

EXERCISE 3

MARKET EQUILIBRIUM

October 9, 2018

1. Suppose that in a market, the following demand and supply functions are identified:

$$\text{Demand: } P = 200 - 2Q^D$$

$$\text{Supply: } P = 6Q^S$$

- (a) What is the equilibrium price and quantity?
(b) How would the market react if the government would introduce a price floor of $P = 96$? What if it would introduce a price ceiling of $P = 96$?
2. Consider a market characterised by the following supply and demand functions

$$Q^D = 30 - P$$

$$Q^S = 20 + 4P$$

- (a) Determine the equilibrium price and quantity.
(b) What price would induce a shortage of 10 units?
(c) What price would induce a surplus of 10 units?
3. The market for a specific good is characterised by the following supply and demand:

$$\text{Demand: } Q^D = 1000 - P$$

$$\text{Supply: } Q^S = P - 200$$

- (a) Draw the corresponding supply and demand curve and find the equilibrium graphically.
(b) Suppose that the government introduces a price ceiling of $P_{\max} = 500$. How would the market react (price and quantity)?
(c) If the government would introduce a maximum quota (maximum quantity supplied) of $Q_{\max} = 300$. What would be the situation in the market (price and quantity)?
(d) Compare these two procedures.
4. Given the following supply and demand functions

$$\text{Demand: } Q^D = 10000 - 1000P$$

$$\text{Supply: } Q^S = 1000P$$

- (a) What is the equilibrium of this market?
(b) The state levies a tax of \$2 per unit sold on the producers. Determine the effects of this tax on the market.
(c) Specify the impact of the tax on sellers and buyers.
(d) Represent the new situation graphically.