Bilkent University
Econ 101 - Spring 2021
Chapter 1: Introduction

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Contents

1 What is Economics?

Here is a very boring definition of economics:

> "Economics is the social science that studies the production, distribution, and consumption of goods and services." (Wikipedia)

I find this definition somewhat limiting: economists study interactions that go beyond goods and services. Here is a still boring and specific, but more correct definition:

> "Economics is the study of the allocation of scarce resources." (Perloff)

I like this more, because "resources" is a broad enough term that can encapsulate most of the things economists are interested in. Also note the emphasis on *scarcity* – this will be important. Here is a slightly broader and correct-er definition:

> "Economics is the study of choices people make to attain their goals, given their scarce resources." (Hubbard & O'Brien)

I like the emphasis on *choices* – methodologically, what economists do is to study decisions (both theoretically and empirically)! Here is a very broad definition, which requires some more elaboration:

> "Economics is the study of people's choices." (Acemoglu, Laibson & List)

I kind of like this definition for its brevity, even though it lacks the emphasis on *scarcity*. But I will argue that the scarcity is *hidden* in the "choice" part. Suppose you are studying a decision without scarcity: you can have anything you want. What is the fun of it? There is no real "choice" being made. Besides, it's not even realistic! No one can have it all (even Jeff Bezos cannot buy, or do, anything he wants).

Let me give one definition which I think is illuminating:

> "Economics is the study of decisions made by economic agents, and how these decisions interact with each other."

I know it's slightly self-referential ("Economics is the science that studies economic agents"). And this still does not include scarcity, which I argued is important. But hang on! I will embed scarcity in the definition of an "economic agent" and solve both problems.

1.1 Economic Agents

An economic agent is a decision maker who faces a **scarcity constraint**. This may be:

- A customer in a supermarket who is deciding whether to buy milk or ayran, and how much to buy. She has a budget constraint, and therefore she cannot buy them all.

- A student who is in the library a night before her economics and sociology exams. She has limited time, and therefore she cannot study them both.

- A driver who is choosing whether to listen to radio or a podcast during traffic. She has limited attention, and therefore she cannot listen to them at the same time.

- A university administration who is choosing between online-only and hybrid teaching for the Spring semester. By definition, the university cannot have both of them.

- A political party who is deciding whether to promise more social services or lower taxes before the election. The two promises are incompatible with each other, and therefore not credible if offered at the same time.

As you can see, when the definition of economics includes "people", it actually means something broader than human beings. An economic agent can be a person, an organization, an institution, a state... This is why I prefer to use "agents" rather than "people".

The emphasis on scarcity is a crucial part of the economic analysis. For this reason,[1] economics is sometimes referred as "dismal science". I just want to emphasize that scarcity captures the broad idea that "the agent cannot have it all." This may be due to a monetary constraint, a physical constraint, is simply because the two options are incompatible with each other.

1.2 Preferences

Okay, so we study agents who have to make decisions under a scarcity constraint. How do these agents make their decisions? Answer: according to their **preferences**.

- The customer in supermarket chooses based on whether she likes the taste of milk more, whether she cares about the health effects, what the price of milk and ayran are, what she is eating... These factors, collectively, define her preferences towards milk versus ayran.

- The student in library chooses based on which class she likes more, what her existing grades are, what her future plans are...

- The driver in traffic chooses which broadcast she enjoys more, whether she already has heard about the songs/podcast topic...

- The university administration weighs the potential health costs, management costs, benefits from students being in campus, its reputation...

- The political party evaluates its election prospects, the feasibility of different policy options, future elections...

The bottom line of these examples is: Preferences include more that "what the economic agent likes". They can include costs and benefits as well as social norms, ethical concerns, consistency with past behavior, future considerations, etc. So, when we say "an economic agent acts according to her preferences", we do *not* necessarily mean that the agent is acting selfishly!

Specification of an economic agent's preferences is an essential premise of the economic analysis. We cannot do economic analysis without specifying the preferences (and we don't want to.) **An economic agent is defined by her preferences.** This aspect of the analysis is what distinguishes economics from other social sciences, such as sociology.[2]

1.3 Scarcity and Optimization

So far so good: Every economic agent faces a scarcity constraint and tries to act in a way that aligns with her preferences. Here is a paraphrasing of what I just said for the more math-minded: **Every economic agent solves a constrained optimization problem.** Indeed, every single economics model is a constrained optimization problem of some kind. In this problem, the objective function is derived from the preferences, and the constraints are due to scarcity. This is one of the reasons why economic analysis requires some mathematical rigor (more on this later).

1.4 Equilibrium

As it turns out, economic agents do not live in a vacuum. They each make their decisions, and more importantly, these decisions interact with each other. But what happens when multiple agents engage in an economic interaction? We need some discipline to analyze and predict how these interactions play out. The concept we use to impose this discipline on our analysis is called **equilibrium**.

Broadly speaking, equilibrium is defined as **the situation in which every agent is optimizing, so nobody would benefit personally by changing her behavior, given the choices of other agents**.

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[1]Okay, actually not for this reason. It turns out there is a depressing story behind the coining of the term. You can read it through here: https://www.theatlantic.com/business/archive/2013/12/why-economics-is-really-called-the-dismal-science/282454/. I personally don't think there is anything dismal about economics, but you are entitled to your own opinion.

[2]I am not trying to claim that one method is better than the other, I'm merely trying to draw some distinctions.

I want to emphasize two things. **First:** there is nothing desirable or undesirable about equilibrium *per se*. When we are looking for equilibrium, we are not making any value judgments – equilibrium is just a concept we use to analyze economic interactions. Sometimes you will see equilibrium giving the best outcome for everyone, and sometimes the worst outcome – it really depends on the nature of interactions. **Second:** Equilibrium is a benchmark we use, not necessarily the actual description of the outcome. Sometimes economic systems are not in equilibrium. Sometimes it takes a while to find the equilibrium. Yet, we have an inclination to believe that an economic system *tends* towards an equilibrium. Think, for instance, about the lines in the toll gates at the entrance of a highway. Suppose each driver has to pass through the highway (her constraint) and each driver wants to minimize the waiting time (her preferences). If any one of the lines are shorter than the other, you would expect the drivers to switch to that line, until that is not shorter any more. That is, in equilibrium, you would expect the lines to be equally long. Now, if you have any experience with situations like these, you would notice that this is *approximately* true in reality: the lines are more or less equal, but not always exactly equal. Yet, they have a tendency to equalize, especially over long time intervals. Expecting them to be equal in the benchmark is, therefore, a useful starting point if you want to analyze toll lines.

Let me tie back with a further elaboration of this very simple example, to show how economic analysis is useful. Suppose you are working for the highways department, and someone comes and asks you: "We have 4 toll gates in this highway, and the average waiting time is 5 minutes. If we open an extra toll gate, what would the average waiting time be?" How would you start thinking about this question? First, you need to come up with some assumptions about how people behave (i.e., their preferences and constraints). "Minimizing the waiting time, given the number of toll gates" seems like a reasonable starting point. Second, you need to make some assumptions about how they interact. Equilibrium, as argued above, seems like a good benchmark. Given these assumptions, you can now calculate the expected waiting time with 5 toll gates. (4 minutes?) Voilà! You have set up your first economic model and made your first analysis! Now, if someone comes up and says "But what if we also increase the price of the highway?", you need to make further assumptions about how much people are willing to pay for the highway, how much they are willing to wait, etc. This class will give you some tools to get started with this kind of thinking.

1.5   Some Examples of Economic Interactions

- There are many customers choosing whether to buy milk or ayran. The milk producers choose the price for milk, and their want to maximize their profits.[3] Same for ayran producers. Suppose, in equilibrium, the price of milk is 5,95 TL per liter and the price of ayran in 3,95 TL per liter. This means, in equilibrium,

    - The customers choosing to buy milk prefer to consume milk given these prices.

    - The customers choosing to buy ayran prefer to consume ayran given these prices.

    - Milk producers cannot increase their profits by selling the milk at another price.

    - Ayran producers cannot increase their profits by selling the ayran at another price.

    - The amount of milk produced by milk sellers equals the amount of milk bought by the customers.

    - The amount of ayran produced by milk sellers equals the amount of ayran bought by the customers.

    So, as you can see, there are many things going into this analysis. But don't worry – we will build from the bottom up and find a way of disciplining our thinking about these issues.

- There are many students choosing whether to study for economic and sociology exam. Economics instructors set up a date for the economics exam, and they want to maximize the time students spend on economics. Sociology instructors set up a date for the sociology exam, and they want to maximize the number of students taking an A. In equilibrium,

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[3]This is merely an assumption. In reality, milk producers may want to maximize their market shares, their revenues, improve their brand image, their reputation... We can incorporate all of these in their preferences as well. For the sake of the example, we are keeping their preferences simple.

- Each student does her best according to her preferences, given the exam times.

- Economics instructors cannot find an alternative exam date that would yield a higher study time by students, given the sociology exam's date.

- Sociology instructors cannot find an alternative exam date that would yield a higher number of A's, given the economics exam's date.

It is up you to think about other examples, who the agents are, what their constraints and preferences are, and what "being in equilibrium" means in these examples.

2   "Rational" Decision-Making

One of my objectives for this class is to prevent you from saying "Well, economics assumes that people are rational, but in reality people are irrational, so it is worthless." I cannot emphasize this more: never EVER EVER EVER say this. When I hear people saying this sentence, my teeth starts grinding. I will take one step further: anybody who genuinely says this sentence has not received a good economics education.

Suppose you hear someone making this unsubstantiated claim. There are at least four answers I can come up with on the spot. You can borrow these answers and use at your own discretion.

1. What is a **rational** person? In our discipline, we use it to mean **an economic agent who makes the best decisions according to her preferences, given the constraints**. I already argued above: the preferences can include an infinity of things! When laymen people use "rationality" as a derogatory term, what they usually mean is "selfish". **WE DO NOT ASSUME THAT PEOPLE ARE SELFISH.** We just assume they act according to some well-defined preferences, which may or may not contain selfish interests.

2. A "well-defined preference" just means that people's preferences follow some broad, regular, somewhat predictable patterns. It provides consistent answers to questions such as: how much milk individuals buy if milk was 3 TL and ayran was 5 TL? What about 6 TL vs 8 TL?... We simply need to have such regularity at the baseline to be able to conduct economic analysis. If we don't assume people make their purchasing decisions in a broadly consistent way, we cannot even begin reasoning about the milk market! We would just say "well, tomorrow milk producers may be crazy rich and or bankrupt, I can't really know". But then, the whole discipline is worthless.[4] I guess what I am saying is: the scientific method of economics forces us to assume some regularity in a broad manner.

3. On a more philosophical point: What are "well-defined preferences" anyway? These are some premise of the model that are consistent with the observed behavior of economic agents. Suppose I observe you buying Chai Tea Latte for 15,50 TL every morning. Can I conclude that your preferences just include having Chai Tea Latte for a price of 15,50 TL every morning? Maybe not, maybe you are just flirting with the barista at the coffee shop and using Chai Tea Latte as an excuse to chat with the barista. Nevertheless, I can still write an economical model that specifies your preferences over Chai Tea Latte, and that model would be consistent with your observed behavior. The baseline assumption of that model would be wrong, of course, but that's okay from a scientific point of view.

    > "All models are wrong, but some are useful."
    > - Statistician George Box.

    Why is such a model still useful? To this model, I can ask a question such as: "How much Chai Tea Latte would be sold if there was a worldwide cinnamon shortage?" If my baseline assumption was wrong, it would produce the wrong answer. But that's fine – if there was an actual cinnamon shortage (hopefully not anytime soon) and if my predictions were wrong, I can easily say "Hmm, I guess I had the preferences wrong. Let me think about other preferences that can explain the new outcome I am seeing." This is a healthy thing – this is how science proceeds. Falsifiability FTW! The nice thing

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[4] At this point, your hypothetical friend (who does not know about economics) may resort to claiming that economics is, after all, worthless. This is the same thing as arguing that nothing useful will come out of understanding the milk market. This debate is much easier to win, compared to a debate about rationality. I trust your argumentation skills. :)

about regular preferences is that: it allows me to check what part of my model was wrong and evaluate my model based on the data.

What I am getting at is: when we say "people are rational", it is not due to the belief that every individual has a well-defined set of principles that they follow. It is, rather, due to a requirement that we need to have a model with falsifiable predictions. Every prediction requires some regularity (i.e., some logical steps in producing its results), and "rationality" is an umbrella term we use to contain such regularity.

4. Finally, do people sometimes act in inconsistent, unpredictable ways? Of course. There is a whole field of economics, called **behavioral economics**, devoted to understanding such inconsistencies.[5] Are these inconsistencies actually consistent with something we did not know was relevant? Can we come up with a framework to understand such behavior? How can we represent it, quantify it? These are the questions behavioral economics have been asking for years. Because we are in an introductory-level class, we will not have time to cover behavior economics, and keep the "rational" agents as a benchmark. Think of it as Newtonian physics: we will start by assuming that gravity is the only force of nature. Once we understand how gravity works, we can move on to nuclear physics and electromagnetics. But let's nail this down first and use it as a benchmark. This is Econ 101, and for centuries economist have been working on things we cannot squeeze into a semester. :)

3   Trade-Offs and Opportunity Cost

Read, literally, Chapter 1 any economic textbook to get a grasp of these concepts.

- **Trade-off:** the idea that, because of scarcity, an economic agent needs to give up an something to get something else.

- **Opportunity cost:** The best alternative you give up.

Example:

- A student spends the night studying for economics exam. If she wasn't, she might have been spending time with her friends during that time. Or she might be studying for the sociology exam instead. Therefore, she is calculating what she needs to give up (time spent with friends, better knowledge of sociology, a better grade in the sociology exam) in order to get something else (better knowledge of economics, a better grade in the economics exam.) That is, she is facing a **trade-off**.

  So, what is the **opportunity cost** of studying for the economics exam? It depends on what she would be doing in that time instead (remember that she is rational, so she would be spending her time doing the best alternative).

  – If her best alternative was spending time with friends, the opportunity cost of studying for the economics exam is the time spent with friends.

  – If her best alternative was studying for the sociology exam, the opportunity cost of studying for the economics exam is a better better knowledge of sociology and a better grade in the sociology exam.

At this point, you may be tempted to ask: "Why don't you just say *cost* instead?" The answer is: we want to emphasize that the opportunity cost is different than the explicit financial cost of getting something. The opportunity costs includes the alternatives, and the best use of those alternatives. Here is a standard example: suppose you graduated from college (congratulations!) and received a job offer that pays 100,000 TL per year (well done!). Suppose taking that job was your best alternative, but you opted to pursue a masters degree instead. The masters degree is a one-year program and it costs 80,000 TL. Someone might come up and ask: what is the cost of the masters degree? The standard answer would be: 80,000 TL, and that's not a wrong answer but it is missing the opportunity cost. An economist would say: "The explicit financial cost of the masters degree may be 80,000 TL. But the opportunity cost of the degree includes

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[5]Maybe you have read some books by Dan Ariely?

what you give up by pursuing that degree instead! Remember that you would take a job that would pay you 100,000 TL for the year you would be studying. Therefore, the opportunity cost of pursuing a masters degree is at least 80,000 TL + 100,000 TL = 180,000 TL."[6]

4 Thinking at the Margin

In late 19th century, economics as a discipline went through what we call "the marginal revolution". This refers to the idea that economic agents make their decision at the margin. **Marginal thinking** is a particular mindset economic agents use when they make their optimization decisions. A margin is where you are at with the decisions you have already made (it is an "edge" or a "border" than defines your current boundaries). Thinking at the margin is imagining what would happen if you made a small adjustment to your action (i.e., imagining what would happen if you extended your boundaries just a little bit). That is, **marginal thinking** is **thinking in terms of small increments and adjustments**.

An example: suppose a student has been working for the economics exam for four hours (her margin). Now she is thinking: "Should I study for an additional hour? An additional minute? What is the extra benefit (the **marginal benefit**) of working for the additional minute? What is the extra cost (the **marginal cost**)? If the marginal benefit is larger than the marginal cost, I will study for the extra minute. Otherwise, I will stop studying." It looks like she is already thinking at the margin – a sign that she will receive a high grade in the exam. :)

Once you think about it, this is not really different from taking a derivative (i.e. thinking about the marginal change) when solving an optimization problem. This is not really surprising: economic agents solve optimization problems, and taking a derivative is a method (or a mindset) of solving that problem.

One thing I want to emphasize: thinking at the margin is nothing more than a method of solving an optimization problem, there is nothing so deep about it. But on the surface, it looks different from "absolute thinking." A student may love economics, but she may be working for the exam for eight hours already, which means she is very sleepy and the marginal cost of studying is very high. At the margin, she prefers sleeping. It doesn't necessarily mean that she prefers sleeping to economics in general! Marginal thinking suggests that we need to pay attention to the existing conditions.

Another example: You may strongly prefer Zeynep Bastık to Müslüm Gürses, but after listening to the same Zeynep Bastık song over and over 80 times, you may say "Hmm, maybe I'll listen to a Müslüm Gürses song this time." In the margin, you prefer Müslüm Gürses over Zeynep Bastık. In another margin, your preferences maybe be otherwise.

5 On Markets

When economic agents interact with each other, this typically happens in a **market**. In Turkish, market means something different: it means a department store. Due to this, I want to dedicate some time on defining what a market is when we use it in an economic sense.

A market is a broad term: **it is an infrastructure that facilitates interactions among economic agents**. Even a small group of agents who engage in economic interactions can be called a market (and some textbooks call it that way: "A market is a group of economic agents who are interacting.") Of course, a department store is a particular example of a market: it facilitates the trade of goods between consumers and producers. I just want to emphasize that the idea of a market is broader.

On Moodle, I have posted an article that investigates a particular market: the market for clinical psychologists in the United States.

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[6]I am saying *at least*, because this calculation misses some things. **First**, there is the job experience you would gain, the workplace friendships you would have etc. by taking the job. The opportunity cost includes those as well. **Second**, this calculation misses the best use of the 80,000 TL. Suppose if you didn't pay 80,000 TL for a masters degree, you would use it for a week-long vacation in Ibiza (your best alternative use of 80,000 TL.) In that case, the opportunity cost of a masters degree is a week in Ibiza + 100,000 TL.

Roth, Alvin E., and Xiaolin Xing. "Turnaround time and bottlenecks in market clearing: Decentralized matching in the market for clinical psychologists." *Journal of Political Economy* 105.2 (1997): 284-329.

This is published in a peer-reviewed journal and a (very) advanced reading for Econ 101.[7] But when you have time, take a quick look at Section I of the paper. It defines a set of economic interactions among a set of agents (employers and psychologists) and gives an (almost anthropological) account of how the interactions evolve. It is useful to check the article to see what economics mean when they say "a market".

6   On the Role of Math, Models, and Ethics in Economic Analysis

6.1   Why Model?

The economic methodology is based on the construction of **models** (in all fairness, every scientific methodology uses models.) A model consists of a group of economic agents, their preferences and constraints, and the environment they interact in. It is made for the purpose of identifying some economic forces ("In such and such environments, what happens to waiting time if I add another toll gate to the highway?"). It is based on some assumptions and, inevitably, an abstraction of reality: it includes the important bits and pieces for the purposes of the question, and rules out some of them. Think of a physics model that assumes the air frictions away because it is interested in other forces. Or an architectural model of a building that doesn't show the tiles on the floor, because it is interested in the structure of the building, not the interior design. Or a subway map. Or:
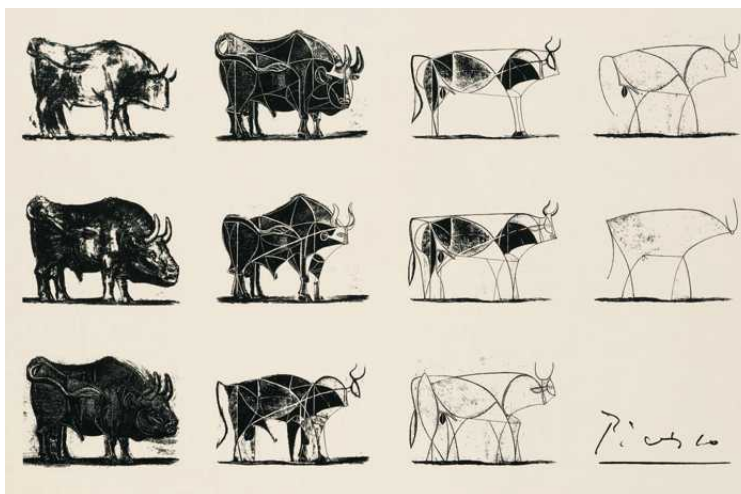

Figure 1: Picasso's "model" of a bull, 1945.

Because a model consists of some simplifying assumptions, it is always *wrong*. But, remembering George Box once again, it is *useful* most of the time. Why is it useful? I posted an article on Moodle that discusses various reasons of why having a model is useful. Read it once you have time.

Epstein, Joshua M. "Why Model?" *Journal of Artificial Societies and Social Simulation* 11.4 (2008): 12.

Let me give you another reason on why a model is useful.[8] Jose Luis Borges has a short story titled "Funes the Memorious". In that story, a teenage boy falls of a horse and acquires the amazing talent of remembering *everything*. For instance, he remembers every horse he encounters in every single detail. It soon becomes obvious that this talent is actually a curse, because it renders the boy incapable of engaging in *categorical*

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[7]It is also written by the 2012 Economics Nobel laureate Alvin Roth.
[8]Credit to Ivan Werning for bringing this in the collective memory of my classmates.

reasoning. That is, because every horse is different for the child, he cannot group the horses he encounters into a category of "horse". Instead, for him, every single horse means a different category.

You can imagine that such a memory is, after all, useless, because it doesn't allow the person to draw parallelities between events. Our purpose while setting up an economic model is precisely this: allowing us to draw parallelities between events, drawing some conclusions, having a general understanding about how a market works. Because of this, we will sometimes skip the details of the horse and call it a "horse". This is one reason why we use abstractions of reality, i.e. models.

The idea of models being abstractions of reality will be especially important for this class. Because this is an introductory class, the first set of models we will be setting are going to be extremely simple: they will rule out a lot of stuff. They will be added in your future courses; we are building a base here and just scratching the surface.

6.2 Why Math?

Another important purpose of a model, which a lot of textbooks (including yours) emphasize, is to be able to make predictions (also called hypotheses). These predictions can then be taken to the data and we can check if the model holds out well in face of reality (also called hypothesis testing). For instance, we can set up a model of labor market and ask the question of: "What happens if we increase the minimum wage by ten percent?" The model will include workers and their preferences, firms, the market structure etc. It will give an answer like: "The unemployment will rise by three percent." We can then go check the data on the minimum wage and unemployment rates on different locations, compare them, and see whether this prediction is true.

Because all models consist of assumptions, and because the predictions of the model will be extremely important, we must have a discipline to **figure out which assumption causes which prediction**. That discipline is established through **mathematics**. Math is the language that disciplines our thinking and allows us to be rigorous in our analysis. Thanks to the reliance on math, we can say "Let me change this assumption on worker behavior and see how my predictions change." Without the logical consistency provided by mathematics, seeing these connections would be much more difficult.

6.3 Positive versus Normative Analysis

Now that we have talked about making predictions, it is a good time to make the following distinction. There are two types of analysis you can conduct using economic models.

- **Positive analysis** is concerned with **what economic agents do**.
- **Normative analysis** is concerned with **what economic agents, including society,** *should* **do**.

Here is an example of a positive statement:

"If you raise the minimum wage by ten percent, unemployment will raise by three percent."

This is just a statement about the relationship of two variables. It does not make any value judgments. In contrast, here is an example of a normative statement:

"Therefore, you should not raise the minimum wage."

Why is this a normative statement? Because it is making a value judgment. When the government increases the minimum wage, some people will lose their jobs. Some firms will lose money. On the other hand, some people will be working for higher wages. This statement implicitly says that the losses (unemployed people, less profits) outweigh the benefits (higher wages for those not losing their jobs.) Therefore, it makes a comparison of what the society cares, or should care, more about. This is a question of **ethics**, a subfield of philosophy, and not **economics**.

It is, of course, extremely important to be knowledgeable about ethics. It is a fascinating topic, and every policy maker should have the necessary tools to conduct ethical analysis. All economists should know very

well about ethics too. I am just trying to emphasize that it is important to distinguish positive statements from normative statements.
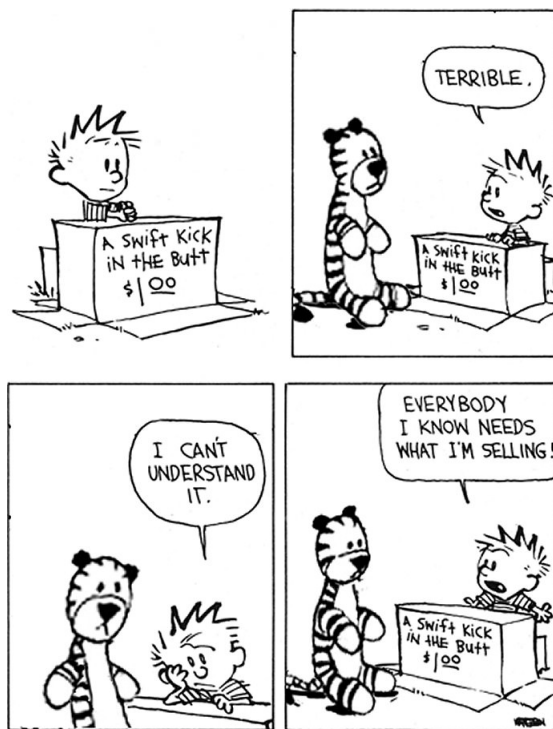

Figure 2: Calvin is confused about positive (what people want) and normative (what people *should* want). Don't be like Calvin.

In economics, we try to conduct positive analysis as much as we can. Nevertheless, the line between positive and normative sometimes becomes blurry. Occasionally we refer to concepts such as "efficiency" and "social welfare", which carry a bit of normative reasoning in it. It is good practice to occasionally think about whether out statements carry value judgments.

7 Some Other Interesting Things

7.1 Subfields of Economics

Traditionally, economics has been thought as having three subfields.

1. **Microeconomics** is the branch of economics that studies smaller units of the economy (consumers, firms, markets). In this class, we will study microeconomics. These ideas will be explored further in Econ 203 and Econ 204.

   Some subfields of microeconomics are:

   - Game theory (Econ 439, Econ 504): study of how agents interact in strategic environments.
   - Contract theory (Econ 504): study of how information asymmetries play a role in economic interactions.
   - Labor economics (Econ 458): study of labor markets.
   - Industrial organization (Econ 433): study of market structures and competition.

2. **Macroeconomics** is the branch of economics that studies the economy as a whole. It studies topics such as inflation, unemployment, and growth. These ideas will be explored in Econ 102, Econ 205 and Econ 206.

   Some subfields of macroeconomics are:

   - Monetary theory (Econ 322)
   - International trade (Econ 331)
   - Growth (Econ 453)

3. **Econometrics** is the branch of economics that focuses in testing the hypotheses brought by economic models. It relies heavily on probability and statistics. Econ 221, Econ 222 and Econ 301 are the courses that will give you the tools.

I have to say, personally, that I find this taxonomy a little unsatisfactory. There is, for instance, a huge field of economics called **public economics** which deals with taxation, redistribution and related matters. Is it micro? Is it macro? Econometrics? I'd say a little bit of all. Same goes with **labor economics**. If it was up to me, I would categorize on the methods they use, and not based on the questions they ask.

7.2 Mankiw's Ten Principles

Greg Mankiw, in his popular textbook *Principles of Economics*, lists ten principles that supposedly represent the heart of economic wisdom today. Take them with a grain of salt, these are written with a certain mindset. Still, it is useful to see that you already have learned five of these principles!

1. People face trade-offs.
2. The cost of something is what you give up to get it.
3. Rational people think at the margin.
4. People respond to incentives.
5. Trade can make everyone better off.
6. Markets are usually a good way to organize economic activity.
7. Governments can sometimes improve market outcomes.
8. A country's standard of living depends on its ability to produce goods and services.
9. Prices rise when the government prints too much money.
10. Society faces a short-run tradeoff between inflation and unemployment.

Here are the "translated" ten principles of economics written by Yoram Bauman, another economist:[9]

1. Choices are bad.
2. Choices are really bad.
3. People are stupid.
4. People aren't that stupid.
5. Trade can make everyone worse off.
6. Governments are stupid.
7. Governments aren't that stupid.
8. Blah blah blah.
9. Blah blah blah.

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[9] https://www.improbable.com/airchives/paperair/volume9/v9i2/mankiw.php

10. Blah blah blah.

I discovered a way to get my students
interested in microeconomics.

Figure 3: Here is a simple takeaway from this lecture. :) Please do not take this seriously, we are VERY happy to be here and to teach this class. We hope you will be happy too!