Capital Controls or Macroprudential Regulation?

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What the Paper Does

- Present a simple, elegant and stylized model to explore the role of capital controls (CFM) and macroprudential policy.

- Key distinction:
  - capital controls: wedge between domestic and foreign lenders
  - macroprudential: wedge between borrowers and lenders

- Requires a model
  - with a financial friction that creates a pecuniary externality
  - with (at least) one domestic lender and one foreign lender.

- Model is a variation on the workhorse model used by Korinek in previous papers. Elegant, simple and transparent.

The Model in a Nutshell

- Financial friction:

$$-b_2^i \leq \phi \left(y_{T,1}^i + p y_{N,1}^i \right)$$

  where p is the real exchange rate.

- When financial friction binds (for borrowers),

$$p(\{M^i\}) = (1-\alpha) \frac{M^B + \phi Y_{T,1}^B + (M^S + Y_{T,2}^S)/2}{Y_{N,1} - (1-\alpha)[Y_{N,1}^B(1+\phi) + Y_{N,1}^S/2}$$

  where M^i is tradable cash-on-hand.

- Pecuniary externality: both B and S fail to take into account the impact of their saving decisions (i.e. choice of M^i) on the real exchange rate.
  - Increasing M^i for both agents props up p: capital controls.
  - More so for B (high MPC) so a transfer of resources from S to B relaxes the financial friction. macropru.

Ramsay problem

Planner takes the competitive equilibrium at $t = 1$ as given, but 'dictate' borrowing/lending decision at $t = 0$, internalizing the effect on p.

Constrained first-best:

$$\frac{u^i_{T,1}}{u^i_{T,0}} = 1 - \frac{\lambda^B}{u^B_{T,0}} \frac{\phi Y^B_{N,1}}{\Gamma} \frac{\partial p}{\partial M^i} \equiv 1 - \tau_i$$

- Precautionary policy: pigouvian tax on borrowing/subsidy on saving if friction binds at $t = 1$
- Optimal tax is positive for S and B: capital controls
- Optimal tax is different for B and S: macropru

Three Comments

- Heterogeneity, Instruments and Constrained First Best.
- Ex-ante vs Ex-post interventions
- Is the model too stylized?

Heterogeneiy and Instruments

- Why do we want two instruments (CC and MP)? Because we have two distortions to correct: S and B.
- But this is clearly a simplification. Let's generalize: suppose N types of agents (each of mass 1) with different endowments and preferences: α^i
- Denote C the set of constrained types and U unconstrained. Then:

$$p(\{M^i\}) = \frac{\sum_{j\in C}(1-\alpha^j)\alpha^j M^j + \sum_{j\in U}(1-\alpha^j)\alpha^j M^j/2}{D} + X$$

  So $\partial p/\partial M^i$ varies across types.

- Constrained first best:

$$\frac{u^i_{T,1}}{u^i_{T,0}} = 1 - \frac{\partial p}{\partial M^i}\sum_j \frac{u^j_{T,1}(y^j_{N,1} - c^j_{N,1}) + \phi\lambda^j y^j_{N,1}}{u^j_{T,0}} \equiv 1 - \tau^i$$

  requires N different instruments: 1 CC and $N-1$ MP? What if $N = 10, 1000, 10^6$?

Heterogeneity and Instruments

- This is a *reduction ad absurdum*, but the more relevant point is that the constrained first-best is unbelievably information intensive:

$$\tau^i = \frac{\partial p}{\partial M^i} \sum_j \frac{u^j_{T,1}(y^j_{N,1} - c^j_{N,1}) + \phi \lambda^j y^j_{N,1}}{u^j_{T,0}}$$

- Optimal tax requires information on price pass-through, the distribution of consumption, income, marginal utilities, financial constraints (and their shadow value)....
- So while the general message is trivially true in general (use 1000 instruments if we have 1000 distortions) it is not particularly useful.
- How would we conduct policy? How do we establish transparency, anchor expectations, build credibility.... (think about non conventional monetary policy)
- Instead, of incredibly complex but non-robust and very model-dependent constrained first-best policies, we should be be looking for simple and robust policies.

Ex-ante vs. Ex-post interventions

- The policies considered in KS14 are precautionary (ex-ante), interventions.
- But the planner could also support p directly at $t = 1$.
  - One way to do this is to tax S and purchase ('waste') non-traded goods: $T^S = pc^g_{N,1}$ (there are other ways)
  - The real exchange rate satisfies:

$$p = (1-\alpha)\frac{M^B + \phi Y^B_{T,1} + (M^S + Y^S_{T,2})/2}{Y_{N,1} - c^g_{N,1}(1+\alpha)/2 - (1-\alpha)[Y^B_{N,1}(1+\phi) + Y^S_{N,1}/2}$$

  Increase in $c^g_{N,1}$ increases p: $\partial p/\partial c^g_{N,1} \geq 0$
  - Now planner choose $c^g_{N,1}$ to $max \sum_i \gamma^i V^i(m^i, M^B, M^S)$
  - Optimal choice of $c^g_{N,1}$ satisfies

$$\frac{\partial p}{\partial c^g_{n,1}}\left(\sum_i \gamma^i u^i_{T,1}(Y^i_{N,1} - C^i_{N,1}) + \gamma^B \lambda^B \phi Y^B_{N,1}\right) \leq \gamma^S \mu^S_{T,1}\frac{\partial p c^g_{N,1}}{\partial c^g_{N,1}}$$

  - Interior solution ($c^g_{N,1} > 0$) can exist
- Interaction of ex-ante and ex-post policies is important (e.g. Caballero and Lorenzoni (2014))

Is The Model Too Stylized?

After having argued that the model is too complex in the policy space, I will now argue that it is also too stylized:

- MP and CC aim to redress distortions in the intermediation of capital from savers to borrowers.

- A critical ingredient is the financial sector. Yet the model does not really feature a financial sector.
  - There are no financial intermediaries, no financial markets either
  - There is only a loosely motivated collateral constraint: $-b_2^i \leq \phi(y_{T,1}^i + py_{N,1}^i)$

Is The Model Too Stylized?

- The structure of the financial sector matters for the evaluation of MP and CC policies.
- For instance, capital controls that restrict portfolio flows may increase cross-border FX lending (a tax on these would be considered MP, not CC)
- More generally, issues of feasibility are important.
  - The literature tells us again and again that CC are not very effective on the macro variables. Recent studies confirm this result.
  - The literature on MP is more recent so the verdict may still be out...
- These interactions are very much on the mind of the policymakers.
- Not all policies are Pigouvian, correcting externalities. It can also be useful to use MP and CC to build buffers.

Conclusion

- I enjoyed it
- A very important topic, with tremendous policy implications
- A very pedagogical model whose main point is that all instruments should be used in general
- But perhaps too narrow an exercise to really move much beyond an abstract result