

A Note on the Asymmetry of Oil Price Shocks

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1. Introduction

Studying the exchange rate effect of oil price shocks is one focus of a rapidly growing area of empirical research. The current Editorial aims to shed light on approaches to modeling the impacts of oil price shocks on commodity markets by critically reviewing the literature on the nexus between oil price shocks and exchange rates.

2. Discussion

The relationship between oil price shocks and a country's exchange rate has been studied extensively. The vast majority of these studies have adopted time series techniques to examine the oil price impacts of interest; examples can be found in Amano and Van Norden (1998) [1], Chaudhuri and Danieal (1998) [2], Benassy-Quere et al. (2007) [3], Turhan et al. (2014) [4], and Hasanov et al. (2017) [5], among others. Using Johansen's multivariate cointegration method, for example, Benassy-Quere et al. (2007) [3] find that oil prices have a sizeable impact on the U.S. exchange rate.

Some studies investigate the nexus between oil price shocks and exchange rates by relying on (dynamic) panel data methods, for example, Camarero and Tamarit (2002) [6], Chen and Chen (2007) [7], Kisswani (2016) [8], and Yang et al. (2018) [9]. Chen and Chen (2007) [7] use panel fully modified OLS (FMOLS) and dynamic OLS (DOLS), and demonstrate that oil price shocks are important in explaining variations in exchange rates for G-7 countries.

Although the aforementioned study undoubtedly contributes to better knowledge and understanding of the nexus between oil price shocks and exchange rates, a potential weakness may be that it ignores the asymmetry of oil price shocks in its examination. More specifically, no matter what country is chosen for the subject, prior research typically assumes that fluctuations in oil prices impact exchange rates symmetrically. In other words, if an increase in oil prices results in the appreciation of a country's currency, then a decline in oil prices results in the depreciation of a country's currency by the same magnitude. The influential work by Mork (1989) [10], however, documents that, since the effects of oil price increase and decrease on macroeconomic variables, including exchange rates, which vary in terms of sign and/or magnitude, the symmetry assumption of oil price shocks does not necessarily hold in practice. Further, if oil prices turn out to affect exchange rates asymmetrically, prior empirical analyses inevitably suffer from model misspecification, thereby providing misleading results. Lately, a small number of studies have employed the asymmetric assumption in their models—see Iwayemi and Fowowe (2011) [11], McLeod and Haughton (2018) [12], Kisswani et al. (2019) [13], and Baek and Kim (2020) [14]. Using a nonlinear autoregressive distributed lag (NARDL) approach, for example, Baek and Kim (2020) [14] discover that oil prices asymmetrically affect the movements in the real exchange rates for selected Sub-Saharan African countries.

3. Conclusions

This Editorial critically reviews the existing literature on the link between oil price shocks and exchange rates. As discussed, the symmetry assumption of oil price shocks



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may not be credible in practice, and the asymmetry of oil price shocks should be accounted for accordingly when estimating the impact of oil price on commodities in the future.

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