Capital controls, macroprudential measures and monetary policy interactions in an emerging economy.

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After a number of emerging economies’ financial crises, views on capital control have been significantly changed.

- Capital control can be beneficial as it can prevent financial crises.

- IMF (2012) recommended some form of capital control to emerging economies for financial stability.
Jeanne and Korinek (2010) and Bianchi (2011) find that due to pecuniary externalities, capital control or macro-prudential policy can be welfare improving by reducing the likelihood of “Sudden Stops” crises.

Rey (2015) argues that to implement independent monetary policy, emerging economies also need to implement some form of capital control.

Capital flows to emerging economies are mainly driven by U.S. monetary policy.

This paper is motivated by Rey (2015) to see the interaction of conventional monetary policy and capital control or macro-prudential policy.
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This paper focuses on how macro-prudential or capital control policy complements monetary policy of emerging economies in the face of foreign interest rate shock around the steady state.

Which policy (macro-prudential or capital control policy) is better when used in conjunction with monetary policy?

Key Finding: capital control is a better policy instrument than macro-prudential policy in the face of the foreign interest rate shock.
Main Intuition

- $i_t^{US} \uparrow \rightarrow$ Emerging Economies’ Exchange Rate $\downarrow$:

  - Currency Depreciation has two effects:
    - $\pi_t^{Em} \uparrow$ (assuming that perfect exchange rate pass-through)
    - For the banks with foreign-currency external debt:
      - the real burden of debt $\uparrow \rightarrow$ net-worth of banks $\downarrow \rightarrow$ aggregate credit supply $\downarrow$ so negatively affect $y^{EM}$
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Monetary Authority increases $i_t^{EM} \uparrow$ in response to $\pi_t^{Em} \uparrow$

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Monetary Policy Alone

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Capital control in the form of tax on foreign debt can counteract the effect of a decrease in the burden of foreign currency debt.

- less tax on foreign borrowing in the face of the foreign interest rate hike.
- Bank’s net-worth does not decrease as much with currency depreciation.

Then, Monetary authority can implement more aggressive monetary policy than in the absence of capital control.

- It can specifically target and counteract the effect of the change in the burden of foreign currency borrowing.
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A New-Keynesian small open economy model with two financial frictions:

  - Currency depreciation leads to a decrease in overall credit supply through a higher burden of foreign currency debt.

  - Overall credit condition of the banks affects economic activity.
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Model Summary

- Capital Control: tax on foreign borrowing.
- Macro-prudential policy: limits the leverage ratio of bank.
- Monetary policy: Standard Taylor rule
Foreign interest rate shocks ($i_t^{US} \uparrow$) → ER deprecation.

- Bank’s net-worth ↓ as the foreign currency debt burden increases.
  - Credit supply ↓ due to GK friction in the banking sector.
  - Output ↓ due to BGG friction in the private sector.
Mechanism of the Model

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Counter-cyclical tax on foreign currency borrowing (capital control) can counteract the effect of currency depreciation.

- Since capital control specifically targets the foreign borrowing, this well complements the monetary policy. (Key Finding of the Paper).
- Macro-prudential policy is less useful as it only reduces overall borrowing of the economy regardless of residency of lenders.
Very timely and interesting paper.

1) Exchange rate movements are a key driver of fluctuations of the model.
   - But....
   - perfect exchange rate pass-through.
   - All the external debt is assumed to be foreign currency denominated.
     - Du et al (2016) show that a growing number of emerging economies issue local-currency debt (especially Brasil)
     - These two assumptions might overestimate the effect of the foreign interest rate shock as well as the benefits of capital control.
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2) Exchange rate movements and associated change in the real value of foreign-currency debt are the key.

- But....
- Not very clear about how exchange rates are determined (UIP does not hold in this model.)
- Not very clear about how foreign currency debt $d_t^*$ is determined.
- Minor points: this economy is not allowed to save in international financial markets. ($d_t^* > 0$).
3) Bank’s Key Financial Friction:

\[ \theta(b) = \theta_0(1 + \frac{\theta_1}{2}(\frac{r_{et}d^*_t(b)}{l^*_t(b)})^2) \]: as the fraction of foreign debt increases, the less amount of credit the bank can supply.

Why?: Any micro-foundation?

Is it True?: any empirical support?
[4)] What are the distortions caused by macro-prudential and capital controls?

Jeanne and Korinek (2010), Bianchi (2011) show that macro-prudential and capital controls are welfare-improving as those policy prevents the likelihood of financial crises.

During normal times, those policies are not welfare-enhancing.

In this paper, the model is simulated around the steady state, which is far away from the crises states. In this case, distortions caused by two financial regulations can be as big as their benefits.

Probably that is why no macro-prudential policy is optimal in the face of foreign interest rate shock in the paper.

Be more clear about the tradeoff of each policy (macro-prudential and capital control policy).

Finally, what are the optimal policy if the model economy faces all the different types of shocks altogether?
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