

Problem Set # 3 - additional problems

Supply Side Equilibrium & Fiscal Policy

his study guide covers material in Lectures 7-10.

Consider a simple macro economy with no foreign trade (you can ignore exports and imports, so total expenditure = $C + I + G$).

If the consumption function can be described by the equation $C = 100 + .8(Y-T)$, where Y is income and T is the amount of tax payments the government collects form consumers,

a. Fill in the following table when the government taxes (T) total \$ 100 million (taxes are assumed to be autonomous “lump sum” taxes) , government spending (G) is equal to \$ 130 million and autonomous investment (I) is \$ 170 million

| GDP Gross Domestic Product = National Income | DI Disposable Income | C Consumption Expenditure | I Investment Expenditure | G Government Expenditure | TE Total Expenditure |
|---|-------------------------|---------------------------------|--------------------------------|--------------------------------|-------------------------|
| 800 | | | 170 | 130 | |
| 1200 | | | 170 | 130 | |
| 1600 | | | 170 | 130 | |
| 2000 | | | 170 | 130 | |
| 2400 | | | 170 | 130 | |

all numbers are in millions of dollars per year.

b. Given the information above, the marginal propensity to consume for this economy is _____

c. The equilibrium level of GDP for this economy is _____,
 The multiplier for Government spending (G) is _____ .
 The multiplier for autonomous taxes (T) is _____

Show you calculations and explain your answers

d. If the potential GDP of this economy is \$1800 million, would the economy be experiencing inflation or unemployment at the levels of G , I , and T given above. Explain your answer.

e. Calculate how much the government would have to increase (or decrease) government spending in order to get the economy to full employment (potential GDP). Show you work and explain your answer. (For this part, you may ignore any secondary price effects. That is assume that the general price level would remain constant when the government changed expenditure levels.)

f. Consider the following statement. “The government could achieve exactly the same result by either the increase in government expenditure (as in section e) or by using a tax cut.” Which of the following statements is true and why is it true.

1. The statement is **True**, an equal sized increase in G or reduction in T would achieve the same results

2. The statement is **True**, but it would take a larger tax cut than increased government spending to reach full employment so the tax cut would cause a bigger government deficit than the increased in government spending.
3. The statement is **True**, but it would take a larger increase in government spending than tax cut to reach full employment so increasing government spending would cause a bigger government deficit than the tax cut.
4. The statement is **False**, you cannot achieve full employment in this economy by adjusting T.

g. Consider replacing the \$100million autonomous tax with a mixed tax where there is \$20 million of autonomous tax and a 5% income tax. (Total Tax = 20 + .05Y) Ignoring supply side effects,

- what would happen to GNP if we changed the tax system as described?
- what would happen to the Government Expenditure multiplier?

h. Aggregate demand (AD) and supply curves (AS) have been widely used to analyze the performance of the macroeconomy. The figure below shows five diagrams that represent different changes in the macroeconomy caused by shifts of aggregate supply and/or demand. For each of the 5 panels shown in Figure 2, Come up with a scenario describing a change in the economy that is consistent with the shifting curves shown in the panel. What will be the effect of the shift on important macro economic indicators (prices, GDP, unemployment)

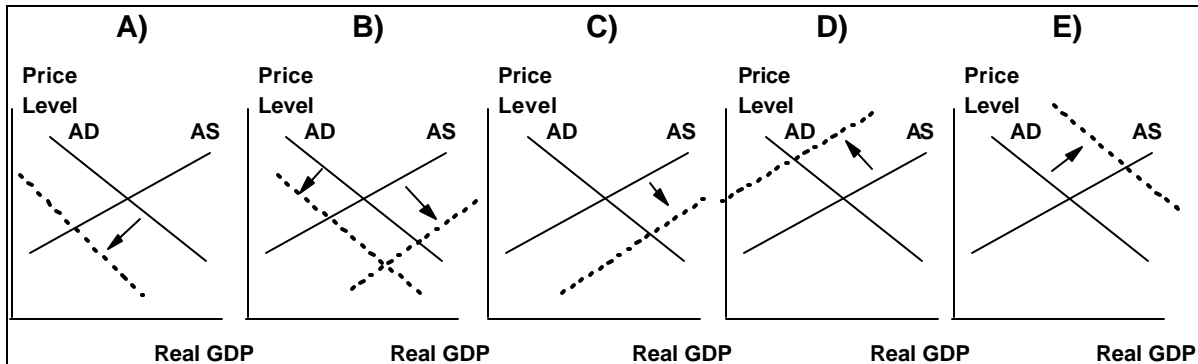


Figure 1

h. Now consider a more complete model where the aggregate supply curve slopes upward as shown in **Figure 1**, trace through the effects of increasing government expenditure from its initial level of G_0 to some higher level G_1 starting from the initially equilibrium shown. Describe which curves would shift and why. What would characterize (what would be true) at the new equilibrium?

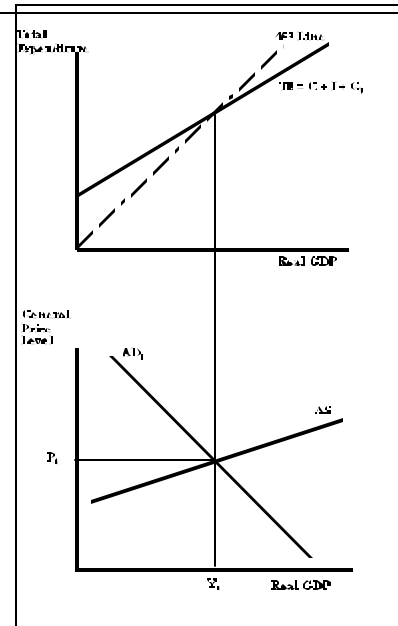


Figure 2