

Purchasing Power Parity
LR Exchange Rate Determination

LR Exchange Rate Determination

- What determines ER in the long-run?
- Why do some currencies tend to appreciate over the LR? Why do some tend to depreciate in the LR?
 - 2 key reasons:
 - National inflation rate differentials (PPP)
 - Role of the money supply/inflation

Purchasing Power Parity

- LR exchange rates - predictable relationships between product price levels and the exchange rates
- This follows from the belief that trade equalizes the price of tradable goods.
- Thus, Purchasing Power Parity is when the exchange rate is at the level when a given amount of money will be able to purchase the same quantity of goods both domestically and abroad.
- PPP views the underlying trends in ER movement and do not necessarily reflect any particular point in time

There are two versions of PPP:
1) Strict PPP
2) Relative PPP

Strict PPP

- Strict PPP occurs when the price of the good is equal across countries. This requires that the exchange rate satisfies the following condition:

$$P_d = er * P_f \quad \text{Or,} \quad er = P_d/P_f$$

Does PPP hold in the strict sense? Does there exist the "Law of One Price" for all goods? For certain goods?

Relative PPP

- Relative PPP examines how price changes (inflation) affect the exchange rate
- Suppose the domestic country has a relatively low inflation rate ($\% \Delta P_d$ low relative to $\% \Delta P_f$)
- The domestic countries currency tends to appreciate

Monetary View of LR exchange rates

- PPP suggests that a country's exchange rate is closely related to its price levels
- But what determines price levels in the economy?
- We can view the impact of changes in money supply on price level changes, and thus, the exchange rate

Recall the Quantity Theory of Money

$$M^s = k * P * Y$$
$$M_f^s = k_f * P_f * Y_f$$

Where M^s = money supply, k = velocity of money, P = price level,
 Y = income (f = foreign country)

Monetary View of Exchange Rates

- M^s , M_f^s determined by monetary policy
- We can rearrange each equation to show that

$$P = M^s / (k * Y) \qquad P_f = M_f^s / (k_f * Y_f)$$

Therefore, using the PPP relation, we know that

$$er = (P/P_f) = (M^s / M_f^s) * (k_f / k) * (Y_f / Y)$$

This shows that a country's exchange rate is influenced by
 P , M^s , k , Y

This also shows how domestic and foreign monetary policy affects a nation's exchange rate
