Economics 302
Spring 2012
University of Wisconsin-Madison

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Problem Set 5

Due ***in lecture*** on Wednesday, May 9th. Be sure to put your name on your problem set. Put "boxes" around your answers to the algebraic questions.

Chapter 17, Problem 3.

Chapter 19, Problem 7.

3. Consider the following two-country model, where variables without stars are the domestic economy and variables with stars are the foreign economy:

$$C = c_0 + c_1(Y - T), I = b_0 + b_1 Y, IM = m_1 Y, X = x_1 Y^*$$
$$C^* = c_0 + c_1(Y^* - T^*), I^* = b_0 + b_1 Y^*, IM^* = m_1 Y^*, X^* = x_1 Y$$

Assume the real exchange rate is 1.

3.1 What happens to domestic output when government spending is increased by 1 unit in both foreign and domestic countries?

3.2 What happens when the foreign government decreases spending by 1 unit, but the domestic government increases spending by 1 unit?

3.3 Can you rationalize statements like "the US consumer drives the world economy"?

4. *Beggar-thy-neigbor Policy*. Consider a two-country model where one country decides to devalue its real exchange rate. Use the model as above except $IM = m_1 Y\epsilon, X = \frac{x_1 Y^*}{\epsilon}$. Also, use the following numbers:

$$c_0 = b_0 = T = T^* = 0, G = 1, c_1 = b_1 = m_1 = x_1 = \frac{1}{3}, \epsilon = 2$$

4.1 What is the equation for domestic and foreign desired demand? What is equilibrium output (in numbers)?

4.2 What do the Marshall-Lerner conditions tell you? Do these economies satisfy the conditions?

4.3 If the domestic country lowers the real exchange rate to 1.5, how much does the trade-surplus rise or fall by? How much does domestic GDP rise or fall by? Plot domestic demand and the domestic trade surplus.

4.4 What happens to the trade surplus/GDP in the foreign country?

4.5 Can you see where there is a conflict between the interests of the two countries?

5. Consider an economy on a flexible exchange rate, and described by the IS-LM-UIP framework in Chapter 20 of the textbook.

5.1 Suppose autonomous investment collapses. Using the IS-LM-UIP diagrams, show what happens to interest rates, output, and the exchange rate.

5.2 What could monetary policy do to restore output to pre-shock levels?

6. Consider the same economy as in problem 5, but assume that it is a small economy relative to the other economy in the world (with interest rate i*).

6.1 Suppose the foreign economy's interest rate rises. What happens to the home economy? Show using the IS-LM-UIP framework.

6.2 Suppose the home economy's government is committed to keeping the exchange rate, E, constant against the foreign country's. What does the home country have to do in order to achieve that objective?

7. Suppose the economy is given by AD and AS equations 21.1 and 21.2 in the textbook, assuming the economy is on a fixed exchange rate. You can assume the current period's *expected* price level equals the previous period's price level.

7.1 Draw the AD AD diagram.

7.2 Suppose autonomous investment collapses. What happens, both in the short run, and over the long run?

7.3 What happens to investment in the medium run?

7.4 What happens to the real exchange rate in the medium run?

7.5 What is an alternative approach to restoring full employment?

Chapter 12, Problem 6.