Economics 101 – Section 5

Lecture #11 – February 19, 2004

Consumer Choice
Indifference Curves

Pizza				Beer			
Quantity	Utility	Marginal Utility (of last unit)	Marginal Utility per dollar spent (of last unit)	Quantity	Utility	Marginal Utility (of last unit)	Marginal Utility per dollar spent (of last unit)
4 Slices	115	-	-	5 Cans	63	-	-
5 Slices	135	20	20	6 Cans	75	12	24
6 Slices	154	19	19	7 Cans	86	11	22
7 Slices	171	17	17	8 Cans	96	10	20

Outline

- Recap on consumer behavior and optimization
- Deriving the demand curve
- Note omit pages 136-138 in text
- From individual to market demand
- Indifference curves

Consumer decision making

- Where are consumers going to be the best off?
- What is the best mix between the different goods at the different prices?
- To determine what is the optimal we need to look at the marginal effects
  - That is, where is the marginal benefit (marginal satisfaction) of the next unit of consumption of one good is equal to the marginal benefit of another good while taking into consideration the different prices

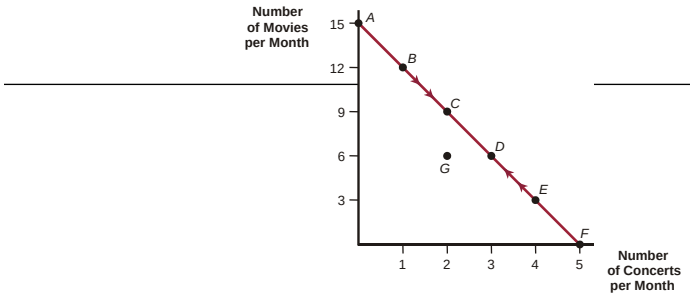
- Specifically

$$\frac{\text{Marginal Utility}_x}{P_x} = \frac{\text{Marginal Utility}_y}{P_y}$$

Consumer decision making

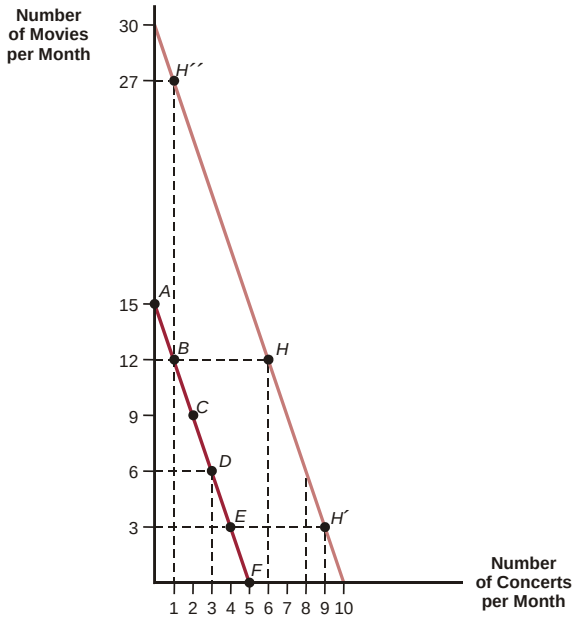
- Need to look for a point where the marginal benefits per dollar spent are the same
- A utility maximizing consumer will choose the point on the budget line where marginal utility per dollar is the same for both goods.
  - At this point there is no further gain from reallocating expenditures in either direction.

Figure 4 Consumer Decision Making



	CONCERTS at $30 each			MOVIES at $10 each		
(1) Point on Budget Line	(2) Number of Concerts per Month	(3) Marginal Utility from Last Concert	(4) Marginal Utility per Dollar Spent on Last Concert ($MU_{concerts}$ / $P_{concerts}$)	(5) Number of Movies per Month	(6) Marginal Utility from Last Movie	(7) Marginal Utility per Dollar Spent on Last Movie (MU_{movies} / P_{movies})
A	0	—	—	15	50	5
B	1	1,500	50	12	100	10
C	2	1,200	40	9	150	15
D	**3**	**600**	**20**	**6**	**200**	**20**
E	4	390	13	3	350	35
F	5	300	10	0	—	

Figure 5 Effects of an Increase in Income



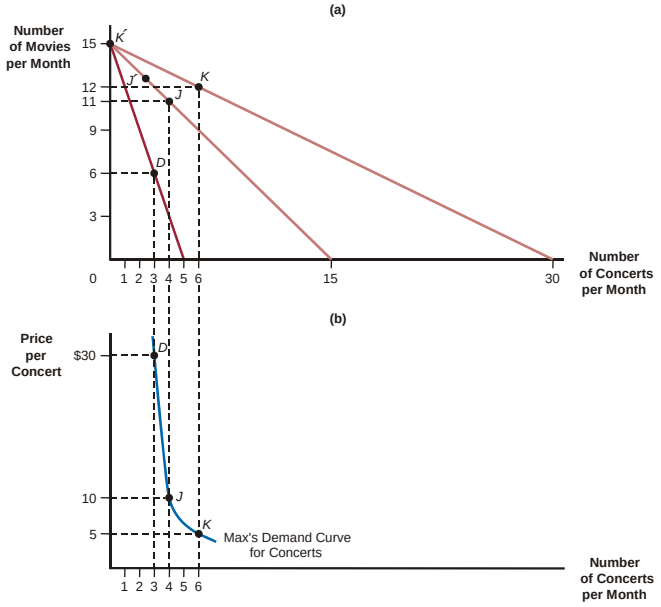
Consumer behavior

- Note: When making our decisions in practice we do not go through trying to compute how many "utils" we are gaining on the margin for each dollar spent for each good.
  - We each go through this process every day without drawing graphs and writing down equations
  - What is important from an economic standpoint is that for replicating consumer behavior we need to build models that are consistent with consumer behavior and follow the same logic
  - Using these models we can replicate what consumers actually do!

Deriving the demand curve

- The demand curve shows the relationship between the quantity demanded and the price of the good
  - Generally, as price goes up we demand less of it
- Recall what happens when price of one good increases or decreases but the other does not change

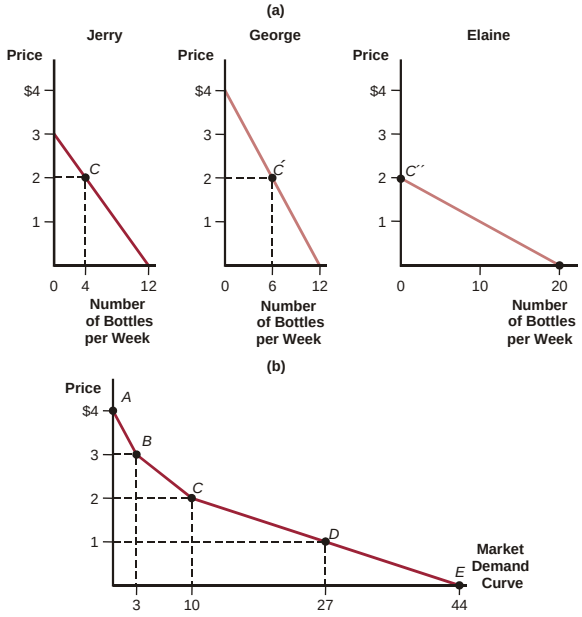
Figure 6 Deriving the Demand Curve



Deriving the market demand

- Most of what we have talked about thus far has been for individuals and how to construct the individual demand curve
  - For looking at the problems or answering questions associated with the economy as a whole or a market we need to come up with the market demand for a given good
- We need to horizontally sum the individual demand curves for everyone in the market

Figure 8 **From Individual to Market Demand**



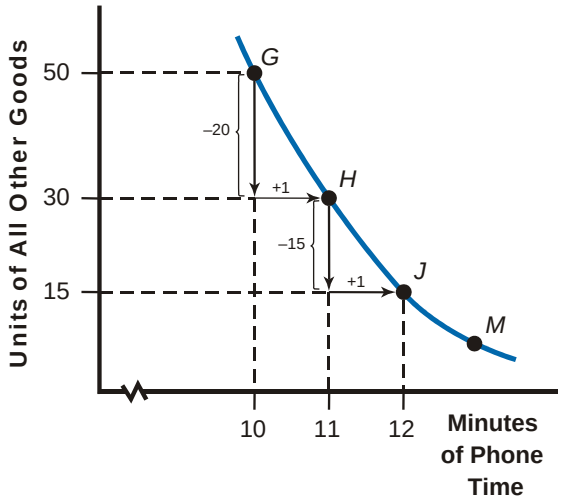
Indifference curves

- Generally when given a choice we would like more of any good which gives us positive utility than less
- Imagine you are in a two good world with only food and travel
  - Most of us would like to consume both of these in positive quantities
    - If we are consuming positive quantities of both of these goods and we wanted more travel there should be some amount of food we would be willing to give which gives us the same level of overall satisfaction or utility

Indifference curves

- In other words, there is some amount of food we would be willing to give up to get more travel that would make us indifferent between the two scenarios
- This notion of being just as well off under two different situations gives rise to the concept of an indifference curve

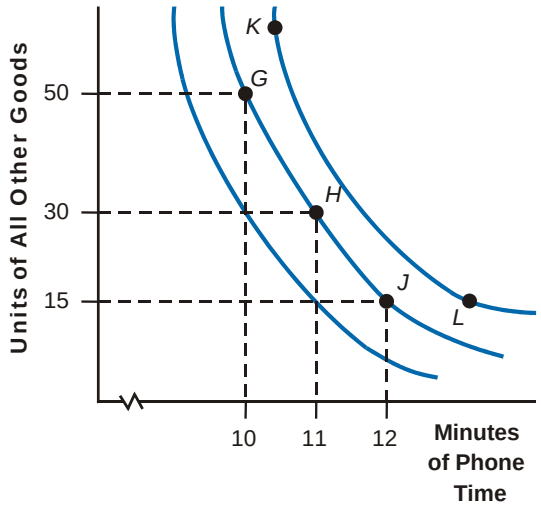
Figure A.1 **An Indifference Curve**



Indifference curves

- When we consume more of both goods then we have higher utility
- When we consume less of both goods then we have a lower level of utility (i.e. lower level of happiness or satisfaction)

Figure A.2 **An Indifference Map**



Indifference curves

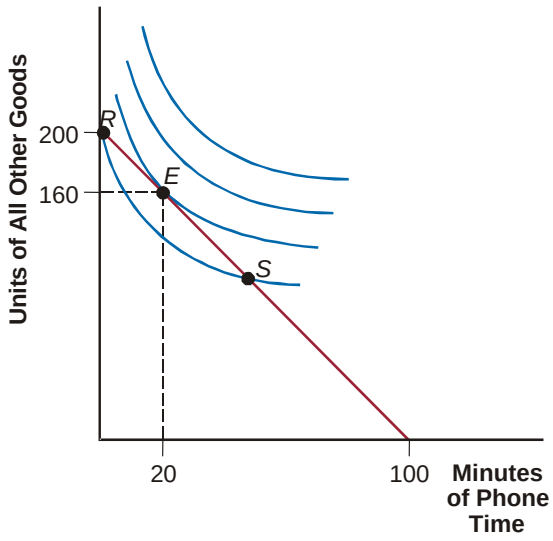
- Going back to the previous lecture, how did we know what point on the indifference curve would max our utility?
- This was where

$$\frac{\text{Marginal Utility}_x}{P_x} = \frac{\text{Marginal Utility}_y}{P_y}$$

Indifference curves

- This point is where the indifference curve is just tangent to the budget line
  - i.e. where it touches in only one point

Figure A.3 **Consumer Decision Making**



Indifference curves

- We use these tangencies to derive the demand curve

Figure A.4
Deriving the Demand Curve