

Chapter 20 Purchasing Power Parity

Question 20.4

- 20.4A What economic process assures that deviations from the Law of One Price do not occur in perfectly competitive markets?
- 20.4B Which deviations from perfectly competitive markets can cause deviations from the Law of One Price?
- 20.4C Which problems would confront you if you tried to empirically verify the Law of One Price?
- 20.4D What are the implications of your answers at B and C for absolute and relative PPP?

Question 20.5

- 20.5A What did early empirical studies find about the validity of PPP? What shortcomings did these studies have?
- 20.5B Early empirical studies usually estimated the following equation as a test for absolute PPP: $s_t = \gamma_1 + \gamma_2 p_{at} + \gamma_3 p_{bt} + u_t$. Which findings for the coefficients would validate absolute PPP? Explain why.
- 20.5C What do recent studies find about the validity of PPP? How have researchers overcome the earlier shortcomings?
- 20.5D During the Bretton-Woods era, exchange rates in many countries were fixed rather than freely floating. In principle, does this prohibit the empirical testing of PPP?

Question 20.6

Suppose that you would want to look at the importance of the Chinese economy for international trade and capital flows.

- 20.6A Would you use a PPP correction? Why (not)?
- 20.6B If you would like to look at global income levels, would you use a PPP correction? Why (not)?

Question 20.7

- 20.7A The table below lists the productivity of Argentinean and Bulgarian workers. What can you say about relative prices within Argentina and Bulgaria assuming perfect labour mobility within both economies?

Number of products produced per working day		
	Traded goods	Non-traded goods
Argentina	5	15
Bulgaria	2	30

- 20.7B Assuming no transport costs or other trade restrictions between Bulgaria and Argentina, what can you say about relative wage rates for Argentinean and Bulgarian workers in the tradeable goods sector? If you take productivity differences of the traded sector as determinants of the exchange rate between Argentina and Bulgaria, what would this imply for GNP per capita estimates?
- 20.7C If you were to make a PPP correction for national incomes, how would your estimate under D change?
- 20.7D Suppose that Bulgaria is a very closed economy. What impact does this have on PPP corrections?

Question 20.8

- 20.8A The Economist magazine each year publishes a Big Mac index which is directly derived from PPP theory. Locate the most recent overview of the Big Mac index on The Economist website (www.economist.com). Which currencies are most overvalued? Which currencies are undervalued?
- 20.8B The Big Mac index is an appealing presentation of the PPP theory. What do you think are its methodological strengths and weaknesses?

Question 20.9

- 20.9A Locate on the NBER website (www.nber.org) working paper 10607 titled “The Purchasing Power Parity debate” by Alan M. Taylor and Mark P. Taylor. What are the two PPP puzzles they refer to?
- 20.9B What explanations are there for the prolonged deviation from equilibrium PPP exchange rates?
- 20.9C What does the term “half-life” in the paper mean? What is the generally found adjustment speed with which deviations from long run PPP return to the equilibrium rate?
- 20.9D Which three broad challenges do the authors identify regarding future empirical research on exchange rates?

Question 20.9

The equation for relative PPP is defined as: $(s_{t+1} - s_t) = (p_{B,t+1} - p_{B,t}) - (p_{A,t+1} - p_{A,t})$. If this holds at all times we would expect that differences in inflation (the right hand side) translate one for one in changes in the exchange rate (the left hand side). In the accompanying file for this question, we have assembled exchange rates vis-à-vis the US dollar and inflation data for a number of countries. Draw a scatter plot with on the x-axis the left hand side of equation and on the y-axis the right hand side of the equation for each year (1970-1999) for every country vis-à-vis the United States.

20.10A What can you learn from this graph?

Now take the average inflation deviation (for the entire time series) from the US for each country. Furthermore, calculate the average exchange rate change for each country. Now draw a scatter plot with on the y-axis your calculated inflation deviation and on the x-axis your calculated changes in exchange rates.

20.10B What can you learn from this graph?