

## Asymmetric Linkages Between Global Sustainable Index (Green Bond) and Cryptocurrency Markets with Portfolio Implications

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**Abstract :** This study investigated the asymmetric links and portfolio strategies between green bonds and the markets of three different cryptocurrencies, i.e., green, Islamic, and conventional, using data from January 1, 2018, to April 8, 2022, and employing asymmetric TVP-VAR model to quantify risk spillovers in the network analysis. In addition, we use the minimum variance, minimum correlation, and minimum connectedness methodologies to assess the portfolio implications. The results of the asymmetric dynamic connectedness index (TCI) model show that by adopting cryptocurrencies for digital finance, risk spillovers are found to be reduced. The findings of net directional connectedness demonstrate that during the study period, green bonds consistently get return spillovers from all other network variables. Positive return spillovers are bigger in magnitude than negative ones. These results imply that the influence of the green bond market on the cryptocurrency markets is decreasing. Positive return spillovers generate higher connectedness values for (HG, BNB, and TRX) coins and persistent net recipients in the specific network. On the other hand, Cardano and ADA coins are persistent net transmitters in the system. XLM and MIOTA's responsibilities shift over time, and there is evidence of asymmetry when both positive and negative returns are considered. According to the pairwise portfolio weights, BNB vs. BTC has the largest portfolio weights in the system, followed by BNB vs. Ethereum, suggesting the best investment strategies in the network.

**Keywords :** asymmetric TVP-VAR, global sustainable index, cryptocurrency, portfolios

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