Homework Exercises 6: Market Efficiency

Question 1

The table below shows weekly demand and supply for bottled water in city:

Price ($)	Quantity Demanded	Quantity Supplied
1.10	8000	0
1.15	7000	1000
1.20	6000	2000
1.25	5000	3000
1.30	4000	4000
1.35	3000	5000
1.40	2000	6000
1.45	1000	7000
1.50	0	8000

a. Draw the supply and demand curves for bottled water using the data above. Mark the equilibrium price and quantity.
b. On your graph, identify the areas representing consumer surplus and producer surplus at equilibrium.
c. Calculate the dollar value of consumer surplus, producer surplus, and the total surplus at equilibrium.
d. Suppose the government imposes a **price ceiling** of $1.20 per bottle. Calculate the consumer surplus, producer surplus, total surplus and the deadweight loss created by the price ceiling.

Question 2

Consider the market for rubber bands.

a. Suppose supply of rubber bands is very elastic and demand is very inelastic. If the government puts a sales tax on rubber bands, who, consumers or producers, bears most of the tax burden? Use concepts of consumer surplus and producer surplus to explain.
b. Suppose supply of rubber bands is very inelastic and demand is very elastic. Who bears most of the tax burden in this scenario? Compare with your answer in (a).

Question 3

Many people, violating copyright laws, download songs and movies for free using file-sharing services.

a. Does file sharing increase the consumer surplus for existing songs? Illustrate your answer with a demand curve.
b. What is the effect of file sharing on producer surplus for music makers? What long-run impact could this have on the music industry?

Question 4

The Scottish government were determined to cut down alcohol consumption. In 2018, the government introduced a minimum price for alcohol of 50p (US$0.70) per unit (about half a pint of beer). Because the demand for alcohol is very price inelastic, it gave some drinks makers and retailers reason to celebrate surprisingly[1].

a. With an aid of the supply and demand diagram, discuss the impact of the price floor. Why might drinks makers and retailers benefit from this policy?
b. Discuss the impact on consumer surplus and producer surplus.

[1] Source: Bottom's up, *The Economist*, 1 March, 2018.

Question 5

In May 2020, the Italian government set a maximum price of €0.50 per mask to prevent speculation during the COVID-19 pandemic. However, manufacturers and retailers argued that the ceiling price was too low.

a. Explain, using a supply and demand diagram, the effects of the government-imposed price ceiling of €0.50 per mask.
b. Analyze the effects of the price ceiling on welfare (consumer surplus, producer surplus, and deadweight loss).

Question 6

In most countries, it is illegal for individuals to buy or sell body parts, such as kidneys[2]. Some are donated, but selling is banned.

a. Draw a supply and demand diagram for kidneys market. On your graph, show the legal market price (zero) and the quantity supplied of kidneys.
b. Some argue that legalizing kidney sales would improve outcomes for both buyers and sellers.

> "With proper regulation, a kidney market would be a big improvement over the current sorry state of affairs. Sellers could be checked for disease and drug use, and cared for after operations… Buyers would get better kidneys, faster. Both sellers and buyers would do better than in the illegal market, where much of the money goes to middlemen."

Do you agree with this argument? Should the government treat kidney like other goods and allow market to determine the price?

[2] Source: Psst, wanna buy a kidney?, *The Economist*, 18 November, 2006.