

Week 1: The Economic Way of Thinking

- I. Economics as Social Science
 - A. What is economics?
 - B. Narrow definition: economics is the scientific study of aspects of society in some sense closely connected to money.
 - C. Broad definition: economics is the scientific study of ALL aspects of society. It's just an historical accident that it isn't called "sociology"!
 - D. What's scientific about it?
 - 1. Making sure conclusions follow logically from assumptions.
 - 2. Checking *empirically* (i.e. by observation) whether and to what extent the assumptions and/or conclusions are true.
 - 3. *Compartmentalizing* questions of morality; put moral questions to one side, think about a topic in purely economic terms, and only then return to related moral questions.
 - E. Three simple points of logic:
 - 1. An argument is **valid** if its conclusions follow from its assumptions.
 - 2. An argument is **sound** if its premises are true AND it is valid.
 - 3. If an argument is valid and its conclusions are false, then at least one of its premises must be false (and therefore the argument is not **sound**).
 - F. A big difference between the economic approach and popular ones - and to a lesser extent other social sciences (political science, sociology) - is that economists work in two steps.
 - 1. First, carefully formulate valid theories (or "models").
 - 2. Then, turn to evidence to determine whether a theory is sound.
- II. Economics Versus Social Desirability Bias
 - A. Economics is unpopular. Why? Because some truths are ugly, and when the truth is ugly, economists generally say it anyway.
 - B. Example: How selfish are human beings? The ugly truth is: highly. And most economists say it anyway.
 - C. When the truth sounds bad, in contrast, psychologically normal people lie.
 - D. Furthermore, if the lies become pervasive enough, they stop sounding like lies. People say the pretty words without thinking hard enough to feel insincere.
 - E. The technical name for this in psychology: *Social Desirability Bias*.
 - F. Key to SDB: The gap between words and actions.
 - G. Illuminating example: Aborting a Down Syndrome baby:

"The decision to undergo an induced abortion varied depending on whether participants were prospective parents recruited from the general population (23%-33% would terminate), pregnant

women at increased risk for having a child with DS (46%-86% would terminate), or women who received a positive diagnosis of DS during the prenatal period (89%-97% terminated)." (*Journal of Midwifery and Women's Health*)

- H. Social Desirability Bias (SDB) is everywhere. Standard examples:
 - 1. Patriotism: "I'd gladly die for this country" versus actual evidence on self-sacrifice.
 - 2. Religion: "God is the most important thing in my life" versus actual church attendance rates.
 - 3. Political priorities: If you ask a politician, "Which should be our higher priority: children or disabled veterans," they dodge the question. Instead, they'll tell you something like, "Our great country can easily afford to give our children *and* our disabled veterans the very best possible care."
 - 4. Hyperbole: "If we stand together, victory is certain!"
 - 5. Price insensitivity: "We'll pay any price to save Ukraine" or "I'd do anything to help stop hunger."
 - 6. Moral causation: Blaming problems on "the rich" sounds a lot better than blaming problems on "the poor." Blaming foreigners sounds a lot better than blaming fellow citizens.
- I. You can even see SDB in basic grammar. If a friend asks you, "Would you like to come to my party?," the polite answer is the SDB-laden "Sorry, I can't." Which is almost always literally false. 99% of the time, you *can*, but have something better to do.
- J. The "Want to bet?" challenge to SDB.
- III. The Analytical Framework: Preferences and Constraints
 - A. Economists begin all analysis by making a distinction between **preferences** and **constraints**.
 - B. Some synonyms for preferences: tastes, likes, rankings. For any two hypothetical possibilities, A and B, a person either **prefers** A to B, B to A, or is **indifferent** between A and B.
 - C. Some synonyms for constraints: budget, choice set, menu. There is always a set of conceivable things that are actually available, and another set that aren't.
 - D. From Apollo 13: "You're telling me what you want. I'm telling you what you've got."
 - E. All of economics comes back to thinking carefully about individuals' preferences and constraints.
 - F. When someone's behavior changes, it could be because his preferences changed, or because his constraints changed.
 - G. "I can't" versus SDB.
- IV. The Nature of Preferences: Human Selfishness
 - A. At the most abstract level, economists make no assumptions about what preferences have to look like.
 - B. In practice, however, economists almost always make the strong assumption that *people are almost entirely selfish*. They place vastly more weight on the well-being of themselves and their family than they do on the well-being of strangers.

- C. Why do economists assume this? To repeat: Because it is basically true!
- D. What percentage of their disposable income do people spend on themselves?
- E. Evolutionary interpretation: unselfish beings would not have survived.
- F. However, what economists take with one hand they give back with the other: Selfish people will often treat other people very well.
- G. Why? It is often **in your interest** to be nice to other people!
 - 1. Ex: Waiting tables.
- H. Thus, selfish **intentions** may still produce cooperative **results**. Classic statement in *Wall St.* speech: "Greed is good." This distinction between intentions and results frequently appears in economics.
- I. Exceptions to selfishness: aren't there a lot of counter-examples?
- J. Family-based examples don't count - evolution does select for concern for blood relatives.
- K. Friendship etc. might count - but almost invariably these relations involved reciprocity - you scratch my back, I'll scratch yours.
- L. Still, there remain plenty of examples where people help strangers who have no prospect of ever returning the favor.
- M. *But are they a big fraction of human motivation?* No - quantitatively, it is a tiny fraction of what goes on. Nice statement: Tullock's law states that 95% of human motivation is selfish. There are exceptions, but they are a small corner of the world.
- V. Scarcity: the Origin of Constraints
 - A. People always face constraints. Why?
 - B. In a word, **scarcity**. People's wants always outrun what is physically possible.
 - C. People sometimes speak as if scarcity does not exist, but there are clear inconsistencies in their thinking. "Deleting a message takes no effort."
 - D. Once a good becomes very abundant, scarcity re-surfaces along the dimension of quality. There is unlimited "air," but not unlimited air-conditioned or heated or filtered air.
 - E. Flip side of scarcity: **opportunity costs**. Opportunity costs are what you had to give up or sacrifice in order to get what you did.
 - F. The key idea of opportunity cost is to fully tally up what your "2nd-best" choice would have given you, not just "out-of-pocket" costs.
 - 1. Ex: Attending college.
 - G. Economists' variant on the popular concept of "profit" adjusts for opportunity costs. When economists say "profit," they mean **economic profit** - earnings in excess of your 2nd-best choice.
 - 1. Ex: If a business owner's revenues exceeded his out-of-pocket expenses by \$30,000, did he make a profit?

- H. Opportunity cost is the central theme of the Bastiat essay "What Is Seen and What Is Not Seen." Read it. It's great.
- VI. Scarcity and a Brief History of Progress
 - A. Scarcity is all around us, but it is true that humans' constraints are much looser than they were in the past.
 - B. For most of human history, living standards were **extremely** low.
 - 1. Lifespan: 20-30 years.
 - 2. Child mortality: 40-60% died before the age of 5.
 - 3. Long hours of hard physical labor necessary to stay alive; almost all resources devoted to survival.
 - C. To sum up: during this period of pre-history, human population seems to have been roughly constant, and living standards around the "subsistence level." That is, if they got much poorer, they wouldn't have remained alive.
 - D. During the last 1% or so of human history, this stable pattern has radically changed:
 - E. The *average* living standard is incredibly high compared to the subsistence level.
 - 1. Lifespans: 65-75 years for poorer countries; 75-85 for richer countries.
 - 2. Child mortality: Around 4% die before age 5 in poorer countries, about 1% in richer countries.
 - 3. Average hours of work are much lower, labor on average is much less physically demanding, and a much smaller fraction of labor is devoted to survival.
 - 4. Quantifying the change in living standards is somewhat complicated:
 - a) Quality and availability of goods.
 - b) Non-market goods.
 - c) Leisure.
 - 5. A low estimate: 40x increase in per-capita real income in richer countries. 5x increase in poorer countries.
 - 6. More speculative estimate: 1000x in richer countries, 10x in poorer countries.
- VII. Incentives: Thinking Strategically About Your Constraints
 - A. Is that all there is to the fundamentals of economics - selfish preferences and scarcity-induced constraints?
 - B. In general terms, yes. But there is more to the constraints than meets the eye.
 - C. Looking at constraints strategically, you can see that constraints create **incentives** for certain kinds of behavior rather than others.
 - D. Suppose you have 24 hours' worth of time, and get paid \$10 per hour. Then from one perspective, you face an income-leisure constraint:

Leisure (hours)	Income (\$'s)
24	0
20	40
16	80
12	120
8	160
4	200
0	240

- E. This is a pretty simple strategic problem, but there is a problem: "The more I work, the more income I earn. That's my incentive to work."
- F. But suppose it were a more complicated constraint, where you earn \$10 per hour for the first 8 hours, but earn "time-and-a-half" for additional hours. Then your menu looks like:

Leisure (hours)	Income (\$'s)
24	0
20	40
16	80
12	140
8	200
4	260
0	320

- G. Now you have to think: "If I work for 0 to 8 hours, I earn \$10/hour. But if I keep working after that, my incentive to work another hour goes up!"
- H. To consider an example closer to home, think about how students' grade-leisure constraint sparks strategic thinking.

VIII. Incentives and Marginal Analysis

- A. Probably the best illustration of how to think strategically about incentives is what economists call **marginal analysis**.
- B. What is marginal analysis? It consists in considering the effects of small changes on outcomes.
- C. Ex: Suppose I write one less article. How will that change my chances of getting tenure?
- D. Ex: Suppose you skip one class. How will that change your final grade?
- E. Often, people reason: writing articles is important for tenure, so I should write articles; or, going to class is important for getting a good final grade, so I should always go to class.
- F. But this doesn't follow. The real question is not: Should I write at all, but how much should I write? I might have so few articles that I have no chance for tenure. Then the marginal benefit of writing another article is zero. Alternately, I might have so many publications that I'm a shoo-in. Then again, the marginal benefit of writing another article is zero!

- G. While people often talk as if they didn't understand marginal analysis, most people act as if they did most of the time.
- H. Ex: Perfect versus good enough.
- I. There are many applications of marginal analysis:
 - 1. Marginal utility
 - 2. Marginal benefit
 - 3. Marginal cost
 - 4. Marginal productivity
 - 5. Marginal impact on probability of success
- IX. The Principle of Diminishing Marginal Utility
 - A. Suppose Crusoe is on an island and has a number of different things he'd like to do, each requiring a bag of grain. He ranks his wants from first to last:
 - 1. Eat today
 - 2. Plant for tomorrow
 - 3. Feed parrot
 - 4. Keep hut dry
 - B. If he just has one bag, what will he do? Eat, of course. If another washes up on shore? Plant for tomorrow. A third? Feed the parrot.
 - C. Suppose the bag he was planning on eating washes out to sea? Does he just stay there hungry? No: He eats the parrot's food instead!
 - D. Thus, as the stock of grain increases, the marginal bag is used for a less and less valued task.
 - E. In general terms, this is the Principle of Diminishing Marginal Utility: The marginal utility (or marginal value, or marginal usefulness) of a good decreases as the quantity increases.
 - F. Exercise: Reverse this logic for unwanted bads to get a Principle of Increasing Marginal Disutility.
- X. Marginal Analysis and the Indifference Principle
 - A. An amazing implication of marginal analysis: It makes sense to keep reallocating your resources until additional small changes leave you completely indifferent.
 - B. Exercise: Allocate your time between TV and study.
 - 1. Step 1: If studying one more minute and watching TV one less minute would make you happier overall, reallocate one minute from TV to study.
 - 2. Step 2: If studying one fewer minute and watching one more minute of TV would make you happier overall, reallocate one minute from study to TV.
 - 3. Step 3: If you reallocated any time in Step 1 or Step 2, repeat.
 - C. Amazing conclusion: You will have to be indifferent "at the margin"! As you reallocate from study to TV, the marginal utility of study

keeps rising, and the marginal utility of TV keeps falling, until you "equalize at the margin."

- D. This works more generally: Suppose there are two jobs, one that is hot and unpleasant, the other that is cool and pleasant. Which job is better to have?
- E. To keep workers at the unpleasant job, employers will have to raise their wages. They will keep raising them until the marginal employee is indifferent between a high-paid, unpleasant job, and a low-paid, pleasant job.
- F. Try this for real estate. Is there a "best place to live"? Why doesn't everyone live there?!