Section 13: The Open Economy

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1 Open Economy Equilibrium
Based on ABE Ch. 6 NP #4

Consider two large open economies, the home country and the foreign economy. In the home country the following relationships hold:

- desired consumption, $C^d = 320 + 0.4(Y - T) - 200r_w$;
- desired investment, $I^d = 150 - 200r_w$;
- output, $Y = 1000$;
- taxes, $T = 200$;
- government purchases, $G = 275$.

In the foreign country the following relationships hold:

- desired consumption, $C^d_{For} = 480 + 0.4(Y_{For} - T_{For}) - 300r_w$;
- desired investment, $I^d_{For} = 225 - 300r_w$;
- output, $Y_{For} = 1500$;
- taxes, $T_{For} = 300$;
- government purchases, $G_{For} = 300$.

a) What is the equilibrium interest rate in the national capital market? What are the equilibrium values of consumption, national saving, investment, and the current account balance in each country?

b) Suppose that in the home country government purchases increase from 275 to 325. Taxes also increase by 50 to keep the deficit from growing. What is the new equilibrium interest rate in the international capital market? What are the new equilibrium values of consumption, national saving, investment, and the current account?

2 Exchange Rate Calculations
Based on ABE Ch. 13 NP #1

West Bubble makes ordinary soap bars that are sold for 5 guilders each. East Bubble makes deluxe soap bars that are sold for 100 florins each. The real exchange rate between West and East Bubble is two ordinary soap bars per deluxe soap bar.
a) What is the nominal exchange rate between the two countries?

b) During the following year West Bubble has 10% domestic inflation and East Bubble has 20% domestic inflation. Two ordinary soap bars are still traded for each deluxe soap bar. At the end of the year what has happened to the nominal exchange rate? Which country has had a nominal appreciation? Which has seen a nominal depreciation?

3 Open Economy Exchange Rate Fluctuations
Based on ABE Ch. 13 NP #3

Consider the following classical economy:

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\begin{align*}
\text{Desired consumption, } C^d &= 300 + 0.5Y - 200r \\
\text{Desired investment, } I^d &= 200 - 300r \\
\text{Government purchases, } G &= 100 \\
\text{Net exports, } NX &= 150 - 0.1Y - 0.5e \\
\text{Real exchange rate, } e &= 20 + 600r \\
\text{Full employment output, } \bar{Y} &= 900
\end{align*}
\]

a) What are the equilibrium values of the real interest rate, real exchange rate, consumption, investment, and net exports?

b) Now suppose that full-employment output increases to 940. How should we expect the exchange rate to move? What are the new equilibrium values of the real exchange rate, real exchange rate, consumption, investment, and net exports?

c) Suppose that full-employment output remains to 940 but government purchases increase from 100 to 132. How should we expect the exchange rate to move? What are the new equilibrium values of the real exchange rate, real exchange rate, consumption, investment, and net exports?