Examining the Relationship Between Commodity Prices and Economic Growth of Malaysia: A Continuous Wavelet Transformation Approach

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This paper analyzed the relationship between selected commodity prices and the economic growth of Malaysia from 2015 to 2022 based on wavelet analysis. It is an initial attempt to assess such relationships in the country and the paper provides significant contributions by first extending the body of knowledge on the impact of commodities on economic growth. Secondly, adequate forecasts of these prices may generate more economic information which will then lead to better growth predictions (Ge & Tang, 2020) as well as assist the authorities to make the right decisions to sustain economic growth (Tiwari et al., 2016). Moreover, this may improve planning and investment by all the relevant agents in the commodity supply chain as described by Harvey et al. (2017).

The paper collected the monthly data for selected commodity prices that happened to be the largest exports of commodities for Malaysia, namely crude oil, palm oil, rubber, log, wood, and aluminium from Bloomberg Terminal for 96 months from January 2015 to December 2022 considering data availability. The industrial production index is selected to proxy for the economic growth of the country. To investigate the relationship between commodity prices and economic growth at different frequencies and specific moments in time, the paper utilized continuous wavelet transformation or CWT analysis.

The wavelet analysis conducted in this research unveiled the structure of the relationship between the variables at different horizons and it is evident that the relationships are varied depending on frequency and time series. There are significant wavelet cross-correlations in 2019-2021 for crude oil, palm oil, rubber, wood, and aluminium while wavelet cross-correlation is present in 2017 – 2018 for log. It is also evident that most of the lead-lag relationships occurred at the second level of frequency. This paper suggests that Malaysia's policy frameworks should take into account the dynamic responses of the economy towards the movement of commodity prices in facilitating its economic growth. Moreover, efforts should be made to diversify economic activities in reducing the level of dependence on commodities in the country’s trade basket.

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