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

\[ \hat{E}_{Y/S} = \hat{P}_Y - \hat{P}_S \]
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

- $E = \frac{P}{P^F}$
  - 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