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VOLATILE OIL PRICE AND ELECTRONIC TRADING SYSTEM

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Overview

This paper uses the daily futures prices of beginning/end and bottom/top for Brent crude to investigate the effects of trading system change on the oil price volatility. After establishing a suitable GARCH model, we found open price, close price and trade volume are more volatile by comparing the empirical results before and after the trade system change.

Methods

We use the GARACH model to examine the price volatility problem. First of all, the ADF and PP tests are used to find the unit root problem and the stationary for data series for both data groups. Then we implement the LM test to find the GARCH model. Finally, the GARCH model is applied to find the volatility problem for the futures price of Brent crude.

Results

Although we found the GARCH coefficient is larger after the trade system change for both the close price and trade volume, which indicates the more volatile phenomenon, part of the insignificant results would not strongly support the more volatile conclusions. Generally, our finding is consistent to the more volatile price for the electronic trading system argued by Daiglar and Marilyn (1999 and Coval and Shumway (2001).

Conclusions

By using the futures prices of Brent crude, this paper examine whether the price and trade volume will be more volatile after the IPE transit from the floors trade to electronic trade system. After implementing the unit root, LM test and deriving a GARCH model, we found open price, close price and trade volume are more volatile after the trade system change to be all-electronic. These empirical results could shed some light for current volatility problem in the world crude oil market. Although the electronic trade has much superiority for market trade, the higher volatility brought by this trade system should be more concerned for pursuing a stable economy.

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