Problem Set 9

UCLA - Econ 102 - Fall 2018

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9 Problem Set 9

9.1 A Budget Surplus and a Trade Deficit

The aim of this exercise is to better understand why, despite the first budget surplus in over 20 years, the U.S. still experienced a large trade deficit at the end of Bill Clinton's presidency from 1998 to 2001.

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We consider again the schematic redistributive policies from the rich to the poor, which we studied in lecture **??**. We consider a reduction in taxes on the poor $\Delta \underline{T}_0 < 0$, with an offsetting increase in taxes on high income earners such that $\Delta T_0 = \Delta \underline{T}_0 + \Delta \bar{T}_0 = 0$. We then have that $\Delta \bar{T}_0 = -\Delta \underline{T}_0 > 0$.

1. What is the effect of redistribution on ΔY?
2. What is the effect on the budget deficit of such a redistribution?
3. Using directly that $\Delta NX = -m_1 \Delta Y$, compute the trade deficit.
4. We shall now decompose the trade deficit into saving and investment, to better understand the intuition behind the counterintuitive result. Compute first ΔI. Does it contribute to explaining the puzzle?
5. Compute now private saving ΔS. Does it contribute to explaining the puzzle?
6. Compute the net effect, total saving minus investment.
7. Assuming that $m_1 = 1/6$, $b_1 = 1/6$, $t_1 = 1/4$, $\underline{c}_1 = 1$, $\bar{c}_1 = 1/3$, $\gamma = 9$, $\lambda = 0.9$, what is the size of each component?

9.2 Coordination of Economic Policies

In this exercise, we shall consider the coordination of aggregate demand stimulating policies. We assume that consumption is given by $C = 10 + 0.8(Y - T)$, investment is given by $I = 8 + 0.1Y$, government spending is given by $G = g_0 + 0.1Y$, taxes are given by $T = 10 + 0.5Y$, and imports and exports are given by $M = 0.1Y$ and $X = 0.1Y^*$, where Y^* denotes foreign output. We're trying to give one potential justification for Donald Trump's complaints to Germany (and China) - watch the video below.

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1. Given Y^*, what is equilibrium output in the domestic economy?
2. What is the multiplier in this economy, assuming that foreign output is given? (which cannot be true)
3. If we were to close the economy - so exports and imports were identical, and net exports always equal 0. What would the multiplier then be?
4. Assume that the foreign economy is characterized by the same equations as the domestic economy (with asterisks reversed). Use the two sets of equations to solve for equilibrium output of each country.
5. What is the multiplier for each country now? Why is it different from the open economy multiplier in question 2?

6. Write a geometric series to explain the intuition for the spillovers.
7. What is the impact on Germany's budget of a rise in U.S.'s government spending?
8. What is the multiplier for a coordinated increase in government spending, such that $\Delta g_0 = \Delta g_0^*$?
9. Is the multiplier then higher or lower than in the previous question? What is the economic intuition?
10. Why is there a free-rider problem?
11. Watch this statement by Donald Trump. Why might this exercise be an explanation for Donald Trump's complaints on Germany's (and China's) economic policies?