

On Identifying the High-Frequency Connectedness between the Natural Gas Market and G7 Stock Markets during Turbulent Times

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Abstract

In this paper, we explore the connectedness between the natural gas and G7 stock indices during the period 04/01/2016-05/01/2023. For this end, we use a quantile-based connectedness measure to analyze the pairwise connectedness structure at different quantiles. The results indicate that the total connectedness is higher in the tails of the conditional distribution, particularly in the extreme upper quantile during bullish market conditions. This suggests that the strength of the connectedness increases with the shock's size during extreme market conditions, implying an asymmetric connectedness.

Keywords: comovement, contagion effect, financial crisis