Managing Capital Outflows:
The Role of Foreign Exchange Intervention
by Basu, Ghosh, Ostry and Winant

Discussion
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Summary

I. Highly sophisticated intertemporal model of foreign exchange intervention
   - market segmentation breaks UIP arbitrage
   - exchange rate = asset price
     = PDV(future shocks & interventions)

II. Analysis of optimal intervention
   - if CB cares about *level* of exchange rate
   - solved under commitment and under time consistency
Overview of Model: Demand and Supply for Outflows

- Supply of outflows: \( k = a \cdot [e_{t+1} - e] + Z \)
- Demand for outflows: \( k = c \cdot e + f \)

![Graph showing supply and demand curves for outflows.](image)
Overview of Model: Demand and Supply for Outflows

- Supply of outflows:
  \[ k = a \cdot [e_{t+1} - e] + \hat{Z} \]

- Demand for outflows:
  \[ k = c \cdot e + f \]

\[ \frac{1}{e} \text{ appreciation} \]

\[ \Delta z \quad k \text{ outflows} \]

\[ \Delta R \text{ appreciation} \]
Overview of Model: Demand and Supply for Outflows

- Supply of outflows: \[ k = a \cdot [e_{t+1} - e] + \overset{\text{UIP arbitrage}}{\Delta R} + \overset{\text{shock}}{Z} \]
- Demand for outflows: \[ k = c \cdot e + \overset{\text{CA}}{\Delta f} + \overset{\text{\Delta R}}{f} \]
Overview of Model:
Intertemporal Structure

- Supply of outflows: \[ k = a \cdot [e_{t+1} - e] + \hat{Z} \]
- Demand for outflows: \[ k = c \cdot e + f \]

- Iterate forward to obtain \( e \) as asset price
  \[ e = PDV(z_{t+s} - f_{t+s}) \]
- Discount factor \( \left( \frac{a}{a+c} \right) < 1 \) each period
- Future intervention appreciates current \( e \)
Analysis of Optimal Policy

Welfare function: \( W = -\sum_t \beta^t (e_t - e^*)^2 \)

- policymaker values *level* of \( e_t \)
- benefit of intervention at \( t \) adds up since it appreciates \( e_t, e_{t-1}, \ldots, e_1, e_0 \)
- but it is also discounted at rate \( \beta \)
- in authors’ preferred specification,

\[
\frac{dW}{d\Delta e_t} \approx \beta^t \cdot t
\]
Intertemporal Structure

Benefit of intervention for misaligned exchange rate:

\[
\frac{dW}{d\Delta e_{t+s}} \cong \beta^t \cdot t
\]
Main Results:

Under commitment:
- promise future intervention at date with maximum payoff
- potentially delayed start
- intervene until reserves depleted (or shock over)
Main Results:

Under time consistency:

- keeping reserves = only way to create expectations of future intervention → always keeping some reserves is beneficial
- depreciation much greater, welfare lower, esp. when reserves are low

→ simple rules (e.g. peg, fixed intervention, ...) may serve as 2nd best form of commitment
Q: Does Welfare Depend on Level or Changes in Exchange Rate?

Welfare function: \( W = - \sum_t \beta^t (\Delta e_t)^2 \)

- policymaker dislikes changes in \( e_t \)
- same interesting intertemporal effects of intervention
- but very different implications for optimal policy

→ interesting to elaborate
  (e.g. is time consistency problem smaller?)
Q: Alternative Reading of Examples of Forex Intervention

Several of the examples cited in the paper (e.g. Russia, Korea, Brazil):

- banks/corporates with large currency mismatch, implicitly earning profits from carry trade
- keeping fixed exchange rate = implicit bailout = socializing losses that are flipside of carry trade

Optimal policy: forbid mismatches
very little forex intervention