ECONOMICS 305: Intermediate Macroeconomics

Spring 2016 ASSIGNMENT #6

DUE DATE: Thursday, May 5, noon.

QUESTION 1 - Openness in Goods and Financial Markets

a) Explain the three types of trade that countries conduct.

b) Define the nominal exchange rate of a country. Define the real exchange rate of a country. Why is the real exchange rate the appropriate price for thinking about decisions by consumers and firms about whether to buy domestic or foreign goods and services?

c) Explain how the nominal exchange rate, and domestic and foreign price inflation affect the real exchange rate.

d) If the domestic country's real exchange rate (currency) depreciates, how would you expect this to affect the domestic country's trade balance in goods and services? Explain.

e) What do we mean by purchasing power parity (a theory of real and nominal exchange rates)? If the domestic country's price level declines, what does purchasing power parity predict would tend to happen to the nominal exchange rate and foreign price level? Explain.

f) What is the source of large differences between the GDP and GNP of oil exporting countries? In answering the question, explain carefully the difference between gross domestic product and gross national product.

g) Suppose the uncovered interest parity condition holds, and that the domestic interest rate is lower than the foreign interest rate. What does this imply about the current versus future expected currency value for the domestic country?

h) Assume that the one-year interest rate in the United States is 4% and that the one-year interest rate in Canada is 3%. According to uncovered interest rate parity, what does this imply about the current versus the future expected value of the US dollar? Explain.

i) Explain why a simple comparison of the interest rates on domestic and foreign bonds might provide misleading information about which bonds yield the highest expected returns.

QUESTION 2 – An Open Economy Model of the Goods Market

a) Explain the difference between: (a) the demand for domestic goods; and (b) the domestic demand for goods. In your answer, write down equations which describe (a) and (b).

b) Explain the determinants of (a) exports and (b) imports. Write an algebraic expression for each.

c) Explain why the demand for domestic goods curve (ZZ) has a different slope than the domestic demand curve (DD).

d) Using the ZZ/Y and NX graphs, illustrate graphically and explain what effect an increase in taxes, *T*, will have on output, exports, imports, and net exports. Clearly label all curves and clearly label the initial and final equilibria.

e) Using the ZZ/Y and NX graphs, illustrate graphically and explain what effect an increase in foreign output (*Y**) will have on output, exports, imports, and net exports. Clearly label all curves and clearly label the initial and final equilibria.

f) Explain why the multiplier for autonomous demand changes in an open economy is different from the multiplier in a closed economy.

g) Explain the Marshall-Lerner condition. Assuming that the Marshall-Lerner condition holds, and using the ZZ/Y and NX graphs, illustrate graphically and explain in words what effect a real depreciation will have on output, exports, imports, and net exports. Clearly label all curves and clearly label the initial and final equilibria.

h) Suppose a country is experiencing a situation where output is above the full employment or natural level, and has a trade deficit. Further assume that the policy makers' goals are to achieve full employment output and balanced trade. Given this information, what type of exchange rate and/or fiscal policy can be used to achieve simultaneously these two goals? Explain your answer carefully.

i) Using the ZZ/Y and NX graphs, illustrate graphically and explain what effect an increase in government spending will have on output, exports, imports, and net exports. Clearly label all curves and clearly label the initial and final equilibria.

QUESTION 3 – An Open Economy Model of the Goods Market

Consider an open economy characterized by the following equations:

$$C = c_0 + c_1(Y - T)$$

$$I = d_0 + d_1 Y$$

$$IM = m_1 Y \qquad X = x_1 Y^*$$

The parameters m_1 and x_1 are the marginal propensities to import and export respectively. Assume that the real exchange rate is fixed at a value of 1, and treat foreign income Y^* as fixed. Let taxes T be fixed, and G be determined exogenously by the domestic government.

a) Write the equilibrium condition in the market for domestic goods and solve for the equilibrium value of *Y*.

b) Suppose government purchases, *G*, increase by one unit. What is the quantitative effect on output? (Assume that $0 < m_1 < c_1 + d_1 < 1$ and explain why.)

c) What is the quantitative effect for net exports change when government purchases increase by one unit?

Now let there be two economies, one with $m_1 = 0.5$ and another with $m_1 = 0.1$. Each economy is characterized by $c_1 + d_1 = 0.6$.

d) Suppose one of the economies is much larger than the other. Which economy do you expect to have the larger value of m_1? Explain.

e) Calculate your answers to b) and c) for each economy by substituting in the appropriate parameter values.

f) In which economy will fiscal policy have a larger effect on output? In which economy will fiscal policy have a larger effect on net exports? Explain your answers.

QUESTION 4 – Open Economy IS-LM Model (Only if we complete Chapter 20 in class)

a) In an economy operating under flexible exchange rates, explain why the IS curve is downward sloping.

b) Explain what the IP curve is and why it is upward sloping.

c) Suppose the domestic and foreign interest rates are both initially equal to 3%. Now suppose the domestic interest rate rises to 5%. Explain what effect this will have on the exchange rate. Also explain what must occur for the interest parity condition to be restored.

d) Suppose the domestic and foreign interest rates are both initially equal to 4%. Now suppose the foreign interest rate rises to 6%. Explain what effect this will have on the exchange rate. Also explain what must occur for the interest parity condition to be restored.

e) Explain what effect each of the following events will have on the IS curve in a flexible exchange rate regime: (1) an increase in foreign output; (2) a reduction in

the foreign interest rate; and (3) an increase in the domestic interest rate. Show each of these effects in a diagram.

f) Assume the exchange rate is allowed to fluctuate freely. Using the IS-LM-IP model, graphically illustrate and explain what effect an increase in government spending will have on the domestic economy. In your graphs, clearly label all curves and equilibria.

g) Assume the exchange rate is allowed to fluctuate freely. Using the IS-LM-IP model, graphically illustrate and explain what effect monetary contraction will have on the domestic economy. In your graphs, clearly label all curves and equilibria.

h) Assume the exchange rate is allowed to fluctuate freely. Using the IS-LM-IP model, graphically illustrate and explain what effect a reduction in foreign output (Y^*) will have on the domestic economy. In your graphs, clearly label all curves and equilibria.

i) For a country pursuing a fixed exchange rate regime, what does the interest parity condition imply about domestic and foreign interest rates? Explain.

j) To what extent can monetary policy be used to affect output in a fixed exchange rate regime? Explain.

k) Assume the exchange rate is fixed. Using the IS-LM model, graphically illustrate and explain what effect a reduction in consumer confidence will have on the domestic economy. In your graphs, clearly label all curves and equilibria.

l) Assume that policy makers are pursuing a fixed exchange rate regime. Now suppose that the foreign interest rate increases. Discuss what policy makers must do to maintain the pegged exchange rate. Also discuss what effect this will have on domestic output and net exports.