

**Problem 1.** Home country pegs its currency to the USD. Both Home and US interest rate are 2%. Home output is 1000 when the interest rate is 2%, but Home output falls by 1 every time Home interest rate increases by 1 percentage point. There is no default risk.

- (a) Suppose the peg is credible. For US interest rates  $i^* \in \{2, 3, 4, 5, 6, 7, 8\}$ , determine corresponding Home interest rates and output.
- (b) Suppose the peg is not credible: everyone knows that Home government will allow depreciation of 1% for one year if output falls to 997 or lower. For US interest rates  $i^* \in \{2, 3, 4, 5, 6, 7, 8\}$ , determine corresponding Home interest rates and output.
- (c) Whether (a) or (b) holds depends on whether investors believe that the peg is credible. Regardless of beliefs, which US interest rates will not lead to speculative attack?
- (d) Regardless of beliefs, which US interest rates guarantee speculative attack?
- (e) At what US interest rate are there two equilibria?

**Problem 2 (Sample Final Question 2).** The foreign country has a fixed price level of  $P^* = 1$  and a fixed interest rate of  $i^*$ . The home country initially has an interest rate  $i = i^* = 8\%$  and a price level of  $P = 1$ . There are no changes in monetary policy in the foreign country at any time. Home and foreign output are assumed fixed at  $Y$  and  $Y^*$  respectively. At present the exchange rate is at its PPP value of  $E = 1$  (home per foreign currency). Home real money demand responds to the interest rate in such a way that a 2 percentage point drop in the home nominal interest rate would cause home real money demand to rise by 10%. The home country contemplates a change in monetary policy to increase the home money supply  $M$  by 10%.

- (a) At first, let us suppose the increase in  $M$  is temporary, and the price level remains anchored at  $P = 1$  forever. What is the temporary impact of the policy change on the home interest rate?
- (b) Suppose that the policy will endure for one year. According to uncovered interest parity, what will be the expected rate of appreciation of the home currency in that year (approximately)?
- (c) In this case, what will be the spot exchange rate  $E$  today (approximately)?
- (d) Now suppose the policy change is permanent. Assume that prices adjust after one year to their new long-run level. What will be the new long-run (future expected) level of the home price level  $P^e$ ? Of the home exchange rate  $E^e$ ?
- (e) In this case, what will be the spot exchange rate  $E$  today (approximately)?

**Problem 3 (Sample Final Question 3).** In the years leading up to the Great Depression, a key objective of the federal government was to balance the government budget.

- (a) Suppose that tax revenue collected by the government depends on income. During a recession, what happens to government tax revenues? What does this imply about the government budget?
- (b) If the government wants to keep the budget balanced, what type of fiscal policy must the government implement? Illustrate the effects of this policy using the IS-LM-FX diagram, assuming a floating exchange rate regime.
- (c) State how the fiscal policy affects  $Y, i, E, C, I$ , and TB. Is this a stabilization policy?
- (d) The US was part of the gold standard, fixing its exchange rate to the value of gold. Illustrate how the policy described in part (b) affects the economy differently under a fixed exchange rate regime. State how the fiscal policy affects  $Y, i, E, C, I$ , and TB.
- (e) How did the macroeconomic regime affect stabilization policy in this scenario?

**Problem 4 (Sample Final Question 1).** Here, have some short answer questions.

- (a) The foreign interest is 3% (per year) and the home interest rate is 6%. According to uncovered interest parity, what is the expected rate of depreciation (per year) of the home currency
- (b) In a hyperinflation, the rate of inflation exceeds \_\_\_\_\_% per month.
- (c) What three mutually inconsistent policy goals make up the trilemma?
- (d) What is the difference between GNE and GDP? Briefly explain.
- (e) What is the difference between GDP and GNI? Briefly explain.
- (f) What is meant by home bias in an investment portfolio?
- (g) After a fiscal expansion, will a floating exchange appreciate or depreciate?
- (h) What is a currency board?
- (i) As of now (2022) how many countries are in the Eurozone? Which countries are the most recent to have joined?
- (j) Which two EU countries appear unlikely to join the euro?