Discussion of “Capital Controls as Macropru in Global Economy”
by Davis & Devereux

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Model

- Two countries

\[ u(c_{T,1}) + u(c_{N,1}) + u(c_{T,2}) \]
\[ u(c^{*}_{T,1}) + u(c^{*}_{T,2}) \]

- Endowments: \((e_{T,1}, e_{T,2}), (e^{*}_{T,1}, e^{*}_{T,2})\) and \(e_{N}\)

- Initial debt \(\bar{D}\) due at date 2, so budget constraint

\[ c_{T,1} = e_{T,1} + q(D - \bar{D}) \]
\[ c_{T,2} = e_{T,2} - D \]

- Collateral constraint

\[ qD \leq \kappa(e_1 + p_{N,1}) \]
Experiment

- Start at equilibrium with no trade \((D = \bar{D})\) and binding constraint
- Choose parameters that satisfy

\[
q u'(e_1) > u'(e_2 - \bar{D}) \\
q u'(e_1^*) = u'(e_2^* + \bar{D}) \\
q \bar{D} = \kappa(e_1 + 1/u'(e_1))
\]

- Price of non-tradable

\[
p_{N,1} = \frac{u'(e_N)}{u'(c_{T,1})}
\]

- What happens if we increase \(D\) a bit and use \(qdD\) to increase \(c_{T,1}\)?
Effects

- First let’s check that it’s feasible
- If
  \[ qdD < \kappa dp_{N,1} \]
  we are ok, collateral constraint is satisfied (we’ll get back to this)
- Domestic consumers gain because
  \[ u'(c_{T,1}) \, dc_{T,1} + u'(c_{T,2}) \, dc_{T,2} > 0 \]
- The interest rate changes \( dq < 0 \)
- But there is zero reallocation of welfare across countries because
  we start at zero trade
  \[ (D - \bar{D}) \, dq = 0 \]
- This is the “macro prudential” effect motive for exchange rate manipulation. Basically benign here
Now with TOT effects

- Now suppose we don’t start at a zero trade equilibrium
- \( dq \) causes reallocation
- If \( D - \bar{D} > 0 \) domestic consumer loses, foreign gains
- Effect on domestic utility of \( dD > 0 \)

\[
dU = u'(c_{T,1}) dc_{T,1} + u'(c_{T,2}) dc_{T,2} + u'(c_{T,1})(D - \bar{D}) dq
\]

\( \text{macropru} > 0 \text{ tot} < 0 \)
Benefits of coordination

- Use social welfare function
  \[ W = U + \phi U^* \]
  where \( \phi \) equal to ratio of marginal utilities at competitive equilibrium

- Effect on social welfare
  \[ u' (c_{T,1}) dc_{T,1} + u' (c_{T,2}) dc_{T,2} + u' (c_{T,1}) (D - \bar{D}) dq - u' (c^*_T,1) (D - \bar{D}) dq \]
  \[ \text{macropru} > 0 \quad \text{tot} < 0 \quad \text{tot} > 0 \]
  last two terms cancel, so
  \[ dW > dU \]

- International coordination \( \rightarrow \) stronger motive for macropru
Macropru and coordination

- Conclusion depends on context
- Example: recent paper by Fornaro and Romei reaches opposite conclusion
- All countries reduce borrowing to correct aggregate demand externality
- Effect is lower world interest rate: liquidity trap more likely!
- So in that model: international coordination → weaker motive for macropru
Underborrowing

- Optimal policy: we are asking domestics to borrow more!
- Underborrowing not overborrowing, ex post, not ex ante
- See Schmitt-Grohe and Uribe “Underborrowing”
Under the hood

- Can we really have condition

\[ qdD < \kappa dp_{N,1}, \]

a self-sustaining collateral increase?
- Yes, but *only if* there are multiple equilibria! (Again in S-U)
- If we focus on economies with single equilibrium we need to make model richer
- That’s why there are borrowers and savers
- Suggestion: use Lucas family trick for exposition

\[ \theta u(c^a_{1,T}) + (1 - \theta) u(c^b_{1,T}) + \ldots \]