CORRELATIONS, INFLATION, AND INTEREST RATES

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A WEALTH OF COMMON SENSE
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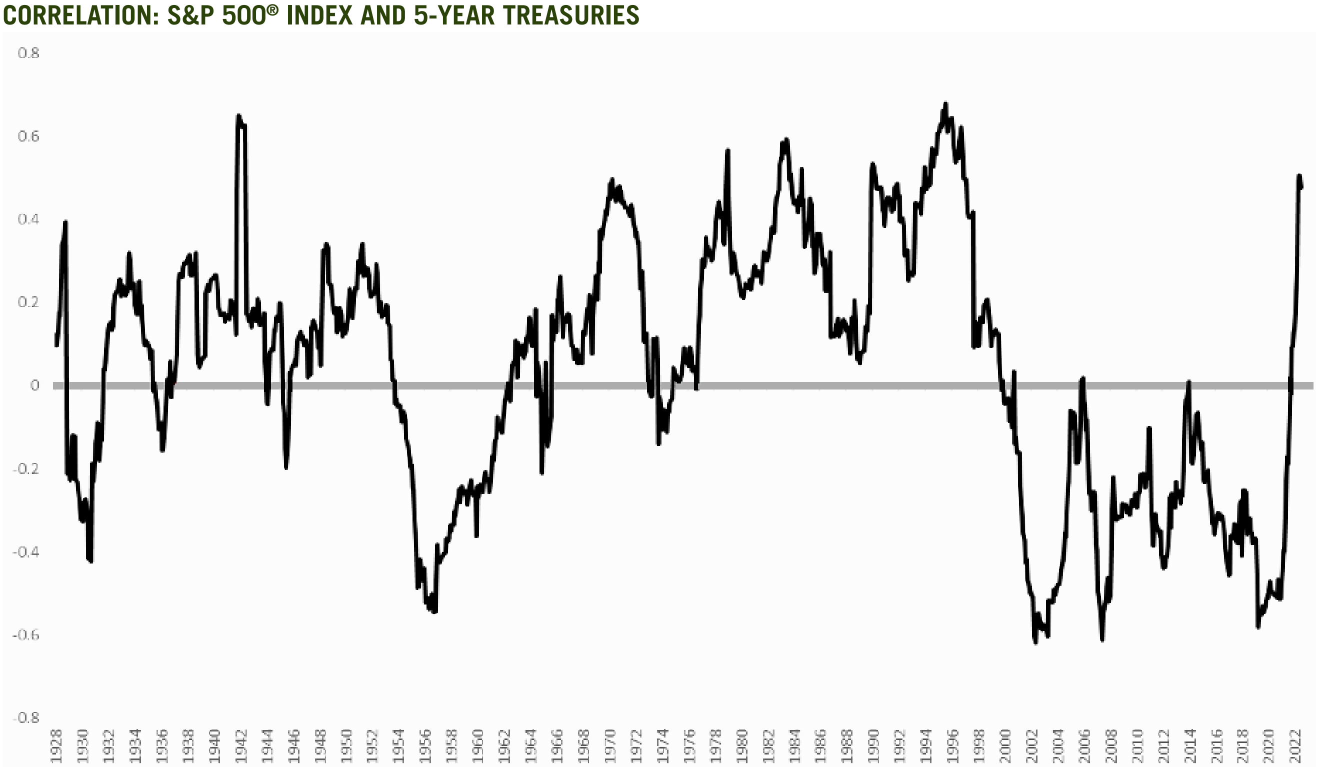
One of the reasons so many investors have a traditional portfolio of stocks and bonds is the potential diversification benefit. When stocks have fallen over the past 30 to 40 years, bonds have been there to pick up the slack and have provided a downside hedge. But, that relationship broke down in a big way in 2022.

There is a reason for this—investors haven't had to deal with rapidly rising rates and inflation in four decades. In this type of environment, traditional diversification benefits have tended to break down.

For instance, during the post-WWII period and the 1970s inflationary spike, the U.S. stock market and Treasuries were more positively correlated, leading to a difficult environment for investors. This was similar to last year, as there were very few places to hide, besides a handful of alternatives and cash.

CORRELATION: S&P 500® INDEX AND 5-YEAR TREASURIES

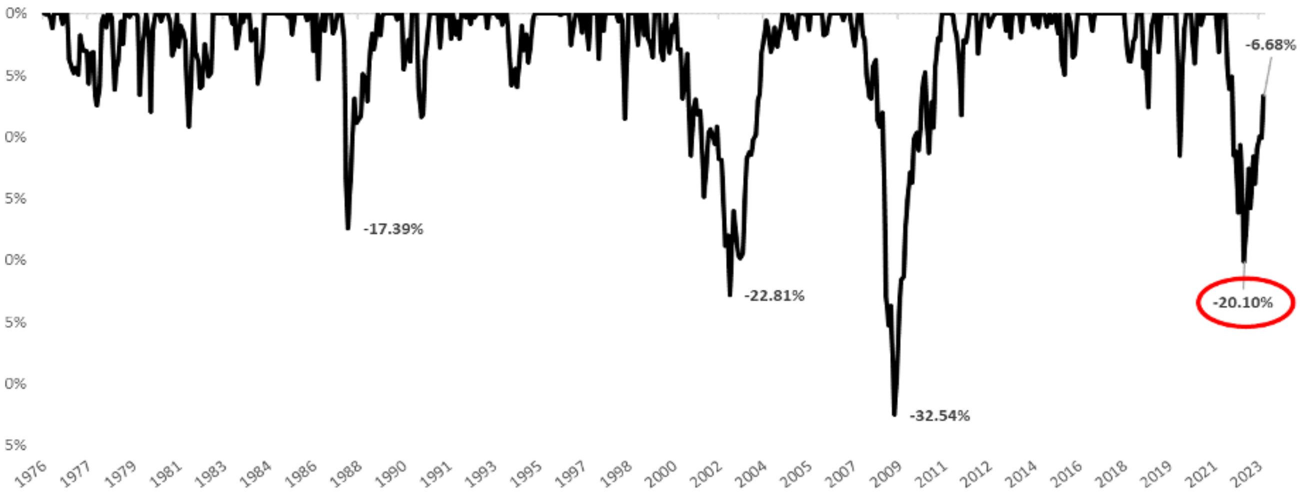


Past performance is not indicative of future results. Source: NYU.

The chart illustrates that correlation benefits between stocks and government bonds have broken down during periods of higher inflation in the past, causing more traditional portfolios to struggle. With inflation and rate hikes returning in 2022, the market saw a major reversion back to the 1940s and 1970s-style correlation between stocks and bonds.

The S&P 500® Index had its 7th worst year on record, down 18%. The benchmark U.S. Government Bond Index was down 15%, and the Bloomberg Aggregate Bond Index easily had its worst year on record, dating back to its 1976 inception, with a total return of -13% in 2022. This was four times as bad as the worst return prior to 2022 (-2.9% in 1994).

60/40 S&P 500® INDEX/AGGREGATE BOND HISTORICAL DRAWDOWNS



Past performance is not indicative of future results. Source:YCharts.

A diversified 60/40 portfolio of U.S. stocks and bonds was down 17% in 2022—the third worst performance ever for the 60/40, beating out the Dot-Com Crash, WWII, the Great Depression, and the Global Financial Crisis. The only years worse than 2022 for the 60/40 were 1931 and 1937.

When inflation and interest rates are rising, bonds have historically not provided diversification benefits for investors. There are a few options investors may consider to diversify in a rising-rate environment, utilizing alternatives:

- **Managed Futures:** Managed futures are a type of investment strategy that involves trading futures contracts in a variety of asset classes, including commodities, currencies, interest rates, and other indexes. Managed futures provide additional diversification benefits due to their low correlation with traditional stock and bond markets, while still being relatively liquid and accessible. Managed futures often employ a trend-following approach, utilizing technical indicators on a variety of time frames.
- **Real Estate:** Real estate investments, such as direct property ownership or REITs, often have a low to moderate correlation with stocks and bonds. Contrary to popular belief, REITs have shown little correlation with interest rates, and have performed well after periods of Fed tightening. On average, REITs have returned 18% in the 12 months following a Fed tightening cycle.
- **Commodities:** Commodities like gold, oil, agricultural products, and metals may exhibit low correlations with stocks and bonds. Their prices are influenced by supply and demand dynamics specific to their respective industries and may not necessarily move in line with traditional asset classes, especially with rising inflation.
- **Event-Driven Strategies:** Event-driven strategies seek to capitalize on specific events or catalysts which can include corporate actions, regulatory changes, and miscellaneous events that trigger meaningful price moments. Some common event-driven strategies that may have a low correlation to traditional stocks and bonds are merger and arbitrage opportunities, distressed securities, special situations, and activist investing opportunities.
- **Private Equity/Hedge Funds:** Investments in private companies, venture capital, and private equity funds may have a low correlation with stocks and bonds due to their unique risks and return drivers. Hedge funds often employ a variety of strategies, including long-short equity, event-driven, and macroeconomic, which can lead to varying correlations with traditional assets. Some hedge funds aim to be market-neutral, meaning they try to avoid exposure to overall market movements. These alternatives are also less liquid and have tended to lag the market, due to differences in valuation.

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Correlation Coefficient: A measure that determines the degree to which two variables' movements are associated. The correlation coefficient will vary from -1 to +1. A -1 indicates perfect negative correlation and +1 indicates perfect positive correlation.

The **S&P 500® Index** is a free-float market capitalization-weighted index of 500 of the largest U.S. companies. The index is calculated on a total return basis with dividends reinvested. The **Bloomberg U.S. Aggregate Bond Index** measures the U.S. investment grade fixed rate bond market. The indexes are unmanaged, their returns do not reflect any fees, expenses, or sales charges, and they are not available for direct investment.

Merger-arbitrage & Event-driven Investing: Merger-arbitrage and event-driven investing involve the risk that the adviser's evaluation of the outcome of a proposed event, whether it be a merger, reorganization, regulatory issue, or other event, will prove incorrect and that the Fund's return on the investment may be negative. **Short Sales:** The portfolio may engage in short sales, and may incur a loss if the price of a borrowed security increases before the date on which the portfolio replaces the security. **Sector Focused Investing:** Events negatively affecting a particular industry or market sector in which the portfolio focuses its investments may cause the value of the portfolio to decrease. **Derivatives:** Derivatives may include, among other things, futures, options, forwards, and swap agreements and may be used in order to hedge portfolio risks, create leverage, or attempt to increase returns. Investments in derivatives may result in increased volatility and the portfolio may incur a loss greater than its principal investment. **Commodity and Commodity-Linked Instruments:** Commodity and commodity-linked instruments may experience a return different than the commodity they attempt to track and may also be exposed to counterparty risk. **Real Estate:** The portfolio may be negatively affected by factors specific to the real estate market, including interest rates, leverage, property, and management.

Diversification does not assure a profit or protect against losses.

All investments carry a certain degree of risk, including possible loss of principal.

Not insured by FDIC/NCUSIF or any federal government agency. No bank guarantee. Not a deposit. May lose value.

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