Motivations for Capital Controls and their Effectiveness

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What the authors do

- Carefully construct a detailed database of Indian capital control actions (CCA) on External Commercial Borrowing (ECB). End up with 75 CCA events—68 easing, only 7 tightening since 2004
- Try to identify what determines CCAs—exchange rate/EMP/real exchange rate; credit growth; using logit model or simple event studies
- Try to identify causal impact of CCAs—stock prices, foreign flows to equity market, ECB, aggregate capital flows, credit growth, exchange rate, using propensity score matching (PSM) to address selection/reverse causality

What the authors find

- Over this period, mostly easing CCAs
- CCAs apparently motivated by:
  - Exch rate depreciation/EMP: ease CCA
  - Nom or real exch rate appreciation: tighten CCA
  - Slow credit growth: ease CCA (not on tightening)
  - Strong capital flows: tighten CCA (not on easing)
- Response of variables:
  - Stock prices respond positively to easing
  - Foreign flows increase (decrease) after easing (tightening)
  - ECB rises (falls) after easing (tightening)
  - Little discernible effect on aggregate flows, stock market, exchange rate

Methodology

- Usual endogeneity problem: if tighten CCA during inflows, likely to have downward biased estimate (i.e., find no effect) of CCA (might even find that CCA lead to inflows!)
- Need a "control group"; authors use PSM with lagged exchange rate, credit growth, etc.
- Using this methodology, find no effect on:
  - Exchange rate
  - Net foreign inflows (but don't report ECB)
  - Credit growth
  - Stock market index

What I like…

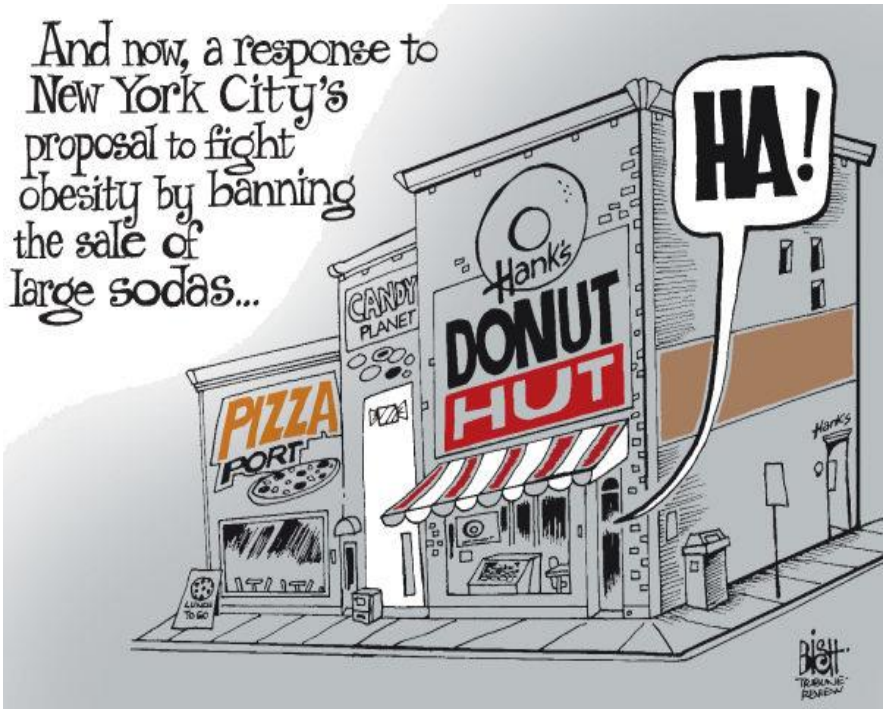
- Extremely careful documentation of CCAs—much better than use of summary AREAER codes
- Nice idea to consider the impact of tightening/easing in a country with a comprehensive administrative system of capital controls
- Sensible set of variables to consider possible impact of CCAs
- Attempt to address selection/endogeneity bias

What I found less convincing…

- Most CCAs in the sample are easing measures; if controls were not binding, then would not expect any effect. When are authorities likely to ease? Perhaps when there are not strong pressures.
- In event study, authors find an impact on ECB, but not on aggregate flows. But they consider ECB measures! Why would they necessarily expect to see impact on aggregate flows. May be ECB is not large enough and effect on aggregate is swamped by noise, or maybe perfectly legitimate substitution, or maybe re-labeling
- Similarly for other variables which are likely to be affected by aggregate flows (e.g., exchange rates, credit growth, etc.)

What I found less convincing…

- For example, ban on sodas in NY to reduce obesity…
- But would need to ban pizzas, multiple sodas, French fries, etc.!
- *How important is ECB in total flows? How much easing/tightening do these measures represent? Should we expect a big response?*



What I found less convincing…

- What if easing in the face of depreciation pressures is matched by (anticipated) tightening of outflow controls? The signaling effect may aggravate depreciation pressures…
- The analysis does not control for large exogenous shocks—e.g., during the GFC, easing of restrictions insufficient to stop the drop in net flows as global market uncertainty increased and capital flew to safe havens
- Data on CCA is more disaggregated, but still does not capture the intensity of controls. If complex and stringent controls remained in place, and only mild restrictions were eased/tightened, then the marginal effect may be negligible
- There may be lagged/persistent effects of controls that would last longer than the two-week window used in the analysis

Endogeneity: Selection bias

- Is PSM really solving the endogeneity problem here?
- PSM mainly used to address selection bias
- Origin is medical trials where one of a pair of identical twins is randomly chosen to receive treatment—since twins are identical in all other respects, and choice of who gets treatment is random, can attribute causality
- In real life, seldom get identical twins with same disease—so, instead, match individuals as closely as possible using PSM, and then randomly assign one to treatment, other to control

Endogeneity: Selection bias

- But are authorities really deciding at random whether to impose or ease CCAs?
- PSM assumes that if the choice on who gets treatment is not random, then it is based on observables that can be controlled for in the first-stage probit/logit, but is this assumption valid?
  - Unobservables may also influence the decision, and these may be correlated with capital inflows/EMP (e.g., global market uncertainty)
- Critical to control for all key observables in first-stage to form correct treatment/control groups
  - E.g., first-stage includes exchange rate, credit growth, M3 growth, nifty returns. But what if authorities care about the volatility of exchange rate? Or the level of bank foreign debt? Or ECB flows?

Endogeneity: Reverse Causality

- PSM really does not solve reserve causality here…
- Logit includes lagged exchange rate, lagged credit growth etc…but given serial correlation, usually not considered adequate instruments
- If legitimate in the PSM logit, then also legitimate in traditional instrumental variable estimation of capital flows/EMP on CCAs!

Conclusion

- Nice paper
- Very useful data set
- Careful analysis…but endogeneity is the curse of economists, and hard to solve convincingly in macro studies without an economic instrument