

Problem Set #6Due Wednesday 5/4/11 by 6 p.m. in the Econ 110-1 slot in the Economics Alcove

Use a stapler! Write legibly and use full and grammatically correct sentences in your answers. Draw graphs neatly and label axes and points clearly. Show your work on calculations. Each part below is weighted equally in grading, as are subparts within a part.

A. Assume the economy can be characterized by the following seven equations:

$$C = 100 + .75Y$$

$$M_D = 100 - 10r$$

$$I = 50 - 5r$$

$$M_S = 80$$

$$G = 100$$

$$M_D = M_S$$

$$Y = C + I + G$$

- 1) a. Solve for the equilibrium value of  $Y$ . Also solve for  $r$  and  $I$ .
- b. Suppose that the government is concerned that  $Y$  is below full employment level, which they believe to be  $\bar{Y} = 980$ . If it wants to achieve this level of  $Y$  through use of fiscal policy, how much would it need to increase  $G$ ? What happens to  $r$  and  $I$ ?
- c. If the government wants to achieve this level of  $Y$  instead through use of monetary policy, by how much would it need to increase  $M_S$ ? What happens to  $r$  and  $I$ ?
- d. Which do you think the government should use in order to reach  $Y = 980$ , fiscal or monetary policy, and why?

Now suppose the money demand function becomes:

$$M_D = 4 - 10r + .1Y$$

- 2) a. Now by how much would the government need to increase  $G$  to get to  $Y = 980$ ? What happens to  $r$  and  $I$ ?
- b. Now by how much would the government need instead to increase  $M_S$  to get to  $Y = 980$ ? What happens to  $r$  and  $I$ ?
- c. Now which do you think it should use in order to reach  $Y = 980$ , fiscal or monetary policy, and why? What happens to  $r$  in each case? What happens to  $I$  in each case?
- d. Suppose the investment function becomes  $I = 50$ . Now which would you prefer, fiscal or monetary policy, and why?

## B. Economic growth:

Consider what the theoretical underpinnings could be for arguing that the government is responsible for carrying out growth-encouraging policies. What are the potential sources of market failure that cause the economy not to grow fast enough on its own? Give two or three examples. Is part of the problem that the government carries out some policies that are (inadvertently) growth-discouraging? If you answer yes, give a couple of examples. If you answer no, state your position clearly.

## C. Income redistribution:

Economist Arthur Okun is famous for his "leaky bucket" metaphor regarding the inefficiencies inherent in the income transfer process (<http://www.econlib.org/library/Enc/bios/Okun.html>—see the fourth paragraph).

- 1) Draw a utility possibility frontier and indicate what happens if an income transfer from a richer person to a poorer person involves inefficiency.
- 2) Add a couple of isowelfare curves to your diagram from **1)** and show a situation where society might nonetheless prefer the inefficient point to the original efficient point.
- 3) The situation in **2)** implies that the original income/utility distribution in **1)** was not the preferred point for the society. Add another isowelfare curve to your diagram and show the actual preferred initial point for the society.
- 4) a. How much of a leaky bucket are you personally willing to tolerate? In other words, in order to transfer a dollar of income to a needy person, how much are you willing to pay to transfer that dollar?
  - b. Pick a charity that you or your family contribute to regularly or that you are interested in, and find out what their administrative overhead rate is. (If you're having trouble finding this out, you can find hints on how to check out charities' overhead rates at <http://www.charitychoices.com/checkout.asp>.) State the charity, the url (or your other source) for where you found out the rate, and what the rate is. Was this higher or lower than you had expected? Does this information make you want to give to the charity, or make you not want to give to them?

D. Trade policy:

Two countries, Drossneria and Ringoenistan, both produce and consume bushels of wheat.

Drossneria:  $Q_S = 10P$  and  $Q_D = 150 - 10P$

Ringoenistan:  $Q_S = 10P - 100$  and  $Q_D = 250 - 10P$

You'll recall from the last problem set that the solution for the free trade situation is that the world price is 12.5, at which 100 units are exported from Drossneria to Ringoenistan.

- 1) Now assume that Ringoenistan's domestic producers complain about imported wheat undercutting their price, so Ringoenistan imposes a tariff of 5 per bushel on imported wheat.
  - a. Now what is the price of wheat in each country? What is the quantity demanded in each country? What is the quantity supplied by each country? How many bushels of wheat will be exported? How much tariff revenue goes to Ringoenistan's government?
  - b. Draw two graphs side by side showing the wheat market in each country, the trade price and the quantity exported (and imported) before the tariff is imposed, and the quantity exported (and imported) and prices in the two countries after the tariff is imposed.
- 2)
  - a. Who is hurt and who is helped when a tariff is imposed? Discuss the effects on four constituencies: consumers in the exporting country, producers in the exporting country, consumers in the importing country, and producers in the importing country.
  - b. Are your answers to **a.** affected in any way by what the Ringoenistan government chooses to do with the revenue collected through imposing the tariff?
  - c. If Ringoenistan instead imposed a quota limiting imports to the number of bushels that you solved for under the tariff in **1)a.**, explain in what ways the outcome is different and in what ways the outcome is the same as under the tariff.
  - d. Since there are also groups that are hurt when countries switch from not trading at all to trading, what is the rationale behind economists' arguing in general that trading is better than not trading?