Lecture 5: Currency Crisis

Development Finance

Summer Term

2014

Financial Crises

- Currency crisis
  - ✓ Currency or balance-of-payment crisis refers to the situation where the government does not have sufficient foreign exchange reserves to satisfy the foreign exchange demand from various sectors of the economy, and is forced to devalue its currency.
- Banking crisis
  - ✓ Bank loans are implicitly guaranteed, leading to moral hazard with reckless lending. Companies incur a high level of debt, a large proportion of which is bad debt. Banks become insolvent.
- "Twin" crisis
  - ✓ Currency and banking crises are combined.

Currency Crisis
Krugman (1979) – First Generation Model

Starting Points
- Unsustainable macroeconomic policies
- Fixed exchange rate

Budget Deficits → Financed by Printing Money → Pressure on fixed ER → Central Bank runs down reserves to defend ER → Reserves decline → Speculative attack → Currency Crisis

Flood & Garber Model (1984)

- Real money demand:

$$\frac{M_t}{P_t} = k\bar{Y} - \gamma r_t$$

- Purchasing power parity

$$P_t = E_t P^*$$

- Interest rate parity

$$r_t - r^* = \frac{\Delta E_t^e}{E_t}$$

- Money supply

$$M_t = R_t + D_t$$

- Domestic credit

$$D_t = D_0(1+\mu)^t$$

- Basic equation

$$\frac{M_t}{P^* E_t} = k\bar{Y} - \gamma\left(r^* + \frac{\Delta E_t^e}{E_t}\right)$$

- Fixed ER $\frac{\Delta E_t^e}{E_t} = 0$

$$\frac{M_t}{P^* E_t} = k\bar{Y} - \gamma r^* \Rightarrow \; E_t = \frac{M_t}{P^*(k\bar{Y} - \gamma r^*)} = \frac{1}{\alpha} M_t$$

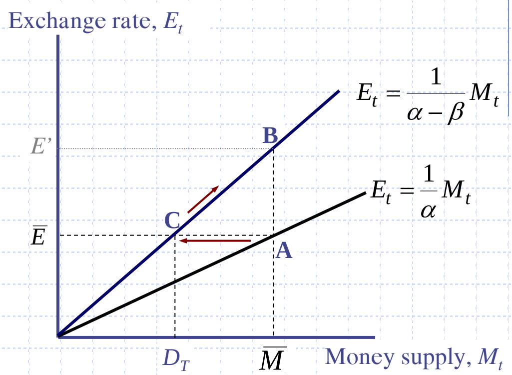
- Floating ER when R = 0

$$\frac{\Delta D_t}{D_t} = \frac{\Delta M_t}{M_t} = \frac{\Delta E_t^e}{E_t} = \mu \Rightarrow \frac{M_t}{P^* E_t} = k\bar{Y} - \gamma r^* \Rightarrow$$

$$E_t = \frac{M_t}{P^*(k\bar{Y} - \gamma r^* \mu)} = \frac{1}{\alpha - \beta} M_t$$

Speculative Attack and Currency Crisis

- When reserves fall to a critical level, a speculative attack occurs.
- Domestic money holders try to exchange all of their local currency into FX, causing the reserves to fall to zero.



- The reduction in the money supply is equal to the reserve loss.
- The exchange rate is floated and the equilibrium is shifted from A to C; The exchange rate does not change at the time of the shift.
- With money supply increases steadily, ER depreciates.

Currency Crisis
Obsfeld (1994) – Second Generation Model

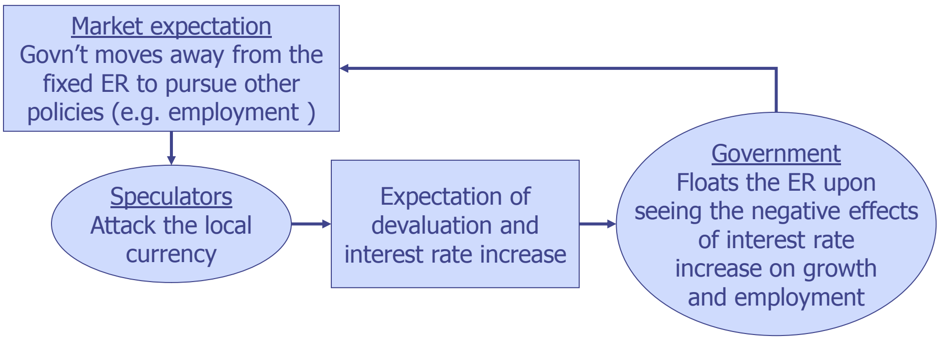
- Speculative attack depends on government response:
  - ✓ Determined to maintain fixed ER; or
  - ✓ Willing to float ER in order to pursue other objectives.
- Government chooses whether or not to defend ER on the basis of economic situation.
  - ✓ Benefit: long-term credibility.
  - ✓ Cost: high interest rate affecting growth.

Two equilibria:

- Speculators attack and government float ER
- Speculators do not attack and government maintains fixed ER.

		Government	
		Doesn't defend ER	Defend ER
Specu -lators	Attack	2; -1	-2; -4
	Don't attack	0; 1	0; 2

Self-fulfilling Expectation



Crisis occurs, not because of economic fundamentals, but because of market expectation.