Investment Insights Series

Still Think High Inflation is Transitory?

Inflation-Hedging Assets for the End of the Great Moderation

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In our previous paper, "Transient Inflation: What if the Consensus is Wrong?" I expressed what was then an out-of-consensus view on inflation:

"The explosion in money stock, the demand-supply imbalance in the housing market that will result in higher estimated shelter costs, the sustained and increasing demand for industrial metals due to the structural increase in demand for renewables, and the high and persistent fiscal deficit run by the US government … will eventually manifest in a high sustained level of inflation."

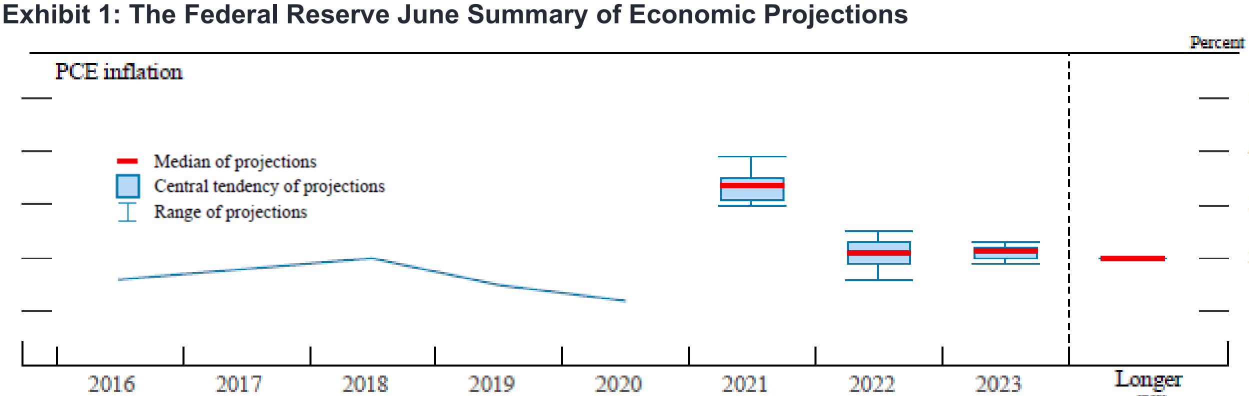
In this follow-up paper, for those who believe inflation is a risk that must be actively managed on a go-forward basis, we assess the merits of inflation-hedging assets and investment strategies (collectively "inflation-hedging assets") such as REITs, TIPS, gold, commodities and momentum strategies.

KEY TAKEAWAYS

- The Great Moderation – a period of subdued inflation and business cycle volatility as we know it – may be coming to an end.
- As witnessed during the early and late 1970s, high inflation can wreak havoc on both equities and bonds. Unfortunately, most institutional portfolios, as currently structured, are not positioned to weather coincident losses in stocks and bonds due to high inflation.
- Our research indicates inflation-hedging assets or strategies such as REITs, natural resources, and trend-following strategies may provide portfolio protection should the current bout of high inflation persist well into 2022.

When we published the first paper on inflation[1], the Federal Reserve's (Fed) view of transient inflation was as follows.

Exhibit 1: The Federal Reserve June Summary of Economic Projections



Source: The Federal Reserve. Summary of Economic Projections. 16 June 2021.

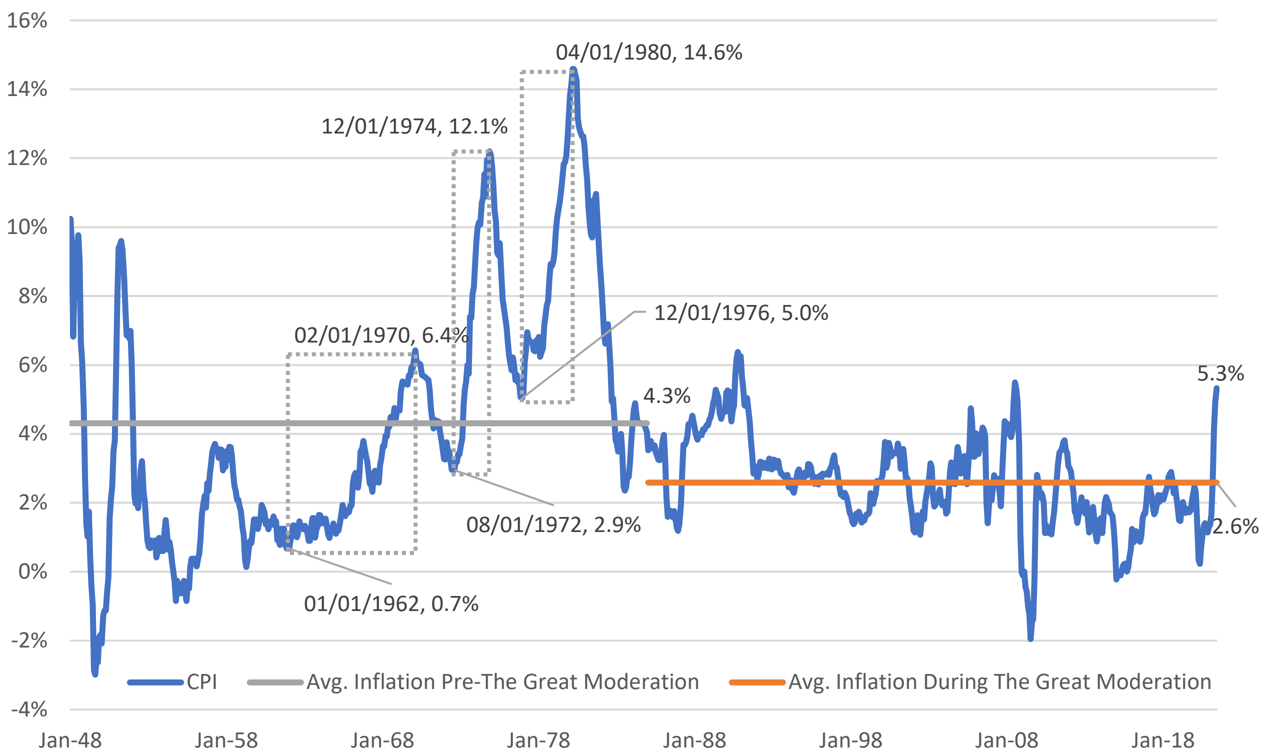
[1] Park, Soonyong, "Transient Inflation: What if the Consensus is Wrong?" August 2021.

Based on the median economic projections of Federal Reserve Board members and the Federal Reserve Bank presidents, the Fed expected PCE Inflation[2] to rise as high as 3.4%[3] during 2021 before settling down to 2.1% in 2022. One can infer from Exhibit 1 that when referring to "temporary" or "transient" high inflation, the Fed is expecting higher inflation to last about a year before settling down to the average inflation target of around 2.0%. Therefore, we define a high and sustained inflationary environment (hereafter simply referred to as "high inflation") as the one persisting beyond 2021 well into 2022.

Effectiveness of Inflation Hedges

Assessing the merits of inflation-hedging assets from a historical perspective is easier said than done due to the paucity of data. As shown in Exhibit 2, here in the U.S., we have not witnessed high inflation since 1980. In fact, one must go back to the 1960s and '70s to truly appreciate the nefarious effects of high inflation.

Exhibit 2: One Must go Back to the '60s and '70s to Witness High and Sustained Inflation



Source: St. Louis Fed FRED. Data through June 2021.

The dotted boxes in Exhibit 2 highlight three episodes of high inflation: January 1962 – February 1970 (97 months), August 1972 – December 1974 (28 months), and December 1976 – April 1980 (40 months).

There are a few observations worth noting:

1. Except for the first episode, historically, it appears the Fed has done a reasonable job in limiting the duration of high inflation environments.

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[2] PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy.
[3] The Federal Reserve. Summary of Economic Projections. 16 June 2021.

2. Year-over-year inflation peaked in April 1980, which implies no portfolio manager under 60 years of age has ever managed U.S. portfolios through periods of high inflation.

3. Index returns for most strategic assets do not begin until the early 1970s; therefore, it is difficult to analyze their realized performance during high inflation environments. For example, the monthly return series for the Bloomberg U.S. Aggregate Bond Index does not begin until 1976. Even though U.S. REIT rules were established in 1960, the "modern REIT era" did not begin until 1991.[4]

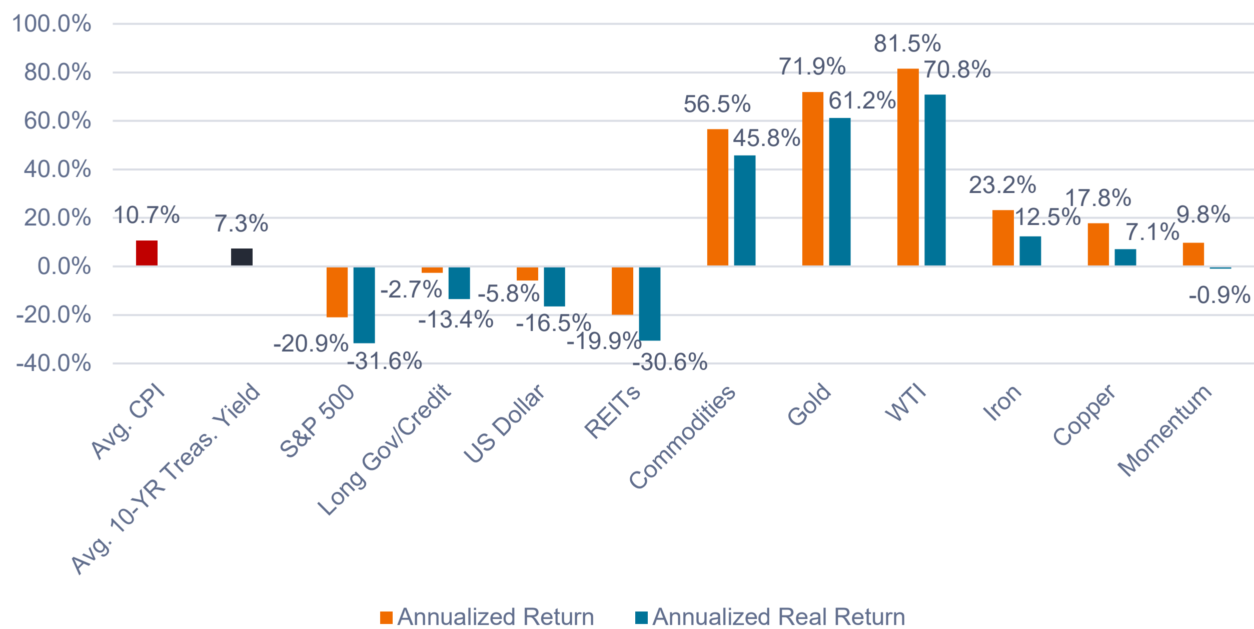
The last two observations are especially problematic for analyzing past performances of inflation-hedging assets during the high inflation environments of the 1960s and 1970s. Therefore, we turn to certain non-investable proxies[5] for those assets and investment strategies where historical index and strategy return data are not readily available.

The Effectiveness of Inflation-Hedging Assets and Investment Strategies

In general, we take a descriptive (as opposed to normative) approach to analyzing financial markets: that is, how things are versus how things ought to be. We take a descriptive approach simply because financial markets are way too complex and do not always behave the way we think they ought to behave. A perfect example of the latter is when Standards & Poor's downgraded the creditworthiness of the United States in August 2011. Normatively, a credit downgrade should lead to higher yields; however, after the downgrade, yields on U.S. Treasuries rallied – the exact opposite of what many expected.

In the following exhibits, however, we marry the two to assess our ex-ante view of the effectiveness of inflation-hedging assets. According to the normative approach, stocks, bonds and the U.S. dollar should perform poorly while inflation-hedging assets such as REITs, gold, commodities and momentum strategies should perform well during periods of high inflation. In Exhibits 3 and 4, we compare the performance of stocks, bonds, the U.S. dollar and inflation-hedging assets during the periods of August 1972 – December 1974 and December 1976 – April 1980, both periods of high inflation as demonstrated in Exhibit 2.[6]

Exhibit 3: High and Rising Inflation: Aug. 1972 – Dec. 1974



Source: Bloomberg, World Gold Council, St. Louis Fed FRED, AQR. See Appendix A for the underlying indices or asset proxies.

[4] Kuhl, Greg. "Investing in the Future with REITs 3.0." October 2021.
[5] See Appendix A for asst class proxies.
[6] We excluded the Jan 1962 – Feb. 1970 period because of lack of return data for most asset classes and investment strategies.

For the high inflation period that ended December 1974, the S&P 500® Index lost about 21% in nominal terms and 32% in real terms, and the Bloomberg U.S. Long Government/Credit Index[7] (Long Gov/Credit Index) lost about 3% in nominal terms and 13% in real terms. One reason why the loss was not more acute for the latter was the level of interest rates that prevailed during this period of high inflation: the yield on constant maturity 10-year Treasuries averaged 7%, which provided a rather large cushion against losses.

Inflation-hedging assets performed well except for REITs and momentum strategies. West Texas Intermediate (WTI), a proxy for crude oil, performed exceptionally well (up 82% in nominal terms and 71% in real terms), followed by gold and commodities.

According to normative thinking, REITs should have generated positive returns during this period; however, REITs' performance basically mirrored the performance of the S&P 500. We have a theory as to why REITs performed so poorly during this period. According to Greg Kuhl, one of Janus Henderson's portfolio managers for Global and U.S. Real Estate strategies:

"Most early REITs invested in commercial mortgages rather than in the ownership of buildings. They were typically run with high levels of financial leverage. … In many ways, several of these early vehicles were more akin to banks or specialized lenders than actual owners of real estate." [8]

Given this historical context for REITs, it makes sense why they failed so miserably in providing protection against high inflation in the early 1970s.

The historical performance of the proxy for momentum strategies is the most surprising and disappointing. Given the persistence of trend in CPI, one would have expected this proxy strategy to have generated strong positive nominal and real returns; however, that is not what history shows. The proxy strategy returned 10% in nominal terms and -1% in real terms. While materially better than the loss of 32% in real terms for the S&P 500, in our opinion, this strategy should have generated much stronger results.

We also have a theory behind the lackluster result of momentum strategies. The proxy used for this strategy relies on what is commonly referred to as cross-sectional momentum as opposed to the time series, trend-following momentum. Without going into the mechanics of the strategy, the cross-sectional momentum is a long/short strategy that buys (long) assets that performed well and shorts assets that performed poorly for the past 3 to 12 months. In contrast, trend-following is a directional strategy that buys (long) assets with positive time series momentum and shorts assets with negative time series momentum. Given this difference in approach, we believe directional trend-following strategies would have performed meaningfully better during this high inflation environment.

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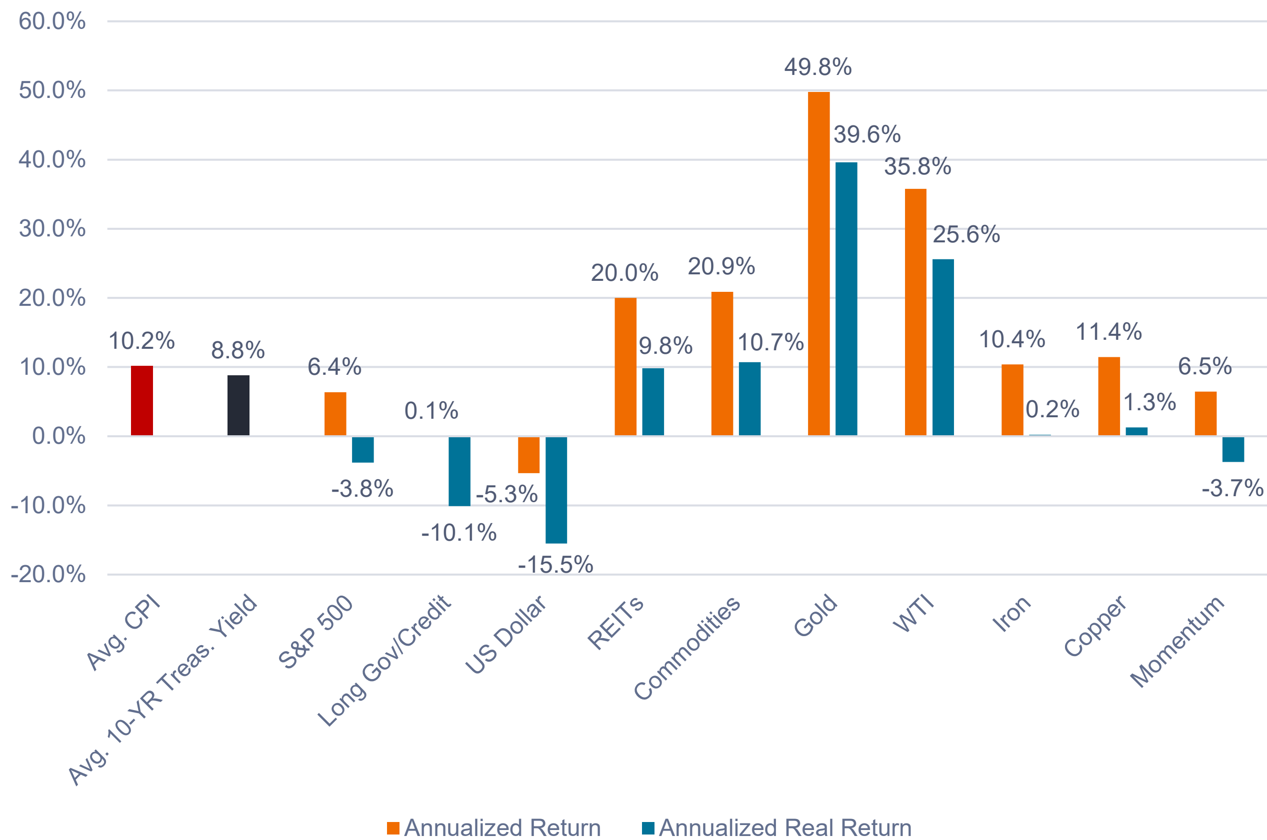
[7] We used the Bloomberg U.S. Long Government/Credit Index (as a proxy for bonds) instead of the U.S. Aggregate Bond Index because the former had the longer return series dating back to February 1973.

[8] Kuhl, Greg, "Investing in the Future with REITs 3.0" October 2021.

Exhibit 4: High and Rising Inflation: Dec. 1976 – Dec. 1980



Source: Bloomberg, World Gold Council, St. Louis Fed FRED, AQR. See Appendix A for underlying indices or asset proxies.

For the high inflation period that ended December 1980, the S&P 500 gained about 6% in nominal terms but lost 4% in real terms, and the Long Gov/Credit Index barely registered any gains in nominal terms and lost 10% in real terms. The yield on 10-year Treasuries averaged 9% - higher than the preceding 1972 – 1974 period.

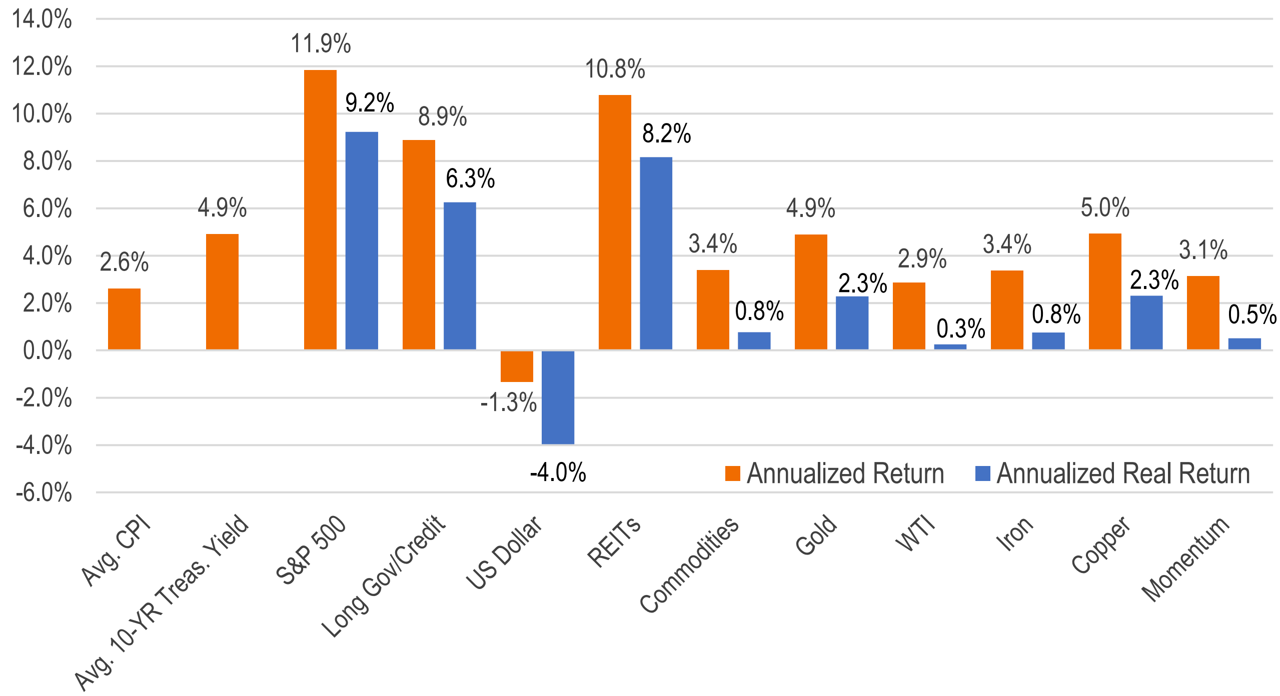
Except for the proxy momentum strategy, all inflation-hedging assets performed well. Switching places, gold generated the highest returns (50% nominal and 40% real) followed by WTI, commodities and REITs. In contrast to the prior high inflation period, REITs provided strong protection against inflation, generating 20% nominal and 10% real returns.

The proxy momentum strategy again failed to provide inflation protection by mirroring the performance of the S&P 500.

The Great Moderation

The Great Moderation (that began in mid-1980s) refers to a period of subdued macroeconomic and business cycle volatility after the Fed effectively tamed inflation in the U.S. As one can observe in Exhibit 2, the average inflation during the Great Moderation (2.6%) was substantially lower than the average of the Pre-Great Moderation. During this period, both U.S. stocks and bonds performed exceptionally well, as shown in Exhibit 5.

Exhibit 5: The Great Moderation (01/85 - 06/21): An Exceptional Period for Stocks and Bonds



Source: Bloomberg, World Gold Council, St. Louis Fed FRED, AQR. See Appendix A for the underlying indices or asset proxies.

Strictly from an investment return perspective, the taming of inflation really paid off: The S&P 500 returned 12% per year in nominal and 9% in real terms and the Long Gov/Credit Index returned 9% in nominal and 6% in real terms. The yield on 10-year Treasuries averaged 4.9%, substantially outpacing the average inflation of 2.6% during the period.

If this was an exceptional period for stocks and bonds, it was an absolutely dreadful period for most inflation-hedging assets. Since inflation was under control, investors saw little use for inflation-hedging assets and their investment returns reflected this view. However, we were surprised at the uniformity of low returns for gold, WTI, iron, copper, and the proxy momentum strategy from January 1985 – June 2021. Imagine meaningfully lagging the S&P 500 Index for 36 ½ years.

If Exhibits 3 and 4 make a compelling case for holding certain inflation-hedging assets during periods of high (or rising) inflation, Exhibit 5 makes an equally compelling counter-case against holding inflation-hedging assets during periods of moderate inflation. The latter represents the biggest hurdle for investing in inflation-hedging assets. Because the disappointment over most inflation-hedging assets has been so great for so long, most investors fail to see the value in them.

Inflation-Hedging Portfolios

Despite the high hurdle, we recommend inflation-hedging assets as part of an overall strategic asset allocation for institutional investors. Ideally, most institutional investors would seek to achieve a real return of 5.0% per year: 5.0% to meet the spending needs and CPI to preserve the purchasing power of the investment corpus. As noted in Exhibits 3 and 4, during periods of high inflation, both the S&P 500 and the Long Gov/Credit indices registered losses in real terms; therefore, a traditional institutional portfolio, in its current form, could suffer losses (in real terms) in a high inflation environment.

To hedge a portfolio against high inflation, we advocate the following:

1. **Leave international equity portfolios unhedged.**

   From time to time, plan sponsors ask whether they should hedge international equity portfolios back to the U.S. dollar since benefit payments are in U.S. dollars. If one believes inflation risk is to the upside, then leaving international equity portfolios unhedged may be consistent with this view. During the past high inflation environments shown in Exhibits 3 and 4, the U.S. dollar registered double-digit losses in real terms.

2. **Add a global natural resources portfolio geared towards zero net carbon and renewables.**

   Without the benefit of a zero net carbon and renewables tailwind, industrial metals such as iron and copper provided reasonable protection against high inflation, as demonstrated in Exhibits 3 and 4. With zero net carbon and renewables policies taking hold around the globe and the resultant expected demand increase and tightness of future supply for natural resources, we expect global natural resources portfolios positioned for the zero net carbon transition to provide a reasonable hedge (as they did in the 1970s) against high inflation.

3. **Add listed real estate to the real estate allocation.**

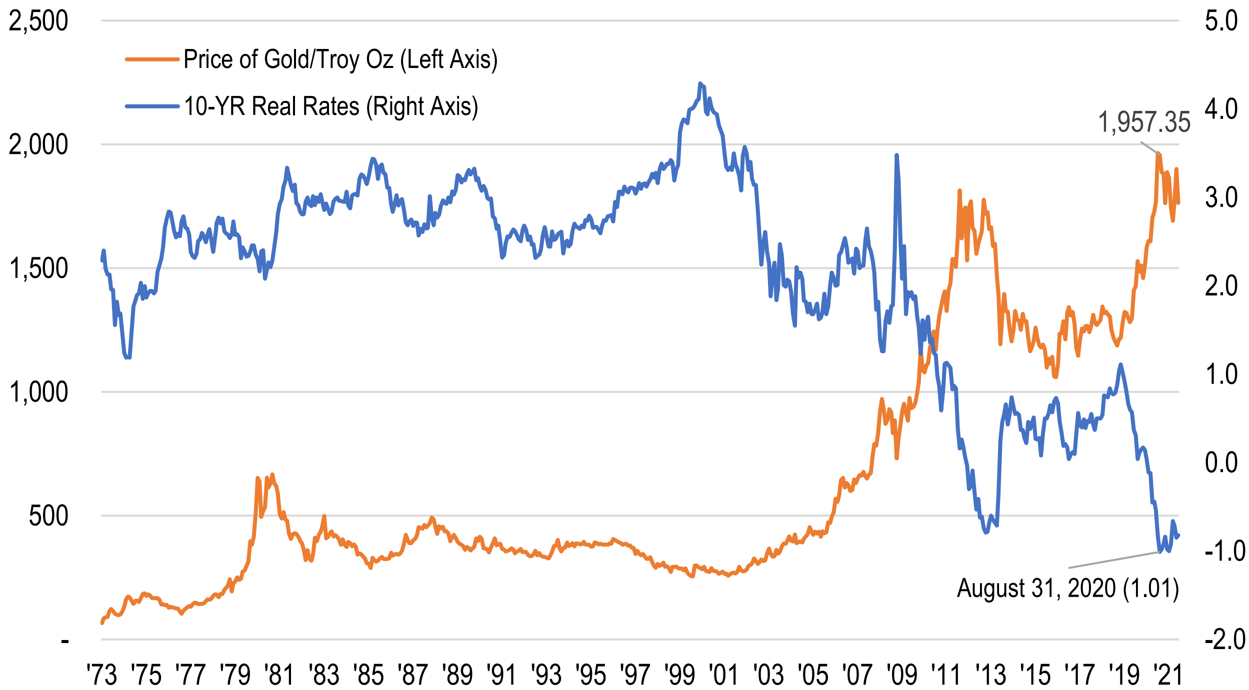
   Most institutional investors already hold private real estate in their portfolios. However, REITs represent a neglected asset class among institutional investors despite their inflation-protection qualities and return-generating capabilities. As demonstrated in Exhibit 4, REITs returned 10% per year versus -4% for the S&P 500 and -10% for the Gov/Credit Index in real terms during the high inflation period between December 1976 and April 1980. During the Great Moderation, when inflation remained subdued, REITs generated even higher returns, which speaks to their return-generating potential.

4. **Prospectively, gold as an inflation hedge is a big question mark for us.**

   It is difficult to make a case against holding gold when it performed exceptionally well as an inflation-hedging asset during the 1970s. While one could explain away the performance of gold from 1972 to 1974 (i.e., the price of gold was artificially depressed under the Bretton Woods system), one cannot explain away gold's high absolute performance between December 1976 and April 1980. Notwithstanding, we have some reservations about gold due to its inverse relationship with real rates.

   As shown in Exhibit 6, it appears the price of gold is inversely related to the level of real rates. This inverse relationship is especially noticeable beginning in the mid-2000s. Given the 10-year real rate is currently hovering near the all-time low of -1.01% reached in August 2021, gold may suffer losses along with stocks and bonds if real rates reverse their course and begin to rise.

Exhibit 6: The price of gold appears inversely related to real rates



Source: World Gold Council, St. Louis Fed FRED.

5. **Treasury Inflation-Protected Securities (TIPS) provide protection against inflation; notwithstanding, they may suffer the same fate as gold if real rates reverse their course and begin to rise.**

   For this reason, instead of a long-only TIPS portfolio, a long-short portfolio of duration-neutral TIPS and nominal Treasuries may be a more efficient hedge against inflation.

6. **Add a dynamic trend-following strategy on a standalone basis or as a component within a broader portfolio protection strategy.**[9]

   This recommendation is definitively normative and, hence, controversial. Unlike REITs, gold and commodities, we do not possess a historical basis for this recommendation (due to the lack of realized returns from dynamic trend-following strategies during periods of high inflation). While we show the proxy returns for the momentum strategy, as remarked earlier, the dynamic trend-following strategy is inherently different in implementation from the cross-sectional momentum strategy shown in Exhibits 3 and 4. In our opinion, dynamic trend-following strategies can provide highly efficient protection in persistent, trending equity and bond sell-offs induced by high inflation.

   One of the reasons why commodities have been an effective hedge against inflation is due to their reliance[10] on energy which – as proxied by WTI – has performed well during past periods of high inflation. However, given the zero net carbon and renewables headwind facing the traditional energy sector, prospectively, it is difficult to broadly advocate for the traditional energy sector as a hedge against inflation. In our opinion, it is better to capture persistent trends in oil and other commodities via a dynamic trend-following strategy than a direct investment in commodities or the energy sector.

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[9] We wrote extensively on portfolio protection in a separate paper. Refer to "Portfolio Protection: One size Fits None" published January 2021.

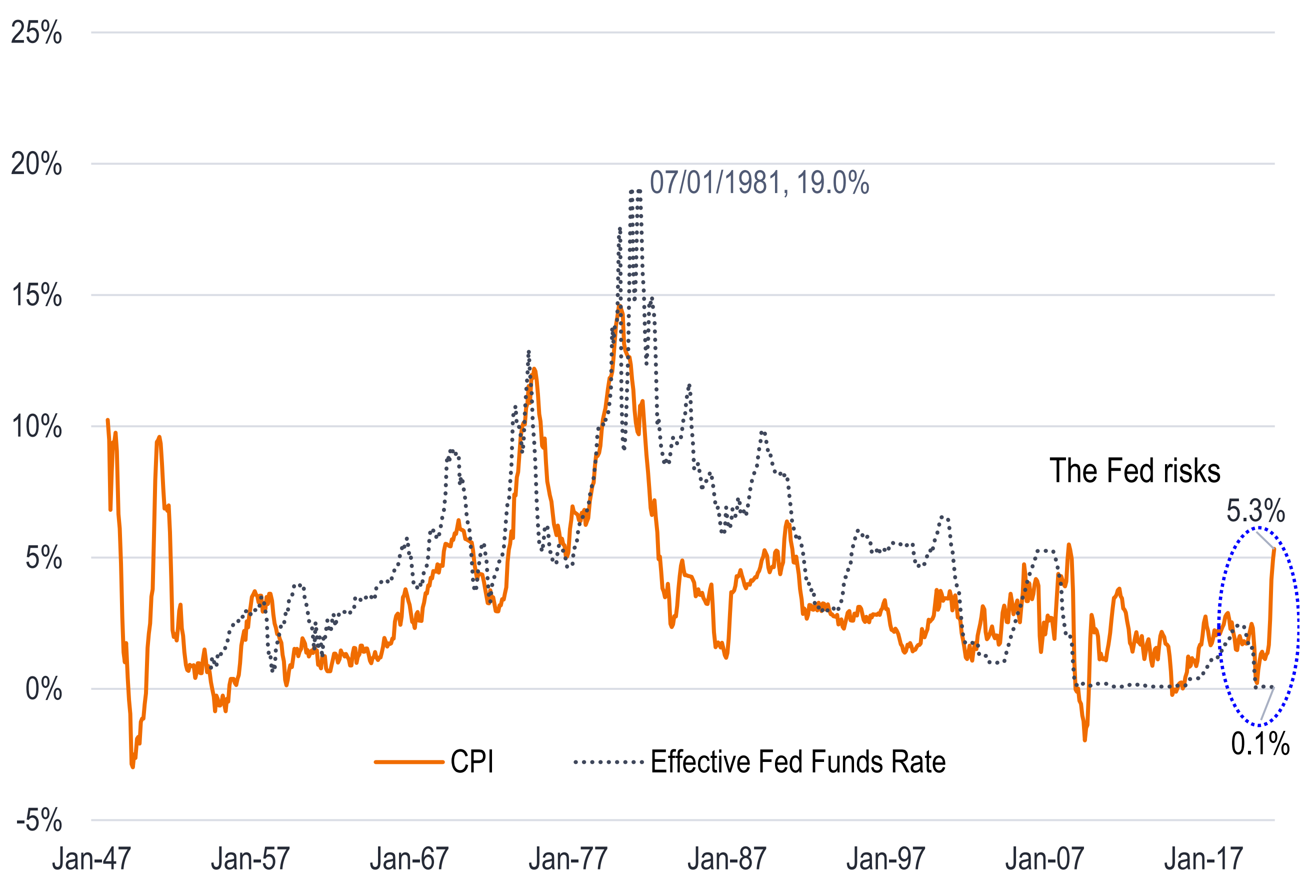
[10] Historically, energy has contributed the largest component weight to the S&P GSCI Commodity Index; therefore, the latter's performance has largely been dependent on the price of oil and related products. As of 8 January 2021, energy represented 53.93% of the S&P GSCI Commodity Index.

Conclusion

We concluded our first paper on inflation with the following cautionary advice:

"For many of us, it is difficult to imagine a world with a high, sustained level of inflation. And we validate this view through confirmation bias: we uphold evidence that supports our view while dismissing evidence that contradicts that view. The real danger is that we dismiss the evidence right front of us."

Exhibit 7: The Fed Risk Falling Behind the Curve



Source: St. Louis Fed FRED. Data through June 2021.

Between June and September 2021, the CPI reading has been well above 5.0%[11] and yet, as of September, half of the Fed members expected the federal funds rate to remain at zero throughout 2022. In our opinion, the Fed seriously risks falling behind the inflation curve if they continue to insist on inflation being transitory. Despite the mounting data, many still believe or hope that high inflation we have been experiencing will prove transitory. However, one cannot insist on inflation being transitory if we find ourselves in the same place in 2022. As witnessed during the early and the late 1970s, high inflation can wreak havoc on both equities and bonds. Unfortunately, most institutional portfolios, as structured currently, are not positioned to weather coincident losses in stocks and bonds. Investors can always choose to ride it out. However, in our opinion, it is more sensible to adapt one's portfolio for the possibility of high and not-so-transient inflation persisting well into 2022 and beyond.

[11] CPI readings of 5.28% (July), 5.20% (August) and 5.38% (September).

Appendix A: Asset Class and Investment Strategy Proxies

S&P 500: S&P 500 Index

Long Gov/Credit: Bloomberg Barclays U.S. Long Government/Credit Index

US Dollar: DXY Index

REITs: FTSE NAREIT All Equity REITs Index

Commodities: S&P GSCI Index

Gold: Gold Spot Price per the World Gold Council

Iron: PPI: Iron & Steel Products per the St. Louis Fed FRED

Copper: PPI: Copper & Copper Products per the St. Louis Fed FRED

Momentum: All Assets Momentum from “Century of Factor Premia Monthly” per AQR

Sources: Bloomberg, World Gold Council, St. Louis Fed FRED, AQR.

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