Asymmetric impacts of oil price on inflation: an empirical study of African OPEC member countries

ABSTRACT

This study investigates the asymmetric impacts of oil price changes on inflation in Algeria, Angola, Libya, and Nigeria. Three different kinds of oil price data were applied in this study: the actual spot oil price of individual countries, the OPEC reference basket oil price, and an average of the Brent, WTI, and Dubai oil price. Autoregressive distributed lag (ARDL) dynamic panels were used to estimate the short- and long-term impacts. Also, we partitioned the oil price into positive and negative changes to capture asymmetric impacts and found that both the positive and negative oil price changes positively influenced inflation. However, the impact was found to be more significant when the oil prices dropped. We also found that the money supply, the exchange rate, and the gross domestic product (GDP) are positively related to inflation, while food production is negatively related to inflation. Accordingly, policy-makers should be cautious when formulating policies between the positive and negative changes in oil prices, as it was shown that inflation increased when the oil price dropped. Additionally, the use of a contractionary monetary policy would help to reduce the inflation rate. Lastly, we suggest that the government should encourage domestic food production, both in quantity and quality, to reduce inflation.

Keyword: Oil price; Food production; Inflation; Asymmetric; Algeria; Angola; Libya; Nigeria