T.RowePrice 普徠仕

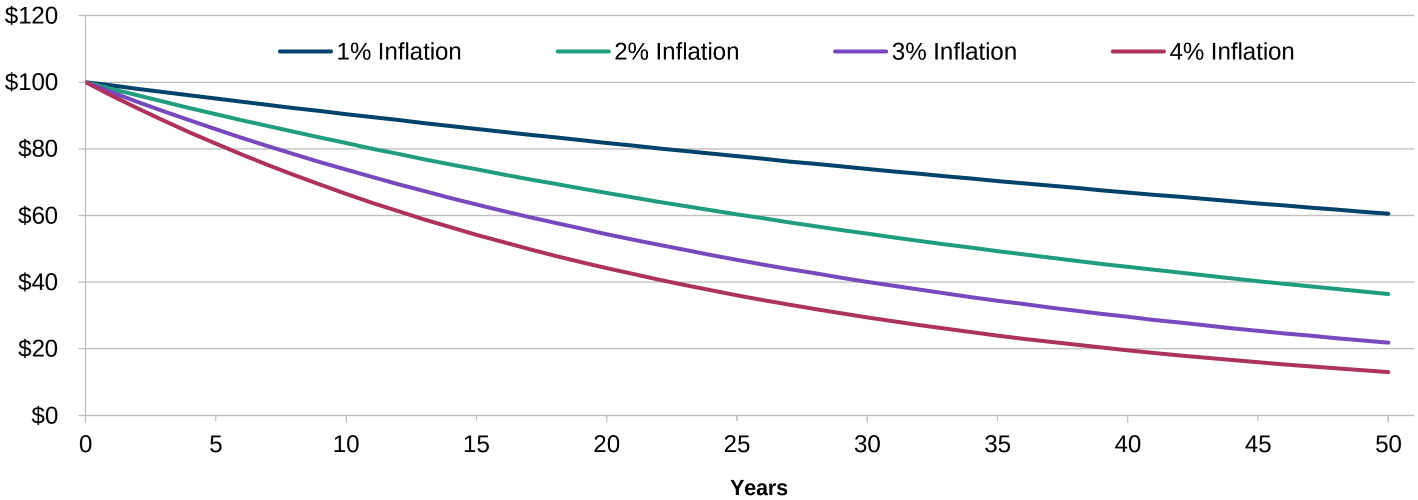
Asset Allocation In the Era of High Inflation

Inflation is one of the biggest risks facing investors in 2022. The risk has increased after the surge in energy and commodity prices that followed Russia's invasion of Ukraine and the subsequent sanctions against Russia. In the US, consumer price index rose in February to 7.9%, its highest rate in 40 years, with increases in food, rent, airfares, apparel, and many other items. Inflation is also headline news in other developed countries, posing severe challenges to the ultra-accommodative monetary policies of central banks. Whether high inflation is transitory or permanent has been a hotly debated topic. What is certain is that the short-term outlook has been made worse by the spike in commodities and inflation is likely to remain elevated relative to pre-Covid levels for an extended period.

Regardless of its path, inflation affects everyone, particularly those with longer investment horizons such as retirees. This is because inflation likely reduces our purchasing power and over time it can potentially result in a substantial erosion of our net worth in real terms (Fig. 1). For retirees, it may also increase the risk of outliving their nest eggs. With elevated inflation in the post-Covid recovery persisting longer than many had anticipated, it is of paramount importance to manage our portfolios well against inflation risk. It is "real growth," or the ability to grow purchasing power over time, that matters most to investors.

Impact of Inflation on Long-term Purchasing Power

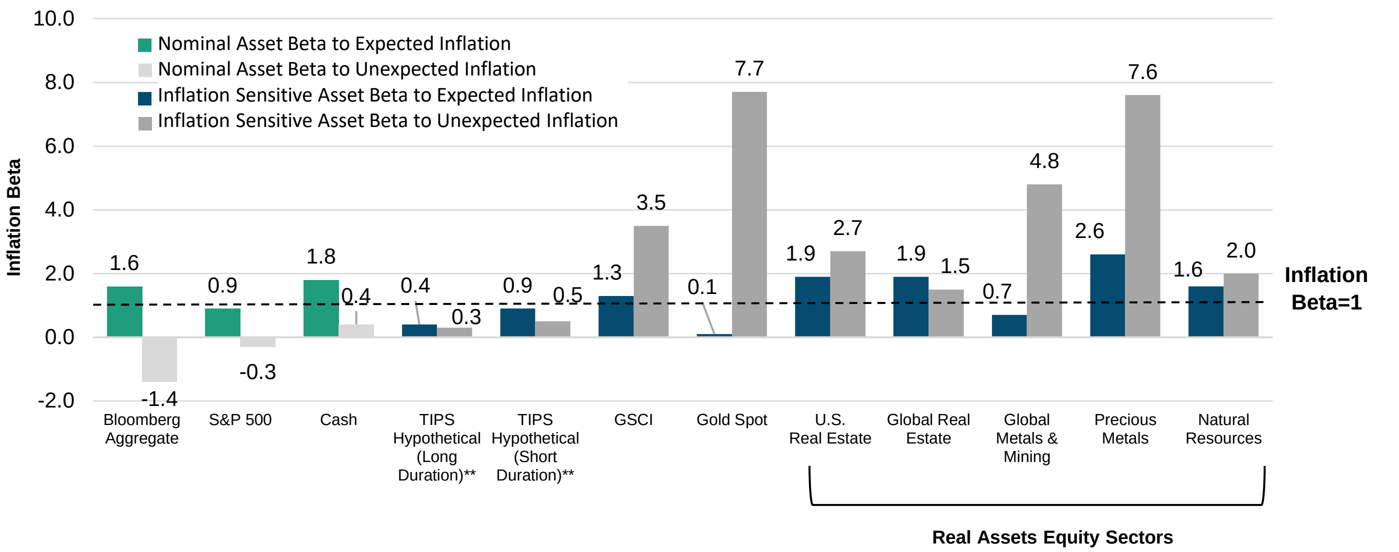
(Fig. 1) Real value of $100 at end of period



SOURCE: T. ROWE PRICE. INFORMATION PRESENTED HEREIN IS HYPOTHETICAL IN NATURE. THE DIAGRAM ABOVE SHOWS THE DECREASE OF FACE VALUE OF $100 IN DIFFERENT TRAJECTORIES DUE TO DIFFERENT LEVELS OF INFLATION OVER TIME. THE ANALYSIS IS SHOWN FOR ILLUSTRATIVE, INFORMATIONAL PURPOSES ONLY AND DOES NOT CONSTITUTE ANY INVESTMENT ADVICE OR RECOMMENDATIONS. IT IS NOT INTENDED TO FORECAST OR PREDICT FUTURE EVENTS AND DOES NOT GUARANTEE FUTURE RESULTS. ACTUAL FUTURE OUTCOMES MAY DIFFER MATERIALLY.

Inflation Beta[1] for Expected vs. Unexpected inflation*

(Fig.2) September 1, 1976 Through December 31, 2021



PAST PERFORMANCE IS NOT A RELIABLE INDICATOR OF FUTURE PERFORMANCE. MOST RECENT DATA AVAILABLE.

*INFLATION MEASURED BY CPI-ALL URBAN CONSUMERS, NON-SEASONALLY ADJUSTED. EXPECTED INFLATION WAS OBTAINED AS THAT PART OF CURRENT CPI INFLATION THAT CAN BE EXPLAINED BY TRENDS IN PAST INFLATION (USING A REGRESSION FRAMEWORK), AND UNEXPECTED INFLATION THEN EMERGES AS THE RESIDUAL THAT CAN'T BE EXPLAINED BY RECENT INFLATION TRENDS.

**DATA BASED ON TIPS RETURNS MODEL.

THE ABOVE ANALYSIS IS BASED ON HISTORICAL MONTHLY INDEX RETURN DATA, SEPTEMBER 1976 TO DECEMBER 2021 (SOURCED FROM MORNINGSTAR ENCORR, ST. LOUIS FRED, T. ROWE PRICE INTERNAL SOURCES AND COMBINED BY T. ROWE PRICE CALCULATIONS). HISTORICAL INDEX RETURNS ARE USED TO ILLUSTRATE THE HYPOTHETICAL PERFORMANCE AND CHARACTERISTICS OF A PORTFOLIO OF REAL ASSET STOCKS AND DO NOT REPRESENT THE PERFORMANCE OR CHARACTERISTICS OF ANY T. ROWE PRICE PRODUCT. SOURCES FOR INDEX DATA: BLOOMBERG INDEX SERVICES LIMITED, ICE BOFA, LONDON STOCK EXCHANGE GROUP PLC AND ITS GROUP UNDERTAKINGS (COLLECTIVELY, THE "LSE GROUP"), MORNINGSTAR, MSCI, STANDARD & POOR'S, AND WILSHIRE.

Is Gold the Best Inflation Hedge?

The next question, naturally, is which asset classes can be used to hedge against inflation? The answer seems obvious: many believe that inflation sensitive assets such as gold and inflation-linked government bonds (e.g., US TIPS[2]) are the best inflation hedges. But is this really the case?

Our research shows that the same asset can display very different inflation sensitivities in different inflationary environments. More specifically, we studied if, and how, major asset classes have behaved differently toward expected and unexpected inflation. The results are shown in Fig. 2. For expected inflation we found that short-term TIPS were a good hedge, while both long-term TIPS and gold were very poor hedges. For unexpected inflation, gold exhibited a strong beta to inflation, but both long- and short-duration TIPS fell short.

Many nominal asset classes, including traditional stocks and bonds, tend to directionally compensate for expected inflation – sometimes better than inflation sensitive assets. But these nominal assets suffer from drawdowns during periods when inflation surprises to the upside. Thus, investors in a typical stock-bond portfolio face a conundrum: when times are good and inflation rises predictably, their current asset mix rises strongly, but leaves them exposed to sudden drawdowns when inflation rises unpredictably.

Real Assets Equities Tend To Perform Better In An Inflationary Environment

T. Rowe Price Multi-Asset research has found that a mix of commodities (mining, energy, and utilities) and real estate companies, blended together as "Real Assets Equities" exhibit similar—and in most cases, superior—inflation sensitivities to traditional inflation-linked bonds. This research has found that Real Assets Equities respond more favourably to periods of high or rising inflation than the broad equity market where returns are relatively weak, at the cost of less favorable returns during periods of low or falling inflation where broad equity returns are relatively strong.

On the contrary, TIPS, provide a real rate of return guaranteed by the government, thus eliminating inflation risk, but respond much less strongly to inflation surprises and really only preserve capital that dedicated to TIPS. Thus, Real Assets Equities can achieve similar inflation hedge with a much smaller capital allocation than inflation linked bonds.

Since expected inflation can by and large be absorbed by the growth of nominal asset classes over time, the true risk for investors lies in unexpected inflation, which by definition is difficult to forecast. Unexpected inflation shocks are why inflation sensitive assets are needed as these assets tend to perform much better in a high or rising inflationary environment while traditional assets struggle.

Tactically Adjusting Portfolio Allocation Is The Key

As such, long-term investors concerned with inflation risk or seeking "real growth" could consider a combination of growth-oriented and inflation-sensitive assets in strategic allocations of their portfolios, including:

1. A higher equity exposure and allocations to market segments with higher growth potential, such as small-cap stocks and emerging markets equities, to hedge against expected inflation and provide growth potential. Equities in general are less susceptible to an erosion of purchasing power relative to bonds given their ability to grow earnings in real terms during inflationary environments by potentially raising prices in response to higher input costs. In contrast, the real purchasing power of a nominal bond's coupon will be lessened by the impact of inflation.
2. Dedicated allocations to inflation-sensitive assets that perform well In periods of unexpected or rising inflation, such as Real Assets Equities and TIPS. The strategic allocation to inflation-sensitive assets may help to smooth real returns and diversify the portfolio through inflation regimes.

While nominal bonds may not act as a good inflation hedge per se, we believe they could still provide income and some potential downside risk management to an inflation-focused portfolio. The fixed income allocation can be anchored by a core exposure to nominal government and high-quality credit bonds, and complemented with higher yield-oriented exposures such as high yield bonds, floating rate loans, and emerging markets debt.

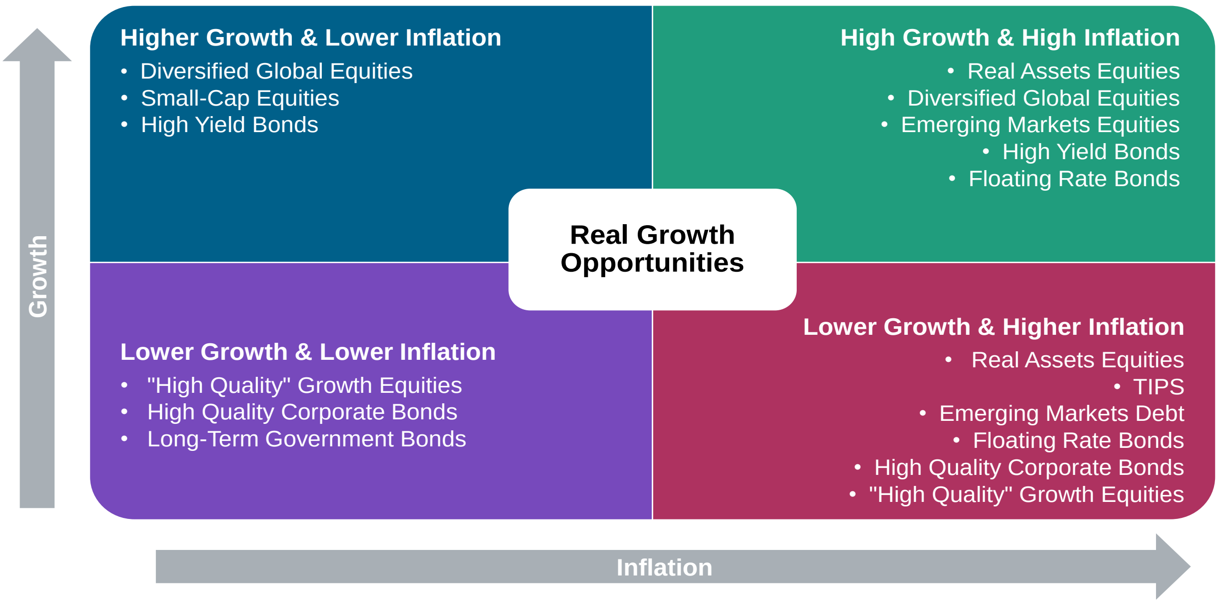
Depending on relative valuations and macroeconomic factors, the underlying components discussed above can play roles of varying importance in the portfolio. This is summarized in Fig. 3 which provides some guidelines as to how investors could tactically adjust portfolio allocations in response to changing growth and inflation dynamics with the goal of pursuing long-term real purchasing power.

[1] The inflation beta of an asset measures how much an asset's price moves (on average) in response to an increase or decrease in inflation. In Fig. 2, inflation beta provides a useful measure of each asset's ability to provide a hedge against expected and unexpected inflation.

[2] Treasury Inflation-Protected Securities, or TIPS, are U.S. Treasury bonds whose principal is indexed to the rate of inflation and hence is inflation-protected. When inflation rises, the TIPS' principal value is adjusted upwards.

Seeking Durable Real Growth Across a Range of Market Environments

(Fig. 3) Tactical asset allocation opportunities



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The Hong Kong Retirement Schemes Association (HKRSA) was established in 1996 to promote the interests and best practices of retirement schemes in Hong Kong including provident and pooled retirement funds. The HKRSA is a not-for-profit, non-political association, which represents retirement schemes and their members, providing a forum for discussion of issues of current and topical interest.

About T. Rowe Price

Founded in 1937, Baltimore-based T. Rowe Price Group, Inc. (troweprice.com) is a global investment management organization with US$1.69 trillion in assets under management[1] as of 31 December 2021. The organization provides a broad array of mutual funds, subadvisor services, and separate account management for individual and institutional investors, retirement plans, and financial intermediaries. T. Rowe Price's disciplined, risk-aware investment approach focuses on diversification, style consistency, and fundamental research.

[1] Firmwide AUM includes assets managed by T. Rowe Price Associates, Inc. and its investment advisory affiliates. The acquisition of Oak Hill Advisors (OHA) completed on 29 December 2021 included US$46.9 billion of fee-basis AUM which are reflected in the firm's AUM at 31 December 2021.