

Discussion on "Spillovers, capital flows and prudential regulations in small open economy" by P. Castillo, C. Carrera, M. Ortiz and H.Vega

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BIS, Mexico City, October 2013

- Great paper!
- Paper examines the spillovers effects between tradable (T) and nontradable (NT) sectors for small open economies subject to collateral constraints in domestic and international credit markets.
- Main results:
 - 1 Borrowing constraint amplifies spillovers between T and NT sectors.
 - 2 Positive analysis: shocks to tradable sector is consistent with boom dynamics associated with capital inflows in emerging economies.

- Policy analysis (macroprudential)
 - Instruments: loan to value ratios that limit amount that can be collateralized.
 - Results: countercyclical use of macroprudential limits amplification effects and reduce asset price and output volatility.

- Motivation
- Review of the model/mechanism;
- Normative analysis and macroprudential policy

- Why is it interesting to look at spillover between T and NT sectors?
- Positive perspective: the model replicates qualitatively (at this stage) salient features of capital inflows episodes for selected Latin American countries.
- Why T and NT are important?
- One important dimension of capital flows episodes is the extent to which capital flows are associated with resource misallocations.

Resource Misallocation and Capital flows (literature)

- Productivity heterogeneity and credit constraint (Aoki et al. (2009) and Reis (2013))
- Structural asymmetries (dynamic productivity gains in one sector): Benigno and Fornaro (2012, 2013)
- This paper: credit constraint and asymmetries in terms of collateralizable assets and misallocation occur because of spillover.

Model: key features

- Two agents: workers (domestic credit) and entrepreneurs (T and NT). Housing and capital in fixed supply.
- T borrows internationally; NT borrows domestically. Production functions are symmetric; only asymmetry in the borrowing constraint
- NT entrepreneurs

$$R_s P_s^W b_s^{NT} \leq \theta^{NT} q_{s+1}^h h_s^{NT}$$

- Demand for housing:

$$q_s^h = MP_h^{NT} + MB_h^{NT}(\text{credit})$$

- Demand for capital:

$$q_s^k = MP_k^{NT}$$

- MP_h^{NT} = marginal product of buying housing for NT sector
- b^{NT} in units of the consumption good
- MP_k^T = marginal product of buying capital for NT sector
- $MB^{NT}(\text{credit})$ = marginal benefit of holding housing for collateral reason.

Model: key features

- T entrepreneurs

$$R_s^* b_s^T \leq \theta^T q_{s+1}^k k_s^T$$

- Demand for housing:

$$q_s^h = MP_h^T$$

- Demand for capital:

$$q_s^k = MP_k^T + MB_k^T(\text{credit})$$

- MP_h^T = marginal product of buying housing for T sector
- MP_k^T = marginal product of buying capital for T sector
- $MB_k^T(\text{credit})$ = marginal benefit of holding capital for collateral reason.

- Two aspects of the transmission mechanism that are important.
 - ① Difference between housing and capital.
 - ② Presence of credit constraint.
- Difference between housing and capital comes from the demand of housing by the workers.

It would be interesting to examine differences in terms of growth prospect.

Model: Mechanism/role of borrowing constraint

- What would happen to resource allocation when there is no borrowing constraint? (recall H and K are fixed and production function are symmetric)
- Productivity shock to Tradable sector: $\uparrow MP^T$; $\uparrow h^T$ and $\uparrow k^T$.
- Increase in q^k and q^h .
- Demand of housing from utility purposes increases: contributes to increase in $\Delta q^h > \Delta q^k$
- Without spillover caused by the borrowing constraint $\Delta Y^T > 0$ and $\Delta Y^{NT} < 0$.

Model: Mechanism/role of borrowing constraint

- Misallocation of resources in production: (recall H and K are fixed and production function are symmetric)
- Productivity shock to Tradable sector: $\uparrow MP^T$; $\uparrow h^T$ and $\uparrow k^T$.
- Increase in q^k and q^h .
- Demand of housing from utility purposes increases: contributes to increase in $\Delta q^h > \Delta q^k$.
- Now this expands collateral value in both sectors.
- Increase in demand of non-tradable consumption and relative price of nontradables (balance sheet effect)
- Equilibrium on impact: $\uparrow h^{NT}$ and $\uparrow k^{NT}$ and $\downarrow h^T$ and $\downarrow k^T$ with $\Delta Y^T < 0$ and $\Delta Y^{NT} > 0$

Key aspect: interaction between housing demand from workers and borrowing constraint

Model: Normative analysis

- Planner perspective (production side); Single entrepreneur that maximizes joint production.
- Spillover externality?
- Demand of inputs:

$$h^{NT} : q_s^h = MP_h^{NT} + MB_h^{NT}(\text{credit})$$

$$h^T : q_s^h = MP_h^T$$

$$k^{NT} : q_s^k = MP_k^{NT}$$

$$k^T : q_s^k = MP_k^T + MB_k^T(\text{credit})$$

- Is it inefficient from a productive perspective? No

Model: Normative analysis

- What is the scope for policy intervention?
- Resource misallocation arises here because workers when demand housing do not take into account the effects that their demand of housing has on the house price that affects the borrowing constraint of non-tradable sectors.
- Externality arises from economy wide perspective and could be addressed by using sectorial policies or by limiting the demand of housing from workers (note that here workers do not face any borrowing constraint).

Model: Normative analysis

- Normative analysis in the paper:
- Loan to value rule are assumed to be countercyclical and are used to dampen house price volatility and as a consequence the shift towards non-tradable output.
- Second best policy tool to address resource allocation problem.
- More ambitious policy analysis: consider crisis and normal times (occasionally binding constraint as in Mendoza (2010)).
Macroprudential would be related to financial instability objective. (Korinek (2008), Bianchi (2011), BCORY (2011, 2012), Bianchi and Mendoza (2011), Jeanne and Korinek (2012))

Conclusion

- Emphasize resource misallocation and distinction between housing and capital goods.
- Normative analysis to be develop.