

Oil Price, Stock Market and Economic Growth of the United States: Empirical Evidence based on Dynamic Statistical Models

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This paper investigates the linkages and the long-run equilibrium relationship among oil price, stock market, and the economic growth of the U.S. using quarterly data from 2010 to 2019 by applying econometric models. Economic growth rate and oil price are collected from the Bureau of Economic Analysis and World Economic Indicators. The U.S. stock market data is collected from the Bloomberg database. The study applied ADF stationary tests, Johansen Cointegration test and the Granger Causality tests. The graphical analysis and the descriptive statistics show the non-normal and skewed distributions with fat tails. ADF test indicates S&P 500 indices and the oil prices are nonstationary in level series and stationary in their first differences. Johansen Cointegration results indicate that there is a long-run relationship among these three variables. However, the Granger Causality test fails to detect any causality between the oil price changes and economic growth or between oil price changes and S&P 500 index returns, or between economic growth and the S&P 500 returns.

Keywords: oil price, economic growth, stock market, cointegration, causality

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