

## ECO2142 B

Fall 2013

Assignment #1

Due date : September 25, at the beginning of the class

1. Suppose the production function :

$$Y = AK^{0.2}L^{0.8}.$$

$K$  denotes capital and  $L$  denotes labour. Assume that capital and labour are paid their marginal products.

- Does this production function has constant returns to scale? Explain.
- What fractions of income do capital and labour receive ?
- Suppose that immigration increases the labour force by 10 percent. What happens to total output? The rental price fo capital? The real wage?
- Suppose that a gift of capital from abroad raises the capital stock by 10 percent. What happens to total output? The rental price fo capital? The real wage?
- Suppose that a technological advance raises the value of the parameter  $A$  by 10 percent. What happens to total output? The rental price fo capital? The real wage?

2. Consider an economy described by the following equations:

$$Y = C + I + G$$

$$Y = 6000$$

$$G = 1000$$

$$T = 1000$$

$$C = 250 + 0.75 (Y - T)$$

$$I = 1200 - 50 r$$

- For this economy, compute private saving, public saving, and national saving.
- Find the equilibrium interest rate.
- Now, suppose that  $G$  rises to 1,250. Compute private saving, public saving, and national saving.
- Compute the new equilibrium interest rate.

3. MA, #11, p. 77.