14.02: Principles of Macroeconomics, Fall 1999
2 pages

Problem Set 6
Due: Wednesday, October 27.

Question 1. **True**, **False**, **Uncertain**. **Explain your answer**.

a. Trade deficits are generally good because they indicate high investment.

b. Budget deficits always cause trade deficits.

c. It is much easier for the government of a small open economy to maintain target output than in a large closed economy.

d. The only way a country can eliminate an equilibrium trade surplus is through a painful appreciation of their currency, which reduces equilibrium income.

e. Exchange rates are fixed. If domestic inflation is higher than foreign inflation, then net exports will fall.

Question 2. **Coordination and Fiscal Policy**. **Show all of your work**.

Consider the following open economy where foreign variables are starred. Assume both countries use the same currency and prices are fixed, so that the real exchange rate ε is constant, normalized to one.

- $C = 10 + 0.8(Y - T)$
- $I = 10$
- $G = 10$
- $T = 10$
- $Q = 0.3Y$
- $X = 0.3Y^*$

a. Solve for equilibrium income in the domestic economy, conditional on the output of the foreign economy. What is the multiplier in this economy? What is the closed economy multiplier? Why are they different?

b. Assume the foreign economy has the same equations as the domestic economy. Use this to solve for the equilibrium income of each country. What is the multiplier for each country now? Why is it different than the open economy multiplier above? If the domestic country is relatively small, briefly explain how things change here.

c. Assume both countries have a target level of output of 125. What is the increase in G necessary in either of these countries, assuming the other country does not change G, to achieve target output? Solve for net exports and the budget deficit in each country.

d. What is the common increase in G necessary to achieve target output?

e. Why is fiscal coordination (such as the common increase in G in part d) difficult to achieve in practice?

Question 3 Tariffs. **Illustrate your answers with both graphs and text**.

Consider two open IS-LM economies.

a. What are the consequences of a tax on foreign goods in the domestic

country on equilibrium output and net exports?

b. What are the consequences of the tax on foreign equilibrium output and net exports?

c. What is the additional effect of a foreign retaliation on equilibrium output and the volume of trade? Assume identical economies and foreign tax equal to the domestic one.