

SIMON FRASER UNIVERSITY
Department of Economics

Econ 446
Seminar in International Finance

Prof. Kasa
Fall 2009

PROBLEM SET 2
(Due November 27)

1. This question is based on the monetary model of exchange rate determination. Equilibrium in the domestic and foreign money markets is given by (with all variables in logs, except the interest rate).

$$\begin{aligned}m_t - p_t &= \phi y_t - \lambda i_t \\m_t^* - p_t^* &= \phi y_t^* - \lambda i_t^*\end{aligned}$$

where ϕ is the income elasticity of money demand and λ is the interest rate semi-elasticity of money demand. Money demand parameters are identical across countries. International capital market equilibrium is given by uncovered interest parity:

$$i_t - i_t^* = E_t s_{t+1} - s_t$$

where $E_t s_{t+1}$ is the expectation at time- t of the exchange rate in period $t + 1$.

Price levels and the exchange rate are related through purchasing-power parity:

$$s_t = p_t - p_t^*$$

Define $f_t = (m_t - m_t^*) - \phi(y_t - y_t^*)$ as the economic fundamentals.

- (a) Derive a first-order stochastic difference equation for the equilibrium exchange rate, s_t .
- (b) Find the fundamentals (no bubbles) solution. What is the condition for this solution to hold?
- (c) Consider the effect of an unanticipated announcement at date $t = 0$ that the money supply is going to permanently rise on a future date T , i.e., $f_t = \bar{f}$ when $t < T$, and then $f_t = \bar{f} + \Delta$ for $t \geq T$. Derive the path of exchange rate and show the path in a graph.
- (d) Suppose that the fundamentals are governed by a stationary $AR(1)$ process, $f_t = \rho f_{t-1} + \epsilon_t$, where ϵ_t is an i.i.d. shock. Show and discuss how the persistence of fundamentals affect the volatility of the exchange rate.

2. China is widely suspected of ‘sterilizing’ its recent purchases of U.S. dollar assets. Explain how you would examine the validity of this claim (e.g., what data would you look at, and how would you use it to decide whether China sterilizes its reserve inflows). Why might China want to do this? Are there any costs associated with this policy?
3. Briefly compare and contrast first- and second-generation theories of speculative attacks. For example, how do their assumptions about government policy differ? How would you go about distinguishing these theories empirically? Which provides more support for IMF bailouts?