The Impact of Biofuel and Energy Market Shocks on Food Prices: An Empirical Analysis of Syria

Jin Guo
Professor, Department of Economics, Setsunan University, 17-8 Ikedanakamachi, Neyagawa, Osaka, Japan.

Abstract:

This study investigates the influence of the global energy market on local food markets in Syria during the prolonged conflict from 2011 to 2024. Among the various contributing factors, crude oil and biofuel production are frequently highlighted in debates on the drivers of food price fluctuations. In addition, external forces such as international energy prices and financial speculation play a critical role in shaping domestic food price dynamics. We apply a time-varying parameter vector autoregressive (TVP-VAR) connectedness approach to examine how U.S. biofuel production, global oil prices and production, and financial speculation in agricultural markets affect wheat and sugar prices in Syria. Our results indicate that U.S. biofuel production, global oil production, and financial speculation in agricultural commodities significantly influence sugar prices in Syria. In contrast, wheat prices are primarily affected by global oil prices, oil production, and financial speculation, while the impact of U.S. biofuel production on wheat prices is relatively minor. Furthermore, we observe sharp increases in the dynamic connectedness between Syrian food prices and these global factors following the COVID-19 pandemic and Russia's invasion of Ukraine, underscoring the vulnerability of Syria's food markets to external shocks during periods of turmoil. Based on these findings, we propose pragmatic policy recommendations aimed at preventing or mitigating the transmission of international market shocks to Syria's domestic food markets.

Keywords:

Biofuel Production, Food Prices in Syria, Agricultural Commodity Speculation, Dynamic Connectedness, Food Security.