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Exploring International Differences in Inflation Dynamics

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Abstract

Standard closed-economy DSGE models have difficulty replicating the persistence of inflation. We use a multicountry dataset to establish some empirical regularities on persistence and volatility of aggregate consumer prices for 135 countries since 1993. We find both persistence and volatility to be low (high) in developed (developing) countries relative to the full sample average. This pattern is also observed in low (high) inflation countries. We then employ a two-country DSGE framework to investigate the extent to which structural open economy features, such as incomplete exchange rate pass-through, the existence of nontraded goods, and international financial market incompleteness, can help in replicating the persistence and volatility of consumer prices. Our simulation results indicate that the model can replicate the degree of inflation persistence seen in the data for both developed and developing countries, but cannot generate the low levels of volatility observed in developed economies.

JEL Classification: E31 F41 C22
Keywords: Inflation dynamics, persistence, volatility, DSGE modeling, simulations

1. Introduction

The question of whether the dynamics of inflation within a country is characterized by structural persistence is seemingly simple, yet the answer to it is of great importance for the design of macroeconomic models and for the implementation of optimal monetary policy. Indeed, a large literature has emerged that examines whether economic agents systematically utilize past information in setting prices, or whether the dynamics of inflation are dominated by expectations and purely forward-looking price-setting behavior. This literature to date has primarily examined the issue in a closed economy context, and consequently may be missing several important mechanisms driving the behavior of inflation given the multitude of international linkages that exist between countries today.

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