The Dynamics of Oil Price Shocks in Latin American Stock Markets During Global Turbulence: A Nonlinear Autoregressive Distributed Lag Analysis

Ammar Jreisat[1]

ABSTRACT

This paper investigates the impacts of oil price shocks on the stock markets of six Latin American countries - Argentina, Brazil, Chile, Colombia, Mexico, and Peru - by employing a Nonlinear Autoregressive Distributed Lag (NARDL) approach. The present study examines the nonlinear and asymmetric effects of oil price shocks on stock markets across various countries. This is during periods of global turbulence triggered by the COVID-19 pandemic and the Russia's war in Ukraine. The study intends to investigate both nonlinear and asymmetric effects, utilizing data gathered from January 2020 to July 2023. Specifically, daily stock prices of the six countries and West Texas Intermediate (WTI) as a proxy of oil price index were used in the analysis. The analysis revealed that the complex relationship between oil price shocks and stock markets in Latin America has changed significantly since the start of the pandemic and the Russian-Ukrainian War. To understand the nonlinear reaction of the dependent variable to short and long-term movements, as well as unexpected shocks, the study applied a novel approach of nonlinear autoregressive distributed lag, which is considered superior to other linear methods usually used for depicting the nexus and interactions among time series variables. The findings indicate that the relationship between oil price changes and stock markets is not a straightforward linear correlation, but rather is more complex, with non-linear and counteracting effects, likely due to the uncertainty created by the pandemic and the Russian-Ukrainian War, which has caused investors to be more cautious when responding to oil price shocks. This study emphasizes the necessity of utilizing nonlinear methods to comprehend the intricate association between oil price fluctuations and stock markets in Latin America.

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[1] Department of Economics and Finance Collage of Business Administration
University of Bahrain, Kingdom of Bahrain,
Email: abarham@uob.edu.bh