Econ 165 Stanford University
Winter 2001/02 Gerald Willmann

Homework 3

Problem 1: Consider purchasing power parity (PPP).

a) Explain how arbitrage in international commodity markets brings about absolute PPP. Show that absolute PPP implies relative PPP. Construct a counterexample to show that the reverse does not hold.

b) Pick a commodity, find its price in at least two countries, and calculate the exchange rate implied by absolute PPP. How does it compare to the actual exchange rate? Which currency seems to be over/undervalued?

c) Describe how you would use time series of national price indices to test relative PPP.

Problem 2: The government imposes a tax at the rate of t on income from interest and capital gains, associated with exchange rate revaluations.

a) How would the tax change the interest parity equation and how will it affect the exchange rate?

b) How would you modify your answer to a) if the tax applies to income from interest only and not to capital gains from exchange rate revaluations?

Problem 3: Consider the monetary model of the exchange rate. Assume there is a decrease in the demand for domestic money.

a) What is the effect of this change on the exchange rate, and the price level in the short term?

b) What are the effects in the long run?

Problem 4: There exists unemployment and the central bank expands the money supply by a factor of two. In the long run the economy returns to full employment and the output level increases.

a) Assume that the rate of interest before the monetary expansion was at its long run equilibrium. Does the rate of depreciation of the domestic currency in the short run and in the long run exceed, equal or fall short of the rate of expansion of the quantity of money?

b) How do you modify your answer to a) if the domestic rate of interest prior to the monetary expansion was below the long run rate of interest.