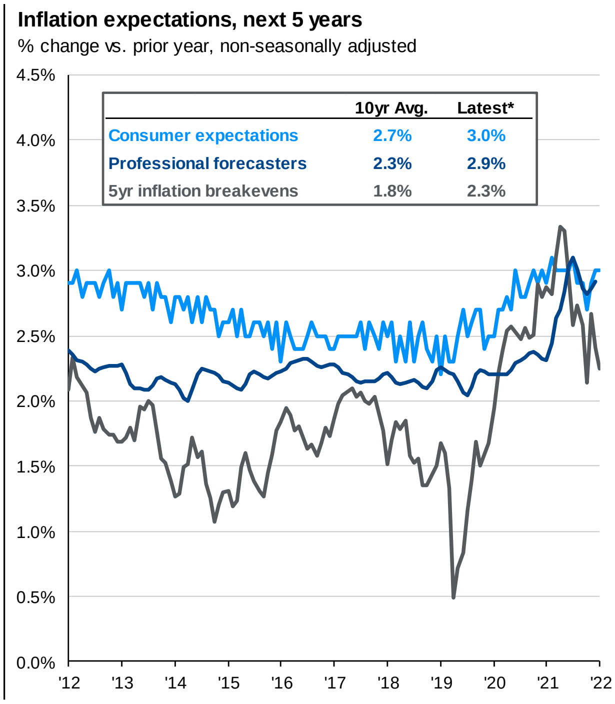



## Inflation Drivers and Expectations

Inflation continues to be the predominant concern for market participants and the Fed. After peaking at 9.1% year-over-year in June, inflation has begun to ease with consumer prices registering a gain of just 0.1% for November. However, the rollover in volatile energy prices drove much of this decline while “stickier” parts of inflation, such as shelter costs, continued to rise.

On the bright side, broad inflation pressures look set to ease in the year ahead. Wage growth will likely moderate as the labor market rebalances and shelter costs will soon stop accelerating as younger households reach their limits on higher rents. Global supply chains have also improved and, along with declining commodity prices, this should allow a broad range of goods and materials prices to stabilize. Meanwhile, inflation expectations of consumers, Treasury market investors, and professional forecasters are only slightly elevated from their historical averages, with average annual CPI inflation over the next five years expected to be within a range of 2.3% and 3.0%. While the pathway to normal will likely be bumpy, receding supply pressures and stable expectations should allow inflation to ease over the next few years, regardless of whether the economy falls into recession.

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## The Taylor Rule – When Must the Fed Pivot?

Last month we learned that inflation was +0.4% in October, yet inflation was quoted as being +7.7%. If you take +0.4% and multiply by 12, that's 4.8%. So clearly, CPI doesn't annualize the latest months inflation figure. Instead, it looks at the past 12 months of inflation to come up with +7.7% for the 12 months ending October 2022.

As monthly inflation is decelerating, the table below allows us to understand how the monthly change in the rate of inflation will cause the CPI to naturally fall over time. As you can see, by May of next year, if month over month inflation continues to rise by +0.4%, 12-month CPI will fade to 4.84%, which will be the first time it will have fallen below the expected Fed Funds Rate (we just learned that month over month inflation decelerated to +0.1% in November).

This could be an immediate trigger for the Fed to stop raising interest rates. It's known as the Taylor Rule by classical economists. To oversimplify, when inflation is below the target Fed Funds Rate, the Fed should lower interest rates.

We think +0.4% month over month inflation is probably too high of a rate to continue through May as we enter recession and would expect the Fed to pause sooner than May of 2023, perhaps in 1Q 2023. In fact, we learned at the Fed's December Fed meeting that November month over month inflation has already decelerated to +0.1%.

| Future YoY CPI w/: | -0.1% MoM | 0.0% MoM | 0.1% MoM | 0.2% MoM | 0.3% MoM | 0.4% MoM | Fed Fund Futures: |
|---|---|---|---|---|---|---|---|
| Oct-22 | 7.20 | 7.31 | 7.42 | 7.52 | 7.63 | 7.74 | 3.08 |
| Nov-22 | 6.57 | 6.79 | 7.00 | 7.21 | 7.43 | 7.64 | 3.88 |
| Dec-22 | 6.14 | 6.46 | 6.78 | 7.10 | 7.42 | 7.74 | 4.51 |
| Jan-23 | 5.15 | 5.57 | 5.99 | 6.42 | 6.84 | 7.27 | 4.51 |
| Feb-23 | 4.09 | 4.61 | 5.14 | 5.66 | 6.19 | 6.72 | 4.82 |
| Mar-23 | 2.62 | 3.24 | 3.86 | 4.48 | 5.11 | 5.74 | 4.90 |
| Apr-23 | 1.95 | 2.66 | 3.38 | 4.11 | 4.84 | 5.57 | 4.90 |
| May-23 | 0.73 | 1.54 | 2.36 | 3.18 | 4.01 | 4.84 | 4.90 |
| Jun-23 | -0.73 | 0.17 | 1.07 | 1.99 | 2.90 | 3.83 | 4.88 |
| Jul-23 | -0.82 | 0.18 | 1.19 | 2.20 | 3.23 | 4.26 | 4.85 |
| Aug-23 | -0.88 | 0.22 | 1.32 | 2.44 | 3.57 | 4.71 | 4.85 |
| Sep-23 | -1.19 | 0.00 | 1.21 | 2.43 | 3.66 | 4.91 | 4.79 |
| Oct-23 | -1.19 | 0.00 | 1.21 | 2.43 | 3.66 | 4.91 | 4.79 |
| Nov-23 | -1.19 | 0.00 | 1.21 | 2.43 | 3.66 | 4.91 | 4.70 |

Below current pricing for Fed Funds Rate in that month.

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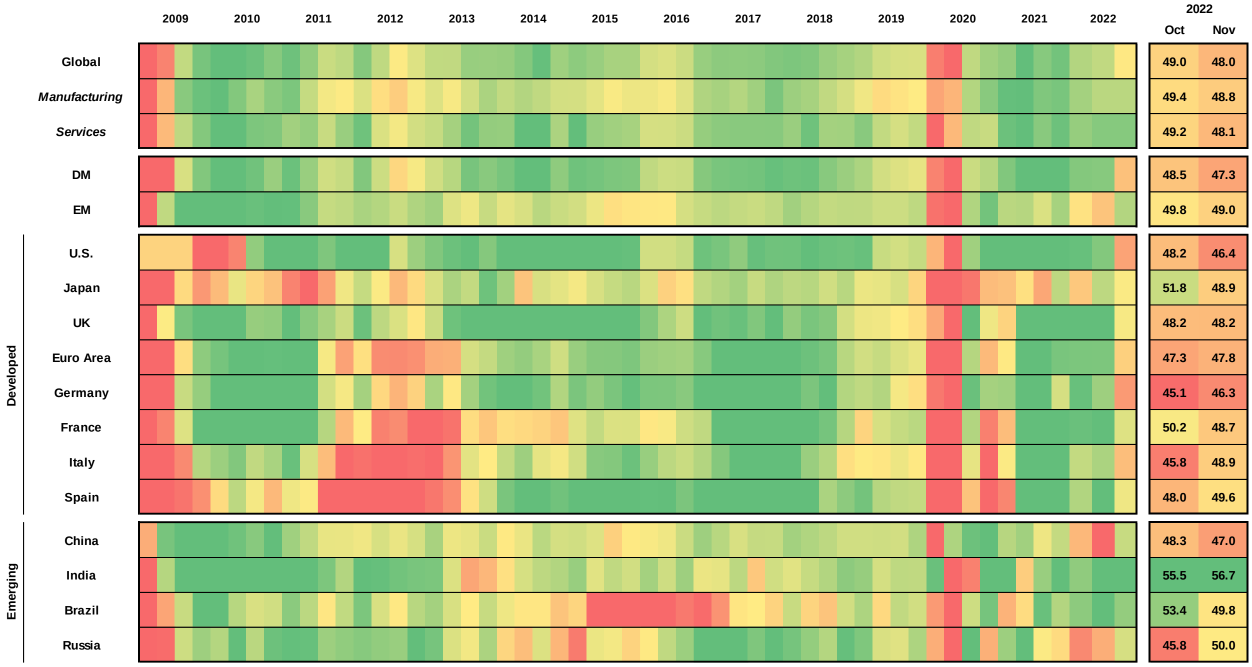
In summary, this chart shows us that the Fed may very well stop raising rates in early 2023 as inflation eases. As markets tend to be forward looking by about 6-12 months, this realization is partly responsible for the market's recent fourth quarter rally.

**Global Economic Momentum**

Elevated inflation and tighter financial conditions have become a global phenomenon with weakness broad-based in the global economy. The chart below displays a heatmap of composite global PMIs – a measure of global manufacturing and service activity - with red representing weakness and green representing strength. After a booming post-pandemic global recovery, this chart clearly shows momentum has declined over the course of 2022.

Global Composite (manufacturing & services combined) Purchasing Managers' Index, quarterly

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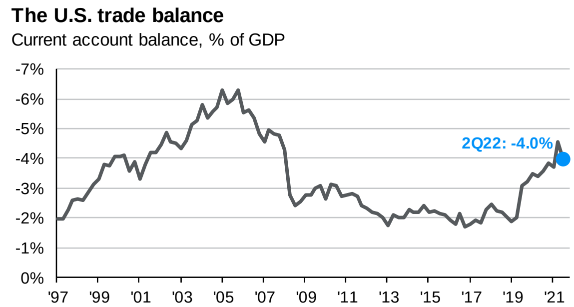
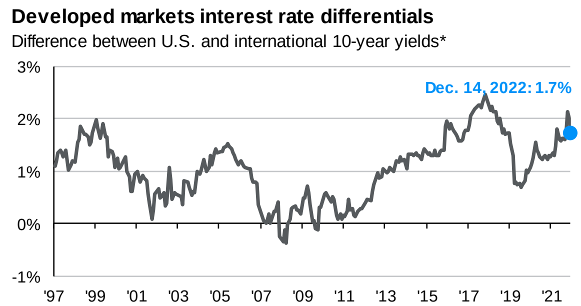
In Europe and the United Kingdom, economic activity has faltered due to higher energy prices and commodity shortages resulting from the war in Ukraine. Central banks have also adopted more hawkish policy positions to combat sharply rising inflation. At the start of the year, the key policy rates of the European Central Bank and the Bank of England were at -0.50% and +0.25%, respectively. Today, they have risen to 2.0% and 3.5%, and are expected to rise higher in the months ahead despite recession concerns.

Growth has also been particularly weak in China due to a host of issues including the knock-on effects of the Ukraine war, the regulatory crackdown last year, a collapsing housing market and an aggressive zero-Covid containment policy. China may relax some of these policies after the October Communist Party Congress, but in the short run, Chinese economic growth is likely to remain depressed.

**The US Dollar**

After 15 years of steady appreciation against foreign currencies, the U.S. dollar came into this year already overvalued. Despite this, the nominal trade-weighted dollar has rallied a further 19% year-to-date to a 20-year high. An aggressive Fed, economic problems overseas and geopolitical uncertainty from the war in Ukraine have all sent the dollar higher.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This strength has mixed implications for the U.S. economy as it should dampen inflation but drag on real economic growth by contributing to a widening trade deficit, which now amounts to roughly 4% of GDP. This deficit is likely to widen further over the next year, further undermining the competitiveness of the U.S. manufacturing sector and diverting an increasing portion of U.S. demand towards overseas producers. For investors, the rising dollar has exacerbated concerns about S&P 500 earnings growth and further undermined returns on international equities.

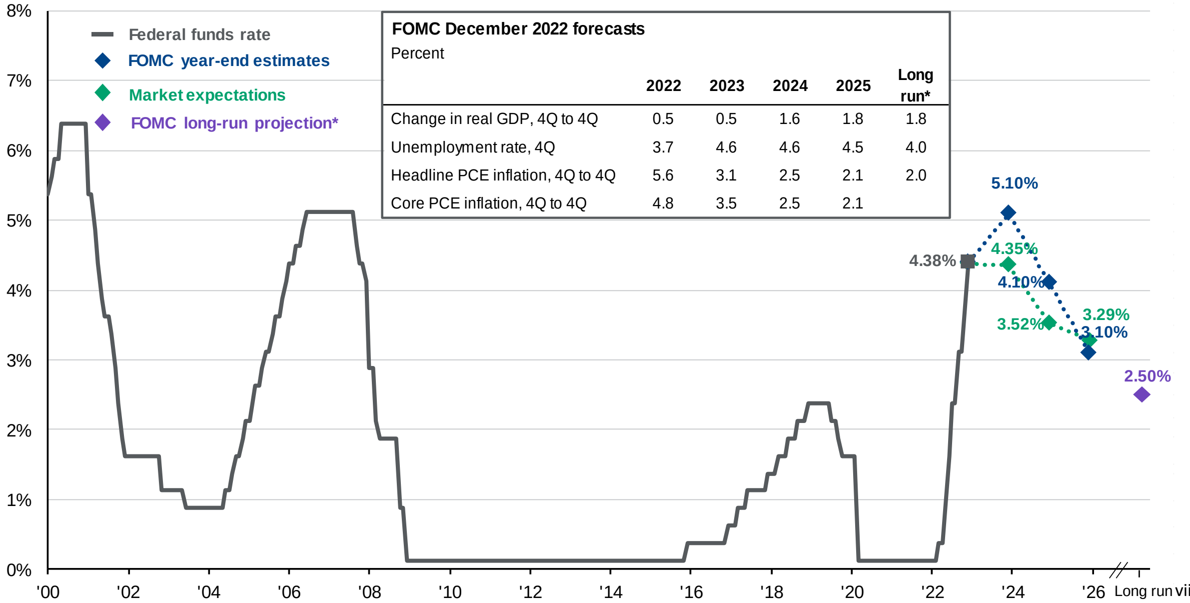
In the long run, we expect economic forces to gradually drive the dollar down. The U.S. still has large trade and budget deficits and a slower growth outlook relative to the rest of the world which should put downward pressure on the dollar. In the near term, this process could be accelerated if there is a ceasefire on the war in Ukraine or if the Federal Reserve pivots to a less hawkish monetary policy.

**The Fed and Interest Rates**

A strong labor market and upside surprises on inflation in the first half of the year have pushed the Federal Reserve to adopt a much more hawkish stance. At its December meeting, the Fed increased the federal funds rate by 0.50%, following four consecutive 0.75% increases, and increases of 0.25% and 0.50% in March and May, respectively. In total, this has brought the key rate to a range of 4.25%-4.50%. In the Summary of Economic Projections, the median expectation among FOMC members indicated cumulative further increases of 0.50-0.75% next year, taking the federal funds rate to 5.1% by the end of 2023, 4.1% by the end of 2024, and 3.1% by the end of 2025. Meanwhile, the Fed is continuing to reduce its massive bond holdings at a pace of $95 billion per month (Quantitative Tightening).

**Federal funds rate expectations**

FOMC and market expectations for the federal funds rate




**FOMC December 2022 forecasts**

Percent

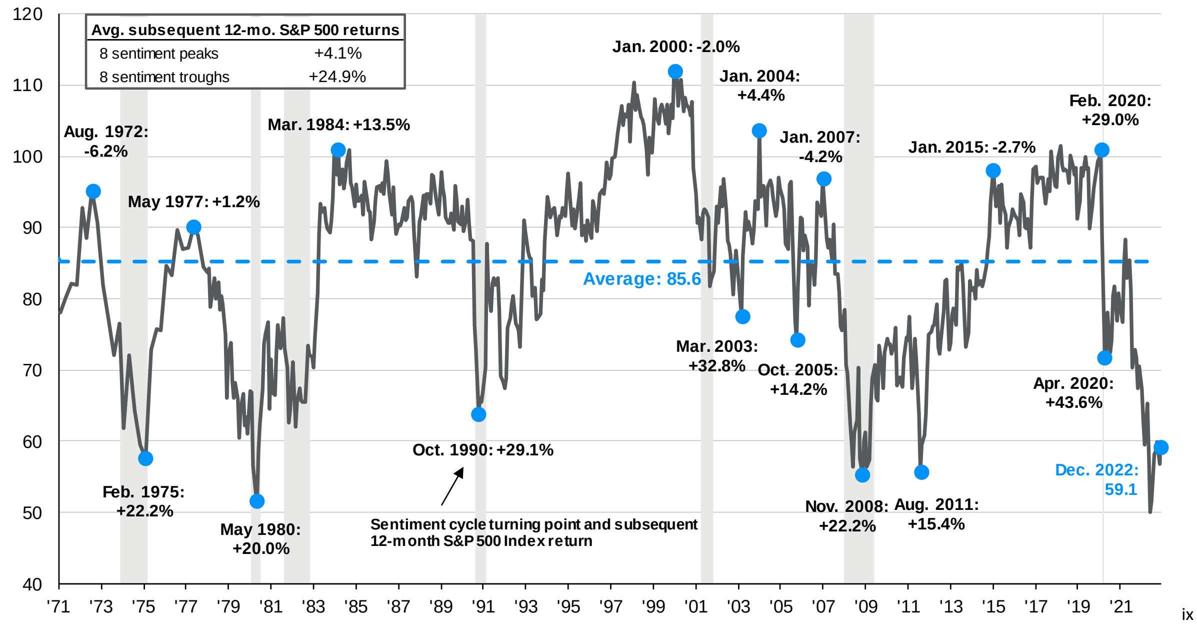
| | 2022 | 2023 | 2024 | 2025 | Long run* |
|---|---|---|---|---|---|
| Change in real GDP, 4Q to 4Q | 0.5 | 0.5 | 1.6 | 1.8 | 1.8 |
| Unemployment rate, 4Q | 3.7 | 4.6 | 4.6 | 4.5 | 4.0 |
| Headline PCE inflation, 4Q to 4Q | 5.6 | 3.1 | 2.5 | 2.1 | 2.0 |
| Core PCE inflation, 4Q to 4Q | 4.8 | 3.5 | 2.5 | 2.1 | |

Notably, the Fed still expects inflation to fall towards its 2% target over the next few years. The Summary of Economic Projections showed annual Core PCE inflation falling to 4.8% by the end of 2022, 3.5% by the end of 2023 and 2.5% by the end of 2024. The same projections show the unemployment rate rising from its current 3.7% to 4.6% by the end of 2023. However, it is very unusual for the unemployment rate to rise only modestly in an episode of economic weakness and a recession may push it higher. While futures markets now roughly agree with the Fed's forecasts of the federal funds rate for the rest of 2022, they expect the Fed to ease policy starting next spring, reflecting the risk that a too-aggressive Fed may tip the economy into recession.

**Don't Let How You Feel About the Economy Overrule How You Feel About Investing**

For many Americans, 2022 has been very disappointing with the Omicron variant prolonging the pandemic, sharply rising inflation and interest rates, falling stock prices and the shock of Russia's brutal invasion of Ukraine. These factors, combined with a still very partisan political environment, have driven consumer sentiment down to its lowest level on record.

**Consumer Sentiment Index and subsequent 12-month S&P 500 returns**



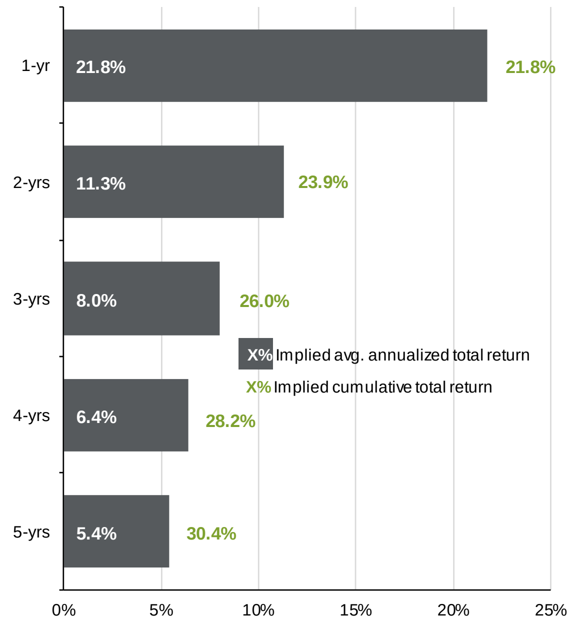

When investors feel gloomy and worried about the outlook, their natural tendency is to sell risk assets in general and stocks in particular. However, history suggests that trying to time markets in this way is a mistake. This slide shows consumer sentiment over the past 50 years with 8 distinct peaks and troughs and how much the S&P 500 gained or lost in the 12 months following. On average, buying at a confidence peak returned 4.1% while buying at a trough returned 24.9%.

Importantly, this is not to suggest that U.S. stocks will return anything like 24.9% in the year ahead, as many other factors will determine that outcome. However, it does suggest that when planning for the rest of 2022 and beyond, investors should focus on fundamentals and valuations rather than how they feel about the world.

**Concluding Remarks**

The combination of depressed equity prices and rising interest rates have caused expected returns to become quite favorable compared to where they were when we ended 2021. In the chart below, we highlight returns investors stand to enjoy as the S&P 500 moves back to its all-time high from January 2022. As you can see, even if it takes 5-years to return to its previous January 2021 heights, investors would still expect to generate a 5.4% annualized return from their investment in the S&P 500. If it takes 1-year to achieve that price level, investors would expect to earn 22%. Given our expectation that the economy will enter recession, and the Fed will be forced to pivot after 2024, we expect the most likely outcome is somewhere in between.

**Return needed to reach January 2022 peak of 4797**
S&P 500 level as of December 14, 2022 is 3,995




**Bull and bear markets**

| Bull markets | | | Bear markets | | |
|---|---|---|---|---|---|
| Bull begin date | Bull return | Duration (months) | Market peak | Bear return* | Duration (months)* |
| Jul 1926 | 152% | 37 | Sep 1929 | -86% | 32 |
| Mar 1935 | 129% | 23 | Mar 1937 | -60% | 61 |
| Apr 1942 | 158% | 49 | May 1946 | -30% | 36 |
| Jun 1949 | 267% | 85 | Aug 1956 | -22% | 14 |
| Oct 1960 | 39% | 13 | Dec 1961 | -28% | 6 |
| Oct 1962 | 76% | 39 | Feb 1966 | -22% | 7 |
| Oct 1966 | 48% | 25 | Nov 1968 | -36% | 17 |
| May 1970 | 74% | 31 | Jan 1973 | -48% | 20 |
| Mar 1978 | 62% | 32 | Nov 1980 | -27% | 20 |
| Aug 1982 | 229% | 60 | Aug 1987 | -34% | 3 |
| Oct 1990 | 417% | 113 | Mar 2000 | -49% | 30 |
| Oct 2002 | 101% | 60 | Oct 2007 | -57% | 17 |
| Mar 2009 | 401% | 131 | Feb 2020 | -34% | 1 |
| Mar 2020 | 114% | 21 | Jan. 2022** | -25% | 9 |
| **Averages** | **162%** | **51** | **-** | **-41%** | **20** |

Wishing you all a safe and happy holiday season and a healthy new year,

Brian Luster
Chief Investment Officer

David Sivel
Chief Executive Officer

Trevor Hoffman
Chief Operating Officer

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[i] 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. U.S. Data are as of December 14, 2022.

[ii] Bureau of Economic Analysis, Bureau of Labor Statistics, Census Bureau, Federal Reserve of St. Louis, NBER, J.P. Morgan Asset Management. Heatmap shading reflects 10 years of data, with green and red reflecting a range of +/- 0.5 standard deviations from a baseline of 0% monthly growth. *The NBER's definition of a recession involves a significant decline in economic activity that is spread across the economy and lasts more than a few months. Because a recession must influence the economy broadly and not be confined to one sector, the committee emphasizes economy-wide measures of economic activity. Specifically, they consider real personal income less transfers, nonfarm payroll employment, employment as measured by the household survey, real personal consumption expenditures, wholesale-retail sales adjusted for price changes and industrial production. There is no fixed rule about what measures contribute to the process or how they are weighted, but the committee notes that "in recent decades, the two measures we have put the most weight on are real personal income less transfers and nonfarm payroll employment." U.S. Data are as of December 14, 2022.

[iii] Source: U.S. Department of Labor, J.P. Morgan Asset Management. *JOLTS job openings from February 1974 to November 2000 are J.P. Morgan Asset Management estimates. U.S. Data are as of December 14, 2022.

[iv] Source: Bureau of Labor Statistics, FactSet, Federal Reserve Bank of Philadelphia, University of Michigan, 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. "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. *Reflects the latest daily 5yr/5yr breakevens, preliminary or final Consumer Sentiment survey, and the quarterly Survey of Professional Forecasters interpolated to a monthly series. The Survey of Professional Forecasters reflects the median estimate by professional forecasters of average CPI inflation over the next 5 years. The series has been adjusted by J.P. Morgan Asset Management to exclude realized inflation readings within the forecast window. U.S. Data are as of December 14, 2022.

[v] Source: Bespoke Investment Group Oct 13, 2022

[vi] Source: Standard & Poor's, J.P. Morgan Asset Management. The Composite PMI includes both manufacturing and services sub-indices. Heatmap colors are based on PMI relative to the 50 level, which indicates acceleration or deceleration of the sector, for the time period shown. Heatmap is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Data for the U.S. are back-tested and filled in from December 2007 to September 2009 due to lack of existing PMI figures. DM and EM represent developed markets and emerging markets, respectively. U.S. Data are as of December 14, 2022.

[vii] Source: J.P. Morgan Asset Management; (Left) FactSet, ICE; (Top right) Bureau of Economic Analysis, FactSet; (Bottom right) Tullett Prebon. Currencies in the DXY Index are: British pound, Canadian dollar, euro, Japanese yen, Swedish krona and Swiss franc. *Interest rate differential is the difference between the 10-year U.S. Treasury yield and a basket of the 10-year yields of each major trading partner (Australia, Canada, Europe, Japan, Sweden, Switzerland and UK). Weights in the basket are

calculated using the 10-year average of total government bonds outstanding in each region. Europe is defined as the 19 countries in the euro area. U.S. Data are as of December 14, 2022.

[viii] Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management. Market expectations are based off of the respective Federal Funds Futures contracts for December expiry. *Long-run projections are the rates of growth, unemployment and inflation to which a policymaker expects the economy to converge over the next five to six years in absence of further shocks and under appropriate monetary policy. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated. U.S. Data are as of December 14, 2022.

[ix] Source: FactSet, Standard & Poor's, University of Michigan, J.P. Morgan Asset Management. Peak is defined as the highest index value before a series of lower lows, while a trough is defined as the lowest index value before a series of higher highs. Subsequent 12-month S&P 500 returns are price returns only, which excludes dividends. Past performance is not a reliable indicator of current and future results. U.S. Data are as of December 14, 2022.