Research

Institutional Insights

A playbook for endowments and foundations (E&Fs) to help navigate higher inflation

Despite having an inflation-sensitive investment objective, E&Fs haven't had to worry much about inflation over the past decade. Now, in a world where inflation has jumped as high as 9%, do we expect elevated levels to persist? And can E&Fs still meet their return objectives?

Fidelity INVESTMENTS

Collin Crownover, PhD, FRM
Research Analyst
Asset Allocation Research Team

Erika Murphy, CFA, CAIA
Portfolio Manager
Global Institutional Solutions

KEY TAKEAWAYS

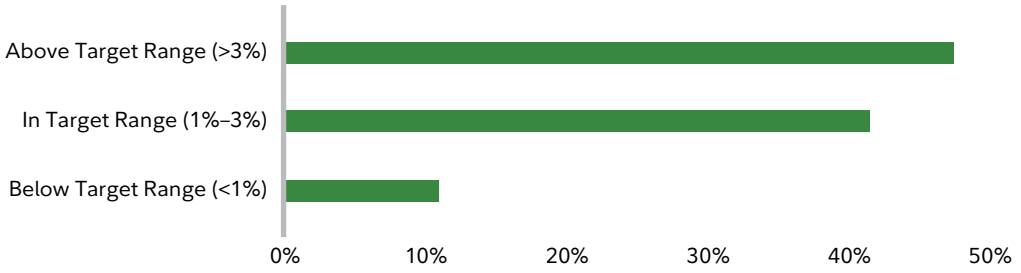
- We believe that secular inflation will average approximately 3% going forward, a materially higher level than over the past 20 years.
- Our research shows that the real wealth[1] of a portfolio of 70% stocks/30% bonds starts to erode when inflation nears or exceeds 3%, as the investment portfolio's returns are insufficient to offset 5% annual spending and higher inflation levels.
- E&Fs with a 5% annual spending policy should consider targeting an 8% nominal return[2] (3% inflation + 5% annual spending policy) in order to preserve real spending power.
- We believe E&Fs should consider including a dedicated allocation to inflation-hedging assets to help preserve their real spending power. A variety of public asset classes may serve as an inflation hedge, including commodities, commodity-related equities, and Treasury Inflation-Protected Securities (TIPS). Private assets including private equity, private credit, private infrastructure, and private real estate have also historically demonstrated a positive correlation to inflation.
- We do not recommend a "set it and forget it" inflation-hedging allocation. Asset selection and sizing of inflation hedges should vary depending on the level of inflation, inflation's rate of change, the level of economic growth, and the risk profile of the inflation-hedging asset class itself.

Our views on inflation

Inflation averaged only about 2% (measured using year-end annual headline CPI inflation) in the 20 years prior to 2021. If we put this into a historical context, we have just lived through an unusually long period of low inflation. As outlined in Exhibit 1, inflation near the current 2% target (1%–3%) was a common outcome in the post-war period, but inflation of 3% or higher has occurred with even greater frequency. Our secular view is that inflation will average approximately 3% going forward.

EXHIBIT 1: Although inflation near the 2% target is a common outcome, inflation of 3% or higher is more common in the post-World War II period.

Annual Inflation Frequency (1946–2022)



Inflation measured by year-end annual headline Consumer Price Index (CPI) inflation. The target range refers to the Fed's decision in 2012 to set a 2% inflation target as part of its monetary policy. Sources: Fidelity Investments, Bureau of Labor Statistics, as of Dec. 31, 2022.

While policymakers are working hard to tackle persistent cyclical inflation, we continue to see evidence of elevated secular inflation. These heightened indicators include:

- U.S. labor productivity has been negative in four of the last eight quarters, and hit post-World War II lows in 2022, which, when combined with high wage growth, has caused a rise in unit labor costs not seen in over 40 years.
- Ballooning sovereign debt levels create incentives for governments to allow inflation to run higher than normal to reduce the real value of the debt stock.
- Rapidly aging populations tend to be inflationary due to labor shortages causing outsized wage increases and larger benefit outlays, which are often funded by increased debt.
- Deglobalization pressures have strained global supply chains and put sustained upward pressure on input costs.
- Long-run consumer expectations of inflation remain elevated.
- Greater uncertainty in agriculture and food-supply shocks due to a transitioning climate could continue to fuel higher secular inflation.

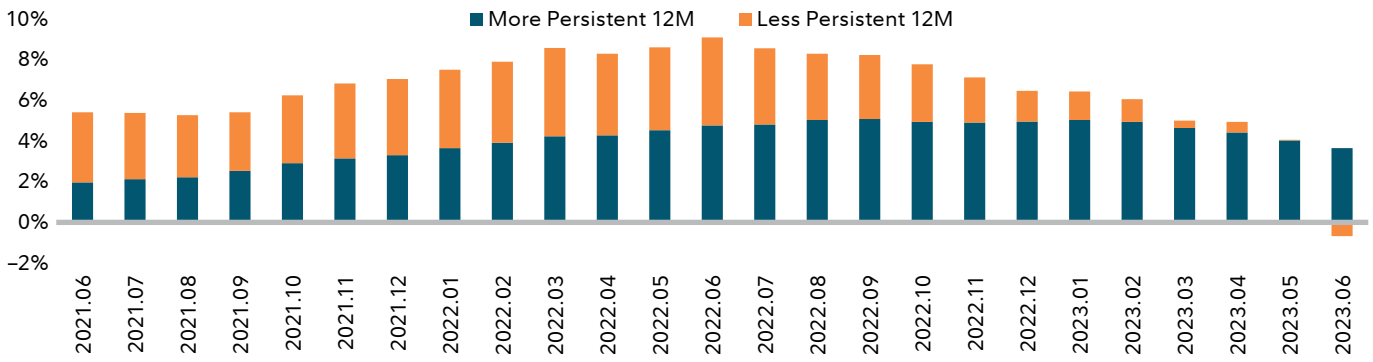
Some factors may counteract secular inflation pressures, including weak population growth, greater automation, and a reduction in the expansion of central bank balance sheets. However, based on our research, we believe on balance that the probability of higher secular inflation has increased.

Nearer term, we expect inflation to decline less than the market perceives. As of this writing, our expectation is for inflation to be substantially higher in mid-2024 than the market's current expectation of around 1.5%. Moreover, we see elevated inflation persisting longer than the market expects. For example, we expect the 5-year, 5-year forward inflation rate to be near 3% (as of August 15, 2023), while the 5-year, 5-year forward TIPS breakeven inflation rate is only 2.4%.[3] Of note:

- Inflation today is more supply driven than inflationary episodes of the past 30 years, making it harder to affect with monetary policy.
- Goods inflation is already down near its pre-pandemic low levels, but services inflation—which tends to be more persistent—remains at elevated levels. Persistent categories of inflation now comprise the entire 12-month average, as seen in Exhibit 2.

EXHIBIT 2: Persistent categories of inflation now comprise the entire 12-month average.

More versus Less Persistent Inflation (June 1, 2021–June 1, 2023)



Blue and orange bars represent periods where inflation is more persistent (elevated) or less persistent since June 2021, when inflation first began to rise. More persistent inflation categories: Food & Beverage, Housing, Apparel, Education and Communication. Less Persistent categories: Transportation, Medical Care, Recreation, Other Goods & Services. Inflation measured by year-end annual headline CPI inflation. Sources: Bureau of Labor Statistics, Fidelity Investments, as of July 31, 2023.

Recent academic research has also supported the view that inflation may be more persistent than commonly believed. Blanco, Ottonello and Ranosova (2022) show that inflation surges tend to be persistent, with the disinflationary period being substantially longer than the time taken for inflation to surge.[4]

Inflation persistence also has meaningful implications for E&Fs that are charged with preserving the real value of endowed capital. In our view, E&Fs that have a 5% annual spending policy may want to now target an 8% nominal return (3% inflation + 5% annual spending policy) in order to preserve real spending power.

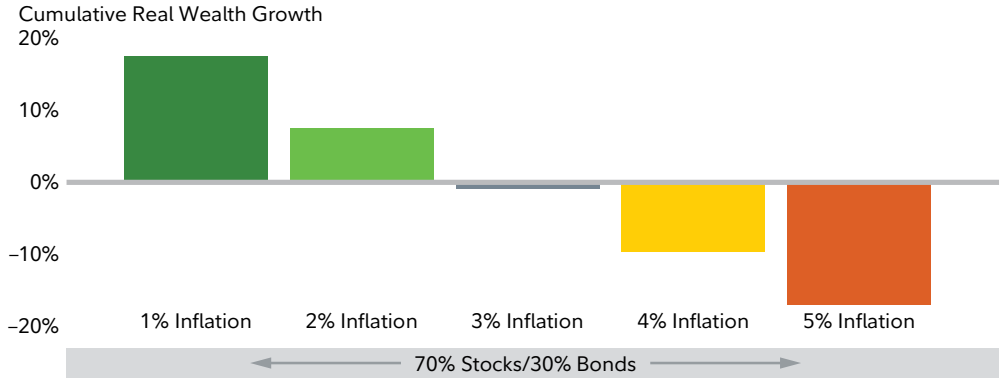
Given this backdrop, it is important for any institution with annual spending needs to reevaluate their strategic asset allocation to ensure they are appropriately positioned for higher secular inflation.

Can E&Fs still preserve their wealth and meet their return objectives in a more persistent inflation environment?

Our research shows that E&Fs may have a much harder time achieving their return objectives and preserving their wealth if inflation moves above 3%. We modeled a 70% global equity/30% core bond portfolio[5] to estimate its projected returns, wealth and spending across different inflation backdrops. Exhibit 3 shows that this 70/30 mix's real wealth starts to erode when inflation nears or exceeds 3%, as the investment portfolio's returns are insufficient to offset 5% annual spending and higher inflation levels.

EXHIBIT 3: The real wealth of a 70/30 portfolio starts to erode when inflation nears or exceeds 3%, according to Fidelity research.

Projected Average 10-Year Real Wealth Growth at Different Inflation Levels

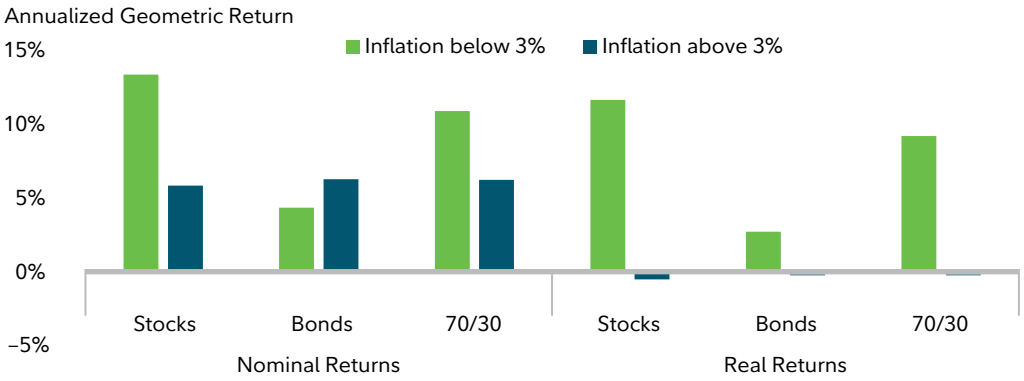


Projections are hypothetical in nature, have inherent limitations, do not reflect actual results, and given that market conditions may vary, are not guarantees of future results. Based on a Monte Carlo simulation analysis using Fidelity Global Institutional Solutions' capital market assumptions. Real wealth growth shown represents the median of the simulation. For illustrative purposes only to depict the probability and range of results based on Fidelity's simulations, historical analysis, and research. This is not meant to be exhaustive of all possible options or analysis an institution may wish to consider, and will not necessarily come to pass. The hypothetical portfolio comprises 70% stocks and 30% bonds. Stocks represented by the MSCI ACWI Index and bonds represented by the Bloomberg U.S. Aggregate Bond Index. Projected cumulative shown in periods of varying rates of inflation from 1% to 5%. Inflation measured by year-end annual headline CPI inflation. See endnotes for index definitions. Sources: Fidelity Investments, MSCI, Bloomberg Finance L.P., Bureau of Labor Statistics, as of June 30, 2023.

The potential shortfall we have identified is largely driven by inflation's negative impact on public equities and bonds when inflation levels persist above 3%. Exhibit 4 shows how historical returns for equities, bonds, and the 70/30 mix have fallen sharply in real terms when inflation exceeds 3%.

EXHIBIT 4: Historical returns for traditional assets have fallen sharply in real terms when inflation exceeds 3%.

Nominal versus Real Asset Performance in Different Inflation Regimes (1946–2022)[6]



Past performance is no guarantee of future results. Stocks represented by the MSCI ACWI Index and bonds represented by the Bloomberg U.S. Aggregate Bond Index. 70/30 portfolio represents 70% stocks and 30% bonds. Green bars represent quarters where inflation was below 3% during the full period and blue bars represent quarters where inflation was above 3% during the full period; nominal (before inflation) returns are on the left and real (after inflation) returns are on the right. Due to varying inception dates for stocks and bonds, Fidelity compiled analogous historical return series to reflect the same time periods dating back to 1946. Inflation measured by year-end annual headline CPI inflation. Geometric returns reflect compounding and are often used in longer time series. See endnotes for index definitions. Sources: Fidelity Investments, MSCI, Bloomberg Finance LP, Bureau of Labor Statistics, as of Dec. 31, 2022.

While nominal returns of a 70/30 mix have historically remained positive for equities and bonds in higher inflationary environments, the real returns of the 70/30 mix would not have been sufficient to cover both the higher rate of inflation (which, during high inflation periods in the post-World War II era, averaged 6.2%) and the 5% annual spending policy. As such, the real value of the 70/30 portfolio was eroded over time due to the impact of inflation.[7]

Can other asset classes help preserve real wealth in higher inflation environments?

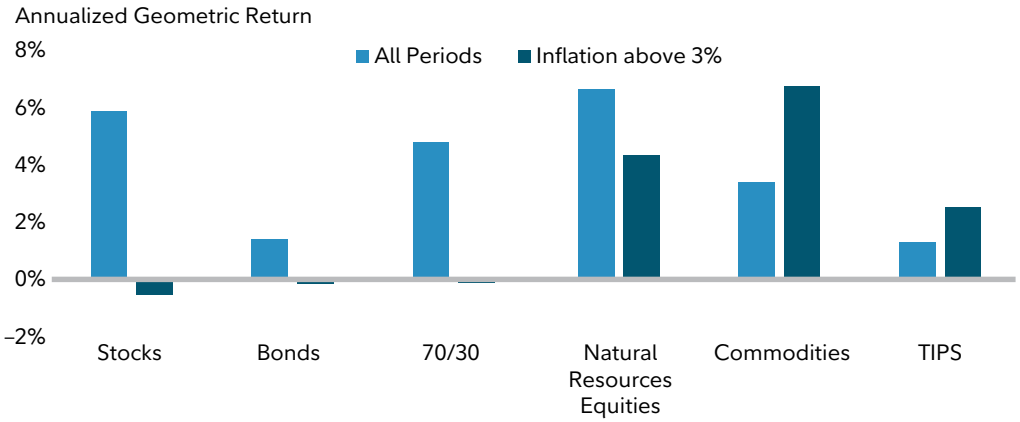
A variety of other asset classes can serve as a hedge to these inflation dynamics, helping to potentially boost E&F returns and real wealth in periods of elevated inflation. Importantly, however, there is no single inflation hedge that works in all market conditions. Rather, selection and sizing of these inflation hedges should vary depending on the level of inflation, inflation's rate of change, the level of economic growth, as well as of course the risk profile of the inflation hedging asset class itself. To better understand the importance of these conditions, we review some of these historical relationships below.

Level of inflation

Certain asset classes have demonstrated better real performance during periods of elevated inflation environments. In terms of public market exposures, natural resources equities and commodities tend to generate strong returns during periods of high inflation, helping to offset lower returns from equities and bonds (Exhibit 5). Within fixed income, TIPS have provided an avenue of lower-risk inflation protection as well, as these have historically provided positive returns and outperformed core bonds in periods of elevated inflation.

EXHIBIT 5: Within public markets, natural resources equities and commodities have tended to generate strong returns during periods of high inflation, while TIPS have provided lower-risk inflation protection.

Real Returns of Select Asset Classes in Different Inflation Regimes (1946–2022)

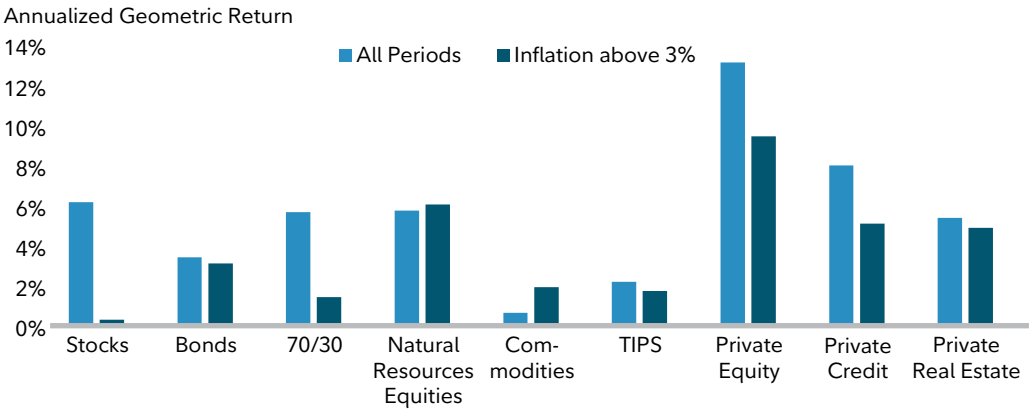


Past performance is no guarantee of future results. Stocks represented by the MSCI ACWI Index and bonds represented by the Bloomberg U.S. Aggregate Bond Index. 70/30 portfolio represents 70% stocks and 30% bonds. Natural resources equities represented by the S&P North American Natural Resources Sector Index, commodities represented by the Bloomberg Commodities Index, and TIPS represented by the Bloomberg US Treasury Inflation-Protected Securities (TIPS) Index (Series L). Light blue bars represent real returns in all quarters during the full period; dark blue bars represent real returns in quarters during the full period where inflation is above 3%. Due to varying inception dates for these asset classes, Fidelity compiled analogous historical return series to reflect the same time periods dating back to 1946. Inflation measured by year-end annual headline CPI inflation. Geometric returns reflect compounding and are often used in longer time series. See endnotes for index definitions. Sources: Fidelity Investments, MSCI, S&P Global, Bloomberg Finance LP, Bureau of Labor Statistics, as of Dec. 31, 2022.

While the return history is shorter for private assets, our analysis shows that private equity, private credit, and private real estate have also provided inflation-hedging return characteristics on average during periods of high inflation, as seen in Exhibit 6.[8] These assets have generated materially higher levels of return versus public assets in the past, so the sheer level of returns in private equity and private credit have been helpful to E&Fs with 5% real return objectives. This is in part driven by the fact that payout ratios for private equity over a 10-year horizon have been significantly higher than dividends and buyback payouts in public equities, while private credit loans tend to be floating rather than fixed rate. While private asset returns may not always be as high going forward, historical averages nonetheless suggest that private assets have given up less return in higher inflation environments compared to public assets.

EXHIBIT 6: Private equity, private credit, and private real estate have provided inflation-hedging return characteristics during periods of high inflation.

Real Returns for Select Private and Public Assets in Different Inflation Regimes (1980–2022)



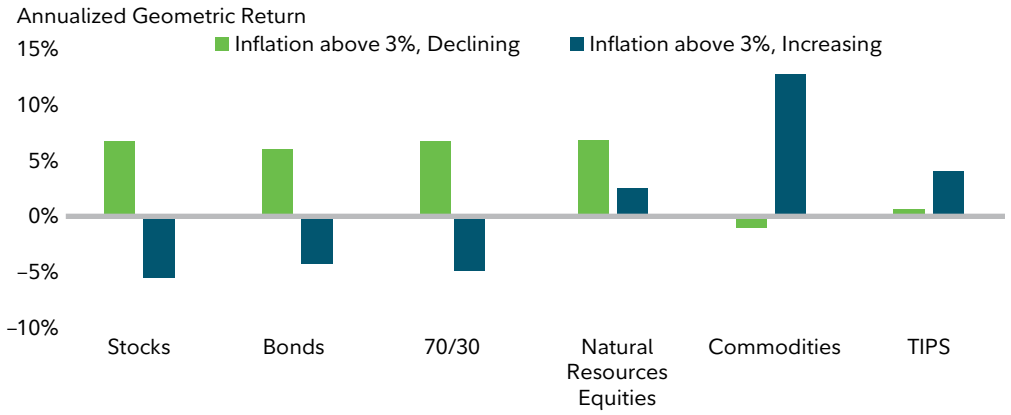
Past performance is no guarantee of future results. Stocks represented by the MSCI ACWI Index and bonds represented by the Bloomberg U.S. Aggregate Bond Index. 70/30 portfolio represents 70% stocks and 30% bonds. Natural resources equities represented by the S&P North American Natural Resources Sector Index, commodities represented by the Bloomberg Commodities Index, and TIPS represented by the Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) Index (Series-L). Private equity, private credit, and private real estate reflect quarterly return data from MSCI. Light blue bars represent real returns during quarters over the full period; dark blue bars represent returns in quarters during the full period when inflation was above 3%. Due to varying inception dates for these asset classes, Fidelity compiled analogous historical return series to reflect the same time periods dating back to 1980. Inflation measured by year-end annual headline CPI inflation. Geometric returns reflect compounding and are often used in longer time series. See endnotes for index definitions. Sources: Fidelity Investments, MSCI, Bloomberg Finance LP, S&P Global, Bureau of Labor Statistics, as of Dec. 31, 2022.

Inflation's rate of change

Critically, as shown in Exhibit 7, asset class returns can be meaningfully impacted by the rate of change of inflation as well. Generally, during historical periods of elevated (above 3%) but falling inflation, global equity returns have exceeded commodity returns, and core bond returns have exceeded TIPS returns.[9] For these reasons we recommend allocators invest in these public asset classes in a dynamic fashion—reducing inflation-hedging asset classes in periods of falling inflation, and adding to inflation-hedging asset classes in periods of rising inflation.[10]

EXHIBIT 7: Asset class returns can be meaningfully impacted by the rate of change of inflation, particularly in periods of elevated (above 3%) but falling inflation.

Real Asset Class Performance in Rising and Falling Inflation Regimes (1946–2022)



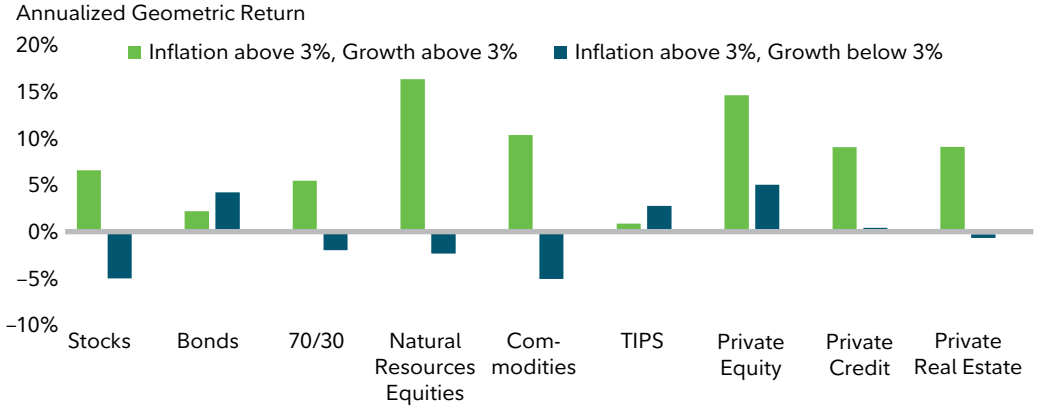
Past performance is no guarantee of future results. Stocks represented by the MSCI ACWI Index and bonds represented by the Bloomberg U.S. Aggregate Bond Index. 70/30 portfolio represents 70% stocks and 30% bonds. Natural resources equities represented by the S&P North American Natural Resources Sector Index, commodities represented by the Bloomberg Commodities Index, and TIPS represented by the Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) Index (Series-L). Green bars represent real returns in quarters during the full period where inflation is above 3% and declining; blue bars represent real returns in quarters during the full period where inflation is above 3% and increasing. Due to varying inception dates for these asset classes, Fidelity compiled analogous historical return series to reflect the same time periods dating back to 1946. Inflation measured by year-end annual headline CPI inflation. Geometric real returns reflect compounding and are often used in longer time series. See endnotes for index definitions. Sources: Fidelity Investments, MSCI, Bloomberg Finance LP, S&P Global, Bureau of Labor Statistics, as of Dec. 31, 2022.

Level of economic growth

Considering the economic backdrop is also important to determining the proper asset allocation during periods of elevated inflation (Exhibit 8). Generally, during periods of elevated inflation and strong economic growth, equities, natural resources equities, and commodities have historically dominated performance. Conversely, during stagflationary environments (rising inflation and weak economic growth), inflation-sensitive assets such as TIPS and certain private asset classes have been some of the only assets that delivered positive real returns.

EXHIBIT 8: In periods of elevated inflation and strong economic growth, equities, natural resources equities, and commodities have historically dominated performance.

Real Asset Performance in High and Low Growth Regimes (1980–2022)



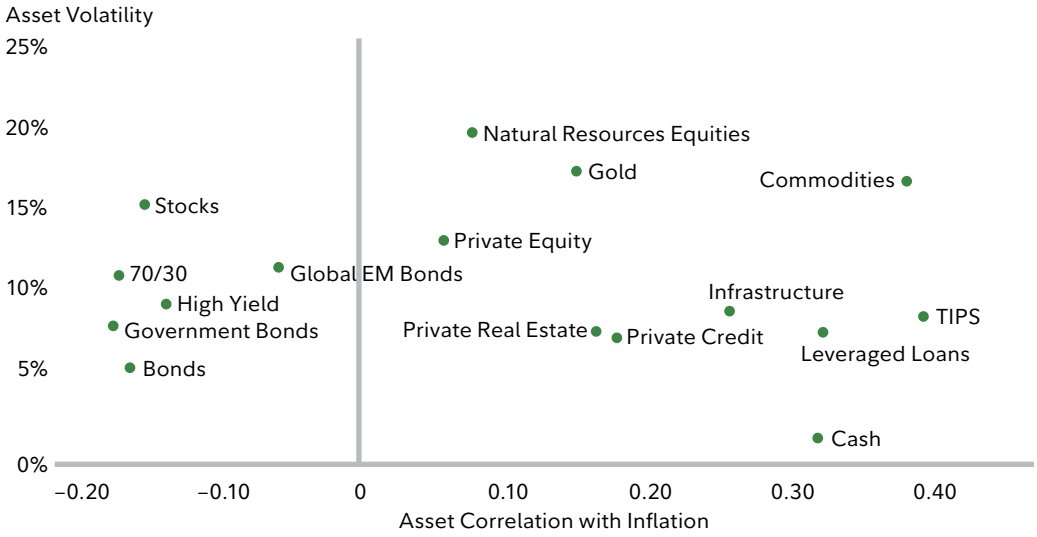
Past performance is no guarantee of future results. Stocks represented by the MSCI ACWI Index and bonds represented by the Bloomberg U.S. Aggregate Bond Index. 70/30 portfolio represents 70% stocks and 30% bonds. Natural resources equities represented by S&P North American Natural Resources Sector Index, commodities represented by the Bloomberg Commodities Index, and TIPS represented by the Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) Index (Series-L). Private equity, private credit, and private real estate reflect annual return data from MSCI. Green bars represent quarters during the full period where inflation was above 3% and growth was above 3%; blue bars represent quarters during the full period where inflation was above 3% and growth was below 3%. Due to varying inception dates for these asset classes, Fidelity compiled analogous historical return series to reflect the same time periods dating back to 1980. Inflation measured by year-end annual headline CPI inflation. Geometric returns reflect compounding and are often used in longer time series. See endnotes for index definitions. Sources: Fidelity Investments, MSCI, Bloomberg Finance LP; S&P Global, Bureau of Labor Statistics, as of Dec. 31, 2022.

Risk considerations

While certain asset classes can be stronger hedges to inflation, some do come with higher volatility and potential drawdown risk. For these reasons, we suggest that any inflation-sensitive allocation be limited in size and that these risk characteristics be considered in the construction of the inflation-hedging basket. Exhibit 9 outlines the volatility and inflation correlation statistics of a range of asset classes since their respective inception dates during the post-World War II period.

EXHIBIT 9: Volatility and inflation correlation of select asset classes during the post-World War II period.

Volatility and Inflation Correlation of Select Asset Classes (1946–2022)



Past performance is no guarantee of future results. Volatility reflects standard deviation of the annual returns over the period. Correlation is the degree to which asset classes move together with inflation over time. Stocks represented by the MSCI ACWI Index and bonds represented by the Bloomberg U.S. Aggregate Bond Index. 70/30 portfolio represents 70% stocks and 30% bonds. Emerging-market bonds represented by the J.P. Morgan Emerging Markets Bond Index Global; high yield represented by the ICE B of A US High Yield Index; government bonds represented by the Bloomberg US Government Bond Index; Natural resources equities represented by the S&P North American Natural Resources Sector Index, commodities represented by the Bloomberg Commodities Index, gold represented by Bloomberg Composite Gold Index; TIPS represented by the Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) Index (Series-L), and cash represented by Bloomberg 1-3 Month U.S. Treasury Bill Index. Leveraged loans represented by Morningstar LSTA US Leveraged Loan 100 Index. Private equity, private credit, private real estate and private infrastructure reflect quarterly return data from MSCI. Inflation measured by year-end annual headline CPI inflation. Note, inception dates for asset classes shown above vary; see endnotes for more details and index definitions. Sources: Fidelity Investments, MSCI, Bloomberg Finance LP, Morningstar, S&P Global, Bureau of Labor Statistics, as of Dec. 31, 2022.

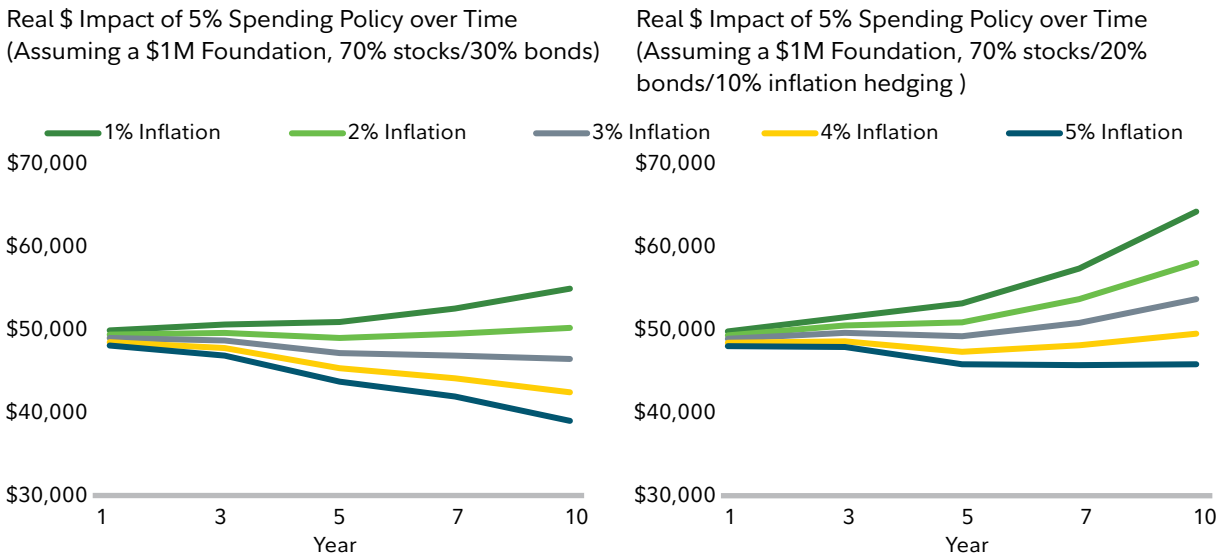
E&F playbook to navigate higher inflation

Given our view of higher structural inflation, allocators should consider incorporating a dedicated inflation allocation to ensure they can better preserve the real value of their corpus. A dedicated inflation allocation is important since, during periods of elevated inflation, the missions that they support will also likely be absorbing the negative impacts of inflation and may require additional support from endowments and foundations.

Exhibit 10 shows how the real wealth of an endowment or foundation may determine its real impact on the organizations it supports. For example, in a 2% inflation backdrop, a $1 million foundation with a 70/30 investment portfolio and a 5% annual spending policy could have a relatively constant real impact of $50,000 a year, based on our Monte Carlo analysis.[11] If inflation were to jump to 3%, we estimate that the foundation's real annual impact could decline to $46,000 over time, nearly 8% less support than the foundation had intended. The foundation's real impact would fall even more sharply at 4% and 5% inflation rates.

However, if that $1 million foundation were to allocate 10% of its fixed income portfolio to inflation-sensitive assets (an equal-weighted basket of commodities, natural resource equities, and TIPS), not only could its real spending impact grow in lower inflation environments, but it could also maintain its real spending power up to a 4% inflation level. This analysis assumes the inflation-sensitive assets are sourced from fixed income since bonds tend to struggle more in inflationary environments while equities tend to be more resilient, which could increase portfolio risk, but also likely increases risk-adjusted returns.

EXHIBIT 10: Fidelity analysis shows how the real wealth of an endowment or foundation may determine its real impact on the organizations it supports.



Projections are hypothetical in nature, have inherent limitations, do not reflect actual results, and given that market conditions may vary, are not guarantees of future results. Based on a Monte Carlo simulation analysis using Fidelity Global Institutional Solutions' capital market assumptions. Real wealth growth shown represents the median of the simulation. For illustrative purposes only to depict the probability and range of results based on Fidelity's simulations, historical analysis, and research. This is not meant to be exhaustive of all possible options or analysis an institution may wish to consider, and will not necessarily come to pass. Analysis projects an E&F's real wealth from now through 10 years into the future at various inflation levels (1%–5%). The chart on the left shows the real (after inflation) impact of a 5% spending policy for a foundation with $1 million in assets invested in a 70% stocks/30% bonds portfolio. The chart on the right shows that same real impact of a 5% spending policy for a foundation with $1 million in assets, but invested in a 70% stocks/20% bonds/10% inflation-hedging assets portfolio. Stocks represented by the MSCI ACWI Index, bonds represented by the Bloomberg US Aggregate Bond Index, and the inflation-hedging assets represented by equal weights of natural resources equities, commodities, and TIPS. Natural resources equities represented by S&P North American Natural Resources Sector Index, commodities represented by Bloomberg Commodities Index, and TIPS represented by Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) Index (Series-L). See endnotes for index definitions. Source: Fidelity Investments. MSCI, Bloomberg Finance LP, S&P Global, as of June 30, 2023.

As mentioned earlier, because these inflation-linked assets are influenced by economic growth and inflation's rate of change, we do not advise that allocators take a "set it and forget it" approach within their inflation allocation. Instead, we recommend dynamically sizing an inflation-hedging allocation within a range (for example, between 0% and 10%), and then dynamically weighting the asset classes within the inflation-hedging bucket depending on the economic and inflation backdrop. Exhibit 11 provides a simple framework, highlighting when various inflation-sensitive assets have tended to fare better (in real terms) during periods of elevated inflation. We believe such an approach may help endowments and foundations navigate higher inflation overall and, more importantly, sustain the missions and organizations they support.

EXHIBIT 11: Public asset classes that have tended to fare well in varying inflation and growth environments can help E&Fs navigate higher inflation.

		LEVEL OF ECONOMIC GROWTH	
CHANGE IN INFLATION		**GDP above 3%**	**GDP below 3%**
	CPI Rising	Commodities Natural resources equities Equities	TIPS
	CPI Falling	Equities	Core Bonds

Source: Fidelity Investments. Change in inflation represented by rising or falling inflation as measured by quarterly year-over-year change in CPI. Growth level measured by gross domestic product (GDP) above or below 3%.

Private assets can also be useful tools to hedge inflation, particularly during periods of elevated inflation and economic growth. However, during periods of elevated inflation and weaker economic growth, allocators should take care to ensure that certain private assets with lower-return and volatility profiles (i.e., private real estate and infrastructure) can still generate sufficient levels of return to offset inflation. Due to the nature of these investments, we do not recommend trying to dynamically allocate around privates. During periods of elevated inflation, endowments and foundations may wish to recycle distributions from their privates program into potentially higher-returning private assets.

For those wishing to outsource these types of decisions, E&Fs can lean on dynamic inflation-hedging strategies to manage asset selection and sizing, though allocators should take care to monitor the appropriateness of the overall inflation-hedging allocation size relative to the expected level of inflation. Additionally, E&Fs can consider accessing such dynamism through an OCIO partner.

Please reach out to your Fidelity relationship manager to learn how our Global Institutional Solutions team is helping E&F clients navigate these issues.

Asset classes used in this research

Public markets: Stocks—MSCI ACWI Index; bonds—Bloomberg U.S. Aggregate Bond Index; natural resources equities—S&P North American Natural Resources Sector Index; commodities—Bloomberg Commodity Index; gold—Bloomberg Composite Gold Index; TIPS—Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) Index (Series-L); cash—Bloomberg 1-3 Month U.S. Treasury Bill Index; emerging-market bonds—J.P. Morgan Emerging Markets Bond Index Global; high yield—ICE BofA U.S. High Yield Index; government bonds—Bloomberg US Government Bond Index; Private markets: Private equity, private credit, private real estate, and private infrastructure reflect quarterly return data from MSCI. MSCI data used in this research reflects returns of U.S. private capital funds and funds of funds.

Due to varying inception dates for asset classes, Fidelity compiled analogous historical return series to reflect the same time periods for indexes used in Exhibits 4–8.

Monte Carlo simulations are mathematical methods to estimate the likelihood of a particular outcome. Each Monte Carlo simulation reproduces a random set of results by generating a random return for the scenario. When analyzed together, these results suggest a probability of occurrence.

Index definitions

MSCI ACWI (All Country World Index) ex USA Index: A market capitalization-weighted index that is designed to measure the investable equity market performance for global investors of large and mid cap stocks in developed and emerging markets, excluding the United States.

The Bloomberg US Aggregate Bond Index: A broad-based flagship benchmark that measures the investment-grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, mortgage-back securities with maturities of at least one year.

J.P. Morgan Emerging Markets Bond Index Global tracks total returns for the U.S. dollar-denominated debt instruments issued by emerging markets sovereign and quasi-sovereign entities, such as Brady bonds, loans, and Eurobonds.

S&P North American Natural Resources Sector Index is a modified capitalization-weighted index of US traded stocks designed to measure the performance of companies in the natural resources sector.

Bloomberg Commodity Index: A broadly diversified commodity price index distributed by Bloomberg Index Services Limited.

Bloomberg US Government Bond Index is a market value-weighted index of US government fixed-rate debt issues with maturities of one year or more.

Bloomberg 1-3 Month U.S. Treasury Bill Index is designed to measure the performance of public obligations of the U.S. Treasury that have a remaining maturity of greater than or equal to 1 month and less than 3 months.

Bloomberg Composite Gold Index: The Composite Gold Index is made up of liquid exchange-traded futures on gold, and iShares Gold Trust, reflecting the return of underlying price movements.

The ICE BofA US High Yield Index tracks the performance of U.S. dollar-denominated, below-investment-grade corporate debt publicly issued in the U.S. domestic market.

Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) Index (Series-L): A market value-weighted index that measures the performance of inflation-protected securities issued by the U.S. Treasury.

Morningstar LSTA US Leveraged Loan 100 Index: Designed to measure the performance of the 100 largest facilities in the US leveraged loan market. Index constituents are market-value weighted, subject to a single loan facility weight cap of 2%.

Private equity, private credit, private real estate, and private infrastructure, represent quarterly return data from MSCI. Private equity—US Buyout Funds Index; private credit—US Private Capital Funds Index; private real estate—US Real Estate Funds Index; private infrastructure—Global Infrastructure Funds Index. The results reflect those of U.S. private capital funds and funds of funds and are net of fees and carried interest. Vintage is assigned based on the year of initial cash flow date. Pooled results are calculated based on the composite transaction (cash flow and valuation) activity of the underlying funds. Roll-forward valuations are used to calculate results whenever reported valuations are not available.

Endnotes

[1] Real wealth is defined as assets under management less the impact of inflation and annual spending.

[2] Based off our inflation assumptions as of June 30, 2023.

[3] The breakeven inflation rate represents a measure of expected inflation derived from the difference in nominal Treasury yields and real TIPS yields for a given maturity.

[4] Andrés Blanco, Pablo Ottonello & Tereza Ranosova, "The Dynamics of Large Inflation Surges," October 2022. https://www.nber.org/papers/w30555

[5] We used a 70% equities/30% bonds portfolio mix in our modeling because it is a common benchmark and/or proxy for portfolio risk for many endowments and foundations.

[6] For this exhibit and those that follow, the data frequency is quarterly. Inflation is defined as the trailing annual percent change in headline CPI at each quarter-end. In the following exhibits, increasing inflation is defined as positive quarterly change in trailing annual inflation (and vice versa) and growth is defined as the trailing annual percent change in real GDP.

[7] This result may surprise the reader, but it helps illustrate the economic and policy uncertainty created with elevated inflation that affects real asset returns. Also, while inflation just above 3% negatively impacts real returns, the analysis includes periods of extremely elevated inflation (1946–1947, 1973, 1979–1980, and 2022), which have a greater proportional impact on returns.

[8] In the period from 1980 to 2022 used in this Exhibit, 3% inflation is breached 42% of the time compared to 50% in the full sample (1946–2022).

[9] Although we have chosen 3% inflation as the dividing line in the analysis since it is the post-WWII average, material differences in returns occur at lower levels of inflation. For example, if inflation is only above 2% and rising, the real annual returns to a 70/30 benchmark are –1.5%.

[10] Because the analysis above is partly contemporaneous, the persistence of the regimes is important for forward-looking allocation decisions. Fortunately, the inflation and growth level regimes are quite persistent, both at an 85% probability of remaining in the same regime from quarter-to-quarter. Inflation change regimes are less persistent with a 55% probability of consistency across quarters and require expert analysis to more consistently predict.

[11] Monte Carlo simulations are mathematical methods to estimate the likelihood of a particular outcome. Each Monte Carlo simulation reproduces a random set of results by generating a random return for the scenario. When analyzed together, these results suggest a probability of occurrence.

Authors

Collin Crownover, PhD, FRM

Research Analyst, Asset Allocation Research Team

Collin Crownover is a research analyst in the Asset Allocation Research team (AART) at Fidelity Investments. In this role, Mr. Crownover conducts fundamental and quantitative research to develop asset allocation recommendations for Fidelity's portfolio managers and investment teams.

Erika Murphy, CFA, CAIA

Portfolio Manager

Erika Murphy is a portfolio manager in the Global Institutional Solutions (GIS) group at Fidelity Investments. In this role, Ms. Murphy manages custom multi-asset class mandates for institutional investors and financial intermediaries.

Fidelity Thought Leadership Vice President Martine Costello Duffy provided editorial direction for this article.

1105612.1.0 1.9910527.100