

Robust Control, Informational Frictions, and International Consumption Correlations

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Summary

In this paper we examine the effects of model uncertainty (robustness or RB) on international consumption correlations in two otherwise standard small open economy models: one with perfect state observation and the other with imperfect state observation. Hansen and Sargent (1995) first introduced model uncertainty due to robustness into economic models. Agents with this preference are concerned about the possibility that their model is mis-specified in a manner that is difficult to detect statistically; consequently, they choose their decisions as if the subjective distribution over shocks was chosen by a malevolent nature in order to minimize their expected utility. We show that in the presence of capital mobility in financial markets, RB lowers the international consumption correlations by generating heterogeneous responses of consumption to income shocks across countries facing different macroeconomic uncertainty. However, the calibrated RB model with perfect state observation cannot explain the observed consumption correlations quantitatively. We then show that the RB model with imperfect state observation is capable of matching the behavior of international consumption quantitatively via two channels: (i) the gradual response to income shocks that increases the correlations and (ii) the presence of the common noise shocks that reduce the correlations.