

**MACROECONOMIC POLICY SHOCKS IN A LARGE INFORMAL
ECONOMY IN NIGERIA: A DYNAMIC STOCHASTIC GENERAL
EQUILIBRIUM APPROACH**

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FEBRUARY, 2021

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EQUILIBRIUM APPROACH**

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**A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE
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DEVELOPMENT STUDIES, COLLEGE OF MANAGEMENT AND SOCIAL
SCIENCES, COVENANT UNIVERSITY, OTA.**

FEBRUARY, 2021

ACCEPTANCE

This is to attest that this thesis is accepted in partial fulfilment of the requirements for the award of the degree of Doctor of Philosophy (Ph.D) in Economics in the Department of Economics and Development Studies, College of Management and Social Sciences, Covenant University, Ota.

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DECLARATION

I, **ADU, OMOBOLA OLUSEGUN, (10AF010459)**, declare that this research was carried out by me under the supervision of Prof. Philip O. Alege and Prof. Oluranti I. Olurinola of the Department of Economics and Development Studies, College of Management and Social Sciences, Covenant University, Ota. I attest that the thesis has not been presented either wholly or partially for the award of any degree elsewhere. All sources of data and scholarly information used in this thesis are duly acknowledged.

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Signature and Date

CERTIFICATION

We certify that the thesis titled “**Macroeconomic Policy Shocks in a Large Informal Economy in Nigeria: A Dynamic Stochastic General Equilibrium Approach**” is an original work carried out by **ADU, OMOBOLA OLUSEGUN (10AF010459)** of the Department of Economics and Development Studies, College of Management and Social Sciences, Covenant University, Ota, Ogun State, Nigeria, under the supervision of Prof. Philip O. Alege and Prof. Oluranti I. Olurinola. We have examined and found the work acceptable as part of the requirements for the award of Doctor of Philosophy (Ph.D) in Economics

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DEDICATION

I dedicate this research work to the Almighty God, the maker of the heavens and earth who has given me the grace to complete this project in due time.

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LIST OF ACRONYMS

ADF:	Augmented Dickey-Fuller
ARMA:	Auto Regressive Moving-Average
BP:	Band Pass
CAC:	Corporate Affairs Commission
CBN:	Central Bank of Nigeria
DSGE:	Dynamic Stochastic General Equilibrium
FGN:	Federal Government of Nigeria
GDP:	Gross Domestic Product
GMM:	Generalised Method of Moments
GNP:	Gross National Product
HP:	Hodrick-Prescott
ICLS:	International Conference of Labour Statisticians
ILO:	International Labour Organisation
LQ:	Linear-quadratic
MIMIC:	Multiple Indicator Multiple Causes
MLE:	Maximum Likelihood Estimation
MPR:	Monetary Policy Rate
NBS:	National Bureau of Statistics
NKPC:	The New Keynesian Philips Curve
NPC:	National Population Commission
RBC:	Real Business Cycle
SEM:	Structural Equation Model
SMM:	Simulated Method of Moments
UNSD:	United Nations Statistics Department
VAR:	Vector Auto-Regressive
WDI:	World Development Indicators

ABSTRACT

The approach and conduct of the macroeconomic policy play an important role to the provision of sound economic policies that addresses business cycles or macroeconomic fluctuations. In determining the approach of macroeconomic policy in Nigeria, the structure of the economy characterised by a large informal economy should also be taken into consideration given its importance in providing employment. Hence, this thesis opines that the design of monetary and fiscal policy (macroeconomic policies) in Nigeria, needs to carefully take into consideration how a large informal economy could impact the transmission mechanism of macroeconomic policy shocks on the real economy. Therefore, the major objective of this study is to understand how the presence of a large informal economy in Nigeria affects some macroeconomic variables in the advent of policy shocks. This thesis identifies three major gaps in the literature: First, there is a lack of extant literature concerning the estimation of the size of the informal economy in Nigeria over a long period of time (time series); second, to investigate the existence of business cycles in Nigeria; and third, prevailing literature on the informal economy in Nigeria, to the best of the researcher's knowledge, fail to assess whether the informal economy provides a buffer in the advent of shocks to the economy. The Multiple Indicator Multiple Causes (MIMIC) model was used to estimate the size of the informal economy, while the Dynamic Stochastic General Equilibrium (DSGE) model was employed to investigate the buffer role of the informal economy and was estimated using the Bayesian approach. By estimating the MIMIC model, the results showed that the informal economy in Nigeria in terms of the gross domestic product has ranged from about 38 percent to 58 percent from 1991 to 2018. Also, changes in the size of the Nigerian informal economy are largely driven by deviations in the vulnerable employment rate and the urban population growth rate. Estimating the DSGE model, the study finds evidence that the informal economy plays a buffer role or an absorbing role in reducing the effectiveness of a monetary policy shock in contracting output in comparison to an economy with a relatively small informal economy. This thesis recommends that there is a need to implement market-friendly policies that would help to integrate the informal sector with the formal sector, thereby positively impacting the transmission mechanism of policy shocks on the real economy. These market-friendly policies are intended to encourage informal enterprises to register their businesses and pay taxes in the long run which will help boost the non-oil revenue of the government and provide a better basis for the derivation of economic policies.

Keywords: Bayesian approach, DSGE, Informal sector, Informal economy, Macroeconomic policy, MIMIC, Vulnerable employment.