

Assignment 7 (Due Nov 20th, in class before 11.15 am)

Intertemporal consumption choice: Consumption-Saving model

Part I: Chapter 9 Williamson (2018 edition)

Question 2, 4, 5, 6, 12

Part II: General equilibrium with multiple types of households

Consider an economy with two groups of households. Each group has 50 members. (If this may help you a clearer picture, one can think about the first group as 50 male consumers, and the second group as 50 female consumers.) Both groups have the same identical preference, i.e. sharing the same indifference curve. However, their endowments are different. The endowment of the first group is $(y, y') = (5, 10)$ while the endowment of the second group is $(y, y') = (10, 5)$. Suppose that each group pays tax to the amount of 5 units of output. The amount of tax payment is equal in both periods.

- Given r as the interest rate, derive the life-time budget constraint of each group of households.
- Use the diagram in class, illustrate the optimal consumption bundle for each group of households. For *any* given interest rate “ r ”, which group of the household would likely be a saver? Why? Explain your answer.
- Who would be most likely worst-off (in terms of welfare change) if the market interest rate decreases?

Now, suppose that government spends 200 units of output in the current period (G), and 600 units of output in the future period (G').

- What is the total aggregate output in each period?
- What type of fiscal policy does the government use in the current period? Budget surplus, Budget deficit or Balanced budget? Why?
- Use the diagram in class, construct the general equilibrium allocation. Properly state out what would happen under the equilibrium situation. Provide all information about the components of aggregate saving curve and aggregate borrowing curve.

Suppose that government lowers tax by 1 unit of output while keep the amount of government spending fixed in both periods. Consider the following problem.

- Under the given scenario, what would happen to the equilibrium interest rate and households' welfare?