The Effect of COVID-19 and Monetary Normalization on Bitcoin and the Stock Markets Volatility: An application of DCC MGARCH Models

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Abstract:

Since its rise to prominence following the 2008 financial crisis, Bitcoin has been the subject of continuous debate concerning its classification as an asset. Bitcoin is frequently referred to as a digital currency, embodying characteristics akin to be a collectible item, a store of value, a medium of exchange, and a unit of account. During the COVID-19 pandemic and subsequent periods of monetary policy normalization, global financial markets have encountered elevated levels of volatility and risk. In response, investors have increasingly sought out unconventional financial assets, such as Bitcoin, to mitigate exposure and enhance portfolio diversification. This study utilizes a Dynamic Conditional Correlation (DCC) Multivariate GARCH (MGARCH) model, specifically employing the GARCH (1,1) specification, to analyze the relationship between stock market indices of major countries and cryptocurrencies, with a particular focus on Bitcoin. The results indicate statistically significant correlations between Bitcoin and stock market returns in several countries during the COVID-19 period. Volatility appears to be influenced by historical stock market performance during both the pandemic and the subsequent normalization of monetary policy. Furthermore, the DCC models reveal significant coefficients for ASEAN stock market indices before and during the COVID-19 pandemic, indicating that these markets may have displaced Bitcoin as a safe haven asset. In contrast, stock market indices in the Americas and Europe consistently show statistical significance across all periods, suggesting that Bitcoin's role as a safe haven in these regions is limited.

Keywords:

COVID-19; Bitcoin; MGARCH; Monetary Normalization.