

Problem Set 3

1. Suppose there is a reduction in aggregate real money demand in U.S., that is, a negative shift in the U.S. aggregate real money demand function. Trace the short-run and the long-run effects on the exchange rate $E_{\$/\text{€}}$, interest rate $R_{\$}$ and price $P_{\$}$. Assume that expected exchange rate and output in U.S. are fixed. (Hint: in the long run, the price level would adjust to keep the interest rate unchanged).
2. What is the short-run effect on the exchange rate of an increase in domestic real GNP, given expectations about future exchange rates? Assume that domestic real GNP is exogenous (use dollar and euro as an example).
3. The velocity of money, V , is defined as the ratio of real GNP to real money holdings, $V = Y/(M/P)$. Suppose the money demand function takes the form $L(R, Y) = R^{-\theta}Y^{\phi}$, where $\theta \in (0, 1)$, $\phi \in (0, 1)$, and money supply is fixed.
 - (a). Given the velocity V and the money supply M^s/P , use the money market equilibrium condition $M^s/P = L(R, Y)$ to derive an expression for equilibrium interest rate as a function of M^s/P and V .
 - (b). Does an increase in velocity lead to an appreciation or a depreciation of the exchange rate in the short run? Use diagram to explain. (Hint: think about how will the output Y change if V changes)
4. Explain how permanent shifts in national real money demand functions affect real and nominal exchange rates in the long run. (Hint: in the long run, the aggregate price level will adjust to keep the interest rate unchanged).
5. Other things equal, how would you expect the following shifts to affect a currency's real exchange rate against foreign currencies?
 - a. The overall level of spending doesn't change, but domestic residents decide to spend more of their income on nontraded products and less on tradables.
 - b. Foreign residents shift their demand away from their own goods and toward the home country's exports.