Government Intervention in the Market: Price and Quantity Controls

EC 201

Umesh Ghimire
BSC

September 16, 2021

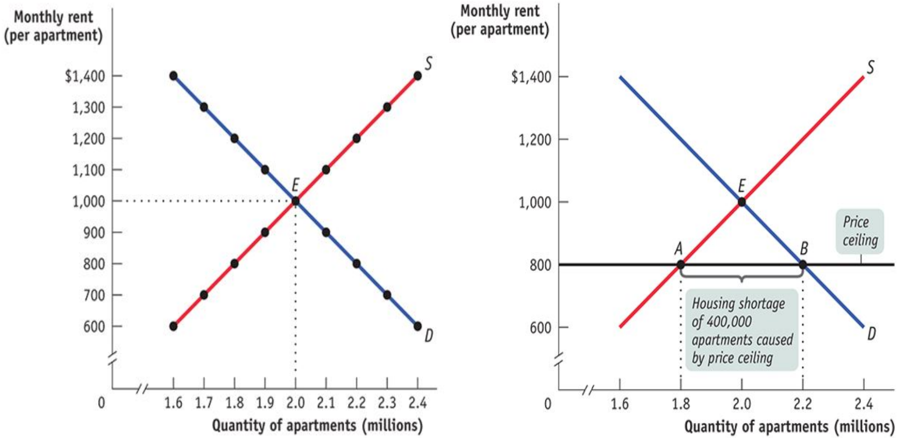
Context

1. In the last chapter we said that the interaction of demand and supply in a competitive market determines equilibrium price and quantity.
2. But that is not always the case. Sometimes, government intervenes in the market in the form of price and quantity control.
3. In this chapter we will analyze what happens when there are price and quantity controls.

Price Controls

- Price controls are legal restrictions on how high or low a market price may go. *Two forms of price controls* are:
  - **Price ceiling:** a maximum price sellers are allowed to charge for a good or service (usually set BELOW equilibrium).
  - **Price floor:** a minimum price buyers are required to pay for a good or service (usually set ABOVE equilibrium).

Price Ceiling

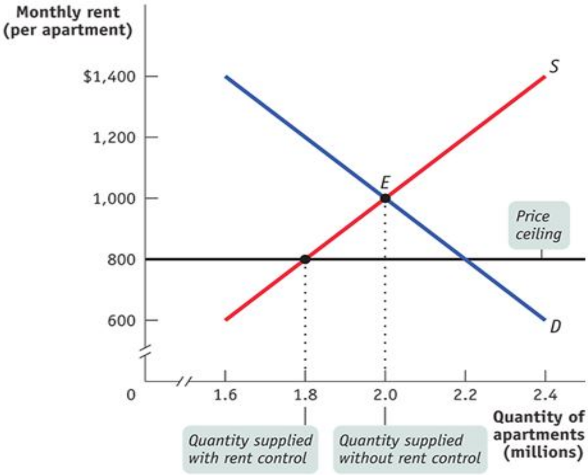


(a) Before imposing price ceiling (b) Price ceiling creates a shortage

Price ceilings cause inefficiencies

- Inefficiently low quantity
- Inefficient allocation to customers
- Wasted resources, time and effort
- Inefficiently low quality
- Black markets

Inefficiently low quantity



Buyers want to buy 2.2m apartments but only 1.8m are available even at the price ceiling. 0.2m apartments vanish from the market due to price ceiling (rent control).

Who loses and gains from rent control?

- Losers: producers, some renters who do not get apartments (think of those $0.2m$ apartments that disappeared from the market after rent control)
- Some consumers, the ones who get apartments at lower rent than the equilibrium, benefit.

Inefficient allocation to consumers

- Consumers who value a good most don't necessarily get it.
- Price controls distort signals that would help the goods get allocated their highest-valued uses.
- Universal price controls caused widespread and persistent shortages in the USSR.

Wasted resources

- Price controls that create shortages lead to bribery and wasteful lines.
- Shortages: not all buyers will be able to purchase the good.
- Normally, buyers would compete with each other by offering a higher price.
- If price is not allowed to rise, buyers must compete in other ways (waiting in line, illegal bribes and favors).

Inefficiently low quality

- At the controlled price, sellers have more customers than goods.
- In a free market, this would be an opportunity to profit by raising prices. But when prices are controlled, sellers cannot.
- Sellers respond to this problem in two ways:
  - Reduce quality
  - Reduce service
- During the price ceilings in the 1970s the full service gas stations went away!

Black markets

A black market is a market in which goods or services are bought and sold illegally—either because they are prohibited or because the equilibrium price is illegal.

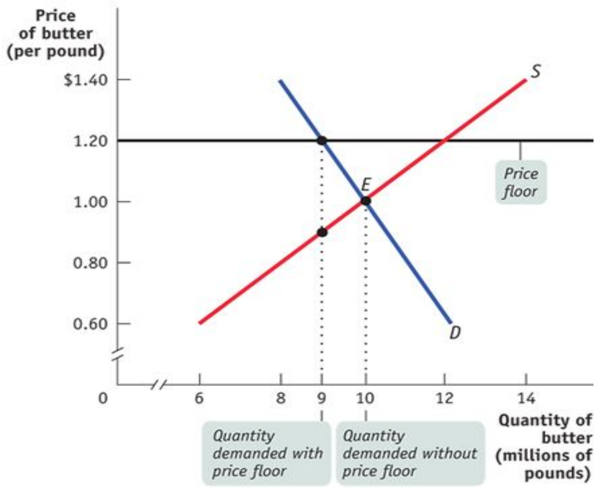
Then why do price ceilings still exist?

- They do benefit some people (who are typically better organized and more vocal than those who are harmed by them).
- If the price ceiling is longstanding, buyers may not have a realistic idea of what would happen without it.
- Government officials often do not understand supply and demand analysis.

Price Floors

- Sometimes governments intervene to push market prices up instead of down.
- Minimum wage!

Price Floors



Price Floors

In the graphs in the last slide, the equilibrium price is \$1.00. But the government imposes a price floor of \$1.20. As a result, the quantity of butter demanded falls to 9 million pounds, and the quantity supplied rises to 12 million pounds, generating a persistent surplus of 3 million pounds of butter.

Price floors lead to inefficiencies

- Inefficient allocation of sales among sellers
- Wasted resources
- Inefficiently high quality
- Temptation to break the law by selling below the legal price

Inefficient allocation of sales among sellers

Price floors misallocate sales by:

- Allowing high-cost firms to operate.
- Preventing low-cost firms from entering the industry.

Wasted resources

- Price floors encourage waste.
- For example, to deal with the surplus generated by dairy price floors, the U.S. government sometimes buys back the excess and donates or destroys it.

Inefficiently high quality

- Higher quality raises costs and reduces sellers' profit.
- Buyers get higher quality but would prefer a lower price.
- Price floors encourage sellers to waste resources:
  - higher quality than buyers are willing to pay for
  - For example, people would prefer a lower ticket price (with no food included)

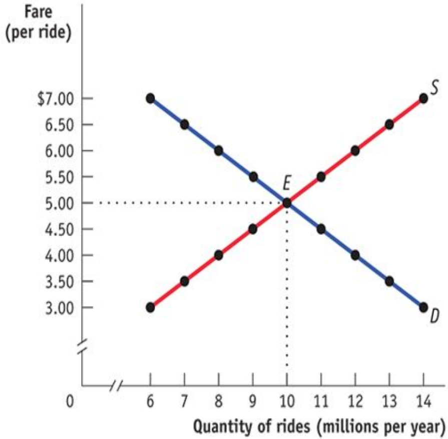
Illegal activity

- Price floors encourage black markets.
- There are willing sellers (and buyers) at illegal prices, so they are tempted to break the law and trade with each other.
- In Spain it's estimated that 1/3 of the "unemployed" have under-the-table jobs (because of high minimum wage).

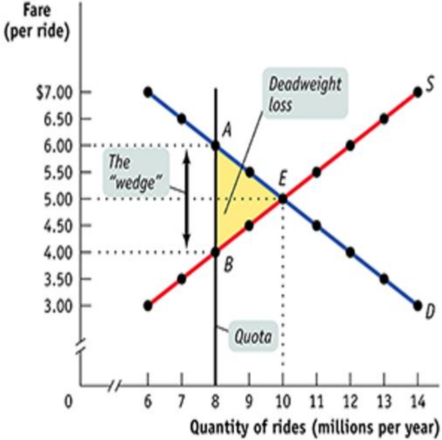
Controlling Quantities

- Governments sometimes control quantity instead of price.
- You may have heard of a **quota**, an upper limit, set by the government, on the quantity of some good that can be bought or sold; also referred to as a **quantity control.**
- One way to control quantity is via **quota limit**, the total amount of a good under a quota or quantity control that can be legally transacted.
- Another way is by **licensing**, in which the government confers a right to supply a good.

Quantity control in the Market for Taxis



(e) Before imposing quota



(f) Quota creates deadweight loss

Quantity control

The Wedge, or Quota, or rent is the difference between the demand price and the supply price at the quota limit.

- Demand price: the price of a given quantity at which consumers will demand that quantity.
- Supply price: the price of a given quantity at which producers will supply that quantity.

Costs of quantity controls

- Like price controls, quotas impose losses on society.
  - Deadweight loss
  - Incentives for illegal activities

- Imagine you are a young congressional staffer charged with collecting arguments to use for your side in Congress. You need to either
  - defend the United States' sugar import quotas or
  - attack them

Brainstorm two or more arguments you would use and be ready to share.