Estimating the size of Nigeria's output connectedness with China, India and USA: a normalised generalised forecast error variance decomposition approach

Anthony Orji, Ikenna P. Nwodo,
Jonathan E. Ogbuabor and
Onyinye I. Anthony-Orji*

Department of Economics,
University of Nigeria,
Nsukka, Nigeria
Email: anthony.orji@unn.edu.ng
Email: iyknwodo@gmail.com
Email: jonathan.ogbuabor@unn.edu.ng
Email: onyinye.anthony-orji@unn.edu.ng
*Corresponding author

Abstract: This paper investigated the size of Nigeria's output connectedness with China, India and USA, with particular focus on Nigeria's latest democratic era that began in 1999. The study used the normalised generalised forecast error variance decomposition (GFEVD) of the underlying vector error correction (VEC) model to construct the connectedness measures. The findings reveal that India and China are the largest contributors of spillover index in the system. Overall, the size of the connectedness index of the economies is 34.55%, which shows remarkable output spillovers among these countries. The policy implication of these results is that Nigerian economic authorities should closely monitor the output fluctuations around the world, especially those of Nigeria's top trade partners like India and China in order to mitigate adverse output shocks.

Keywords: connectedness; VAR model; democratic era; Nigeria; China; India; USA.

JEL codes: F02; C32; P16; N17.

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Biographical notes: Anthony Orji is a PhD holder in Economics and Lecturer in the Department of Economics, University of Nigeria Nsukka. He is a member of the Nigerian Young Academy. He is also an Alumnus and Fellow of the African Program on Rethinking Development Economics (APORDE), Johannesburg, South Africa, Fellow of International Economic Issues and Development Policy, New Dehli, India, Fellow of the African Science Leadership Programme, South Africa and a former visiting scholar to the University of Laval, Quebec, Canada. He has published widely and attended several national and international conferences. He is a member of many research organisations and has participated in several research projects funded by the following institutions: World Bank; Partnership for Economic Policy (PEP), African Economic Research Consortium (AERC) and others. His teaching and research interests are in development economics, macroeconomics, monetary economics, gender issues, finance and resource mobilisation.

Ikenna P. Nwodo is an Economist and an Alumnus of the Department of Economics University of Nigeria, Nsukka. He has attended some international conferences and publishes widely in the field of Economics and Finance.

Jonathan E. Ogbuabor is a renowned scholar, lecturer and researcher. He obtained his Master's degree from the University of York, UK and PhD in Economics from the Department of Economics, University of Nigeria Nsukka. He is also a Lecturer in the Department of Economics, University of Nigeria Nsukka. He is a member of many professional bodies including; the Nigerian Economic Society (NES), Institute of Chartered Accountants of Nigeria (ICAN), among others. He has attended many national and international conferences and publishes widely. His teaching and research interests are in the field of development economics, climate change, agriculture, energy economics, monetary economics, and applied econometrics.

Onyinye I. Anthony-Orji is a PhD holder in Economics and Lecturer at the School of General Studies (Social Sciences Unit) and the Department of Economics, University of Nigeria Nsukka. She has published widely in local and international journals and her research interest is in the areas of development economics, monetary economics, finance and resource mobilisation.

1 Introduction

Nigeria returned to democratic rule in 1999 after many years of military dictatorships that began in a 1983. Following the seizure of political power by the military in 1983, Nigeria has witnessed several military coups, which heightened uncertainty in the country (Isaac et al., 2021). Such uncertainty may have adversely affected the country's domestic economic, financial and trade activities within itself and with the rest of the world (Anthony-Orji et al., 2019; Ogbuabor et al., 2020a, 2020b; Ekeocha et al., 2021a, 2021b). Thus, the return to democratic rule in 1999 ushered in a new era of improved external relations and increased economic activities for the country. Interestingly, China, India and the USA have emerged as Nigeria's top trade partners since 1999. This study is therefore motivated to investigate Nigeria's output connectedness with these top trade partners during this ongoing democratic era.

Many studies abound on the macroeconomic connectedness of economies around the world (e.g., Kose et al., 2003; Doyle and Faust, 2005; Canova et al., 2007; Diebold and Yilmaz, 2009, 2014, 2015b; Park and Shin, 2014; Asteriou and Moudatsou, 2015; Greenwood-Nimmo et al., 2015; Ogbuabor et al., 2018, 2016). The growing global interdependence or connectedness among economic entities around the world in recent decades actually necessitated these studies so as to enable better understanding and modelling of the dynamics of such interlinkages. In fact, the raging rise in international