# ***credit market frictions and business cycle dynamics in an oil-rich emerging economy model***

### Moses Tule, Central Bank of Nigeria, Phone +234946238942, E-mail: mktule@cbn.gov.ng

### Fred Ogli Iklaga, Central Bank of Nigeria, Phone +234946238942, E-mail: foiklaga@cbn.gov.ng

### Fadimah Yusuf, Central Bank of Nigeria, Phone +234946238942, E-mail: fyusuf@cbn.gov.ng

#### Overview

Access to credit and other financial services remains a major challenge to households and firms in some emerging market and developing economies. Given the level of financial development, dearth of finance may hamper the ability of households and firms to smooth consumption and production over business cycles. In such circumstances, considerable dependence on external financing implies that, developments from abroad introduces credit market frictions which invariably influences economic performance. To this end, the relative high level of exposure to external shocks may be exacerbated during adverse economic conditions and furthermore, for an oil-producer economies. Nigeria is a small open emerging economy which depends largely on oil and gas for exports and fiscal revenue. Accounting for over 90.0 per cent of total exports, the economy is highly vulnerable to fluctuations in oil prices.

In this paper, we extend a small open economy dynamic stochastic general equilibrium (DSGE) model for Nigeria, a major oil exporter, incorporating a mechanism for the ‘financial accelerator’ as a credit market friction. The concept of the ‘financial accelerator’ as a financial friction affecting firms borrowing is well established for industrialised economies in the literature. For an oil exporting economy with significant exposure to external shocks, introducing a financial accelerator may serve as an important amplification device for replicating the impact of business cycle dynamics. Thus, we develop an open economy model with oil revenue, endogenous fiscal policy, incomplete exchange rate pass-through, credit-constrained consumers and a financial accelerator facing domestic firms seeking to finance their investment.

The objective of this study is to highlight the relative importance of incorporating credit market frictions, oil price shocks and other exogenous shocks when modelling non-industrial oil exporting economies for policy decision making. Following the introduction, section 2 presents a standard and augmented version of the DSGE model with and without the financial accelerator for the oil exporting emerging economy. We estimate via Bayesian maximum likelihood methods and then undertake some simulations in sections 3 and 4, respectively. Section 5 concludes.

#### Methods

Dynamic Stochastic General Equilibrium Models.

Bayesian Maximum Likelihood Estimation.

Simulation method.

#### Results

The results show that introducing features that replicate credit market frictions to the oil-exporter economy DSGE model is useful for policy analysis and simulations. The modelling outcomes also highlights how the financial accelerator serves as an amplification device for external shocks in the small open economy model.

#### Conclusions

The ultimate objective of developing macroecnomic models is to provide platforms for improved policy decision making. Incorporating financial frictions in the form of non-Ricardian agents and credit market frictions, we develop a DSGE model for a non-industrial oil-exporter economy.

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