Problem Set 5

UCLA - Econ 102 - Fall 2018

François Geerolf

1 Gregory N. Mankiw - NYT - Nov 30, 2008

This exercise is based on the following *New York Times* article, which Gregory N. Mankiw wrote a bit more than 2 months after the bankruptcy of Lehman Brothers (to which we shall come back in lecture 17). The New York Times articles are gated after you have read your monthly quota, but archives are available through UCLA on ProQuest:

Mankiw, N. Gregory. What would Keynes have done? *New York Times*, November 30, 2008

1. According to Gregory N. Mankiw, which factors contributed to hold back consumption? Can you interpret these factors in terms of changes in c_0?
2. Gregory N. Mankiw mentions the "paradox of thrift". Which model that we saw in the class makes most sense of his explanations?
3. Concerning saving, one of the arguments that Gregory N. Mankiw makes is more neoclassical. Which one is it?
4. What is Gregory N. Mankiw most concerned about though?

2 Procyclical Government spending

Consider the basic goods market model of Lecture 7: consumption is linear in disposable income, disposable income is income minus taxes, investment is exogenous and equal to $\bar{I}$, and taxes are exogenous as well. However, government spending depends on the level of output. For example, the government systematically spends more when GDP is higher (it builds new roads, hires new teachers, etc.), and conversely when GDP is lower (it then stops construction projects, fires teachers, etc.). Thus, government spending is given by the following equation, with $g_1 > 0$:

$$G = g_0 + g_1 Y$$

1. Solve for equilibrium output.
2. If $g_1 + c_1 < 1$, what is the value of the tax multiplier? (the tax multiplier is equal to the increase in output following from a \$1 decrease in taxes) If $g_1 > 0$, is the multiplier higher or lower than when government spending does not depend on GDP ($g_1 = 0$)? What is the intuition for this?
3. Does this kind of policy appear like a good policy?
4. Give both a graphical as well as an algebraic justification for the value of the multiplier.
5. What happens if $g_1 + c_1 > 1$? Explain using the multiplier intuition.

3 Accelerator and Automatic Stabilizer

Consider the basic goods market model of Lecture 7: consumption is linear in disposable income with a Marginal Propensity to Consume equal to c_1, disposable income is income minus taxes. However, we assume an accelerator effect of demand on investment (investment depends on sales):

$$I = b_0 + b_1 Y,$$

as well as the presence of automatic stabilizers:

$$T = t_0 + t_1 Y.$$

1. Solve for equilibrium output.
2. Find a condition on b_1, c_1, and t_1 such that the multiplier stays finite.
3. What happens if the multiplier is infinite? Does GDP become infinite?
4. Give both a graphical as well as an algebraic justification for the value of the multiplier.