

Oil Price Uncertainty and Inflation Dynamics

Atsushi Sekine

Waseda University

Abstract

This study investigates how oil price shocks affect U.S. inflation. Previous studies employing conventional structural vector autoregressive (VAR) analyses assert that oil price shocks have little effect on U.S. inflation. This study performs Engle and Ng tests to identify oil price uncertainty, defined as conditional variance in forecast errors of oil price changes, and examines whether oil price shocks have asymmetric effects on inflation allowing generalized autoregressive conditional heteroskedasticity (GARCH). Employing GARCH-in-mean VAR, I demonstrate that inflation responds substantially to positive oil price shocks, while it does weakly to negative shocks. I also show that oil price uncertainty may amplify the inflationary effects of positive oil price shocks. Thus, oil price uncertainty may be a determinant for the asymmetric effects of oil price shocks on inflation.

Keywords: Oil prices; Shocks; Uncertainty; Inflation; GARCH-in-mean VAR

JEL Classification: E31; Q43