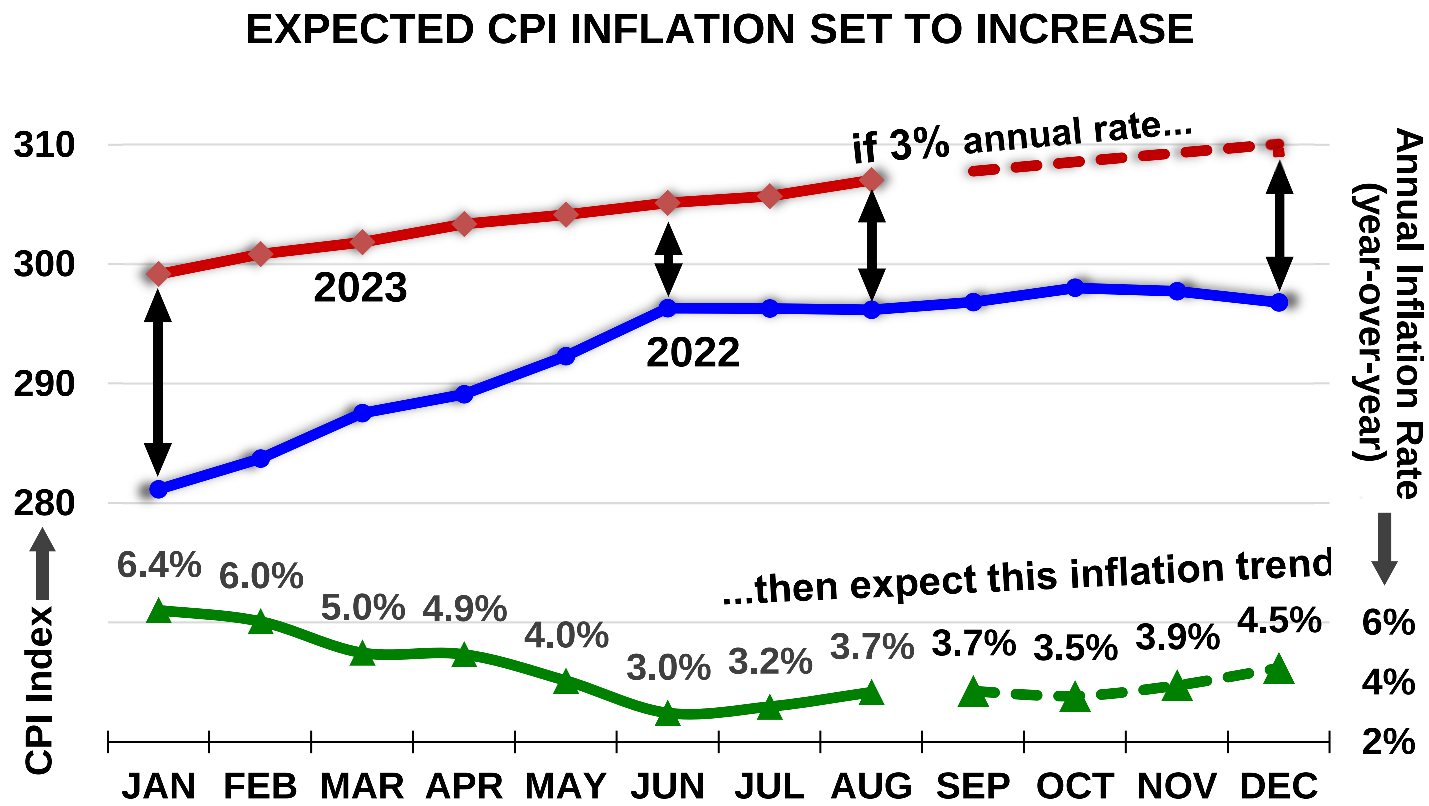


September Update: The past three months have tracked very close to (or slightly above) the outlook from three months ago. The year-end estimate is now 4.5% versus 4.3% at mid-year. No wonder financial markets have begin to hedge their inflation and interest rate bets recently.

CPI inflation is reported on a year-over-year basis, to provide a percentage increase (or decrease). The percentage change is based upon the CPI Index, which is a cumulative measure of price inflation expressed as a number with three decimal places. For example, May's CPI Index of 304.127 is divided by May 2022's CPI Index of 292.296 to calculate an annual inflation percentage rate presented with one decimal place (i.e., 4.0%).

Thus, the "annual inflation rate" for each month is the percentage increase of this year's CPI Index *over last year's CPI Index* for each respective month of the year. As a result, the value last year has a significant influence on this year's percentage!

The blue line in the graph above reflects the index value for each month of 2022. The solid red line reflects the five reports thus far in 2023 (through May 2023). As the gap between the lines narrowed over the past five months, *the rate of increase* narrowed (i.e., decreased), providing the declining annual inflation rate reflected by the solid green line (i.e., from 6.4% to 4.0%).

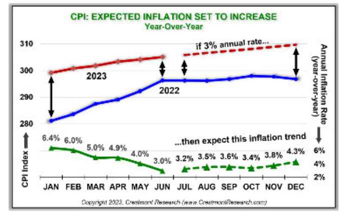
However, the second half of 2022 experienced a stall for the CPI Index. Nonetheless, inflation remained high across 2022 because of the relatively low CPI Index for each respective month of 2021. *The STALL in 2022 set the stage for this year's increase.*

The progression of inflation has major implications for the likely press reports (and the corresponding pressure on the Fed)... and the compounding effects that both could have on the financial markets.

For more details, and as a reminder about the original mid-year outlook, the original article is attached.

Crestmont Research

Inflation:
Not Done Yet?
By Ed Easterling
Jul 6, 2023 (July 15, 2023 Update)



So here we are… without judgment or criticism. Fifteen years ago, the Fed initiated a pair of aggressive monetary policies they have repeated multiple times since. There's no need to rehash whether the Fed should have or shouldn't have used ZIRP and QE medicine when they did. Instead, the focus now should be anticipating the environment ahead.

FLIP SIDE OF THE INFLATION COIN

We're now experiencing the consequences on the other side of the coin. There was always going to be a tradeoff period; ZIRP and QE distorted markets and led to malinvestments. In the Fed's opinion, the monetary policy duo may have been necessary at the time. But, as they say, the chickens have come home to roost.

Interest rates are a knob for the Fed. But rate changes operate with a variable lag, and they leave land mines along the way. These uncertain breaking points represent the final grain of sand that causes part or all of the pile to slide.

We've already seen early signs of ZIRP's consequences. Rising rates took out a pair of large banks with mismanaged portfolios. The Fed's moral hazard response to cover depositors stopped the slide, but similar vulnerabilities may remain. Further, the Fed may have added other vulnerabilities by using the Damocles Sword of moral hazard.

Fast forward to the past few weeks. Fed Chair Jerome Powell intentionally avoided words like "pause" or "skip" when he said the Fed would "make our decisions meeting by meeting, based on the totality of incoming data." No wonder he's careful with his words. "Transitory" didn't age well.

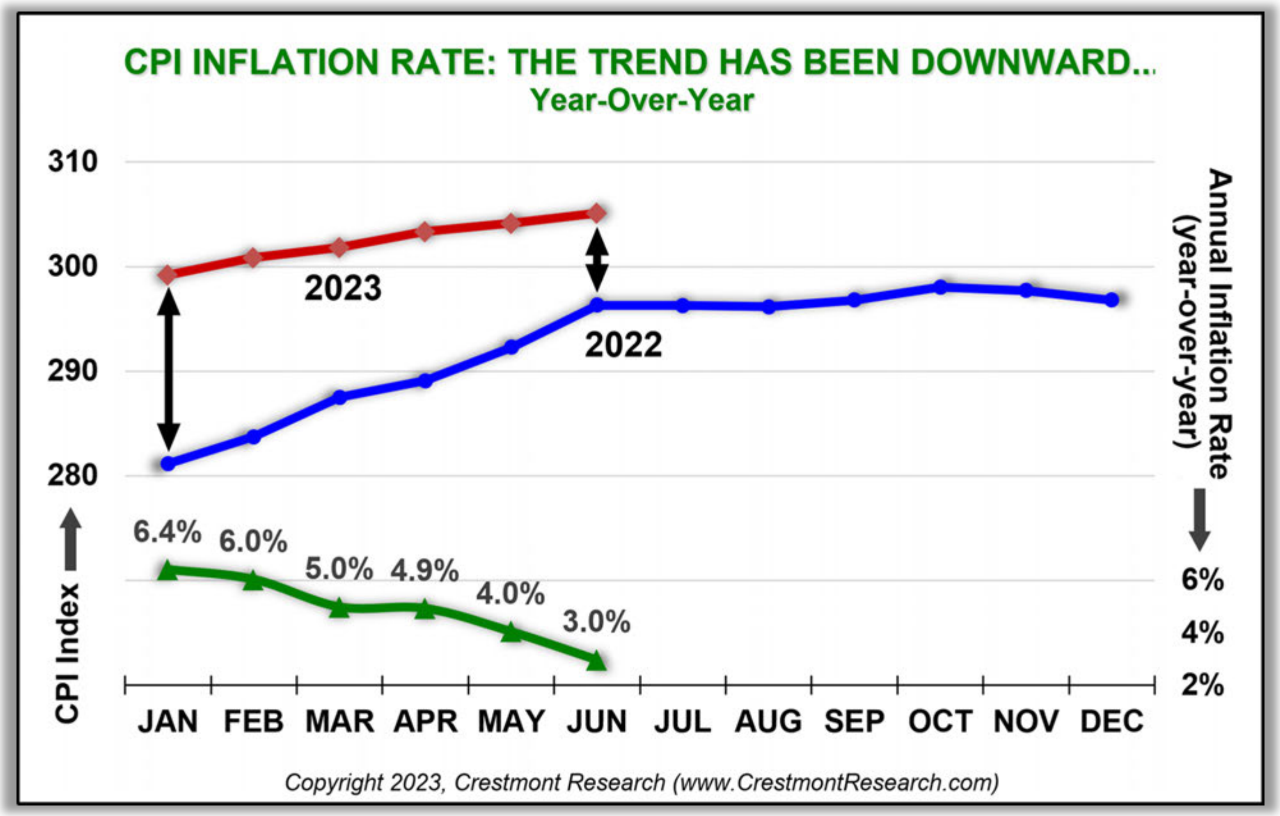
The underlying inflation data reflects a slight downward trend; however, a structural element will influence the upcoming inflation data to the upside. ***Spoiler alert: Even if <u>annualized</u> month-to-month inflation averages just 0.5% for the rest of the year, December's year-over-year inflation will exceed June's 3% (which was down from May's 4%)!*** But let's take it a step at a time.

The Fed doesn't operate behind the scenes. It is watched and second-guessed from all sides. With a 24-hour news cycle and several analyst cycles in between, each month's inflation report seems to come in slow motion. Rising inflation can feel like torture to monetary decision-makers wishing for better results. The rest of 2023 may challenge the patience of even the most ardent inflation fighters.

June's Consumer Price Index (CPI) was released this week. Inflation is now running at 3.0%. It continued this year's underlying trend of lower inflation. Hurrah! But, mid-year is likely to be the inflection point toward higher inflation reports into year-end. That call is far from certain, yet recent history significantly drives the future.

CPI inflation is reported year-over-year as an annual percentage increase or decrease. Thus, the annual inflation rate for each month is the percentage increase of this month's CPI Index over the CPI Index for the same month last year. As a result, the index value *last year* is just as important as the value for this year.

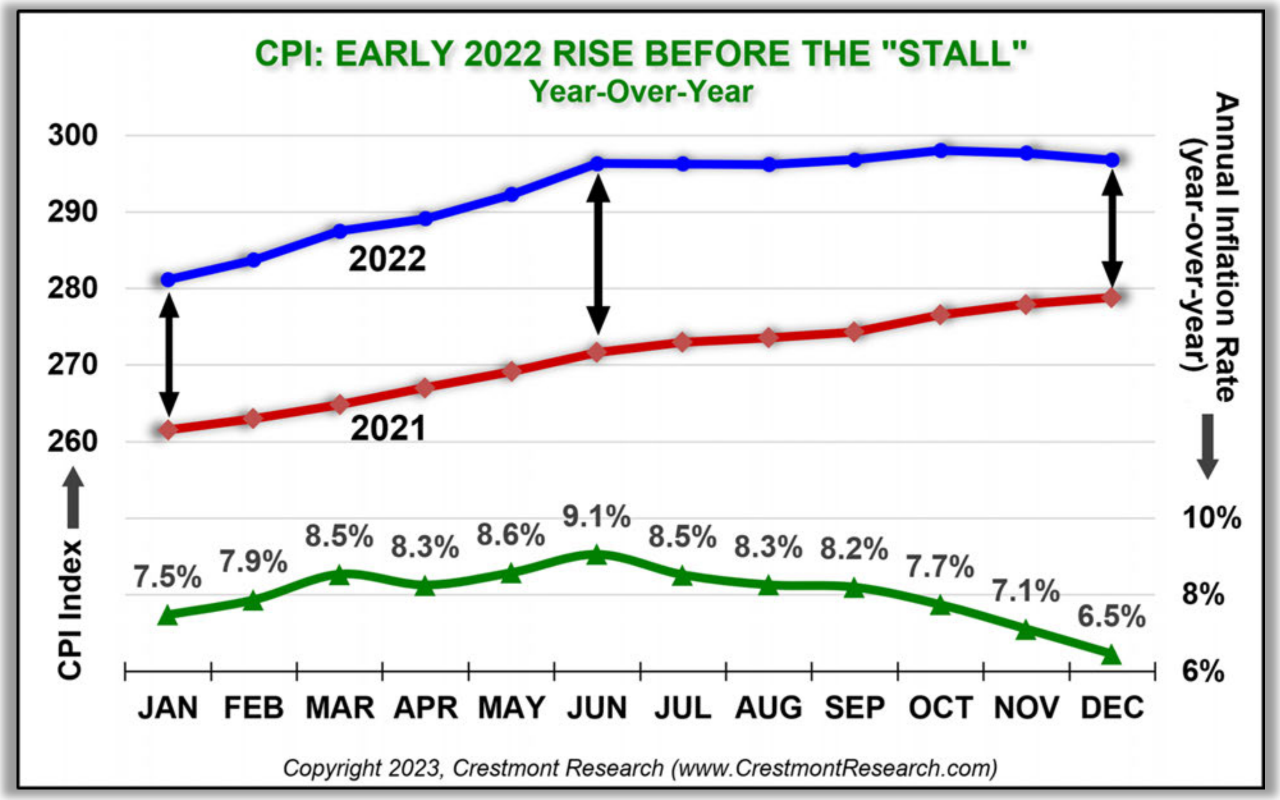
Figure 1



The blue line in Figure 1 reflects the index value for each month of 2022. The solid red line reflects the six reports thus far in 2023 (through June 2023). As the gap between the lines narrowed over the past six months, the rate of increase narrowed (i.e., decreased), providing the declining annual inflation rate reflected by the solid green line (i.e., from 6.4% to 3.0%).

However, the second half of 2022 experienced a stall for the CPI Index. As shown in Figure 2, inflation as a percentage remained high across 2022 because of the relatively low CPI Index for each respective month of 2021. The "Stall" in 2022 set the stage for a late 2023 increase in the CPI inflation rate.

Figure 2



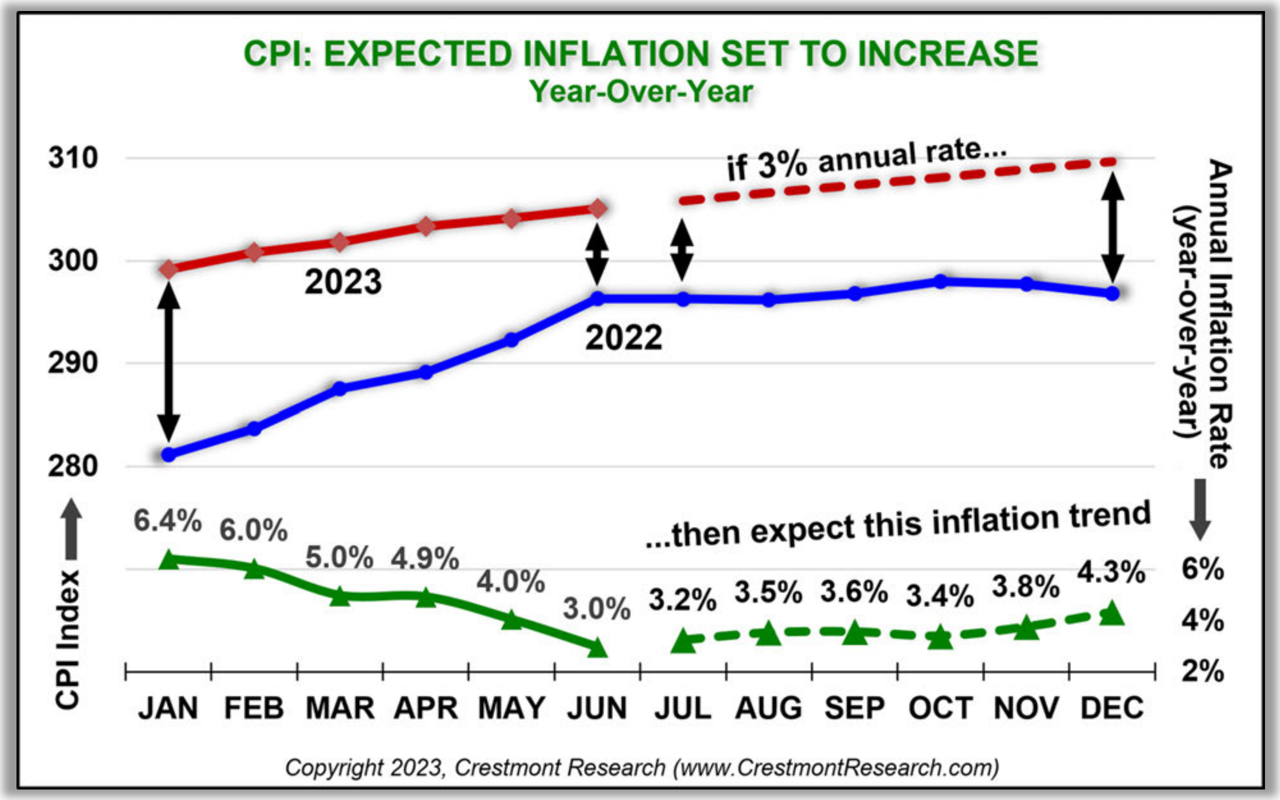
Yet the 2022 Stall for the index did not cause inflation to stall near 0%. The annual rate year-over-year started to decline but remained elevated. The downward-sloping trend for inflation was likely reassuring for the Fed. At this point, it appears to have been enough hope to justify a pause or skip.

But Chairman Powell's upcoming data may not be so hopeful. The Stall in the last half of 2022 has been waiting to pair with the same period in 2023 to provide year-over-year inflation reports. The two periods are now ready to challenge the Fed with a disturbing trend.

The last six CPI reports in 2022 provide a fairly flat base for the next six CPI reports. Any increases in the CPI index over the rest of this year won't have the offset of dropping off elevated inflation from last year. As a result, inflation is structurally biased to increase through the rest of 2023. Each month will bring more press reports and analyst speculation that challenge the Fed to act before the inflation fire gets out of control again. The constant negative message could weigh on the financial markets.

For example, if each month's inflation rate through year-end 2023 proceeds at an annualized 3% rate (as reflected by the dashed red line in Figure 3), the resulting increase in each month's index will drive an increasing annual inflation rate over last year's stalled level (i.e., the green dashed line). Note the widening of the expected gap for the next six months between this year's and last year's CPI Index.

Figure 3



A constant 0.247% monthly inflation rate (i.e., the 3% annualized rate) for the rest of 2023 is very unlikely. Instead, this analysis aims to identify key factors impacting the CPI inflation reports through year-end.

COMPONENTS TO WATCH

Figure 2 reflects a peak annual inflation rate of 9.1% in June 2022, with a steady rise up to and down from the peak. The percentage is the change between the current month and the CPI index twelve months prior. As a result, the year-over-year approach to reporting inflation aggregates twelve months of actual data.

Alternatively, when each month's CPI index is compared to its prior month and annualized, the chart is highly volatile. Figure 4 shows that annualized monthly inflation was scary out of control in the first half of 2022. Two months were above 15%, and several more were above 10%. Did Fed policy kick in after June 2022?

A deep dive into the data quickly shows that crude oil was the culprit and fix to the inflation trend. The reversal was not the product of the Fed's hand. As reflected in Figure 5, oil prices surged as Russia invaded Ukraine. Global supply issues and other factors climaxed oil prices in June 2022, leading to a plunge over the subsequent few months and further tailing since then.

Figure 4

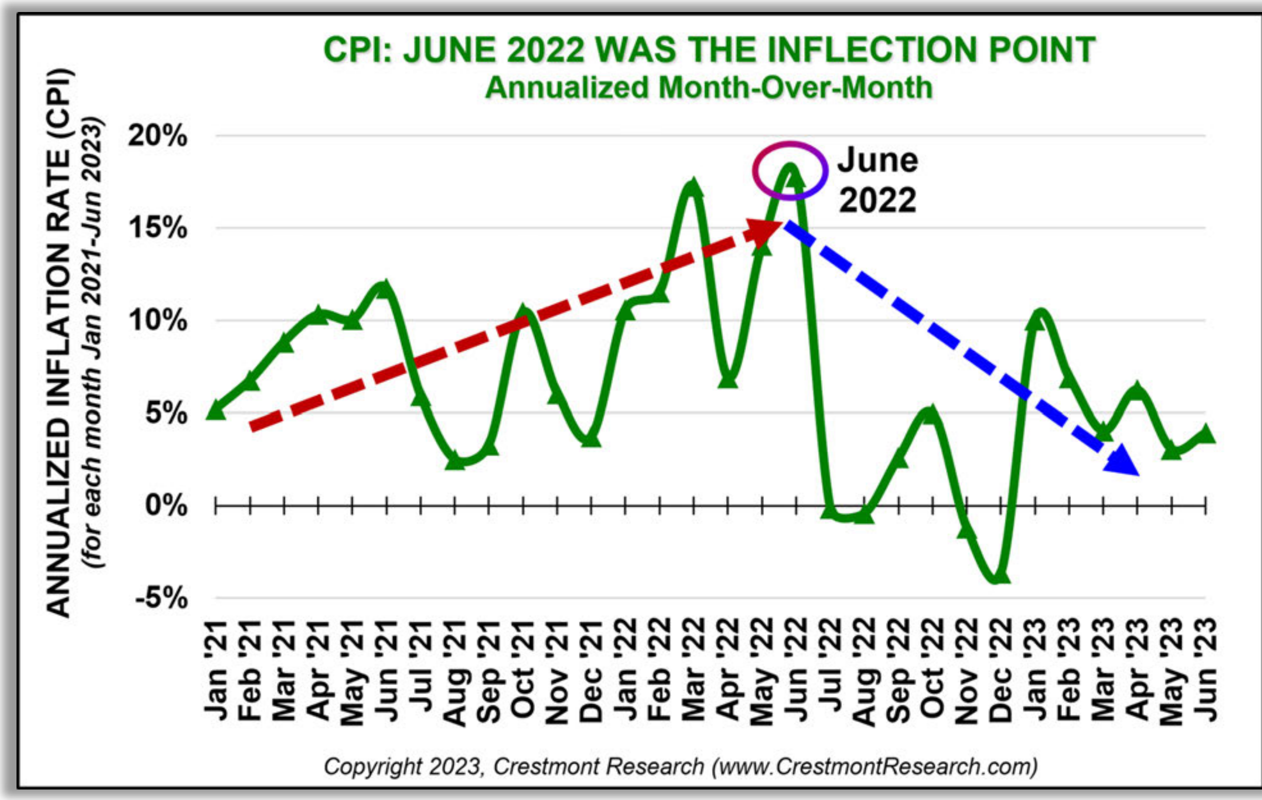
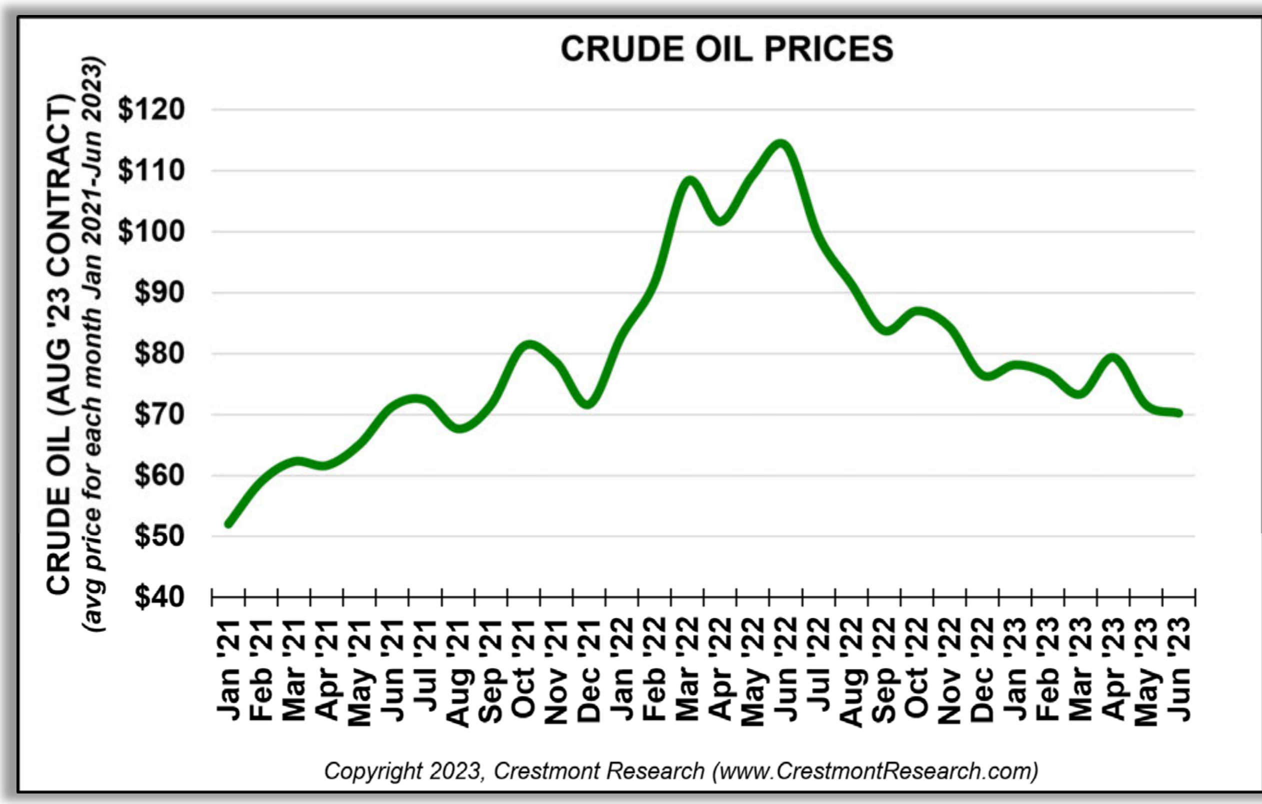


Figure 5



Housing costs for both owners and renters also had a significant effect on CPI. The category has averaged 33% of the CPI index over the past three years. In CPI reports, housing is referred to as “Shelter.” The category significantly increased inflation during 2022 and much of 2023. Three of the months annualized at 10%, and several more were near 9%.

In contrast, Energy (including oil prices) contributes 7% to CPI, but its swings are much more dramatic. Either way, a small effect from a big component or a big effect from a small component can wreak havoc on an index.

Beyond the dedicated Energy component, which includes energy commodities and energy services (e.g., electricity), energy-related costs have echo effects within other CPI categories. Food costs are affected by energy costs, as are transportation services (e.g., airline fares). For example, agricultural operations experience and pass through fuel inflation through higher prices. Even further, some truckers and other service providers have implemented fuel service charges over the past couple of years that vary from month to month based on the price of diesel. Although the price of oil and other energy categories have pulled back from the 2022 peaks, the magnitude and speed of change over the past few years show the risk energy poses to CPI.

Figure 6

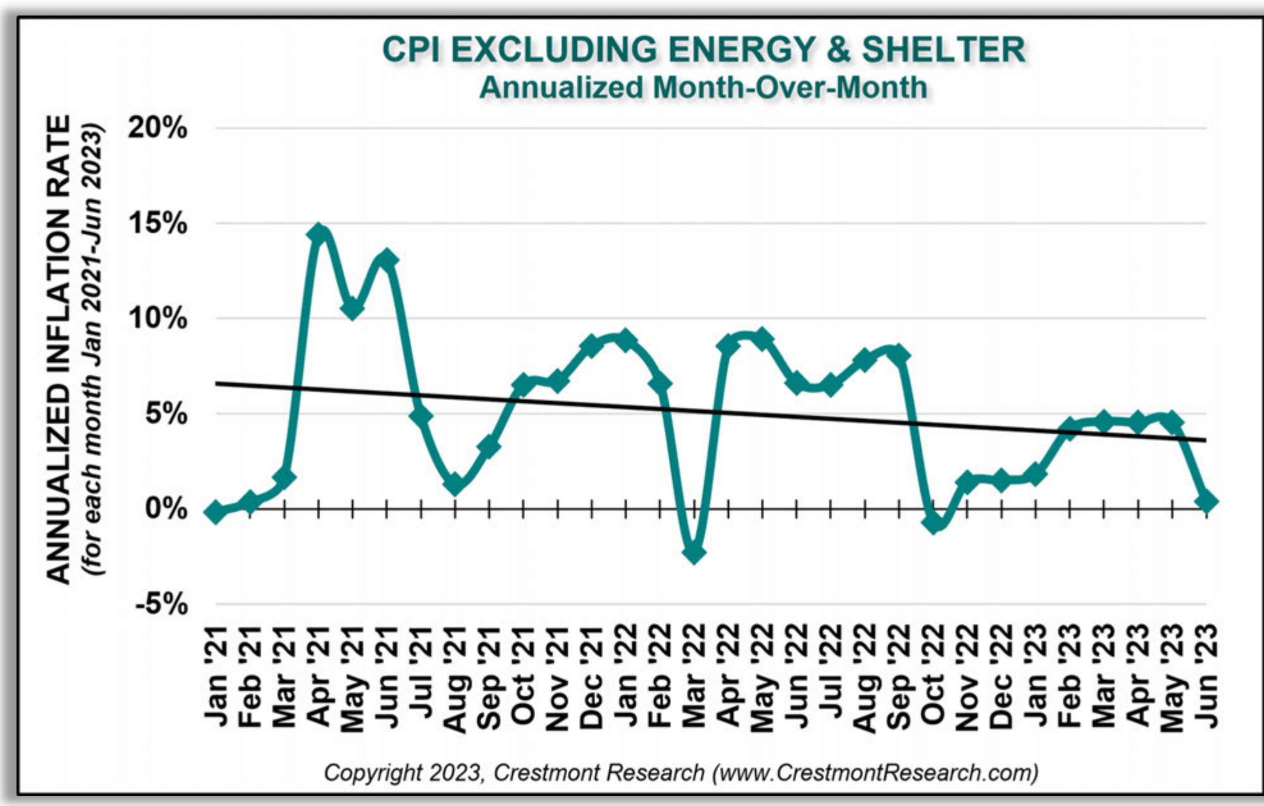


Figure 6 presents the CPI index without the Energy or Shelter components. The chart reflects the month-over-month change on an annualized basis. Figure 6 is comparable to Figure 4. Adjusted CPI has been elevated yet on a slight downward trek over the past two and a half years. The Fed's slow braking appears to be working as intended. Powell seemingly knows that the Fed's Job One is to provide a constructive environment of price stability with low inflation.

Inflation is devastating for people and the economy. It's not a disease of wealthy portfolios. Inflation is a gremlin on the backs of working families. Powell has been working hard to recover from his era of "transitory." The Fed's systematic approach to raising interest rates has focused on restoring the Fed's credibility without harming the economy.

Nonetheless, the Fed's credibility will be challenged again over the rest of 2023. The 2022 Stall will drive apparent inflation higher. Powell can't change the denominator that history is now delivering.

The twin elephants in the room are oil and housing. Each and both have been, and may continue to be, forces outside Powell's control. Yet, as the past few years have shown, oil and housing’s one-two punch can elevate and exaggerate the underlying inflation trends.

Further looming on the horizon is the risk of a recession. Given the depressing effects of recessions on employment levels, oil demand, and housing costs, Powell is likely thinking intensely about every grain of sand he adds to the monetary policy sand pile. Will his next move be the deposit that slides a gap in the face of the economy?

SOMETHING FOR EVERYONE

The June 2023 CPI report from the U.S. Bureau of Labor Statistics (BLS) had something thought-provoking for everyone.

The bulls are cheering one or none for further interest rate increases. Inflation came in under expectations. Within the report, CPI without Energy and Shelter was nearly zero (Figure 6).

Some analysts found the report supported their outlooks about disinflation, apartment rent declines, and core inflation softness. The plunge in CPI from May's 4.0% to June's 3.0% is thought to be enough for the Fed to find comfort in continuing its wait-and-see approach, either before or after one more rate hike.

Figure 7

	ANNUALIZED CPI INFLATION INDEX						
2023	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**AVG**
Year/Year	**6.4%**	**6.0%**	**5.0%**	**4.9%**	**4.0%**	**3.0%**	***4.9%***
Month/Month	**10.0%**	**6.9%**	**4.0%**	**6.2%**	**3.1%**	**3.9%**	***5.7%***

For the bears, however, June's 3.0% benefited from its starting point last June 2022. The bears note more recent data. Month-over-month annualized, June's inflation was up 3.94% versus May, which compares to May's increase of only 3.06% compared to April. The bears see a back-to-back inflation increase from 3% to 4%, whereas the bulls tout the reverse using year-over-year data (see Figure 7).

Further, the bulls cheer the drop of non-energy and shelter CPI to near zero. However, the bears recall March and October of 2022 when the same measure went negative before bouncing back over the subsequent six months (see Figure 6).

Will annual year-over-year inflation be lower or higher than 3% at year-end 2023?

The 2022 Stall will be hard to overcome for the next six CPI reports. If month-to-month annualized CPI averages June's 3.94%, December's Y/Y inflation will be 4.8%. At 3%, it'll be 4.3%.

Even at 0.50% annualized, the year-end CPI will be higher at 3.1%. With no monthly inflation for the next six months, annual CPI barely tweaks lower to 2.8% at year-end. CPI for the first half of 2023 was 5.7% annualized. Averaging 0.0% for the second half of 2023 mathematically delivers half of 5.7% (i.e., 2.8%) for the full year in December 2023's CPI inflation report.

The wildcards are Energy and Shelter. Oil will need to stay near $70/barrel to avoid adding to inflation during the second half of 2023. Shelter needs a quick reversal of its strongly upward trend. Shelter may not positively affect annual CPI without realized declines in rents and owner equivalent rents (which is challenging since both rents adjust over time, not all month-to-month). Despite hope that inflation continues lower, it's hard not to take the over for a 3%+ CPI at year-end and the likelihood of a less optimistic tone and intensified Fed pressure over the next few months. But hope springs eternal!

INVESTMENT IMPLICATIONS

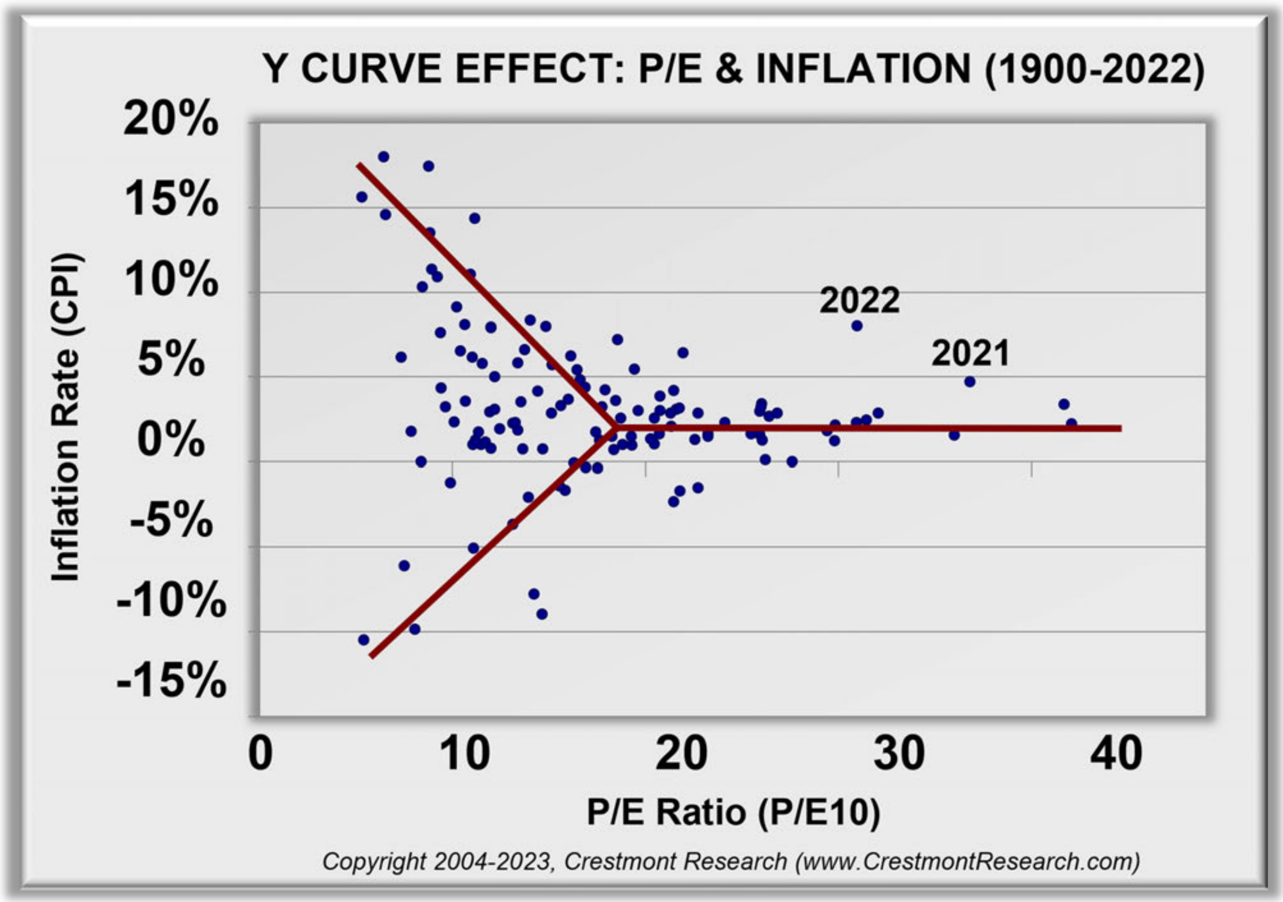
The CPI index is a good proxy for the kind of inflation that drives the value of stocks and bonds. Bonds reflect their value through interest rates. Newly issued bonds bear higher interest rates during environments with relatively high inflation. Outstanding bonds suffer declines in value during conditions when inflation and interest rates rise. No more needs to be written about this effect; bond investors have experienced painful performance over the past few years.

The stock market reflects its value through the price/earnings ratio (P/E). In effect, the market P/E is the number of years of earnings that investors will pay for a diversified basket of stocks. Lower values increase the percentage return from dividends. When prices decline, the same quarterly payment represents a higher percentage of the price. Lower values also provide the opportunity for higher capital gains when P/E ratios later start to rise.

However, when inflation and interest rates are high, investors lower the number of years (and related P/E ratio) to make stocks competitive with higher-yielding bonds and other hard asset investments that benefit from inflation.

That's the relationship presented in Figure 8. The chart includes 123 dots for each year since 1900. The dots are placed based on each year's inflation rate and P/E ratio. Note that the pattern reflects the letter Y on its side. Periods with low inflation also have higher P/Es. As inflation increases or falls further into deflation, P/E declines. The sweet spot is low, stable inflation.

Figure 8



The right-most dots are outliers. The dots closest to the line are the dot com years with low inflation and irrational valuation. The two dots with high P/E and elevated inflation are the past two years (2021 and 2022). Despite reported inflation rising toward 10%, forward inflation expectations have remained relatively low.

The St. Louis Fed derives a measure of inflation expectations using 5- and 10-year Treasury bonds and Treasury Inflation-Protected Securities (TIPS). The relationship among the four market instruments presents insights about expected inflation for the five-year period that starts in five years.

Over the past few years, the 5-Year, 5-Year Forward Inflation Expectation Rate has averaged near 2.2% and has not exceeded 2.6%. This means the large, sophisticated investors anticipate inflation will moderate soon—soon enough not to affect market valuation and bond yields. Ten-year Treasury bond yields are bouncing between 3.5% and 4.0%, well below inflation reports in the high single digits. Likewise, market P/Es have remained relatively elevated despite typical stock market volatility.

What does all of this mean? If the market is right about near-2% inflation, stocks should return the muted levels of return that are consistent with high valuation. If the market is wrong, inflation could remain elevated long enough to convince investors that a bad recession may be necessary to tame inflation. The latter scenario would likely realign P/E lower, adversely affecting stock prices.

The implication is not to withdraw from stocks, bonds, or other investments. Instead, investors could consider diversifying and hedging risks in their portfolio more so than simply diversifying assets. With the uncertainty of higher or lower inflation, consider investments that benefit from higher inflation given the impact that higher inflation has on stocks, bonds, and other investments.

For example, real estate or agricultural investments can help compensate for the inflation risks in a financial portfolio. For investors that don't have access to hard assets, they could consider mutual funds, ETFs, or private investments that provide access to hard asset returns. Of course, it's always important to investigate options thoroughly or consult a professional financial advisor for assistance.

Ed Easterling is the founder and president of Crestmont Research. He is the author of award-winning Unexpected Returns: Understanding Secular Stock Market Cycles and Probable Outcomes: Secular Stock Market Insights*. In addition, he previously served as an adjunct professor and taught a course on alternative investments and financial markets for MBA students at SMU in Dallas, Texas. Mr. Easterling publishes provocative research and graphical analyses on the financial markets at www.CrestmontResearch.com.*