

MARKET COMMENTARY

Q4 2022

MARKET REVIEW

Time flies, usually. But looking back at this time one year ago, it seems like an epoch has passed. 2022 was meant to be the year when the global economy recovered from the COVID pandemic. Early in 2022, the Federal Open Market Committee was expecting inflation at 2.6% by year end, not much above its 2.0% target. Guidance was set for Fed Funds rate increases of 0.9% through 2022. The adjective 'transitory' still seemed joined at the hip with the noun 'inflation'.

Hindsight tells a very different story. Inflation in the US averaged 8% over the year, and 19 eurozone countries experienced double-digit price growth. US economic activity registered two negative quarters to start the year. Stock and bond prices declined in tandem, registering the worst year of performance on a '60-40' portfolio in modern market history. After the most aggressive rate increase and balance sheet run-off campaign in recent memory, current guidance from the FOMC is for a Fed Funds rate near or above 5% during the upcoming year. How could forecasts have been so far off?

As it turns out, the Fed underestimated how rising wages, federal aid, and expanded savings would lead to increased consumer spending, which continued to outpace supply, and drive prices higher. Most importantly, Fed officials didn't foresee the impact the Russian invasion of Ukraine would have on world trade in energy, food commodities, and resources such as natural gas and crude oil. The U.S. dollar surged in value against most world currencies, weakening foreign currencies and contributing to rising prices for goods and services.

While overall inflationary pressures may have peaked as we close out 2022, food and energy prices remain elevated. Energy prices led the price surge at the beginning of the year. Crude oil prices rose to more than \$110.00 per barrel for the first time since 2011. Energy prices, which were already rising at the end of 2021, were sent soaring following the Russian invasion of Ukraine as Russian refining capacity diminished amidst sanctions and trade restrictions imposed by several countries.

Market losses were led by the same types of growth stocks that surged during the COVID pandemic. High flying names like Amazon, Meta/Facebook, Netflix, and Tesla are all down more than 60% from their perches a year ago. Value investors fared better, with reliable dividends, low debt loads and much more rational valuations. Bond investors suffered mightily from the double impact of low rates to start the year, with rising yields slashing prices on even safety assets like US Government Bonds substantially to the downside.

For most markets, most of the damage was done in the first half of 2022. The second half started with optimism that the worst was behind us, and US stocks managed to recover more than half of their losses through August. But September took most of that bounce away, and the year ended up for US capital markets investors pretty much where they were at the halfway point. While some alternative markets, including private equity and factor-based strategies, felt less pain in 2022, other non-traditional assets took it on the chin. Cryptocurrency certainly participated in the 2022 slide, capped off by the scandalous collapse of FTX, one of the largest exchanges of crypto.

Many of the forces that led markets lower in 2022 seem to be ameliorating. US GDP rebounded in the 3rd quarter, energy prices have come well of their highs, and headline inflation is declining slowly. Supply chains are returning to normal and much of the excess cash in the system has been run off. The central question as we look forward to 2023: how much of a slowdown in economic activity will we see? Can central banks neutralize inflation without causing a painful global recession? As investors, the answer to these questions will likely determine whether 2023 marks the beginning of a new bull market or another 'long year'.

ECONOMIC REVIEW

Employment: Job growth remained strong in November with the addition of 263,000 new jobs after adding 284,000 (revised) new jobs in October. Monthly job growth has averaged 392,000 thus far in 2022, compared with 562,000 per month in 2021. Despite federal interest-rate hikes aimed at slowing the economy and inflation, there is little evidence that the supply of labor is peaking. In November, the unemployment rate was unchanged at 3.7% and has remained in the range of 3.5%-3.7% since March. The number of unemployed persons was essentially unchanged at 6.0 million. Both the unemployment rate and the number of unemployed persons are in line with their levels prior to the coronavirus pandemic (3.5% and 5.7 million, respectively, in February 2020).

FOMC/interest rates: The Federal Open Market Committee met in December and increased the target range for the federal funds rate 50 basis points to 4.25%-4.50%. In support of its decision, the FOMC noted that inflation levels remain elevated due to supply and demand imbalances related to the pandemic, higher food and energy prices, broader price pressures, and the ongoing Russia/Ukraine war.

GDP/budget: The U.S. economy, as measured by gross domestic product, accelerated at an annual rate of 3.2% in the third quarter. GDP declined in the first and second quarters, 1.6% and 0.6%, respectively. Consumer spending, as measured by the personal consumption expenditures index, rose 2.3% in the third quarter, marginally higher than in the second quarter (2.0%) and the first quarter (1.3%). Spending on services rose 3.7% in the third quarter compared with a 4.6% increase in the second quarter. Consumer spending on goods actually decreased 0.4% in the third quarter.

November saw the federal budget deficit come in at \$248.5 billion, up roughly 30.0% from the November 2021 deficit. The deficit for the first two months of fiscal year 2023, at \$336.4, is \$20.0 billion lower than the first two months of the previous fiscal year. For fiscal year 2022, which runs through September 2022, the government deficit was \$1.4 trillion, which was \$1.4 trillion lower than the government deficit for fiscal year 2021.

Inflation/consumer spending: The Consumer Price Index for December may offer more evidence that inflation may be peaking, showing a modest retreat of 0.1% in the month of December. The CPI rose 0.1% in November after advancing 0.4% in October. Over the 12 months ended in December, the CPI rose 6.5%, down from 7.1% in November, 7.7% for the 12-months through October, falling to its lowest annual advance since December 2021. The core CPI, excluding food

and energy prices, set in at a 12-month pace of 5.7%, after reporting 6.0% for the year ended in November. Although energy prices fell 1.6% in November, food prices rose 0.5% and prices for shelter rose 0.6%. For the 12 months ended in November, energy prices increased 13.1% (despite the recent decrease), while food prices rose 10.6% (food at home prices increased 12.0%). New vehicle prices advanced 7.2%, prices for transportation services rose 14.2%, and prices for shelter increased 7.1%.

Housing: Sales of existing homes decreased 7.7% in November, marking the tenth consecutive monthly decline. Existing home sales dropped 35.4% from November 2021. The median existing-home price was \$370,700 in November, lower than the October price of \$378,800 but 3.5% higher than the November 2021 price of \$358,200. Unsold inventory of existing homes represents a 3.3-month supply at the current sales pace, unchanged from October but well above the 2.1-month supply in November. Sales of existing single-family homes dropped 7.6% in November and have not recorded an increase since January 2022. Over the 12 months ended in November, sales of existing single-family homes are down 35.2%.

Manufacturing: Industrial production declined 0.2% in November, following a 0.1% decrease in October. Manufacturing decreased 0.6% in November, mining fell 0.7%, while utilities rose 3.6%. Over the past 12 months, total industrial production in November was 2.5% above its year-earlier reading. Although manufacturing fell in November, it remained 1.2% above its November 2021 rate.

Imports and exports: Both import and export prices declined in November. Import prices fell 0.6% after decreasing 0.4% in the prior month. Prices for imports have not increased since June 2022. Import prices declined 4.6% from June to November, after rising 8.1% in the first half of 2022. Despite the recent decreases, prices for U.S. imports rose 2.7% over the past year, the smallest 12-month advance since January 2021.

International markets: The impact of inflation was felt throughout much of the world. Most countries saw double-digit increases in prices for goods and services during the year. In 2022, the consumer price index advanced 10.0% in Germany, 10.7% in the United Kingdom, 10.1% in the Eurozone, and 6.8% in Canada. Japan (3.8%) and China (1.6%) were not significantly impacted by rising inflation. However, gross domestic product in both Japan (-0.8%) and China (2.8% through the third quarter) retreated from the prior year. Stock markets of several countries were also hit hard. For 2022, the STOXX Europe 600 Index declined 12.4%;

Japan's Nikkei 225 Index fell 9.4%; and China's Shanghai Composite Index lost 15.1%. An outlier, the United Kingdom's FTSE, actually advanced 0.9%.

Consumer confidence: The Conference Board Consumer Confidence Index® increased in December following two consecutive monthly declines. The index

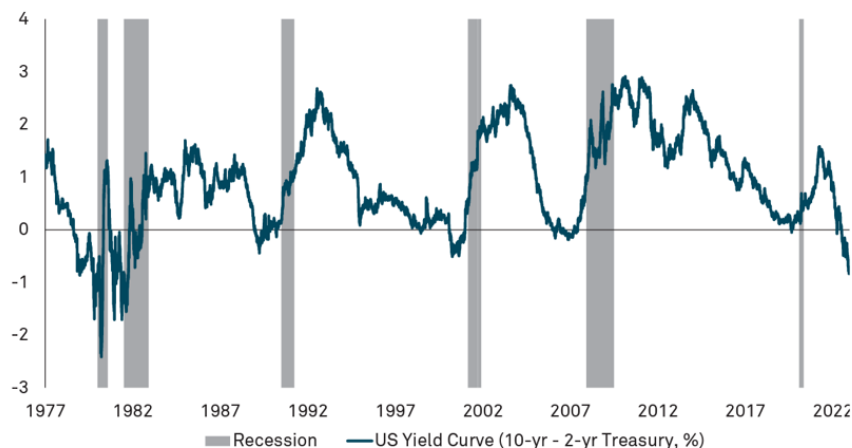
stands at 108.3, up from 101.4 in November. The Present Situation Index, based on consumers' assessment of current business and labor market conditions, rose to 147.2 in December, up from 138.3 in the previous month. The Expectations Index — based on consumers' short-term outlook for income, business, and labor market conditions — improved to 82.4 in December from 76.7 in November.

LOOKING FORWARD

We head into 2023 with little consensus on what's ahead with the economy, both domestic and international, and what to expect from capital markets. The only things that seem to be nearly universally accepted are that central banks will continue to use monetary policy to battle inflation, and that this campaign will likely result in slower economic growth, both domestically and abroad, in 2023.

Recession: A foregone conclusion?

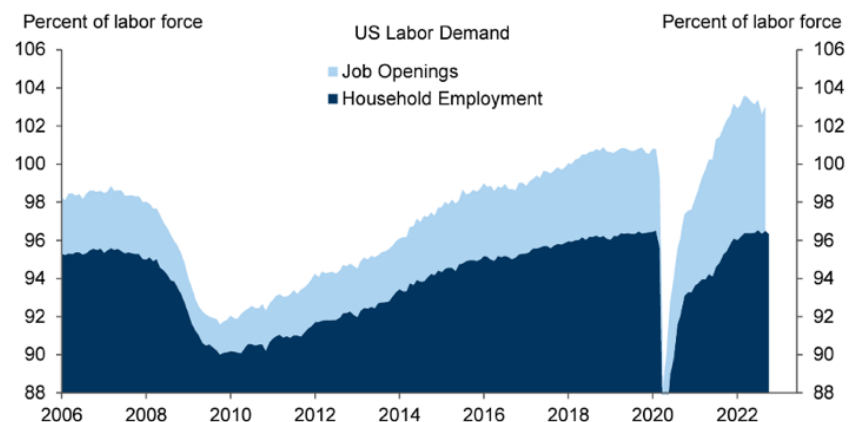
Central to most analysis are the questions: “Are we going into a recession?” “Are we already there?” “Will it be deep or shallow?”. While respected economists have submitted predictions ranging from a deep, protracted recession all the way to a recession being avoidable in 2023, most analysts we follow are calling for a mild recession during the year. The current yield curve, with 2-year yields significantly above 10-year yields, illustrates a market that projects future rates will be lower than they are now. That kind of ‘inversion’ has preceded each of the past 8 recessions.



Source: Bloomberg. As of December 14, 2022.

Per Goldman Sachs, the median analyst is attaching a 65% probability to a 2023 recession. BlackRock refers to it as a ‘foregone conclusion’. The range in a recent Wall Street Journal survey ran from below 20% all the way to nearly 100%.¹

Recession skeptics point to a labor market that has a decent amount of slack. Job openings can compress without impacting household employment significantly. This could cushion the economy from some of the displacement typical of a recession with higher unemployment.



Source: Goldman Sachs

This isn't solely a US phenomenon, although with almost three times the typical number of vacancies for each job seeker, it's fair to allow for some probability that any 2023 recession may not be ‘typical’.

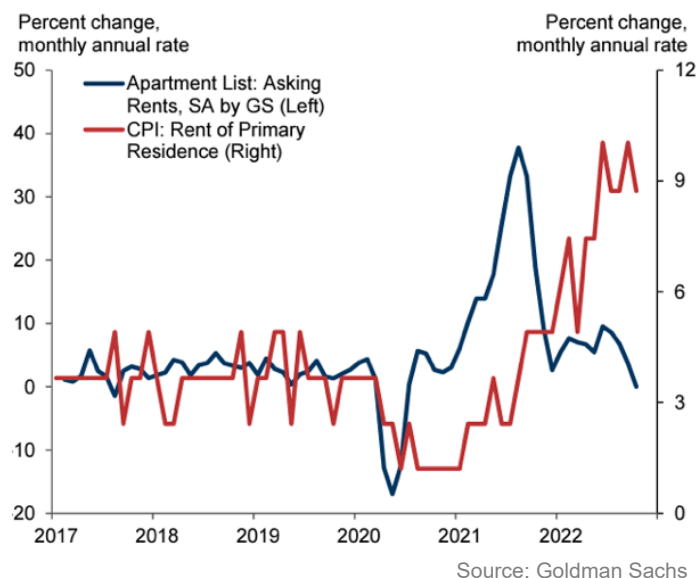
Looking abroad, Goldman conjectures that the UK and Europe may already have entered a recession due to shocks in energy supply and real disposable income at the household level recovering more slowly than in the US. However, JP Morgan points out that the Eurozone is starting winter with a more significant supply of

natural gas than is typical, and that coupled with a warmer winter (so far), the energy shocks might not be substantial factors in an economic slowdown.

China's reversal of its 'zero COVID' policy will loosen supply chains, while also increasing economic activity – somewhat neutralizing its inflationary pressure. Emerging Markets countries who started hiking rates early, like Brazil, are seeing convincing reductions in their inflation levels, while others like Poland and the Czech Republic started hiking campaigns later and may still yet to be seeing the reversal in inflation.

Inflation: Does it return to the fed's target?

Echoed through most of the forecasts for 2023 is the assumption that inflation is on its way down. There are several arguments for this on both the supply and demand side: Wage growth is slowing and may continue to do so as job market slack is tightened. Component prices are declining, and supply chains are becoming un-jammed. On most durable goods, delivery times are essentially back to pre-pandemic levels. Shelter prices have remained stubborn, but actively listed rental properties have shown a return to trend, and this typically shows up in the CPI with at least a 1-year lag.



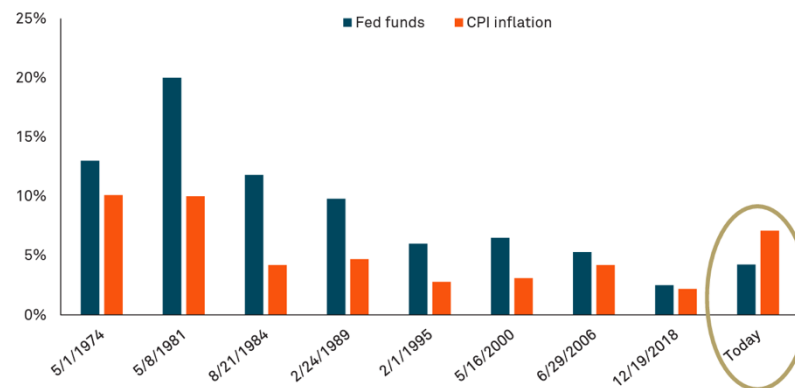
The FOMC's target of 2% is largely an invention of the past decade and a half. More analysts are challenging the supposition that this level is normal and appropriate going forward. Lazard points to the 'on-shoring' of production, coupled with the outlay of significant resources to combat global climate change, as good

reasons why it may be appropriate to shelve the 2% level and to accept that economies can grow in a higher sustained inflation environment.²

Will the fed pause/ pivot?

While numerous FOMC members are calling for a 'terminal rate' of 5% to end the Fed's monetary tightening campaign, markets are currently pricing in less than 5% before increases stop.

Fed funds rate and inflation (%) at the end of prior tightening cycles



Only time will tell whether the markets are getting this right, but it has historically been only when the fed funds rate exceeds inflation that the tightening cycle ends. That's not yet the case, so we likely will see more increases before they're done.

Geopolitics and Politics

Foremost on most investors lists of concerns for 2023 are Russia's trajectory in Ukraine and China's reopening (heralded in by a painful spike in COVID infections.) Of these two, the Russian's continued assault on its sovereign neighbor produces the most news and justifiable outrage. That said, China's climb out of the pandemic will likely have profoundly more impact on the global economy, given its share of world trade.

Domestically, we enter 2023 with a split congress, likely limiting any significant policy initiatives for the remaining half of the first Biden term. Concessions that were granted in the negotiations around the installation of House Speaker McCarthy may lay a path toward more contentious policymaking. The likelihood of a government shutdown, being forced pursuant to issues around the debt ceiling, is higher and

could be a factor to consider when laying out assumptions around 2023 economic and market volatility.

Stocks

Following such a painful year, stock investors want to know: Is the worst over? Like with the economy, there isn't consensus here. Numerous houses, including BNY Mellon and Blackrock feel that stock prices won't bottom until recession and lower earnings are more fully priced in. Others feel that the October lows on the S&P 500 represented the start of the next bull market.

There is a palpable trend in 2023 outlooks that leans toward value investing. Whether that takes advantage of historically low prices in a lot of the emerging markets economies, or finds more reasonable valuations domestically, this reversal of the growth trend of the last decade is getting some attention. Even though growth stocks came back substantially in 2022, there is reason to believe they still may have fairly rich valuations, especially when compared with value stocks, which appear to be valued more in line with their historical range.

MSCI World Growth and Value forward price-to-earnings ratio

x, multiple

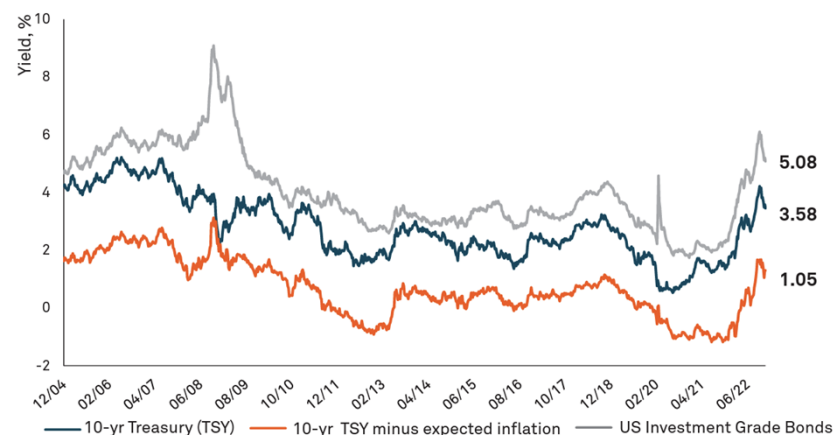


Source: MSCI, Refinitiv Datastream, J.P. Morgan Asset Management.

Bonds

It would be easy to make the argument that bond investors were the most negatively impacted during 2022. The Barclay's Bloomberg Global Aggregate bond index performed worse than the Dow and the S&P 500 during the year. This was a tremendous disappointment to people who had looked at the fixed income markets as a 'low-volatility' solution.

Most analysts are far more constructive on their view of bonds for 2023. To start 2022, the 10-year treasury was yielding a paltry 1.5%. When rate increases surprised to the upside, the negative impact of these was felt almost immediately, since there wasn't much yield available to offset the price declines.



Source: Bloomberg. Note: BBG Corp. Index used for investment grade bonds. As of December 14, 2022.

By comparison, we start 2023 with yields as high as they've been in a decade. This could be promising, particularly if recessionary forces start to move rates downward. Fixed income investors may very well benefit from being patient.

Goldman Sachs Macro Outlook 2023: "This Cycle is Different"

² Lazard Asset Management: "Global Outlook 2023"