

ECON 101: Principles of Economics I

Lecture Note 4

University of Michigan at Ann Arbor

Last Edit Date: 01/6/2023

Disclaimer and Term of Use:

1. We do not guarantee the accuracy and completeness of the summary content. Some of the course material may not be included, and some of the content in the summary may not be correct. You should use this file properly and legally. We are not responsible for any results from using this file.
2. Although most of the content in this summary is originally written by the creator, there may be still some of the content that is adapted (derived) from the slides and codes from *Professor Mitchell Dudley*. We use those as references and quotes in this file. Please [contact us](#) to delete this file if you think your rights have been violated.
3. This work is licensed under a [Creative Commons Attribution 4.0 International License](#).

Lecture 4 Consumer and Producer Surplus

Wednesday, September 14, 2022 11:29 AM

Society and the Market

In the simplest form, the parts of society affected by the market are strictly those consumers and producers who engage in the market transaction.

- More broadly, the market can affect other individuals. More on this later...

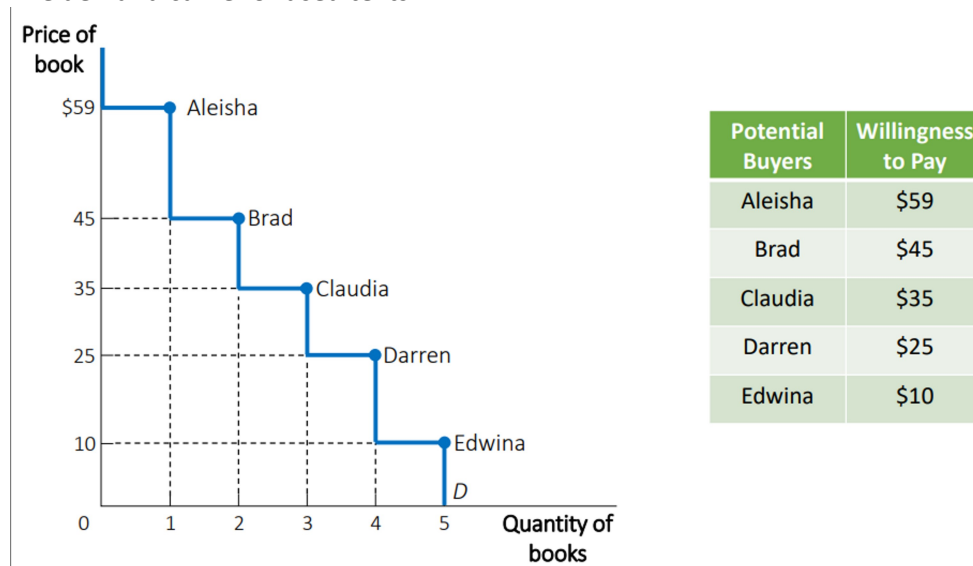
Consumers and producers benefit through excess value

- For consumers, this is called **consumer surplus**
- For producers, this is called **producer surplus**

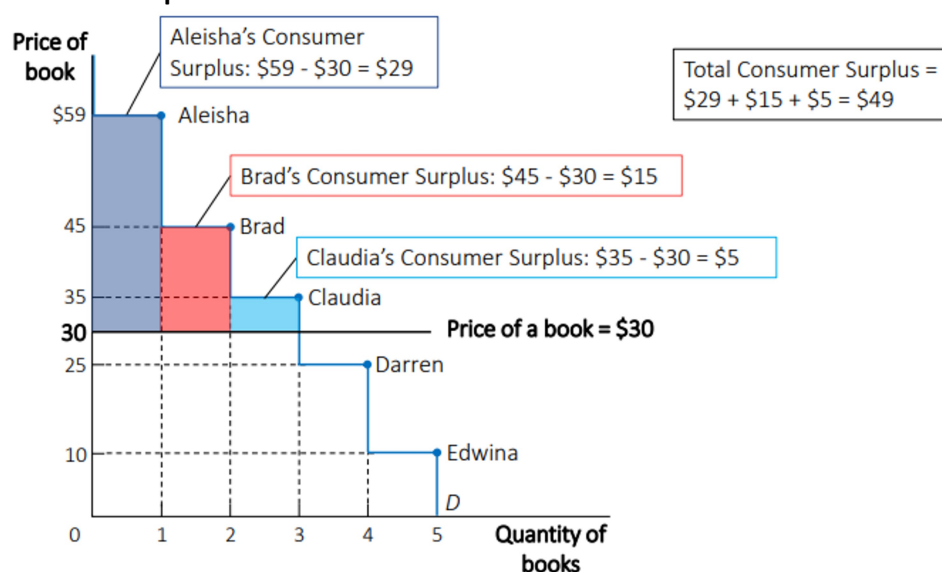
Consumer surplus and the demand curve

- Willingness to pay - the maximum price at which he or she would buy that good (WTP)
- Individual consumer surplus - net gain to an individual buyer from the purchase of a good (CS = CWTP - Price paid)

The demand curve for used texts

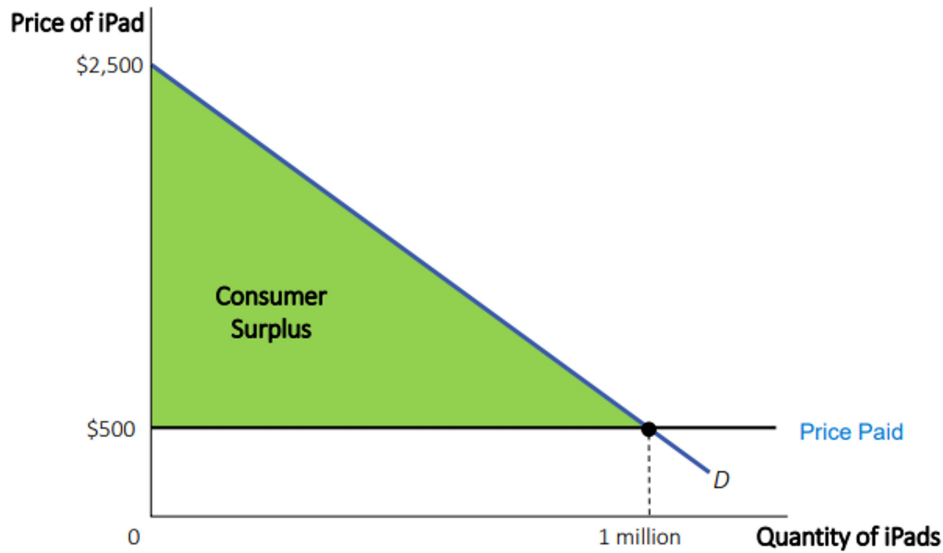


Consumer surplus in the market for used texts



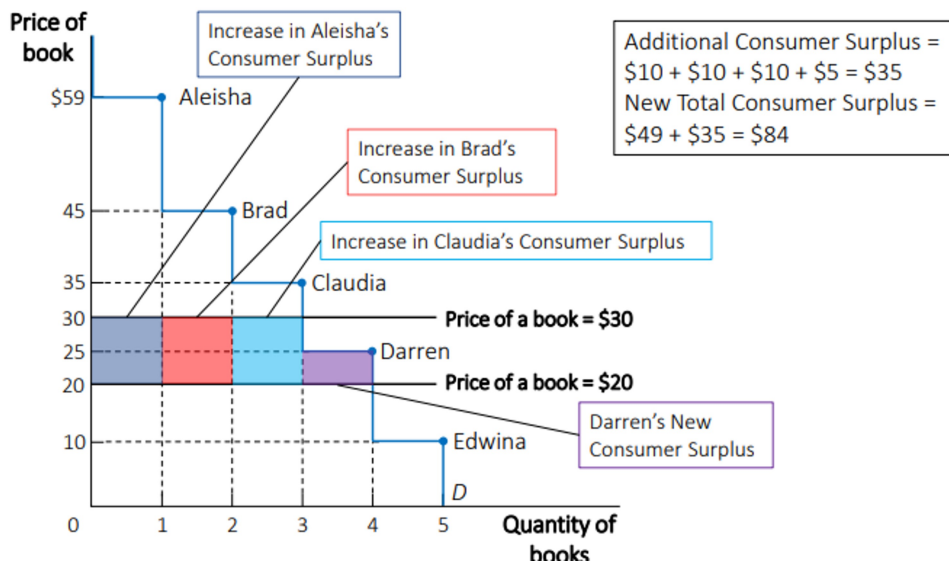
Cannot calculate the consumer surplus for people who do not pay

Consumer Surplus (iPad example)

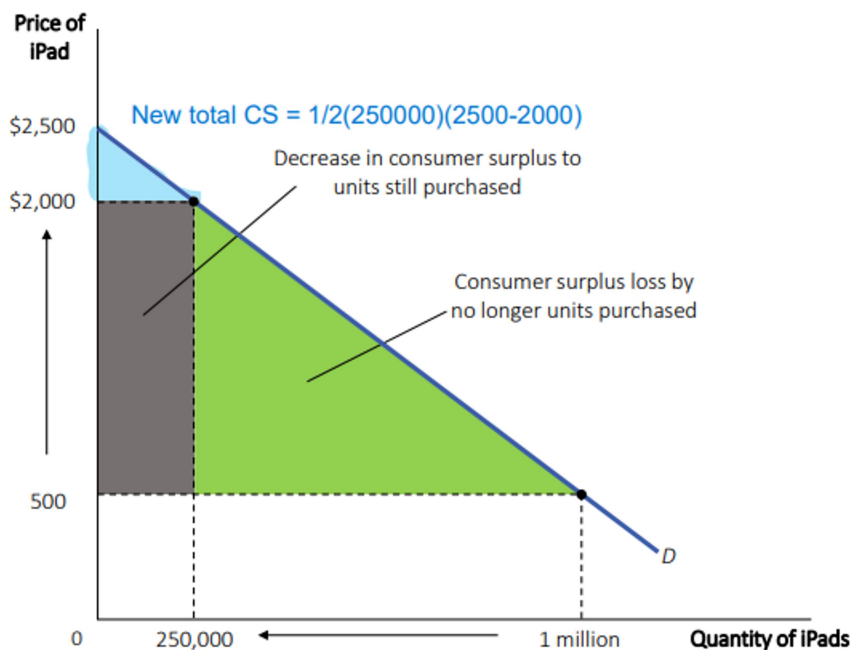


Consumer surplus is the area beneath demand and above the price paid for all units purchased
 $CS = \frac{1}{2}(1000000)(2500 - 500) = 1000000000$ in this case.

A change in the price for used texts



A rise in the market price



IMPORTANT

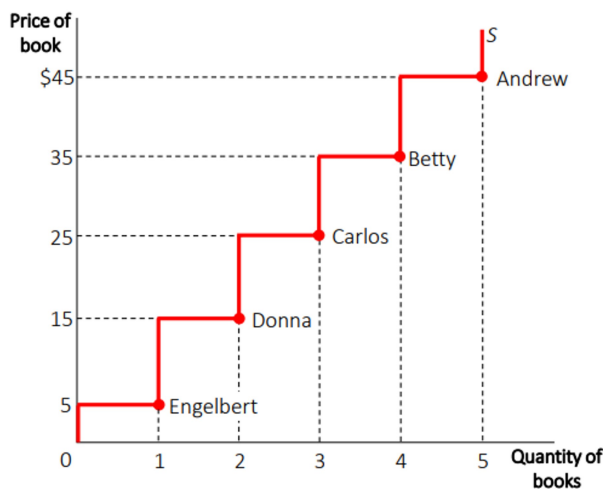
- A consumer weighs their preference, desires, and budget to determine their willingness to pay
- Willingness to pay is the monetary equivalent to expected marginal benefit associated with the good or service
- Consumer react to a price by comparing it to their willingness to pay
- A consumer buys the good if the price is less than or equal to their willingness to pay
- The sum of these purchases is quantity demanded
- Consumer surplus measures the marginal net benefits consumers receive when purchasing goods or services
- This is the difference between willingness to pay and price for all consumers who purchase the good or service.

Producer surplus and the supply curve

A potential seller's marginal cost is the lowest price at which the seller is willing to sell a good.

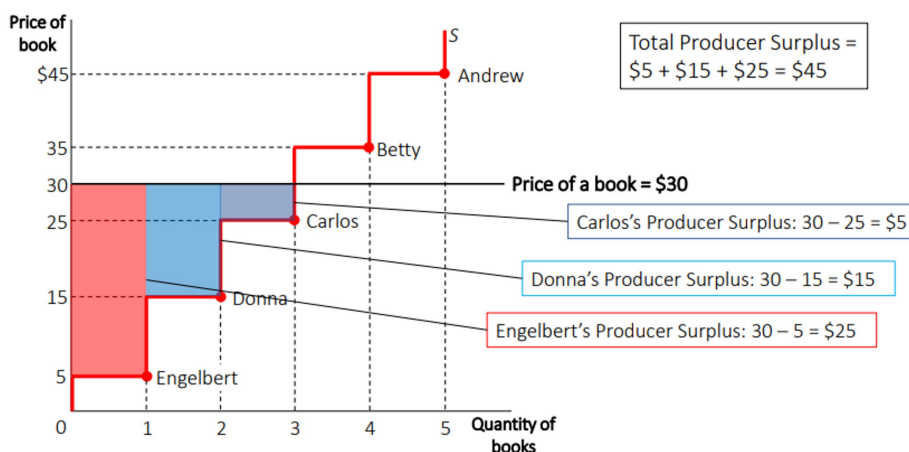
- **Individual producer surplus** - the net gain to a seller from selling a good (Price received - marginal cost)
- **Total producer surplus** - the sum of the individual producer surpluses of all the seller of a good

The supply curve for used texts



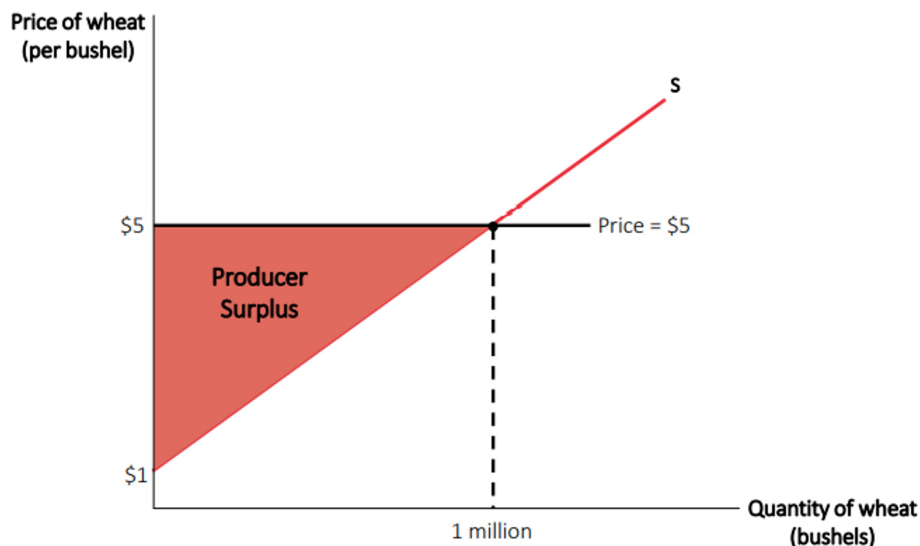
Potential Sellers	Marginal Cost
Engelbert	\$5
Donna	\$15
Carlos	\$25
Betty	\$35
Andrew	\$45

Producer surplus in the market for used texts



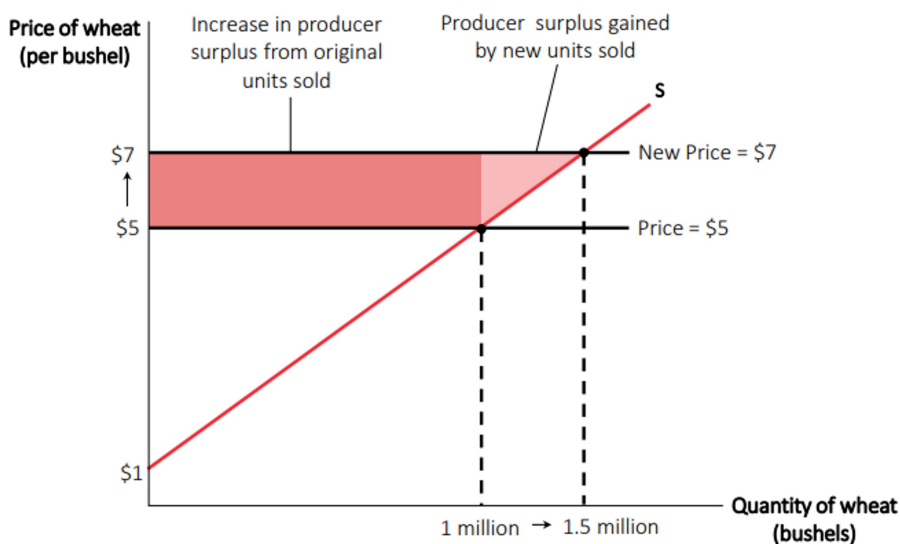
Cannot calculate the producer surplus for people who do not want to sell
Total consumer and producer surpluses usually not equal.

Producer surplus (producer surplus is the area beneath the price received and the supply curve for all units sold.)



$$PS = \frac{1}{2}(1 \text{ million})(5-1)$$

A rise in the price



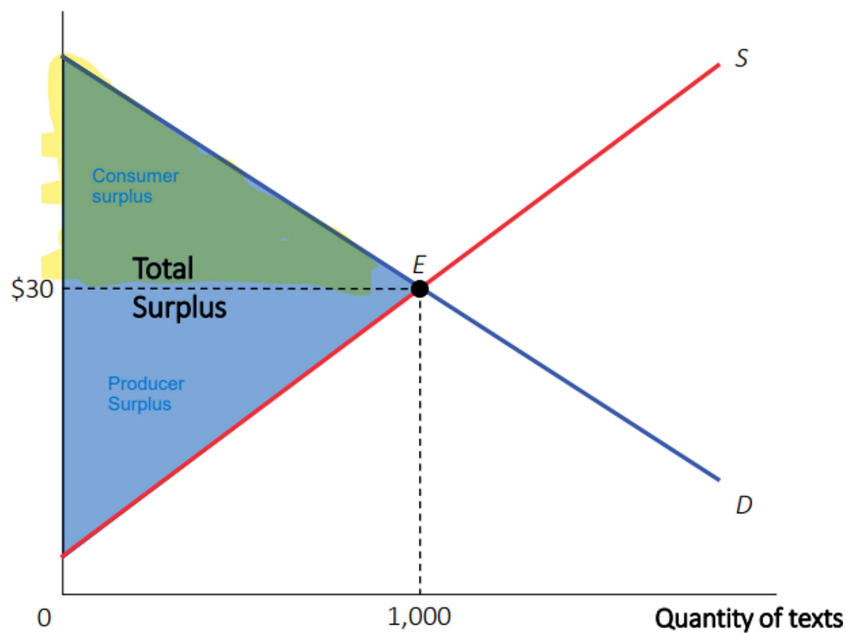
Putting it together: Total surplus

Total Surplus: total net gain to individuals, typically consumers and producers, affected by trading in the market. (Society net gain from the market)

For our purposes right now:

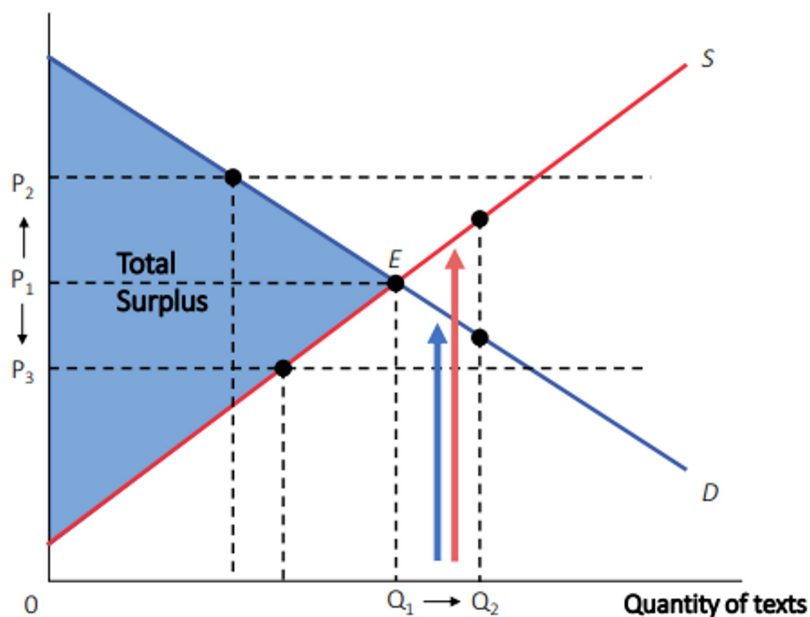
Total surplus = consumer surplus + producer surplus

Price of a text



The efficiency of equilibrium

Price of a text



Simple assumption: Consumers and producers are only parts of the society affected.

If increases the price, the total surplus decreases

If decreases the price, the total surplus decreases

If increases quantity, the total surplus decreases

If decreases quantity, the total surplus decreases

Efficiency in the market occurs where total surplus is maximized, given that consumers and producers are only parts of the society affected, then we often expect this to occur at equilibrium.

Efficiency and the market

- Should we always pursue efficiency?
 - Efficiency does not guarantee everyone is receiving their best possible outcome.
- Does the market always achieve efficiency?
 - Market failure: A setting where the market fails to be efficient on its own (no outside intervention).
 - Externalities

- Market power
- Non-private goods
- Total Surplus from a market is the overall net gain generated by that market.
 - For our purposes right now, this is the sum of consumer surplus and producer surplus
- Efficiency occurs when total