

Macroeconomic Variables: A Cointegration VAR Analysis

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This study examines the long-run relationship between the real world price of maize, soybeans and maize with the real world price of crude oil in addition to the real interest rate, U.S. exchange rate and a measurement of global economic activity. We use a cointegration analysis accounting for a series of misspecifications in order to achieve a well-specified empirical model using high frequency data from January 1982 until December 2012. The empirical results support a strong causal relationship between maize and soybeans with crude oil prices, the real interest rate and the real U.S. exchange rate. Concretely, we find that real world price of maize and soybeans are cointegrated with real world price of crude oil and it has a one-to-one relationship with these commodities. Additionally, we conduct a series of tests showing the stability of the long-run relationship during the entire period except around the peak of 2007/08 commodity price shock, which supports the views of market speculation as one of the drivers for the commodity price shock. Moreover, we find that 70% of permanent shocks to real crude oil prices are permanently transmitted to both maize and soybeans prices. Despite a number of studies providing conflicting results with respect to the long-relationship between crude oil prices and agricultural commodities, this study that during the last three decades shocks to crude oil prices have had a profound impact on agricultural commodities.