EC 380: International Economic Issues
Instructor: P. Economides
Problem Set 5
Fall 2022
Due: 11:59 p.m. on Friday, Dec 2nd

Setup

Answers must be submitted online through Canvas by the stated deadline (see above). Please prioritize posting your submission in PDF format.

Questions

Q1. Answer the following short questions:

1) Consider a case in which the USD-GBP exchange rate is equal to 1.25. How would you describe the rate of exchange between the pound and the dollar?

2) Suppose there is a 1.25 USD-GBP exchange rate. What is the value of the GBP-UD exchange rate is?

3) Suppose the exchange rate climbs to 1.35. Has the dollar appreciated or depreciated in value?

4) List and explain two reasons why one holds foreign currencies.

5) List two key stakeholders in the currency exchange business. Explain their responsibilities.

Q2. Consider a foreign currency market in which demand is downward sloping with respect to the prevailing exchange rate and units of the foreign currency held locally in reserves. Supply is upward sloping.

1) Draw a diagram of the supply and demand curves, highlighting their intersection point. Label the diagram appropriately.

2) Consider the following demand and the supply curves of foreign currency, where ExR represents the local currency to foreign currency (e.g. USD-GBP) exchange rate. FC represents the units of foreign currency reserves held in the "local" economy.

$$D : \mathrm{ExR} = 4 - 0.075\mathrm{FC} \quad , \quad S : \mathrm{ExR} = 0.5 + 0.025\mathrm{FC}$$

3) Consider a case in which the foreign interest rate, i^*, rises such that demand sees a 0.5 level-shift increase such that the new demand curve can be represented by $D' = D + 0.5$. What are the new exchange rate and currency reserve values?

4) How would you describe the change in both currencies? Which has depreciated and which has appreciated?

5) What is the percentage change in currency reserves?

Q3. Consider purchasing power parity (PPP) holding across long-run exchange rates. Suppose an identical basket of goods is available in the US and Japan. In the US the goods are valued at 1,400 USD whereas in Japan they are valued at 194,775 Japanese Yen (JPY).

1) What is the implicit USD-JPY exchange rate, if the PPP relationship is satisfied under this scenario?

2) Suppose that the exchange rate, USD-JPY, is currently 112 USD per JPY. Is the USD undervalued or overvalued? Explain why.

3) Given the disparity between goods prices for the same basket from the US and Japan, would this classify as an arbitrage opportunity?

4) How would a Japanese merchant go about exploiting price differences between the US and Japan for the same basket of identical goods?

5) What effect would these actions have on the USD-JPY exchange rate? At what stage of the exchange rate would these price pressures cease?

Q4. Answer the following short questions, which cover our lessons from the medium and short run patterns observed in exchange rate movements.

1) What contributes to medium-run exchange rate variation? What time intervals do we consider when it comes to adjustments in these medium-run trends?

2) What three factors explain short-run variation in exchange rates? List and describe each factor.

3) What is price discovery? How does this relate to arbitrage opportunities?

4) State and define the interest rate parity relationship.

5) Why are multinational firms particularly exposed to exchange rate risk? How do individual investors hedge themselves away from exchange rate risk?