Economics 101b; Fall 2000; Problem Set 6

Due in class October 19

1. Consider an economy in which prices are sticky, the marginal propensity to consume out of disposable income C_y is 0.6, the tax rate t is 0.25, and the share of national income spent on imports IM_y is 20 percent.

    a. Suppose that total autonomous spending is $6 trillion. Graph planned expenditure as a function of total national income.
    b. Determine the equilibrium level of national income and real GDP.
    c. What is the value of the multiplier?
    d. Suppose that total autonomous spending increases by $100 billion to $6.1 trillion. What happens to the equilibrium level of national income and real GDP, Y?

2. Classify the following set of changes into two groups: those that increase equilibrium real GDP, and those that decrease real GDP.

    An increase in consumers' desire to spend today.
    An increase in interest rates overseas.
    A decline in foreign exchange speculators' confidence in the value of the home currency.
    A fall in real GDP overseas.
    An increase in government purchases.
    An increase in managers' expectations of the future profitability of investments.
    An increase in the tax rate.

3. Suppose that the government wishes (for good reasons) to increase the equilibrium level of real GDP by $500 billion. How would you suggest that the government go about figuring out how to accomplish this goal?

4.In Washington today some people are arguing that the best measure of the federal government's short-run impact on the economy is the government surplus: tY-G, where t is the total tax rate. Others argue that the best measure is the non-Social-Security surplus t'Y - G, where t' is the total tax rate minus the 8 percent or so of national income collected in Social Security taxes plus the 6 percent or so of national income paid out in Social Security benefits.

    a. Break autonomous spending down into two parts, other autonomous spending A' and government spending G. Find an algebraic expression for the level of real

GDP as a function of the multiplier and of these two components of autonomous spending.

b. In your answer for (a), replace the multiplier with the appropriate function of its determinants--the MPC, the tax rate, and the import share IM_y.

c. Determine the difference between the short-run level of real GDP with government spending equal to G and the tax rate equal to t, and the short-run level of real GDP with government spending equal to zero and the tax rate equal to t.

d. Determine the difference between the short-run level of real GDP with government spending equal to G and the tax rate equal to t, and the short-run level of real GDP with government spending equal to G and the tax rate equal to 0.

e. What do you now think that the best measure of the impact of federal government taxing and spending is on the level of GDP in the short run? Why?

5. Suppose that the economy is short of its full-employment level of GDP, $8 trillion, by $500 billion, with the MPC out of disposable income equal to 0.6, the import share IM_y equal to 0.2, and the tax rate t equal to 25%.

a. Suppose the government wants to boost real GDP up to full employment by cutting taxes. How large a cut in the tax rate is required to boost real GDP to full employment? How large a cut in total tax *collections* is produced by this cut in the tax rate?

b. Suppose the government wants to boost real GDP up to full employment by increasing government spending. How large an increase in government spending is required to boost real GDP to full employment?

c. Can you account for any asymmetry between the answers to (a) and (b)?

6. Think about the four possible source of price stickiness mentioned in this chapter: money illusion, "fairness" considerations, misperceptions of price changes, and menu costs. What have you read or seen in the past two months that strike you as examples of any of these four phenomena? Which of the four strikes you as most likely to be the most important?

7. What changes in the economy's institutions can you think of that would diminish price stickiness and increase price flexibility? What advantage in terms of the size of the business cycle would you expect to follow from such changes in institutions? What disadvantages do you think that such institutional changes might have?