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STUDIA UNIVERSITATIS ECONOMICS SERIES
"Vasile Goldiş" Western University of Arad
SUES
2022 - 32(1) DOI: 10.2478/sues-2022-0004

WHERE DO REAL OUTPUT SHOCKS TO NIGERIA MAINLY EMANATE FROM? EMPIRICAL ANALYSIS OF NIGERIA-CHINA-INDIA-USA ECONOMIC INTERACTIONS

Anthony Orji*
Department of Economics, University of Nigeria, Nsukka, Nigeria
E-mail: anthony.orji@unn.edu.ng

Ikenna Paulinus Nwodo
Department of Economics, University of Nigeria, Nsukka, Nigeria
E-mail: iyknwodo@gmail.com

Jonathan E. Ogbuabor
Department of Economics, University of Nigeria, Nsukka, Nigeria
E-mail: jonathan.ogbuabor@unn.edu.ng

Onyinye I. Anthony-Orji
Department of Economics, University of Nigeria, Nsukka, Nigeria
E-mail: onyinye.anthony-orji@unn.edu.ng

(Received: July 2021; Accepted: October 2021; Published: January 2022)

Abstract: This study investigated Nigeria's economic interactions with China, India, and the USA with a view to identifying the main source of real output shock to Nigeria in the period 1981Q1-2019Q4. The analysis followed the network approach of Diebold and Yilmaz (2014), which uses the size and direction of normalized generalized forecast error variance decompositions (NGFEVD) of a vector error correction model to track shock propagation among economic entities. The results indicate that China and India are net transmitters of real output shocks to Nigeria. The results also indicate that Nigeria is a net real output shock receiver. The study concludes that Nigerian policymakers should evolve policies that can insulate the economy against real output shock heatwaves from around the world, especially China and India. Such policies should mainly target the diversification of the economy such that crude oil will no longer be the only major source of revenue.

Keywords: Output Shock Transmission; Network Approach; VAR Model; Nigeria.

JEL Classification: F02; C32; P16; N17.

* Corresponding author: Anthony Orji. *E-mail: anthony.orji@unn.edu.ng*

1. Introduction

Global business cycles and financial uncertainties are effortlessly transmitted to low-income and developing countries such as Nigeria through several channels like trade and capital flows. Samake and Yang (2014) identified trade as the most notable transmission channel mechanism. Biljanovska and Meyer-Cirkel (2016) suggest that notwithstanding the low trade activities involving most developing and low-income nations, they are nonetheless very much exposed to world business uncertainties. The authors maintained that poor and developing economies like Nigeria are quite vulnerable to shock transmissions from the United States of America (USA or US) and other developed and emerging market economies like China, India, and Brazil. They however opined that in specifics, oil and primary commodity-exporting nations have a high level of connectedness or linkage with emerging market economies, which leaves them with a high degree of vulnerability against shocks which could be either output or financial. The focus of this study is on output shock transmission from China, India, and the USA to Nigeria. Specifically, this study is aimed at identifying the main source(s) of real output shocks to Nigeria.

Spillovers wield enormous influence and dictate the conditions of real gross domestic product (GDP) specifically in developing and emerging economies (Anaya, Hachula & Offermanns, 2017). Bayoumi and Swiston (2009) found that spillovers from the USA constitute the largest spillover indices received by most developing economies. This implies that the USA originates and transmits real and financial shocks to developing nations. Greenwood-Nimmo, Nguyen, and Shin (2015) demonstrated that the major drivers of the global economy are the USA, Eurozone, and crude oil market, with China playing a non-negligible role. Also, Greenwood-Nimmo, et al (2021) posit that the US exerts a major influence on the global economy whereas the activities of countries like China, Brazil and Eurozone are as well globally important. Shock spillovers among G-7 economies rose exceptionally between the periods 1958 and 2013 with the USA being the major transmitter (Antonakakis & Badinger, 2016). Quantitatively, 0.3% - to 0.4% reduction in the USA's output growth yields an instant reduction of Nigeria's GDP by 0.1% and averages to almost 0.6% over time. On average, an increase in the USA's interest rate leaves the emerging market economies (EMEs) with rising short-run and long-run interest rates. Specifically, a 1% rise in the USA's financial uncertainty increases short-term and long-term interest rates by 0.0035% and 0.012% respectively. The rise also decreases stock prices by 0.125%; capital to GDP outflow by 0.0175%; and local currency depreciation by 0.045% (Bhattarai, Chatterjee, & Park 2017). Also, the authors observed that monetary policy shock in