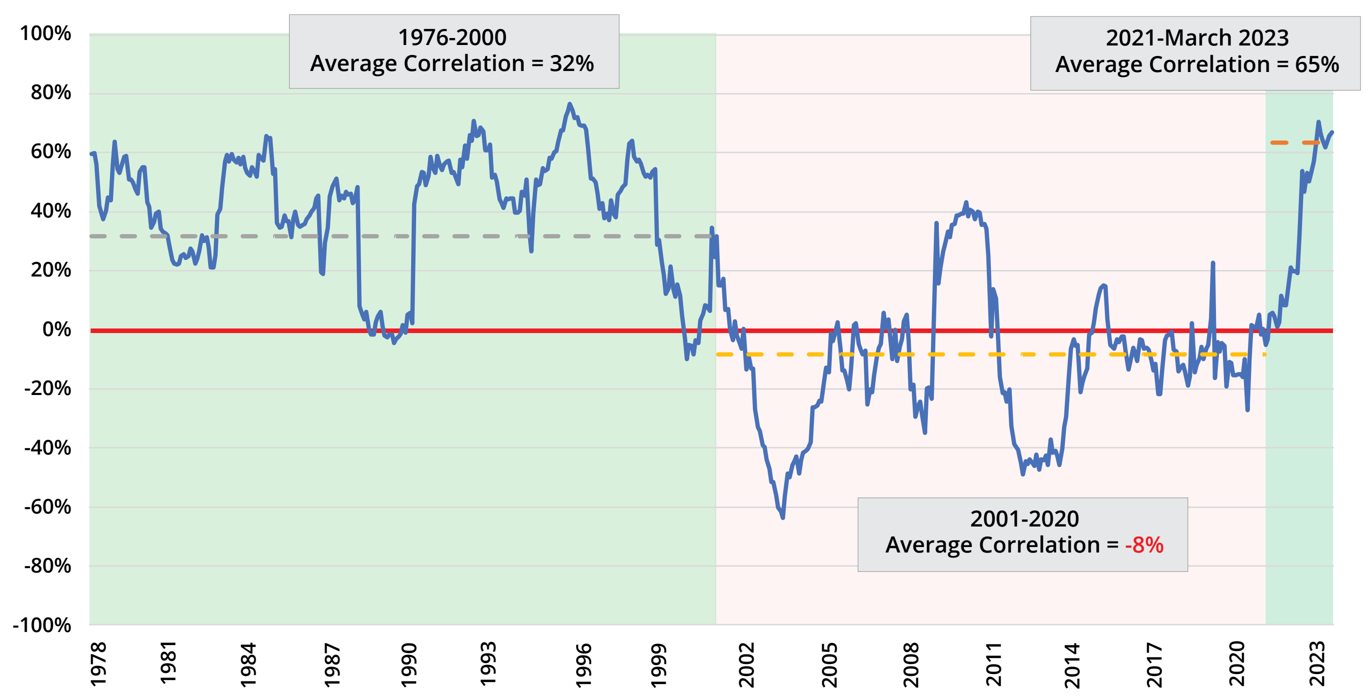
Historical Correlation of Stocks and Bonds: Positive, Negative, or Variable?

A Cautionary Tale of Recency Bias

Between 2001 and 2020, stocks and bonds exhibited almost no correlation and were, in fact, slightly negatively correlated, at -8%. This 20-year pattern gave a false impression that stocks and bonds exhibited no correlation to each other.

Individuals lulled into a recency bias may have found themselves unsettled by a dramatic increase in correlation since the beginning of 2022. The rolling 24-month correlation reached a 28-year high of 72% in September 2022, and correlation averaged 65% from January 2021 to March 2023.

The Past 45 Years: Rolling 24-Month Correlation Between Stocks and Bonds



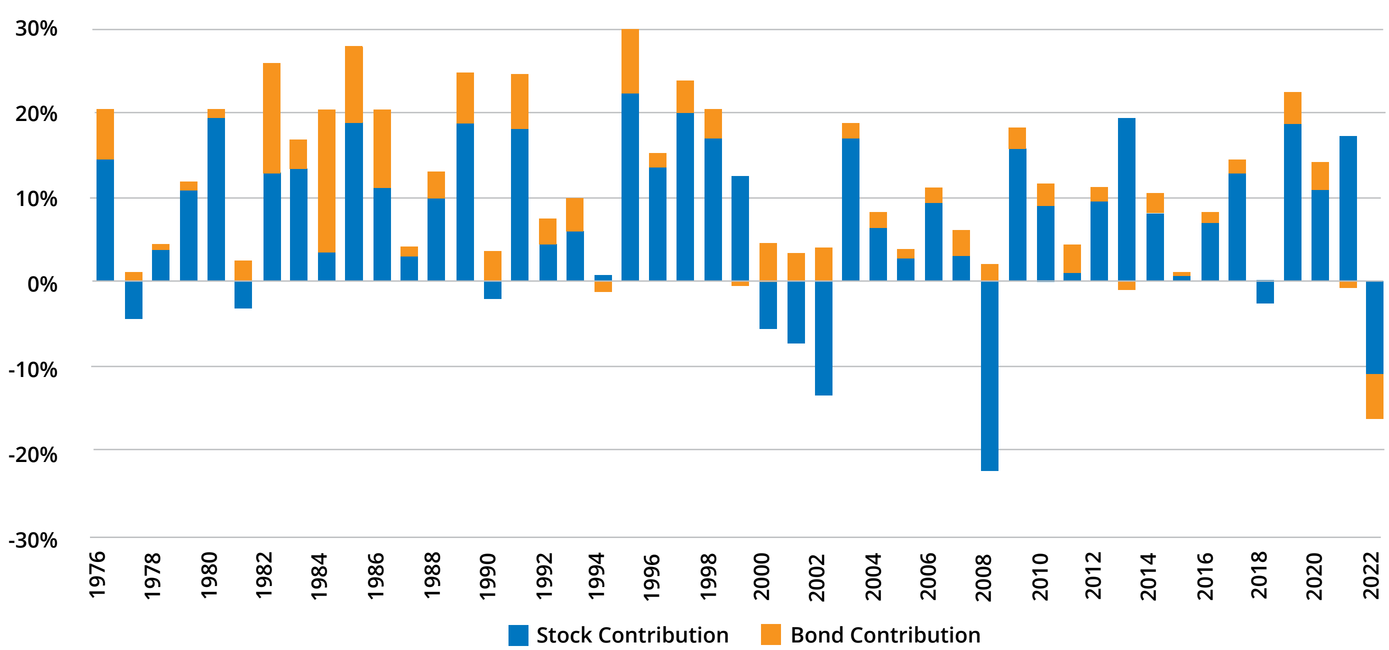
Source: Bloomberg 4/5/23

When Stocks and Bonds Correlate

From 1976 to 2021, every year that stocks were down bond returns were positive, providing a ballast for the return on a traditional 60/40 portfolio*. However, in 2022, the benefit of holding bonds to diversify an investment portfolio disappeared. Both stocks and bonds were down together, and, as a result, the 60/40 portfolio experienced the second worst yearly return since the inception of the Bloomberg US Aggregate Index in 1976.

There have been other periods of positive correlation between stocks and bonds over the past 45 years. During the 25-year period from 1976 to 2000, stocks and bonds exhibited 32% correlation and saw several spikes of rolling 24-month correlation above 60%. The highest rolling 24-month correlation was 78% in June 1995.

Return Contributions of a 60/40 Portfolio



Source: Bloomberg 4/5/23

Unstable Correlation + Portfolio Building

Modern portfolio theory assumes stable correlations, but it's clear that the correlation between stocks and bonds is, in fact, unstable. When stocks perform poorly, having no correlation or even negative correlation between stocks and bonds is a good thing. However, when both stocks and bonds both perform poorly and the correlation is positive (as it was in 2022), it can lead to unsatisfactory results.

The **chart below** shows how the risk of a traditional 60/40 portfolio changes as the correlation assumptions change. Building a balanced portfolio of stocks and bonds using a correlation assumption that is too low can lead to a riskier portfolio than intended. For example, a 60/40 portfolio that assumes -10% correlation between stocks and bonds is expected to have an overall risk of 10.0%. If actual correlation is 70%, the risk of that portfolio would be 21% higher at 12.1%.

Example Stock/Bond Correlation	Expected Risk of 60/40 Portfolio
-10%	10.0%
40%	11.4%
70%	12.1%

Source for Expected Risk: Bloomberg 4/5/23

Hypothetical example. 60/40 is 60% stocks and 40% bonds. Based on historical annual standard deviation of the S&P 500 Index and Bloomberg Aggregate Bond Index from 1976 – 2022.

A Solution when Diversification Fails

Our tactical approach is a complementary risk management tool that can perform well when diversification fails.

Our investment portfolios have the ability to move to cash without hesitation in times of turbulence, do not rely on assumptions of mean variance optimization, and can hold up to 100% cash when there are no upward trends in the market. Cash is the one investment that has historically provided zero correlation with stocks or bonds.

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Chief Investment Strategist

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*a 60/40 portfolio is a portfolio that holds 60% stocks and 40% bonds

Indexes are unmanaged and have been provided for comparison purposes only. No fees or expenses are reflected. You cannot invest directly in an index.

DEFINITIONS:

The **Bloomberg US Agg Index** is 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, MBS (agency fixed-rate pass-throughs), ABS and CMBS (agency and non-agency). (Future Ticker: I00001US).

The **Bloomberg 1-3 Month U.S. Treasury Bill Index** (*BBUTB13MTR) 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. The Index includes all publicly issued zero coupon U.S. Treasury Bills that have a remaining maturity of less than 3 months and at least 1 month, are rated investment-grade, and have $300 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non-convertible. Excluded from the Index are certain special issues, such as flower bonds, targeted investor notes, state and local government series bonds, inflation protected public obligations of the U.S. Treasury, commonly known as "TIPS," and coupon issuers that have been stripped from bonds included in the Index. The Index is market capitalization weighted.

RISKS AND DISCLOSURES:

Past performance is not an indication of future results and there is no guarantee that any investment strategy will achieve its objectives, generate profits, or avoid losses.

Investors should carefully consider the investment objectives, risks, charges and expenses of the Sierra Mutual Funds. This and other information about the Funds is contained in their prospectuses and should be read carefully before investing. The prospectuses can be obtained by visiting sierramutualfunds.com or by calling toll free 1-866-738-4363 (1-866-RETI-FND).

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