

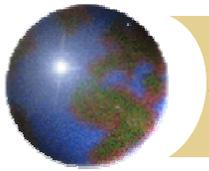
PRICES AND EXCHANGE RATES: PURCHASING POWER PARITY

Absolute & Relative PPP

Deviations from PPP

Overvalued & Undervalued Currencies

Can we arbitrage goods markets?



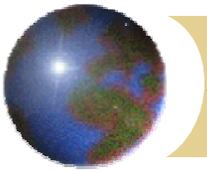
Absolute PPP

✚ $P/P^F = E$

✚ Where E is units of domestic currency per unit of foreign currency

✚ So for yen/dollar: $P_{¥}/P_{\$} = E_{¥/\$}$

✚ $P = EP^F$ is “law of one price”

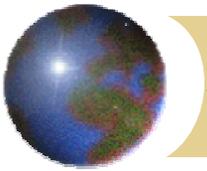


Relative PPP

- ✦ In percentage changes

- ✦ Weaker than absolute PPP

$$\hat{E}_{Y/\$} = \hat{P}_Y - \hat{P}_\$$$



Deviations from PPP

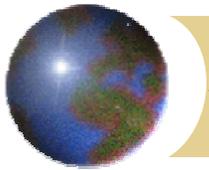
- ✦ **Different consumption tastes**
 - ▣ **Price indexes not comparable**

- ✦ **Shipping costs**

- ✦ **Tariffs, taxes, quotas, or other barriers to trade**

- ✦ **Differentiated products**

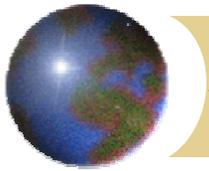
- ✦ **Relative price changes**



Temporary & Spurious deviations from PPP

- ✚ **News impacts exchange rates faster than prices of goods & services so may have temporary deviations**
 - ✚ **Periods with important news will have major deviations from PPP**
 - ✚ **With no news would expect convergence toward PPP**

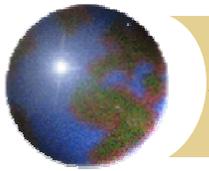
- ✚ ***Delivery lags* may give spurious appearance of deviations**
 - ✚ **Shouldn't compare exchange rates today with prices today if prices were actually set consistent with PPP 3 months ago**
 - ✚ **Ideally, compare prices at time of contracting with exchange rates expected to exist at delivery time**



PPP holds better for:

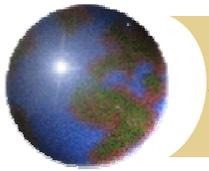
✦ **High-inflation countries**

✦ **Long time periods**



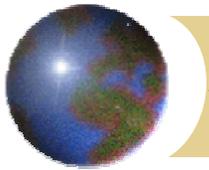
How well does PPP hold?

- ✦ **Compare inflation differentials and exchange rate changes:**
- ✦ [International Economic Trends - Publications](#)



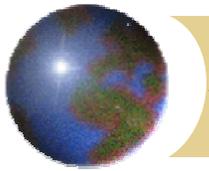
PPP is no “theory” of exchange rates

- ✦ Prices and exchange rates are *endogenous* variables
- ✦ *Endogenous*: variables whose values are dependent upon other factors
- ✦ *Exogenous*: variables whose values are free to change independently



Overvalued & Undervalued Currencies

- ✦ In a *PPP* sense, if a currency depreciates (appreciates) more than PPP calls for, we say the currency is undervalued (overvalued)
- ✦ But sense traders voluntary exchange currencies at current prices, is there really any meaning to *overvalued* or *undervalued*
- ✦ Equilibrium may not call for the law of one price if the capital and current accounts are non-zero
 - ✦ The real exchange rate may adjust to encourage current account deficits or surpluses



Real Exchange Rate

✚ $E = P/P^F$

✚ A measure of competitiveness of prices

✚ “Overvalued” currency has real exchange rate “too high”

✚ “Undervalued” currency has real exchange rate “too low”

✚ If PPP always held, the real exchange rate = ??

✚ Real exchange rate can be part of equilibrium price change in response to economic shock