

Name:
Section:
T.A. Name:

180.101 ELEMENTS OF MACROECONOMICS

Fall, 2011

Problem Set #4

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INSTRUCTIONS: Above, write your name, section number and T. A. name. Answer each question in the space provided, or on the back of the same sheet.

1. Consider an economy in which tax collections are always \$400 and in which the three components of aggregate demand are as follows:

GDP	Taxes	Disp. Income	C	I	G
\$1,360	\$400	\$960	\$720	\$230	\$500
1,480	400	1,080	810	230	500
1,600	400	1,200	900	230	500
1,720	400	1,320	990	230	500
1,840	400	1,440	1080	230	500

Find the equilibrium of this economy graphically. What is the marginal propensity to consume? What is the multiplier for government purchases? What would happen to equilibrium GDP if government purchases were reduced by \$60 and the price level remained unchanged?

2. Consider an economy similar to that in the preceding question in which investment is also \$230, government purchases are also \$500 and the price level is also fixed. But taxes now vary with income and, as a result, the consumption schedule looks like the following:

GDP	Taxes	Disp. Income	C
\$1,360	\$320	\$1,040	\$810
1,480	360	1,120	870
1,600	400	1,200	930
1,720	440	1,280	990
1,840	480	1,360	1,050

Find the equilibrium graphically. What is the marginal propensity to consume? What is the tax rate? Use your diagram to show the effect of a decrease of \$60 in government purchases. What is the multiplier? Compare this answer to your answer to Question 1 above. What do you conclude?

3. Consider an economy described by the following set of equations:

$$C = 120 + 0.8Y_{dis}$$

$$I = 240$$

$$G = 480$$

$$TX = 200 + 0.25Y$$

Y is real income or output, C is real consumption expenditure, I is real investment expenditure, G is real government spending, Y_{dis} is real disposable income and TX is real tax revenues. Find the equilibrium level of GDP. Next, find the multipliers for government purchases and for fixed taxes. If full employment comes at $Y=1,800$, what are some policies that would move GDP to that level?

4. This question is a variant of the previous problem that approaches things in the way that a fiscal planner might. In an economy whose consumption function and tax function are as given in question 3, with investment fixed at 240, find the value of G that would make GDP equal to 1,800.

5. Suppose banks keep no excess reserves and no individuals or firms hold on to cash. If someone suddenly discovers \$12 million in buried treasure, explain what will happen to the money supply if the required reserve ratio is 10 percent. How does your answer change if the reserve ratio of 25 percent or 100 percent?