

Problem Set 5
Exchange Rate Economics

1. **Balassa-Samuelson.** Consider a world where aggregate prices are a geometric weighted average of tradable and nontradable goods prices, and that the weights of nontradables in both economies are the same.
 - 1.1 Derive the expression for the real exchange rate as a function of the relative price of nontradables, and of the ratio of foreign to domestic prices for traded goods (expressed in a common currency).
 - 1.2 Without imposing purchasing power parity on the relative price of traded goods, expressed in a common currency, solve for the real exchange rate as a function of productivity differentials.
 - 1.3 Suppose purchasing power parity cannot be assumed for the relative price of traded goods, expressed in a common currency. Suppose this variable depends upon aggregate demand. What variables will then appear to be related to the real exchange rate?

2. **Absolute vs. relative PPP.** Consider the fact that absolute purchasing power parity does not hold, at least not over the sample spanning the past forty years and including both the developed and developing countries.
 - 2.1 Show that this is true. Download the “price level” for the US, Germany, Korea, Brazil, China and India for 1970, and 2000, from the Penn World Tables (see the link on the course website).
 - 2.2 Does this finding make sense? You might assume for simplicity that nontradables sector productivity has to be the same over time.

3. **FEERs et al.** Is the Fundamental Equilibrium Exchange Rate (FEER) model based upon a flow or stock concept of the exchange rate determination? What about the IMF’s “Macroeconomic Balance” approach?

4. **Model evaluation.** What is the major innovation of the Mark-Sul paper, in terms of obtaining more precise estimates of the “reversion coefficient”? What do the results suggest for (a) the determinants of money demand in the OECD countries, and (b) the rate at which the exchange rate closes the gap between fundamentals and the exchange rate?