

EC201: Principles of Macroeconomics

In-class worksheet 4

Fall 2021

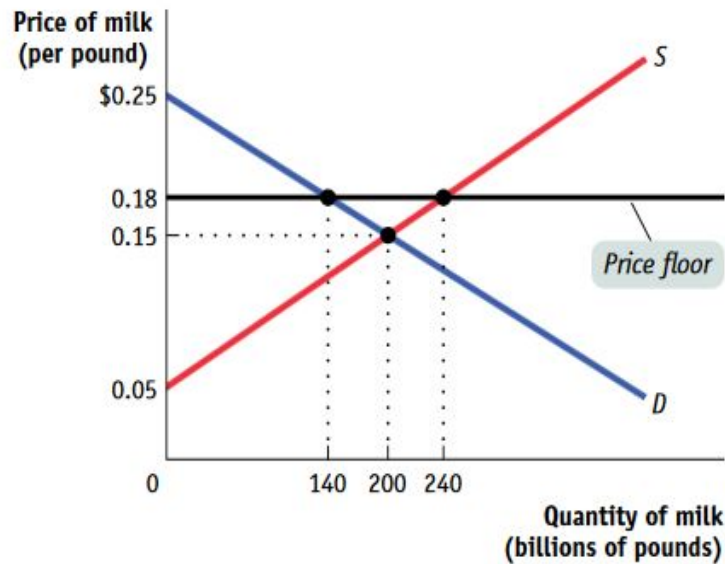
Q1. In order to ingratiate himself with voters, the mayor of Southampton City decides to lower the price of taxi rides. Assume, for simplicity, that all taxi rides are the same distance and therefore cost the same. The accompanying table shows the demand and supply schedules for taxi rides.

Fare (per ride)	Quantity of rides (millions per year)	
	Quantity demanded	Quantity supplied
\$7.00	10	12
6.50	11	11
6.00	12	10
5.50	13	9
5.00	14	8
4.50	15	7

1. Assume that there are no restrictions on the number of taxi rides that can be supplied (there is no medallion system). Find the equilibrium price and quantity.
2. Suppose that the mayor sets a price ceiling at \$5.50. How large is the shortage of rides? Illustrate with a diagram. Who loses and who benefits from this policy?
3. Suppose that the stock market crashes and, as a result, people in Southampton City are poorer. This reduces the quantity of taxi rides demanded by 6 million rides per year at any given price. What effect will the mayor's new policy have now? Illustrate with a diagram.

4. Suppose that the stock market rises and the demand for taxi rides returns to normal (that is, returns to the demand schedule given in the table). The mayor now decides to ingratiate himself with taxi drivers. He announces a policy in which operating licenses are given to existing taxi drivers; the number of licenses is restricted such that only 10 million rides per year can be given. Illustrate the effect of this policy on the market, and indicate the resulting price and quantity transacted. What is the quota rent per ride?

Q2. In 2014, the U.S. House of Representatives approved a new farm bill establishing the Margin Protection Program (MPP) for dairy producers. The MPP supports dairy farmers when the margin between feed costs and milk prices falls below \$0.08 per pound. Assume that current feed costs are \$0.10 per pound, which means the program creates a price floor for milk at \$0.18 per pound. At that price, the quantity of milk supplied is 240 billion pounds, and the quantity demanded is 140 billion pounds. To support the price of milk at the price floor, the U.S. Department of Agriculture (USDA) has to buy up 100 billion pounds of surplus milk. The supply and demand curves in the following diagram illustrate the market for milk.



1. In the absence of a price floor, how much consumer surplus is created? How much producer surplus? What is the total surplus (producer surplus plus consumer surplus)?

2. With the price floor at \$0.18 per pound of milk, consumers buy 140 billion pounds of milk. How much consumer surplus is created now?

3. With the price floor at \$0.18 per pound of milk, producers sell 240 billion pounds of milk (some to consumers and some to the USDA). How much producer surplus is created now?

4. Do you think the government's purchase of milk from farmers will reduce the total surplus? How?