Assignment 5

## Automatic Stabilizers

1. So far, we have assumed that the fiscal policy variables G and T are independent of the level of income. In the real world, however, this is not the case. Taxes typically depend on the level of income and so tend to be higher when income is higher. In this problem, we examine how this automatic response of taxes can help reduce the impact of changes in autonomous spending on output.

Consider the following behavioral equations:

C = c0 + c1YD

T = t0 + t1Y

YD = Y - T

G and I are both constant. Assume that:

0 < t1 <1

1. Solve for equilibrium output
2. What is the multiplier? Does the economy respond more when t1 is 0 or when t1 is positive? Explain the economic intuition, not just the mathematical intuition.

## Investment and Income

1. This problem examines the implications of allowing investment to depend on output/income. Our module on investment carries this analysis much further and introduces an essential relation—the effect of the interest rate on investment—not examined in this problem.

Suppose the economy is characterized by the following behavioral equations:

C = c0 + c1YD

YD = Y - T

I = b0 + b1Y

Government spending and taxes are constant. Note that investment now increases with output.

1. Solve for equilibrium output.
2. What is the value of the multiplier? How does the relation between investment and output affect the value of the multiplier? What condition must ($c\_{1}+b\_{1}$) satisfy? Explain your answers.
3. Suppose that the parameter b0, sometimes called business confidence, increases. How will equilibrium output be affected? Will investment change by more or less than the change in $b\_{0}$? Why? What will happen to private saving (there is no government in this problem)?

## Credit Rationing

1. Describe, in your own words, the relevance of credit rationing for our theories of consumption. What causes credit rationing?