

Money, Interest Rates, and the Exchange Rate

Chapter 14

1. Money

2. Money market equilibrium

3. Money supply and the exchange rate in the short run

4. Money supply and the exchange rate in the long run

1 Money

1.1 What is money?

- Medium of exchange
- Unit of account
- Store of value
- M1 is determined by monetary authority

1.2 Money demand

- Money is one way to hold wealth
- Transactions demand (liquidity)
- Opportunity cost of money (nominal interest rate)
- Purchasing power of money matters $\left(\frac{M}{P}\right)$
- Aggregate money demand (add over all households and firms)

$$\frac{M^d}{P} = L(R, Y)$$

2 Money Market Equilibrium

2.1 Graph of money market

- Graph real money demand against R
- Graph real money supply against R
- Determines equilibrium R
- What if R were higher than equilibrium? excess supply money so agents try to sell money for bonds driving price of bonds up and interest rate down.

2.2 Effect of shocks on equilibrium R

- M increases
- Y increases
- A change in financial technology reduces money demand at each R and Y
- Monetary policy - Fed cuts the interest rate

3 Money Supply and the Exchange Rate in the Short Run

3.1 Assumptions

- P is fixed
- $E = E_{\$/e}$
- E_{t+1}^e is fixed and exogenous

3.2 Graph of equilibrium

- US money market equilibrium determines $R_{\$}$
- European money market equilibrium determines R_e
- Interest rate parity determines E_t

$$R_{\$} = R_e + \frac{E_{t+1}^e - E_t}{E_t}$$

3.3 Effect of shocks on the exchange rate

- Increase in US money supply
- Decrease in European money supply

4 Money Supply and the Exchange Rate in the Long Run

4.1 Assumptions

- P and E_{t+1}^e are endogenous
- Determined by monetary neutrality

4.2 Monetary Neutrality

- Money affects nominal prices proportionately and has no effect on real variables
- Real money supply $\frac{M}{P}$ unchanged when M increases
- Relative price of domestic goods $\frac{P_{\$}}{EP_e}$ unchanged when M increases

4.3 Shocks

- Reduction in M
 - E_{t+1}^e falls
 - Short - run P is fixed, but falls in the long run