

Real Interest Rates and Real Returns of Agricultural Commodities in the Context of Quantitative Easing

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Abstract : In the existing literature, many studies have focused on the implementation and effectiveness of quantitative easing (QE) since 2008, but only a few have evaluated QE's effect on commodity prices. In this context, by following Frankel's (1986) commodity price overshooting model, we study the dynamic covariation between the expected real interest rates and six agricultural commodities' real returns over the period from 2000:1 to 2018 for the US economy. We use wavelet analysis to investigate the causal relationship and co-movement of time series data by calculating the coefficient of determination in different frequencies. We find that a) US unconventional monetary policy may cause more positive and significant covariation between the expected real interest rates and agricultural commodities' real returns over the short horizons; b) a lead-lag relationship that runs from agricultural commodities' real returns to the expected real short-term interest rates over the long horizons; and c) a lead-lag relationship from agricultural commodities' real returns to the expected real long-term interest rates over short horizons. In the realm of monetary policy, we argue that QE may shift the negative relationship between most commodities' real returns and the expected real interest rates to a positive one over a short horizon.

Keywords : QE, commodity price, interest rate, wavelet coherence

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