Lecture Notes for Chapter 8

International Financial Markets and Institutions

Chapter 8

Portfolio theories of exchange rate behaviour II

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Road Map

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8.3 Balance of Payments and the Exchange Rate

8.3.2 Adjustment under floating exchange rates

- The increase in reserves is given by

$$\begin{aligned}\Delta R &= B_C + B_K \\ &= B_C\left(S\frac{P^*}{P}, Y, Y^*\right) + B_K\left(r, r^*, S\right)\end{aligned}$$

- But now exchange rates can change.

- If the price level (P) rises, then exports fall, reducing demand for HC. The value of the FC rises, so S rises.

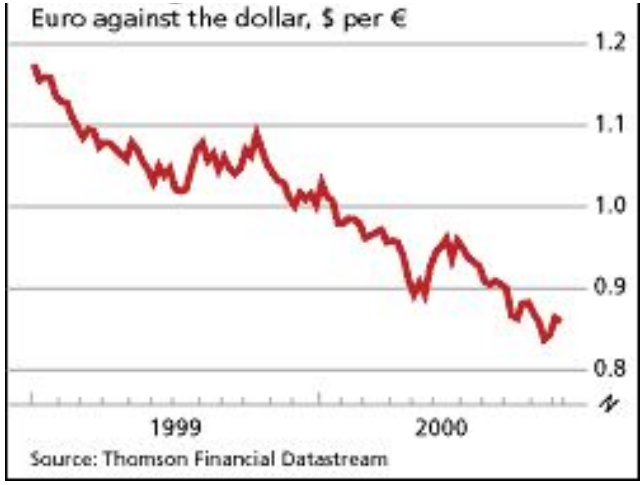
- If national income, Y rises, then imports rise, creating more demand for FC, so S rises.

- If the riskfree rate r rises, there is more demand for HC, so S falls.

8.4 Playing central banker

- It's May 2000, and you are the first Head of the new European Central Bank (ECB).

- The EUR has not been doing well against the USD.



- Do you care? Why?
  - There are benefits to a weak EUR: European goods are cheaper for foreigners to buy—good for exporters.
  - But there are costs too: European consumers have to pay more for foreign goods and producers who use foreign inputs have to pay more for them. Inflation can rise.

- The ECB is supposed to stop inflation from getting too high—
  - According to the ECB's website, 'The primary objective of the ECBs monetary policy is to maintain price stability. The ECB aims at inflation rates of below, but close to, 2% over the medium term.'

- Based on the BOP's theory, how could you intervene?
  - You could raise interest rates to encourage investors to buy EUR—an example of *sterilized* intervention.

- What other forms of intervention are possible?
  - You could use your reserves by selling FC in exchange for EUR—*unsterilized* intervention.
- Generally intervention will only work if:
  - it's coordinated with the actions of other central banks, and
  - it signals new information about future monetary policy
- What problems could you face in this respect?
  - It may not be in the interests of other central banks to stop the EUR sliding.
  - Neither you nor your institution has a long track record (the EUR is a new currency—you have not been in your job for long and the ECB is a new institution). Even if you signal something new about future monetary policy, markets won't be sure how reliable your signal is.

8.5 Monetary theory of the exchange rate

- If you want to use monetary policy to manage the exchange rate, it will be useful to have a *monetary theory of the exchange rate*.

Our simple monetary theory of the exchange rate is based on:

1. PPP

2. QTM (Quantity Theory of Money)

8.5.1 Quantity Theory of Money

- Present very basic outline of QTM.

- money supply $=$ money demand, i.e

$$L_s = L_d$$

- Money demand depends on nominal transactions volume and velocity of money, v—the number of times money supply is turned over in a given period.

- Use the product of the price level (P) and real income (Y) to measure nominal transactions volume, so

$$L_d = \frac{PY}{v}.$$

- In equilibrium, $L_s = L_d$, so

$$L_s = \frac{PY}{v}.$$

- When we write the above equation as

$$L_s v = PY,$$

it has a nice interpretation:

  - The quantity of money, (L_s), multiplied by its velocity (v) equals nominal GDP.
  - But nominal GDP is just real income (Y) multiplied by the price level (P).

- The price level can be written in terms of money velocity (v), the money supply (L_s) and national income (Y):

$$P = \frac{vL_s}{Y}.$$

- If you wanted to reduce inflation, what would you do?
  - Decrease the money supply
  - Reduce money velocity
  - Increase national income

- In practice, focus on the money supply via interest rates.

- How is the interest rate linked to the money supply?
  - For a given money demand, increases in the money supply drive down the market interest rate, and decreases in the money supply drive up the market interest rate.

- Based on the monetary theory presented above, how would you intervene to stop the EUR falling?

- Raise interest rates by decreasing the money supply.

8.5.2 Combining QTM and PPP

- For a foreign country:

$$P^* = \frac{v^* L_s^*}{Y^*}.$$

PPP tell us that relative price levels determine the nominal exchange rate, i.e.

$$S = \frac{P}{P^*}.$$

Therefore,

$$S = \frac{vL_s}{Y}\frac{Y^*}{v^* L_s^*} = \frac{v}{v^*}\frac{Y^*}{Y}\frac{L_s}{L_s^*}$$

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- Now, suppose that as Head of the ECB, you decrease the EUR money supply to strengthen the EUR against the USD. But the Fed decreases USD money supply.

- How will that affect your intervention policy.
  - It will reduce its impact.

- If you could coordinate your monetary policy with US monetary policy, what would you agree to do with the Head of the Fed?
  - Decrease EUR money supply (raise EUR interest rates) and increase the USD money supply (drop USD interest rates).