

2022 Outlook: Update #1

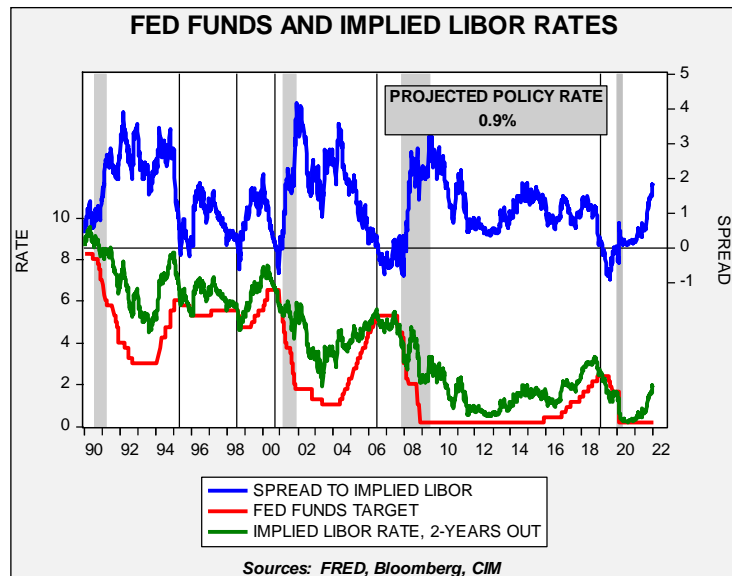
In our *2022 Outlook: The Year of Fat Tails*, we outlined a forecast with a higher likelihood of events outside the norm. To compensate for the unusual level of uncertainty, we promised to provide frequent updates to the forecast. This report is the first of the year. One of our contentions in the forecast was that the FOMC would not raise interest rates this year. In light of developments, this position is untenable. Therefore, in this update, we will discuss four potential outcomes from the upcoming rate hike cycle and the potential effects on financial markets.

Monetary Policy

Over the past three months, we have seen a dramatic shift in expectations surrounding monetary policy. One way to observe them is by the behavior of the two-year deferred three-month Eurodollar futures implied yields.

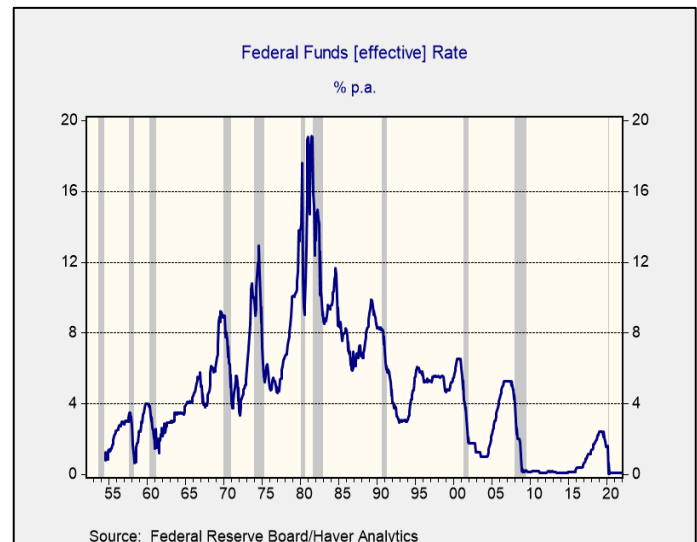
In early November, the deferred Eurodollar futures were projecting steady policy for the next two years. In a mere three months, we have seen a rapid shift to nearly four rate hikes of 25 bps each. Although similar shifts have occurred in the past, we note that when such shifts occur, the likelihood of recession does increase.

With tighter monetary policy looming, we would argue there are four likely terminal paths. They are as follows:



Path #1: Policy is rapidly tightened, leading to a recession.

This chart shows the effective fed funds rate going back to 1954. “Soft landings,” which are rate-hiking cycles that don’t end in recession, are rare. Over the past seven decades, there have been three—the mid-1960s, the early 1980s, and the mid-1990s. In all other cases, tightening usually leads to a downturn in the economy. Now, to be fair, a couple of these recessions had little to do with policy errors. For example, the 1990-91 recession was mostly due to the Gulf War. The last recession was due to the pandemic. Nevertheless, whenever the FOMC embarks on tightening policy, investors should be aware that a recession could result. As the chart suggests, the timing from the last rate hike to the onset of recession varies but suffice it to say tighter monetary policy is a risk factor.



With FOMC members openly talking about four or more rate hikes this year and private economists pressing for up to seven hikes and perhaps moving faster than 25 bps per meeting, the potential for overshoot is elevated. What should investors watch?

Although we will be closely monitoring the economy,¹ one important variable to watch is the relationship between fed funds and the 10-year T-note yield. As the FOMC raises rates, the behavior of longer-duration yields can signal when the central bank has overtightened. As the above chart shows, when fed funds exceeds the yield on 10-year T-notes, the likelihood of recession increases.



Path #2: Policy is tightened too slowly, causing a debasement crisis.

This is the worst possible outcome. There is a narrative that circulates among policymakers about “anchored” inflation expectations. The idea is that if households and firms begin to expect higher inflation, their behavior creates a self-fulfilling prophecy of inflation. In other words, if I expect inflation will be higher than today, I will make a series of changes in my behavior to protect myself from that inflation. I might push for a raise.² I could increase inventories. I might demand higher interest rates on savings. Although this concept of inflation-anchoring is pervasive, in reality, it rests on thin empirical and theoretical underpinnings.³

Why is it a problem to rely on the idea of anchoring? The reason is that it could lead policymakers to watch various measures of inflation expectations that may be irrelevant. The focus on survey data or market measures such as breakeven rates may not get at the real issue. The real concern about anchoring is probably more about debasement. The key question is, “How does a society create confidence in its currency?” This is a major, but rarely discussed, issue because losing faith in a currency tends to lead to chaotic outcomes. Two of the three primary functions of money are medium of exchange and store of value. These functions are dissonant. To act as a medium of exchange, the supply of money must rise at least as quickly as the supply of goods and services. In fact, growing a bit faster may encourage economic growth. On the other hand, if the goal is money as a store of value, then it is better if the supply never rose; in fact, money would become more valuable if the supply fell. Societies must balance these objectives. Debtors, for example, tend to favor expansion of the money supply; creditors oppose this outcome.

There have been two methods of resolving this tension. The first is by tying the supply of money to a metallic standard; gold and silver are the most common metals used to back a currency. By attaching the supply of money outside of human agency,⁴ the hope is that the political class won’t manipulate money for their own ends. The second is to use a fiat currency but grant the central bank independence with a “hard” inflation target. If the central bank is truly independent and has a clear inflation target, political manipulation should be minimized. And, since the money supply is no longer at the vagaries of precious metals mining, there is a better chance that deflation can be avoided. Since the end of Bretton Woods, the second method has become common, notwithstanding the persistent temptation from the political class to undermine central bank independence or make the inflation target less hard.

¹ We publish a monthly [Business Cycle Report](#) that is designed to warn of recessions.

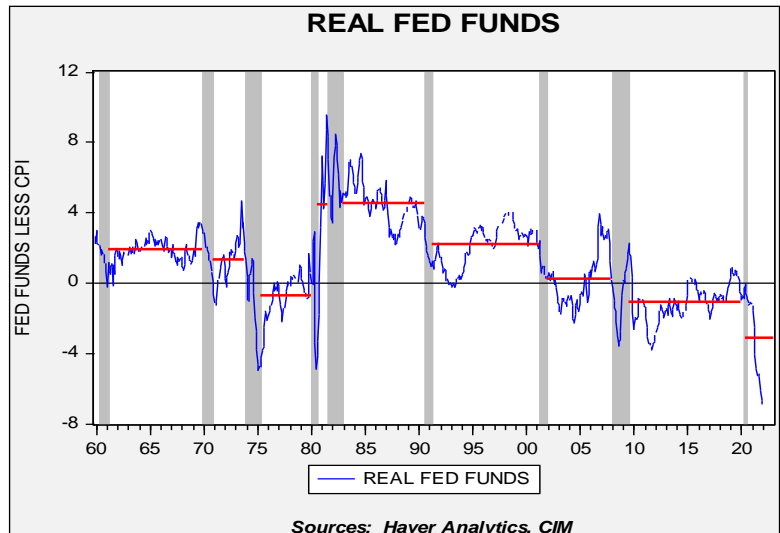
² [Even if Bank of England Governor Bailey opposes such action.](#)

³ See [Rudd \(2021\)](#) for an exposition of the theoretical and empirical weaknesses of inflation expectations.

⁴ Obviously excluding mining activity.

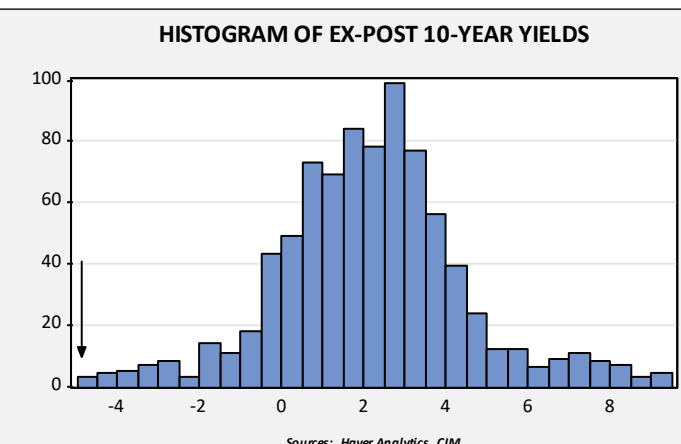
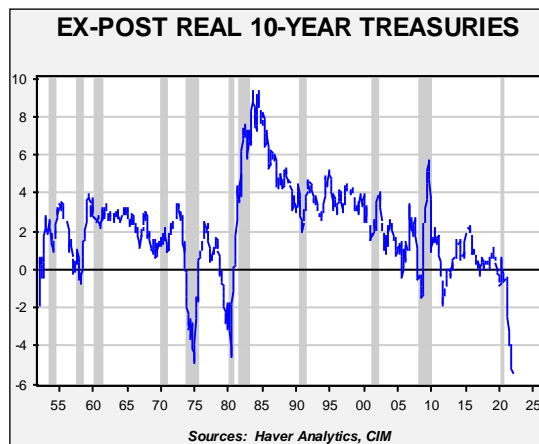
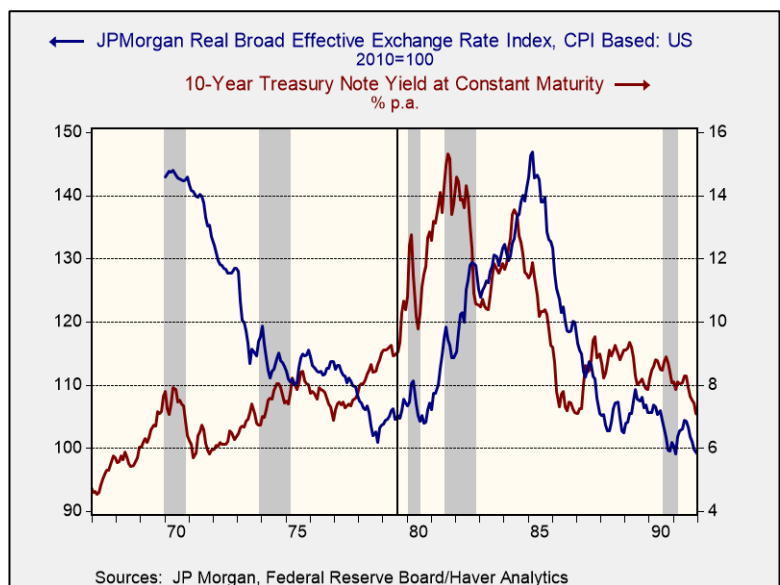
The problem is that the Federal Reserve has been undermining both its independence and its inflation target. As we will discuss in more detail below, the notion of the “Fed put” is probably exaggerated to some degree, but there are fears that the FOMC is becoming politicized. Furthermore, the Fed has changed its inflation target from 2% to an ambiguous target that averages 2% over a business cycle. Thus, the Fed is running the risk of undermining its credibility.

This chart shows the fed funds rate less the yearly change in CPI. We have calculated the average real fed funds rate for each expansion. From 1960 into 1980, the average real rate declined in each cycle. Paul Volcker decisively broke that pattern, but it has returned. The mainstream narrative is that Volcker “reset inflation expectations,” but it makes more sense to say that he restored confidence in the dollar.



The vertical line on this chart marks the beginning of the Volcker era at the Federal Reserve. Note that the dollar began to rise sharply as he raised the policy rate well above inflation. In our view, Volcker restored confidence in the dollar and that is what changed inflation psychology.

So, what happens if there is a loss of faith in the dollar caused by the perception that monetary policy is too easy? One possibility would be for long-term Treasury rates to rise to their long-term average relative to inflation.

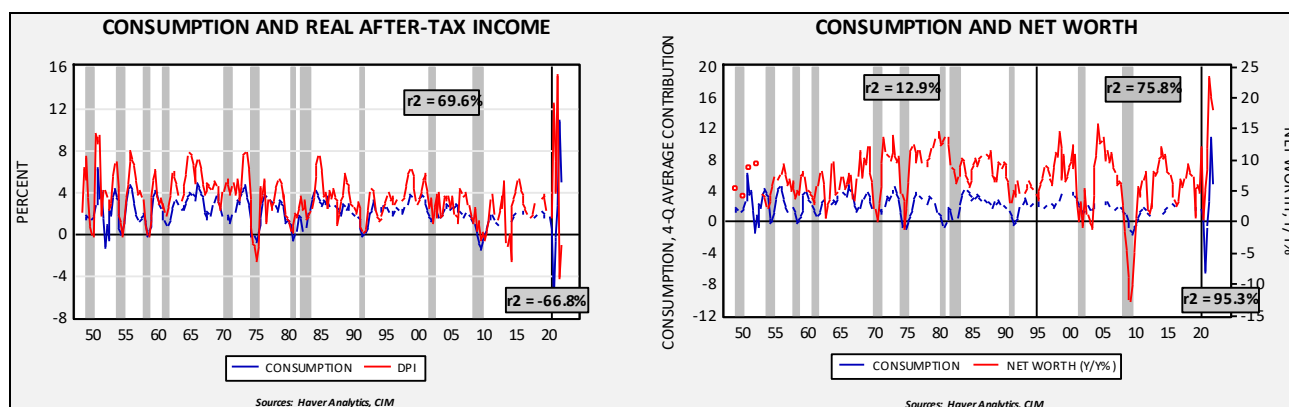


The chart above on the left shows 10-year T-notes less the yearly change in CPI, the ex-post yield.⁵ The chart on the right shows a histogram of the same data. Since 1952, the average ex-post yield is 2.1%. Assuming 7% inflation, a rise in the nominal yield to average is over 9%, a level that would have a catastrophic impact on financial markets. Although the odds of this outcome are low, it is a classic “low-probability/high-impact event.” The factor to watch is the dollar; if it were to weaken significantly, it might signal a loss of faith and lead to much higher interest rates.

Path #3: Policy tightening triggers a financial crisis, leading to a rapid easing of policy.

There are two elements to this scenario. The first is that there is a pattern where the FOMC tends to move to support financial markets, often referred to as the “Fed put.” Although pundits criticize the Fed for “bailing out” the markets, there is a good reason to do so. The wealth effect has increased since the mid-1990s, meaning that changes in asset prices have a much larger impact on spending than they did before that period.

Until the mid-1990s, the evidence strongly suggested that income was much more important than the wealth effect. But, since the mid-1990s, consumption became much more sensitive to net worth.



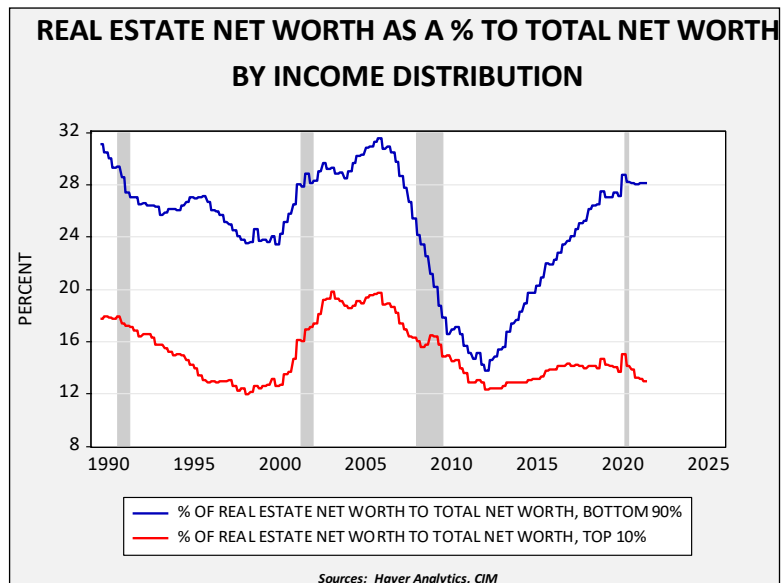
We measure consumption by the contribution to real GDP on a rolling four-quarter basis. Disposable real income is yearly changes to overall income on an inflation-adjusted, after-tax basis. Net worth is the yearly change in assets less liabilities. From 1947 through 2019, the correlation between consumption and real disposable income was 69.6%. Comparing that to the impact of net worth, from 1947 through 1994, changes in net worth had only a modest positive impact on consumption; the two variables were only correlated by 12.9%. However, from 1995 through 2019, the correlation jumped to 75.8%.

Why did net worth become more important to consumption? We suspect there were at least two important factors that changed the impact of the wealth effect. The first was the expansion of defined contribution pension plans. Households rarely saw the wealth they were accumulating under defined benefit plans. Only at retirement did they see what they would receive from their years of saving. Thus, they rarely had knowledge of their accumulating wealth. However, under defined contribution plans, households could easily see the wealth they were accumulating. Due to the bull markets in stocks and bonds in the 1990s, households felt “richer” and thus adjusted their spending according to their expanding retirement accounts. Second, for most households, the largest asset they hold is their homes.

⁵ The ex-post yield is actual historical yield less actual inflation, as opposed to ex-ante, which is the real yield based on expected inflation.

This chart shows real estate net worth compared to total net worth for the top 10% of households in the income distribution compared to the bottom 90%. Note that 90% of households have a much higher percentage of their net worth tied to residential real estate.

It was difficult to tap the wealth in a home until the mid-1980s, [when the financial services industry made refinancing a simpler process](#). The ability to tap home equity is partly related to home prices; although amortization will gradually increase the homeowner’s share of equity, immediate changes in home prices would have a bigger impact on net worth from real estate. And, since most of the mortgage payment in the early years of a mortgage goes toward interest payments, weakening home values can have a detrimental impact on the wealth effect. Mortgage lending is leveraged; a “prudent” loan is 80% loan-to-value, so small changes in home prices can have outsized effects on the net worth of the bottom 90% of households.



Returning to the first chart in this section, we have isolated the period after the pandemic. What is remarkable is that the relationship between real disposable income and consumption has become negative; this is likely a fluke, a function of a rapid increase in income in the form of transfer payments at a time when spending was limited due to the pandemic. As more goods and services became available, spending has recovered. Meanwhile, fewer transfer payments have led to falling real disposable income. This situation will eventually normalize but still suggests that, in the short run, policies that affect real disposable income may not have much impact on consumption. At the same time, the relationship between net worth and consumption has risen to 95.3%. This rise may represent the fact that the aforementioned savings found a home in the asset markets. This outcome, too, may decline to pre-pandemic levels, but we do expect the relationship to remain strong.

Although the current relationships between real disposable income, net worth, and consumption may be temporary, for now, we can only assume they will remain dominant. This assumption means that policymakers face a potential risk as they move to tighten policy. If rising interest rates weaken asset markets, the impact on consumption may be stronger than expected. It might lead investors to hold even more liquidity, in part due to (a) fears of further declines in asset values, and (b) the higher compensation for holding cash. Given that 90% of households will likely be more sensitive to changes in home prices, actions that affect home values may have an unexpectedly large impact on economic behavior. Consequently, declines in asset prices can quickly lead to a decline in consumption; essentially the “Fed put” exists because asset prices do affect the real economy.

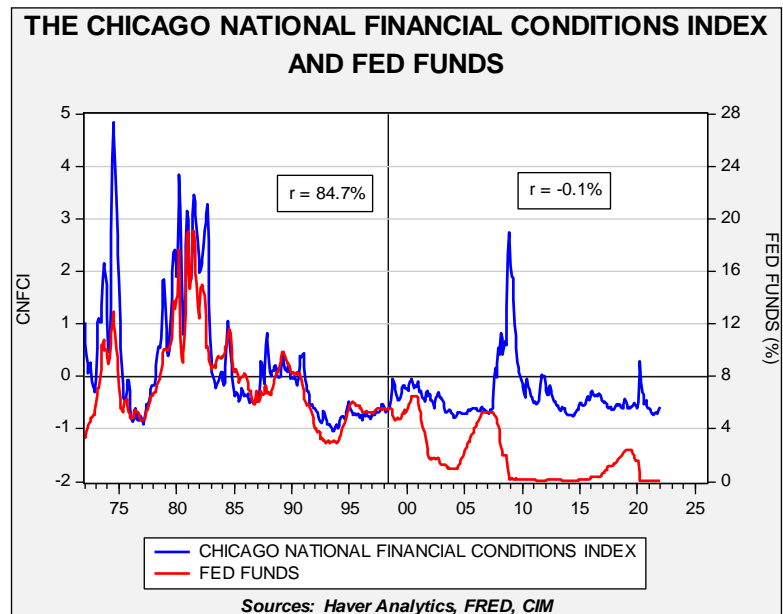
In this scenario, the FOMC will raise rates until financial stress causes a disruption in the financial markets. This disruption will drive asset prices lower; if the history of the past 25+ years is any guide, the FOMC will reverse policy tightening. To be fair, the Fed hasn’t faced a situation where asset prices have declined with inflation this elevated. But, if the close relationship between asset prices and consumption continues, then inflation could decline quickly in such a situation.

There are a number of indicators to watch with regard to financial stress. The first is the Chicago FRB’s National Financial Conditions Index, which is a broad index of various financial measures, including volatility of equities and Treasuries, credit spreads, and the level of interest rates.

A rising index represents increasing stress levels. In general, until the late 1990s, there was a close relationship between stress and the level of fed funds; as policy was tightened, stress rose. When easing occurred, stress also dropped. Since 1998, the relationship has broken down. Tightening policy tends to not have much impact on stress...until it does. Then, stress levels rise sharply and cutting rates has only a modest impact on reducing stress.

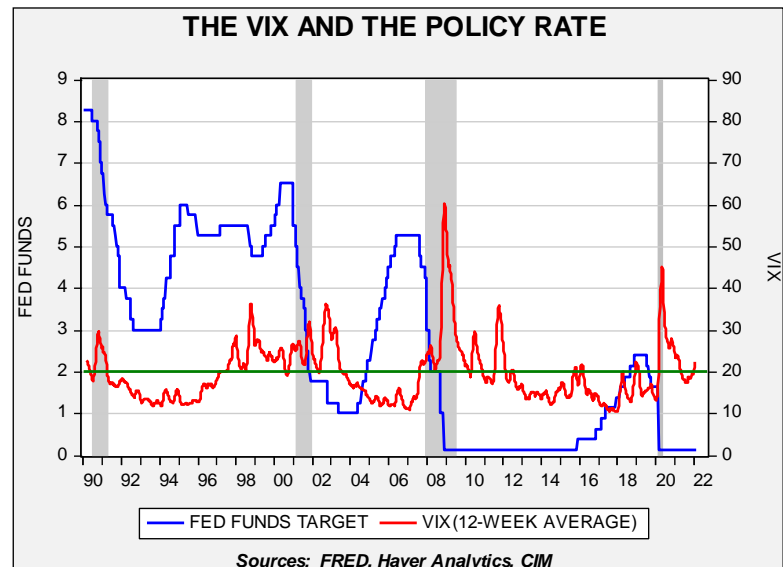
It is unclear why the relationship changed. One reason may be that until the mid-1990s, the FOMC could safely ignore financial stress because the economy was less sensitive to asset prices. Market participants knew that the Fed would not ride to the rescue. Now, the market

assumes the Fed is paying attention to asset values. The Fed tends to keep tightening until “something breaks” and then it rushes to lower rates to tame stress. A second reason could be expanded transparency. Until the late 1990s, monetary policy was mostly conducted in secret; market participants had to guess when policy was changing and thus were less able to discount the direction of policy. Given the current high levels of transparency, markets can now fully anticipate the direction of policy and thus can “overshoot” the market, lifting stress. In any case, a rise in this index above zero likely signals that easing is coming soon.



Another indicator to monitor is the S&P 500 VIX, the measure of implied volatility from the S&P options markets. Over the past 20 years, the FOMC has tended to avoid tightening or has eased when the 12-week average of the VIX exceeds 20.

The Fed’s rhetoric would suggest that the current FOMC will ignore this pattern. If they do, the odds that volatility will rise further are elevated.

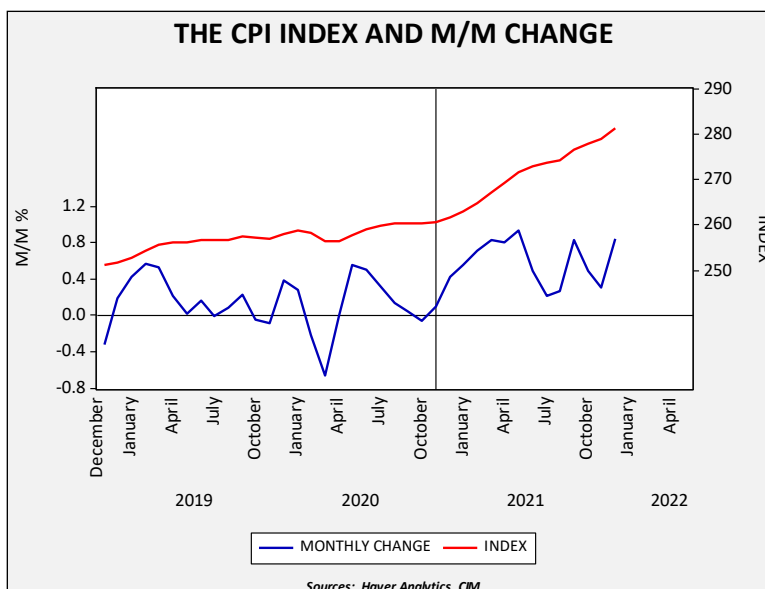


Path #4: A soft landing occurs.

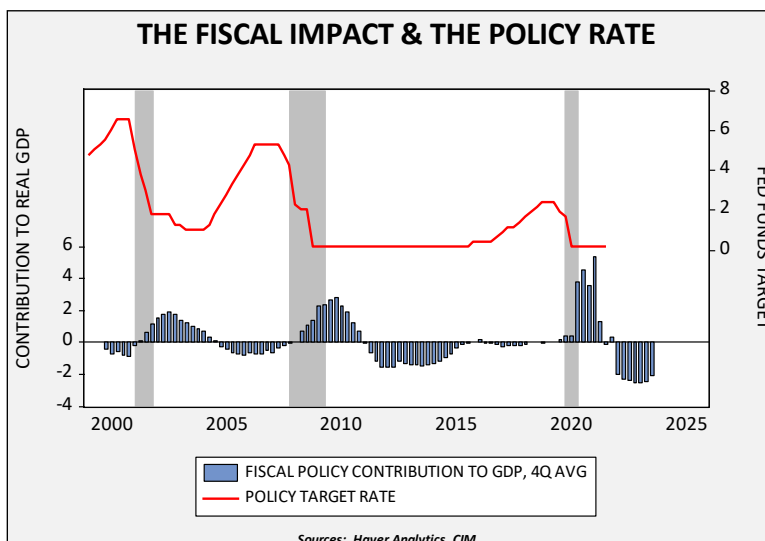
In this case, the FOMC tightens enough to bring inflation under control but avoids a recession. As we discussed in Path #1 above, such events are rare.

What would lead the FOMC to avoid a recession this time? It would need outside help in the form of falling inflation.

This chart shows the index for CPI and the monthly percentage change. We have placed a vertical line at December 2020; from this point forward, inflation rose rapidly. But the yearly comparisons will likely narrow and it's almost certain that inflation will fall this year given that monthly momentum is slowing. Weaker economic growth would also allow the FOMC to move slowly on tightening.



Fiscal support for the economy will unwind rapidly over the next seven quarters, meaning the FOMC will be tightening monetary policy at the same time fiscal stimulus is being withdrawn. This circumstance could weaken economic growth faster than generally expected.



Ultimately, a soft landing requires a bit of good fortune; economic conditions have to move in a favorable direction and the FOMC has to be nimble enough to both tighten sufficiently to bring down inflation and also stop tightening or ease policy quickly enough to boost growth. Since the Fed has limited power to constrain inflation,⁶ it will likely need help from other factors as noted above.

What are the odds?

The highest probability outcome is Path #3. Although the FOMC has generally moved to ease policy in the face of market turmoil (hence the “Fed put” narrative), perhaps no Fed chair has been as aggressive to pivot as Jerome Powell. In 2018, for example, he moved from tightening policy on “[autopilot](#)” to lowering rates in the face of a drop in equities. The aggressive actions taken in March 2020 went beyond anything the Fed had done before, even in wartime. While the FOMC appears committed to a path of the most aggressive tightening since 2004-06, the odds are high that higher rates will raise financial market stress. Based on history and the links of net worth changes to consumption, we expect policy to reverse course rather quickly.

Path #4 and Path #1 are almost of equal likelihood, although we would give a slight edge to the former. If inflation starts to moderate as we expect, the ardor for tightening will moderate as well. At the same time, history

⁶ In the short run, the Fed’s only tool to reduce inflation is to constrain aggregate demand.

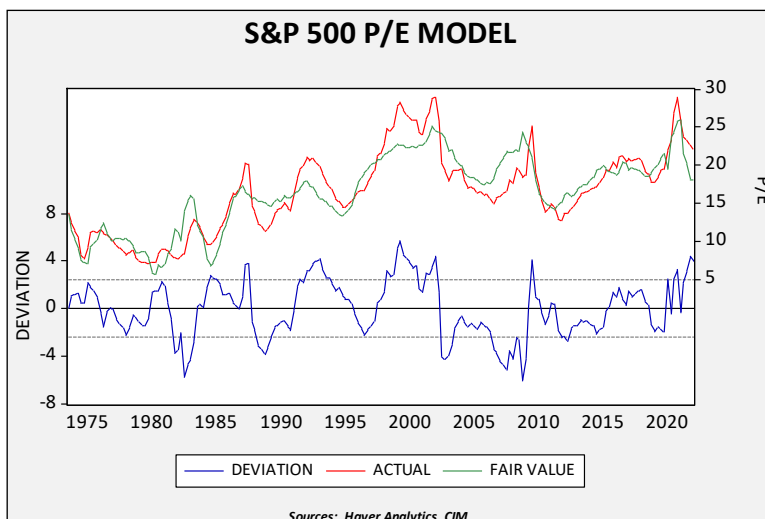
suggests there is a good chance that the FOMC tightens the economy into recession. If Chair Powell were not so flexible, we would give Path #1 a higher probability.

Path #2 is the low-probability/high-impact event that isn't likely, but if it occurs, the impact would be quite serious. We would expect the housing market to notably weaken, adversely affecting the net worth of the majority of American households. This outcome is unlikely, but if signs emerge that the bond market is concerned about currency debasement, the impact on asset markets would be significant.

Any changes to our market forecasts?

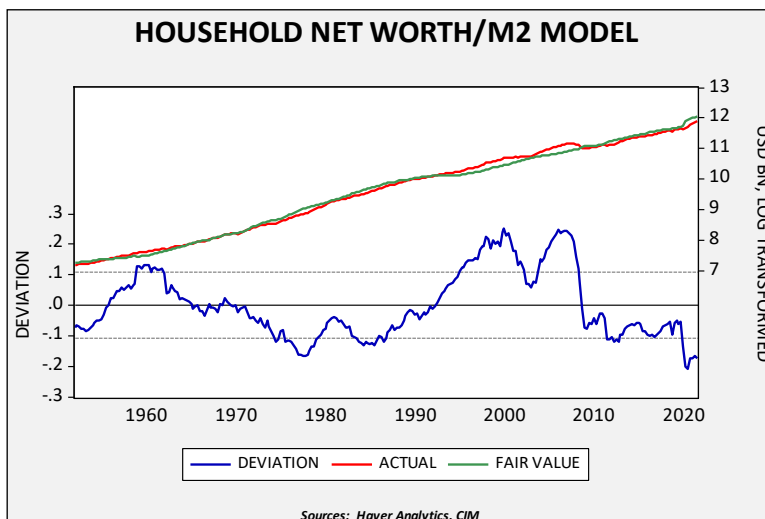
At this point, we do not have any changes to our forecasts. Although looming policy uncertainty has already caused interest rates to rise and equity markets to pull back, we are reluctant at this point to change our forecasts of 5000 for the S&P 500 and a year-end 10-year T-note yield of 1.85%, with a peak of 2.20% during the year. Earnings for 2022 should remain robust, but that isn't likely to be the case in 2023. At this point, the biggest risk to the S&P 500 forecast is the multiple.

This model uses M2 velocity, the five-year standard deviation of the yearly change in CPI, the 10-year T-note, and a proxy for inequality as independent variables. The current year-end fair value for the multiple is 18.6x, which would suggest further weakness given our forecast of \$225.80 for S&P 500 earnings. However, we expect the multiple to remain elevated, hovering around the +1 standard error line, which means our forecast is still viable.



The still ample levels of liquidity in the economy make us reluctant to lean bearish.

This is a model of household net worth regressed against M2; both variables are log-transformed. Although this is a simple model, the deviation suggests that even though asset values across the board are elevated, relative to available liquidity, net worth is actually below fair value. In fact, the model puts the current deviation at levels last seen in the late 1970s, before asset values began to climb steadily. Until liquidity is withdrawn, or net worth falls due to declining asset values due to an exogenous event, there is nothing here that suggests major asset price weakness is looming.



Policy error could lead to asset price declines, but investors do need to recognize that ample liquidity remains a supportive factor for markets. Even if the FOMC aggressively reduces the money supply, the market impact may not be felt for some time.

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This report was prepared by Mark Keller, Bill O'Grady, and Patrick Fearon-Hernandez of Confluence Investment Management LLC and reflects the current opinion of the authors. It is based upon sources and data believed to be accurate and reliable. Opinions and forward-looking statements expressed are subject to change. This information does not constitute a solicitation or an offer to buy or sell any security.

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