

Economic Growth: The Nexus of Oil Price Volatility and Renewable Energy Resources among Selected Developed and Developing Economies

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Abstract : This paper explores how nations might mitigate the unfavorable impacts of oil price volatility on economic growth by switching to renewable energy sources. The impacts of uncertain factor prices on economic activity are examined by looking at the Realized Volatility (RV) of oil prices rather than the more traditional method of looking at oil price shocks. The United States of America (USA), China (C), India (I), United Kingdom (UK), Germany (G), Malaysia (M), and Pakistan (P) are all included to round out the traditional literature's examination of selected nations, which focuses on oil-importing and exporting economies. Granger Causality Tests (GCT), Impulse Response Functions (IRF), and Variance Decompositions (VD) demonstrate that in a Vector Auto-Regressive (VAR) scenario, the negative impacts of oil price volatility extend beyond what can be explained by oil price shocks alone for all of the nations in the sample. Different nations have different levels of vulnerability to changes in oil prices and other factors that may play a role in a sectoral composition and the energy mix. The conventional method, which only takes into account whether a country is a net oil importer or exporter, is inadequate. The potential economic advantages of initiatives to decouple the macroeconomy from volatile commodities markets are shown through simulations of volatility shocks in alternative energy mixes (with greater proportions of renewables). It is determined that in developing countries like Pakistan, increasing the use of renewable energy sources might lessen an economy's sensitivity to changes in oil prices; nonetheless, a country-specific study is required to identify particular policy actions. In sum, the research provides an innovative justification for mitigating economic growth's dependence on stable oil prices in our sample countries.

Keywords : oil price volatility, renewable energy, economic growth, developed and developing economies

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