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Consumers, Producers, and the Efficiency of Markets

PRINCIPLES OF ECONOMICS FOURTH EDITION

N. GREGORY MANKIW

PowerPoint® Slides
by Ron Cronovich

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Chapter 7 in Mankiw

$$CS + PS = TS$$

In this chapter, look for the answers to these questions:

- What is consumer surplus? How is it related to the demand curve?
- What is producer surplus? How is it related to the supply curve?
- Do markets produce a desirable allocation of resources? Or could the market outcome be improved upon?

Welfare Economics

- Recall, the **allocation of resources** refers to:
 - How many of each good is produced
 - who produce it
 - who consume it
- **Welfare economics:**
the study of how the allocation of resources
affects economic well-being
- First, we look at the well-being of consumers.

Willingness to Pay (WTP) = *Reservation Price*

A buyer's **willingness to pay** for a good is the maximum amount the buyer will pay for that good.

WTP measures how much the buyer values the good.

name	WTP
Bob	\$250
Cindy	175
Anny	300
Danny	125

Example:
4 buyers' WTP
for an iPod

$$WTP = 500$$

$$P = 200$$

$$\begin{aligned} CS &= WTP - P \\ &= 500 - 200 \\ &= 300 \text{ Bsht} \end{aligned}$$

WTP and the Demand Curve

Q: If price of iPod is \$200, who will buy an iPod, and what is quantity demanded?

A:

$Q = 2$ (Anny, Bob)

name	WTP
Bob	\$250
Cindy	175
Anny	300
Danny	125

IF $WTP \geq P$, consumer decides to buy

IF $WTP < P$, consumer decides not to buy

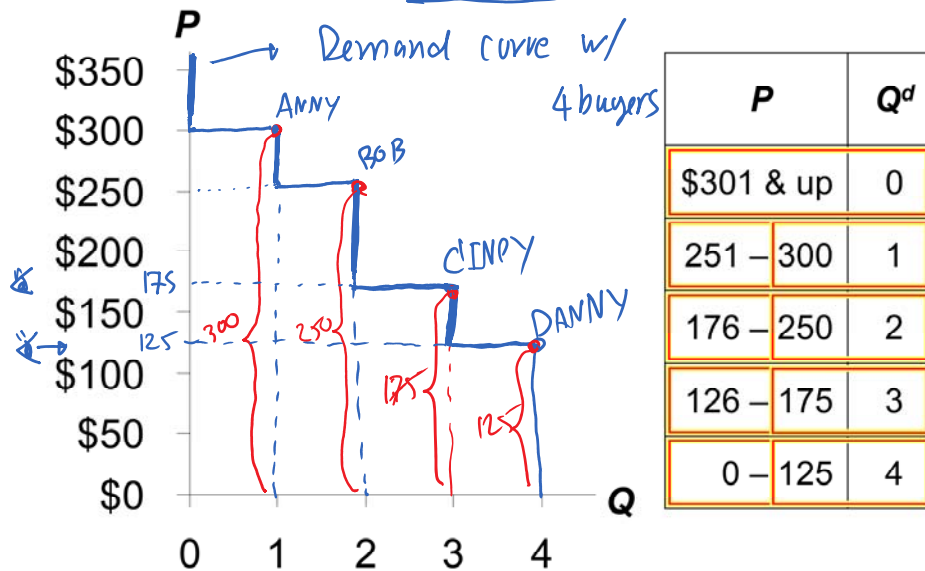
WTP and the Demand Curve

Derive the demand schedule:

name	WTP
Bob	\$250
Cindy	175
Anny	300
Danny	125

P (price of iPod)	who buys	Q^d
\$301 & up	NONE	0
251 – 300	ANNY	1
176 – 250	ANNY & BOB	2
126 – 175	ANNY & BOB & CINDY	3
0 – 125	A, B, C, D	4

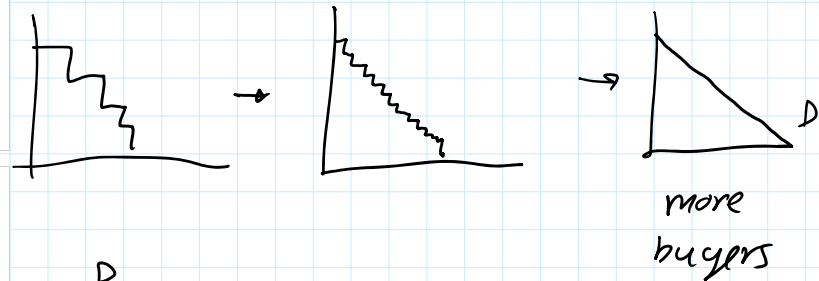
WTP and the Demand Curve



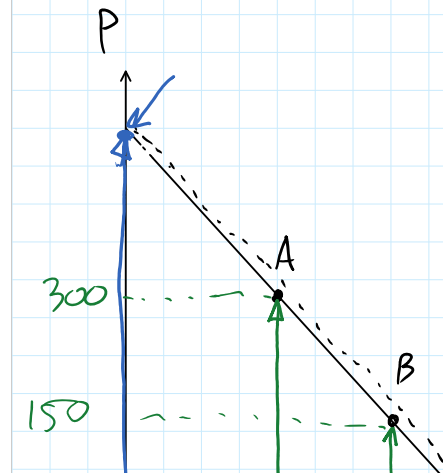
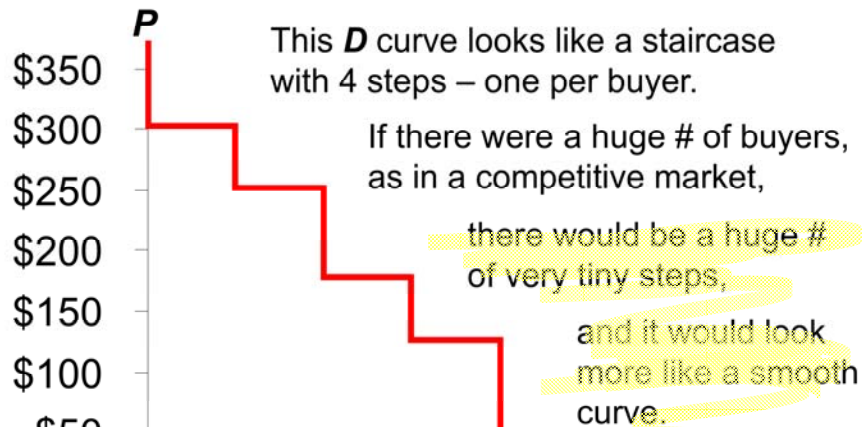
CHAPTER 7 CONSUMERS, PRODUCERS, EFFICIENCY OF MARKETS

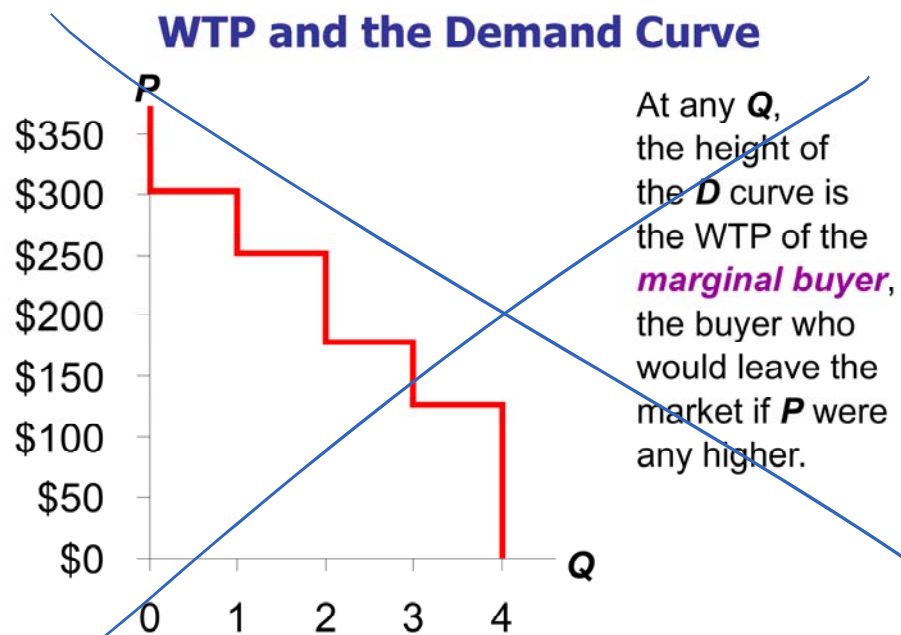
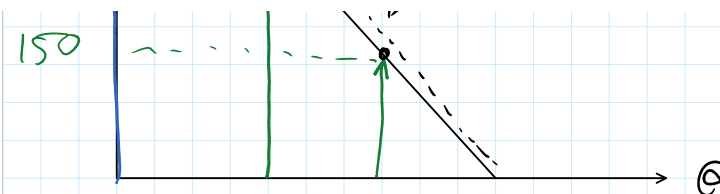
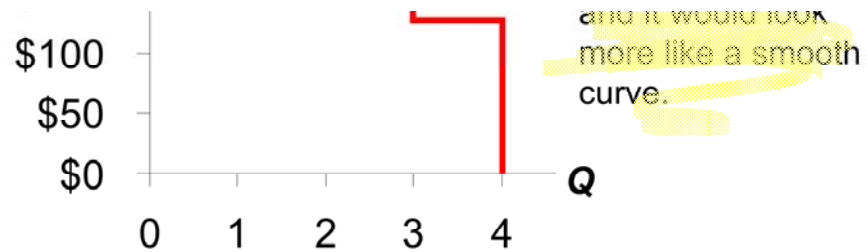
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WTP = height of the demand curve from the ground to the roof of the curve where the buyer stands.



About the Staircase Shape...





Consumer Surplus (CS)

Consumer surplus is the amount a buyer is willing to pay minus the buyer actually pays:

$$CS = WTP - P$$

name	WTP
Bob	\$250
Cindy	175
Anny	300
Danny	125

Suppose $P = \$260$.

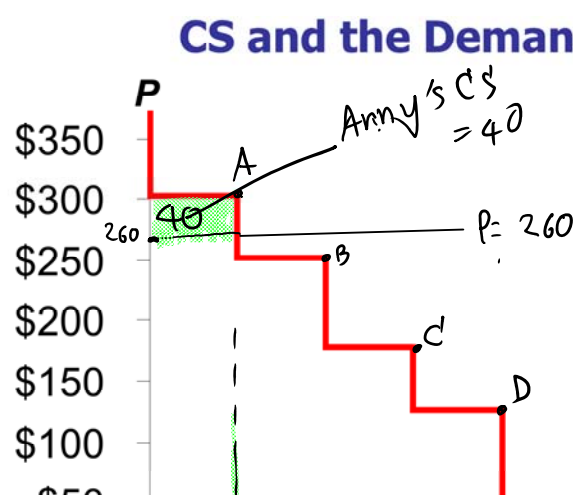
Anny's CS = $WTP - P = 300 - 260 = 40 \$$

The others get no CS because

..... they do not purchase yet at this given price.

.....
Total CS = $40 + 0 + 0 + 0 = 40 \$$

CS and the Demand Curve



$P = \$260$

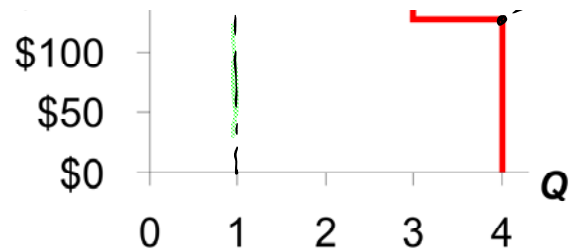
Anny's CS =

Total CS =

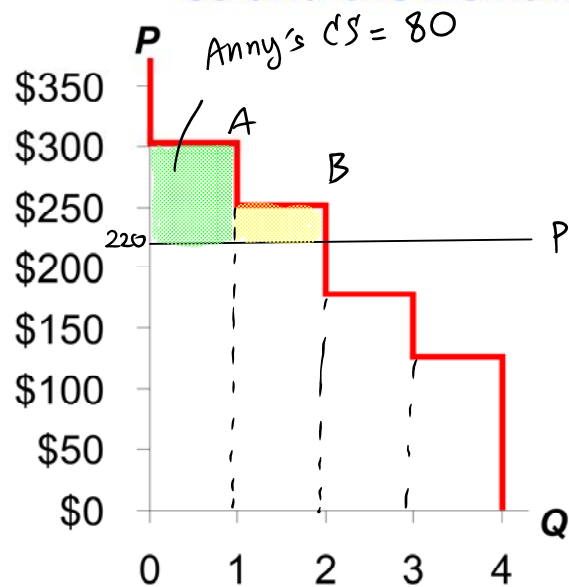
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$$\begin{array}{c}
 \text{WTP} \quad \quad \quad P \quad \quad \quad CS \\
 \uparrow \quad \quad \quad \uparrow \quad \quad \quad \uparrow \\
 300 - 260 = 40 \\
 \text{Anny's CS} \quad \quad \text{Bob's CS} \quad \quad \text{Cindy's CS} \quad \quad \text{Panny's CS}
 \end{array}$$

.....
Total CS = $40 + 0 + 0 + 0 = 40 \$$



CS and the Demand Curve



Instead, suppose

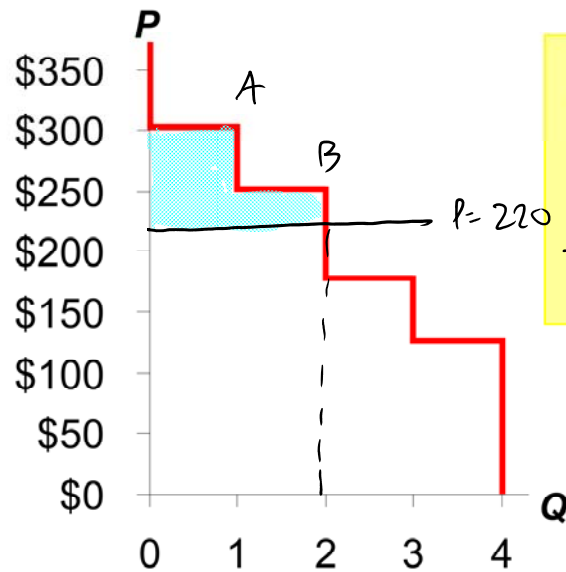
$P = \$220$

$$\text{Anny's CS} = 300 - 220 = 80 \$$$

$$\text{Bob's CS} = 250 - 220 = 30 \$$$

$$\text{Total CS} = 80 + 30 + 0 + 0 = 110 \$$$

CS and the Demand Curve



The lesson:
Total CS equals
area under
the demand
curve
but above the price level

For a smooth demand curve
TOTAL CS = sum of all buyers' CS!

