Comments on “Capital Controls in India and Interest Rate Arbitrage” by Hutchison, Kendall, Pasrischa, Singh

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2nd Research Meeting of the NIPFP-DEA Program
New Delhi
March 2008
**Comments**

- Caveat: Hard to comment just on presentation
- But overall, nice ideas on a very important topic
- Good set of questions
- However, would need to understand better what authors are doing
- One main concern: Can effects of capital controls be effectively disentangled with interest rates?
- Several other questions
Some analytical considerations

\[
\text{total interest rate differential} = \left( i_{t,k} - i^f_{t,k} \right) \underbrace{\dot{i} \dot{i} \dot{i}}_{\text{currency premium}} + \underbrace{\dot{i} \dot{i} \dot{i}}_{\text{country premium}} \dot{i}
\]
Some analytical considerations

anticipated
devauation
exchange rate
risk premium

\[
\left( i_{t,k} - \hat{i}_{t,k} \right) = s^e_{t,k} \underbrace{\hat{\epsilon}}_{\hat{\epsilon}} + eerp_{t,i} \underbrace{\hat{\epsilon}}_{\hat{\epsilon}} \underbrace{\hat{\epsilon}}_{\hat{\epsilon}}
\]
Some analytical considerations

onshore premium
capital controls
pure default
premium

\[
\left( \hat{i}_{t,k} - \hat{i}_{t,k}^f \right) = \left( \hat{i}_{t,k} - \hat{i}_{t,k}^{\text{offshore}} \right) \underbrace{+ \left( \hat{i}_{t,k}^{\text{offshore}} - \hat{i}_{t,k}^f \right)}_{\text{country premium}}
\]
Some analytical considerations

If forward markets exists and under no currency premium, covered interest parity should hold

$$
\left( i_{t,k} - \hat{i}_t^f \right) = fd_{t,k}
$$

onshore – offshore
differential

$$
\underbrace{i_{t,k} - \hat{i}_t^f - fd_{t,k}} \quad \text{underbracealignl} \quad i = 0
$$

“Broad version of CIP:” entails different currencies, issuers, and jurisdictions
Some analytical considerations

onshore-offshore differential

\[
\left( i_{t,k} - \hat{i}_{t,k} \right) - f d_{t,k} \underbrace{=}_{\hat{c}} \left( 1_{t,k} - \hat{1}_{t,k} \right) \underbrace{=}_{\hat{c}} \left( i_{t,k} - \hat{i}_{t,k} \right) \text{country premium}
\]

onshore-offshore differential
onshore premium capital controls
pure default premium

\[
\left( i_{t,k} - \hat{i}_{t,k} \right) - f d_{t,k} \underbrace{=}_{\hat{c}} \left( \hat{r}_{t,k} - \hat{r}_{t,k} \right) \underbrace{=}_{\hat{c}} \left( i_{t,k} - \hat{i}_{t,k} \right) \underbrace{+}_{\hat{c}} \left( \hat{r}_{t,k} - \hat{r}_{t,k} \right) \underbrace{=}_{\hat{c}}
\]


Some analytical considerations

Analysis abstracts from who does the arbitrage (domestic/foreign investor)

Also from whether the arbitrageur has funds
Currency premium

Argentina

Currency Risk Premium from Argentina's Time Deposit Rates

Mexican crisis
Domingo Cavallo steps down
Attack on the Hong Kong dollar
Russia's default
Devaluation of the Brazilian real
Financial Times article and elections
Vice president resigns
Changes of finance minister
Cut of international credit
Currency premium

Hong Kong

Currency Risk Premium from Hong Kong's Forward Exchange Rates

Mexican crisis

Financial distress in South Korea

Attack on the Thai baht

1st Attack on the Hong Kong dollar

2nd Attack

3rd Attack

4th Attack
CIP under no capital controls

Argentina’s NDF and no-arbitrage bands

Case 2:

\[
\left( i_{t,k}^{\text{deposit}} - i_{t,k}^{\text{lending}} \right) \geq f d_{t,k} \geq \left( i_{t,k}^{\text{deposit}} - i_{t,k}^{\text{lending}} \right)
\]

upper band

lower band
CIP under no capital controls

Argentina’s NDF and no-arbitrage bands

Case 1: \[(i_{t,k}^{lending} - i_{t,k}^{lending,*}) = f d_{t,k} = (i_{t,k}^{deposit} - i_{t,k}^{deposit,*})\]
CIP under no capital controls

Spread of NDF over Currency Premium - Argentina
Effects of controls on alternative measure

ADR Premium and Capital Controls

Argentina
CIP under no capital controls

Spread of NDF over Currency Premium - Hong Kong
To sum up

\[
\begin{align*}
\text{onshore-offshore} & \quad \text{differential} \quad \hat{i}_0 \\
\text{onshore premium} & \quad \hat{i}_0 \\
\text{capital controls} & \quad \hat{i}_0, \hat{i}_s < 0 \\
\text{pure default} & \quad \hat{i}_0 \\
\text{premium} & \quad \hat{i}_0
\end{align*}
\]

\[
\begin{align*}
\left( i_{t,k} - \hat{i}_{t,k} \right) - f d_{t,k} & = \left( \hat{i}_{t,k} - \text{offshore} \hat{i}_{t,k} \right) + \left( \text{offshore} \hat{i}_{t,k} - \hat{i}_{t,k} \right)
\end{align*}
\]
Other questions

- Clarification on effects of controls
  - Controls on outflows would depress domestic rate?
  - Controls on inflows would increase domestic rate?
- Can disentangle effects of different controls over time?
- List evolution of capital control regulations
- Explain MIBOR
- Pros and cons of data
Other questions

- Clarify some statements, as below
- “When currencies are fully convertible, NDF markets are not observable”
- “When access to an onshore forward market is restricted, an offshore NDF market may develop”
- “When access to local currency securities markets is limited, the NDF forward rate will reflect the expected future spot rate of the currency”
Other questions

- Clarify information in tables and figures
  - Frequency
  - Overlapping effects (e.g. 3-month rate on monthly data)
  - Longer time series?
  - Discuss magnitudes
  - Discuss differences across tables
  - What are the structural tests measuring?
  - Why fluctuations in differential? Meaningful? Recurrent changes between positive and negative
  - What explains the variation in AR(1)? Meaningful?
  - What is the expected sign of regressors? Why not significant?
Conclusions

- Nice ideas already
- Also nice ideas for future work
- Promising research agenda
- Look forward to reading paper