Chapter 1-1: Microfoundations: Concepts for Making Consumer Decisions – Section 1

Microeconomics and Macroeconomics

- What is microeconomics?
  - Microeconomics deals with the behavior of individual consumers, households, and businesses.
- What is macroeconomics?
  - Macroeconomics deals with national economic policy and growth.
- Both microeconomic and macroeconomic principles can affect consumer decision making.
- This chapter deals with microeconomic concepts that affect consumer decision making.

Concept 1: Nominal Price vs. Relative Price

- Notations
  - RPx=relative price of commodity x
  - NPx=nominal price of commodity x
  - NP_b=nominal price of the base commodity
  - Note: Base commodity is whatever commodity you choose as the comparison basis.

- What is nominal price (NP)?
  - The prices we see in stores.
  - Example: Nominal price of pork: \$2.00, Nominal price of beef: \$3.00
- What is relative price (RP)?
  - The price of one commodity is compared to the price of another commodity (base commodity).
  - $RPx = NPx / NP_b$
  - Example:
    - If we use pork as the base commodity, then the relative price of beef RPbeef=NPbeef/NPpork=\$3.00/\$2.00=1.5
    - This means the price of beef is 1.5 times the price of pork.

More Examples

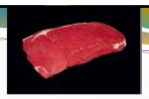
- If the nominal price of pork (NPpork) is \$2.00, the nominal price of chicken (NPchicken) is \$1.50, and the nominal price of shrimp (NPshrimp) is \$6.00. Using pork as the base commodity, what is the relative price (RP) of chicken and shrimp?
  - RPchicken=1.50/2.00=0.75
    - The price of chicken is only 75% the price of pork.
  - RPshrimp=6.00/2.00=3
    - The price of shrimp is 3 times the price of pork.

What are the implications of Relative Prices (RP)?

- Consumers make decisions based on relative prices rather than nominal prices
  - For example, the price of beef stays the same at \$3.00/lb over time. If pork price has changed from \$2.00/lb to \$10.00/lb, consumers will buy more beef instead because beef is now relatively a lot cheaper compared to pork. The demand for beef increases even if the nominal price of beef has not changed.
- Relative prices can be used to measure the changes in your standard of living over time
  - When wage rates are used as the base for relative prices, such comparisons make a lot of sense. See an example on next page.

Constructing Relative Prices Using Average Hourly Wage Rate

Products	Nominal Price		
Year	1969	1989	2010
Round steak (1b)	*$1.28*	*$2.39*	*$4.30*
Bread (1 loaf)	*$0.25*	*$1.00*	*$1.39*
Average wage rate	*$3.00*	*$10.00*	*$18.61*



- Round steak (1 lb):
  - 1969: RP=$1.28/$3.00=0.427 hour = 26 minutes
    - Note: 0.427*60=26 (one hour has 60 minutes)
  - 1989: RP=$2.39/$10.00=0.239 hour = 14 minutes
  - 2010: RP=$4.30/$18.61=0.231 hour = 14 minutes
  - Interpretation: In 1969, a worker earning the average hourly wage rate would have to work 26 minutes in order to buy a pound of round steak. In 1989 the average worker had to work only 14 minutes in order to buy a pound of round steak. The number remained about the same in 2010. This shows that although the nominal price of round steak increased from 1969 to 1989 to 2010, the relative price has decreased substantially from 1969 to 1989 and remained stable due to increases in wage rates.

- Bread (1 loaf):
  - 1969: RP=$0.25/$3.00=0.083 hour = 5 minutes
  - 1989: RP=$1.00/$10.00=0.1 hour = 6 minutes
  - 2010: RP=$1.39/$18.61=0.075 hour = 4 minutes
  - In 1969, a worker earning the average hourly wage rate would have to work 0.083 hour (5 minutes) in order to buy a loaf of bread. In 1989 the average worker had to work about 6 minutes in order to buy a loaf of bread. The number went down to about 4 minutes in 2010. This shows that although the nominal price of bread was higher in 2010 compared to 1969 and 1989, the relative price of bread was lower in 2010 due to wage increases.

Concept 2: Diminishing Marginal Value (Marginal Utility), Demand, and Supply

- What is marginal value or marginal utility?
  - Marginal value or marginal utility is the satisfaction or pleasure you get from each additional unit of consumption of the same good or service.
- What is declining marginal value or diminishing marginal utility?
  - Declining marginal value or diminishing marginal utility means that we get less pleasure from additional units of a product or service than from earlier units.
  - Example of diminishing marginal utility: The tenth hamburger just does not taste as good as the first one!

Implications of Declining Marginal Value (Marginal Utility)

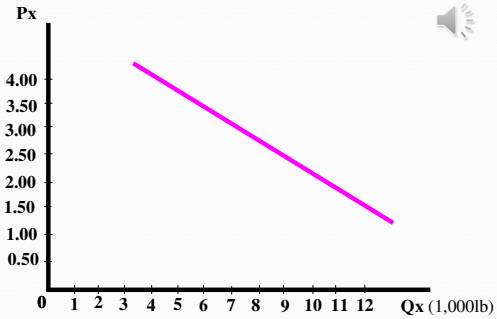
- Implication 1: Consumers buy more of a product or service when its (relative) price falls.
  - The marginal value is the price you are willing to pay for that unit of product
  - Example: If you are very hungry, the marginal value of the first hamburger is $3.00 to you. That means you are willing to pay $3.00 for the first hamburger. But you are not as hungry after eating the first hamburger. So the marginal value of the second hamburger may only be $2.00 to you and that is the price you are willing to pay for the second hamburger. The third may only be $0.80, while the fourth may only be $0.10.
  - So, if the price of hamburger is set to be $3.00, you will buy 1. If the price of hamburger is $2.00, you will buy 2. If the price of hamburger is $0.80, you will buy 3.

- Implication 2: Sellers can use quantity discount as a pricing strategy to maximize profit.
  - In the previous example, if the seller sets the price at $2.00, the consumer will buy 2 hamburgers. So the seller sells $4.00 worth of hamburgers. However, because of diminishing marginal utility, the consumer was actually willing to pay $5.00 for 2 hamburgers ($3.00 for the first and $2.00 for the second).
  - The seller can package two hamburgers and sell both for $5.00 to maximize profit. This is why one sometimes sees sellers advertising quantity discounts such as: buy one for $3.00, or buy two for $5.00.

Demand and Demand Curve

- What is demand?
  - Demand refers to the quantity of a product that a consumer, or a group of consumers, will purchase at given prices.
- What's the relationship between demand and price?
  - Inverse relationship between quantity demand and price:
  - Price up => quantity demand down
  - Price down => quantity demand up
- What is a demand curve?
  - A demand curve is a graph that depicts the relationship between the prices of a product and the quantities of the product that consumers purchase at these prices.

Figure 1-1. Weekly Demand for Beef in Salt Lake City



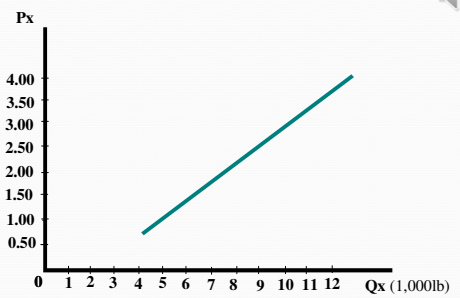
Substitution and Income Effects of a Price Change

- When the price of a product goes up, two things happen:
  - Substitution effect: The consumer switches to another product as a substitute because the relative price of the product has changed.
    - The size of the substitution effect varies depending on how readily available substitutes are. For example, the substitution effect for medical care is likely to be small as there are not a lot of substitutes available, while the substitution effect for beef is likely to be large because many other meats are available.
  - Income effect: When the price of a product goes up the real value of a consumer's income decreases. The consumer has to buy less of something. And that something often includes the product with the price increase.
    - The size of the income effect varies depending on whether the product is a necessity.
- The total effect of an own-price change = substitution effect + income effect

Supply and Supply Curve

- What is supply?
  - Supply refers to the quantity of a product that a producer, or a group of producers, will produce at given prices.
- How do producers respond to price changes?
  - The producers produce more when the relative price increases.
  - Since producers try to maximize their profit, they will keep on producing as long as the cost of producing one more unit is lower than the market selling price.
- What is a supply curve?
  - The supply curve is a graph depicting the relationship between the prices of a product and the quantities producers will produce at these prices.

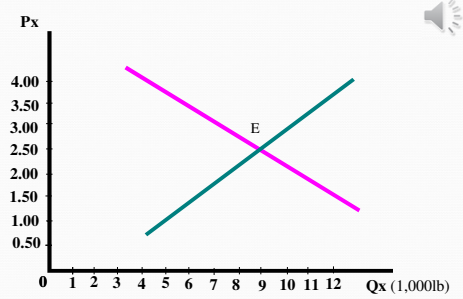
Figure 1-2. Weekly Supply of Beef in Salt Lake City



The Market Equilibrium

- What is a market equilibrium?
  - At equilibrium, Quantity demand = Quantity supply
  - Market price is thus determined.
- Is the market always at equilibrium?
  - In most cases, prices and qualities are moving towards the equilibrium. Markets move out of equilibrium when something happens to make either demand, supply or both change.
  - Possible causes: government policy, weather, political events, etc.

Figure 1-3. Equilibrium of Beef Market in Salt Lake City



Concept 3: Opportunity Cost

- What is opportunity cost?
  - Opportunity cost recognizes that when you spend time or money on anything, you are giving up to spend that same time and/or money on something else.
- Example:
  - You have $50,000 to invest.
  - You buy a piece of land. After a year, the land price increases to $55,000. You make $5,000 (10%) on your investment. You might think that is a great investment return.
  - For the same year, the stock market has gained 20%.
  - Money you could have made by investing the $50,000 in the stock market: $10,000 -Opportunity cost
  - Your actually lose on the land investment deal when opportunity cost is taken into consideration.

More Examples of Opportunity Costs

- "house down-payment" vs. "investment"
- "paying cash" vs. "using credit"
- "using coupons" vs. "paying full price"
- Think about the opportunity cost of you taking this course …

Concept 4: The Value of Time

- Does time have value? Why?
  - Old cliché: Time is money
  - Time has value because it is a limited resource
- How is the value of time defined?
  - Theoretical definition uses the opportunity cost approach: The value of your time in any activity depends on what else you could do with that time.
    - With this approach the value of time varies from individual to individual and activity to activity.
  - The empirical definition defines the price of an hour as a person's hourly wage rate.
    - This approach provides some uniformity for the same person.

- Decision Question: The choice is between (1) spending $500 on a plane ride taking 3 hours; or (2) spending $200 dollar to drive the same distance in 20 hours. Which one to choose?

- Answer: depends on the value of time
  - Person A: price of time = wage rate = $10 / hour
    - Total cost for taking airplane: 500 + 10*3 = 530
    - Total cost for driving: 200 + 10*20 = 400
    - Better off driving
  - Person B: price of time = wage rate = $30 /hour
    - Total cost for taking airplane: 500 + 30*3 = 590
    - Total cost for driving: 200 + 30*20 = 800
    - Better off flying

Applications of Value of Time

- Suppose Mary's time value is $30/hour and Lee's time value is $12/hour. Making a serving of spaghetti at home costs $2.00 for the inputs and 30 minutes. Buying the same pre- prepared food costs $10.00 and 5 minutes. Calculate which one is cheaper, for Mary and for Lee.

- For Mary
  - Home-made: 2.00 + 30/60 *30 = 17.00
  - Pre-prepared: 10.00 + 5/60 *30 = 12.50
  - Pre-prepared is cheaper.
- For Lee
  - Home-made: 2.00 + 30/60 *12 = 8.00
  - Pre-prepared: 10.00 + 5/60 *12 = 11.00
  - Home-made is cheaper.

Some questions for you to think about:

- Should you shop around to find the best price?
- Why do top business executives have company provided jets?
- Do you think there is a connection between the increasing number of working women and the growth of convenience and prepared food industry? Why or why not?