SIMON FRASER UNIVERSITY
Department of Economics

Econ 446   Prof. Kasa
Seminar in International Finance   Fall 2009

PROBLEM SET 2
(Due October 14)

1. Read the article on the webpage entitled "The Spend is Nigh" (from *The Economist*). It discusses alternative policies to 'rebalance' the global economy. One strategy is have the U.S. save more and consume less. Another is to have China save less and consume more.

   (a) Use the graph developed in class to analyze current account determination in 'large' countries to illustrate the effects of these two strategies (see also chpt. 4 in the textbook).

   (b) The article also notes that China's current account surplus and the U.S. current account deficit have declined significantly this year. Using your answer to part (a), how could we decide whether this recent move toward global rebalancing was due to a decline in U.S. consumption, or an increase in China's consumption?

2. Consider a 2-period model of a small open endowment economy (i.e., there is no investment and the world interest rate is exogenous). Assume preferences are

$$U(C_1, C_2) = \sqrt{C_1} + \beta\sqrt{C_2}$$

   where $\beta = 1/1.1$. Assume the country has initial net foreign assets of 1 (i.e., $(1+r)B_0^* = 1$), where r is the world interest rate. Assume the world interest rate is constant, and equal to 10% (i.e., $r = .10$).

   (a) Assuming $Q_1 = 5$ and $Q_2 = 10$, calculate the equilibrium levels of C_1, C_2, TB_1, and CA_1.

   (b) Now suppose the government imposes capital controls, which require that the country's net foreign asset position at the end of period 1 be non-negative (i.e., $B_1 \geq 0$). Compute the resulting equilibrium value of the *domestic* interest rate.

   (c) Now suppose the country experiences a temporary increase in output, so that $Q_1 = 9$, with Q_2 remaining unchanged. Calculate the equilibrium values of C_1, C_2, TB_1, and CA_1. Are the capital controls still binding? Explain.

3. Consider a 2-period model of a small open production economy (i.e., the economy can now invest, but the world interest rate is still exogenous). Assume preferences are

$$\ln(C_1) + \ln(C_2)$$

   where ln denotes the natural logarithm. Assume that the initial stock of capital is 100 (i.e., $K_1 = 100$), and the production function in both periods is

$$Q = \sqrt{K}$$

   For simplicity, assume that capital completely depreciates during the period, so that $\delta = 1$. Finally, assume the world interest rate is constant at 10% ($r^* = .10$), and the economy's initial net foreign assets are zero (i.e., $B_0^* = 0$).

   (a) Compute the firm's optimal investment during period 1, and its resulting period 2 profits, Π_2.

   (b) Solve for the household's optimal consumption in periods 1 and 2.

   (c) Using the fact that $CA_1 = S_1 - I_1$, compute the first period current account balance.