Homework #2: Macro Modelling

Econ 352: Macroeconomics

1 Williamson Ch 4. problem 4: (3 pts)

1.1 Williamson Ch 4. problem 4: words (2 pts)

Suppose that the government imposes a proportional income tax on the representative consumer's wage income. That is, the consumer's wage income is $w(1-\tau)(h-\ell)$ where τ is the tax rate. What effects does the income tax have on consumption and labor supply? In words, explain your results in terms of income and substitution effects. (2 pts)

1.2 Williamson Ch 4. problem 4: graphs (1 pts)

Now graph your results. That is, graphically show the budget constraints that help define the income and substitution effects, and the utility curves that are tangent to them.

2 Williamson Ch 4. problem 11: (3 pts)

Suppose a two-person household. Person 1 has h_1 units of time available and takes l_1 units of leisure time, and person 2 has h_2 units of time available and takes l_2 units of leisure time. Collectively, the two persons in the household cdare about their total consumption c, and their total preferences over leisures $l = l_1 + l_2$, and they have preferences over their total consumption and total leisure just as specified in Chapter 4. But person 1 faces a market wage w_1 and person 2 faces a market wage w_2, with $w_1 > w_2$.

2.1 Williamson Ch 4. problem 11a: (1 pts)

Draw the budget constraint faced by the two-person household. What will the household do? That is, how much does each household member work?

2.2 Williamson Ch 4. problem 11b: (1 pts)

What happens if the market wage of person 2 rises?

2.3 Williamson Ch 4. problem 11b: (1 pts)

Explain your results and interpret.

3 Williamson Ch 5. problem 1: (2 pts)

Suppose that the government decides to reduce taxes. In the model used in Chapter 5, determine the effects this has on aggregate output, consumption, employment, and the real wage. Explain your results.

4 Working with a Model

Download SimpleMacro.xlsx. Plot out what happens to GDP, wages, and labor as z increases from 1 to 2 in increments of 0.2.

Note: to use the solver, you must choose n,w,Y,ℓ,π,T, and C such that all our equations hold (households & firms are maximizing subject to budget constraints, goverment spending is equal to revenue, and so on). This means making all the equations in E18-E24 equal to zero. The sum of squares of these equations is given by G27. So you may pick a value for z (change H3), then go to solver, minimize G27 (the sum of squared errors) by choosing n,w,Y,ℓ,π,T, and C (B2-B8).