ECNS 204

Principles of Microeconomics

Chapter 2 – Silberberg and Ellis

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Economic Behavior

- We have fundamental beliefs about human behavior. We use these as our building blocks to formulate our economic theories. We refer to these as ***economic postulates***.

- Our economic postulates are stated as universal propositions, but…
  - It may turn out certain anomalies exist which are contrary to these axioms
  - Thus, we judge the postulates as to how useful they are in analyzing problems, even though in a very few instances they might give wrong answers
  - If the wrong answers were to become significant, the theory would have to be revised.

Postulate 1: People have preferences (and/or tastes)

- People can and do rank various alternatives and act on those preferences.
- Example: Suppose you are confronted with two alternative baskets of goods:
  - Basket A: 2 cases of your favorite IPA and 3 pulled pork sandwiches
  - Basket B: 3 cases of your favorite IPA and 1 pulled pork sandwich
  - People can distinguish between these bundles and choose either Basket A over Basket B, Basket B over Basket A, or are indifferent b/w the two.

Postulate 2: More of a good is preferred to less

- Important to keep in mind that
  - Goods have diminishing marginal returns
  - Goods at some point can become "bads" (e.g., at some point, the next beer you consume could with a negative marginal value)

Postulate 3: People are willing to substitute one good for another

- All this means is that people are willing to make tradeoffs.

- Before we get to our last postulate…let's briefly review the concept of "value"
  - In economics, we measure value by what we are willing to give up in order to obtain something
  - Example: When I spend $5,000 on a new mountain bike, I am giving up $5,000 worth of other goods by making that choice.
  - Marginal vs. Total Values…What's the difference?
    - There is a very important difference b/w the amount a person is willing to pay (WTP) for ***one more*** of something vs. what a person is WTP to consume ***all*** units of that same good.

Postulate 4: For all individuals and all goods, the marginal value of goods decreases as more of that good is consumed, holding all other factors constant

Marginal Values and Demand Curves

- Consider the following table for ice screws (used for ice climbing)

Quantity	Marginal Value	Total Value
1 ice screw	$70	$70
2 ice screws	$65	$135
3 ice screws	$60	$195
4 ice screws	$55	$250
5 ice screws	$50	$300
6 ice screws	$45	$345

- Note: Arbitrary MVs have been chosen…our only assertion is that whatever the MVs are, at some level of consumption, they decrease as additional units are consumed.
- As a result, TV increases, but at a decreasing rate.

Total Value vs. Total Expenditure

- We almost never have to actually pay the entire total value of our purchases (recall that TVs are the ***max*** we would be WTP).
- Reconsider our ice screw example and let's consider a list of potential prices one might have to pay:

Potential prices	Quantity purchased	Total Expenditures (TE)	Total value (from our last table)	Consumer surplus (= TV – TE)
70	1	70	70	0
65	2	130	135	5
60	3	180	195	15
55	4	220	250	30
50	5	250	300	50
45	6	270	345	75

- From TE and TV, we can derive consumer surplus (CS), which is our measure of how well off the ice-screw consumer is. More precisely, CS is the difference what the consumer would be WTP for a given quantity of a good and what the consumer actually has to pay

Summary of terms thus far

- Marginal value (MV): Max willingness to pay (WTP) for one more unit of a good
- Total value (TV): Max willingness to pay for all units of a good, relative to none
- Total expenditure (TE): Price*Quantity (i.e., TE = P*Q)
- Consumer surplus (CS): The difference between what consumer is WTP and what the consumer actually has to pay (i.e., CS = TV – TE)

Graphically illustrating MV, TV, TE, and CS:
https://montana.techsmithrelay.com/ufKd

Example problem (Ch. 2, #15):
https://montana.techsmithrelay.com/yIYY

Diamond-Water Paradox

- Here, we show how the concepts of MV and TV allow us to resolve age-old paradoxes of economics
- Q. Why is it that diamonds, which are mere frivolities, are expensive, whereas water, which is essential to life is generally cheap?
- The paradox is resolved if we note that the market price of a diamond reflects its MV (not TV!).
- Q. Is our CS greater for diamonds or for water?
- Ans. Obviously water!

Working through the D-W paradox graphically: https://montana.techsmithrelay.com/rV48

- Lots of applications of the D-W paradox…consider the following:
  - "It is sometimes remarked that Americans love their pets more than their children because they spend more on pet food than on baby food or milk each year.
  - By this argument, is it really true that Americans love their pets more?

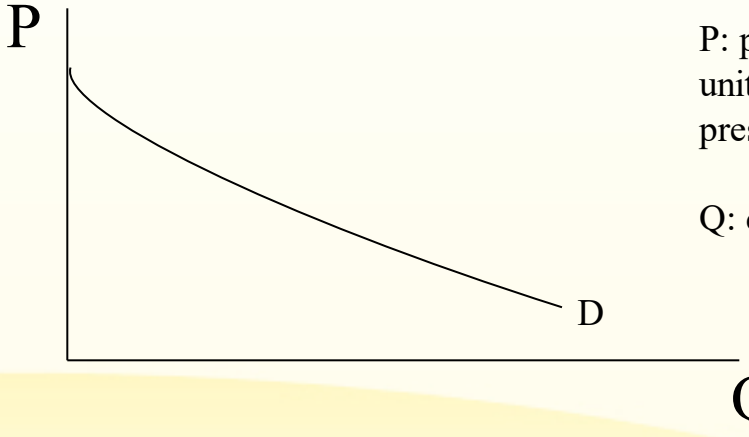
Consumption Over Time

- To this point, we have only discussed demand from a contemporaneous perspective
- But, an important choice made by consumers relates to consumption ***over time***
- Some observations of consumers in the real world
  - Income is earned in erratic patterns throughout life
  - Individuals attempt to smooth out their consumption through borrowing and lending

→ People's consumption varies less than their income

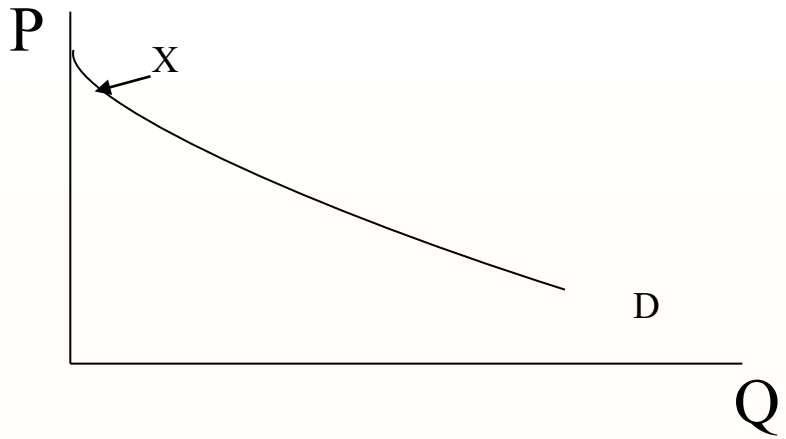
Q. Why do people behave in this manner?

- First, consider the following demand curve for present consumption



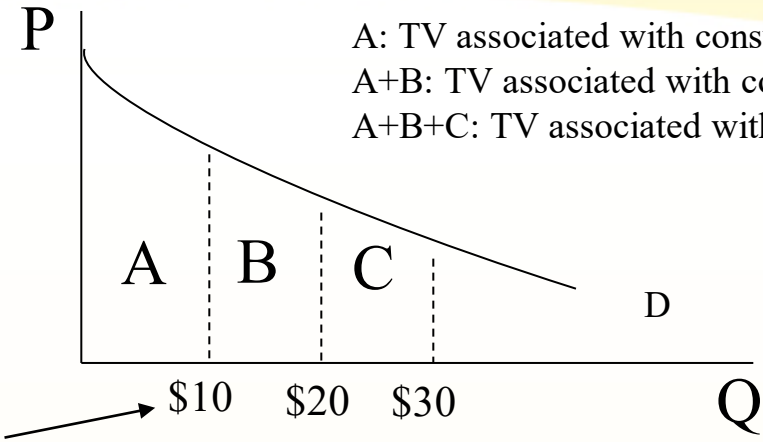
P: price of present consumption (i.e., number of units of future consumption forgone per unit of present consumption)

Q: quantity of present consumption



- This curve indicates that when a person's present consumption is very low, their willingness to give up future consumption is relatively high.

- In the extreme case, if present consumption is so low (e.g., starvation is a concern), a person may be willing to trade a considerable amount of future consumption to gain even a small amount of present consumption. This is illustrated at point X in the demand curve above.



A: TV associated with consuming $10k worth of present goods
A+B: TV associated with consuming $20k worth of present goods
A+B+C: TV associated with consuming $30k worth of present goods

i.e., $10 worth of present consumption (I know, a little weird seeing dollar signs on the vertical axis)

- Consider the following example:
  - Suppose an individual has the option of consuming $20k in each of two time periods or can consume $10k worth of goods in period 1 and $30k worth of goods in period 2.
  - Let's compare…

<u>Option 1: $20k in pd. 1 and $20k in pd. 2</u>

$$\left.\begin{aligned} TV_{period\ 1} &= A + B \\ TV_{period\ 2} &= A + B \end{aligned}\right\} \; TV_{option\ 1} = 2A + 2B$$

<u>Option 2: $10k in pd. 1 and $30k in pd. 2</u>

$$\left.\begin{aligned} TV_{period\ 1} &= A \\ TV_{period\ 2} &= A + B + C \end{aligned}\right\} \; TV_{option\ 2} = 2A + B + C$$

- Which option is preferred?
  - Because (2A + 2B) > (2A + B + C), we know that option 1 is preferred over option 2. That is, the consumer receives more total value from smoothing their consumption.

- Another example:
  - "Suppose two individuals each have an income of $100k, but individual A has that every year, whereas individual B usually earns $90k, but had unusually good fortune this year.
    - Q. Who is more likely to save?
    - Ans. Individual B has had a temporary increase in wealth; his/her MV of present consumption is therefore low relative to future income. This person will therefore be more likely to transfer some income to the future by saving.