

AUTHORED BY THE VIRTUS MULTI-ASSET TEAM

BROAD MARKET VIEWS

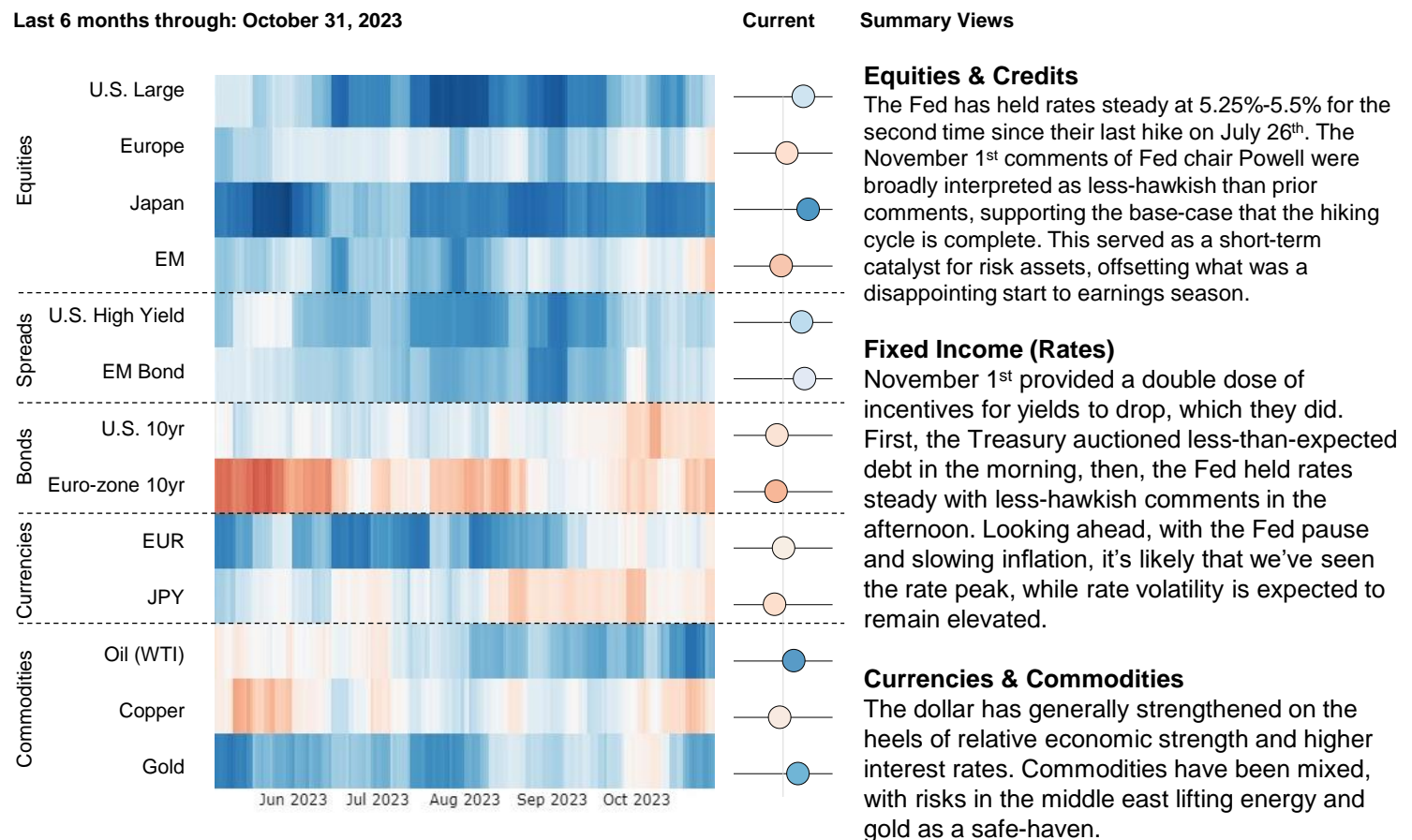
Markets	Cautious	Constructive	Summary
Equities			Bolstered by central banks pausing rate hikes, while potential deterioration of the growth backdrop moderates enthusiasm of the pause.
Fixed Income (rates)			With the Fed on hold and inflation slowing, it's likely that we've seen peak rates, however volatility is expected to remain elevated as incoming data evolves.
Currencies (vs. USD)			The relative strength of the US economy coupled with higher interest rates has been supportive of the USD vs. several major crosses.
Commodities			Energy prices rose over the month on risks that the war in the Middle East might expand to directly include other countries in the region.

Color scale: Cautious Constructive

CORE MARKET VIEWS

These views reflect a short-term horizon and the potential direction and conviction of the Team's quantitative and qualitative analysis. **Views are independent of portfolio construction considerations.**

Last 6 months through: October 31, 2023



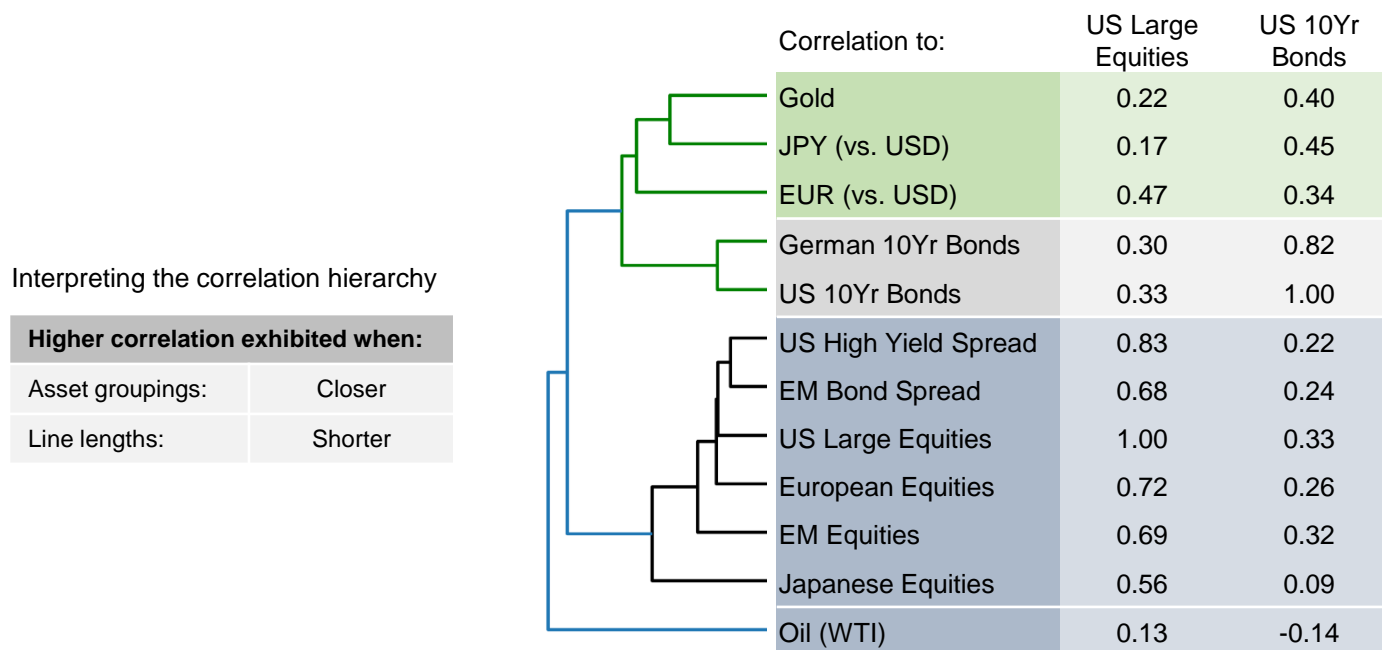
Past performance is not indicative of future results. U.S. Large represented by S&P 500[®] Index; Europe by Euro Stoxx 50; Japan by TOPIX; EM by MSCI Emerging Markets Index; U.S. High Yield spread by Markit CDX.NA.HY 5-year excess return Index; EM spread by Markit CDX.EM 5-year excess return Index. U.S. 10yr and Euro-zone 10yr are represented by generic 1st futures contracts on 10-Year U.S. Treasury Notes and 10-Year German Bunds, respectively. For currencies, euro (EUR) and Japanese yen (JPY) are represented by each respective generic 1st futures contracts. For commodities, the indicated markets are represented by their generic 3rd futures contracts. Indexes are defined on page 2.

Diversification structure of core markets

Why it matters: How markets move with each other sits at the core of **portfolio construction** and **risk management**.

However, deciphering the market's structure is both a **complex** and **time varying** task. As an example, with a universe of just 13 markets, there are 78 resulting cross correlations to consider, and these relationships change over time.

To reduce the complexity, hierarchical clustering helps illustrate which markets might be adding diversification and which might be adding risks already present in a portfolio.



Diversification structure of core markets: Hierarchical clustering is an unsupervised learning algorithm which was applied to an exponentially weighted correlation matrix (1-year lookback, 6-month half-life, weekly data).

Index definitions: 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 **EURO STOXX 50 Index**, is Europe's leading blue-chip index for the Eurozone, provides a blue-chip representation of supersector leaders in the region. The index covers 50 stocks from 11 Eurozone countries. The **TOPIX**, also known as the Tokyo Stock Price Index, is a capitalization-weighted index of all companies listed on the First Section of the Tokyo Stock Exchange. The **MSCI Emerging Markets Index** is a free float-adjusted market capitalization-weighted index designed to measure equity market performance in the global emerging markets. The index is calculated on a total return basis with gross dividends reinvested. **U.S. HY Spread and EM Bond spread are represented by the** Markit CDX.NA.HY and CDX.EM 5-year Excess Return Indexes, respectively, which are depicted by long and short unfunded positions measuring daily credit returns of the respective CDX index. The indexes always aim to track the on-the-run series and are rebalanced on a daily basis. Any coupons received are immediately reinvested back into the index. The indexes are unmanaged, their returns do not reflect any fees, expenses, or sales charges, and are not available for direct investment.

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

The commentary is the opinion of Virtus Multi-Asset Team. This material has been prepared using sources of information generally believed to be reliable; however, its accuracy is not guaranteed. Opinions represented are subject to change and should not be considered investment advice or an offer of securities.

Past performance is no guarantee of future results.