

Lecture 9. Consumer Choice and Consumer Welfare

Hard to find good references for Consumer Surplus
Register your clicker on Blackboard.
Exam score available this weekend.
It's not so bad if your score isn't good.
Tell your parents about bad scores!



Clicker Question

When the price of sugar increases by 5%, the quantity of molasses supplied increases by ????. The cross-price elasticity ...

Consumer Choice

- How do consumers decide what to purchase?
 - Primarily a question of psychology.

- But economists traditionally have used models of “rational, self-interested consumers”:
 - The traditional models do not include the psychological factors that guide consumers,...
 - but traditional models have been useful for predicting consumer demand.
- Nowadays, many economists work in the field of **behavioral economics**, which incorporates economics and psychology.
- Business schools teach **behavioral finance**.

Classical Model of Consumer Choice

- **According to the classical model**, people consume in order to get **satisfaction** or **utility**.
- Different quantities of various goods and services provide different amounts of utility.
- Rational people want to purchase a combination of goods and services that will **maximize their utility**...
- ...within the constraints (limits) imposed by their **income and wealth**.
- (Economists also use the **neoclassical model**, which is more abstract and may be misleading.)

Maximizing Utility

- Suppose a consumer has a fixed income that she can spend.
- If she wants to maximize her utility, then she must think “at the margin.”
- She will try to get the most utility from dollar after dollar.

- She will probably spend the first part of her income on basics: food and shelter.
- The next part of her income may be spent on comfort.
- If she has income remaining, she may purchase luxuries.

- The same idea applies to additional units of the same good.
 - The first units are applied to the most important uses.
 - Subsequent units increase comfort.
 - Additional units are often a luxury.
- ***Still more, though, can make you worse off.***

Emily's Utility from Juice

Juice (Q)	Marginal Utility* (MU)	Total Utility (U)
0		0
1	60	60
2	40	100
3	30	
4	20	
5	10	
6	-10	

All numbers were made up by your instructor.

*Marginal Utility (MU) is the utility the consumer gets from a unit of consumption with preceding consumption taken into account.

Utility and Willingness to Pay

- The **marginal utility (MU)** that a consumer receives from a unit of a good is difficult to observe...
- because MU is a measure of satisfaction, a psychological state.
- However, consumers are **willing to pay** for a good because of the utility and welfare it creates.
- The **willingness to pay (WTP)**, which is the **maximum** amount a consumer is willing to pay for a good, is a monetary measure of utility and welfare.
- Economists like to use WTP, because we can observe payments and compute WTP from marketplace data.
- We will use WTP to discuss the relation between the **demand curve** and **consumer welfare**.

WTP Review

- Suppose you are thinking of buying a good.
 - If $WTP = \$60$, you would not be willing to pay \$61.
 - But you are willing to pay \$60 or less than \$60.
 - In particular, if the price of the good is only \$12, you would be delighted to buy it.
- Describing this situation, economists would say:
 - Your *willingness to pay* = \$60.
 - The *price* = \$12.
 - Your *consumer surplus* = \$48.

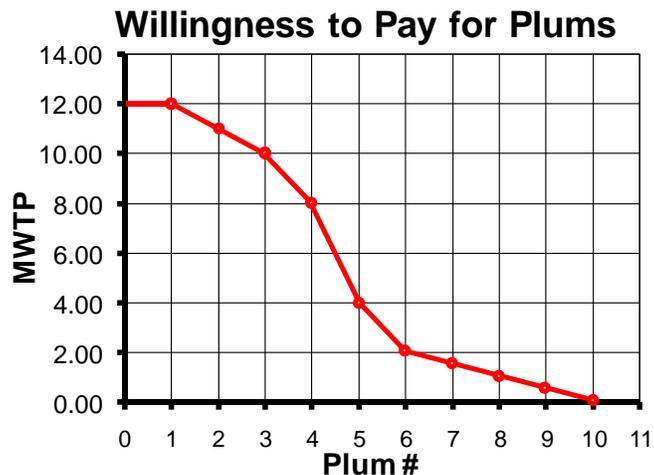
Clicker Question

If the willingness to pay is \$120 and the price is _____ then, how much consumer surplus will the rational consumer obtain?

Marginal Willingness to Pay

■ Suppose Emily is willing to pay the following for each plum:

- 1st 12
- 2nd 11
- 3rd 10
- 4th 8
- 5th 4
- ...



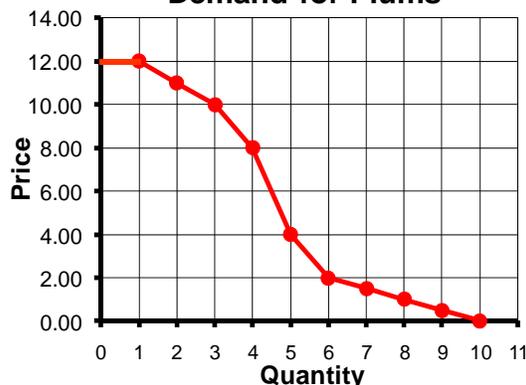
■ These numbers are Emily's marginal willingness to pay (MWTP) for plums.

Graph of Willingness to Pay



■ Does this curve look familiar?

■ It's exactly the same *curve* as the demand curve!

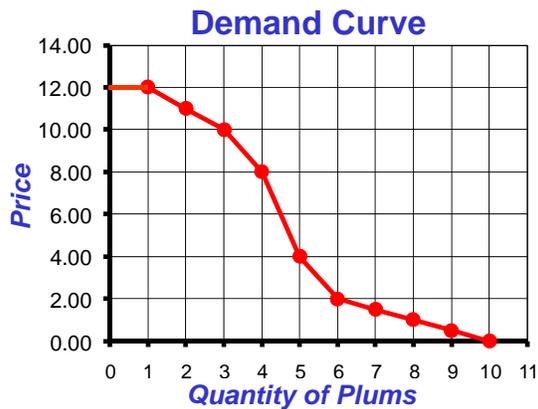


● If the price were \$12, how many plums would Emily buy?

● How many at \$11?

● How many at \$10?

■ ***If we know WTP, then we know demand.***



■ For the *demand curve*...

- The *price* (vertical axis) is the independent variable.
- The *quantity of plums* (horizontal axis) is the dependent variable.

■ The demand function and the WTP function are **inverses**.

■ Utility creates the WTP, and WTP can be used to construct demand.

■ Yes, the WTP curve is exactly the same **curve** as the demand curve. But the **functions** are different.

■ For the WTP curve...

- The plum # (*horizontal axis*) is the independent variable.
- The MWTP for that plum (*vertical axis*) is the dependent variable.

WTP for several units

■ How much is Emily willing to pay for a grocery bag with exactly 5 plums in it (if she begins with no plums)?

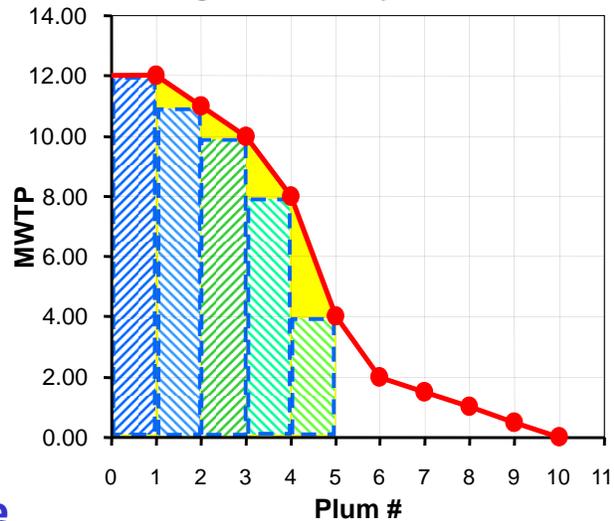
■ We could find out by adding up her MWTP for each of the first five plums:

$$\begin{array}{r}
 \bullet \text{ 1}^{\text{st}} \quad 12 + \\
 \bullet \text{ 2}^{\text{nd}} \quad 11 + \\
 \bullet \text{ 3}^{\text{rd}} \quad 10 + \\
 \bullet \text{ 4}^{\text{th}} \quad 8 + \\
 \bullet \text{ 5}^{\text{th}} \quad \underline{4} \\
 \hline
 45
 \end{array}$$

- We can also see the WTP for 5 plums on the graph.

● 1 st	12	+
● 2 nd	11	+
● 3 rd	10	+
● 4 th	8	+
● 5 th	<u>4</u>	
	45	

Willingness to Pay for Plums



- Total WTP for 5 units is approximately the **area** under the **demand curve** up to the **5th** unit.

- For divisible goods, the little yellow triangles would be filled in.

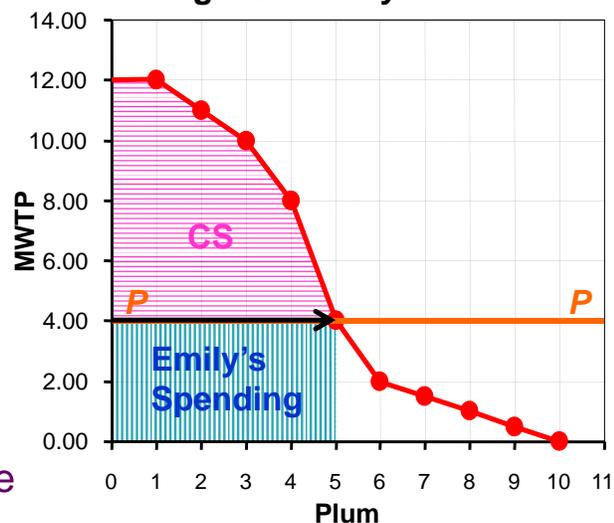
- The same rule applies to any other number of units.

Consumer Surplus and Demand

- Suppose the price is **$P = \$4$** .

- Then Emily's demand curve implies she will want to buy 5 plums.
- Her WTP for 5 plums is \$45.
- But at \$4 each, Emily will have to spend only \$20 on plums.
- The difference between the WTP and the expenditure, in this case \$25, is the **consumer surplus (CS)** that **Emily** retains.

Willingness to Pay for Plums



Clicker Question

Emily is willing to pay the following for each lobster:

1 st	12
2 nd	11
3 rd	10
4 th	8
5 th	4

If the price of lobsters is _____

How accurate is WTP as a Measure of Utility and Consumer Welfare?

- Consumers buy things to obtain utility (satisfaction), which creates welfare.
- But consumers' WTP for goods may not always correspond to the utility the goods create.
 - Poor consumers may not be willing to pay as much as the rich for goods with the same utility to each of them.
 - Goods have unknown characteristics.
 - Utility depends on preferences* (or tastes), but people may not know their own preferences.
 - Consumers are sometimes willing to pay for goods that predictably lower their welfare.
 - Preferences change over time.

**Preferences describe what a person wants or desires, or what combinations of goods a person prefers to other combinations.*

- Consumers are sometimes *willing to pay* for goods that predictably lower their welfare.
 - The consumers may be self-destructive.
 - Or they may yield to temptation.

- Preferences and WTP change over time.
 - “I started to smoke, because ...
 - “When I first tried caviar, I said ...
- This means that WTP may reflect a consumer’s welfare in the short run, but not in the long run.

- *In spite of these problems, WTP and demand are often useful, for example, when...*
 - explaining how prices and incomes affect the choices that consumers make, and
 - predicting prices and quantities transacted.
- WTP and demand predict what people will do, even if they don't accurately predict the welfare obtained.
- **Examples:**
 - How will an increase in the price of cigarettes affect teenage smoking? teenage drinking?
 - How will an increase in the price of gasoline affect the kind of cars people buy?

Clicker Question

WTP may not be an accurate measure of welfare, because...

End of File