

Economics 301: Homework 2

1. Draw a graph of labor market equilibrium and label values for the initial real wage and employment.
 - a. Draw a graph of the household's choice between leisure and consumption and show how an increase in wealth affects the equilibrium values of consumption and leisure.
 - b. How does the increase in wealth affect equilibrium labor supply? Draw this on your original graph of labor market equilibrium and label new equilibrium points.
 - c. Write the expression for potential output. How does the increase in wealth affect potential output? Explain.

2. Draw a new graph of labor market equilibrium and label values for the initial real wage and employment.
 - a. Draw a graph of the firm's marginal product of labor, assume a fixed value for the real wage, and describe how the firm decides how much labor to hire. How is the marginal product of labor related to labor demand?
 - b. How does an increase in total factor productivity affect labor demand? Draw this on your original graph of labor market equilibrium and label new equilibrium points.
 - c. Write the expression for potential output. How does the increase in total factor productivity affect potential output? Explain.

3. Draw a graph of goods market equilibrium (savings and investment) and label initial equilibrium values for the real interest rate and the quantities of saving and investment.
 - a. Draw a graph of the household's choice between current and future consumption and show how an increase in wealth affects the equilibrium values of current and future consumption.
 - b. How does the increase in wealth affect the saving demand curve? Explain. Draw this on your original graph of goods market equilibrium and label new equilibrium points.
 - c. How does the increase in wealth affect equilibrium investment? Explain.
 - d. How does the increase in wealth affect the capital stock today? The capital stock in the future? Explain.
 - e. Write the expression for potential output. How does the increase in wealth affect potential output today and in the future?

4. Draw a new graph of goods market equilibrium (savings and investment) and label initial equilibrium values for the real interest rate and the quantities of saving and investment.
 - a. Draw a graph of the household's choice between current and future consumption and show how an increase in current taxes (future taxes constant) affects the equilibrium values of current and future consumption.
 - b. How does the increase in taxes affect the demand for private savings? Explain. (Compare the magnitudes of the change in current disposable income with the change in current consumption.)
 - c. Assume that the increase in current taxes is matched by an increase in current government spending of equal magnitude. Write the expression for the government's intertemporal budget constraint, and show that this assumption assures intertemporal budget balance.
 - d. How does the demand for national savings change? Explain and draw on your graph. Label new equilibrium points.
 - e. How does the increase in current taxes affect equilibrium investment? Explain.
 - f. How does the increase in current taxes affect the capital stock today? The capital stock in the future? Explain.
 - g. Write the expression for potential output. How does the increase in current taxes affect potential output today and in the future?

5. Draw a new graph of goods market equilibrium (savings and investment) and label initial equilibrium values for the real interest rate and the quantities of saving and investment.
 - a. Draw a graph of the firm's marginal product of capital, assume a fixed user cost of capital, and explain what determines the firm's desired level of capital. How is the marginal product of capital related to the demand for capital?
 - b. How does the demand for capital affect investment?
 - c. How does a permanent increase in total factor productivity affect the demand for capital and investment demand? Draw on your graph and label new equilibrium points.
 - d. Write the expression relating the capital stock tomorrow to investment today. Write the expression for potential output. How does the increase in total factor productivity affect potential output today and in the future?