

# Unveiling the time-dependent dynamics between oil prices and exchange rates: A wavelet-based panel analysis

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The objective of this paper is to re-examine the relationship between real oil prices and real effective exchange rates (REER) for major oil-exporting countries with floating exchange rates. A new panel wavelet method, suggested by Gallegati et al. (2016), is utilized since it is a powerful alternative estimator for analyzing economic relationships at different time-horizons in the situation of integrated, but not cointegrated, sets of data. Based on monthly time-series data from 1996 to 2015, we apply the wavelet-based principles of Gallegati et al. (2016) both for the individual time series and for a panel of real oil prices and REER. In contrast to many previous studies, our results support the theoretically expected positive nexus between the real oil prices and REER for our dataset. As is illustrated by the coefficient estimates, this (theoretically expected) positive relationship is stronger at the larger time scales (that is, at the 4–8 and 8–16 month wavelet scales) compared to the smaller time scales (that is, at the 1–2 and 2–4 month wavelet scales). The findings of this study therefore add to the existing literature, since they disentangle the specific relationship between oil prices and exchange rates at different time scales, which has important policy implications.

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