Problem Set 4
Exchange Rate Economics

1. Portfolio Balance model. Suppose the risk premium on US$ denominated assets is given by:

\[ rp = -\beta^{-1} \alpha + \beta^{-1} x \]

where \( x \) is the share of US$ denominated assets in the world (assume there are only two currencies, the US$ and the euro).

1.1 In the context of this model, what do you think will happen if one’s assessment of future US Government budget deficits goes up?

1.2 If the variance of relative returns on the two assets rises, in US$ terms, what do you think is the quantitative magnitude of the effect you indicate in your answer to question 1.1?

1.3 If the coefficient of relative risk aversion were to decline, what would happen to the slope of the \( rp \) curve?

2. Salt Water versus Fresh Water. "The correlation between the nominal and real exchange rate proves that price levels are sticky." Discuss, in relation to at least two theoretical models. Equations may be helpful.

Figure 12: Log US trade weighted value of the dollar (against major currencies).

Figure 21: One year changes in log trade weighted value of the dollar.
3. Consider the basic Stockman model of the exchange rate, where money demand depends upon income, but preferences are homothetic. Initial wealth is equal across the two countries. Use equations in your answers.

3.1 What happens to the nominal exchange rate in response to an increase in the foreign money stock? What about the real exchange rate?

3.2 Suppose domestic money demand exogenously increases; what happens to the real exchange rate.

3.3 Consider an increase in endowment of good $y$ in the UK. What must be true for a nominal appreciation of the foreign currency to occur?

3.4 What would be required for a real appreciation to occur in the situation provided in 3.4?