

Aggregate Production Function

1. Suppose the labor market is initially in equilibrium and that you are using a classical model. Holding everything else constant, Suppose that

(a) U.S. government decreases the income tax. What will result in our aggregate production level?

(b) In order to fight back terrorists, the congress has decided to increase the number of soldiers by 5%. What will result in our aggregate production level?

(c) There is a severe capital outflow from the USA to emerging markets, What will result in our aggregate production level?

2. The demand and the supply of labor in the country of Myland are:

$$L^S = w - 10$$

$$L^D = 70 - 3w$$

The aggregate production function is:

$$\text{Real GDP (in billions)} = 300 - \frac{1500}{5 + \text{Quantity of Labor}}$$

What is the real GDP, wage rate, and labor productivity corresponding to the full employment (potential output)?

Quantity Theory of Money

3. In 2005 the aggregate price level in Tropicia is 1, and real GDP is \$5000. Furthermore, suppose the money supply available in the market is \$4000.

(a) What is the velocity of money in Tropicia?

(b) In 2006 suppose the money supply increases by 50% and real GDP has increased by \$400. Given that the velocity of money is the same as in 2005, what is the new aggregate price level in Tropicia in 2006? What is the inflation rate from 2005 to 2006?

(c) Suppose the velocity of money in Tropicia changed to 1.5 in 2006 from 2005 and other things are the same as in (b). What is the new aggregate price level in Tropicia in 2006? What is the inflation rate from 2005 to 2006?

Income and Saving

4. Tropicia is a closed economy.

(a) Mark, a resident in Tropicia, made \$30,000 last year. After paying \$6000 tax, he spent \$18,000 as consumption. How much did Mark save for the last year?

(b) Suppose in 2006 the total national income in Tropicia was 6 trillion, among which 3.5 trillion was used for consumption, and the government collected 0.5 trillion tax. How much was saved in 2006?

(c) Continued from (b), if government spending was 1 trillion, what was the private investment of Tropicia in 2006?

In closed economy, Real GDP=National Income= $Y=C+I+G$