Commodity-exporting economies display procyclicality with respect to the price of commodity exports. However, the evidence in disentangling the relative importance of observable shocks, such as oil prices, from unobservable ones, such as total factor productivity, has been inconclusive.

In this paper, we analyze the relative importance of various shocks to the dynamics of key macroeconomic and financial indicators of the economy, such as GDP, consumption, loans, deposits, and some others, and also study the effectiveness of various macroprudential policies aimed at limiting lending growth rates in order to stabilization of the business cycle of the economy in the event of various shocks.

The paper develops the New Keynesian Dynamic Stochastic General Equilibrium Model (DSGE) for an open economy, which includes households, firms, banking system, government, and commodity-export. The banking system in the model provides loans to firms for which they, in turn, can default. Thus, we introduce into the model the endogenous default of firms, the value of which changes over the business cycle.

Using Russian data for 2001-2018, we estimate the New Keynesian model with the banking system using the Bayesian estimation approach for two cases: the first, when the default of firms is determined endogenously in the model, and the second, when the default of firms in the model is set exogenously.

We show that the relative importance of commodity price shocks for explaining macroeconomic and financial series increases significantly when domestic default rates vary endogenously over the business cycle. We also find strong evidence of a "Dutch Disease" type effect in the Russian economy due to commodity price shocks in the latter case. We show that our results are driven by the "investment wedge" generated by default which creates an additional channel for structural shocks to affect the economy.

Our normative results show that a lean-against-the-wind monetary policy that adjusts to the level of unsecured debt performs a stabilising role. Reserve requirements on deposits, and capital adequacy requirements were not found to significantly stabilize the economy.

The key novelty of this work is that it analyzes the relative importance of various shocks to explain the macroeconomic and financial series, depending on whether financial frictions are modeled as endogenous or exogenous.