

Crude Oil Price Shocks and Macroeconomic Performances in the ASEAN Economies

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Abstract

This paper examines the effects of crude oil price shocks on the macroeconomic performance in 10 ASEAN economies: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam. We consider the panel data set over the period 1970–2013. First, we address cross-sectional dependence among the macroeconomic indicators and the real proxy crude oil prices in the panel data set. We then implement in sequence, the second generation panel unit root test, the panel cointegration analysis, accounting for multiple structural breaks, the panel-causality test, and the panel dynamic ordinary least squares (PDOLS) estimations. The empirical findings imply that i) the crude oil prices have a unit root, ii) there is mean-reversion in the inflation rates, iii) there is the hysteresis effect on the unemployment rates, but no long-run relationship between the crude oil prices and the unemployment rates, iv) there is persistence in the domestic credit levels, and a statistically significant cointegration between the crude oil prices and the domestic credit levels. However, the results of the panel-causality test show that there is no statistically robust relationship between the crude oil prices and the domestic credit levels. We also find very high level persistence in the real GDP per capita levels and there is a statistically significant cointegration between the crude oil prices and the real GDP per capita levels. The results of the panel-causality test confirm a significant relationship that runs from the crude oil price to the real GDP per capita. In addition, the results of the PDOLS estimations indicate that 10% increase in the crude oil price leads to 1.5% increase in the real GDP per capita in ASEAN economies in general. Running the common correlated effects panel estimations, we obtain the coefficients for each country and observe that the significant and positive effects are valid in Laos, Brunei, and Indonesia, respectively. We also find the negative effects of the real crude oil price on the real GDP per capita in Singapore and Thailand.

Keywords: Crude oil price; oil price shocks; leading macroeconomic indicators; macroeconomic performance; ASEAN economies; panel data estimation techniques

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