Capital Returns after a Terms of Trade Shock*

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February 19, 2021

Abstract

In terms of increasing global interconnectedness, international macro-finance is becoming progressively more important because it investigates the link between asset prices and economic fluctuations. For various reasons, standard theoretical frameworks such as dynamic stochastic general equilibrium (DSGE) models fail to portray plausible return on capital (ROC) responses after a specific exogenous shock. The goal of this paper is to examine the effect of a terms of trade (ToT) shock on the ROC. I focus on 22 different economies which are assumed to take ToT as exogenously given. I answer the research question directly using a bivariate empirical SVAR model. To gain further insights into the research question, I extend the theoretical importable-exportable (MX) model from Schmitt-Grohé and Uribe (2017) in order to be able to model significant ROC responses. Both empirical and theoretical models are based on the same shock process, allowing for a direct comparison of the model outcome. The empirical SVAR model suggests that a positive average ToT shock of 3.9% per annum leads to a ROC response of 6.5% per annum in the period of the shock while industrialized economies experience, on average, significantly lower ToT shocks than non-industrialized economies. In stark contrast, DSGE model results show that the initial ROC response to that same shock is usually negative, since the price of capital increases at the beginning of a time period by different amounts under the modifications made, depending on the degree of economic activity. Nevertheless, the extended theoretical model successfully replicates empirically measured average real ROCs and constitutes a possible framework for further investigations.

Keywords: Open economy macroeconomics, terms of trade, capital return, SVAR model, DSGE model

JEL Codes: F41, F44, F62, F65, G12

*Draft Version

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