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GRANGER CAUSALITY OF REAL OIL PRICES AFTER THE GREAT RECESSION

Abstract:

Oil prices (WTI) surged to a sustained high level from 2009 through 2014. The magnitude of this real price "shock" compares to that of the height of the second 1970's "oil shock". Then the US inflation rate was at its highest level since 1946; post-2008 it has been subdued. This at first glance seems to rule out monetary causes of the recent oil shock, making it hard to explain. Yet, this paper shows strong Granger causality of nominal and real oil prices by adjusted measures of the US monetary base, M1 and Divisia M1. Without the adjustment, no causality results. The adjustment is to subtract out the short-lived Central Bank Liquidity Swaps of 2008-2009 from the base, M1 and M1 Divisia. These Swaps constituted Fed temporarily borrowing reserves from other Central Banks when their excess reserves turned negative in 2008, during the investment bank panic. With this adjustment, strong causality results hold for monetary aggregates for the entire post 1947 sample and for various sub-periods, including post-2008. In addition, results show that inflation as measured by the CPIE index also Granger causes the real and nominal oil price. These monetary findings extend those of Gillman and Nakov (2009) and Alquist et al. (2013) in which, contrary to Hamilton (1983), inflation and monetary series are found to Granger cause oil prices. This contributes new robust evidence on nominal factors causing oil prices, including during the recent post-Great Recession oil shock period. These results can be important for oil price forecasting. And the paper extends them to gold prices, the oil to gold price ratio, and the US dollar exchange rate index. This demonstrates the importance of monetary factors for benchmark international commodity markets.

Keywords:

Oil Price Shocks, Granger Causality, Monetary Base, M1 Divisia, Swaps, Inflation, GoldQ43, E510, E520 Prices

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