

Problem Set 2

April 24, 2003

Due: Tue, May 13, 9:30am
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1 Purchasing Power Parity

If Relative Purchasing Parity fails, the Law of One Price must fail. True or false? Explain.

Consider the US and Brazil. On January 1, 2002 a US Dollar (USD) costs three Brazilian Reals (BRL). Annual inflation in Brazil is 15.5% but only 5.0% in the US.

- Suppose PPP holds. Calculate the nominal exchange rate on January 1, 2003 when PPP holds.
- Suppose PPP fails. In fact, the nominal exchange rate on January 1, 2003 is 3.60 BRL/USD. Did the Real appreciate or depreciate against the US Dollar in real terms?

2 The Empirics of Purchasing Power Parity

Visit the web site <http://www.fgn.unisg.ch/eumacro/macrodatal/> and create a graph with inflation rates in Canada, Japan, and the USA. For a comparison, plot the CAD/USD and JPY/USD nominal exchange rates. What do you observe? Does absolute or relative PPP hold in general? If not, what might be reasons for failure?

3 Import Tariffs and the Current Account

In question 1 of problem set 1, you were asked to take a purely financial view of the current account. Under that point of view, import tariffs had little to no effect on the current account balance. Now take a commodity trade perspective of the current account.

Suppose the government imposes a tariff on all imports. Use the $DD - AA$ model to analyze the effects this measure would have on the economy. Consider both *temporary* and *permanent* tariffs.

4 Tax Cuts, the Current Account and the Exchange Rate

The government institutes a permanent tax cut but keeps government spending at its present level. What is the effect on the current account and the exchange rate? Does a permanent increase in government spending, given tax revenues, result in different current account or exchange rate responses?

Suppose the government has a balanced budget initially (it is neither a net lender nor a net borrower *vis à vis* the private sector). The government institutes a permanent tax cut but keeps government spending at its present level. Further suppose that investors expect the government to monetize its deficit, that is, investors expect the government to finance its deficit by printing money rather than issuing bonds. What is the effect of this scenario on the current account and the exchange rate?

5 Monetary and Fiscal Policy under Different Exchange Rate Regimes

Show the effects of a *temporary* and a *permanent* monetary contraction on the current account, interest rates and output under a floating exchange rate and under a fixed exchange rate. Do the two policies have different effects under a fixed exchange rate? Why or why not?

Show the effects of a *temporary* and a *permanent* fiscal expansion on the current account, interest rates and output under a floating exchange rate and under a fixed exchange rate. Do the two policies have different effects under a fixed exchange rate? Why or why not?

6 Money Supply, Imperfect Asset Substitutability and the Nominal Exchange Rate

The Adjusted Uncovered Interest Condition can be expressed as

$$R = R^* + \frac{E^e - E}{E} + \rho,$$

where ρ is the risk premium of foreign bonds over domestic bonds. How does an increased supply of domestic bonds to the private sector affect the risk premium ρ ? Redraw the foreign exchange equilibrium diagram, showing the exchange rate and the expected currency returns, under the Adjusted Uncovered Interest Condition.

The Federal Reserve System increases aggregate money supply permanently, purchasing domestic bonds in the open market. Use diagrams showing the exchange rate, expected currency returns and money holdings to analyze the *short-term* and the *long-term* effects on the US interest rate, the US price level and the nominal exchange rate. Compare to question 6 of problem set 1.