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Credit frictions and co-movement of durable and non-durable goods in a small open economy

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Multi-sector sticky price models produce unusual outcomes when the prices of durable goods are flexible. This is because, on the one hand, as empirical evidence suggests, a monetary policy shock results in the positive movement of aggregate consumption in both durable and non-durable goods sectors. On the other, it is because the movement of durable goods is greater than that of non-durable goods, as suggested by Erceg and Levin (2002, 2006). On the other hand, Barsky et al. (2003) show that in a two-sector economy with flexibly priced durable goods and sticky priced non-durable goods, the flexibility of prices of durable goods governs the response of aggregate consumption to a monetary policy tightening. This is because the shadow value of durable goods is approximately constant owing to the typically high stock-to-flow ratio of durable goods. Thus, the responsiveness of the user cost of durable goods does not result in an improvement in total utility for the households.

To solve the co-movement puzzle, Barsky et al. (2003) propose the introduction of frictions in the form of credit constraints, sticky wages and sticky inputs into sticky price models. Incorporating binding borrowing constraint into a sticky price model generates a disconnect between the marginal utility of extra durable purchases and the relative price of durables. This is because, assuming that incomes rise in the wake of a monetary policy shock, constrained borrowers may spend their extra income purchasing durables although non-durables have become relatively cheaper.

This paper investigates, numerically, the co-movement puzzle by testing the ability of borrowing and lending constraints to counter the opposite movement of durable and non-durable goods in response to foreign monetary policy and international bond shocks. I do this by simulating a small open economy sticky price model calibrated to the South African economy over the period 1990Q01–2014Q04. The results shows that introducing borrowing and lending constraints into a small open economy sticky price model, in the face of foreign monetary policy tightening and an international bond shock, partially solves the co-movement puzzle. This is because the shadow value of durable goods reduces the incentive to accumulate durables for collateral because foreign lenders are less efficient than domestic lenders at recovering loans. In the case of sticky durables and sticky non-durables, the sticky price model mimics a fall in the relative price of durable goods observed in the data. Thus, financial frictions such as borrowing and lending constraints make it possible to reconcile the sticky price model with the data.

References

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