

In-class Exercise: General Equilibrium One-Period Model

Directions: Work in groups of up to four people and answer the following questions. All papers will be collected, but only one member's paper will be randomly selected and graded and all members of the group will receive the same grade.

By signing below, you agree that the following work represents the efforts of everyone in the group, and you are willing to accept as your own grade for the group project the grade earned from this representation of your group's work.

_____ Signature Group Member 1	_____ Print Name	_____ Date
_____ Signature Group Member 2	_____ Print Name	_____ Date
_____ Signature Group Member 3	_____ Print Name	_____ Date
_____ Signature Group Member 4	_____ Print Name	_____ Date

Directions: Answer all of the questions below using a one-period general equilibrium model with no frictions or distorting taxes. For each of the following, answer the following:

- Describe and illustrate the general equilibrium outcome on all endogenous variables, including consumption, real GDP, real wage, leisure, and employment.
- Describe the effect on the marginal utility of consumption, the marginal utility of leisure, the marginal product of labor, and the marginal product of capital.

1. Suppose a past national investment in the quality of K-12 and post-secondary education leads to a more productive workforce.

2. Suppose the government increases its expenditure on public goods. Comment on whether you think this was a good or bad policy. Use the model outcomes or shortcomings of the model to defend your answer.

3. Suppose government spending makes private firms more productive. For example, government spending on transportation systems lowers costs for firms, making all factors of production more productive. Suppose there is an increase in this kind of government expenditure.

(a) The impact on consumption, leisure and employment is indeterminate. Describe and illustrate why this is so. Hint: Think about your answers to the two questions on the previous page.

(b) The impact on output, real wage, and total welfare is unambiguous. Describe and illustrate why this is so (you may refer to the same graph in your previous answer). Comment on whether you think this was a good or bad policy. What should be taken into consideration to adequately answer this question?

4. Suppose a past lack of investment in infrastructure by both businesses and the government leads to a deterioration of capital stock.

5. Suppose households' preferences change such that more women enter the workforce. You can think of the representative consumer as a representative household, where the household's utility function changes such that it is willing to work more in order to earn more income for consumption. Hint: You will have a new indifference curve, with a new slope, that will intersect the original indifference curve.