

EXPERIMENTAL ECONOMICS

LAB REPORT #2

*Due Tuesday, February 18, 2025, in paper form at the beginning of your class.
Late submissions will **NOT** be accepted.*

In class, we simulated a market where 15 buyers and 10 sellers traded simultaneously. According to the experimental instructions (uploaded on Fenix), a seller begins by choosing the quality grade and the price at which the seller's unit(s) are offered for sale. Sellers can offer at most two units. The grade can be 1, 2 or 3; a higher grade costs more to produce and is worth more to buyers. The table below shows the **costs** of different grades (all sellers face the same costs). Unsold units are not produced and hence incur no cost.

	grade 1	grade 2	grade 3
seller cost of 1 st unit	\$1.40	\$4.60	\$11.00
seller cost of 2 nd unit	\$2.40	\$5.60	\$12.00

For the first 5 periods (rounds) buyers are given the chance to purchase from one of the sellers **at the grade and price listed**. Each buyer demands only one unit of the product, and all buyers have the same valuations. The value to the buyer depends only on the quality grade, not on whether it is the seller's first or second unit offered in the period.

Buyer values: \$4.00 for **grade 1**, \$8.80 for **grade 2**, and 13.60 for **grade 3**.

A buyer's earnings are calculated as the difference between the value and the purchase price:

$$\text{Buyer earnings} = \text{value for grade purchased} - \text{seller's price}$$

Sellers earn money by making one or more sales at a price that is above the cost of the unit. A seller's earnings are calculated as **the sum of the earnings** on the units actually sold:

$$\text{Seller earnings per unit sold} = \text{sale price} - \text{cost of that unit sold (depending on the grade)}$$

1. Draw the demand and supply curves separately for each grade in a single graph. Please draw big, and also label and tick the axes.
2. Based on the unit costs and buyers' values compute the total surplus for each grade level.
3. Compare the equilibrium profits for each grade.

4. Consider an increase in the cost for each seller's first unit for grade 2 of \$0.25. Fill the gaps in the following sentence:

The profits for grade 2 compared to the profits for other grades will _____ (decrease/increase). The equilibrium grade is _____ (one/two/three). The convergence to the equilibrium in the experiment might be _____ (the same/slower/faster).

Now let's look at what happened in the experiment. For this lab report use the file "Lab experiment – Lemon market.xlsx" located on Fenix.

5. For the first five periods, compute the **average price** and the **market efficiency**.

Round	Average price	Efficiency
1		
2		
3		
4		
5		

6. How many **units were sold** and what was the **average quality provided** in each period?

Round	Average grade	Quantity
1		
2		
3		
4		
5		

7. In periods 6-10, buyers were not informed about the quality grade. What were the consequences? (Hint: repeat Questions 5 and 6 for rounds 6-10 and comment on the dynamics of price, quality, quantity, and efficiency in both treatments).

Round	Average price	Efficiency	Average grade	Quantity
6				
7				
8				
9				
10				